

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY, MINNESOTA

CONSTRUCTION PLAN FOR GRADING, BITUMINOUS SURFACING, SIDEWALK, DRAINAGE, WATERMAIN, SANITARY SEWER
SIGNAL SYSTEMS, BRIDGE NO. 02812, RETAINING WALLS, LIGHTING AND TMS

LOCATED ON C.S.A.H. 14 FROM 1600' WEST OF TH-35E TO 1500' EAST OF TH-35E

<p>TH 35E STATE PROJ. NO. 0282-25</p> <p>GROSS LENGTH..... 7604.31 FEET 1.440 MILES BRIDGES-LENGTH..... 0.00 FEET 0.00 MILES EXCEPTIONS-LENGTH..... 0.00 FEET 0.00 MILES NET LENGTH..... 7604.31 FEET 1.440 MILES REF. POINT..... 122+00.500 TO REF. POINT 123+00.940 LENGTH AND DESCRIPTION BASED UPON (EXISTING N.B. 35E)</p>	<p>CSAH 14 STATE PROJ. NO. 02-614-28</p> <p>GROSS LENGTH..... 3100.47 FEET 0.587 MILES BRIDGES-LENGTH..... 250.70 FEET 0.047 MILES EXCEPTIONS-LENGTH..... 0.00 FEET 0.00 MILES NET LENGTH..... 3100.47 FEET 0.587 MILES REF. POINT..... TO REF. POINT..... LENGTH AND DESCRIPTION BASED UPON (E.B. C.S.A.H. 14)</p>
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FED. PROJ. NO. ES09ES(169)

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

INDEX

SHEET NO.	SHEET DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3-9	STATEMENT OF ESTIMATED QUANTITIES
10	CONSTRUCTION/SOILS NOTES
11	STANDARD PLATES AND INDEX OF TABULATIONS
12-24	EARTHWORK SUMMARY AND TABULATIONS
25-27	TABULATIONS
28-34	EXISTING UTILITY TABULATIONS
35-36	SANITARY SEWER AND WATERMAIN PLANS
37-43	TYPICAL SECTIONS
44-55,55A,56-64,64A,64B	STANDARD PLAN SHEETS
65,65C,66-98	STAGING AND TRAFFIC CONTROL PLANS
99-106	ALIGNMENT PLANS AND TABULATIONS
107-115	TOPOGRAPHY AND UTILITY PLANS
116-124	REMOVAL PLANS
125-133	CONSTRUCTION PLANS
134-139	INTERSECTION DETAILS
140-146	PROFILES
147-155	SUPERELEVATION PLANS
156	SWPPP
157-166	DRAINAGE PLANS
167-188	DRAINAGE TABULATIONS, PROFILES AND DETAILS
189-197	TURF ESTABLISHMENT PLANS AND EROSION CONTROL PLANS
198-203	LIGHTING PLANS AND TABULATIONS
204-213	STRIPING AND PAVEMENT MARKING PLANS
214-220	SIGNING TABULATIONS
221-229	SIGN REMOVAL PLANS
230-238	SIGNING PLANS
239-261	SIGNING DETAILS
262-268B,269-274C,275-285	TRAFFIC SIGNAL PLANS
286-328	TMS
329-334	CONTOUR PLANS
335-338	CROSS SECTION LAYOUT PLANS
339-471	CROSS SECTIONS
W1-W10	RETAINING WALL PLANS

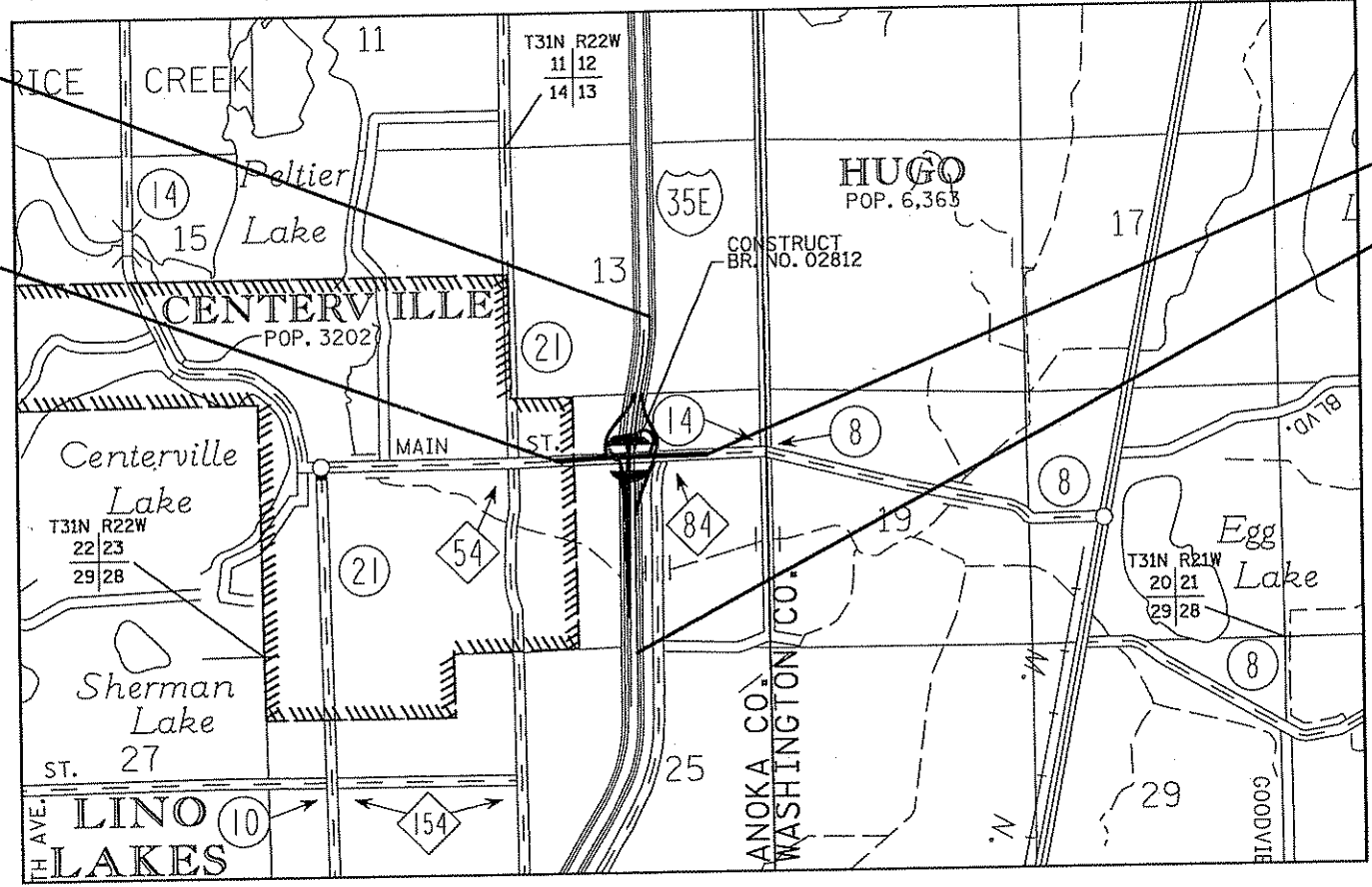
SHEET 251 HAS BEEN DELETED
THIS PLAN CONTAINS 492... SHEETS

END S.P. 0282-25
EXISTING N.B. 35E STA. 608+47.00

BEGIN S.P. 02-614-28
E.B. C.S.A.H. 14 STA. 180+62.73

END S.P. 02-614-28
E.B. C.S.A.H. 14 STA. 211+63.20

BEGIN S.P. 0282-25
EXISTING N.B. 35E STA. 532+42.69



PLAN REVISIONS

DATE	SHEET NO.	APPROVED BY

SCALES

INDEX MAP	2000'
GENERAL LAYOUT	300'
PLAN	50'
PROFILE	100' HORIZ. / 10' VERT.
X-SECTION	10' HORIZ. / 10' VERT.

DESIGN DESIGNATION FOR:

	C.S.A.H. 14	TH-35E
R-VALUE	60	20 (SHLDS ONLY)
ADT (Current Year) 2010 =	21,140	63,200
ADT (Future Year) 2030 =	47,300 (2030)	120,000 (2030)
PAVEMENT DESIGN	10 TON	10 TON
FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL	PRINCIPAL ARTERIAL
NO. OF TRAFFIC LANES	4	4
NO. OF PARKING LANES	0	0
ESALS (20)	3,290,000 (20 YRS.)	1,000,000 (20 YRS.) (SHLDS ONLY)
Design Speed	45 MPH	70 MPH
Based on Sight Distance	STOPPING	STOPPING
Height of eye / Height of Object	3.5' / 2.0'	3.5' / 2.0'
Design Speed not achieved at:		

AGREEMENT NO. 94579
ANOKA COUNTY
S.P. 02-614-28 (TH 35E=390)
STATE FUNDS
METRO DISTRICT

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 _____

PROJECT LOCATION

COUNTY : ANOKA
DISTRICT : METRO

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

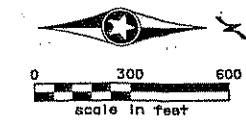
STATE PROJ. NO.	CHARGE IDENTIFIER
02-614-28	
0282-25	

SRE CONSULTING GROUP, INC.

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 Aaron Vacek
DATE 8/13/09 LIC. NO. 44277 PRINT NAME AARON VACEK

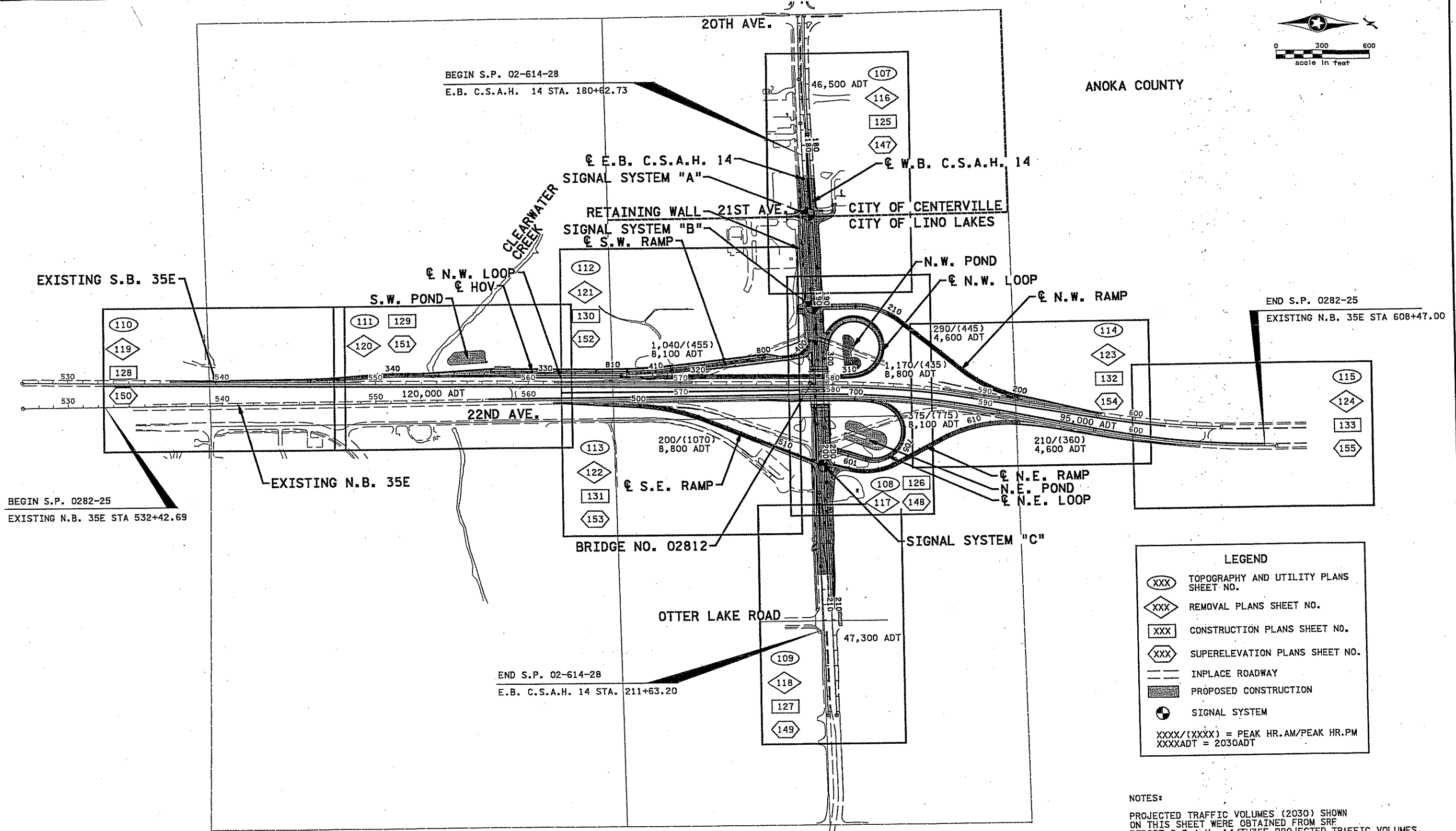
APPROVED <u>[Signature]</u> 8/20/2009 ANOKA COUNTY ENGINEER
APPROVED <u>[Signature]</u> 9/21/2009 CITY ENGINEER, CITY OF CENTERVILLE
APPROVED <u>[Signature]</u> 9/25/2009 CITY ENGINEER, CITY OF LIND LAKES
RECOMMENDED FOR APPROVAL <u>[Signature]</u> 9/29/2009 DISTRICT TRANSPORTATION ENGINEER
RECOMMENDED FOR APPROVAL <u>[Signature]</u> 9/28/2009 DISTRICT MATERIALS ENGINEER
RECOMMENDED FOR APPROVAL <u>[Signature]</u> 9/29/2009 DISTRICT WATER RESOURCES ENGINEER
RECOMMENDED FOR APPROVAL <u>[Signature]</u> 9/28/2009 DISTRICT TRAFFIC ENGINEER
RECOMMENDED FOR APPROVAL _____ 2009 STATE BRIDGE ENGINEER
RECOMMENDED FOR APPROVAL <u>[Signature]</u> 10/1/2009 STATE PRE-LETTING ENGINEER
OFFICE OF LAND MANAGEMENT APPROVAL <u>[Signature]</u> 10/20/2009 DIRECTOR, LAND MANAGEMENT
APPROVED <u>[Signature]</u> 10/20/2009 STATE DESIGN ENGINEER
APPROVED <u>[Signature]</u> 9/28/2009 DISTRICT STATE AID ENGINEER; REVIEWED FOR COMPLIANCE WITH STATE AND/OR FEDERAL AID RULES/POLICY
APPROVED FOR STATE AND/OR FEDERAL AID FUNDING; STATE AID ENGINEER



ANOKA COUNTY

BEGIN S.P. 02-614-28
E.B. C.S.A.H. 14 STA. 180+62.73

END S.P. 0282-25
EXISTING N.B. 35E STA 608+47.00



LEGEND

- (XXX) TOPOGRAPHY AND UTILITY PLANS SHEET NO.
- ◇(XXX) REMOVAL PLANS SHEET NO.
- [XXX] CONSTRUCTION PLANS SHEET NO.
- ◇(XXX) SUPERELEVATION PLANS SHEET NO.
- INPLACE ROADWAY
- ▨ PROPOSED CONSTRUCTION
- ⊙ SIGNAL SYSTEM

XXXX/(XXXX) = PEAK HR. AM/PEAK HR. PM
XXXXADT = 2030ADT

NOTES:
PROJECTED TRAFFIC VOLUMES (2030) SHOWN ON THIS SHEET WERE OBTAINED FROM SRF REPORT C.S.A.H. 14/TH35E PROJECTED TRAFFIC VOLUMES, DATED JULY 2006.

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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: **AARON VACEK**
Aaron Vacek
Date: 8-6-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)
DESIGNED BY A. VACEK
CHECKED BY S. PRUSAK
COMM. NO. 0086509



ANOKA COUNTY
GENERAL LAYOUT
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 2 OF 471

NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES		C.S.A.H. 14 / T.H. 35E		CITY OF LINO LAKES
						ESTIMATED	FINAL	S.P. 02-614-28 / 0282-25		C.P. 210-020-006
								ROADWAY QUANTITIES	STORM SEWER QUANTITIES	NON PARTICIPATING
			2021.501	MOBILIZATION	LUMP SUM	1		1		
			2031.501	FIELD OFFICE TYPE D	EACH	1		1		
			2031.503	FIELD LABORATORY TYPE DX	EACH	1		1		
			2041.610	TRAINESS	HOUR	3500		3500		
			2101.501	CLEARING (P)	ACRE	13.4		13.4		
	D	25	2101.506	GRUBBING (P)	ACRE	13.4		13.4		
	BB	68	2102.502	PAVEMENT MARKING REMOVAL	LIN FT	90495		90495		
	V	33	2104.501	REMOVE PIPE CULVERTS	LIN FT	510		510		15
	Z	35	2104.501	REMOVE WATER MAIN	LIN FT	15				
(1)	V & ZZ	33 & 170	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	3374		3374		
	E	25	2104.501	REMOVE CURB AND GUTTER	LIN FT	1850		1850		
	J	27	2104.501	REMOVE CHAIN LINK FENCE	LIN FT	8230		8230		
	H	26	2104.501	REMOVE GUARD RAIL-PLATE BEAM	LIN FT	1720		1720		
	E	25	2104.501	REMOVE TEMPORARY PRECAST CONCRETE BARRIER	LIN FT	70		70		
	E	25	2104.501	REMOVE ARMORED CABLE	LIN FT	5000		5000		
	E	25	2104.505	REMOVE CONCRETE MEDIAN	SQ YD	910		910		
(2)	E	25	2104.505	REMOVE PAVEMENT	SQ YD	14030		14030		
	E	25	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	40710		40710		
(7)	V	33	2104.509	REMOVE PIPE APRON	EACH	13		13		
	E	25	2104.509	REMOVE BOLLARDS	EACH	20		20		
	E	25	2104.509	REMOVE LIGHTING UNIT	EACH	19		19		
(3)	V & ZZ	33 & 170	2104.509	REMOVE DRAINAGE STRUCTURE	EACH	23		23		
(4)	YY	287	2104.509	REMOVE FOUNDATION	EACH	1		1		
	E	25	2104.509	REMOVE LIGHT BASE FOUNDATION	EACH	19		19		
	EEE	220	2104.509	REMOVE MARKER	EACH	13		13		
		221 - 229	2104.509	REMOVE SIGN TYPE C	EACH	25		25		
	YY	287	2104.509	REMOVE HANDHOLE	EACH	11		11		
	H	26	2104.509	REMOVE ECCENTRIC LOADER BCT	EACH	4		4		
	E	25	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	2590		2590		
	E	25	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	19050		19050		
	YY	287	2104.521	SALVAGE FIBER OPTIC CABLE	LIN FT	7790		7790		
	Z	35	2104.523	SALVAGE GATE VALVE & BOX	EACH	1				1
	Z	35	2104.523	SALVAGE HYDRANT	EACH	1				1
(5)		223	2104.523	SALVAGE TEMPORARY BARRICADES	EACH	11		11		
	CCC	220	2104.523	SALVAGE MARKER	EACH	9		9		
		227 - 228	2104.523	SALVAGE DELINEATOR	EACH	14		14		
	YY	287	2104.523	SALVAGE FIBER OPTIC VAULT	EACH	1		1		
	YY	287	2104.523	SALVAGE CCTV HARDWARE	EACH	1		1		
(6)	YY	287	2104.523	SALVAGE CABINET	EACH	1		1		
	YY	287	2104.523	SALVAGE SERVICE CABINET	EACH	1		1		
	KK	214	2104.523	SALVAGE SIGN TYPE A	EACH	2		2		
	LL & UU	215	2104.523	SALVAGE SIGN TYPE C	EACH	51		51		
	MM & VV	217	2104.523	SALVAGE SIGN TYPE D	EACH	14		14		
	NN & EEE	219	2104.523	SALVAGE SIGN TYPE EA	EACH	5		5		
	YY	287	2104.601	REMOVE CABLES	LUMP SUM	1		1		

NOTES:

- (P) DENOTES PLAN QUANTITY.
- (1) QUANTITY INCLUDES 2820 LIN FT FOR REMOVAL OF EXISTING STORM SEWER PIPE AND 554 LIN FT FOR REMOVAL OF TEMPORARY STORM SEWER PIPE.
- (2) FOR REMOVAL OF OVERLAID CONCRETE PAVEMENT. SEE CONSTRUCTION & SOILS NOTES FOR ESTIMATED EXISTING PAVEMENT MATERIALS AND DEPTHS.
- (3) QUANTITY INCLUDES 19 EACH FOR REMOVAL OF EXISTING DRAINAGE STRUCTURES AND 4 EACH FOR REMOVAL OF TEMPORARY DRAINAGE STRUCTURES.
- (4) INCLUDES CCTV FOUNDATION.
- (5) FOR SALVAGE OF TEMPORARY BARRICADES AT OTTER LAKE ROAD.
- (6) INCLUDES SALVAGING 1-334Z CABINET & 1-ELECTRICAL SERVICE CABINET.
- (7) INCLUDES REMOVAL OF EXISTING GUIDE POST.

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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: AARON VACEK Date: 10-23-09 License #: 44277				STATE PROJECT NO. 0282-25 (TH 35E) DRAWN BY V. MICHELS DESIGNED BY S. PRUSAK COUNTY PROJECT NO. X CITY PROJECT NO. X CHECKED BY A. VACEK COMM. NO. 0086509		ANOKA COUNTY STATEMENT OF ESTIMATED QUANTITIES C.S.A.H. 14/T.H. 35E INTERCHANGE		SHEET 3 OF 471	
NO DATE BY CKD APPR REVISION									

NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES		C.S.A.H. 14 / T.H. 35E		CITY OF LIND LAKES
						ESTIMATED	FINAL	S.P. 02-614-28 / 0282-25		C.P. 210-020-006
								ROADWAY QUANTITIES	STORM SEWER QUANTITIES	NON PARTICIPATING
(1)	KK - NN	214 - 219	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1		1		
(2)	V & ZZ	33 & 170	2104.603	ABANDON PIPE SEWER	LIN FT	1029		1029		
	A	12	2106.607	EXCAVATION - COMMON (P)	CU YD	270574		270574		
	A	12	2106.607	EXCAVATION - SUBGRADE (P)	CU YD	33541		33541		
(3)	A	12	2106.607	COMMON EMBANKMENT (CV) (P)	CU YD	275862		275862		
	A	12	2106.607	GRANULAR EMBANKMENT (CV) (P)	CU YD	72334		72334		
	A & AAA	12 & 171	2106.607	SELECT GRANULAR EMBANKMENT (CV) (P)	CU YD	26518		26518		
	A & FFF	12 & 183	2106.607	SELECT GRANULAR EMBANKMENT MODIFIED 10% (CV) (P)	CU YD	4301		4301		
(4)			2123.610	STREET SWEEPER (WITH PICKUP BROOM)	hour	260		260		
(4)			2130.501	WATER	M GALLONS	600		600		
	FFF	183	2211.503	AGGREGATE BASE (CV) CLASS 1 (P)	CU YD	16		16		
	F	25	2211.503	AGGREGATE BASE (CV) CLASS 6 (P)	CU YD	39080		39080		
	E	25	2232.501	MILL BITUMINOUS SURFACE (4.0")	SQ YD	280		280		
	E	25	2232.603	MILLED RUMBLE STRIPS	LIN FT	16670		16670		
	F	25	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	11630		11630		
(5)	F	25	2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (2,B)	TON	1760		1760		
	F	25	2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3,B)	TON	6040		6040		
	F	25	2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3,F)	TON	12940		12940		
(5)	F	25	2360.502	TYPE SP 12.5 NON WEARING COURSE MIXTURE (2,B)	TON	1760		1760		
	F	25	2360.502	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,B)	TON	9320		9320		
	FFF	183	2401.501	STRUCTURAL CONCRETE (3Y43) (P)	CU YD	70		70		
		W4	2401.513	TYPE MOD P-1 (TL-2) RAILING CONCRETE (3Y46) (P)	LIN FT	397		397		
	FFF	183	2401.541	REINFORCEMENT BARS (P)	POUND	17350		17350		
		W4	2402.583	ORNAMENTAL METAL RAILING TYPE SPECIAL 2 (P)	LIN FT	397		397		
		W4	2411.501	STRUCTURAL CONCRETE (1A43) (P)	CU YD	304		304		
(6)		W4	2411.501	STRUCTURAL CONCRETE (3Y43) (P)	CU YD	331		331		
		W4	2411.541	REINFORCEMENT BARS (P)	POUND	22410		22410		
		W4	2411.541	REINFORCEMENT BARS (EPOXY COATED) (P)	POUND	41560		41560		
		W4	2411.618	ARCHITECTURAL SURFACE FINISH (SINGLE COLOR) (P)	SQ FT	4635		4635		
		W4	2411.618	ARCHITECTURAL CONCRETE TEXTURE (BUSH HAMMER) (P)	SQ FT	4635		4635		
(7)	FFF	183	2451.501	STRUCTURE EXCAVATION CLASS E (P)	CU YD	300		300		
	A	12	2451.501	STRUCTURE EXCAVATION CLASS U (P)	CU YD	1471		1471		
	AAA	171	2451.503	GRANULAR BACKFILL (CV) (P)	CU YD	601.9		601.9		
	AAA	171	2501.511	15" CS PIPE CULVERT	LIN FT	18		18		
	AAA	171	2501.511	24" CS PIPE CULVERT	LIN FT	160		160		
	ZZ	170	2501.515	12" GS PIPE APRON	EACH	11		11		
	AAA	171	2501.515	15" GS PIPE APRON	EACH	4		4		
	ZZ	170	2501.515	18" GS PIPE APRON	EACH	1		1		
	ZZ & AAA	170 & 171	2501.515	24" GS PIPE APRON	EACH	6		6		
	ZZ	170	2501.515	12" RC PIPE APRON	EACH	2		2		

NOTES:

- (P) DENOTES PLAN QUANTITY.
- (1) FOR RETURN OF SALVAGED SIGNS. ITEM IS 100% COUNTY FUNDED.
- (2) QUANTITY INCLUDES 575 LIN FT FOR ABANDONMENT OF EXISTING PIPE CULVERTS AND 454 LIN FT FOR ABANDONMENT OF TEMPORARY STORM SEWER PIPE.
- (3) INCLUDES 34342 CU YD FOR SLOPE DRESSING.
- (4) FOR DUST CONTROL WITHIN THE PROJECT LIMITS.
- (5) AT THE OPTION OF THE CONTRACTOR, AT NO ADDITIONAL COST, THE CONTRACTOR MAY SUBSTITUTE THE SPWEB340F FOR SPWEB230B.
- (6) INCLUDES LEAN MIX BACKFILL, MORTAR, AND CHAIN LINK FENCE POST ANCHORAGE.
- (7) INCLUDES TEMPORARY SHEETING OR SHORING.

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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: **AARON VACEK**

Date: **8-20-09** License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY V. MICHELS

DESIGNED BY S. PRUSAK

CHECKED BY A. VACEK

COMM. NO. 0086509



ANOKA COUNTY

STATEMENT OF ESTIMATED QUANTITIES
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
4
OF
471

NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES		C.S.A.H. 14 / T.H. 35E		CITY OF LINO LAKES
						ESTIMATED	FINAL	ROADWAY QUANTITIES	STORM SEWER QUANTITIES	C.P. 210-020-006
										NON PARTICIPATING
	GG	169	2501.515	15" RC PIPE APRON	EACH	5				
	GG, ZZ & AAA	169 - 171	2501.515	18" RC PIPE APRON	EACH	4		2	2	
	GG	169	2501.515	21" RC PIPE APRON	EACH	3			3	
	GG & AAA	169 & 171	2501.515	24" RC PIPE APRON	EACH	6		3	3	
	GG & AAA	169 & 171	2501.515	30" RC PIPE APRON	EACH	8		6	2	
										2
	GG	169	2501.515	36" RC PIPE APRON	EACH	2				2
	FFF	183	2501.521	128" SPAN CAS PIPE-ARCH CULVERT 8 GAUGE (P)	LIN FT	20		20		
	AAA	171	2501.561	18" RC PIPE CULVERT DESIGN 3006	LIN FT	60			60	
	AAA	171	2501.561	24" RC PIPE CULVERT DESIGN 3006	LIN FT	118		118		
	AAA	171	2501.561	24" RC PIPE CULVERT DESIGN 3006 CLASS V	LIN FT	146		146		
										97
	AAA	171	2501.561	24" RC PIPE CULVERT DESIGN 3006 CLASS V-JACKED	LIN FT	97		97		
	AAA	171	2501.561	30" RC PIPE CULVERT DESIGN 3006	LIN FT	175		175		
	AAA	171	2501.569	18" CS SAFETY APRON	EACH	2		2		
	AAA	171	2501.569	18" RC SAFETY APRON	EACH	1		1		
	AAA	171	2501.569	24" RC SAFETY APRON	EACH	3		3		
										31
	EE	167	2502.501	4" PRECAST CONCRETE HEADWALL	EACH	31		31		
	EE	167	2502.521	4" TP PIPE DRAIN	LIN FT	690		690		
	EE	167	2502.541	4" PERF TP PIPE DRAIN	LIN FT	21020		21020		
	W4	2502.601	2502.601	DRAINAGE SYSTEM	LUMP SUM	1		1		
	ZZ	170	2503.511	12" CS PIPE SEWER	LIN FT	181		181		
	ZZ	170	2503.511	18" CS PIPE SEWER	LIN FT	84		84		
	ZZ	170	2503.511	24" CS PIPE SEWER	LIN FT	623		623		
										53
	AAA	171	2503.511	18" DUCTILE IRON PIPE SEWER	LIN FT	53		53		
	AAA	171	2503.511	18" DUCTILE IRON PIPE SEWER-JACKED	LIN FT	53		53		
	ZZ	170	2503.541	12" RC PIPE SEWER DESIGN 3006	LIN FT	12		12		
	GG	169	2503.541	15" RC PIPE SEWER DESIGN 3006	LIN FT	2564			2564	
	GG	169	2503.541	15" RC PIPE SEWER DESIGN 3006 CLASS III	LIN FT	80			80	
										212
	GG	169	2503.541	15" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	212			212	
	GG	169	2503.541	15" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	237			237	
	GG & ZZ	169 & 170	2503.541	18" RC PIPE SEWER DESIGN 3006	LIN FT	800		48	752	
	GG	169	2503.541	18" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	238			238	
	GG	169	2503.541	21" RC PIPE SEWER DESIGN 3006	LIN FT	276			276	
										93
	GG	169	2503.541	21" RC PIPE SEWER DESIGN 3006 CLASS III	LIN FT	93			93	
	GG	169	2503.541	21" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	190			190	
	GG	169	2503.541	24" RC PIPE SEWER DESIGN 3006	LIN FT	275			275	
	GG	169	2503.541	24" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	93			93	
	GG	169	2503.541	24" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	211			211	
										101
	GG	169	2503.541	24" RC PIPE SEWER DESIGN 3006 CLASS V-JACKED	LIN FT	101			101	
	GG	169	2503.541	27" RC PIPE SEWER DESIGN 3006 CLASS III	LIN FT	170			170	
	GG	169	2503.541	27" RC PIPE SEWER DESIGN 3006 CLASS IV	LIN FT	24			24	
	GG	169	2503.541	27" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	1244			1244	
	GG	169	2503.541	27" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	330			330	
										245
	GG	169	2503.541	30" RC PIPE SEWER DESIGN 3006 CLASS III	LIN FT	245			245	
	GG	169	2503.541	30" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	110			110	
	GG	169	2503.541	36" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	416			416	
	GG	169	2503.541	36" RC PIPE SEWER DESIGN 3006 CLASS V-JACKED	LIN FT	62			62	
										1
		116	2503.602	CONSTRUCT BULKHEAD	EACH	1				1

NOTES:
(P) DENOTES PLAN QUANTITY.

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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: AARON VACEK
Aaron Vacek
 Date: 8-20-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY A. VACEK
 COMM. NO. 0086509




ANOKA COUNTY
 STATEMENT OF ESTIMATED QUANTITIES
 C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 5 OF 471

NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES		C.S.A.H. 14 / T.H. 35E		CITY OF LINO LAKES
						ESTIMATED	FINAL	S.P. 02-614-28 / 0282-25		C.P. 210-020-006
								ROADWAY QUANTITIES	STORM SEWER QUANTITIES	NON PARTICIPATING
	GG & ZZ	169 & 170	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	6			6	
	Y	35	2503.602	21" PIPE PLUG	EACH	1				1
	Y	35	2503.603	21" PVC PIPE SEWER	LIN FT	75				75
	Z	35	2504.602	INSTALL HYDRANT	EACH	1				1
	Z	35	2504.602	ADJUST HYDRANT	EACH	1		1		
	Z	35	2504.602	INSTALL GATE VALVE AND BOX	EACH	1				1
	Z	35	2504.602	ADJUST GATE VALVE & BOX	EACH	3		3		
	Z	35	2504.602	16"X6" REDUCER	EACH	1				1
	Z	35	2504.602	16" BUTTERFLY VALVE AND BOX	EACH	1				1
	Z	35	2504.602	6" MEGALUG	EACH	4				4
	Z	35	2504.602	16" MEGALUG	EACH	3				3
	Z	35	2504.603	6" WATERMAIN DUCTILE IRON CL 52	LIN FT	5				5
	Z	35	2504.603	16" WATERMAIN DUCTILE IRON CL 52	LIN FT	95				95
	GG & ZZ	169 & 170	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN F	LIN FT	205.3		5.1	200.2	
	GG	169	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	LIN FT	28.8			28.8	
	GG	169	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	LIN FT	83.5			83.5	
	ZZ	170	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	2.2		2.2		
	GG	169	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	24.0			24.0	
	GG	169	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 54-4020	LIN FT	108.6			108.6	
	GG	169	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	LIN FT	30.0			30.0	
	GG & ZZ	169 & 170	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 72-4020	LIN FT	26.3		17.3	9.0	
	Y & GG	35 & 169	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	31.1		23.6	7.5	
	FF	171	2506.516	CASTING ASSEMBLY	EACH	77		4	73	
	Y	35	2506.521	INSTALL CASTING	EACH	2		2		
	Y	35	2506.522	ADJUST FRAME & RING CASTING	EACH	1		1		
	GG	169	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	4			4	
		181	2506.602	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1	EACH	1			1	
		181	2506.602	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 2	EACH	1			1	
		181	2506.602	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 3	EACH	1			1	
		182	2506.602	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 4	EACH	1			1	
		182	2506.602	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 5	EACH	1			1	
	GG & AAA	169 & 171	2511.501	RANDOM RIPRAP CLASS II	CU YD	189.8		126.9	62.9	
	G	26	2521.501	4" CONCRETE WALK	SQ FT	51300		51300		
	G	26	2521.501	6" CONCRETE WALK	SQ FT	965		965		
	G	26	2521.511	3" BITUMINOUS WALK	SQ FT	25360		25360		
	G	26	2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	14510		14510		
	G	26	2531.501	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	40		40		
	G	26	2531.501	CONCRETE CURB & GUTTER DESIGN D424	LIN FT	150		150		
	G	26	2531.618	TRUNCATED DOMES	SQ FT	270		270		
	CC	68	2533.507	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337	LIN FT	12350.0		12350.0		
	CC	68	2533.508	RELOCATE PORTABLE PRECAST CONC BARRIER DESIGN 8337	LIN FT	16300.0		16300.0		
	HH	198	2545.511	LIGHTING UNIT TYPE 9-40	EACH	32		32		

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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: **AARON VACEK**

 Date: _____ License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
 DESIGNED BY **V. MICHELS**
 COUNTY PROJECT NO. 02-614-28
 CHECKED BY **S. PRUSAK**
 CITY PROJECT NO. X
 COMM. NO. 0086509



ANOKA COUNTY
 STATEMENT OF ESTIMATED QUANTITIES
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 6 OF 471

NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES		C.S.A.H. 14 / T.H. 35E		CITY OF LINO LAKES
						ESTIMATED	FINAL	S.P. 02-614-28 / 0282-25		C.P. 210-020-006
								ROADWAY QUANTITIES	STORM SEWER QUANTITIES	NON PARTICIPATING
	HH	198	2545.515	LIGHT BASE DESIGN E	EACH	32		32		
	HH	198	2545.521	2" RIGID STEEL CONDUIT	LIN FT	35		35		
	HH	198	2545.523	3" NON-METALLIC CONDUIT	LIN FT	985		985		
	HH	198	2545.531	UNDERGROUND WIRE 1 COND NO 2	LIN FT	140		140		
	HH	198	2545.533	ARMORED CABLE 4 COND NO 4	LIN FT	11762		11762		
	HH	198	2545.541	SERVICE CABINET SECONDARY TYPE L1	EACH	1		1		
	HH	198	2545.545	EQUIPMENT PAD B	EACH	1		1		
	HH	198	2545.553	HANDHOLE	EACH	1		1		
	HH	198	2545.602	ELECTRICAL SERVICE	EACH	1		1		
	YY	287	2550.511	CCTV FOUNDATION	EACH	1		1		
	YY	287	2550.512	HANDHOLE TYPE-PVC METAL COVER	EACH	18		18		
	YY	287	2550.523	1.5" NON-METALLIC CONDUIT	LIN FT	5200		5200		
	YY	287	2550.523	2" NON-METALLIC CONDUIT	LIN FT	3520		3520		
	YY	287	2550.523	3" NON-METALLIC CONDUIT	LIN FT	500		500		
	YY	287	2550.523	4" NON-METALLIC CONDUIT	LIN FT	50		50		
	YY	287	2550.532	POWER CABLE 3 CONDUCTOR NO 8	LIN FT	200		200		
	YY	287	2550.532	LEAD-IN CABLE 2 CONDUCTOR NO 14	LIN FT	15080		15080		
	YY	287	2550.601	FIBER OPTIC CABLE TESTING	LUMP SUM	1		1		
	YY	287	2550.601	ELECTRICAL SERVICE	LUMP SUM	1		1		
(1)	YY	287	2550.602	INSTALL CABINET	EACH	1		1		
	YY	287	2550.602	INSTALL CCTV HARDWARE	EACH	1		1		
	YY	287	2550.602	FIBER OPTIC PIGTAIL TERMINATION	EACH	2		2		
	YY	287	2550.602	FIBER OPTIC CABLE SPLICING	EACH	3		3		
(2)	YY	287	2550.602	RELOCATE SIGN	EACH	17		17		
	YY	287	2550.602	INSTALL SERVICE CABINET	EACH	1		1		
(3)	YY	287	2550.602	INSTALL FIBER OPTIC VAULT	EACH	1		1		
	YY	287	2550.602	LOOP DETECTOR DESIGN PREFORMED	EACH	8		8		
	YY	287	2550.602	LOOP DETECTOR DESIGN SAWCUT	EACH	6		6		
	YY	287	2550.603	ARMORED FIBER OPTIC PIGTAIL 6SM	LIN FT	650		650		
	YY	287	2550.603	FIBER OPTIC TRUNK CABLE 60SM	LIN FT	8100		8100		
	YY	287	2550.603	2" BORED CONDUIT	LIN FT	780		780		
	H	26	2554.501	TRAFFIC BARRIER DESIGN SPECIAL	LIN FT	50		50		
	H	26	2554.501	TRAFFIC BARRIER DESIGN BULLNOSE	LIN FT	200		200		
	H	26	2554.501	TRAFFIC BARRIER DESIGN B8307	LIN FT	150		150		
	H	26	2554.501	TRAFFIC BARRIER DESIGN B8338	LIN FT	335		335		
	GG & AAA	169 & 171	2554.509	GUIDE POST TYPE B	EACH	43		26	17	
(4)	H	26	2554.523	END TREATMENT-FLARED TERMINAL	EACH	1		1		
	CC	68	2554.602	IMPACT ATTENUATOR BARRELS	EACH	210		210		
	CC	68	2554.602	RELOCATE IMPACT ATTENUATOR BARRELS	EACH	264		264		
(5)		232	2554.602	TEMPORARY BARRICADES	EACH	11		11		
	H	26	2554.615	IMPACT ATTENUATOR	ASSEMBLY	1		1		
	J	27	2557.501	WIRE FENCE DESIGN 60-9322	LIN FT	8060		8060		
	J	27	2557.522	METAL BRACE ASSEMBLY	EACH	24		24		

NOTES:

- (1) INCLUDES INSTALLING SALVAGED 334 & ELECTRICAL SERVICE CABINETS.
- (2) INCLUDES SALVAGING BURIED CABLE SIGNS & RELOCATING TO APPROPRIATE AREA ON NEW PROJECT.
- (3) INCLUDES INSTALLING SALVAGED FIBER OPTIC VAULT & OUTDOOR FIBER SPLICE ENCLOSURE.
- (4) SHALL BE EITHER SRT-350 OR FLEAT-350.
- (5) FOR INSTALLATION OF SALVAGED TEMPORARY BARRICADES AT OTTER LAKE ROAD.

4/24/24 PM 9/10/2009 H:\Projects\6509\HI-MUV\Plan\0261429_est5.dgn

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: AARON VACEK
Aaron Vacek
Date: 09/10/09 License #: 44277

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY S. PRUSAK
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
STATEMENT OF ESTIMATED QUANTITIES
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 7 OF 471

NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES		C.S.A.H. 14 / T.H. 35E		CITY OF LINO LAKES
						ESTIMATED	FINAL	S.P. 02-614-28 / 0282-25		C.P. 210-020-006
								ROADWAY QUANTITIES	STORM SEWER QUANTITIES	NON PARTICIPATING
	J	27 & W4	2557.527	ELECTRICAL GROUND	EACH	8		8		
	AA	66	2563.601	TRAFFIC CONTROL	LUMP SUM	1		1		
	DD	68	2563.602	RAISED PAVEMENT MARKER TEMPORARY	EACH	592		592		
	PP	214	2564.522	STRUCTURAL STEEL-POSTS FOR TYPE A SIGNS	POUND	4582		4582		
	PP	214	2564.531	SIGN PANELS TYPE A	SQ FT	334.3		334.3		
	RR	216	2564.531	SIGN PANELS TYPE C	SQ FT	332.7		332.7		
	SS	218	2564.531	SIGN PANELS TYPE D	SQ FT	162.8		162.8		
	TT	219	2564.531	SIGN PANELS TYPE EA	SQ FT	145.1		145.1		
	UU	215	2564.537	INSTALL SIGN TYPE C	EACH	39		39		
	VV	217	2564.537	INSTALL SIGN TYPE D	EACH	8		8		
	EEE	219	2564.537	INSTALL SIGN TYPE EA	EACH	1		1		
	WW	220	2564.550	DELINEATOR TYPE X4-6	EACH	8		8		
	WW	220	2564.552	HAZARD MARKER X4-2	EACH	3		3		
	WW	220	2564.553	CLEARANCE MARKER X4-4	EACH	4		4		
		236 - 237	2564.602	INSTALL DELINEATOR	EACH	9		9		
	CCC	220	2564.602	INSTALL MARKER	EACH	9		9		
		262 - 285	2565.511	TRAFFIC CONTROL SIGNAL SYSTEM A	SIG SYS	1		1		
		262 - 285	2565.511	TRAFFIC CONTROL SIGNAL SYSTEM B	SIG SYS	1		1		
		262 - 285	2565.511	TRAFFIC CONTROL SIGNAL SYSTEM C	SIG SYS	1		1		
		262 - 285	2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM A	LUMP SUM	1		1		
		262 - 285	2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM B	LUMP SUM	1		1		
		262 - 285	2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM C	LUMP SUM	1		1		
		262 - 285	2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	1		1		
		262 - 285	2565.616	REVISE SIGNAL SYSTEM D	SYSTEM	1		1		
		262 - 285	2565.616	TEMPORARY SIGNAL SYSTEM	SYSTEM	1		1		
	K	27	2573.502	SILT FENCE, TYPE HEAVY DUTY	LIN FT	300		300		
	K	27	2573.502	SILT FENCE, TYPE MACHINE SLICED	LIN FT	2410		2410		
(1)	K	27	2573.505	FLOTATION SILT CURTAIN TYPE MOVING WATER	LIN FT	80		80		
	K	27	2573.530	STORM DRAIN INLET PROTECTION	EACH	101		101		
	K	27	2573.540	FILTER LOG TYPE WOOD FIBER BIOROLL	LIN FT	70		70		
			2573.550	EROSION CONTROL SUPERVISOR	LUMP SUM	1		1		
	K	27	2575.501	SEEDING (P)	ACRE	38.9		38.9		
	K	27	2575.502	SEED MIXTURE 310	POUND	780		780		
	K	27	2575.502	SEED MIXTURE 350	POUND	2485		2485		
	GG & AAA	169 & 171	2575.505	SODDING TYPE EROSION	SQ YD	157		141	16	
	K	27	2575.505	SODDING TYPE LAWN	SQ YD	3015		3015		
	K	27	2575.511	MULCH MATERIAL TYPE 3	TON	45.6		45.6		
	K	27	2575.513	MULCH MATERIAL TYPE 9	CU YD	135		135		
	K	27	2575.519	DISK ANCHORING	ACRE	24.3		24.3		
	K	27	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	70450		70450		
	K	27	2575.532	FERTILIZER TYPE 1	POUND	4670		4670		
	K	27	2575.532	FERTILIZER TYPE 2	POUND	250		250		
	K	27	2575.570	RAPID STABILIZATION METHOD 1	ACRE	1.3		1.3		
	K	27	2575.570	RAPID STABILIZATION METHOD 2	ACRE	6.8		6.8		
	K	27	2575.571	RAPID STABILIZATION METHOD 3	M GALLONS	4.5		4.5		
	K	27	2575.572	RAPID STABILIZATION METHOD 4	SQ YD	14470		14470		
	DD	68	2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LIN FT	3765		3765		
	DD	68	2581.602	PAVEMENT MESSAGE (LT ARROW) REMOVABLE POLY PREFORMED	EACH	1		1		
	DD	68	2581.602	PAVEMENT MESSAGE (RT ARROW) REMOVABLE POLY PREFORMED	EACH	2		2		
	DD	68	2582.501	PAVEMENT MESSAGE (LEFT ARROW) PAINT	EACH	2		2		
	DD	68	2582.501	PAVEMENT MESSAGE (RIGHT ARROW) PAINT	EACH	7		7		

NOTES:
(P) DENOTES PLAN QUANTITY.
(1) APPROXIMATELY 4 FEET DEEP.

11/3/21 AM 8/20/2009 \\P:\proj\6505\VI-MUN\PI\an\CD261429_EST6.DGN

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: AARON VACEK
Date: 8-20-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY S. PRUSAK
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
STATEMENT OF ESTIMATED QUANTITIES
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 8 OF 471

NOTES	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES		C.S.A.H. 14 / T.H. 35E		CITY OF LINO LAKES
						ESTIMATED	FINAL	S.P. 02-614-28 / 0282-25		C.P. 210-020-006
								ROADWAY QUANTITIES	STORM SEWER QUANTITIES	NON PARTICIPATING
	XX	204	2582.501	PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM-GROUND IN	EACH	2		2		
	XX	204	2582.501	PAVEMENT MESSAGE (RIGHT ARROW) POLY PREFORM-GROUND IN	EACH	10		10		
	XX	204	2582.501	PAVEMENT MESSAGE (HOV DIAMOND) POLY PREFORM-GROUND IN	EACH	2		2		
	DD	68	2582.502	4" SOLID LINE WHITE-PAINT	LIN FT	43145		43145		
	DD & XX	68 & 204	2582.502	24" SOLID LINE WHITE-PAINT	LIN FT	530		530		
	DD	68	2582.502	4" BROKEN LINE WHITE-PAINT	LIN FT	5630		5630		
	DD	68	2582.502	4" DOTTED LINE WHITE-PAINT	LIN FT	130		130		
	DD	68	2582.502	4" SOLID LINE YELLOW-PAINT	LIN FT	27430		27430		
	XX	204	2582.502	24" SOLID LINE YELLOW-PAINT	LIN FT	530		530		
	DD	68	2582.502	4" DOUBLE SOLID LINE YELLOW-PAINT	LIN FT	3110		3110		
	XX	204	2582.502	4" SOLID LINE WHITE-POLY PREFORM (GROUND IN)	LIN FT	1170		1170		
	XX	204	2582.502	8" SOLID LINE WHITE-POLY PREFORM (GROUND IN)	LIN FT	2725		2725		
	XX	204	2582.502	24" SOLID LINE WHITE-POLY PREFORM (GROUND IN)	LIN FT	95		95		
	XX	204	2582.502	4" BROKEN LINE WHITE-POLY PREFORM (GROUND IN)	LIN FT	3000		3000		
	XX	204	2582.502	8" DOTTED LINE WHITE-POLY PREFORM (GROUND IN)	LIN FT	130		130		
	XX	204	2582.502	4" SOLID LINE WHITE-EPOXY	LIN FT	39280		39280		
	XX	204	2582.502	8" SOLID LINE WHITE-EPOXY	LIN FT	1240		1240		
	XX	204	2582.502	24" SOLID LINE WHITE-EPOXY	LIN FT	60		60		
	XX	204	2582.502	4" BROKEN LINE WHITE-EPOXY	LIN FT	1740		1740		
	XX	204	2582.502	8" DOTTED LINE WHITE-EPOXY	LIN FT	250		250		
	XX	204	2582.502	4" SOLID LINE YELLOW-EPOXY	LIN FT	32720		32720		
	XX	204	2582.502	24" SOLID LINE YELLOW-EPOXY	LIN FT	210		210		
	XX	204	2582.503	CROSSWALK MARKING-POLY PREFORM (GROUND IN)	SQ FT	265		265		
(1)	XX	204	2582.603	4" PAVEMENT MARKING SPECIAL	LIN FT	2670		2670		
(2)	XX	204	2582.618	PAVEMENT MARKING SPECIAL	SQ FT	1985		1985		

NOTES:

- (1) THIS IS FOR 24" SOLID LINE WHITE PREFORMED THERMOPLASTIC. (445 x 6 = 2670 LIN FT)
- (2) THIS IS FOR 12 LEFT ARROWS, 12 RIGHT ARROWS, AND 1625 SQ FT OF CROSSWALK-PREFORMED THERMOPLASTIC.

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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: **AARON VACEK**

Aaron Vacek

Date: 8-20-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY V. MICHELS

DESIGNED BY S. PRUSAK

CHECKED BY A. VACEK

COMM. NO. D086509



ANOKA COUNTY

STATEMENT OF ESTIMATED QUANTITIES
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
9
OF
471

CONSTRUCTION / SOILS NOTES

GRADING, BASE AND SURFACE

- 1 TOP OF THE GRADING SUBGRADE IS DEFINED AS THE BOTTOM OF THE CLASS 6 AND CLASS 1 AGGREGATE BASE.
- 2 SUITABLE GRADING MATERIAL ON THIS PROJECT, WHETHER OBTAINED LOCALLY OR FROM BORROW, SHALL CONSIST OF ALL SOILS EXCEPT TOPSOIL, DEBRIS, PEAT, MUCK AND ORGANIC OR OTHER UNSTABLE MATERIAL.
- 3 UNSUITABLE MATERIALS ARE TOPSOILS, PAVEMENT OR CONCRETE DEBRIS, PEAT, MUCK AND ORGANIC OR OTHER UNSTABLE SOILS.
- 4 GRANULAR MATERIAL IS DEFINED AS MATERIAL MEETING THE REQUIREMENTS OF SPEC. 3149.2B1. SELECT GRANULAR MATERIAL IS DEFINED AS MATERIAL MEETING THE REQUIREMENTS OF SPEC. 3149.2B2.
- 5 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 12 INCHES.
- 6 ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE EXCAVATION-COMMON.
- 7 IN FILL SECTIONS, TOPSOIL AND OTHER UNSUITABLE MATERIALS SHALL BE ELIMINATED FROM THE UPPER 4 FEET OF THE "GRADING GRADE" BENEATH THE ROADWAY, WITHIN THE LIMITS SHOWN ON THE TYPICAL SECTIONS.
- 8 OBTAIN COMPACTION ON THE GRADING PORTIONS OF PERMANENT CONSTRUCTION IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD" REQUIREMENTS.
- 9 COMPACTION OF THE AGGREGATE BASE LAYER SHALL BE OBTAINED IN ACCORDANCE WITH THE PENETRATION INDEX METHOD. THE TEST SHALL BE PERFORMED IN ACCORDANCE WITH SECTION C4 AND C4A OF THE (2211) AGGREGATE BASE SPECIFICATION, INCLUDED IN THE SPECIAL PROVISIONS. THIS INCLUDES ANY AREAS WHERE CRUSHED CONCRETE OR SALVAGED ASPHALT MAY BE USED FOR AGGREGATE BASE.
- 10 COMPACTION OF THE GRADING AND AGGREGATE ITEMS ON BYPASSES AND OTHER TEMPORARY WORK SHALL BE BY THE "QUALITY COMPACTION" METHOD. TEMPORARY WORK IS DEFINED AS WORK TO BE REMOVED PRIOR TO COMPLETION OF THE PROJECT.
- 11 AS A PRECAUTIONARY MEASURE FROM A SOILS STANDPOINT, TRAFFIC LANES TO BE USED DURING CONSTRUCTION MUST BE DELINEATED TO KEEP VEHICLES A SAFE DISTANCE AWAY FROM THE ADJACENT EXCAVATION. THE DELINEATION SHOULD COINCIDE WITH POINTS ESTABLISHED BY PROJECTING A 1(V):2(H) OR GREATER (FLATTER) SLOPE BETWEEN THE EDGE OF THE TRAFFIC SURFACE AND THE BOTTOM OF THE EXCAVATION.
- 12 WHERE CONNECTING NEW SURFACING ADJACENT TO ANY INPLACE PAVEMENTS TO BE WIDENED, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 2(V):1(H) SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
- 13 WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED CONSTRUCTION AND AT THE NEW RAMP CONNECTIONS TO INTERSTATE 35E, 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 SUBGRADE EXCAVATION.
- 14 PROVIDE 1V:20H LONGITUDINAL TAPERS BETWEEN CHANGES IN SUBGRADE AND SUBCUT DEPTHS.
- 15 DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.
- 16 PROVIDE FOR A UNIFORM BITUMINOUS TACK COAT BETWEEN ALL BITUMINOUS COURSES. THE TACK COAT SHALL BE IN ACCORDANCE WITH MN/DOT SPECIFICATION 2357 WITH THE FOLLOWING MODIFICATIONS:
 1. THE TACK COAT SHALL CONSIST OF EMULSIFIED ASPHALT (CSS-1 OR CSS-1H) AND SHALL BE APPLIED BETWEEN ALL BITUMINOUS COURSES.
 2. THE TACK COAT SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GAL/SY BETWEEN BITUMINOUS LAYERS AND 0.07 TO 0.10 GAL/SY ON MILLED BITUMINOUS SURFACES PRIOR TO BEING OVERLAID.
- 17 PROVIDE A SAWCUT AT PROJECT TERMINI AND WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT.
- 18 AFTER THE FULL WEIGHT OF THE BRIDGE APPROACHES HAS BEEN PLACED A WAITING PERIOD OF ONE MONTH SHOULD BE ALLOWED BEFORE FINAL GRADING AND PAVING.

CONSTRUCTION /SOILS NOTES

REMOVALS

- 19 PROVIDE FOR THE REMOVAL AND DISPOSAL OF ANY INPLACE SURFACING, GUARDRAIL, OTHER STRUCTURES OR DEBRIS THAT WOULD INTERFERE WITH CONSTRUCTION. ALL SUCH MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED TO THE EXTENT ALLOWED OR DISPOSED OF OFF THE RIGHT OF WAY IN ACCORDANCE WITH SPEC. 2104.3C. PROVIDE FOR SAW CUTTING AS DEEMED NECESSARY BY THE ENGINEER.
- 20 THE EXISTING PAVEMENT THICKNESSES ARE ASSUMED TO BE AS FOLLOWS:
 - C.S.A.H. 14 - 6 TO 7 INCHES BITUMINOUS PAVEMENT
 - RAMPS AT C.S.A.H. 14 - 8 INCHES REINFORCED CONCRETE PAVEMENT OVERLAID WITH 4 INCHES BITUMINOUS PAVEMENT
 - T.H. 35E MAINLINE - 8 INCHES REINFORCED CONCRETE PAVEMENT OVERLAID WITH 4 INCHES BITUMINOUS PAVEMENT
 - T.H. 35E SHOULDERS - 8 INCHES BITUMINOUS PAVEMENT

THE EXISTING TOPSOIL THICKNESS IS ASSUMED TO BE 12 INCHES. TOPSOIL THICKNESS ALONG E.B.C.S.A.H. 14 IS KNOWN TO VARY IN DEPTH FROM 4 INCHES TO 2 FEET.

THE ABOVE INFORMATION WAS TAKEN FROM THE PROJECT SOIL BORINGS AND RECORD DRAWINGS. THE CONTRACTOR SHALL INVESTIGATE AND MAKE HIS OWN DETERMINATION.
- 21 PLACE A MINIMUM OF 6 INCHES OF TOPSOIL ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT, UNLESS OTHERWISE INDICATED ON THE TYPICAL SECTION PLAN SHEETS.
- 22 SOD ALL BOULEVARDS AND A 2 FOOT STRIP BEHIND ALL BITUMINOUS WALK. APPLY FERTILIZER TYPE 2 (22-5-10) @ 400 POUNDS PER ACRE TO ALL SODDED AREAS.
- 23 PERMANENT TURF ESTABLISHMENT SHALL BE CONDUCTED USING TYPICAL SEEDING METHODS. THE FOLLOWING RATES SHALL APPLY:
 - SEED MIXTURE 310 @ 82 POUNDS PER ACRE, FERTILIZER 18-1-18 @ 120 POUNDS PER ACRE.
 - SEED MIXTURE 350 @ 84.5 POUNDS PER ACRE, FERTILIZER 18-1-18 @ 120 POUNDS PER ACRE.
 - DISK ANCHOR AND MULCH ALL SEEDED AREAS FLATTER THAN 1:3 WITH MULCH MATERIAL TYPE 3 @ 2 TONS PER ACRE.
 - APPLY EROSION CONTROL BLANKETS CATEGORY 3 TO ALL SEEDED AREAS 1:3 OR STEEPER.
- 24 TEMPORARY SEEDING SHALL BE CONDUCTED USING RAPID STABILIZATION METHODS AS INDICATED IN THE TURF ESTABLISHMENT AND EROSION CONTROL PLANS AND DETAILS. THE FOLLOWING MATERIALS AND RATES SHALL APPLY:
 - METHOD 1
 - TYPE 1 MULCH @ 2 TONS PER ACRE
 - DISK ANCHORING
 - METHOD 2
 - TYPE 1 MULCH @ 1.5 TONS PER ACRE
 - TYPE 5 HYDRAULIC SOIL STABILIZER @ 750 POUNDS PER ACRE
 - METHOD 3
 - TYPE 6 HYDRAULIC SOIL STABILIZER @ 350 POUNDS PER 1000 GALLONS OF SLURRY MIX
 - SEED MIXTURE 190 @ 10 POUNDS PER 1000 GALLONS OF SLURRY MIX
 - FERTILIZER 10-10-20 @ 50 POUNDS PER 1000 GALLONS OF SLURRY MIX
 - WATER @ 875 GALLONS PER 1000 GALLONS OF SLURRY MIX
 - FOR CALCULATION PURPOSES, IT IS ASSUMED THAT 1000 GALLONS OF SLURRY MIX WILL COVER 1/6 OF AN ACRE.
 - METHOD 4
 - EROSION CONTROL BLANKETS CATEGORY 3
 - SEED MIXTURE 190 @ 2 POUNDS PER 100 SQUARE YARDS
 - FERTILIZER 10-10-20 @ 8 POUNDS PER 100 SQUARE YARDS
- 25 ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
- 26 THE CONTRACTOR IS HEREBY REMINDED OF HIS RESPONSIBILITY UNDER STATE LAW TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL.

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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: AARON VACEK
 Date: 8-06-09 License #: 44277

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY K. LUDWIG
 COMM. NO. 0086509



ANOKA COUNTY
 CONSTRUCTION/SOILS NOTES
 C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 10 OF 471

THE FOLLOWING STANDARD PLATES APPROVED BY THE DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

STANDARD PLATES	
PLATE NO.	DESCRIPTION
3000 L	REINFORCED CONCRETE PIPE
3006 G	GASKET JOINT FOR R.C. PIPE
3022 C	PRECAST CONCRETE SAFETY APRON
3041 D	CORRUGATED METAL PIPE (3" x 1" Corrugation)
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3123 J	METAL APRON FOR C.S. PIPE
3124 B	METAL APRON CONNECTION
3128 H	METAL SAFETY APRON & GRATE
3133 C	RIPRAP AT RCP OUTLETS
3134 C	RIPRAP AT CMP OUTLETS
3139 A	RIPRAP AT PRECAST CONCRETE END SECTIONS
3145 F	CONCRETE PIPE TIES
3146 C	ANTI-SEEPAGE DIAPHRAGM (For CMP and CMP-A)
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
4005 L	MANHOLE OR CATCH BASIN TYPE A & B CONE SECTIONS PRECAST - DESIGN F
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)
4024 A	48" DIA. PRECAST SHALLOW DEPTH CATCH BASIN - DESIGN SD
4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN
4108 F	ADJUSTING RINGS FOR CATCH BASINS AND MANHOLES
4110 F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) - CASTING No. 715 AND 716
4125 D	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE) - CASTING No. 806
4129 G	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE) - CASTING No. 802A
4134 A	CURB BOX CASTING FOR CATCH BASIN (FOR DESIGN B CURBS) - CASTING No. 825
4143 E	STOOL GRATE & CONCRETE FRAME (MEDIAN DRAINS) - CASTING No. 731
4154 B	CATCH BASIN GRATE CASTING - CASTING No. 816
4160 D	CURB BOX CASTING FOR CATCH BASIN - CASTING No. 823A AND 833A
4180 J	MANHOLE OR CATCH BASIN STEP
7036 F	PEDESTRIAN CURB RAMP (FOR THE HANDICAPPED)
7100 H	CONCRETE CURB & GUTTER (DESIGN B AND DESIGN V)
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 I	STANDARD BARRICADES
8002 G	PERMANENT BARRICADE
8106 B	EQUIPMENT PAD B (CAST-IN-PLACE OR PRECAST)
8111 D	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED)
8112 E	PEDESTAL FOUNDATION (TRAFFIC CONTROL SIGNALS)
8114 A	P.V.C. HANDHOLE / PULL BOX (NO VEHICLE LOAD)
8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
8119 C	GROUND MOUNTED CABINET FOUNDATION
8121 E	TRANSFORMER BASE AND POLE BASE PLATE (PA85M, PA90 AND PA100)
8122 D	PEDESTAL AND PEDESTAL BASE (FOR TRAFFIC CONTROL SIGNALS SUPPORT)
8123 E	POLE AND MAST ARM (LUMINAIRES AND TRAFFIC LIGHTS ASSEMBLY) FOR ALL POLE TYPES
8126 H	POLE FOUNDATION (PA90 AND PA100)
8127 B	LIGHT BASE - DESIGN E (40 FT. POLE OR LESS)
8140 B	ROADWAY LIGHTING SERVICE CABINET
8150 C	INSTALLATION OF CULVERT MARKERS
8307 R	W-BEAM GUARDRAIL & END ANCHORAGES (INSTALLATION WITH WOOD POSTS)
8318 C	GUARDRAIL ANCHORAGE PLATE FOR BRIDGES AND BCT'S
8329 H	ECCENTRIC LOADER BREAKAWAY CABLE TERMINAL (ELT)
8337 B	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER (TYPE "F")
8338 C	W-BEAM GUARDRAIL & END ANCHORAGES (STEEL POSTS)
9102 D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)
9322 K	CHAIN LINK FENCE

NOTE:
SEE SHEET 286 FOR ADDITIONAL STANDARD PLATES.

INDEX OF TABULATIONS		
TAB	TABULATION	SHEET NO.
A	OVERALL PROJECT EARTHWORK SUMMARY	12
B	EARTHWORK BALANCE	12, 18, 22
C	EARTHWORK TABULATION	13-24
D	CLEARING & GRUBBING	25
E	REMOVALS, SAWING, & MILLING	25
F	AGGREGATE AND BITUMINOUS SUMMARY	25
G	CURB & GUTTER AND WALK	26
H	TRAFFIC BARRIER	26
J	FENCING	27
K	TURF ESTABLISHMENT / EROSION CONTROL	27
L	EXISTING UTILITIES (ACCESS COMMUNICATIONS INC.)	28
M	EXISTING UTILITIES (CENTERPOINT ENERGY MINNESOTA GAS)	28
N	EXISTING UTILITIES (COMCAST CABLE COMMUNICATIONS INC.)	28
P	EXISTING UTILITIES (CONNEXUS ENERGY)	28 - 29
R	EXISTING UTILITIES (Mn/DOT T.M.S.) - WORK BY CONTRACTOR	29
S	EXISTING UTILITIES (QWEST CORP.)	30
T	EXISTING UTILITIES (WASHINGTON COUNTY PUBLIC WORKS)	30
U	EXISTING UTILITIES (XCEL ENERGY)	31
V	EXISTING DRAINAGE ITEMS	32 - 33
W	EXISTING SANITARY SEWER	34
X	EXISTING WATERMAIN	34
Y	SANITARY SEWER	35
Z	WATERMAIN	35
AA	TRAFFIC CONTROL SIGN TABULATION	66
BB	PAVEMENT MARKING REMOVAL	68
CC	PORTABLE PRECAST CONCRETE BARRIER	68
DD	TEMPORARY PAVEMENT MARKINGS	68
EE	SUBSURFACE DRAINS	167
FF	CASTING ASSEMBLIES SUMMARY	171
GG	DRAINAGE TABULATION	168 - 169
HH	LIGHTING TABULATION	198
KK	SALVAGE SIGN TYPE A	214
LL	SALVAGE SIGN TYPE C	215
MM	SALVAGE SIGN TYPE D	217
NN	SALVAGE SIGN TYPE EA	219
PP	SIGN TYPE A (H PILE FOOTINGS)	214
RR	SIGN PANELS TYPE C	216
SS	SIGN PANELS TYPE D	218
TT	SIGN PANELS TYPE EA	219
UU	SALVAGE & INSTALL SIGN TYPE C	215
VV	SALVAGE & INSTALL SIGN TYPE D	217
WW	DELINEATORS & MARKERS	220
XX	PERMANENT PAVEMENT MARKINGS	204
YY	Mn/DOT T.M.S.	287
ZZ	TEMPORARY DRAINAGE TABULATION	170
AAA	PIPE CULVERT TABULATION	171
BBB	REMOVE MARKERS	220
CCC	SALVAGE & INSTALL MARKERS	220
DDD	POST QUANTITIES	214
EEE	SALVAGE & INSTALL SIGN TYPE EA	219
FFF	SCHEDULE OF QUANTITIES FOR 12'x8' BOX CULVERT	183

TABULATIONS "I", "II", "III", "JJ", "O", "OO", "Q" AND "QQ" NOT USED

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REVISION NO DATE BY CKD APPR				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: AARON VACEK <i>Aaron Vacek</i> Date: 4-06-09 License #: 44277		STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X		DRAWN BY V. MICHELS DESIGNED BY S. PRUSAK CHECKED BY K. LUDWIG COMM. NO. 0086509		ANOKA COUNTY STANDARD PLATES AND INDEX OF TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE		SHEET 11 OF 471
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A OVERALL PROJECT EARTHWORK SUMMARY								
ALIGNMENT	EXCAVATION TOTALS (EV)			EMBANKMENT TOTALS (CV)				
	COMMON	SUBGRADE	STRUCTURE CLASS U	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR	SELECT GRANULAR MODIFIED 10%
				SUITABLE GRADING	SLOPE DRESSING			
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)
STAGE 1	117950	9805		112618	17356	24820	9272	
STAGE 2	112362	11648		87148	12055	27997	10147	981
STAGE 3	40262	12088	1471	41754	4931	19517	6747	2570
TOTALS	270574	33541	1471	241520	34342	72334	26166	3551

B EARTHWORK SUMMARY STAGE 1						
ALIGNMENT	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)
STAGE 1						
S.E. RAMP	14823	633	21858	3024	3706	1386
N.W. LOOP	16102	4611	7981	2448	11570	4017
N.W. RAMP	10912	1995	39248	2157	4562	1719
N.E. RAMP	14639	2232	23164	1799	3891	1468
S.W. RAMP	855		1989	161	787	273
EXISTING N.B. 35E	12487		1445	2361		
EXISTING S.B. 35E	11285	279	1574	2017	304	70
S.W. RAMP TIE	17	55	15091			339
S.W. POND (1)	8584		268	760		
N.E. INFIELD (1)	12056			735		
N.W. INFIELD (1)	12535			1270		
S.E. INFIELD (1)	3655			624		
TOTALS	117950	9805	112618	17356	24820	9272

NOTES:
 (1) VOLUMES COMPUTED USING CONTOUR METHODS. SEE CONTOUR PLANS.

EARTHWORK SUMMARY STAGE 1

NOTES:

① INCLUDES TOPSOIL STRIPPING (ASSUMED TO BE 12 INCHES THICK). ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE EXCAVATION-COMMON. REMOVAL OF PAVEMENT LESS THAN 6 INCHES IN DEPTH SHALL BE PAID AS EXCAVATION-COMMON.

EXCAVATION (CY)

COMMON ① 117,950 (EV)
 SUBGRADE 9,805 (EV) } 127,755 (EV)

EMBANKMENT (CY)

17,356 (CV) SLOPE DRESSING
 112,618 (CV) SUITABLE GRADING
 24,820 (CV) GRANULAR
 9,272 (CV) SELECT GRANULAR

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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: AARON VACEK
Aaron Vacek
 Date: 8-26-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY A. VACEK
 DESIGNED BY A. VACEK
 CHECKED BY K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 EARTHWORK SUMMARY
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 OVERALL, STAGE 1

SHEET 12 OF 471

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)
STAGE 1 S.E. RAMP						
500+00.00						
500+50.00	284	71	50	92	58	29
501+00.00	230	160	52	84	142	59
501+50.00	223	167	59	78	169	59
502+00.00	223	130	54	73	169	59
502+50.00	224	68	57	72	169	60
503+00.00	220	21	91	72	169	60
503+50.00	239	9	146	76	169	60
504+00.00	284	5	207	81	169	60
504+50.00	307	2	275	83	169	60
505+00.00	318		375	83	169	60
505+50.00	351		509	88	169	60
506+00.00	391		654	95	169	60
506+50.00	417		830	103	169	60
507+00.00	461		1027	113	169	60
507+50.00	527		1231	128	169	60
508+00.00	597		1440	145	169	60
508+50.00	739		1571	162	169	60
509+00.00	893		1689	179	169	60
509+50.00	1026		1868	196	173	61
510+00.00	1248		2030	213	179	63
510+50.00	1438		2174	236	180	64
511+00.00	1538		2316	255	180	64
511+50.00	1629		2276	217	90	57
511+80.00	1016		877	100		31
TOTAL	14823	633	21858	3024	3706	1386

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)
STAGE 1 N.W. LOOP						
321+50.00						
322+00.00	102		337	22	149	52
322+50.00	232		707	58	298	103
323+00.00	260		714	73	298	103
323+50.00	254		644	72	298	103
324+00.00	233	11	514	60	319	110
324+50.00	338	54	259	54	336	116
325+01.00	461	83	93	58	335	116
325+50.00	402	52	118	54	316	109
326+00.00	370	17	196	53	317	110
326+50.00	357	6	268	53	312	108
327+00.00	339	4	336	52	309	107
327+50.00	328		339	51	308	107
328+00.00	335	4	272	51	308	107
328+50.00	364	10	202	52	308	107
329+00.00	400	22	143	54	308	107
329+50.00	449	48	118	55	308	107
330+00.00	516	118	86	66	339	117
330+50.00	566	210	57	75	368	127
331+00.00	574	241	56	76	364	125
331+50.00	574	245	65	77	357	123
332+00.00	598	268	63	80	350	121
332+50.00	646	314	58	81	377	130
333+00.00	679	360	59	80	404	139
333+50.00	690	302	64	83	369	127
334+00.00	440	208	71	63	328	113
334+50.00	180	161	72	40	310	107
335+00.00	172	129	72	40	292	101
335+50.00	164	126	76	40	273	95
336+00.00	162	136	66	40	255	88
336+50.00	159	80	76	40	236	82
337+00.00	152	10	172	40	218	76
337+50.00	159		607	48	199	70
338+00.00	231		624	63	181	64
338+50.00	307	7	191	68	170	60
339+00.00	341	74	72	65	169	60
339+50.00	411	177	24	62	169	60
340+00.00	498	209	17	62	169	60
340+50.00	531	205	26	60	169	60
341+01.00	523	196	21	60	173	61
341+51.00	544	194	12	59	169	60
342+01.00	553	186	9	57	169	60
342+50.00	508	144	5	51	166	59
TOTAL	16102	4611	7981	2448	11570	4017

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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: **AARON VACEK**
Aaron Vacek
 Date: 5-22-09 License # 44277

STATE PROJECT NO.
 0282-25 (TH 35E)
 STATE PROJECT NO.
 02-614-28
 COUNTY PROJECT NO.
 X
 CITY PROJECT NO. X

DRAWN BY
 A. VACEK
 DESIGNED BY
 A. VACEK
 CHECKED BY
 K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 EARTHWORK TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 1

SHEET
 13
 OF
 471

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
600+00.00						43
600+50.00	230		2349			50
601+00.00	283		2801	37	79	56
601+50.00	279		2731	75	159	56
602+00.00	286		2631	79	159	56
602+50.00	298		2371	82	159	56
603+00.00	301		2016	81	159	56
603+50.00	328		1786	83	159	56
604+00.00	335		1638	84	164	58
604+50.00	286		1538	78	169	60
605+00.00	270		1379	79	169	60
605+50.00	295		979	82	169	60
606+00.00	345		530	83	169	60
606+50.00	386		238	81	169	60
607+00.00	412	32	102	76	169	60
607+50.00	482	122	30	72	169	60
608+00.00	556	205	3	65	169	60
608+50.00	924	229	1	73	169	60
609+00.00	1288	229	1	84	169	60
609+50.00	1281	229	1	78	169	60
610+00.00	1195	229	1	72	169	60
610+50.00	1103	229	1	77	169	60
611+00.00	1004	228	3	78	169	60
611+50.00	882	208	12	65	169	60
612+00.00	720	170	14	55	169	60
612+50.00	553	103	4	50	123	58
612+84.10	317	19	4	30	26	19
TOTAL	14639	2232	23164	1799	3891	1468

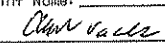
C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
200+00.00						29
200+50.00	313	55	14	37	60	59
201+00.00	341	133	2	38	144	60
201+50.00	376	163	8	39	169	60
202+00.00	431	188	19	42	169	60
202+50.00	491	217	12	49	169	60
203+00.00	531	229	1	59	169	60
203+50.00	555	229	1	69	169	60
204+00.00	694	227	1	88	169	60
204+50.00	634	227	1	78	169	60
205+00.00	386	194	4	55	169	60
205+50.00	297	99	37	58	169	60
206+00.00	288	27	83	65	169	60
206+50.00	307	7	163	73	169	60
207+00.00	308		316	79	169	60
207+50.00	330		493	87	169	60
208+00.00	343		752	95	169	60
208+50.00	330		1123	102	169	60
209+00.00	316		1532	108	169	60
209+50.00	314		1939	111	169	60
210+00.00	311		2327	113	169	60
210+50.00	200		2545	114	169	60
211+00.00	231		2813	116	173	61
211+50.00	404		3208	116	193	68
212+00.00	436		3542	111	218	76
212+50.00	415		3802	105	225	78
213+00.00	376		3891	101	225	79
213+50.00	341		3827	49	113	57
214+00.00	316		3579			36
214+50.00	297		3213			36
TOTAL	10912	1995	39248	2157	4562	1719

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
12+80.00						70
13+25.00	17	50	864			45
13+75.00			2188			44
14+25.00			2615			44
14+75.00			2836			44
15+25.00			2849			44
15+75.00			2370			48
16+30.00		5	1369			
TOTAL	17	55	15091			339

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
407+29.00						55
407+79.00	176		489	35	158	109
408+29.00	343		844	66	315	109
408+79.00	336		656	60	314	273
TOTAL	855		1989	161	787	

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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: **AARON VACEK**

 Date: **5-22-09** License # **44277**

STATE PROJECT NO.
 0282-25 (TH 35E)
 STATE PROJECT NO.
 02-614-28
 COUNTY PROJECT NO.
 X
 CITY PROJECT NO. X

DRAWN BY
 A. VACEK
 DESIGNED BY
 A. VACEK
 CHECKED BY
 K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 EARTHWORK TABULATIONS
C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 1

SHEET
14
OF
471

C EARTHWORK TABULATION						
STATION STAGE 1 EXISTING N.B. 35E	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
557+40.00						
557+50.00	6		1	1		
558+00.00	94		5	32		
558+50.00	223		6	63		
559+00.00	273		7	68		
559+50.00	272		8	69		
560+00.00	290		8	69		
560+50.00	317		8	70		
561+00.00	360		9	75		
561+50.00	374		9	75		
561+63.50	104		2	20		
562+00.00	293		6	56		
562+50.00	391		10	76		
563+00.00	386		18	76		
563+50.00	369		24	72		
564+00.00	350		26	68		
564+50.00	332		34	65		
565+00.00	325		41	64		
565+50.00	319		44	63		
566+00.00	428		47	79		
566+50.00	529		48	94		
567+00.00	496		48	90		
567+19.50	99		10	18		
567+70.00	27		5	5		
568+20.00	32		10	7		
568+71.00	37		13	9		
569+22.00	46		17	14		
569+73.00	46		18	14		
570+25.00	36		10	9		
570+75.00	30		7	6		
571+28.00	30		6	6		
571+75.00	26		4	5		
572+25.00	28		5	5		
572+50.00	14		3	3		
573+00.00	29		6	6		
573+50.00	28		4	5		
574+00.00	28		4	5		
574+50.00	29		5	6		
575+00.00	29		5	6		
575+50.00	28		4	5		
576+00.00	28		4	5		
576+50.00	28		4	5		
577+00.00	28		4	5		
577+50.00	29		5	6		
578+00.00	22		3	6		
578+50.00	17			6		
579+00.00	18			6		
579+50.00	25		2	6		
580+00.00	50		43	15		
580+50.00	50		43	15		
581+00.00	30		4	6		
581+50.00	30		5	6		
582+00.00	30		5	6		
582+50.00	30		5	6		
583+00.00	30		5	6		
583+50.00	30		5	6		
583+80.00	16		3	3		
584+10.00	16		2	3		
584+60.00	27		4	5		
585+00.00	23		4	4		
585+50.00	29		5	6		
586+00.00	29		5	6		
586+50.00	29		5	6		
587+00.00	29		5	6		

C EARTHWORK TABULATION						
STATION STAGE 1 EXISTING N.B. 35E	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
587+50.00	29		5	6		
588+00.00	29		5	5		
588+50.00	29		6	6		
589+00.00	30		7	6		
589+50.00	30		7	6		
589+90.00	23		5	5		
590+45.00	32		7	7		
590+97.00	31		7	7		
591+48.00	30		8	7		
591+99.50	31		8	7		
592+34.25	22		5	4		
592+50.00	82		2	8		
593+00.00	455		29	47		
593+50.00	397		45	48		
594+00.00	392		39	49		
594+50.00	396		37	50		
595+00.00	343		34	47		
595+50.00	273		33	43		
596+00.00	221		34	40		
596+50.00	154		36	27		
597+00.00	102		37	16		
597+50.00	100		35	17		
598+00.00	97		34	17		
598+50.00	95		33	18		
599+00.00	96		27	18		
599+50.00	91		20	16		
600+00.00	83		14	13		
600+50.00	81		13	13		
601+00.00	79		13	13		
601+50.00	76		11	12		
602+00.00	73		11	12		
602+50.00	69		10	12		
603+00.00	69		9	11		
603+50.00	88		18	21		
604+00.00	106		21	29		
604+25.00	52		7	14		
604+50.00	33		4	8		
605+00.00	28		5	5		
605+50.00	30		7	6		
606+00.00	31		7	6		
606+50.00	31		7	6		
607+00.00	31		7	6		
607+50.00	31		7	6		
608+00.00	31		7	6		
608+47.00	29		7	6		
TOTAL	12487		1445	2361		

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 07/20/09
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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: **AARON VACEK**
 Date: 7-22-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY A. VACEK
 DESIGNED BY A. VACEK
 CHECKED BY K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 EARTHWORK TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 1

SHEET
 15
 OF
 471

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
STAGE 1 EXISTING S.B. 35E						
532+45.00						
533+00.00	31		3	4		
533+50.00	27		3	4		
534+00.00	28		3	4		
534+50.00	27		3	4		
535+00.00	28		3	4		
535+50.00	28		4	4		
536+00.00	29		4	5		
536+50.00	29		5	5		
536+66.00	25		2	6		
537+00.00	85		6	22		
537+50.00	127		9	32		
538+00.00	125		9	32		
538+50.00	123		9	33		
539+00.00	135		11	36		
539+50.00	137		17	37		
540+00.00	133		21	35		
540+50.00	135		24	35		
541+00.00	147		29	38		
541+50.00	198		29	44		
542+00.00	204		28	45		
542+50.00	190		30	45		
543+00.00	223		29	50		
543+50.00	252		33	53		
544+00.00	285		39	56		
544+50.00	315		34	58		
545+00.00	344		36	60		
545+50.00	351		51	59		
546+00.00	318		57	54		
546+50.00	316		54	55		
547+00.00	364		56	57		
547+50.00	425		64	57		
548+00.00	482	65	38	55	70	20
548+50.00	536	178	7	52	194	43
548+66.00	101	36	2	10	40	7
549+15.50	47		6	8		
549+65.00	29		6	6		
550+15.00	30		6	6		
550+65.63	30		5	5		
551+14.49	29		5	5		
551+54.05	24		4	4		
552+14.05	35		6	7		
552+64.05	30		5	5		
553+14.05	30		5	5		
553+64.05	30		6	6		
554+14.05	30		6	6		
554+64.05	30		5	5		
555+14.05	29		5	5		
555+64.05	30		5	5		
556+14.05	30		5	5		
556+64.05	30		5	5		
557+14.05	29		5	5		
557+64.05	30		5	5		
558+14.05	29		4	5		
558+64.05	29		4	5		
559+14.05	29		4	5		
559+64.05	28		4	5		
560+14.05	29		5	5		
560+64.05	29		5	5		
561+14.05	29		5	5		
561+64.05	29		5	5		
562+14.05	29		5	5		
562+64.05	28		5	5		
563+14.05	28		5	5		
563+64.05	30		5	5		

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
STAGE 1 EXISTING S.B. 35E						
564+14.05	30		5	5		
564+64.05	29		5	5		
565+14.05	29		5	5		
565+64.05	30		5	6		
566+13.05	29		6	6		
566+64.05	28		5	5		
567+14.05	26		5	5		
567+64.05	29		7	6		
568+14.05	29		6	6		
568+64.05	28		5	6		
569+14.05	26		4	5		
569+64.05	26		4	5		
570+14.05	29		6	6		
570+64.05	29		6	6		
571+14.05	28		5	6		
571+64.05	29		5	6		
572+14.05	29		5	6		
572+64.05	29		5	6		
573+14.05	29		5	6		
573+64.05	28		5	6		
574+14.05	29		5	6		
574+64.05	29		5	6		
575+14.05	29		5	6		
575+64.05	28		5	6		
576+14.05	29		5	6		
576+64.05	29		5	6		
577+14.05	29		5	6		
577+64.05	28		5	6		
578+14.05	22		3	6		
578+64.05	15		1	6		
579+14.05	15		1	6		
579+64.05	22		3	6		
580+14.04	28		5	6		
580+64.12	28		5	5		
581+18.53	30		6	6		
581+68.00	27		5	5		
582+25.00	30		6	6		
582+80.00	29		5	5		
583+00.00	10		1	2		
583+50.00	26		3	4		
584+00.00	26		3	4		
584+50.00	25		3	4		
585+00.00	26		3	4		
585+50.00	25		3	4		
586+00.00	25		3	4		
586+50.00	26		3	4		
587+00.00	25		3	4		
587+50.00	26		3	4		
587+75.00	13		1	2		
588+15.00	23		5	5		
588+63.00	30		8	7		
589+15.00	32		8	7		
589+66.00	30		6	6		
590+18.00	28		4	5		
590+70.00	28		5	5		
591+20.00	27		4	5		
591+72.00	28		4	5		
592+22.70	45		5	7		
592+50.00	119		9	13		
593+00.00	373		32	41		
593+50.00	341		33	39		
594+00.00	289		29	38		
594+50.00	243		26	36		
595+00.00	204		44	34		
595+50.00	177		55	35		

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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: AARON VACEK
 Date: 5-22-09 License # 44277

STATE PROJECT NO.
 0282-25 (TH 35E)
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 DESIGNED BY
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 CHECKED BY
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 COMM. NO. 0086509



ANOKA COUNTY
 EARTHWORK TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 1

SHEET
 16
 OF
 471

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
EXISTING S.B. 35E	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)
596+00.00	146		47	31		
596+50.00	114		38	26		
597+00.00	100		26	23		
597+50.00	97		22	25		
597+78.00	55		12	15		
598+00.00	28		6	7		
598+50.00	29		4	5		
599+00.00	29		4	5		
599+50.00	29		4	5		
600+00.00	29		4	4		
600+50.00	28		3	4		
601+00.00	29		3	4		
601+50.00	28		4	5		
601+99.00	28		4	4		
TOTAL	11285	279	1574	2017	304	70

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 4/20/2009
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NO	DATE	BY	CHKD	APPR	REVISION

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 Print Name: **AARON VACEK**
Aaron Vacek
 Date: 5-22-09 License # 44277

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 COUNTY PROJECT NO. X
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DRAWN BY A. VACEK
 DESIGNED BY A. VACEK
 CHECKED BY K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 EARTHWORK TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 1

SHEET
 17
 OF
 471

B EARTHWORK SUMMARY STAGE 2							
ALIGNMENT	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)				
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR	SELECT GRANULAR MODIFIED 10%
			SUITABLE GRADING	SLOPE DRESSING			
STAGE 2	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)
E.B. C.S.A.H. 14 (SUBTOTAL A)	4520	1451	26726	961	7330	2577	
E.B. C.S.A.H. 14 (SUBTOTAL B)	5726	3662	24981	961	7826	2780	
S.E. RAMP	4981		2	335			
N.W. LOOP	10569	4725	17851	1858	9188	3234	
N.W. RAMP	137	454	2697	257	624	328	
N.E. RAMP	43	371	616	48	294	234	
N.E. LOOP	3563	985	13044	908	2735	994	
EXISTING N.B. 35E	5741		1102	969			
EXISTING S.B. 35E	2245		6	417			
N.E. POND (1)	25782		102	1793			
N.E. INFIELD (1)	3504			447			
N.W. POND (1)	16999		21	967			
N.W. INFIELD (1)	8531			954			
S.E. INFIELD (1)	20021			1180			
BACKFILL FOR BRIDGE ABUTMENTS							981
TOTALS	112362	11648	87148	12055	27997	10147	981

NOTES:
(1) VOLUMES COMPUTED USING CONTOUR METHODS. SEE CONTOUR PLANS.

EARTHWORK SUMMARY STAGE 2

NOTES:

- ① INCLUDES TOPSOIL STRIPPING (ASSUMED TO BE 12 INCHES THICK). ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE EXCAVATION-COMMON. REMOVAL OF PAVEMENT LESS THAN 6 INCHES IN DEPTH SHALL BE PAID AS EXCAVATION-COMMON.

EXCAVATION (CY)

COMMON ① 112,362 (EV)
SUBGRADE 11,648 (EV)

124,010 (EV)

138,328 (CV)

EMBANKMENT (CY)

12,055 (CV) SLOPE DRESSING
87,148 (CV) SUITABLE GRADING
27,997 (CV) GRANULAR
10,147 (CV) SELECT GRANULAR
981 (CV) SELECT GRANULAR MODIFIED 10%

2110154 PN 7/21/2009 H:\P\of\act\8609\VI-MUNP\an\CO261429_TBEW07.DGN

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: AARON VACEK
Date: 8-06-09 License #: 44277

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-2B
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY A. VACEK
DESIGNED BY A. VACEK
CHECKED BY K. KRECH
COMM. NO. 0086509



ANOKA COUNTY
EARTHWORK SUMMARY
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 2

SHEET 18 OF 471

C EARTHWORK TABULATION						
STATION STAGE 2 E.B. C.S.A.H. 14	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
182+20.00						
182+50.00	57	41	23	18	18	23
183+00.00	89	200	42	30	130	70
183+50.00	77	278	49	30	209	73
184+00.00	66	257	65	30	209	73
184+60.00	194	258	412	30	631	215
185+00.00	161	134	465	23	493	167
185+50.00	124	118	515	38	319	110
186+00.00	108	73	504	38	248	87
186+50.00	113	43	554	39	248	87
187+00.00	122	24	642	41	248	87
187+50.00	133	12	771	44	244	86
188+00.00	143	6	903	47	228	80
188+50.00	154	3	1059	49	215	76
189+00.00	166	2	1270	52	215	76
189+50.00	183		1532	57	215	76
189+75.00	95		872	29	107	38
190+15.00	114		1030	23	196	68
190+50.00	69		557	1	211	73
190+70.00	40		337		131	45
191+20.00	103		893	3	316	109
191+50.00	86		1033	15	174	60
192+00.00	157		2014	30	276	96
192+50.00	186	1	1426	35	404	138
193+00.00	507	1	914	57	484	165
193+55.00	658		1892	68	455	156
194+00.00	323		3082	62	343	118
194+32.00	188		2496	48	230	79
194+52.00	104		1374	24	133	46
SUBTOTAL (A)	4520	1451	26726	961	7330	2577

C EARTHWORK TABULATION						
STATION STAGE 2 E.B. C.S.A.H. 14	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
197+18.00						
197+38.00	96		1293	20	132	46
197+50.00	71		919	19	82	28
198+00.00	293		3557	76	344	118
198+50.00	365		3072	78	345	119
199+00.00	806		1945	80	347	119
199+50.00	644	63	674	56	350	120
199+92.00	128	59	750	14	385	131
200+35.00	152	6	1429	12	361	123
200+94.00	175		1735	16	365	126
201+50.00	191		1716	9	459	157
202+00.00	225		1933	34	432	148
202+50.00	229		1726	50	374	129
203+00.00	201	15	1298	48	346	120
203+50.00	185	57	906	49	324	112
204+00.00	178	155	601	49	355	122
204+50.00	173	277	403	45	396	136
205+00.00	175	374	268	42	400	137
205+50.00	169	419	202	36	379	132
206+00.00	153	423	175	32	347	123
206+30.00	87	257	93	18	199	71
206+50.00	57	172	58	12	130	46
207+00.00	150	434	120	30	324	115
207+50.00	188	375	55	30	255	121
208+00.00	221	163	10	30	96	66
208+50.00	184	80	7	28	57	23
209+00.00	108	136	9	20	99	37
209+50.00	70	111	13	15	81	31
210+00.00	52	86	14	13	62	24
SUBTOTAL (B)	5726	3662	24981	961	7826	2780
TOTAL	10246	5113	51707	1922	15156	5357

C EARTHWORK TABULATION						
STATION STAGE 2 S.E. RAMP	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
504+50.00						
505+00.00	1			1		
505+50.00	8			3		
506+00.00	27			6		
506+50.00	54			8		
507+00.00	92			11		
507+50.00	144			14		
508+00.00	206			17		
508+50.00	284			20		
509+00.00	373			23		
509+50.00	460			26		
510+00.00	532			28		
510+50.00	582			29		
511+00.00	979		1	59		
511+50.00	1028		1	73		
511+80.00	211			17		
TOTAL	4981		2	335		

C EARTHWORK TABULATION						
STATION STAGE 2 N.W. RAMP	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
213+00.00						
213+50.00	47	117	242	55	113	54
214+00.00	50	194	1086	118	225	119
214+50.00	40	143	1369	84	286	155
TOTAL	137	454	2697	257	624	328

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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: **AARON VACEK**
Aaron Vacek
 Date: **5-22-09** License #: **44277**

STATE PROJECT NO.
 0282-25 (TH 35E)
 STATE PROJECT NO.
 02-614-28
 COUNTY PROJECT NO.
 X
 CITY PROJECT NO. X

DRAWN BY
A. VACEK
 DESIGNED BY
A. VACEK
 CHECKED BY
K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 EARTHWORK TABULATIONS
C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 2

SHEET
19
OF
471

C EARTHWORK TABULATION						
STATION STAGE 2 N.W. LOOP	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
301+90.00						
302+40.00	225		2722	66	258	90
303+00.00	246		3280	97	310	108
303+44.00	144		1923	70	227	79
303+85.00	124		1411	57	212	74
304+24.00	121		1211	53	201	70
304+62.00	131		1139	53	195	68
305+00.00	148		1151	55	192	67
305+30.00	132		916	48	149	52
305+65.00	176		960	63	170	59
306+00.00	174		745	57	167	58
306+50.00	235		678	64	233	81
307+00.00	287	51	264	58	226	79
307+50.00	455	194	32	51	219	77
308+00.00	729	284		44	212	74
308+50.00	540	220	20	38	205	72
309+00.00	168	121	54	33	199	70
309+50.00	145	84	60	36	192	68
310+00.00	143	100	43	37	184	65
310+50.00	128	120	30	33	177	63
311+00.00	110	132	26	28	171	61
311+50.00	127	140	222	40	169	60
312+00.00	595	185	215	55	169	60
312+50.00	516	115	6	27	85	30
313+00.00	542	115	4	33	85	30
313+50.00	625	177	23	55	169	60
314+00.00	146	111	35	39	169	60
314+50.00	118	92	32	33	169	60
315+00.00	108	88	35	30	169	60
315+50.00	103	92	38	27	169	60
316+00.00	101	93	38	26	169	60
316+50.00	104	88	39	26	169	60
317+00.00	104	86	39	25	169	60
317+50.00	104	78	40	25	169	60
318+00.00	101	74	43	24	169	60
318+50.00	129	87	35	32	169	60
319+00.00	169	121	26	40	169	60
319+50.00	169	183	21	37	169	60
320+00.00	130	224	10	31	169	60
320+50.00	88	209	17	22	169	60
321+00.00	92	164	33	16	169	60
321+50.00	119	122	32	14	169	60
322+00.00	163	100	34	11	188	65
322+50.00	187	86	36	9	192	66
323+00.00	162	75	23	9	166	57
323+50.00	134	71	8	9	145	50
324+00.00	96	67	1	9	107	38
324+50.00	70	65		9	79	28
325+01.00	71	63	1	9	81	29
325+50.00	70	53	2	9	78	28
326+00.00	79	42	3	9	79	28
326+50.00	81	36	5	9	79	28
327+00.00	91	24	12	9	79	28
327+50.00	101	9	15	9	79	28
328+00.00	92	15	12	9	79	28
328+50.00	86	21	11	9	79	28
329+00.00	86	21	12	9	79	28
329+50.00	96	18	17	14	79	28
330+00.00	53	9	11	9	40	14
TOTAL	10569	4725	17851	1858	9188	3234

C EARTHWORK TABULATION						
STATION STAGE 2 N.E. LOOP	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
702+25.00						
702+50.00	68	44	14	12	38	30
703+00.00	345	193	12	32	146	63
703+50.00	470	244		30	180	64
704+00.00	401	244		27	180	64
704+50.00	296	191	11	33	180	64
705+00.00	244	69	120	57	144	51
705+40.00	180		261	53	155	55
705+83.00	122		360	45	148	52
706+24.00	100		388	41	143	51
706+64.35	90		470	43	145	51
707+04.00	92		582	46	157	55
707+44.00	107		815	53	159	56
707+83.00	124		1124	61	183	64
708+28.00	176		1665	83	188	66
708+74.30	183		2019	93	202	71
709+24.00	294		2531	105	207	73
709+75.00	271		2672	94	207	73
TOTAL	3563	985	13044	908	2735	994

C EARTHWORK TABULATION						
STATION STAGE 2 N.E. RAMP	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
600+00.00						
600+50.00	6	199	284	29	169	97
601+00.00	5	145	227	19	125	81
601+50.00	16	15	77			37
602+00.00	16	12	28			19
602+50.00						
TOTAL	43	371	616	48	294	234

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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: AARON VACEK
Aaron Vacek
 Date: 5-22-09 License # 44277

STATE PROJECT NO.
 0282-25 (TH 35E)
 STATE PROJECT NO.
 02-614-28
 COUNTY PROJECT NO.
 X
 CITY PROJECT NO. X

DRAWN BY
 A. VACEK
 DESIGNED BY
 A. VACEK
 CHECKED BY
 K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 EARTHWORK TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 2

SHEET
 20
 OF
 471

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
STAGE 2 EXISTING N.B. 35E						
565+50.00						
566+00.00	10					
566+50.00	24					
567+00.00	31					
567+19.50	11			1		
567+70.00	29			4		
568+20.00	43			9		
568+71.00	68			17		
569+22.00	112		1	25		
569+73.00	162		1	33		
570+25.00	225		1	42		
570+75.00	289		2	49		
571+28.00	391		3	62		
571+75.00	223		4	37		
572+25.00	59		6	15		
572+50.00	28		4	7		
573+00.00	57		8	15		
573+50.00	58		7	15		
574+00.00	59		8	15		
574+50.00	62		7	16		
575+00.00	71		4	16		
575+50.00	69		6	16		
576+00.00	62		15	16		
576+50.00	65		21	16		
577+00.00	70		25	16		
577+50.00	74		33	16		
578+00.00	69		32	13		
578+50.00	351		13	27		
579+00.00	612		2	44		
579+50.00	354		271	42		
580+00.00	91		293	24		
580+50.00	51		29	5		
581+00.00	57		21	8		
581+50.00	69		30	13		
582+00.00	69		31	14		
582+50.00	73		37	14		
583+00.00	85		47	13		
583+50.00	114		56	12		
583+80.00	53		20	6		
584+10.00	28		6	6		
584+60.00	104		13	28		
585+00.00	83		10	22		
585+50.00	52		11	13		
586+00.00	56		10	13		
586+50.00	67		7	13		
587+00.00	74		3	13		
587+50.00	67		1	13		
588+00.00	57			14		
588+50.00	57			13		
589+00.00	61			13		
589+50.00	63			14		
589+90.00	68			15		
590+45.00	120			24		
590+97.00	103		1	23		
591+48.00	79		1	20		
591+99.50	59		1	13		
592+34.25	27			5		
592+50.00	10			1		

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
STAGE 2 EXISTING N.B. 35E						
593+00.00	32					
593+50.00	25					
594+00.00	20					
594+50.00	13					
595+00.00	8					
595+50.00	5					
596+00.00	2					
596+50.00	1					
597+00.00						
TOTAL	5741		1102	969		

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON (CU YD)	SUBGRADE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
			SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)		
STAGE 2 EXISTING S.B. 35E						
561+64.05					5	
562+14.05	25				10	
562+64.05	50		1			
563+14.05	51				10	
563+64.05	51				10	
564+14.05	53				10	
564+64.05	55				10	
565+14.05	55				10	
565+64.05	53				10	
566+13.05	52				10	
566+64.05	54				10	
567+14.05	53				10	
567+64.05	52				10	
568+14.05	51				10	
568+64.05	52				10	
569+14.05	53				10	
569+64.05	52				10	
570+14.05	55				10	
570+64.05	60				10	
571+14.05	31				5	
571+64.05						
587+00.00						
587+50.00	48				8	
587+75.00	46				8	
588+15.00	128				22	
588+63.00	221				39	
589+15.00	219				39	
589+66.00	183				33	
590+18.00	154		1		30	
590+70.00	115		1		25	
591+20.00	77		1		17	
591+72.00	52		1		10	
592+22.70	35		1		5	
592+50.00	9				1	
593+00.00						
TOTAL	2245		6	417		

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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: AARON VACEK
Aaron Vacek
 Date: 5-22-09 License #: 44277

STATE PROJECT NO. 0202-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY A. VACEK
 DESIGNED BY A. VACEK
 CHECKED BY K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 EARTHWORK TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 2

SHEET
 21
 OF
 471

B ALIGNMENT	EARTHWORK SUMMARY STAGE 3							
	EXCAVATION TOTALS (EV)			EMBANKMENT TOTALS (CV)				
	COMMON	SUBGRADE	STRUCTURE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR	SELECT GRANULAR MODIFIED 10%
				SUITABLE GRADING	SLOPE DRESSING			
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
STAGE 3								
E.B. C.S.A.H. 14 (SUBTOTAL A)	9476	5833	1471	9089	1263	9102	3102	1588
E.B. C.S.A.H. 14 (SUBTOTAL B)	4757	5182		6315	1160	5642	1992	
S.E. RAMP	41	274		83	77	205	73	
N.W. LOOP	2022	230		2	54	170	60	
N.W. RAMP	595			5	69			
N.E. RAMP	618			12	77			
S.W. RAMP	22753	569		26248	2231	4398	1520	
BACKFILL FOR BRIDGE ABUTMENTS								982
TOTALS	40262	12088	1471	41754	4931	19517	6747	2570

EARTHWORK SUMMARY STAGE 3

NOTES:

- ① INCLUDES TOPSOIL STRIPPING (ASSUMED TO BE 12 INCHES THICK). ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE EXCAVATION-COMMON. REMOVAL OF PAVEMENT LESS THAN 6 INCHES IN DEPTH SHALL BE PAID AS EXCAVATION-COMMON.

EXCAVATION (CY)

COMMON ①	40,262 (EV)	}	53,821 (EV)
SUBGRADE	12,088 (EV)		
STRUCTURE	1,471 (EV)		

EMBANKMENT (CY)

}	4,931 (CV) SLOPE DRESSING
	41,754 (CV) SUITABLE GRADING
	19,517 (CV) GRANULAR
	6,747 (CV) SELECT GRANULAR
	2,570 (CV) SELECT GRANULAR MODIFIED 10%

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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: AARON VACEK <i>Aaron Vacek</i> Date: 8-26-09 License #: 44277				STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X	DRAWN BY A. VACEK DESIGNED BY A. VACEK CHECKED BY K. KRECH COMM. NO. 0086509	ANOKA COUNTY EARTHWORK SUMMARY C.S.A.H. 14/T.H. 35E INTERCHANGE STAGE 3	SHEET 22 OF 471		
NO	DATE	BY	CKD	APPR	REVISION				

C EARTHWORK TABULATION								
STATION E.B. C.S.A.H. 14	EXCAVATION TOTALS (EV)			EMBANKMENT TOTALS (CV)				
	COMMON (CU YD)	SUBGRADE (CU YD)	STRUCTURE (CU YD)	COMMON EMBANKMENT		GRANULAR (CU YD)	SELECT GRANULAR (CU YD)	SELECT GRANULAR MODIFIED 10% (CU YD)
				SUITABLE GRADING (CU YD)	SLOPE DRESSING (CU YD)			
182+20.00					17		41	
182+50.00	97	69		33	30	231	127	
183+00.00	159	358		58	31	380	128	
183+50.00	142	508		65	30	384	130	
184+00.00	107	512		72	34	458	155	
184+60.00	65	563		182	24	297	101	
185+00.00	39	318		223	26	334	109	72
185+50.00	66	304	48	292	18	324	102	153
186+00.00	59	240	103	235	14	356	113	176
186+50.00	57	236	130	205	14	366	115	214
187+00.00	55	215	191	203	15	367	115	231
187+50.00	52	195	226	210	16	364	115	196
188+00.00	51	182	187	212	17	364	115	190
188+50.00	48	167	186	216	41	367	115	230
189+00.00	97	153	255	337	76	348	115	126
189+50.00	182	138	145	747	44	164	58	
189+75.00	112	64		545	72	298	104	
190+15.00	279	119		569	66	384	131	
190+50.00	495	185		115	43	273	92	
190+70.00	516	132		21	154	528	178	
191+20.00	2485	240		412	88	225	76	
191+50.00	1226	104		531	100	374	127	
192+00.00	550	160		957	90	369	125	
192+50.00	638	150		597	56	381	129	
193+00.00	518	148		441	69	511	173	
193+55.00	693	154		789	50	357	121	
194+00.00	539	106		499	15	165	56	
194+32.00	42	67		210	13	105	36	
194+52.00	107	46		113				
SUBTOTAL (A)	9476	5833	1471	9089	1263	9102	3102	1588
197+18.00					19	105	36	
197+38.00	81	60		140	20	62	21	
197+50.00	76	34		132	85	256	87	
198+00.00	336	142		521	88	255	87	
198+50.00	365	154		555	88	254	86	
199+00.00	645	168		494	54	254	87	
199+50.00	457	189		280	19	219	74	
199+92.00	16	175		149	21	255	87	
200+35.00	25	200		159	34	380	131	
200+94.00	60	307		374	55	308	109	
201+50.00	163	259		359	76	231	83	
202+00.00	211	189		322	94	228	82	
202+50.00	444	188		328	62	237	84	
203+00.00	356	204		198	34	259	92	
203+50.00	64	231		266	47	268	93	
204+00.00	110	253		355	44	274	93	
204+50.00	119	270		360	40	285	97	
205+00.00	117	287		326	39	285	97	
205+50.00	114	301		268	36	291	99	
206+00.00	113	334		208	16	218	74	
206+30.00	69	251		69	11	143	48	
206+50.00	47	171		42	33	286	97	
207+00.00	132	378		130	31	214	96	
207+50.00	144	309		88	29	73	50	
208+00.00	144	123		63	26	2	2	
208+50.00	124	5		42	23			
209+00.00	99			28	20			
209+50.00	75			27	16			
210+00.00	51			32				
SUBTOTAL (B)	4757	5182		6315	1160	5642	1992	
TOTAL	14233	11015	1471	15404	2423	14744	5094	1588

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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: **AARON VACEK**
Aaron Vacek
 Date: *5-22-08* License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY A. VACEK
 DESIGNED BY A. VACEK
 CHECKED BY K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 EARTHWORK TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 3

SHEET
 23
 OF
 471

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
STAGE 3 S.E. RAMP						
511+00.00						
511+50.00	24	122	19	37	90	32
511+80.00	17	152	64	40	115	41
TOTAL	41	274	83	77	205	73

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
STAGE 3 N.W. LOOP						
312+00.00						
312+50.00	1011	115	1	27	85	30
313+00.00	1011	115	1	27	85	30
313+50.00						
TOTAL	2022	230	2	54	170	60

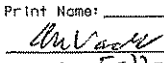
C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
STAGE 3 N.W. RAMP						
213+00.00						
213+50.00	114			11		
214+00.00	297			29		
214+50.00	184		5	29		
TOTAL	595		5	69		

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
STAGE 3 N.E. RAMP						
600+00.00						
600+50.00	230			22		
601+00.00	203			21		
601+50.00	136		6	22		
602+00.00	49		6	12		
602+50.00						
TOTAL	618		12	77		

C EARTHWORK TABULATION						
STATION	EXCAVATION TOTALS (EV)		EMBANKMENT TOTALS (CV)			
	COMMON	SUBGRADE	COMMON EMBANKMENT		GRANULAR	SELECT GRANULAR
			SUITABLE GRADING	SLOPE DRESSING		
(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
STAGE 3 S.W. RAMP						
400+50.00						
400+85.00	1366		2472	115	135	48
401+30.00	4954		3132	255	168	59
401+80.00	6743		3338	324	211	74
402+30.00	4600		3045	269	262	91
402+80.00	1843		2656	198	331	114
403+30.00	547		2289	162	358	123
403+80.00	467		2003	150	358	123
404+30.00	421		1712	139	358	123
404+80.00	369		1405	128	358	123
405+30.00	316	1	1154	118	354	122
405+80.00	244	9	955	99	348	120
406+30.00	221	49	786	83	341	118
406+79.00	252	136	639	77	327	113
407+29.00	271	236	476	76	327	113
407+79.00	139	138	186	38	162	56
408+29.00						
408+79.00						
TOTAL	22753	569	26248	2231	4398	1520

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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: AARON VACEK

 Date: 5-22-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY A. VACEK
 DESIGNED BY A. VACEK
 CHECKED BY K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 EARTHWORK TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 3

SHEET 24 OF 471

D CLEARING & GRUBBING (SPEC. 2101) (A,B,C,D)			
ALIGNMENT	STATION TO STATION	CLEARING	GRUBBING
		(ACRE)	(ACRE)
E.B.C.S.A.H. 14	180+63 - 184+58		
E.B.C.S.A.H. 14	184+58 - 194+42	0.2	0.2
E.B.C.S.A.H. 14	194+42 - 211+63	0.3	0.3
EXISTING N.B. 35E	557+30 - 608+57	8.5	8.5
EXISTING S.B. 35E	532+40 - 602+09	4.4	4.4
PROJECT TOTALS		13.4	13.4

- NOTES:
 (A) INDIVIDUAL TREES CALCULATED AS 0.05 ACRE.
 (B) TREES WITHIN THE CONSTRUCTION LIMITS WILL BE DESIGNATED FOR REMOVAL BY THE ENGINEER.
 (C) REMOVAL OF MISCELLANEOUS SHRUBS AND LANDSCAPING SHALL BE CONSIDERED INCIDENTAL.
 (D) CLEARING AND GRUBBING (ACRE) QUANTITIES BASED UPON 110% OF AREA COMPUTED.

E REMOVALS, SAWING, & MILLING														
ALIGNMENT	STATION TO STATION	(1,2,3) REMOVE (SPEC. 2104)								(1,2,4,5) SAWING (FULL DEPTH) (SPEC. 2104)		(1) MILL (SPEC. 2232)	(6) MILL (SPEC. 2232)	
		CURB & GUTTER	TEMPORARY PRECAST CONCRETE BARRIER	ARMORED CABLE	CONCRETE MEDIAN	PAVEMENT	BITUMINOUS PAVEMENT	BOLLARDS	LIGHT BASE FOUNDATION	LIGHTING UNIT	CONCRETE PAVEMENT	BITUMINOUS PAVEMENT	BITUMINOUS SURFACE (4.0")	MILLED RUMBLE STRIPS
		(LIN FT)	(LIN FT)	(LIN FT)	(SQ YD)	(SQ YD)	(SQ YD)	(EACH)	(EACH)	(EACH)	(LIN FT)	(LIN FT)	(SQ YD)	(LIN FT)
E.B.C.S.A.H. 14	180+63 - 184+58	540										570	195	
E.B.C.S.A.H. 14	184+58 - 194+42	20							2	2		40	85	
E.B.C.S.A.H. 14	194+42 - 211+63	1290	70		910				1	1	10	320		
EXISTING N.B. 35E	557+30 - 608+57			2500		7010	12510		9	9	1350	8590	7440	
EXISTING S.B. 35E	532+40 - 602+09			2500		7020	6080		7	7	1230	9530	9230	
PROJECT TOTALS		1850	70	5000	910	14030	40710	20	19	19	2590	19050	280	

- NOTES:
 (1) REFER TO REMOVAL PLANS FOR EXACT LOCATIONS.
 (2) SEE CONSTRUCTION & SOILS NOTES FOR ESTIMATED EXISTING PAVEMENT MATERIALS AND DEPTHS.
 (3) ALL PAVEMENT REMOVAL LESS THAN 6 INCHES IN DEPTH SHALL BE PAID AS EXCAVATION-COMMON.
 (4) ALL BITUMINOUS PAVEMENT & CONCRETE PAVEMENT SAWING IS FULL DEPTH.

- NOTES CONTINUED:
 (5) SAWING OF OVERLAID CONCRETE PAVEMENT AT EXISTING RAMP CONNECTIONS TO MAINLINE T.H. 35E SHALL BE PAID AS SAWING CONCRETE PAVEMENT.
 (6) REFER TO TYPICAL SECTIONS FOR EXACT LOCATIONS.

F AGGREGATE AND BITUMINOUS SUMMARY									
ALIGNMENT	STATION	AGGREGATE BASE (CV) CLASS 6 (SPEC. 2211) (A1)	BITUMINOUS MATERIAL FOR TACK COAT (SPEC. 2357) (A2)	BITUMINOUS (SPEC. 2360)					
				TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB230B) (A3)	TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340B) (A3)	TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340F) (A3)	TYPE SP 12.5 NON WEARING COURSE MIXTURE (SPNWB230B) (A3)	TYPE SP 12.5 NON WEARING COURSE MIXTURE (SPNWB330B) (A3)	
				(CU YD)	(GALLON)	(TON)	(TON)	(TON)	(TON)
E.B.C.S.A.H. 14	180+63 - 184+58	1680	460				780		410
E.B.C.S.A.H. 14	184+58 - 194+42	6820	1500				2570		1360
E.B.C.S.A.H. 14	194+42 - 211+63	8010	1730				2970		1570
EXISTING N.B. 35E	557+30 - 608+57	5480	1430	220	2250			220	1190
EXISTING S.B. 35E	532+40 - 602+09	3820	1290	140	2090			140	1110
N.W. RAMP	200+00 - 214+78	870	560	160			810	160	430
N.W. LOOP	300+00 - 345+49	4550	1980	540	220		2670	540	1530
N.E. LOOP	700+00 - 710+53	930	390	120	110		460	120	300
N.E. RAMP	599+50 - 612+84	720	400	160			540	160	290
S.W. RAMP	399+25 - 411+86	1150	530	90			840	90	440
HOV	800+00 - 817+96	3230	510	180			700	180	370
S.E. RAMP	500+00 - 512+50	970	440	150			600	150	320
STAGE 1 TEMPORARY PAVEMENT		450	210			700			
STAGE 2 TEMPORARY PAVEMENT		400	200			670			
PROJECT TOTALS		39080	11630	1760	6040		12940	1760	9320

- NOTES:
 (A1) QUANTITY INCLUDES +0.50 INCH TOLERANCE.
 (A2) SEE CONSTRUCTION & SOILS NOTES FOR BITUMINOUS TACK COAT APPLICATION RATE.
 (A3) QUANTITY INCLUDES +0.25 INCH TOLERANCE.

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: **AARON VACEK**
 Date: **6-20-08** License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY A. DEBRUIN
 COMM. NO. 0086509



ANOKA COUNTY
 TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE

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 25
 OF
 471

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G CURB & GUTTER AND WALK								
ALIGNMENT	STATION TO STATION	WALK (SPEC. 2521)			CONCRETE CURB & GUTTER (SPEC. 2531)			TRUNCATED DOMES (SQ FT)
		4" CONCRETE (SQ FT)	6" CONCRETE (A) (SQ FT)	3" BITUMINOUS (B) (SQ FT)	DESIGN B424 (LIN FT)	DESIGN B624 (LIN FT)	DESIGN D424 (LIN FT)	
E.B.C.S.A.H. 14	180+63 - 184+58	1490	105	2530	1410			30
E.B.C.S.A.H. 14	184+58 - 194+42	15520	280	8970	3700	20		75
E.B.C.S.A.H. 14	194+42 - 211+63	14290	375	13230	4770	20		125
EXISTING N.B. 35E	557+30 - 608+57	2450					150	
EXISTING S.B. 35E	532+40 - 602+09							
N.W. RAMP	200+00 - 214+78							
N.W. LOOP	300+00 - 345+49	2450	35		30			
N.E. LOOP	700+00 - 710+53				360			
N.E. RAMP	599+50 - 612+84				270			
S.W. RAMP	399+25 - 411+86		140	630	290			40
HOV	800+00 - 817+96	15100	30		3680			
S.E. RAMP	500+00 - 512+50							
PROJECT TOTALS		51300	965	25360	14510	40	150	270

NOTES:
 (A) QUANTITY FOR CONCRETE APPROACH NOSES ON MEDIANS & PEDESTRIAN CURB RAMPS.
 (B) BITUMINOUS MIXTURE DESIGNATION SHALL BE TYPE LV 4 WEARING COURSE (LVWE45030B). SEE THE TYPICAL SECTIONS FOR PAVEMENT INSETS AND DETAILS.

H TRAFFIC BARRIER (SPEC. 2104, 2554)													
ALIGNMENT	STATION TO STATION	OFFSET		REMOVE GUARD RAIL-PLATE BEAM (1) (LIN FT)	REMOVE ECCENTRIC LOADER BCT (EACH)	TRAFFIC BARRIER (6)				END TREATMENT		SNOW PLOW MARKER X4-5 (5) (EACH)	
		LEFT (FT)	RIGHT (FT)			DESIGN SPECIAL (2) (LIN FT)	DESIGN BULLNOSE (3) (LIN FT)	DESIGN B8338 (LIN FT)	DESIGN B8307 (LIN FT)	FLARED TERMINAL (EACH)	IMPACT ATTENUATOR (4) (EACH)		
E.B.C.S.A.H. 14	193+72 - 194+97		46	130	1								
E.B.C.S.A.H. 14	193+73 - 194+97		3	130	1								
E.B.C.S.A.H. 14	197+06 - 198+33		42	130	1								
E.B.C.S.A.H. 14	197+07 - 198+31		3	130	1								
EXISTING N.B. 35E	574+88 - 578+49		29	370									
EXISTING N.B. 35E	578+05 - 579+36	39		280									
EXISTING S.B. 35E	553+50 - 555+24	35		180									
EXISTING S.B. 35E	578+87 - 582+55	23		370									
E.B.C.S.A.H. 14	193+52 - 194+41		22			25		35			1		1
W.B.C.S.A.H. 14	197+34 - 198+96	34				25			150	1			1
EXISTING N.B. 35E	577+94 - 580+33	39					200	300					
PROJECT TOTALS				1720	4	50	200	335	150	1	1	1	2

NOTES:
 (1) QUANTITY INCLUDES REMOVAL OF ANCHORAGE ASSEMBLIES AND RADIUS NOSE SECTIONS.
 (2) QUANTITY INCLUDED FOR TRANSITION TO BRIDGE RAILING. SEE DETAIL.
 (3) QUANTITY INCLUDED FOR THREE BEAM BULLNOSES WITHIN TH-35E MEDIAN.
 (4) IMPACT ATTENUATOR SHALL BE C.A.T. OR BRAKEMASTER.
 (5) SNOW PLOW MARKERS INCIDENTAL.
 (6) SEE TAB CC ON SHEET 68 FOR TEMPORARY IMPACT ATTENUATOR BARRELS USED IN STAGING PLANS.

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NO	DATE	BY	CHK	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: **AARON VACEK**
Aaron Vacek
 Date: **8-20-09** License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
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DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY A. DEBRUIN
 COMM. NO. 0086509



ANOKA COUNTY
 TABULATIONS
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
 26
 OF
 471

J FENCING (SPEC. 2104, 2557)								
ALIGNMENT	STATION TO STATION	OFFSET		REMOVE CHAIN LINK FENCE (SPEC. 2104) (LIN FT)	WIRE FENCE DESIGN 60-9322 (LIN FT)	METAL BRACE ASSEMBLY (EACH)	ELECTRICAL GROUND (EACH)	NOTES
		LEFT (FT)	RIGHT (FT)					
E.B.C.S.A.H. 14	189+68 - 191+81	57		220				
E.B.C.S.A.H. 14	189+61 - 191+78		99	220				
EXISTING N.B. 35E	557+90 - 567+98		99	650				
EXISTING N.B. 35E	567+98 - 569+90		101	200				
EXISTING N.B. 35E	569+90 - 570+77		120	90				
EXISTING N.B. 35E	570+77 - 571+63		140	100				
EXISTING N.B. 35E	571+63 - 572+59		170	110				
EXISTING N.B. 35E	572+59 - 573+32		214	90				
EXISTING N.B. 35E	573+32 - 574+02		258	90				
EXISTING N.B. 35E	574+02 - 574+82		306	110				
EXISTING N.B. 35E	574+82 - 574+87		374	10				
EXISTING N.B. 35E	575+08 - 575+76		397	100				
EXISTING N.B. 35E	575+76 - 576+58		460	110				
EXISTING N.B. 35E	577+01 - 577+39		554	50				
EXISTING N.B. 35E	577+39 - 577+84		570	50				
EXISTING N.B. 35E	577+84 - 578+04		580	20				
EXISTING N.B. 35E	578+03 - 578+04		437	150				
EXISTING N.B. 35E	579+85 - 584+72		378	500				
EXISTING N.B. 35E	584+72 - 585+63		194	100				
EXISTING N.B. 35E	585+63 - 586+27		162	70				
EXISTING N.B. 35E	586+27 - 587+21		144	100				
EXISTING N.B. 35E	587+21 - 587+96		123	80				
EXISTING N.B. 35E	587+96 - 591+04		113	310				
EXISTING N.B. 35E	591+04 - 592+34		98	130				
EXISTING S.B. 35E	547+13 - 553+24	99		620				
EXISTING S.B. 35E	553+24 - 553+66	100		80				
EXISTING S.B. 35E	553+66 - 553+95	38		30				
EXISTING S.B. 35E	553+95 - 554+28	39		70				
EXISTING S.B. 35E	554+28 - 567+01	100		1280				
EXISTING S.B. 35E	567+01 - 568+44	100		150				
EXISTING S.B. 35E	568+44 - 570+00	105		160				
EXISTING S.B. 35E	570+00 - 570+86	119		90				
EXISTING S.B. 35E	570+86 - 577+40	135		700				
EXISTING S.B. 35E	577+40 - 577+74	369		40				
EXISTING S.B. 35E	579+30 - 587+46	385		890				
EXISTING S.B. 35E	587+46 - 588+58	119		120				
EXISTING S.B. 35E	588+58 - 591+91	101		340				

J FENCING (SPEC. 2104, 2557)									
ALIGNMENT	STATION TO STATION	OFFSET		REMOVE CHAIN LINK FENCE (SPEC. 2104) (LIN FT)	WIRE FENCE DESIGN 60-9322 (LIN FT)	METAL BRACE ASSEMBLY (EACH)	ELECTRICAL GROUND (EACH)	NOTES	
		LEFT (FT)	RIGHT (FT)						
EXISTING N.B. 35E	557+95 - 564+81		99		690	1			
EXISTING N.B. 35E	564+81 - 567+19		99		240		1		
EXISTING N.B. 35E	567+19 - 571+41		211		430			1358' RAD.	
EXISTING N.B. 35E	571+41 - 571+80		230		40				
EXISTING N.B. 35E	571+80 - 573+37		294		180				
EXISTING N.B. 35E	573+37 - 574+25		330		145				
EXISTING N.B. 35E	574+25 - 576+43		523		275		1		
EXISTING N.B. 35E	576+43 - 576+87		554		50	1			
EXISTING N.B. 35E	576+87 - 577+40		576		70	1	1		
EXISTING N.B. 35E	580+84 - 580+91		586		30	1			
EXISTING N.B. 35E	580+91 - 581+08		553		20	1			
EXISTING N.B. 35E	581+08 - 585+00		556		370			525' RAD.	
EXISTING N.B. 35E	585+00 - 584+94		489		10	1			
EXISTING N.B. 35E	584+94 - 587+82		480		330	1	1		
EXISTING N.B. 35E	587+82 - 592+38		297		480			881' RAD.	
EXISTING N.B. 35E	592+38 - 592+34		117		20	2			
EXISTING S.B. 35E	547+13 - 551+29	99			420	1			
EXISTING S.B. 35E	551+29 - 553+26	99			210				
EXISTING S.B. 35E	553+26 - 553+44	112			20	1			
EXISTING S.B. 35E	553+44 - 553+86	99			40	1			
EXISTING S.B. 35E	553+86 - 555+28	99			210	1	1		
EXISTING S.B. 35E	555+28 - 557+47	258			220	1			
EXISTING S.B. 35E	557+47 - 557+47	258			110	1			
EXISTING S.B. 35E	557+47 - 566+54	153			910	1			
EXISTING S.B. 35E	566+54 - 569+34	153			280			2764' RAD.	
EXISTING S.B. 35E	569+34 - 575+24	173			600		1		
EXISTING S.B. 35E	575+24 - 577+14	290			200	1			
EXISTING S.B. 35E	580+01 - 581+40	611			150	1			
EXISTING S.B. 35E	581+40 - 584+56	615			370			540' RAD.	
EXISTING S.B. 35E	584+56 - 584+43	519			30	1			
EXISTING S.B. 35E	584+43 - 587+95	498			440	1	1		
EXISTING S.B. 35E	587+95 - 587+88	264			20	1			
EXISTING S.B. 35E	587+88 - 588+57	251			80	1			
EXISTING S.B. 35E	588+57 - 591+90	210			360			896' RAD.	
EXISTING S.B. 35E	591+90 - 591+91	103			10	2			
PROJECT TOTALS				8230	8060	24	7		

K TURF ESTABLISHMENT / EROSION CONTROL (SPEC. 2573 & 2575) (1)																			
ALIGNMENT	SILT FENCE, TYPE HEAVY DUTY (LIN FT)	SILT FENCE, TYPE MACHINE SLICED (LIN FT)	FLOTATION SILT CURTAIN TYPE MOVING WATER (LIN FT)	STORM DRAIN INLET PROTECTION (EACH)	FILTER LOG TYPE WOOD FIBER BIOROLL (LIN FT)	SEEDING (ACRE)	SEED MIXTURE (2)		SODDING TYPE LAWN (SQ YD)	MULCH MATERIAL		DISK ANCHORING (ACRE)	EROSION CONTROL BLANKETS CATEGORY 3 (4) (SQ YD)	FERTILIZER (2,5)		RAPID STABILIZATION			
							310 (POUND)	350 (POUND)		TYPE 3 (2) (TON)	TYPE 9 (3) (CU YD)			TYPE 1 (18-1-18) (POUND)	TYPE 2 (22-5-10) (POUND)	METHOD 1 (ACRE)	METHOD 2 (ACRE)	METHOD 3 (M GALLONS)	METHOD 4 (SQ YD)
STAGE 1			80	28												1.3	6.8		14470
STAGE 2				61														4.5	
STAGE 3				12	70														
FINAL	300	2410				38.9	780	2485	3015	45.6	135	24.3	70450	4670	250	1.3	6.8	4.5	14470
PROJECT TOTALS	300	2410	80	101	70	38.9	780	2485	3015	45.6	135	24.3	70450	4670	250	1.3	6.8	4.5	14470

- NOTES:
(1) QUANTITIES ARE BASED ON 110 % OF THE COMPUTED AREA OR LENGTH.
(2) QUANTITIES ARE CALCULATED ON THE FOLLOWING BASIS:
SEED MIXTURE 310 - 82 LB/ACRE
SEED MIXTURE 350 - 84.5 LB/ACRE
MULCH TYPE 3 - 2 TON/ACRE
FERTILIZER TYPE 1 (18-1-18) - 120 LB/ACRE
FERTILIZER TYPE 2 (22-5-10) - 400 LB/ACRE
(3) SEE GUARDRAIL DETAIL FOR TYPE 9 MULCH MATERIAL THICKNESS.
(4) INCLUDES MAINTENANCE WHICH SHALL BE CONSIDERED INCIDENTAL.
(5) COMMERCIAL FERTILIZER SHALL BE THE SLOW RELEASE TYPE.

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>AARON VACEK</u> Date: <u>8-07-09</u> License # <u>44277</u>				STATE PROJECT NO. 0282-25 (TH 35E) COUNTY PROJECT NO. X CITY PROJECT NO. X		DRAWN BY: V. MICHELS DESIGNED BY: S. PRUSAK CHECKED BY: A. DEBRUIN COMM. NO. 0086509		ANOKA COUNTY TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE				SHEET 27 OF 471		
NO	DATE	BY	CKD	APPR	REVISION									

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L EXISTING UTILITIES (ACCESS COMMUNICATIONS INC.)						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
E.B. C.S.A.H. 14	210+59, 414' RT - 210+73, 95' LT	BURIED FIBER			X	
E.B. C.S.A.H. 14	210+73, 95' LT - 217+26, 95' LT	BURIED FIBER			X	

M EXISTING UTILITIES (CENTERPOINT ENERGY MINNESOTA GAS)						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
E.B. C.S.A.H. 14	210+64, 473' RT - 210+71, 226' RT	2" GAS			X	
E.B. C.S.A.H. 14	184+13, 477' RT - 184+33, 80' RT	2" GAS			X	
E.B. C.S.A.H. 14	183+94, 41' RT - 184+10, 278' LT	2" GAS	X			
E.B. C.S.A.H. 14	182+85, 283' LT - 184+10, 278' LT	2" GAS			X	
E.B. C.S.A.H. 14	183+97, 41' RT - 184+33, 80' RT	2" GAS	X			
E.B. C.S.A.H. 14	202+20, 305' RT - 203+03, 83' RT	4" GAS		X		
E.B. C.S.A.H. 14	200+53, 490' RT - 202+20, 305' RT	4" GAS		X		
E.B. C.S.A.H. 14	188+84, 77' RT - 203+03, 83' RT	4" GAS	X			
E.B. C.S.A.H. 14	188+84, 77' RT - 188+85, 59' RT	4" GAS	X			
E.B. C.S.A.H. 14	187+08, 36' RT - 188+85, 59' RT	4" GAS		X		
E.B. C.S.A.H. 14	185+22, 29' RT - 187+08, 36' RT	4" GAS		X		
E.B. C.S.A.H. 14	173+39, 29' RT - 185+21, 46' RT	4" GAS	X			
E.B. C.S.A.H. 14	185+21, 46' RT - 185+22, 29' RT	4" GAS		X		
EXISTING N.B. 35E	548+23, 238' RT - 548+23, 154' RT	2" GAS			X	
EXISTING N.B. 35E	548+23, 238' RT - 549+48, 375' RT	2" GAS			X	
EXISTING N.B. 35E	573+33, 1030' LT - 573+68, 1030' LT	2" GAS			X	
EXISTING N.B. 35E	539+25, 154' RT - 567+76, 155' RT	4" GAS			X	
EXISTING N.B. 35E	573+74, 383' RT - 574+07, 413' RT	4" GAS		X		
EXISTING N.B. 35E	567+76, 155' RT - 573+74, 383' RT	4" GAS		X		
EXISTING N.B. 35E	566+60, 255' RT - 566+70, 955' RT	3" GAS			X	
EXISTING N.B. 35E	566+60, 255' RT - 566+99, 155' RT	3" GAS			X	

N EXISTING UTILITIES (COMCAST CABLE COMMUNICATIONS INC.)						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
E.B. C.S.A.H. 14	184+14, 345' RT - 184+26, 80' RT	TV FIBER			X	
E.B. C.S.A.H. 14	183+95, 46' RT - 184+26, 80' RT	TV FIBER			X	
E.B. C.S.A.H. 14	173+39, 34' RT - 183+95, 46' RT	TV FIBER	X			
E.B. C.S.A.H. 14	184+41, 348' RT - 184+59, 4' LT	BURIED TV		X		
E.B. C.S.A.H. 14	171+51, 17' LT - 184+59, 4' LT	BURIED TV		X		
E.B. C.S.A.H. 14	175+12, 42' LT - 181+13, 36' LT	BURIED TV		X		
E.B. C.S.A.H. 14	181+12, 16' LT - 181+13, 36' LT	BURIED TV		X		

P EXISTING UTILITIES (CONNEXUS ENERGY)						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
E.B. C.S.A.H. 14	203+37, 65' RT - 205+37, 58' RT	OH POWER			X	
E.B. C.S.A.H. 14	205+37, 58' RT - 207+71, 55' RT	OH POWER			X	
E.B. C.S.A.H. 14	209+63, 54' RT - 217+23, 54' RT	OH POWER			X	
E.B. C.S.A.H. 14	207+71, 55' RT - 209+63, 54' RT	OH POWER			X	
E.B. C.S.A.H. 14	200+39, 64' RT - 203+37, 65' RT	OH POWER			X	
E.B. C.S.A.H. 14	183+78, 40' RT - 185+64, 46' RT	OH POWER		X		
E.B. C.S.A.H. 14	183+78, 40' RT - 184+20, 63' RT	OH POWER		X		
E.B. C.S.A.H. 14	182+36, 35' RT - 183+78, 40' RT	OH POWER		X		
E.B. C.S.A.H. 14	181+12, 29' RT - 182+36, 35' RT	OH POWER		X		
E.B. C.S.A.H. 14	179+11, 25' RT - 181+12, 29' RT	OH POWER			X	
E.B. C.S.A.H. 14	177+17, 23' RT - 179+11, 25' RT	OH POWER			X	
E.B. C.S.A.H. 14	175+14, 22' RT - 177+17, 23' RT	OH POWER			X	
E.B. C.S.A.H. 14	171+51, 26' RT - 171+87, 25' RT	OH POWER			X	
E.B. C.S.A.H. 14	175+14, 22' RT - 175+31, 91' RT	OH POWER			X	
E.B. C.S.A.H. 14	175+27, 235' RT - 175+31, 91' RT	OH POWER		X		
E.B. C.S.A.H. 14	192+19, 27' LT	LIGHT POLE			X	
E.B. C.S.A.H. 14	176+42, 137' RT	LIGHT POLE			X	
E.B. C.S.A.H. 14	176+41, 139' RT	ELEC PED			X	
E.B. C.S.A.H. 14	175+27, 235' RT	POWER POLE			X	
E.B. C.S.A.H. 14	175+31, 91' RT	POWER POLE			X	
E.B. C.S.A.H. 14	175+14, 22' RT	POWER POLE			X	
E.B. C.S.A.H. 14	177+17, 23' RT	POWER POLE			X	
E.B. C.S.A.H. 14	179+11, 25' RT	POWER POLE			X	
E.B. C.S.A.H. 14	181+12, 29' RT	POWER POLE		X		
E.B. C.S.A.H. 14	182+36, 35' RT	POWER POLE		X		
E.B. C.S.A.H. 14	183+78, 40' RT	POWER POLE		X		
E.B. C.S.A.H. 14	184+20, 63' RT	POWER POLE		X		

UTILITIES

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

ACCESS COMMUNICATIONS INC.
 CENTERPOINT ENERGY MINNESOTA GAS
 COMCAST CABLE COMMUNICATIONS INC.
 CONNEXUS ENERGY
 Mn/DOT - T.M.S.
 QUEST CORP.
 WASHINGTON COUNTY PUBLIC WORKS
 XCEL ENERGY

GENERAL NOTES:

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

ALL RELOCATES AND ADJUSTMENTS SUBJECT TO RIGHT-OF-WAY CONSTRAINTS.

THE CONTRACTOR IS HEREBY REMINDED OF HIS RESPONSIBILITY TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE PROJECT AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL.

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".

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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: AARON VACEK Date: <i>5-22-09</i> License # 44277		STATE PROJECT NO. 0202-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X	DRAWN BY V. MICHELS DESIGNED BY S. PRUSAK CHECKED BY A. DEBRUIN COMM. NO. 0086509	SRF CONSULTING GROUP, INC.	ANOKA COUNTY EXISTING UTILITY TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE	SHEET 28 OF 471
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P EXISTING UTILITIES (CONNEXUS ENERGY) - CONT.						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
E.B. C.S.A.H. 14	185+64, 46' RT	POWER POLE		X		
E.B. C.S.A.H. 14	203+37, 65' RT	POWER POLE			X	
E.B. C.S.A.H. 14	205+37, 58' RT	POWER POLE			X	
E.B. C.S.A.H. 14	207+71, 55' RT	POWER POLE			X	
E.B. C.S.A.H. 14	209+63, 54' RT	POWER POLE			X	
E.B. C.S.A.H. 14	200+39, 64' RT	POWER POLE			X	
E.B. C.S.A.H. 14	185+89, 30' RT - 199+09, 48' RT	BURIED POWER			X	
E.B. C.S.A.H. 14	185+64, 46' RT - 185+89, 30' RT	BURIED POWER		X		
E.B. C.S.A.H. 14	199+09, 48' RT - 200+39, 64' RT	BURIED POWER			X	
E.B. C.S.A.H. 14	197+90, 154' LT - 198+80, 150' LT	BURIED POWER		X		
E.B. C.S.A.H. 14	198+80, 150' LT - 199+03, 44' LT	BURIED POWER		X		
E.B. C.S.A.H. 14	199+03, 44' LT - 200+40, 46' LT	BURIED POWER		X		
E.B. C.S.A.H. 14	200+39, 64' RT - 200+40, 46' LT	BURIED POWER		X		
EXISTING N.B. 35E	573+46, 383' RT	POWER POLE			X	
EXISTING N.B. 35E	570+85, 225' RT	POWER POLE			X	
EXISTING N.B. 35E	568+56, 175' RT	POWER POLE			X	
EXISTING N.B. 35E	566+50, 177' RT	POWER POLE			X	
EXISTING N.B. 35E	565+67, 178' RT	POWER POLE			X	
EXISTING N.B. 35E	550+01, 175' RT	POWER POLE			X	
EXISTING N.B. 35E	547+12, 150' RT	POWER POLE			X	
EXISTING N.B. 35E	544+82, 165' RT	POWER POLE			X	
EXISTING N.B. 35E	544+82, 165' RT - 547+06, 150' RT	OH POWER			X	
EXISTING N.B. 35E	547+06, 150' RT - 550+00, 175' RT	OH POWER			X	
EXISTING N.B. 35E	550+00, 175' RT - 565+67, 178' RT	OH POWER			X	
EXISTING N.B. 35E	565+67, 178' RT - 568+56, 175' RT	OH POWER			X	
EXISTING N.B. 35E	566+50, 177' RT - 566+55, 604' RT	OH POWER			X	
EXISTING N.B. 35E	568+56, 175' RT - 570+85, 225' RT	OH POWER			X	
EXISTING N.B. 35E	570+85, 225' RT - 573+46, 383' RT	OH POWER			X	
EXISTING N.B. 35E	573+46, 383' RT - 574+08, 431' RT	OH POWER			X	

R EXISTING UTILITIES (Mn/DOT T.M.S.) - WORK BY CONTRACTOR						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
EXISTING N.B. 35E	538+96, 9' RT - 538+81, 34' RT	TMS LOOP CABLE			X	
EXISTING N.B. 35E	538+82, 34' RT	TMS HH			X	
EXISTING N.B. 35E	538+81, 34' RT - 538+84, 77' RT	TMS COMM			X	
EXISTING N.B. 35E	538+84, 77' RT	TMS HH			X	
EXISTING N.B. 35E	538+84, 77' RT - 538+87, 86' RT	TMS COMM			X	
EXISTING N.B. 35E	538+87, 86' RT	SERVICE CABINET			X	
EXISTING N.B. 35E	538+87, 86' RT - 539+03, 105' RT	TMS COMM			X	
EXISTING N.B. 35E	538+87, 86' RT - 539+11, 92' RT	TMS COMM			X	
EXISTING N.B. 35E	539+11, 92' RT	VAULT			X	
EXISTING N.B. 35E	539+11, 92' RT - 573+99, 70' RT	TMS COMM			X	
EXISTING N.B. 35E	571+68, 71' RT	TMS LOOP DETECTOR		X		
EXISTING N.B. 35E	571+68, 71' RT - 571+88, 60' RT	TMS LOOP CABLE		X		
EXISTING N.B. 35E	571+88, 60' RT	TMS HH		X		
EXISTING N.B. 35E	571+88, 60' RT - 573+99, 78' RT	TMS COMM			X	
EXISTING N.B. 35E	573+11, 207' LT	TMS LOOP DETECTOR		X		
EXISTING N.B. 35E	573+11, 207' LT - 573+23, 195' LT	TMS LOOP CABLE			X	
EXISTING N.B. 35E	573+23, 195' LT	TMS HH			X	
EXISTING N.B. 35E	573+23, 195' LT - 573+94, 167' LT	TMS COMM			X	
E.B. C.S.A.H. 14	194+63, 494' RT - 194+99, 84' RT	TMS COMM		X		
E.B. C.S.A.H. 14	194+99, 84' RT	TMS HH		X		
E.B. C.S.A.H. 14	194+99, 84' RT - 195+05, 53' LT	TMS COMM		X		
E.B. C.S.A.H. 14	195+05, 53' LT	TMS HH		X		
E.B. C.S.A.H. 14	194+78, 8' LT	CCTV HARDWARE		X		
E.B. C.S.A.H. 14	194+78, 8' LT - 195+05, 53' LT	TMS COMM		X		
E.B. C.S.A.H. 14	194+78, 8' LT - 197+64, 159' LT	TMS COMM		X		
E.B. C.S.A.H. 14	195+05, 53' LT - 195+62, 482' LT	TMS COMM		X		
E.B. C.S.A.H. 14	195+62, 482' LT	TMS HH			X	
E.B. C.S.A.H. 14	195+32, 506' LT - 195+62, 482' LT	TMS COMM		X		
E.B. C.S.A.H. 14	195+05, 53' LT - 197+35, 158' LT	TMS COMM		X		
E.B. C.S.A.H. 14	195+88, 491' LT	TMS LOOP DETECTOR			X	
E.B. C.S.A.H. 14	195+62, 481' LT - 195+99, 489' LT	TMS LOOP CABLE			X	
E.B. C.S.A.H. 14	195+99, 489' LT	TMS LOOP DETECTOR			X	
E.B. C.S.A.H. 14	195+62, 481' LT - 195+88, 491' LT	TMS LOOP CABLE			X	
E.B. C.S.A.H. 14	197+00, 493' RT - 197+64, 159' LT	TMS COMM			X	
E.B. C.S.A.H. 14	197+08, 493' RT - 197+12, 477' RT	TMS COMM			X	
E.B. C.S.A.H. 14	197+12, 467' RT	TMS HH			X	
E.B. C.S.A.H. 14	197+12, 467' RT - 197+35, 158' LT	TMS COMM			X	
E.B. C.S.A.H. 14	197+35, 158' LT	TMS HH			X	
E.B. C.S.A.H. 14	197+35, 158' LT - 197+44, 165' LT	TMS COMM			X	
E.B. C.S.A.H. 14	197+44, 165' LT	SERVICE CABINET			X	
E.B. C.S.A.H. 14	197+44, 165' LT - 197+64, 159' LT	TMS COMM			X	
E.B. C.S.A.H. 14	197+64, 159' LT	VAULT			X	
E.B. C.S.A.H. 14	197+44, 165' LT - 197+90, 154' LT	TMS COMM			X	
E.B. C.S.A.H. 14	197+90, 154' LT	TRANSFORMER			X	
E.B. C.S.A.H. 14	196+96, 447' LT - 197+35, 158' LT	TMS COMM		X		
E.B. C.S.A.H. 14	196+96, 447' LT	TMS HH		X		
E.B. C.S.A.H. 14	196+61, 469' LT	TMS LOOP DETECTOR		X		
E.B. C.S.A.H. 14	196+61, 469' LT - 196+96, 447' LT	TMS LOOP CABLE		X		
E.B. C.S.A.H. 14	196+72, 469' LT	TMS LOOP DETECTOR		X		
E.B. C.S.A.H. 14	196+72, 469' LT - 196+96, 447' LT	TMS LOOP CABLE		X		
E.B. C.S.A.H. 14	196+96, 447' LT - 198+03, 451' LT	TMS COMM		X		
E.B. C.S.A.H. 14	198+03, 451' LT	TMS HH		X		
E.B. C.S.A.H. 14	198+03, 451' LT - 198+13, 466' LT	TMS LOOP CABLE		X		
E.B. C.S.A.H. 14	198+13, 466' LT	TMS LOOP DETECTOR		X		
E.B. C.S.A.H. 14	197+43, 507' LT - 197+64, 159' LT	TMS COMM		X		
EXISTING N.B. 35E	583+84, 139' LT - 584+09, 178' LT	TMS COMM		X		
EXISTING N.B. 35E	584+09, 178' LT	TMS HH		X		
EXISTING N.B. 35E	584+08, 178' LT - 584+26, 192' LT	TMS LOOP CABLE		X		
EXISTING N.B. 35E	584+26, 192' LT	TMS LOOP DETECTOR		X		
EXISTING N.B. 35E	584+07, 70' RT - 609+21, 65' RT	TMS COMM			X	

R EXISTING UTILITIES (Mn/DOT T.M.S.) - WORK BY CONTRACTOR						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
EXISTING N.B. 35E	527+00, 83' RT - 539+11, 92' RT	TMS COMM			X	
EXISTING N.B. 35E	538+83, 173' LT	TMS HH			X	
EXISTING N.B. 35E	538+83, 173' LT - 538+97, 145' LT	TMS LOOP CABLE		X		
EXISTING N.B. 35E	538+97, 145' LT	TMS LOOP DETECTOR		X		
EXISTING N.B. 35E	538+83, 173' LT - 538+97, 134' LT	TMS LOOP CABLE		X		
EXISTING N.B. 35E	538+97, 134' LT	TMS LOOP DETECTOR		X		
EXISTING N.B. 35E	538+81, 34' RT - 538+83, 173' LT	TMS COMM			X	
EXISTING N.B. 35E	538+96, 3' LT	TMS LOOP DETECTOR			X	
EXISTING N.B. 35E	538+96, 3' LT - 538+81, 34' RT	TMS LOOP CABLE			X	
EXISTING N.B. 35E	538+96, 9' RT	TMS LOOP DETECTOR			X	

UTILITIES

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

ACCESS COMMUNICATIONS INC.
 CENTERPOINT ENERGY MINNESOTA GAS
 COMCAST CABLE COMMUNICATIONS INC.
 CONNEXUS ENERGY
 Mn/DOT - T.M.S.
 QUEST CORP
 WASHINGTON COUNTY PUBLIC WORKS
 XCEL ENERGY

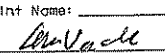

GENERAL NOTES:

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

ALL RELOCATES AND ADJUSTMENTS SUBJECT TO RIGHT-OF-WAY CONSTRAINTS.

THE CONTRACTOR IS HEREBY REMINDED OF HIS RESPONSIBILITY TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE PROJECT AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL.

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".

9:16:37 AM 4/20/2009 H:\Projects\6509\HI-MUVP\plan\0261429_TBPU2.DGN	I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: AARON VACEK  Date: 5-22-09 License: 44277	STATE PROJECT NO. 0282-25 (TH 35E) COUNTY PROJECT NO. X CITY PROJECT NO. X	DRAWN BY V. MICHELS DESIGNED BY S. PRUSAK CHECKED BY A. DEBRUIN COMM. NO. 0086509		ANOKA COUNTY EXISTING UTILITY TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE	SHEET 29 OF 471
	NO. DATE BY CKD APPR REVISION					

S EXISTING UTILITIES (QWEST CORP.)						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
E.B. C.S.A.H. 14	183+83, 46' RT - 184+33, 48' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	184+69, 398' RT - 184+86, 55' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	183+88, 51' RT - 184+86, 55' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	173+39, 39' RT - 183+63, 50' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	183+62, 75' RT - 183+87, 76' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	183+62, 75' RT - 183+70, 100' LT	BURIED TEL			X	
E.B. C.S.A.H. 14	183+82, 76' RT - 183+83, 46' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	183+87, 76' RT - 183+88, 51' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	183+63, 50' RT - 183+72, 60' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	183+72, 76' RT - 183+72, 60' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	183+01, 122' LT - 183+21, 121' LT	BURIED TEL			X	
E.B. C.S.A.H. 14	183+20, 101' LT - 183+21, 121' LT	BURIED TEL			X	
E.B. C.S.A.H. 14	183+01, 122' LT - 183+05, 197' LT	BURIED TEL			X	
E.B. C.S.A.H. 14	183+20, 101' LT - 183+70, 100' LT	BURIED TEL			X	
E.B. C.S.A.H. 14	210+54, 414' RT - 210+64, 49' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	209+76, 29' RT - 209+76, 49' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	209+76, 29' RT - 217+24, 29' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	209+76, 49' RT - 210+64, 49' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	203+84, 40' RT - 203+85, 45' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	203+04, 43' RT - 203+84, 40' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	211+39, 416' RT - 211+49, 34' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	211+34, 416' RT - 211+44, 29' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	211+44, 29' RT - 211+49, 34' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	211+44, 29' RT - 211+49, 24' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	211+49, 24' RT - 217+24, 24' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	211+49, 19' RT - 217+24, 19' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	214+34, 213' RT - 214+39, 29' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	214+29, 24' RT - 214+33, 120' LT	BURIED TEL			X	
E.B. C.S.A.H. 14	216+39, 29' RT - 216+39, 26' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	216+39, 26' RT - 217+24, 26' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	184+21, 293' RT - 184+33, 48' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	202+22, 307' RT - 203+06, 83' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	202+24, 309' RT - 203+08, 83' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	202+26, 310' RT - 203+11, 83' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	203+04, 43' RT - 203+06, 83' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	203+07, 45' RT - 203+08, 83' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	203+09, 47' RT - 203+11, 83' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	203+07, 45' RT - 203+84, 42' RT	BURIED TEL			X	
E.B. C.S.A.H. 14	203+09, 47' RT - 209+76, 39' RT	BURIED TEL			X	

S EXISTING UTILITIES (QWEST CORP.) - CONT.						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
EXISTING N.B. 35E	565+49, 158' RT - 565+54, 566' RT	BURIED TEL			X	
EXISTING N.B. 35E	539+25, 157' RT - 563+92, 157' RT	BURIED TEL			X	
EXISTING N.B. 35E	565+49, 158' RT - 567+76, 158' RT	BURIED TEL			X	
EXISTING N.B. 35E	565+49, 160' RT - 567+76, 160' RT	BURIED TEL			X	
EXISTING N.B. 35E	565+49, 163' RT - 567+76, 163' RT	BURIED TEL			X	
EXISTING N.B. 35E	548+25, 238' RT - 548+25, 157' RT	BURIED TEL			X	
EXISTING N.B. 35E	568+06, 163' RT - 568+06, 563' RT	BURIED TEL			X	
EXISTING N.B. 35E	568+01, 163' RT - 568+01, 563' RT	BURIED TEL			X	
EXISTING N.B. 35E	573+72, 385' RT - 574+07, 416' RT	BURIED TEL			X	
EXISTING N.B. 35E	573+70, 389' RT - 574+07, 420' RT	BURIED TEL			X	
EXISTING N.B. 35E	573+76, 163' RT - 573+69, 389' RT	BURIED TEL			X	
EXISTING N.B. 35E	567+76, 160' RT - 573+70, 389' RT	BURIED TEL			X	
EXISTING N.B. 35E	567+76, 158' RT - 573+72, 385' RT	BURIED TEL			X	

T EXISTING UTILITIES (WASHINGTON COUNTY PUBLIC WORKS)						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
E.B. C.S.A.H. 14	210+31, 38' RT	SIG MAST ARM			X	
E.B. C.S.A.H. 14	210+26, 84' LT	SIG MAST ARM			X	
E.B. C.S.A.H. 14	211+78, 32' RT	SIG MAST ARM			X	
E.B. C.S.A.H. 14	211+65, 47' RT	HANDHOLE			X	
E.B. C.S.A.H. 14	211+78, 49' RT	HANDHOLE			X	
E.B. C.S.A.H. 14	211+92, 25' RT	HANDHOLE			X	
E.B. C.S.A.H. 14	212+14, 48' RT	HANDHOLE			X	
E.B. C.S.A.H. 14	211+88, 17' LT	HANDHOLE			X	
E.B. C.S.A.H. 14	211+97, 84' LT	HANDHOLE			X	
E.B. C.S.A.H. 14	210+10, 40' LT	HANDHOLE			X	

UTILITIES

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

ACCESS COMMUNICATIONS INC.
CENTERPOINT ENERGY MINNESOTA GAS
COMCAST CABLE COMMUNICATIONS INC.
CONNEXUS ENERGY
Mn/DOT - T.M.S.
QWEST CORP.
WASHINGTON COUNTY PUBLIC WORKS
XCEL ENERGY

GENERAL NOTES:

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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".

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1/20/2009
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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>AARON VACEK</u> Date: <u>5-22-09</u> License # <u>44277</u>		STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X	DRAWN BY V. MICHELS DESIGNED BY S. PRUSAK CHECKED BY A. DEBRUIN COMM. NO. 0086509	SRF CONSULTING GROUP, INC.	ANOKA COUNTY EXISTING UTILITY TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE	SHEET 30 OF 471
REVISION NO. DATE BY CKD APPR						

U EXISTING UTILITIES (XCEL ENERGY)						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
E.B. C.S.A.H. 14	173+10, 67' LT	POWER POLE			X	
E.B. C.S.A.H. 14	176+03, 67' LT	POWER POLE			X	
E.B. C.S.A.H. 14	178+87, 66' LT	POWER POLE			X	
E.B. C.S.A.H. 14	181+82, 57' LT	POWER POLE		X		
E.B. C.S.A.H. 14	184+86, 49' LT	POWER POLE		X		
E.B. C.S.A.H. 14	187+66, 42' LT	POWER POLE		X		
E.B. C.S.A.H. 14	189+65, 53' LT	POWER POLE		X		
E.B. C.S.A.H. 14	191+77, 50' LT	POWER POLE		X		
E.B. C.S.A.H. 14	194+65, 52' LT	POWER POLE		X		
E.B. C.S.A.H. 14	197+63, 54' LT	POWER POLE		X		
E.B. C.S.A.H. 14	200+51, 58' LT	POWER POLE		X		
E.B. C.S.A.H. 14	202+81, 79' LT	POWER POLE		X		
E.B. C.S.A.H. 14	205+05, 91' LT	POWER POLE		X		
E.B. C.S.A.H. 14	207+45, 94' LT	POWER POLE			X	
E.B. C.S.A.H. 14	209+74, 95' LT	POWER POLE			X	
E.B. C.S.A.H. 14	201+76, 268' RT - 202+46, 72' RT	4" GAS			X	
E.B. C.S.A.H. 14	202+30, 70' LT - 202+46, 72' RT	4" GAS			X	
E.B. C.S.A.H. 14	210+56, 473' RT - 210+67, 57' RT	2" GAS			X	
E.B. C.S.A.H. 14	210+26, 82' LT - 210+67, 57' RT	2" GAS			X	
E.B. C.S.A.H. 14	210+26, 82' LT - 211+96, 80' LT	6" GAS			X	
E.B. C.S.A.H. 14	211+96, 80' LT - 217+26, 80' LT	6" GAS			X	
E.B. C.S.A.H. 14	202+30, 70' LT - 210+26, 82' LT	6" GAS			X	
E.B. C.S.A.H. 14	201+21, 70' LT - 202+30, 70' LT	6" GAS			X	
E.B. C.S.A.H. 14	202+44, 23' RT - 202+46, 72' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	203+47, 19' RT - 203+50, 113' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	203+32, 133' RT - 203+36, 236' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	203+32, 133' RT - 203+50, 113' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	206+62, 109' LT - 206+72, 12' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	210+67, 12' RT - 210+67, 57' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	210+57, 110' LT - 210+67, 12' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	206+62, 109' LT - 210+57, 110' LT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	206+57, 164' LT - 206+62, 109' LT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	206+57, 164' LT - 206+95, 164' LT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	210+52, 170' LT - 211+18, 176' LT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	210+52, 170' LT - 210+57, 110' LT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	202+28, 24' RT - 202+44, 23' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	210+67, 12' RT - 217+24, 12' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	206+72, 12' RT - 210+67, 12' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	203+47, 19' RT - 206+72, 12' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	202+44, 23' RT - 203+47, 19' RT	ABANDONED GAS			X	
E.B. C.S.A.H. 14	173+10, 67' LT - 176+03, 67' LT	OH POWER			X	
E.B. C.S.A.H. 14	176+03, 67' LT - 178+87, 65' LT	OH POWER			X	
E.B. C.S.A.H. 14	178+87, 65' LT - 181+82, 57' LT	OH POWER		X		
E.B. C.S.A.H. 14	181+82, 57' LT - 184+86, 49' LT	OH POWER		X		
E.B. C.S.A.H. 14	184+86, 49' LT - 187+66, 42' LT	OH POWER		X		
E.B. C.S.A.H. 14	187+66, 42' LT - 189+65, 53' LT	OH POWER		X		
E.B. C.S.A.H. 14	189+65, 53' LT - 191+77, 50' LT	OH POWER		X		
E.B. C.S.A.H. 14	191+77, 50' LT - 194+65, 52' LT	OH POWER		X		
E.B. C.S.A.H. 14	194+65, 52' LT - 197+63, 54' LT	OH POWER		X		
E.B. C.S.A.H. 14	197+63, 54' LT - 200+51, 58' LT	OH POWER		X		
E.B. C.S.A.H. 14	200+51, 58' LT - 202+81, 79' LT	OH POWER		X		
E.B. C.S.A.H. 14	202+81, 79' LT - 205+05, 91' LT	OH POWER		X		
E.B. C.S.A.H. 14	205+05, 91' LT - 207+45, 94' LT	OH POWER		X		

U EXISTING UTILITIES (XCEL ENERGY) - CONT.						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	ADJUST	RELOCATE	LEAVE "AS IS"	NOTES
E.B. C.S.A.H. 14	207+45, 94' LT - 209+74, 95' LT	OH POWER			X	
E.B. C.S.A.H. 14	171+50, 64' LT - 173+10, 67' LT	OH POWER			X	
EXISTING N.B. 35E	539+24, 122' RT - 565+43, 122' RT	4" GAS			X	
EXISTING N.B. 35E	565+43, 122' RT - 567+96, 122' RT	4" GAS			X	
EXISTING N.B. 35E	570+33, 151' RT - 574+05, 337' RT	4" GAS			X	
EXISTING N.B. 35E	567+96, 122' RT - 570+33, 151' RT	4" GAS			X	
EXISTING N.B. 35E	543+65, 340' LT - 561+31, 2085' RT	OH POWER			X	

UTILITIES

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

ACCESS COMMUNICATIONS INC.
 CENTERPOINT ENERGY MINNESOTA GAS
 COMCAST CABLE COMMUNICATIONS INC.
 CONNEXUS ENERGY
 Mn/DOT - T.M.S.
 QWEST CORP.
 WASHINGTON COUNTY PUBLIC WORKS
 XCEL ENERGY

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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: AARON VACEK

Aaron Vacek

Date: 6-22-09 License #: 44277

STATE PROJECT NO. 0262-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY V. MICHELS

DESIGNED BY S. PRUSAK

CHECKED BY A. DEBRUIN

COMM. NO. 0086509



ANOKA COUNTY

EXISTING UTILITY TABULATIONS

C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
31
OF
471

NO	DATE	BY	CHK	APPR	REVISION

EXISTING DRAINAGE ITEMS

ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	LEAVE AS IS				REMOVE (SPEC. 2104)				ABANDON PIPE SEWER (LIN FT)	(1) PERFORM WORK IN STAGE	NOTES
			PIPE SEWER (LIN FT)	PIPE CULVERT (LIN FT)	PIPE APRON (EACH)	DRAINAGE STRUCTURE (EACH)	PIPE CULVERTS (LIN FT)	SEWER PIPE (LIN FT)	PIPE APRON (EACH)	DRAINAGE STRUCTURE (EACH)			
			E.B. C.S.A.H. 14	181+68, 81' LT	STORM MANHOLE				1				
E.B. C.S.A.H. 14	181+68, 81' LT - 181+89, 118' LT	18" RCP	43										
E.B. C.S.A.H. 14	181+68, 81' LT - 184+98, 70' LT	30" RCP	330										
E.B. C.S.A.H. 14	181+89, 118' LT	DROP INLET				1							STRUCTURE TO REMAIN. SEE DRAINAGE TAB.
E.B. C.S.A.H. 14	182+49, 25' RT	CATCH BASIN				1							
E.B. C.S.A.H. 14	184+16, 180' RT - 184+19, 149' RT	12" CSP		31	2							1	CONSTRUCT BULKHEAD TO REPAIR ABANDONED INVERT
E.B. C.S.A.H. 14	184+98, 70' LT	STORM MANHOLE				1						1	REMOVE PIPE APRON (INCIDENTAL)
E.B. C.S.A.H. 14	184+98, 70' LT - 185+00, 100' LT	15" RCP					30					1	
E.B. C.S.A.H. 14	184+98, 70' LT - 185+13, 56' LT	27" RCP					25					1	
E.B. C.S.A.H. 14	185+13, 56' LT	STORM MANHOLE							1			1	
E.B. C.S.A.H. 14	185+13, 56' LT - 188+13, 50' LT	27" RCP					300					1	
E.B. C.S.A.H. 14	188+13, 50' LT	STORM MANHOLE							1			1	
E.B. C.S.A.H. 14	188+13, 50' LT - 191+84, 45' LT	27" RCP					375					1,2,3	
E.B. C.S.A.H. 14	191+63, 128' RT - 191+64, 84' LT	24" RCP						2		200		1	
E.B. C.S.A.H. 14	191+84, 45' LT	STORM MANHOLE							1			1	
E.B. C.S.A.H. 14	194+60, 92' RT - 194+62, 33' RT	12" CSP					60					3	REMOVE PIPE APRON (INCIDENTAL)
E.B. C.S.A.H. 14	194+61, 7' RT	CATCH BASIN							1			3	
E.B. C.S.A.H. 14	194+61, 7' RT - 194+62, 33' RT	12" RCP					30					3	
E.B. C.S.A.H. 14	194+62, 33' RT	CATCH BASIN										3	REMOVE PIPE APRONS (INCIDENTAL)
E.B. C.S.A.H. 14	195+26, 42' LT - 195+25, 82' RT	18" RCP					125					3	
E.B. C.S.A.H. 14	196+78, 84' RT - 196+80, 46' LT	18" RCP					130					2,3	REMOVE PIPE APRONS (INCIDENTAL)
E.B. C.S.A.H. 14	197+39, 85' RT - 197+41, 32' RT	12" CSP					55					3	REMOVE PIPE APRON (INCIDENTAL)
E.B. C.S.A.H. 14	197+41, 32' RT	CATCH BASIN							1			3	
E.B. C.S.A.H. 14	197+41, 32' RT - 197+41, 6' RT	12" RCP					30					3	
E.B. C.S.A.H. 14	197+41, 6' RT	CATCH BASIN							1			3	
E.B. C.S.A.H. 14	200+10, 92' LT - 200+20, 15' LT	27" RCP					80					2	REMOVE PIPE APRON (INCIDENTAL)
E.B. C.S.A.H. 14	200+20, 15' LT	STORM MANHOLE							1			2	
E.B. C.S.A.H. 14	200+20, 15' LT - 201+48, 19' LT	27" RCP					130					2	REMOVE PIPE APRON (INCIDENTAL)
E.B. C.S.A.H. 14	200+33, 103' LT - 200+40, 92' LT	12" RCP					15					2	
E.B. C.S.A.H. 14	200+40, 92' LT	STORM MANHOLE							1			2	
E.B. C.S.A.H. 14	200+40, 92' LT - 200+54, 85' LT	12" RCP					20					2	REMOVE PIPE APRON (INCIDENTAL)
E.B. C.S.A.H. 14	200+62, 74' LT - 200+67, 106' RT	24" RCP						2		170		1	
E.B. C.S.A.H. 14	201+48, 19' LT	STORM MANHOLE							1			2	
E.B. C.S.A.H. 14	201+48, 19' LT - 205+15, 71' LT	27" RCP					370					2	
E.B. C.S.A.H. 14	205+15, 39' LT	CATCH BASIN							1			2	
E.B. C.S.A.H. 14	205+15, 39' LT - 205+15, 71' LT	15" RCP					35					2	
E.B. C.S.A.H. 14	205+15, 39' LT - 205+36, 11' LT	15" RCP					35					2	
E.B. C.S.A.H. 14	205+15, 71' LT	STORM MANHOLE							1			2	
E.B. C.S.A.H. 14	205+15, 71' LT - 207+42, 75' LT	24" RCP					225					2	
E.B. C.S.A.H. 14	205+36, 11' LT	CATCH BASIN							1			2	
E.B. C.S.A.H. 14	205+44, 35' RT - 205+76, 35' RT	12" CSP					35					3	REMOVE PIPE APRONS (INCIDENTAL)
E.B. C.S.A.H. 14	207+42, 75' LT	CATCH BASIN							1			2	
E.B. C.S.A.H. 14	207+42, 75' LT - 208+44, 75' LT	21" RCP					105					2	
E.B. C.S.A.H. 14	207+84, 25' RT	CATCH BASIN							1			3	
E.B. C.S.A.H. 14	207+84, 25' RT - 208+43, 37' LT	15" RCP	85										
E.B. C.S.A.H. 14	208+43, 37' LT	CATCH BASIN				1							
E.B. C.S.A.H. 14	208+43, 37' LT - 208+44, 75' LT	15" RCP	38									2	
E.B. C.S.A.H. 14	208+44, 75' LT	CATCH BASIN							1			2	
E.B. C.S.A.H. 14	208+44, 75' LT - 210+07, 75' LT	21" RCP					165						
E.B. C.S.A.H. 14	210+07, 75' LT	CATCH BASIN				1							
E.B. C.S.A.H. 14	210+07, 75' LT - 212+02, 80' LT	21" RCP	195										
SUBTOTAL							290	2085	4	16	370		

NOTES:
 (1) SEE STAGING PLANS.
 ADJUSTMENTS ON THIS SHEETS ARE TO BE DONE BY THE CONTRACTOR.

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: AARON VACEK
Aaron Vacek
 Date: 8-06-09 License #: 44277

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY A. DEBRUIN
 COMM. NO. 0086509



ANOKA COUNTY
 EXISTING UTILITY TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
 32
 OF
 471


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NO DATE BY CKD APPR REVISION
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EXISTING DRAINAGE ITEMS																	
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	LEAVE AS IS				REMOVE (SPEC. 2104)				ABANDON PIPE SEWER (LIN FT)	(1) PERFORM WORK IN STAGE	NOTES				
			PIPE SEWER (LIN FT)	PIPE CULVERT (LIN FT)	PIPE APRON (EACH)	DRAINAGE STRUCTURE (EACH)	PIPE CULVERTS (LIN FT)	SEWER PIPE (LIN FT)	PIPE APRON (EACH)	DRAINAGE STRUCTURE (EACH)							
EXISTING N.B. 35E	555+10, 176' RT - 554+78, 90' LT	96" CSP		92													
EXISTING N.B. 35E	555+06, 85' RT - 555+76, 81' RT	18" CSP		70	2												
EXISTING N.B. 35E	560+57, 167' RT - 561+32, 167' RT	12" CSP		75	2												
EXISTING N.B. 35E	568+48, 158' RT - 568+52, 113' RT	18" CSP		45	2												
EXISTING N.B. 35E	568+96, 78' RT - 568+98, 35' LT	30" RCP							2		100	1					
													1	REMOVE PIPE APRONS (INCIDENTAL)			
EXISTING N.B. 35E	571+82, 109' RT - 572+01, 47' RT	18" RCP-A						65									
EXISTING N.B. 35E	574+09, 405' RT - 574+43, 360' RT	18" CSP		57	2						45	3					
EXISTING N.B. 35E	579+99, 27' LT - 580+01, 30' RT	18" RCP							2			1		REMOVE WEST APRON, PARTIALLY REMOVE CULVERT. SEE DRAINAGE TAB.			
EXISTING S.B. 35E	552+99, 46' LT - 553+00, 32' RT	24" RCP		69				10	1			1		REMOVE PIPE APRONS (INCIDENTAL)			
EXISTING S.B. 35E	553+32, 57' LT - 553+61, 63' LT	18" RCP						35				1					
													1	REMOVE WEST APRON			
EXISTING S.B. 35E	553+75, 55' LT - 554+67, 177' RT	12' x 8' BOX		249					1			1		REMOVE PIPE APRONS (INCIDENTAL)			
EXISTING S.B. 35E	553+81, 58' LT - 554+12, 53' LT	18" RCP						35				1					
EXISTING S.B. 35E	564+00, 45' LT - 563+98, 29' RT	18" RCP							2		60	1					
EXISTING S.B. 35E	568+99, 70' LT - 569+01, 47' RT	30" RCP		116	1				1			1		REMOVE WEST APRON			
EXISTING S.B. 35E	571+79, 119' LT - 572+03, 53' LT	18" CSP						75				1,3		REMOVE PIPE APRONS (INCIDENTAL)			
EXISTING S.B. 35E	579+21, 382' LT - 581+64, 274' LT	27" RCP							280			1					
EXISTING S.B. 35E	581+66, 273' LT	STORM MANHOLE										1					
EXISTING S.B. 35E	581+66, 273' LT - 584+23, 172' LT	27" RCP							285			1					
EXISTING S.B. 35E	584+23, 172' LT	STORM MANHOLE										1					
EXISTING S.B. 35E	584+23, 172' LT - 586+97, 82' LT	27" RCP	293														
														RECONSTRUCT STRUCTURE. SEE DRAINAGE TAB.			
EXISTING S.B. 35E	586+97, 82' LT	DROP INLET				1						1					
EXISTING S.B. 35E	591+01, 68 LT	STORM MANHOLE										1					
EXISTING S.B. 35E	586+98, 83' LT - 589+82, 71' LT	27" RCP	289									1					
EXISTING S.B. 35E	589+82, 71' LT - 591+01, 68' LT	27" RCP							120			1					
EXISTING S.B. 35E	591+01, 68' LT - 591+52, 68' LT	27" RCP							50			1					
EXISTING S.B. 35E	591+52, 68' LT - 595+05, 68' LT	27" RCP	353														
EXISTING S.B. 35E	595+05, 68' LT	STORM MANHOLE					1										
EXISTING S.B. 35E	595+05, 68' LT - 603+03, 64' LT	27" RCP	791		1												
EXISTING S.B. 35E	595+05, 68' LT - 595+03, 37' LT	18" RCP		31													
EXISTING S.B. 35E	595+00, 43' RT	CATCH BASIN					1										
EXISTING S.B. 35E	595+03, 37' LT	CATCH BASIN					1										
EXISTING S.B. 35E	595+03, 37' LT - 595+00, 43' RT	18" RCP		80													
SUBTOTAL																	
PROJECT TOTALS								220	735	9	3	205					
											510	2820	13	19	575		

NOTES:
 (1) SEE STAGING PLANS.
 ADJUSTMENTS ON THIS SHEETS ARE TO BE DONE BY THE CONTRACTOR.

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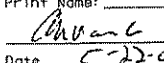

		I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: AARON VACEK		STATE PROJECT NO. 0282-25 (TH 35E)		DRAWN BY V. MICHELIS				ANOKA COUNTY		SHEET 33 OF 471
NO		Date: <u>9-06-09</u> License # <u>44277</u>		STATE PROJECT NO. 02-614-28		DESIGNED BY S. PRUSAK				EXISTING UTILITY TABULATIONS		
DATE				COUNTY PROJECT NO. X		CHECKED BY A. DEBRUIN		C.S.A.H. 14/T.H. 35E INTERCHANGE				
BY		CKD		CITY PROJECT NO. X		COMM. NO. 0086509						
APPR		REVISION										

EXISTING SANITARY SEWER						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	OWNER	ADJUST	RELOCATE	LEAVE "AS IS"
E.B.C.S.A.H. 14	171+50, 7' LT - 172+00, 30' RT	10" PVC SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	171+55, 300' RT - 172+07, 299' RT	UNKNOWN RCP SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	171+72, 99' RT - 171+74, 196' RT	8" FM SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	171+72, 99' RT - 172+07, 55' RT	8" FM SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	171+74, 197' RT - 171+78, 477' RT	8" FM SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	172+00, 30' RT	SAN MH	CENTERVILLE			X
E.B.C.S.A.H. 14	172+00, 30' RT - 172+07, 280' RT	8" PVC SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	172+00, 30' RT - 176+07, 13' RT	10" PVC SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	172+03, 32' RT - 172+07, 35' RT	8" FM SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	172+07, 280' RT	SAN MH	CENTERVILLE			X
E.B.C.S.A.H. 14	172+07, 280' RT - 172+10, 476' RT	8" PVC SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	172+07, 35' RT - 172+07, 55' RT	8" FM SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	176+07, 13' RT	SAN MH	CENTERVILLE			X
E.B.C.S.A.H. 14	176+07, 13' RT - 180+01, 15' RT	10" PVC SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	180+01, 15' RT	SAN MH	CENTERVILLE			X
E.B.C.S.A.H. 14	180+01, 15' RT - 184+04, 33' RT	10" PVC SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	183+51, 358' RT - 183+87, 359' RT	6" PVC SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	183+82, 476' RT - 183+91, 286' RT	8" PVC SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	183+91, 286' RT	SAN MH	CENTERVILLE			X
E.B.C.S.A.H. 14	183+91, 286' RT - 184+04, 33' RT	8" PVC SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	184+04, 33' RT	SAN MH	CENTERVILLE	X		
E.B.C.S.A.H. 14	184+58, 478' RT - 184+63, 377' RT	8" PVC SAN	CENTERVILLE			X
E.B.C.S.A.H. 14	184+63, 377' RT	SAN MH	LINO LAKES			X
E.B.C.S.A.H. 14	184+63, 377' RT - 184+78, 77' RT	21" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	184+63, 377' RT - 185+86, 383' RT	21" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	184+79, 67' RT - 184+86, 93' LT	SAN SEWER CASING	LINO LAKES			X
E.B.C.S.A.H. 14	184+78, 77' RT	SAN MH	LINO LAKES	X		
E.B.C.S.A.H. 14	184+78, 77' RT - 184+86, 93' LT	21" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	184+86, 93' LT	SAN MH	LINO LAKES	X		
E.B.C.S.A.H. 14	184+87, 92' LT - 184+88, 117' LT	21" PVC SAN	LINO LAKES			X
EXISTING N.B. 35E	568+80, 1461' RT	SAN MH	LINO LAKES			X
EXISTING N.B. 35E	568+80, 1461' RT - 572+38, 1463' RT	21" PVC SAN	LINO LAKES			X
EXISTING N.B. 35E	571+97, 1463' RT - 572+02, 1414' RT	6" PVC SAN	LINO LAKES			X
EXISTING N.B. 35E	572+38, 1463' RT	SAN MH	LINO LAKES			X
EXISTING N.B. 35E	572+38, 1463' RT - 574+32, 1465' RT	21" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	210+94, 473' RT - 210+96, 408' RT	21" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	210+95, 441' RT - 211+44, 437' RT	6" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	210+96, 408' RT	SAN MH	LINO LAKES			X
E.B.C.S.A.H. 14	210+45, 407' RT - 210+96, 408' RT	8" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	210+96, 408' RT - 211+05, 63' RT	21" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	211+05, 63' RT	SAN MH	LINO LAKES			X
E.B.C.S.A.H. 14	210+92, 34' LT - 211+05, 63' LT	21" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	211+01, 33' RT - 210+93, 26' RT	SAN SEWER CASING	LINO LAKES			X
E.B.C.S.A.H. 14	210+92, 34' LT	SAN MH	LINO LAKES			X
E.B.C.S.A.H. 14	210+92, 34' LT - 210+94, 134' LT	21" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	211+05, 63' RT - 211+56, 30' RT	8" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	211+56, 30' RT	SAN MH	LINO LAKES			X
E.B.C.S.A.H. 14	211+56, 30' RT - 214+18, 34' RT	8" PVC SAN	LINO LAKES			X
E.B.C.S.A.H. 14	214+18, 34' RT	SAN MH	LINO LAKES			X
E.B.C.S.A.H. 14	214+18, 34' RT - 217+23, 40' RT	8" PVC SAN	LINO LAKES			X

EXISTING WATERMAIN						
ALIGNMENT	LOCATION STATION AND OFFSET	EXISTING ITEM	OWNER	ADJUST	RELOCATE	LEAVE "AS IS"
E.B.C.S.A.H. 14	171+51, 27' RT - 171+74, 27' RT	10" RCP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	171+64, 523' LT - 171+73, 60' LT	10" RCP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	171+72, 71' LT	WATERMAIN VALVE	CENTERVILLE			X
E.B.C.S.A.H. 14	171+73, 60' LT - 171+82, 477' RT	10" RCP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	171+73, 50' LT - 184+44, 32' LT	10" RCP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	171+74, 32' RT	WATERMAIN VALVE	CENTERVILLE			X
E.B.C.S.A.H. 14	171+75, 59' RT - 171+91, 59' RT	6" DIP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	171+84, 59' RT	WATERMAIN VALVE	CENTERVILLE			X
E.B.C.S.A.H. 14	171+89, 50' LT	WATERMAIN VALVE	CENTERVILLE			X
E.B.C.S.A.H. 14	171+91, 59' RT	HYDRANT	CENTERVILLE			X
E.B.C.S.A.H. 14	175+19, 53' LT - 175+19, 75' LT	6" DIP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	175+19, 75' LT	HYDRANT	CENTERVILLE			X
E.B.C.S.A.H. 14	175+19, 72' LT	WATERMAIN VALVE	CENTERVILLE			X
E.B.C.S.A.H. 14	179+45, 49' LT - 179+46, 75' LT	6" DIP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	179+46, 72' LT	WATERMAIN VALVE	CENTERVILLE			X
E.B.C.S.A.H. 14	179+46, 75' LT	HYDRANT	CENTERVILLE			X
E.B.C.S.A.H. 14	181+09, 30' RT	HYDRANT	CENTERVILLE			X
E.B.C.S.A.H. 14	181+09, 30' RT - 181+11, 45' LT	6" DIP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	181+10, 27' RT	WATERMAIN VALVE	CENTERVILLE			X
E.B.C.S.A.H. 14	182+56, 39' LT - 182+63, 167' LT	6" DIP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	182+59, 102' LT	CURB STOP	CENTERVILLE	X		
E.B.C.S.A.H. 14	183+92, 476' RT - 184+17, 33' LT	8" RCP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	184+12, 71' RT	WATERMAIN VALVE	CENTERVILLE	X		
E.B.C.S.A.H. 14	184+13, 52' RT - 184+19, 52' RT	6" DIP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	184+19, 61' RT	HYDRANT	CENTERVILLE	X		
E.B.C.S.A.H. 14	184+19, 61' RT - 184+19, 52' RT	6" DIP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	184+19, 58' RT	WATERMAIN VALVE	CENTERVILLE	X		
E.B.C.S.A.H. 14	184+44, 32' LT - 184+62, 381' LT	6" RCP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	184+45, 45' LT	WATERMAIN VALVE	CENTERVILLE	X		
E.B.C.S.A.H. 14	184+48, 477' RT - 184+53, 386' RT	16" DIP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	184+53, 386' RT - 184+69, 66' RT	16" DIP WM	CENTERVILLE			X
E.B.C.S.A.H. 14	184+61, 376' LT	WATERMAIN VALVE	CENTERVILLE			X
E.B.C.S.A.H. 14	184+66, 109' RT - 184+75, 109' RT	6" DIP WM	LINO LAKES			X
E.B.C.S.A.H. 14	184+69, 66' RT - 184+76, 93' LT	WATERMAIN CASING	LINO LAKES			X
E.B.C.S.A.H. 14	184+68, 69' RT	WATERMAIN VALVE	LINO LAKES	X		
E.B.C.S.A.H. 14	184+69, 66' RT - 184+76, 93' LT	16" DIP WM	LINO LAKES			X
E.B.C.S.A.H. 14	184+70, 109' RT	WATERMAIN VALVE	LINO LAKES			X
E.B.C.S.A.H. 14	184+75, 109' RT	HYDRANT	LINO LAKES			X
E.B.C.S.A.H. 14	184+76, 93' LT - 184+78, 109' LT	6" DIP WM	LINO LAKES			X
E.B.C.S.A.H. 14	184+77, 104' LT	WATERMAIN VALVE	LINO LAKES			X
E.B.C.S.A.H. 14	184+78, 109' LT	HYDRANT	LINO LAKES			X
EXISTING N.B. 35E	574+14, 1452' RT - 574+31, 1452' RT	16" DIP WM	LINO LAKES			X
E.B.C.S.A.H. 14	210+81, 473' RT - 210+94, 83' RT	16" DIP WM	LINO LAKES			X
E.B.C.S.A.H. 14	210+82, 57' RT - 210+94, 83' RT	16" DIP WM	LINO LAKES			X
E.B.C.S.A.H. 14	210+42, 42' RT - 210+82, 42' RT	8" DIP WM	LINO LAKES			X
E.B.C.S.A.H. 14	210+82, 57' RT - 210+85, 118' LT	16" DIP WM	LINO LAKES			X
E.B.C.S.A.H. 14	210+82, 34' RT - 210+83, 26' LT	WATERMAIN CASING	LINO LAKES			X
E.B.C.S.A.H. 14	210+44, 106' LT	HYDRANT	LINO LAKES			X
E.B.C.S.A.H. 14	210+49, 106' LT	GATE VALVE	LINO LAKES			X
E.B.C.S.A.H. 14	210+44, 106' LT - 210+84, 105' LT	6" DIP WM	LINO LAKES			X
E.B.C.S.A.H. 14	210+82, 42' RT - 217+23, 46' RT	8" DIP WM	LINO LAKES			X

NOTES:
ADJUSTMENTS ON THIS SHEETS ARE TO BE DONE BY THE CONTRACTOR.
SEE SANITARY SEWER & WATERMAIN PLANS FOR DETAILS.

11:14:31 AM 4/28/2009 ...\\HI-MUN\PIan\CO261429_tbp07.dgn

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: AARON VACEK  Date: 5-22-09 License #: 44277		STATE PROJECT NO. 0282-25 (TH 35E) COUNTY PROJECT NO. X CITY PROJECT NO. X	DRAWN BY V. MICHELS DESIGNED BY S. PRUSAK CHECKED BY A. DEBRUIN COMM. NO. 0086509		ANOKA COUNTY EXISTING UTILITY TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE	SHEET 34 OF 471
NO DATE BY CKD APPR REVISION						

Y											
SANITARY SEWER											
ALIGNMENT	STATION	OFFSET		PROPOSED RIM ELEV (LIN FT)	EXISTING RIM ELEV (LIN FT)	FURNISH AND INSTALL (SPEC. 2503) (A)		(B) RECONSTRUCT STRUCTURE (SPEC. 2506) (LIN FT)	INSTALL CASTING (EACH)	ADJUST FRAME & RING CASTING (SPEC. 2506) (EACH)	NOTES
		LEFT (FT)	RIGHT (FT)			21" PIPE PLUG (EACH)	21" PVC PIPE SEWER (LIN FT)				
E.B. C.S.A.H 14	184+04		33	909.00	907.95			9.4	1	1	
E.B. C.S.A.H 14	184+78		77	907.45	907.24						
E.B. C.S.A.H 14	184+88	117									(C)
E.B. C.S.A.H 14	184+88	117				1	75				
E.B. C.S.A.H 14	184+86	93		910.62	904.81			14.2	1		
PROJECT TOTALS							1	75	23.6	2	1

NOTES:

- (A) ALL SANITARY SEWER PIPE SHALL BE SDR 35.
- (B) PAID FOR UNDER 2506 RECONSTRUCT DRAINAGE STRUCTURE AND INCLUDES THE SALVAGE OF EXISTING CASTINGS.
- (C) CONNECT TO EXISTING (INCIDENTAL).

Z																		
WATERMAIN (2504)																		
ALIGNMENT	STATION	OFFSET		REMOVE WATERMAIN (SPEC. 2104) (LIN FT)	SALVAGE (SPEC. 2104)		INSTALL HYDRANT (EACH)	ADJUST HYDRANT (EACH)	INSTALL GATE VALVE AND BOX (EACH)	ADJUST GATE VALVE & BOX (EACH)	16"X6" REDUCER (EACH)	16" BUTTERFLY VALVE AND BOX (EACH)	MEGALUG		WATERMAIN DUCTILE IRON CL 52		NOTES	
		LEFT (FT)	RIGHT (FT)		GATE VALVE & BOX (EACH)	HYDRANT (EACH)							6"	16"	6"	16"		
E.B. C.S.A.H. 14	184+19		58							1								
E.B. C.S.A.H. 14	184+19		61					1										
E.B. C.S.A.H. 14	184+45	45								1								(1)
E.B. C.S.A.H. 14	184+68		69															
E.B. C.S.A.H. 14	184+76	93		15	1	1					1	1	4	3	5	95		(2)
E.B. C.S.A.H. 14	184+76	93					1			1								
PROJECT TOTALS				15	1	1	1	1	1	3	1	1	4	3	5	95		

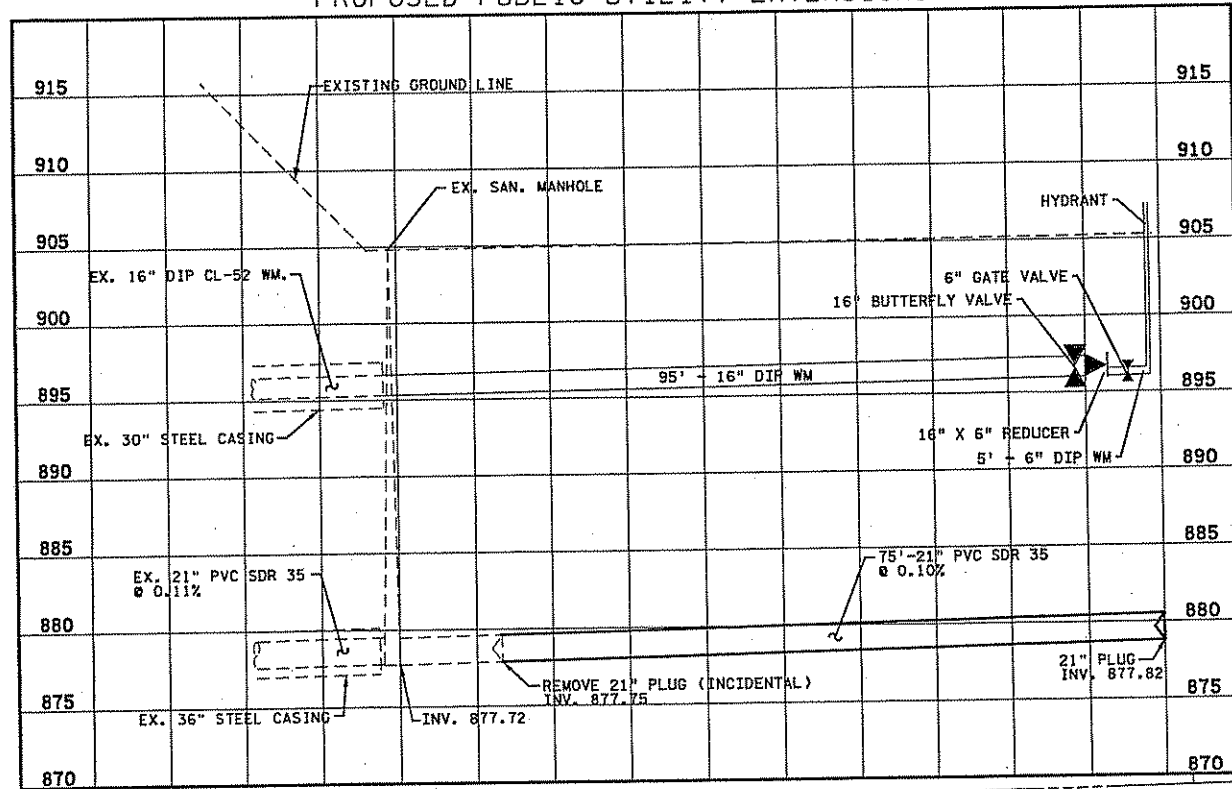
NOTES:

- (1) ADJUST BUTTERFLY VALVE TO BE PAID AS ADJUST GATE VALVE & BOX.
- (2) CONNECT TO EXISTING (INCIDENTAL).

2/10/07 PM 7/21/2009 H:\P\01-8078\5509 HI-MUP\0261429_TB05.DGN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: <u>AARON VACEK</u> <i>Aaron Vacek</i> Date: <u>5/06/09</u> License # <u>44277</u>				STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X		DRAWN BY V. MICHELS DESIGNED BY S. PRUSAK CHECKED BY A. DEBRUIN COMM. NO. 0086509		SRF CONSULTING GROUP, INC.		ANOKA COUNTY TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE		SHEET 35 OF 471
NO DATE BY CKD APPR REVISION				... \HI-MUP\0261429_TB05.DGN								

PROPOSED PUBLIC UTILITY EXTENSIONS



STA. 184+76, 93' LT TO STA. 184+82, 193' LT
 95'-16" DIP WM
 16" BUTTERFLY VALVE
 16"x6" REDUCER
 5'-6" DIP WM
 INSTALL HYDRANT
 INSTALL GATE VALVE (6")
 3-16" MEGALUGS
 4-6" MEGALUGS

STA. 184+76, 93' LT TO STA. 184+78, 109' LT
 REMOVE 15'-6" DIP WM
 SALVAGE GATE VALVE (6")
 SALVAGE HYDRANT

STA. 184+45, 45' LT
 ADJUST GATE VALVE (6")
 EX. T.C. = 908.59
 PROP. T.C. = 910.23

STA. 184+88, 117' LT TO STA. 184+92, 192' LT
 75'-21" PVC SAN SEWER @ 0.10%
 D.S. INV. = 877.75
 U.S. INV. = 877.82
 21" PVC PLUG

STA. 184+88, 117' LT
 REMOVE 21" PLUG (INCIDENTAL)
 EX. INV. 877.75

STA. 184+86, 93' LT
 RECONSTRUCT 14.2 LF SAN MH
 INSTALL CASTING
 EX. T.C. = 904.81
 PROP. T.C. = 910.62
 EX. U.S. INV. = 877.72

W.B. C.S.A.H. 14
 E.B. C.S.A.H. 14

STA. 184+19, 58' RT
 ADJUST GATE VALVE (6")
 EX. T.C. = 907.54
 PROP. T.C. = 907.06

STA. 184+19, 61' RT
 ADJUST HYDRANT
 EX. GROUND = 907.29
 PROP. GROUND = 906.06

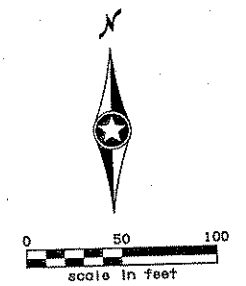
STA. 184+04, 33' RT
 RECONSTRUCT 9.4 LF SAN MH
 INSTALL CASTING
 EX. T.C. = 907.95
 PROP. T.C. = 909.00

STA. 184+78, 77' RT
 ADJUST FRAME & RING CASTING
 EX. T.C. = 907.24
 PROP. T.C. = 907.45

STA. 184+68, 69' RT
 ADJUST BUTTERFLY VALVE (16")
 EX. T.C. = 907.62
 PROP. T.C. = 907.11

CITY OF CENTERVILLE
 CITY OF LINO LAKES

21ST AVENUE



9:16:44 AM 4/25/2009 R:\proj\ber\55509\HT-MUN\plan\0261429_SW01.dgn

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: AARON VACEK
 Date: 5-22-09 License # 44277

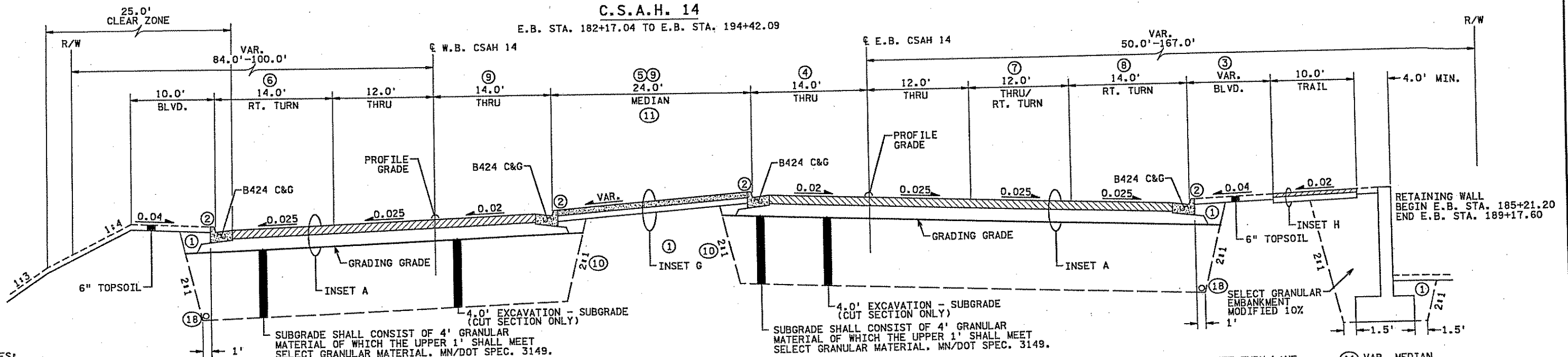
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY A. DEBRUIN
 COMM. NO. 0086509

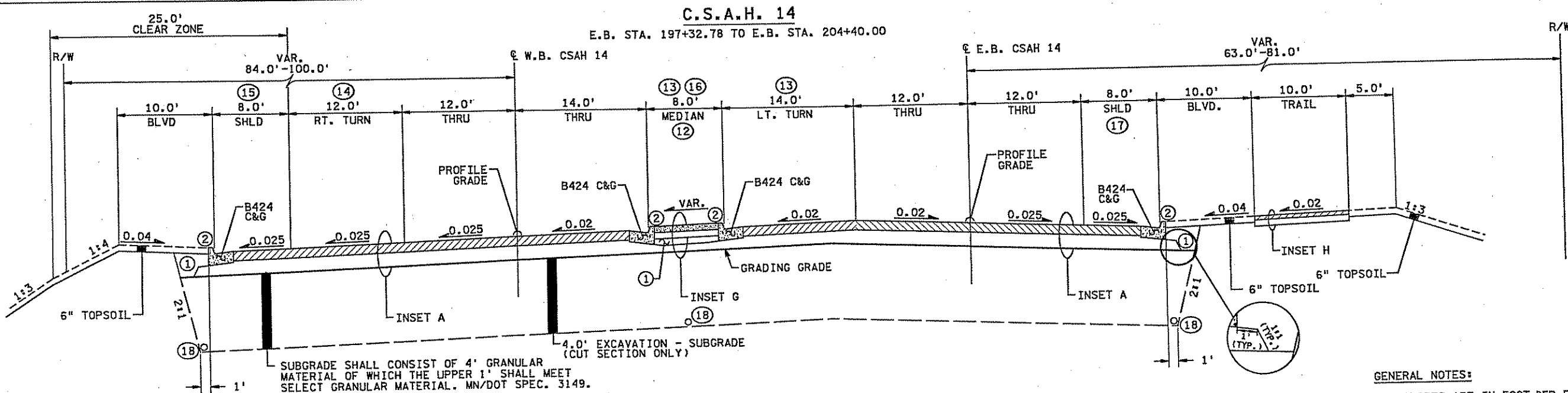


ANOKA COUNTY
 SANITARY SEWER & WATERMAIN PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14

SHEET 36 OF 471



- NOTES:**
- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
 - ② 1.5' OBSTACLE FREE CLEAR ZONE FROM FACE OF CURB. (TYPICAL)
 - ③ 8.0' BOULEVARD
E.B. STA. 182+17.04 TO E.B. STA. 183+87.31
VAR. 6.0'-18.0' BOULEVARD
E.B. STA. 184+38.26 TO E.B. STA. 189+75.63
12.0' BOULEVARD
E.B. STA. 191+62.10 TO E.B. STA. 192+73.94
 - ④ 12.0' THRU LANE
E.B. STA. 182+17.04 TO E.B. STA. 184+19.99
 - ⑤ 4.0' MEDIAN, 14.0' THRU LANE, 8.0' SHOULDER
E.B. STA. 182+17.04 TO E.B. STA. 184+19.99
 - ⑥ 8.0' SHOULDER
E.B. STA. 182+17.04 TO E.B. STA. 184+01.44
E.B. STA. 188+57.01 TO E.B. STA. 189+33.13
E.B. STA. 190+84.64 TO E.B. STA. 192+26.08
 - ⑦ 14.0' RIGHT TURN/THRU LANE
E.B. STA. 182+17.04 TO E.B. STA. 185+53.00
8.0' SHOULDER
E.B. STA. 193+48.26 TO E.B. STA. 194+41.48
 - ⑧ RIGHT TURN LANE TAPER
E.B. STA. 185+53.00 TO E.B. STA. 186+13.00
12.0' RIGHT TURN LANE AND 4.0' SHOULDER
E.B. STA. 191+81.60 TO E.B. STA. 192+73.94
 - ⑨ 12.0' THRU LANE, 14.0' LEFT TURN LANE, 8.0' MEDIAN
E.B. STA. 191+57.03 TO E.B. STA. 194+41.48
 - ⑩ WHERE MEDIAN > 10.0' FACE TO FACE
E.B. STA. 185+60.85 TO E.B. STA. 189+84.04
OTHERWISE CONTINUE 4.0' SUBGRADE EXCAVATION ACROSS MEDIAN
 - ⑪ VAR. MEDIAN
E.B. STA. 185+02.99 TO 185+60.85
E.B. STA. 189+84.04 TO 190+38.86
E.B. STA. 191+23.30 TO 191+57.03
 - ⑫ SAME AS BELOW



- NOTES:**
- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
 - ② 1.5' OBSTACLE FREE CLEAR ZONE FROM FACE OF CURB. (TYPICAL)
 - ⑫ WHERE MEDIAN > 10.0' FACE TO FACE
E.B. STA. 200+61.51 TO E.B. STA. 204+40.00
CONTINUE 4.0' SUBGRADE EXCAVATION ACROSS MEDIAN
 - ⑬ VAR. 20.5'-21.5' MEDIAN
E.B. STA. 200+78.86 TO E.B. STA. 202+70.00
VAR. 21.5'-11.1' MEDIAN, LEFT TURN LANE TAPER
E.B. STA. 202+70.00 TO E.B. STA. 203+90.94
VAR. 11.1'-11.8' MEDIAN, 14.0' LEFT TURN LANE
E.B. STA. 203+90.00 TO E.B. STA. 204+40.00
 - ⑭ 12.0' THRU LANE
E.B. STA. 200+92.76 TO E.B. STA. 204+40.00
 - ⑮ VAR. 16.0'-0.0' SHOULDER,
14.0' RIGHT TURN LANE
E.B. STA. 201+71.85 TO E.B. STA. 203+31.71
14.0' RIGHT TURN LANE
E.B. STA. 203+31.71 TO E.B. STA. 204+40.00
 - ⑯ VAR. MEDIAN
E.B. STA. 199+73.68 TO E.B. STA. 200+05.01
E.B. STA. 200+54.58 TO E.B. STA. 200+78.86
 - ⑰ RIGHT TURN LANE TAPER
E.B. STA. 203+30.00 TO 204+40.00
 - ⑱ 4" PERFORATED TP PIPE DRAIN.
SEE DRAINAGE PLAN FOR LOCATIONS.

GENERAL NOTES:

ALL SLOPES ARE IN FOOT PER FOOT FORMAT.
 MAXIMUM SHOULDER SUPERELEVATION ROLLOVER SHALL BE 0.07.
 SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 FOR PAVEMENT INSETS, SEE SHEET 43.

211018.P4 7/21/2009 \\s1\proj\6509\HI-MUX\plan\0261429_T51.DGN

NO	DATE	BY	CHK	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: AARON VACEK
 Date: 8-26-09 License #: 44277

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY K. LUDWIG
 COMM. NO. 0086509

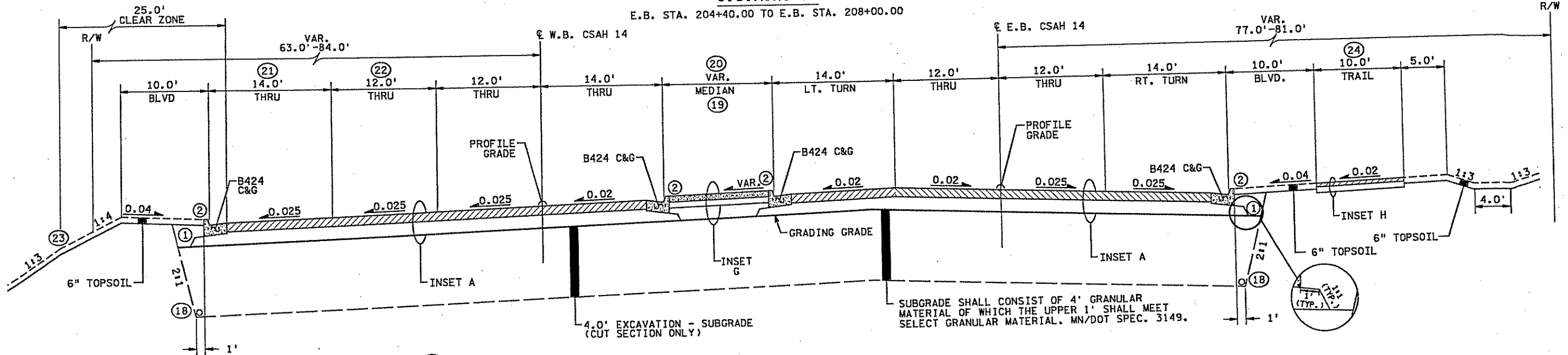


ANOKA COUNTY
 TYPICAL SECTIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14

C.S.A.H. 14
 SHEET 37 OF 471

C.S.A.H. 14

E.B. STA. 204+40.00 TO E.B. STA. 208+00.00



NOTES:

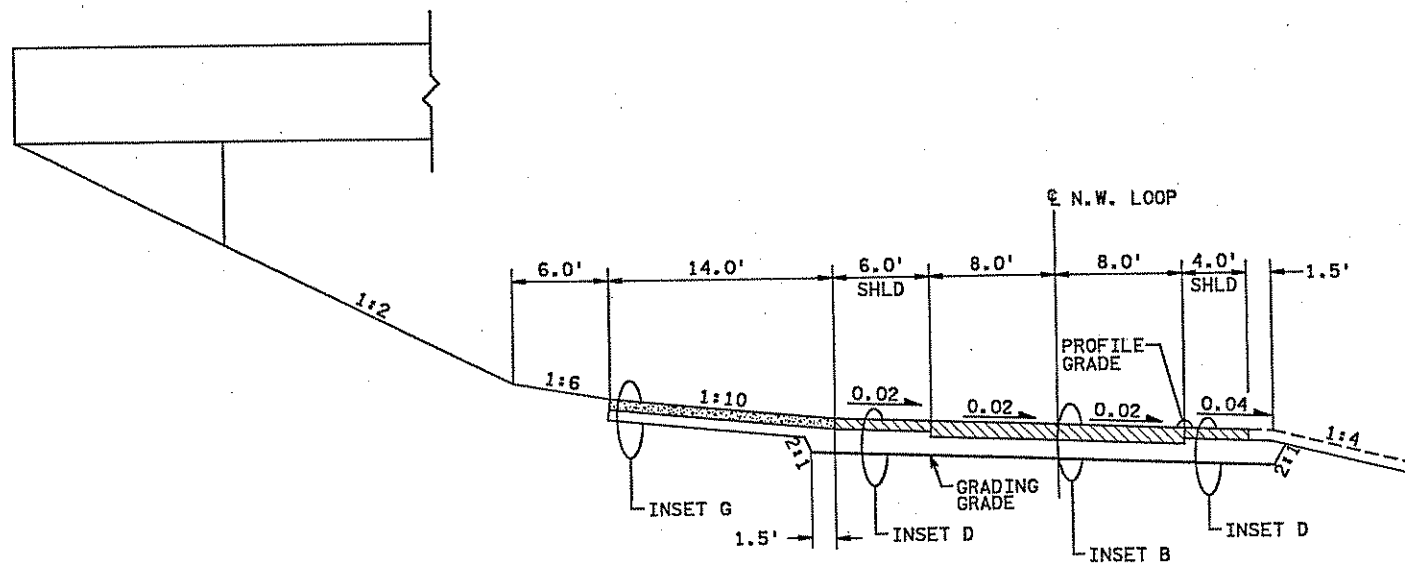
- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
- ② 1.5' OBSTACLE FREE CLEAR ZONE FROM FACE OF CURB. (TYPICAL)
- ⑬ 4" PERFORATED TP PIPE DRAIN. SEE DRAINAGE PLAN FOR LOCATIONS.
- ⑭ WHERE MEDIAN > 10.0' FACE TO FACE E.B. STA. 204+40.00 TO E.B. STA. 206+85.00 OTHERWISE CONTINUE 4.0' SUBGRADE EXCAVATION ACROSS MEDIAN

- ⑮ VAR. 11.8'-14.5' MEDIAN E.B. STA. 204+40.00 TO E.B. STA. 206+38.00 VAR. 14.5'-4.0' MEDIAN, LEFT TURN LANE TAPER E.B. STA. 206+38.00 TO E.B. STA. 207+48.00 4.0' MEDIAN, 13.0' LEFT TURN LANE E.B. STA. 207+48.00 TO E.B. STA. 208+00.00
- ⑯ 14.0' RIGHT TURN LANE E.B. STA. 204+40.00 TO E.B. STA. 205+44.66 E.B. STA. 205+44.66 TO E.B. STA. 207+27.41 8.0' SHOULDER E.B. STA. 207+27.41 TO E.B. STA. 208+26.14

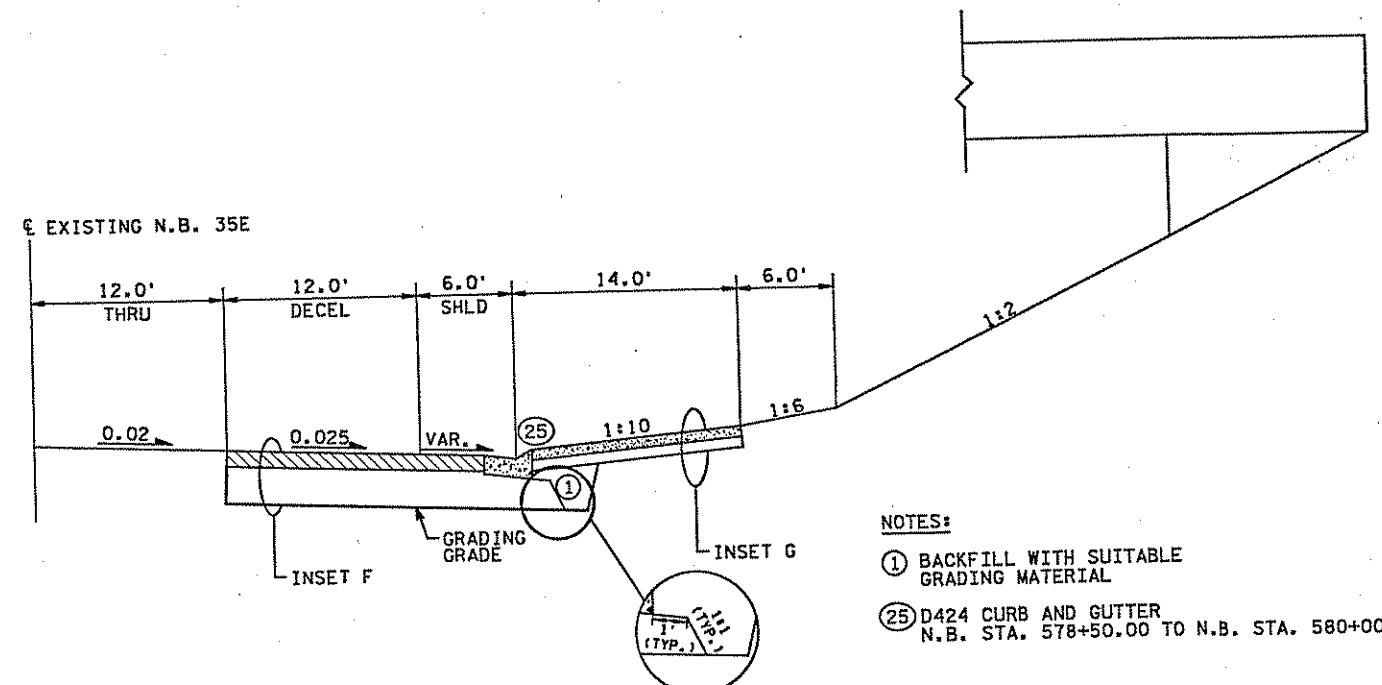
- ⑰ 12.0'-0.0' THRU LANE, 8.0' SHOULDER E.B. STA. 208+26.14 TO E.B. STA. 210+06.14
- ⑱ USE 1:6 TIESLOPE W.B. STA. 209+00.00 TO W.B. STA. 210+06.55
- ⑲ EXTEND 10.0' BITUMINOUS TRAIL E.B. STA. 208+00.00 TO E.B. STA. 210+21.77

GENERAL NOTES:

ALL SLOPES ARE IN FOOT PER FOOT FORMAT.
 MAXIMUM SHOULDER SUPERELEVATION ROLLOVER SHALL BE 0.07.
 SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 FOR PAVEMENT INSETS, SEE SHEET 43.



PROPOSED N.W. LOOP UNDER C.S.A.H. 14 BRIDGE



PROPOSED N.B. 35E UNDER C.S.A.H. 14 BRIDGE

NOTES:

- ① BACKFILL WITH SUITABLE GRADING MATERIAL
- ⑳ D424 CURB AND GUTTER N.B. STA. 578+50.00 TO N.B. STA. 580+00.00

C.S.A.H. 14
 N.W. LOOP
 EXISTING 35E

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: AARON VACEK
 Date: 8-26-05 License #: 44277

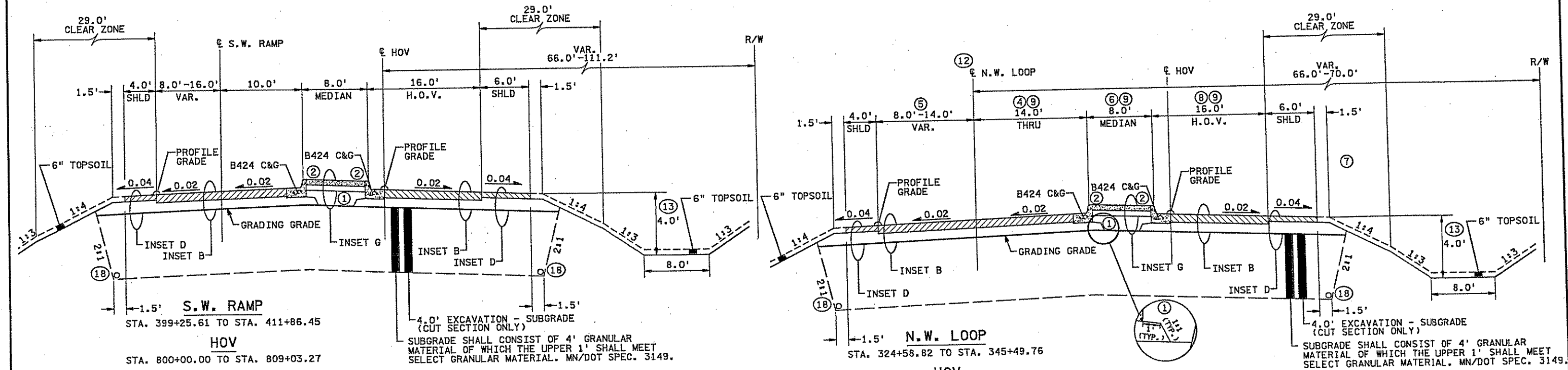
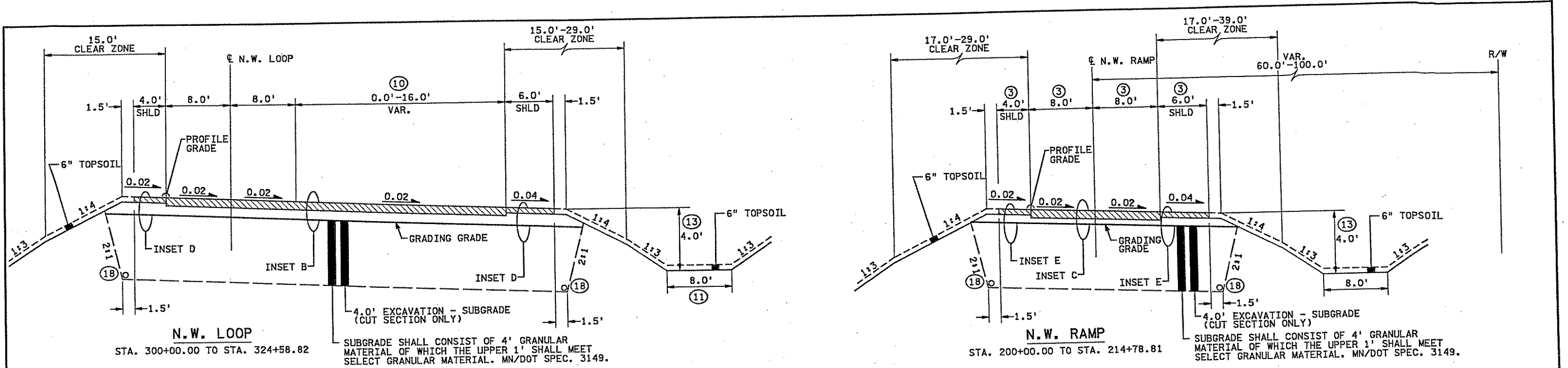
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY K. LUDWIG
 COMM. NO. 0086509



ANOKA COUNTY
 TYPICAL SECTIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14, SLOPE PAVING UNDER BRIDGE

SHEET 38 OF 471



GENERAL NOTES:
 ALL SLOPES ARE IN FOOT PER FOOT FORMAT.
 MAXIMUM SHOULDER SUPERELEVATION ROLLOVER SHALL BE 0.07.
 SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 FOR PAVEMENT INSETS, SEE SHEET 43.

NOTES:
 ① BACKFILL WITH SUITABLE GRADING MATERIAL.
 ② 1.5' OBSTACLE FREE CLEAR ZONE FROM FACE OF CURB. (TYPICAL)
 ③ TRANSITION TO 12.0' LEFT TURN LANE, 12.0' THRU LANE, AND 12.0' RIGHT TURN LANE STA. 210+20.00 TO STA. 211+70.00
 12.0' LEFT TURN LANE, 12.0' THRU LANE, AND 12.0' RIGHT TURN LANE STA. 211+70.00 TO STA. 214+10.87

- ④ 18.0' THRU LANE AT STA. 324+58.82
14.0' - 18.0' THRU LANE STA. 324+58.82 TO STA. 326+58.82
14.0' THRU LANE STA. 326+58.82 TO STA. 333+52.82
- ⑤ 14.0' THRU LANE AT STA. 330+65.13
8.0' - 14.0' THRU LANE STA. 330+65.13 TO STA. 333+05.13
8.0' THRU LANE STA. 333+05.13 TO STA. 345+49.76
- ⑥ END 8.0' MEDIAN TO STA. 333+56.82
0.0' - 8.0' GORE STA. 333+56.82 TO STA. 335+34.66
- ⑦ CONSTRUCT 12.0' LAW ENFORCEMENT BAY H.O.V. STA. 816+96.91 TO H.O.V. STA. 817+96.91
- ⑧ END 14.0' THRU LANE AT STA. 335+34.66
- ⑨ 26.0' THRU LANE AT STA. 335+34.66
8.0' - 26.0' THRU LANE STA. 335+34.66 TO STA. 338+05.13
8.0' THRU LANE STA. 338+05.13 TO STA. 345+49.76
- ⑩ END 16.0' THRU LANE AT STA. 304+40.00
0.0' - 16.0' THRU LANE STA. 304+40.00 TO STA. 310+80.00
- ⑪ V-DITCH SECTION STA. 314+00.00 TO STA. 321+69.82
- ⑫ ALIGNMENT SHIFTS 6' RIGHT STA. 325+00.00
- ⑬ SEE PROFILES AND CROSS SECTIONS FOR DITCH GRADES.
- ⑭ 4" PERFORATED TP PIPE DRAIN. SEE DRAINAGE PLAN FOR LOCATIONS.

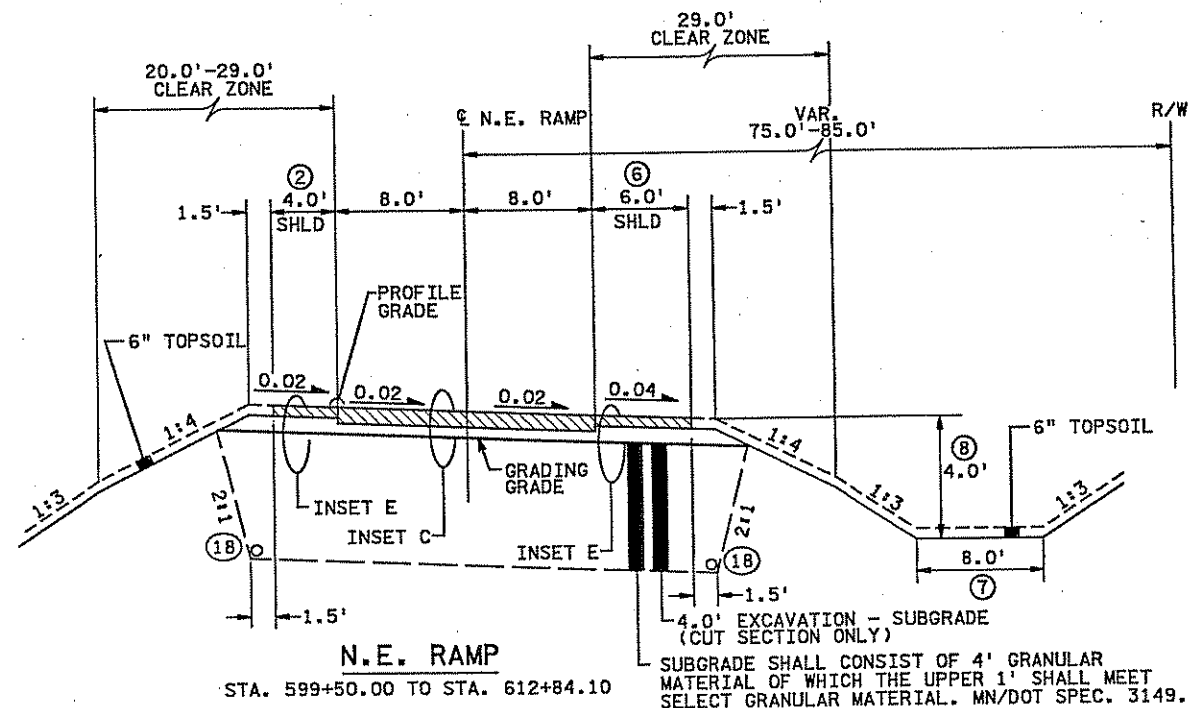
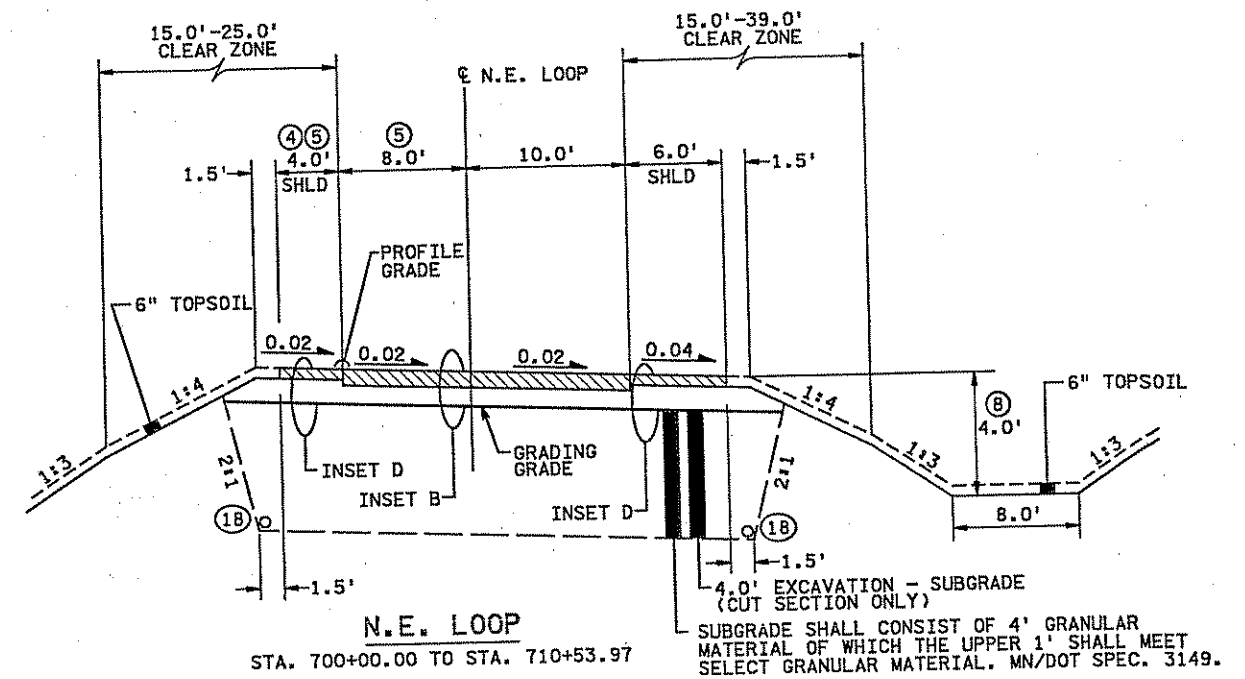
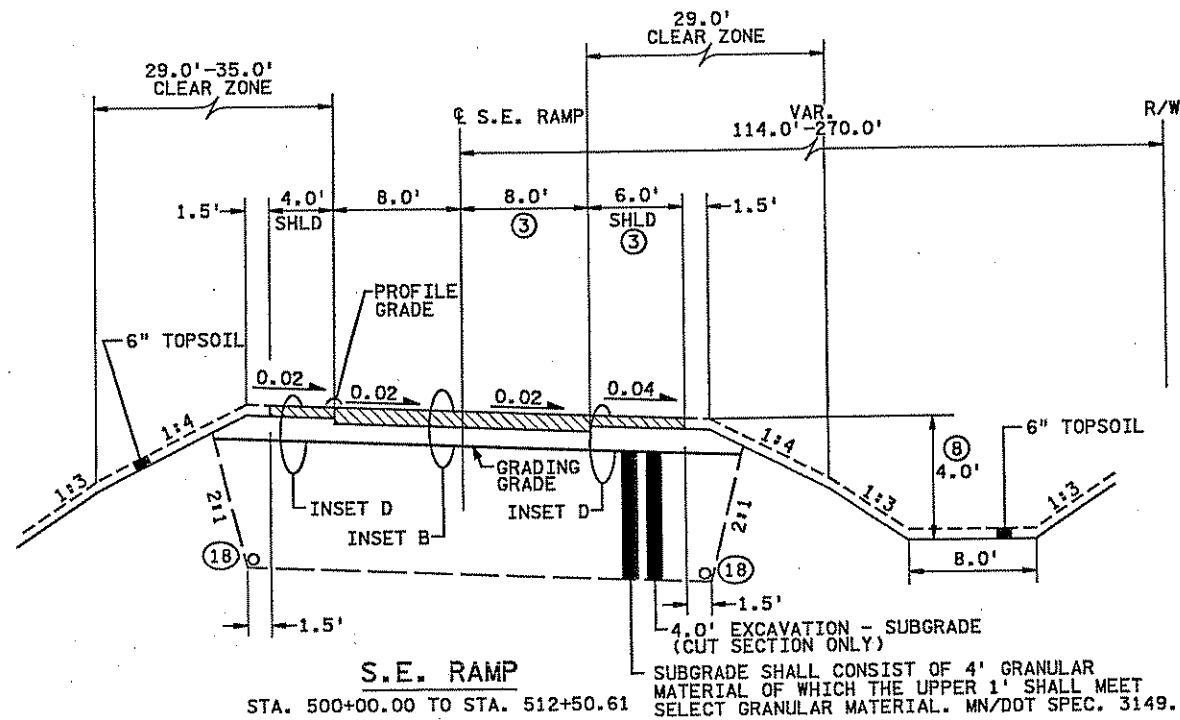
ALIGNMENT	STATION	CLEAR ZONE
HOV	800+00.0-817+96.9	29' LT, 29' RT
N.W. LOOP	300+00.0-311+00.0	15' LT, 15' RT
N.W. LOOP	311+00.0-339+11.6	29' LT, 29' RT
N.W. LOOP	339+11.6-341+58.2	29' LT, 32' RT
N.W. LOOP	341+58.2-345+49.8	29' LT, 29' RT
N.W. RAMP	200+00.0-209+42.2	29' LT, 39' RT
N.W. RAMP	209+42.2-212+43.0	17' LT, 24' RT
N.W. RAMP	212+43.0-214+78.8	17' LT, 17' RT
S.W. RAMP	399+25.6-411+86.5	29' LT, 29' RT

N.W. LOOP S.W. RAMP
N.W. RAMP HOV

2:11:00 PM 7/27/2009 HI-MUNPLAN0261429_T53.DGN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: AARON VACEK Date: 6-26-09 License #: 44277		STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X	DRAWN BY V. MICHELS DESIGNED BY S. PRUSAK CHECKED BY K. LUDWIG COMM. NO. 0086509	ANOKA COUNTY TYPICAL SECTIONS C.S.A.H. 14/T.H. 35E INTERCHANGE N.W. LOOP, N.W. RAMP, S.W. RAMP, H.O.V.	SHEET 39 OF 471
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NOTES:

- ② B424 CURB AND GUTTER
 STA. 600+14.54 TO STA. 603+70.00
 B424 CURB AND GUTTER - 4.0' SHOULDER
 STA. 603+70.00 TO STA. 603+90.00
- ③ 4.0' THRU LANE AND 12.0' THRU LANE
 STA. 509+60.00 TO STA. 511+91.61
- ④ END 4.0' SHOULDER AT STA. 706+50.00
 2.0' - 4.0' SHOULDER
 STA. 706+50.00 TO STA. 706+65.05
 BEGIN B424 CURB AT STA. 706+65.05
- ⑤ 2.0' THRU LANE AND 14.0' THRU LANE
 STA. 707+75.48 TO STA. 710+04.20
- ⑥ 10.0' SHOULDER
 STA. 599+89.81 TO STA. 600+13.15
- ⑦ WHERE DITCH < 8.0' TOE TO TOE
 STA. 602+50 TO STA. 604+50
 SEE CROSS SECTION FOR EXACT WIDTH
- ⑧ SEE PROFILES AND CROSS SECTIONS FOR DITCH GRADES.
- ⑱ 4" PERFORATED TP PIPE DRAIN.
 SEE DRAINAGE PLAN FOR LOCATIONS.

GENERAL NOTES:

ALL SLOPES ARE IN FOOT PER FOOT FORMAT.
 MAXIMUM SHOULDER SUPERELEVATION ROLLOVER SHALL BE 0.07.
 SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 FOR PAVEMENT INSETS, SEE SHEET 43.

CLEAR ZONE TABLE

ALIGNMENT	STATION	CLEAR ZONE
N.E. LOOP	700+00.0-702+70.0	15' LT, 39' RT
N.E. LOOP	702+70.0-707+75.5	15' LT, 15' RT
N.E. LOOP	707+75.5-710+54.0	15' LT, 25' RT
N.E. RAMP	559+50.0-607+51.3	29' LT, 29' RT
N.E. RAMP	607+51.3-612+84.1	20' LT, 29' RT
S.E. RAMP	500+00.0-500+57.3	35' LT, 29' RT
S.E. RAMP	500+57.3-512+50.6	29' LT, 29' RT

S.E. RAMP
 N.E. LOOP
 N.E. RAMP

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: AARON VACEK

Date: 8-26-09 License #: 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY V. MICHELS

DESIGNED BY S. PRUSAK

CHECKED BY K. LUDWIG

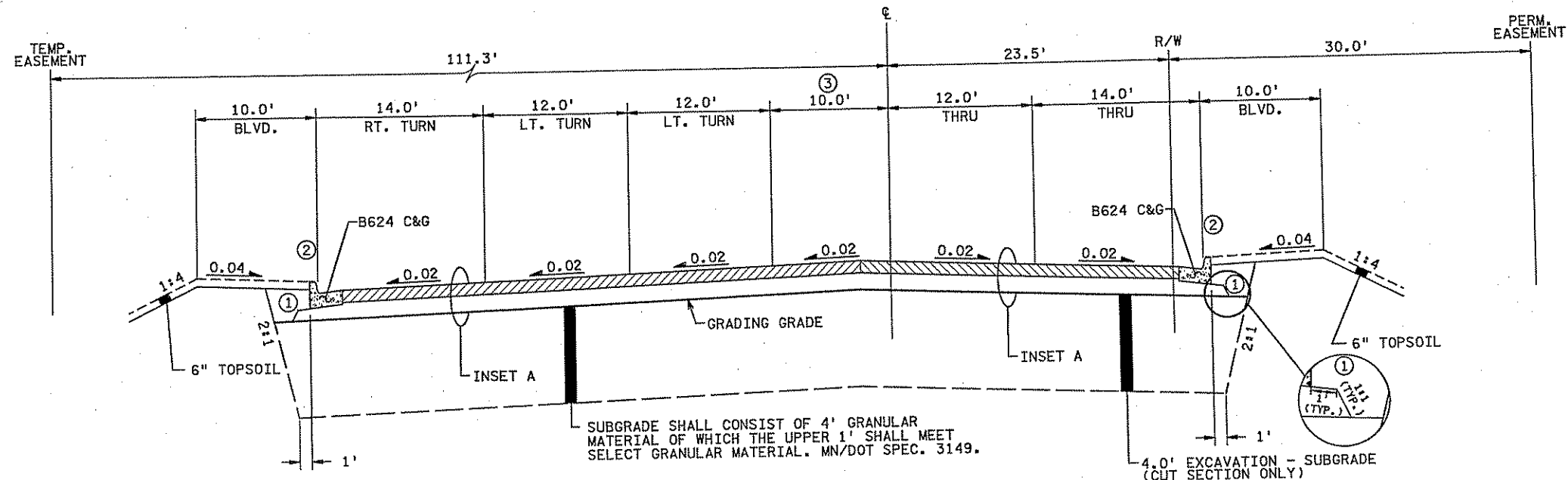
COMM. NO. 0086509



ANOKA COUNTY

TYPICAL SECTIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 S.E. RAMP, N.E. LOOP, N.E. RAMP

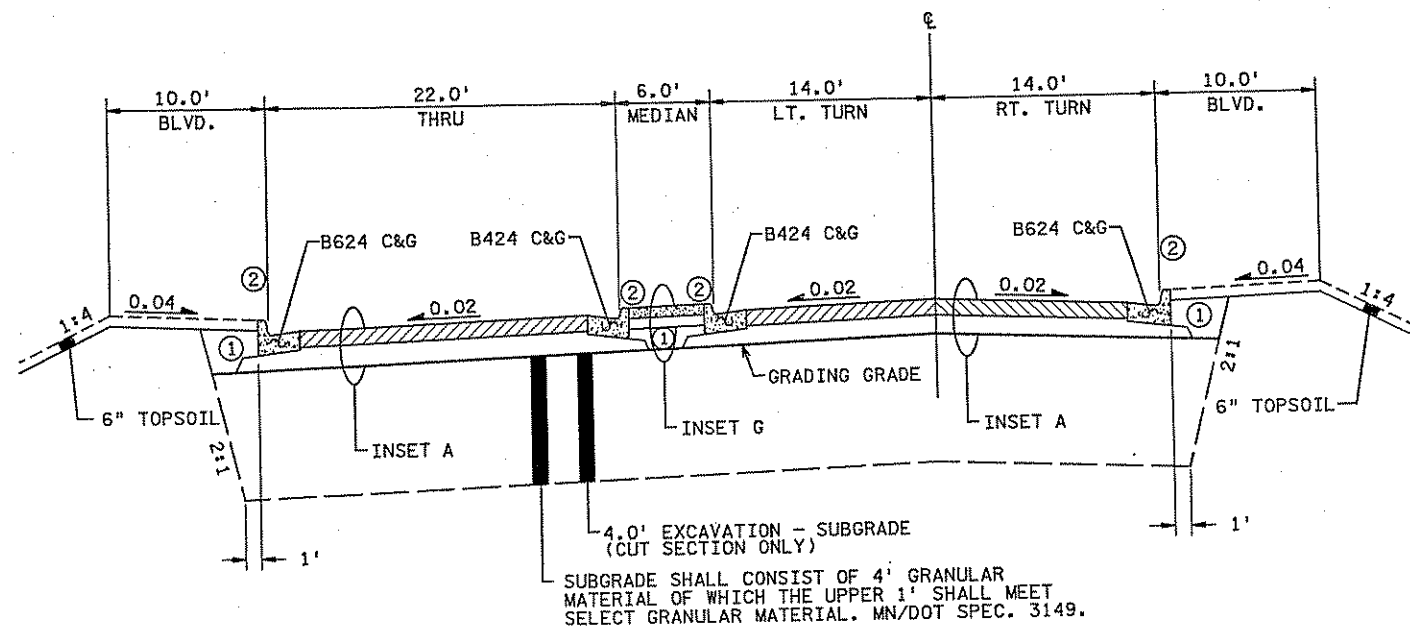
SHEET
 40
 OF
 471



**21ST AVENUE
NORTH OF C.S.A.H. 14**

NOTES:

- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
- ② 1.5' OBSTACLE FREE CLEAR ZONE FROM FACE OF CURB. (TYPICAL)
- ③ FOR FUTURE 6.0' MEDIAN WITH B624 CURB AND GUTTER



**FRONTAGE ROAD
SOUTH OF C.S.A.H. 14**

GENERAL NOTES:

ALL SLOPES ARE IN FOOT PER FOOT FORMAT.
 MAXIMUM SHOULDER SUPERELEVATION ROLLOVER SHALL BE 0.07.
 SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 FOR PAVEMENT INSETS, SEE SHEET 43.

21ST AVENUE
FRONTAGE ROAD

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: **AARON VACEK**
 Date: *6/22/09* License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

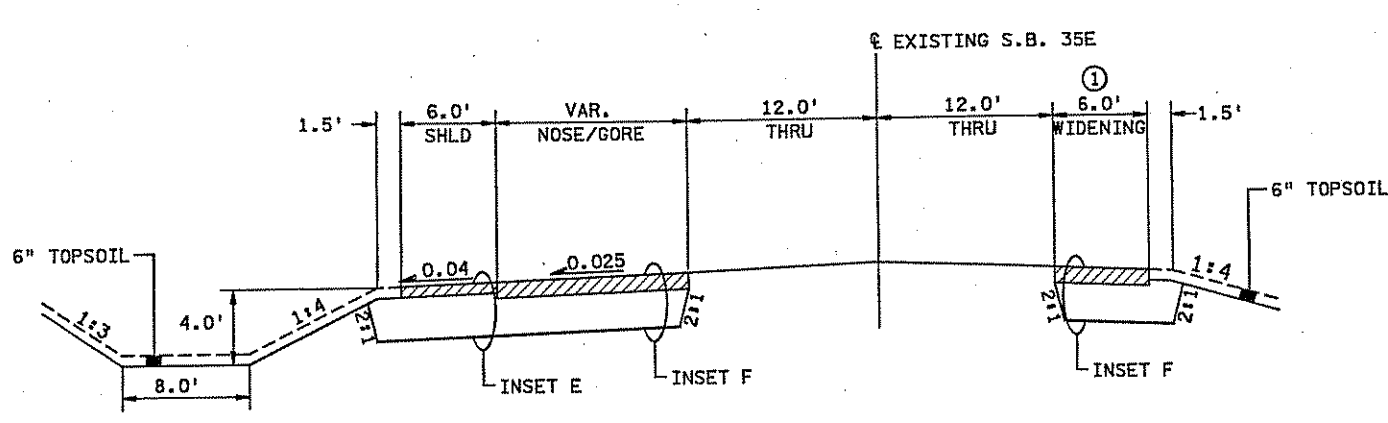
DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY K. LUDWIG
 COMM. NO. 0086509



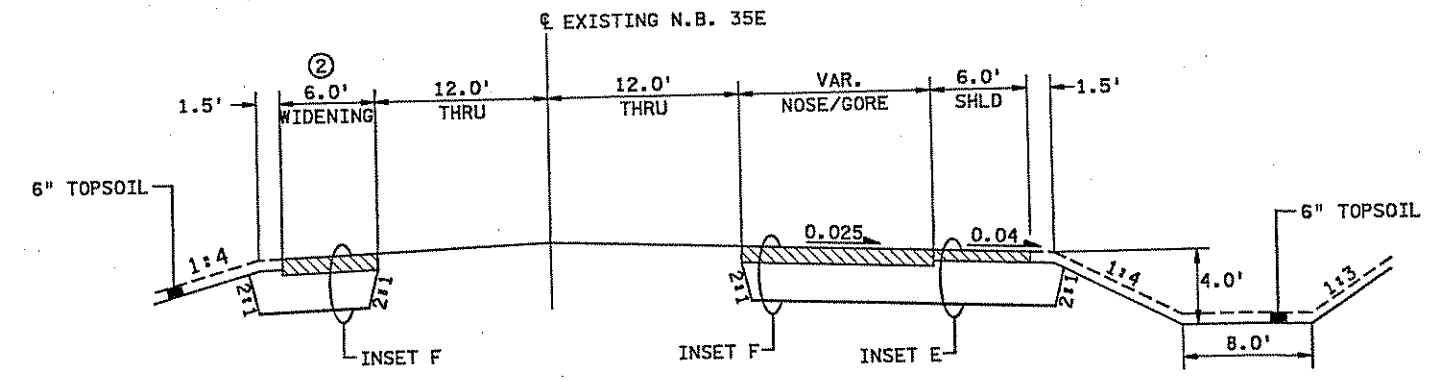
ANOKA COUNTY
 TYPICAL SECTIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 21ST AVENUE, FRONTAGE ROAD

SHEET
41
OF
471

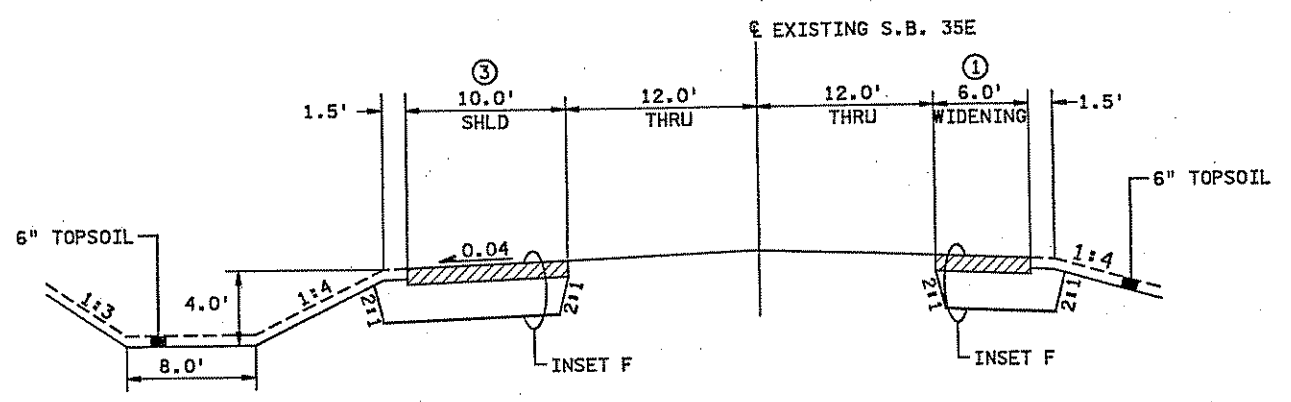
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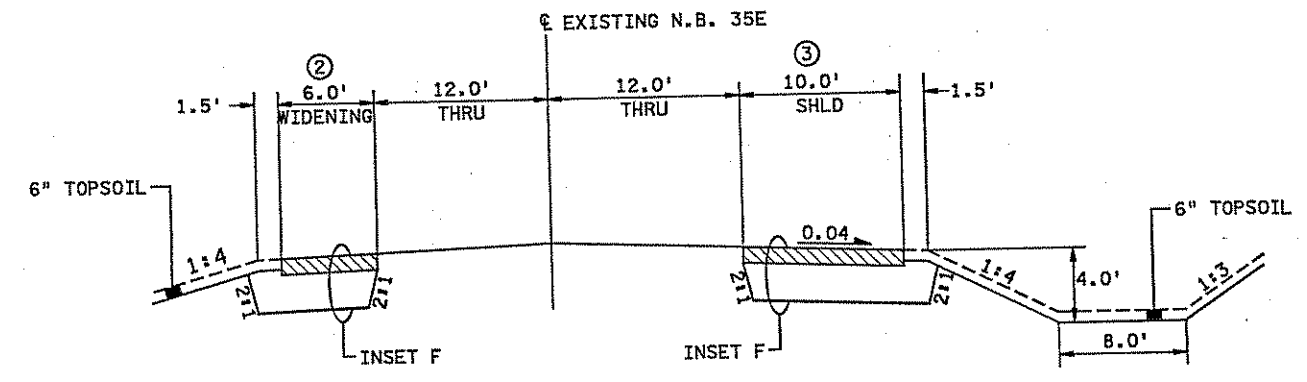
S.B. T.H. 35E
 STA. 536+65.64 TO STA. 548+54.64
 STA. 592+23.74 TO STA. 597+78.23



N.B. T.H. 35E
 STA. 561+63.44 TO STA. 567+18.44
 STA. 574+85.35 TO STA. 578+50.00
 STA. 580+00.00 TO STA. 583+52.54
 STA. 592+36.05 TO STA. 604+25.13



S.B. T.H. 35E
 STA. 548+54.64 TO STA. 548+90.60
 STA. 561+74.21 TO STA. 570+75.00
 STA. 587+25.00 TO STA. 592+23.74



N.B. T.H. 35E
 STA. 567+18.44 TO STA. 574+85.35
 STA. 583+52.54 TO STA. 592+36.05

NOTES:

- ① 6.0' INSIDE SHOULDER WITH MILLED RUMBLE STRIPS TYPE 1B
 S.B. STA. 532+45.00 TO S.B. STA. 601+99.00
- ② 6.0' INSIDE SHOULDER WITH MILLED RUMBLE STRIPS TYPE 1B
 N.B. STA. 557+40.00 TO N.B. STA. 608+47.00
- ③ MILLED RUMBLE STRIPS TYPE 1A

GENERAL NOTES:

ALL SLOPES ARE IN FOOT PER FOOT FORMAT.
 MAXIMUM SHOULDER SUPERELEVATION ROLLOVER SHALL BE 0.07.
 SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 FOR PAVEMENT INSETS, SEE SHEET 43.

2/11/01 PM
 7/21/2009
 H:\Projects\6509\11-MUNP\an\CO261429_TST7.DGN

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: AARON VACEK
Aaron Vacek
 Date: 8-06-09 License # 44277

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 0282-25 (TH 35E)
 STATE PROJECT NO.
 02-614-28
 COUNTY PROJECT NO.
 X
 CITY PROJECT NO. X

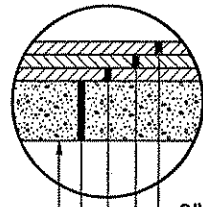
DRAWN BY
 V. MICHELS
 DESIGNED BY
 S. PRUSAK
 CHECKED BY
 K. LUDWIG
 COMM. NO. 0086509



ANOKA COUNTY
 TYPICAL SECTIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 T.H. 35E

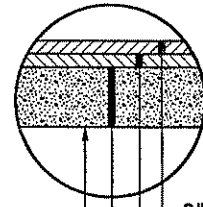
T.H. 35E

SHEET
 42
 OF
 471



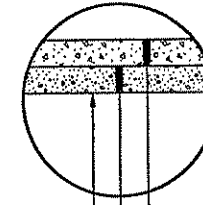
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MNDOT SPEC. 2360 (SPWEB340F)
2" TYPE SP 12.5 WEARING COURSE MIXTURE
MNDOT SPEC. 2360 (SPWEB340F)
2" TYPE SP 12.5 NON-WEARING COURSE MIXTURE
MNDOT SPEC. 2360 (SPNWB330B)
9" AGGREGATE BASE, CLASS 6,
MNDOT SPEC. 2211
GRADING GRADE

INSET A
C.S.A.H. 14
FRONTAGE ROAD
21ST AVENUE



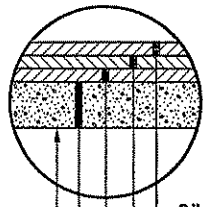
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MNDOT SPEC. 2360 (SPWEB230B)
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MNDOT SPEC. 2360 (SPNWB230B)
9" AGGREGATE BASE, CLASS 6
MNDOT SPEC. 2211
GRADING GRADE

INSET D
RAMP SHOULDER PAVEMENT
N.E. LOOP / S.W. RAMP / HOV
N.W. LOOP / S.E. RAMP



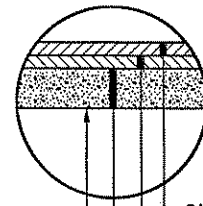
4" CONCRETE WALK
MNDOT SPEC. 2521
4" AGGREGATE BASE, CLASS 6
MNDOT SPEC. 2211
COMPACTED SUBGRADE

INSET G
CONCRETE WALK



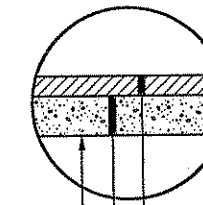
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MNDOT SPEC. 2360 (SPWEB340F)
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MNDOT SPEC. 2360 (SPWEB340F)
2" TYPE SP 12.5 NON-WEARING COURSE MIXTURE
MNDOT SPEC. 2360 (SPNWB330B)
7" AGGREGATE BASE, CLASS 6,
MNDOT SPEC. 2211
GRADING GRADE

INSET B
N.E. LOOP / S.W. RAMP / HOV
N.W. LOOP / S.E. RAMP



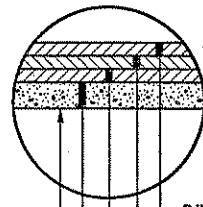
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MNDOT SPEC. 2360 (SPWEB230B)
2" TYPE SP 12.5 NON-WEARING COURSE MIXTURE
MNDOT SPEC. 2360 (SPNWB230B)
6" AGGREGATE BASE, CLASS 6
MNDOT SPEC. 2211
GRADING GRADE

INSET E
RAMP SHOULDER PAVEMENT
N.W. RAMP / N.E. RAMP



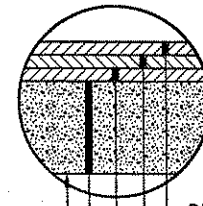
3" TYPE LV 4 WEARING COURSE
MNDOT SPEC. 2350 (LVWE45030B)
6" AGGREGATE BASE, CLASS 6
MNDOT SPEC. 2211
COMPACTED SUBGRADE

INSET H
BIT. TRAIL



2" TYPE SP 12.5 WEARING COURSE MIXTURE
MNDOT SPEC. 2360 (SPWEB340F)
2" TYPE SP 12.5 WEARING COURSE MIXTURE
MNDOT SPEC. 2360 (SPWEB340F)
2" TYPE SP 12.5 NON-WEARING COURSE MIXTURE
MNDOT SPEC. 2360 (SPNWB330B)
4" AGGREGATE BASE, CLASS 6,
MNDOT SPEC. 2211
GRADING GRADE

INSET C
N.W. RAMP / N.E. RAMP



2" TYPE SP 12.5 WEARING COURSE MIXTURE
MNDOT SPEC. 2360 (SPWEB340B)
2" TYPE SP 12.5 WEARING COURSE MIXTURE
MNDOT SPEC. 2360 (SPWEB340B)
2" TYPE SP 12.5 NON-WEARING COURSE MIXTURE
MNDOT SPEC. 2360 (SPNWB330B)
14" AGGREGATE BASE, CLASS 6
MNDOT SPEC. 2211
GRADING GRADE

INSET F
T.H. 35E SHOULDER PAVEMENT

2:11:02 PM 7/21/2009 HA\Projects\6509\VI-MUN\Icn\0261429_TS6.DGN

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: AARON VACEK
Aaron Vacek
Date: 8-06-09 License #: 44277

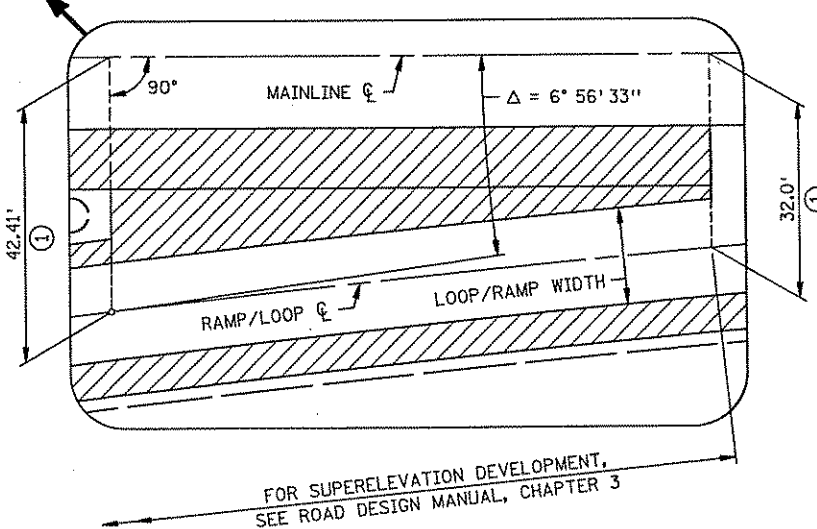
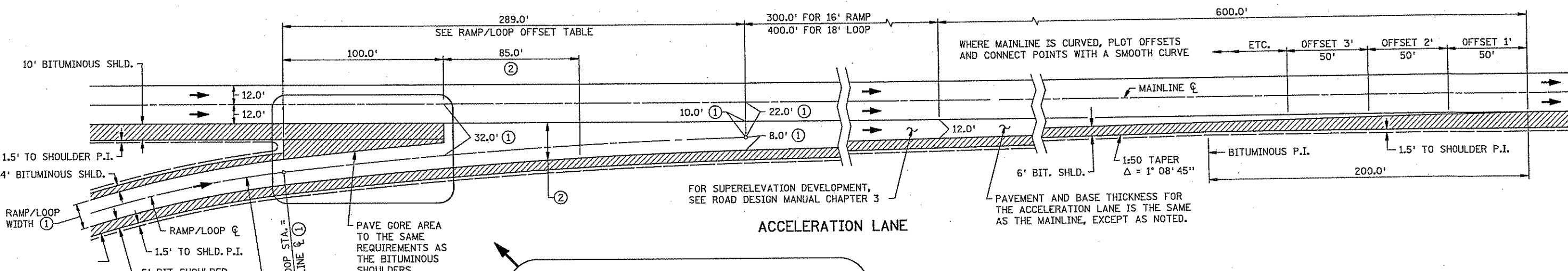
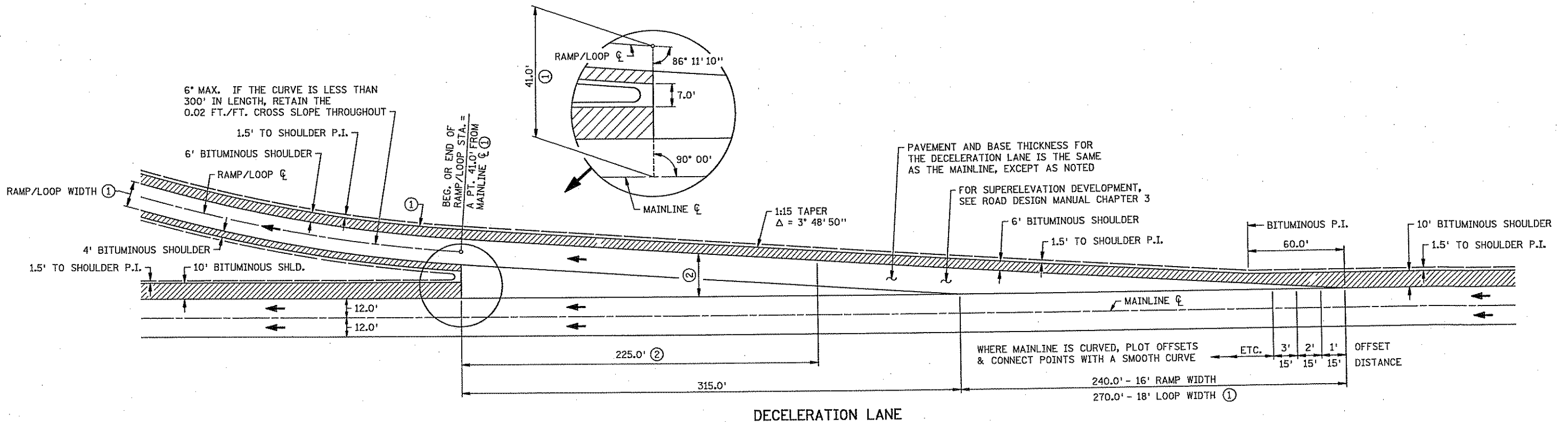
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY S. PRUSAK
CHECKED BY K. LUDWIG
COMM. NO. 0086509



ANOKA COUNTY
TYPICAL SECTIONS
C.S.A.H. 14/T.H. 35E INTERCHANGE
PAVEMENT INSETS AND DETAILS

SHEET 43 OF 471



16 FT. RAMP/LOOP OFFSET TABLE FOR APPROX. 2° CURVE ①
OFFSET FROM MAINLINE ϕ TO RAMP/LOOP ϕ

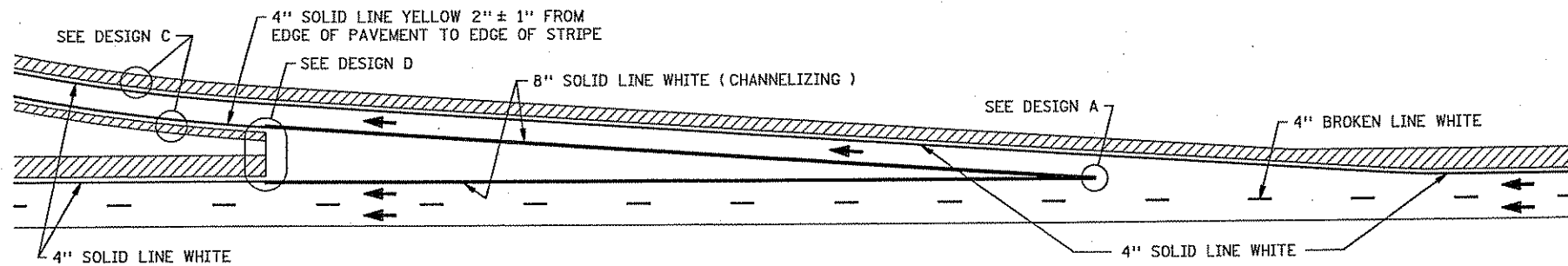
DISTANCE	0'	20'	40'	60'	80'	100'	120'	140'	160'
OFFSET	22.00'	22.47'	23.08'	23.83'	24.72'	25.75'	26.91'	28.22'	29.67'
DISTANCE	180'	189'	200'	220'	240'	260'	280'	289'	
OFFSET	31.26'	32.00'	32.99'	34.86'	36.87'	39.02'	41.32'	42.41'	

- NOTES:**
- ① WHEN IT IS NECESSARY FOR RAMPS/LOOPS TO BE WIDER, SEE ROAD DESIGN MANUAL CHAPTER 6, WIDENING SHALL BE DONE ON THE OUTSIDE AND THE TAPER LENGTH INCREASED ACCORDINGLY.
 - ② THE AREA SHOWN SHALL BE GRADED FOR MAINLINE DEPTH. THE RAMP PAVEMENT THICKNESS WILL BE USED WITH ADDITIONAL DEPTH CORRECTED IN THE AGGREGATE BASE, OR GRADING MATERIAL, DEPENDING ON THE SURFACING TYPE.

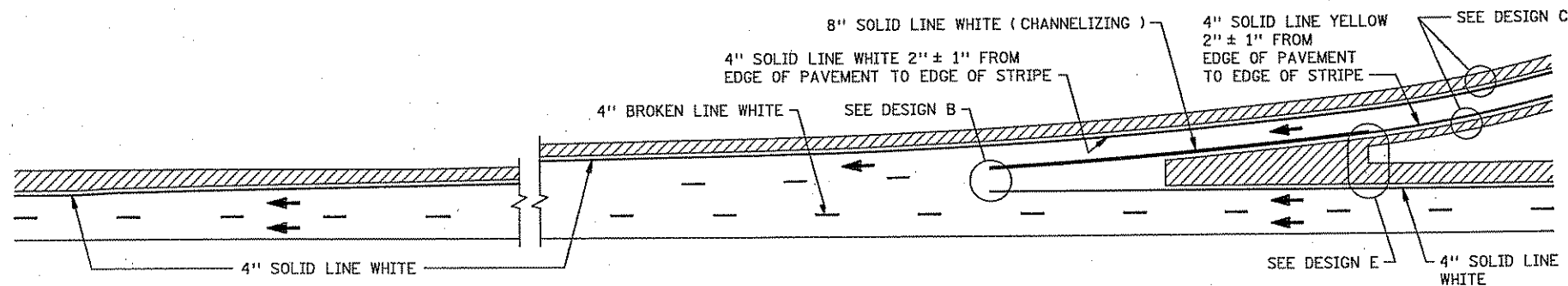
STANDARD SHEET NO. 5-297.106	STANDARD ACCELERATION AND DECELERATION LANES (RURAL) BITUMINOUS PAVEMENT
STANDARD APPROVED: JULY 30, 1991	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 44 OF 471 SHEETS	

REVISION DATE
3-20-2001

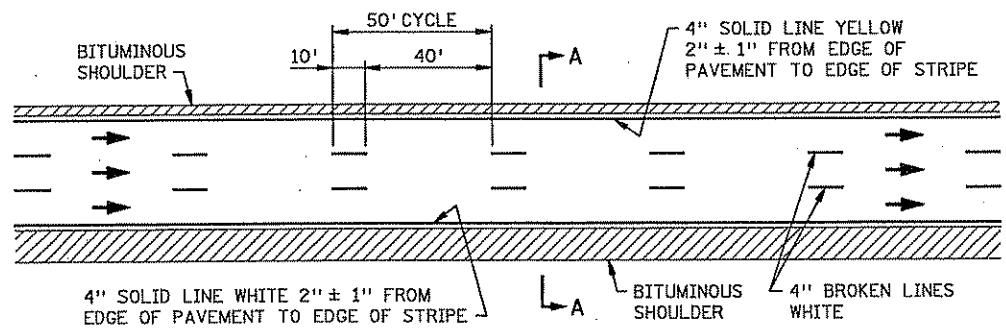
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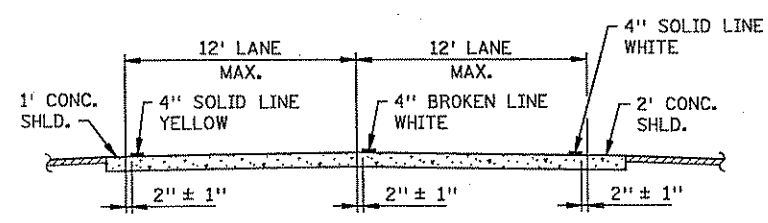
EXIT RAMP MARKINGS



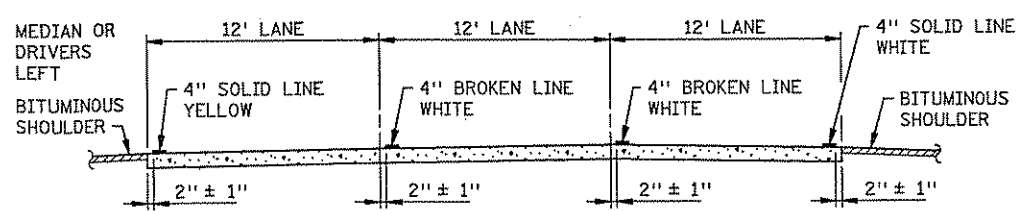
ENTRANCE RAMP MARKINGS



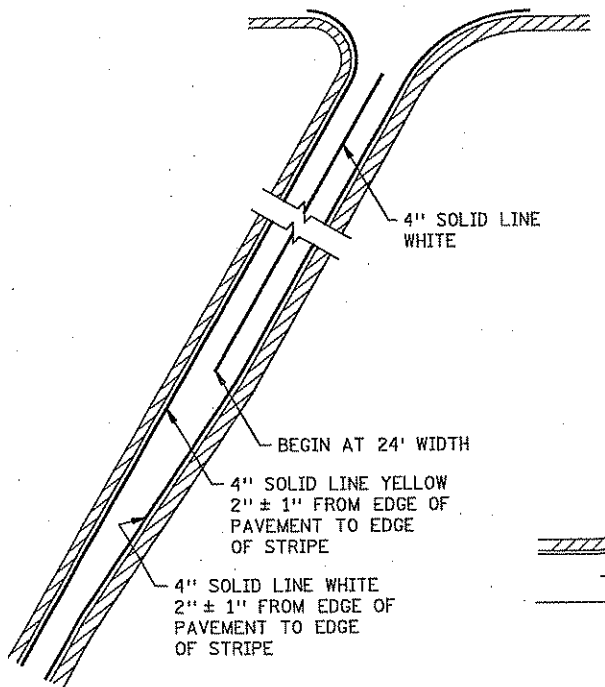
THROUGH LANE MARKINGS



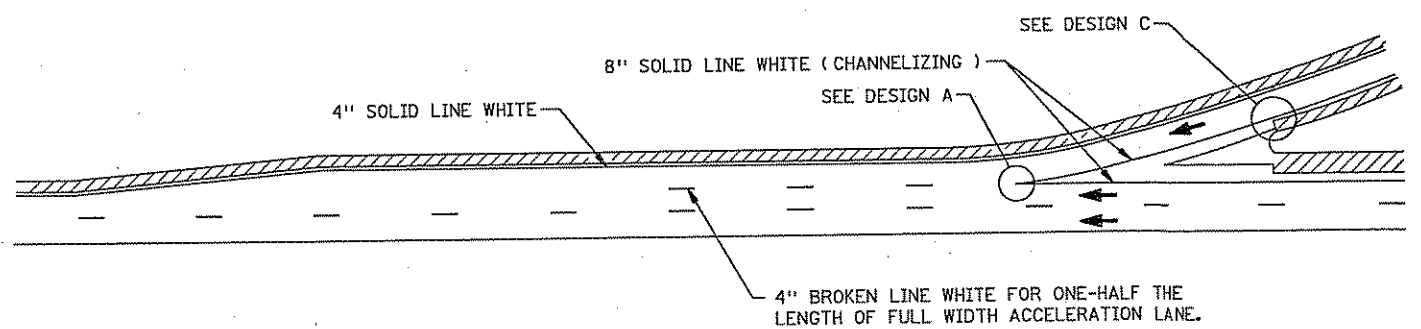
SECTION A-A
(TWO LANES)



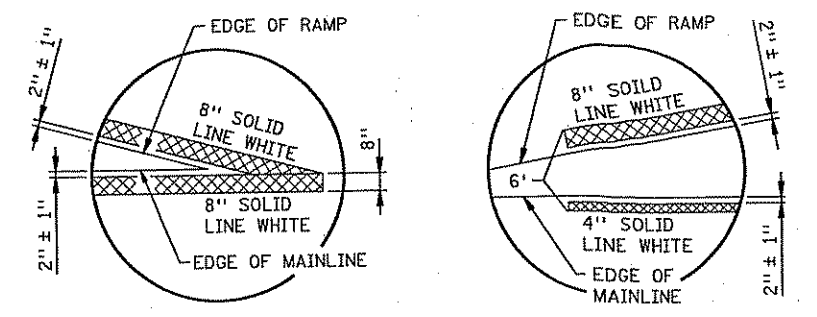
SECTION A-A
(THREE LANES)



RAMP MARKINGS

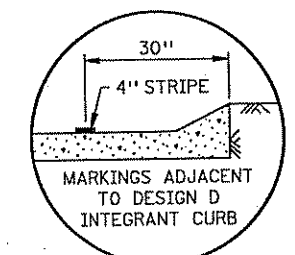


PARALLEL ACCELERATION LANE

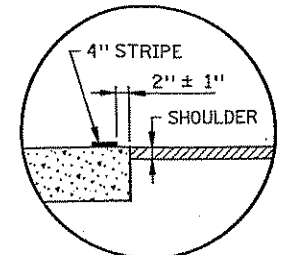


DESIGN A

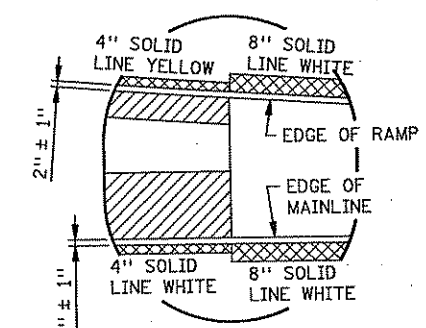
DESIGN B



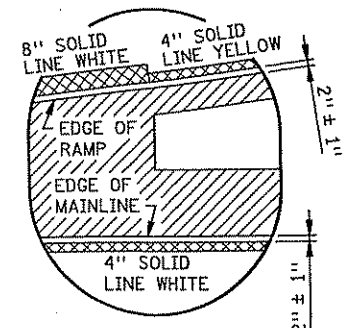
DESIGN C
URBAN



DESIGN C
RURAL



DESIGN D
RURAL

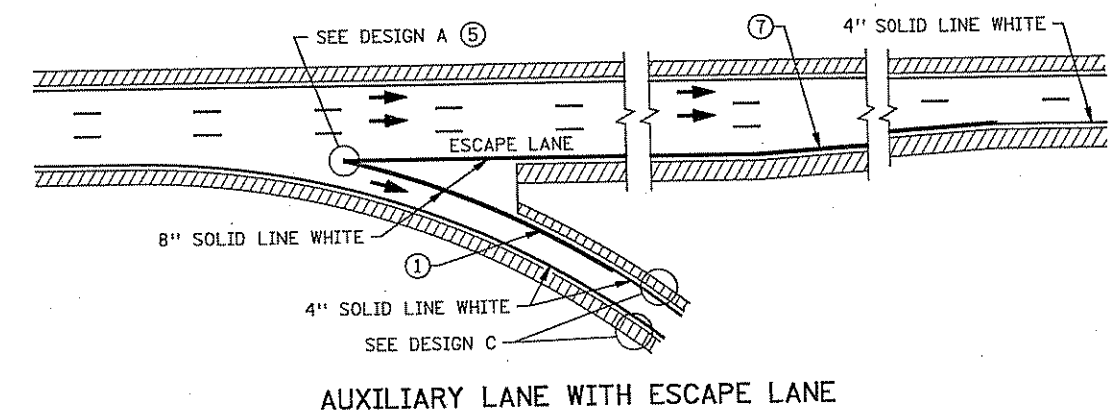
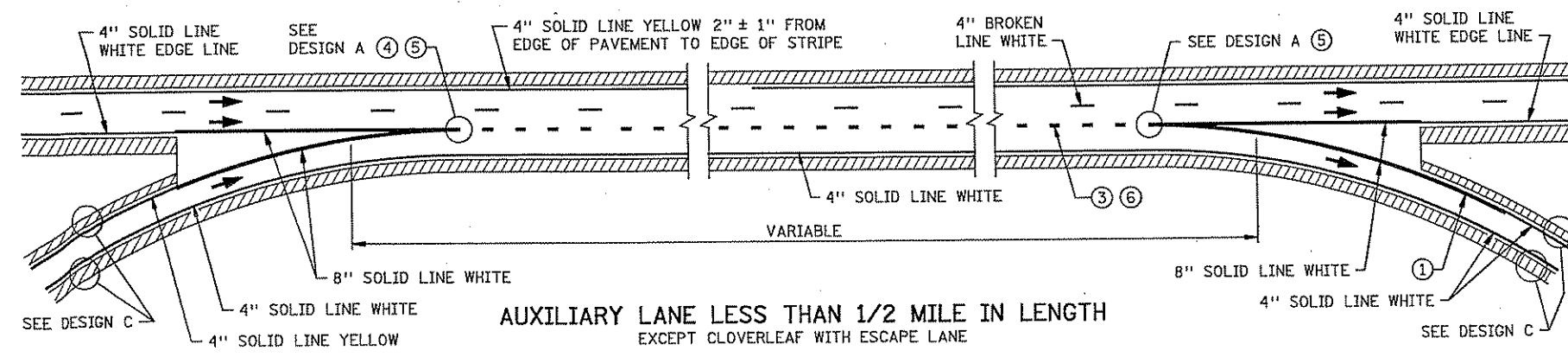
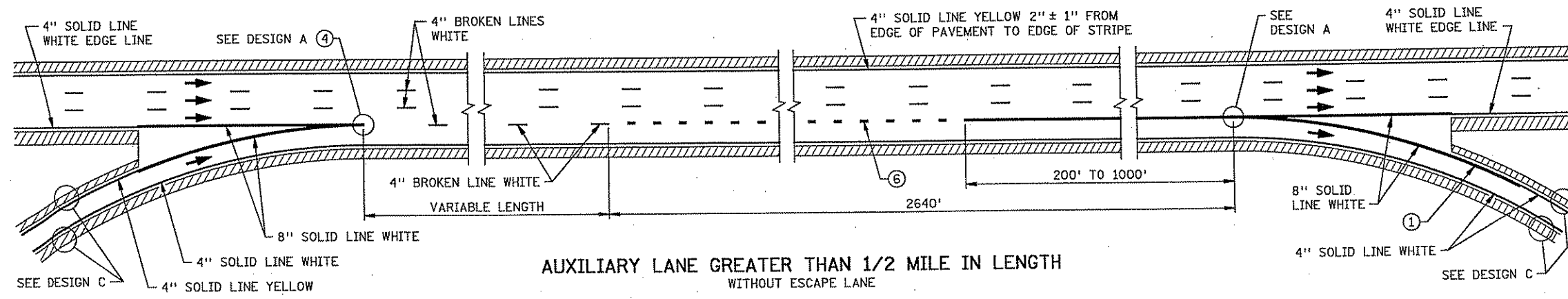
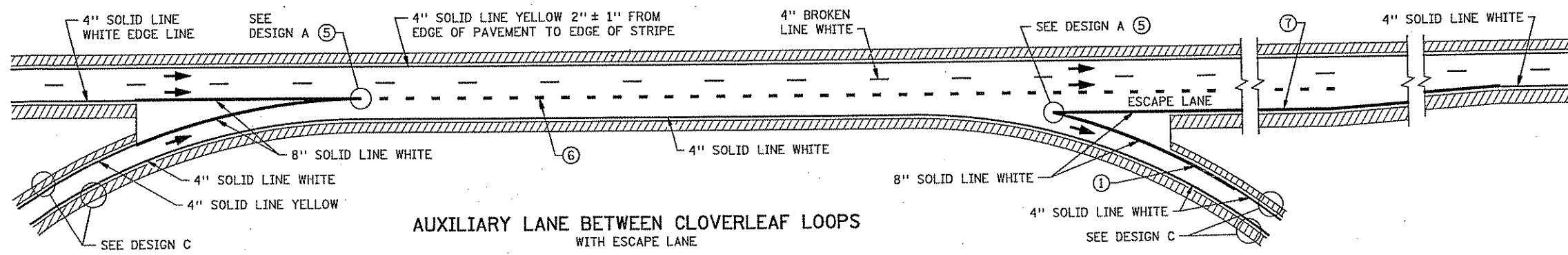
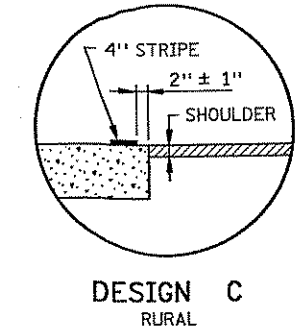
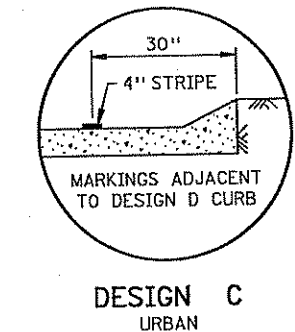
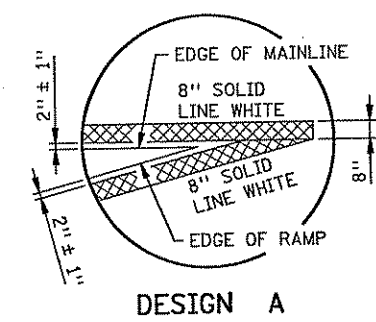
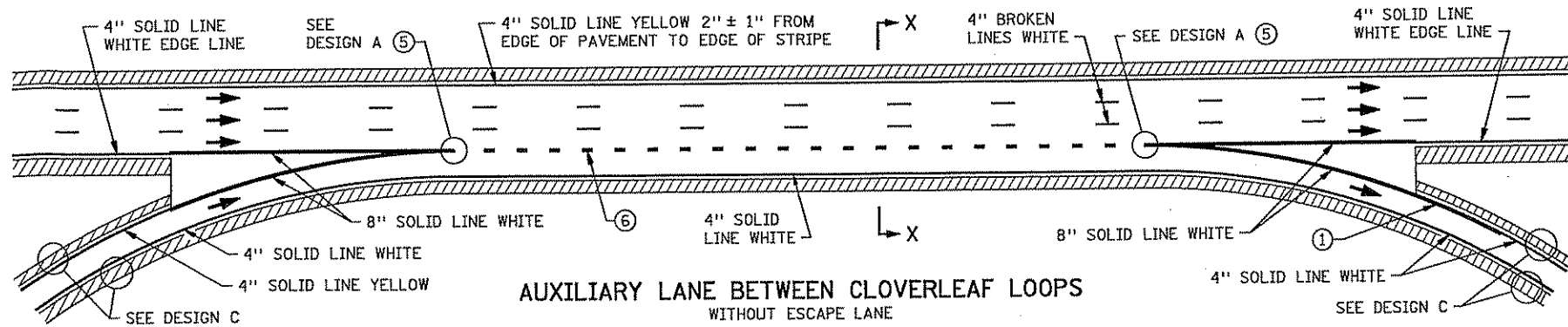


DESIGN E
RURAL

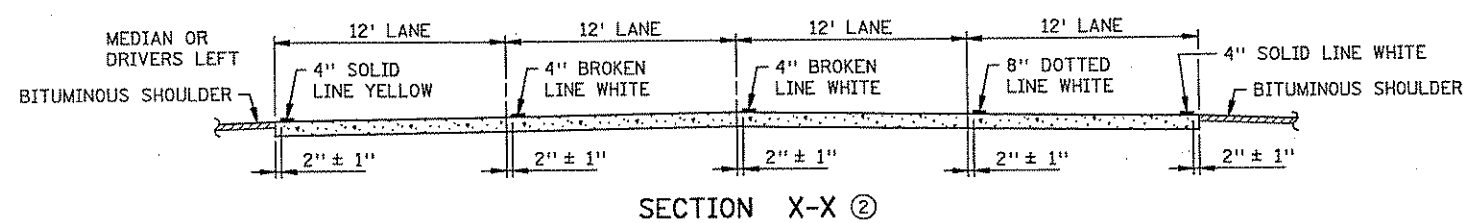
- NOTES:
- ▨ DENOTES SHOULDER AREA.
 - ▩ DENOTES SHOULDER AREA.

STANDARD SHEET NO. 5-297.341	TITLE: PAVEMENT MARKING DETAILS
STANDARD APPROVED: MARCH 12, 1998	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 45 OF 471 SHEETS	

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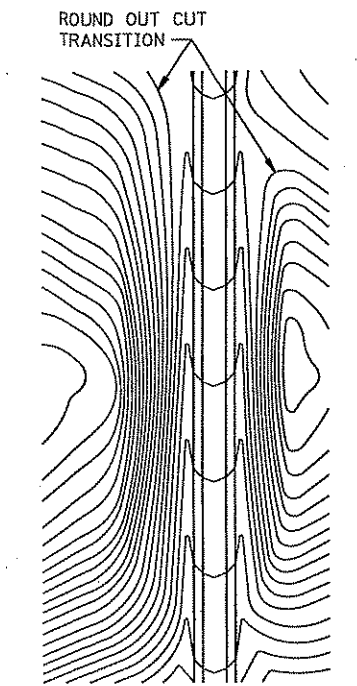


- NOTES:**
- EXTEND 8 IN. SOLID LINE WHITE 50 FT. MIN. BEYOND GORE AREA TO COMPENSATE FOR SHARP CURVATURE.
 - ON PAVEMENTS OVER 24 FT. WIDE (I.E. 27') EDGE LINES WILL BE PLACED SO LANES ARE A MAX. OF 12 FT. WIDE.
 - OMIT BROKEN LINE WHITE WHEN AUXILIARY LANE IS LESS THAN 1000 FT. LONG. EXTEND 8 IN. SOLID LINE WHITE UP TO 200 FT., IF DEEMED NECESSARY FOR BETTER DELINEATION. AT THE DISCRETION OF THE DISTRICT TRAFFIC ENGINEER.
 - EXTEND 8 IN. SOLID LINE WHITE FOR 200 TO 300 FT., ON CURVATURE OR FOR OTHER SITUATIONS WHERE NEEDED FOR BETTER DELINEATION, AT THE DISCRETION OF THE DISTRICT TRAFFIC ENGINEER.
 - WHEN THE DISTANCE BETWEEN DESIGN A DETAILS EXCEEDS 1000 FT., START 8 IN. SOLID LINE WHITE 100 FT. BEFORE RIGHT SIDE DESIGN A DETAIL AND PLACE STANDARD 4 IN. BROKEN LINE WHITE (10-40') BETWEEN THE SOLID LINES.
 - 8 IN. DOTTED LINE WHITE, 3 FT. LONG WITH A 12 FT. GAP, AS DETAILED IN FIGURE 3-11a OF THE MMUTCD. THIS TYPE STRIPING SHOULD BE USED WHENEVER A LANE IS DROPPED.
 - EXTEND 8 IN. SOLID LINE WHITE THE ENTIRE LENGTH OF THE ESCAPE LANE AND TO THE END OF THE TAPER. PICK UP THE NORMAL 4 IN. SOLID LINE WHITE BEYOND TAPER. TAPER MUST BE AT LEAST 50'.
 DENOTES SHOULDER AREA.

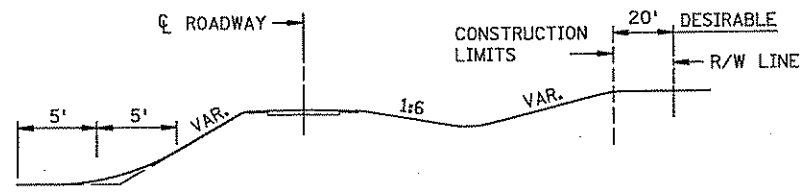


STANDARD SHEET NO. 5-297.342	TITLE: PAVEMENT MARKING DETAILS
STANDARD APPROVED: MARCH 12, 1998	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 46 OF 471 SHEETS	

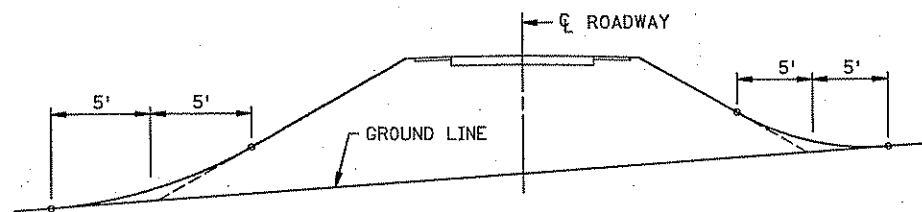
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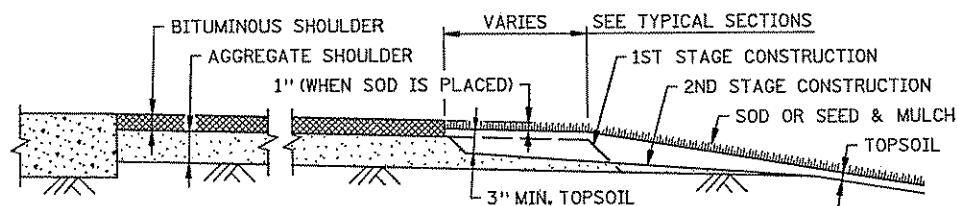
CONTOURING ROAD CUTS



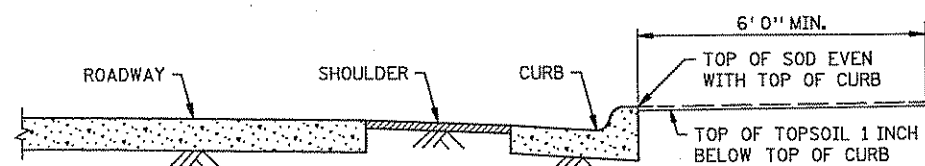
ROUNDING SHOULDERS AND BACKSLOPES



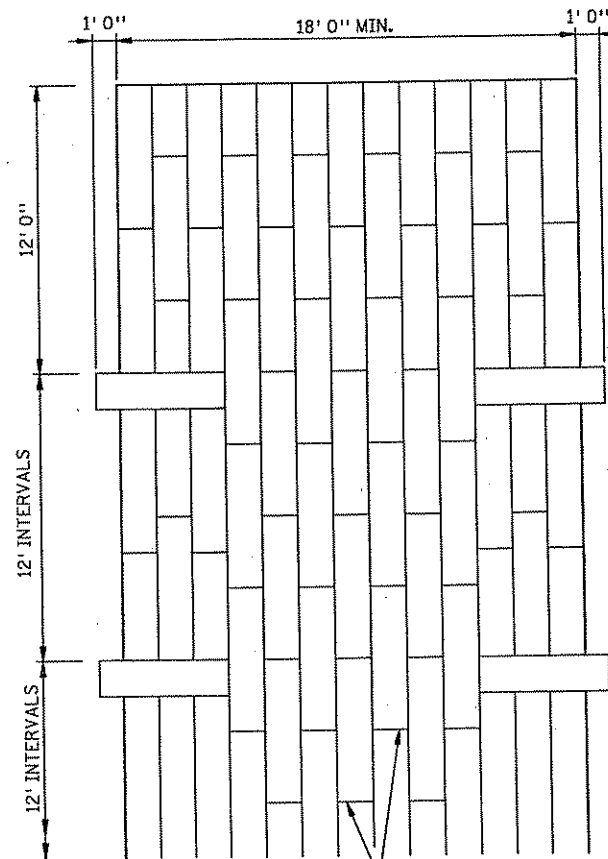
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



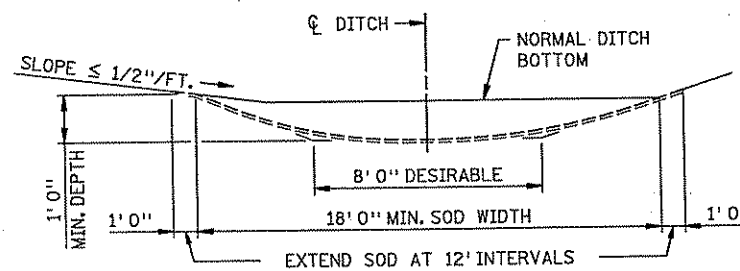
SHAPING AND TOPSOILING INSLOPES



SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

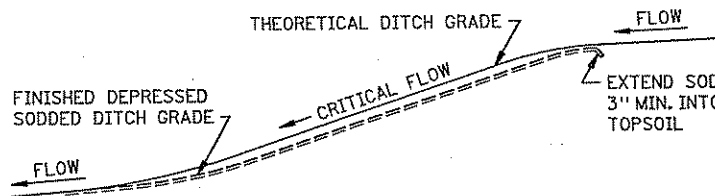


PLAN VIEW

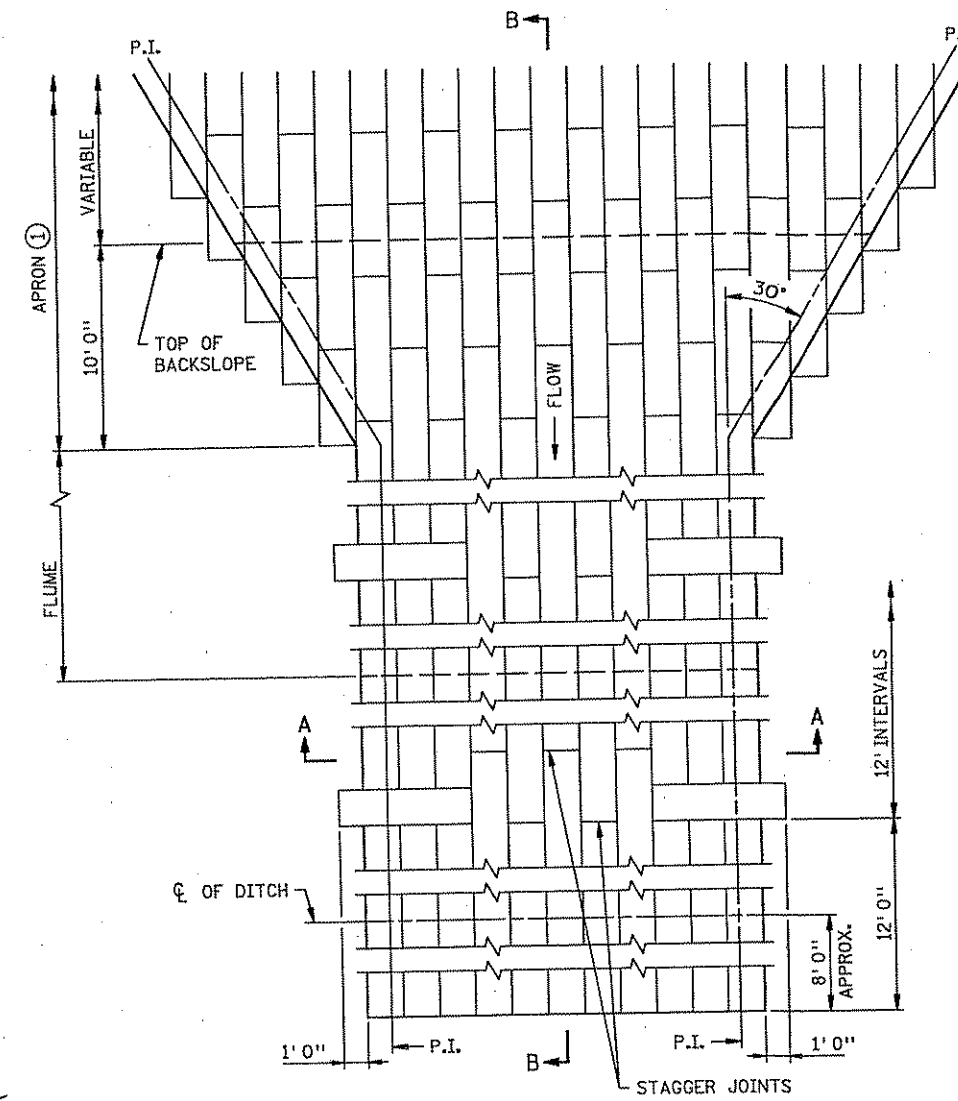


SODDED DITCH CROSS SECTION

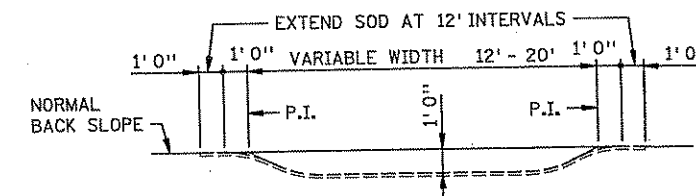
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



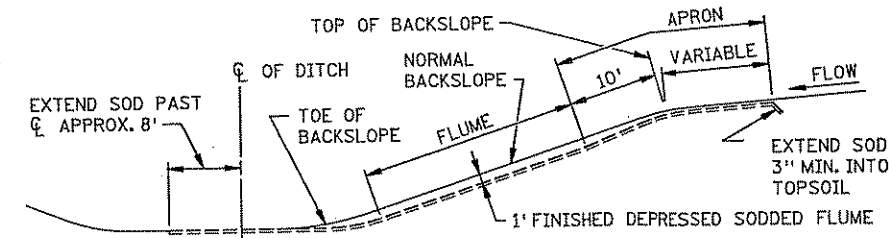
DITCH PROFILE
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

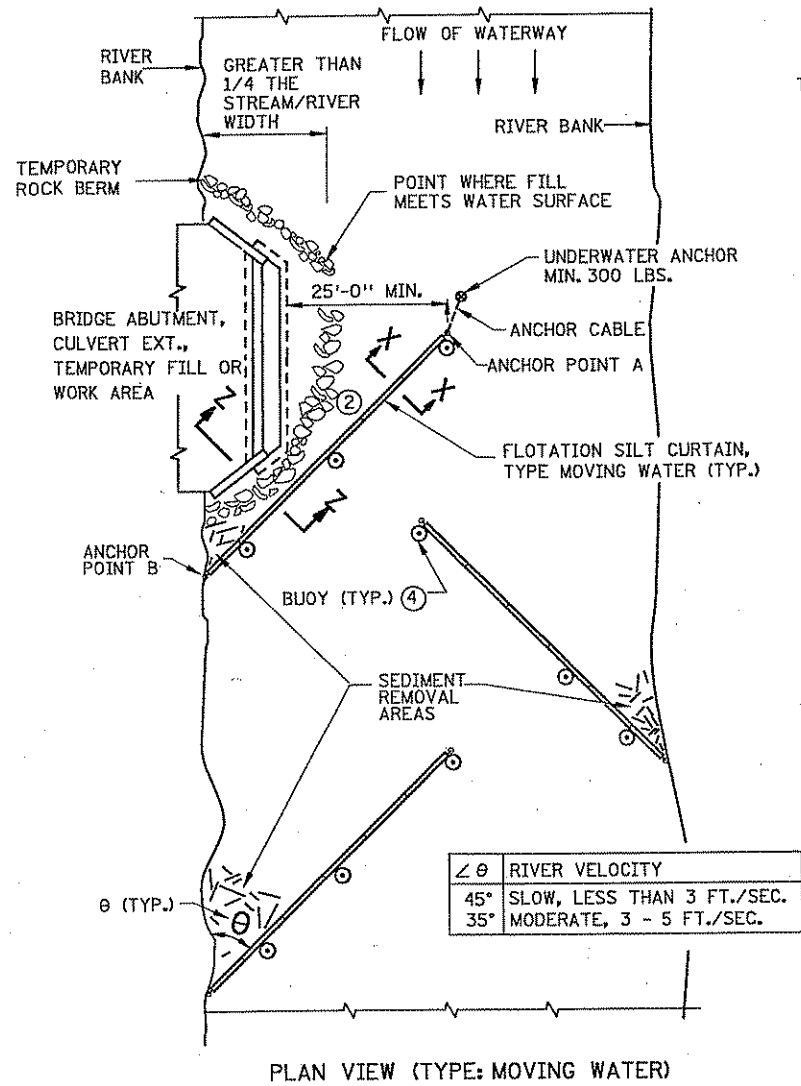
- NOTES:**
 SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
 ① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

STANDARD SHEET NO.
5-297.404
 STANDARD APPROVED:
NOVEMBER 20, 2002

TITLE:
PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES

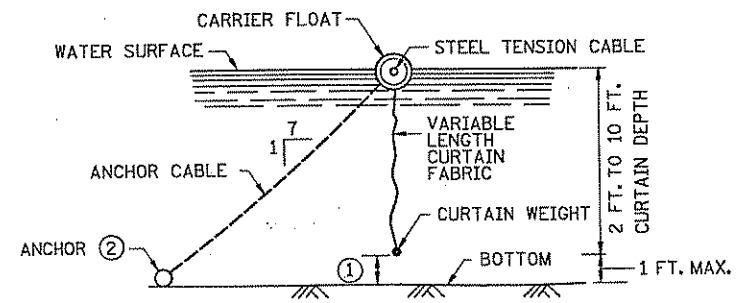
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 47 OF 471 SHEETS

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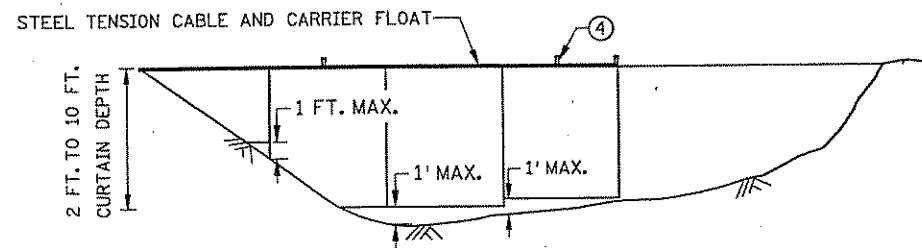


$\angle \theta$	RIVER VELOCITY
45°	SLOW, LESS THAN 3 FT./SEC.
35°	MODERATE, 3 - 5 FT./SEC.

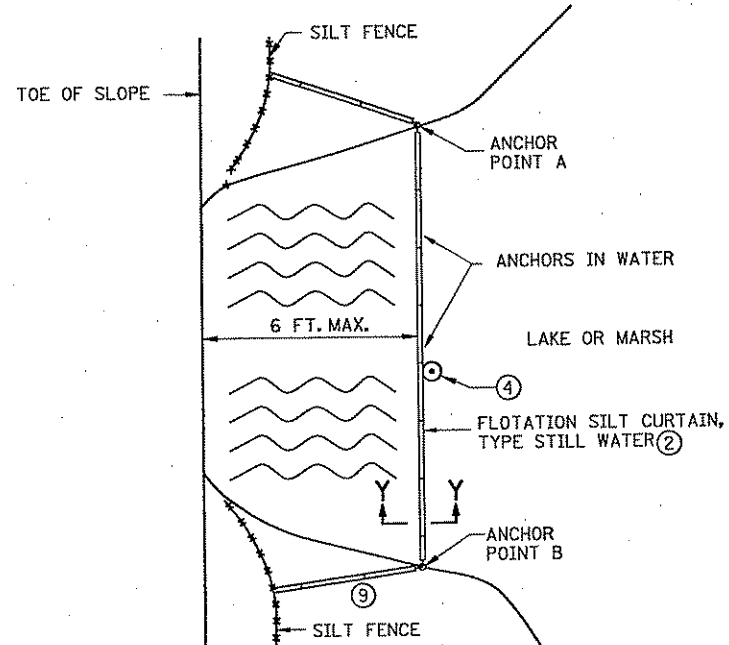
PLAN VIEW (TYPE: MOVING WATER)



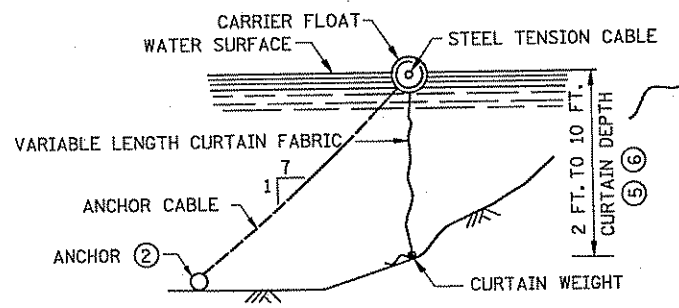
SECTION X-X



FLOTATION SILT CURTAIN - TYPE: MOVING WATER (5)
USE FOR SMALLER RIVERS WITH SLOW AND MODERATE VELOCITIES

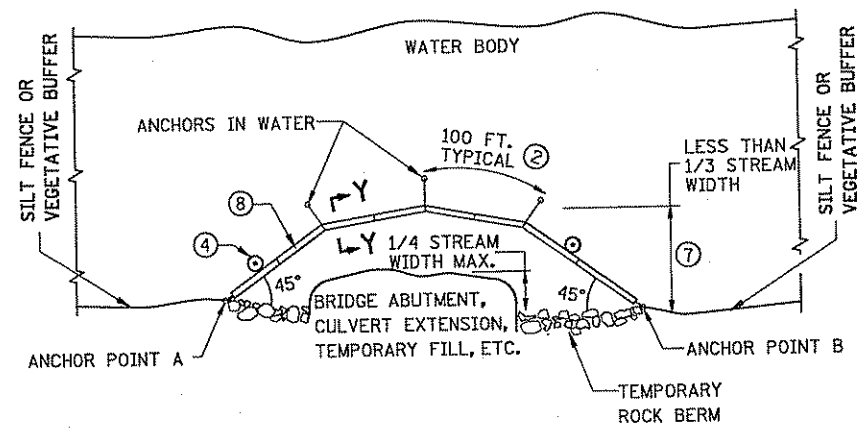


PLAN VIEW (TYPE: STILL WATER)

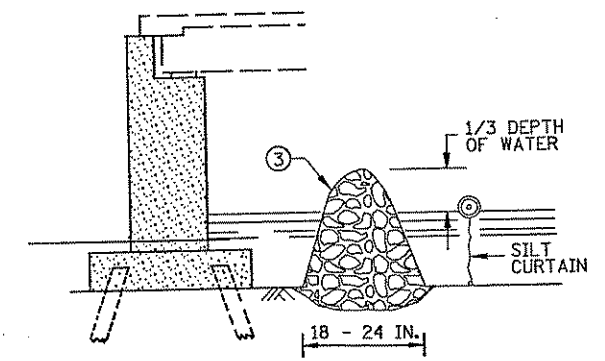


SECTION Y-Y

FLOTATION SILT CURTAIN - TYPE: WORK AREA AND STILL WATER (5)
FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS



PLAN VIEW (TYPE: WORK AREA)



SECTION Z-Z TEMPORARY ROCK BERM FOR SEDIMENT CONTROL

DESIGN GUIDELINES: MOVING WATER
WHEN TEMPORARY FILL ENCR OACHES MORE THAN 1/4 BUT LESS THAN 1/3 WIDTH OF THE STREAM.
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER DEPTH: 11 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC. (1) (6)

DESIGN GUIDELINES: WORK AREA
WHEN TEMPORARY FILL ENCR OACHES LESS THAN 1/4 OF THE WIDTH OF THE STREAM.
MINIMUM WATER DEPTH: 10 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.

DESIGN GUIDELINES: STILL WATER (6)
MINIMUM WATER DEPTH: 0 FT.
MAXIMUM WATER DEPTH: 10 FT.

NOTES:

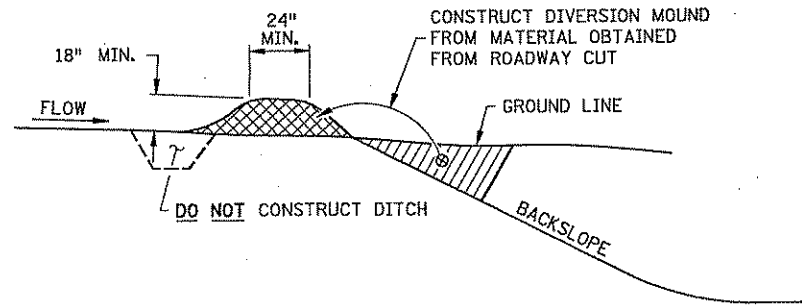
- SEE SPECS. 2573 & 3887.
- (1) CURTAIN EXTENDS TO 1 FT. MAXIMUM FROM BOTTOM OF WATER BODY.
- (2) FOR ANCHOR AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.
- (3) IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT THE BRIDGE, A TEMPORARY ROCK BERM WILL BE USED TO PROVIDE ADDITIONAL PROTECTION. THE TEMPORARY ROCK BERM IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE.
- (4) ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.
- (5) WATER DEPTH CAN BE 0 TO 10 FEET, 0 TO 11 FEET FOR TYPE MOVING WATER.
- (6) SILT CURTAIN HEIGHT INCLUDES MAXIMUM WAVE HEIGHT FOR WATER BODY.
- (7) KEEP AS CLOSE TO WORK AREA AS POSSIBLE.
- (8) SILT CURTAIN, ROCK BERM OR SHEET PILE AS REQUIRED TO CONTROL THE INFILTRATION OF SILT.
- (9) IF 6 INCHES OR LESS OF WATER, USE BALE BARRIERS, SEE SHEET 2.

STANDARD SHEET NO. 5-297.405 (1 OF 4)	TITLE
STANDARD APPROVED: SEPTEMBER 27, 2006	

TEMPORARY SEDIMENT CONTROL
SILT CURTAIN

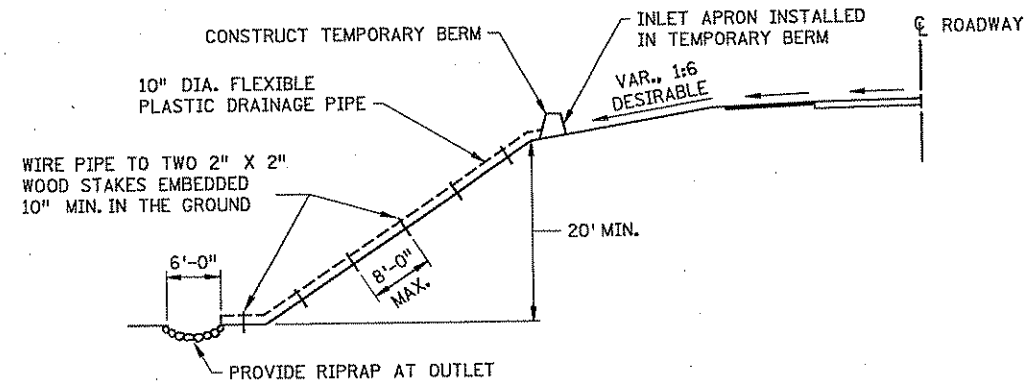
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 48 OF 471 SHEETS

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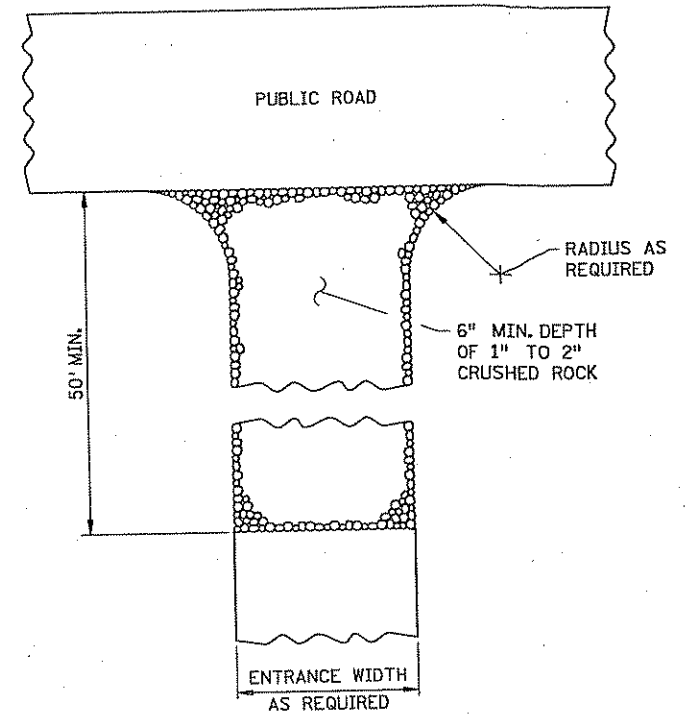
DIVERSION MOUND

DESIGN GUIDELINES:
 STORM FREQUENCY: 10 YEAR - 24 HOUR
 MAXIMUM DRAINAGE AREA: 5 ACRES
 MAXIMUM DIVERSION: GRADE 5%

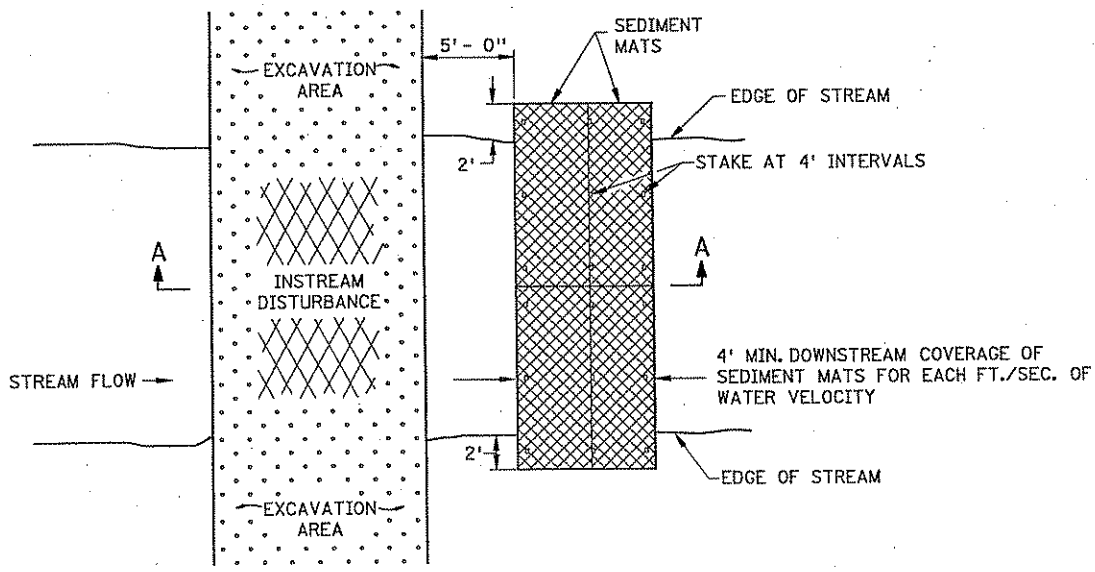


TEMPORARY DOWN DRAIN ON FILL SLOPE

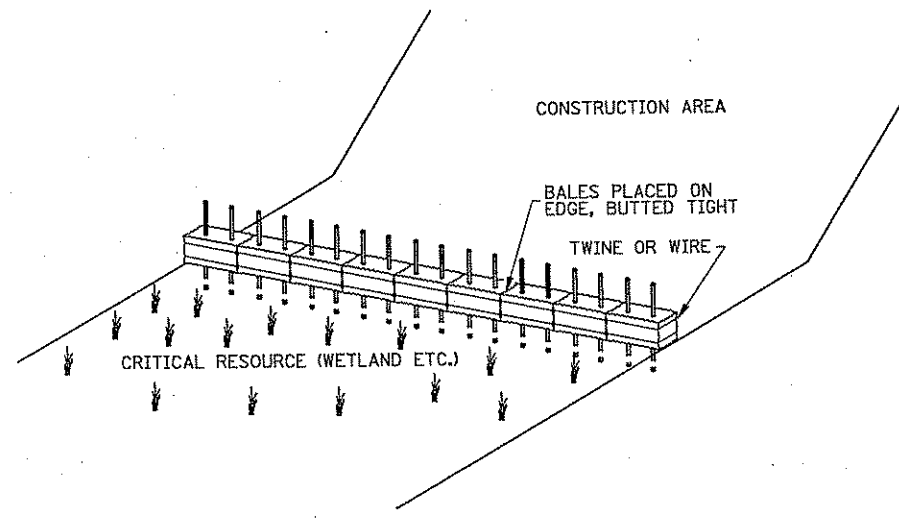
DESIGN GUIDELINES:
 STORM FREQUENCY: 2 YEAR - 24 HOUR
 MAXIMUM DRAINAGE AREA: 3 ACRES



ROCK CONSTRUCTION ENTRANCE ①

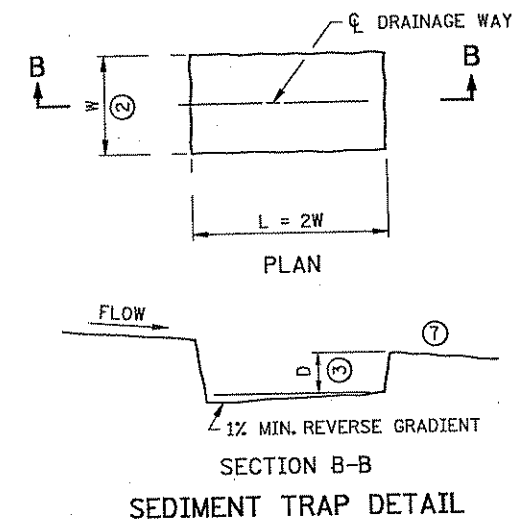


PLAN VIEW

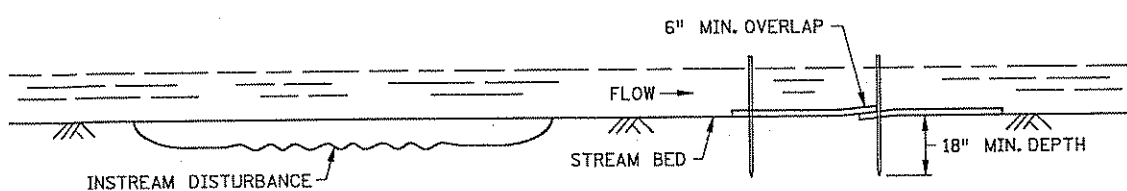


BALE BARRIERS

TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS



**SECTION B-B
SEDIMENT TRAP DETAIL**

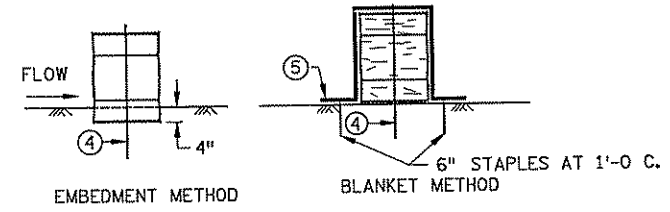


SECTION A-A

SEDIMENT MAT ⑥

TYPICAL STREAM BED INSTALLATION

DESIGN GUIDELINES:
 MAXIMUM FLOW VELOCITY: 5 FT./SEC.
 MAXIMUM FLOW DEPTH: 2 FT.



BALE BARRIER DETAIL

APPROX. BALE SIZE: 14" X 18" X 36" LONG

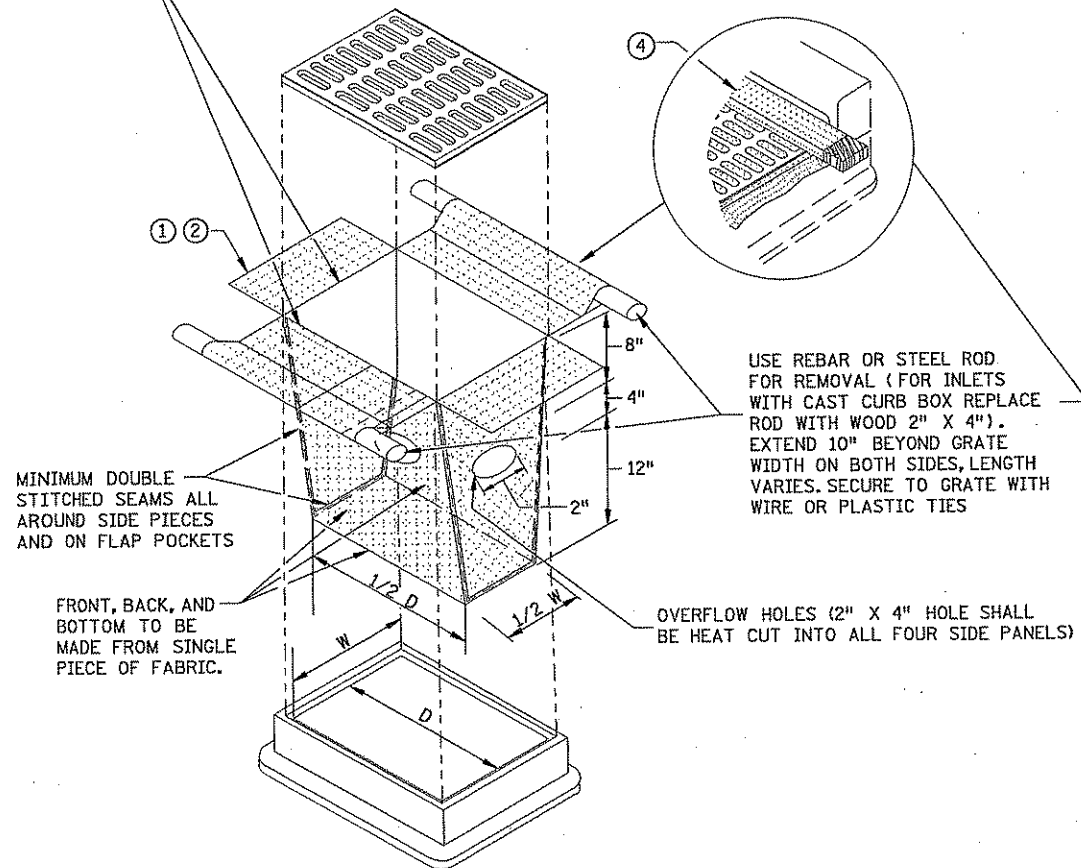
NOTES:

- SEE SPECS. 2573, 3892, & 3894.
- ① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE TRUCKS ENTER MAIN ROAD. KEEPING MUD OFF THE ROAD WILL PREVENT AUTO DAMAGE AND KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS. GEOTEXTILE MAY BE PLACED UNDER THE ROCK TO KEEP ROCKS SEPARATE FROM SOIL.
- ② W = 10 FT. MIN., 20 FT. MAX.
- ③ D = 2 FT.
- ④ TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE EMBEDDED 10 INCHES MINIMUM IN THE GROUND.
- ⑤ PLACE A CATEGORY 3 EROSION CONTROL BLANKET, 6 FT. WIDE MINIMUM, OVER THE BALE INSTEAD OF TRENCHING.
- ⑥ THIS DETAIL MAY NOT BE ACCEPTABLE FOR WORK ON PUBLIC WATERS, SEE GENERAL PUBLIC WATERS PERMIT (GP) 2004-0001.
- ⑦ LOCATION OF DOWNSTREAM TEMPORARY SEDIMENT CONTROL DEVICE.

STANDARD SHEET NO. 5-297.405 (2 of 4)	TITLE: TEMPORARY SEDIMENT CONTROL MISCELLANEOUS DETAILS
STANDARD APPROVED: SEPTEMBER 27, 2006	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 49 OF 471 SHEETS	

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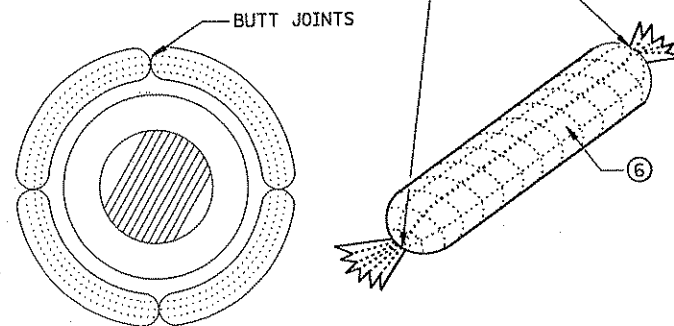
INLET SPECIFICATIONS AS PER THE PLAN
DIMENSION LENGTH AND WIDTH TO MATCH
FLAP POCKET



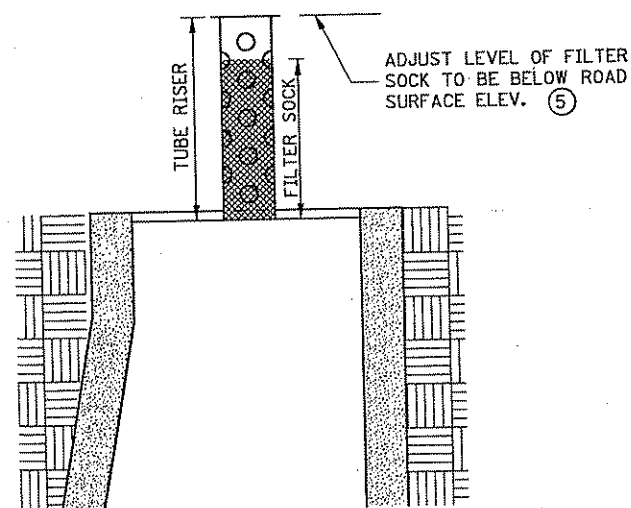
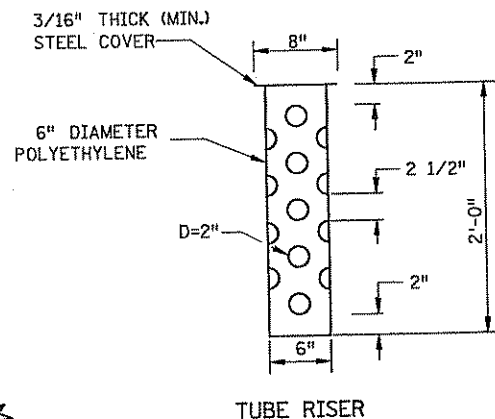
FILTER BAG INSERT ③

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)

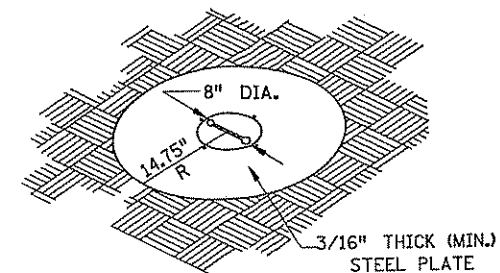
ENDS SECURELY CLOSED TO PREVENT LOSS OF OPEN GRADED AGGREGATE FILL. SECURED WITH 50 PSI. ZIP TIE.



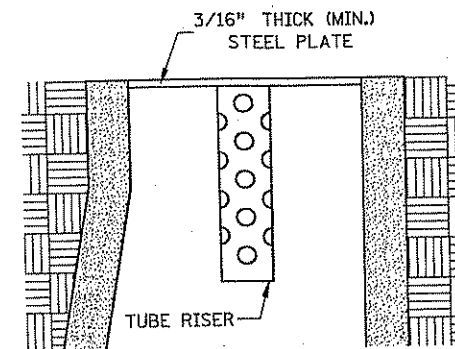
ROCK LOG/COMPOST LOG



SECTION (UP POSITION)

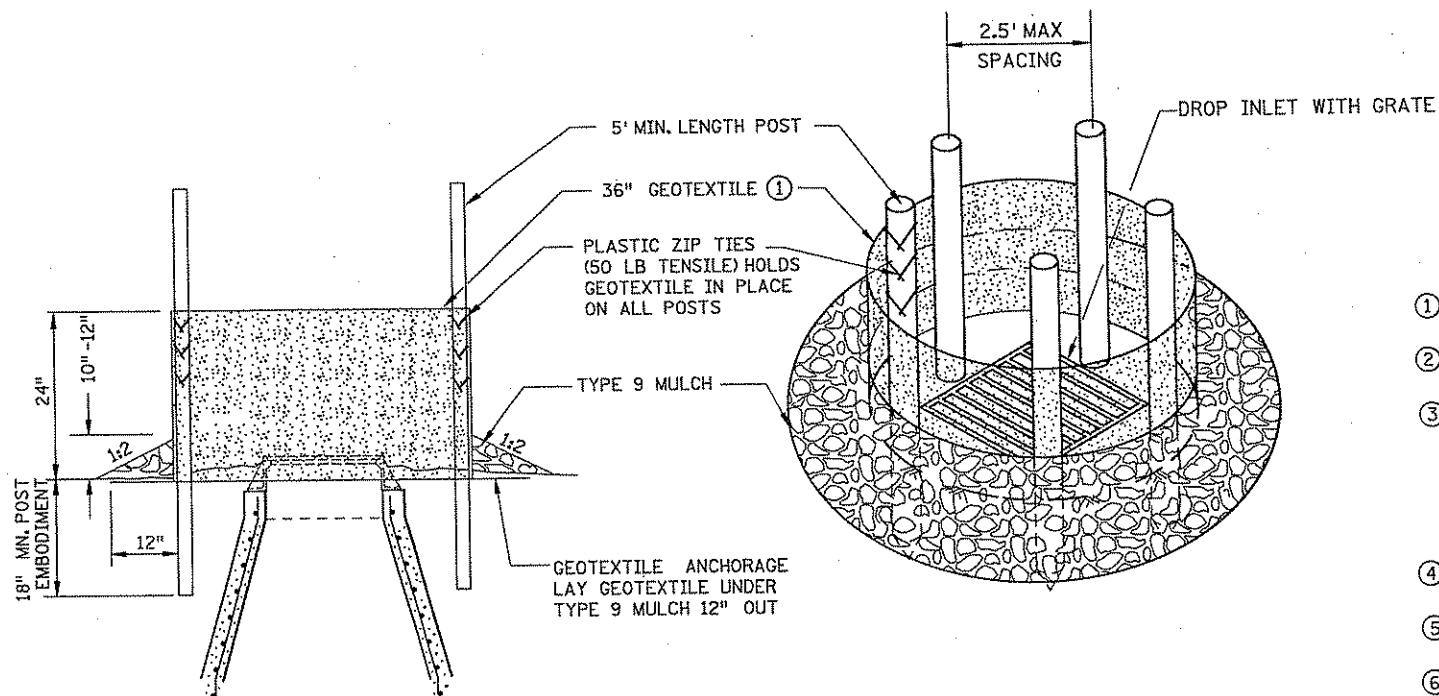


PERSPECTIVE VIEW



SECTION (DOWN POSITION)

POP-UP HEAD

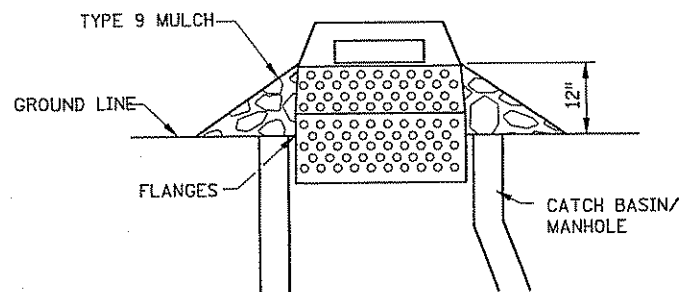


NOTES:

SEE SPECS. 2573, 3137, 3886 & 3891.

MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.

- 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 INSTALL FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE INSTALLED 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.



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.

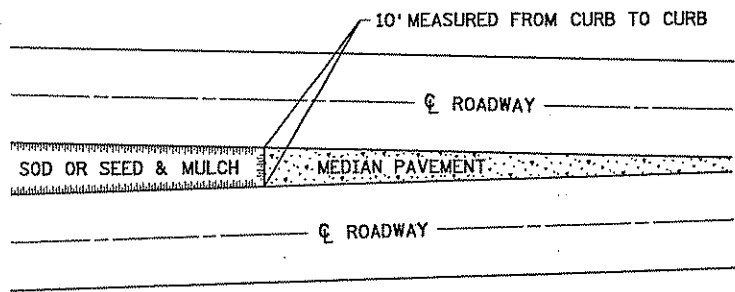
SILT FENCE RING AND ROCK FILTER BERM
USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

STANDARD SHEET NO.
297.405 (4 OF 4)

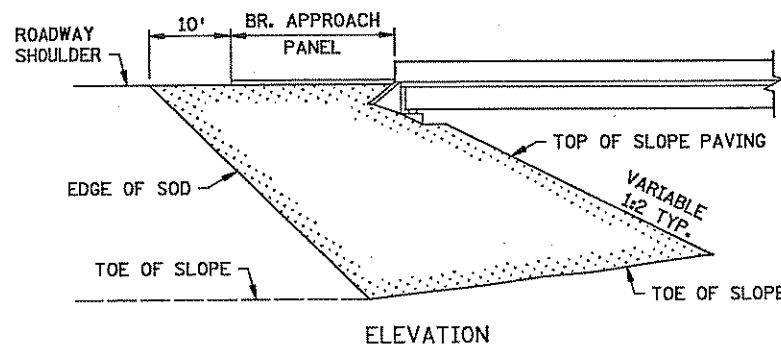
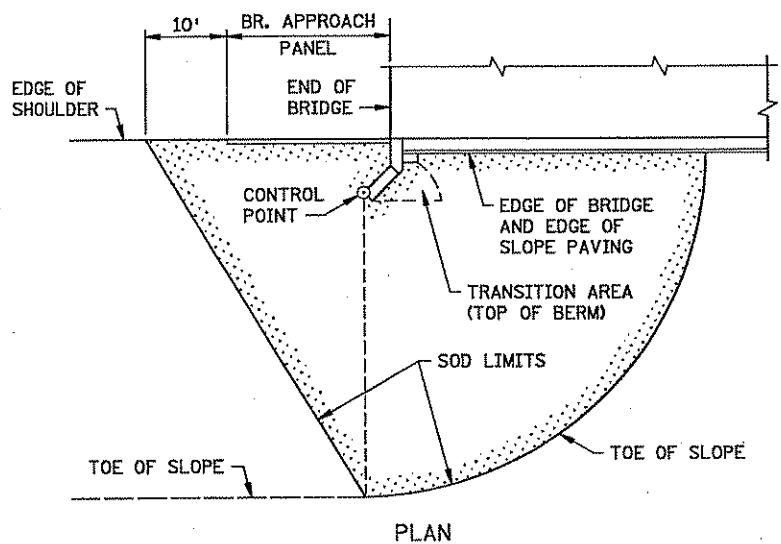
STANDARD APPROVED:
SEPTEMBER 27, 2006

TITLE: **TEMPORARY SEDIMENT CONTROL**

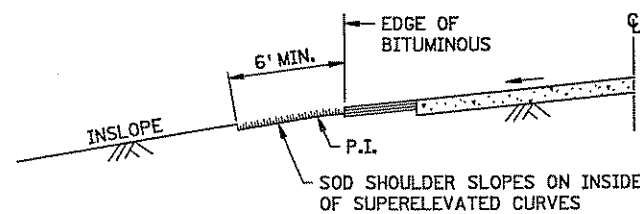
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 50 OF 471 SHEETS



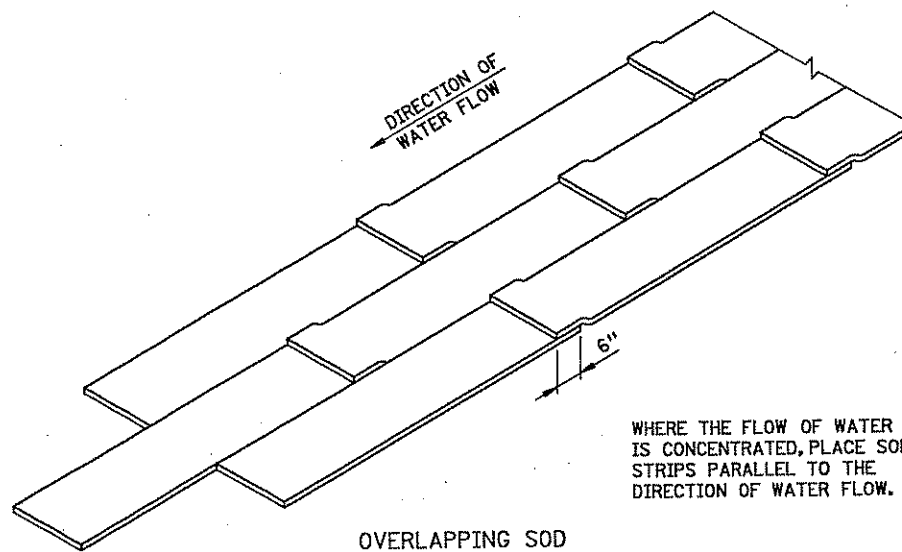
SODDING LIMITS AT GORE AREA



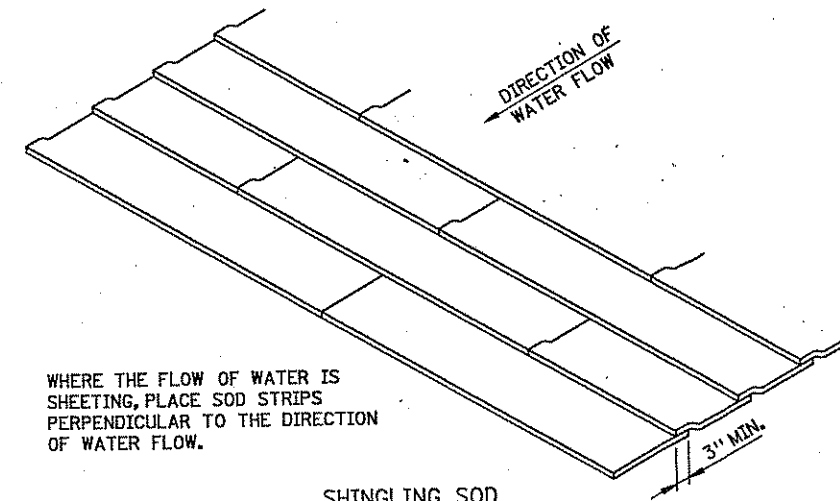
SODDING LIMITS AT BRIDGE APPROACH FILLS



SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

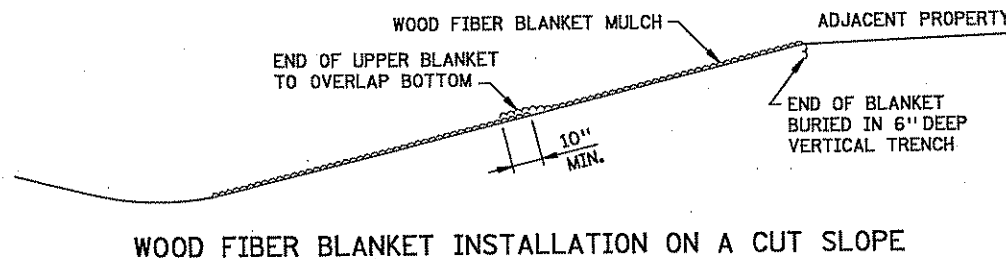


SHINGLING SOD

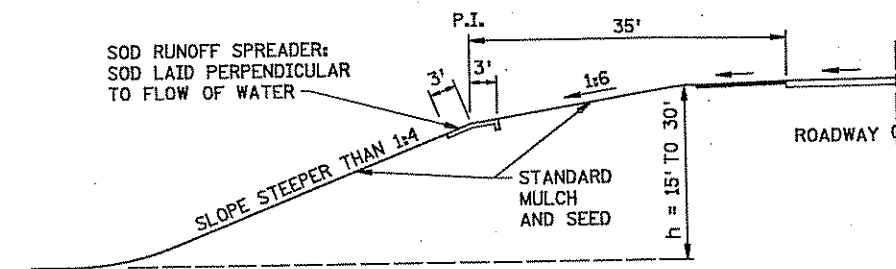
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.

WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

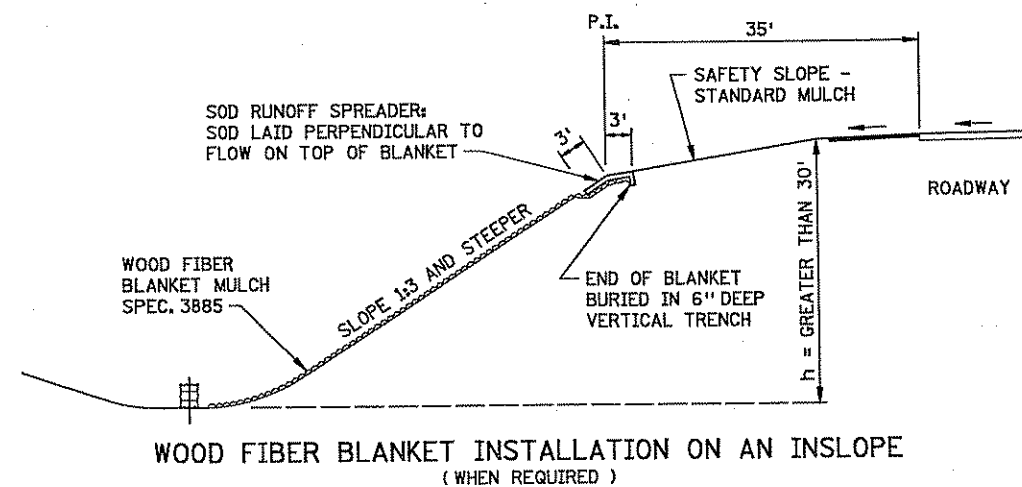
SPECIAL SOD PLACEMENT TECHNIQUES



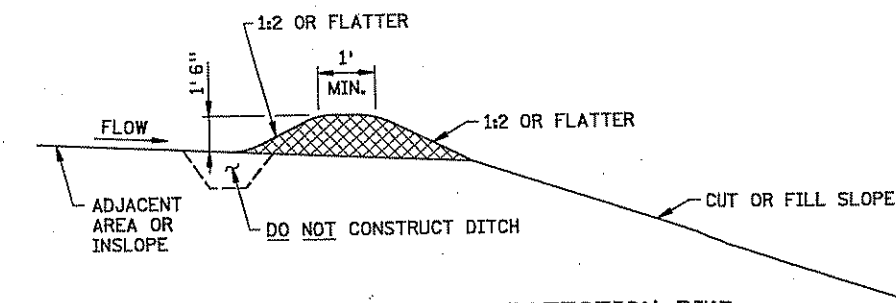
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



BROKEN-BACK SAFETY FILL SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)

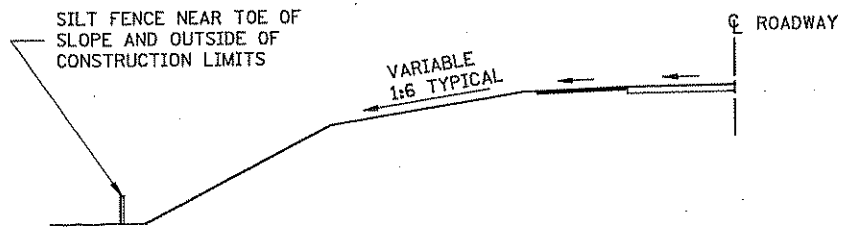


PERMANENT SLOPE PROTECTION DIKE

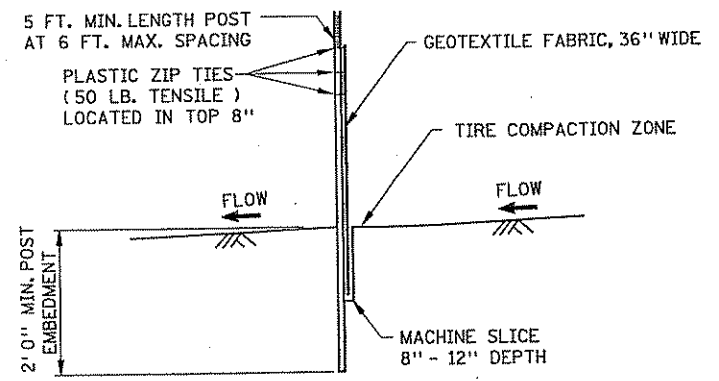
11/11/36 PM 8/20/2009 H:\Proj\02-614-28\02-614-28\SPR12.DGN

STANDARD SHEET NO. 5-297.406	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
STANDARD APPROVED: JANUARY 31, 1985	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 51 OF 471 SHEETS	

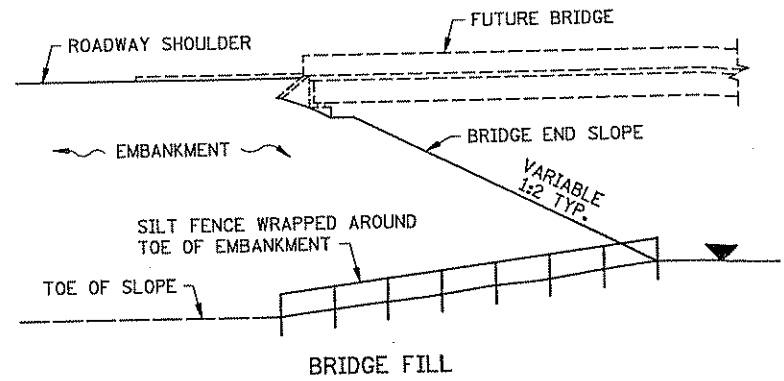
REVISION DATE
10-26-2000



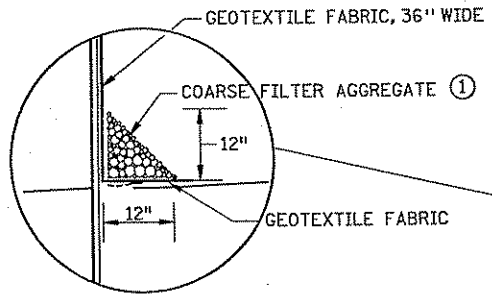
LOCATION OF SILT FENCE AT TOE OF ROADWAY EMBANKMENT



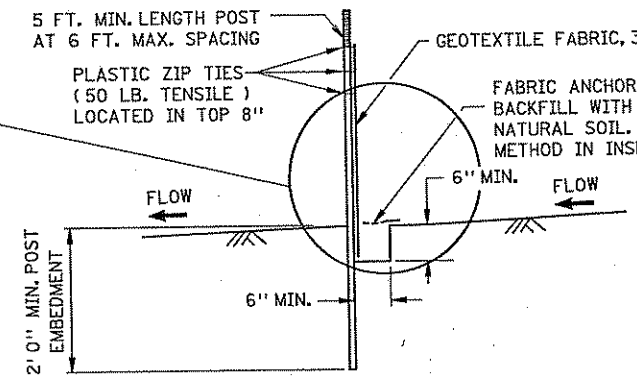
SILT FENCE, MACHINE SLICED
DESIGN GUIDELINES:
TO PROTECT AREAS FROM SHEET FLOW.
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



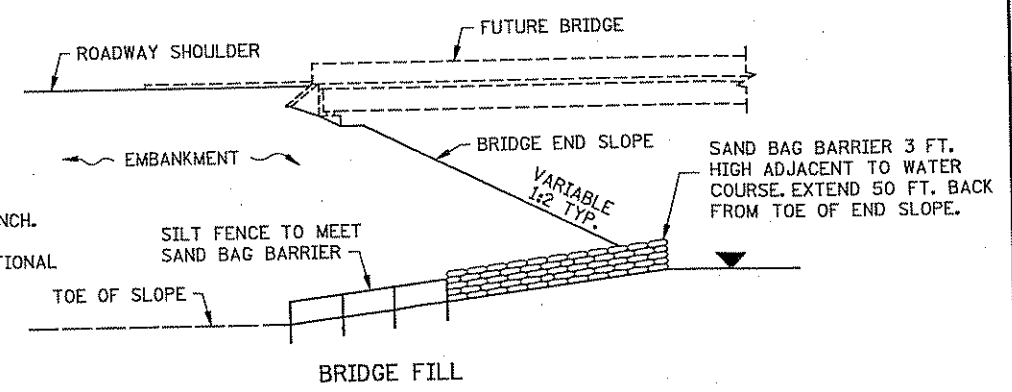
DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: STAGNANT
CONTRIBUTING SLOPE AREA: 1/2 ACRE



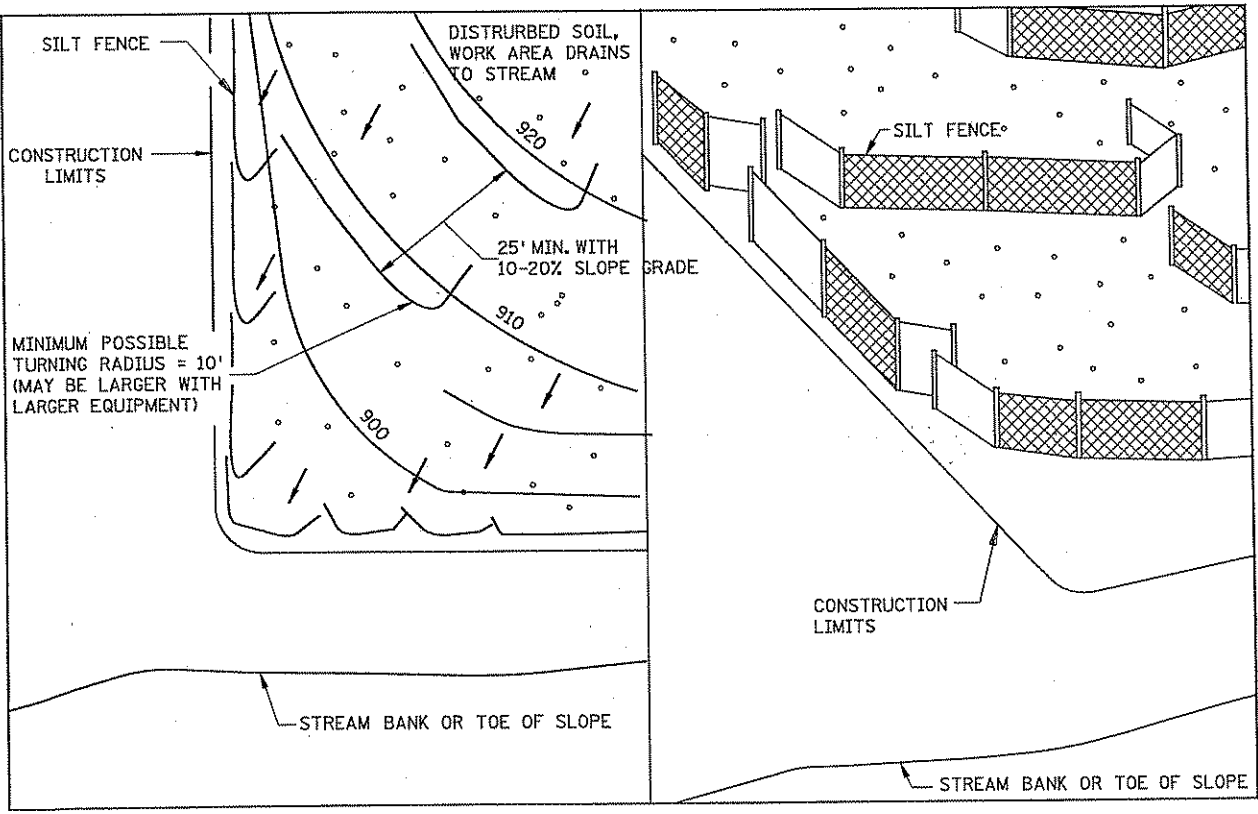
OPTIONAL METHOD FOR SILT FENCE, HEAVY DUTY



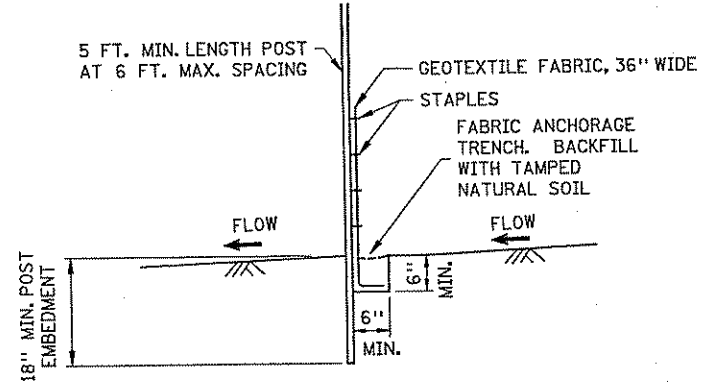
SILT FENCE, HEAVY DUTY (HAND INSTALLED)
DESIGN GUIDELINES:
TO PROTECT AREAS FROM SHEET FLOW.
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



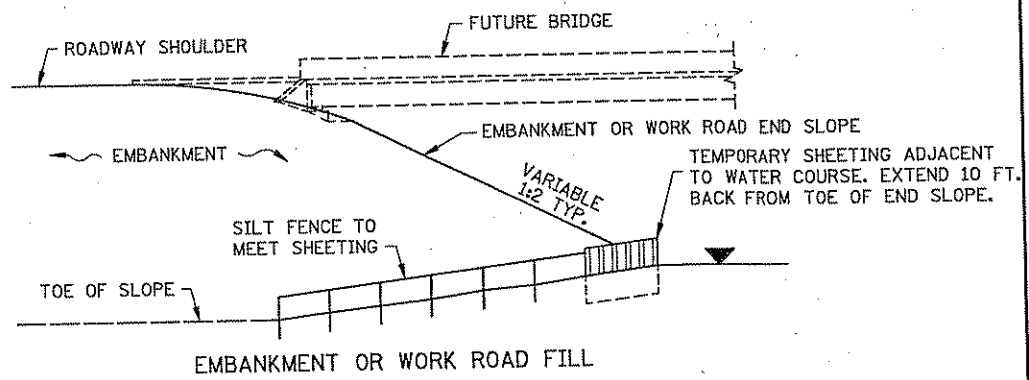
DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1 ACRE



SILT FENCE, J-HOOK INSTALLATION



SILT FENCE, PREASSEMBLED
DESIGN GUIDELINES:
TO PROTECT AREAS FROM SHEET FLOW.
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



SILT FENCE AT BRIDGE EMBANKMENT ADJACENT TO WATER
DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES

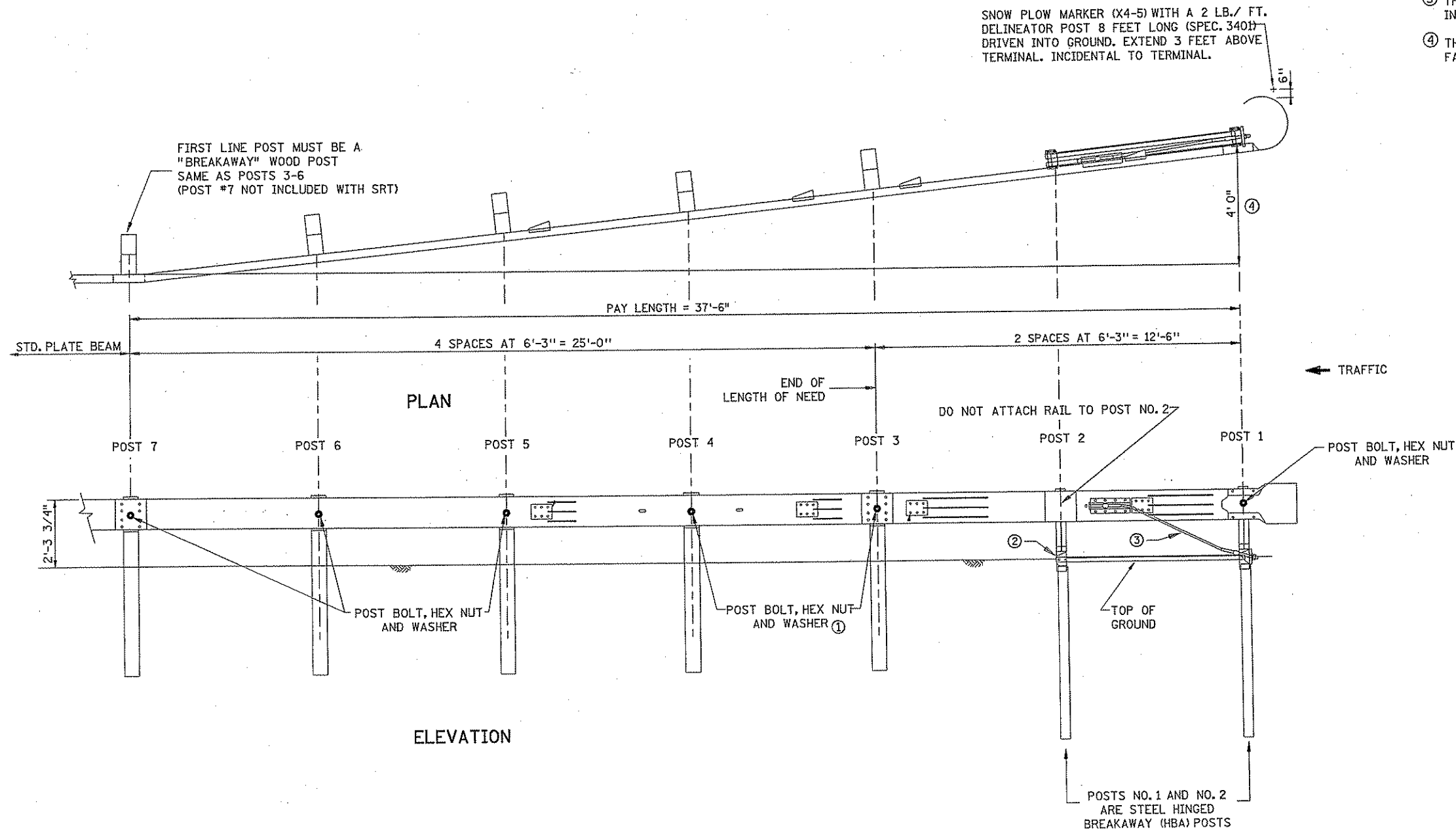
NOTES:
SEE SPECS. 2573, 3149 & 3886.
① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.

STANDARD SHEET NO. 5-297.408 (1 OF 2)	TITLE: TEMPORARY SEDIMENT CONTROL SILT FENCE
STANDARD APPROVED: SEPTEMBER 27, 2006	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 52 OF 471 SHEETS	

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NOTES:

- ① ALL BOLTS, NUTS, CABLE ASSEMBLIES, CABLE ANCHORS AND BEARING PLATES SHALL BE GALVANIZED.
- ② THE NON-BREAKAWAY SECTION OF THE HINGED BREAKAWAY (HBA) POSTS SHALL NOT EXTEND MORE THAN 4" ABOVE THE FINISHED GROUND LINE.
- ③ THE BREAKAWAY CABLE ASSEMBLY MUST BE TAUT UPON COMPLETION OF INSTALLATION. PREVENT CABLE FROM TWISTING DURING INSTALLATION.
- ④ THE POST OFFSET DIMENSION IS GIVEN TO THE CENTER OF THE TRAFFIC FACE OF POST NO. 1 (HBA).



NOTE:

THIS DRAWING IS FOR INFORMATION ONLY. CONTACT THE MANUFACTURER FOR INSTALLATION INSTRUCTIONS DURING THE CONSTRUCTION PHASE.

THIS IS A PROPRIETARY ITEM AS PER SPEC. 1703.

6 POST SYSTEM

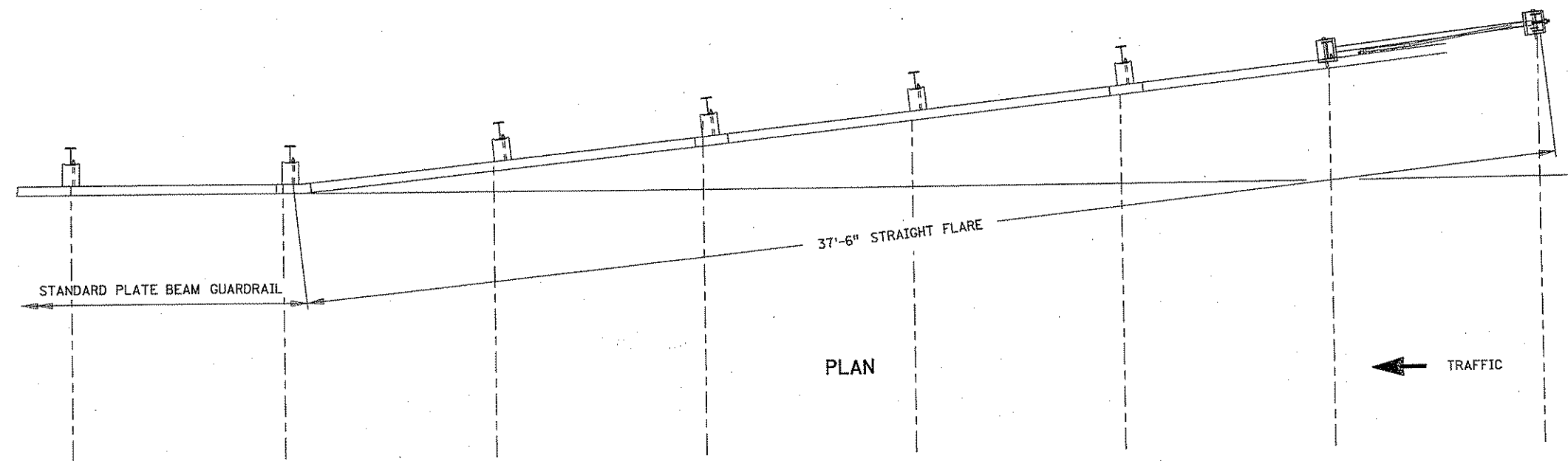
SRT-350 END TREATMENT (4 WOOD POSTS, 2 STEEL HBA POSTS)
(ENGLISH)

REFERENCE DATE
9-5-03

STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 53 OF 471 SHEETS

SNOW PLOW MARKER (X4-5) WITH A 2 LB./ FT. DELINEATOR POST 8 FEET LONG (SPEC. 3401) DRIVEN INTO GROUND. EXTEND 3 FEET ABOVE TERMINAL. INCIDENTAL TO END TERMINAL.

6"
2'-6" TO 4'-0"

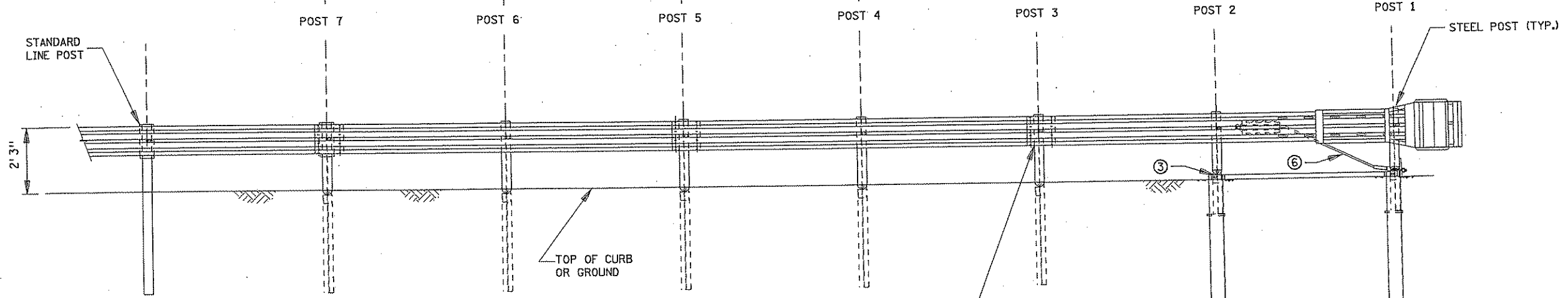


PAY LENGTH = 37' 6"

5 SPACES AT 6'-3" = 31'-3" ①

2 SPACES AT 6'-3" = 12'-6"

END OF LENGTH OF NEED



ELEVATION

NOTES:

- ① STEEL BREAKAWAY POSTS (POSTS NO. 3-9) ARE REQUIRED WITH THE FLEAT.
- ② ALL BOLTS, NUTS, CABLE ASSEMBLIES, CABLE ANCHORS AND BEARING PLATES SHALL BE GALVANIZED.
- ③ THE SOIL TUBES SHALL NOT PROTRUDE MORE THAN 4" ABOVE GROUND (MEASURED ALONG A 5' CORD). SITE GRADING MAY BE NECESSARY TO MEET THIS REQUIREMENT.
- ④ THE SOIL TUBES SHOULD NOT BE DRIVEN WITH THE POST IN THE TUBE. IF THE TUBES ARE PLACED IN DRILLED HOLES, THE BACK FILLED MATERIAL MUST BE SATISFACTORILY COMPACTED TO PREVENT SETTLEMENT.
- ⑤ WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12" DIA. POST HOLE, 20" DEEP MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL WILL BE PLACED IN THE BOTTOM OF THE HOLE APPROX. 2-1/2" DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES WILL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.
- ⑥ THE BREAKAWAY CABLE ASSEMBLY MUST BE TAUT. A LOCKING DEVICE (VICE GRIPS OR CHANNELBACK PLIERS) SHOULD BE USED TO PREVENT THE CABLE FROM TWISTING WHEN TIGHTENING NUTS.

NOTES:

THIS DRAWING IS TO BE USED ONLY FOR PICTORIAL REPRESENTATION. DESIGN CHANGES ARE NOT ALWAYS SHOWN. CONTACT MANUFACTURER FOR INSTALLATION INSTRUCTIONS.

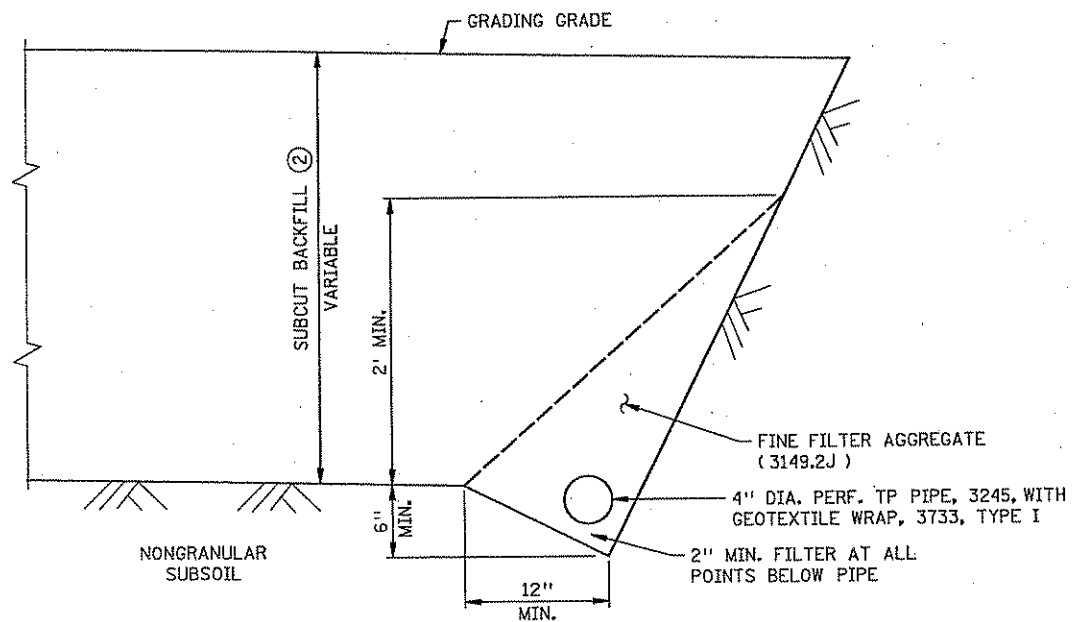
THIS IS A PROPRIETARY ITEM AS PER SPEC. 1703.

FLEAT-350 END TERMINAL (STEEL POSTS)
(ENGLISH)

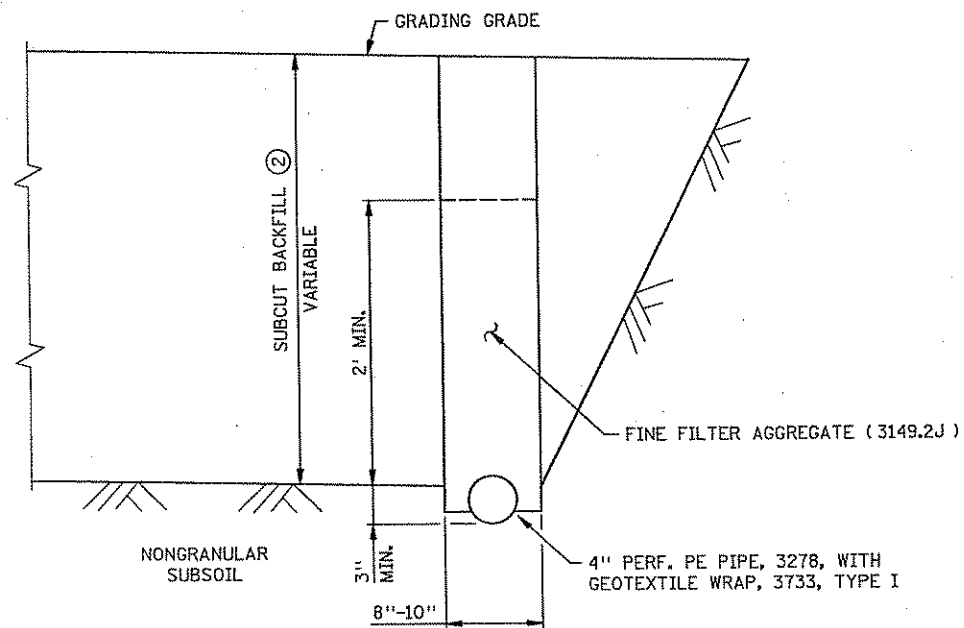
REFERENCE DATE
8-1-03

STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 54 OF 471 SHEETS

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TYPICAL SECTION (OPTION NO. 1) ①

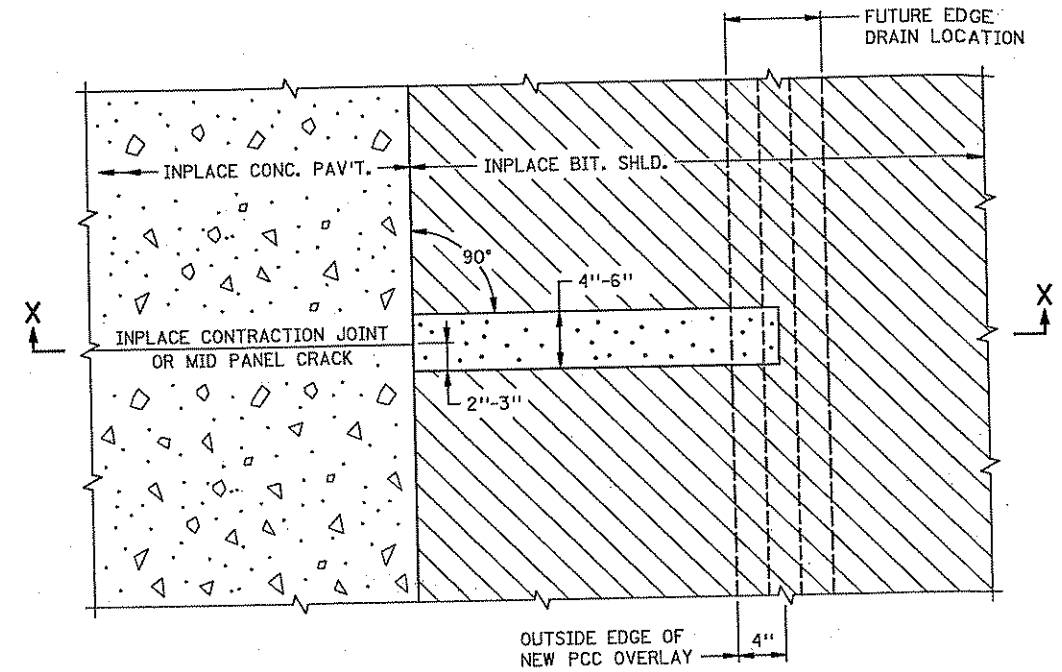


TYPICAL SECTION (OPTION NO. 2) ①

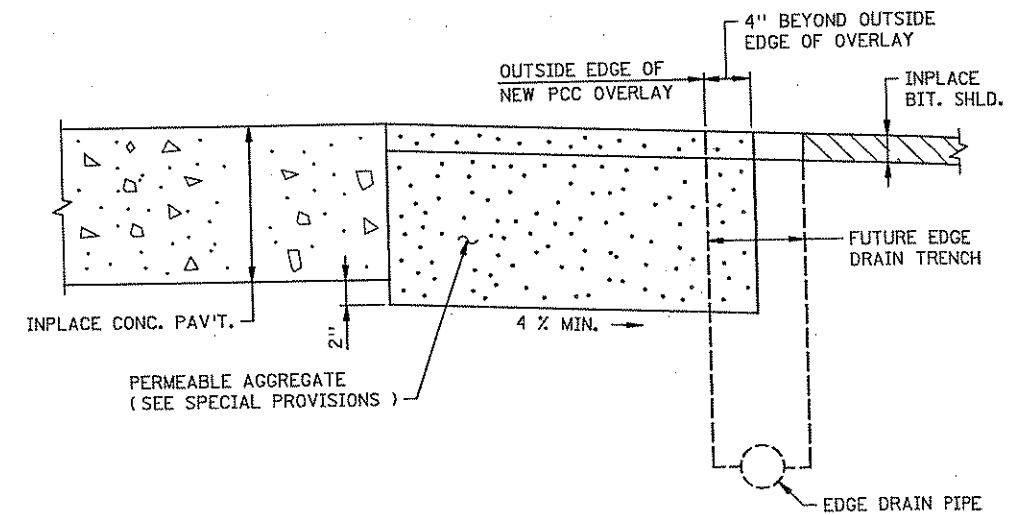
SUBSURFACE DRAIN, SUBCUT DRAIN TYPE

NOTES:

- ① MAY NEED TO BE MODIFIED FOR SPECIFIC PROJECTS. SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS. OPTION NO. 2 MAY ONLY BE USED WHEN PIPE IS TO BE PLACED BY MACHINE TRENCHER.
- ② GRANULAR, SELECT GRANULAR OR SELECT GRANULAR MODIFIED. (AS SHOWN IN DESIGN RECOMMENDATION LETTER).



PLAN VIEW



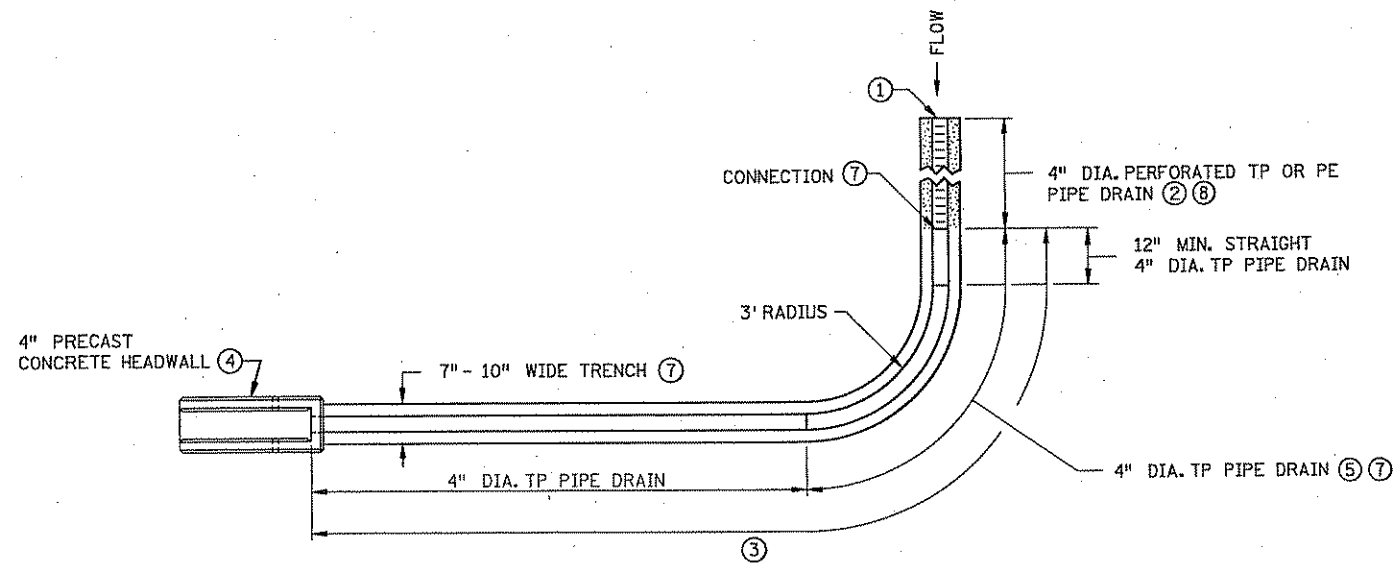
SECTION X-X

INTERCEPTOR DRAIN DETAIL ①

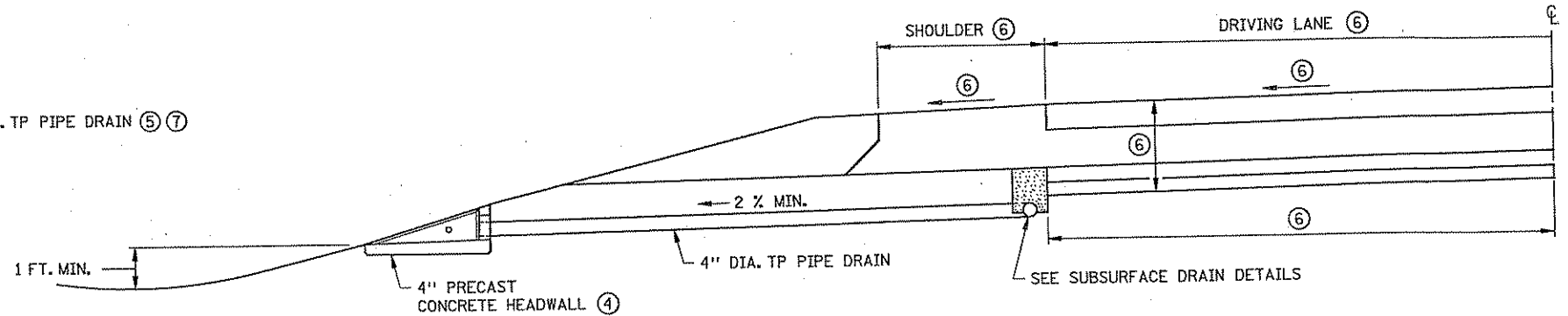
NOTE:

- ① SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.

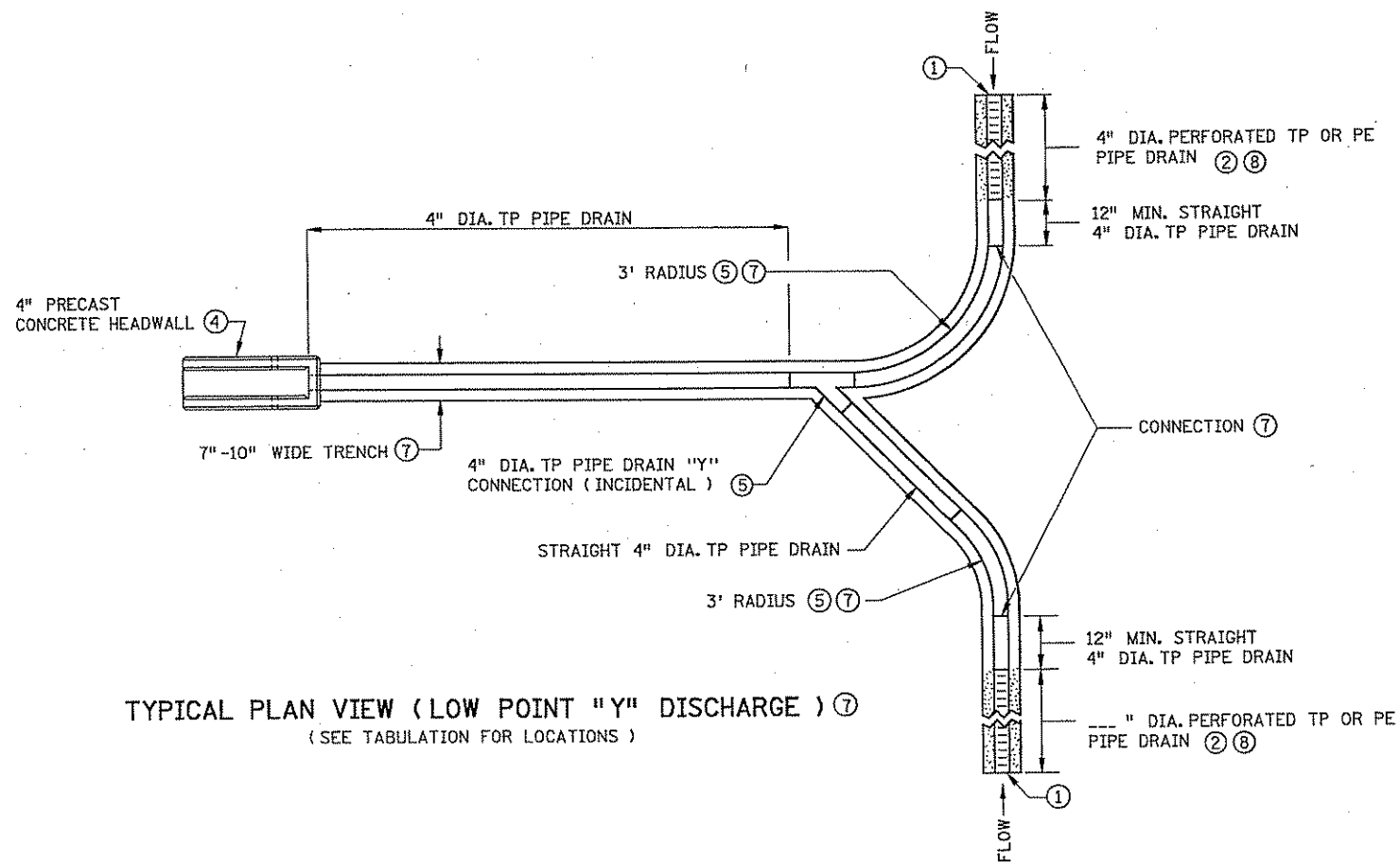
STANDARD SHEET NO. 5-297.430	TITLE: SUBSURFACE DRAINS
STANDARD APPROVED: FEBRUARY 25, 1997	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 55 OF 471 SHEETS	



TYPICAL PLAN VIEW (SINGLE DISCHARGE) ⑦
(SEE TABULATION FOR LOCATIONS)



SECTION VIEW
TYPICAL EDGE DRAIN AND DISCHARGE CROSS SECTION ⑦
(SEE TABULATION FOR LOCATIONS)



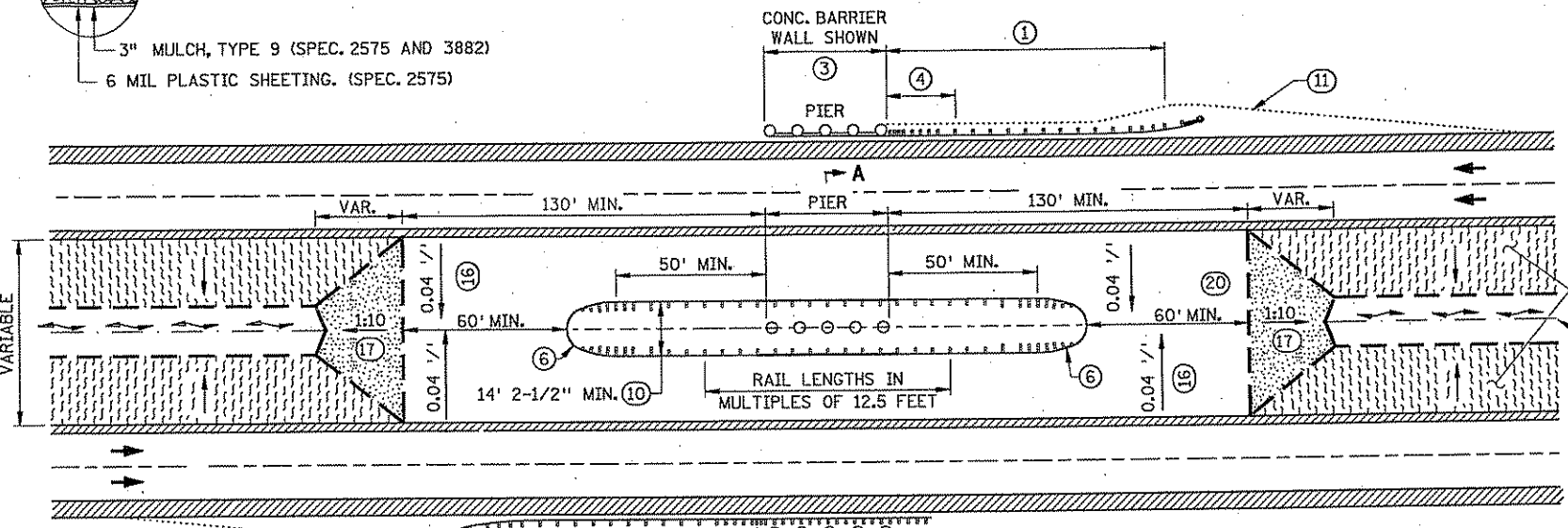
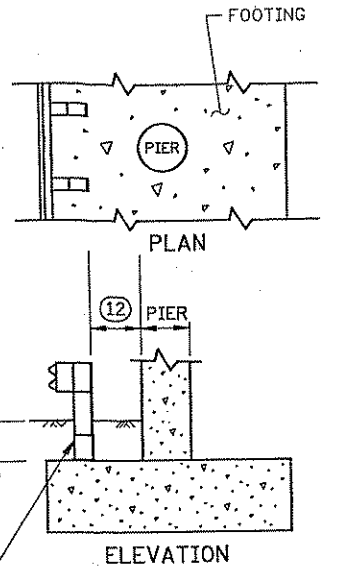
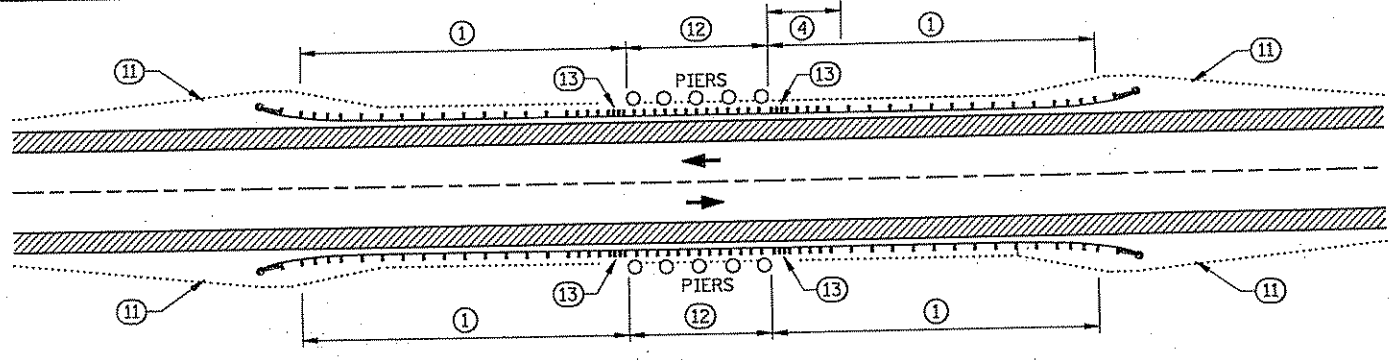
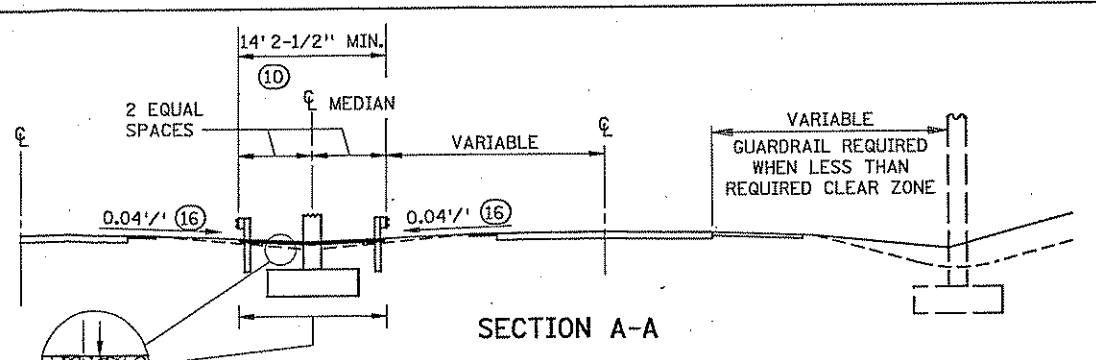
TYPICAL PLAN VIEW (LOW POINT "Y" DISCHARGE) ⑦
(SEE TABULATION FOR LOCATIONS)

NOTES:

- ① THE UPSTREAM ENDS OF THE PERFORATED PIPE SHALL BE CAPPED AS APPROVED BY THE PROJECT ENGINEER, THE CAPS ARE INCIDENTAL TO SPEC. 2502, 1/2 INCH PERFORATED TP OR PE PIPE DRAIN. PLACE PERFORATED PIPE WITH THE PERFORATIONS DOWN.
- ② MAXIMUM LENGTH 500 FT., EXCEPT 300 FT. MAXIMUM FOR GRADES LESS THAN 0.2% . LENGTH INCLUDED AND PAID FOR AS SPEC. 2502, 4 INCH PERFORATED TP OR PE PIPE DRAIN.
- ③ LENGTH INCLUDED AND PAID FOR AS SPEC. 2502, 4 INCH DIA. TP PIPE DRAIN.
- ④ PRECAST CONCRETE HEADWALL STANDARD PLATE 3131 PAID FOR AS SPEC. 2502, 4 INCH PRECAST CONCRETE HEADWALL.
- ⑤ DETAILS OF CONNECTION AND COUPLING TO PIPE SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR "Y " AND EXTRA CONNECTION, 11 INCH TP PIPE AND COUPLING TO BE INCIDENTAL TO SPEC. 2502, 4 INCH DIA. TP PIPE DRAIN.
- ⑥ SEE ROADWAY TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
- ⑦ SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.
- ⑧ 3 INCH OR 4 INCH DIAMETER.

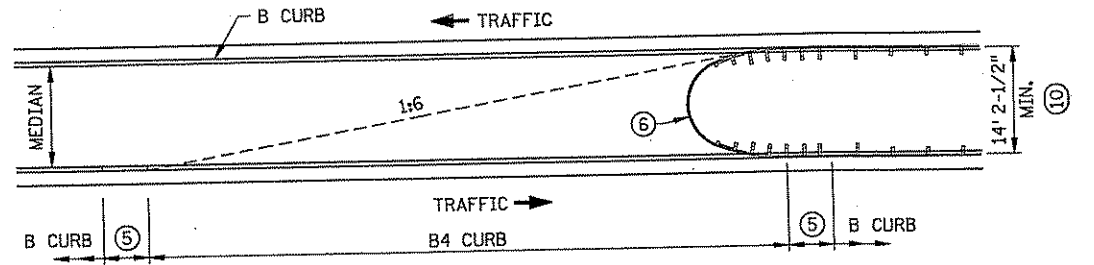
STANDARD SHEET NO. 5-297.433	TITLE: SUBSURFACE DRAINS OUTLET PIPES FOR EDGE AND SUBCUT DRAINS
STANDARD APPROVED: SEPTEMBER 12, 2005	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO.55A OF 471 SHEETS	

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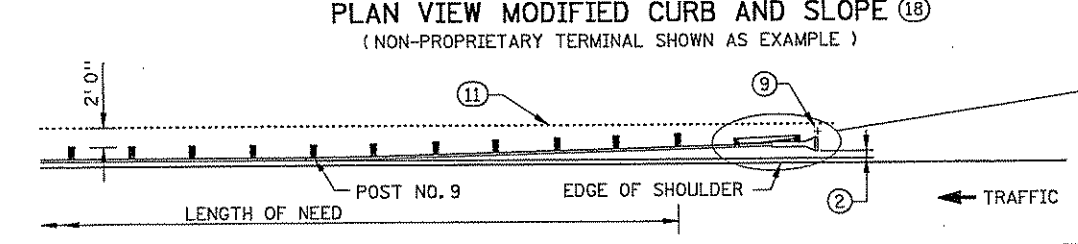
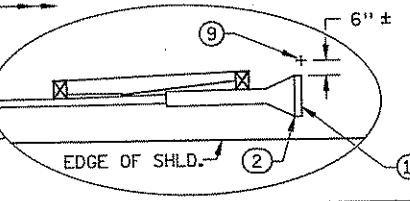
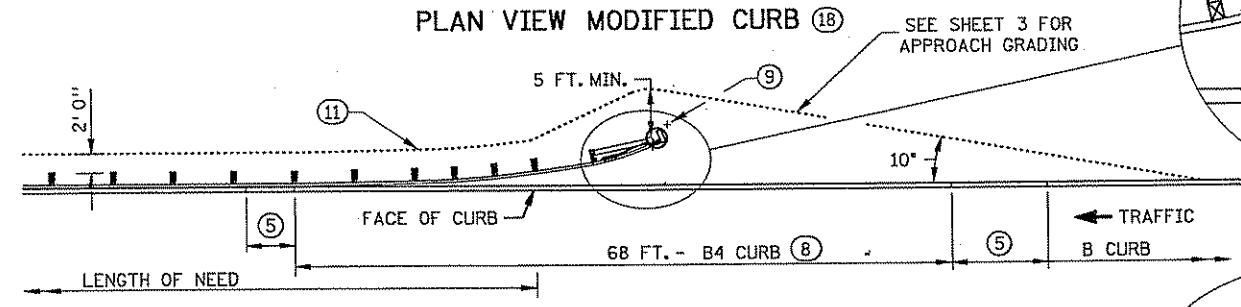
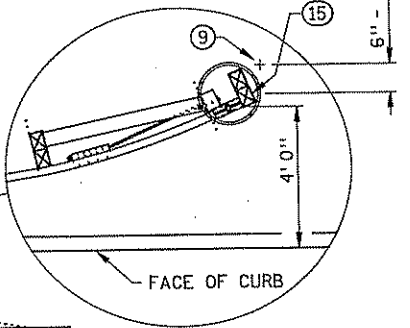
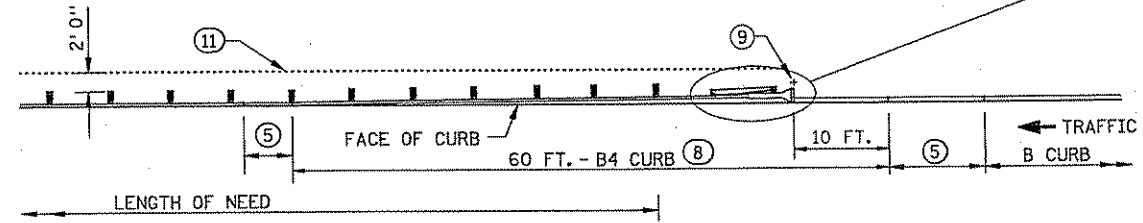
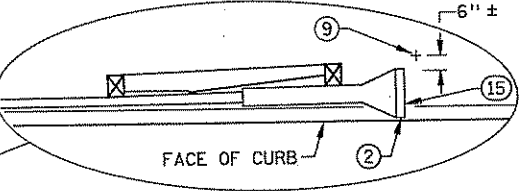


ESTIMATED DESIGN DEFLECTION TABLE FOR DESIGN B W-BEAM GUARDRAIL

6' 3" POST SPACING	3' 0"
6' 3" POST SPACING WITH DOUBLE NESTED RAIL	2' 8"
MODIFIED 3' 1-1/2" POST SPACING	2' 3"
MODIFIED POST SPACING WITH DOUBLE NESTED RAIL	2' 0"



UNDERPASS-DEPRESSED MEDIAN (19)



NOTES:

- ALL GUARDRAIL POSTS SHALL BE 6 FT. 3 IN. CENTER TO CENTER (DESIGN B), EXCEPT WHERE NOTED.
- THE LATEST APPROVED VERSION OF STANDARD PLATES SHOWN OR AS INDICATED IN THE PLANS SHALL APPLY.
- (1) FOR REQUIRED LENGTH OF INSTALLATION SEE ROAD DESIGN MANUAL CHAPTER 10.
- (2) THE LAST 50 FT. OF TANGENT TERMINALS MAY BE FLARED AT 1:50 TAPER.
- (3) CONC. BARRIER WALL BETWEEN PIER COLUMNS MAY BE USED, STD. PLAN 5-297.610. SEE SHEET NO. ___ FOR WALL DETAILS. CONNECT GUARDRAIL TO BARRIER WALL ANCHORAGE PLATE, SEE SHEET NO. ___ FOR DETAILS.
- (4) AN APPROVED TRANSITION MUST BE USED.
- (5) 10 FT. CURB TRANSITION, USE IF ADJACENT CURB IS GREATER THAN 4 INCHES.
- (6) THRIE BEAM BULLNOSE. SEE SHEET NO. 59 - 60 FOR DETAILS.
- (7) IF EMBEDMENT IS GREATER THAN 3 FT. 0 IN., OR IF EMBEDMENT IS 2 FT. 6 IN. TO 3 FT. 0 IN. AND ADJACENT POSTS ARE EMBEDDED 3 FT. 0 IN. OR MORE, POST SEAT IS NOT REQUIRED.
- (8) FOR CURB 6 IN. OR HIGHER, MILL TO 3 IN. HEIGHT.
- (9) SNOWPLOW MARKER (X4-5) WITH A 2 LB./FT. DELINEATOR POST 8 FT. LONG (SPEC. 3401) DRIVEN INTO THE GROUND. EXTEND 3 FT. ABOVE TERMINAL. THE MARKER IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE.
- (10) MEASUREMENT IS FROM BACK OF RAIL TO BACK OF RAIL.
- (11) 1:10 OR FLATTER SLOPE P.L.
- (12) SEE ESTIMATED DESIGN DEFLECTION TABLE FOR DESIGN B W-BEAM GUARDRAIL.
- (13) WHEN CLOSE POST SPACING OR DOUBLE NESTED RAIL IS USED, THIS POST SPACING SHOULD EXTEND A MINIMUM OF 12 FT. IN THE DIRECTION OF APPROACHING TRAFFIC.
- (14) THE ANCHOR ASSEMBLY MUST BE LOCATED DOWNSTREAM OF THE HAZARD.
- (15) MARK THE APPROACH END OF PLATE BEAM GUARDRAIL INSTALLATIONS WITH A STRIPED OBJECT MARKER SIZED TO FIT THE END TERMINAL, HAVING ALTERNATING BLACK AND REFLECTIVE YELLOW (WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING) STRIPES SLOPED DOWNWARD AT A 45 DEGREE ANGLE TOWARD THE SIDE ON WHICH TRAFFIC PASSES. FOR FLAT END TREATMENTS THE OBJECT MARKER SHALL FIT INSIDE THE RECESSED AREA. FOR ROUNDED END TREATMENTS THE OBJECT MARKER SHALL WRAP AROUND THE CIRCULAR END AND BE MOUNTED SO THE TOP OF THE OBJECT MARKER LINES UP WITH THE TOP OF THE END TREATMENT.
- (16) 0.04 FT./FT. CROSS SLOPE TYPICAL. 0.10 FT./FT. CROSS SLOPE MAXIMUM.
- (17) 1:10 SLOPE OR FLATTER.
- (18) USE ONLY FOR RETROFITS WITH SITE RESTRICTIONS. FOR RETROFITS WITHOUT SITE RESTRICTIONS AND NEW CONSTRUCTION, SEE SHEET 3.
- (19) MEDIAN GRADING DETAIL SHOWN APPLIES TO THRIE-BEAM BULLNOSE ONLY.
- (20) DRAINAGE DETAILS SHOWN ON GRADING PLAN.

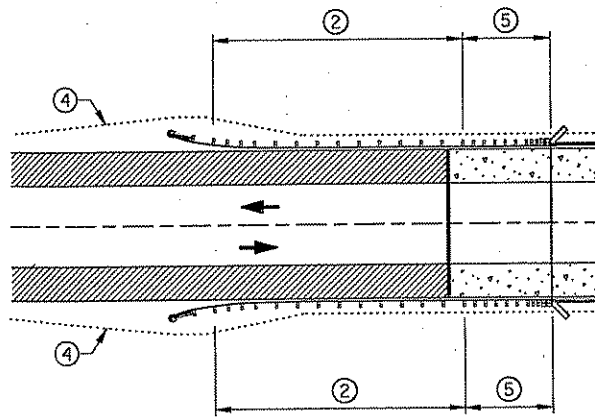
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: AARON VACEK
 Date: 6-20-05 License # 44277

STANDARD SHEET NO. 5-297.601 (1 OF 3)
 STANDARD APPROVED: AUGUST 17, 2005

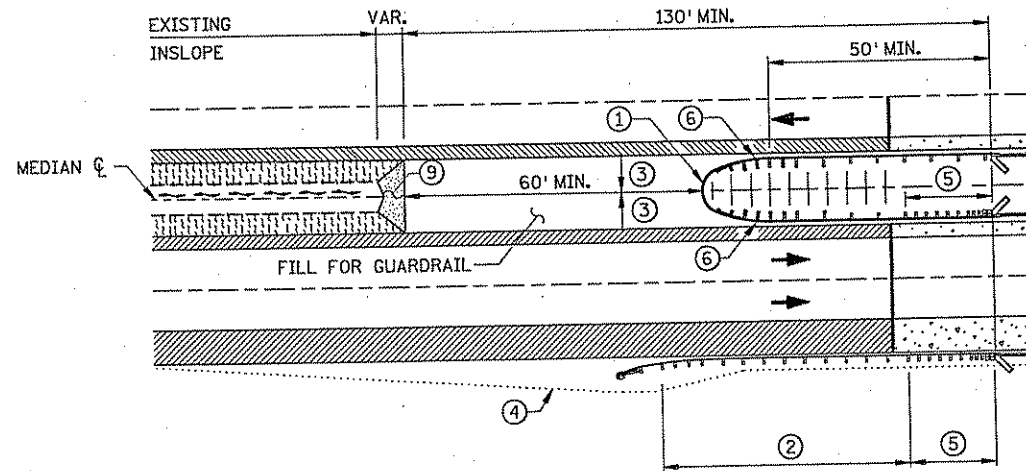
GUARDRAIL INSTALLATIONS AT MEDIANS AND END TREATMENTS

STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 56 OF 471 SHEETS

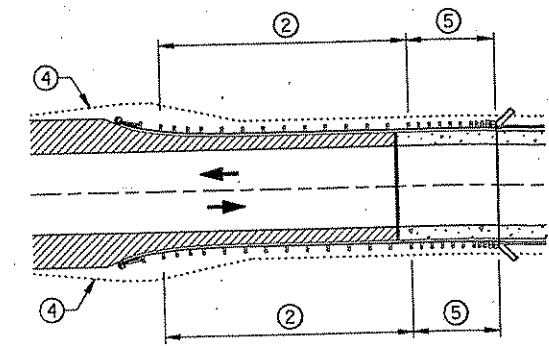
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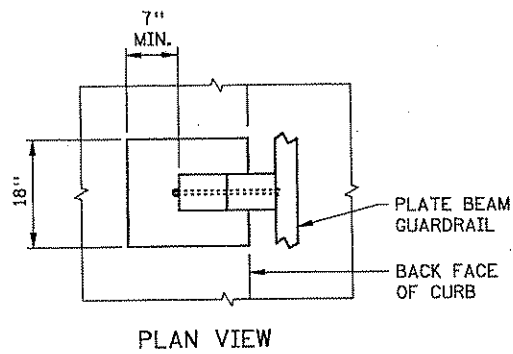
TWO - WAY BRIDGE WITH FULL SHOULDERS



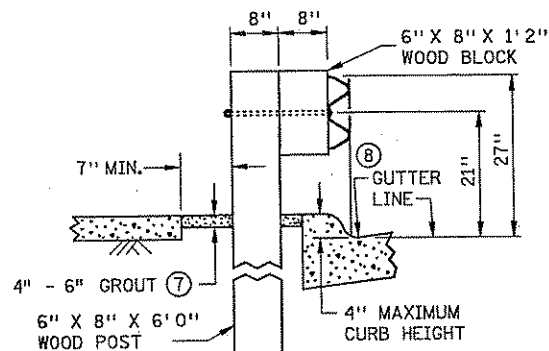
ONE - WAY BRIDGE WITH FULL RIGHT SHOULDER (FOR 14' 2-1/2" THRIE BEAM BULLNOSE)



TWO - WAY BRIDGE WITHOUT FULL SHOULDERS

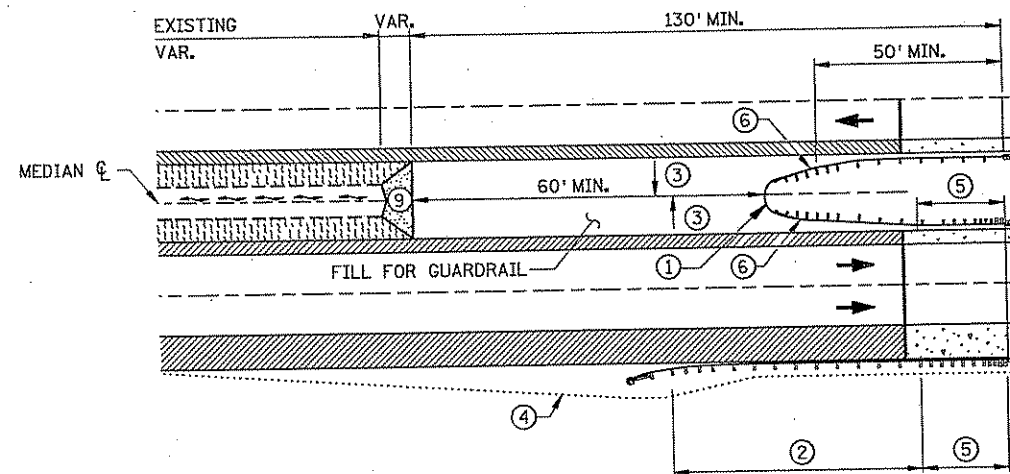


PLAN VIEW



ELEVATION

TYPICAL SECTION AT POST SET IN CONCRETE

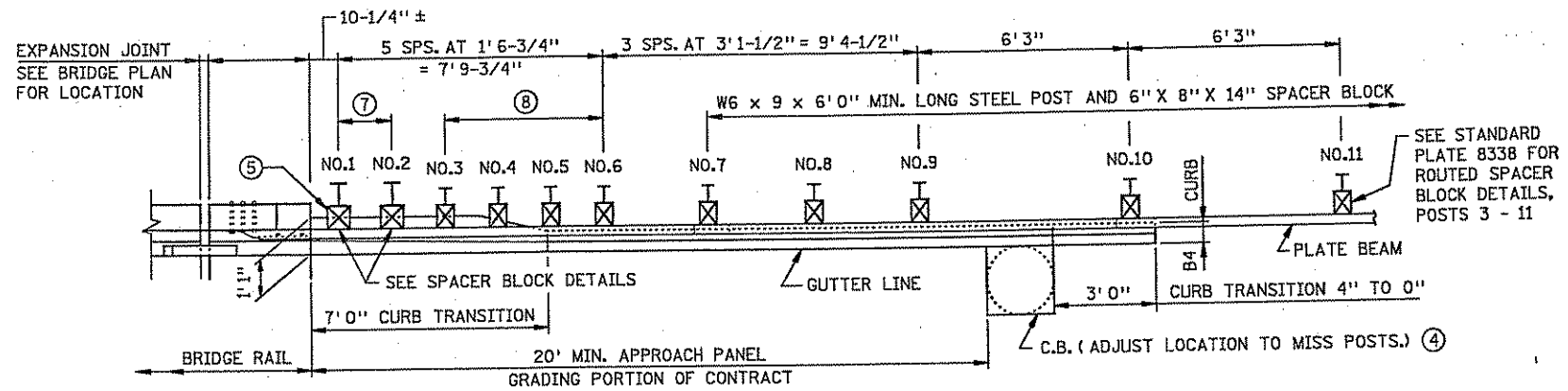


ONE - WAY BRIDGE WITH FULL RIGHT SHOULDER (FOR MEDIANS WIDER THAN 14' 2-1/2" THRIE BEAM BULLNOSE)

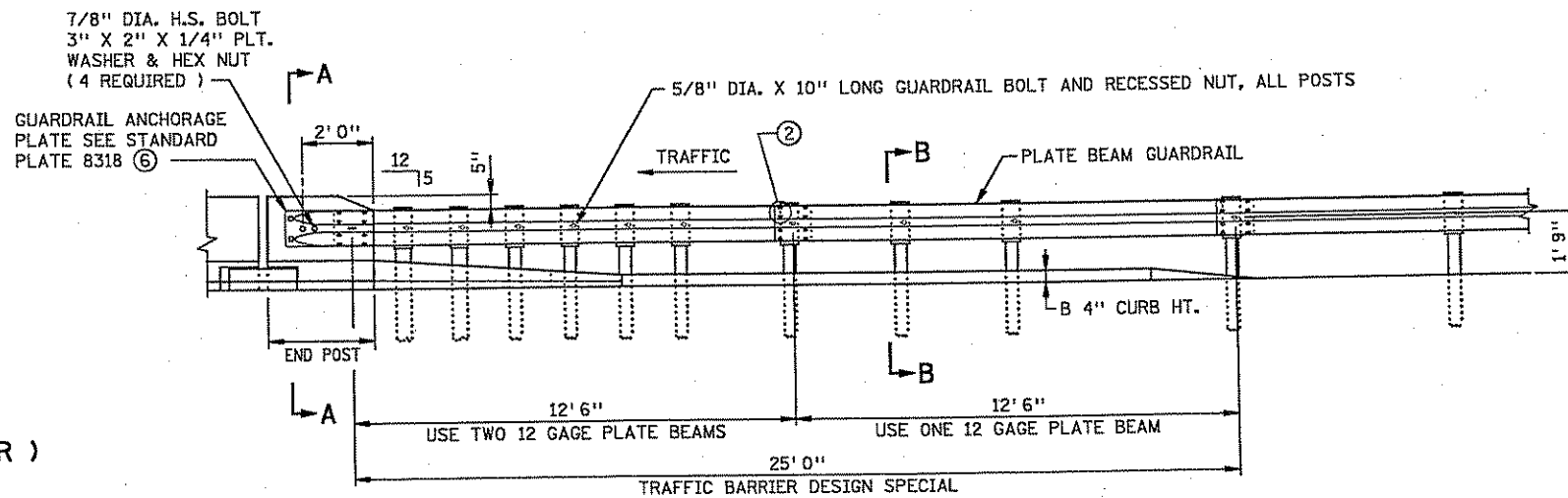
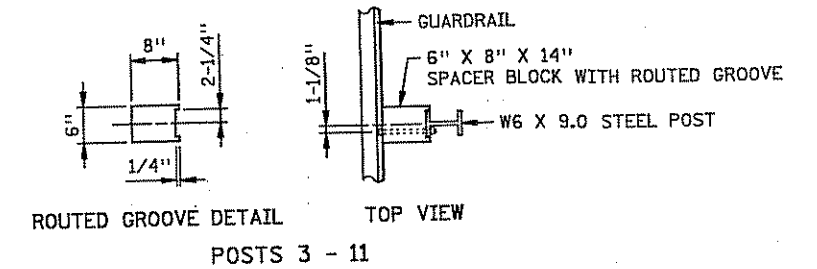
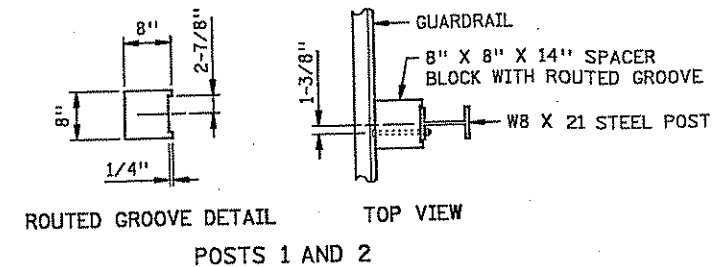
NOTES:

- ALL GUARDRAIL POSTS SHALL BE 6 FT. 3 IN. CENTER TO CENTER (DESIGN B), EXCEPT WHERE NOTED.
- THE LATEST APPROVED VERSION OF STANDARD PLATES SHOWN OR AS INDICATED IN THE PLANS SHALL APPLY.
- ① THRIE BEAM BULLNOSE, SEE SHEET NO. 59 - 60 FOR DETAILS.
- ② FOR THE REQUIRED LENGTH SEE ROAD DESIGN MANUAL CHAPTER 10.
- ③ 0.04 FT./FT. CROSS SLOPE TYPICAL, 0.10 FT./FT. CROSS SLOPE MAXIMUM.
- ④ 1:10 OR FLATTER SLOPE P.I.. APPROACH GRADING VARIES WITH TERMINAL TYPE.
- ⑤ PLATE BEAM GUARDRAIL ATTACHMENTS TO FIXED OBJECTS REQUIRE AN APPROVED TRANSITION SECTION.
- ⑥ FOR MEDIANS WIDER THAN THE 14 FT. 2-1/2 IN., BEFORE TAPERING THE APPROACH SIDE TAPER THE OPPOSING SIDE AS SHOWN ON THE BULLNOSE DESIGN DETAIL. APPROACH TAPER SHOULD NOT EXCEED 1:25 IF THE BARRIER IS WITHIN THE SHY LINE OR 1:15 IF IT IS OUTSIDE.
- ⑦ TWO-SACK GROUT MIX (BY VOLUME: 1 PART CEMENT, 14 PARTS SAND, 5 PARTS WATER).
- ⑧ PLACE FRONT FACE OF W-BEAM DIRECTLY ABOVE FRONT FACE OF CURB.
- ⑨ 1:10 SLOPE OR FLATTER.

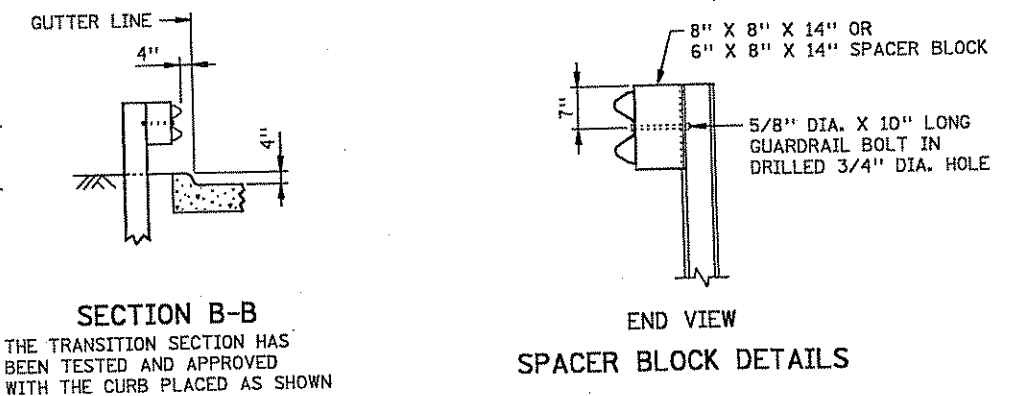
STANDARD SHEET NO. 5-297.601 (2 OF 3)	TITLE GUARDRAIL INSTALLATIONS AT MEDIANS AND END TREATMENTS
STANDARD APPROVED: AUGUST 17, 2005	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 57 OF 471 SHEETS	



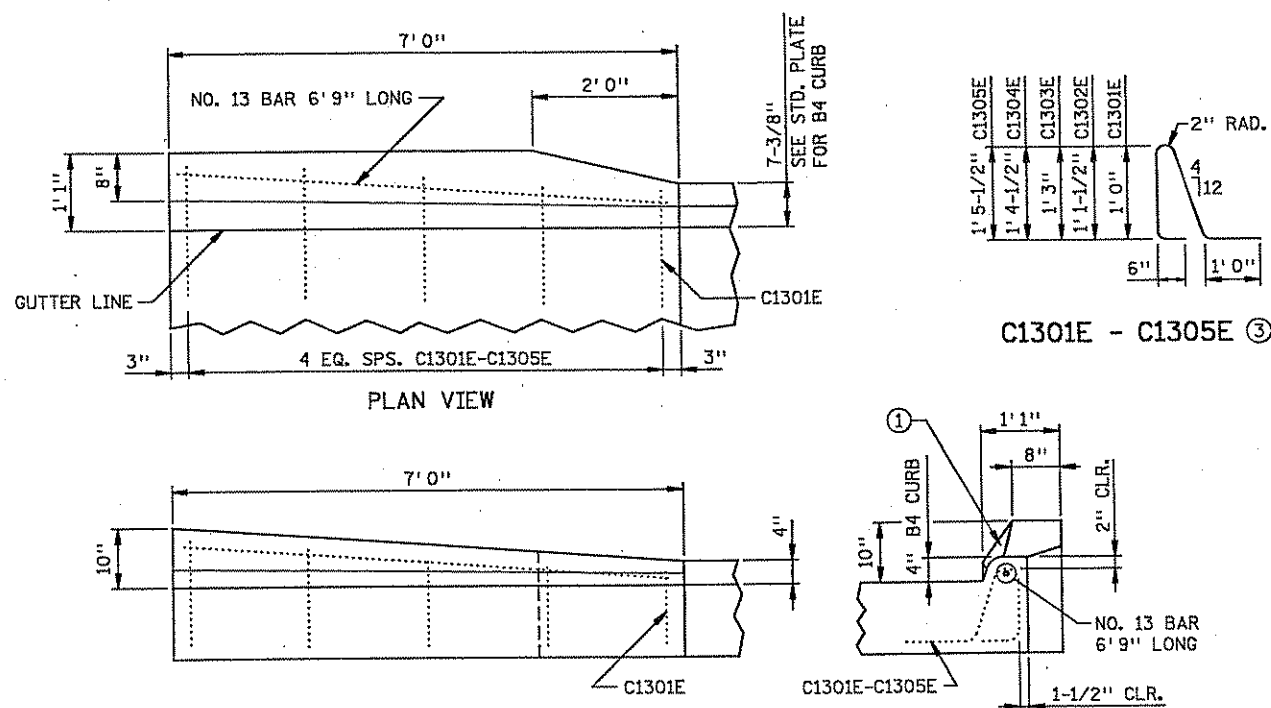
PLAN



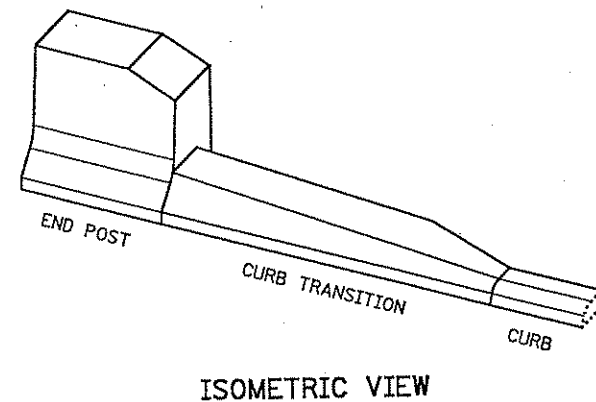
ELEVATION



SECTION A - A
F SHAPE RAIL (F BARRIER)
(PARALLEL WINGWALL SHOWN)



INSIDE ELEVATION
CURB TRANSITION DETAILS



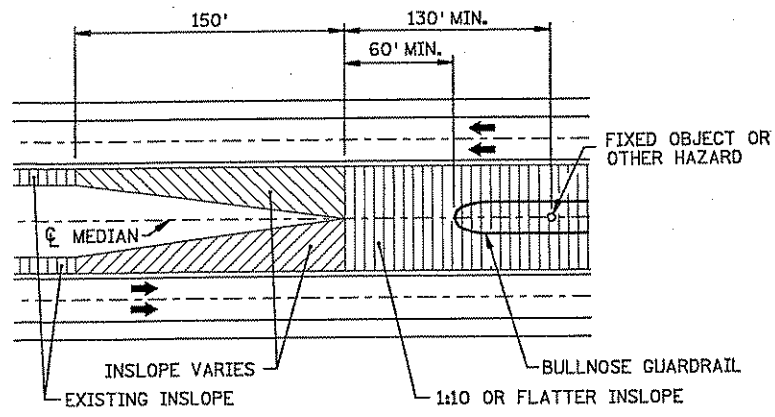
NOTES:

- ALL REBARS ARE IN METRIC DESIGNATIONS
- END OF TRANSITION TO MATCH BRIDGE RAIL SURFACE.
 - 5/8" DIA. X 1-1/4" LONG GUARDRAIL BOLTS AND NUTS TYPICAL AT SPLICES.
 - REINFORCEMENT TO BE EPOXY COATED AS PER SPEC. 3301.
 - SEE ROAD PLANS TO VERIFY ACTUAL DIMENSION AND LOCATION.
 - ADDITIONAL BLOCKING MAY BE REQUIRED TO CLEAR BRIDGE STRUCTURE. VERIFY IN FIELD.
 - SANDWICH ANCHOR PLATE BETWEEN RAIL BEAMS.
 - POSTS 1 AND 2 TO BE W8 X 21 X 8'0" MINIMUM LONG STEEL POST AND 8" X 8" X 14" SPACER BLOCK.
 - POSTS 3, 4, 5, AND 6 TO BE W6 X 9 X 6'0" MIN. LONG STEEL POST AND 6" X 8" X 14" SPACER BLOCK.

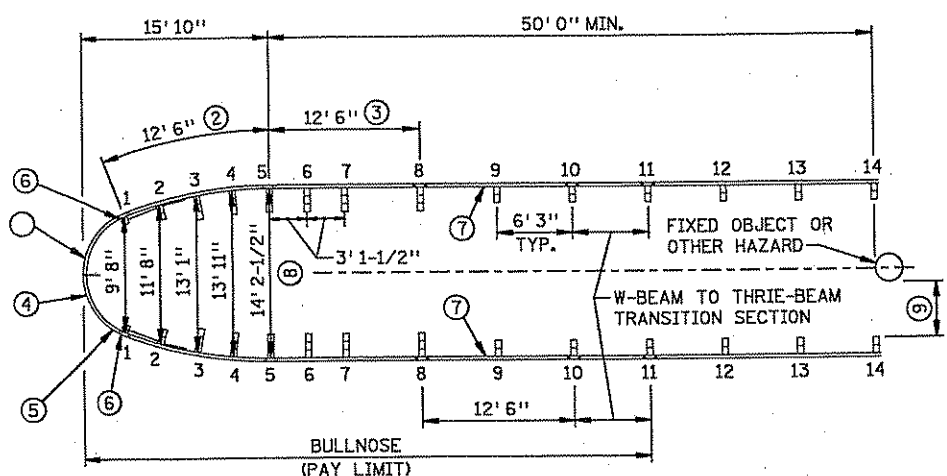
TRAFFIC BARRIER DESIGN SPECIAL

STANDARD SHEET NO. 5-297.603	TITLE: NEW W-BEAM TRANSITION TO CONCRETE F-SHAPE SAFETY RAIL WITH APPROACH CURB (STEEL POST)
STANDARD APPROVED: DECEMBER 20, 2001	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 58 OF 471 SHEETS	

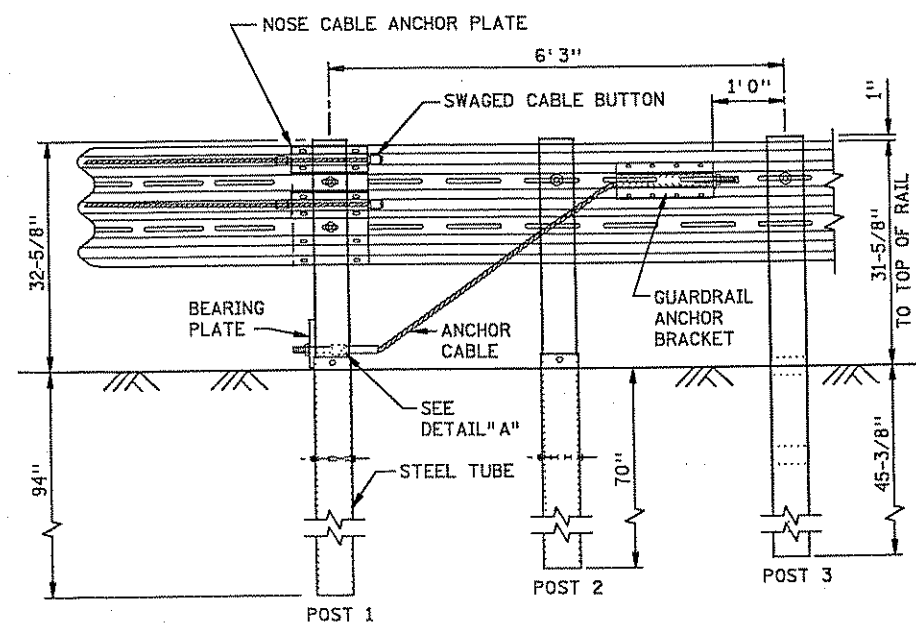
REVISION DATE
01-21-2006



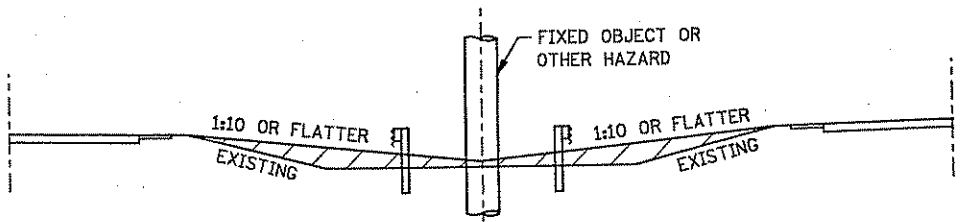
GRADING AT BULLNOSE (DEPRESSED MEDIAN)



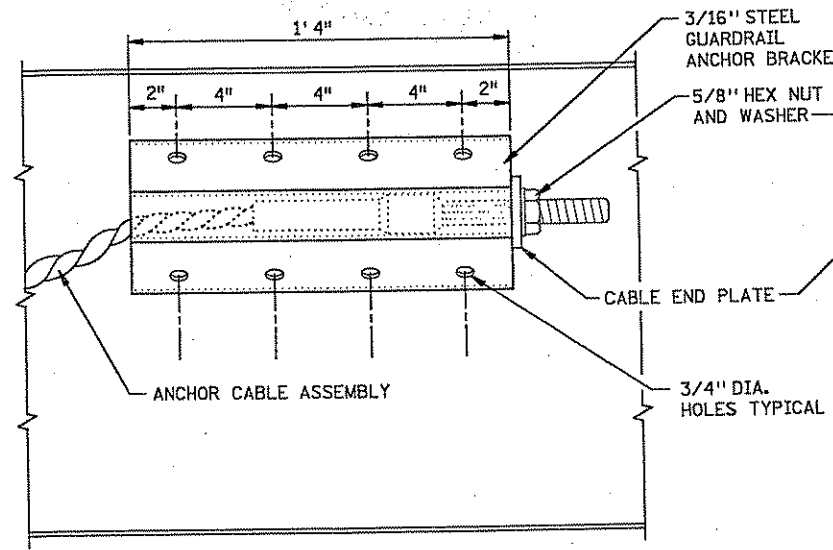
PLAN VIEW DETAILS OF BULLNOSE



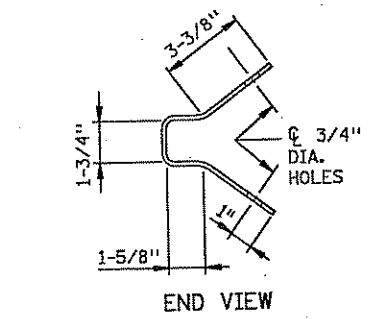
ELEVATION BULL NOSE ASSEMBLY



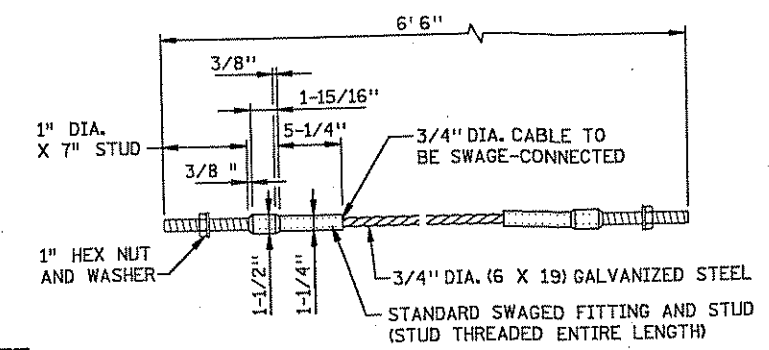
MEDIAN GRADING SECTION (AT FIXED OBJECT)



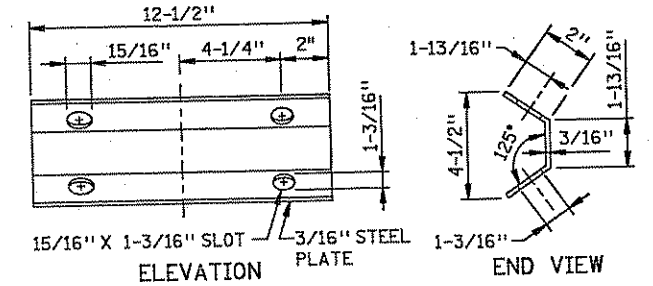
FRONT VIEW GUARDRAIL ANCHOR BRACKET DETAILS



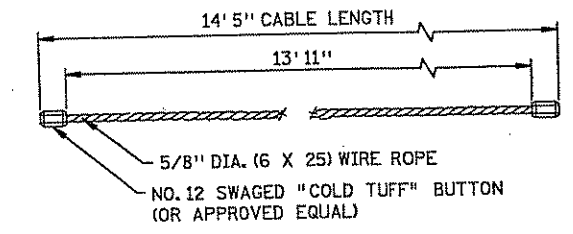
END VIEW GUARDRAIL ANCHOR BRACKET



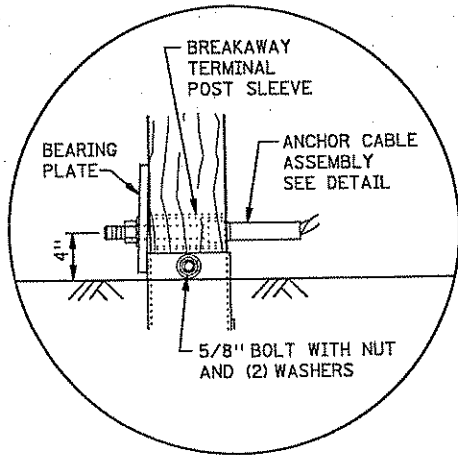
ANCHOR CABLE ASSEMBLY DETAILS



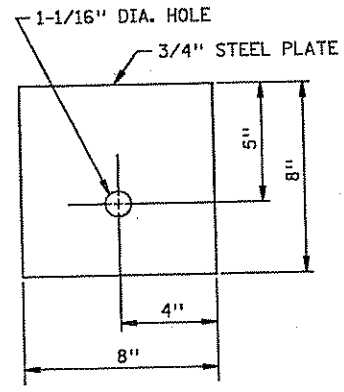
ELEVATION END VIEW NOSE CABLE ANCHOR PLATE



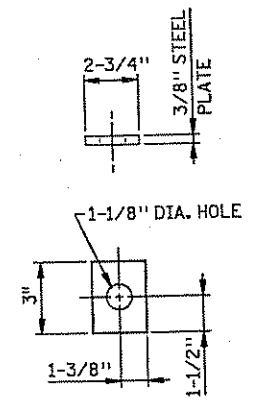
NOSE CABLE



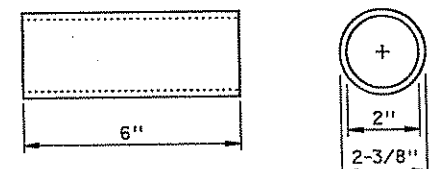
DETAIL "A"



BEARING PLATE



CABLE END PLATE



BREAKAWAY TERMINAL POST SLEEVE

- NOTES:**
- OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.
 - ALTERNATE HARDWARE DESIGNS WILL BE CONSIDERED FOR APPROVAL PROVIDED THEIR CONNECTION DETAILS, FOR THE PURPOSE OF MAINTENANCE SUBSTITUTIONS, ARE COMPATIBLE WITH THE DETAILS OF THIS STANDARD AND THEIR OPERATING CHARACTERISTICS ARE SIMILAR TO THOSE OF THE HARDWARE SHOWN IN THIS STANDARD.
 - BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.
 - SEE "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE" FOR ADDITIONAL HARDWARE INFORMATION. THE MN/DOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SHALL GOVERN.
 - ① SLOTTED RAIL NO. 1, 12' 6", SHOP BEND TO R=5' 3"
 - ② SLOTTED RAIL NO. 2, 12' 6", SHOP BEND TO R=34' 2"
 - ③ SLOTTED RAIL NO. 3, 12' 6", TANGENT
 - ④ U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
 - ⑤ NOSE CABLE W/SWAGED END BUTTONS
 - ⑥ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
 - ⑦ THRIE-BEAM GUARDRAIL, 12' 6".
 - ⑧ MEASUREMENTS ARE FROM BACK OF RAIL TO BACK OF RAIL. FOR GUARDRAIL LAPPING DETAIL, SEE SHEET 2 OF 2.
 - ⑨ MINIMUM DESIGN DEFLECTION FOR BARRIER USED.

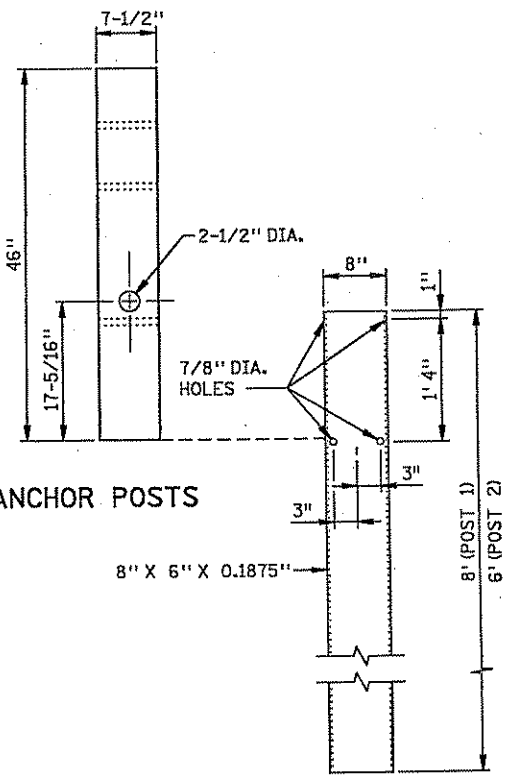
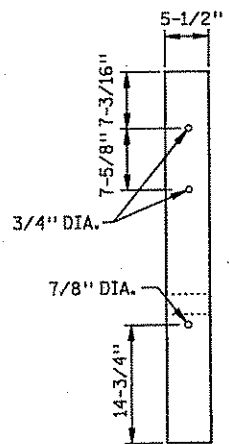
STANDARD SHEET NO. 5-297.611 (1 OF 3)
STANDARD APPROVED: AUGUST 20, 2001

THRIE BEAM BULLNOSE GUARDRAIL FOR MEDIANS
(14' 2-1/2" WIDTH)

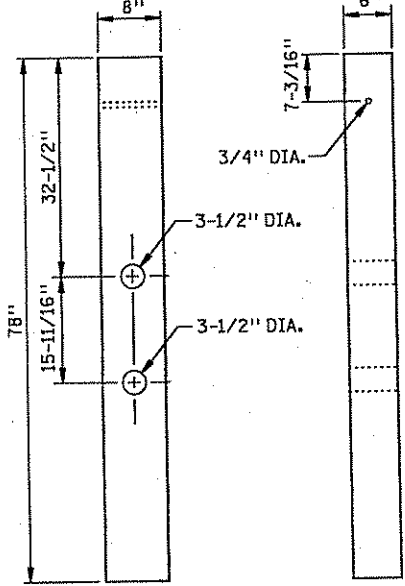
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 59 OF 471 SHEETS

REVISION DATE
7-11-02

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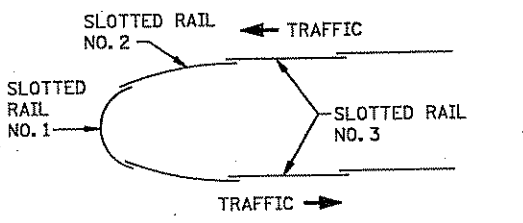


THRIE-BEAM BCT ANCHOR POSTS

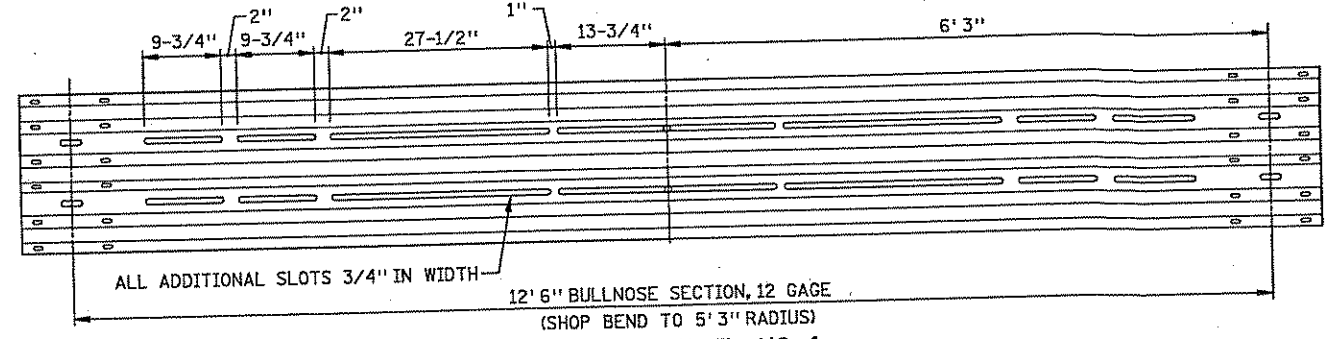


THRIE-BEAM CRT POSTS

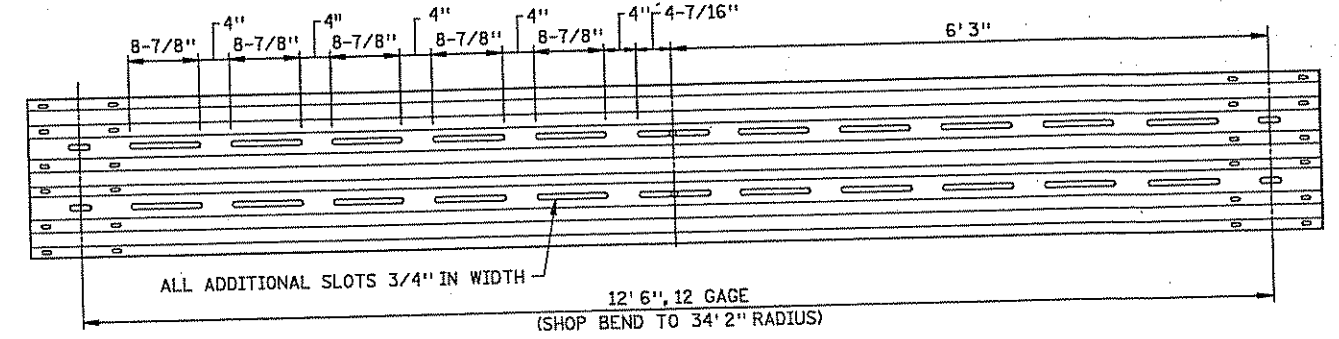
STEEL TUBE



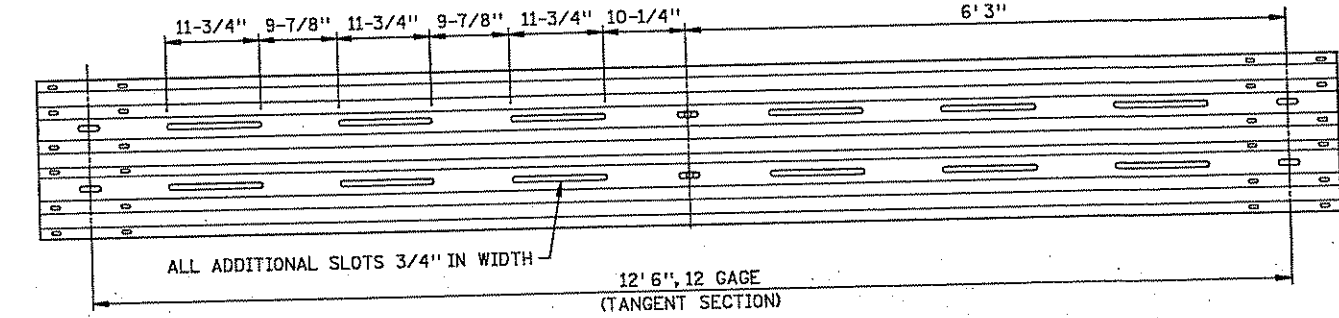
GUARDRAIL OVERLAPPING DETAIL



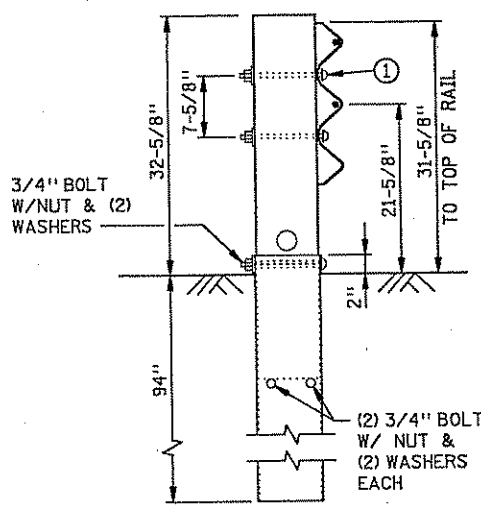
SLOTTED RAIL NO. 1



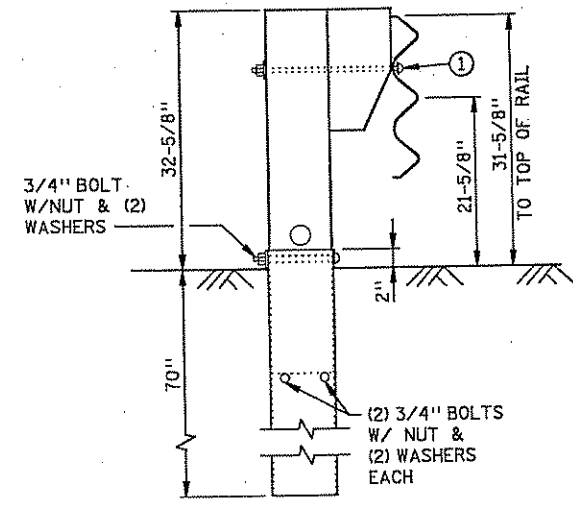
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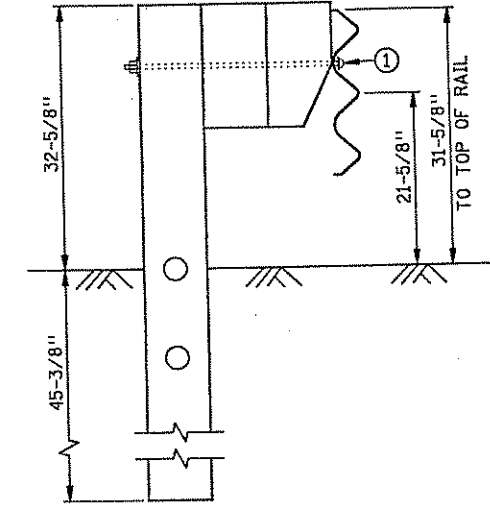
SLOTTED RAIL NO. 3



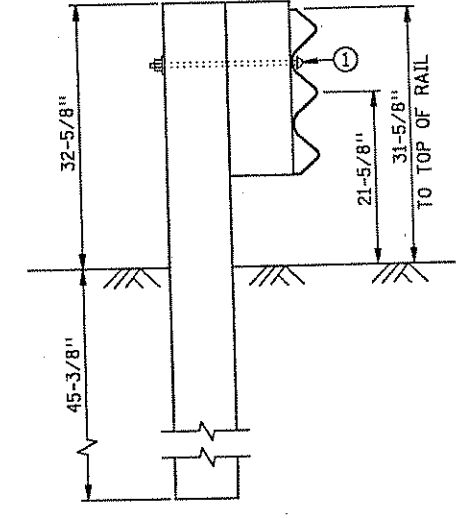
THRIE-BEAM BCT POST (WITH 96" STEEL TUBE) POST NO. 1



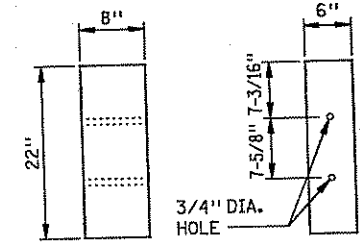
THRIE-BEAM BCT POST (WITH 72" STEEL TUBE AND 14" TAPERED BLOCK) POST NO. 2



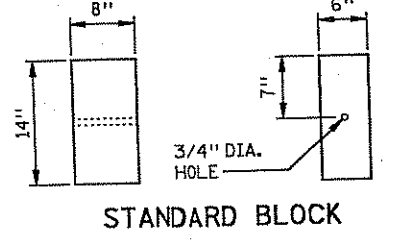
THRIE-BEAM CRT POST (78" LONG WITH 14" BLOCK AND 14" TAPERED BLOCK) POST NO. 3, 4, 5, 6, 7, & 8



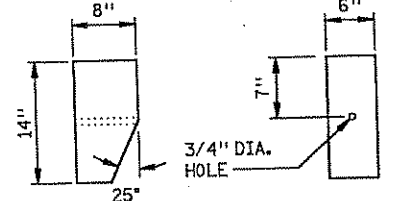
THRIE-BEAM POST (6" X 8" X 78" LONG POST WITH 6" X 8" X 22" BLOCK) POST NO. 9 & 10



STANDARD 22" LONG BLOCK



STANDARD BLOCK

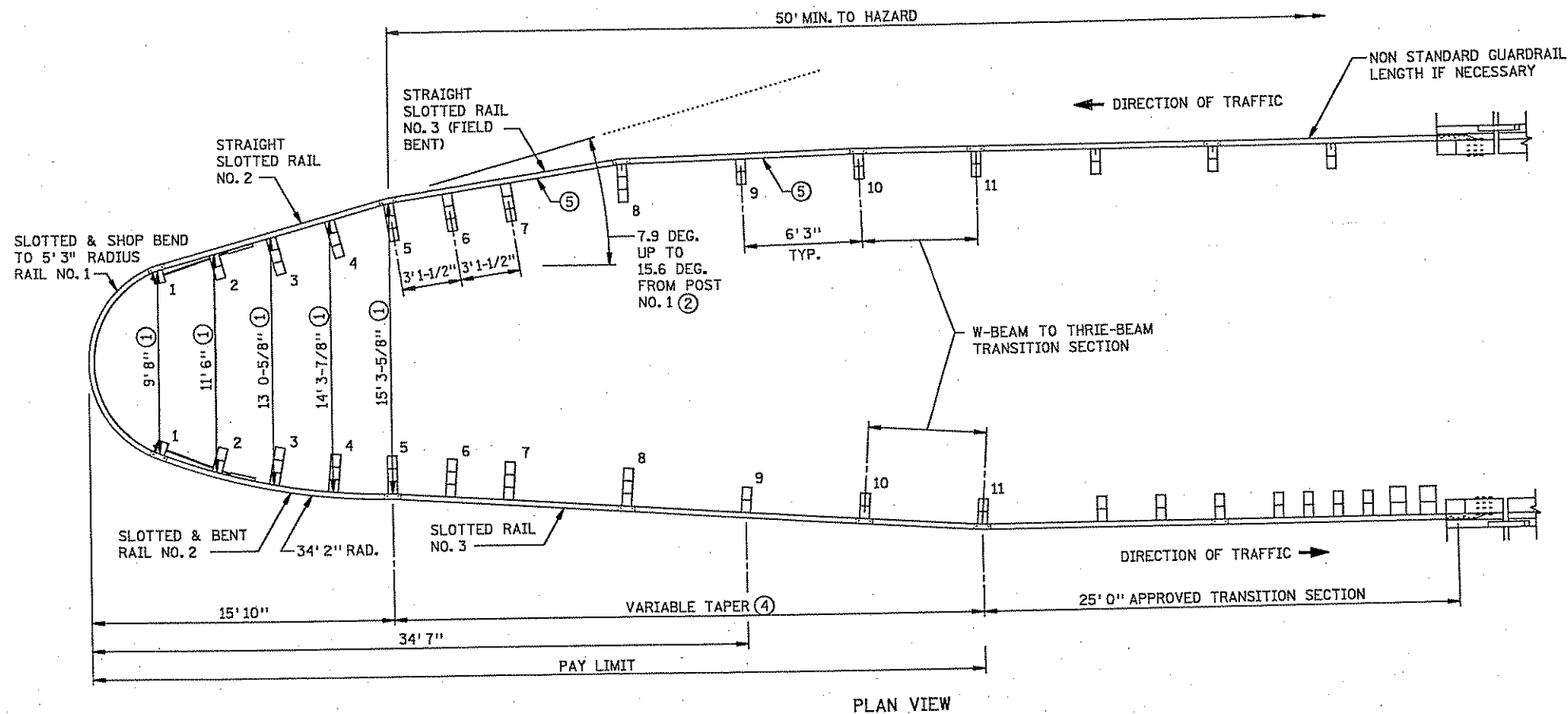


TAPERED BLOCK

NOTES:
 ① 5/8" DIA. BUTTON HEAD BOLT X LENGTH AS REQUIRED, SECURED WITH WASHER AND HEX NUT.

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STANDARD SHEET NO. 5-297.611 (2 OF 3)	TITLE: THRIE BEAM BULLNOSE GUARDRAIL FOR MEDIANS (14' 2-1/2" WIDTH)
STANDARD APPROVED: AUGUST 20, 2001	
REVISION DATE 7-11-2002	STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 60 OF 471 SHEETS



PLAN VIEW
WIDENED BULLNOSE DESIGN ③

NOTES:

- ① POST SPACINGS ACROSS THE BARRIER ARE MEASURED AS PERPENDICULAR DISTANCE ACROSS THE BARRIER FROM THE CENTER OF POST.
- ② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5, PAST POST NO. 5, TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS.
- ③ THRIE BEAM BULLNOSE, SEE SHEET NO. 59 - 60 FOR DETAILS.
- ④ FOR MEDIANS WIDER THAN 14' 2 1/2", BEFORE TAPERING THE APPROACH SIDE, TAPER THE OPPOSING SIDE AS SHOWN ON THE BULLNOSE DESIGN DETAIL. APPROACH TAPER SHOULD NOT EXCEED 1:25 IF THE BARRIER IS WITHIN THE SHY LINE OR 1:15 IF IT IS OUTSIDE.
- ⑤ THRIE BEAM MAY BE FIELD BENT UP TO 18" IN A 12' 6" LENGTH (APPROX. 6.9 DEG.). ADJUST BENDS TO FIT BULLNOSE TO SITE. SLOTTED RAIL NO. 2 ON OPPOSING SIDE MAY BE USED STRAIGHT OR NORMAL (SHOP BEND TO 34' 2" RAD.). SLOTTED RAIL NO. 3 ON OPPOSING SIDE DOES NOT HAVE TO BE SHOP BENT (BEND IN FIELD).

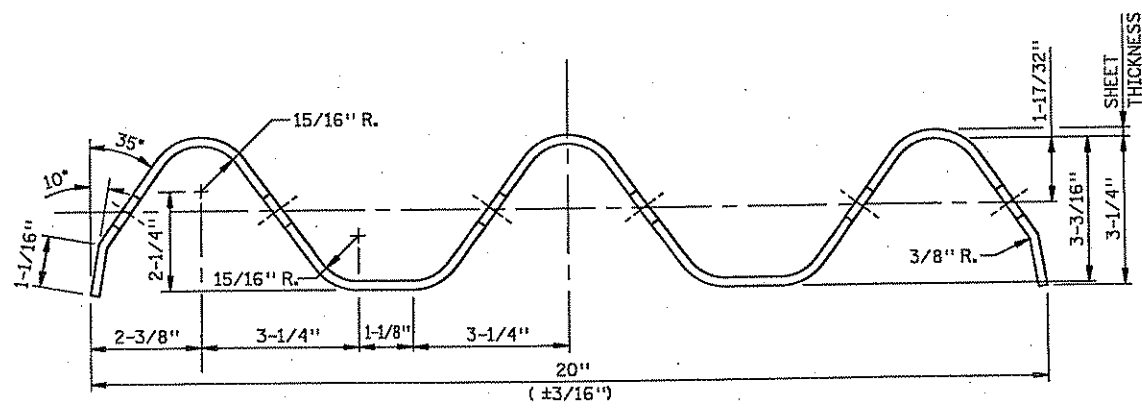
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STANDARD PLAN SHEET NO.
 5-297.611 (3 OF 3)
 STANDARD APPROVED:
 MAY 30, 2002

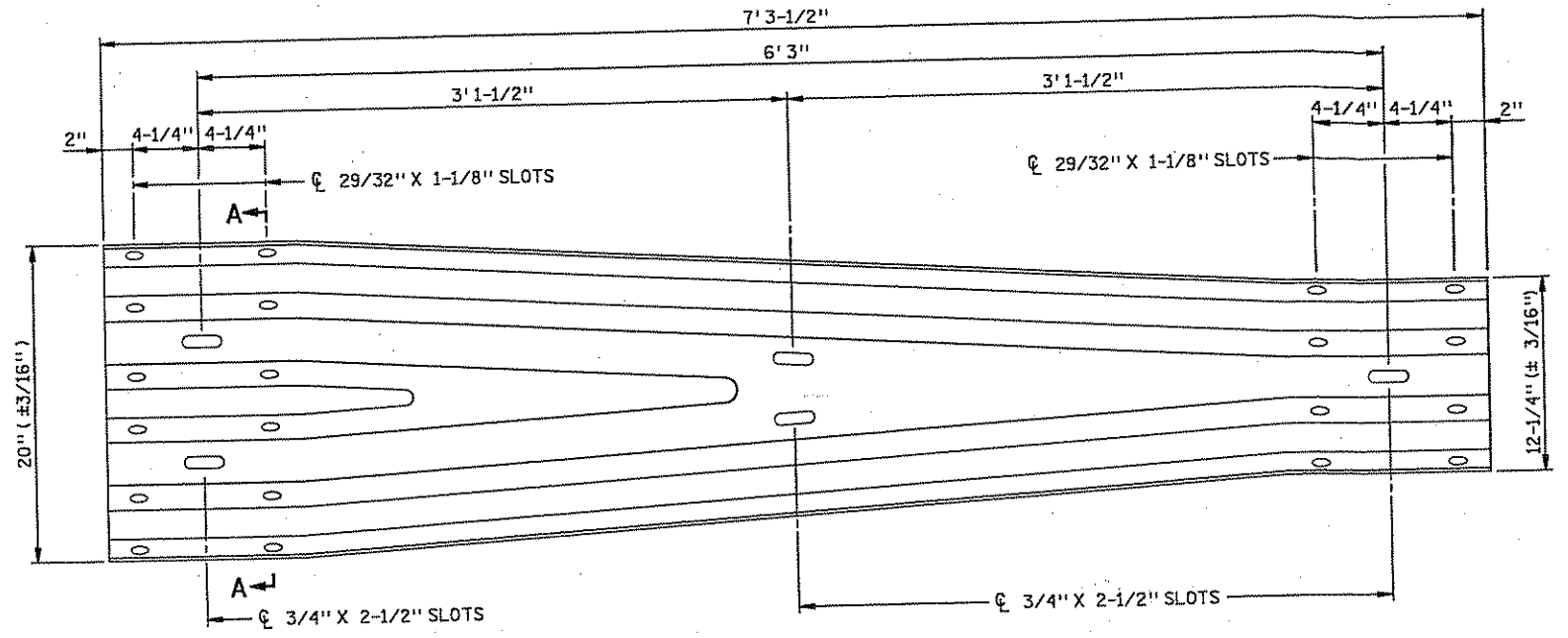
THRIE BEAM BULLNOSE GUARDRAIL FOR MEDIANS
 (WIDER THAN 14' 2-1/2")

REVISION DATE
 7-11-02

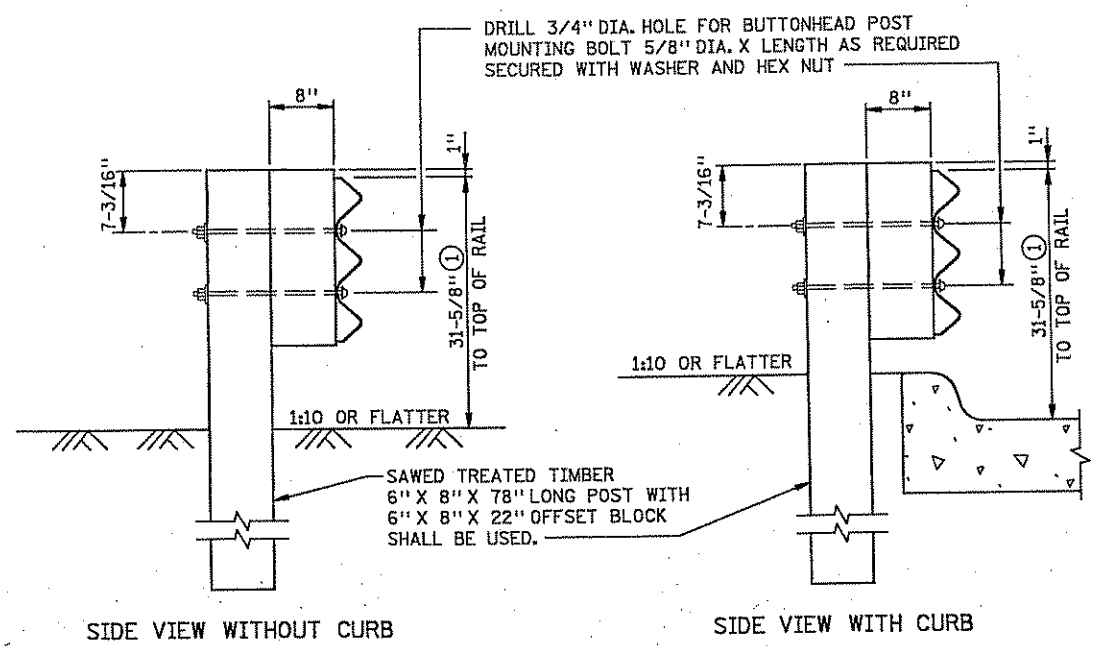
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 61 OF 471 SHEETS



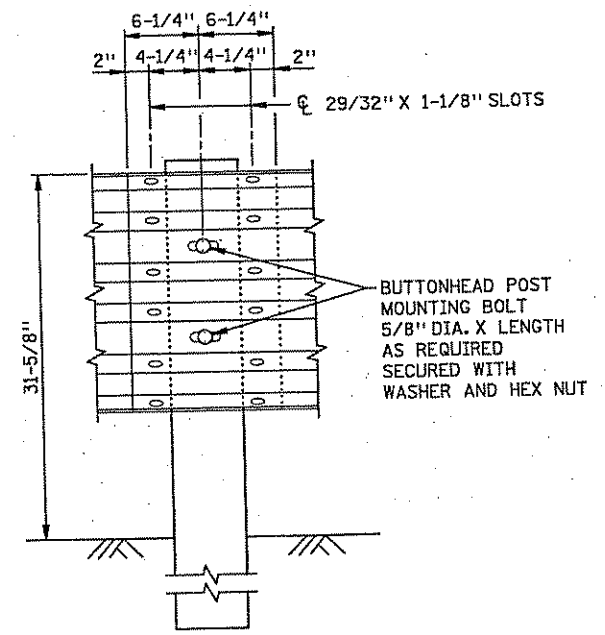
SECTION A-A



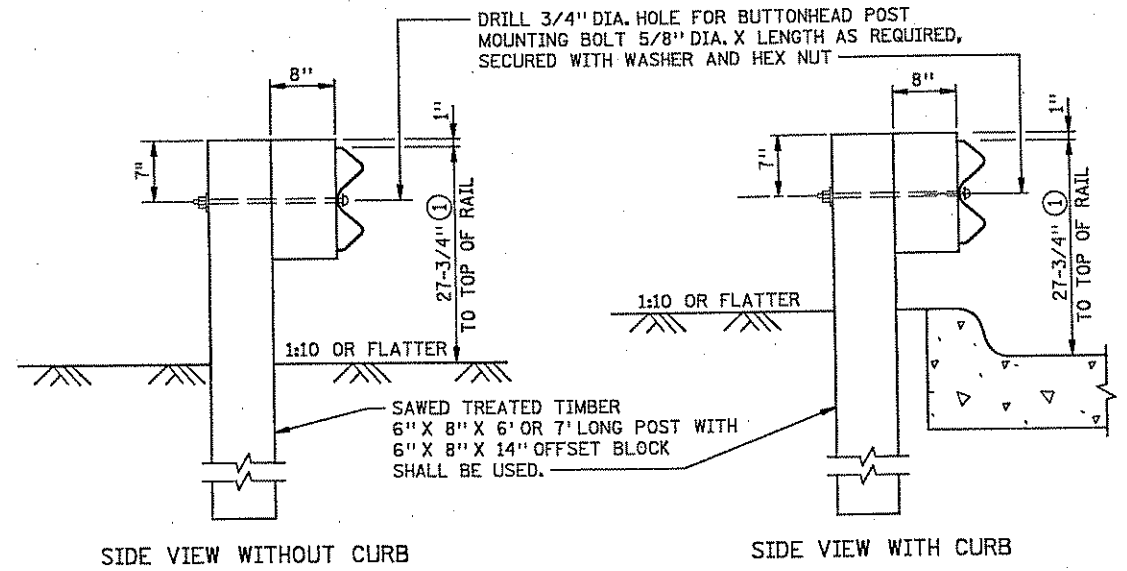
DETAILS OF W-BEAM TO THRIE BEAM TRANSITION SECTION



THRIE-BEAM AND POST ASSEMBLY



RAIL ELEMENT SPLICING AND POST MOUNTING DETAIL



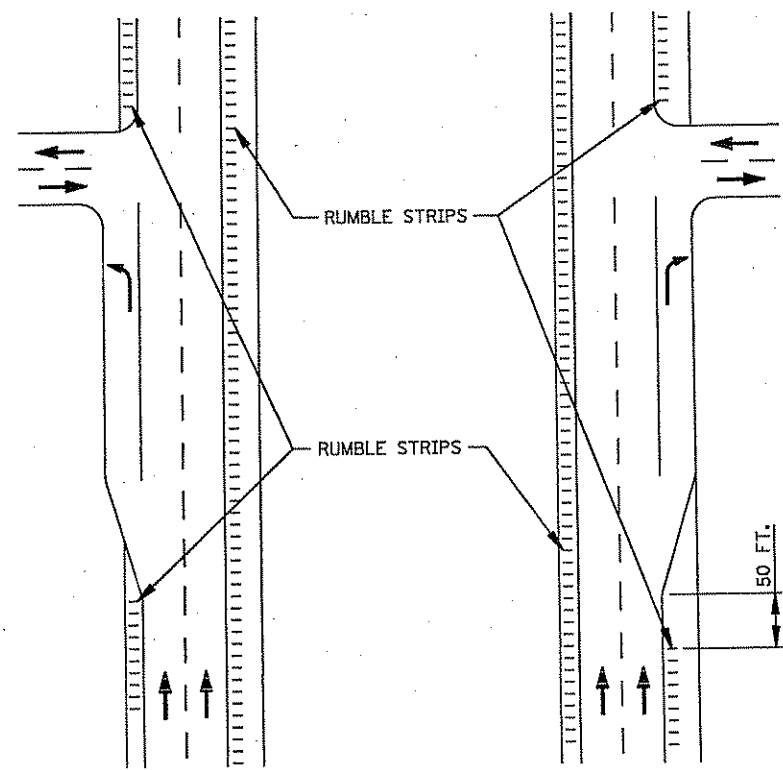
W-BEAM AND POST ASSEMBLY

NOTES:

- NOT NCHRP-350 APPROVED.
- IN LOCATIONS WITH CURB THE FACE OF THE GUARDRAIL SHALL BE LOCATED AT THE FACE OF THE CURB. THE HEIGHT OF THE GUARDRAIL SHALL BE MEASURED FROM THE GUTTER TO THE TOP OF THE RAIL.
- BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.
- SEE "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE" FOR ADDITIONAL HARDWARE INFORMATION. THE MN/DOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SHALL GOVERN.
- ① DIFFERENCE IN HEIGHT BETWEEN THE TRANSITION AND INPLACE OR STANDARD W-BEAM RAIL SHALL BE MADE UP IN THE FIRST FULL W-BEAM RAIL SECTION FOLLOWING THE TRANSITION.

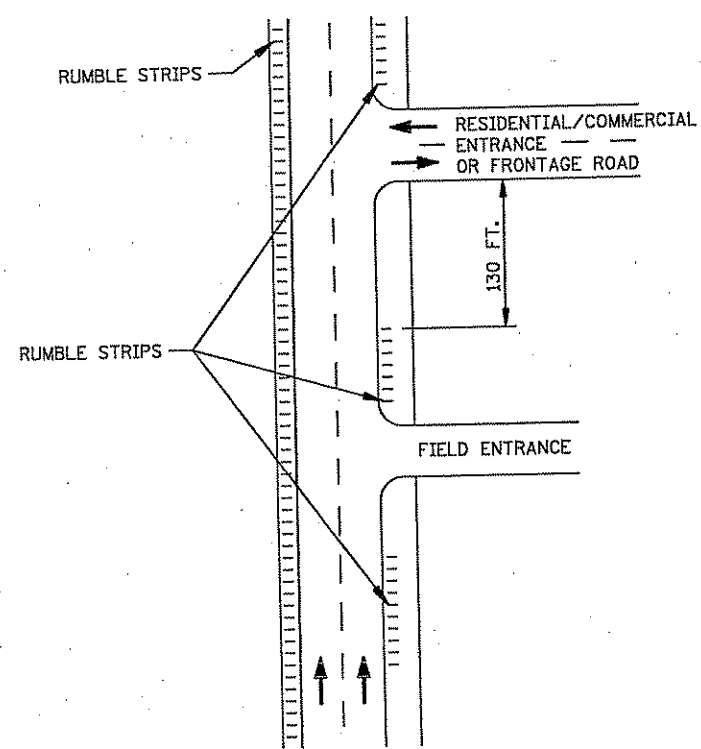
STANDARD SHEET NO. 5-297.614	TITLE: W-BEAM TO THRIE BEAM TRANSITION
STANDARD APPROVED: AUGUST 20, 2001	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 62 OF 471 SHEETS	

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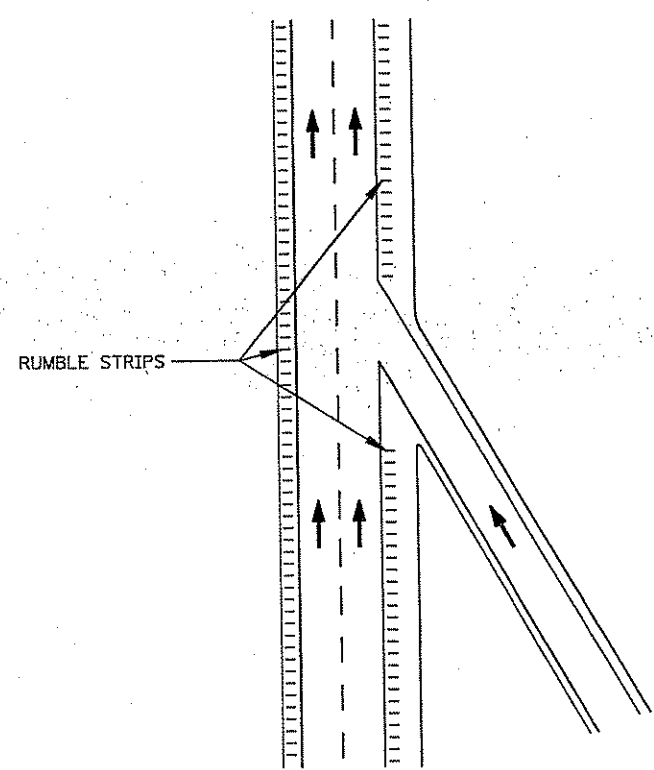


LEFT TURN LANE

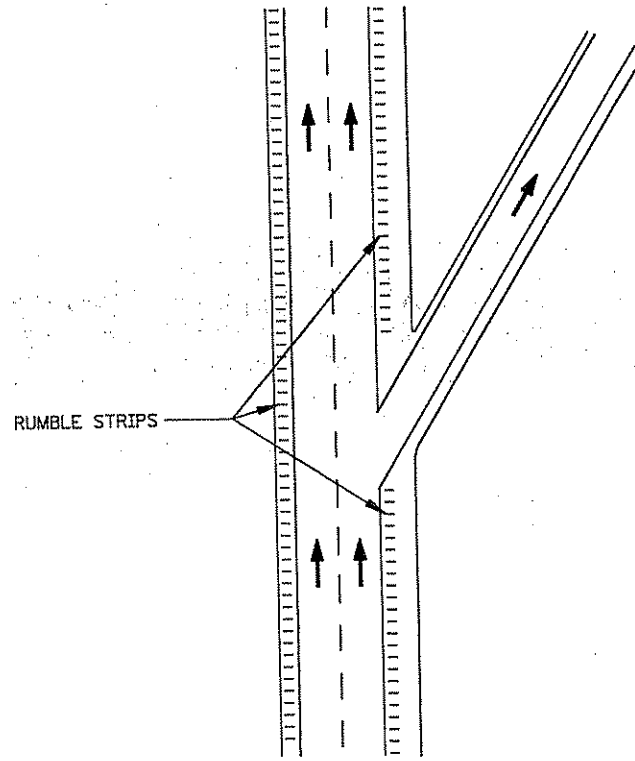
RIGHT TURN LANE



ENTRANCE ROADS



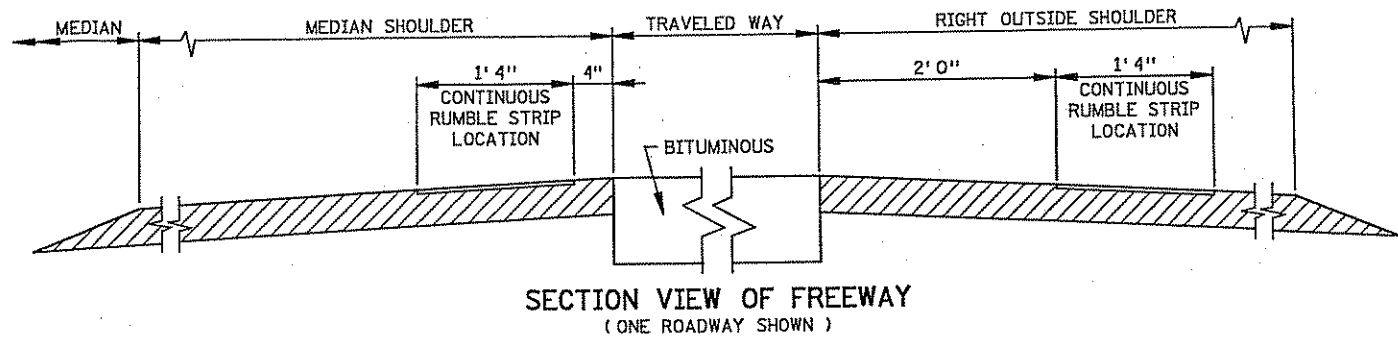
ACCELERATION LANE



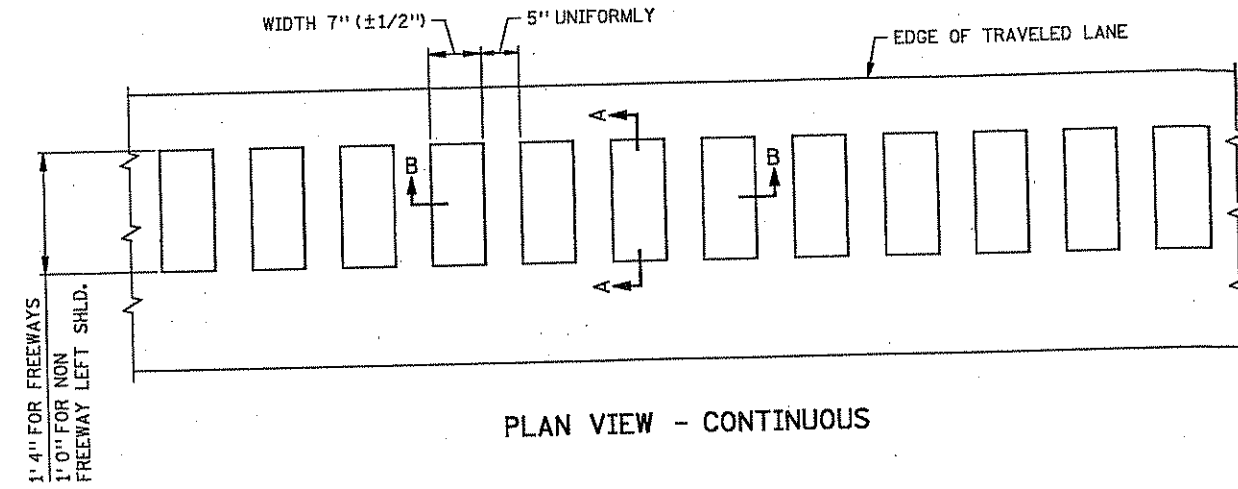
DECELERATION LANE

APPROPRIATE BREAKS

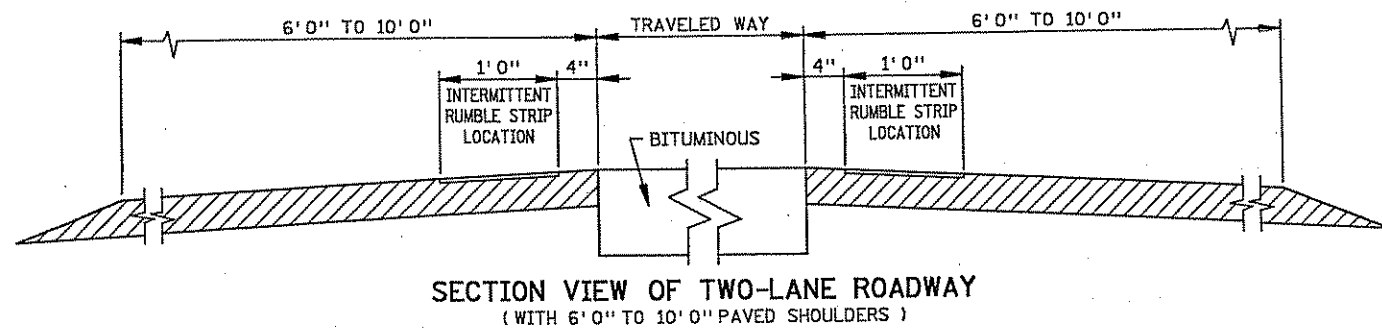
STANDARD SHEET NO. 5-297.615 (1 OF 2)	TITLE: SHOULDER RUMBLE STRIPS FOR BITUMINOUS ROADWAYS
STANDARD APPROVED: NOVEMBER 22, 2000	
STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 63 OF 471 SHEETS	



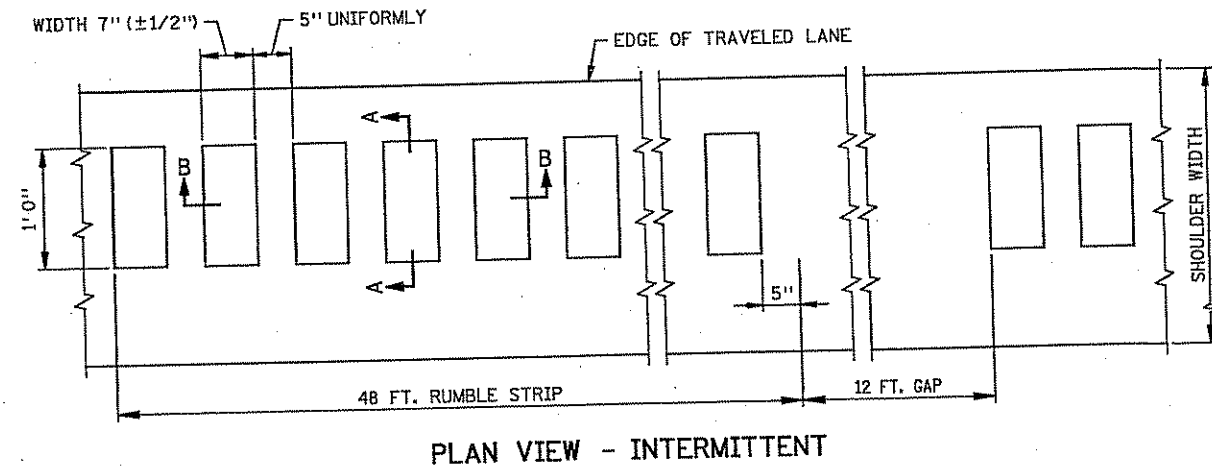
SECTION VIEW OF FREEWAY
(ONE ROADWAY SHOWN)



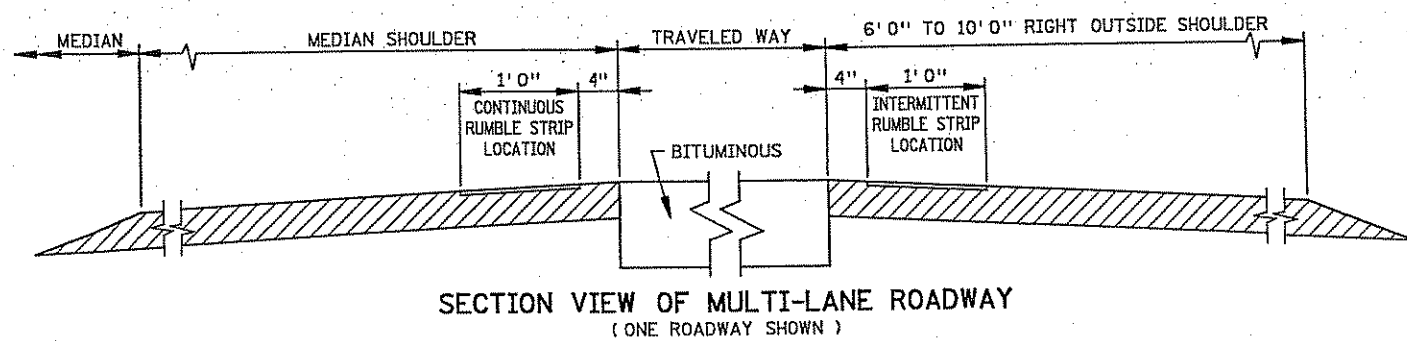
PLAN VIEW - CONTINUOUS



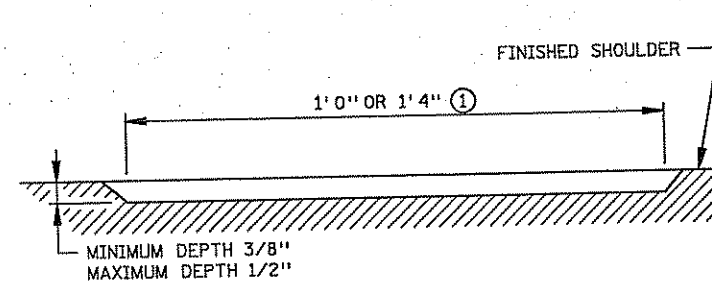
SECTION VIEW OF TWO-LANE ROADWAY
(WITH 6' 0" TO 10' 0" PAVED SHOULDERS)



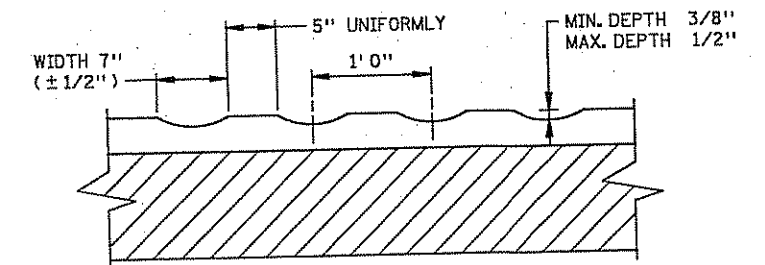
PLAN VIEW - INTERMITTENT



SECTION VIEW OF MULTI-LANE ROADWAY
(ONE ROADWAY SHOWN)



SECTION A-A



SECTION B-B

NOTES:

RUMBLE STRIPS IN BITUMINOUS SHOULDERS SHOULD BE PRODUCED BY THE MILLING METHOD. SHOULDER WIDTHS OF 4 FEET OR LESS WITH RUMBLE STRIPS WILL NOT ADEQUATELY ACCOMMODATE BICYCLES. THEREFORE, RUMBLE STRIPS SHOULD NOT BE PLACED ON THESE ROADWAY SECTIONS UNLESS THE DISTRICT TRAFFIC ENGINEER HAS DOCUMENTED A SERIOUS ROR ACCIDENT PROBLEM AND LITTLE OR NO BICYCLE TRAFFIC IS EXPECTED. DISTRICTS SHALL CONTACT THE STATE BICYCLE COORDINATOR TO DETERMINE THE AMOUNT OF BICYCLE TRAFFIC ON A ROADWAY.

① DEPENDS ON TYPE OF ROADWAY. SEE CROSS SECTIONS ON LEFT SIDE OF SHEET.

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STANDARD SHEET NO.
5-297,615 (2 OF 2)
STANDARD APPROVED:
NOVEMBER 22, 2000

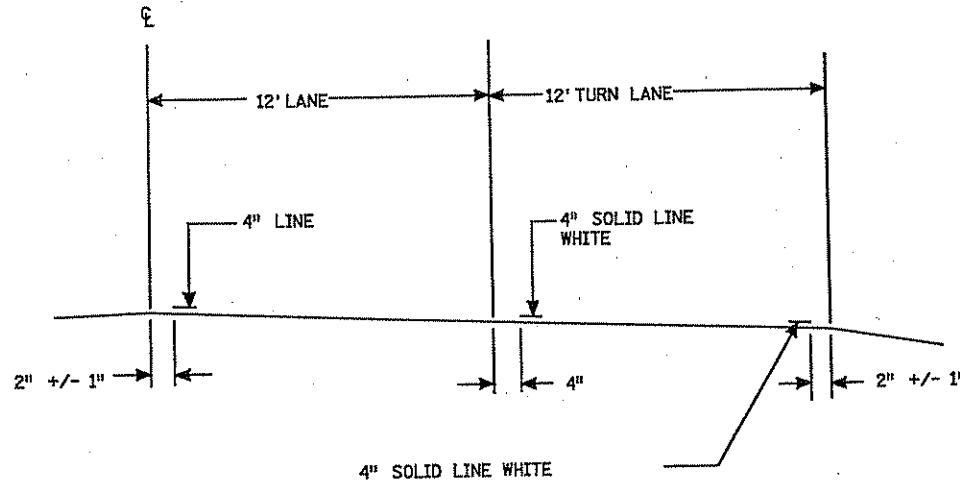
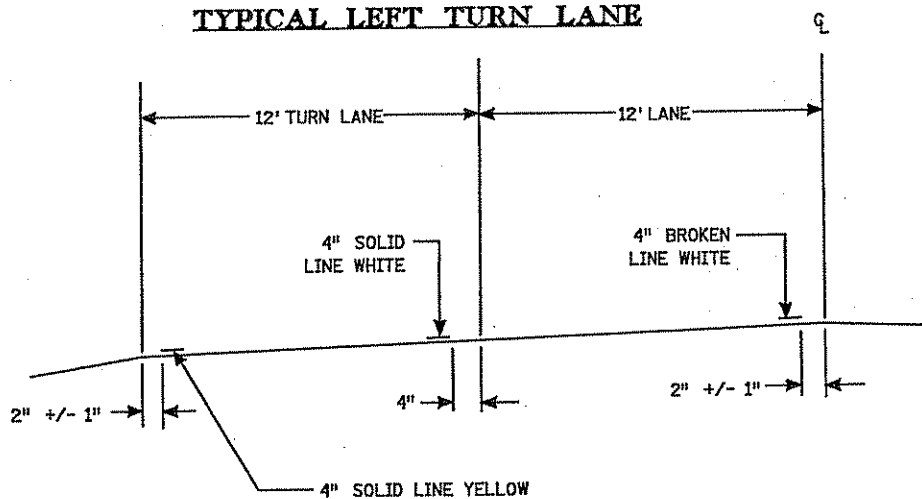
TITLE:

SHOULDER RUMBLE STRIPS
FOR BITUMINOUS ROADWAYS

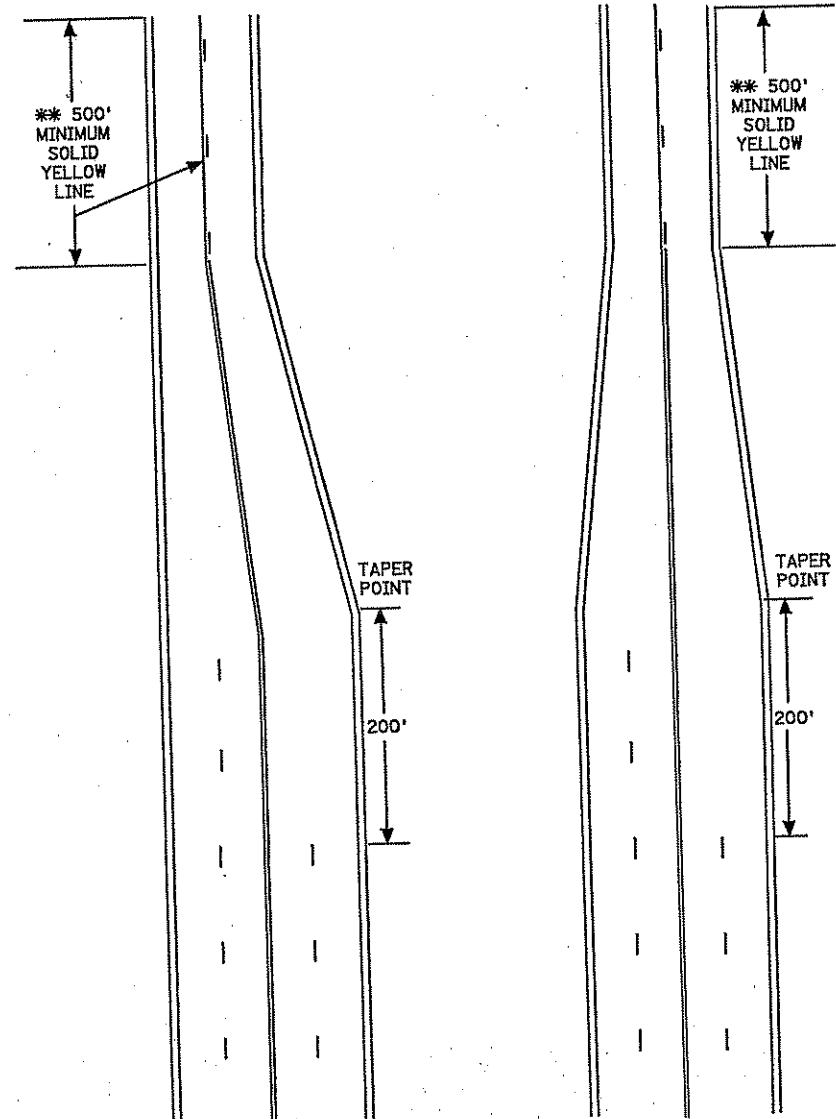
REVISION DATE
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STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 64 OF 471 SHEETS

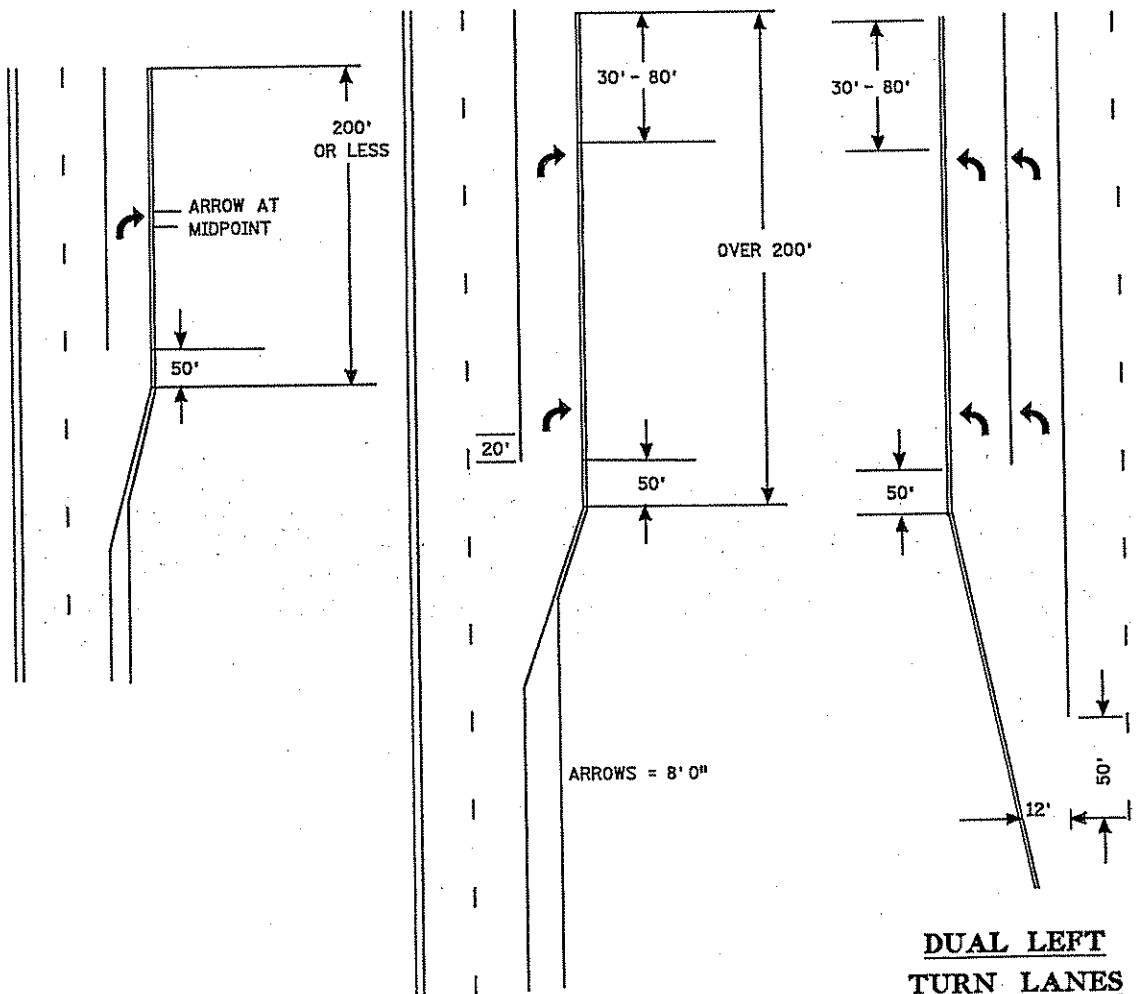
TYPICAL LEFT TURN LANE



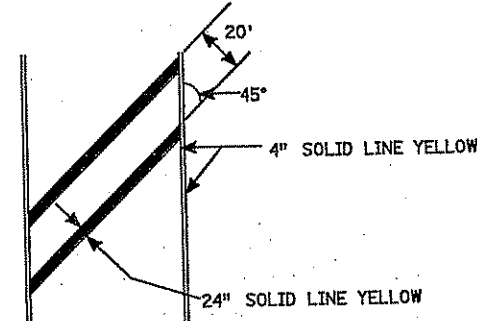
TYPICAL LANE REDUCTION TRANSITION



TYPICAL MESSAGE PLACEMENT FOR TURN LANES



TYPICAL MARKINGS FOR LEFT TURN ISLANDS



AT SPEEDS LESS THAN 40 MPH THE WIDTH OF THE CROSSHATCH LINE MAY BE REDUCED TO 12".

AT SPEEDS 40 MPH AND OVER THE SPACING MAY BE INCREASED TO 30' BETWEEN CROSSHATCH LINES.

- * SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER OF ARROWS.
- ** IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

35 MPH SPEED LIMIT OR LESS.....	500'
40-50 MPH SPEED LIMIT.....	650'
55 MPH SPEED LIMIT.....	800'

DUAL LEFT TURN LANES

** 500' SOLID YELLOW

PAVEMENT MARKING TYPICALS

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REVISED: 02-JAN-2004

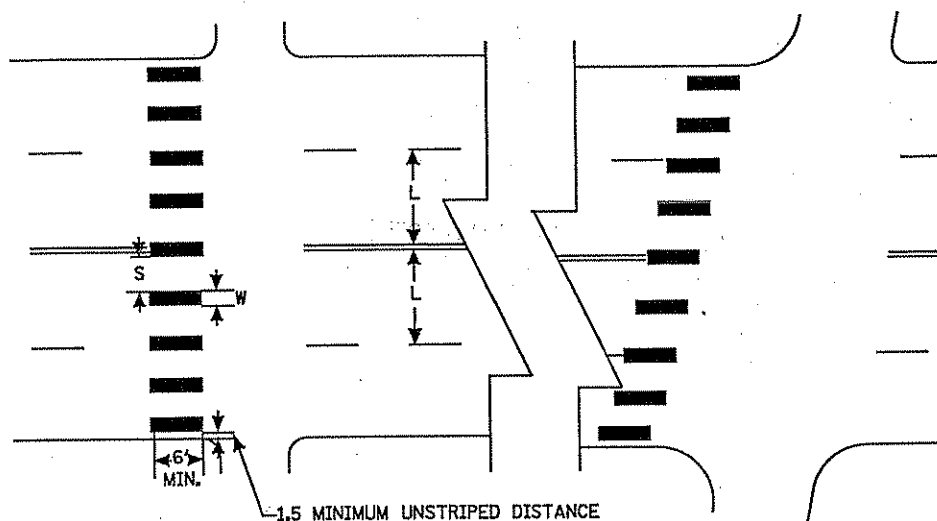
CERTIFIED BY *[Signature]*
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 44277 DATE 8-06-09

STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO.64A OF 471 SHEETS

MARKINGS FOR PEDESTRIAN CROSSWALKS

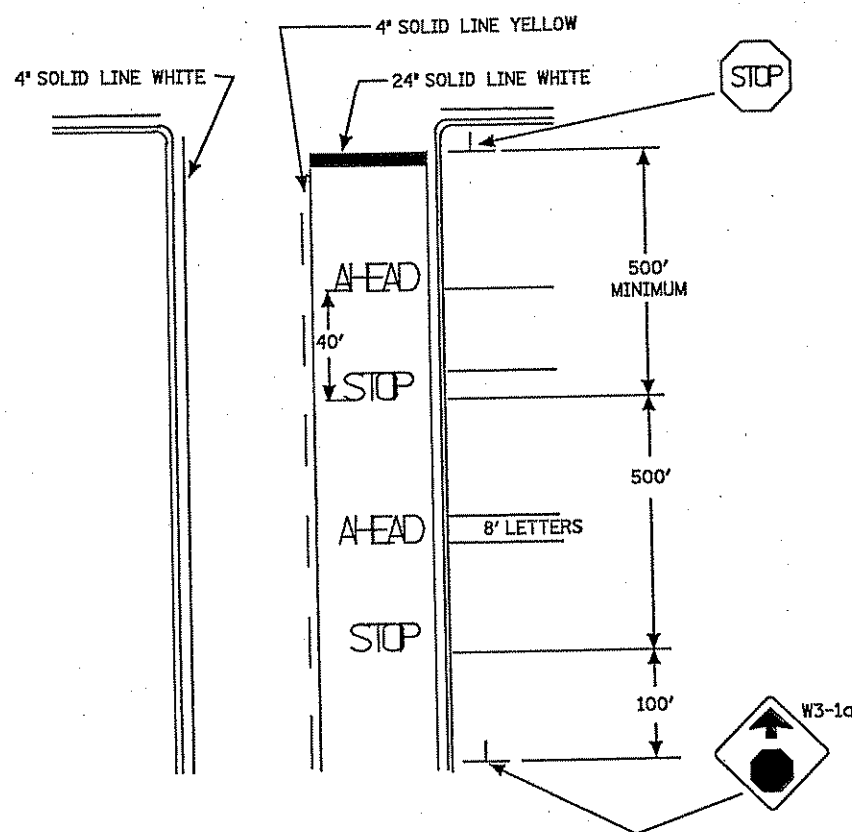
(L) WIDTH OF INSIDE LANE	(W) WIDTH OF PAINTED AREA	(S) WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'



NOTES:

1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
2. A MINIMUM OF 1.5 FT. CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB, IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11 FT. INSIDE LANE.
4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.

PLACEMENT FOR "STOP AHEAD" MARKINGS AND STOP LINES



NOTES:

1. DOUBLE PAVEMENT MESSAGE AS SHOWN SHOULD BE INSTALLED WHENEVER THE STOP AHEAD SIGN IS PLACED A MINIMUM OF 336m (1100') IN ADVANCE OF THE STOP SIGN
2. IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

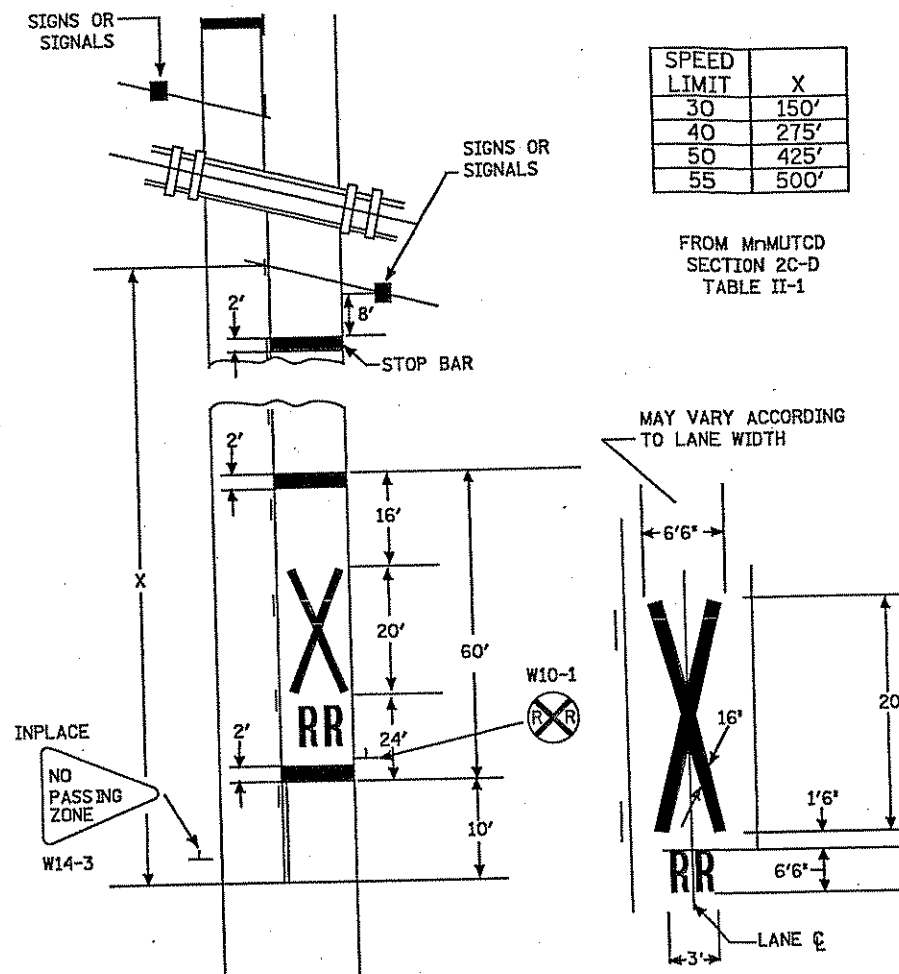
35 MPH SPEED LIMIT OR LESS	150 m (500')
40-50 MPH SPEED LIMIT	200 m (650')
55 MPH SPEED LIMIT	245 m (800')

3. WHERE STOP LINES ARE USED WITHOUT A MARKED CROSSWALK, THE STOP LINE SHOULD BE PLACED AT THE DESIRED STOPPING POINT, AND IN NO CASE NO MORE THAN 9 m (30 FEET) OR LESS THAN 1 m (4 FEET) FROM THE NEAREST EDGE OF THE INTERSECTING CURB LINE OR THE NEAR EDGE OF THE SHOULDER. WHERE STOP LINES AND CROSSWALK MARKINGS ARE USED TOGETHER, THE STOP LINE SHOULD BE PLACED 1.2 m (4 FEET) IN ADVANCE OF AND PARALLEL TO THE NEAREST CROSSWALK LINE.

IF A STOP LINE IS USED IN CONJUNCTION WITH A STOP SIGN, IT SHOULD ORDINARILY BE PLACED IN LINE WITH THE STOP SIGN. HOWEVER, IF THE SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP LINE SHOULD BE PLACED AT THE STOPPING POINT.

METRO DISTRICT NOTE: STOP BARS AND CROSSWALK PAVEMENT MARKINGS WILL NOT BE INSTALLED AT THE SAME LOCATION UNLESS OTHERWISE DETAILED IN THE PLAN.

MARKINGS FOR RAILROAD CROSSINGS



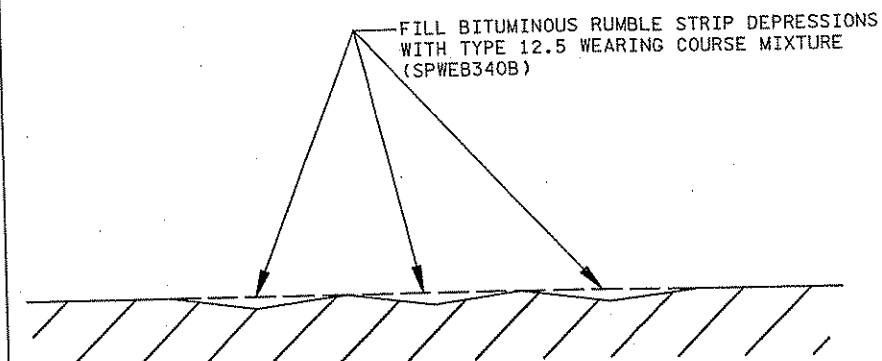
NOTES:

1. THE DISTANCE FROM THE RAILROAD CROSSING MARKING TO THE NEAREST TRACK WILL VARY ACCORDING TO THE APPROACH SPEED AND SIGHT DISTANCE OF THE VEHICULAR TRAFFIC APPROACHING, BUT SHOULD NOT BE LESS THAN 50 FEET.
2. ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.
3. THE STOP LINE MAY BE PARALLEL TO AND 15 FEET FROM THE TRACKS WHERE THERE ARE RAILROAD CROSSBUCK SIGNS.

PAVEMENT MARKING TYPICALS

GENERAL TRAFFIC CONTROL NOTES:

- 1 ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES, ETC. SHALL CONFORM TO REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
- 2 ALL IMPACT ATTENUATORS PROTECTING EXPOSED STAGING BARRIER ENDS SHALL CONFORM TO REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FIGURE 6F-9 (PORTABLE CONCRETE BARRIER PLACEMENT AND END TREATMENTS).
- 3 IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.
- 4 THE LOCATIONS AND QUANTITIES OF TRAFFIC CONTROL DEVICES SHOWN ON THESE PLANS ARE APPROXIMATE AND ARE SUBJECT TO REVISION BY THE ENGINEER.
- 5 PAVEMENT MARKINGS SHALL BE PAINT UNLESS NOTED OTHERWISE. BROKEN LINES SHALL CONSIST OF 10 FOOT LINE FOLLOWED BY 40 FOOT GAP.
- 6 ALL TRAFFIC THRU LANES SHALL BE A MINIMUM OF 12 FOOT IN WIDTH UNLESS NOTED OTHERWISE.
- 7 REFLECTORIZED DRUMS USED FOR CHANNELIZATION SHALL HAVE SPACING AS NOTED IN THE PLANS. DRUM LOCATIONS AND SPACINGS SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE SUBJECT TO REVISION BY THE ENGINEER.
- 8 THE CONTRACTOR SHALL MAINTAIN A 2 FOOT MINIMUM CLEAR DISTANCE BETWEEN THE EDGE OF THE TRAVEL LANE AND THE NEAREST EDGE OF ANY ADJACENT TRAFFIC CONTROL DEVICES (DRUMS, BARRICADES, BARRIERS, ETC.) UNLESS OTHERWISE NOTED.
- 9 THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES TO THE SATISFACTION OF THE ENGINEER.
- 10 THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THESE TRAFFIC CONTROL PLANS TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL APPROPRIATE ORIGINAL PAVEMENT MARKINGS AFTER APPROVAL TO DO SO BY THE ENGINEER.
- 11 ALL SIGNS TO BE SALVAGED ALONG CSAH 14 SHALL BE KEPT IN GOOD CONDITION AND USED AS SHOWN ON THESE PLANS.
- 12 ALL SIGNS TO BE REMOVED SHALL BE IMMEDIATELY REPLACED WITH THE NECESSARY TEMPORARY SIGNING AS INDICATED IN THESE PLANS.
- 13 THE CONTRACTOR SHALL REMOVE, SALVAGE, OR COVER, AS APPROPRIATE, ALL EXISTING SIGNING WHICH CONFLICTS WITH THIS TRAFFIC CONTROL PLAN TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL RESTORE ALL APPROPRIATE ORIGINAL SIGNING AFTER APPROVAL TO DO SO 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 TO TRAFFIC CONTROL.
- 14 THESE TRAFFIC CONTROL LAYOUTS DO NOT SHOW ALL INPLACE SIGNING. THE CONTRACTOR SHALL RELOCATE ALL APPROPRIATE INPLACE SIGNING TO MAINTAIN PROPER SIGN VISIBILITY DURING CONSTRUCTION AS DEEMED NECESSARY BY THE ENGINEER.
- 15 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 FROM OPEN EXCAVATIONS, ADJACENT EQUIPMENT, ETC.
- 16 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.
- 17 1:4 MAXIMUM TEMPORARY CONSTRUCTION EDGE SLOPES SHALL BE MAINTAINED AT ALL TIMES EXCEPT WHEN EXCAVATION WORK TEMPORARILY MANDATES STEEPER EDGE SLOPES, AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL MINIMIZE WORK LENGTHS TO FACILITATE IMMEDIATE REESTABLISHMENT OF 1:4 MAXIMUM TEMPORARY EDGE SLOPES FOLLOWING THE EXCAVATION WORK TO THE SATISFACTION OF THE ENGINEER. 1:1 MAXIMUM TEMPORARY CONSTRUCTION EDGE SLOPES MAY BE USED IF PROTECTED BY PORTABLE CONCRETE MEDIAN BARRIER.
- 18 THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE, AS APPROPRIATE, ALL SIGNS, PAVEMENT MARKINGS, AND DEVICES SHOWN ON THESE PLANS TO THE SATISFACTION OF THE ENGINEER.
- 19 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
- 20 ALL REQUIRED LANE CLOSURES ALONG C.S.A.H. 14 WILL NOT BE PERMITTED BETWEEN THE HOURS OF 6:00 A.M. AND 9:00 A.M. AND BETWEEN THE HOURS OF 3:30 P.M. AND 6:30 P.M. TO MINIMIZE INCONVENIENCE TO THE TRAVELING PUBLIC.
- 21 ALL ORANGE SIGNS SHALL BE MADE OF HIGH PERFORMANCE FLOURESCENT SIGN SHEETING OR AN APPROVED SUBSTITUTE.
- 22 LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
- 23 IN ALL WORK AREAS THAT REQUIRE "CONSTRUCTION UNDER TRAFFIC" THE CONTRACTOR SHALL PROTECT WORK AREAS AT ALL TIMES TO PROVIDE FOR SAFE TRAFFIC MOVEMENT TO THE SATISFACTION OF THE ENGINEER.
- 24 FIELD CONDITIONS MAY REQUIRE MODIFICATION OF THE TRAFFIC CONTROL PLAN. ANY MODIFICATION SHALL BE APPROVED BY THE ENGINEER IN THE FIELD.
- 25 ADVANCE WARNING SIGNS SHALL BE MOUNTED ON STANDARD TYPE III BARRICADES, POST MOUNTED, SIGN STANDS, OR AS APPROVED BY THE ENGINEER.
- 26 POSTS SHALL BE PLUMB, WITH SIGNS INSTALLED LEVEL AND AT PROPER MOUNTING HEIGHT IN ACCORDANCE WITH M.M.U.T.C.D. IF POST MOUNTING IS NOT POSSIBLE, SIGNS SHALL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER.
- 27 ALL SIGNS AND TRAFFIC CONTROL ITEMS SHALL BE LIKE NEW AND REFLECT UNIFORMLY AT NIGHT.
- 28 SPACING OF SIGNS AND TRAFFIC CONTROL DEVICES MAY BE ADJUSTED AS APPROVED BY THE ENGINEER.
- 29 THE CONTRACTOR SHALL PLACE PERMANENT PAVEMENT MARKINGS AND INSTALL PERMANENT SIGNING (TYPES C, D, AND OH) DURING EACH STAGE OF CONSTRUCTION AS APPROPRIATE AND CONSISTENT WITH THE REQUIREMENTS OF THE TEMPORARY TRAFFIC CONTROL.
- 30 ANY TEMPORARY PORTABLE CONCRETE TRAFFIC BARRIER USED ON THIS PROJECT SHALL BE PLACED AS DETAILED IN THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FIGURE 6F-9. SEE STAGING AND TRAFFIC CONTROL PLANS FOR DESIGN SPEED ON IMPACT ATTENUATOR TO BE USED. TRAFFIC BARRIER SHALL HAVE BARRIER DELINEATORS SPACED AT 30 FEET WITH A MINIMUM AREA OF 24 SQ IN.



AS DESCRIBED IN THE STAGING NARRATIVE, FILL IN BITUMINOUS RUMBLE STRIP DEPRESSIONS ON THE BYPASS LOCATIONS ALONG 35E NB AND 35E SB. BITUMINOUS MATERIAL SHALL BE REMOVED FROM DEPRESSIONS AFTER BYPASS IS REMOVED.

AN ALTERNATE DESIGN APPROVED BY THE ENGINEER MAY BE SUBSTITUTED.

THIS WORK IS INCLUDED IN TRAFFIC CONTROL.

SHOULDER RUMBLE STRIP DETAIL

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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: **KYLE LUDWIG**
 Date: **9-01-09** License #: **46021**

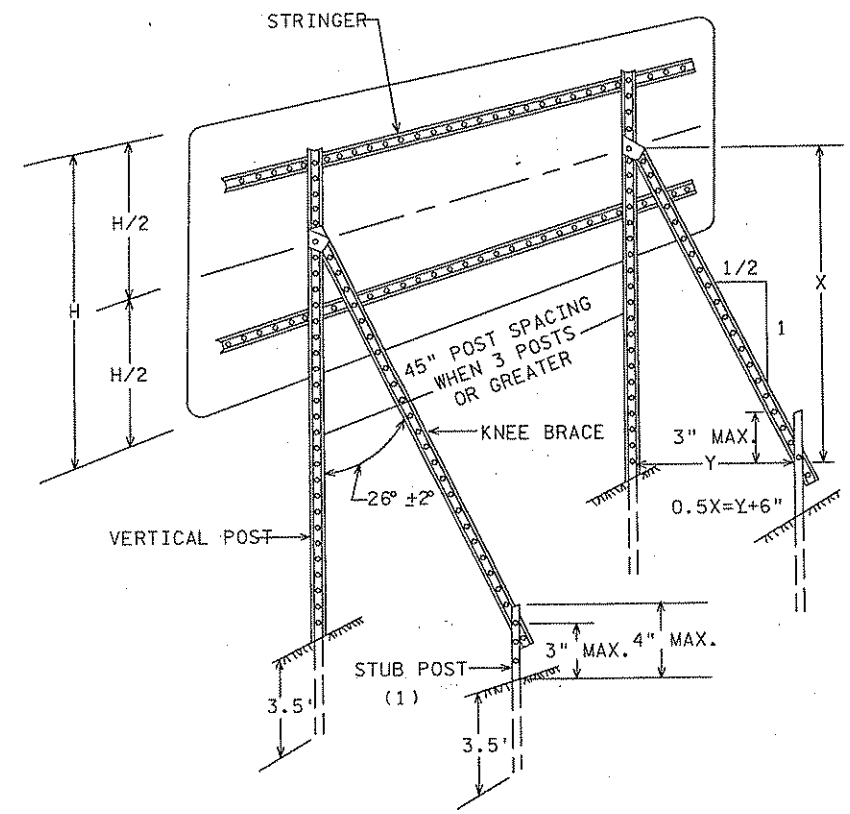
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X
 DRAWN BY A. VACEK
 DESIGNED BY K. LUDWIG
 CHECKED BY A. VACEK
 COMM. NO. 0086509



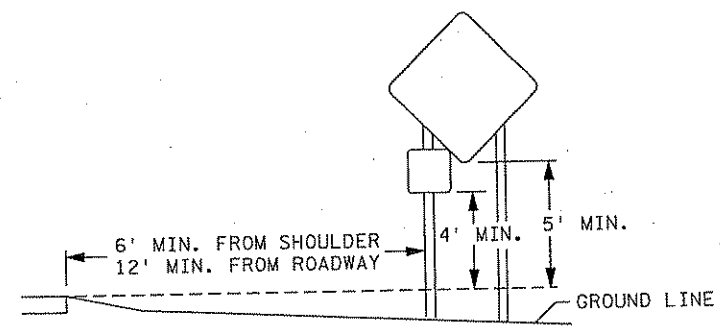
ANOKA COUNTY		SHEET 65 OF 471
TRAFFIC CONTROL GENERAL NOTES/ DETAILS C.S.A.H. 14/T.H. 35E INTERCHANGE		

SIGN DATA

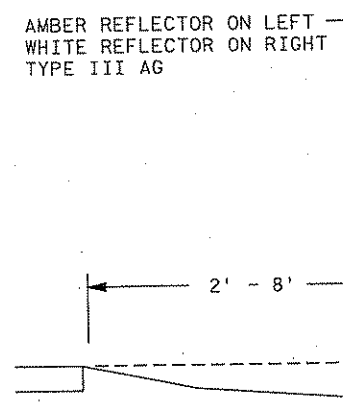
SIGNS TO BE INSTALLED ON DRIVEN U-POSTS SHALL BE INSTALLED IN ACCORDANCE WITH TABLE 1 OR TABLE 2 BELOW. SIGN PANELS SHALL BE INSTALLED ON SIGN STRUCTURES TO MEET THE MINIMUM 5 FEET DEPICTED ON THE TYPICAL RURAL DESIGN DETAIL, THE 7 FEET DEPICTED ON THE TYPICAL URBAN DESIGN DETAIL, OR MINIMUM 7 AND 9 FEET DEPICTED ON THE TYPICAL MOUNTING DETAIL ON THIS SHEET.



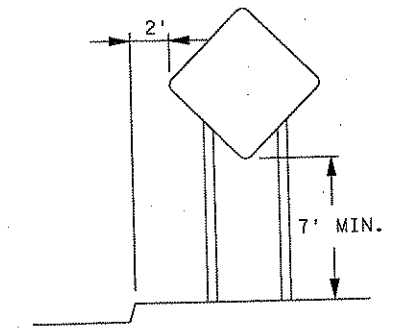
**TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS**



TYPICAL RURAL DESIGN



DELINEATION MOUNTING



TYPICAL URBAN DESIGN

**TABLE 1
STANDARD CONSTRUCTION SIGNS IN MN/DOT STANDARD SIGNS MANUAL**

PANEL SIZE (IN.)	POSTS			
	NO. & TYPE	SPACING (IN.)	KNEE BRACES QUANT.	LENGTH (FT.)
24 x 24	2-U	18		13
30 x 24	2-U	18		13
36 x 30	2-U	24		13
36 x 36	2-U	18		14
42 x 36	2-U	30		14
48 x 48	2-U	30		15
60 x 60	2-U	42	1	16
72 x 72	2-U	42	2	17
96 x 54	2-U	54	2	16
168 x 132	4-U	48	4	20

GENERAL NOTES:
 1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
 2. SEE STANDARD SIGNS MANUAL FOR PUNCHING HOLES.

TABLE 2

SPECIAL DESIGN CONSTRUCTION SIGNS

PANEL SIZE		POSTS			
LENGTH (IN.)	HEIGHT (IN.)	NO. & TYPE	SPACING (IN.)	KNEE BRACES QUANT.	LENGTH (FT.)
54 - 96	78	2-U	42	2	20
102 - 138	78	3-U	45	3	20
144 - 180	78	4-U	45	4	20

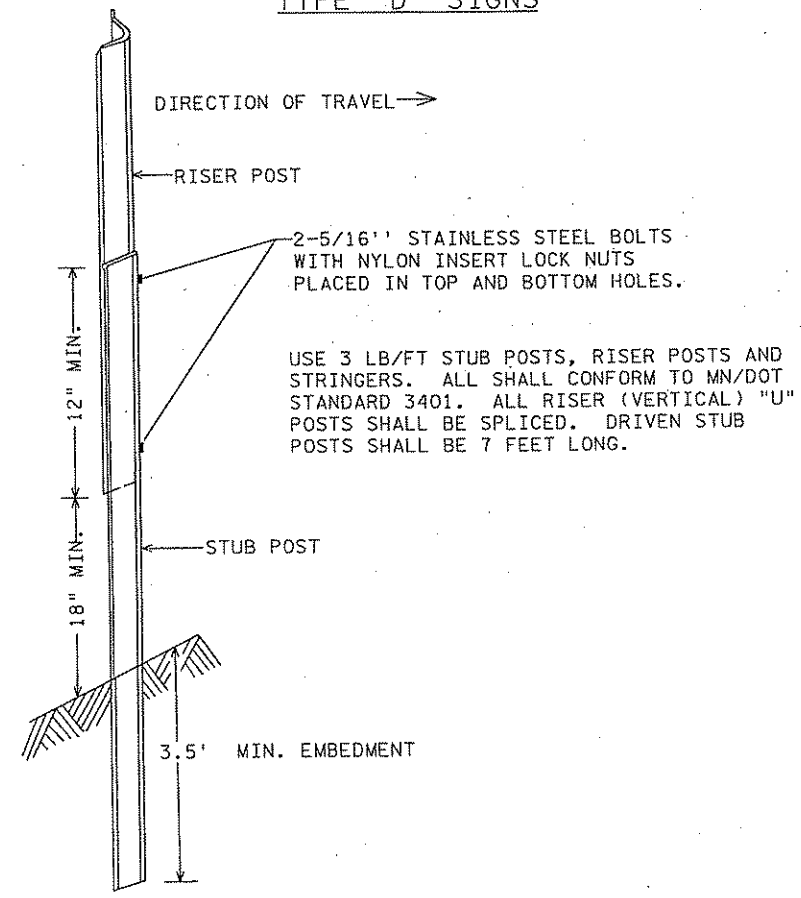
DESIGNER NOTE:
 INCLUDE SPECIAL SIGN DETAILS IN THE TRAFFIC CONTROL PLAN IN TABLE TWO.

NOTES:

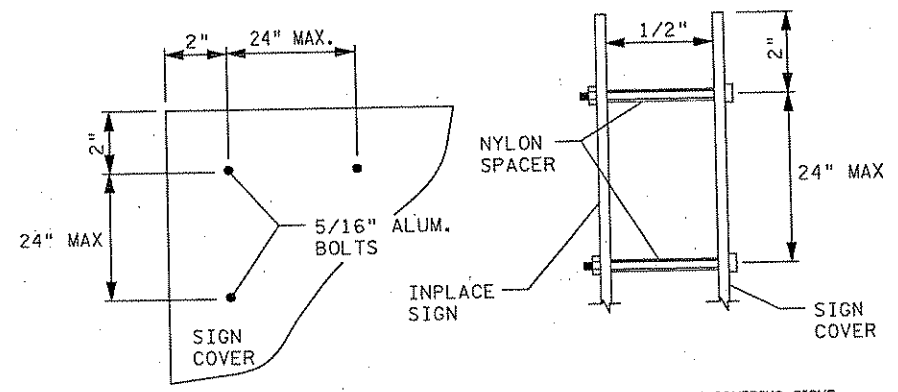
FOR TEMPORARY CONSTRUCTION SIGN FRAMING, THE CONTRACTOR MAY USE GRADE 5 ZINC PLATED BOLTS FOR ALL BOLTED CONNECTIONS, EXCEPT FOR THE KNEE BRACE CONNECTION TO THE REAR STUB POST, WHICH SHALL UTILIZE A 5/16 INCH STAINLESS STEEL BOLT AND NYLON INSERT LOCK NUT. ADDITIONAL SIGN FRAMING DETAILS CAN BE FOUND IN THE TRAFFIC ENGINEERING MANUAL PART 6.

IF THE CONTRACTOR ELECTS TO USE SOME OTHER TYPE OF SIGN SUPPORT (OTHER THAN U-CHANNEL SIGN POSTS) FOR MOUNTING CONSTRUCTION SIGNS, DETAILS OF THE PROPOSED SIGN STRUCTURE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE SIGN STRUCTURE COMPONENTS. ANY SIGN STRUCTURE TO BE SUBMITTED TO THE ENGINEER SHALL BE AN FHWA ACCEPTED BREAKAWAY SIGN SUPPORT. SIGN STRUCTURE SHALL ALSO BE APPROVED FOR 90 MPH WIND LOAD.

GUIDE SIGNS SHOWN TO BE COVERED SHALL BE COVERED WITH THE SAME COLOR AS THE SIGN BACKGROUND. THE CONTRACTOR SHALL INSTALL COVERS OR ADDITIONAL SIGNS USING A MINIMUM 1/2" NYLON SPACER BETWEEN THE INPLACE SIGN AND THE COVERING MATERIAL. HOLES WILL BE DRILLED IN THE COVER AND THE INPLACE SIGN AND SHALL BE INSTALLED IN ACCORDANCE TO THE SIGN PANEL DETAIL. SPACERS ARE REQUIRED. MID-PANEL SPACING SHALL BE NO GREATER THAN 24".

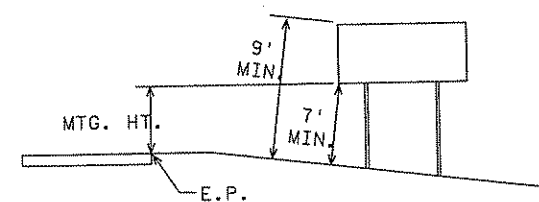


"U" POST SPLICE



SIGN PANEL OVERLAY

REFER TO TRAFFIC ENGINEERING MANUAL CHAPTER 8 FOR MORE INFORMATION ON COVERING SIGNS



TYPICAL MOUNTING

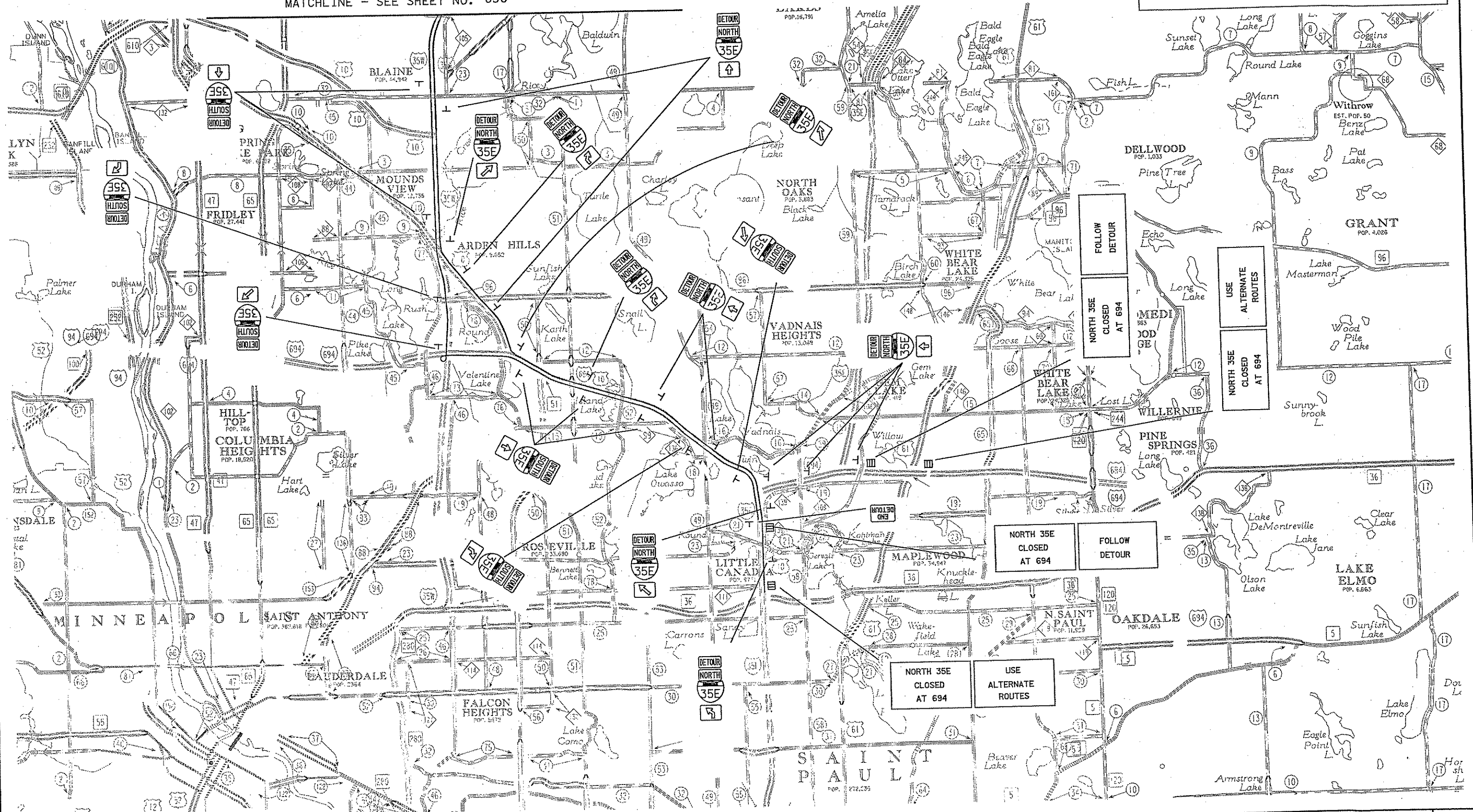
(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST.

TYPICAL TEMPORARY SIGN FRAMING AND INSTALLATION DETAILS

LEGEND

- T STANDARD SIGN (POST OR STAND MOUNTED)
- ☐ PORTABLE CHANGEABLE MESSAGE SIGNS

MATCHLINE - SEE SHEET NO. 65C



FOLLOW
DETOUR

NORTH 35E
CLOSED
AT 694

USE
ALTERNATE
ROUTES

NORTH 35E
CLOSED
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FOLLOW
DETOUR

NORTH 35E
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USE
ALTERNATE
ROUTES

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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: **KYLE LUDWIG**

Date: **9-03-09** License: **46021**

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY K. LUDWIG

DESIGNED BY A. POTTER

CHECKED BY K. LUDWIG

COMM. NO. 0086509



ANOKA COUNTY

DETOUR PLAN

C.S.A.H. 14/T.H. 35E INTERCHANGE

BRIDGE CLOSURE DETOUR PLAN

SHEET 65B OF 471

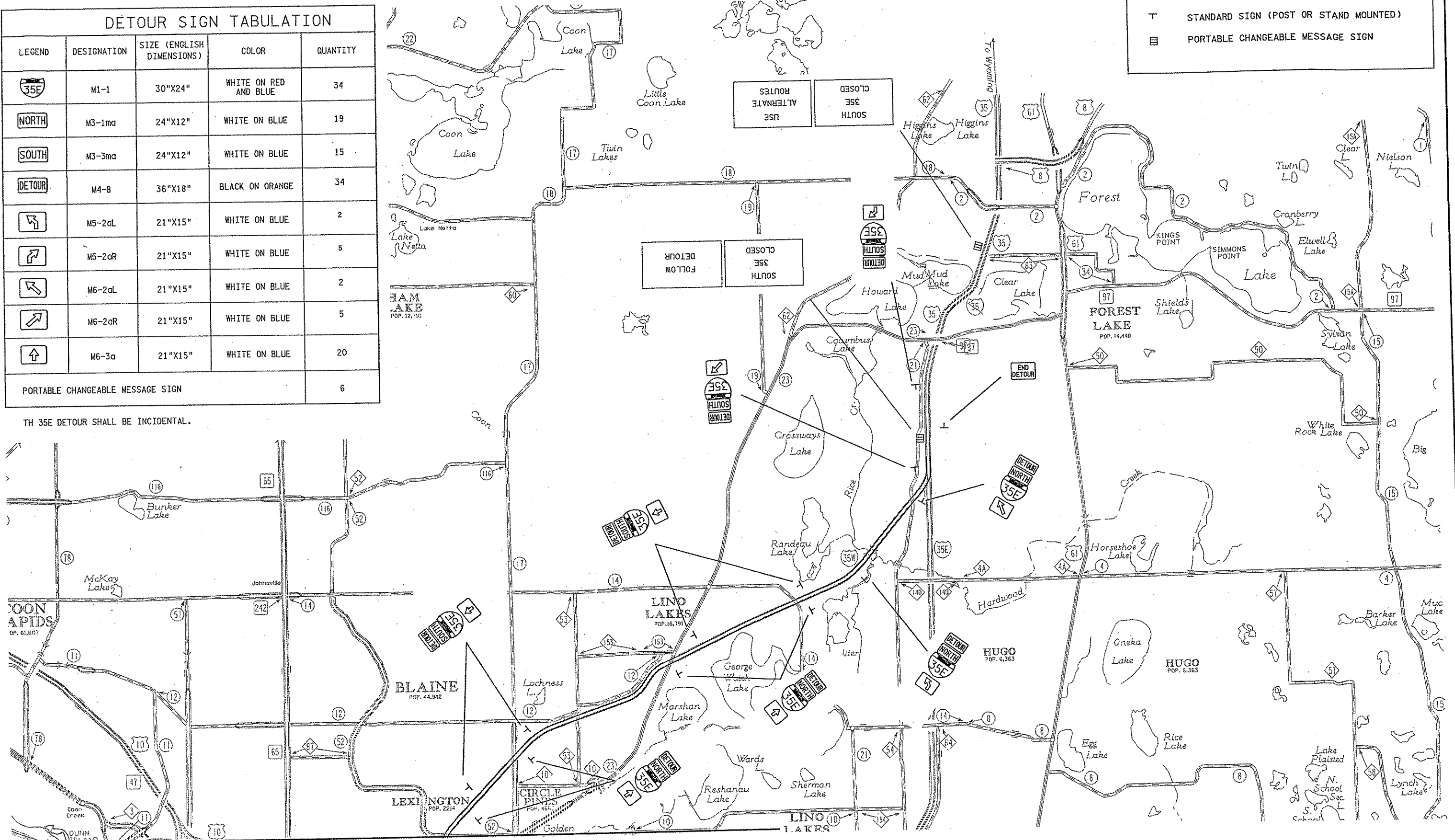
DETOUR SIGN TABULATION

LEGEND	DESIGNATION	SIZE (ENGLISH DIMENSIONS)	COLOR	QUANTITY
	M1-1	30"X24"	WHITE ON RED AND BLUE	34
	M3-1ma	24"X12"	WHITE ON BLUE	19
	M3-3ma	24"X12"	WHITE ON BLUE	15
	M4-8	36"X18"	BLACK ON ORANGE	34
	M5-2aL	21"X15"	WHITE ON BLUE	2
	M5-2aR	21"X15"	WHITE ON BLUE	5
	M6-2aL	21"X15"	WHITE ON BLUE	2
	M6-2aR	21"X15"	WHITE ON BLUE	5
	M6-3a	21"X15"	WHITE ON BLUE	20
PORTABLE CHANGEABLE MESSAGE SIGN				6

TH 35E DETOUR SHALL BE INCIDENTAL.

LEGEND

	STANDARD SIGN (POST OR STAND MOUNTED)
	PORTABLE CHANGEABLE MESSAGE SIGN



MATCHLINE - SEE SHEET NO. 65B

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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: **KYLE LUDWIG**

Date: **9-23-09** License #: **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

SRF CONSULTING GROUP, INC.
 DRAWN BY K. LUDWIG
 DESIGNED BY A. POTTER
 CHECKED BY K. LUDWIG
 COMM. NO. 0086509

ANOKA COUNTY
 DETOUR PLAN
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 BRIDGE CLOSURE DETOUR PLAN

SHEET 65C OF 471

AA TRAFFIC CONTROL SIGN TABULATION

LEGEND	DESIGNATION	SIZE (ENGLISH DIMENSIONS)	COLOR	QUANTITY		
				STAGE 1	STAGE 2	STAGE 3
	W20-1	48"x48"	BLACK ON ORANGE	6	6	10
	G20-2A	48"x24"	BLACK ON ORANGE	6	6	6
	W1-6L	48"x24"	BLACK ON ORANGE		2	2
	W1-6R	48"x24"	BLACK ON ORANGE			5
	R11-2	48"x30"	BLACK ON WHITE	5	5	6
	TYPE III	6" MIN.	ORANGE ON WHITE	15	27	32
	DRUM	18"x36" MIN.	WHITE ON ORANGE	192	270	161
	W20-X3L	48"x48"	BLACK ON ORANGE		1	1
	W20-X3R	48"x48"	BLACK ON ORANGE			1
	W1-4dL	30"x30"	BLACK ON ORANGE		1	1
	W1-4dR	30"x30"	BLACK ON ORANGE		1	1
	W1-4bL	48"x48"	BLACK ON ORANGE	4	4	
	W1-4bR	48"x48"	WHITE ON ORANGE	4	4	
	W20-X16	48"x48"	BLACK ON ORANGE			1
	W21-X1	48"x48"	BLACK ON ORANGE	5	4	
	R9-9	30"x18"	BLACK ON WHITE			3
	W9-1R	36"x36"	BLACK ON ORANGE		2	3
	W9-1L	36"x36"	BLACK ON ORANGE			4
	R11-2	48"x30"	BLACK ON WHITE			1
	W6-2	36"x36"	BLACK ON ORANGE		1	
	W6-3	30"x30"	BLACK ON ORANGE		2	2
	W13-1	30"x30"	BLACK ON ORANGE	5	4	

AA TRAFFIC CONTROL SIGN TABULATION

LEGEND	DESIGNATION	SIZE (ENGLISH DIMENSIONS)	COLOR	QUANTITY		
				STAGE 1	STAGE 2	STAGE 3
	W13-1	18"x18"	BLACK ON ORANGE		2	2
	R1-1	48"x48"	WHITE ON RED		11	8
	R1-4	18"x6"	WHITE ON RED		6	6
	R5-1	30"x30"	WHITE ON RED		2	2
	R6-1L	48"x18"	BLACK ON WHITE		4	2
	R6-1R	48"x18"	BLACK ON WHITE		4	2
	M6-3a	21"x15"	WHITE ON BLUE	1	3	5
	M6-1Lc	21"x15"	WHITE ON BLUE		2	2
	M6-1Ra	21"x15"	WHITE ON BLUE	1	2	
	M4-5a	24"x12"	WHITE ON BLUE	1	4	2
	M3-1ma	24"x12"	WHITE ON BLUE	1	4	3
	M3-2ma	24"x12"	WHITE ON BLUE			1
	M3-3ma	24"x12"	WHITE ON BLUE	1	3	3
	M3-4ma	24"x12"	WHITE ON BLUE			1
	M1-1	30"x24"	WHITE ON RED AND BLUE	2	7	6
	M1-6	24"x24"	WHITE AND YELLOW ON BLUE			5
	M1-6	24"x24"	WHITE AND YELLOW ON BLUE			1
	R3-7R	30"x30"	BLACK ON WHITE		2	1
	R3-7L	30"x30"	BLACK ON WHITE		1	
	M5-2aR	21"x15"	WHITE ON BLUE			1
	M6-2dL	21"x15"	WHITE ON BLUE			2
	M6-2aR	21"x15"	WHITE ON BLUE			2
	M4-8	36"x18"	BLACK ON ORANGE			3
	M4-9T	30"x24"	BLACK ON ORANGE			1
	X4-4	12"x36"	YELLOW ON BLACK	4	5	
	G20-X2	??"X108"	BLACK ON ORANGE	2		
	R4-7	24"x30"	BLACK ON WHITE	2	2	3
	G20-X2	132"x108"	BLACK ON ORANGE	1		

AA TRAFFIC CONTROL SIGN TABULATION

LEGEND	DESIGNATION	SIZE (ENGLISH DIMENSIONS)	COLOR	QUANTITY		
				STAGE 1	STAGE 2	STAGE 3
	G20-X2	132"x108"	BLACK ON ORANGE	1		
	G20-X1	132"x108"	BLACK ON ORANGE	4	1	
	W3-1	48"x48"	BLACK, RED, WHITE ON YELLOW		4	6
	R3-30AA	36"x30"	BLACK ON WHITE			1
	R3-X2	36"x36"	BLACK ON WHITE			1
	W4-2L	36"x36"	BLACK ON ORANGE			1
	SPECIAL	96"x96"	BLACK ON ORANGE	2		
	SPECIAL	132"x114"	BLACK ON ORANGE	2		

FOR USE ON T.H. 35E

PROJECT FUNDING BY:

American Recovery & Reinvestment Act

Anoka County

Lino Lakes

Centerville

Mn Department of Transportation

8.6"
6.2"
4.2"
8.3"
12"
7"
11.2"
4.5"
8.1"
4.5"
8"
7"
12"
10.6"

5"
4"
5"
9.1"
5"
9.1"
5"
7.6"
5"
7.5"
5"
4"
5"
9.6"

28.1"
114"

120"

FOR USE ON C.S.A.H. 14

PROJECT FUNDING BY:

American Recovery & Reinvestment Act

Anoka County

Lino Lakes

Centerville

Mn Department of Transportation

6.1"
6.2"
4.2"
9.3"
12"
8"
11.2"
5"
8.1"
5"
8"
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12"
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132"

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NO	DATE	BY	CHK	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: KYLE LUDWIG

Date: 9/30/09 License # 46021

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY A. VACEK

DESIGNED BY K. LUDWIG

CHECKED BY A. VACEK

COMM. NO. 0086509



STAGING NARRATIVE

GENERAL NOTES

- * F & I SIGNING AND STRIPING PER EACH STAGING AND TRAFFIC CONTROL PLAN. F & I TEMPORARY AND/OR PERMANENT SEDIMENT AND EROSION CONTROL MEASURES DURING AND AFTER COMPLETION OF EACH PARTIAL STAGE OF CONSTRUCTION. MAINTAIN ACCESS TO DRIVEWAYS SHOWN AS CONSTRUCTION UNDER TRAFFIC IN THE STAGING PLANS AT ALL TIMES

STAGE 1

CONSTRUCTION

1. FILL IN BITUMINOUS RUMBLE STRIP DEPRESSIONS ON THE OUTSIDE SHOULDERS OF S.B. T.H. 35E FROM STA 532+45 TO STA 536+65 AND STA 597+79 TO STA 601+99.
2. FILL IN BITUMINOUS RUMBLE STRIP DEPRESSIONS ON THE OUTSIDE SHOULDERS OF N.B. T.H. 35E FROM STA 557+40 TO STA 561+60 AND STA 604+27 TO STA 608+47.1
3. SHIFT TRAFFIC ON T.H. 35E TO THE OUTSIDE SHOULDERS AS SHOWN ON THE STAGING TYPICAL SECTIONS.
4. CONSTRUCT INSIDE SHOULDERS ON T.H. 35E WITHOUT RUMBLE STRIPS.
5. F & I SIGNING AND STRIPING PER STAGE 1 STAGING AND TRAFFIC CONTROL PLANS.
6. SHIFT TRAFFIC ON T.H. 35E TO THE INSIDE SHOULDERS.
7. TRAFFIC TO REMAIN ON EXISTING PAVEMENT AND USE EXISTING STRIPING ON C.S.A.H. 14.
8. CONSTRUCT THE NORTH HALF OF PROPOSED BRIDGE 02812. EXISTING BRIDGE TO REMAIN IN-PLACE AND CARRY TRAFFIC.
9. CONSTRUCT THE S.E. RAMP DITCH FROM N.B. 35E STA 558+00 TO S.E. RAMP STA 511+88.
10. CONSTRUCT THE S.W. RAMP FROM STA 407+65 TO STA 411+86, HOV FROM STA 804+80 TO STA 807+96, AND N.W. LOOP FROM STA 323+94 TO STA 345+50.
11. CONSTRUCT THE S.W. POND.
12. CONSTRUCT N.W. RAMP FROM STA 200+00 TO STA 213+00, N.E. RAMP FROM STA 600+55 TO STA 612+84, AND S.E. RAMP STA 500+00 TO STA 511+10.
13. CONSTRUCT TEMPORARY CONNECTIONS: S.W. RAMP TIE STA 10+00 TO STA 12+12, STA 12+73 TO STA 16+64, AND STA 19+54 TO STA 21+90.
14. CONSTRUCT TEMPORARY CONNECTIONS: N.E. RAMP TIE STA 50+25 TO STA 51+73 AND S.E. RAMP STA 511+11 TO STA 512+07.
15. CONSTRUCT TEMPORARY CONNECTION: N.W. RAMP STA 213+00 TO STA 214+79.
16. MILL BITUMINOUS MEDIANS: E.B. C.S.A.H. 14 STA 180+62.85 TO STA 185+23.61 PER STAGE 1 STAGING AND TRAFFIC CONTROL PLANS.
17. F & I TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES.

DRAINAGE

1. F & I TEMPORARY PIPE SECTION BETWEEN 6702 TO 5719 AT THE BEGINNING OF STAGE 1.
2. F & I TEMPORARY STRUCTURE 5723.
3. F & I TEMPORARY PIPE SECTION BETWEEN 5715 TO 5723, AND BETWEEN 5716 TO 5723.
4. JACK A PORTION OF THE PROPOSED PIPE BETWEEN 5718 TO 5613 AND CONSTRUCT STRUCTURE 5718, AFTER THE S.E. RAMP DITCH IS GRADED. A RIGHT LANE CLOSURE WITH PORTABLE CONCRETE BARRIER ON W.B. CSAH 14 WILL BE NECESSARY DURING CONSTRUCTION OF STRUCTURE 5718. THE BARRIER SHALL BE PLACED AT E.B. CSAH 14 STA 200+85 OFFSET 4' LEFT TO STA 201+45 AT CENTERLINE FOLLOWING THE STRIPING TO STA 202+45 OFFSET 13' LEFT AND TAPERING TO 203+80 OFFSET 43' LEFT. PLACING A 50 MPH IMPACT ATTENUATOR AT E.B. CSAH 14 STA 203+80 OFFSET 43' LEFT.
5. EXTEND THE CENTERLINE CULVERT UNDER THE S.W. RAMP AT STA 409+44.
6. F & I TEMPORARY PIPE SECTION BETWEEN 5212 TO 5710, BETWEEN 5709 TO 5710, AND BETWEEN 5710 TO 5711. GRADE EXISTING CSAH 14 DITCH TO DRAIN INTO 5208.
7. F & I TEMPORARY PIPE BETWEEN 6701 TO 5717.
8. F & I TEMPORARY PIPE BETWEEN 5712 TO 5714.
9. F & I ALL PERMANENT DRAINAGE STRUCTURES AND PIPE PER STAGE 1 STAGING AND TRAFFIC CONTROL PLANS.
10. CONSTRUCT CLEARWATER CREEK CULVERT EXTENSION.

STAGE 2

CONSTRUCTION

1. F & I SIGNING AND STRIPING PER STAGE 2 STAGING AND TRAFFIC CONTROL PLANS.
2. SHIFT C.S.A.H. 14 TRAFFIC TO SOUTH HALF OF THE ROADWAY.
3. SHIFT RAMP TRAFFIC TO NEWLY CONSTRUCTED RAMPS.
4. CONSTRUCT NORTH HALF OF C.S.A.H. 14.
5. CONSTRUCT THE 21ST AVENUE DRIVEWAY WHILE TRAFFIC IS USING EXISTING DRIVE. SWITCH TRAFFIC ON TO NEW DRIVE TO COMPLETE THE REMAINING CONSTRUCTION.
6. CONSTRUCT THE N.W. RAMP FROM STA 213+00 TO STA 214+79 AND N.E. RAMP FROM STA 599+50 TO STA 600+55. CONSTRUCTION SHALL BE COMPLETED UNDER TRAFFIC.
7. CONSTRUCT N.W. LOOP FROM STA 300+00 TO STA 312+00 AND FROM STA 313+00 TO STA 323+94 AND N.E. LOOP.
8. CONSTRUCT THE N.W. AND S.W. PONDS.
9. CONSTRUCT THE OUTSIDE SHOULDER ALONG S.B. I-35E FROM STA 561+74 TO STA 570+75 AND FROM STA 587+25 TO STA 592+24.
10. CONSTRUCT THE OUTSIDE SHOULDER ALONG N.B. I-35E FROM STA 565+98 TO STA 593+36.
11. CONSTRUCT THE TEMPORARY N.W. LOOP TIE FROM STA 40+84 TO STA 42+59.
12. CONSTRUCT THE TEMPORARY N.E. LOOP TIE FROM STA 60+00 TO STA 62+82.
13. REMOVE CONCRETE MEDIAN AND CONSTRUCT TEMPORARY PAVEMENT ALONG E.B. C.S.A.H. 14 FROM STA 206+38 TO STA 208+00.
14. CONSTRUCT THE TEMPORARY SOUTH CONNECTION TO 21ST AVE PER STAGE 2 STAGING AND TRAFFIC CONTROL PLANS.
15. CONSTRUCT THE TEMPORARY SOUTH CONNECTION TO S.W. RAMP TIE PER STAGE 2 STAGING AND TRAFFIC CONTROL PLANS.
16. F & I TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES.

DRAINAGE

1. F & I TEMPORARY PIPE SECTION BETWEEN 5707 TO 5708 AT THE BEGINNING OF STAGE 2.
2. JACK A PORTION OF THE PROPOSED PIPE BETWEEN 5625 TO 5626.
3. JACK A PORTION OF THE PROPOSED PIPE BETWEEN 5608 TO 5609.
4. F & I TEMPORARY PIPE SECTION BETWEEN 5700 TO 5201, BETWEEN 5701 TO 5202, BETWEEN 5702 TO 5203, BETWEEN 5703 TO 5325, BETWEEN 5704 TO 5322, BETWEEN 5705 TO 5318, AND BETWEEN 5706 TO 5315.
5. F & I TEMPORARY PIPE BETWEEN 5713 TO 5720.
6. F & I TEMPORARY PIPE BETWEEN 5721 TO 5722.
7. F & I STRUCTURE 5652.
8. F & I ALL PERMANENT DRAINAGE STRUCTURES AND PIPE PER STAGE 2 STAGING AND TRAFFIC CONTROL PLANS.
9. FILL, PLUG, AND ABANDON TEMPORARY PIPE SECTION BETWEEN 5712 TO 5714.
10. REMOVE TEMPORARY PIPE SECTION BETWEEN 5715 TO 5723, BETWEEN 5716 TO 5723, AND TEMPORARY STRUCTURE 5723 AFTER THE EXISTING S.E. RAMP IS REMOVED.
11. F & I APRON 5610.
12. REMOVE TEMPORARY STRUCTURE 5718 WHEN THE EXISTING STORM SEWER IS REMOVED.

STAGE 3

CONSTRUCTION

1. F & I SIGNING AND STRIPING PER STAGE 3 STAGING AND TRAFFIC CONTROL PLANS.
2. SHIFT C.S.A.H. 14 TRAFFIC TO THE NORTH ON THE NEWLY CONSTRUCTED ROADWAY. OPEN N.E. LOOP TO TRAFFIC.
3. REMOVE THE EXISTING C.S.A.H. 14 BRIDGE.
4. CONSTRUCT THE N.W. LOOP FROM STA 312+00 TO 313+00 WHILE TRAFFIC IS STILL USING THE TEMPORARY CONNECTION TO THE S.W. RAMP.
5. OPEN N.W. LOOP AND N.W. LOOP TIE TO TRAFFIC AND CLOSE THE TEMPORARY CONNECTION TO THE S.W. RAMP.
6. CONSTRUCT THE RETAINING WALL ALONG THE SOUTH SIDE OF C.S.A.H. 14.
7. CONSTRUCT THE SOUTH HALF OF C.S.A.H. 14.
8. CONSTRUCT THE S.W. RAMP. FROM STA 399+25 TO STA 407+65 AND HOV FROM STA 800+00 TO STA 804+80.
9. AFTER THE SOUTH HALF OF C.S.A.H. 14 IS CONSTRUCTED, SWITCH TRAFFIC TO PERMANENT TRAFFIC CONTROL AND CONSTRUCT THE MEDIAN FROM E.B. C.S.A.H. 14 FROM STA 180+62 TO STA 182+50 AND FROM STA 206+38 TO STA 208+00.

DRAINAGE

1. REMOVE TEMPORARY PIPE SECTION BETWEEN 5700 TO 5201, BETWEEN 5701 TO 5202, BETWEEN 5702 TO 5203, BETWEEN 5703 TO 5325, BETWEEN 5704 TO 5322, BETWEEN 5705 TO 5318, BETWEEN 5706 TO 5315, AND BETWEEN 5721 TO 5722.
2. REMOVE TEMPORARY PIPE SECTION BETWEEN 5212 TO 5710 AND F & I APRON 5212.
3. REMOVE TEMPORARY PIPE SECTION BETWEEN 5709 TO 5710, BETWEEN 5710 TO 5711.
4. F & I ALL PERMANENT DRAINAGE STRUCTURES AND PIPE PER STAGE 3 STAGING AND TRAFFIC CONTROL PLANS.
5. REMOVE TEMPORARY PIPE SECTION BETWEEN 6702 TO 5719 AFTER SECTION BETWEEN 5608 TO 5609 IS FURNISHED AND INSTALLED.
6. REMOVE TEMPORARY PIPE SECTION BETWEEN 6701 TO 5717 AND F & I PERMANENT BULKHEADS AT 5652 FOR EXISTING PIPES AFTER PIPE SECTION BETWEEN 5507 TO 5508 IS FURNISHED AND INSTALLED.
7. REMOVE 45 LINEAR FEET OF TEMPORARY PIPE SECTION BETWEEN 5707 TO 5708 AND PLUG, FILL, AND ABANDON 120 LINEAR FEET.
8. REMOVE TEMPORARY PIPE SECTION BETWEEN 5713 TO 5720 WHEN THE N.E. LOOP TIE IS REMOVED.
9. REMOVE TEMPORARY PIPE SECTION BETWEEN 5721 TO 5722 WHEN THE N.W. LOOP TIE IS REMOVED.

7/10/00 AN 7/22/2009 HI:VPC/edrs 0509:HI-MU\P\an\C0261429_t05.dgn

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Pr Int Name: **KYLE LUDWIG**
 Date: **7-22-09** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY A. VACEK
 DESIGNED BY K. LUDWIG
 CHECKED BY A. VACEK
 COMM. NO. 0086509



ANOKA COUNTY
 STAGING NARRATIVE
 C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
 67
 OF
 471

BB PAVEMENT MARKING REMOVAL	
STAGE	PAVEMENT MARKING REMOVAL (LIN FT)
STAGE 1 (A)	58045
STAGE 2	26000
STAGE 3 (B)	6450
PROJECT TOTAL	90495

NOTES:
 (A) STAGE 1 TOTAL INCLUDES 30280 LIN FT OF EXISTING STRIPING REMOVAL AND 27765 LIN FT OF REMOVAL AFTER CONSTRUCTION OF INSIDE SHOULDERS ALONG 35E.
 (B) STAGE 3 TOTAL INCLUDES 1580 LIN FT OF REMOVAL PRIOR TO START OF STAGE 3 AND 4870 LIN FT OF REMOVAL AFTER COMPLETION OF STAGE 3.

CC PORTABLE PRECAST CONCRETE BARRIER (SPEC. 2533 & 2554)				
STAGE	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337 (1,2)	RELOCATE PORTABLE PRECAST CONC BARRIER DESIGN 8337 (2,3)	IMPACT ATTENUATOR BARRELS (4)	RELOCATE IMPACT ATTENUATOR BARRELS (4)
	(LIN FT)	(LIN FT)	(EACH)	(EACH)
STAGE 1 (5)	12350.0	7512.5	210	
STAGE 2		7512.5		180
STAGE 3		1275.0		84
PROJECT TOTALS	12350.0	16300.0	210	264

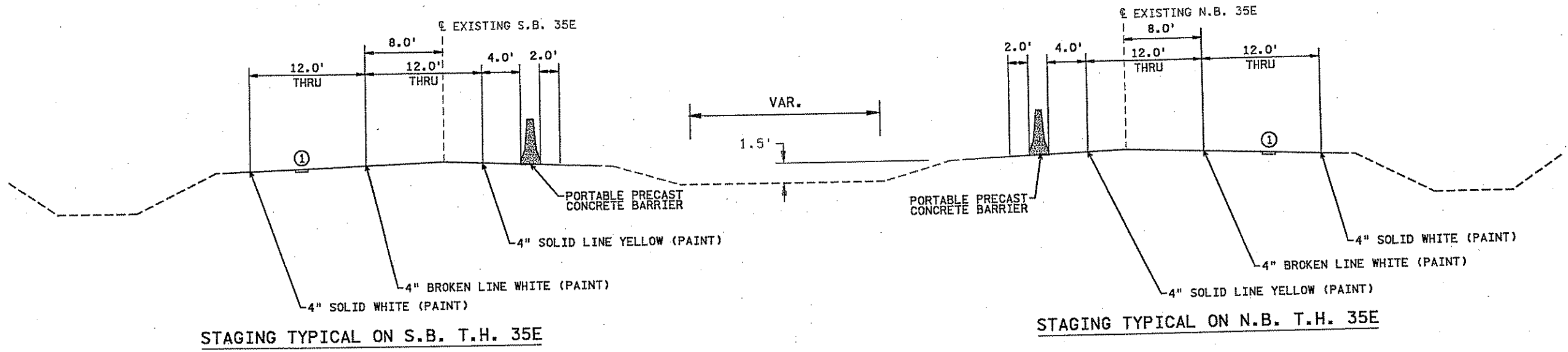
NOTES:
 (1) BARRIER DELINEATORS SHALL BE INCLUDED IN THE CONCRETE MEDIAN BARRIER PRICE.
 (2) LENGTHS ROUNDED TO NEAREST MULTIPLE OF INDIVIDUAL BARRIER UNIT LENGTH. A BARRIER UNIT LENGTH OF 12.5 LIN FT WAS ASSUMED.
 (3) RELOCATION OF BARRIER DELINEATORS SHALL BE INCLUDED IN THE RELOCATE CONCRETE MEDIAN BARRIER PRICE.
 (4) ALL IMPACT ATTENUATORS SHALL BE 70 MPH DESIGN UNLESS OTHERWISE NOTED.
 (5) RELOCATE 6137.5 LIN FT FOLLOWING CONSTRUCTION OF INSIDE SHOULDERS ALONG 35E. STOCKPILE 1375.0 LIN FT ON SITE FOR STAGE 2.

DD TEMPORARY PAVEMENT MARKINGS (SPEC. 2582)													
STAGE	PAINT							REMOVABLE PREFORMED PLASTIC MARKING TAPE				TRPM'S (A3)	
	PAVEMENT MESSAGE (LT. ARROW) (EACH)	PAVEMENT MESSAGE (RT. ARROW) (EACH)	4" SOLID LINE WHITE (LIN FT)	24" SOLID LINE WHITE (LIN FT)	4" BROKEN LINE WHITE (A1) (LIN FT)	4" DOTTED LINE WHITE (A2) (LIN FT)	4" SOLID LINE YELLOW (LIN FT)	4" DOUBLE SOLID LINE YELLOW (LIN FT)	PAVEMENT MESSAGE (LT. ARROW) (EACH)	PAVEMENT MESSAGE (RT. ARROW) (EACH)	4" SOLID WHITE (LIN FT)		4" SOLID YELLOW (LIN FT)
STAGE 1			29860		5460		27170						
STAGE 2	2	7	8145	160				610		2	1150	870	355
STAGE 3			5140	140	170	130	260	2500	1		1460	285	237
PROJECT TOTALS	2	7	43145	300	5630	130	27430	3110	1	2	2,610	1,155	592

NOTES:
 (A1) ALL BROKEN LINE STRIPING SHALL BE STRIPED WITH A 50 FOOT CYCLE. THE CYCLE CONSISTS OF A 10 FOOT STRIPE AND A 40 FOOT GAP.
 (A2) ALL DOTTED LINE STRIPING SHALL BE STRIPED WITH A 15 FOOT CYCLE. THE CYCLE CONSISTS OF A 3 FOOT STRIPE AND A 12 FOOT GAP.
 (A3) INCLUDES 300 WHITE (1-WAY), 265 YELLOW (1-WAY) AND 27 YELLOW (2-WAY) TRPM'S.

11/30/24 AM 8/20/2009 H:\Projects\6509\11-MUN\PI\an\CO261429_TB06.DGN

REVISION NO DATE BY CKD APPR				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. Pr Int Name: KYLE LUDWIG Date: <i>[Signature]</i> License # 46021		STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X		DRAWN BY V. MICHELS DESIGNED BY S. PRUSAK CHECKED BY A. DEBRUIN COMM. NO. 0086509		SRF CONSULTING GROUP, INC.		ANOKA COUNTY TRAFFIC CONTROL TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE		SHEET 68 OF 471
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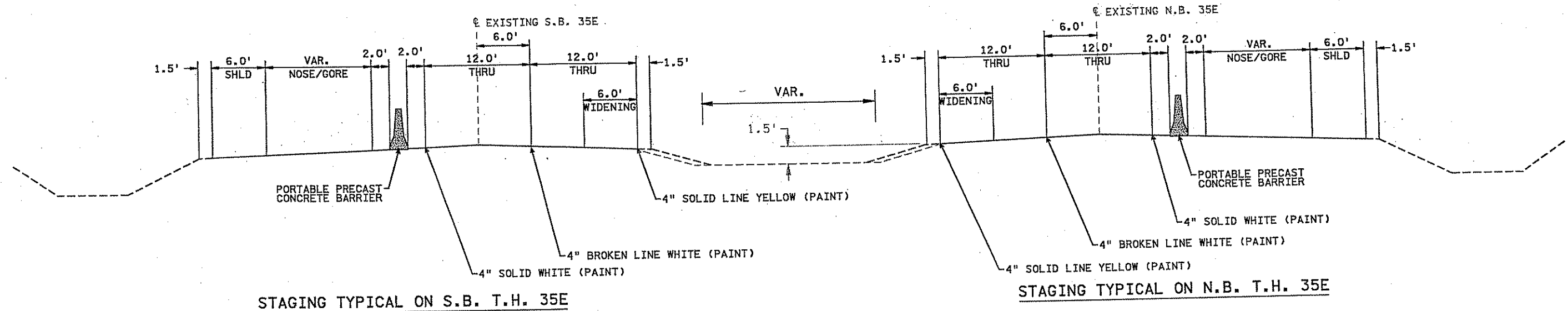


S.B. T.H. 35E NOTES

BEGIN 1:70 TAPER AT S.B. T.H. 35E STA 531+05 AND END AT S.B. T.H. 35E STA 532+65.
 F & I PORTABLE PRECAST CONCRETE BARRIER AT S.B. T.H. 35E STA 532+20 OFFSET 8' RT TO S.B. T.H. 35E STA 602+00. BEGIN 1:15 TAPER AT S.B. T.H. 35E STA 602+00 OFFSET 8' RT TO S.B. T.H. 35E STA 603+20 OFFSET 16' RT.
 F & I A 70 MPH IMPACT ATTENUATOR AT S.B. T.H. 35E STA 603+20 OFFSET 16' RT.
 BEGIN 1:70 TAPER AT S.B. T.H. 35E STA 597+79 AND END AT S.B. T.H. 35E STA 603+39.

N.B. T.H. 35E NOTES

BEGIN 1:70 TAPER AT N.B. T.H. 35E STA 556+00 AND END AT N.B. T.H. 35E STA 561+60.
 F & I A 70 MPH IMPACT ATTENUATOR AT N.B. T.H. 35E STA 556+20 OFFSET 16' LT.
 BEGIN 1:15 TAPER AT N.B. T.H. 35E STA 556+20 OFFSET 16' LT TO N.B. T.H. 35E STA 557+40 OFFSET 8' LT. STALL PORTABLE PRECAST CONCRETE BARRIER AT N.B. T.H. 35E STA 557+40 OFFSET 8' LT TO N.B. T.H. 35E STA 608+70 OFFSET 8' LT.
 BEGIN 1:70 TAPER AT N.B. T.H. 35E STA 604+27 AND END AT N.B. T.H. 35E STA 609+87.



STAGING TYPICAL ON S.B. T.H. 35E

STAGING TYPICAL ON N.B. T.H. 35E

NOTES:

① FILL IN BITUMINOUS RUMBLE STRIP DEPRESSIONS. EXACT LOCATION IS GIVEN IN THE STAGING NARRATIVE.

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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: **KYLE LUDWIG**
 Date: **7-22-09** License # **46021**

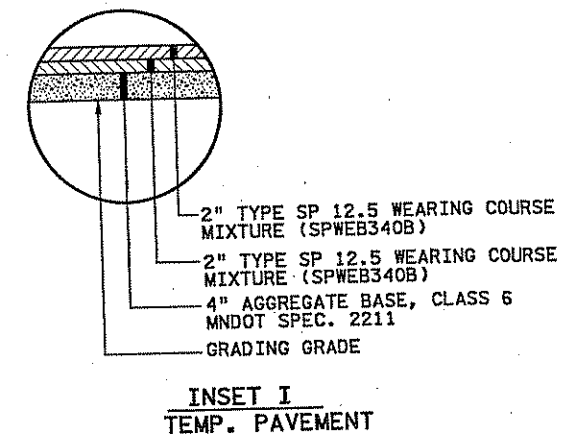
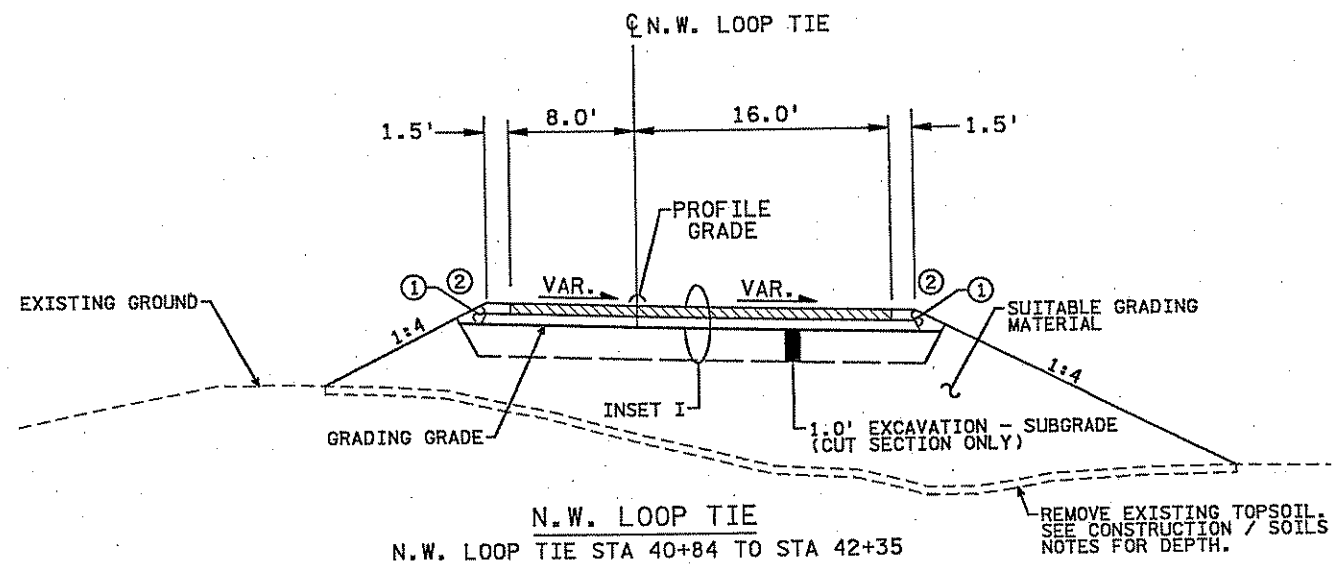
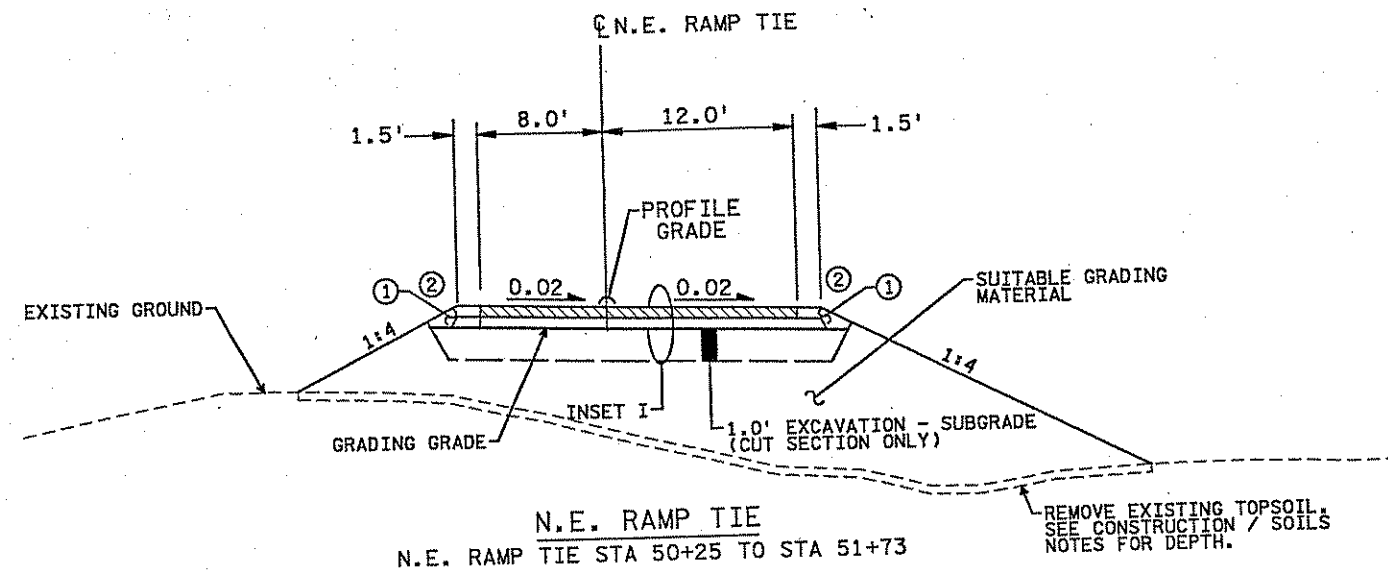
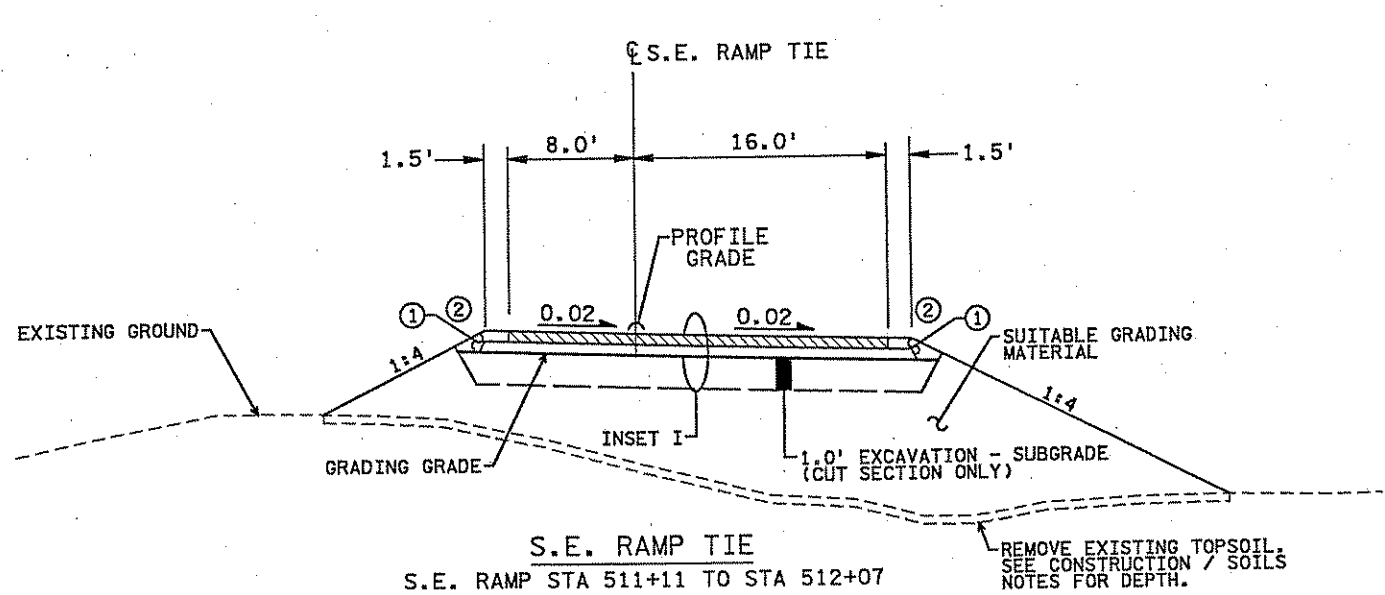
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 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY K. LUDWIG
 CHECKED BY A. VACEK
 COMM. NO. 0086509



ANOKA COUNTY
 STAGING TYPICAL SECTIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 69 OF 471



NOTES:

- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
- ② 1.5' OBSTACLE FREE CLEAR ZONE FROM EDGE OF TRAVELED LANE. (TYPICAL)

GENERAL NOTES:

ALL SLOPES ARE IN FOOT PER FOOT FORMAT.
 MAXIMUM SHOULDER SUPERELEVATION ROLLOVER SHALL BE 0.07.
 SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
 SUBGRADE SHALL CONSIST OF 1' SELECT GRANULAR MATERIAL. MN/DOT SPEC. 3149.
 REMOVAL OF TEMPORARY PAVEMENT LESS THAN 6 INCHES IN DEPTH SHALL BE PAID AS COMMON EXCAVATION.

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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: **KYLE LUDWIG**
 Date: **7-22-09** License: **46021**

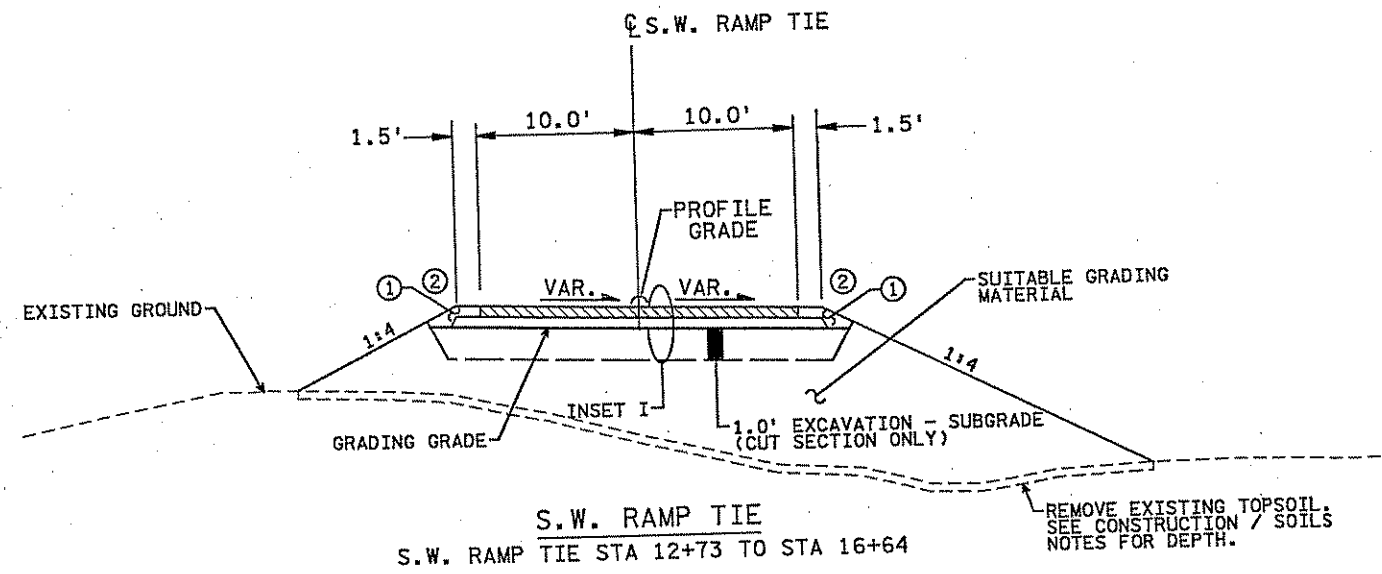
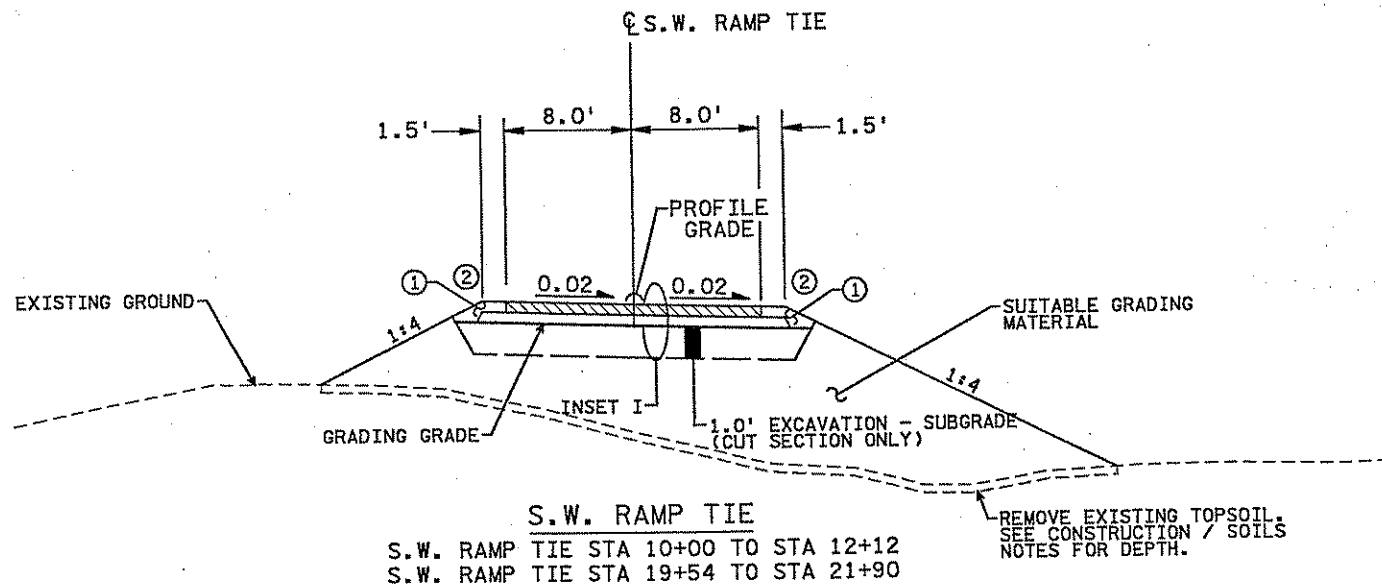
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY K. LUDWIG
 CHECKED BY A. VACEK
 COMM. NO. 0086509



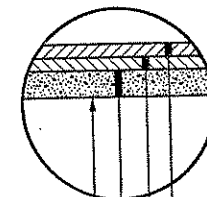
ANOKA COUNTY
 STAGING TYPICAL SECTIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
 70
 OF
 471



NOTES:

- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
- ② 1.5' OBSTACLE FREE CLEAR ZONE FROM EDGE OF TRAVELED LANE. (TYPICAL)



- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340B)
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340B)
- 4" AGGREGATE BASE, CLASS 6 MNDOT SPEC. 2211
- GRADING GRADE

INSET I
TEMP. PAVEMENT

GENERAL NOTES:

- ALL SLOPES ARE IN FOOT PER FOOT FORMAT.
- MAXIMUM SHOULDER SUPERELEVATION ROLLOVER SHALL BE 0.07.
- SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITIONS.
- SUBGRADE SHALL CONSIST OF 1' SELECT GRANULAR MATERIAL. MN/DOT SPEC. 3149.
- REMOVAL OF TEMPORARY PAVEMENT LESS THAN 6 INCHES IN DEPTH SHALL BE PAID AS COMMON EXCAVATION.

2/11/10 PM 11:11:10 PM ... \HI-MUN\Plan\CD261429_TC6.DGN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: **KYLE LUDWIG**
 Date: **7-22-09** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X
 DRAWN BY V. MICHELS
 DESIGNED BY K. LUDWIG
 CHECKED BY A. VACEK
 COMM. NO. 0086509



ANOKA COUNTY
 STAGING TYPICAL SECTIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
71
OF
471

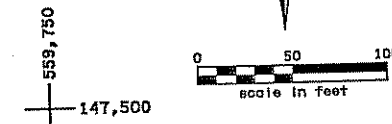
NO	DATE	BY	CKD	APPR	REVISION

LEGEND

THIS LEGEND APPLIES TO ALL STAGING PLAN SHEETS

	TEMPORARY PAVEMENT THIS STAGE		RAPID STABILIZATION METHOD 1
	PERMANENT CONSTRUCTION THIS STAGE		RAPID STABILIZATION METHOD 2
	CONSTRUCTION UNDER TRAFFIC THIS STAGE		RAPID STABILIZATION METHOD 3
	MILL BITUMINOUS SURFACE (4.0")		RAPID STABILIZATION METHOD 4
	TRAFFIC LOCATION AND DIRECTION		STORM SEWER TO BE CONSTRUCTED UNDER THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER (PPCB) STD. PLATE 8337		STORM SEWER CONSTRUCTED UNDER PREVIOUS STAGE
	IMPACT ATTENUATOR BARRELS (70 MPH UNLESS NOTED OTHERWISE)		EXISTING STORM SEWER
			WATERMAIN
			TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
			STANDARD SIGN (POST OR STAND MOUNTED)
			REFLECTORIZED PLASTIC DRUM (50' SPACING)
			INLET PROTECTION
			FLOTATION SILT CURTAIN - MOVING WATER
			TEMPORARY RAISED PAVEMENT MARKINGS

556,750
147,500

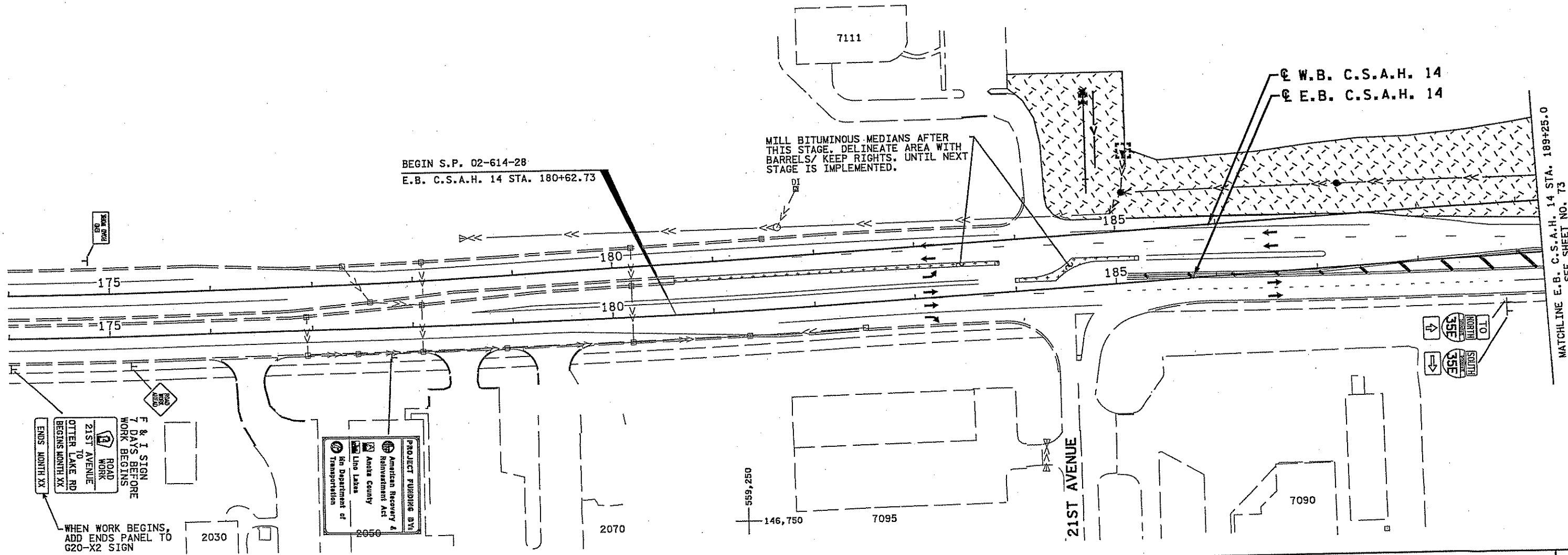


THE LEGEND AND GENERAL NOTES APPLY TO ALL STAGING AND TRAFFIC CONTROL PLAN SHEETS.

GENERAL STAGING NOTES:

THE EXISTING C.S.A.H. 14 SIGNING AND STRIPING SHALL BE USED FOR STAGE 1 UNLESS OTHERWISE DIRECTED BY THE ENGINEER

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

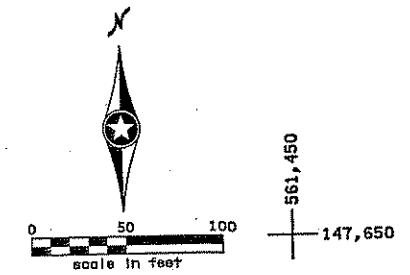


MATCHLINE E.B. C.S.A.H. 14 STA. 189+25.0
SEE SHEET NO. 73

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7/21/2009
HP:\proj\0225\0225\0225-01\plan\02251429_TCA01.DGN

<p>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>KYLE LUDWIG</u> Date: <u>7-22-09</u> <u>46021</u></p>			<p>STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X</p>	<p>DRAWN BY A. VACEK DESIGNED BY K. LUDWIG CHECKED BY A. VACEK COMM. NO. 0086509</p>	<p>ANOKA COUNTY STAGING AND TRAFFIC CONTROL PLANS C.S.A.H. 14/T.H. 35E INTERCHANGE STAGE 1</p>	<p>SHEET 72 OF 471</p>												
<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										
NO	DATE	BY	CKD	APPR	REVISION													

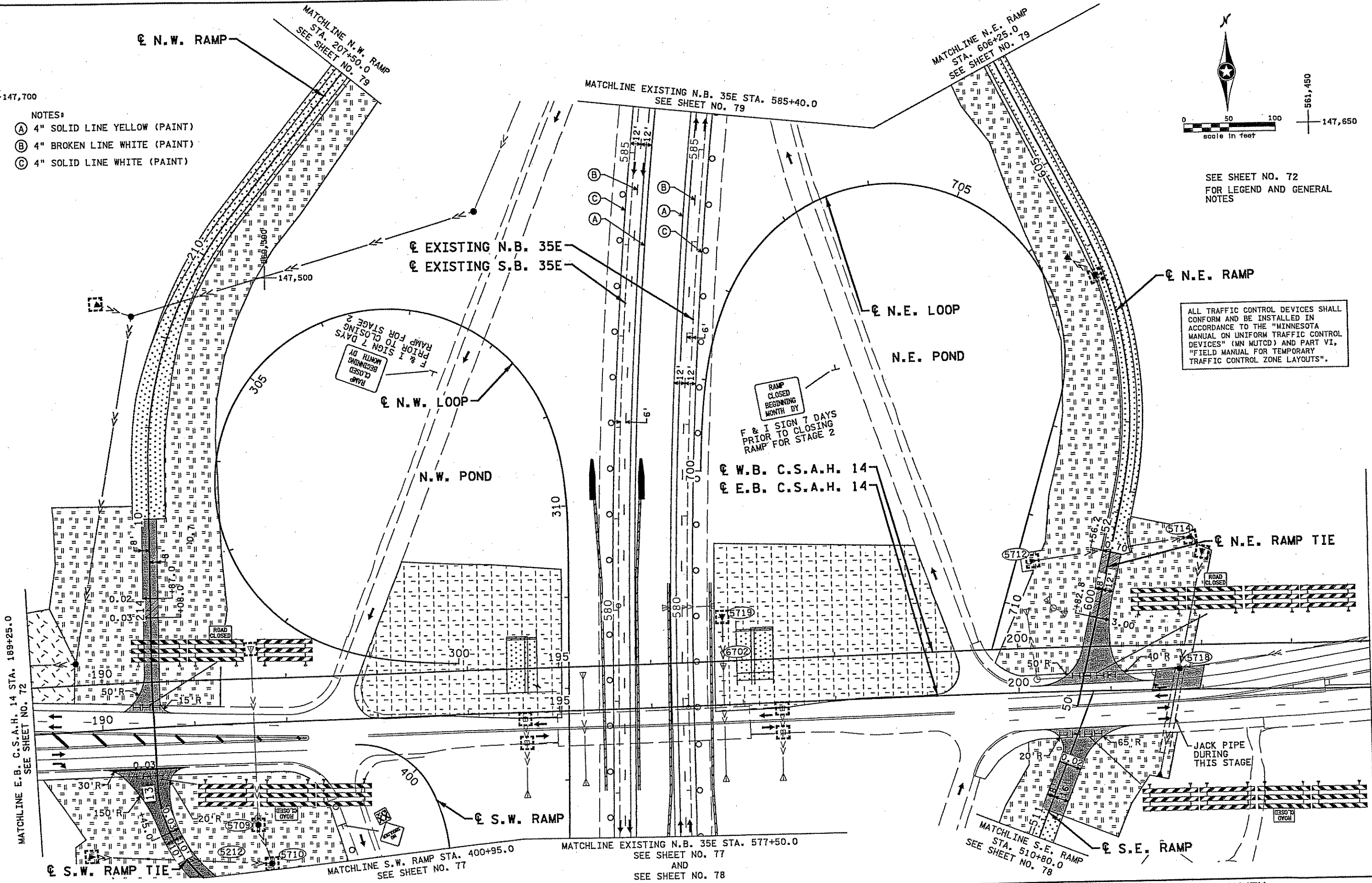
560,000
147,700



- NOTES:
- (A) 4" SOLID LINE YELLOW (PAINT)
 - (B) 4" BROKEN LINE WHITE (PAINT)
 - (C) 4" SOLID LINE WHITE (PAINT)

SEE SHEET NO. 72
FOR LEGEND AND GENERAL
NOTES

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



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MATCHLINE E.B. C.S.A.H. 14 STA. 189+25.0
SEE SHEET NO. 72

MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 74

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: KYLE LUDWIG

Date: 2-22-09 License: 46021

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY A. VACEK

DESIGNED BY K. LUDWIG

CHECKED BY A. VACEK

COMM. NO. 0086509



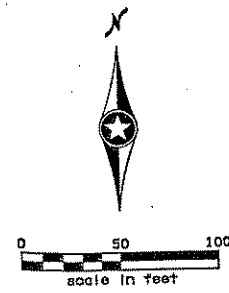
ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 1

SHEET 73 OF 471

SEE SHEET NO. 72
FOR LEGEND AND GENERAL
NOTES

562,750
147,500



WHEN WORK BEGINS,
ADD ENDS PANEL TO
G20-X2 SIGN

PROJECT FUNDING BY:
American Recovery &
Reinvestment Act
Anoka County
Mn Line Lakes
Mn Department of
Transportation

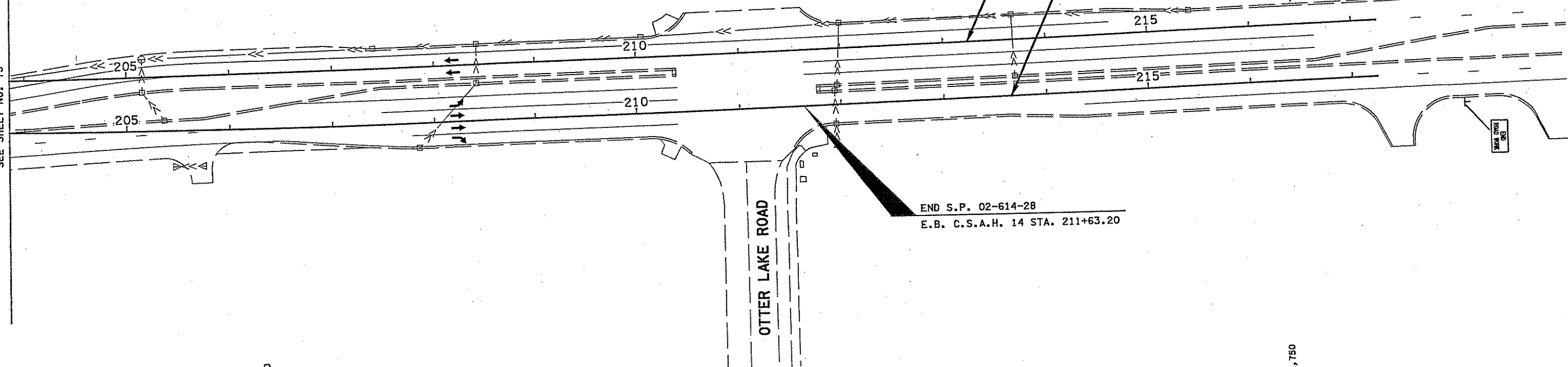
F & I SIGN
7 DAYS BEFORE
WORK BEGINS
ROAD WORK
OTTER LAKE RD
21ST AVENUE
BEGINS MONTH XX
ENDS MONTH XX



W.B. C.S.A.H. 14

E.B. C.S.A.H. 14

MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 73



561,750
146,750

562,750
146,750

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

2/11/03 PN
2/11/03
...NHI-MUNPlan\0261429_TCA03.DGN

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: **KYLE LUDWIG**
Date: **7-22-07** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

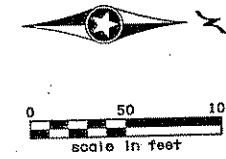
DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 1

SHEET
74
OF
471

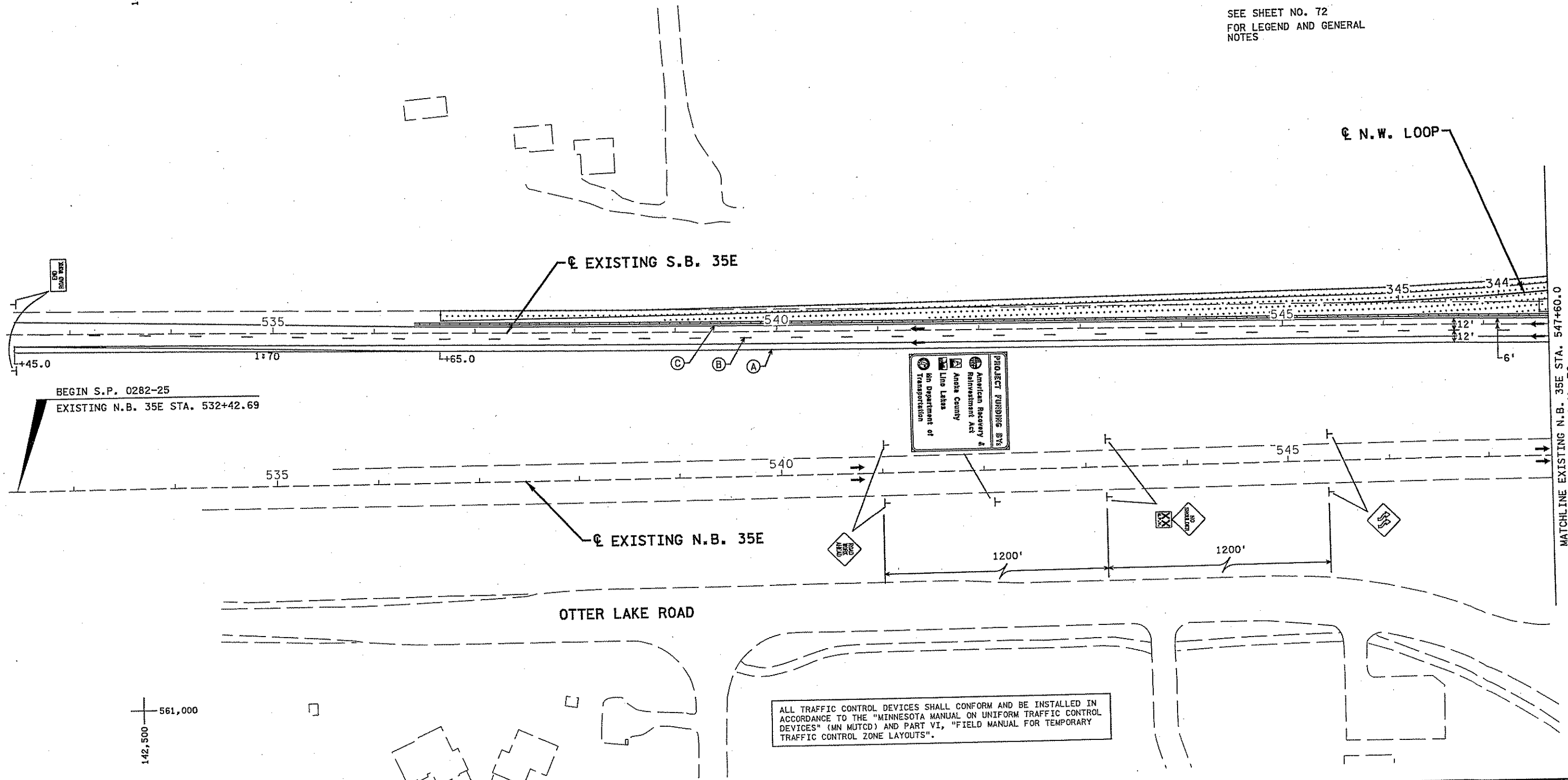
- NOTES:
- (A) 4" SOLID LINE YELLOW (PAINT)
 - (B) 4" BROKEN LINE WHITE (PAINT)
 - (C) 4" SOLID LINE WHITE (PAINT)



SEE SHEET NO. 72
FOR LEGEND AND GENERAL
NOTES

142,500
560,250

143,750
560,250



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

21:44:36 PM 7/15/2009 \\P:\Projects\6509\HI-MUN\Plan\0261429_TCA04.DGN

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: **KYLE LUDWIG**

Date: **5-22-09** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 1

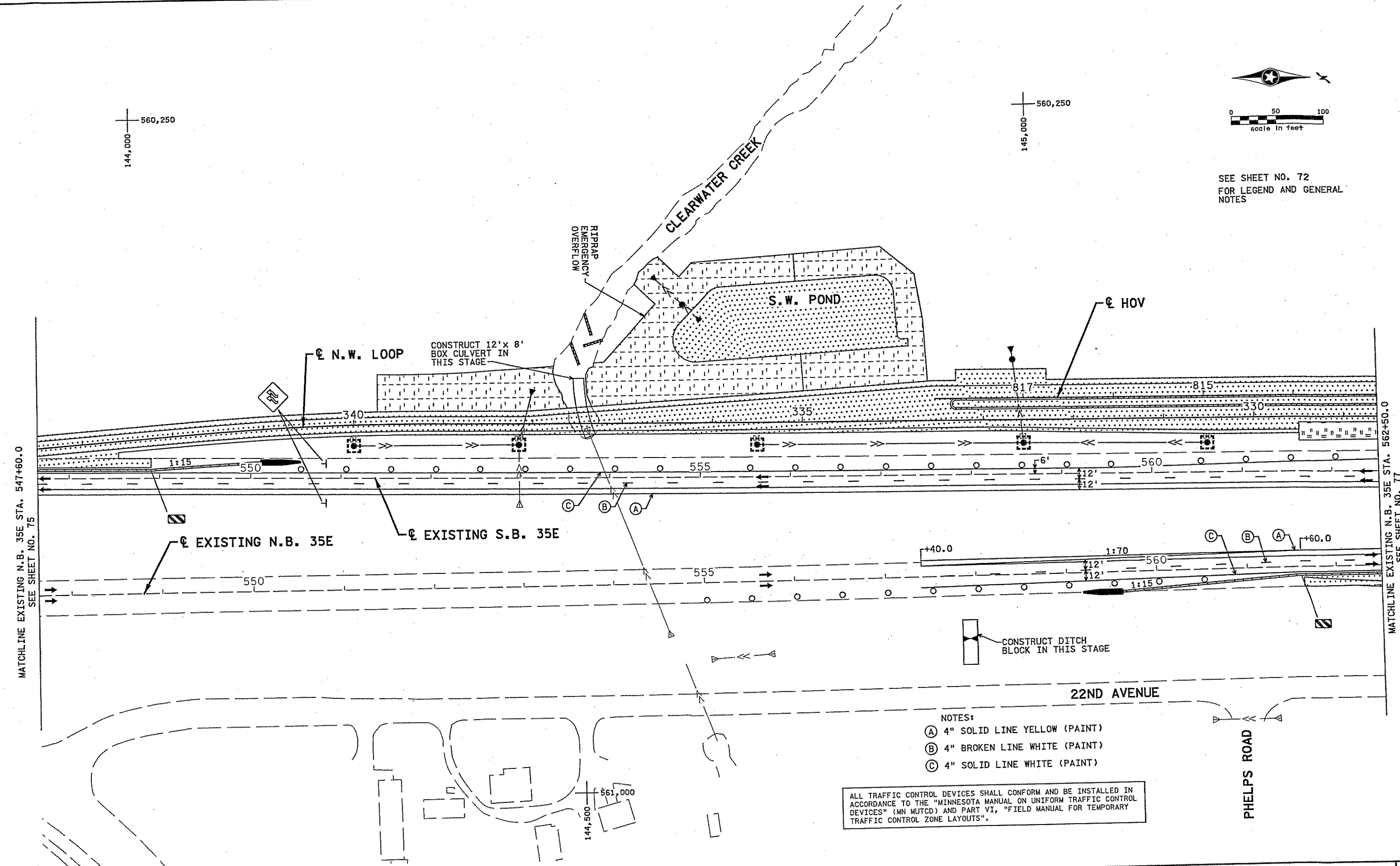
SHEET 75 OF 471

144,000
560,250

145,000
560,250



SEE SHEET NO. 72
FOR LEGEND AND GENERAL
NOTES



- NOTES:
- (A) 4" SOLID LINE YELLOW (PAINT)
 - (B) 4" BROKEN LINE WHITE (PAINT)
 - (C) 4" SOLID LINE WHITE (PAINT)

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

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NO	DATE	BY	CHKD	APPR	REVISION

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 Print Name: **KYLE LUDWIG**
 Date: **5-22-09** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

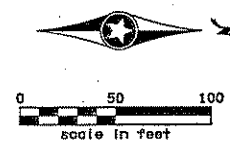
DRAWN BY A. VACEK
 DESIGNED BY K. LUDWIG
 CHECKED BY A. VACEK
 COMM. NO. 0086509



ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 1

SHEET 76 OF 471

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



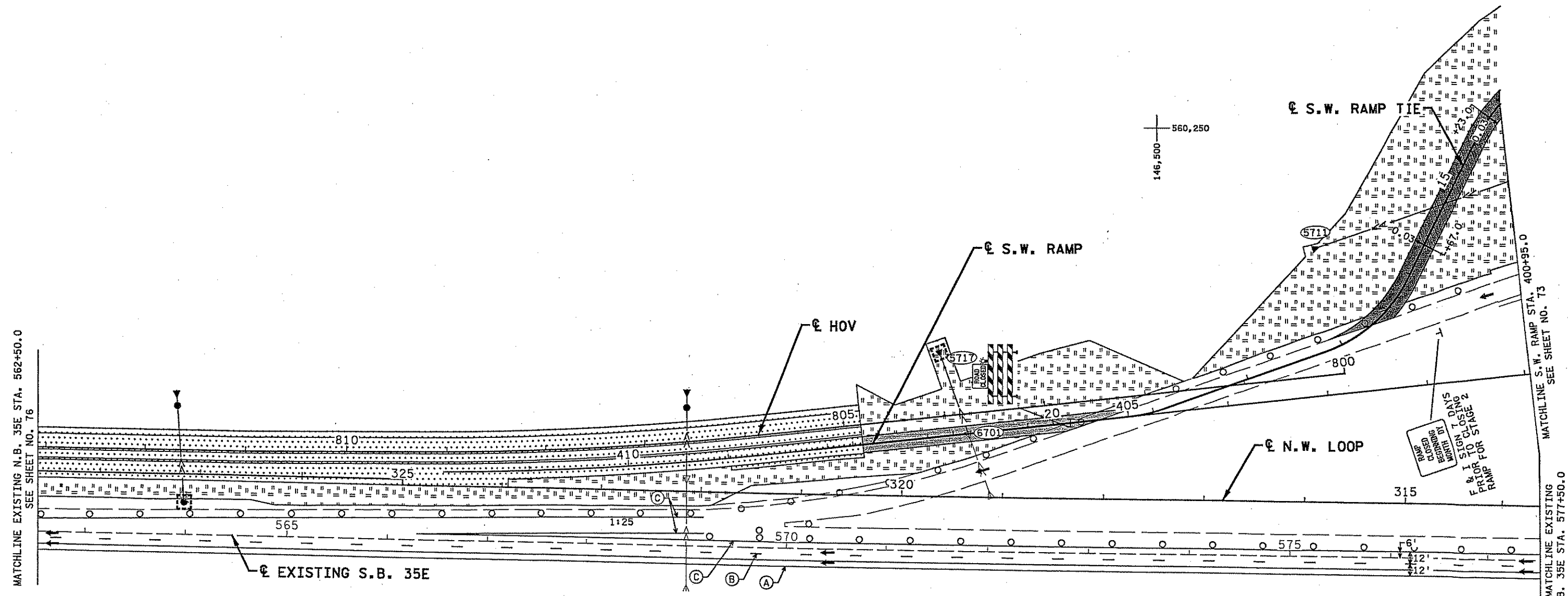
- NOTES:
- (A) 4" SOLID LINE YELLOW (PAINT)
 - (B) 4" BROKEN LINE WHITE (PAINT)
 - (C) 4" SOLID LINE WHITE (PAINT)

SEE SHEET NO. 72 FOR LEGEND AND GENERAL NOTES

145,500
560,000

146,250
560,000

146,500
560,250



2/11/25 PM
7/21/2009
H:\Projects\0282-25\HI-MUN\CD261429_TCA06.DGN

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 76

MATCHLINE S.W. RAMP STA. 400+95.0
SEE SHEET NO. 73

MATCHLINE EXISTING
N.B. 35E STA. 577+50.0
SEE SHEET NO. 73

NO	DATE	BY	CHKD	APPR	REVISION

...HI-MUN\CD261429_TCA06.DGN

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Print Name: **KYLE LUDWIG**

Date: **7-22-07** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY A. VACEK

DESIGNED BY K. LUDWIG

CHECKED BY A. VACEK

COMM. NO. 0086509



ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

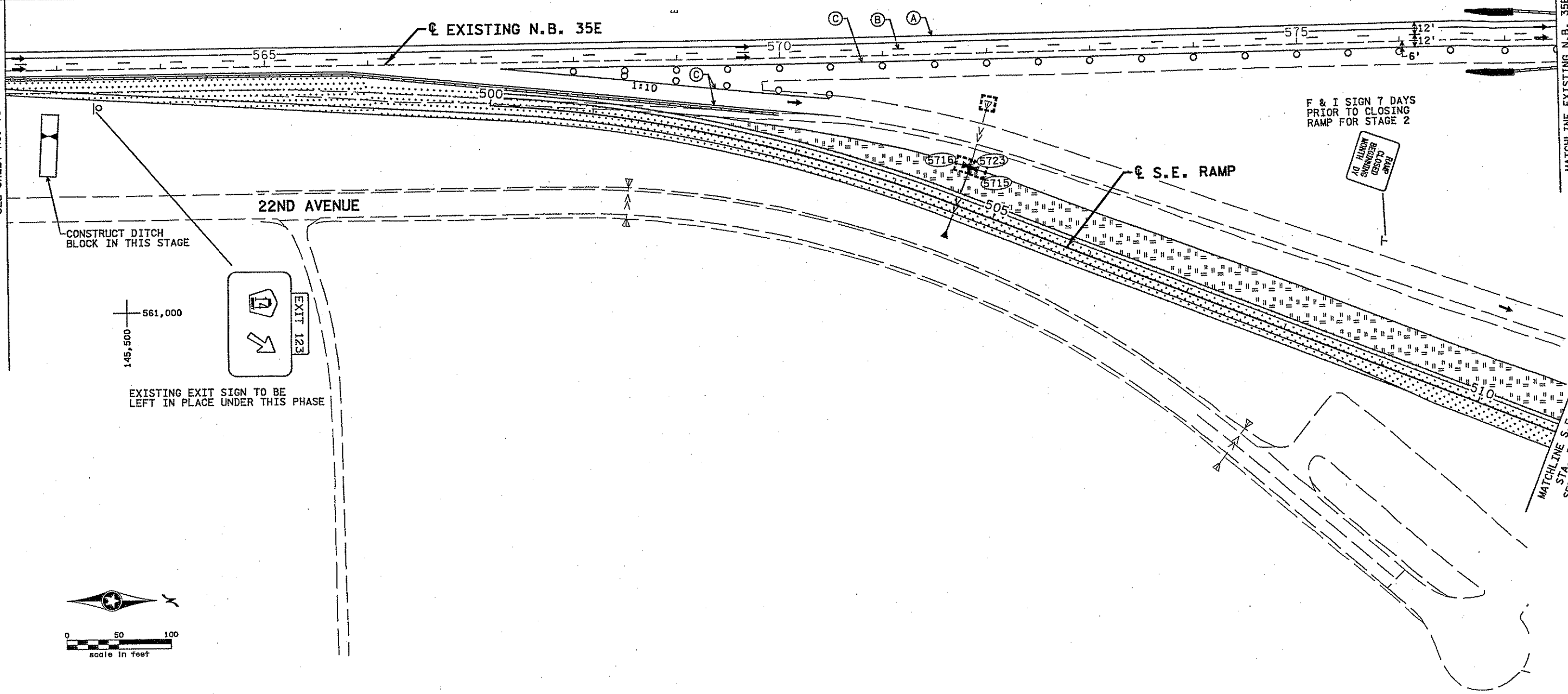
STAGE 1

SHEET 77 OF 471

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 76

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 73

MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 73

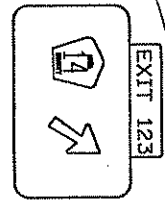


561,000
145,500

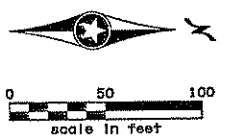
561,500
145,500

561,500
146,500

CONSTRUCT DITCH
BLOCK IN THIS STAGE



EXISTING EXIT SIGN TO BE
LEFT IN PLACE UNDER THIS PHASE



SEE SHEET NO. 72
FOR LEGEND AND GENERAL
NOTES

- NOTES:
- (A) 4" SOLID LINE YELLOW (PAINT)
 - (B) 4" BROKEN LINE WHITE (PAINT)
 - (C) 4" SOLID LINE WHITE (PAINT)

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

2/11/07 PM 7:27:00 AM \\P:\projects\6503\HI-MUN\plan\0261429_TCA07.dgn

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: **KYLE LUDWIG**
Date: **7-22-07** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

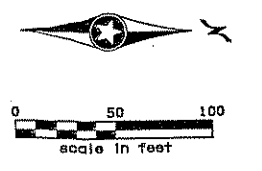
DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509

SRF CONSULTING GROUP, INC.

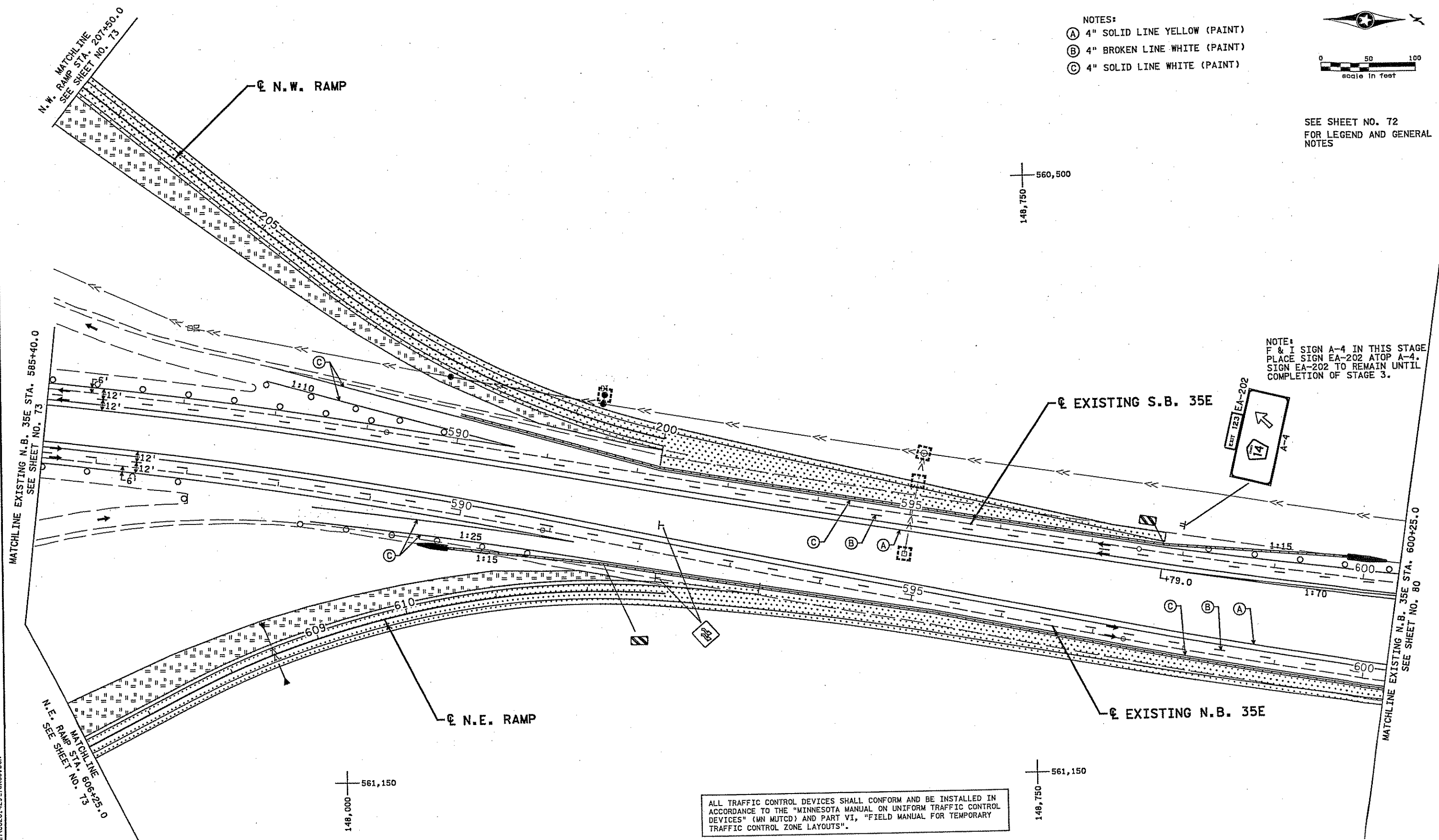
ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 1

SHEET 78 OF 471

- NOTES:
- (A) 4" SOLID LINE YELLOW (PAINT)
 - (B) 4" BROKEN LINE WHITE (PAINT)
 - (C) 4" SOLID LINE WHITE (PAINT)



SEE SHEET NO. 72
FOR LEGEND AND GENERAL
NOTES



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

2/11/28 PM 7/21/2008 H:\P\61\act\6509\HI-MUP\dm\0261429_TCA08.DGN

NO	DATE	BY	CHKD	APPR	REVISION

...HI-MUP\dm\0261429_TCA08.DGN

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Print Name: **KYLE LUDWIG**

Date: **7-22-09** License #: **46021**

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY A. VACEK

DESIGNED BY K. LUDWIG

CHECKED BY A. VACEK

COMM. NO. 0086509



ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

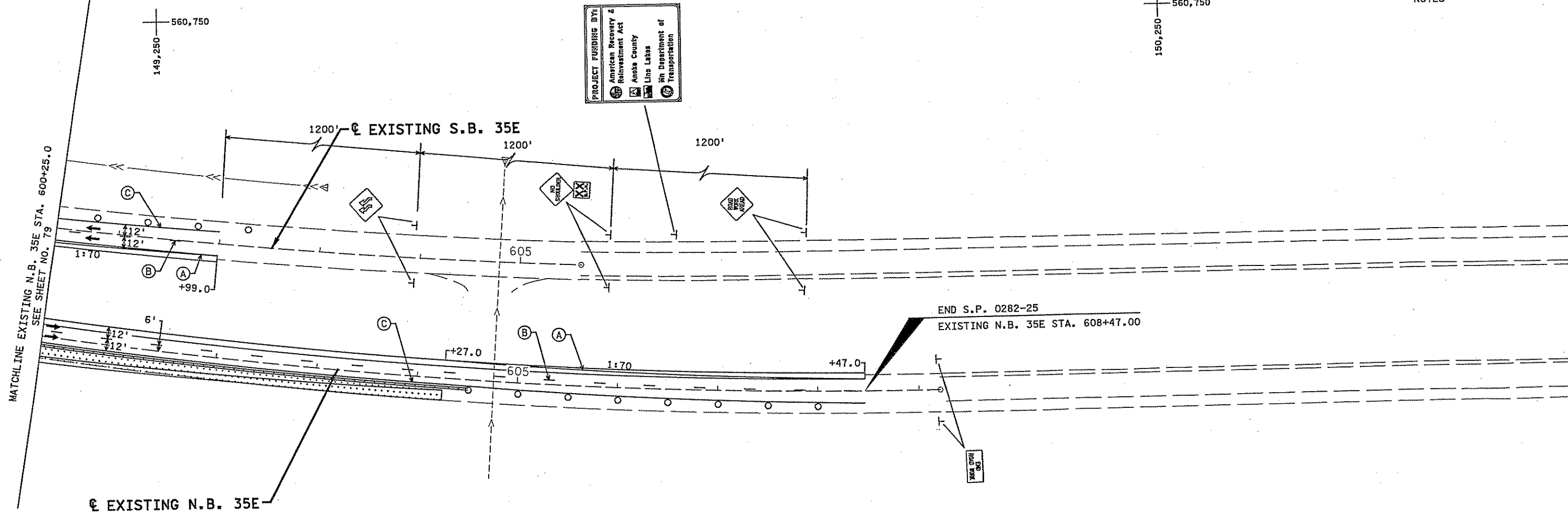
C.S.A.H. 14/T.H. 35E INTERCHANGE

STAGE 1

SHEET 79 OF 471



SEE SHEET NO. 72
FOR LEGEND AND GENERAL
NOTES



END S.P. 0282-25
EXISTING N.B. 35E STA. 608+47.00

- NOTES:
- (A) 4" SOLID LINE YELLOW (PAINT)
 - (B) 4" BROKEN LINE WHITE (PAINT)
 - (C) 4" SOLID LINE WHITE (PAINT)

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

12:44:47 PM 5/15/2009 H:\Projects\6509\HI-MJ\Plan\0261429_TCA09.DGN

NO.	DATE	BY	CHKD	APPR	REVISION

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Print Name: **KYLE LUDWIG**

Date: 5-22-09 License # 46021

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 1

SHEET
80
OF
471

LEGEND

THIS LEGEND APPLIES TO ALL STAGING PLAN SHEETS

	TEMPORARY PAVEMENT THIS STAGE		RAPID STABILIZATION METHOD 1
	PERMANENT CONSTRUCTION THIS STAGE		RAPID STABILIZATION METHOD 2
	CONSTRUCTION UNDER TRAFFIC THIS STAGE		RAPID STABILIZATION METHOD 3
	MILL BITUMINOUS SURFACE (4.0")		RAPID STABILIZATION METHOD 4
	TRAFFIC LOCATION AND DIRECTION		STORM SEWER TO BE CONSTRUCTED UNDER THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER (PPCB) STD. PLATE 8337		STORM SEWER CONSTRUCTED UNDER PREVIOUS STAGE
	IMPACT ATTENUATOR BARRELS (70 MPH UNLESS NOTED OTHERWISE)		EXISTING STORM SEWER
			WATERMAIN
			TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
			STANDARD SIGN (POST OR STAND MOUNTED)
			REFLECTORIZED PLASTIC DRUM (50' SPACING)
			INLET PROTECTION
			FLOTATION SILT CURTAIN - MOVING WATER
			TEMPORARY RAISED PAVEMENT MARKINGS

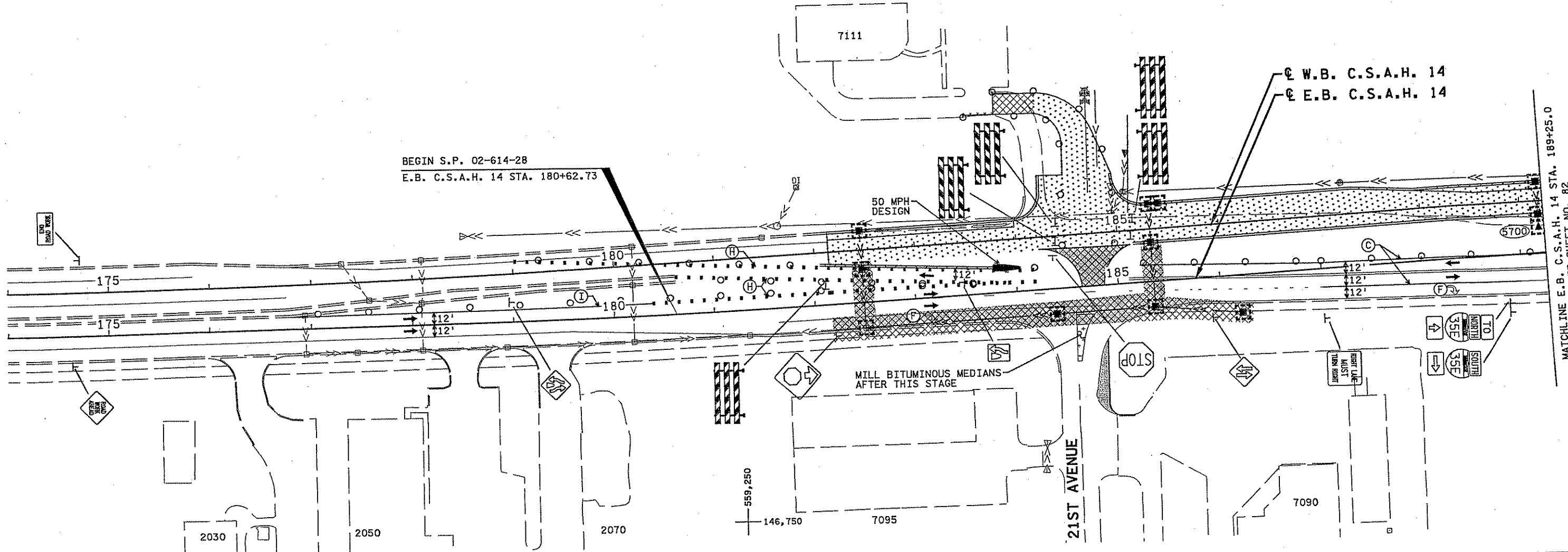
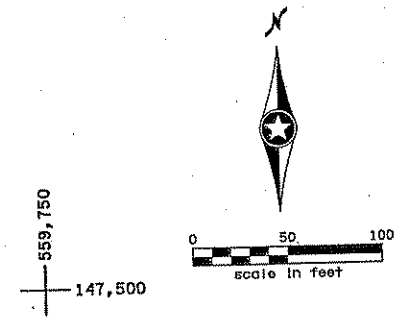
NOTES:

- (F) PAVEMENT MESSAGE (RIGHT ARROW) PAINT
- (H) TEMPORARY RAISED PAVEMENT MARKINGS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREAS
- (I) 4" SOLID LINE YELLOW-REMOVABLE PREFORMED PLASTIC MARKING TAPE

THE LEGEND AND GENERAL NOTES APPLY TO ALL STAGING AND TRAFFIC CONTROL PLAN SHEETS.
GENERAL STAGING NOTES:

THE STRIPING TO BE FURNISHED AND INSTALLED FOR THIS STAGE IS SHOWN IN BOLD AND NOTED. PORTIONS OF THE EXISTING AND PREVIOUS STAGE STRIPING SHALL REMAIN AS SHOWN ON THESE PLANS TO THE SATISFACTION OF THE ENGINEER.

558,750
147,500



11/13/21 AM 8/20/2009 8:47:01 AM \\HI-MU\PI\m\c0261429_TCB01.DGN

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: **KYLE LUDWIG**
Date: **8/20/09** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

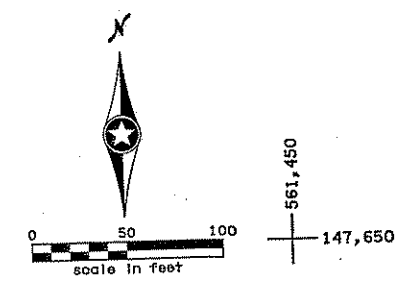
DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509

SRF CONSULTING GROUP, INC.

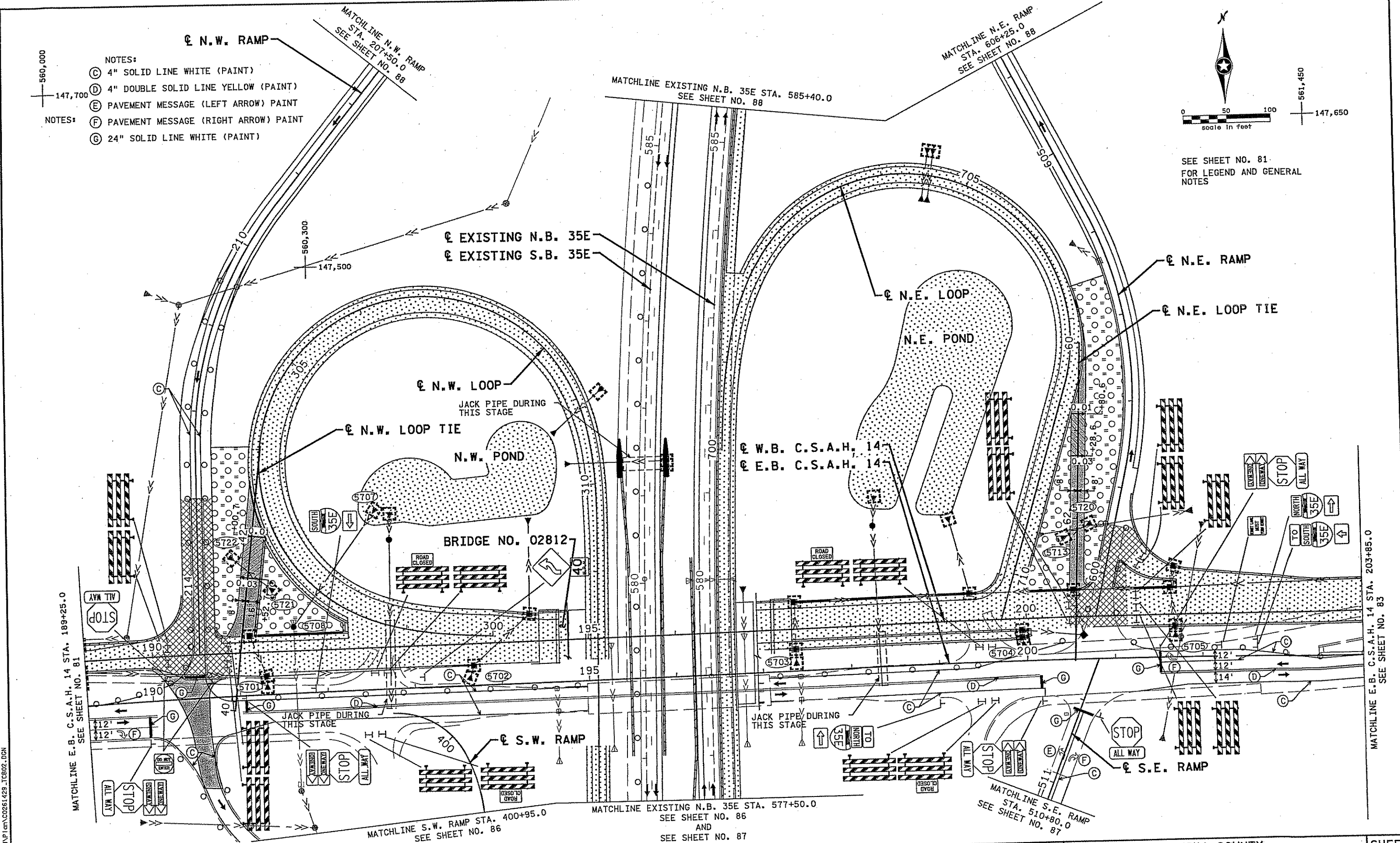
ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 2

SHEET 81 OF 471

- NOTES:
- (C) 4" SOLID LINE WHITE (PAINT)
 - (D) 4" DOUBLE SOLID LINE YELLOW (PAINT)
 - (E) PAVEMENT MESSAGE (LEFT ARROW) PAINT
 - (F) PAVEMENT MESSAGE (RIGHT ARROW) PAINT
 - (G) 24" SOLID LINE WHITE (PAINT)
- NOTES:
- (C) 4" SOLID LINE WHITE (PAINT)
 - (D) 4" DOUBLE SOLID LINE YELLOW (PAINT)
 - (E) PAVEMENT MESSAGE (LEFT ARROW) PAINT
 - (F) PAVEMENT MESSAGE (RIGHT ARROW) PAINT
 - (G) 24" SOLID LINE WHITE (PAINT)



SEE SHEET NO. 81 FOR LEGEND AND GENERAL NOTES



12/4/15 3:53 PM 5/15/2009 H:\Projects\6509\MI-MUNP\an\0261429_TCB02.DGN

NO	DATE	BY	CHKD	APPR	REVISION

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Pr Int Name: **KYLE LUDWIG**

Date: **5-22-09** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)

DESIGNED BY **A. VACEK**

CHECKED BY **K. LUDWIG**

COMM. NO. 0086509

SRF CONSULTING GROUP, INC.

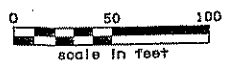
ANOKA COUNTY

STAGING AND TRAFFIC CONTROL PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

STAGE 2

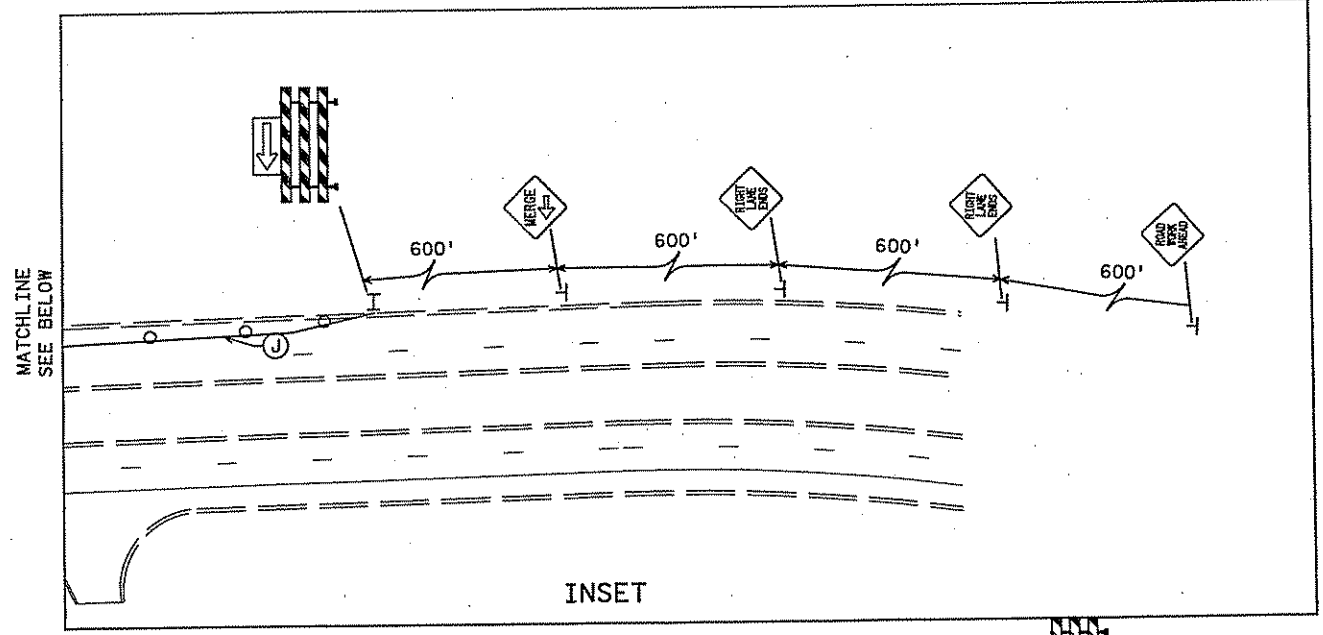
SHEET 82 OF 471



SEE SHEET NO. 81
FOR LEGEND AND GENERAL
NOTES

- NOTES:
- (C) 4" SOLID LINE WHITE (PAINT)
 - (D) 4" DOUBLE SOLID LINE YELLOW (PAINT)
 - (F) PAVEMENT MESSAGE (RIGHT ARROW) PAINT
 - (H) TEMPORARY RAISED PAVEMENT MARKINGS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREAS
 - (I) 4" SOLID LINE YELLOW-REMOVABLE PREFORMED PLASTIC MARKING TAPE
 - (J) 4" SOLID LINE WHITE-REMOVABLE PREFORMED PLASTIC MARKING TAPE
 - (K) PAVEMENT MESSAGE (LEFT ARROW) REMOVABLE POLY PREFORMED

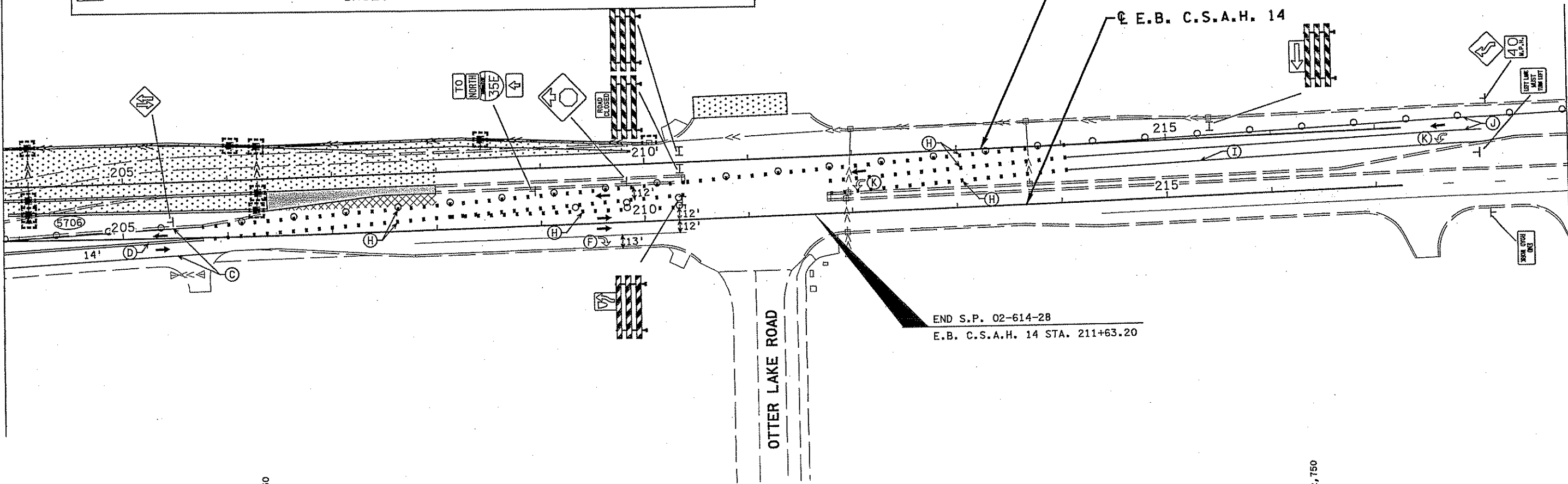
562,750
147,500



INSET

MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 82

MATCHLINE
SEE INSET



END S.P. 02-614-28
E.B. C.S.A.H. 14 STA. 211+63.20

561,750
146,750

562,750
146,750

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

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NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: **KYLE LUDWIG**

Date: 5-22-09 License # 46021

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

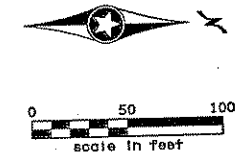
DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 2

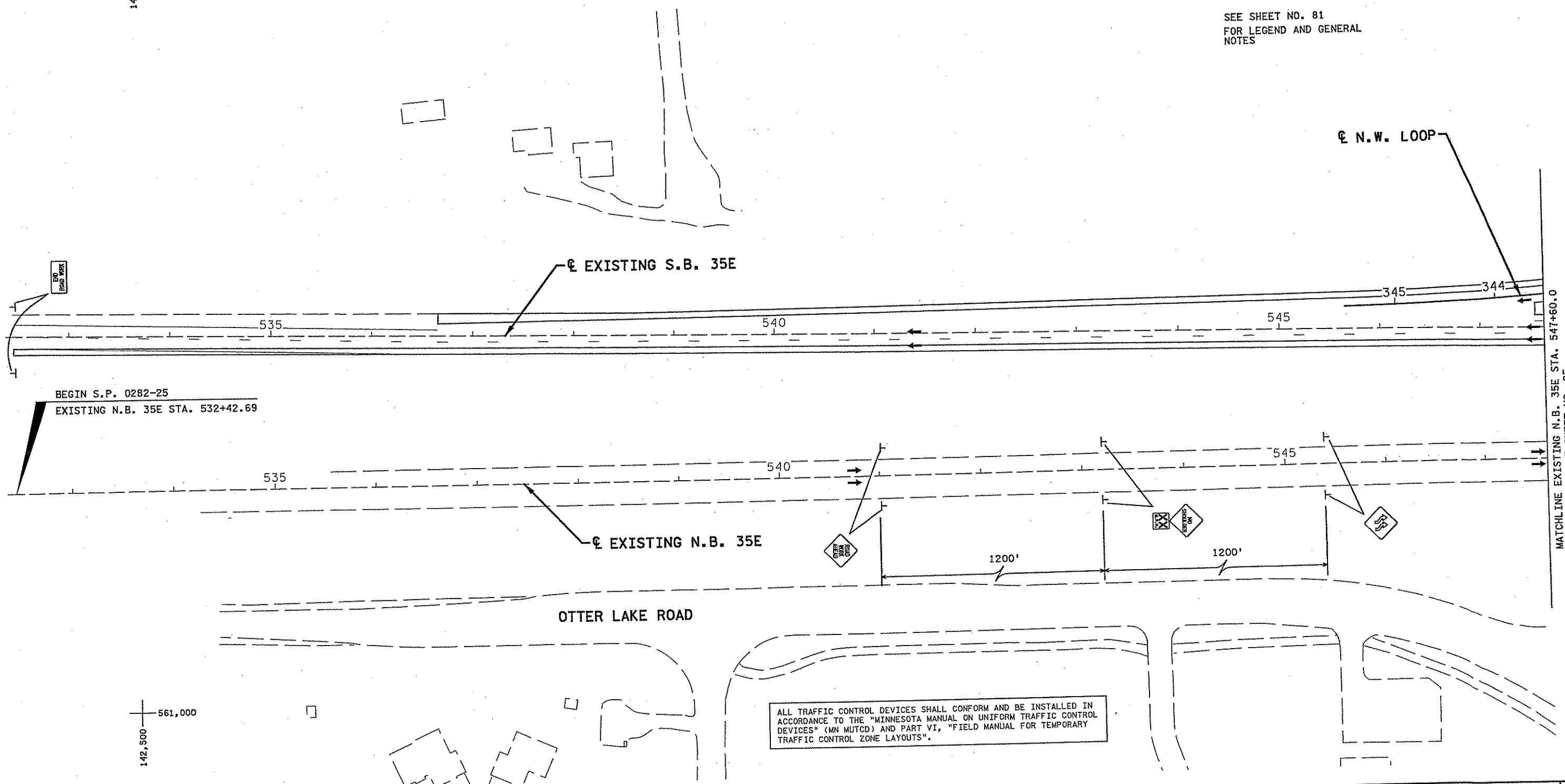
SHEET
83
OF
471

560,250
142,500



560,250
143,750

SEE SHEET NO. 81
FOR LEGEND AND GENERAL
NOTES



BEGIN S.P. 0282-25
EXISTING N.B. 35E STA. 532+42.69

MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 85

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

12:44:57 PM
5/15/2009
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NO	DATE	BY	CHKD	APPR	REVISION

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 Print Name: **KYLE LUDWIG**
 Date: **5-22-09** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY A. VACEK
 DESIGNED BY K. LUDWIG
 CHECKED BY A. VACEK
 COMM. NO. 0086509

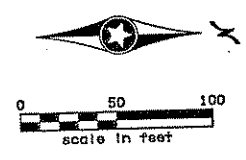


ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 2

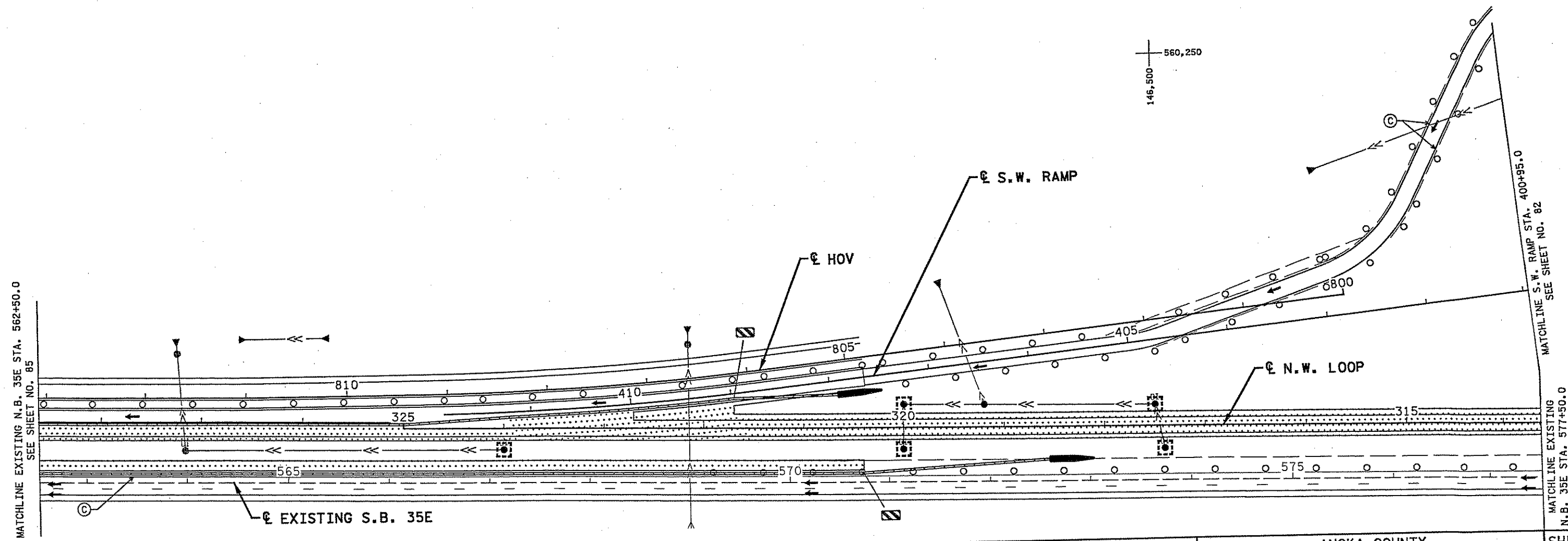
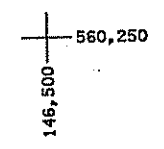
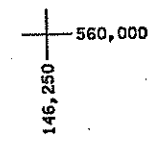
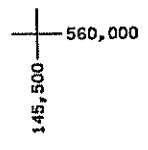
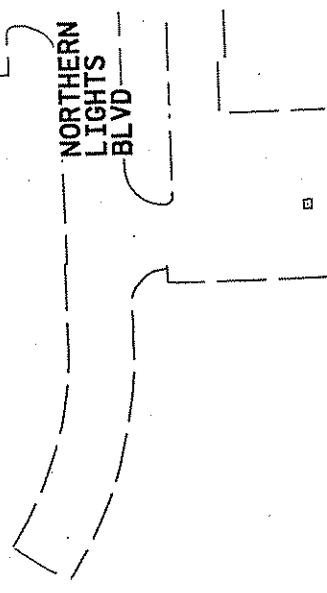
SHEET 84 OF 471

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

NOTES:
 (C) 4" SOLID LINE WHITE (PAINT)



SEE SHEET NO. 81
 FOR LEGEND AND GENERAL NOTES



2/11/04 PM 17:22:08 \\N:\proj\14509\HI-MU\PI\an\0261429_TCB06.dgn

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
 SEE SHEET NO. 85

MATCHLINE S.W. RAMP STA. 400+95.0
 SEE SHEET NO. 82

MATCHLINE EXISTING N.B. 35E STA. 577+50.0
 SEE SHEET NO. 82

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: **KYLE LUDWIG**
 Date: *2-25-04* License #: **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY A. VACEK
 DESIGNED BY K. LUDWIG
 CHECKED BY A. VACEK
 COMM. NO. 0986509



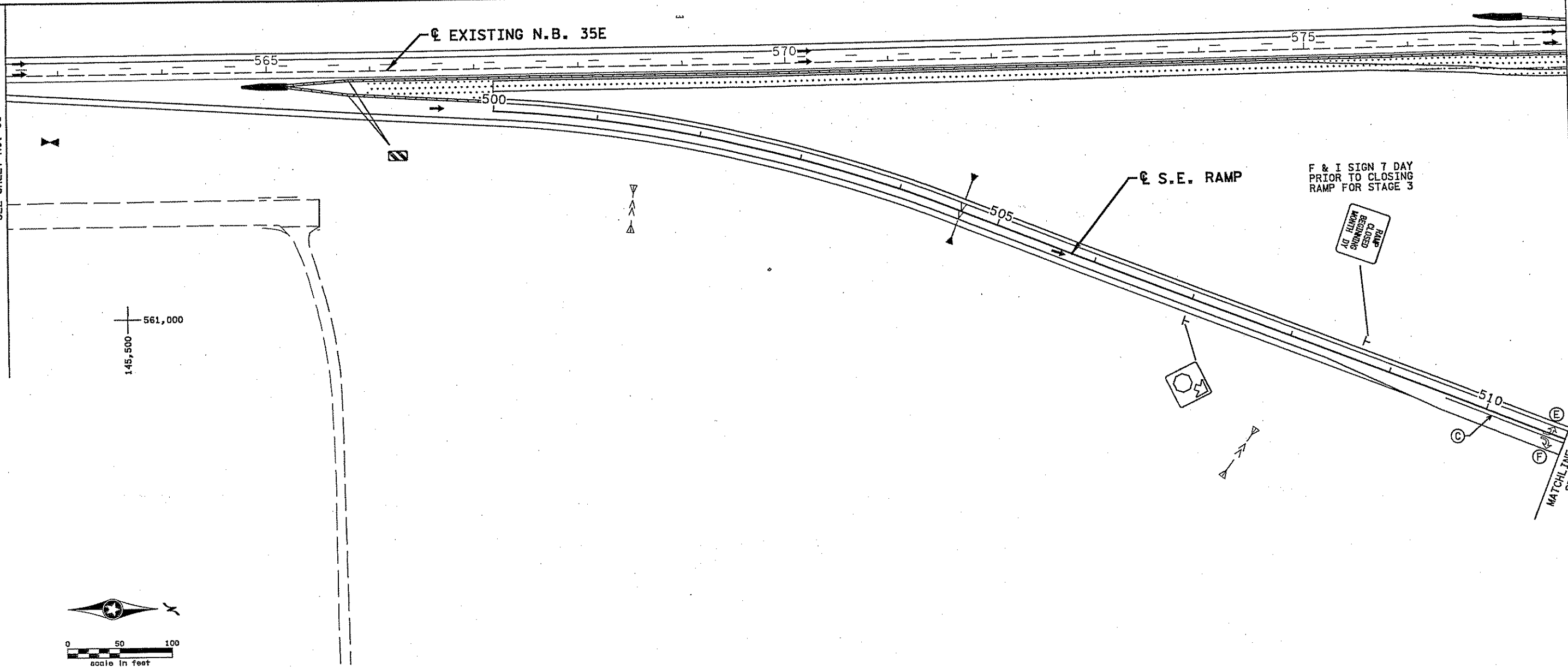
ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 2

SHEET 86 OF 471

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 85

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 82

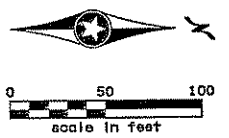
MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 82



F & I SIGN 7 DAY
PRIOR TO CLOSING
RAMP FOR STAGE 3



561,000
145,500



NOTES:

- (C) 4" SOLID LINE WHITE (PAINT)
- (E) PAVEMENT MESSAGE (LEFT ARROW) PAINT
- (F) PAVEMENT MESSAGE (RIGHT ARROW) PAINT

561,500
145,500

SEE SHEET NO. 81
FOR LEGEND AND GENERAL
NOTES

561,500
146,500

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

211136.DWG
7/21/2009
HI-MUP14n\0261429_TCB07.DGN

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: **KYLE LUDWIG**
Date: **7-22-09** License # **46021**

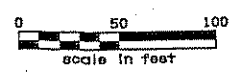
STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-614-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

DRAWN BY
A. VACEK
DESIGNED BY
K. LUDWIG
CHECKED BY
A. VACEK
COMM. NO. 0086509



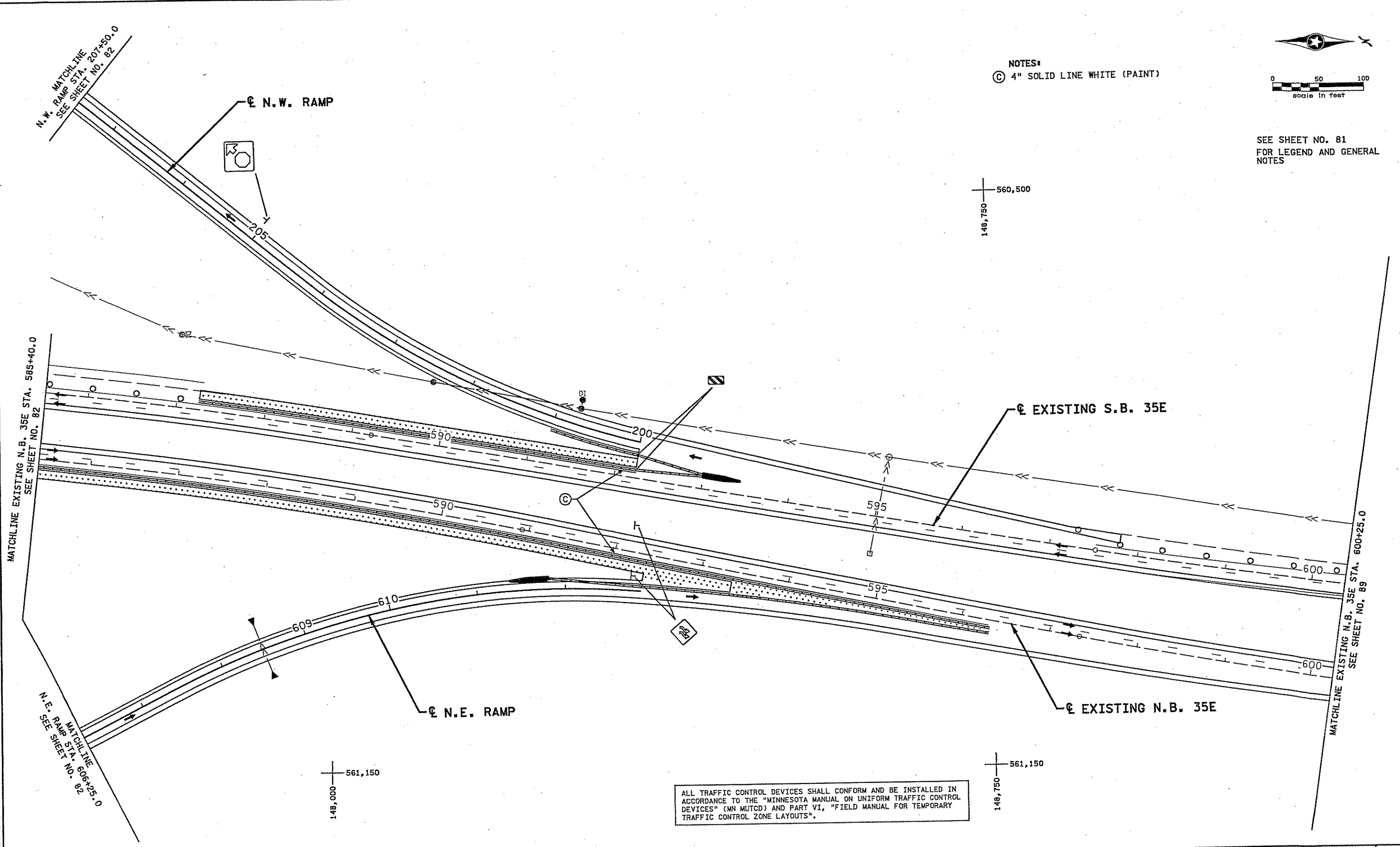
ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 2

SHEET
87
OF
471



NOTES:
 (C) 4" SOLID LINE WHITE (PAINT)

SEE SHEET NO. 81
 FOR LEGEND AND GENERAL
 NOTES



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

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NO	DATE	BY	CHKD	APPR	REVISION

... \HI-MUP\IGN\CO261429_TCB08.DGN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: **KYLE LUDWIG**
 Date: **7-22-08** License # **46021**

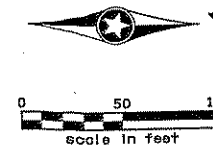
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY A. VACEK
 DESIGNED BY K. LUDWIG
 CHECKED BY A. VACEK
 COMM. NO. 0085509

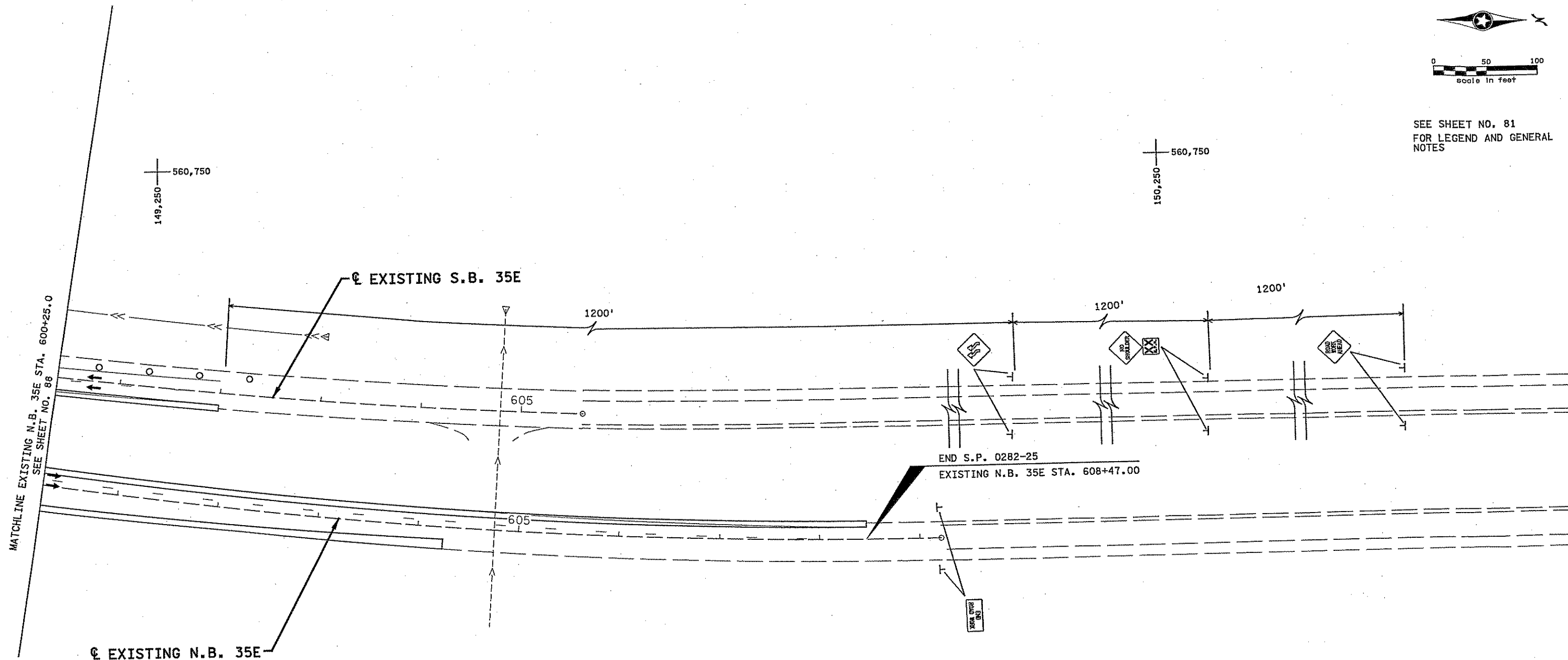


ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 2

SHEET 88 OF 471



SEE SHEET NO. 81
FOR LEGEND AND GENERAL
NOTES



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

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NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: **KYLE LUDWIG**

Date: 5-22-09 License: 46021

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509



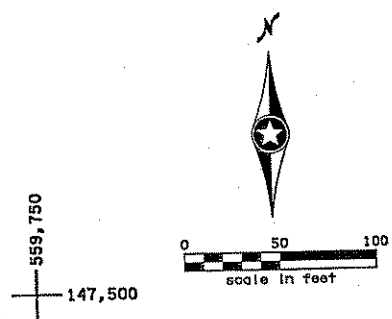
ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 2

SHEET
89
OF
471

LEGEND

THIS LEGEND APPLIES TO ALL STAGING PLAN SHEETS

	TEMPORARY PAVEMENT THIS STAGE		RAPID STABILIZATION METHOD 1
	PERMANENT CONSTRUCTION THIS STAGE		RAPID STABILIZATION METHOD 2
	CONSTRUCTION UNDER TRAFFIC THIS STAGE		RAPID STABILIZATION METHOD 3
	MILL BITUMINOUS SURFACE (4.0")		RAPID STABILIZATION METHOD 4
	TRAFFIC LOCATION AND DIRECTION		STORM SEWER TO BE CONSTRUCTED UNDER THIS STAGE
	PORTABLE PRECAST CONCRETE BARRIER (PPCB) STD. PLATE 8337		STORM SEWER CONSTRUCTED UNDER PREVIOUS STAGE
	IMPACT ATTENUATOR BARRELS (70 MPH UNLESS NOTED OTHERWISE)		EXISTING STORM SEWER
			WATERMAIN
			TYPE III BARRICADE (REFLECTORIZED BOTH SIDES)
			STANDARD SIGN (POST OR STAND MOUNTED)
			REFLECTORIZED PLASTIC DRUM (50' SPACING)
			INLET PROTECTION
			FLOTATION SILT CURTAIN - MOVING WATER
			TEMPORARY RAISED PAVEMENT MARKINGS

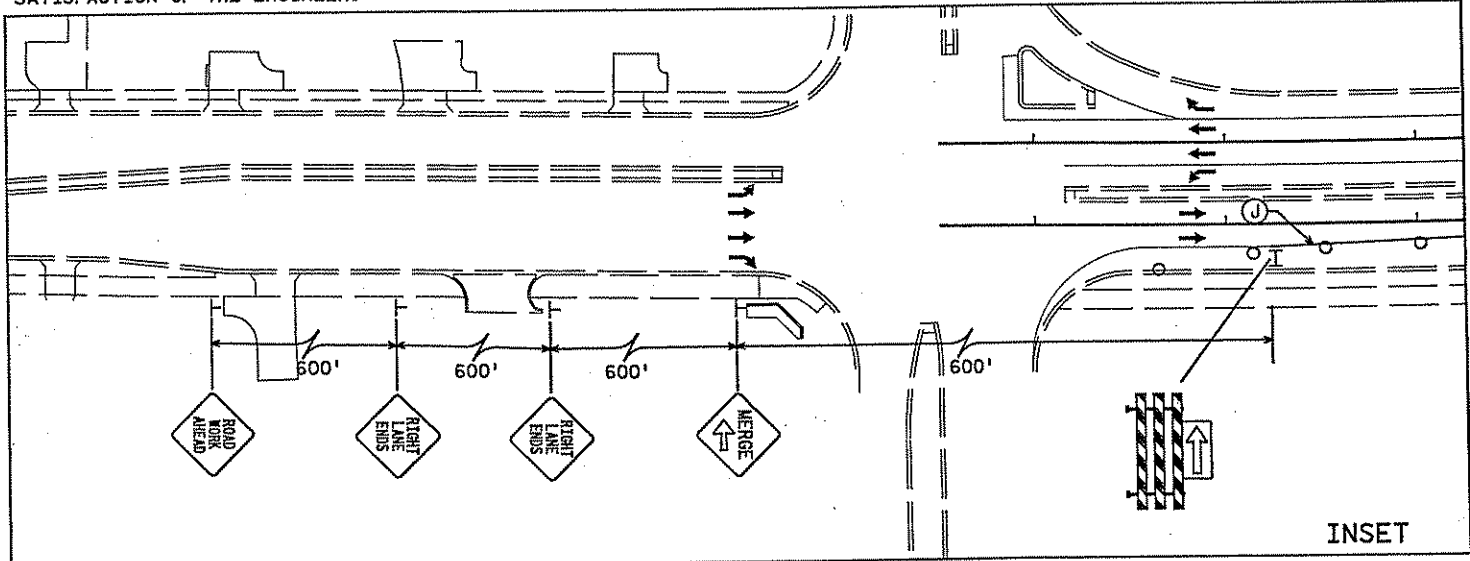


THE LEGEND AND GENERAL NOTES APPLY TO ALL STAGING AND TRAFFIC CONTROL PLAN SHEETS.

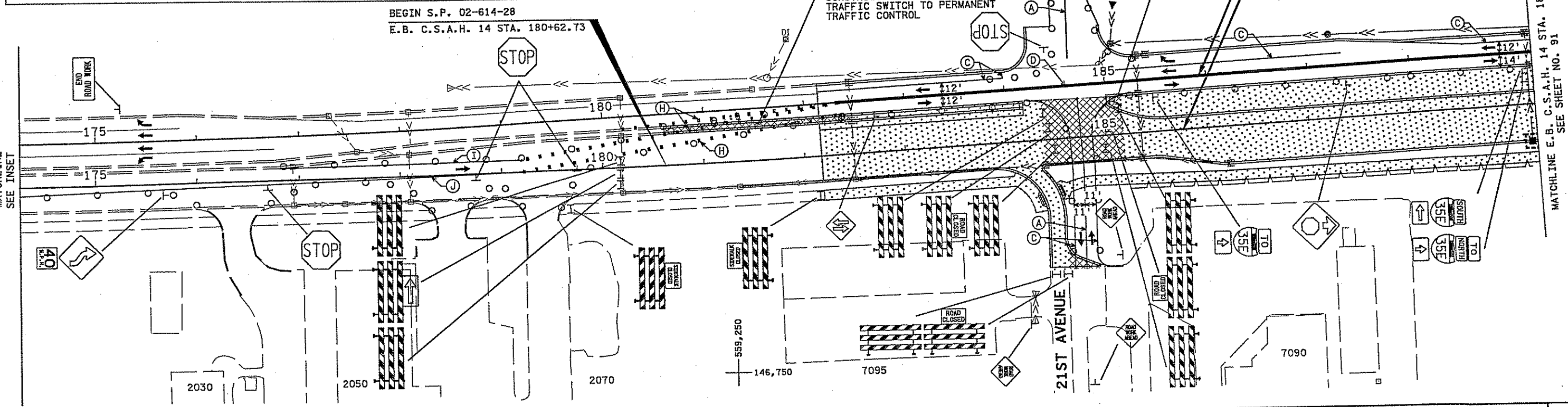
GENERAL STAGING NOTES:

THE STRIPING TO BE FURNISHED AND INSTALLED FOR THIS STAGE IS SHOWN IN BOLD AND NOTED. PORTIONS OF THE EXISTING AND PREVIOUS STAGE STRIPING SHALL REMAIN AS SHOWN ON THESE PLANS TO THE SATISFACTION OF THE ENGINEER.

- NOTES:
- (A) 4" SOLID LINE YELLOW (PAINT)
 - (C) 4" SOLID LINE WHITE (PAINT)
 - (D) 4" DOUBLE SOLID LINE YELLOW (PAINT)
 - (H) TEMPORARY RAISED PAVEMENT MARKINGS (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREAS
 - (I) 4" SOLID LINE YELLOW-REMOVABLE PREFORMED PLASTIC MARKING TAPE
 - (J) 4" SOLID LINE WHITE-REMOVABLE PREFORMED PLASTIC MARKING TAPE



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



2:11:41 PM 7/21/2009 H:\Projects\6509\11-1-01\Plan\0261429_TCC01.DGN

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: **KYLE LUDWIG**

Date: **7-22-09** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

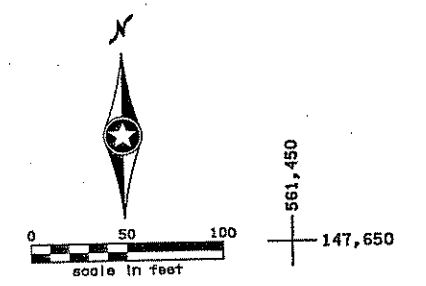
DRAWN BY A. VACEK
 DESIGNED BY K. LUDWIG
 CHECKED BY A. VACEK
 COMM. NO. 0086509



ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 3

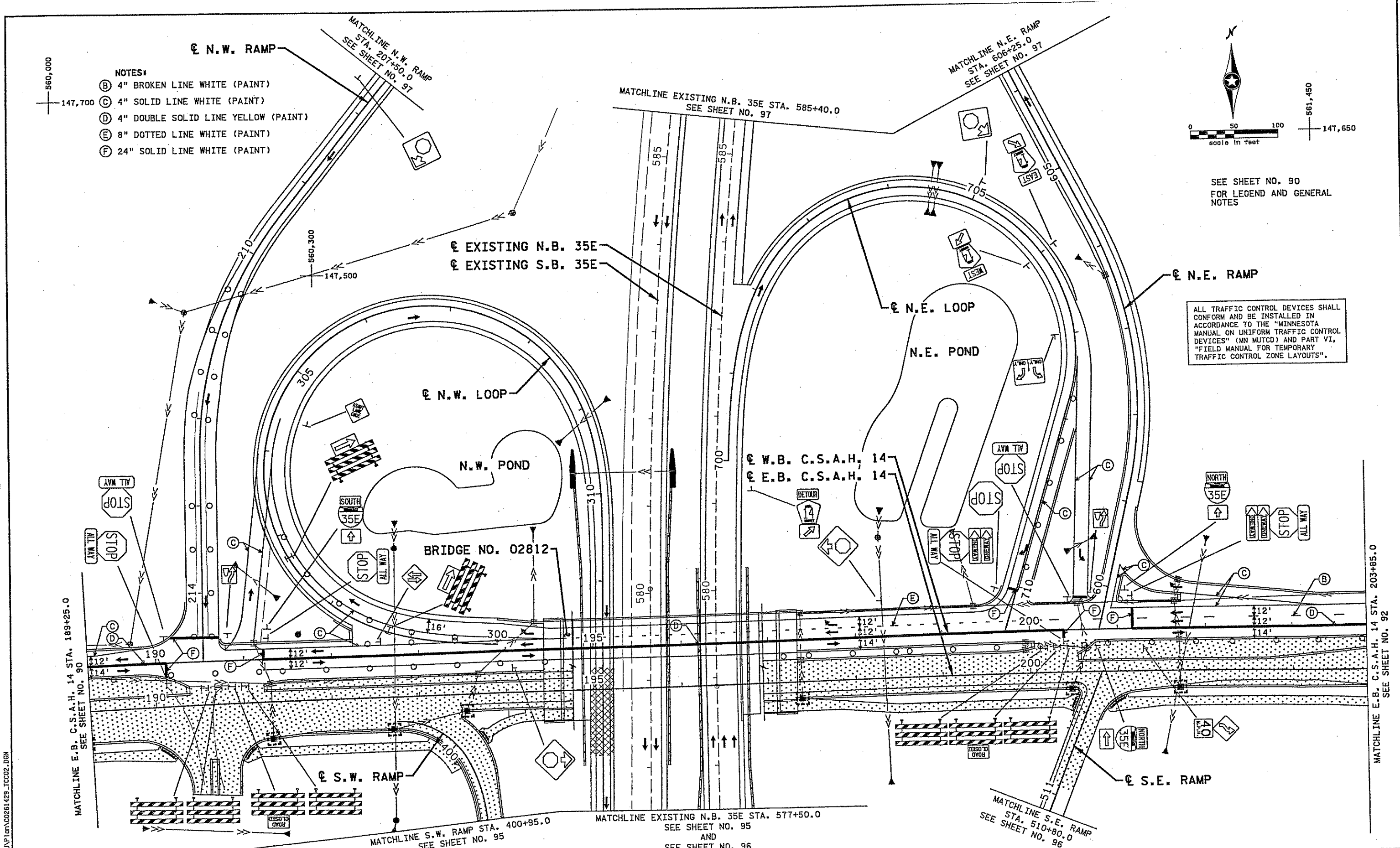
SHEET 90 OF 471

- NOTES:
- (B) 4" BROKEN LINE WHITE (PAINT)
 - (C) 4" SOLID LINE WHITE (PAINT)
 - (D) 4" DOUBLE SOLID LINE YELLOW (PAINT)
 - (E) 8" DOTTED LINE WHITE (PAINT)
 - (F) 24" SOLID LINE WHITE (PAINT)



SEE SHEET NO. 90
FOR LEGEND AND GENERAL
NOTES

ALL TRAFFIC CONTROL DEVICES SHALL
CONFORM AND BE INSTALLED IN
ACCORDANCE TO THE "MINNESOTA
MANUAL ON UNIFORM TRAFFIC CONTROL
DEVICES" (MNUFCD) AND PART VI,
"FIELD MANUAL FOR TEMPORARY
TRAFFIC CONTROL ZONE LAYOUTS".



2/11/43 PH
7/21/2009
HI-MUNP\lan\0261429_TCC02.DGN

NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: **KYLE LUDWIG**

Date: **7-22-09** License: **46021**

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
A. VACEK

DESIGNED BY
K. LUDWIG

CHECKED BY
A. VACEK

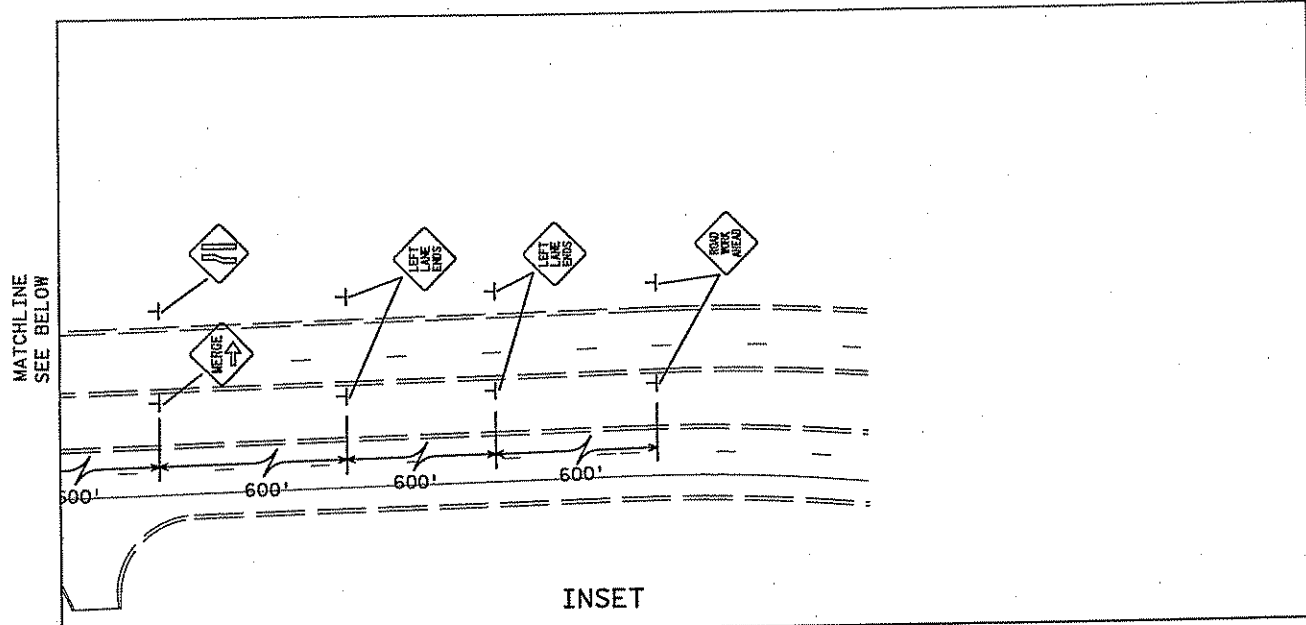
COMM. NO. 0086509



ANOKA COUNTY

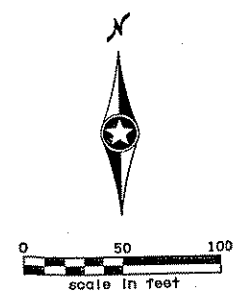
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 3

SHEET
91
OF
471

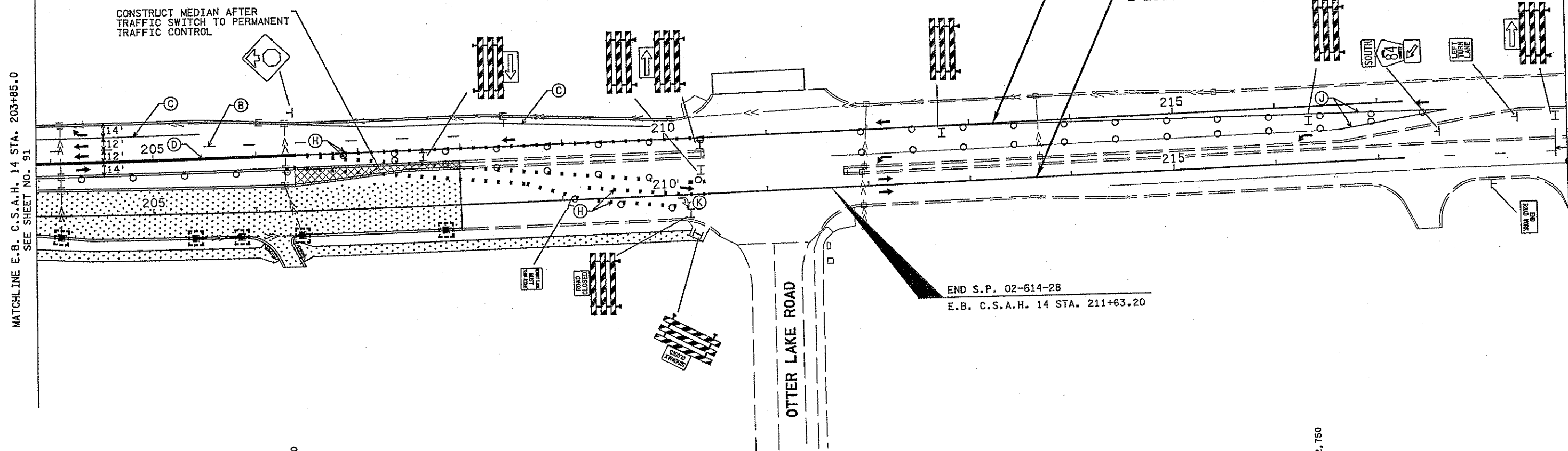


SEE SHEET NO. 90
FOR LEGEND AND GENERAL
NOTES

562,750
147,500



- NOTES:
- (B) 4" BROKEN LINE WHITE (PAINT)
 - (C) 4" SOLID LINE WHITE (PAINT)
 - (D) 4" DOUBLE SOLID LINE YELLOW (PAINT)
 - (H) TEMPORARY RAISED PAVEMENT MARKING (TRPM) AT 10' INTERVALS THROUGH TRANSITION AREAS
 - (J) 4" SOLID LINE WHITE-REMOVABLE PREFORMED PLASTIC MARKING TAPE
 - (K) PAVEMENT MESSAGE (RIGHT ARROW) REMOVABLE POLY PREFORMED



561,750
146,750

562,750
146,750

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

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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: **KYLE LUDWIG**
Date: 5-22-09 License # 46021

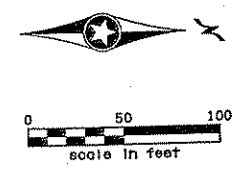
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X
DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 3

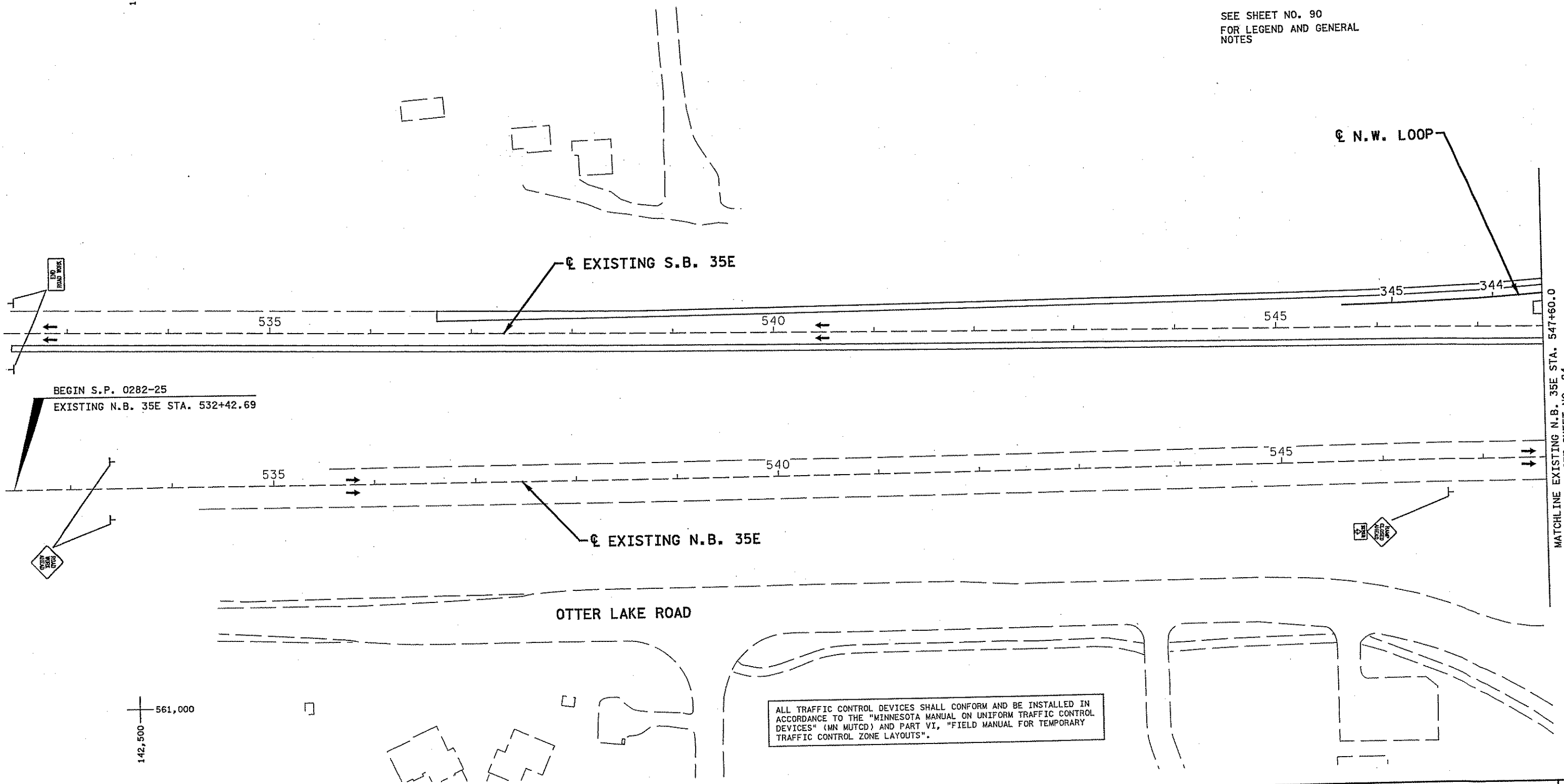
SHEET
92
OF
471

560,250
142,500



560,250
143,750

SEE SHEET NO. 90
FOR LEGEND AND GENERAL
NOTES



BEGIN S.P. 0282-25
EXISTING N.B. 35E STA. 532+42.69

MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 94

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

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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: **KYLE LUDWIG**
Date: **5-22-09** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X
DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 3

SHEET
93
OF
471

560,250
144,000

560,250
145,000



SEE SHEET NO. 90
FOR LEGEND AND GENERAL
NOTES

CLEARWATER CREEK

S.W. POND

☉ N.W. LOOP

☉ HOV

MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 93

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 95
AND
SEE SHEET NO. 96

☉ EXISTING N.B. 35E

☉ EXISTING S.B. 35E

22ND AVENUE

PHELPS ROAD

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

211144.RW
7/21/2008
HI-MUNVPlan\CO261429_TCC05.DGN

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: **KYLE LUDWIG**

Date: **7-22-09** License: **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

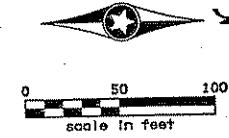
DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509



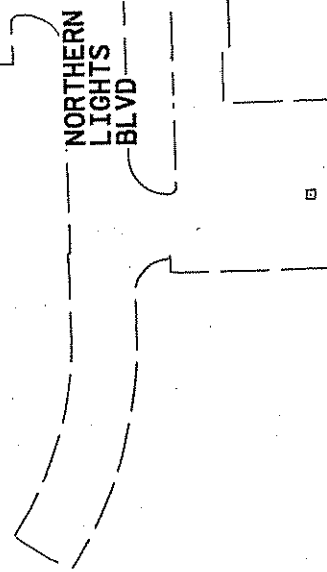
ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 3

SHEET 94 OF 471

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



SEE SHEET NO. 90
FOR LEGEND AND GENERAL
NOTES

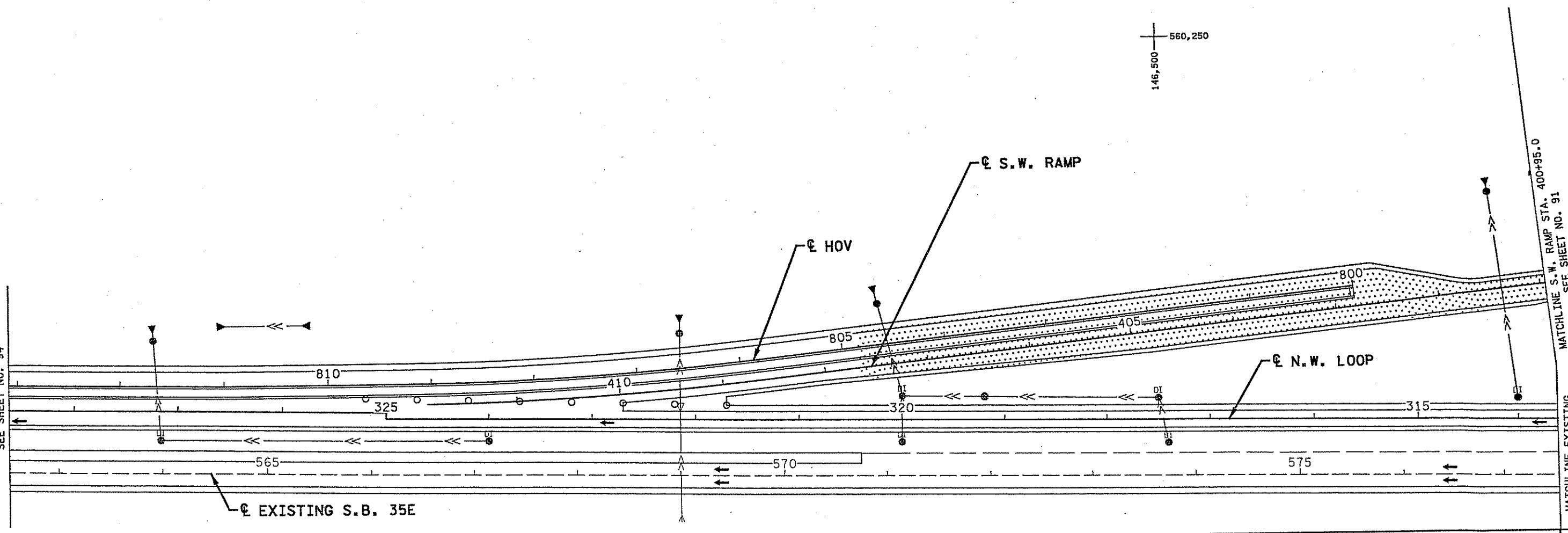


145,500
560,000

146,250
560,000

146,500
560,250

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 94



MATCHLINE S.W. RAMP STA. 400+95.0
SEE SHEET NO. 91

MATCHLINE EXISTING
N.B. 35E STA. 577+50.0
SEE SHEET NO. 91

EXISTING S.B. 35E

S.W. RAMP

HOV

N.W. LOOP

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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: **KYLE LUDWIG**
Date: **7-22-09** License # **46021**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509



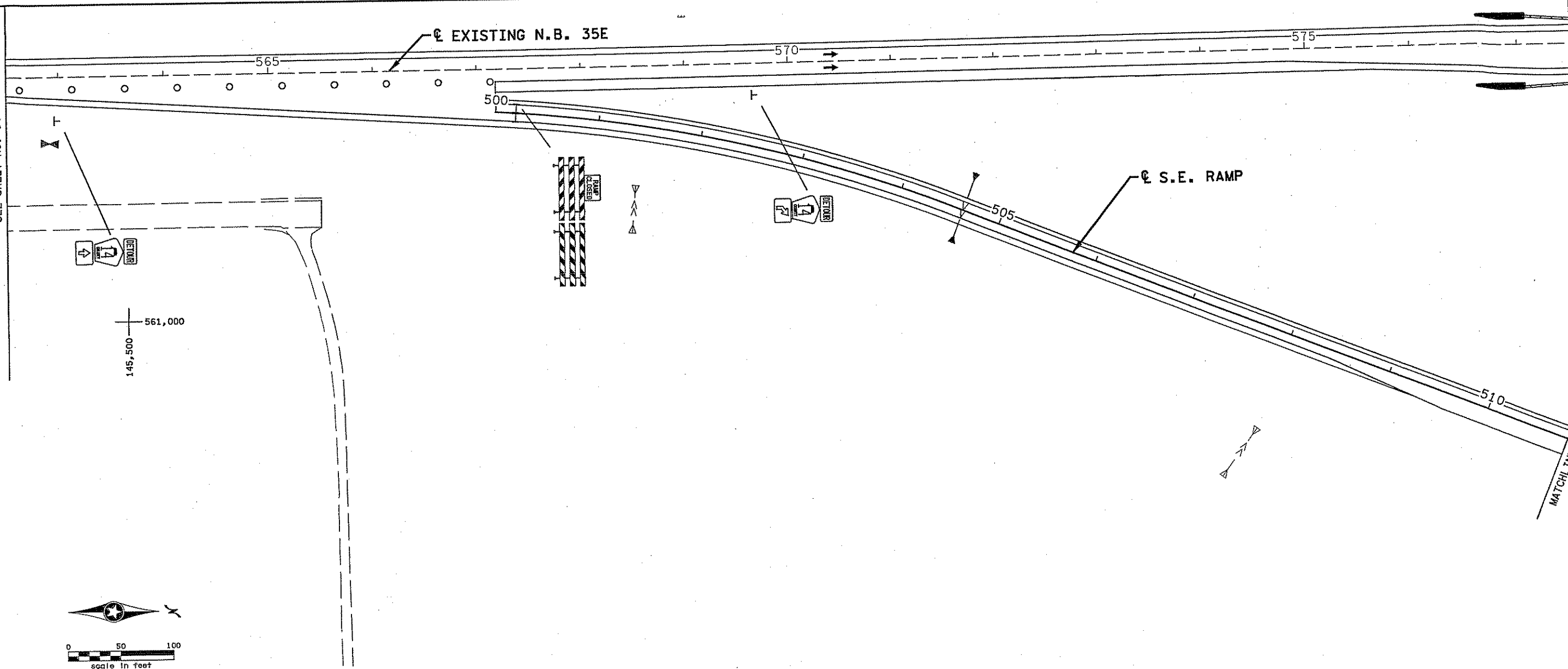
ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 3

SHEET 95 OF 471

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 94

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 91

MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 91



SEE SHEET NO. 90
FOR LEGEND AND GENERAL
NOTES

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

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NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: **KYLE LUDWIG**
Date: 5-22-09 License # 46021

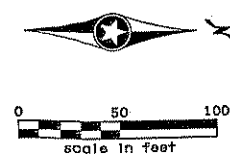
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509

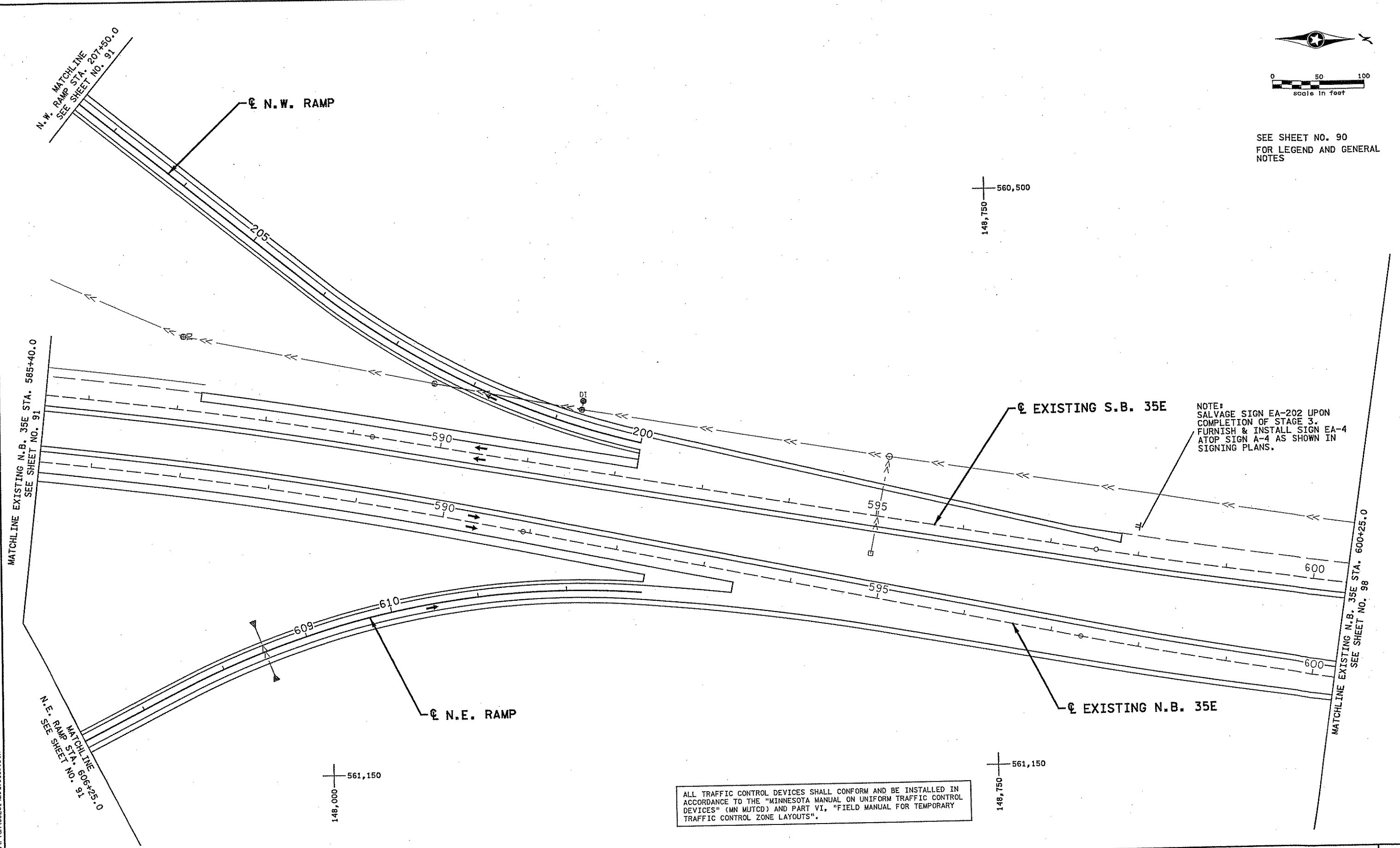


ANOKA COUNTY
STAGING AND TRAFFIC CONTROL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAGE 3

SHEET 96 OF 471



SEE SHEET NO. 90
FOR LEGEND AND GENERAL
NOTES



NOTE:
SALVAGE SIGN EA-202 UPON
COMPLETION OF STAGE 3.
FURNISH & INSTALL SIGN EA-4
ATOP SIGN A-4 AS SHOWN IN
SIGNING PLANS.

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

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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: **KYLE LUDWIG**
 Date: 5-22-09 License # 46021

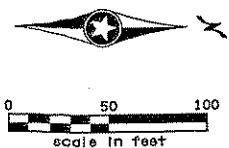
STATE PROJECT NO.
0282-25 (TH 35E)
 STATE PROJECT NO.
02-614-28
 COUNTY PROJECT NO.
X
 CITY PROJECT NO. X

DRAWN BY
A. VACEK
 DESIGNED BY
K. LUDWIG
 CHECKED BY
A. VACEK
 COMM. NO. 0086509

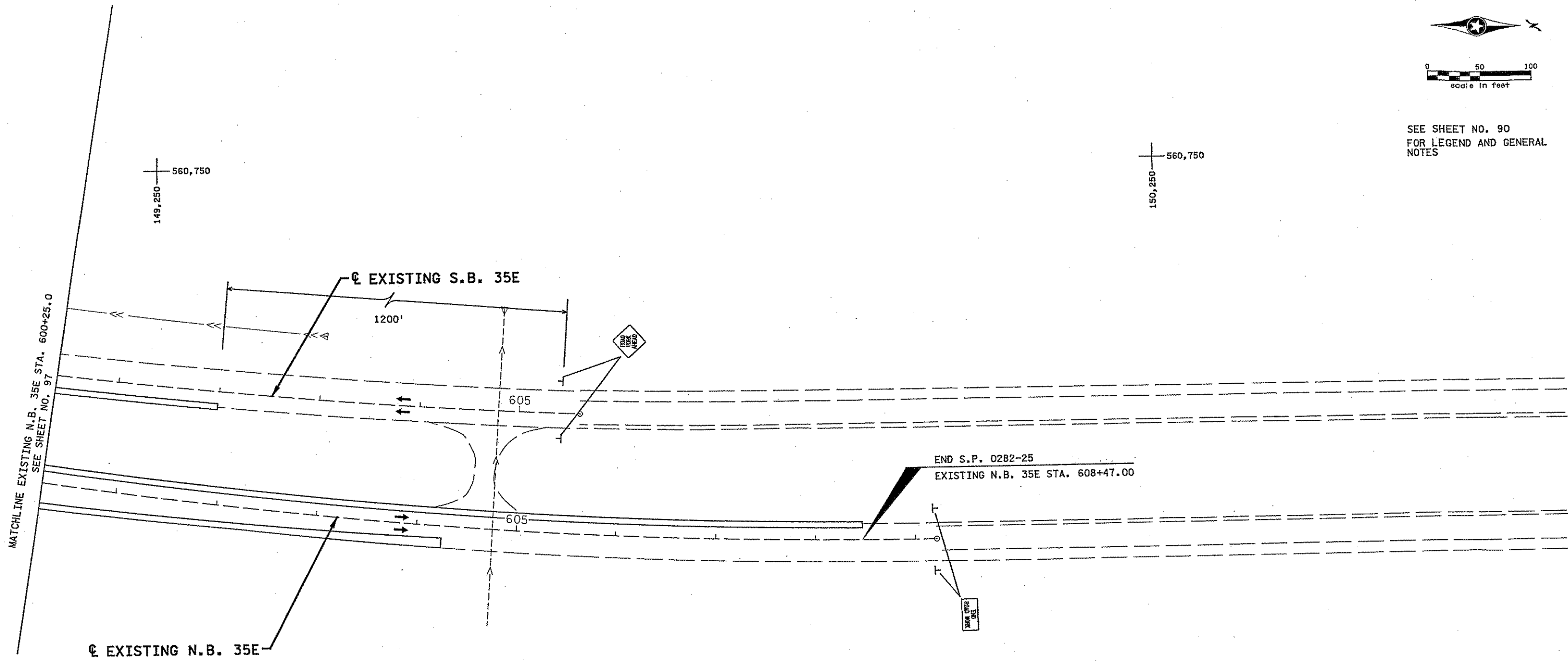


ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 3

SHEET
97
OF
471



SEE SHEET NO. 90
FOR LEGEND AND GENERAL
NOTES



MATCHLINE EXISTING N.B. 35E STA. 600+25.0
SEE SHEET NO. 97

END S.P. 0282-25
EXISTING N.B. 35E STA. 608+47.00

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

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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.
 Pr Int Name: **KYLE LUDWIG**
 Date: 5-22-23 License # 46021

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

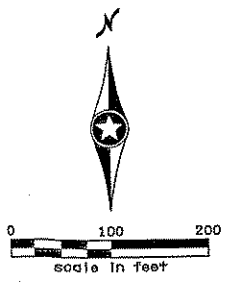
DRAWN BY A. VACEK
 DESIGNED BY K. LUDWIG
 CHECKED BY A. VACEK
 COMM. NO. 0086509



ANOKA COUNTY
 STAGING AND TRAFFIC CONTROL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STAGE 3

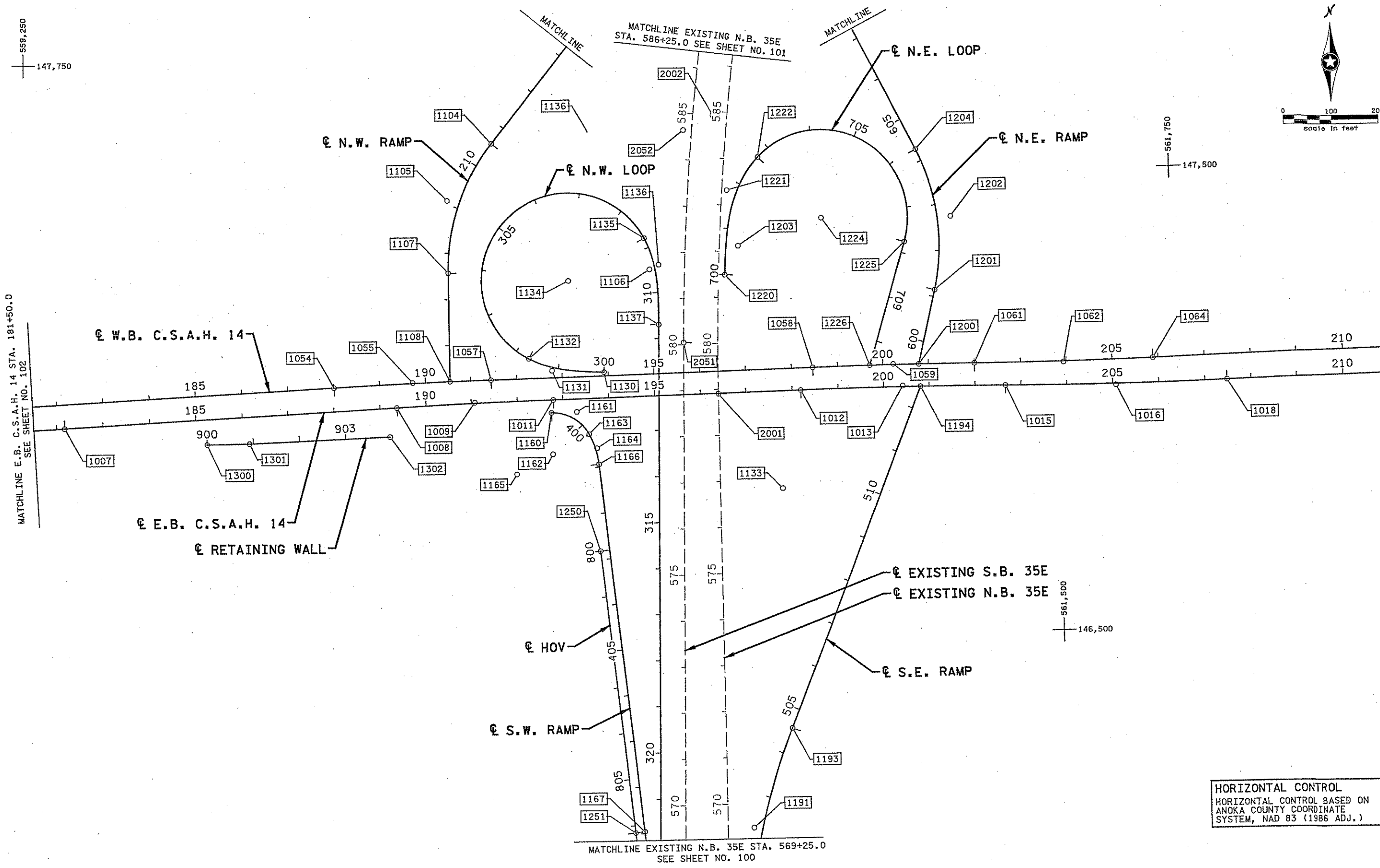
SHEET 98 OF 471

559,250
147,750



561,750
147,500

561,500
146,500



MATCHLINE E.B. C.S.A.H. 14 STA. 181+50.0
SEE SHEET NO. 102

MATCHLINE E.B. C.S.A.H. 14 STA. 211+00.0
SEE SHEET NO. 102

MATCHLINE EXISTING N.B. 35E
STA. 586+25.0 SEE SHEET NO. 101

MATCHLINE EXISTING N.B. 35E
STA. 569+25.0 SEE SHEET NO. 100

HORIZONTAL CONTROL
HORIZONTAL CONTROL BASED ON
ANOKA COUNTY COORDINATE
SYSTEM, NAD 83 (1986 ADJ.)

9:18:17 AM
4/20/2009
H:\Projects\6505\HI-MUN\Plan\CO261429_AL1.DGN

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: **AARON VACEK**
Date: 5-22-09 License # 44277

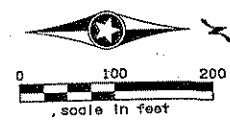
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509

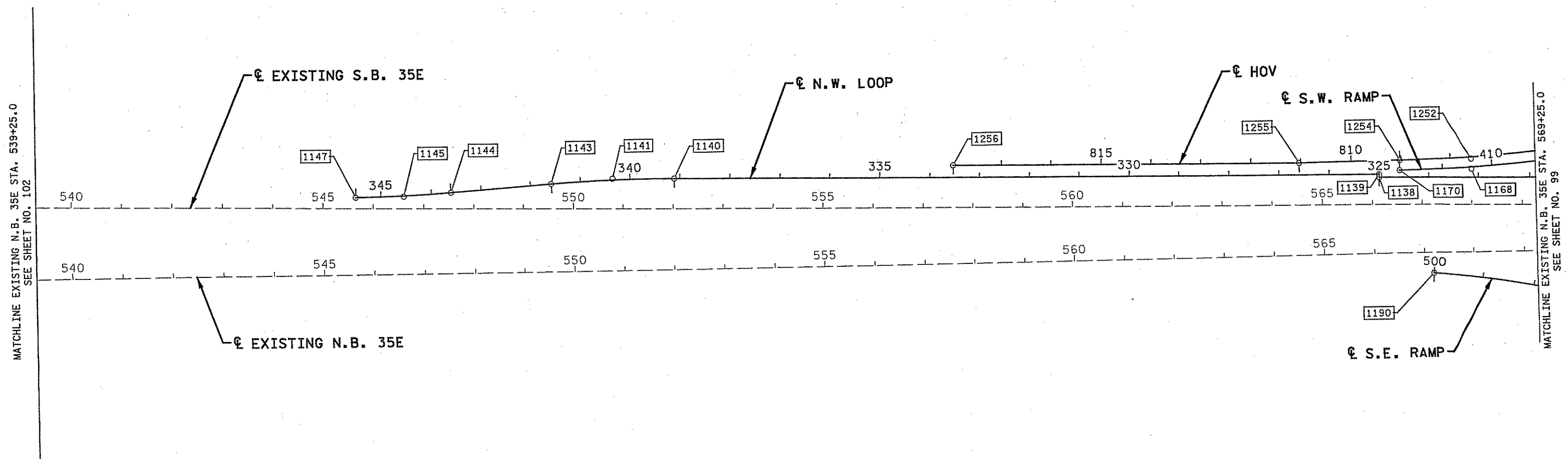


ANOKA COUNTY
ALIGNMENT PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
99
OF
471



559,750
143,250



561,250
143,250

561,250
145,250

HORIZONTAL CONTROL
HORIZONTAL CONTROL BASED ON
ANOKA COUNTY COORDINATE
SYSTEM, NAD 83 (1986 ADJ.)

9/18/18 AM 4/20/2009 H:\Projects\509\HI-MU\Plan\0261429_AL2.DGN

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: **AARON VACEK**
Date: *5-20-09* License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509

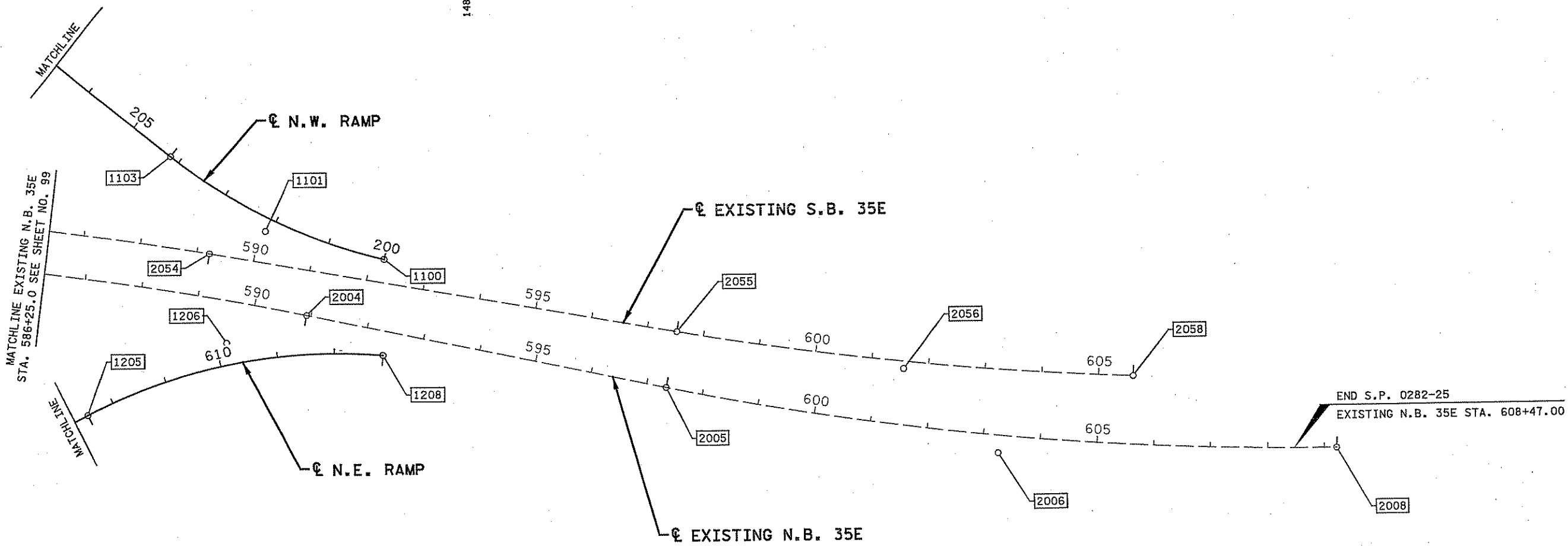


ANOKA COUNTY
ALIGNMENT PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 100 OF 471



560,250
148,500



MATCHLINE EXISTING N.B. 35E
STA. 586+25.0 SEE SHEET NO. 99

END S.P. 0282-25
EXISTING N.B. 35E STA. 608+47.00

561,500
148,500

561,500
149,750

HORIZONTAL CONTROL
HORIZONTAL CONTROL BASED ON
ANOKA COUNTY COORDINATE
SYSTEM, NAD 83 (1986 ADJ.)

9:18:19 AM
2/18/2009
HI-MUNPLAN\0261429_AL3.DGN

NO	DATE	BY	CKD	APPR	REVISION

...HI-MUNPLAN\0261429_AL3.DGN

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

Print Name: AARON VACEK

Aaron Vacek

Date: 5-22-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
A. VACEK

DESIGNED BY
K. LUDWIG

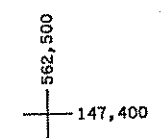
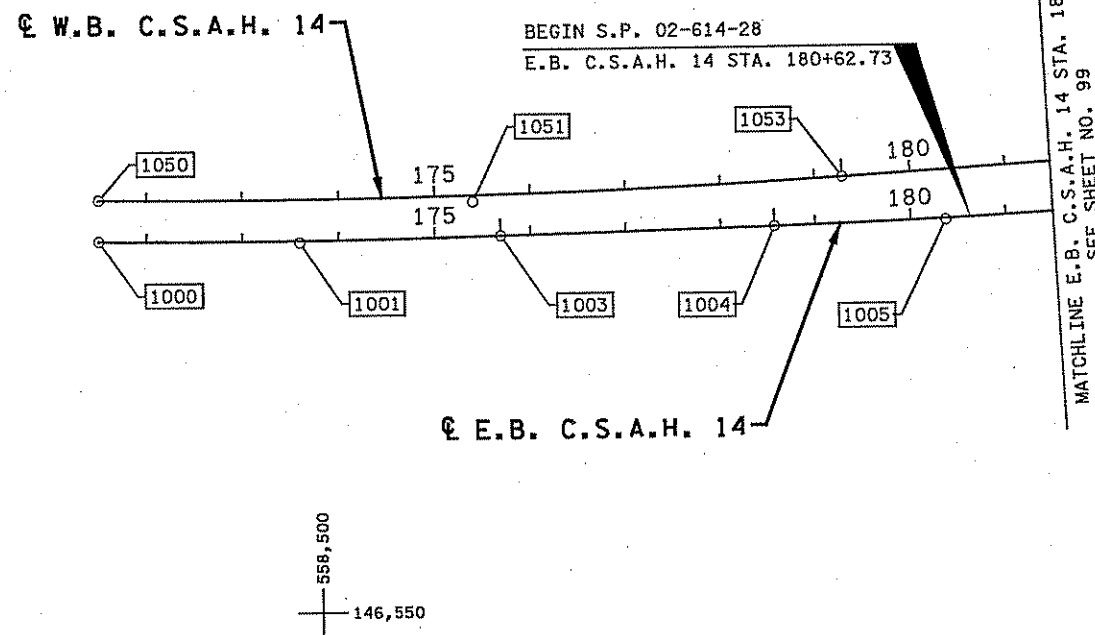
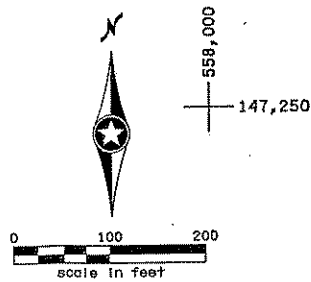
CHECKED BY
A. VACEK

COMM. NO. 0086509

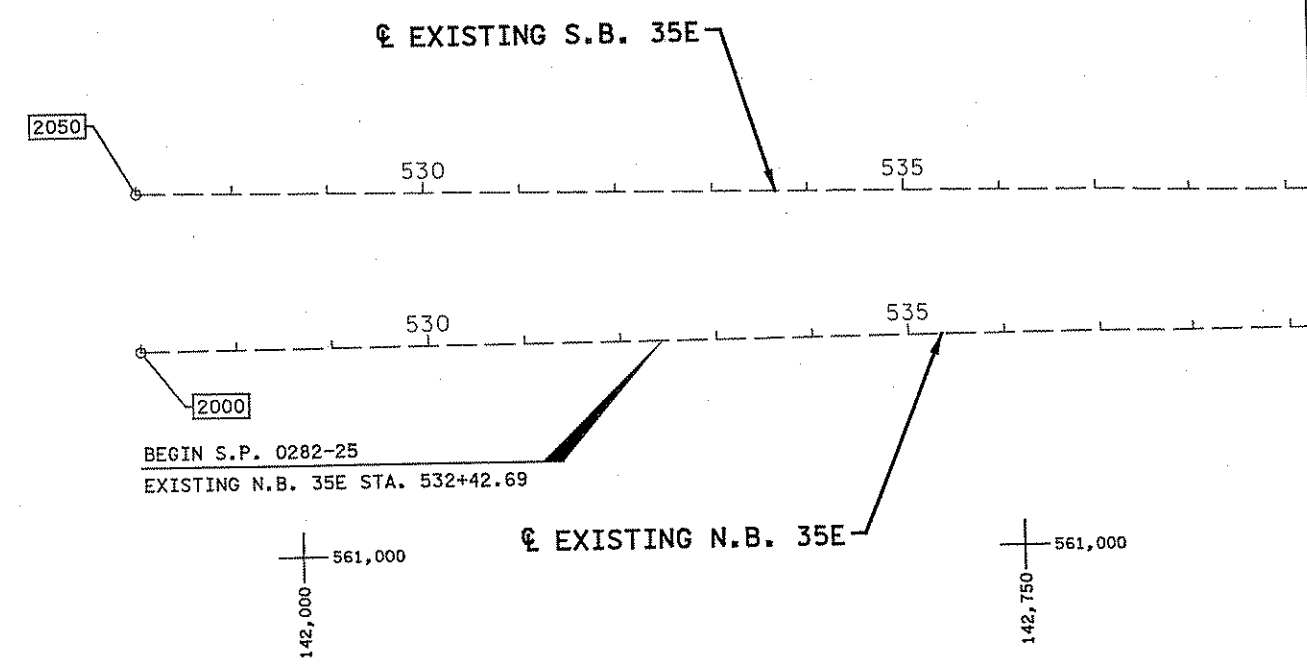
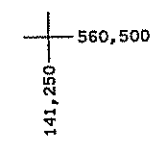
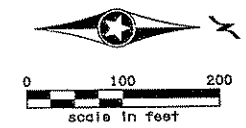
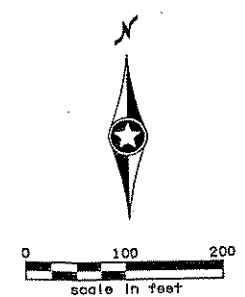
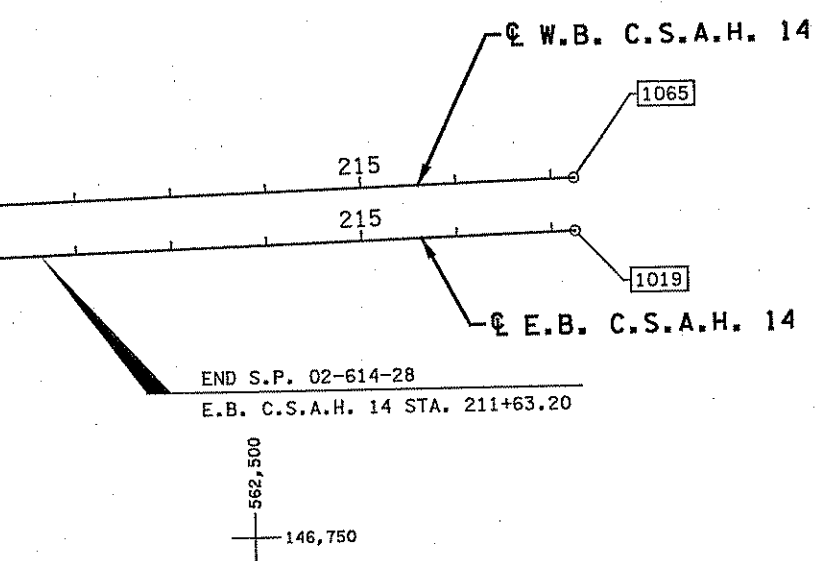


ANOKA COUNTY
ALIGNMENT PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
101
OF
471



MATCHLINE E.B. C.S.A.H. 14 STA. 211+00.0
SEE SHEET NO. 99



HORIZONTAL CONTROL
HORIZONTAL CONTROL BASED ON
ANOKA COUNTY COORDINATE
SYSTEM, NAD 83 (1986 ADJ.)

9:18:20 AM
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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: AARON VACEK
Date: 5-22-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

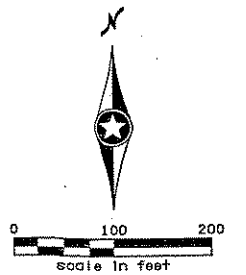
DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
ALIGNMENT PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE

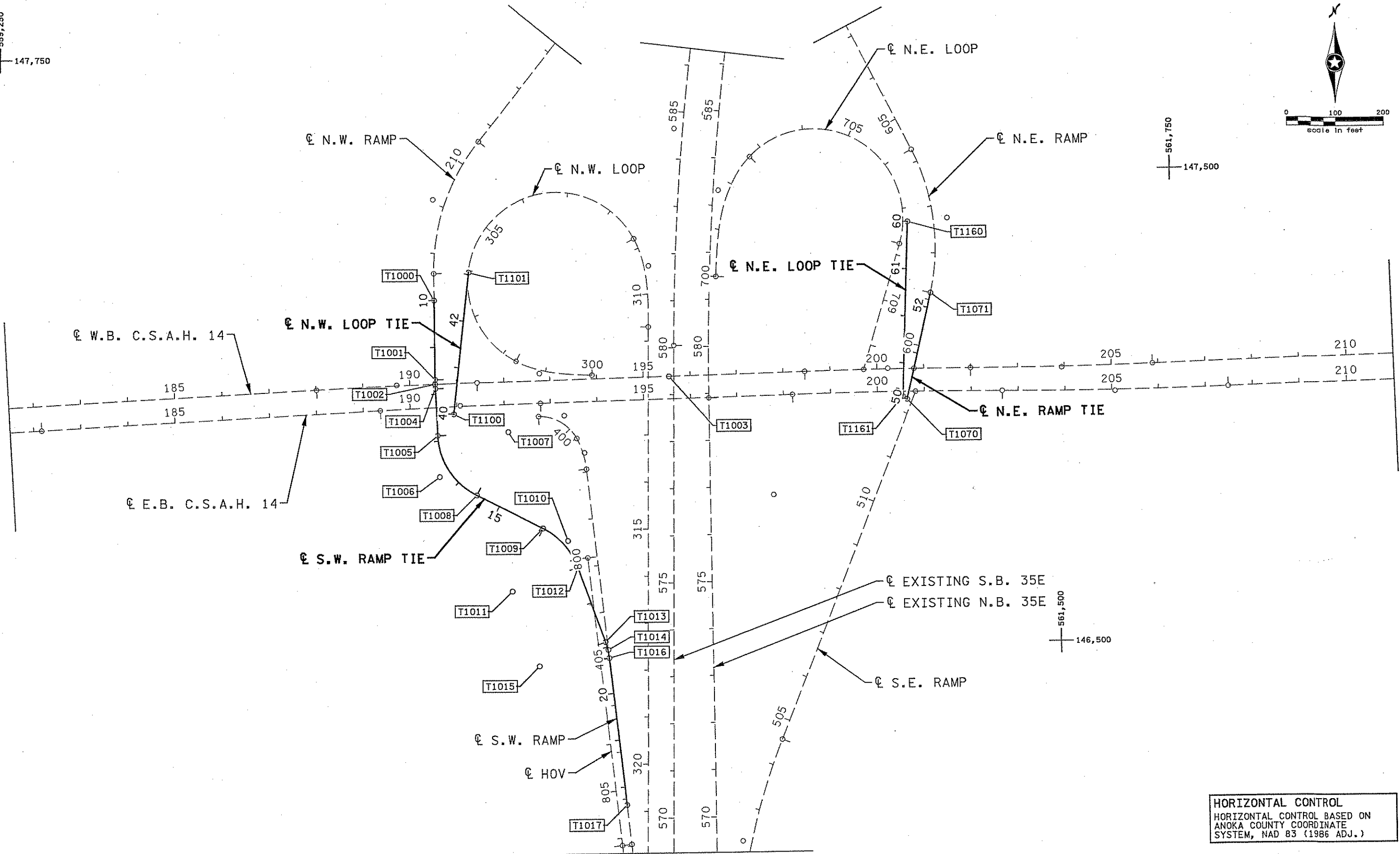
SHEET 102 OF 471

559,250
147,750



561,750
147,500

561,500
146,500



HORIZONTAL CONTROL
HORIZONTAL CONTROL BASED ON
ANOKA COUNTY COORDINATE
SYSTEM, NAD 83 (1986 ADJ.)

9:18:22 AM 4/20/2009 \\P:\proj\6509\141-MUN\plan\0261429_ALS.DGN

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: AARON VACEK
Aaron Vacek
Date: 5-22-09 License #: 44277

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
ALIGNMENT PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
TEMPORARY ALIGNMENTS

SHEET 103 OF 471

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
			ANGLE (θs)	DEGREE	ST	LT	LS			
☉ E.B. C.S.A.H. 14 <EB14>										
1000	PC	E.E.B. C.S.A.H. 14 171+50.779						558,270.6293	146,939.1644	90° 43' 36.88"
1001	PI	173+59.837	2° 05' 25.33" LT	0° 30' 00.02"	11,459.000'	209.057'	418.068'	558,479.6698	146,936.5121	PI
1002	CC	①						558,416.0055	158,397.2422	
1003	PT	175+68.848						558,688.6680	146,941.4866	88° 38' 11.55"
1004	PC	178+56.838						558,976.5773	146,948.3392	88° 38' 11.55"
1005	PI	180+36.954	1° 48' 03.64" LT	0° 30' 00.00"	11,459.156'	180.116'	360.202'	559,156.6423	146,952.6250	PI
1006	CC	①						558,703.9111	158,404.2507	
1007	PT	182+17.041						559,336.4837	146,962.5678	86° 50' 07.90"
1008	PC	189+36.315						560,054.6609	147,002.2735	86° 50' 07.90"
1009	PI	191+07.645	1° 42' 47.42" RT	0° 30' 00.00"	11,459.156'	171.330'	342.634'	560,225.7296	147,011.7313	PI
1010	CC	①						560,687.2335	135,560.5906	
1011	PT	192+78.949						560,397.0046	147,016.0706	88° 32' 55.32"
1012	PC	198+18.987						560,936.8694	147,029.7483	88° 32' 55.32"
1013	PI	200+42.472	2° 14' 04.42" RT	0° 30' 00.00"	11,459.156'	223.484'	446.912'	561,160.2821	147,035.4085	PI
1014	CC	①						561,227.0982	135,574.2683	
1015	PRC	202+65.899						561,383.7456	147,032.3535	90° 46' 59.74"
1016	PI	205+07.094	2° 24' 41.71" LT	0° 30' 00.00"	11,459.156'	241.194'	482.317'	561,624.9173	147,029.0563	PI
1017	CC	①						561,540.3929	158,490.4386	
1018	PT	207+48.217						561,866.0141	147,035.9101	88° 22' 18.03"
1019	POT	E.E.B. C.S.A.H. 14 217+24.300						562,841.7029	147,063.6462	
☉ W.B. C.S.A.H. 14 <WB14>										
1050	PC	E.W.B. C.S.A.H. 14 171+50.779						558,270.4681	146,982.1699	90° 43' 36.88"
1051	PI	175+40.062	3° 53' 28.97" LT	0° 30' 00.02"	11,459.000'	389.283'	778.266'	558,659.7193	146,977.2312	PI
1052	CC	①						558,415.8443	158,440.2477	
1053	PT	179+29.045						559,048.4083	146,998.7205	86° 50' 07.90"
1054	PC	188+00.940						559,918.9737	147,046.8512	86° 50' 07.90"
1055	PI	189+72.270	1° 42' 47.42" RT	0° 30' 00.00"	11,459.156'	171.330'	342.634'	560,090.0424	147,056.3090	PI
1056	CC	①						560,551.5462	135,605.1683	
1057	PT	191+43.574						560,261.3174	147,060.6483	88° 32' 55.32"
1058	PC	198+46.166						560,963.6840	147,078.4430	88° 32' 55.32"
1059	PI	200+23.030	1° 46' 06.57" RT	0° 30' 00.00"	11,459.156'	176.863'	353.698'	561,140.4906	147,082.9225	PI
1060	CC	①						561,253.9129	135,622.9631	
1061	PRC	201+99.865						561,317.3511	147,081.9434	90° 19' 01.89"
1062	PI	203+94.435	1° 56' 43.87" LT	0° 30' 00.00"	11,459.156'	194.571'	389.104'	561,511.9187	147,080.8662	PI
1063	CC	①						561,380.7893	158,540.9237	
1064	PT	205+88.968						561,706.4106	147,086.3951	88° 22' 18.03"
1065	POT	E.W.B. C.S.A.H. 14 217+24.424						562,841.4077	147,118.6600	

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
			ANGLE (θs)	DEGREE	ST	LT	LS			
☉ N.W. RAMP <NWRAMP>										
A PT. 41.00' LT ☉ EXISTING S.B. 35E POC 592+23.74 =										
1100	PC	E.N.W. RAMP 200+00.000								
1101	PI	202+12.384	25° 04' 40.34" RT	6° 00' 00.00"	954.930'	212.384'	417.965'	560,728.6417	148,146.9038	PI
1102	CC	①						559,850.9789	148,578.9981	
1103	PT	204+17.965						560,595.7027	147,981.2714	218° 45' 03.81"
1104	PC	209+42.190						560,267.5704	147,572.4425	218° 45' 03.81"
1105	PI	210+98.743	39° 06' 39.12" LT	13° 00' 00.00"	440.737'	156.553'	300.853'	560,169.5779	147,450.3510	PI
1106	CC							560,611.2892	147,296.5686	
1107	PT	212+43.042						560,170.5610	147,293.8009	179° 38' 24.69"
1108	POT	E.N.W. RAMP 214+78.810 =						560,172.0415	147,058.0383	
A PT. ON E.W.B. C.S.A.H. 14 POT 190+54.26										
☉ N.W. LOOP <NWLOOP>										
A PT. 8.00' LT ☉ W.B. C.S.A.H. 14 POC 193+91.59 =										
1130	TS	E.N.W. LOOP 299+99.957								
1131	PI	301+13.126	25° 19' 50.76" RT	30° 09' 20.42"	57.064'	113.169'	168.000'	560,395.2331	147,079.5740	PI
1132	SC	301+67.957						560,344.7061	147,106.0939	297° 41' 36.75"
1133	PI	307+88.522	214° 02' 46.83" RT	30° 09' 20.42"	190.000'	620.564'	709.805'	560,894.1823	146,817.6915	PI
1134	CC							560,433.0071	147,274.3287	
1135	CS	308+77.762						560,600.3605	147,364.2890	151° 44' 23.57"
1136	PI	309+43.360	28° 56' 58.01" RT	30° 09' 20.42"	65.598'	129.755'	192.000'	560,631.4196	147,306.5097	PI
1137	ST	310+69.762						560,629.8585	147,176.7645	180° 41' 21.58"
1138	POT	6' ALIGNMENT SHIFT 325+00.000						560,612.6517	145,746.6298	
1139	POT	325+00.000						560,606.6521	145,746.7020	
1140	PC	339+11.557						560,589.6700	144,335.2471	180° 41' 21.58"
1141	PI	340+34.940	4° 55' 56.22" LT	2° 00' 00.00"	2,864.789'	123.383'	246.614'	560,588.1856	144,211.8728	PI
1142	CC	①						563,454.2517	144,300.7815	
1143	PT	341+58.171						560,597.3142	144,088.8277	175° 45' 25.37"
1144	PC	343+60.466						560,612.2812	143,887.0876	175° 45' 25.37"
1145	PI	344+55.150	3° 48' 24.48" RT	2° 00' 39.59"	2,849.122'	94.684'	189.299'	560,619.2865	143,792.6627	PI
1146	CC	①						557,770.9675	143,676.2929	
1147	PT	E.N.W. LOOP 345+49.765						560,620.0072	143,697.9810	179° 33' 49.85"
A PT. 22.00' LT ☉ EXISTING S.B. 35E POT 545+65.64										
☉ RETAINING WALL <RWALL>										
1300	POT	E RETAINING WALL 900+00.000								
1301	POT	900+91.500						559,643.1787	146,925.1018	
1302	POT	E RETAINING WALL 903+96.500						559,734.6680	146,926.4973	
								560,039.4004	146,939.2724	

NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAME.

① ALIGNMENT POINT IS BEYOND PROJECT LIMITS AND WILL NOT SHOW UP ON ALIGNMENT PLAN VIEW.

E.B. C.S.A.H. 14 N.W. RAMP
W.B. C.S.A.H. 14 N.W. LOOP

9:18:22 AM 1/20/2009 \\S016508\HI-MUX\PI\0261429_ATB1.DGN

NO	DATE	BY	CKD	APPR	REVISION
... \HI-MUX\PI\0261429_ATB1.DGN					

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

Print Name: **AARON VACEK**

Aaron Vacek

Date: 5-12-05 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
ALIGNMENT TABULATIONS
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
104
OF
471

ALIGNMENT TABULATION

Table with columns for POINT NUMBER, POINT, STATION, CIRCULAR CURVE DATA (DELTA, DEGREE, RADIUS, TANGENT, LENGTH), COORDINATES (X, Y), and AZIMUTH.

☺ N.E. RAMP <NERAMP>

Table for N.E. RAMP <NERAMP> starting with station 599+50.000 and ending at 612+84.101 =.

☺ N.E. LOOP <NELOOP>

Table for N.E. LOOP <NELOOP> starting with station 700+00.000 and ending at 710+53.969 =.

☺ EXISTING N.B. 35E <35ENB>

Table for EXISTING N.B. 35E <35ENB> starting with station 527+00.000 and ending at 609+21.509.

☺ S.E. RAMP <SERAMP>

Table for S.E. RAMP <SERAMP> starting with station 500+00.000 and ending at 512+50.611 =.

ALIGNMENT TABULATION

Table with columns for POINT NUMBER, POINT, STATION, CIRCULAR CURVE DATA (DELTA, DEGREE, RADIUS, TANGENT, LENGTH), COORDINATES (X, Y), and AZIMUTH.

☺ EXISTING S.B. 35E <35ESB>

Table for EXISTING S.B. 35E <35ESB> starting with station 527+00.000 and ending at 605+60.815.

☺ HOV <HOV>

Table for HOV <HOV> starting with station 800+00.000 and ending at 817+96.909.

☺ S.W. RAMP <SWRAMP>

Table for S.W. RAMP <SWRAMP> starting with station 399+25.612 and ending at 411+86.446 =.

NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAME.

① ALIGNMENT POINT IS BEYOND PROJECT LIMITS AND WILL NOT SHOW UP ON ALIGNMENT PLAN VIEW.

N.E. RAMP
N.E. LOOP
EXISTING N.B. 35E
S.E. RAMP
EXISTING S.B. 35E
HOV
S.W. RAMP

ANOKA COUNTY

ALIGNMENT TABULATIONS
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
105
OF
471



STATE PROJECT NO. 0282-25 (TH 35E)
DRAWN BY A. VACEK
DESIGNED BY K. LUDWIG
CHECKED BY A. VACEK
COMM. NO. 0086509

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I, as a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: AARON VACEK
Date: 5-22-09 License # 44277

Table with columns: NO, DATE, BY, CKD, APPR, REVISION

9:18:23 AM
4/1/2009 8:50:09 AM -MUNP\lan\CO261429_ATB2.DGN

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
			SPIRAL CURVE DATA							
ANGLE (θs)	DEGREE	ST	LT	LS						
☉ S.W. RAMP TIE <TSWRAMP>										
T1000	POT	☉ S.W. RAMP TIE 10+00.000						560,170.9187	147,236.8445	
T1001	PC	11+69.184						560,171.9811	147,067.6642	179° 38' 24.69"
T1002	PI	11+78.810	2° 12' 21.08" LT	11° 27' 32.96"	500.000'	9.626'	19.250'	560,172.0415	147,058.0383	PI
T1003	CC							560,671.9712	147,070.8041	
T1004	PT	11+88.433						560,172.4725	147,048.4219	177° 26' 03.61"
T1005	PC	12+88.538						560,176.9536	146,948.4179	177° 26' 03.61"
T1006	PI	13+76.356	60° 41' 38.24" LT	38° 11' 49.87"	150.000'	87.818'	158.896'	560,180.8847	146,860.6880	PI
T1007	CC							560,326.8032	146,955.1326	
T1008	PT	14+47.434						560,259.3109	146,821.1744	116° 44' 25.37"
T1009	PC	16+05.081						560,400.0985	146,750.2412	116° 44' 25.37"
T1010	PI	16+65.077	43° 35' 59.85" RT	38° 11' 49.87"	150.000'	59.996'	114.144'	560,453.6779	146,723.2463	PI
T1011	CC							560,332.6063	146,616.2831	
T1012	PT	17+19.226						560,473.8624	146,666.7479	160° 20' 25.22"
T1013	PC	18+88.841						560,530.9264	146,507.0200	160° 20' 25.22"
T1014	PI	19+06.455	13° 23' 41.71" RT	38° 11' 49.87"	150.000'	17.614'	35.068'	560,536.8524	146,490.4326	PI
T1015	CC							560,389.6703	146,456.5552	
T1016	PT	19+23.909						560,538.7745	146,472.9236	173° 44' 06.93"
T1017	POT	☉ S.W. RAMP TIE 22+38.084						560,573.0581	146,160.6250	
☉ N.W. LOOP TIE <TNWLOOP>										
T1100	POT	☉ N.W. LOOP TIE 40+00.000						560,211.6801	146,993.6344	
T1101	POT	☉ N.W. LOOP TIE 43+03.353						560,244.9079	147,295.1618	
☉ N.E. RAMP TIE <TNERAMP>										
T1070	POT	☉ N.E. RAMP TIE 50+00.000						561,181.1557	147,017.1511	
T1071	POT	☉ N.E. RAMP TIE 52+31.898						561,234.7863	147,242.7629	
☉ N.E. LOOP TIE <TNELOOP>										
T1160	POT	☉ N.E. LOOP TIE 60+00.000						561,187.5961	147,394.1033	
T1161	POT	☉ N.E. LOOP TIE 63+71.122						561,172.1340	147,023.3031	

NOTES:

<XXXX> INDICATES GEOPAK ALIGNMENT NAME.

① ALIGNMENT POINT IS BEYOND PROJECT LIMITS AND WILL NOT SHOW UP ON ALIGNMENT PLAN VIEW.

S.W. RAMP TIE
N.W. LOOP TIE
N.E. RAMP TIE

9:18:24 AM 4/20/2009 H:\V\01\B\6509\HI-MUP\1\02061429_ATB3.DGN

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: AARON VACEK

Aaron Vacek

Date: 5-22-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY A. VACEK

DESIGNED BY K. LUDWIG

CHECKED BY A. VACEK

COMM. NO. 0086509



ANOKA COUNTY

ALIGNMENT TABULATIONS

C.S.A.H. 14/T.H. 35E INTERCHANGE

TEMPORARY ALIGNMENTS

SHEET 106 OF 471

558,750
147,500

LEGEND

PROPOSED PERMANENT CONSTRUCTION
 PROPOSED ROADWAY

THIS LEGEND APPLIES TO ALL TOPOGRAPHY AND UTILITY PLANS.

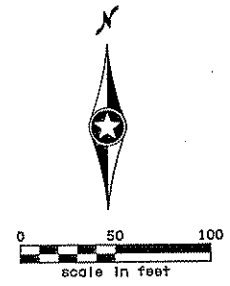
GENERAL NOTES:

THE SUBSURFACE INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS 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".

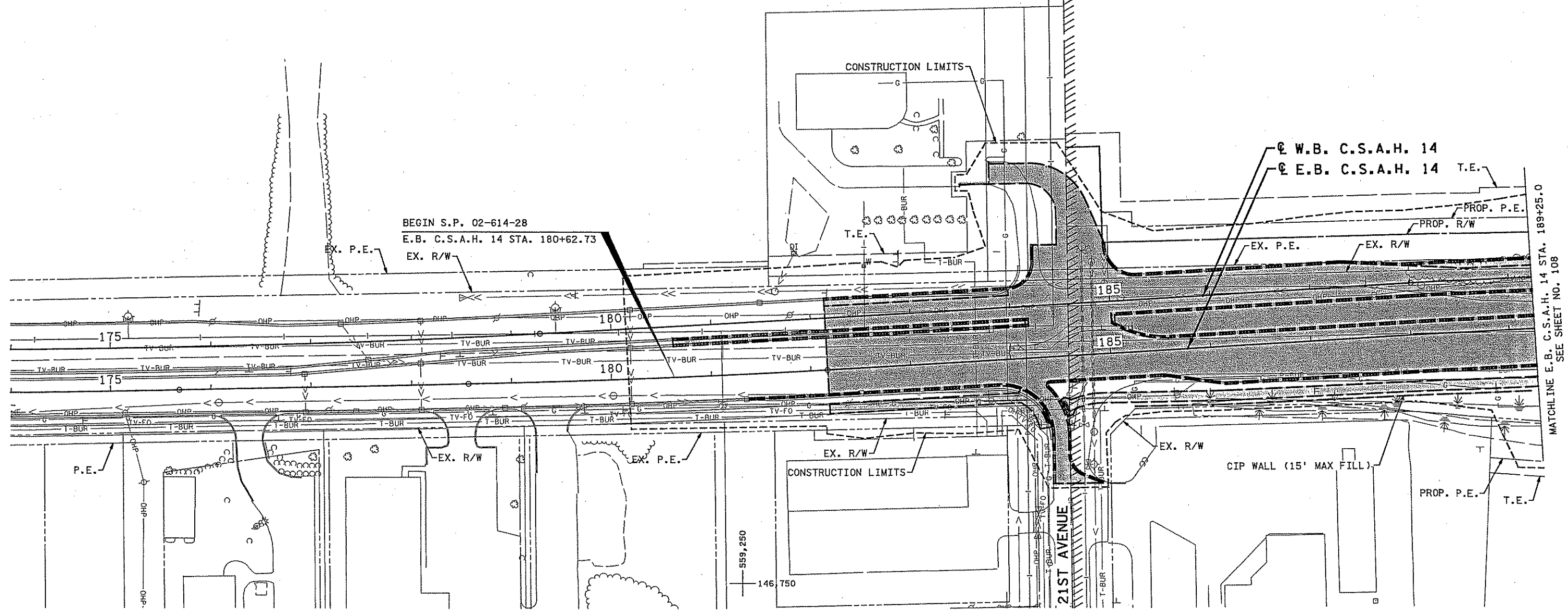
SEE PUBLIC UTILITY TABULATIONS FOR ADDITIONAL RELOCATES AND LEAVE AS IS INFORMATION.

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.

559,750
147,500



CITY OF CENTERVILLE
CITY OF LINO LAKES



BEGIN S.P. 02-614-28
E.B. C.S.A.H. 14 STA. 180+62.73
EX. R/W

W.B. C.S.A.H. 14
E.B. C.S.A.H. 14 T.E.

MATCH LINE E.B. C.S.A.H. 14 STA. 189+25.0
SEE SHEET NO. 108

9:18:27 AM
4/20/2009
H:\Proj\0261429\MUN\1\0261429_TOP1.DGN

NO	DATE	BY	CHKD	APPR	REVISION

... \HI-MUN\1\0261429_TOP1.DGN

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

Print Name: **AARON VACEK**

Aaron Vacek

Date: **5-22-09** License # **44277**

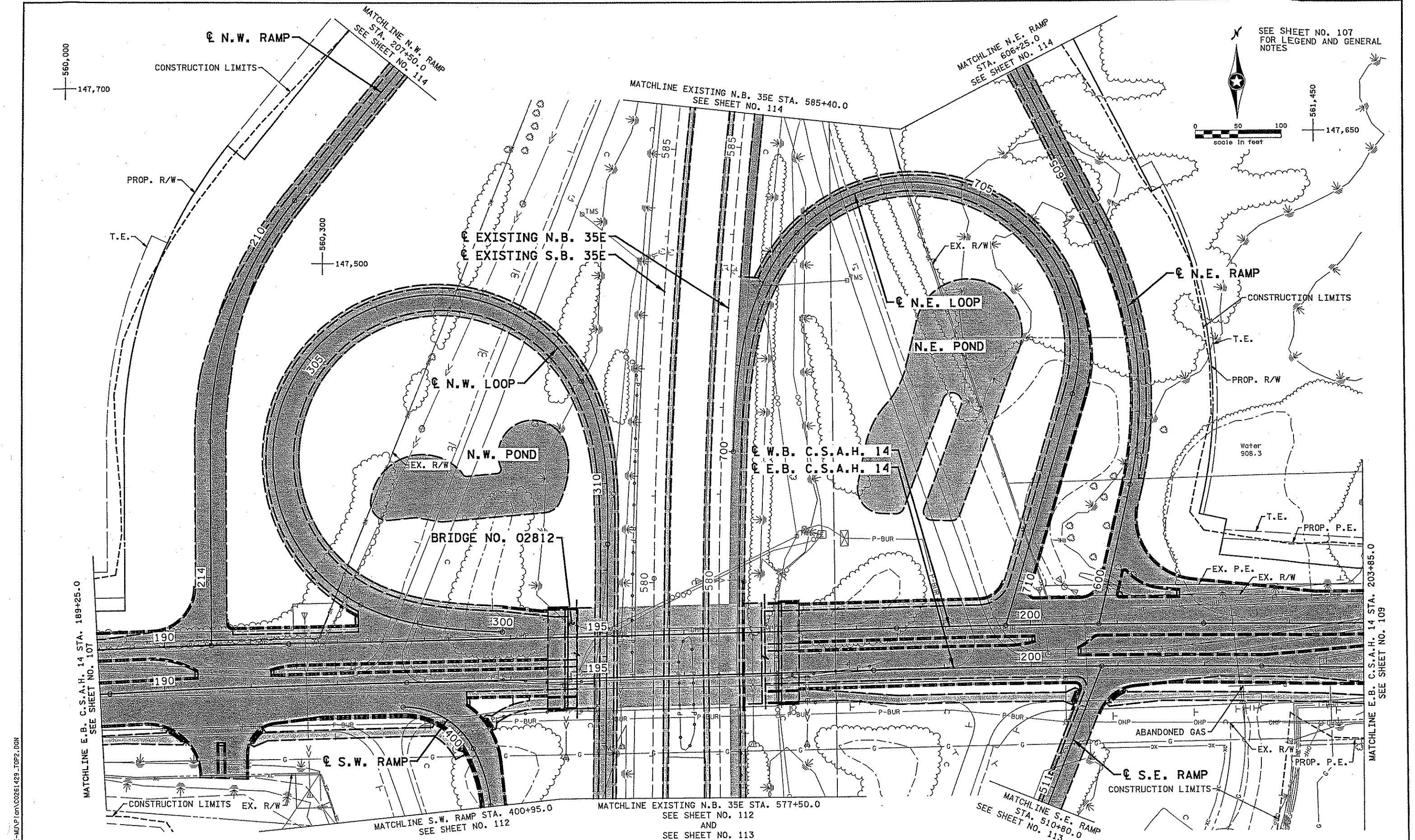
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY S. PRUSAK
CHECKED BY A. VACEK
COMM. NO. 0086509

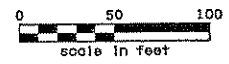


ANOKA COUNTY
TOPOGRAPHY AND UTILITY PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14

SHEET 107 OF 471



SEE SHEET NO. 107
FOR LEGEND AND GENERAL
NOTES



9:31:53 AM
5/22/2009
R:\Projects\6509-VI-MU\Plan\0261429_TOP2.DGN

NO	DATE	BY	CHKD	APPR	REVISION

...HI-MU\Plan\0261429_TOP2.DGN

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

Print Name: AARON VACEK

Aaron Vacek

Date: 5-22-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. VACEK

COMM. NO. 0086509



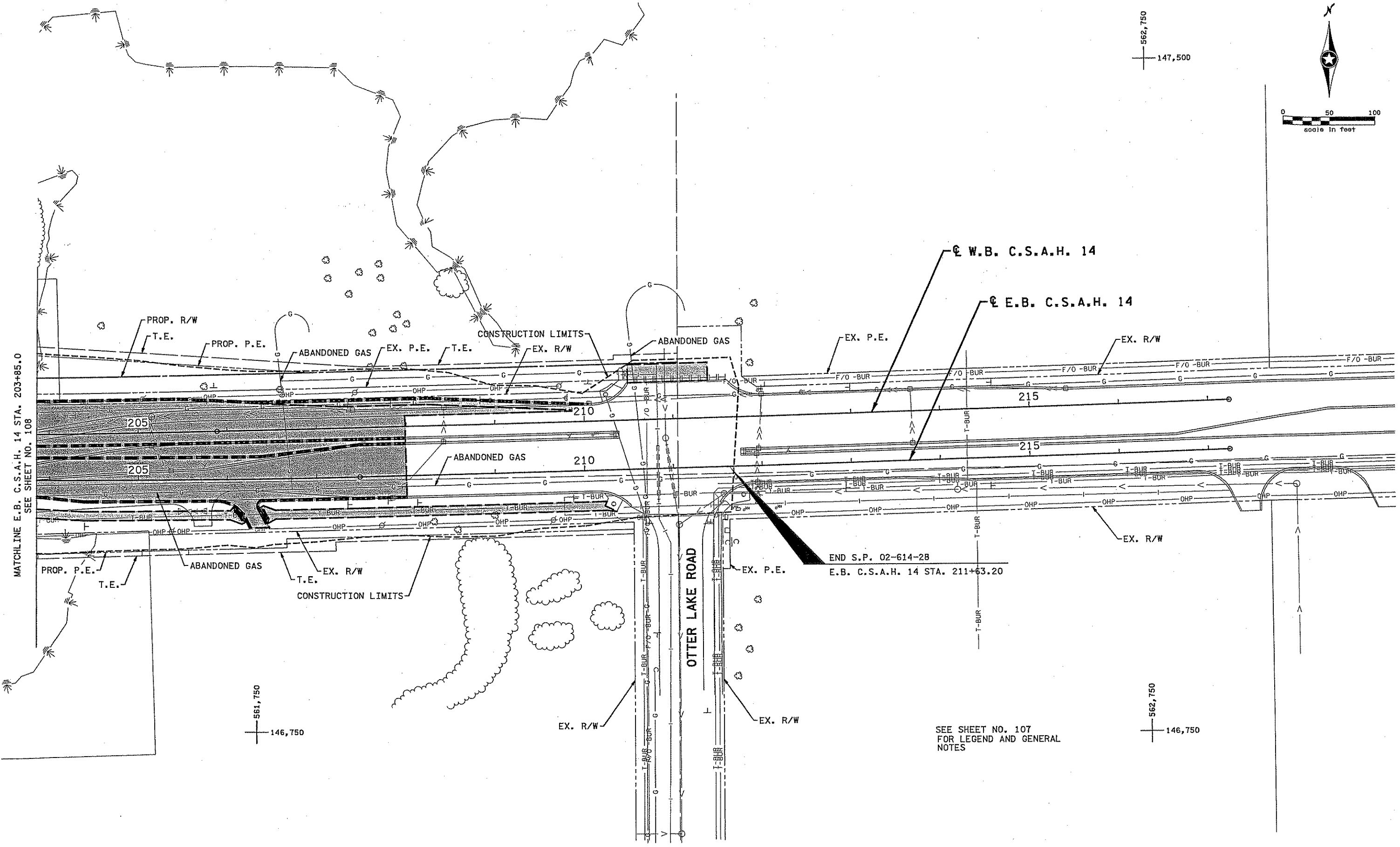
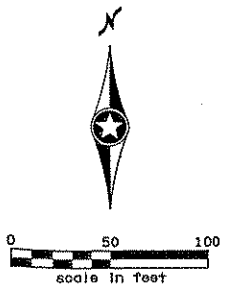
ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14, N.W. RAMP, N.E. RAMP, N.W. LOOP,
N.E. LOOP, S.W. RAMP, S.E. RAMP

SHEET
108
OF
471

562,750
147,500



MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 108

561,750
146,750

562,750
146,750

SEE SHEET NO. 107
FOR LEGEND AND GENERAL
NOTES

9:18:32 AM
11/20/2009
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NO	DATE	BY	CHKD	APPR	REVISION

... \HI-MUX\plan\0261429_TOP3.DGN

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Print Name: **AARON VACEK**

Aaron Vacek

Date: 5-22-09 License #: 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. VACEK

COMM. NO. 0086509



ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

C.S.A.H. 14

SHEET
109
OF
471

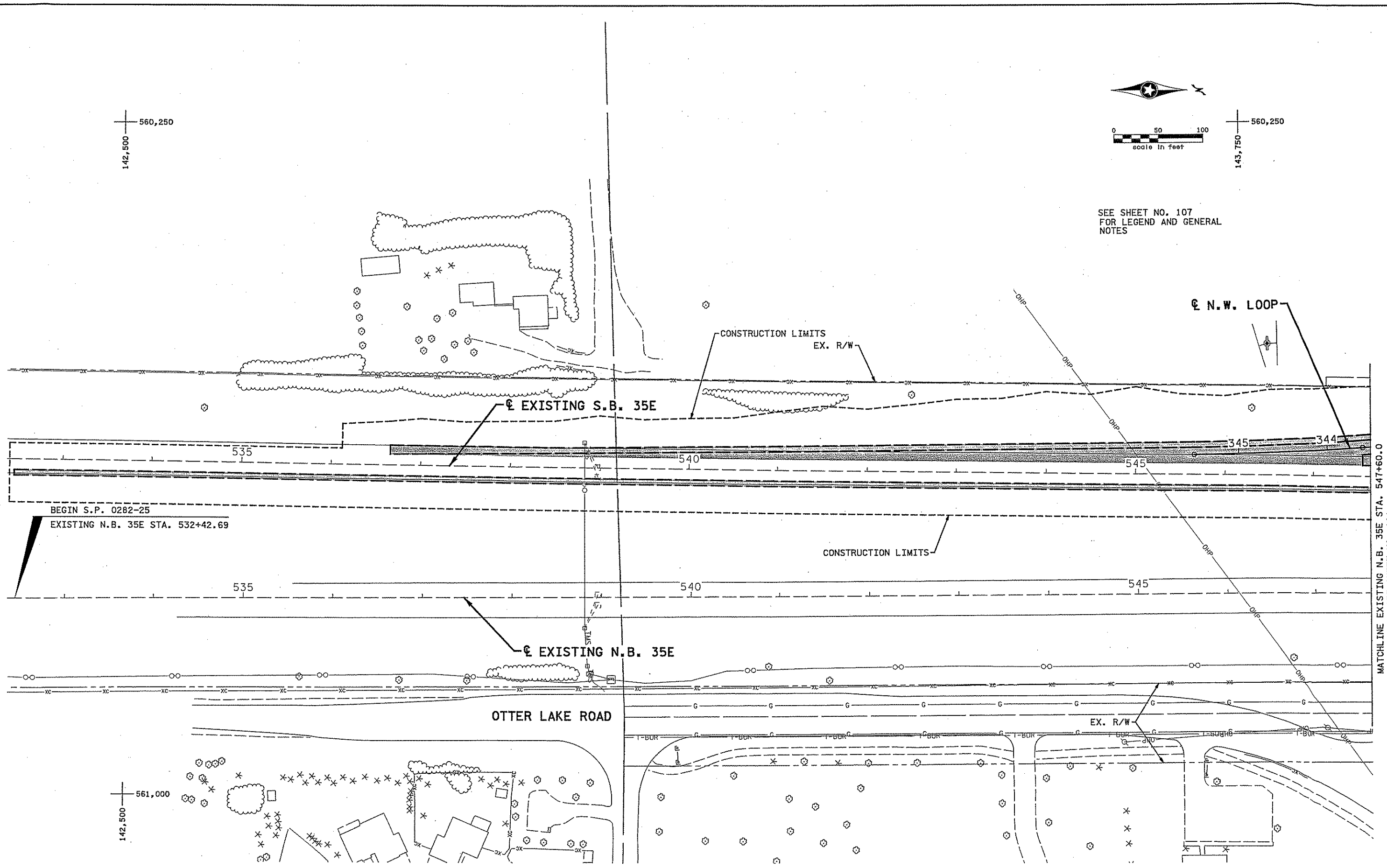
560,250
142,500



0 50 100
scale in feet

560,250
143,750

SEE SHEET NO. 107
FOR LEGEND AND GENERAL
NOTES



BEGIN S.P. 0282-25
EXISTING N.B. 35E STA. 532+42.69

MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 111

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NO	DATE	BY	CHKD	APPR	REVISION

... \HI-MUNP\an\CD261429_TOP4.DGN

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Print Name: **AARON VACEK**

Aaron Vacek

Date: **3-22-09** License # **44277**

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. VACEK

COMM. NO. 0086509



ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLANS

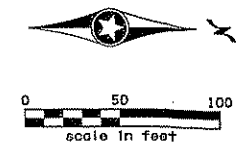
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N.W. LOOP

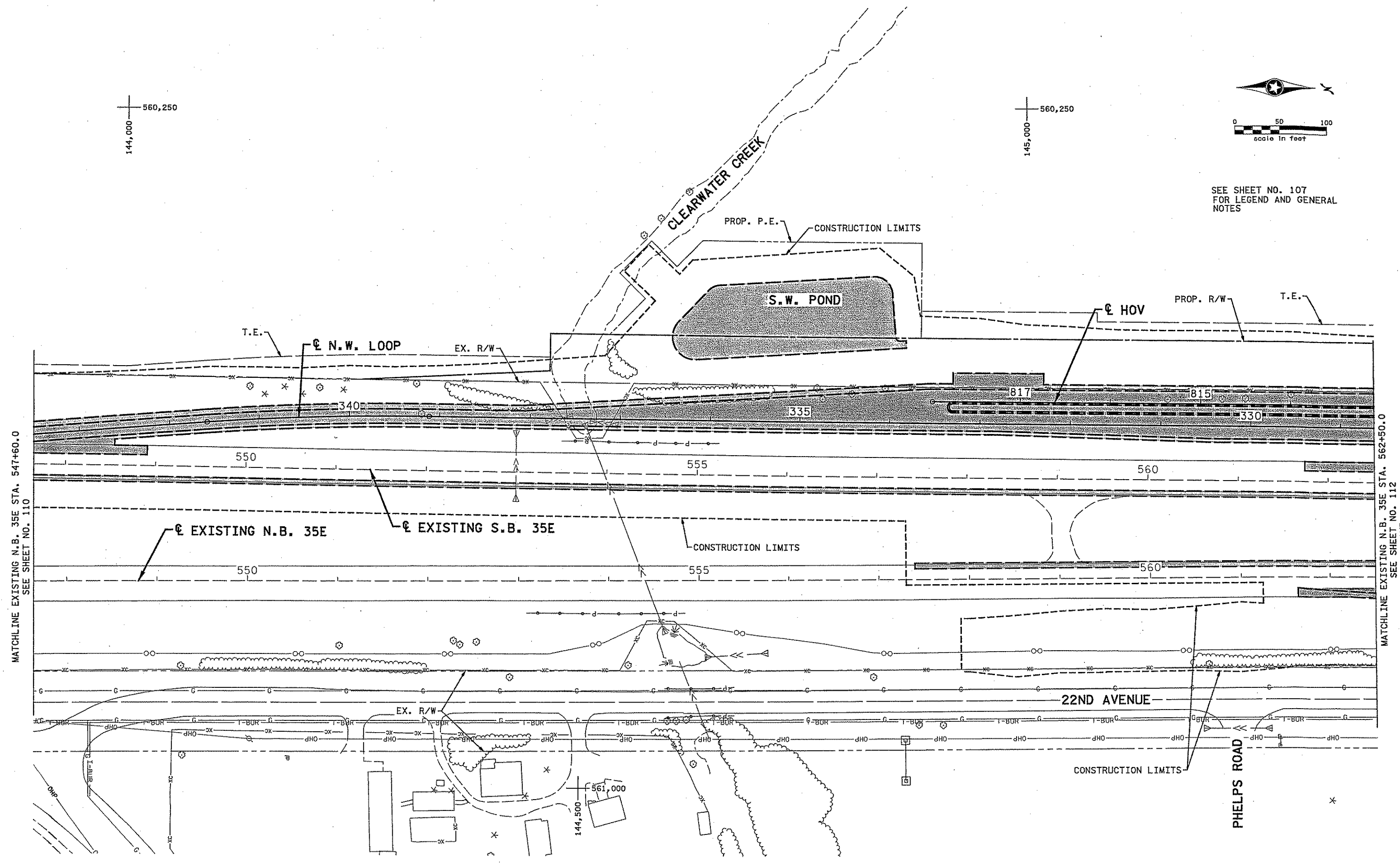
SHEET
110
OF
471

144,000
560,250

145,000
560,250



SEE SHEET NO. 107
FOR LEGEND AND GENERAL
NOTES



MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 110

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 112
AND
SEE SHEET NO. 113

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7/26/2009
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NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: **AARON VACEK**

Aaron Vacek
Date: 5-22-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. VACEK

COMM. NO. 0086509



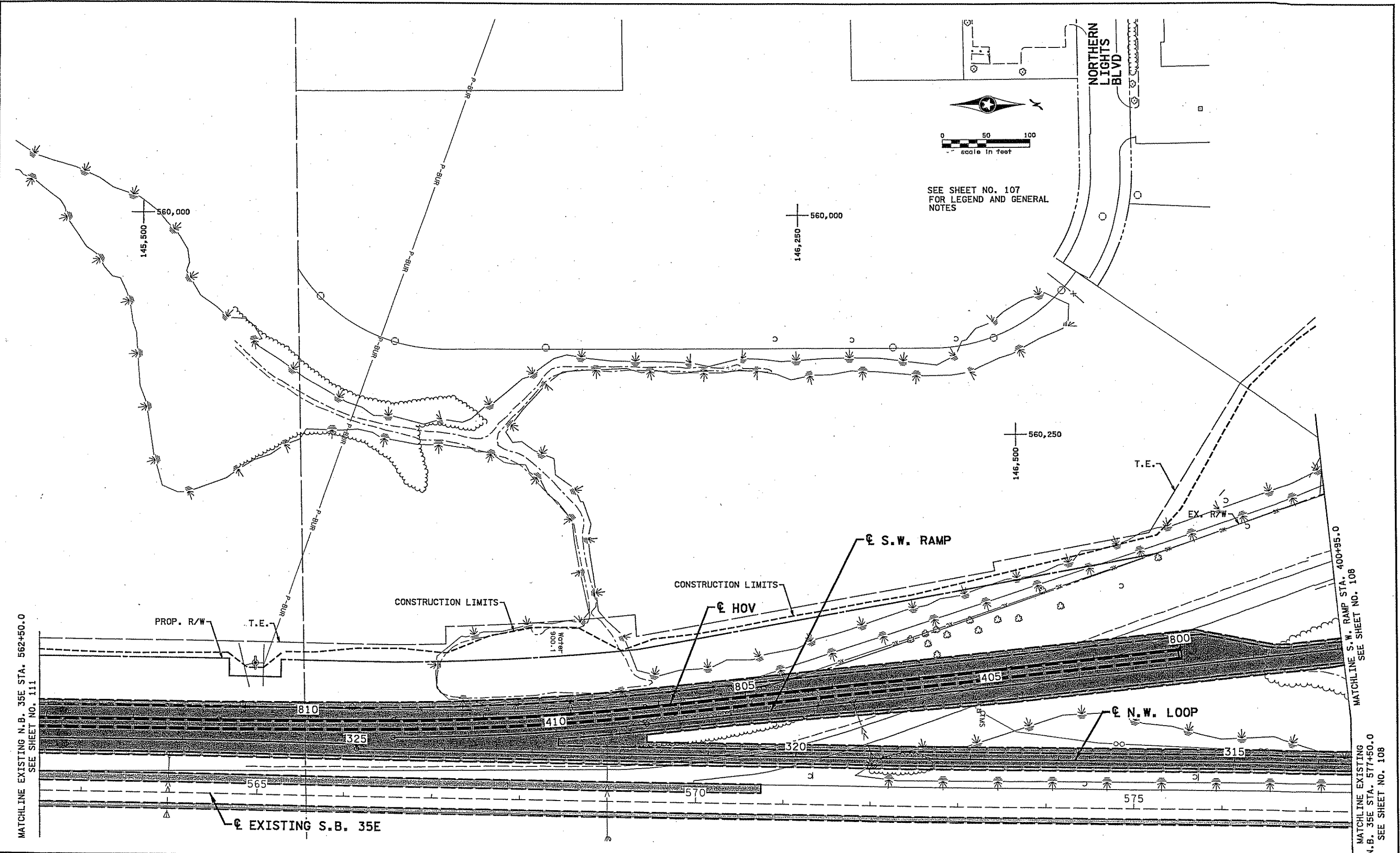
ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

N.W. LOOP, HOV

SHEET
111
OF
471



MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 111

MATCHLINE S.W. RAMP STA. 400+95.0
SEE SHEET NO. 108

MATCHLINE EXISTING
N.B. 35E STA. 577+50.0
SEE SHEET NO. 108

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Print Name: **AARON VACEK**

Aaron Vacek

Date: **8-26-09** License #: **44277**

STATE PROJECT NO.
0262-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. VACEK

COMM. NO. 0086509



ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

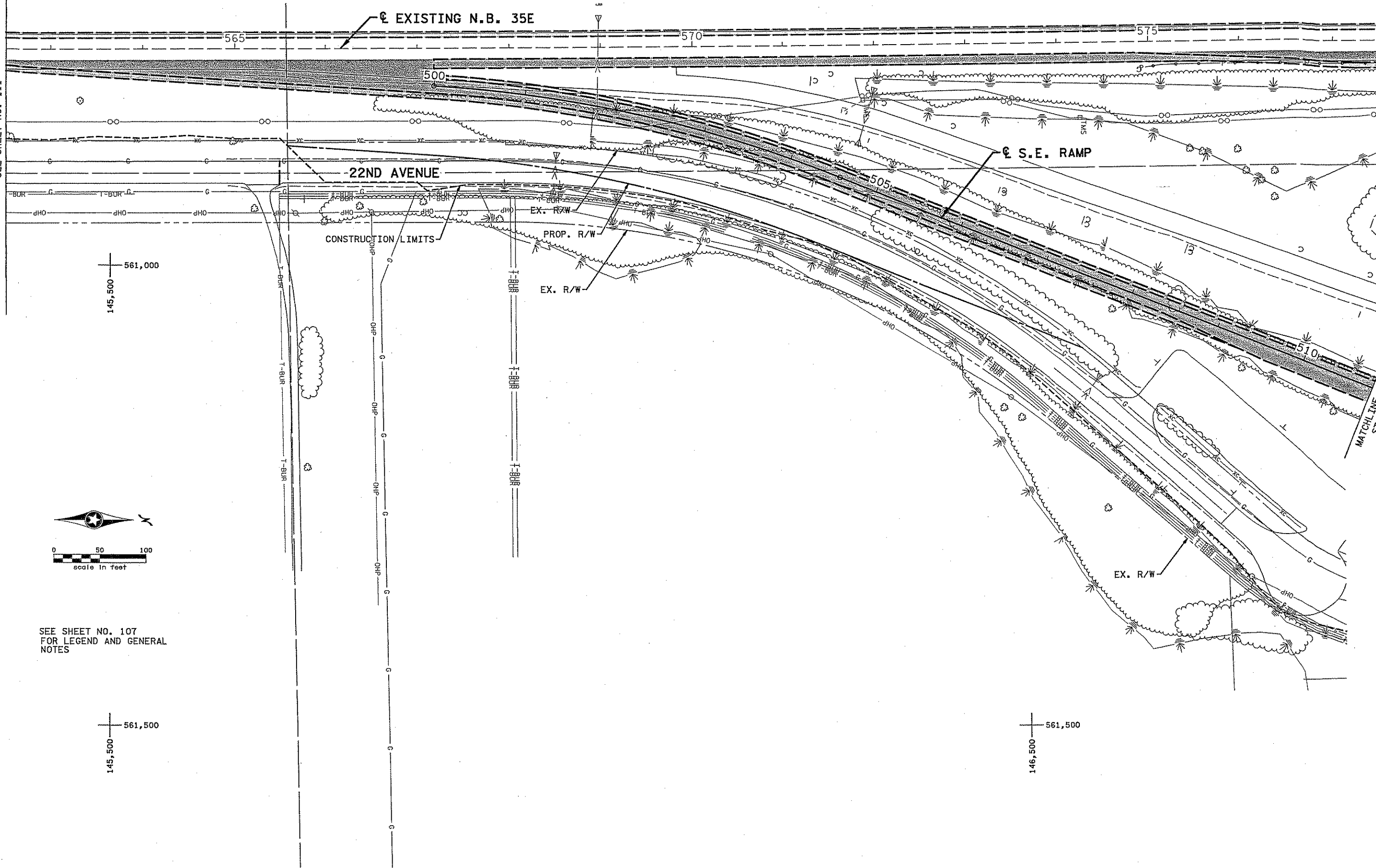
N.W. LOOP, S.W. RAMP, HOV

SHEET
112
OF
471

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 111

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 108

MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 108



561,000
145,500

561,500
145,500

561,500
146,500



SEE SHEET NO. 107
FOR LEGEND AND GENERAL
NOTES

9:18:39 AM
4/20/2009
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NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: **AARON VACEK**
Date: *5-22-09* License # **44277**

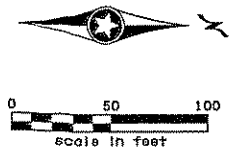
STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-614-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

DRAWN BY
V. MICHELS
DESIGNED BY
S. PRUSAK
CHECKED BY
A. VACEK
COMM. NO. 0086509

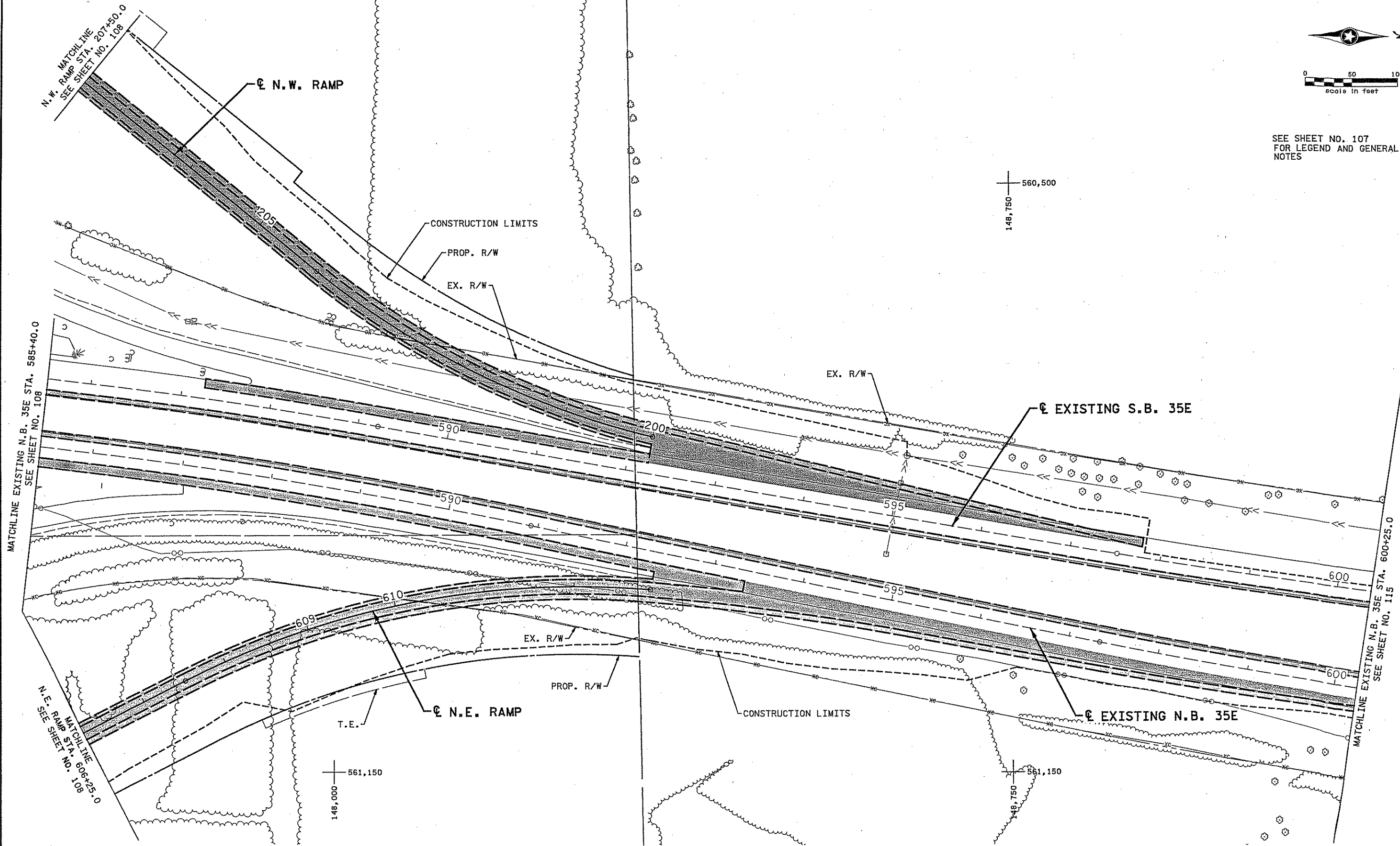


ANOKA COUNTY
TOPOGRAPHY AND UTILITY PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
S.E. RAMP

SHEET
113
OF
471



SEE SHEET NO. 107
FOR LEGEND AND GENERAL
NOTES



9:18:41 AM
4/20/2009
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Print Name: AARON VACEK
Aaron Vacek
Date: 5-22-09 License #: 44277

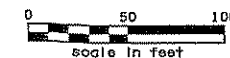
STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-634-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

DRAWN BY
V. MICHELS
DESIGNED BY
S. PRUSAK
CHECKED BY
A. VACEK
COMM. NO. 0086509

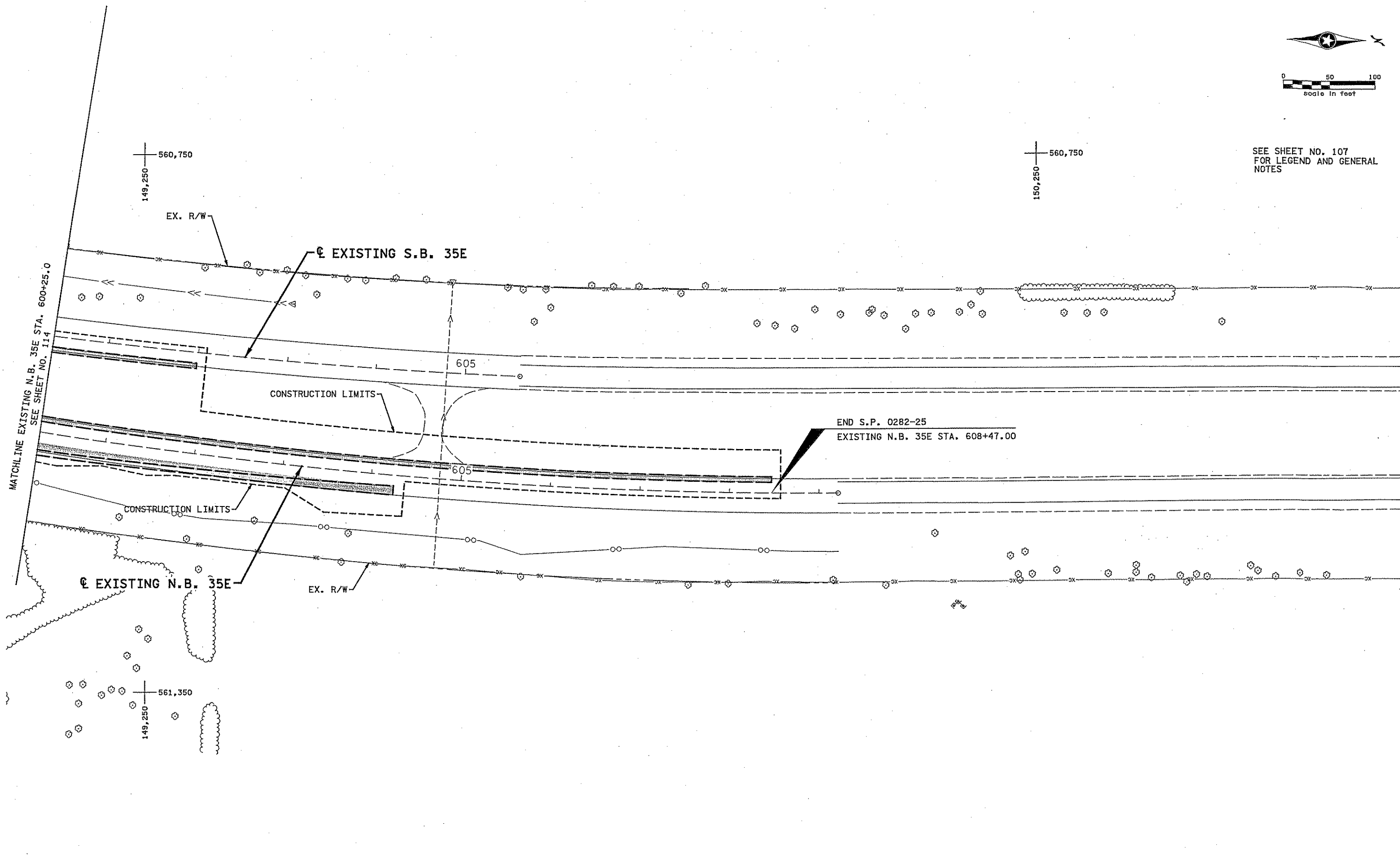


ANOKA COUNTY
TOPOGRAPHY AND UTILITY PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. RAMP, N.E. RAMP

SHEET
114
OF
471



SEE SHEET NO. 107
FOR LEGEND AND GENERAL
NOTES



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1/20/2009
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NO	DATE	BY	CHKD	APPR	REVISION

...HI-MU\Plan\0261429_TOP9.DGN

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Print Name: **AARON VACEK**

Aaron Vacek

Date: 4-23-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. VACEK

COMM. NO. 0086509

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TOPOGRAPHY AND UTILITY PLANS











C.S.A.H. 14/T.H. 35E INTERCHANGE

N.E. RAMP TAPER

SHEET
115
OF
471

THE LEGEND AND GENERAL NOTES APPLY TO ALL REMOVAL PLAN SHEETS.

LEGEND

-  CLEAR AND GRUB TREE (ACRE)
-  CLEAR AND GRUB TREE (0.05 ACRE)
-  REMOVE CURB AND GUTTER
-  REMOVE CONCRETE MEDIAN
-  MILL BITUMINOUS MEDIAN (SEE STAGING PLANS)
-  REMOVE BITUMINOUS PAVEMENT
-  REMOVE PAVEMENT
-  REMOVE BITUMINOUS TRAIL
-  REMOVE DRAINAGE STRUCTURE
-  REMOVE STORM SEWER PIPE / CULVERT

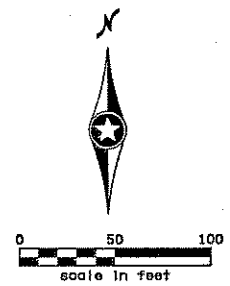
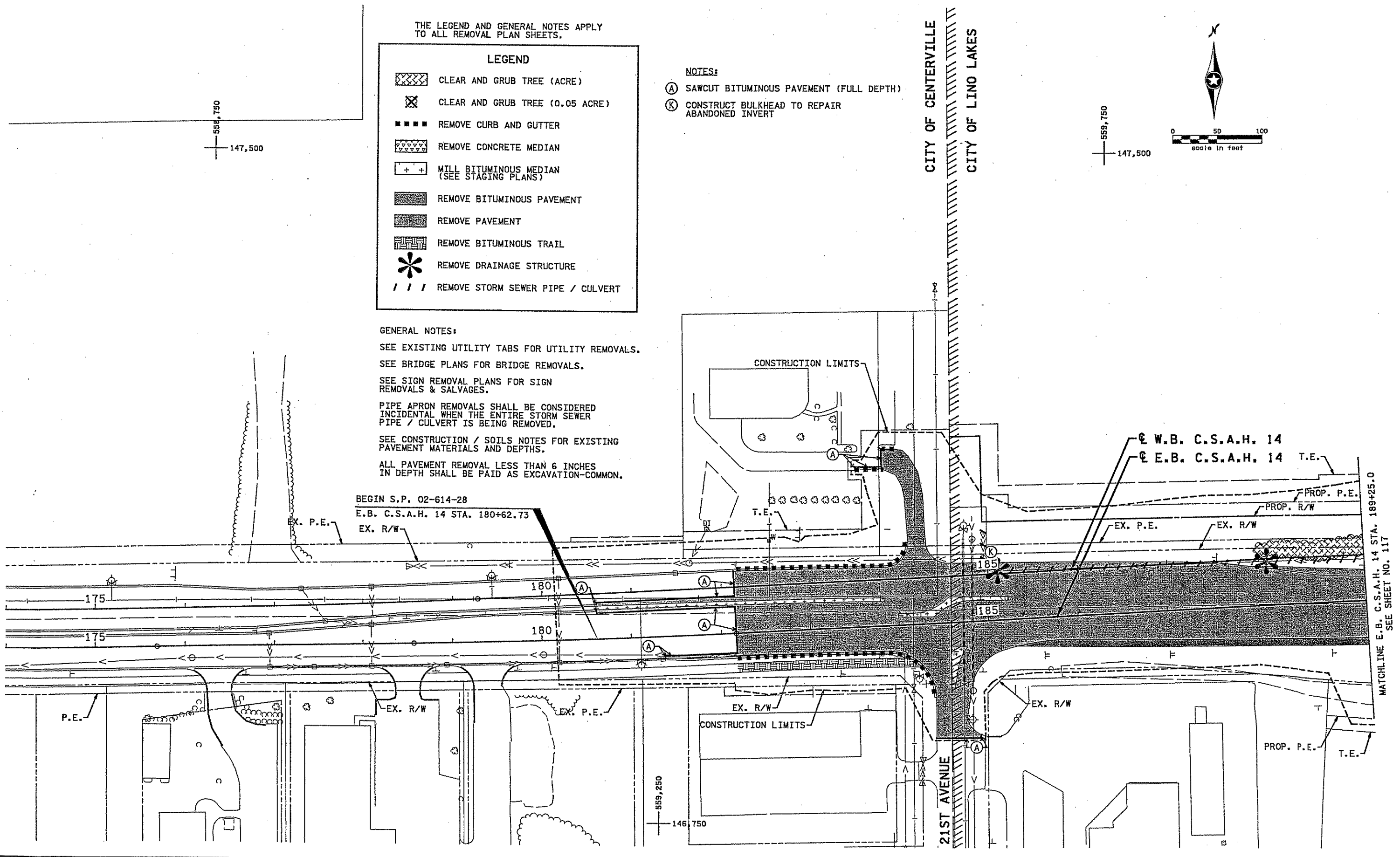
NOTES:

- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (K) CONSTRUCT BULKHEAD TO REPAIR ABANDONED INVERT

GENERAL NOTES:

SEE EXISTING UTILITY TABS FOR UTILITY REMOVALS.
 SEE BRIDGE PLANS FOR BRIDGE REMOVALS.
 SEE SIGN REMOVAL PLANS FOR SIGN REMOVALS & SALVAGES.
 PIPE APRON REMOVALS SHALL BE CONSIDERED INCIDENTAL WHEN THE ENTIRE STORM SEWER PIPE / CULVERT IS BEING REMOVED.
 SEE CONSTRUCTION / SOILS NOTES FOR EXISTING PAVEMENT MATERIALS AND DEPTHS.
 ALL PAVEMENT REMOVAL LESS THAN 6 INCHES IN DEPTH SHALL BE PAID AS EXCAVATION-COMMON.

BEGIN S.P. 02-614-28
 E.B. C.S.A.H. 14 STA. 180+62.73
 EX. P.E.
 EX. R/W



558,750
 147,500

559,750
 147,500

MATCHLINE E.B. C.S.A.H. 14 STA. 189+25.0 SEE SHEET NO. 117

2:11:49 PM 7/21/2009 H:\Projects\6509\11-MUNP\11-MUNP\11-MUNP\0261429_REM1.DGN

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: AARON VACEK
 Date: 6-26-09 License # 44277

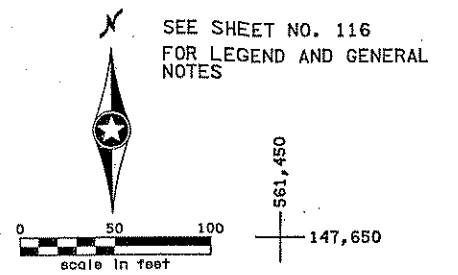
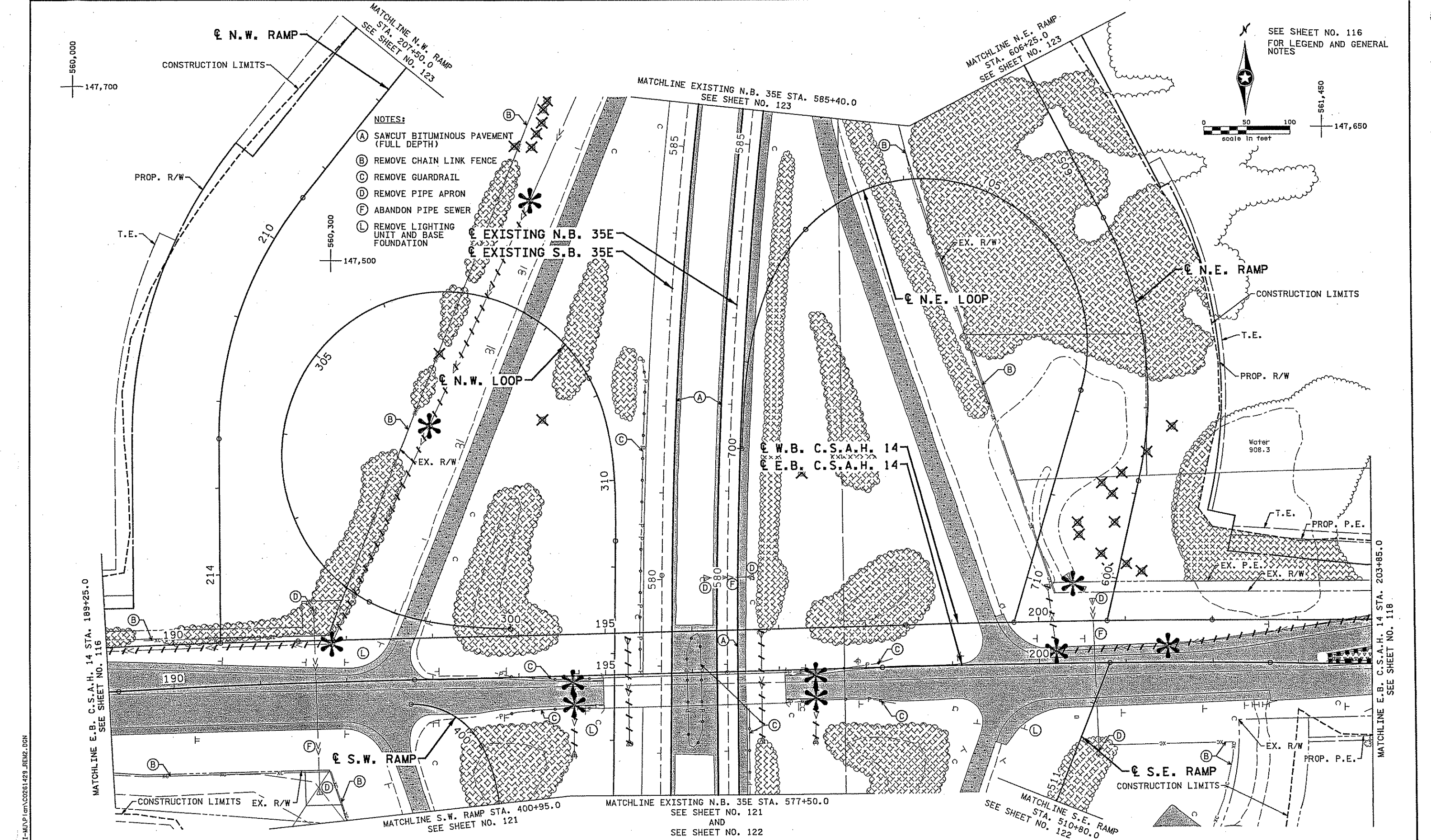
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY A. VACEK
 COMM. NO. 0086509



ANOKA COUNTY
 REMOVAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14

SHEET 116 OF 471



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 4/20/2009
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NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: **AARON VACEK**

Date: *5-2-09* License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY A. VACEK
 COMM. NO. 0086509



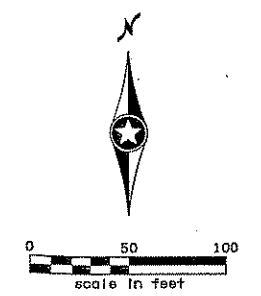
ANOKA COUNTY

REMOVAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14, N.W. RAMP, N.E. RAMP, N.W. LOOP,
 N.E. LOOP, S.W. RAMP, S.E. RAMP

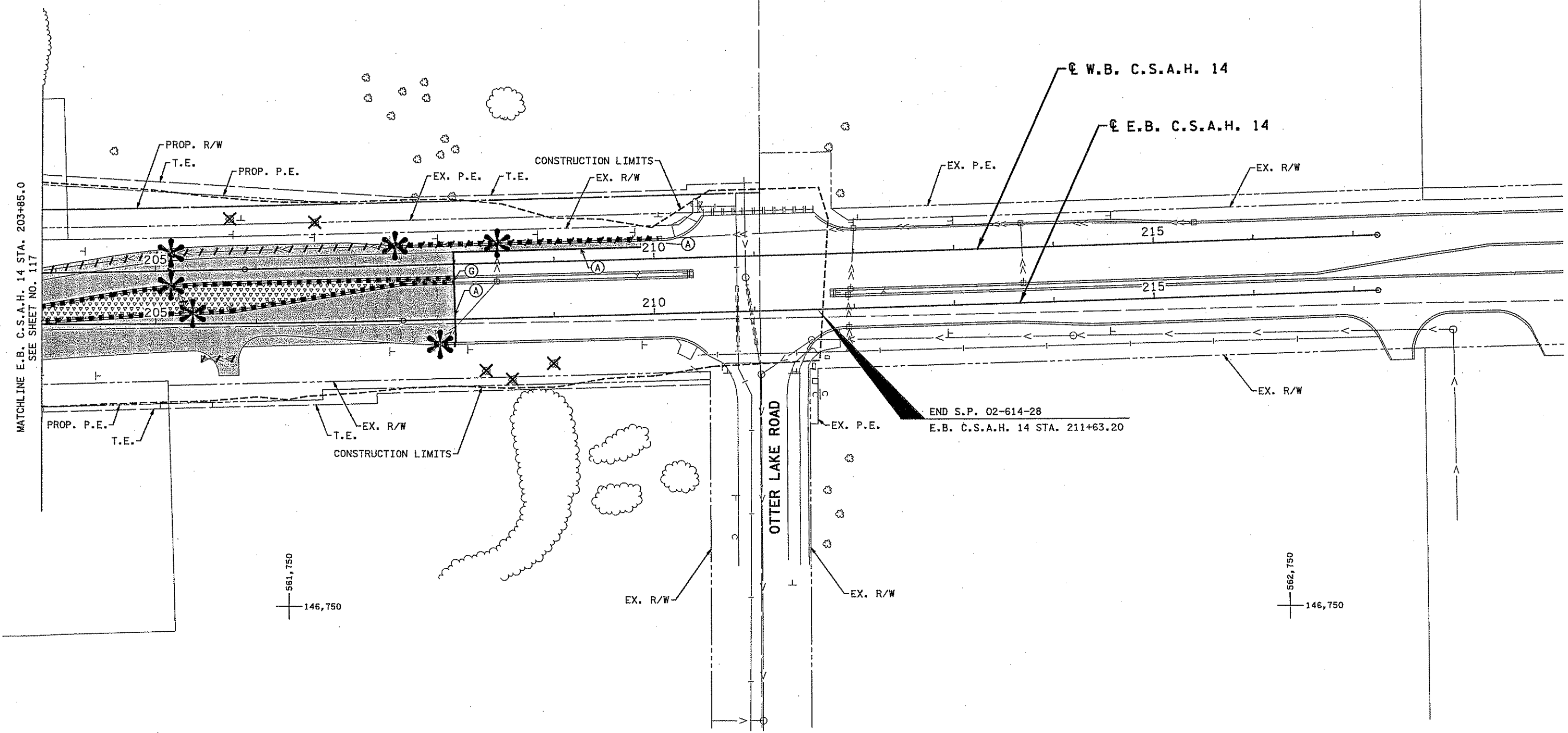
SHEET 117 OF 471

562,750
147,500

SEE SHEET NO. 116
FOR LEGEND AND GENERAL
NOTES



- NOTES:
- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
 - (G) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)



561,750
146,750

562,750
146,750

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4/20/2009
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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: **AARON VACEK**

Aaron Vacek

Date: 4-20-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. VACEK

COMM. NO. 0086509



ANOKA COUNTY

REMOVAL PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

C.S.A.H. 14

SHEET
118
OF
471

SEE SHEET NO. 116
FOR LEGEND AND GENERAL
NOTES

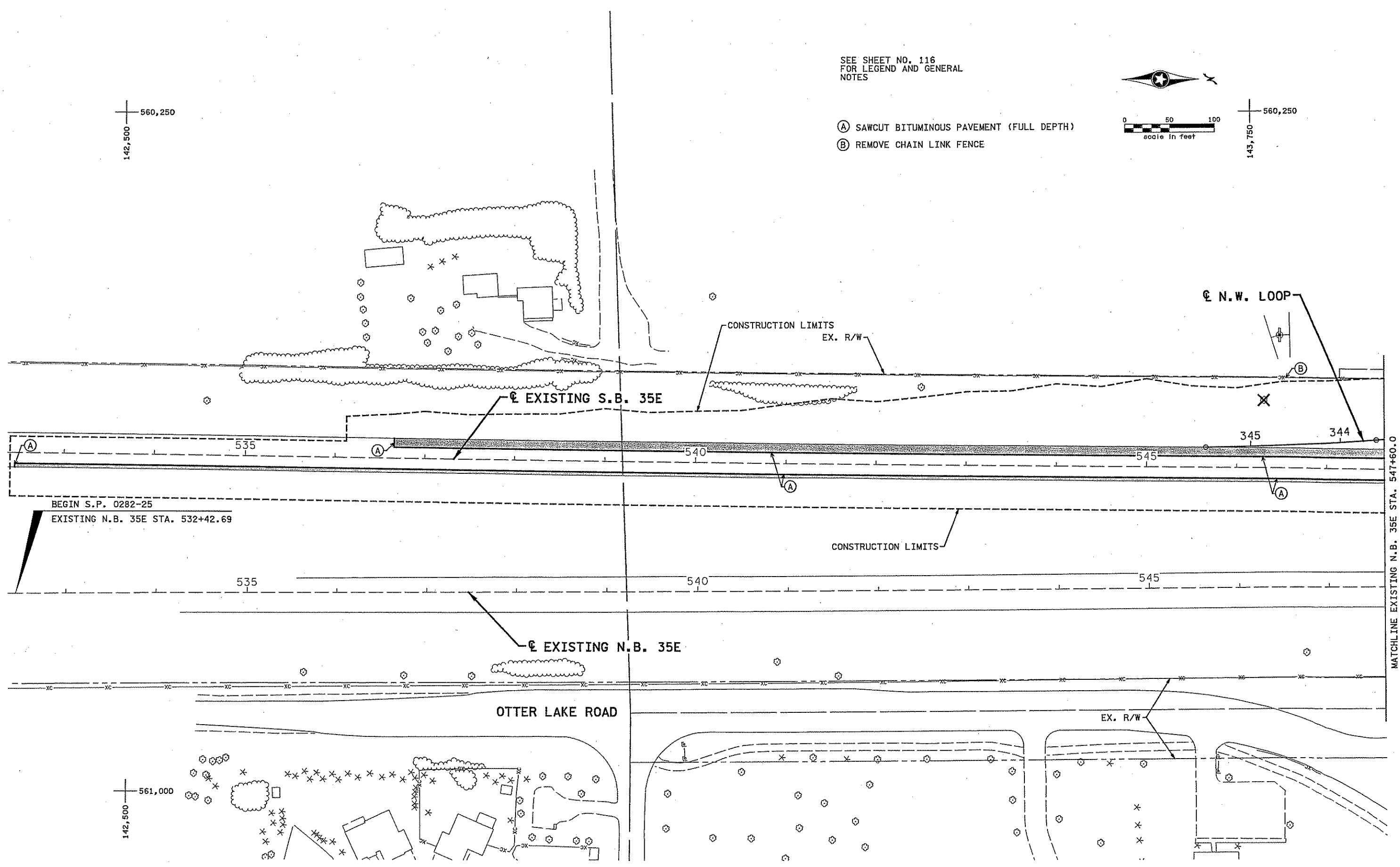


0 50 100
scale in feet

560,250
142,500

560,250
143,750

- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) REMOVE CHAIN LINK FENCE



MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 120

9:18:53 AM
H:\2009\02\2009
HI-MVP\cm\0261429_REM4.DGN

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: AARON VACEK
Date: 5-12-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-614-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

DRAWN BY
V. MICHELS
DESIGNED BY
S. PRUSAK
CHECKED BY
A. VACEK
COMM. NO. 0086509

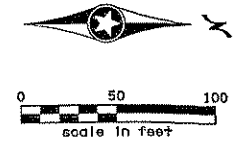


ANOKA COUNTY
REMOVAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
T.H. 35E, N.W. LOOP

SHEET
119
OF
471

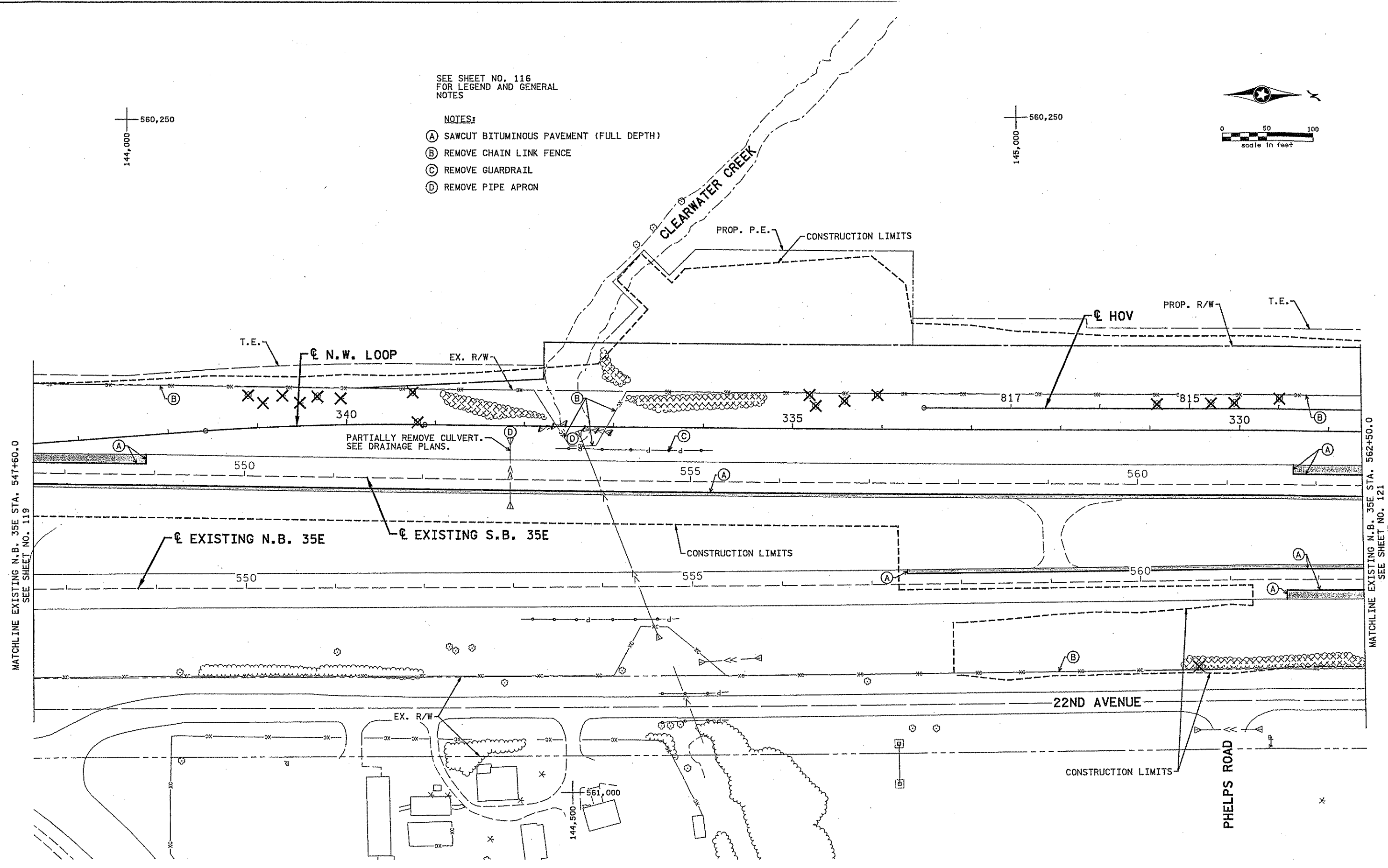
SEE SHEET NO. 116
FOR LEGEND AND GENERAL
NOTES

- NOTES:
- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
 - (B) REMOVE CHAIN LINK FENCE
 - (C) REMOVE GUARDRAIL
 - (D) REMOVE PIPE APRON



560,250
144,000

560,250
145,000



MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 119

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 121
AND
SEE SHEET NO. 122

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4/20/2009
HI-MUP1.dwg
...HI-MUP1.dwg

NO.	DATE	BY	CRD	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: **AARON VACEK**

Date: *[Signature]* License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY S. PRUSAK
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
REMOVAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
T.H. 35E, N.W. LOOP, H.O.V.

SHEET 120 OF 471

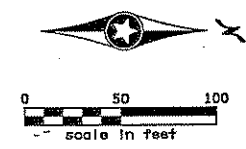
145,500
560,000

146,250
560,000

146,500
560,250

SEE SHEET NO. 116
FOR LEGEND AND GENERAL
NOTES

- NOTES:
- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
 - (B) REMOVE CHAIN LINK FENCE
 - (D) REMOVE PIPE APRON
 - (F) ABANDON PIPE SEWER
 - (G) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
 - (L) REMOVE LIGHTING UNIT AND BASE FOUNDATION



NORTHERN
LIGHTS
BLVD

REMOVE BILLBOARD.
COORDINATE WITH
RIGHT-OF-WAY
ACQUISITION.

CONSTRUCTION LIMITS

CONSTRUCTION LIMITS

€ S.W. RAMP

€ HOV

T.E.

EX. R/W

MATCHLINE S.W. RAMP STA. 400+95.0
SEE SHEET NO. 117

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 120

PROP. R/W

T.E.

810

325

410

805

320

405

800

€ N.W. LOOP

315

€ EXISTING S.B. 35E

MATCHLINE EXISTING
N.B. 35E STA. 577+50.0
SEE SHEET NO. 117

2:11:51 PM 7/21/2009 H:\proj\sofs\6509\NBI-MUNP\IGN\CD261429_REM6.DGN

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: **AARON VACEK**

Aaron Vacek

Date: **8-06-09** License # **44277**

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. VACEK

COMM. NO. 0086509



ANOKA COUNTY
REMOVAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
T.H. 35E, N.W. LOOP, S.W. RAMP, H.O.V.

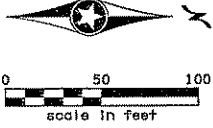
SHEET
121
OF
471

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 120

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 117

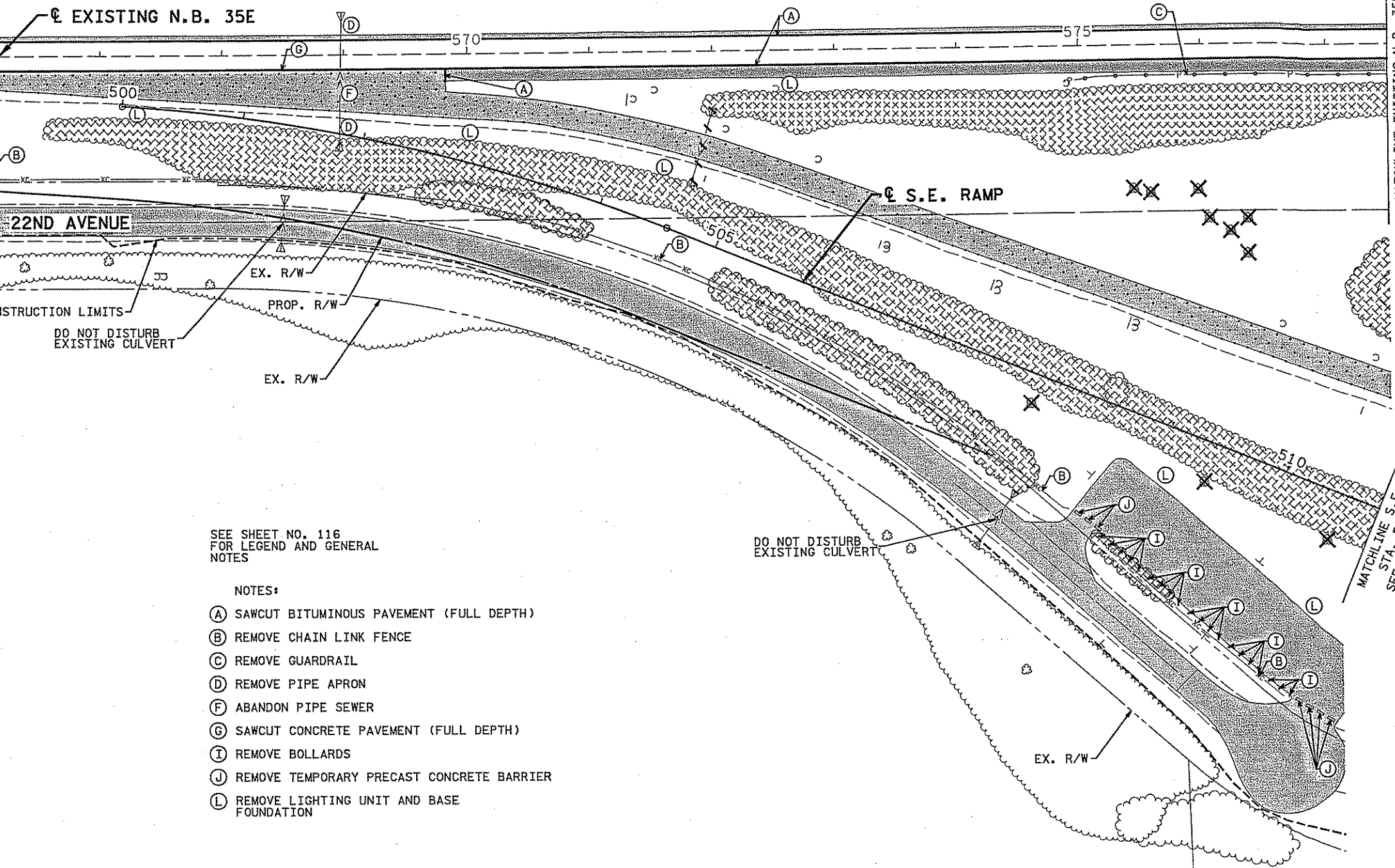
MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 117

561,000
145,500



561,500
145,500

561,500
146,500



SEE SHEET NO. 116
FOR LEGEND AND GENERAL
NOTES

- NOTES:
- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
 - (B) REMOVE CHAIN LINK FENCE
 - (C) REMOVE GUARDRAIL
 - (D) REMOVE PIPE APRON
 - (F) ABANDON PIPE SEWER
 - (G) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
 - (I) REMOVE BOLLARDS
 - (J) REMOVE TEMPORARY PRECAST CONCRETE BARRIER
 - (L) REMOVE LIGHTING UNIT AND BASE FOUNDATION

9:18:59 AM 4/20/2009 H:\Projects\6509\11-MUN\Plan\0261429_REM7.DGN

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: **AARON VACEK**

Date: *5-20-08* License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-2B
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY S. PRUSAK
CHECKED BY A. VACEK
COMM. NO. 0086509



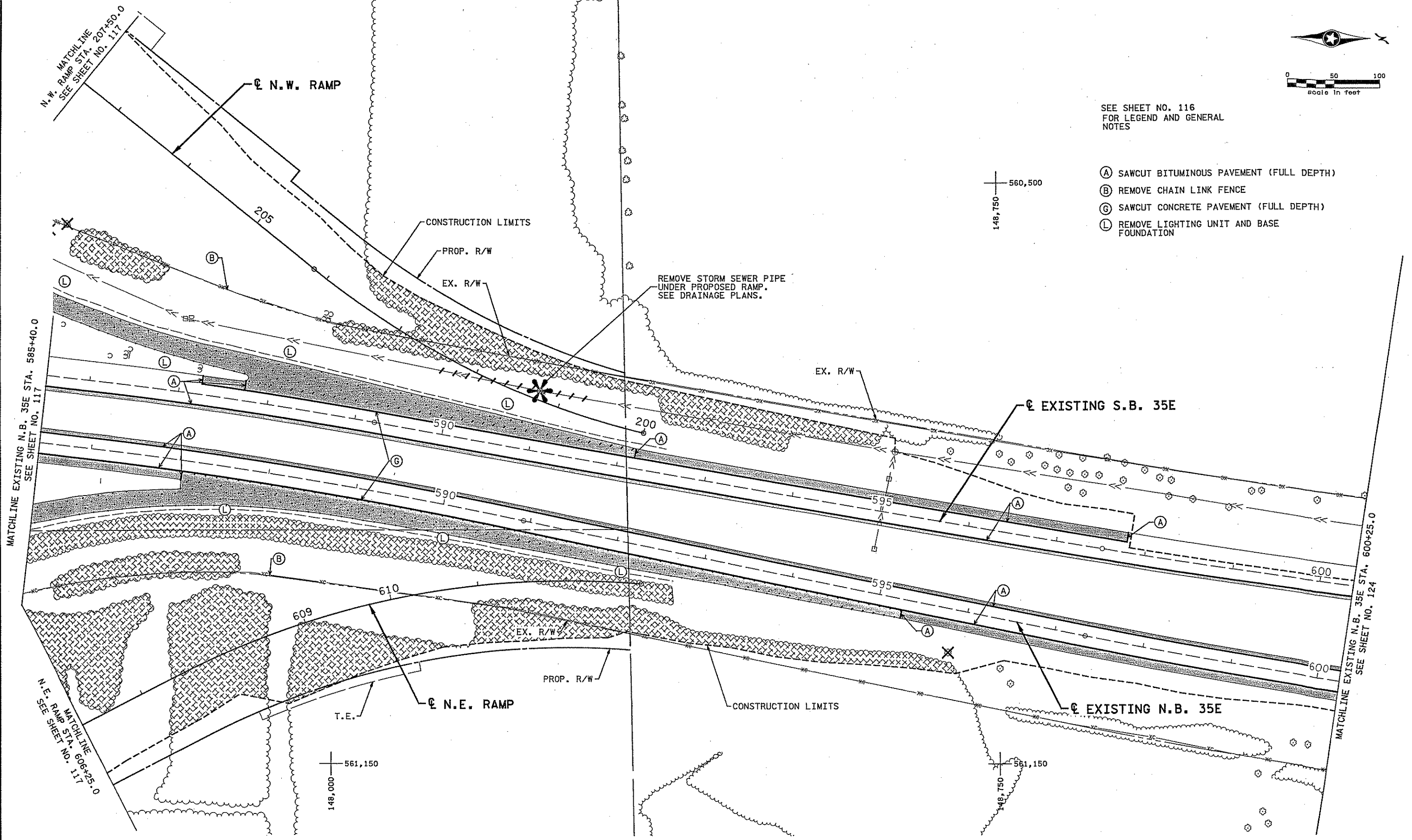
ANOKA COUNTY
REMOVAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
T.H. 35E, S.E. RAMP

SHEET 122 OF 471



SEE SHEET NO. 116
FOR LEGEND AND GENERAL
NOTES

- (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (B) REMOVE CHAIN LINK FENCE
- (C) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
- (L) REMOVE LIGHTING UNIT AND BASE FOUNDATION



9:19:01 AM
4/20/2009
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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: **AARON VACEK**

Aaron Vacek

Date: **9-22-09** License # **44277**

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. VACEK

COMM. NO. 0086509



ANOKA COUNTY

REMOVAL PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

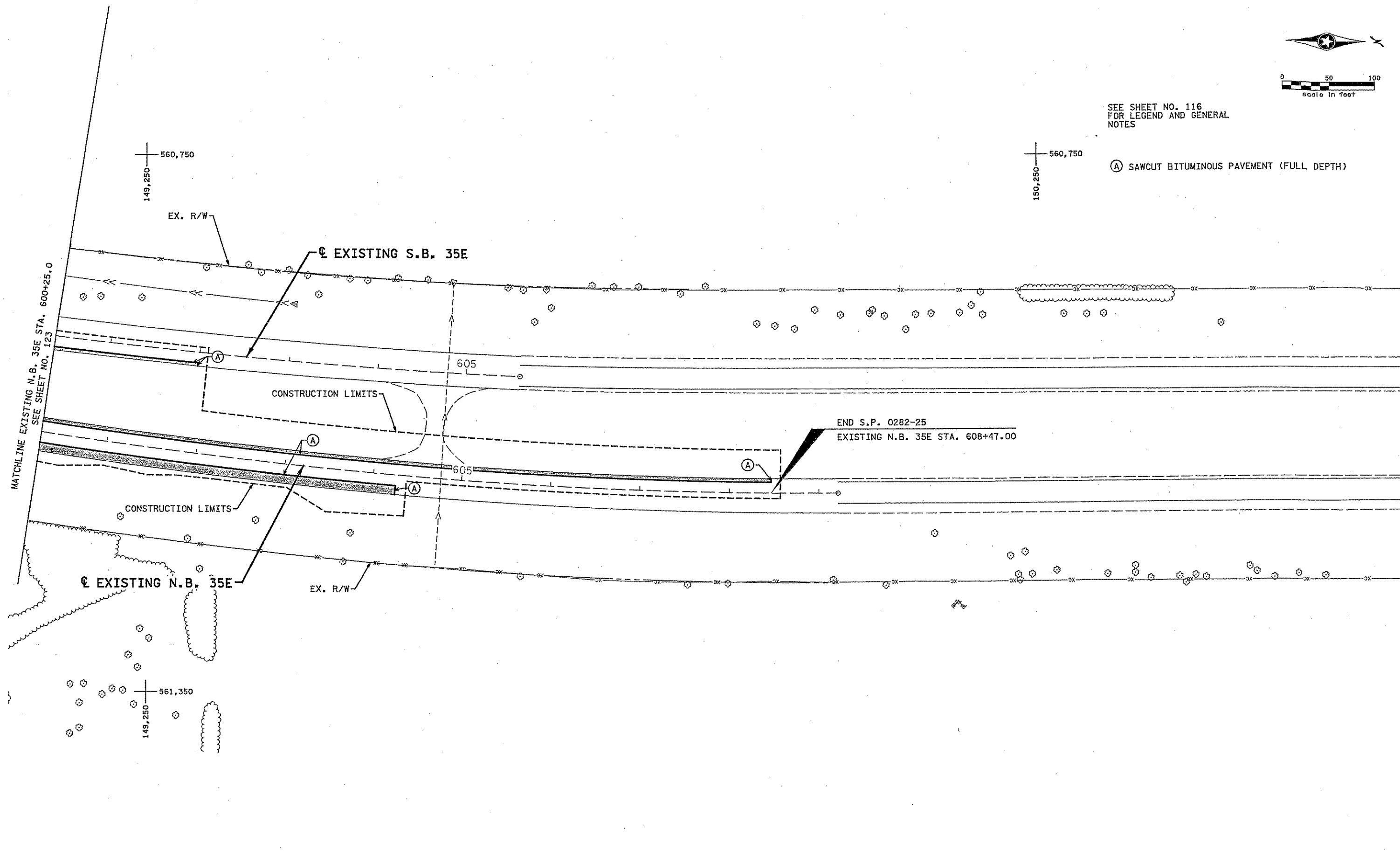
T.H. 35E, N.W. RAMP, N.E. RAMP

SHEET
123
OF
471



SEE SHEET NO. 116
FOR LEGEND AND GENERAL
NOTES

(A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)



NO	DATE	BY	CKD	APPR	REVISION

9:19:03 AM
C:\p02\p02003
H:\p02\p02003\HI-MUN\p1\m\c0261429_REM9.DGN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: AARON VACEK
Date: 8-22-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-614-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

DRAWN BY
V. MICHELS
DESIGNED BY
S. PRUSAK
CHECKED BY
A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
REMOVAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
T.H. 35E, N.E. RAMP

SHEET
124
OF
471

LEGEND	
	EXISTING ROADWAYS
	PROPOSED CONSTRUCTION
	EXISTING RIGHT OF WAY (R/W) BOUNDARY
	EXISTING PERMANENT EASEMENT (P.E.) BOUNDARY
	EDGE OF WATER
	PROPOSED RIGHT OF WAY (R/W) BOUNDARY
	TEMPORARY EASEMENT (T.E.) BOUNDARY
	ACCESS CONTROL
	DIRECTION OF TRAFFIC
	CHAIN LINK FENCE
	GUARDRAIL
	CIP RETAINING WALL
	CITY LIMITS BOUNDARY
	HOV LANE
	ELECTRICAL GROUND

THE LEGEND AND GENERAL NOTES APPLY TO ALL CONSTRUCTION PLAN SHEETS.

GENERAL CONSTRUCTION NOTES:

THE RIGHT OF WAY 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.

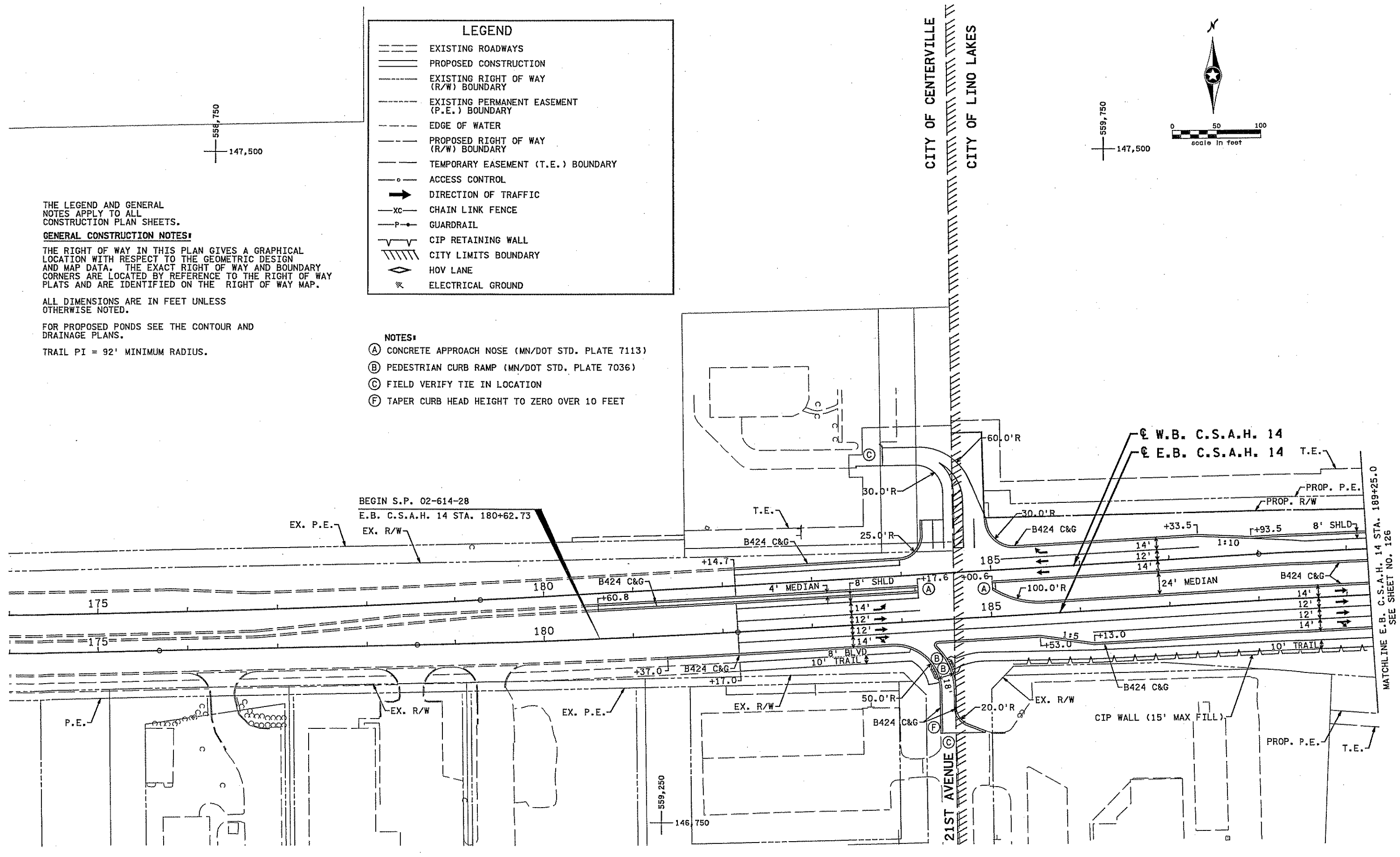
ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.

FOR PROPOSED PONDS SEE THE CONTOUR AND DRAINAGE PLANS.

TRAIL PI = 92' MINIMUM RADIUS.

NOTES:

- (A) CONCRETE APPROACH NOSE (MN/DOT STD. PLATE 7113)
- (B) PEDESTRIAN CURB RAMP (MN/DOT STD. PLATE 7036)
- (C) FIELD VERIFY TIE IN LOCATION
- (F) TAPER CURB HEAD HEIGHT TO ZERO OVER 10 FEET



12:59:53 PM 5/15/2009 HI-MUP\PI\0261429_CP1.DGN

NO	DATE	BY	CHKD	APPR	REVISION

...HI-MUP\PI\0261429_CP1.DGN

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

Print Name: **AARON VACEK**

Aaron Vacek

Date: 5-22-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY V. MICHELS

DESIGNED BY S. PRUSAK

CHECKED BY A. VACEK

COMM. NO. 0086509



ANOKA COUNTY

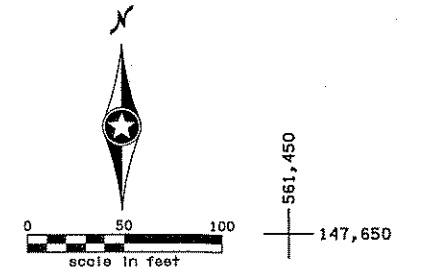
CONSTRUCTION PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

C.S.A.H. 14

SHEET 125 OF 471

560,000
147,700



561,450
147,650

☉ N.W. RAMP

MATCHLINE N.W. RAMP
STA. 207+50.0
SEE SHEET NO. 132

MATCHLINE EXISTING N.B. 35E STA. 585+40.0
SEE SHEET NO. 132

MATCHLINE N.E. RAMP
STA. 606+25.0
SEE SHEET NO. 132

NOTES:

- (A) CONCRETE APPROACH NOSE (MN/DOT STD. PLATE 7113)
- (B) PEDESTRIAN CURB RAMP (MN/DOT STD. PLATE 7036)
- (E) TRANSITION FROM B424 TO B624 OVER 10 FEET TO MATCH BRIDGE
- (F) TAPER CURB HEAD HEIGHT TO ZERO OVER 10 FEET
- (G) CONCRETE BRIDGE APPROACH PANEL. SEE BRIDGE PLANS.
- (H) GUARDRAIL (MN/DOT STD. PLATE 8338). SEE TRAFFIC BARRIER TABULATION FOR END TREATMENT TYPE.
- (I) CONCRETE WALK UNDER BRIDGE. SEE SHEET 38.
- (J) GUARDRAIL (MN/DOT STD. PLATE 8307). SEE TRAFFIC BARRIER TABULATION FOR END TREATMENT TYPE.

SEE SHEET NO. 125
FOR LEGEND AND GENERAL
NOTES

PROP. R/W

T.E.

560,300
147,500

☉ N.E. RAMP

T.E.

PROP. R/W

T.E.

PROP. P.E.

MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 127

☉ N.W. LOOP

ONLY A SINGLE LANE OF
TRAFFIC FOR THIS LOOP.
SEE SHEET 206 FOR STRIPING
ON THE NW LOOP

N.W. POND

BRIDGE NO. 02812

☉ N.E. LOOP

N.E. POND

☉ EXISTING N.B. 35E

☉ EXISTING S.B. 35E

☉ W.B. C.S.A.H. 14

☉ E.B. C.S.A.H. 14

MATCHLINE E.B. C.S.A.H. 14 STA. 189+25.0
SEE SHEET NO. 125

MATCHLINE EXISTING N.B. 35E STA. 577+50.0
SEE SHEET NO. 130
AND
SEE SHEET NO. 131

MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 131

MATCHLINE S.W. RAMP STA. 400+95.0
SEE SHEET NO. 130

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10/27/2009
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NO	DATE	BY	CHK	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: AARON VACEK
Aaron Vacek
 Date: 10-28-09 License #: 44277

STATE PROJECT NO.
0282-25 (TH 35E)
 STATE PROJECT NO.
02-614-28
 COUNTY PROJECT NO.
X
 CITY PROJECT NO. X

DRAWN BY
V. MICHELS
 DESIGNED BY
S. PRUSAK
 CHECKED BY
A. VACEK
 COMM. NO. 0086509



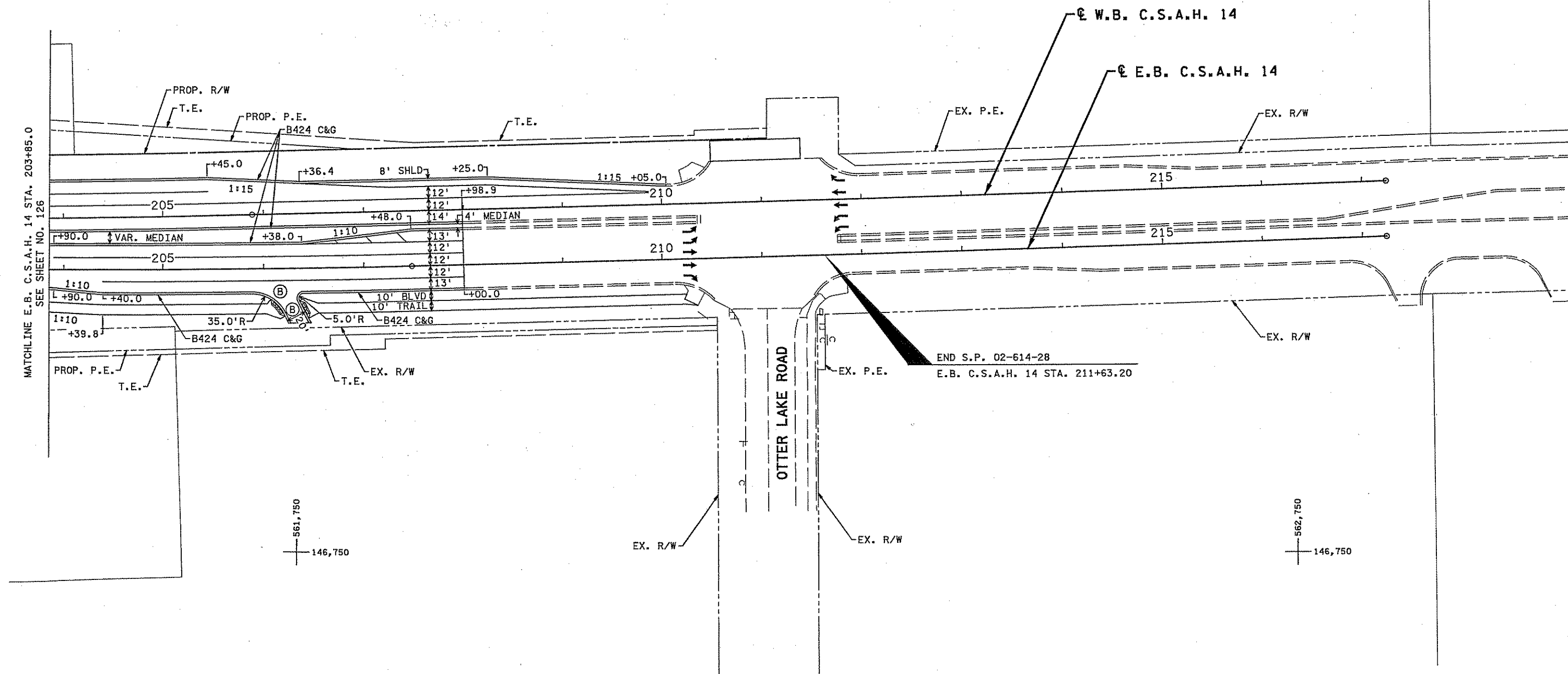
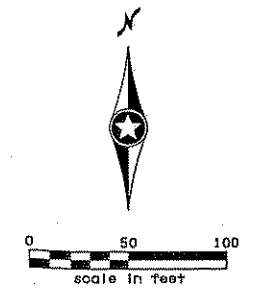
ANOKA COUNTY
 CONSTRUCTION PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14, N.W. RAMP, N.E. RAMP, N.W. LOOP,
 N.E. LOOP, S.W. RAMP, S.E. RAMP

SHEET
126
OF
471

SEE SHEET NO. 125
FOR LEGEND AND GENERAL
NOTES

562,750
147,500

NOTES
ⓑ PEDESTRIAN CURB RAMP (MN/DOT STD. PLATE 7036)



MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 126

9/13/08 AM
12/2/2008
HI-MUX\plan\0261429_CP3.DGN

NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: AARON VACEK

Date: 5-22-08 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. VACEK

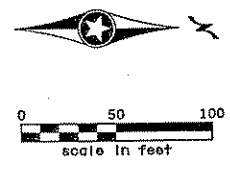
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ANOKA COUNTY
CONSTRUCTION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14

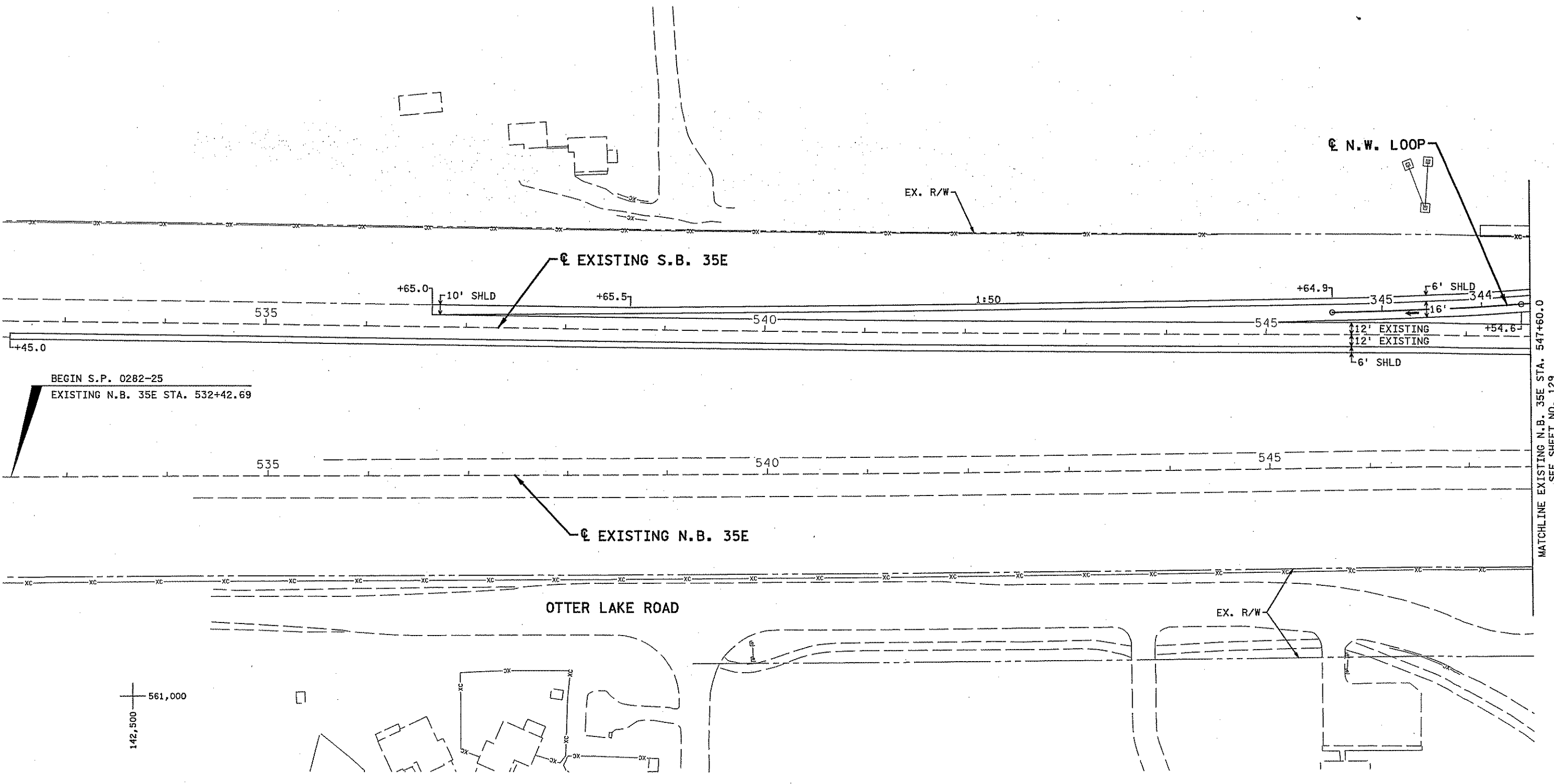
SHEET
127
OF
471

SEE SHEET NO. 125
FOR LEGEND AND GENERAL
NOTES



560,250
142,500

560,250
143,750



BEGIN S.P. 0282-25
EXISTING N.B. 35E STA. 532+42.69

MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 129

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4/20/2009
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561,000
142,500

NO	DATE	BY	CHKD	APPR	REVISION

... \HI-MU\PIan\0261429_CP4.DGN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: AARON VACEK
Aaron Vacek
Date: 6-22-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-614-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

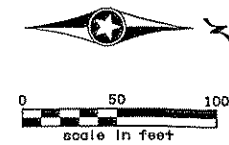
DRAWN BY
V. MICHELS
DESIGNED BY
S. PRUSAK
CHECKED BY
A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
CONSTRUCTION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP

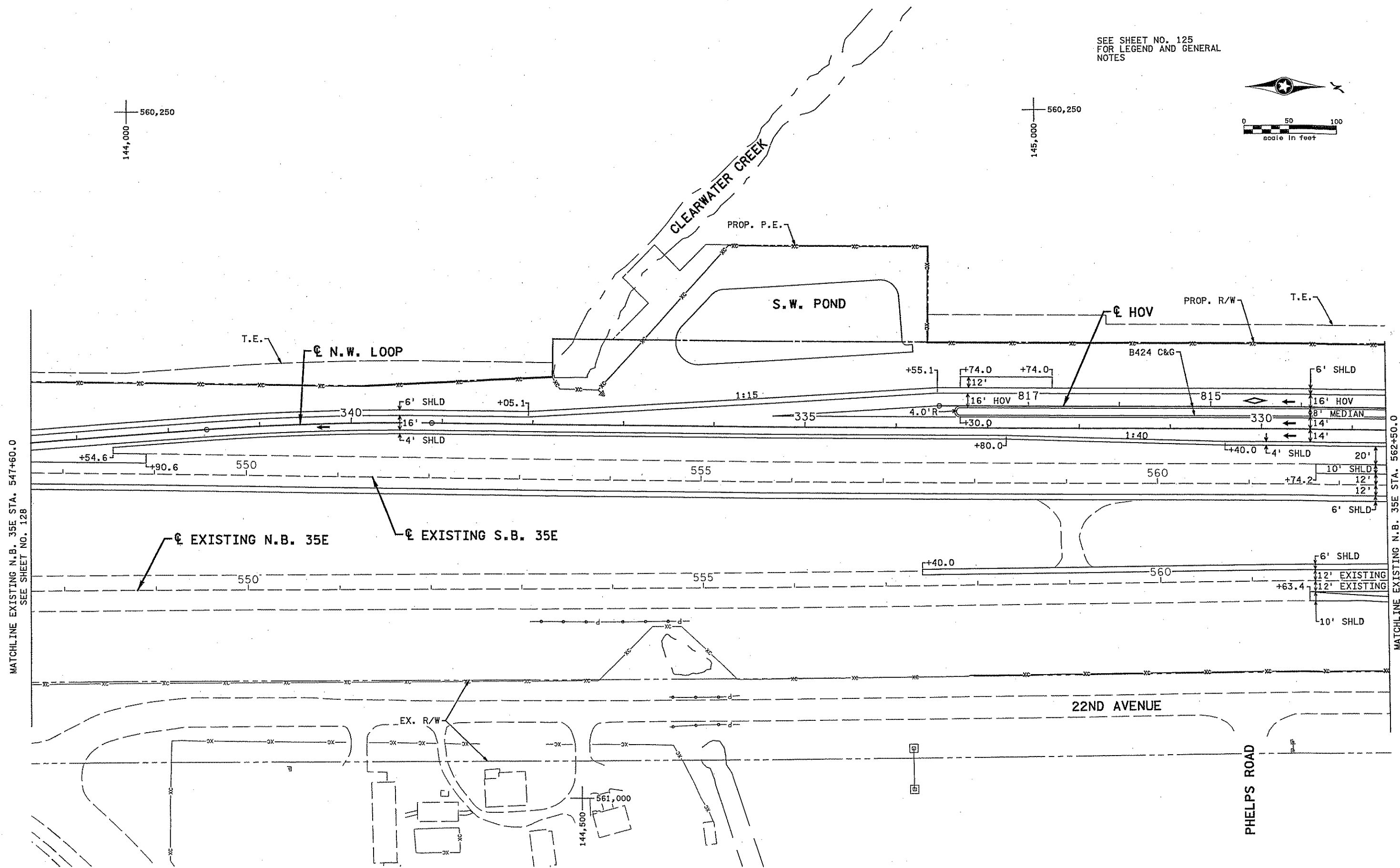
SHEET
128
OF
471

SEE SHEET NO. 125
FOR LEGEND AND GENERAL
NOTES



560,250
144,000

560,250
145,000



MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 128

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 130
AND
SEE SHEET NO. 131

9:19:11 AM
4/20/2009
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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: AARON VACEK
Date: 5-22-09 License # 44277

STATE PROJECT NO. 0262-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

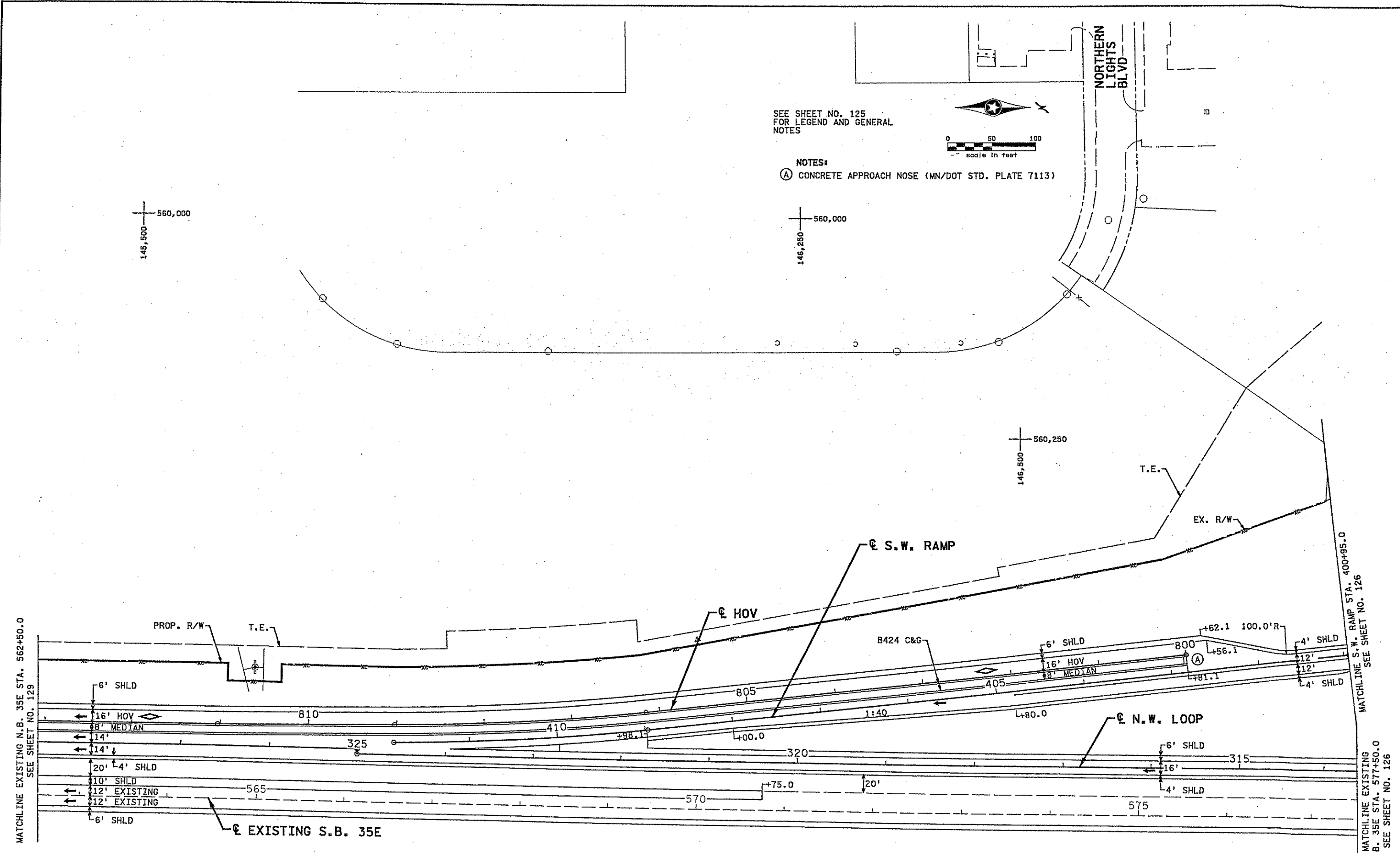
DRAWN BY V. MICHELS
DESIGNED BY S. PRUSAK
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
CONSTRUCTION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP, HOV

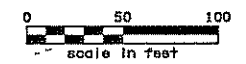
SHEET 129 OF 471

2/11/14 PM
7/21/2009
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SEE SHEET NO. 125
FOR LEGEND AND GENERAL
NOTES

NOTES:
Ⓐ CONCRETE APPROACH NOSE (MN/DOT STD. PLATE 7113)



560,000
145,500

560,000
146,250

560,250
146,500

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 129

MATCHLINE S.W. RAMP STA. 400+95.0
SEE SHEET NO. 126

MATCHLINE EXISTING
N.B. 35E STA. 577+50.0
SEE SHEET NO. 126

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: **AARON VACEK**
Aaron Vacek
Date: **8-06-09** License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY S. PRUSAK
CHECKED BY A. VACEK
COMM. NO. 0086509

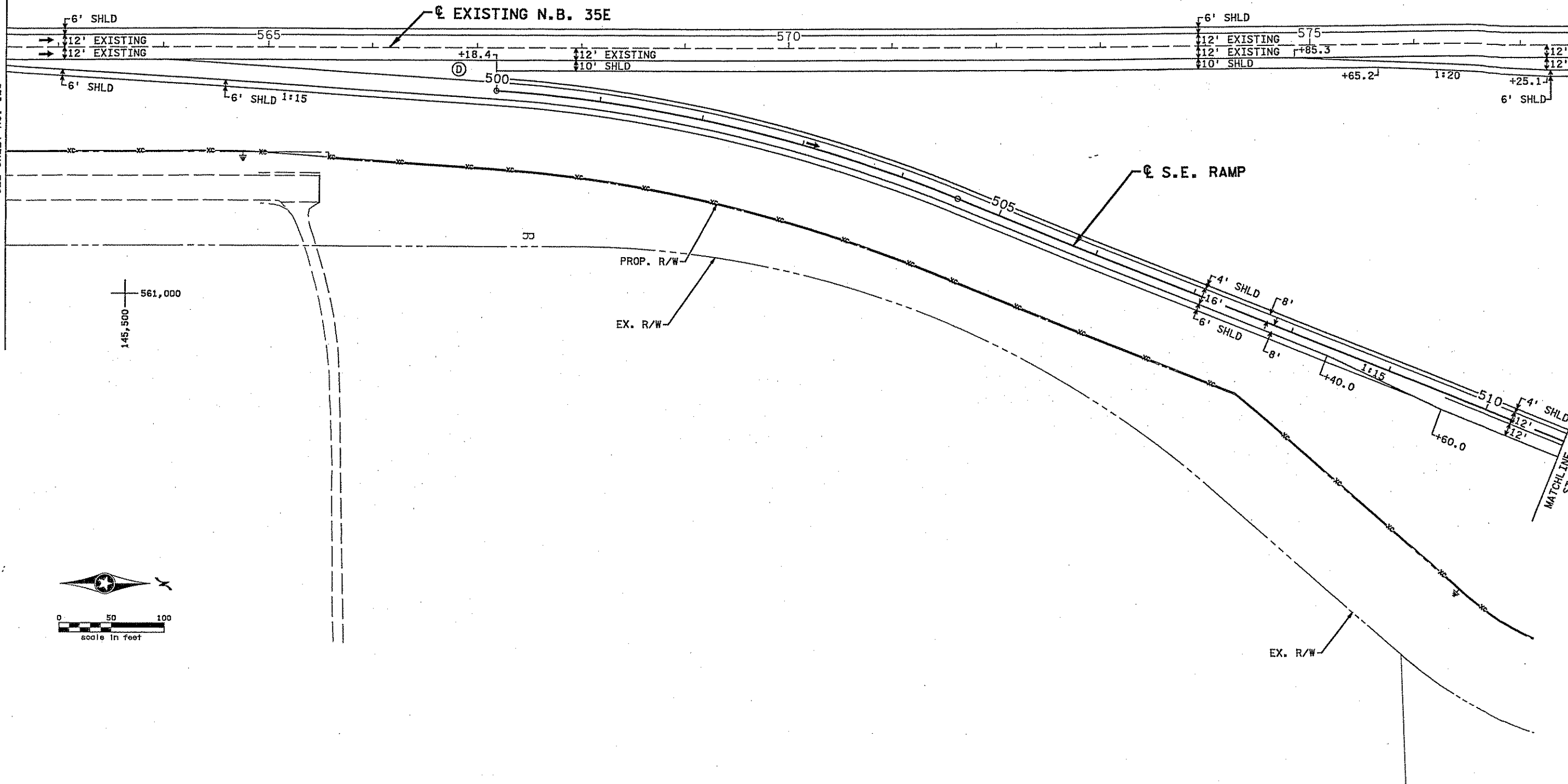


ANOKA COUNTY
CONSTRUCTION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP, S.W. RAMP, HOV

SHEET
130
OF
471

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 129

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 126



SEE SHEET NO. 125
FOR LEGEND AND GENERAL
NOTES

NOTES:
① SEE STANDARD PLAN SHEET 44

10:18:38 AM
8/7/2009
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NO	DATE	BY	CHKD	APPR	REVISION

... \NBI-MUNP\an\0261429_CPT7.DGN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: **AARON VACEK**
Aaron Vacek
Date: **8-09-09** License # **44277**

STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-614-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

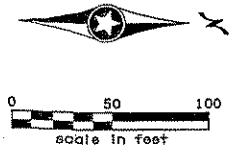
DRAWN BY
V. MICHELS
DESIGNED BY
S. PRUSAK
CHECKED BY
A. VACEK
COMM. NO. 0086509



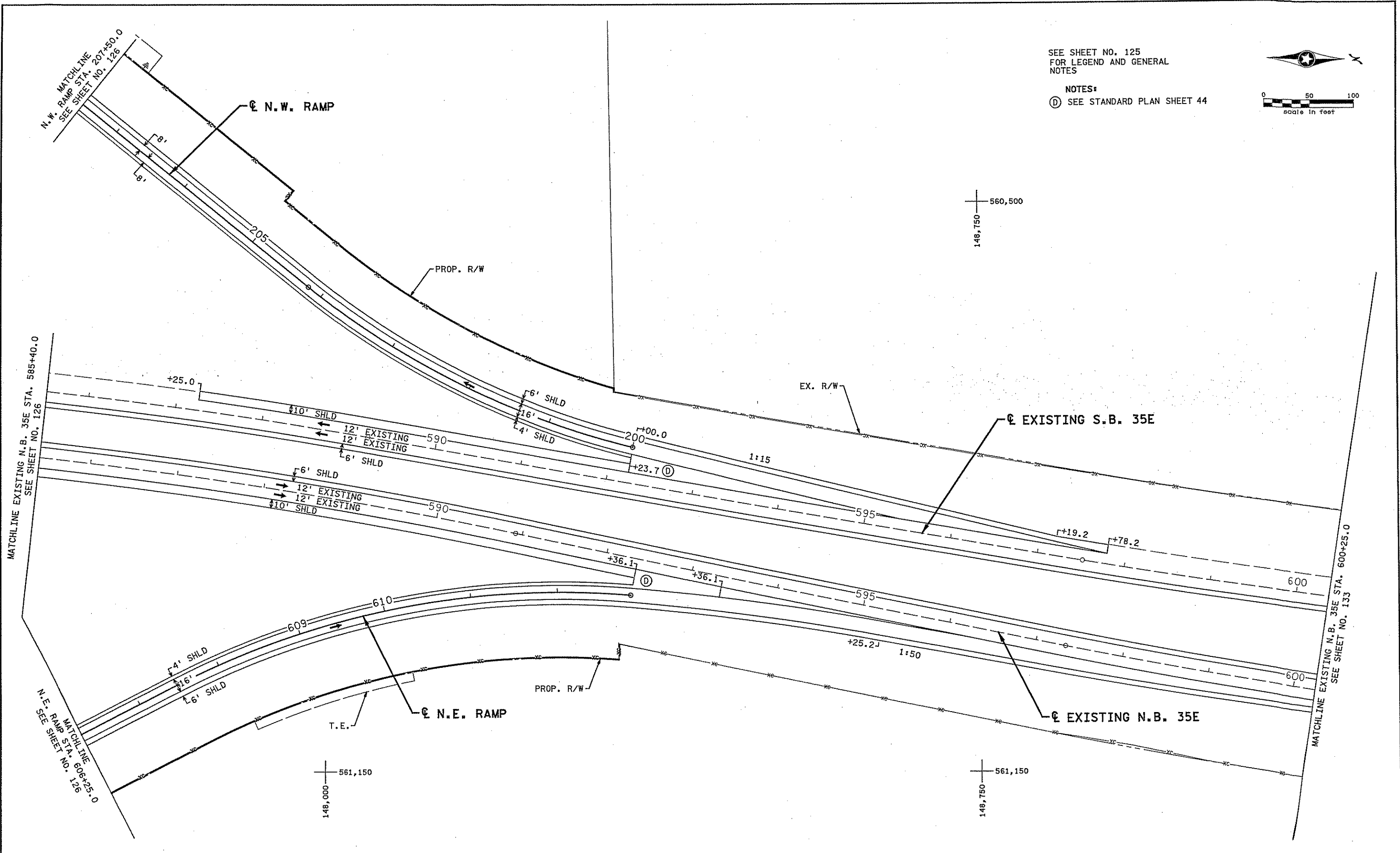
ANOKA COUNTY
CONSTRUCTION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
S.E. RAMP

SHEET
131
OF
471

SEE SHEET NO. 125
FOR LEGEND AND GENERAL
NOTES



NOTES:
① SEE STANDARD PLAN SHEET 44



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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: AARON VACEK

Aaron Vacek

Date: 5-22-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. VACEK

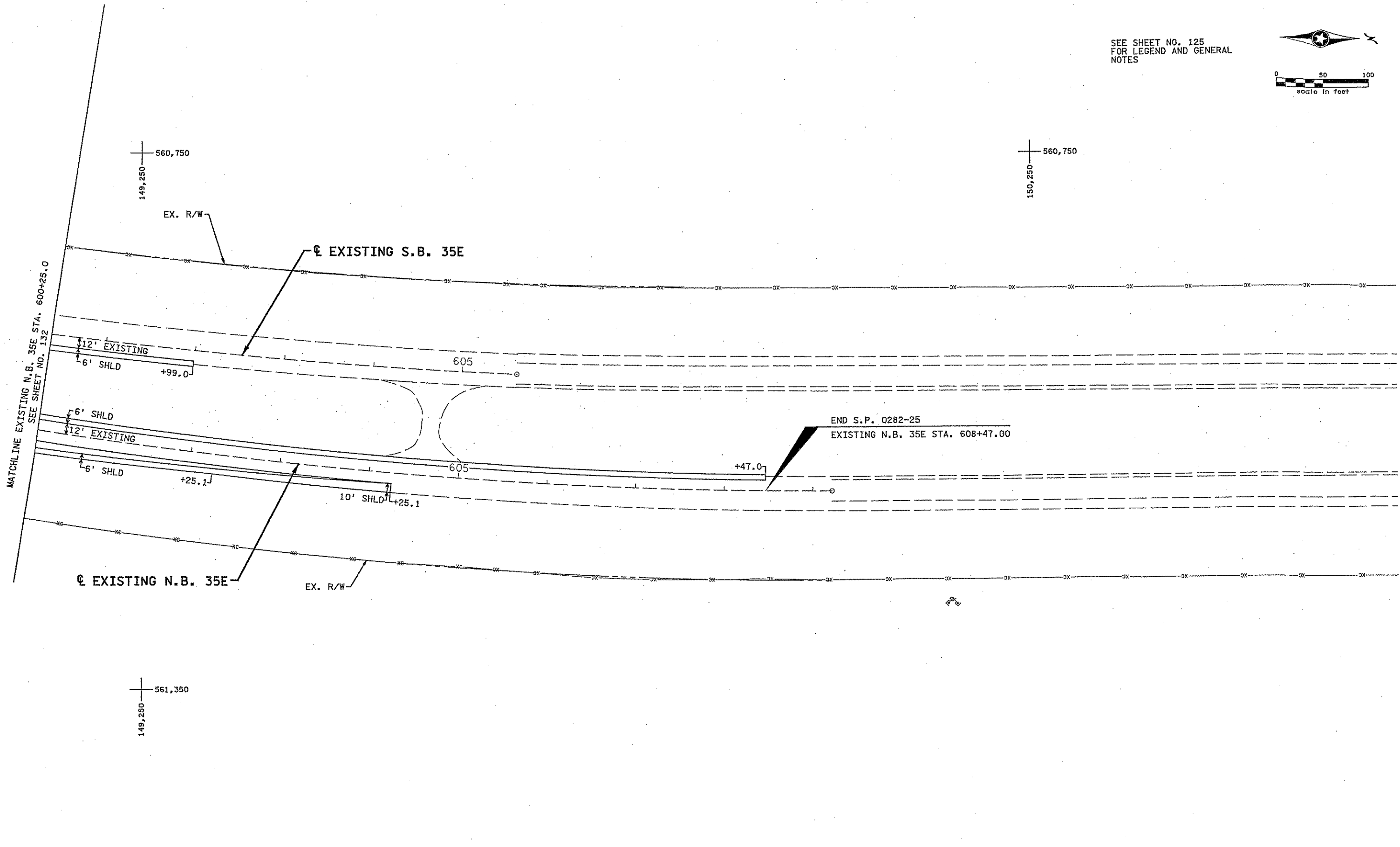
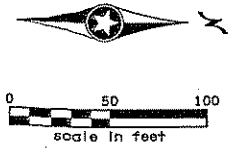
COMM. NO. 0086509



ANOKA COUNTY
CONSTRUCTION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. RAMP, N.E. RAMP

SHEET
132
OF
471

SEE SHEET NO. 125
FOR LEGEND AND GENERAL
NOTES



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NO	DATE	BY	CHK	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: **AARON VACEK**
[Signature]
Date: *[Signature]* License # 44277

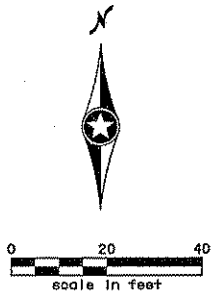
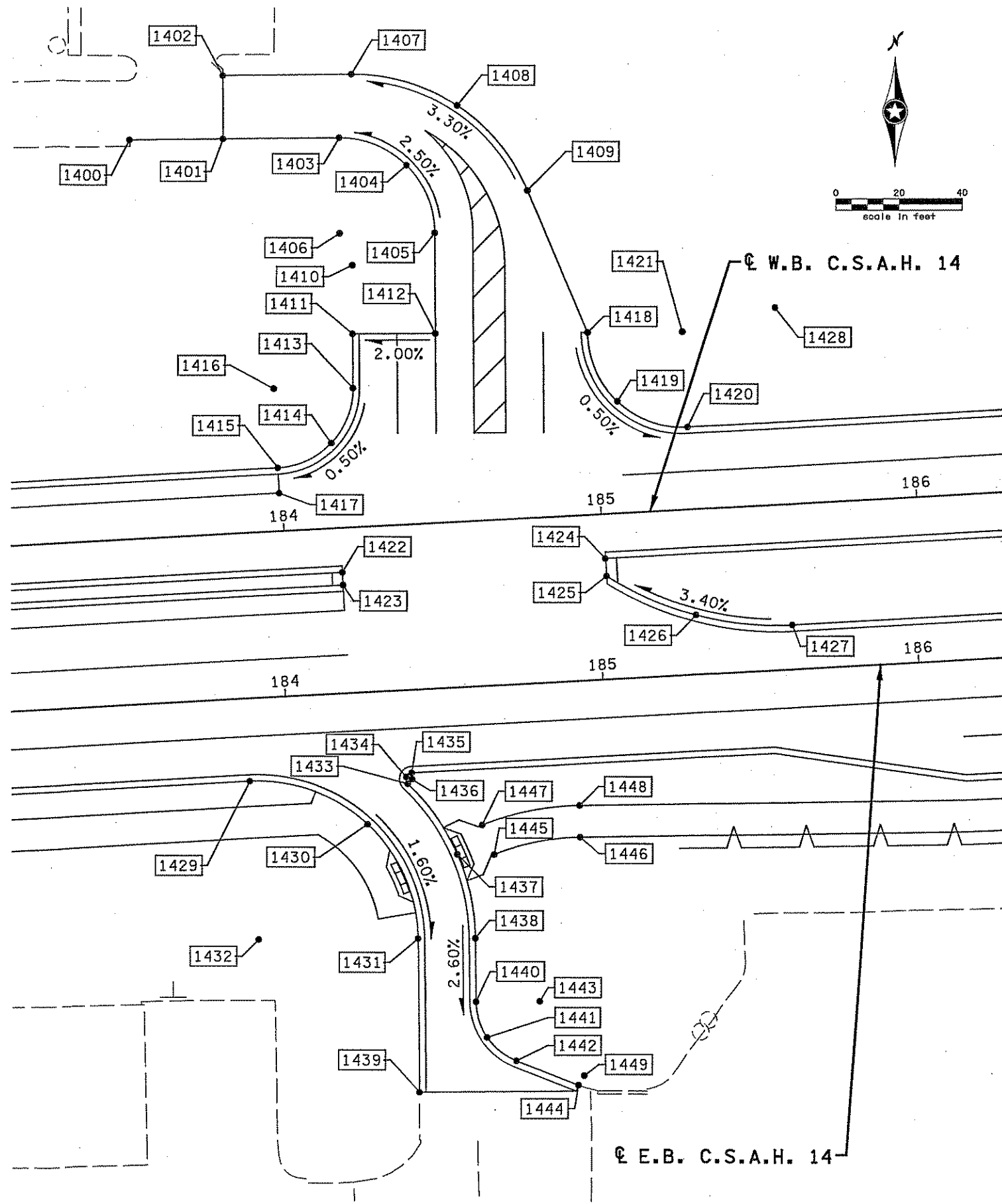
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY S. PRUSAK
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
CONSTRUCTION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.E. RAMP TAPER

SHEET 133 OF 471



POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1400	W.B. C.S.A.H. 14	183+57.72	125.41 LT	905.76	MATCH EXISTING
1401	W.B. C.S.A.H. 14	183+87.13	124.10 LT	906.36	MATCH EXISTING
1402	W.B. C.S.A.H. 14	183+88.02	144.08 LT	906.94	MATCH EXISTING
1403	W.B. C.S.A.H. 14	184+23.67	122.46 LT	907.27	BEGIN RADIUS
1404	W.B. C.S.A.H. 14	184+44.49	112.71 LT	907.86	RADIUS MIDPOINT
1405	W.B. C.S.A.H. 14	184+52.29	91.09 LT	908.45	END RADIUS
1406	W.B. C.S.A.H. 14	184+22.33	92.49 LT		RADIUS POINT 30' R
1407	W.B. C.S.A.H. 14	184+28.54	142.26 LT	908.25	BEGIN RADIUS
1408	W.B. C.S.A.H. 14	184+61.36	130.69 LT	909.42	RADIUS MIDPOINT
1409	W.B. C.S.A.H. 14	184+82.24	102.84 LT	910.59	END RADIUS
1410	W.B. C.S.A.H. 14	184+25.86	82.32 LT		RADIUS POINT 60' R
1411	W.B. C.S.A.H. 14	184+24.85	60.85 LT	908.64	FLOWLINE
1412	W.B. C.S.A.H. 14	184+50.82	59.64 LT	909.24	EDGE OF PAVEMENT
1413	W.B. C.S.A.H. 14	184+24.06	43.83 LT	908.55	BEGIN RADIUS
1414	W.B. C.S.A.H. 14	184+16.34	26.91 LT	908.46	RADIUS MIDPOINT
1415	W.B. C.S.A.H. 14	183+99.08	20.00 LT	908.36	END RADIUS
1416	W.B. C.S.A.H. 14	183+99.08	45.00 LT		RADIUS POINT 25' R
1417	W.B. C.S.A.H. 14	183+99.08	12.00 LT	908.63	EDGE OF SHOULDER
1418	W.B. C.S.A.H. 14	184+98.77	57.40 LT	912.19	BEGIN RADIUS
1419	W.B. C.S.A.H. 14	185+07.04	35.29 LT	912.07	RADIUS MIDPOINT
1420	W.B. C.S.A.H. 14	185+28.74	26.00 LT	911.95	END RADIUS
1421	W.B. C.S.A.H. 14	185+28.74	56.00 LT		RADIUS POINT 30' R
1422	E.B. C.S.A.H. 14	184+19.99	38.00 LT	909.51	NOSE
1423	E.B. C.S.A.H. 14	184+19.99	34.00 LT	909.24	NOSE
1424	E.B. C.S.A.H. 14	185+02.88	38.00 LT	911.92	NOSE
1425	E.B. C.S.A.H. 14	185+02.99	32.44 LT	911.76	NOSE, BEGIN RADIUS
1426	E.B. C.S.A.H. 14	185+30.49	18.72 LT	912.78	RADIUS MIDPOINT
1427	E.B. C.S.A.H. 14	185+60.85	14.00 LT	913.83	END RADIUS
1428	W.B. C.S.A.H. 14	185+58.50	62.00 LT		RADIUS POINT 100' R
1429	E.B. C.S.A.H. 14	183+87.31	26.00 RT	908.03	BEGIN RADIUS
1430	E.B. C.S.A.H. 14	184+23.48	41.48 RT	907.38	RADIUS MIDPOINT
1431	E.B. C.S.A.H. 14	184+37.25	78.33 RT	906.74	END RADIUS
1432	E.B. C.S.A.H. 14	183+87.31	76.00 RT		RADIUS POINT 50' R, 68' R
1433	E.B. C.S.A.H. 14	184+36.80	29.37 RT	909.16	BEGIN RADIUS (2)
1434	E.B. C.S.A.H. 14	184+36.42	27.21 RT	909.22	RADIUS MIDPOINT
1435	E.B. C.S.A.H. 14	184+38.26	26.00 RT	909.28	END RADIUS
1436	E.B. C.S.A.H. 14	184+38.26	28.00 RT		RADIUS POINT 2' R
1437	E.B. C.S.A.H. 14	184+51.08	52.40 RT	908.45	RADIUS MIDPOINT
1438	E.B. C.S.A.H. 14	184+55.23	79.17 RT	907.74	END RADIUS
1439	E.B. C.S.A.H. 14	184+35.01	126.44 RT	905.95	FLOWLINE
1440	E.B. C.S.A.H. 14	184+54.30	99.11 RT	907.22	BEGIN RADIUS
1441	E.B. C.S.A.H. 14	184+57.21	110.47 RT	906.91	RADIUS MIDPOINT
1442	E.B. C.S.A.H. 14	184+65.99	118.25 RT	906.60	END RADIUS
1443	E.B. C.S.A.H. 14	184+74.28	100.05 RT		RADIUS POINT 20' R
1444	E.B. C.S.A.H. 14	184+85.00	126.91 RT	906.06	FLOWLINE
1445	E.B. C.S.A.H. 14	184+62.69	53.06 RT		EDGE OF WALK, BEGIN RADIUS
1446	E.B. C.S.A.H. 14	184+89.95	49.09 RT		EDGE OF WALK, END RADIUS
1447	E.B. C.S.A.H. 14	184+59.45	43.60 RT		EDGE OF WALK, BEGIN RADIUS
1448	E.B. C.S.A.H. 14	184+90.35	39.09 RT		EDGE OF WALK, END RADIUS
1449	E.B. C.S.A.H. 14	184+86.95	124.03 RT		RADIUS POINT 75' R, 85' R

NOTES:

1. OFFSETS, ELEVATIONS, AND RADIUS LENGTHS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT INCLUDE DRAINAGE STRUCTURE SUMPS.
2. SEE CONSTRUCTION AND DRAINAGE PLANS FOR INFORMATION NOT SHOWN ON THIS SHEET.

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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: **AARON VACEK**

Aaron Vacek

Date: **5-22-09** License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY A. VACEK

DESIGNED BY S. PRUSAK

CHECKED BY K. KRECH

COMM. NO. 0086509



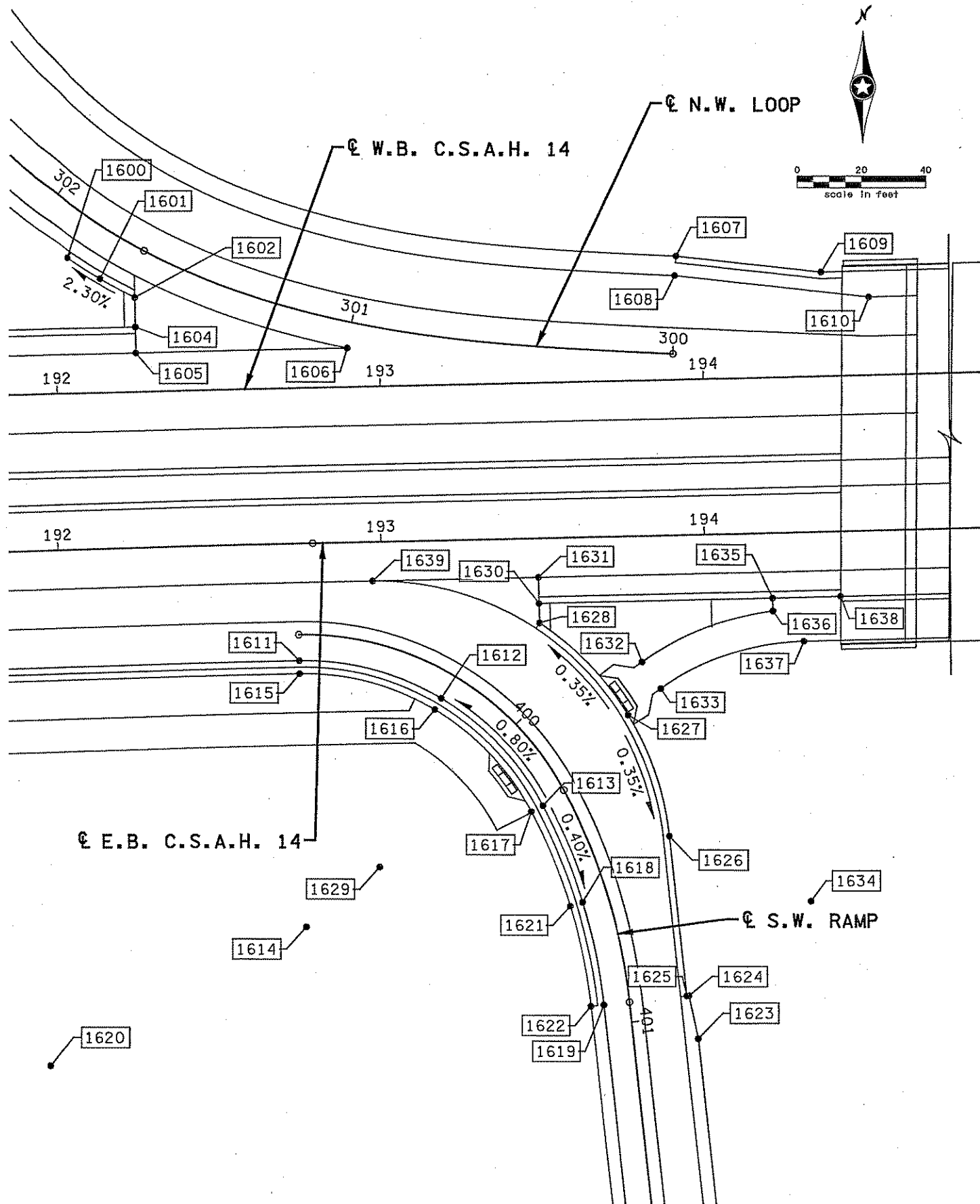
ANOKA COUNTY

INTERSECTION DETAILS

C.S.A.H. 14/T.H. 35E INTERCHANGE

(C.S.A.H. 14/21ST AVENUE)

SHEET 134 OF 471



POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1600	W.B. C.S.A.H. 14	192+04.29	41.69 LT	931.27	BEGIN RADIUS
	N.W. LOOP	301+86.61	14.00 LT		
1601	W.B. C.S.A.H. 14	192+14.43	35.08 LT	931.55	RADIUS MIDPOINT
	N.W. LOOP	301+75.33	14.00 LT		
1602	W.B. C.S.A.H. 14	192+24.95	29.09 LT	931.83	END RADIUS
	N.W. LOOP	301+64.05	14.00 LT		
1603	W.B. C.S.A.H. 14	193+20.62	209.26 LT		RADIUS POINT 204' R
	N.W. LOOP	301+67.96	190.00 LT		
1604	W.B. C.S.A.H. 14	192+24.95	20.00 LT	932.26	NOSE
1605	W.B. C.S.A.H. 14	192+24.95	12.00 LT	932.53	EDGE OF SHOULDER
1606	W.B. C.S.A.H. 14	192+30.04	12.00 LT	933.60	GORE POINT
	N.W. LOOP	300+99.80	8.00 LT		
1607	W.B. C.S.A.H. 14	193+02.55	37.95 LT	934.02	FLOWLINE
1608	W.B. C.S.A.H. 14	193+91.96	31.98 LT	934.24	EDGE OF SHOULDER
1609	W.B. C.S.A.H. 14	194+37.20	32.00 LT	934.61	FLOWLINE
1610	W.B. C.S.A.H. 14	194+51.80	24.00 LT	934.96	EDGE OF SHOULDER
1611	E.B. C.S.A.H. 14	192+73.94	36.00 RT	933.15	EDGE OF SHOULDER, BEGIN RADIUS
	S.W. RAMP	399+25.61	8.00 RT		
1612	S.W. RAMP	399+76.00	8.00 RT	933.52	EDGE OF SHOULDER, RADIUS MIDPOINT
1613	S.W. RAMP	400+26.33	8.00 RT	933.89	EDGE OF SHOULDER, BEGIN RAD, END RAD, HIGH POINT
1614	E.B. C.S.A.H. 14	192+73.94	118.00 RT		RADIUS POINT 78' R, 82' R
	S.W. RAMP	400+25.06	90.00 RT		
1615	E.B. C.S.A.H. 14	192+73.94	40.00 RT	932.98	BEGIN RADIUS
	S.W. RAMP	399+25.61	12.00 RT		
1616	S.W. RAMP	399+76.01	12.00 RT	933.35	RADIUS MIDPOINT
1617	S.W. RAMP	400+26.31	12.00 RT	933.72	END RADIUS, BEGIN RADIUS
1618	S.W. RAMP	400+60.10	8.00 RT	933.82	EDGE OF SHOULDER, RADIUS MIDPOINT
1619	S.W. RAMP	400+93.88	8.00 RT	933.62	EDGE OF SHOULDER, END RADIUS
1620	E.B. C.S.A.H. 14	191+92.40	158.15 RT		RADIUS POINT 168' R, 172' R
1621	S.W. RAMP	400+60.10	12.00 RT	933.65	RADIUS MIDPOINT
1622	S.W. RAMP	400+93.88	12.00 RT	933.45	END RADIUS
1623	S.W. RAMP	401+07.28	20.00 LT	934.14	EDGE OF SHOULDER
1624	S.W. RAMP	400+93.88	18.66 LT	934.43	EDGE OF SHOULDER
1625	S.W. RAMP	400+93.88	18.00 LT	934.10	FLOWLINE
1626	E.B. C.S.A.H. 14	193+86.74	92.46 RT	934.49	BEGIN RADIUS
	S.W. RAMP	400+49.72	24.11 LT		
1627	E.B. C.S.A.H. 14	193+74.95	54.92 RT	934.63	RADIUS MIDPOINT, HIGH POINT
	S.W. RAMP	400+16.76	29.04 LT		
1628	E.B. C.S.A.H. 14	193+48.26	26.00 RT	934.50	END RADIUS, NOSE
	S.W. RAMP	399+86.78	28.24 LT		
1629	E.B. C.S.A.H. 14	192+97.06	100.01 RT		RADIUS POINT 90' R
	S.W. RAMP	400+07.42	60.75 RT		
1630	E.B. C.S.A.H. 14	193+48.26	20.00 RT	934.51	NOSE
1631	E.B. C.S.A.H. 14	193+48.26	12.00 RT	934.78	EDGE OF SHOULDER
1632	E.B. C.S.A.H. 14	193+79.69	38.70 RT		EDGE OF WALK, BEGIN RADIUS
1633	E.B. C.S.A.H. 14	193+85.26	47.01 RT		EDGE OF WALK, BEGIN RADIUS
1634	E.B. C.S.A.H. 14	194+29.75	113.50 RT		RADIUS POINT 80' R, 90' R
1635	E.B. C.S.A.H. 14	194+20.27	20.00 RT	935.20	FLOWLINE
1636	E.B. C.S.A.H. 14	194+20.27	24.00 RT		EDGE OF WALK, END RADIUS
1637	E.B. C.S.A.H. 14	194+29.75	33.50 RT		EDGE OF WALK, END RADIUS
1638	E.B. C.S.A.H. 14	194+41.48	20.00 RT	935.41	FLOWLINE
1639	E.B. C.S.A.H. 14	192+97.20	12.01 RT	934.11	GORE POINT

NOTES:

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2. SEE CONSTRUCTION AND DRAINAGE PLANS FOR INFORMATION NOT SHOWN ON THIS SHEET.

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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: AARON VACEK

Aaron Vacek

Date: 4/20/09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY A. VACEK

DESIGNED BY S. PRUSAK

CHECKED BY K. KRECH

COMM. NO. 0086509



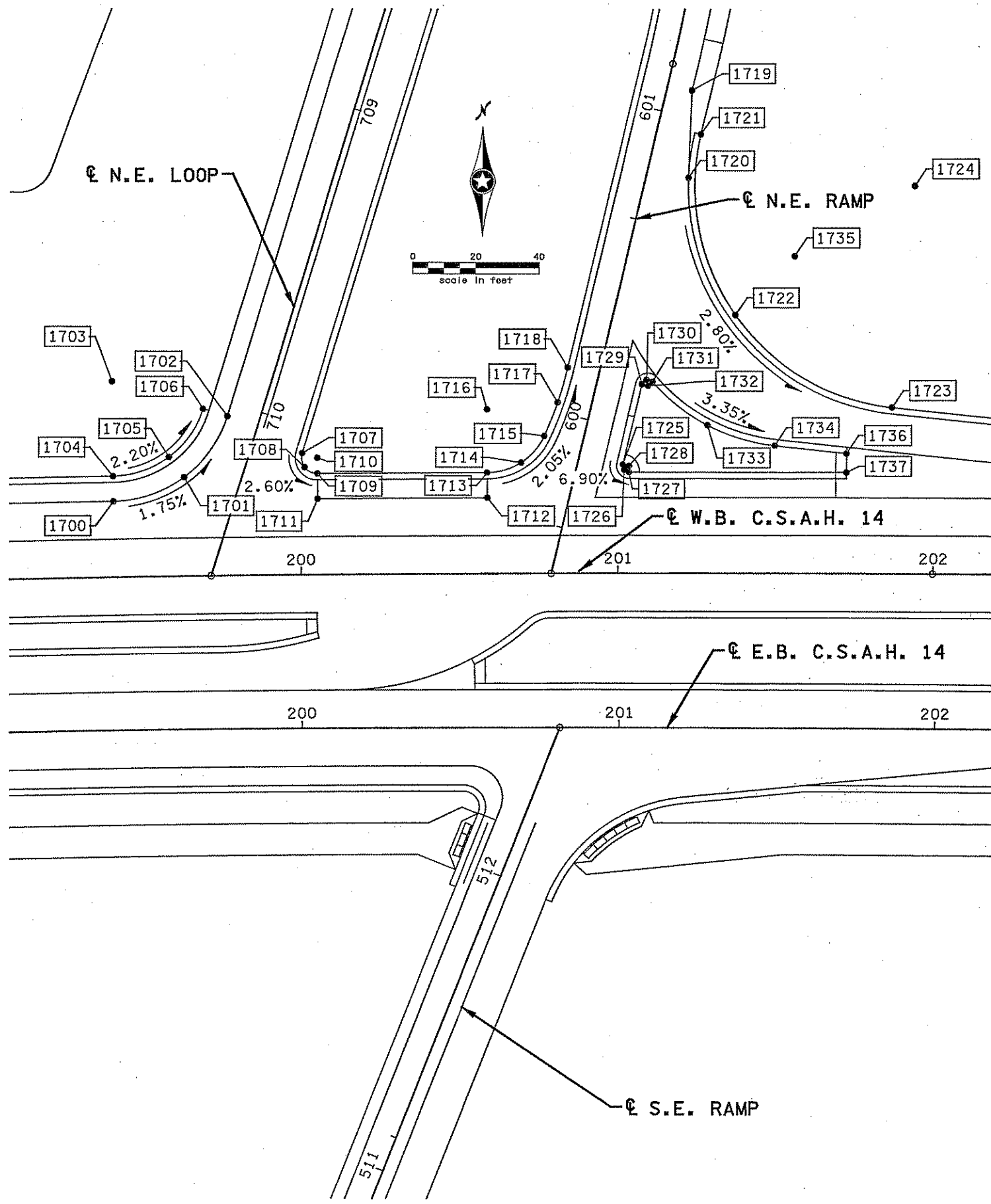
ANOKA COUNTY

INTERSECTION DETAILS

C.S.A.H. 14/T.H. 35E INTERCHANGE

(C.S.A.H. 14/N.W. LOOP, S.W. RAMP)

SHEET 136 OF 471



POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1700	W.B. C.S.A.H. 14	199+41.22	24.00 LT	930.18	EDGE OF SHOULDER, BEGIN RADIUS
	N.E. LOOP	710+40.39	36.41 RT		
1701	N.E. LOOP	710+26.60	17.30 RT	929.76	EDGE OF SHOULDER, RADIUS MIDPOINT
1702	N.E. LOOP	710+04.20	10.00 RT	929.35	EDGE OF SHOULDER, END RADIUS
1703	W.B. C.S.A.H. 14	199+41.22	62.00 LT		RADIUS POINT 30' R, 38' R
	N.E. LOOP	710+04.20	48.00 RT		
1704	W.B. C.S.A.H. 14	199+41.22	32.00 LT	929.91	BEGIN RADIUS
	N.E. LOOP	710+32.77	38.85 RT		
1705	N.E. LOOP	710+21.88	23.77 RT	929.50	RADIUS MIDPOINT
1706	N.E. LOOP	710+04.20	18.00 RT	929.08	END RADIUS
1707	N.E. LOOP	710+08.54	16.00 LT	928.50	BEGIN RADIUS
1708	N.E. LOOP	710+12.57	18.04 LT	928.38	RADIUS MIDPOINT
1709	W.B. C.S.A.H. 14	200+05.40	32.00 LT	928.26	END RADIUS
	N.E. LOOP	710+13.31	22.50 LT		
1710	W.B. C.S.A.H. 14	200+05.40	37.00 LT		RADIUS POINT 5' R
	N.E. LOOP	710+08.54	21.00 LT		
1711	W.B. C.S.A.H. 14	200+05.40	24.00 LT	928.53	EDGE OF SHOULDER
1712	W.B. C.S.A.H. 14	200+59.00	24.00 LT	926.97	EDGE OF SHOULDER
1713	W.B. C.S.A.H. 14	200+59.00	32.00 LT	926.70	BEGIN RADIUS
	N.E. RAMP	599+76.32	27.12 LT		
1714	N.E. RAMP	599+81.90	17.45 LT	926.47	RADIUS MIDPOINT
1715	N.E. RAMP	599+91.79	12.27 LT	926.24	END RADIUS, BEGIN RADIUS
1716	W.B. C.S.A.H. 14	200+59.00	52.00 LT		RADIUS POINT 20' R
	N.E. RAMP	599+95.75	31.88 LT		
1717	N.E. RAMP	600+03.11	10.57 LT	926.00	RADIUS MIDPOINT
1718	N.E. RAMP	600+14.54	10.00 LT	925.76	END RADIUS
1719	N.E. RAMP	601+08.49	8.00 RT	925.96	EDGE OF SHOULDER
1720	N.E. RAMP	600+81.50	13.40 RT	925.74	LIP OF CURB, EDGE OF SHOULDER
1721	N.E. RAMP	600+95.62	14.00 RT	925.70	BEGIN RADIUS
1722	N.E. RAMP	600+43.07	37.75 RT	924.04	RADIUS MIDPOINT
1723	W.B. C.S.A.H. 14	201+86.84	52.61 LT	922.37	END RADIUS
	N.E. RAMP	600+26.19	92.89 RT		
1724	W.B. C.S.A.H. 14	201+93.87	122.25 LT		RADIUS POINT 70' R
	N.E. RAMP	600+95.62	84.00 RT		
1725	N.E. RAMP	599+88.85	14.00 RT	925.56	BEGIN RADIUS
1726	N.E. RAMP	599+87.28	14.76 RT	925.44	RADIUS MIDPOINT
1727	W.B. C.S.A.H. 14	201+03.73	32.00 LT	925.31	END RADIUS
	N.E. RAMP	599+86.91	16.47 RT		
1728	W.B. C.S.A.H. 14	201+03.73	34.00 LT		RADIUS POINT 2' R
	N.E. RAMP	599+88.85	16.00 RT		
1729	N.E. RAMP	600+14.88	14.00 RT	925.43	BEGIN RADIUS
1730	N.E. RAMP	600+16.66	15.08 RT	925.36	RADIUS MIDPOINT
1731	N.E. RAMP	600+16.51	17.16 RT	925.29	END RADIUS, BEGIN RADIUS
1732	N.E. RAMP	600+14.88	16.00 RT		RADIUS POINT 2' R
1733	N.E. RAMP	600+07.19	37.30 RT	924.54	RADIUS MIDPOINT
1734	W.B. C.S.A.H. 14	201+49.78	40.43 LT	923.79	END RADIUS
	N.E. RAMP	600+05.82	59.45 RT		
1735	W.B. C.S.A.H. 14	201+56.18	100.08 LT		RADIUS POINT 60' R
	N.E. RAMP	600+65.36	52.00 RT		
1736	W.B. C.S.A.H. 14	201+72.55	38.00 LT	923.01	NOSE
1737	W.B. C.S.A.H. 14	201+72.55	32.00 LT	923.27	NOSE

NOTES:

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2. SEE CONSTRUCTION AND DRAINAGE PLANS FOR INFORMATION NOT SHOWN ON THIS SHEET.

9:19:23 AM
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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: **AARON VACEK**

Aaron Vacek

Date: **1-22-09** License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY A. VACEK

DESIGNED BY S. PRUSAK

CHECKED BY K. KRECH

COMM. NO. 0086509



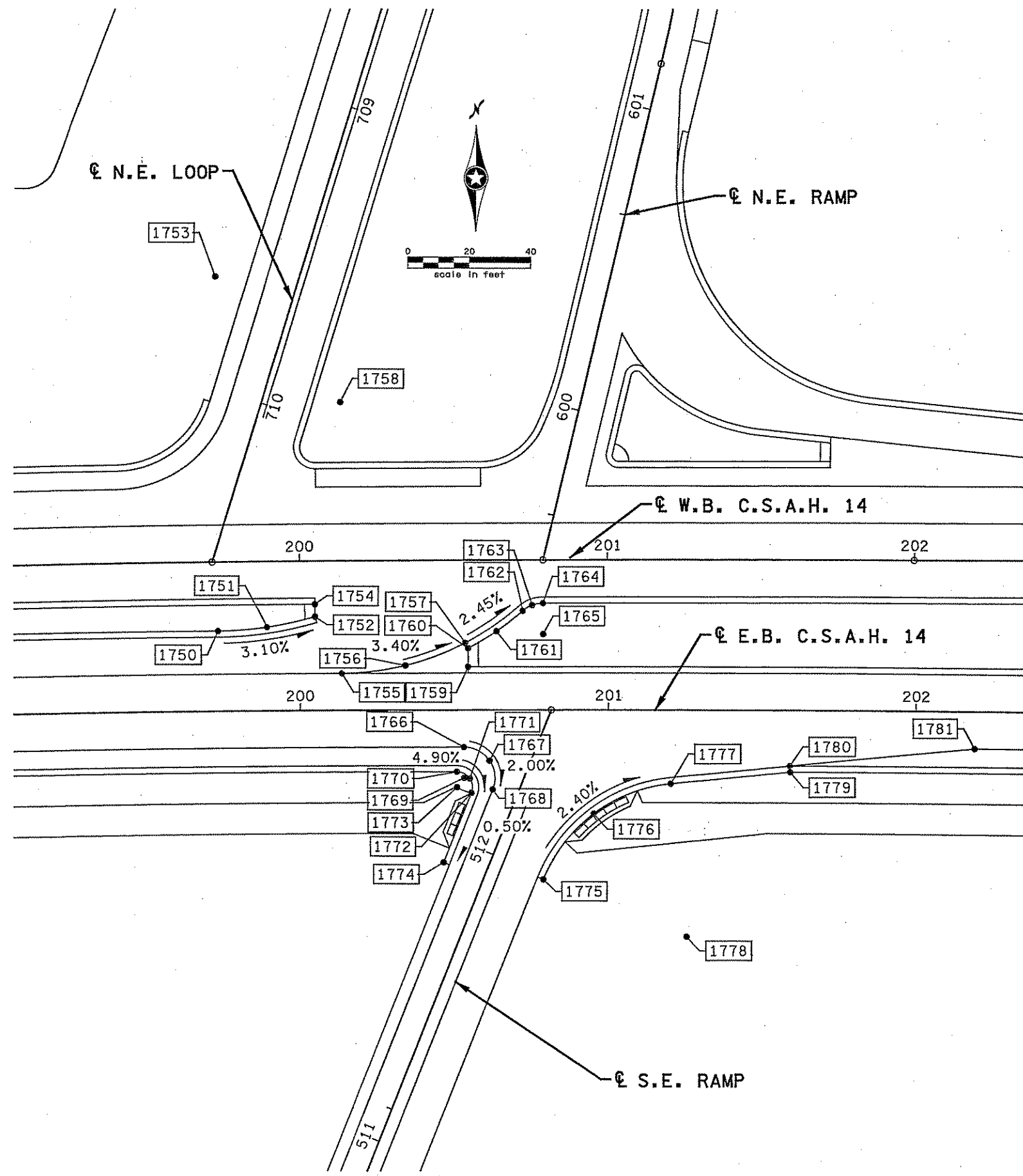
ANOKA COUNTY

INTERSECTION DETAILS

C.S.A.H. 14/T.H. 35E INTERCHANGE

(C.S.A.H 14/N.E. LOOP, N.E. RAMP)

SHEET 137 OF 471



POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1750	E.B. C.S.A.H. 14	199+73.68	26.00 LT	930.07	BEGIN RADIUS
1751	E.B. C.S.A.H. 14	199+89.50	27.11 LT	929.58	RADIUS MIDPOINT
1752	E.B. C.S.A.H. 14	200+05.01	30.42 LT	929.09	END RADIUS, NOSE
1753	E.B. C.S.A.H. 14	199+73.68	141.00 LT		RADIUS POINT 115' R
1754	E.B. C.S.A.H. 14	200+05.00	34.42 LT	929.26	NOSE
1755	E.B. C.S.A.H. 14	200+13.56	12.00 LT	929.30	GORE POINT, BEGIN RADIUS
1756	E.B. C.S.A.H. 14	200+34.20	14.48 LT	928.59	RADIUS MIDPOINT
1757	E.B. C.S.A.H. 14	200+53.66	21.78 LT	927.88	END RADIUS, LIP OF CURB
1758	E.B. C.S.A.H. 14	200+13.56	100.00 LT		RADIUS POINT 88' R, 90' R
1759	E.B. C.S.A.H. 14	200+54.58	14.00 LT	927.92	NOSE
1760	E.B. C.S.A.H. 14	200+54.58	20.00 LT	927.76	NOSE, BEGIN RADIUS
1761	E.B. C.S.A.H. 14	200+63.82	25.52 LT	927.50	RADIUS MIDPOINT
1762	E.B. C.S.A.H. 14	200+72.32	32.12 LT	927.23	END RADIUS, BEGIN RADIUS
1763	E.B. C.S.A.H. 15	200+75.37	33.95 LT	927.14	RADIUS MIDPOINT
1764	E.B. C.S.A.H. 14	200+78.86	34.59 LT	927.06	END RADIUS
1765	E.B. C.S.A.H. 14	200+78.89	24.59 LT		RADIUS POINT 10' R
1766	E.B. C.S.A.H. 14	200+53.08	12.00 LT	927.55	EDGE OF SHOULDER, BEGIN RADIUS
	S.E. RAMP	512+28.87	21.76 RT		
1767	S.E. RAMP	512+27.89	12.41 LT	927.35	EDGE OF SHOULDER, RADIUS MIDPOINT
1768	S.E. RAMP	512+19.60	8.00 LT	927.16	EDGE OF SHOULDER, END RADIUS
1769	E.B. C.S.A.H. 14	200+53.08	22.00 RT		RADIUS POINT 10' R
	S.E. RAMP	512+19.60	18.00 LT		
1770	E.B. C.S.A.H. 14	200+50.78	20.00 RT	927.35	BEGIN RADIUS
	S.E. RAMP	512+20.59	20.88 LT		
1771	S.E. RAMP	512+20.10	16.21 LT	927.11	RADIUS MIDPOINT
1772	S.E. RAMP	512+15.96	14.00 LT	926.87	END RADIUS
1773	E.B. C.S.A.H. 14	200+50.78	25.00 RT		RADIUS POINT 5' R
	S.E. RAMP	512+15.96	19.00 LT		
1774	S.E. RAMP	511+91.61	14.00 RT	926.75	FLOWLINE
1775	S.E. RAMP	511+98.54	18.00 RT	926.31	BEGIN RADIUS
1776	S.E. RAMP	512+24.49	25.26 RT	925.66	RADIUS MIDPOINT
1777	E.B. C.S.A.H. 14	201+20.29	23.88 RT	925.00	END RADIUS
	S.E. RAMP	512+42.90	44.93 RT		
1778	E.B. C.S.A.H. 14	201+25.31	73.63 RT		RADIUS POINT 50' R
	S.E. RAMP	511+98.54	68.00 RT		
1779	E.B. C.S.A.H. 14	201+59.10	20.00 RT	924.05	FLOWLINE
1780	E.B. C.S.A.H. 14	201+59.00	18.00 RT	924.17	LIP OF CURB, EDGE OF SHOULDER
1781	E.B. C.S.A.H. 14	202+19.00	12.00 RT	922.73	EDGE OF SHOULDER

NOTES:

1. OFFSETS, ELEVATIONS, AND RADIUS LENGTHS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT INCLUDE DRAINAGE STRUCTURE SUMPS.
2. SEE CONSTRUCTION AND DRAINAGE PLANS FOR INFORMATION NOT SHOWN ON THIS SHEET.

9/19/24 AM
 H:\Projects\5509\HI-MUN\Plan\0261429_INS.DGN

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: **AARON VACEK**
Aaron Vacek
 Date: **5-22-09** License # **44277**

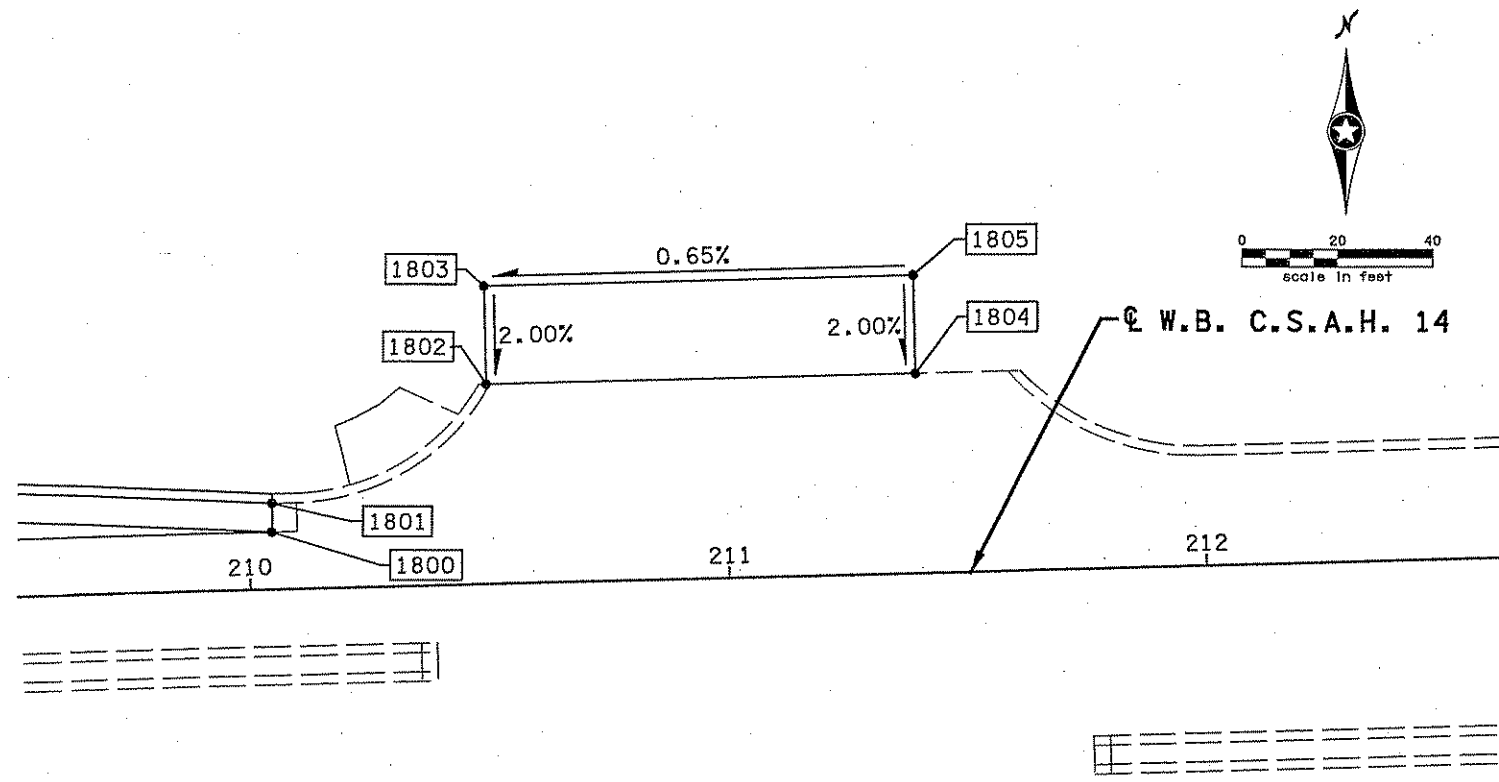
STATE PROJECT NO.
 0282-25 (TH 35E)
 STATE PROJECT NO.
 02-614-28
 COUNTY PROJECT NO.
 X
 CITY PROJECT NO. X

DRAWN BY
 A. VACEK
 DESIGNED BY
 S. PRUSAK
 CHECKED BY
 K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 INTERSECTION DETAILS
C.S.A.H. 14/T.H. 35E INTERCHANGE
 (C.S.A.H 14/S.E. RAMP)

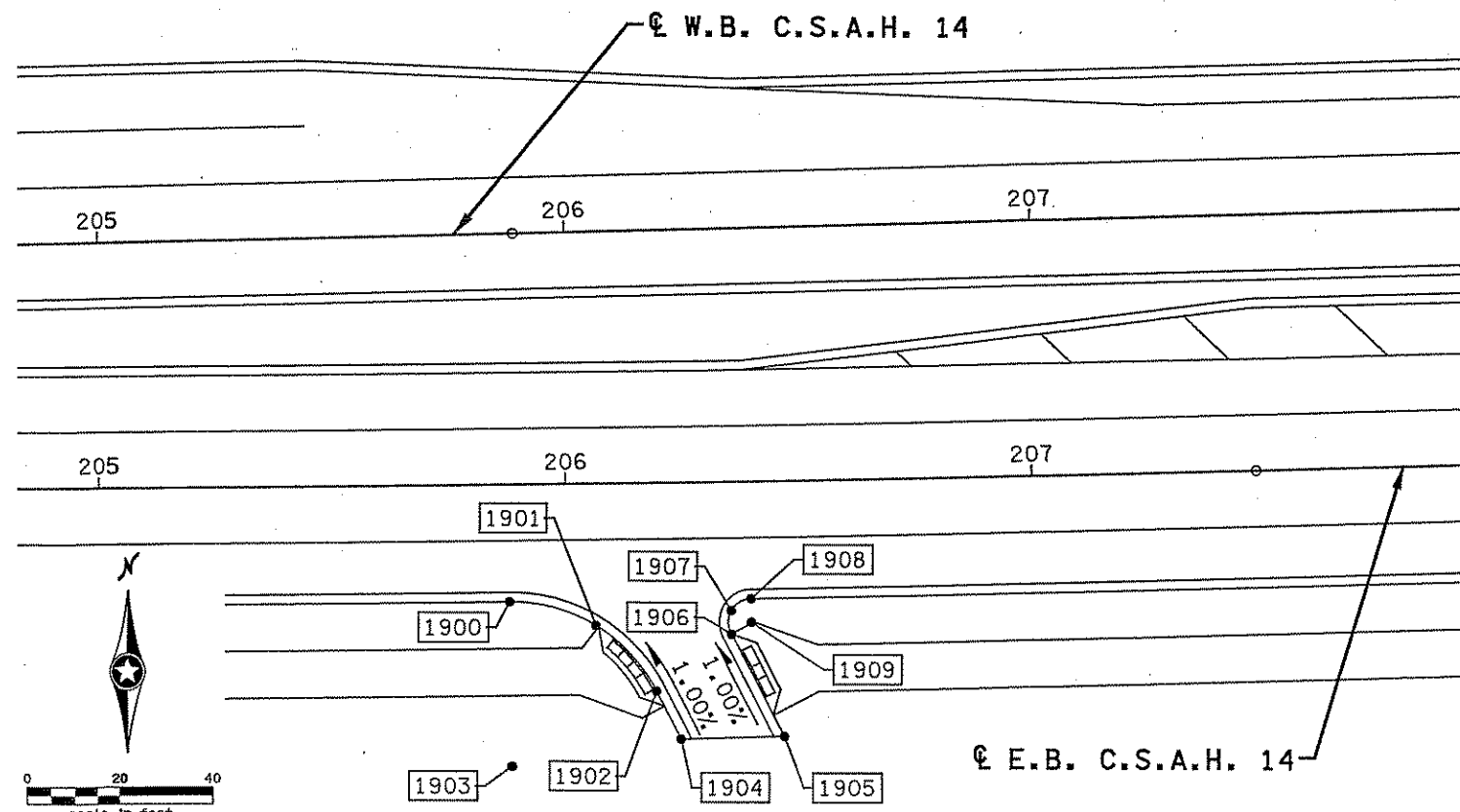
SHEET
138
 OF
471



POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1800	W.B. C.S.A.H. 14	210+04.73	12.00 LT	919.46	MATCH EXISTING
1801	W.B. C.S.A.H. 14	210+04.93	18.00 LT	919.12	MATCH EXISTING
1802	W.B. C.S.A.H. 14	210+50.00	41.61 LT	918.78	MATCH EXISTING
1803	W.B. C.S.A.H. 14	210+50.00	62.00 LT	919.19	EDGE OF PAVEMENT
1804	W.B. C.S.A.H. 14	211+40.00	41.61 LT	919.35	MATCH EXISTING
1805	W.B. C.S.A.H. 14	211+40.00	62.00 LT	919.76	EDGE OF PAVEMENT

NOTES:

1. OFFSETS, ELEVATIONS, AND RADIUS LENGTHS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT INCLUDE DRAINAGE STRUCTURE SUMPS.
2. SEE CONSTRUCTION AND DRAINAGE PLANS FOR INFORMATION NOT SHOWN ON THIS SHEET.



POINT NO.	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
1900	E.B. C.S.A.H. 14	205+87.67	25.00 RT	917.32	BEGIN RADIUS
1901	E.B. C.S.A.H. 14	206+06.01	30.24 RT	917.51	RADIUS MIDPOINT
1902	E.B. C.S.A.H. 14	206+18.84	44.38 RT	917.71	END RADIUS
1903	E.B. C.S.A.H. 14	205+87.67	60.00 RT		RADIUS POINT 35' R
1904	E.B. C.S.A.H. 14	206+23.91	54.62 RT	917.82	FLOWLINE
1905	E.B. C.S.A.H. 14	206+46.02	54.40 RT	917.62	FLOWLINE
1906	E.B. C.S.A.H. 14	206+35.10	32.49 RT	917.37	BEGIN RADIUS
1907	E.B. C.S.A.H. 14	206+35.11	27.50 RT	917.32	RADIUS MIDPOINT
1908	E.B. C.S.A.H. 14	206+39.42	25.00 RT	917.27	END RADIUS
1909	E.B. C.S.A.H. 14	206+39.42	30.00 RT		RADIUS POINT 5' R

NOTES:

1. OFFSETS, ELEVATIONS, AND RADIUS LENGTHS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT INCLUDE DRAINAGE STRUCTURE SUMPS.
2. SEE CONSTRUCTION AND DRAINAGE PLANS FOR INFORMATION NOT SHOWN ON THIS SHEET.

9/19/25 AM 4/20/2009 H:\Proj\adrs\5509\HI-MUP\an\0261429_IN6.DGN

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.
 Pr Int Name: **AARON VACEK**
Aaron Vacek
 Date: *7-22-09* License # 44277

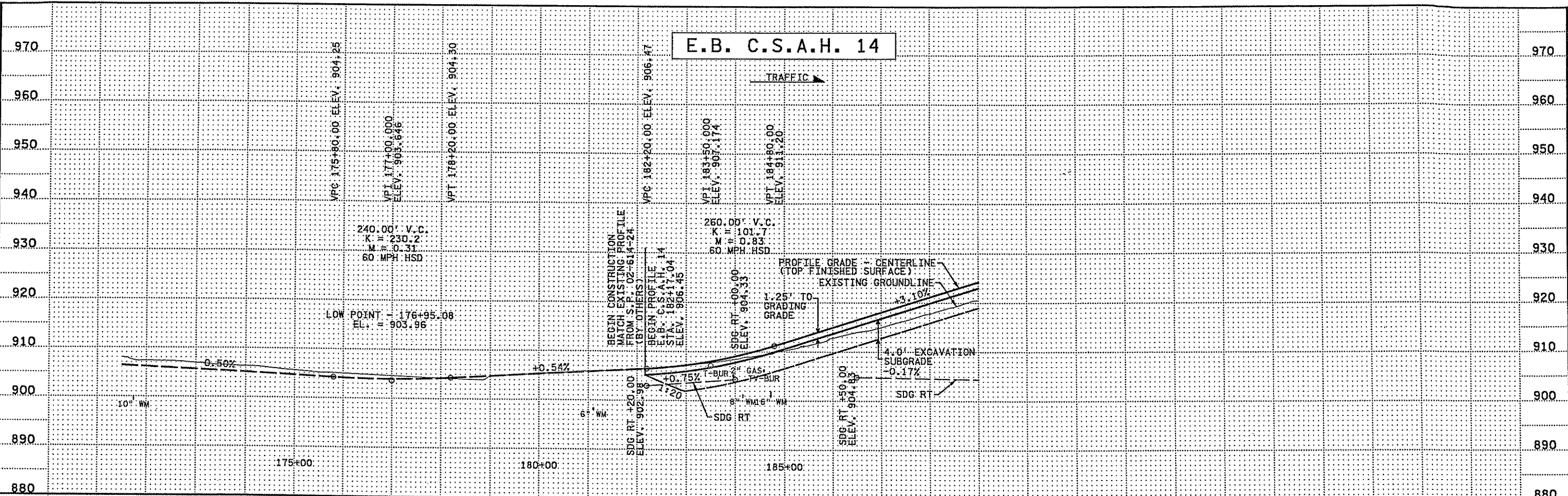
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY A. VACEK
 DESIGNED BY S. PRUSAK
 CHECKED BY K. KRECH
 COMM. NO. 0086509

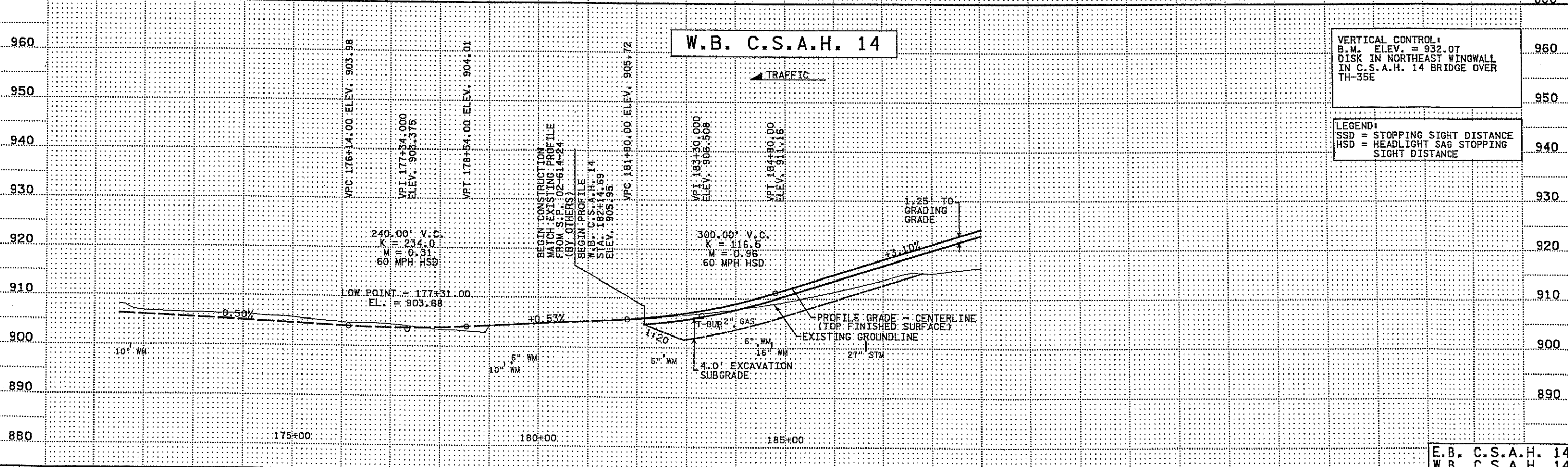


ANOKA COUNTY
 INTERSECTION DETAILS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 (C.S.A.H. 14/OTTER LAKE ROAD, ENTRANCE)

SHEET 139 OF 471



E.B. C.S.A.H. 14



W.B. C.S.A.H. 14

VERTICAL CONTROL:
 B.M. ELEV. = 932.07
 DISK IN NORTHEAST WINGWALL
 IN C.S.A.H. 14 BRIDGE OVER
 TH-35E

LEGEND:
 SSD = STOPPING SIGHT DISTANCE
 HSD = HEADLIGHT SAG STOPPING
 SIGHT DISTANCE

E.B. C.S.A.H. 14
 W.B. C.S.A.H. 14

2:11:55 PM
 7/21/2009
 H:\Projects\6509\HT-MU\Plan\0261429_PRI.DGN

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: **AARON VACEK**

Aaron Vacek

Date: **8-26-09** License #: **44277**

STATE PROJECT NO.
 0282-25 (TH 35E)

STATE PROJECT NO.
 02-614-28

COUNTY PROJECT NO.
 X

CITY PROJECT NO. X

DRAWN BY
 V. MICHELS

DESIGNED BY
 A. VACEK

CHECKED BY
 S. PRUSAK

COMM. NO. 0086509



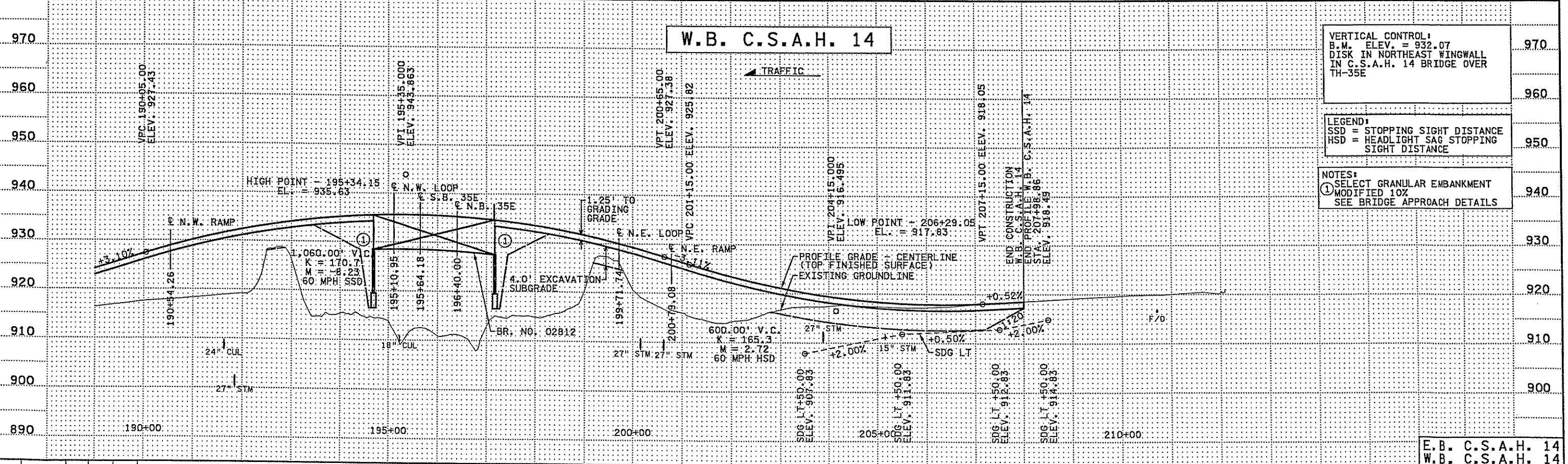
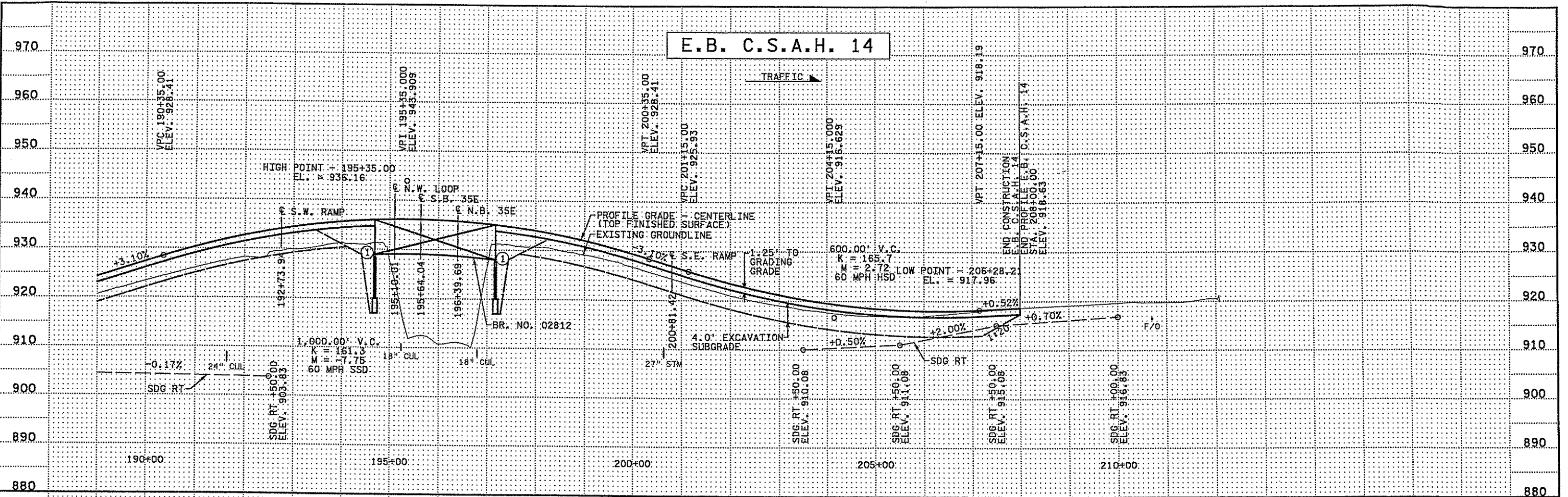
ANOKA COUNTY

PROFILES

C.S.A.H. 14/T.H. 35E INTERCHANGE

C.S.A.H. 14

SHEET
 140
 OF
 471



VERTICAL CONTROL:
 B.M. ELEV. = 932.07
 DISK IN NORTHEAST WINGWALL
 IN C.S.A.H. 14 BRIDGE OVER
 TH-35E

LEGEND:
 SSD = STOPPING SIGHT DISTANCE
 HSD = HEADLIGHT SAG STOPPING
 SIGHT DISTANCE

NOTES:
 ① SELECT GRANULAR EMBANKMENT
 MODIFIED 10%
 SEE BRIDGE APPROACH DETAILS

2:11:57 PM
 7/21/2009
 H:\Projects\6509\NH1-MU\Plan\0261429_PR2.DGN

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: **AARON VACEK**

Aaron Vacek

Date: 8-20-09 License #: 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
A. VACEK

CHECKED BY
S. PRUSAK

COMM. NO. 0086509



ANOKA COUNTY

PROFILES

C.S.A.H. 14/T.H. 35E INTERCHANGE

C.S.A.H. 14

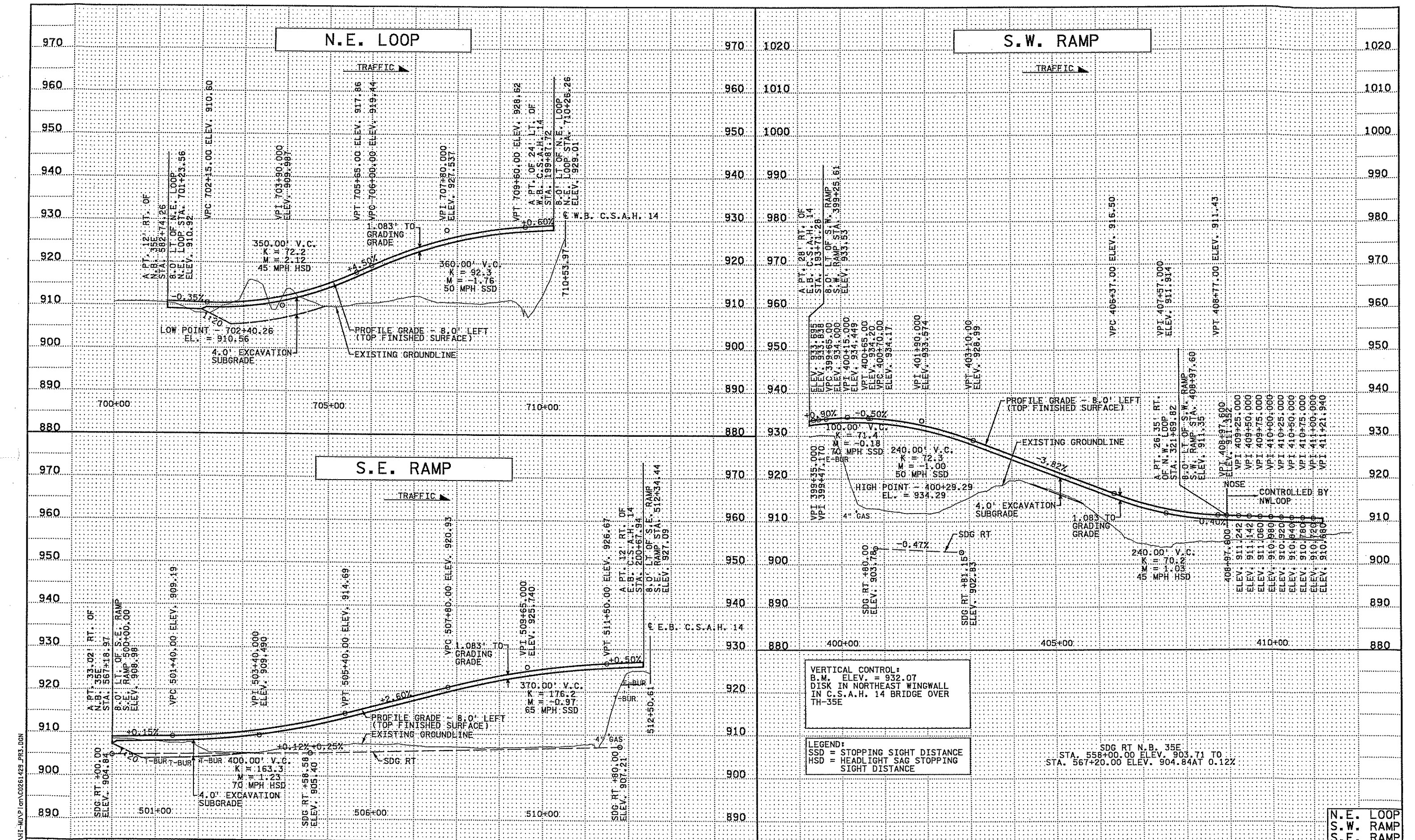
SHEET

141

OF

471

E.B. C.S.A.H. 14
 W.B. C.S.A.H. 14



VERTICAL CONTROL:
 B.M. ELEV = 932.07
 DISK IN NORTHEAST WINGWALL
 IN C.S.A.H. 14 BRIDGE OVER
 TH-35E

LEGEND:
 SSD = STOPPING SIGHT DISTANCE
 HSD = HEADLIGHT SAG STOPPING
 SIGHT DISTANCE

SDG RT N.B. 35E
 STA. 558+00.00 ELEV. 903.71 TO
 STA. 567+20.00 ELEV. 904.84 AT 0.12%

9:57:52 AM
 8/19/2009
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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: **AARON VACEK**

Date: 8-19-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
A. VACEK

CHECKED BY
S. PRUSAK

COMM. NO. 0086509



ANOKA COUNTY

PROFILES

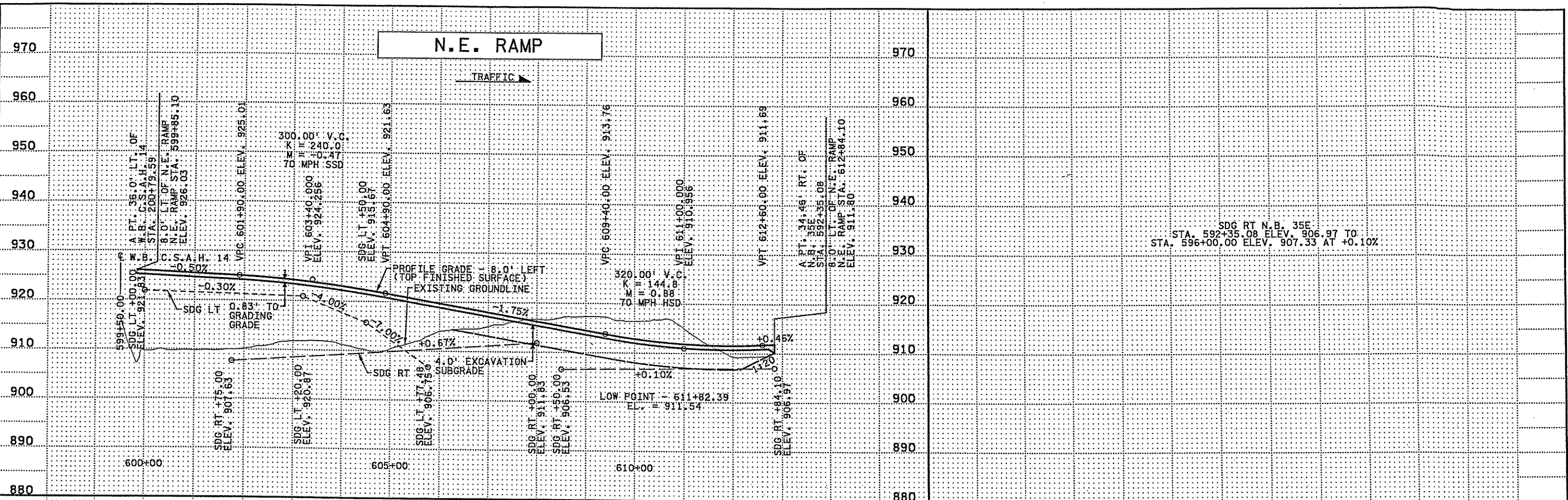
C.S.A.H. 14/T.H. 35E INTERCHANGE

N.E. LOOP, S.W. RAMP, S.E. RAMP

SHEET
142
OF
471

N.E. RAMP

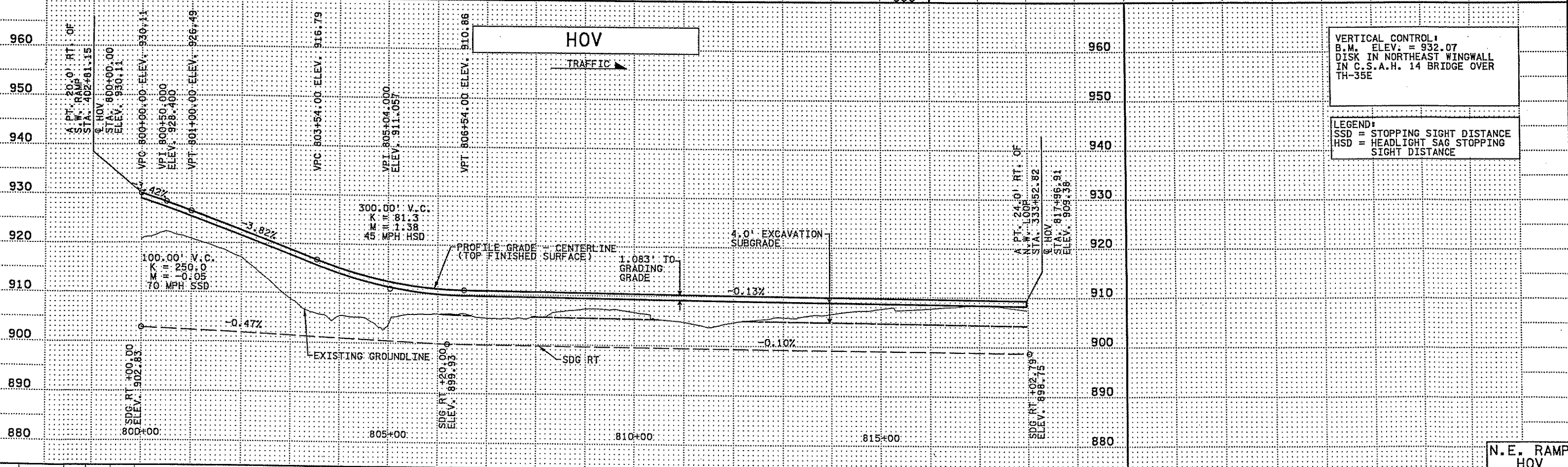
TRAFFIC →



SDG RT N.B. 35E
STA. 592+35.08 ELEV. 906.97 TO
STA. 596+00.00 ELEV. 907.33 AT +0.10%

HOV

TRAFFIC →



VERTICAL CONTROL:
B.M. ELEV. = 932.07
DISK IN NORTHEAST WINGWALL
IN C.S.A.H. 14 BRIDGE OVER
TH-35E

LEGEND:
SSD = STOPPING SIGHT DISTANCE
HSD = HEADLIGHT SAG STOPPING
SIGHT DISTANCE

N.E. RAMP
HOV

2/11/09 11:59 PM
7/21/2009
H:\V\proj\606509\N1\...P\csm\0261429_PR4.DGN

NO	DATE	BY	CKD	APPR	REVISION

... \N1-MU\Plan\csm\0261429_PR4.DGN

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

Print Name: AARON VACEK
Aaron Vacek
Date: 2-26-09 License #: 44277

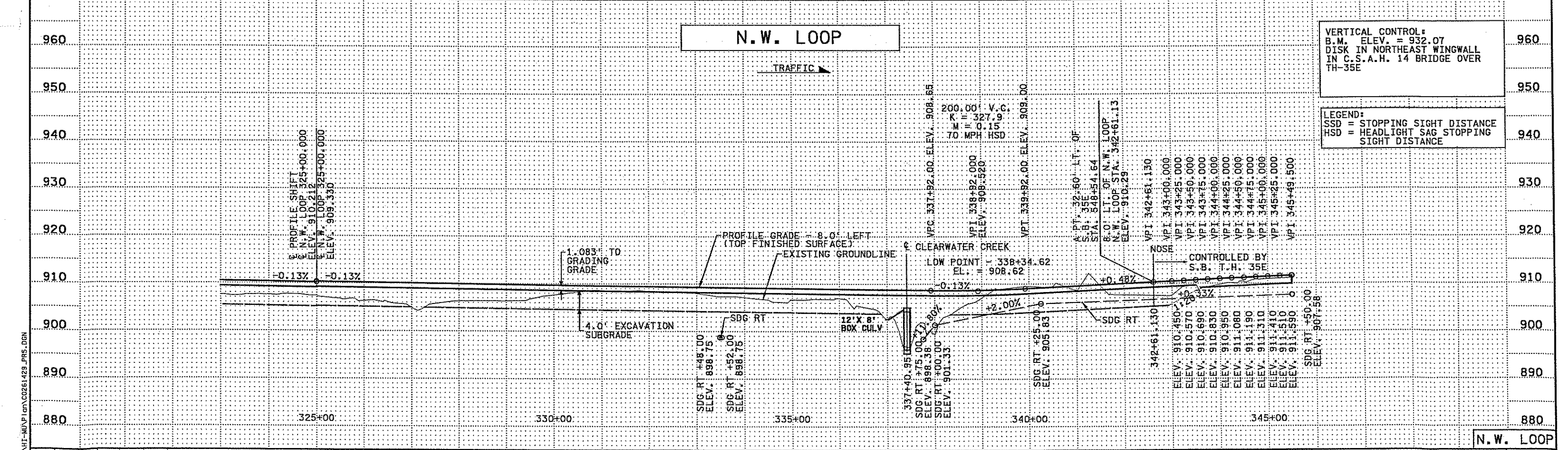
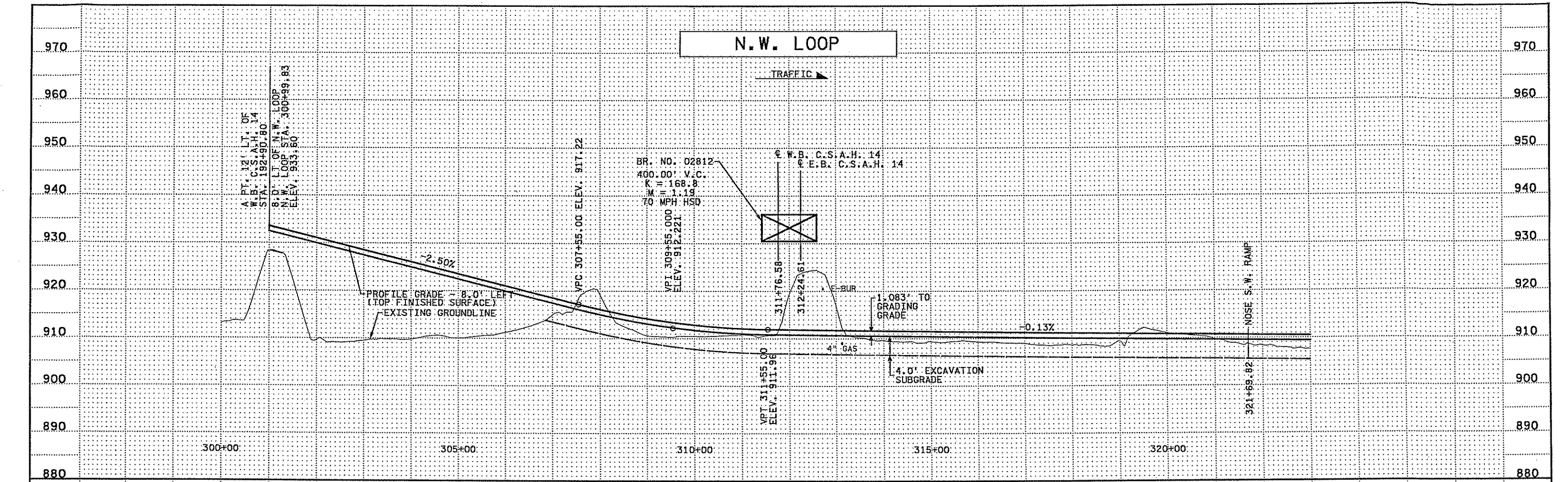
STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-614-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

DRAWN BY
V. MICHELS
DESIGNED BY
A. VACEK
CHECKED BY
S. PRUSAK
COMM. NO. 0066509



ANOKA COUNTY
PROFILES
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.E. RAMP, HOV

SHEET
143
OF
471



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: AARON VACEK
 Date: 8-19-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY A. VACEK
 CHECKED BY S. PRUSAK
 COMM. NO. 0086509



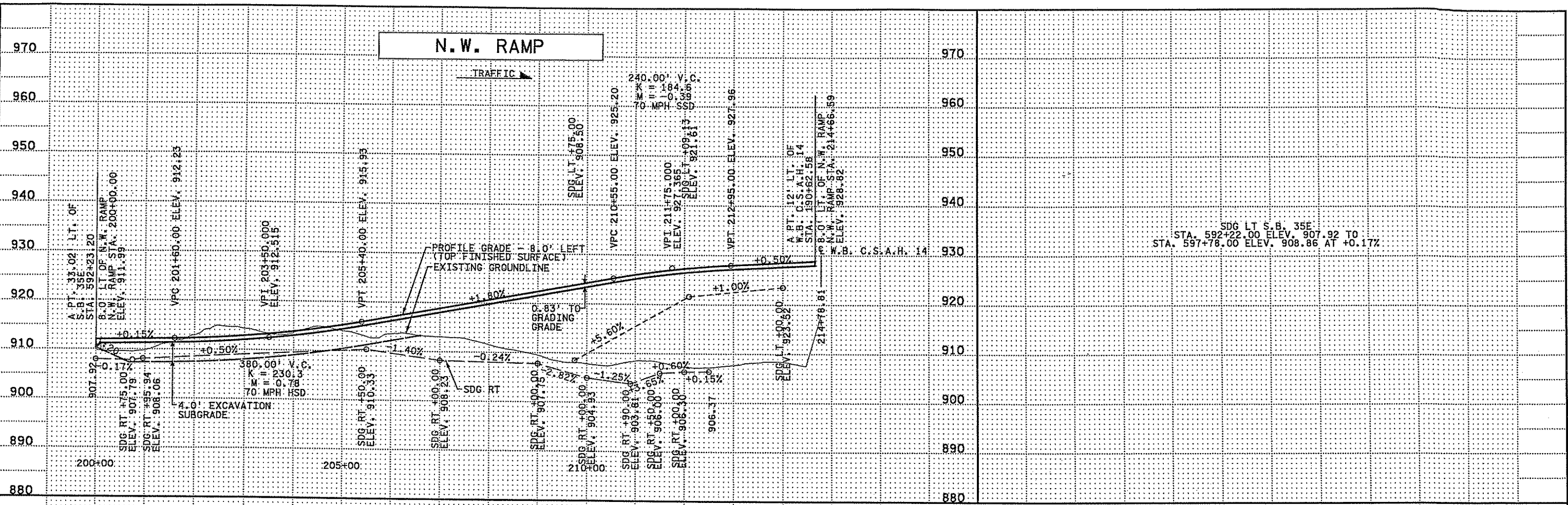
ANOKA COUNTY
 PROFILES
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.W. LOOP

SHEET 144 OF 471

9/17/09 AM 8:19/2009
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 ...HI-MUV\plan\0261429_PR5.DGN

N.W. RAMP

TRAFFIC →



SDG LT S.B. 35E
STA. 592+22.00 ELEV. 907.92 TO
STA. 597+78.00 ELEV. 908.86 AT +0.17%

VERTICAL CONTROL:
B.M. ELEV. = 932.07
DISK IN NORTHEAST WINGWALL
IN C.S.A.H. 14 BRIDGE OVER
TH-35E

LEGEND:
SSD = STOPPING SIGHT DISTANCE
HSD = HEADLIGHT SAG STOPPING
SIGHT DISTANCE

2/12/2009 7:21:20 AM H:\proj\66509\HI...1\en\0261429_PR6.DGN

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: AARON VACEK
Aaron Vacek
Date: 8-26-09 License #: 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
A. VACEK

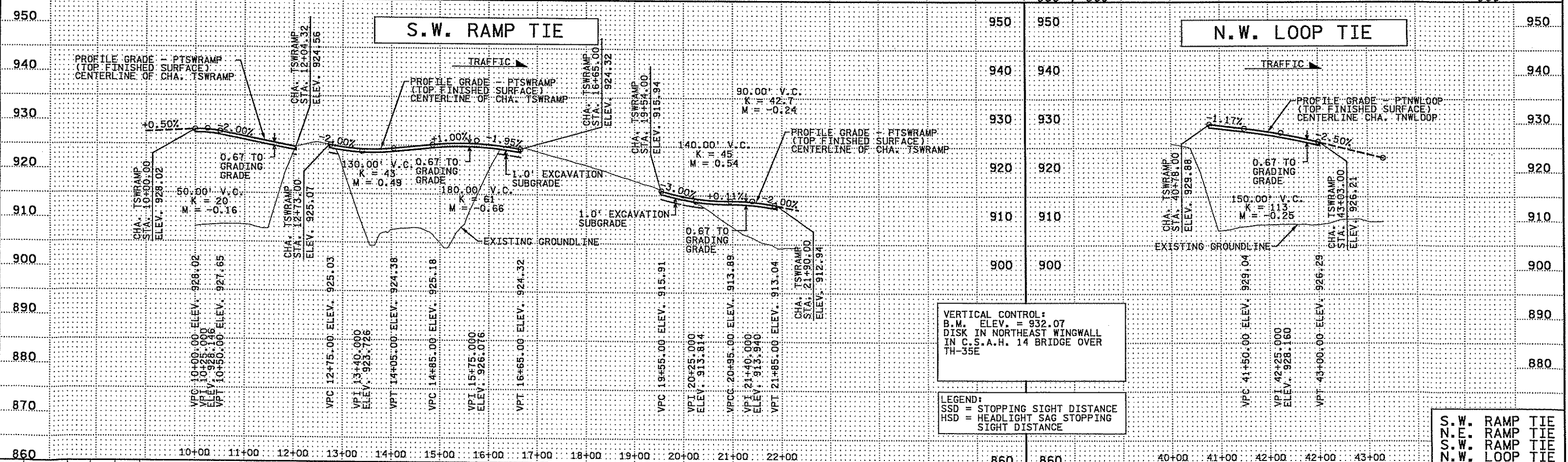
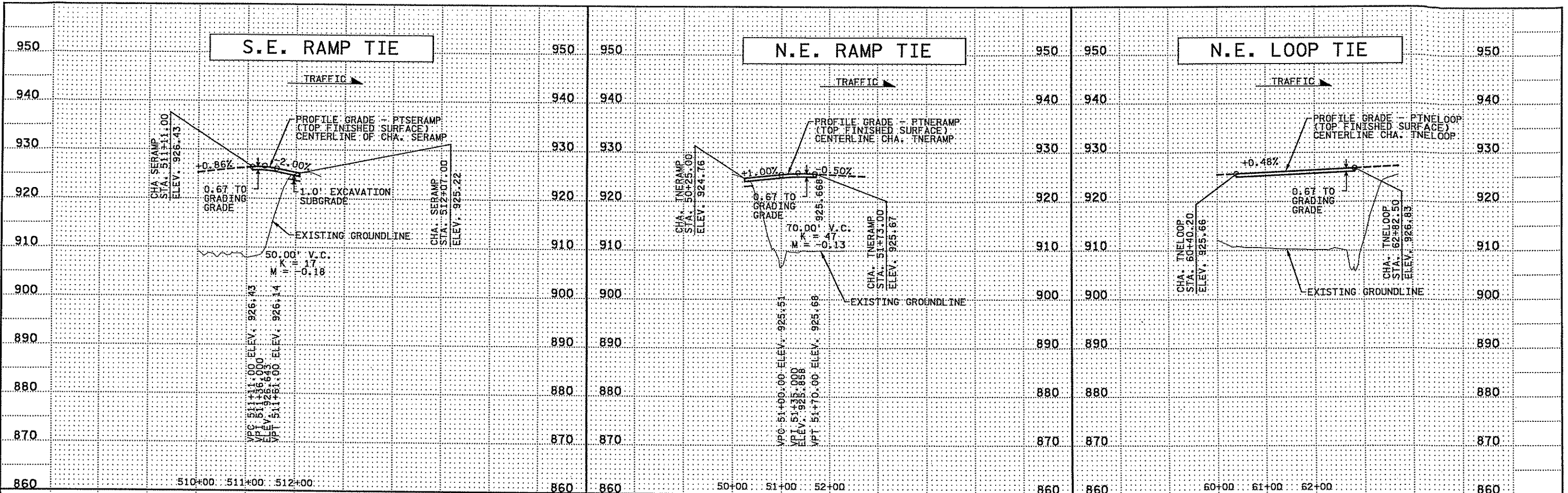
CHECKED BY
S. PRUSAK

COMM. NO. 0086509



ANOKA COUNTY
PROFILES
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. RAMP

N.W. RAMP
SHEET
145
OF
471



VERTICAL CONTROL:
 B.M. ELEV. = 932.07
 DISK IN NORTHEAST WINGWALL
 IN C.S.A.H. 14 BRIDGE OVER
 TH-35E

LEGEND:
 SSD = STOPPING SIGHT DISTANCE
 HSD = HEADLIGHT SAG STOPPING
 SIGHT DISTANCE

S.W. RAMP TIE
 N.E. RAMP TIE
 S.W. RAMP TIE
 N.W. LOOP TIE

9:57:55 AM
 8/19/2009
 R:\Projects\6509\VI-MUN\PI\an\c0261429_PRT.DGN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: AARON VACEK Date: 8-19-09 License #: 44277				STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X		DRAWN BY A. VACEK DESIGNED BY K. LUDWIG CHECKED BY A. VACEK COMM. NO. 0086509		SRF CONSULTING GROUP, INC. ANOKA COUNTY PROFILES C.S.A.H. 14/T.H. 35E INTERCHANGE TEMPORARY PROFILES		SHEET 146 OF 471
NO DATE BY CKD APPR REVISION				\VI-MUN\PI\an\c0261429_PRT.DGN						

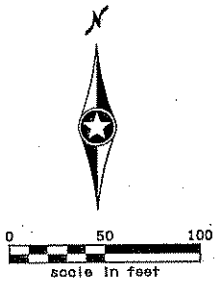
LEGEND

== PROPOSED ROADWAY

▨ SUPERELEVATION TRANSITION

THIS LEGEND APPLIES TO ALL SUPERELEVATION PLAN SHEETS.

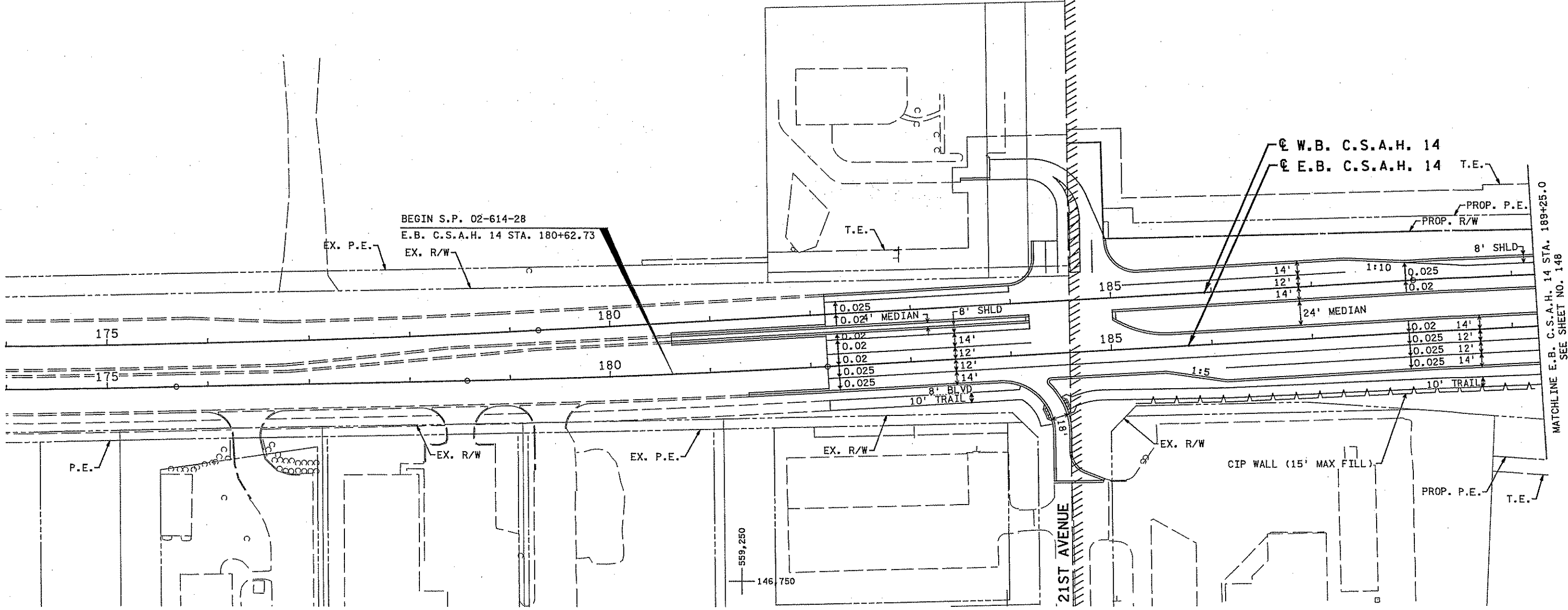
GENERAL NOTES:
ALL CROSS SLOPES ARE IN FT./FT.



559,750
147,500

559,750
147,500

CITY OF CENTERVILLE
CITY OF LINO LAKES



MATCHLINE E.B. C.S.A.H. 14 STA. 189+25.0
SEE SHEET NO. 148

9:43:51 AM
M:\2008\Projects\5509\HI-MUN\Plan\0261429_SE1.DGN

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: **AARON VACEK**

Date: *6-22-09* License # 44277

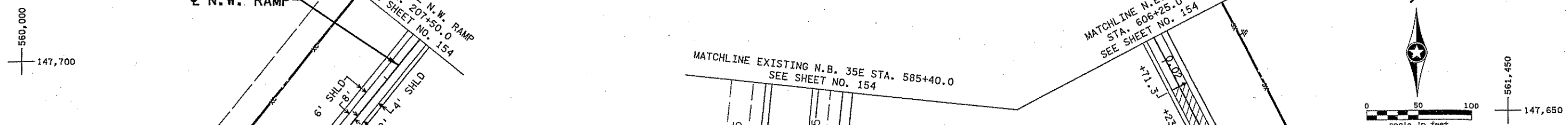
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY K. KRECH
CHECKED BY A. VACEK
COMM. NO. 0086509

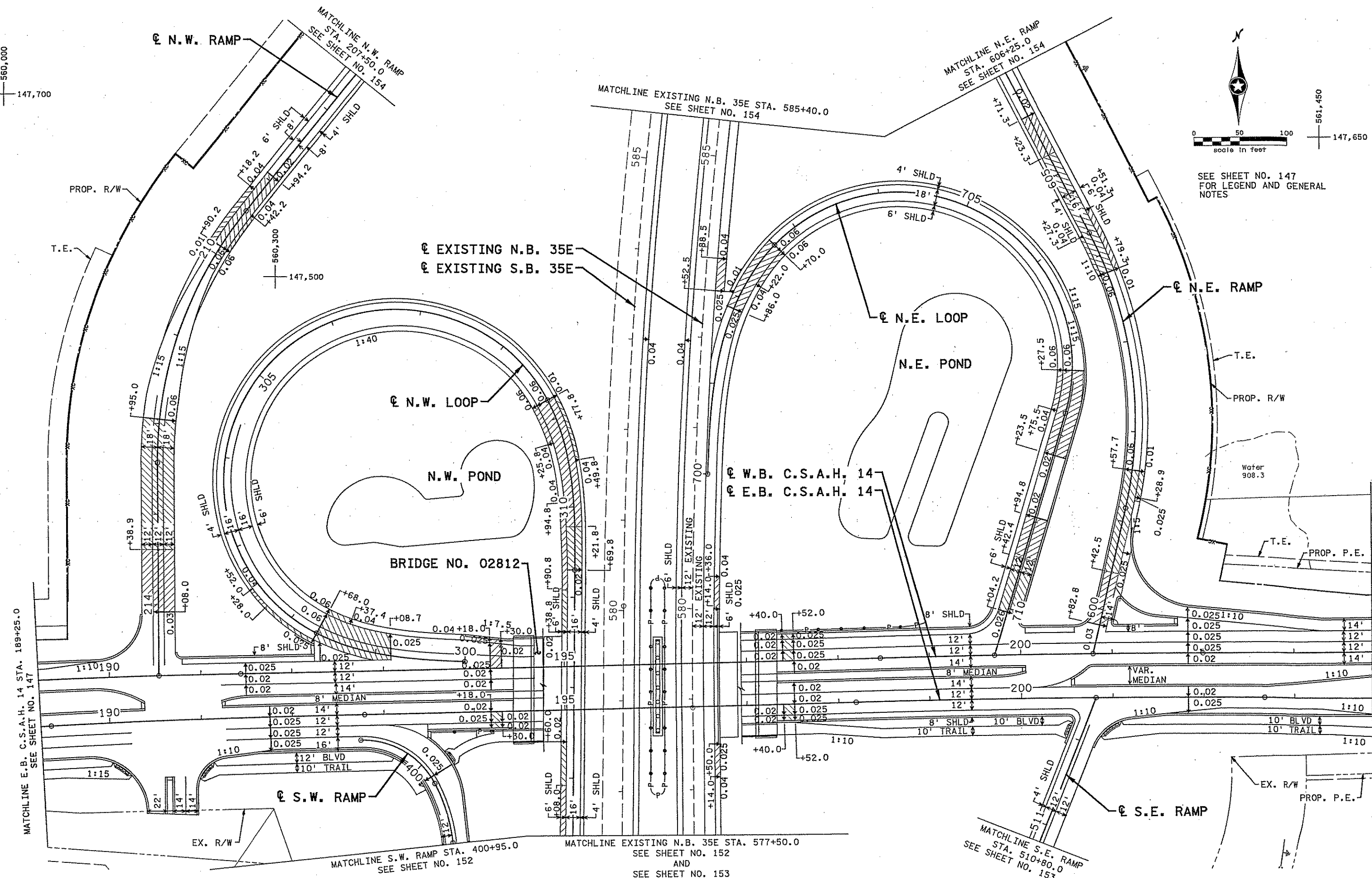
SRF CONSULTING GROUP, INC.

ANOKA COUNTY
SUPERELEVATION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14

SHEET 147 OF 471



SEE SHEET NO. 147
FOR LEGEND AND GENERAL
NOTES



1:19:08 PM
 4/28/2009
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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: **AARON VACEK**

Aaron Vacek

Date: 5-2-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
K. KRECH

CHECKED BY
A. VACEK

COMM. NO. 0086509



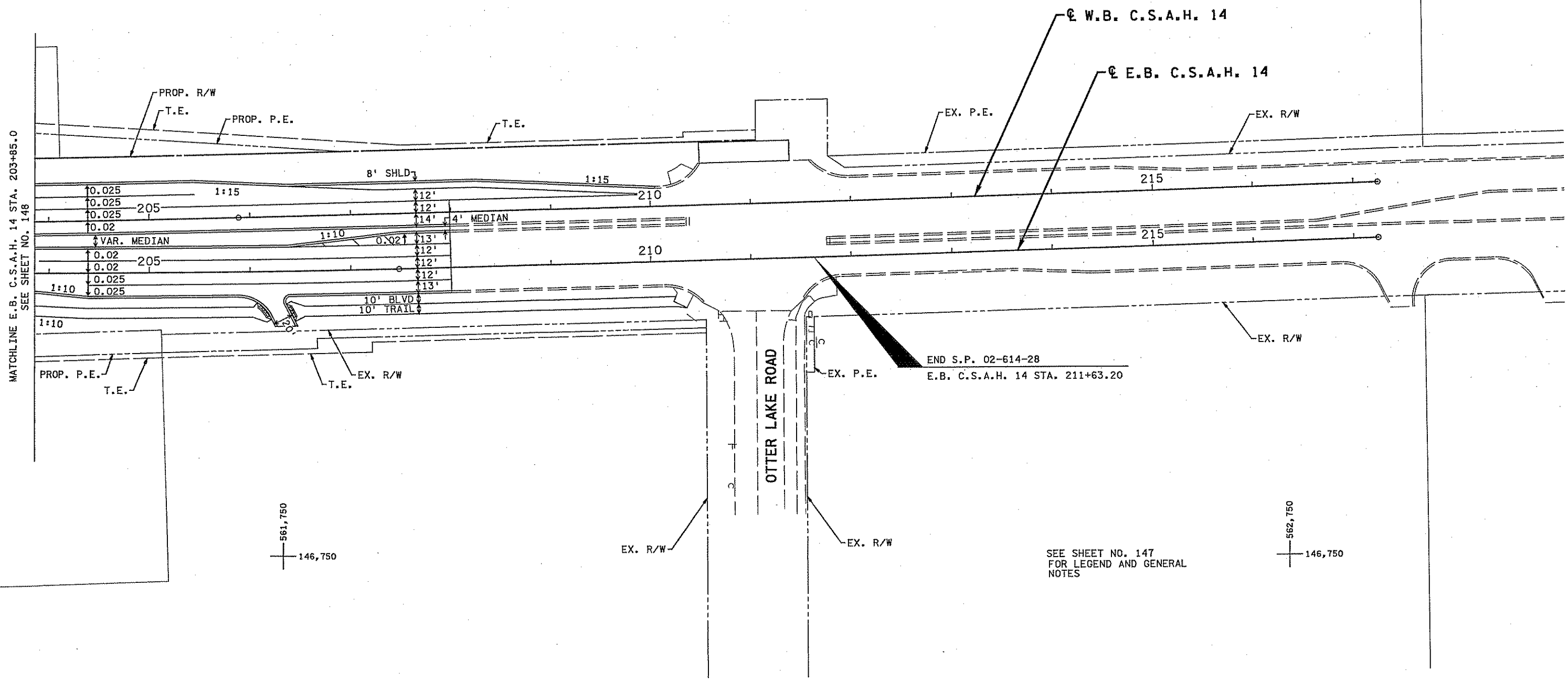
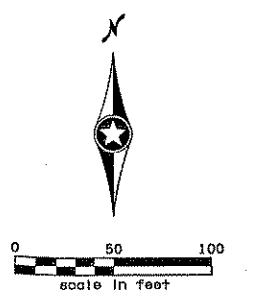
ANOKA COUNTY

SUPERELEVATION PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14, N.W. RAMP, N.E. RAMP, N.W. LOOP,
 N.E. LOOP, S.W. RAMP, S.E. RAMP

SHEET
148
OF
471

562,750
147,500



MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 148

END S.P. 02-614-28
E.B. C.S.A.H. 14 STA. 211+63.20

SEE SHEET NO. 147
FOR LEGEND AND GENERAL
NOTES

561,750
146,750

562,750
146,750

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4/20/2009
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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: AARON VACEK
Aaron Vacek
Date: 5-22-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-614-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

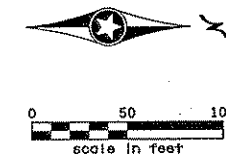
DRAWN BY
V. MICHELS
DESIGNED BY
K. KRECH
CHECKED BY
A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
SUPERELEVATION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14

SHEET
149
OF
471

560,250
142,500



560,250
143,750

SEE SHEET NO. 147
FOR LEGEND AND GENERAL
NOTES

☉ N.W. LOOP

EX. R/W

☉ EXISTING S.B. 35E

10' SHLD

0.04 1:50

6' SHLD

345 344

12' EXISTING

12' EXISTING

6' SHLD

BEGIN S.P. 0282-25

EXISTING N.B. 35E STA. 532+42.69

535

540

545

☉ EXISTING N.B. 35E

OTTER LAKE ROAD

EX. R/W

561,000
142,500

MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 151

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: **AARON VACEK**
Aaron Vacek
Date: 5-22-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-614-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

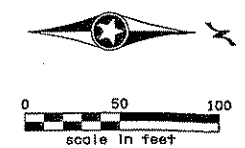
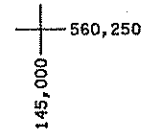
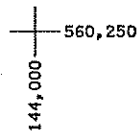
DRAWN BY
V. MICHELS
DESIGNED BY
K. KRECH
CHECKED BY
A. VACEK
COMM. NO. 0086509



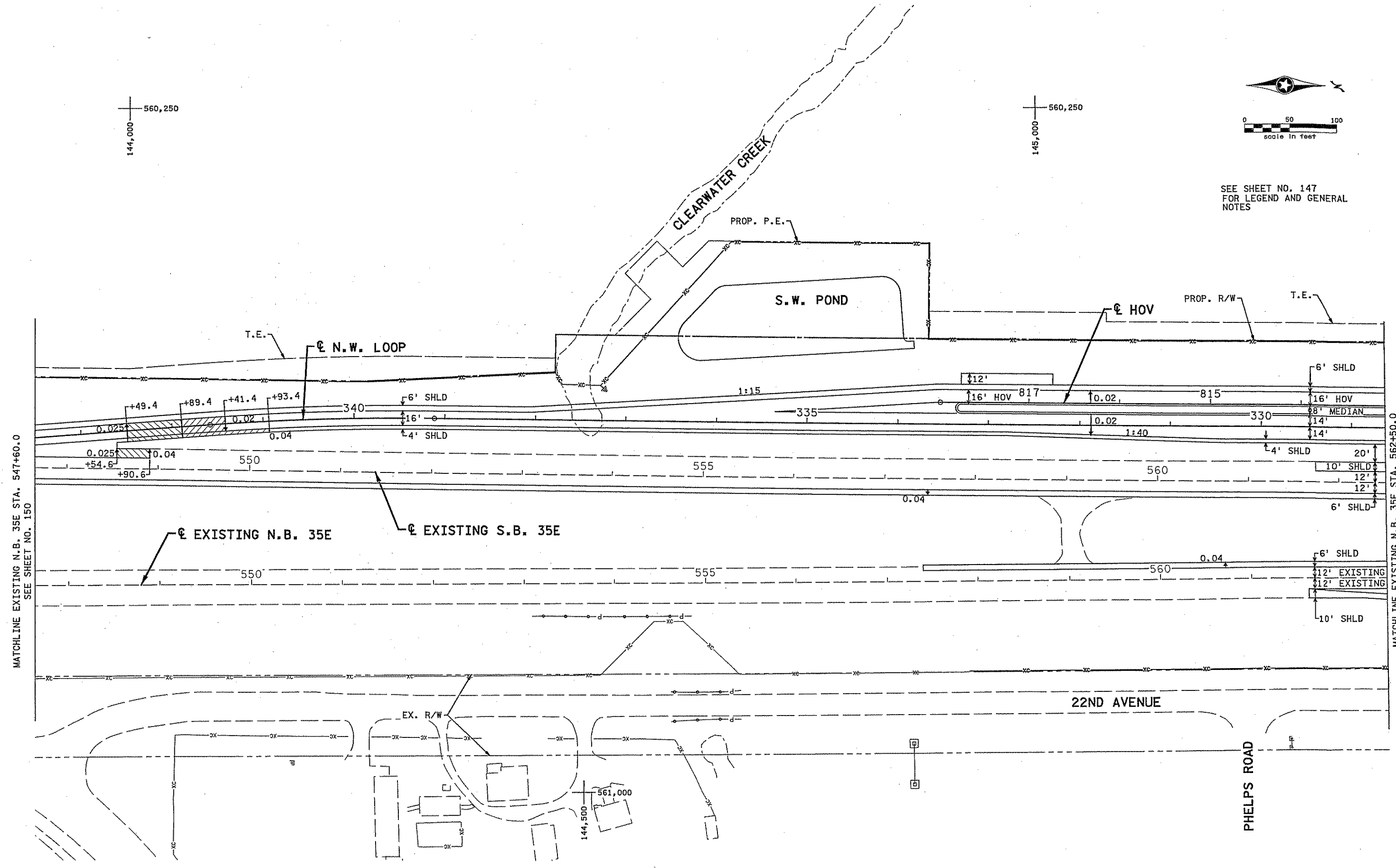
ANOKA COUNTY
SUPERELEVATION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP

SHEET
150
OF
471

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SEE SHEET NO. 147
FOR LEGEND AND GENERAL
NOTES



MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 150

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 152

AND
SEE SHEET NO. 153

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4/20/2009
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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: **AARON VACEK**
Date: *5-22-09* License # 44277

STATE PROJECT NO. 0262-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

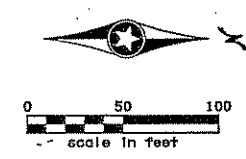
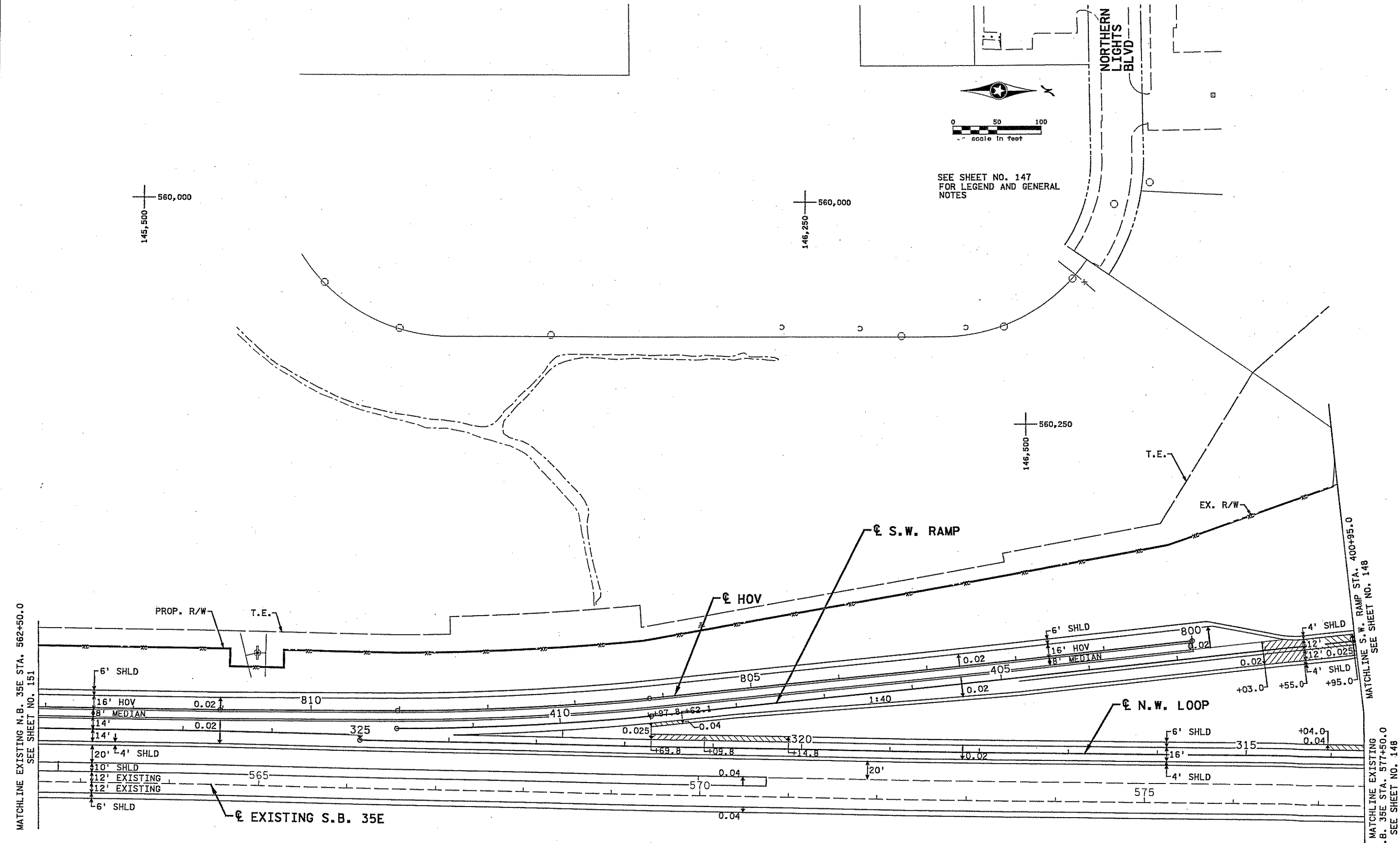
DRAWN BY V. MICHELS
DESIGNED BY K. KRECH
CHECKED BY A. VACEK
COMM. NO. 0086509



ANOKA COUNTY
SUPERELEVATION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP, HOV

SHEET 151 OF 471

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7/21/2009
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SEE SHEET NO. 147
FOR LEGEND AND GENERAL
NOTES

560,000
145,500

560,000
146,250

560,250
146,500

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 151

MATCHLINE S.W. RAMP STA. 400+95.0
SEE SHEET NO. 148

MATCHLINE EXISTING
N.B. 35E STA. 577+50.0
SEE SHEET NO. 148

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.
Pr Int Name: **AARON VACEK**
Aaron Vacek
Date: **8-06-09** License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY K. KRECH
CHECKED BY A. VACEK
COMM. NO. 0086509



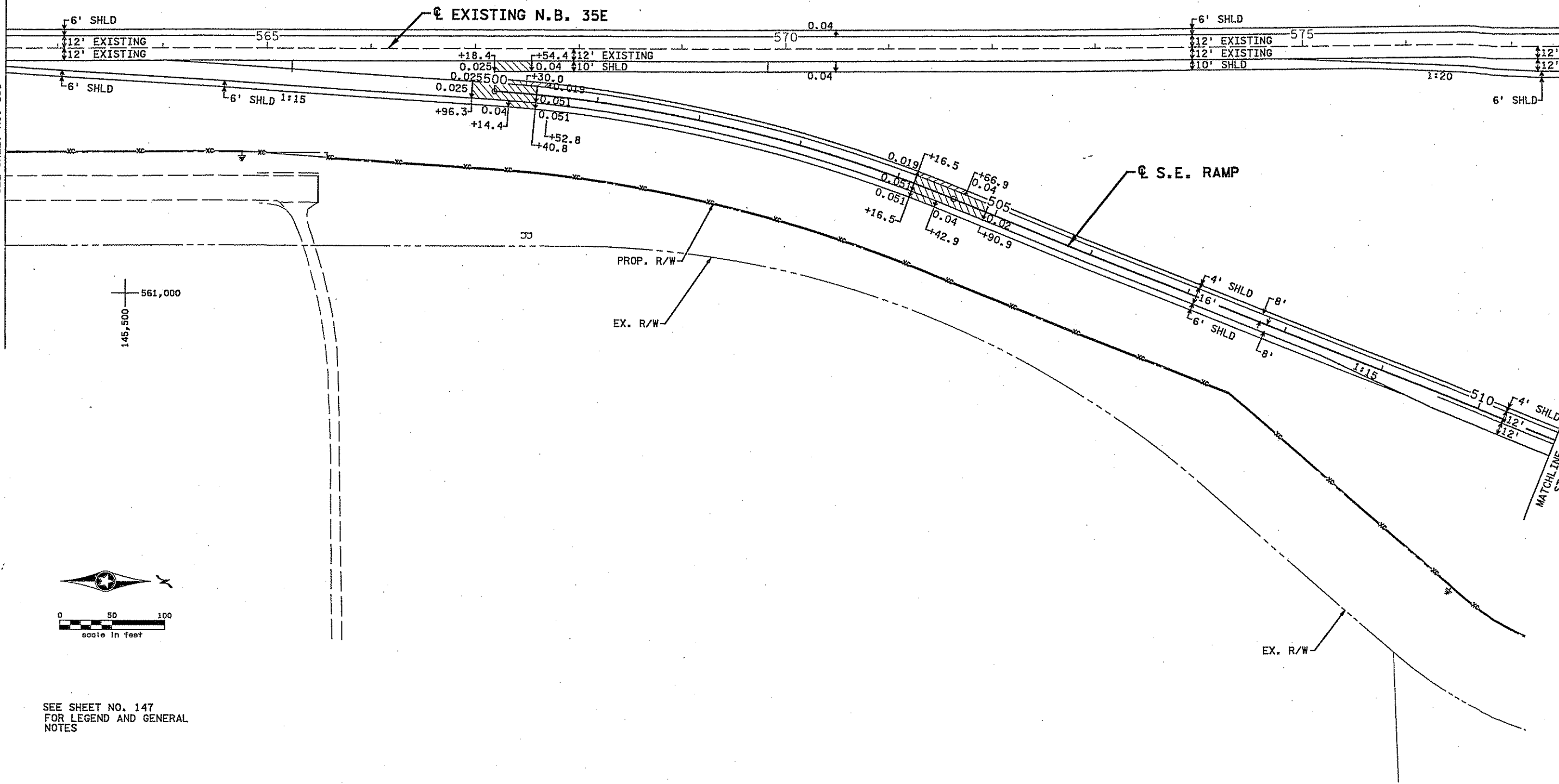
ANOKA COUNTY
SUPERELEVATION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP, S.W. RAMP, HOV

SHEET 152 OF 471

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 151

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 148

MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 148



561,000
145,500



SEE SHEET NO. 147
FOR LEGEND AND GENERAL
NOTES

561,500
145,500

561,500
146,500

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8/7/2009
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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: **AARON VACEK**
Aaron Vacek
Date: **8-07-09** License #: **44277**

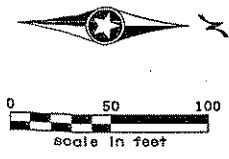
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STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY K. KRECH
CHECKED BY A. VACEK
COMM. NO. 0086509

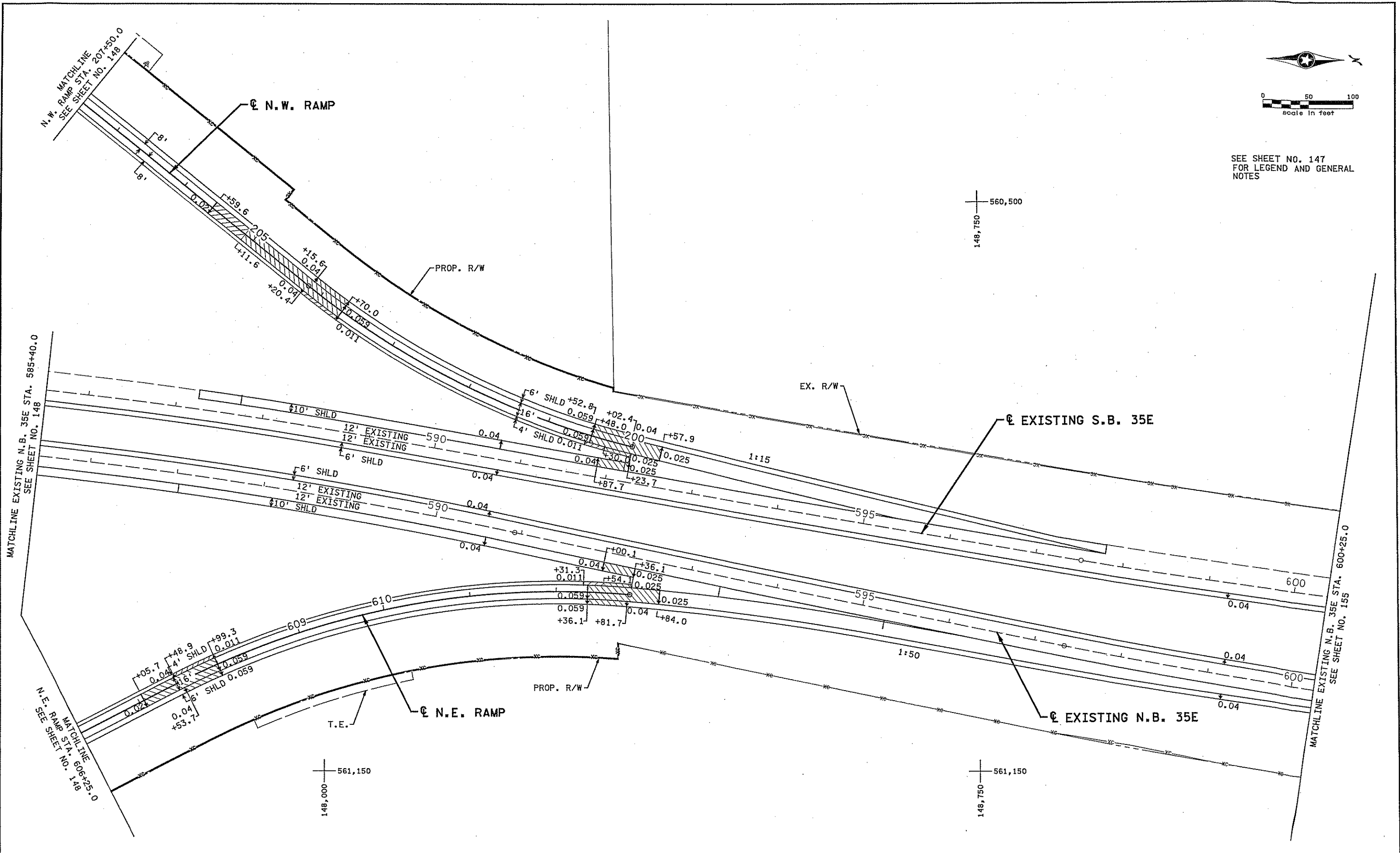


ANOKA COUNTY
SUPERELEVATION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
S.E. RAMP

SHEET 153 OF 471



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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: **AARON VACEK**

Aaron Vacek

Date: 5-22-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
K. KRECH

CHECKED BY
A. VACEK

COMM. NO. 0086509



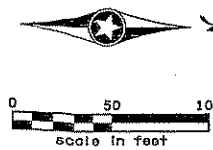
ANOKA COUNTY

SUPERELEVATION PLANS

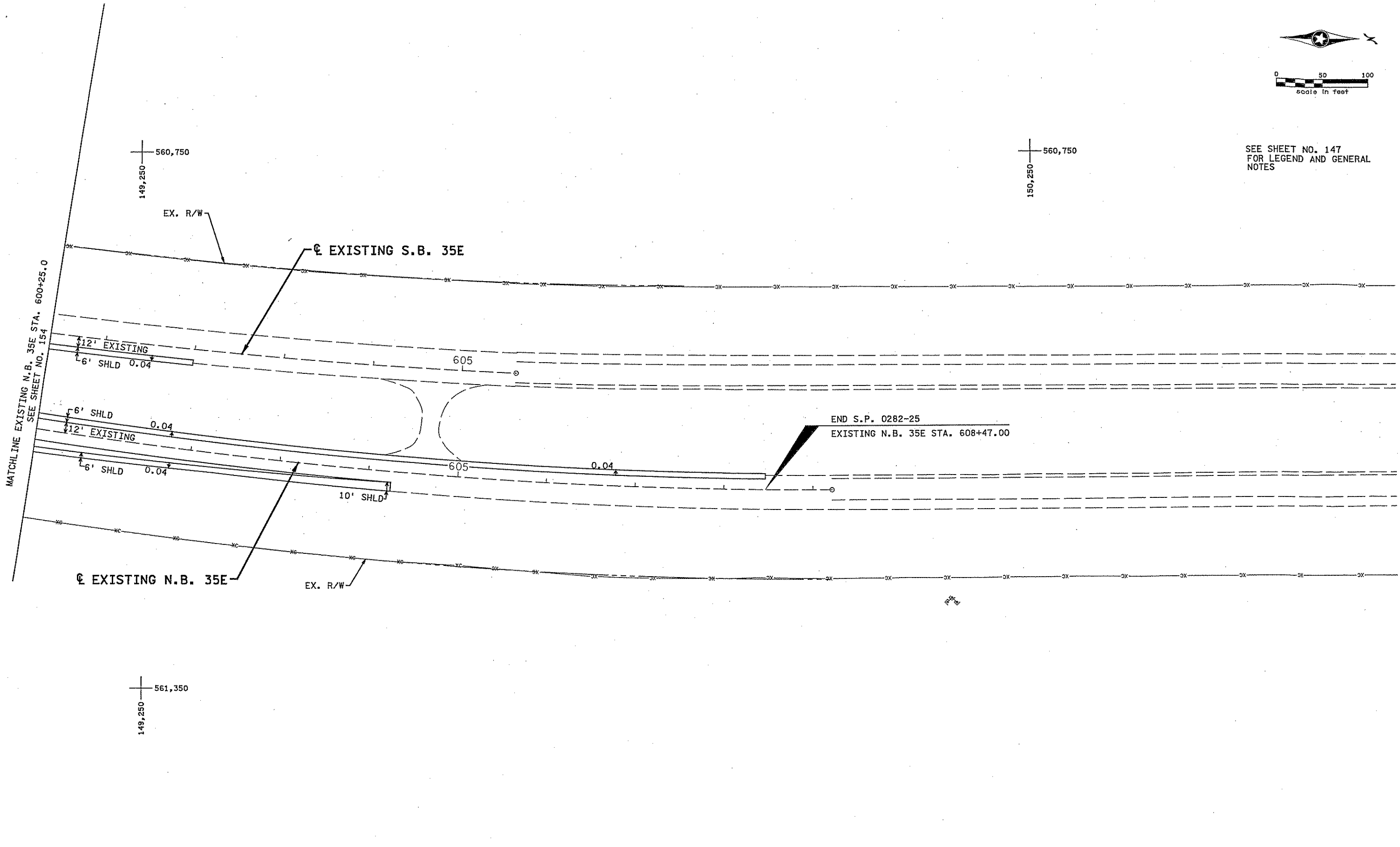
C.S.A.H. 14/T.H. 35E INTERCHANGE

N.W. RAMP, N.E. RAMP

SHEET
154
OF
471



SEE SHEET NO. 147
FOR LEGEND AND GENERAL
NOTES



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NO	DATE	BY	CHKD	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: **AARON VACEK**

Aaron Vacek

Date: 4-22-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
K. KRECH

CHECKED BY
A. VACEK

COMM. NO. 0086509



ANOKA COUNTY
SUPERELEVATION PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.E. RAMP TAPER

SHEET
155
OF
471

STORM WATER POLLUTION PREVENTION PLAN NARRATIVE

PROJECT DESCRIPTION

S.P. 02-614-28 AND 0282-25 PROPOSED CONSTRUCTION INVOLVES GRADING, AGGREGATE BASE, BITUMINOUS SURFACING, CONCRETE CURB AND GUTTER, SIDEWALK, DRAINAGE, SIGNAL SYSTEM, BRIDGE NO. 02812, RETAINING WALLS, LIGHTING, SIGNING, AND STRIPING. THE RECEIVING WATER FOR STORM WATER FROM THIS PROJECT WILL BE CLEARWATER CREEK. CLEARWATER CREEK DOES NOT HAVE AN APPROVED TMDL IMPLEMENTATION PLAN. BMP'S WILL BE PLACED PRIOR TO CONSTRUCTION TO PROTECT CLEARWATER CREEK.

AGENCY CONTACTS

THE PROJECT ENGINEER AND THE CONTRACTOR ARE RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION, MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMP'S BEFORE AND DURING CONSTRUCTION. THE CONTRACTOR WILL HAVE AN EROSION CONTROL SUPERVISOR WHO IS RESPONSIBLE FOR COORDINATING THE EROSION PREVENTION AND SEDIMENT CONTROL BMP'S. ANOKA COUNTY MAINTENANCE IS RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF ANY PERMANENT STORM MANAGEMENT SYSTEMS. PERMANENT STORM WATER MANAGEMENT SYSTEMS PROPOSED WITH THIS PROJECT INCLUDE VEGETATED HIGHWAY DITCHES AND STORM SYSTEMS THAT CONVEY STORM WATER TO SEDIMENT BASINS. BASIN OUTLETS ARE ALSO CONSIDERED A PART OF THE PERMANENT STORM WATER MANAGEMENT SYSTEM.

THE PROJECT ENGINEER IS:

CURT KOBILARCSIK, P.E.
ANOKA COUNTY HIGHWAY DEPT.
1440 BUNKER LAKE BOULEVARD
ANDOVER, MN 55304
(763) 862-4200

TIMING OF BMP INSTALLATION

THE EROSION PREVENTION AND SEDIMENT CONTROL BMP'S SHALL BE INSTALLED PRIOR TO START OF CONSTRUCTION, AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ON SITE.

1. PONDS WILL BE EXCAVATED PRIOR TO ANY SOIL DISTURBANCE (EXISTING VEGETATION NEAR THE PROPOSED PONDS SHALL BE PRESERVED AS LONG AS POSSIBLE TO ACT AS A VEGETATIVE BUFFER).
2. TEMPORARY PERIMETER CONTROL BMP'S WILL BE INSTALLED BEFORE ANY GRUBBING OR GRADING BEGINS.
3. CLEARING AND GRADING WILL NOT OCCUR IN AN AREA UNTIL IT IS NECESSARY FOR CONSTRUCTION TO PROCEED.
4. PERMANENT AND TEMPORARY SEDIMENT TRAPS AND BASINS WILL BE CONSTRUCTED BEFORE ANY HYDRAULIC CONVEYANCE OR DEWATERING PROCEDURES OCCUR.
5. TOPSOIL AND TEMPORARY EROSION CONTROL BMP'S SHALL BE PLACED WITHIN 7 DAYS OF COMPLETION OF EMBANKMENTS AND PONDS.
6. PLACEMENT OF RIP RAP SHALL BE STARTED WITHIN 24 HOURS OF PLACEMENT OF THE CULVERT AND DONE IN ONE CONTINUOUS OPERATION.
7. ONCE CONSTRUCTION ACTIVITY CEASES IN AN AREA FOR 7 DAYS OR MORE, THAT AREA WILL BE STABILIZED WITH TEMPORARY SEED AND MULCH AS INDICATED IN THE PLAN.
8. THE TEMPORARY PERIMETER CONTROLS REMAIN IN PLACE UNTIL ALL CONSTRUCTION ACTIVITIES AT THAT LOCAL SITE ARE COMPLETE AND SOILS HAVE BEEN STABILIZED.

S.P. 02-614-28 AND S.P. 0282-25 LAND FEATURE CHANGES (ACRES)

PRE-CONSTRUCTION IMPERVIOUS SURFACE AREA = 11.2 ACRES

POST-CONSTRUCTION TOTAL IMPERVIOUS SURFACE AREA = 19.3 ACRES

CONSTRUCTION NOTES

THE CONTRACTOR SHALL KEEP THE INSPECTION AND MAINTENANCE LOG ON SITE DURING THE ENTIRE CONSTRUCTION PROJECT.

SPILL CONTROL PRACTICES

1. THE CONTRACTOR SHALL KEEP SPILL KITS ON SITE AND INCLUDED WITH ALL FUELING SOURCES, MAINTNANCE ACTIVITIES, AND ALL CONSTRUCTION ACTIVITIES NEAR WATERS OF THE STATE. SECONDARY CONTAINMENT MEASURES WILL BE INTALLED AND MAINTAINED BY THE CONTRACTOR.
2. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT AT THE SITE. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STORM CONVEYANCE SYSTEM OR WATERS OF THE STATE WILL BE REPORTED TO THE MPCA STATE DUTY OFFICER (651-649-6451).

TMDL IMPLEMENTATION PLANS CONTAINING STORM WATER REQUIREMENTS

CLEARWATER CREEK DOES NOT HAVE ANY APPROVED TMDL IMPLEMENTATION PLAN.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	TITLE	LOCATION
TEMPORARY EROSION CONTROL MEASURES	EROSION CONTROL AND TURF ESTABLISHMENT PLANS	SHEET 189-197
PERMANENT EROSION CONTROL MEASURES	EROSION CONTROL AND TURF ESTABLISHMENT PLANS	SHEET 189-197
DIRECTION OF FLOW	DRAINAGE PLANS	SHEET 158-166
FINAL STABILIZATION	EROSION CONTROL AND TURF ESTABLISHMENT PLANS	SHEET 189-197
POND LOCATIONS	DRAINAGE PLANS	SHEET 158-166
POND CONTOURS	CONTOUR PLANS	SHEET 329-331
DRAINAGE STRUCTURES	DRAINAGE PLANS	SHEET 158-166
DRAINAGE TABULATIONS	DRAINAGE TABULATIONS	SHEET 168-171
STORM SEWER PROFILE SHEETS	DRAINAGE PROFILES	SHEET 172-177
EROSION CONTROL DETAILS	STANDARD PLAN SHEETS	SHEET 44-57

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NOTES

EROSION CONTROL NOTES AND DETAILS

1. THE EROSION CONTROL SUPERVISOR WILL WORK WITH THE ENGINEER TO OVERSEE THE IMPLEMENTATION OF THE SWPPP, AND THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMP'S BEFORE AND DURING CONSTRUCTION. THE EROSION CONTROL SUPERVISOR SHALL BE AVAILABLE TO BE ON THE PROJECT WITHIN 24 HOURS AT ALL TIMES DURING THE PROJECT.
2. THE EROSION CONTROL SUPERVISOR MUST ROUTINELY INSPECT THE ENTIRE CONSTRUCTION SITE ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION. INSPECTIONS SHALL ALSO OCCUR WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5" WITHIN 24 HOURS, AS WELL AS SEVEN (7) DAYS AFTER THE RAINFALL EVENT.
3. ALL FORMAL INSPECTIONS OF AREAS UNDER CONSTRUCTION MUST BE RECORDED IN WRITING AND THESE RECORDS WILL BE FILED IMMEDIATELY AFTER EACH INSPECTION. COMPLETED REPORTS WILL BE MAINTAINED ON SITE DURING THE ENTIRE CONSTRUCTION PROJECT WITH THE SWPPP IN ACCORDANCE WITH THE NPDES.
4. ALL EROSION PREVENTION AND SEDIMENT CONTROL BMP'S MUST BE INSPECTED BY THE CONTRACTOR TO ENSURE INTEGRITY AND EFFECTIVENESS. ALL NONFUNCTIONAL BMP'S MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMP'S AS DIRECTED BY THE EROSION CONTROL SUPERVISOR OR THE PROJECT ENGINEER.

5. THE CONTRACTOR SHALL PROVIDE FOR TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL BMP'S AS SHOWN IN THE PLANS AND THEY SHALL BE KEPT IN A FUNCTIONAL CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION. THESE MEASURES MAY BE MODIFIED AS APPROPRIATE FOR CONSTRUCTION STAGING AS DIRECTED BY THE EROSION CONTROL SUPERVISOR OR THE PROJECT ENGINEER. THE CONTRACTOR SHALL REMAIN IN COMPLIANCE WITH ALL NPDES AND OTHER PERMIT REQUIREMENTS AT ALL TIMES.

6. ALL EXPOSED SOIL AREAS MUST HAVE TEMPORARY OR PERMANENT COVER FOR THE EXPOSED SOIL AREAS YEAR ROUND, ACCORDING TO THE FOLLOWING TABLE OF SLOPES AND TIME FRAMES.

TYPE OF SLOPE	TIME*	*MAXIMUM TIME AN AREA CAN REMAIN OPEN WHEN THE AREA IS NOT ACTIVELY BEING WORKED
STEEPER THAN 1:3	7 DAYS	
FROM 1:10 TO 1:3	7 DAYS	
FLATTER THAN 1:10	7 DAYS	

THESE AREAS INCLUDE CONSTRUCTED HIGHWAY DITCHES AND ANY EXPOSED SOIL AREAS WITH A POSITIVE SLOPE TO A STORM WATER CONVEYANCE SYSTEM, SUCH AS A TEMPORARY OR PERMANENT DRAINAGE DITCH, OR OTHER NATURAL OR MAN MADE SYSTEMS THAT DISCHARGE TO A SURFACE WATER. THESE AREAS MUST BE KEPT STABILIZED AT ALL TIMES.

7. ALL EXPOSED SOIL AREAS WILL BE STABILIZED PRIOR TO THE ONSET OF WINTER. ANY WORK STILL BEING PERFORMED WILL BE SNOW MULCHED OR SNOW BLANKETED AND SNOW SEEDED.

8. PIPE OUTLETS MUST BE PROVIDED WITH RIP RAP WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER.

9. ALL SLOPES NEAR ENVIRONMENTALLY SENSITIVE AREAS NEED TO BE IMMEDIATELY STABILIZED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE EROSION CONTROL SUPERVISOR OR THE PROJECT ENGINEER.

10. ALL DITCHES AND SLOPES SHALL BE KEPT IN A ROUGHLY GRADED CONDITION FOR CORRECT APPLICATION OF EROSION CONTROL MULCHES AND BLANKETS.

11. WHERE PARTS OF THE CONSTRUCTION SITE HAVE UNDERGONE FINAL STABILIZATION, BUT WORK REMAINS ON OTHER PARTS OF THE SITE, INSPECTIONS OF THE STABILIZED AREAS MAY BE REDUCED TO ONCE PER MONTH. WHERE WORK HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, THE REQUIRED INSPECTIONS AND MAINTENANCE MUST TAKE PLACE AS SOON AS RUNOFF OCCURS AT THE SITE OR PRIOR TO RESUMING CONSTRUCTION, WHICHEVER COMES FIRST.

12. SEDIMENT CONTROL DEVICES MUST BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UPGRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE DEVICES SHALL REMAIN IN PLACE UNTIL STABILIZATION HAS BEEN ESTABLISHED IN ACCORDANCE WITH PART IV.C OF THE NPDES PERMIT. THE TIMING OF THE INSTALLATION OF SEDIMENT CONTROL DEVICES MAY BE ADJUSTED TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING AND GRUBBING, OR PASSAGE OF VEHICLES. ANY SHORT-TERM ACTIVITY MUST BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL DEVICES MUST BE INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED. HOWEVER, SEDIMENT CONTROL DEVICES MUST BE INSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE ACTIVITY IS NOT COMPLETE.

13. THE CONTRACTOR WILL USE CONTINUOUS AND PROGRESSIVE SEEDING PROCESSES. DORMANT SEEDING WILL NOT ALLOW THE NOTICE OF TERMINATION TO BE FILED WITH THE MPCA UNTIL 70 PERCENT OF THE PERENNIAL VEGETATIVE COVER IS ACHIEVED.

14. THE CONTRACTOR SHALL PREPARE AND SUBMIT A WRITTEN, NOT VERBAL WEEKLY SCHEDULE OF PROPOSED EROSION CONTROL ACTIVITIES FOR THE PROJECT ENGINEER'S APPROVAL AS PER MN/DOT SPEC. 1803.50.

15. THE CONTRACTOR SHALL DEVELOP A CHAIN OF RESPONSIBILY WITH ALL OPERATORS ON THE SITE TO ENSURE THAT THE SWPPP WILL BE IMPLEMENTED AND STAY IN EFFECT UNTIL THE CONSTRUCTION PROJECT IS COMPLETE. ONCE THE ENTIRE SITE HAS UNDERGONE FINAL STABILIZATION, A NOTICE OF TERMINATION CAN BE SUBMITTED TO THE MPCA.

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: ERIC D. ROERISH

Date: 7/22/05 License: 45645

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY W. ANDERSON

DESIGNED BY K. LUDWIG

CHECKED BY E. ROERISH

COMM. NO. 0086509



ANOKA COUNTY

STORM WATER POLLUTION PREVENTION PLAN
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 156 OF 471

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GENERAL DRAINAGE NOTES:

THE LEGEND AND GENERAL NOTES APPLY TO ALL DRAINAGE PLAN SHEETS.

EXISTING CROSS SLOPES ARE TO BE VERIFIED IN FIELD. PROPOSED PAVEMENTS SHALL MATCH EXISTING CROSS SLOPES OR AS IDENTIFIED BY THE ENGINEER.

SUBDRAINS ARE DRAWN SCHEMATICALLY FOR CLARITY, SEE TYPICAL SECTIONS AND STANDARD PLANS FOR INSTALLATION DETAILS.

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

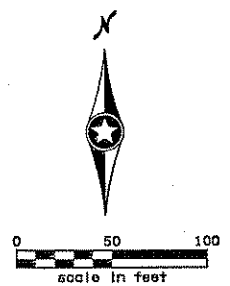
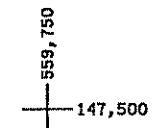
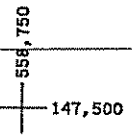
SEE SUPERELEVATION PLANS FOR SUPERELEVATION TRANSITION LOCATIONS AND RATES.

SEE CONTOUR PLANS FOR PROPOSED AND EXISTING CONTOURS AT PROPOSED POND LOCATIONS.

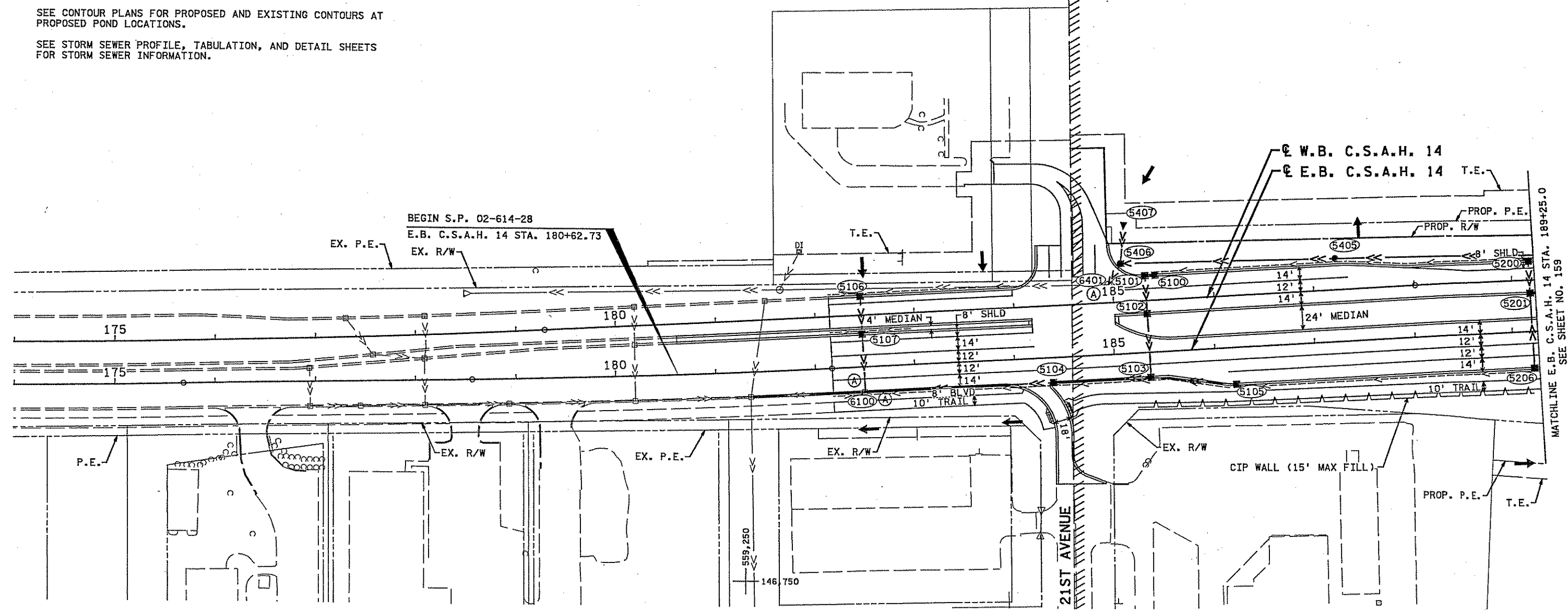
SEE STORM SEWER PROFILE, TABULATION, AND DETAIL SHEETS FOR STORM SEWER INFORMATION.

LEGEND	
	PROPOSED STORM SEWER
	PROPOSED 4" PERF. PE PIPE DRAIN
	PROPOSED CATCH BASIN
	PROPOSED MANHOLE
	PROPOSED STORM SEWER APRON
	DRAINAGE STRUCTURE NO.
	FLOW DIRECTION
	EXISTING STORM SEWER
	EXISTING CATCH BASIN
	EXISTING MANHOLE
	EXISTING STORM SEWER APRON
	4" TP PIPE DRAIN AND 4" PRECAST CONCRETE HEADWALL

NOTES:
 (A) CONNECT INTO EXISTING DRAINAGE STRUCTURE.



CITY OF CENTERVILLE
 CITY OF LINO LAKES



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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: **ERIC D. ROERISH**
 Date: *7/22/09* License #: 45645

STATE PROJECT NO. 0282-25 (ITH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

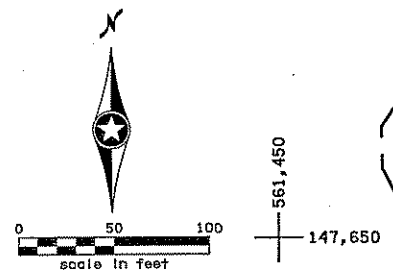
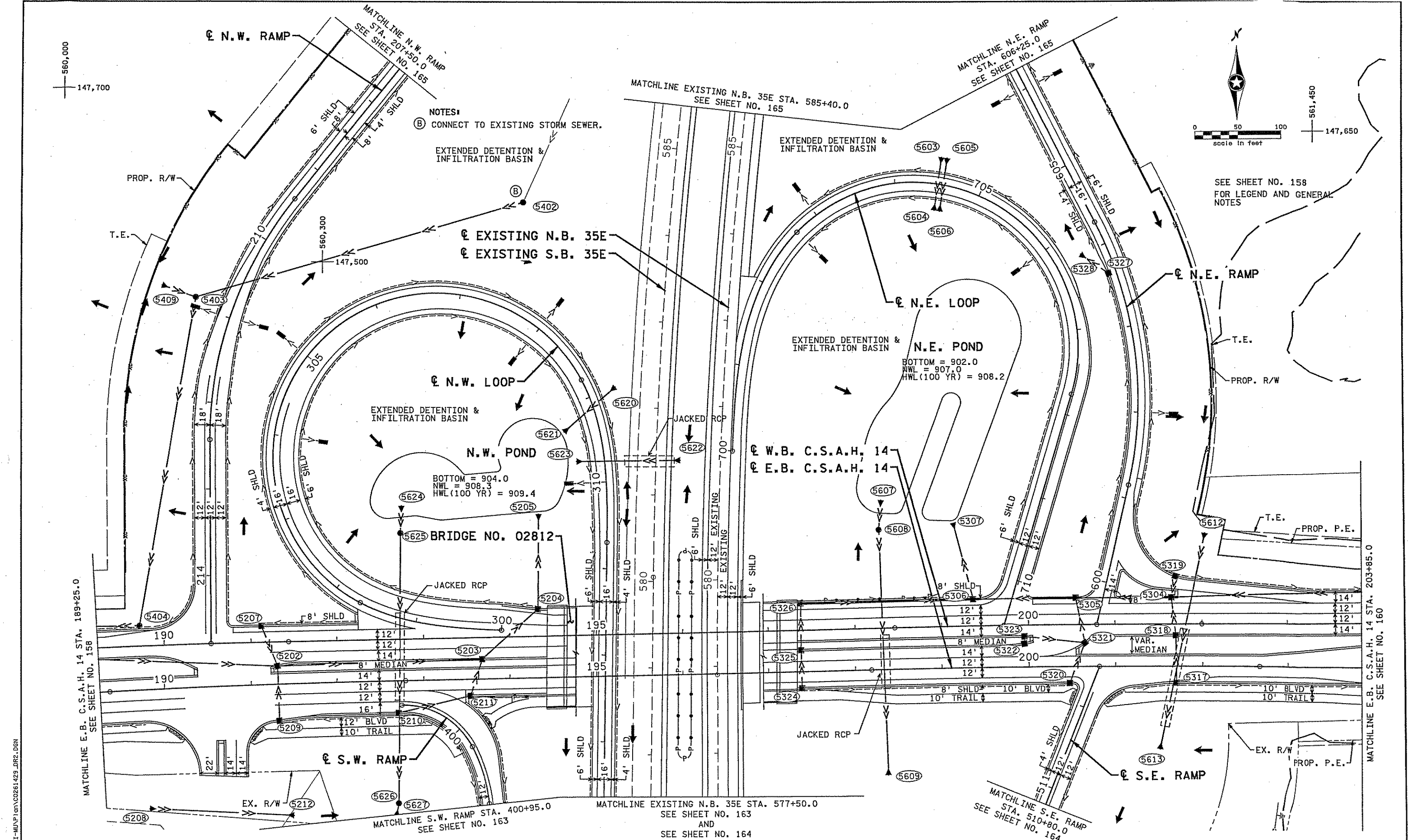
DRAWN BY W. ANDERSON
 DESIGNED BY K. LUDWIG
 CHECKED BY E. ROERISH
 COMM. NO. 0086509



ANOKA COUNTY
 DRAINAGE PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14

SHEET 158 OF 471

MATCHLINE E.B. C.S.A.H. 14 STA. 189+25.0 SEE SHEET NO. 159



SEE SHEET NO. 158
 FOR LEGEND AND GENERAL
 NOTES

9/28/2008
 H:\Projects\02812\02812.dgn
 ...HI-MUNPlan\02812_429_DR2.DGN

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: **ERIC D. ROERISH**

Eric D. Roerish

Date: *05/21/08* License: 45645

STATE PROJECT NO. 0282-25 (TH 35E)

DESIGNED BY W. ANDERSON

CHECKED BY E. ROERISH

COMM. NO. Q086509



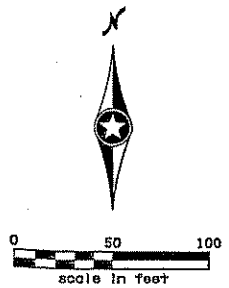
ANOKA COUNTY

DRAINAGE PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14, N.W. RAMP, N.E. RAMP, N.W. LOOP,
 N.E. LOOP, S.W. RAMP, S.E. RAMP

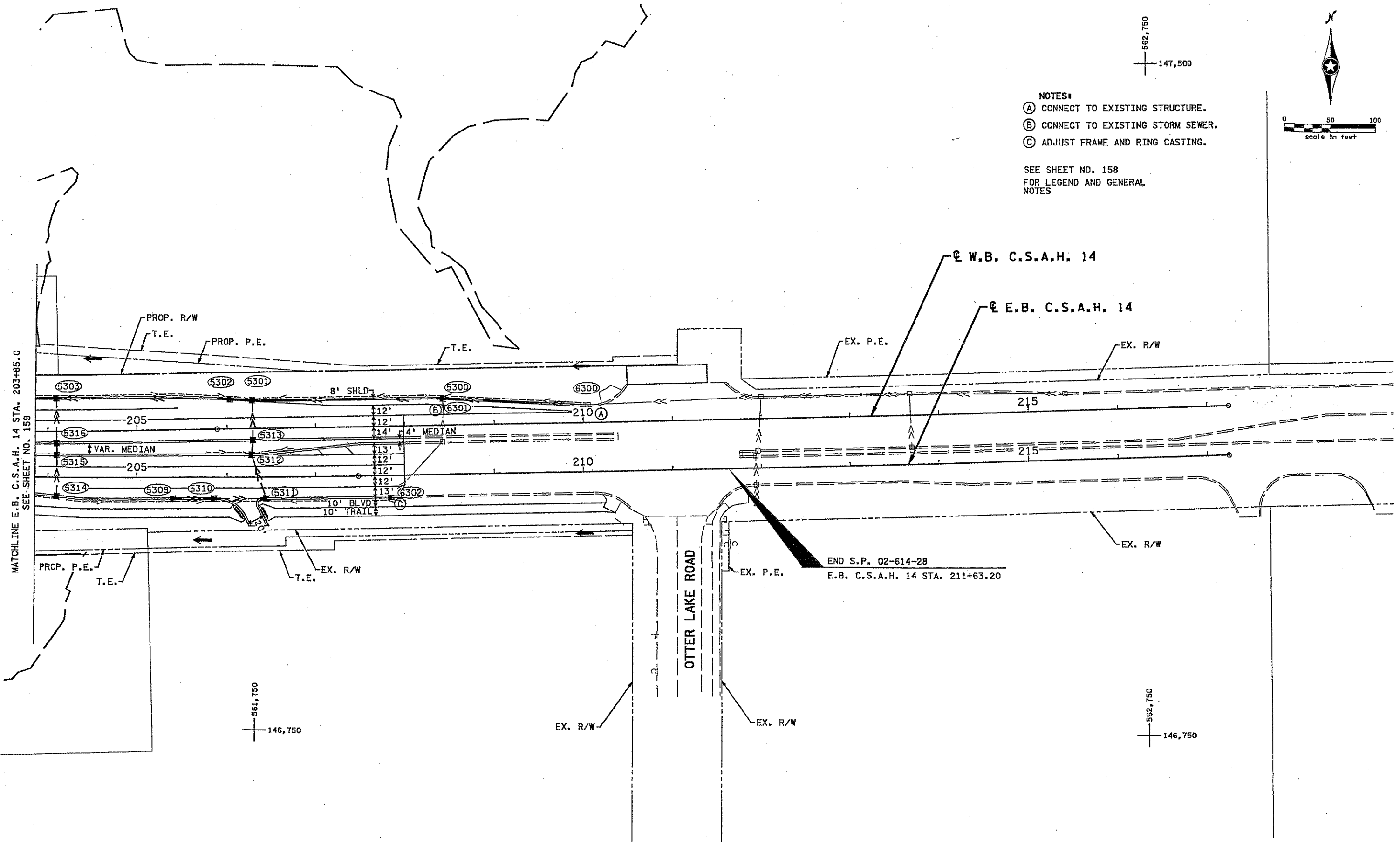
SHEET
 159
 OF
 471

562,750
147,500



- NOTES:**
- (A) CONNECT TO EXISTING STRUCTURE.
 - (B) CONNECT TO EXISTING STORM SEWER.
 - (C) ADJUST FRAME AND RING CASTING.

SEE SHEET NO. 158
FOR LEGEND AND GENERAL
NOTES



MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 159

OTTER LAKE ROAD

END S.P. 02-614-28
E.B. C.S.A.H. 14 STA. 211+63.20

561,750
146,750

562,750
146,750

2/12/08 PM 7:21/2509
H:\Projects\6599\H1-MUP\1\0261429_DR3.DGN

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

Print Name: **ERIC D. ROERISH**

Eric D. Roerish

Date: 7/2/09 License #: 45645

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
W. ANDERSON

DESIGNED BY
K. LUDWIG

CHECKED BY
E. ROERISH

COMM. NO. 0086509

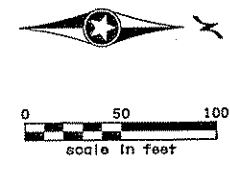


ANOKA COUNTY
DRAINAGE PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14

SHEET
160
OF
471

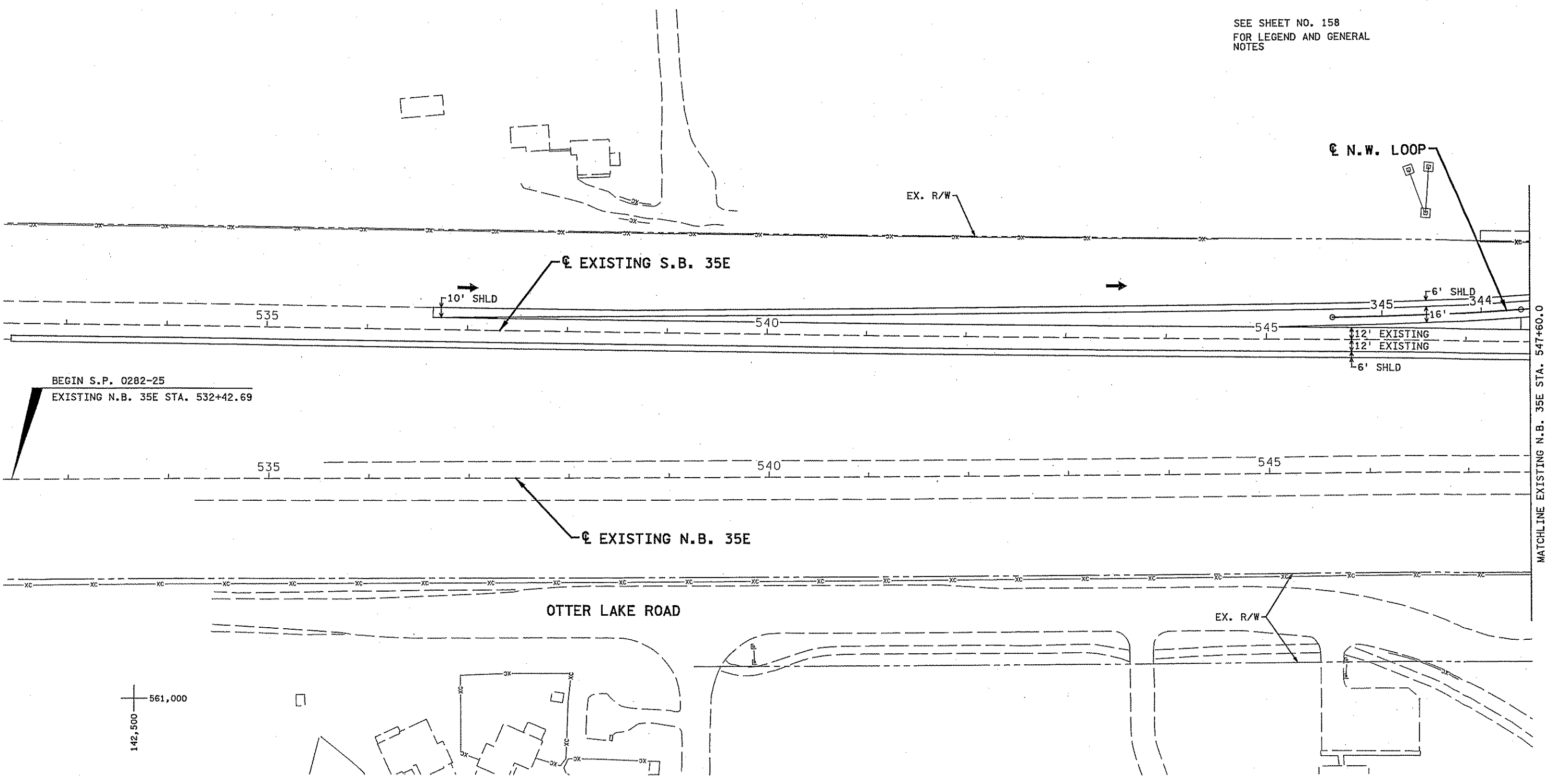
NO	DATE	BY	CKD	APPR	REVISION

560,250
142,500



560,250
143,750

SEE SHEET NO. 158
FOR LEGEND AND GENERAL
NOTES



BEGIN S.P. 0282-25
EXISTING N.B. 35E STA. 532+42.69

MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 162

9:28:13 AM
4/28/2009
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561,000
142,500

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: ERIC D. ROERISH
Eric D. Roerish
Date: 05/12/09 License #: 45645

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY W. ANDERSON
DESIGNED BY K. LUDWIG
CHECKED BY E. ROERISH
COMM. NO. 0086509

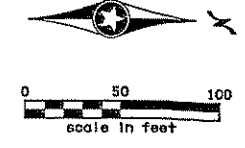


ANOKA COUNTY
DRAINAGE PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP

SHEET 161 OF 471

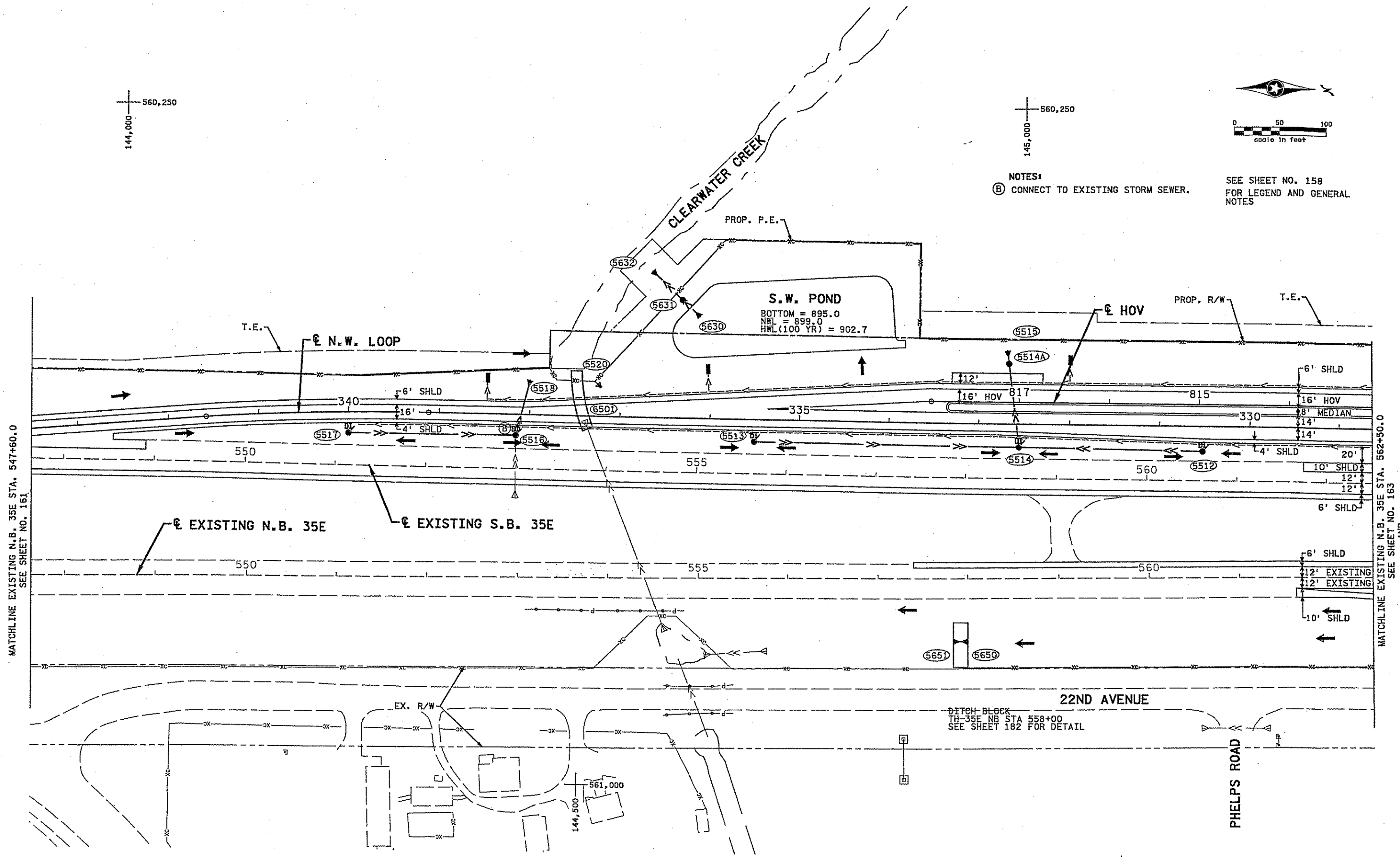
144,000
560,250

145,000
560,250



NOTES:
 (B) CONNECT TO EXISTING STORM SEWER.

SEE SHEET NO. 158
 FOR LEGEND AND GENERAL
 NOTES



2/12/08 PM
 7/21/2009
 H:\Projects\6509\HI-MUP\on\0261429_DRS.DGN

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: **ERIC D. ROERISH**
 Date: *7/22/05* License #: **45645**

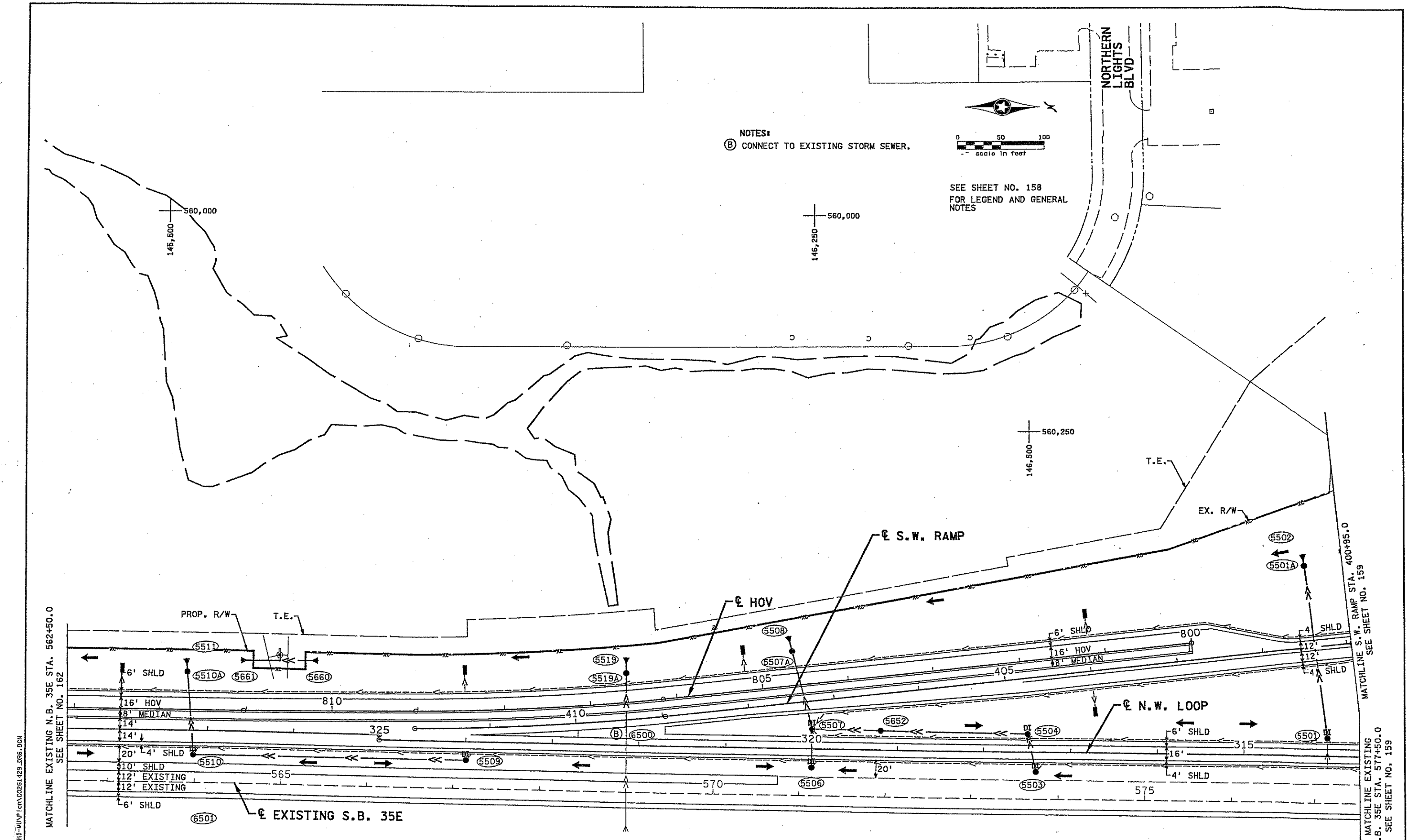
STATE PROJECT NO.
0282-25 (TH 35E)
 STATE PROJECT NO.
02-614-28
 COUNTY PROJECT NO.
X
 CITY PROJECT NO. X

DRAWN BY
W. ANDERSON
 DESIGNED BY
K. LUDWIG
 CHECKED BY
E. ROERISH
 COMM. NO. 0086509

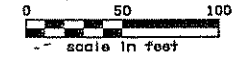


ANOKA COUNTY
 DRAINAGE PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.W. LOOP, HOV

SHEET
162
OF
471



NOTES:
 (B) CONNECT TO EXISTING STORM SEWER.



SEE SHEET NO. 158
 FOR LEGEND AND GENERAL
 NOTES

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
 SEE SHEET NO. 162

MATCHLINE S.W. RAMP STA. 400+95.0
 SEE SHEET NO. 159

MATCHLINE EXISTING
 N.B. 35E STA. 577+50.0
 SEE SHEET NO. 159

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 7/21/2009
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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: **ERIC D. ROERISH**
Eric D. Roerish
 Date: 7/22/09 License #: 45645

STATE PROJECT NO.
 0262-25 (TH 35E)
 STATE PROJECT NO.
 02-614-28
 COUNTY PROJECT NO.
 X
 CITY PROJECT NO. X

DRAWN BY
 W. ANDERSON
 DESIGNED BY
 K. LUDWIG
 CHECKED BY
 E. ROERISH
 COMM. NO. 0086509



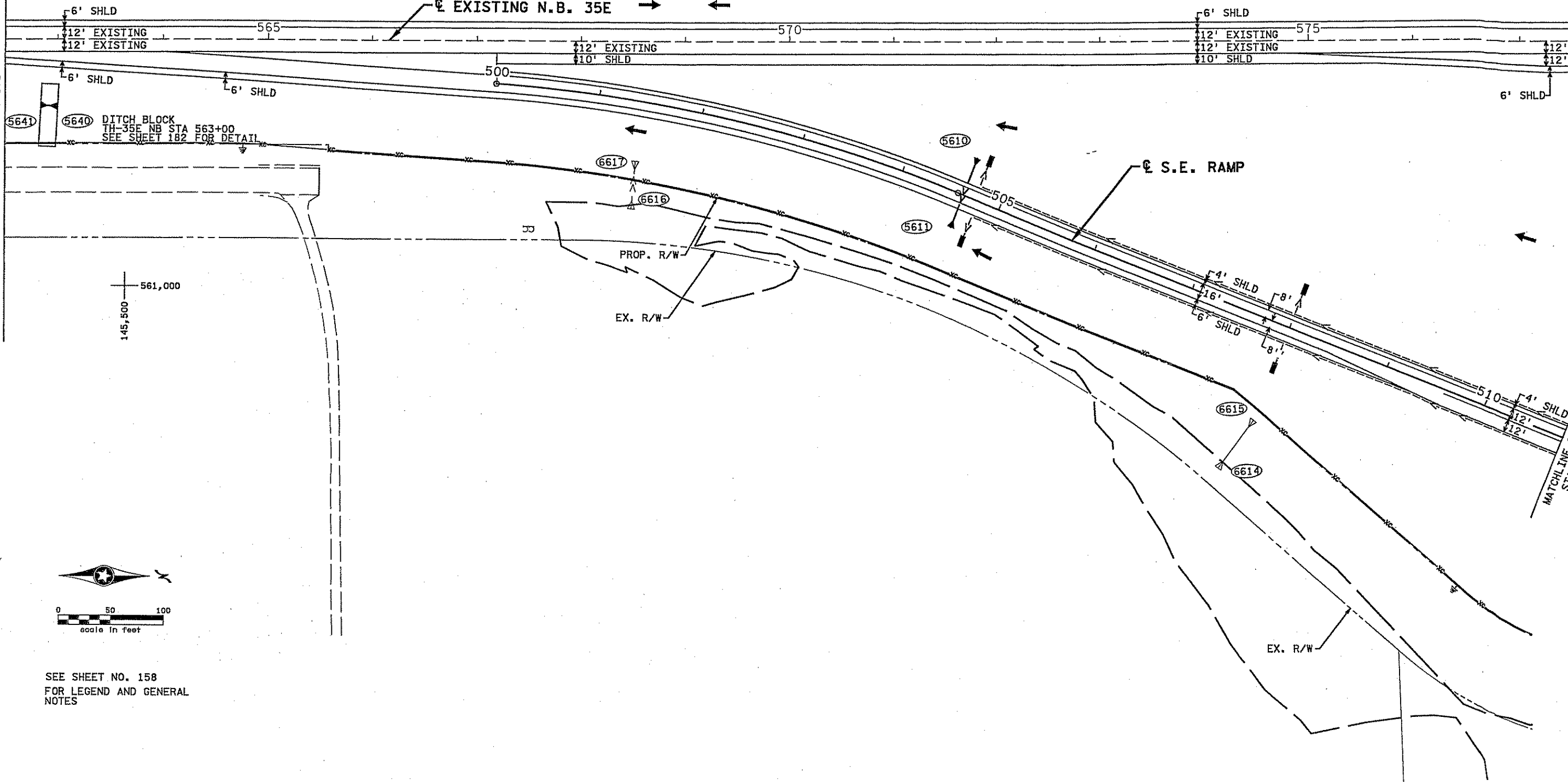
ANOKA COUNTY
 DRAINAGE PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.W. LOOP, S.W. RAMP, HOV

SHEET
 163
 OF
 471

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 162

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 159

MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 159



SEE SHEET NO. 158
FOR LEGEND AND GENERAL
NOTES

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8/7/2009
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NO	DATE	BY	CHKD	APPR	REVISION

... \HI-MUP\101\CO261429_DRT.DGN

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

Print Name: ERIC D. ROERISH

Eric D. Roerish

Date: 8/7/09 License # 45645

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
W. ANDERSON

DESIGNED BY
K. LUDWIG

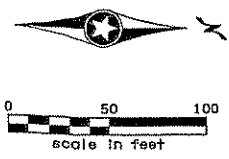
CHECKED BY
E. ROERISH

COMM. NO. 0086509



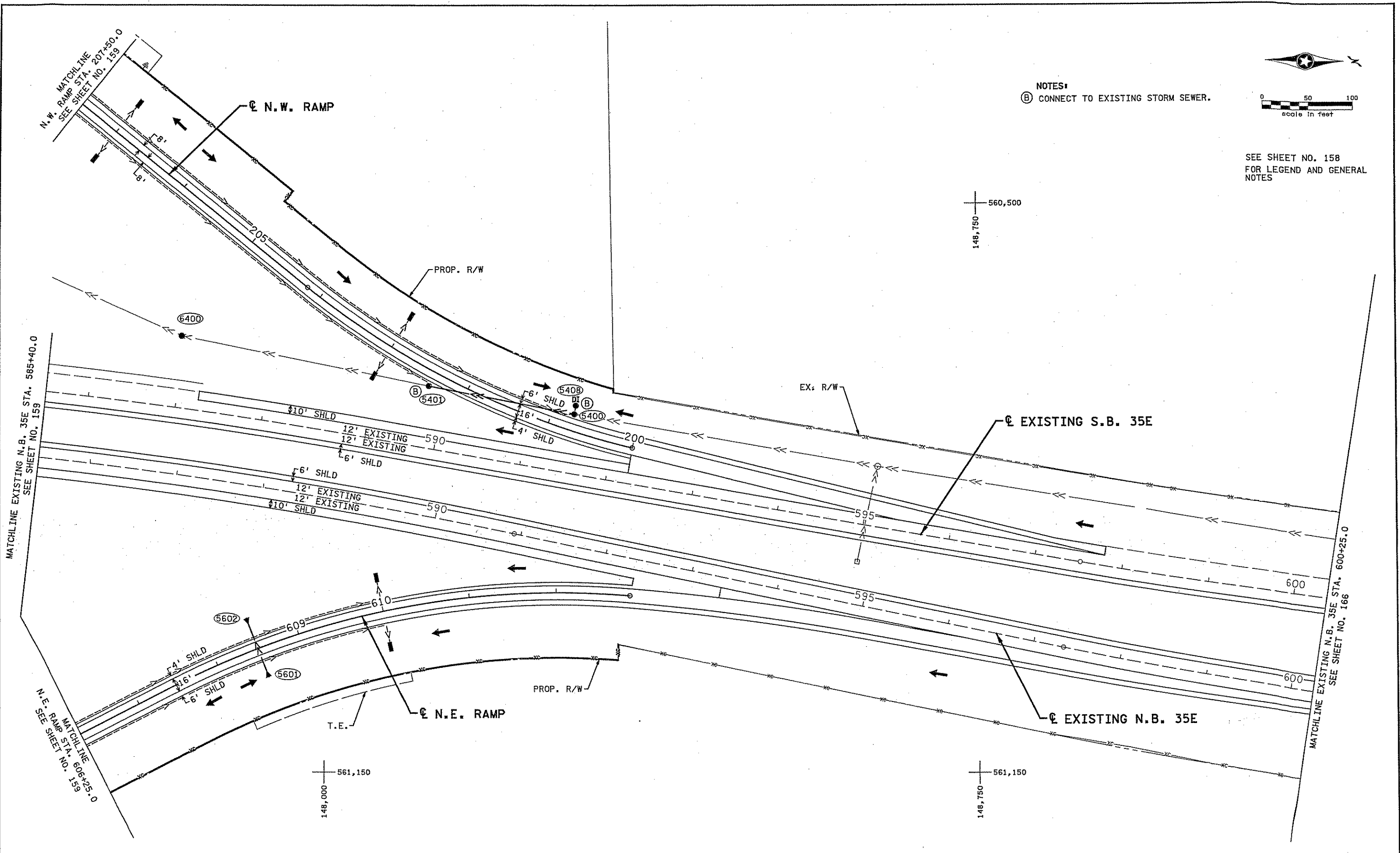
ANOKA COUNTY
DRAINAGE PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
S.E. RAMP

SHEET
164
OF
471



NOTES:
 (B) CONNECT TO EXISTING STORM SEWER.

SEE SHEET NO. 158
 FOR LEGEND AND GENERAL
 NOTES



9/28/21 AM
 4/20/2009
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NO	DATE	BY	CHK	APPR	REVISION

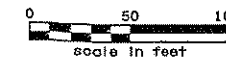
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: **ERIC D. ROERISH**
 Signature: *Eric D. Roerish*
 Date: *05/12/09* License # **45645**

STATE PROJECT NO.
0282-25 (TH 35E)
 STATE PROJECT NO.
02-614-28
 COUNTY PROJECT NO.
X
 CITY PROJECT NO. X

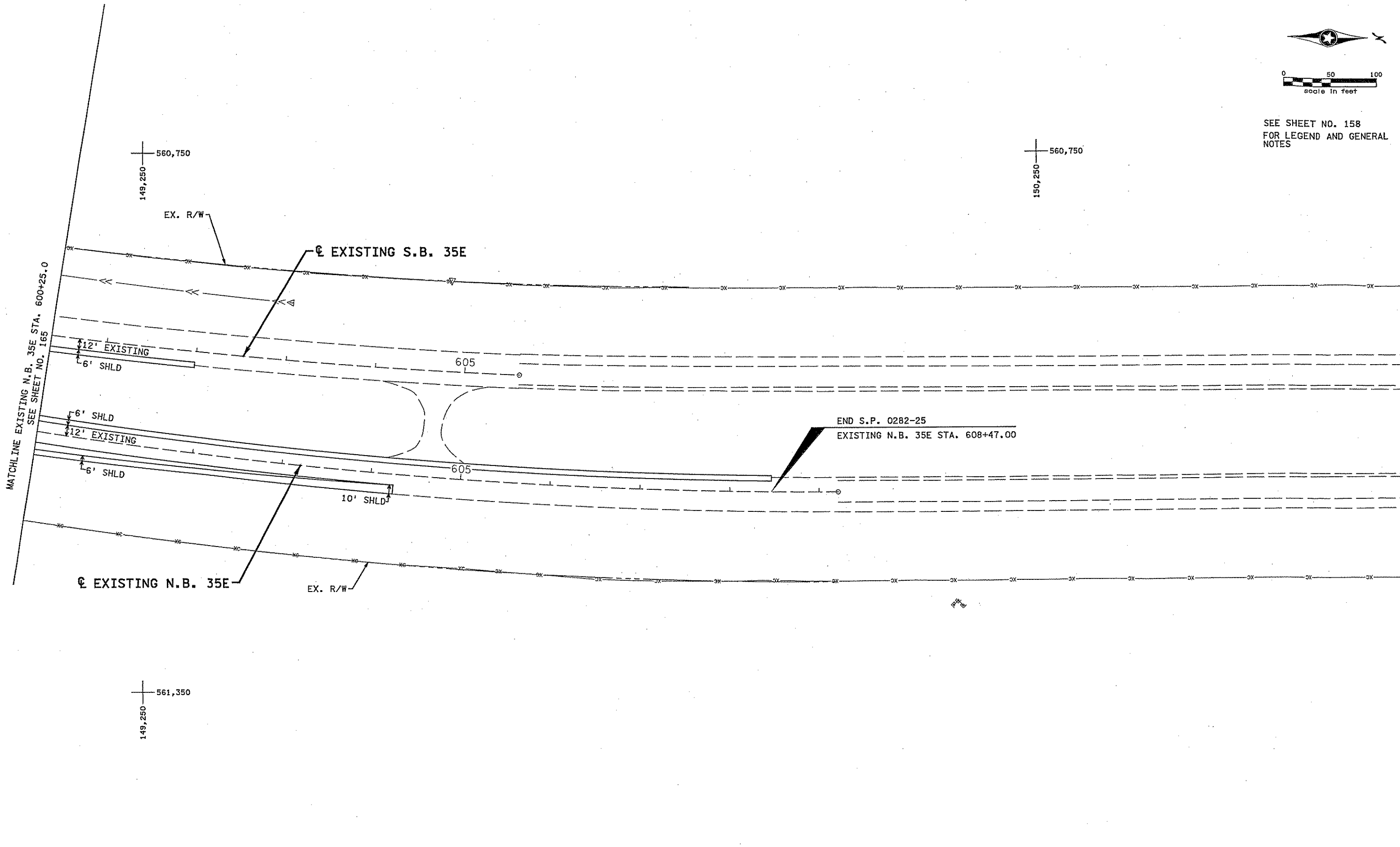

 DRAWN BY W. ANDERSON
 DESIGNED BY K. LUDWIG
 CHECKED BY E. ROERISH
 COMM. NO. 0086509

ANOKA COUNTY
 DRAINAGE PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.W. RAMP, N.E. RAMP

SHEET
165
 OF
471



SEE SHEET NO. 158
FOR LEGEND AND GENERAL
NOTES



9:28:22 AM
4/20/2009
H:\Projects\6509\14-T.H. 35E\14-T.H. 35E\14-T.H. 35E.DGN

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: **ERIC D. ROERISH**

Eric D. Roerish

Date: 05/22/09 License # 45645

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
W. ANDERSON

DESIGNED BY
K. LUDWIG

CHECKED BY
E. ROERISH

COMM. NO. 0086509



ANOKA COUNTY

DRAINAGE PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

N.E. RAMP TAPER

SHEET
166
OF
471

EE SUBSURFACE DRAINS					
ALIGNMENT	STATION	4" PRECAST CONCRETE HEADWALL (SPEC. 2502)	4" TP PIPE DRAIN (SPEC. 2502)	4" PERF TP PIPE DRAIN (SPEC. 2502)	NOTES
		(EACH)	(LIN FT)	(LIN FT)	
E.B. C.S.A.H. 14	180+63 - 184+58			530	
E.B. C.S.A.H. 14	184+58 - 194+42			1490	
E.B. C.S.A.H. 14	194+42 - 211+63			2190	
EXISTING N.B. 35E	557+30 - 608+57				
EXISTING S.B. 35E	532+40 - 602+09				
N.W. RAMP	200+00 - 214+78	6	130	2640	
N.W. LOOP	300+00 - 345+49	7	180	6730	
N.E. LOOP	700+00 - 710+53	3	60	1060	
N.E. RAMP	599+50 - 612+84	5	110	1870	
S.W. RAMP	399+25 - 411+86	1	20	1150	
HOV	800+00 - 817+96	5	110	1860	
S.E. RAMP	500+00 - 512+50	4	80	1500	
PROJECT TOTALS		31	690	21020	

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 7/21/2009
 H:\Projects\6509\HI-MU\Plan\CO261429_TB07.DGN

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: **AARON VACEK**
Aaron Vacek
 Date: 8-26-09 License # 44277

STATE PROJECT NO.
 0282-25 (TH 35E)
 STATE PROJECT NO.
 02-614-28
 COUNTY PROJECT NO.
 X
 CITY PROJECT NO. X

DRAWN BY
 V. MICHELS
 DESIGNED BY
 S. PRUSAK
 CHECKED BY
 A. DEBRUIN
 COMM. NO. 0086509



ANOKA COUNTY
 TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
 167
 OF
 471

FLOWS FROM					ZZ TEMPORARY DRAINAGE TABULATION																		FLOWS TO		
STR. OR APRON INLET	(A) STRUCTURE LOCATION				STR. OR APRON OUTLET	NEW STRUCTURE CONSTRUCTION				(D) RC PIPE (DESIGN 3006)						(D) (E) CS PIPE						REMOVE		ABANDON PIPE SEWER	NOTES
	ALIGNMENT NAME	STATION	OFFSET	L / R		DESIGN	PAY HEIGHT	(B) CASTING ASSEMBLY	(C) STEPS RE-REQUIRED	CONE	12" CL II		18" CL II		12"		18"		24"		(O) TEMP. DRAIN. STRUC.	(P) TEMP. PIPE			
POINT NO.			FT		POINT NO.				TYPE	L.F.	APR	L.F.	APR	L.F.	APR	L.F.	APR	L.F.	APR	L.F.	APR	EACH	L.F.	L.F.	
5212	E.B. CSAH 14	191+44.04	151.0	R	5710																		32	32	L
5700	E.B. CSAH 14	189+20.00	22.8	L	5201	APRON								14	1								14		L
5701	E.B. CSAH 14	191+31.09	5.9	L	5202	APRON								13	1								13		L
5702	E.B. CSAH 14	193+62.72	6.3	L	5203	APRON								16	1								16		L
5703	E.B. CSAH 14	197+38.00	6.1	L	5325	APRON								17	1								17		L
5704	E.B. CSAH 14	199+97.20	15.9	L	5322	APRON								9	1								9		L
5705	E.B. CSAH 14	201+69.55	22.4	L	5318	APRON								11	1								11		L
5706	E.B. CSAH 14	204+10.00	16.8	L	5315	APRON								6	1								6		L
5707	E.B. CSAH 14	192+63.79	207.5	L	5708	APRON																	162	1	F
5708	W.B. CSAH 14	191+62.73	27.6	L	5709																			120	L
5709	E.B. CSAH 14	191+63.46	111.0	R	5710	SD-48	2.2	M-11															45	1	F
5710	E.B. CSAH 14	191+76.70	153.5	R	5711	72-4020	10.4	A-7D	Y														212	1	
5711	H.O.V. LANE	800+17.63	127.1	R		APRON																			
5712	N.E. RAMP	600+27.56	83.1	L	5714	APRON																	1		
5713	N.E. RAMP	600+29.10	55.7	L	5720	APRON																	172	1	
5714	N.E. RAMP	600+91.65	84.0	R		APRON								35	1										172
5715	S.E. RAMP	504+70.79	38.9	L	5723	APRON																			
5716	S.E. RAMP	504+54.88	38.3	L	5723	APRON																			
5717	H.O.V. LANE	803+98.86	66.3	R		APRON																			
5718	E.B. CSAH 14	201+75.59	23.0	L	5613	72-4020	6.9	A-7D	Y																
5719	N.B. 35E	579+92.30	38.8	R	6702	APRON								48	1										L, M, N
5720	N.E. RAMP	600+53.70	26.1	L		APRON																			F
5721	E.B. CSAH 14	191+43.97	118.0	L	5722	APRON																			
5722	E.B. CSAH 14	190+96.16	160.1	L		APRON								60	1										
5723	S.E. RAMP	504+62.79	38.8	L		F	5.1	M-11	Y	B															
6701	H.O.V. LANE	803+79.02	18.0	L	5717																				F
6702	N.B. 35E	579+37.93	39.4	R																					
PROJECT TOTALS										12	2	48	1	181	11	84	1	623	4	4	554	454			

GENERAL NOTES:

- SEE DRAINAGE DETAILS (SHEET 180) FOR STAKING DETAILS

NOTES:

- (A) STATIONS, OFFSETS, AND ELEVATIONS ARE GIVEN TO:
 -END OF APRON
 -CENTER OF CASTING ASSEMBLY
 -CENTER OF BASE FOR DESIGN SPEC 1, 2, AND 3
 -CENTER OF CASTING ASSEMBLY FOR 4020 COMBINATION STRUCTURES OR DRAINAGE OUTLET STRUCTURES AS DENOTED BY 1XXXX
- (B) SEE SHEET 171 FOR CASTING KEY AND SUMMARY TABULATION.
- (C) STEPS REQUIRED WHEN PAY HEIGHT IS GREATER THAN 4.5 FT AND SHALL BE CONSIDERED INCIDENTAL.
- (D) PIPE LENGTHS DO NOT INCLUDE APRON LENGTH.
- (E) USE POSITIVE JOINTS ON ALL CORRUGATED STEEL PIPE. APRONS FOR CS PIPE SHALL BE GALVANIZED STEEL (GS) PIPE APRONS.

- (F) CONNECT TO EXISTING STORM SEWER. FIELD VERIFY LOCATION AND ELEVATION
- (L) CONNECT TEMPORARY PIPE OR STRUCTURE TO PERMANENT PIPE OR STRUCTURE. PROVIDE WATERTIGHT CONNECTION (INCIDENTAL).
- (M) BUILD STRUCTURE OVER EXISTING STORM SEWER. PAYMENT FOR CONNECTION SHALL BE MADE UNDER ITEM (2503) CONNECT TO EXISTING STORM SEWER. PLATE STRUCTURE OPENING UNTIL LATER STAGE OF CONSTRUCTION. STEEL PLATE SHALL HAVE A MINIMUM THICKNESS OF 1/2 IN. AND SHALL BE INCIDENTAL.
- (N) PAID AS REMOVE DRAINAGE STRUCTURE.
- (O) PAID AS REMOVE SEWER PIPE (STORM).

2:12:13 PM 7/21/2009 H:\Projects\6509\H1-m\AP\an\CO261.429_DT22.DGN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Pr Int Name: ERIC D. ROERISH <i>Eric D. Roerish</i> Date: 7/22/09 License #: 45645				STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X	DRAWN BY W. ANDERSON DESIGNED BY K. LUDWIG CHECKED BY E. ROERISH COMM. NO. 0086509	SRF CONSULTING GROUP, INC.	ANOKA COUNTY DRAINAGE TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE	SHEET 170 OF 471
NO. DATE BY CKD APPR REVISION ... \HI-MU\AP\an\CO261.429_DT22.DGN								


AAA		PIPE CULVERT TABULATION																												
FLOWS FROM APRON INLET POINT NO.	(A) CULVERT LOCATION				FLOWS TO APRON OUTLET POINT NO.	(B)(M) RC PIPE CULVERT - DESIGN 3006										(C) (M) CS PIPE CULVERT				GS SAFETY APRON 18"	DUCTILE IRON PIPE 18"	DUCTILE IRON PIPE JACKED 18"	CULVERT TREATMENT		SODDING TYPE EROSION SQ YD	(D) RANDOM RIP RAP CLASS II CU YD	GUIDE POSTS TYPE B EACH	FOOTNOTES		
	ALIGNMENT NAME	STATION	OFFSET FT	L / R		18" CL II		24" CL II		24" CL V		24" CL V-JACKED		30" CL II		15"		24"					(J) SELECT GRANULAR EMBANKMENT CU YD	(K) GRAN. BACK-FILL CU YD						
						L.F.	APR	L.F.	APR	L.F.	APR	L.F.	APR	L.F.	APR	L.F.	APR	L.F.	APR				L.F.	APR					L.F.	APR
5208	E.B. CSAH 14	189+76.00	136.4	R	5212													160	1			76	202.6	13		1				
5212	E.B. CSAH 14	191+44.04	151.0	R																1							6.5	1		
5601	N.E. RAMP	608+50.00	34.8	R	5602	60	1															28	101.6	10		1				
5602	N.E. RAMP	608+50.00	37.2	L															1							3.9	1			
5603	N.E. LOOP	704+50.00	30.9	L	5604								49	1								40	59.3	19		7.3	1			
5604	N.E. LOOP	704+50.00	30.4	R																						7.3	1			
5605	N.E. LOOP	704+55.66	30.9	L	5606								49	1								40	59.3	19		7.3	1			
5606	N.E. LOOP	704+57.83	30.4	R																						7.3	1			
5610	S.E. RAMP	504+62.79	37.1	L	5611			58											1			27	65.7	13		1	F			
5611	S.E. RAMP	504+62.79	32.8	R															1							5.5	1			
5612	W.B. CSAH 14	202+03.70	104.9	L	5613				146	1	97											66		13		1	L			
5613	E.B. CSAH 14	201+50.60	95.1	R						1																5.5	1			
6614	S.E. RAMP	507+85.30	149.8	R	6615																					1	E, H			
6615	S.E. RAMP	507+99.95	95.0	R																						5.5	1			
6616	S.E. RAMP	501+47.90	102.0	R	6617																					1	E, H			
6617	S.E. RAMP	501+44.14	57.0	R																						4.7	1			
5620	N.W. LOOP	309+00.00	31.7	L	5621			60											1			41	61.4	13		5.5	1			
5621	N.W. LOOP	309+31.58	40.3	R																						5.5	1			
5622	S.B. 35E	581+41.06	28.2	R	5623																	1	53	53	22	45.4	10	3.9	1	F
5623	S.B. 35E	581+35.02	91.6	L																		1			10	3.9	1	F		
5640	N.B. 35E	563+00.00	64.0	R	5641													9	1			4	2.2	7		1	G			
5641	N.B. 35E	562+84.00	63.0	R															1							20.0	1	G		
5650	N.B. 35E	558+00.00	70.0	R	5651													9	1			4	2.2	7		1	G			
5651	N.B. 35E	557+84.00	70.0	R															1							20.0	1	G		
5660	H.O.V. LANE	810+16.60	58.8	R	5661								77	1								4	2.2	7		1				
5661	H.O.V. LANE	811+05.60	58.8	R																						7.3	1			
PROJECT TOTALS						60	1	118	1	146	2	97		175	6	1	3	18	4	160	2	2	53	53	352	601.9	141	126.9	26	

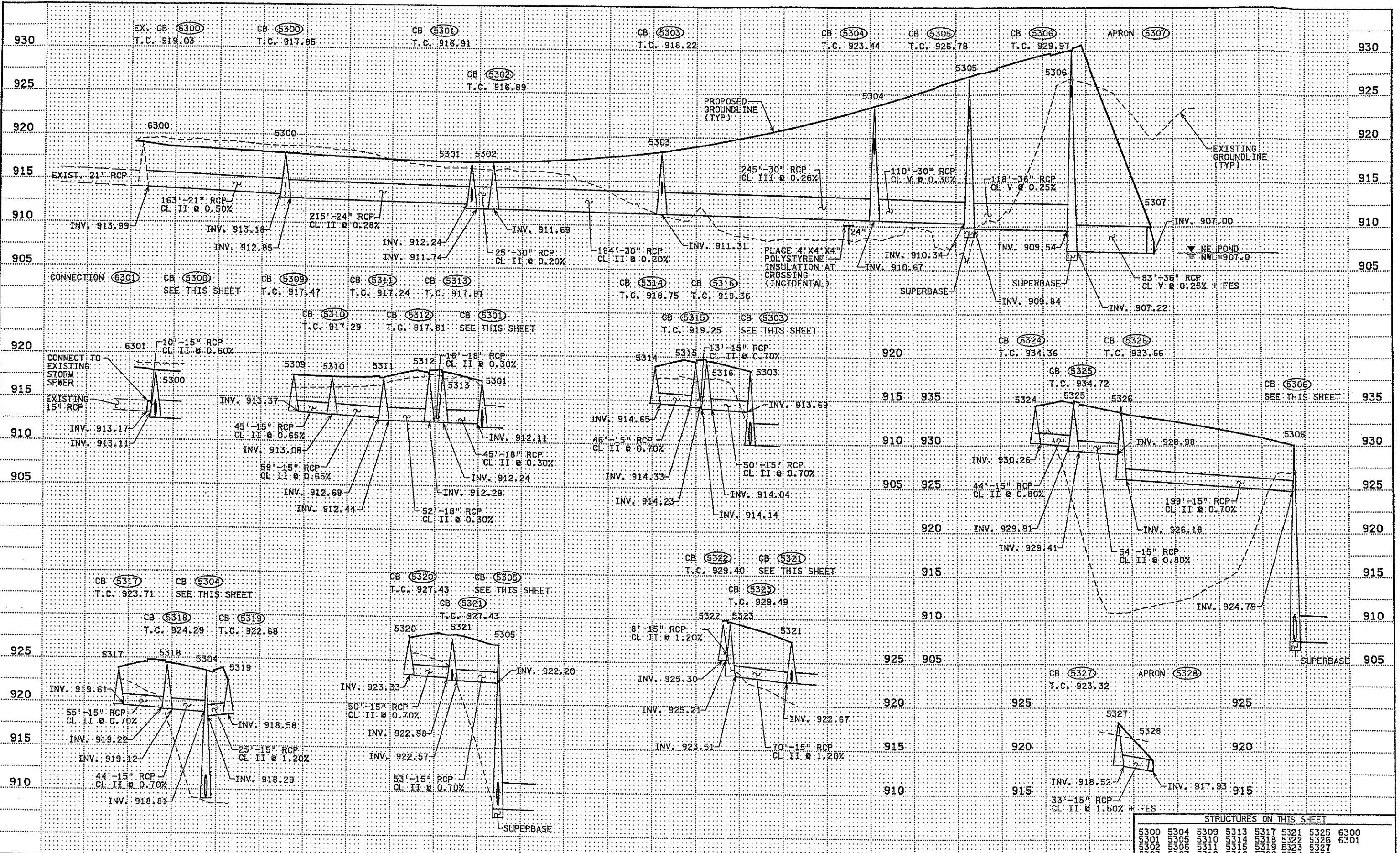
- NOTES:
- (A) STATION, OFFSETS, AND ELEVATIONS ARE GIVEN TO THE END OF APRON FOR RC AND CS PIPES.
 - (B) TIE ALL JOINTS FOR ALL REINFORCED CONCRETE PIPE. TIED JOINTS SHALL BE CONSIDERED INCIDENTAL.
 - (C) USE POSITIVE JOINTS ON ALL CORRUGATED STEEL PIPE. APRONS FOR CS PIPE SHALL BE GALVANIZED STEEL (GS) PIPE APRONS.
 - (D) GRANULAR FILTER BLANKET OR GEOTEXTILE FILTER MATERIAL REQUIRED SHALL BE CONSIDERED INCIDENTAL.
 - (E) CLEAN SEDIMENT FROM EXISTING PIPE. SEDIMENT REMOVAL SHALL BE CONSIDERED INCIDENTAL.
 - (F) FURNISH AND INSTALL SAFETY APRON AT CULVERT END. UTILIZE 1:4 CROSS SLOPE OPTION PER STANDARD PLATE 3022.
 - (G) REFER TO DRAINAGE DETAIL SHEETS FOR DITCH BLOCK DETAILS ASSOCIATED WITH THESE CULVERTS.
 - (H) ENSURE MINIMUM OF 1.5' COVER OVER EXISTING CULVERTS. GRADING MODIFICATIONS SHALL BE CONSIDERED INCIDENTAL.
 - (J) PROVIDE A MINIMUM OF 2 FOOT SUBCUT BENEATH CULVERT, BACKFILLED WITH SELECT GRANULAR MATERIAL TO SPRINGLINE (WIDEST PORTION OF THE CULVERT). ASSUME TRENCH WIDTH OF 1 FOOT ON EITHER SIDE OF CULVERT.
 - (K) FOR CULVERTS WITH LESS THAN 8 FEET OF COVER, BACKFILL SHALL BE MADE WITH GRANULAR BACKFILL MATERIAL ABOVE SPRINGLINE (WIDEST PORTION OF THE CULVERT). ASSUME 1:1 SLOPE FROM TOP OF TRENCH.
 - (L) COMMON EMBANKMENT MAY BE UTILIZED FOR BACKFILL MATERIAL FOR CULVERTS EXCEEDING 8 FEET OF COVER.
 - (M) PIPE LENGTHS DO NOT INCLUDE APRON LENGTHS.

FF CASTING ASSEMBLIES SUMMARY						
ASSEMBLY	RING OR FRAME CASTING	(1) COVER OR GRATE CASTING	(2) CURB BOX	STANDARD PLATE NO.	QUANTITY	REMARKS
B-5	802A	816		4129	44	CATCH BASIN
				4154		
			823	4160		
A-7D	700-7	715		4101	17	MANHOLE
			N/A	4110		
M-11	ROUND CONC.	731		4143	16	CATCH BASIN
			N/A			
PROJECT TOTAL					77	

- NOTES:
- (1) USE BENT BOLT WITH 816 GRATES.
 - (2) USE ELONGATED BOLT SLOTS ON CURB BOXES WITH 4 IN CURB.

11:37 PM 8/20/09 ...\\HI-MUNPlan\CO261429.dwg

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: ERIC D. ROERISH  Date: 8/20/09 License: 45645	STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X	DRAWN BY W. ANDERSON DESIGNED BY K. LUDWIG CHECKED BY E. ROERISH COMM. NO. 0086509	SRF CONSULTING GROUP, INC.	ANOKA COUNTY DRAINAGE TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE	SHEET 171 OF 471
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STRUCTURES ON THIS SHEET									
5300	5304	5309	5313	5317	5321	5325	6300		
5301	5305	5310	5314	5318	5322	5326	6301		
5302	5306	5311	5315	5319	5323	5327			
5303	5307	5312	5316	5320	5324	5328			

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 Prt Name: **ERIC D. ROERISH**
Eric D. Roerish
 Date: 7/22/09 License # 45645

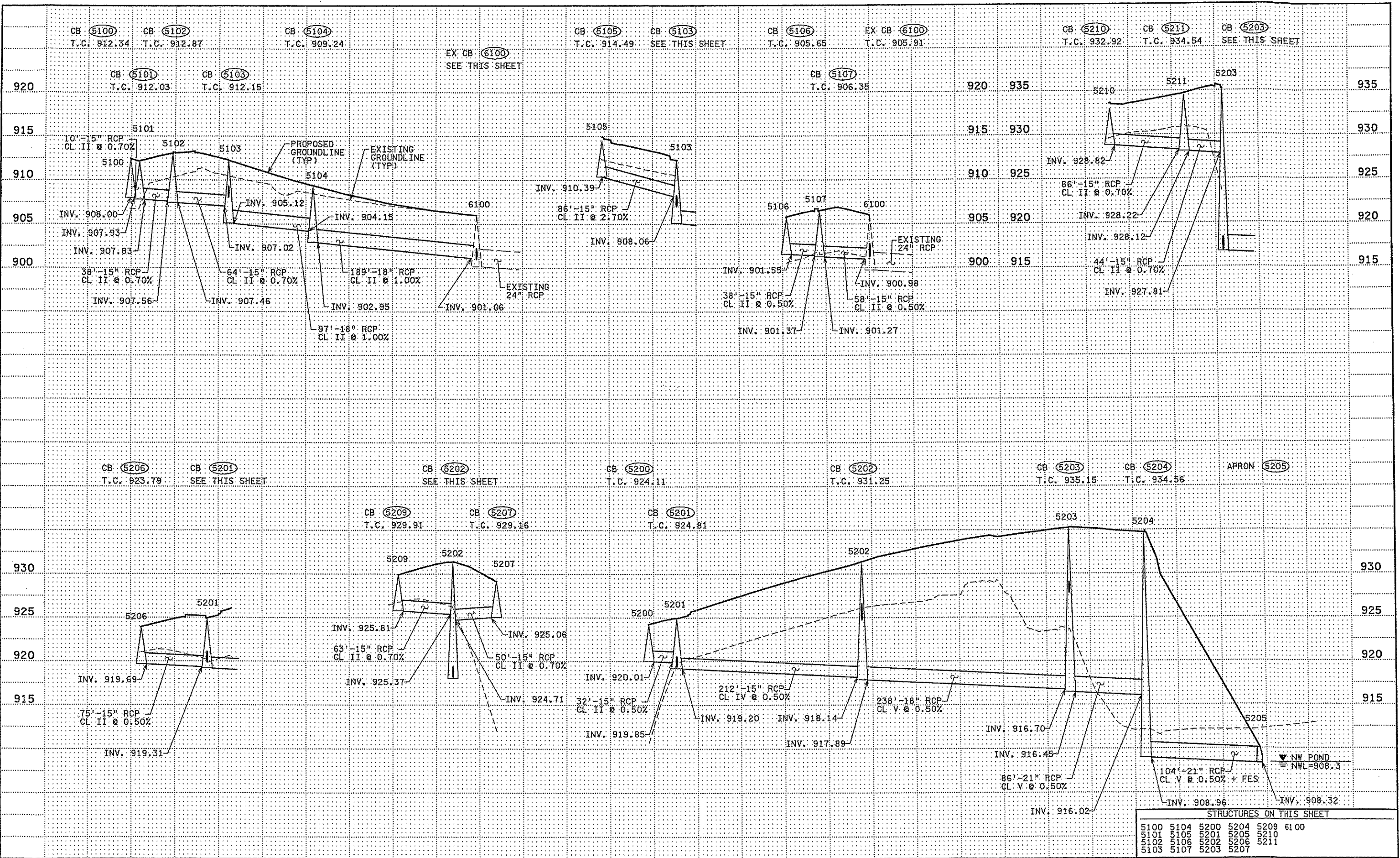
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY W. ANDERSON
 DESIGNED BY K. LUDWIG
 CHECKED BY E. ROERISH
 COMM. NO. 0086509



ANOKA COUNTY
 MISC. STORM SEWER PROFILES
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STATION TO STATION OR ROADWAY NAMES

SHEET
 172
OF
 471



CB (5100) T.C. 912.34 CB (5102) T.C. 912.87 CB (5104) T.C. 909.24 EX CB (6100) SEE THIS SHEET CB (5105) T.C. 914.49 CB (5103) SEE THIS SHEET CB (5106) T.C. 905.65 EX CB (6100) T.C. 905.91 CB (5210) T.C. 932.92 CB (5211) T.C. 934.54 CB (5203) SEE THIS SHEET

CB (5101) T.C. 912.03 CB (5103) T.C. 912.15

CB (5107) T.C. 906.35

920 935 5210 5211 5203

CB (5206) T.C. 923.79 CB (5201) SEE THIS SHEET

CB (5202) SEE THIS SHEET

CB (5200) T.C. 924.11

CB (5202) T.C. 931.25

CB (5203) T.C. 935.15

CB (5204) T.C. 934.56

APRON (5205)

CB (5209) T.C. 929.91

CB (5207) T.C. 929.16

CB (5201) T.C. 924.81

5203 5204

75'-15" RCP
CL II @ 0.50%

63'-15" RCP
CL II @ 0.70%

50'-15" RCP
CL II @ 0.70%

32'-15" RCP
CL II @ 0.50%

212'-15" RCP
CL IV @ 0.50%

238'-18" RCP
CL V @ 0.50%

86'-21" RCP
CL V @ 0.50%

104'-21" RCP
CL V @ 0.50% + FES

STRUCTURES ON THIS SHEET

5100	5104	5200	5204	5209	6100
5101	5105	5201	5205	5210	
5102	5106	5202	5206	5211	
5103	5107	5203	5207		

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 Print Name: ERIC D. ROERISH
Eric D. Roerish
 Date: 12/21/09 License #: 45645

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

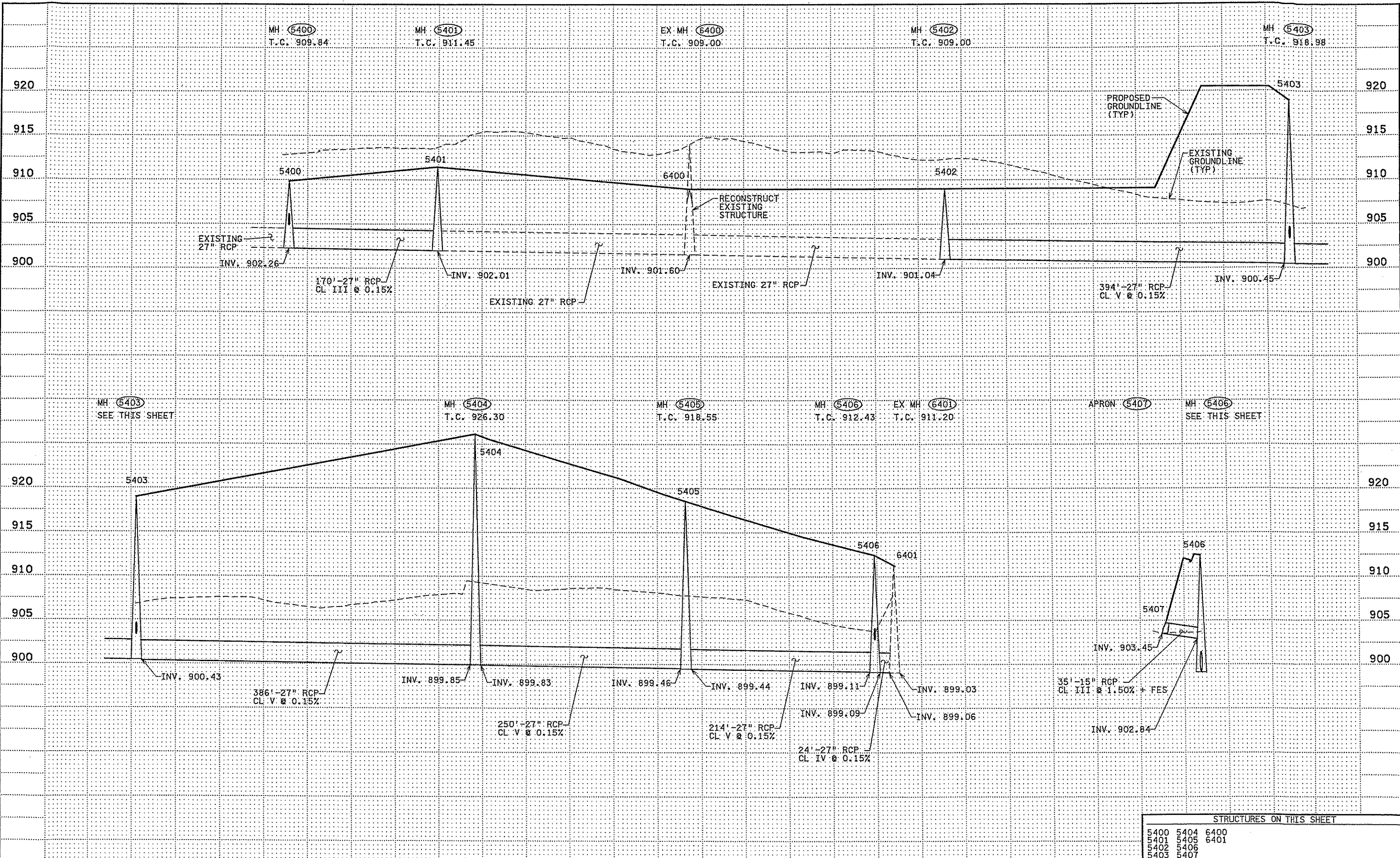
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 CHECKED BY E. ROERISH
 COMM. NO. 0088509



ANOKA COUNTY
 MISC. STORM SEWER PROFILES
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STATION TO STATION OR ROADWAY NAMES

SHEET 173 OF 471

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MH (5403)
SEE THIS SHEET

MH (5404)
T.C. 926.30

MH (5405)
T.C. 918.55

MH (5406)
T.C. 912.43

EX MH (6401)
T.C. 911.20

APRON (5407)

MH (5406)
SEE THIS SHEET

STRUCTURES ON THIS SHEET	
5400	5404 6400
5401	5405 6401
5402	5406
5403	5407

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 Print Name: **ERIC D. ROERISH**
Eric D. Roerish
 Date: *05/22/09* License #: **45645**

STATE PROJECT NO.
0282-25 (TH 35E)
 STATE PROJECT NO.
02-614-28
 COUNTY PROJECT NO.
X
 CITY PROJECT NO. X

DRAWN BY
W. ANDERSON
 DESIGNED BY
K. LUDWIG
 CHECKED BY
E. ROERISH
 COMM. NO. 0086509



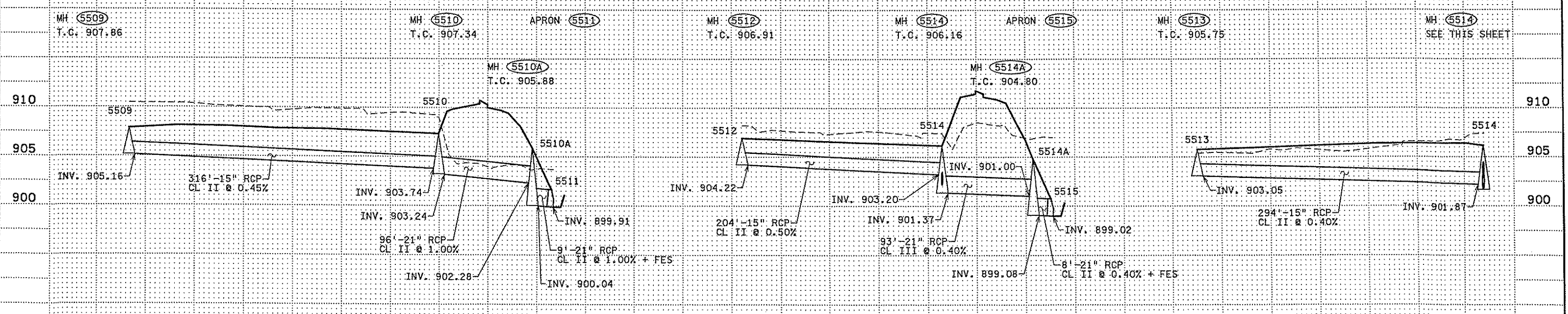
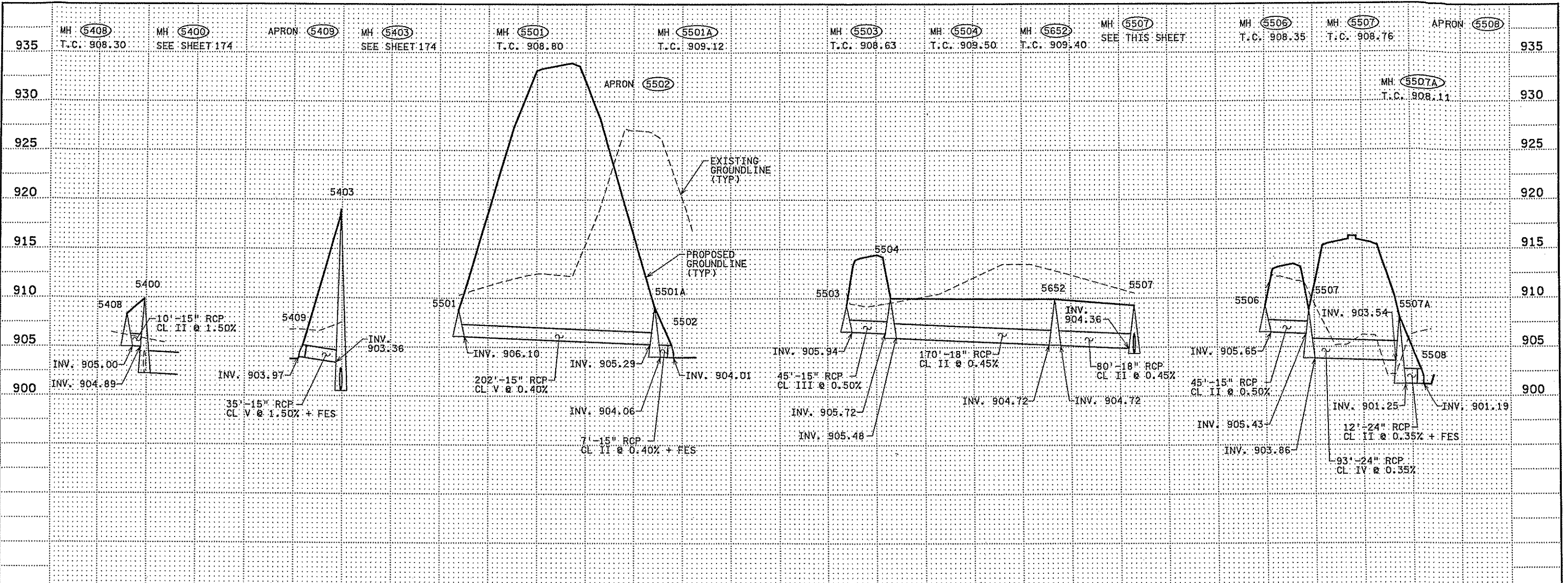
ANOKA COUNTY
 MISC. STORM SEWER PROFILES
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STATION TO STATION OR ROADWAY NAMES

SHEET
174
OF
471

9/28/31 AM
 02/27/2009
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NO	DATE	BY	CHK	APPR	REVISION

...HI-MUV\lan\0261429_DT03.DGN



STRUCTURES ON THIS SHEET						
5408	5502	5507	5510	5513	5652	
5409	5503	5507A	5510A	5514		
5501	5504	5508	5511	5514A		
5501A	5506	5509	5512	5515		

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 Print Name: **ERIC D. ROERISH**
Eric D. Roerish
 Date: **05/22/09** License #: **45645**

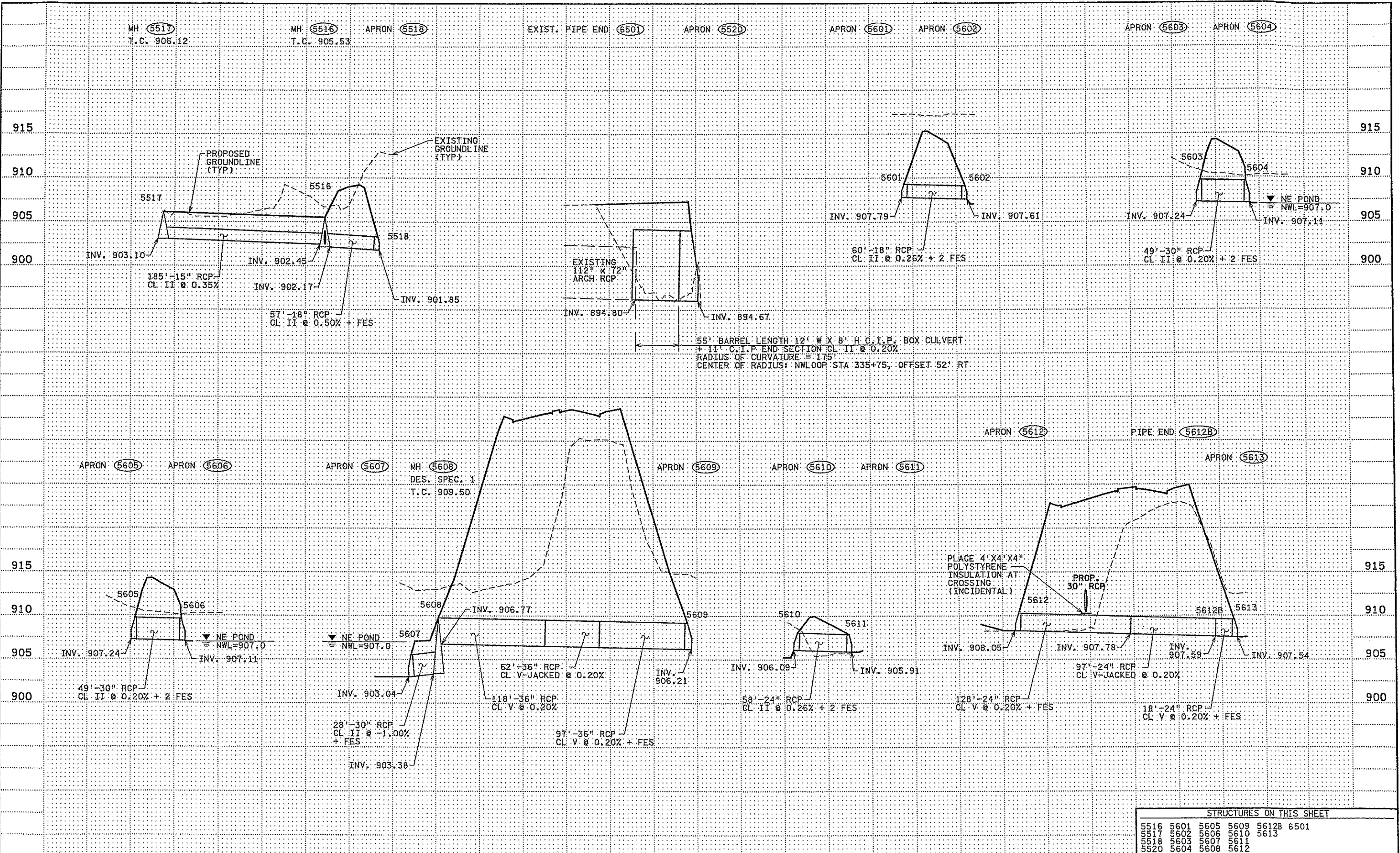
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 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

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ANOKA COUNTY
 MISC. STORM SEWER PROFILES
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STATION TO STATION OR ROADWAY NAMES

SHEET 175 OF 471



STRUCTURES ON THIS SHEET

5516	5601	5605	5609	5612B	6501
5517	5602	5606	5610	5613	
5518	5603	5607	5611		
5520	5604	5608	5612		

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Print Name: **ERIC D. ROERISH**

Eric D. Roerish

Date: *05/22/09* License # 45645

STATE PROJECT NO. 0262-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

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DESIGNED BY K. LUDWIG

CHECKED BY E. ROERISH

COMM. NO. 0086509



ANOKA COUNTY

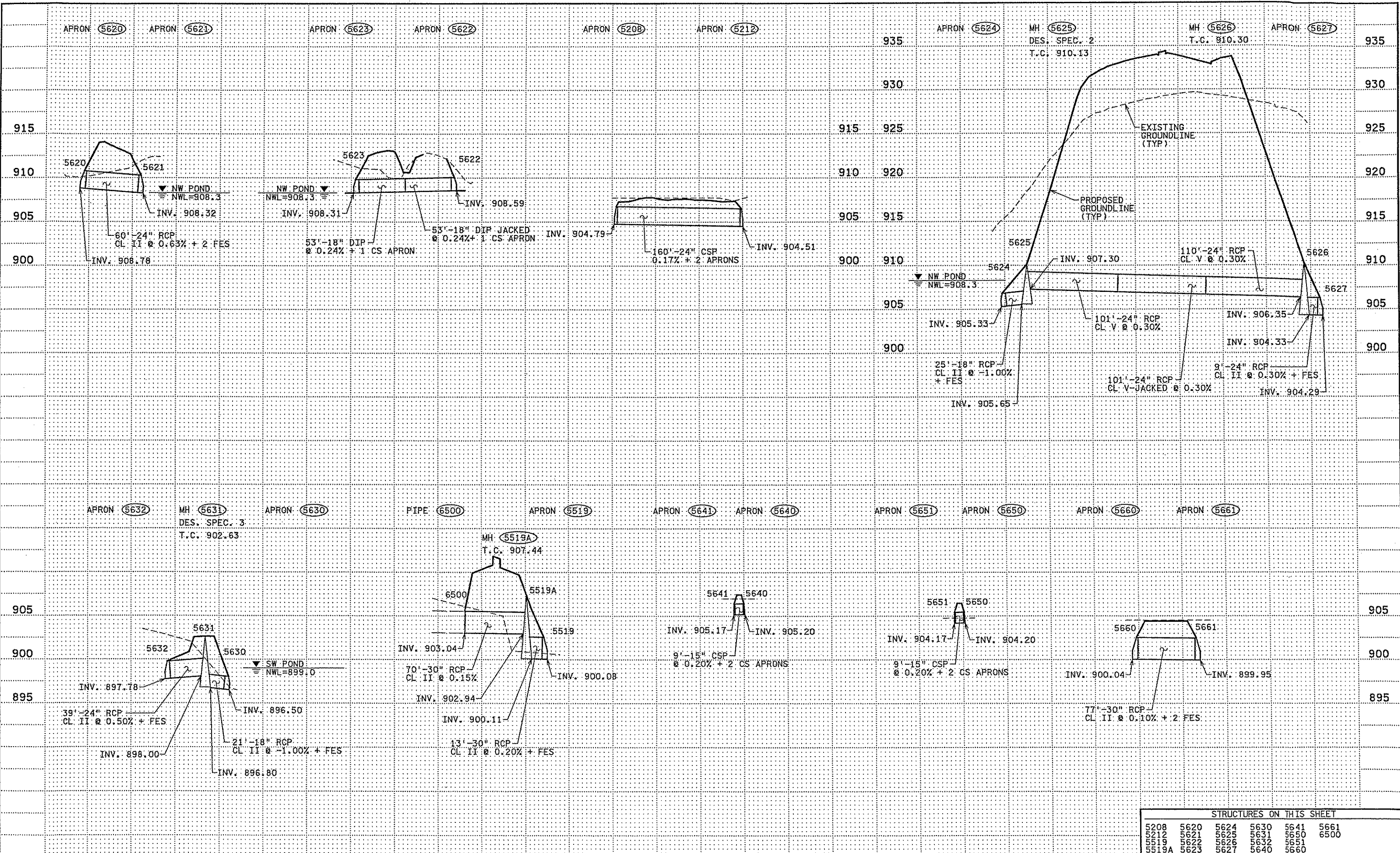
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C.S.A.H. 14/T.H. 35E INTERCHANGE

STATION TO STATION OR ROADWAY NAMES

SHEET 176 OF 471

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STRUCTURES ON THIS SHEET					
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5212	5621	5625	5631	5650	6500
5519	5622	5626	5632	5651	
5519A	5623	5627	5640	5660	

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Print Name: **ERIC D. ROERISH**

Eric D. Roerish

Date: 05/24/09 License #: 45645

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

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DESIGNED BY K. LUDWIG

CHECKED BY E. ROERISH

COMM. NO. 0086509



ANOKA COUNTY

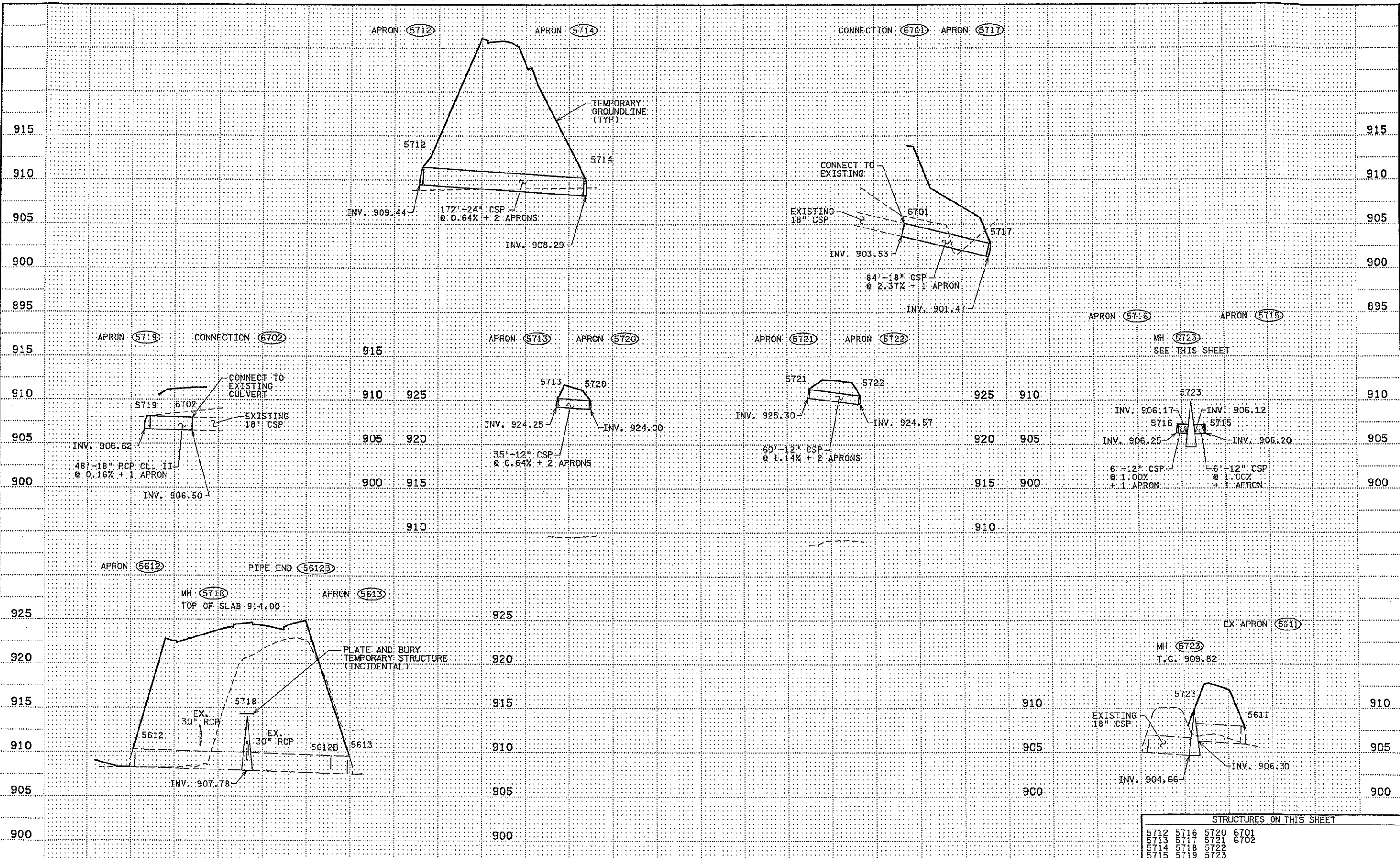
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C.S.A.H. 14/T.H. 35E INTERCHANGE

STATION TO STATION OR ROADWAY NAMES

SHEET 177 OF 471

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STRUCTURES ON THIS SHEET			
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5714	5718	5722	
5715	5719	5723	

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 Print Name: **ERIC D. ROERISH**
Eric D. Roerish
 Date: *02/28/08* License #: **45645**

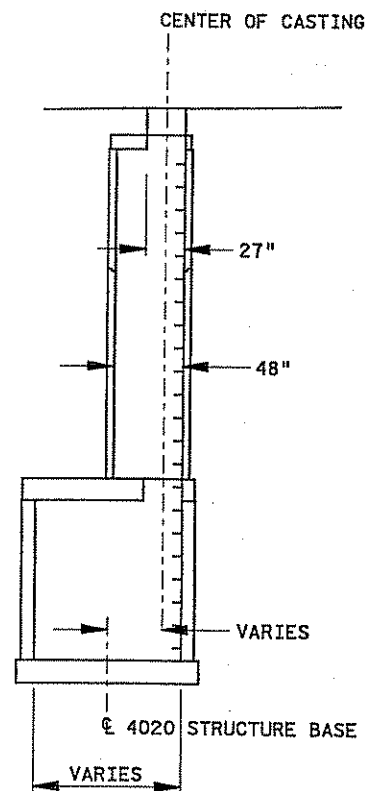
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 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

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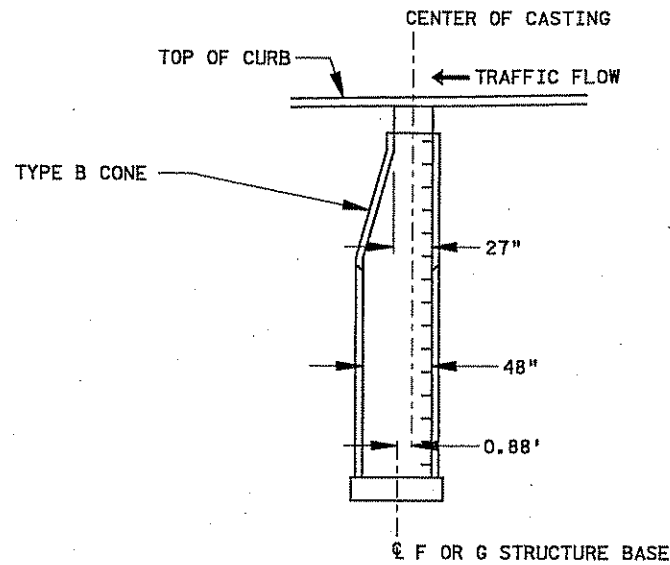


ANOKA COUNTY
 TEMP. STORM SEWER PROFILES
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 STATION TO STATION OR ROADWAY NAMES

SHEET 179
 OF 471

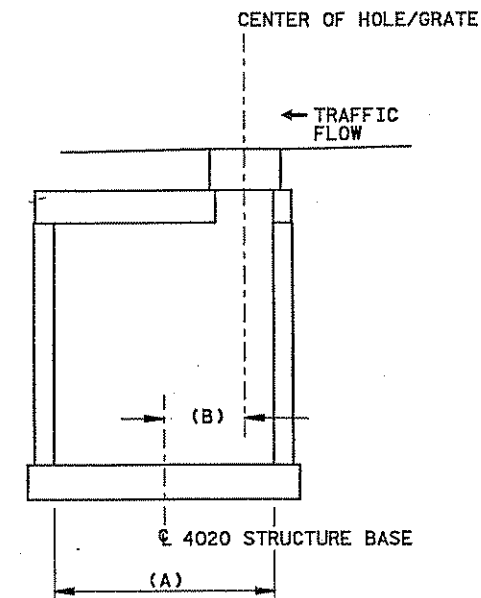


STAKING DETAIL: DESIGN XX-4020/XX-4020 COMBINATION STRUCTURE
NOT TO SCALE



LOCATE CENTER OF STRUCTURE 0.88' FROM CENTER OF CASTING OPENING.
ALIGN CENTER OF STRUCTURES AND CENTER OF OPENING WITH GUTTER LINE. POSITION OPENING TOWARD ONCOMING TRAFFIC.

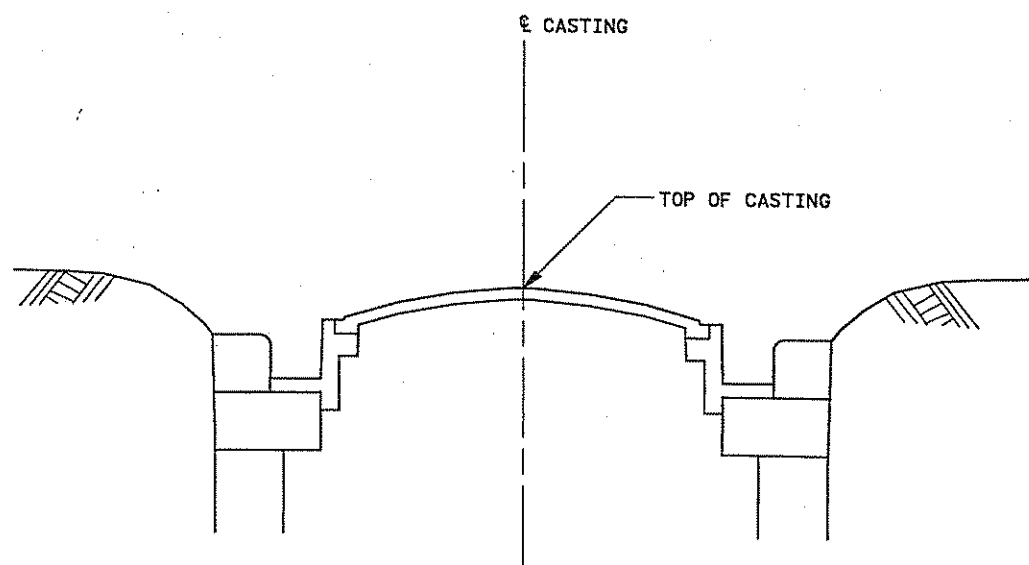
STAKING DETAIL: F OR G STRUCTURE AT CURB AND GUTTER
NOT TO SCALE



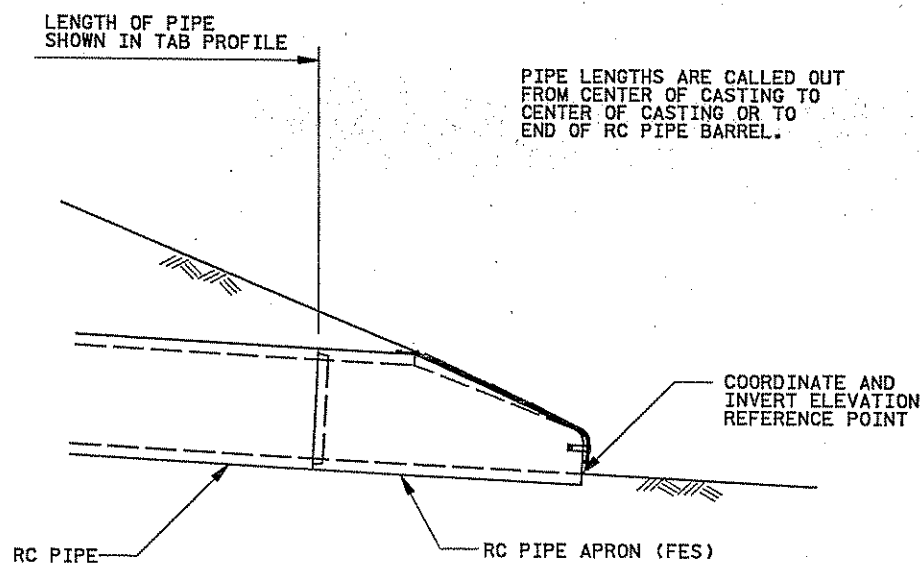
(A)	(B)
4020 DIAMETER (IN.)	OFFSET FOR 27-IN. OPENING (FT.)
48	0.79
54	1.08
60	1.29
66	1.58
72	1.79
78	2.08
84	2.29
90	2.58
96	2.88
102	3.17
108	3.29
120	3.79

ALIGN CENTER OF STRUCTURES AND CENTER OF OPENING WITH GUTTER LINE. POSITION OPENING TOWARD ONCOMING TRAFFIC.

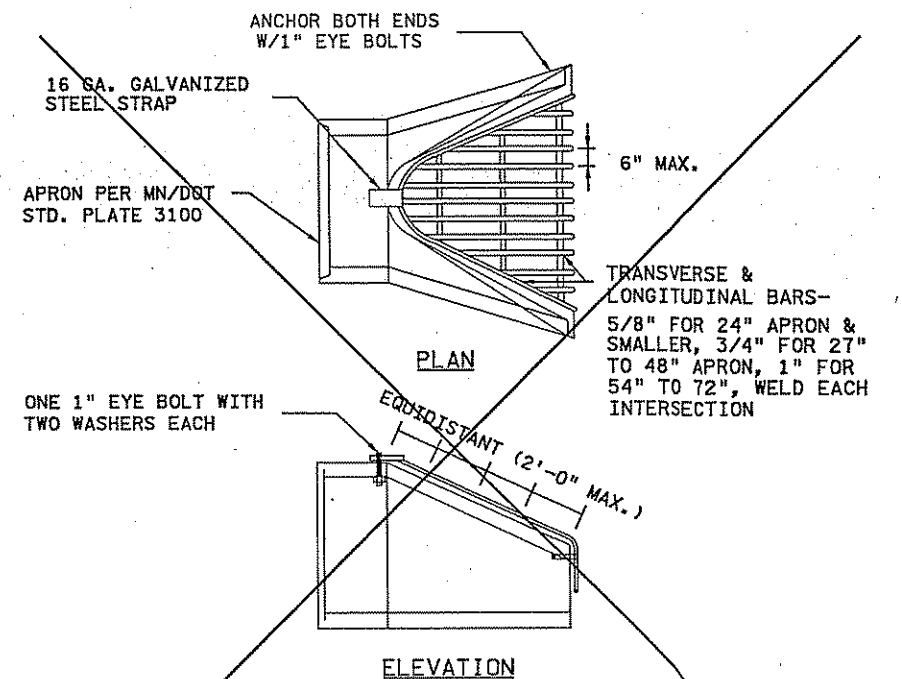
STAKING DETAIL: DESIGN XX-4020 STRUCTURE
NOT TO SCALE



STAKING DETAIL: M-11 CASTING ASSEMBLY
NOT TO SCALE



STAKING DETAILS: RC 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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Print Name: **ERIC D. ROERISH**

Eric D. Roerish

Date: 7/22/09 License # 45645

STATE PROJECT NO. 0282-25 (TH 35E)

DESIGNED BY K. LUDWIG

CHECKED BY E. ROERISH

COMM. NO. 0086509

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

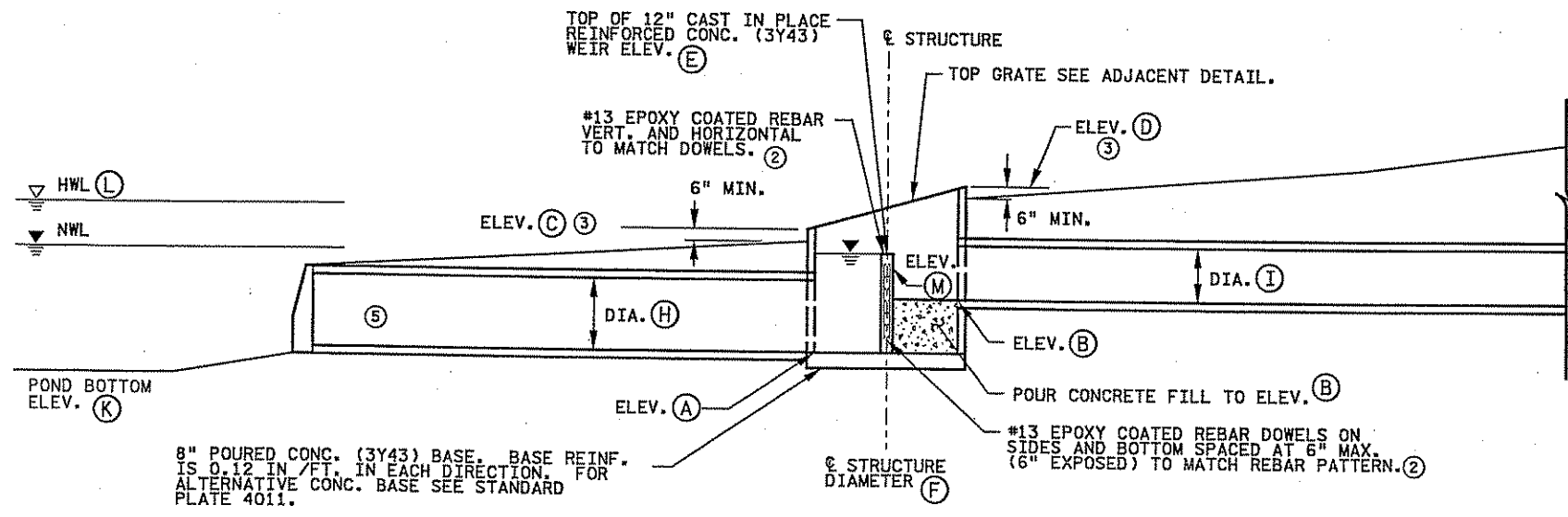
CITY PROJECT NO. X



ANOKA COUNTY
DRAINAGE DETAILS
C.S.A.H. 14/T.H. 35E INTERCHANGE
STAKING DETAILS/TRASH GUARD

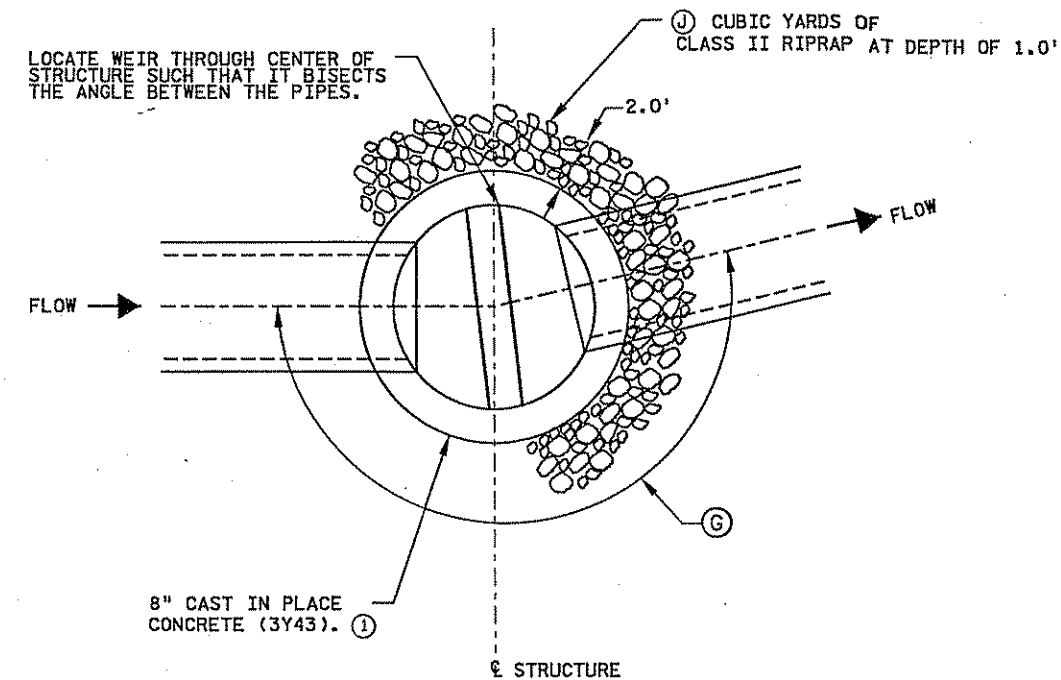
SHEET 180 OF 471

STRUCTURE	DES. SPEC.	NWL	ELEV. A	ELEV. B	ELEV. C	ELEV. D	ELEV. E	V-NOTCH	V-NOTCH ELEV. (M)	DIA. (F) (IN)	ANGLE (C) (DEG)	DIA. (H) (IN)	DIA. (I) (IN)	VOL. (J) (CY)	ELEV. (K)	ELEV. (L)	POND
5608	1	907.00	903.38	906.77	908.50	910.70	907.00	NO	---	72	173.4	30	36	2.1	902.00	908.20	NE LOOP
5625	2	908.30	905.65	907.30	909.50	910.90	909.80	YES	908.30	60	178.2	18	24	1.9	904.30	909.40	NW LOOP
5631	3	899.00	896.80	898.00	902.00	903.40	900.50	YES	899.00	60	180	18	24	1.9	895.00	902.70	SW RAMP



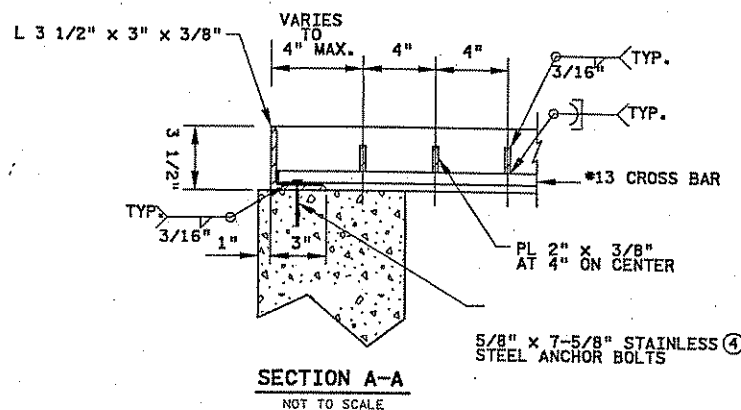
POND OUTLET STRUCTURE - DESIGN SPECIAL 1, 2 AND 3

NOT TO SCALE



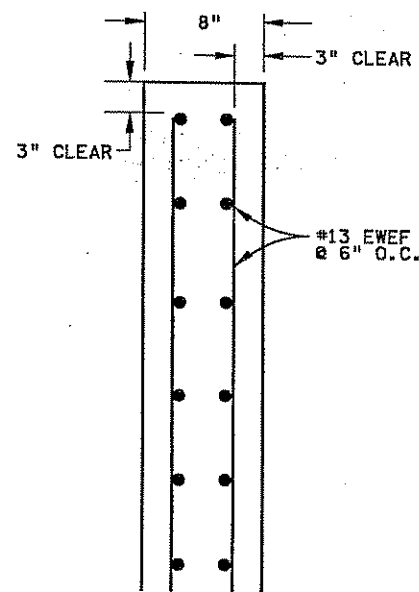
OUTLET STRUCTURE PLAN VIEW AND RIPRAP DETAIL

NOT TO SCALE



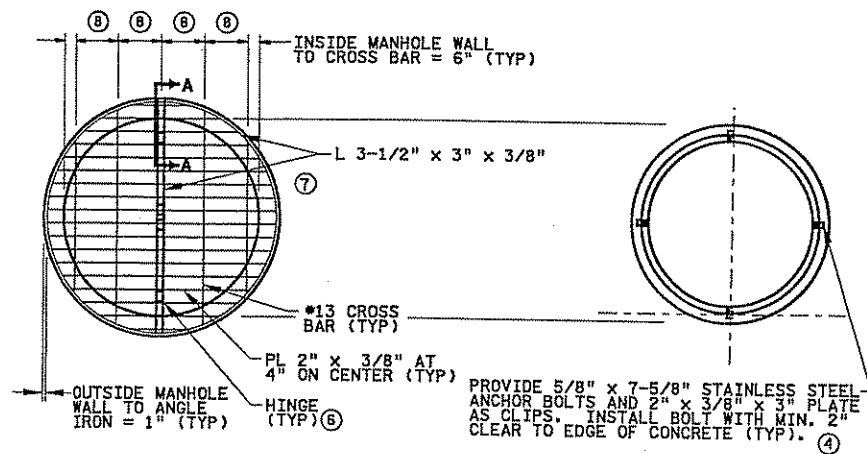
SECTION A-A

NOT TO SCALE



CAST IN PLACE WEIR SECTION DETAIL

NOT TO SCALE



TOP GRATE DETAIL

NOT TO SCALE

NOTES:

PAYMENT FOR POND OUTLET STRUCTURES SHALL BE MADE UNDER SPEC. 2506. SEE STANDARD PLATE 3000.

(1) WALL CONSTRUCTION MAY BE CLASS II PRECAST RC PIPE. SEE STANDARD PLATE 3000.

(2) ALL REBAR SIZES ARE METRIC UNLESS OTHERWISE NOTED.

(3) ELEVATION (C) OCCURS IN LINE WITH THE CENTERLINE OF PIPE (H). ELEVATION (D) OCCURS DIRECTLY ACROSS STRUCTURE FROM (C).

(4) BOLTS AND NUTS SHALL MEET THE REQUIREMENTS OF A.S.T.M. A307. MATERIALS FOR BASE PLATES AND ANCHOR BOLTS ASSEMBLIES SHALL CONFORM TO STRUCTURAL STEEL (WELDABLE A36).

(5) PAYMENT FOR DRAINAGE DESIGN SPECIAL PER EACH WILL INCLUDE ALL MATERIALS, DETAILS AND WORK REQUIRED TO CONSTRUCT THE DRAINAGE STRUCTURE AS DETAILED ON THIS SHEET, EXCEPT THE RC PIPE, APRON AND RIPRAP, WHICH WILL BE PAID FOR SEPARATELY.

(6) GRATE SHALL BE CONSTRUCTED IN TWO PIECES, WITH MINIMUM OF THREE HINGES TO PROVIDE ACCESS.

(7) HOT DIP GALVANIZE GRATES AFTER FABRICATION.

(8) 12\"/>

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 Pr Int Name: ERIC D. ROERISH
 Date: 7/21/09 License #: 45645

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

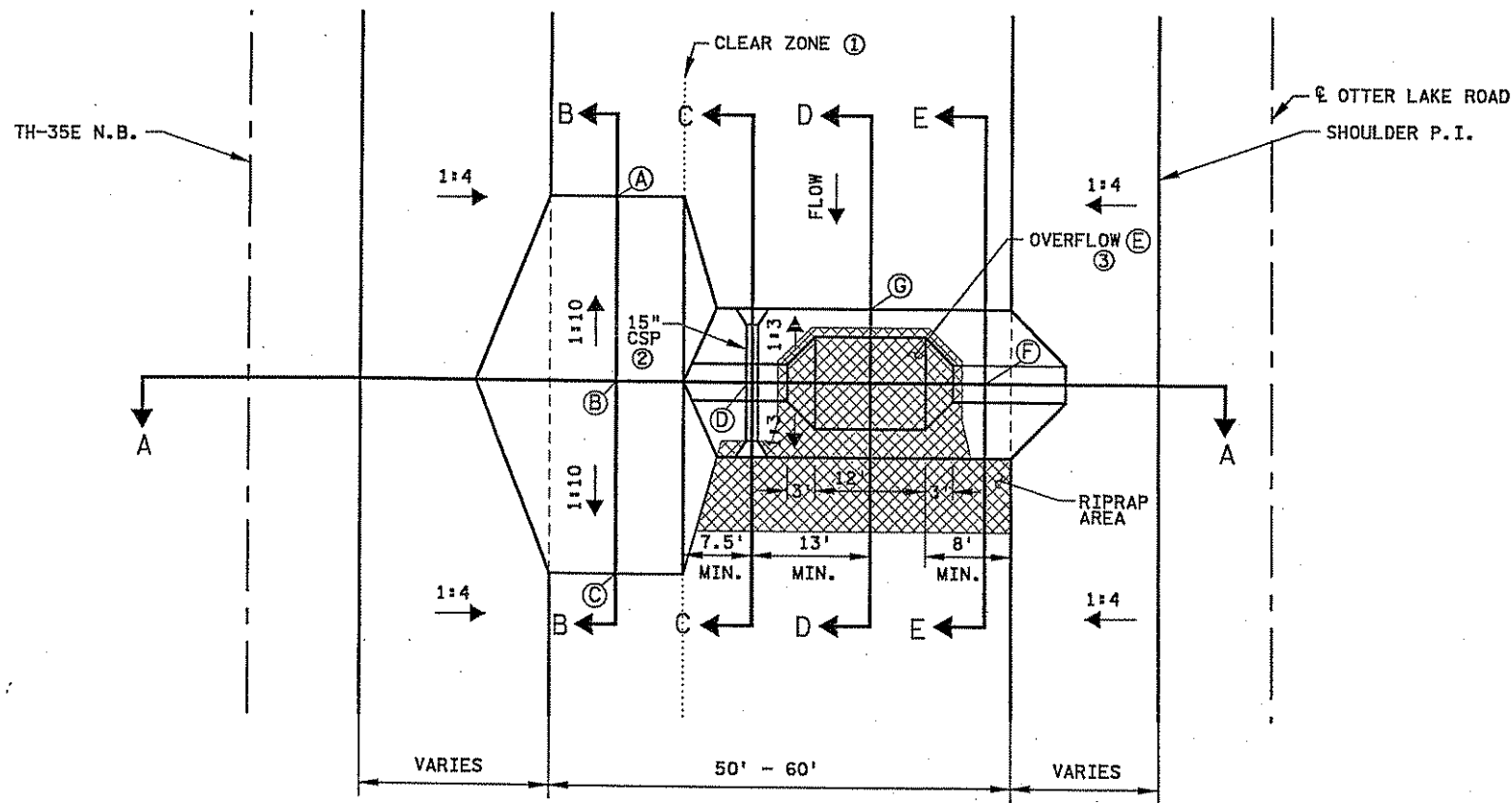
DRAWN BY W. ANDERSON
 DESIGNED BY T. SANTIAGO
 CHECKED BY E. ROERISH
 COMM. NO. 0086509



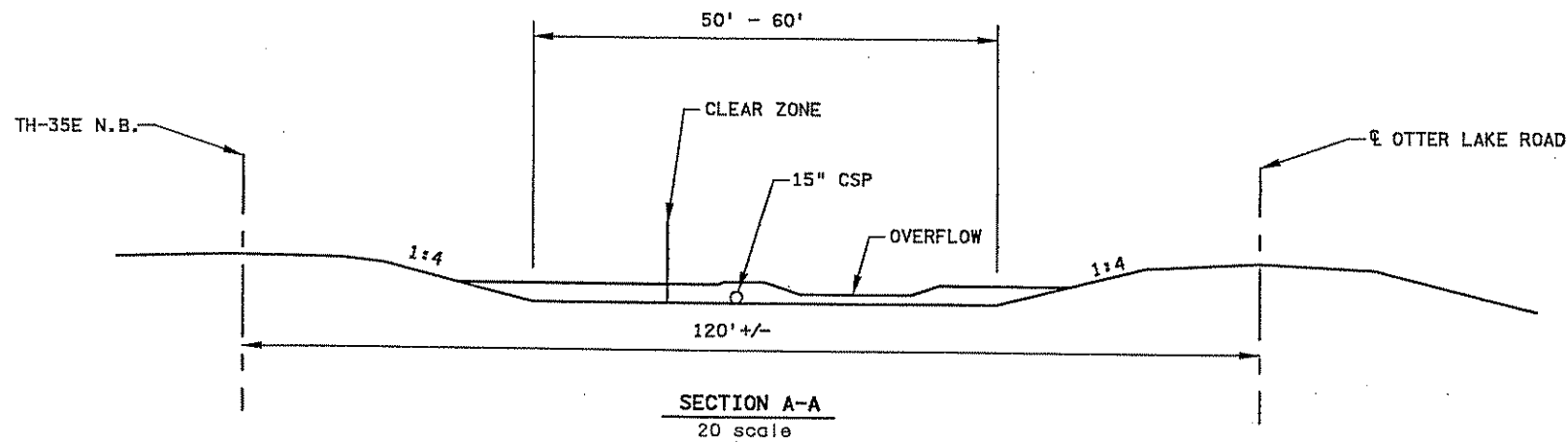
ANOKA COUNTY
 DRAINAGE DETAILS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 OUTLET CONTROL STRUCTURES

SHEET 181 OF 471

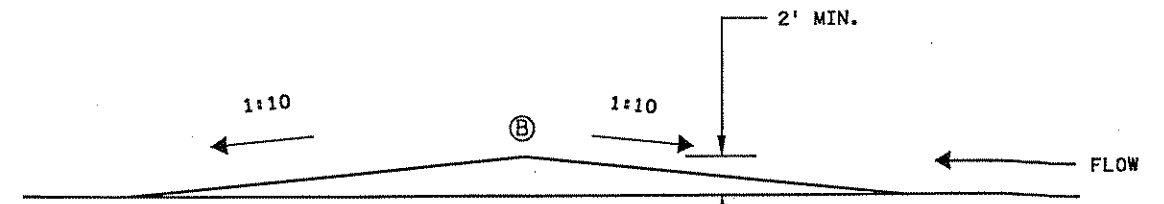
DITCH BLOCK ⑤	TH-35E NB STA	ELEV. (A)	ELEV. (B)	ELEV. (C)	ELEV. (D)	ELEV. (E)	ELEV. (F)	ELEV. (G)	COMMON EMBANKMENT (CV) (CU. YD.)	RANDOM RIP RAP CL II (CU. YD.) ④
DES. SPEC. 4	563+00	904.94	906.90	904.86	907.15	905.90	906.90	904.90	65	23
DES. SPEC. 5	568+00	N/A	N/A	N/A	906.15	904.90	905.90	903.90	38	23



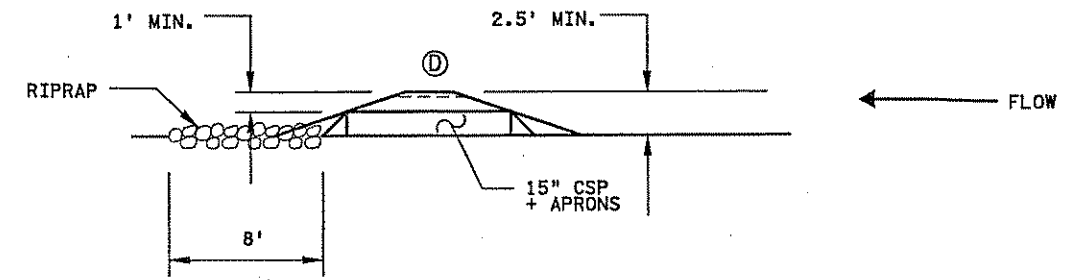
DITCH BLOCK DETAIL - SOUTHEAST DITCH
APPROX. EXISTING N.B. 35E STA. 558+00 & 563+00 20 scale



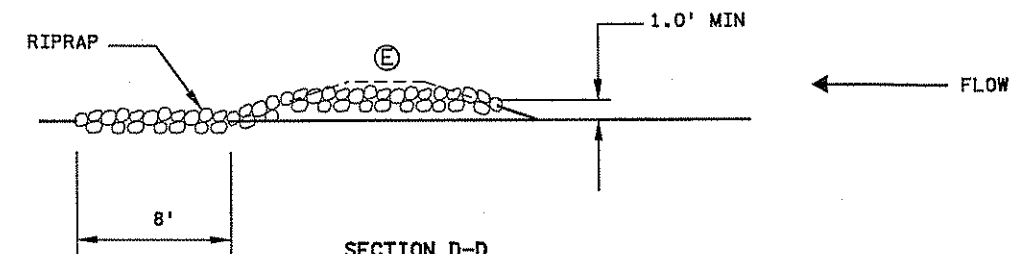
SECTION A-A
20 scale



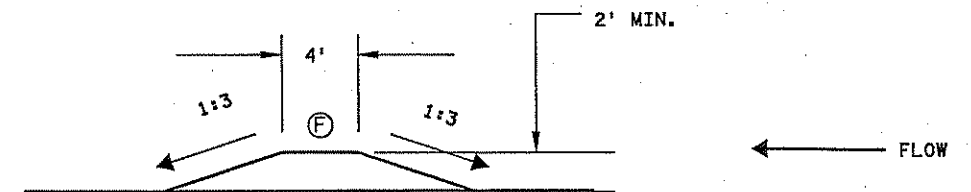
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

NOTES:

- PAYMENT FOR DITCH BLOCKS SHALL BE MADE UNDER SPEC. 2506.
- ① MAINTAIN 1:10 SLOPES FOR DITCH BLOCK WITHIN CLEAR ZONE. OUTSIDE CLEAR ZONE, SLOPES OF 1:3 ARE ADEQUATE.
- ② MAINTAIN MINIMUM 1 FT. OF COVER OVER 15" CMP. SEE SECTION C-C FOR DETAIL. REFER TO DRAINAGE TABULATION AND STORM PROFILES FOR CULVERT INFORMATION.
- ③ PROVIDE DITCH BLOCK OVERFLOW AT 1.0 FT. ABOVE FINISHED DITCH GRADE ELEVATION. PROVIDE RIPRAP LINING TO PREVENT SOIL EROSION.
- ④ GRANULAR FILTER BLANKET OR GEOTEXTILE FILTER MATERIAL REQUIRED SHALL BE CONSIDERED INCIDENTAL.
- ⑤ COMMON EMBANKMENT AND RANDOM RIP RAP CL II ARE INCIDENTAL TO DESIGN SPECIAL STRUCTURE.

2/12/17 PM 7/21/2009 H:\Proj\0261429\HI-MU\Plan\0261429_DRD6.DGN

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: **ERIC D. ROERISH**
 Date: **7/22/05** License #: **45645**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY **W. ANDERSON**
 DESIGNED BY **T. SANTIAGO**
 CHECKED BY **E. ROERISH**
 COMM. NO. 0086509



ANOKA COUNTY
DRAINAGE DETAILS
C.S.A.H. 14/T.H. 35E INTERCHANGE
DITCH BLOCK DETAIL

SHEET
182
OF
471

DESIGN DATA

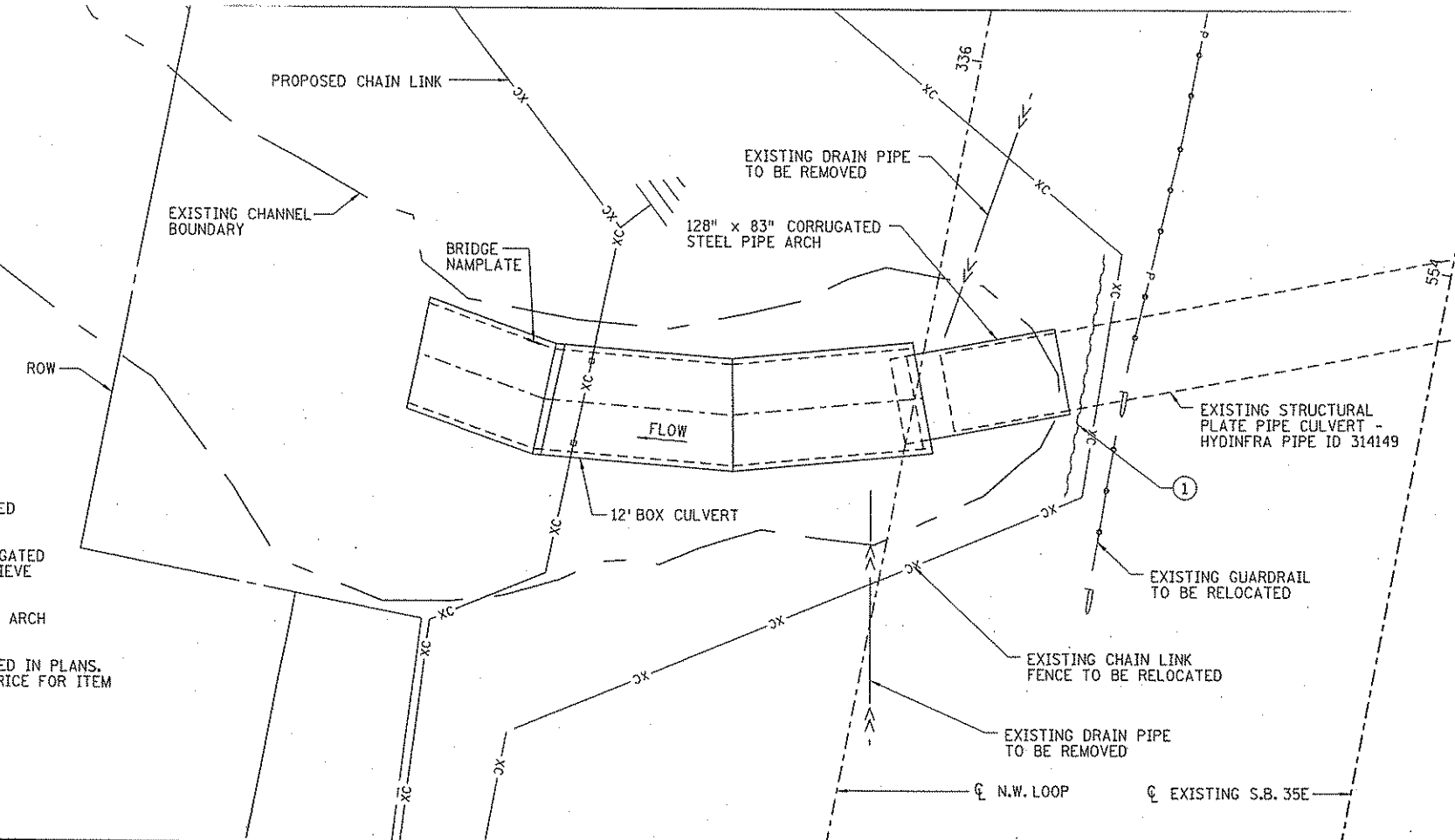
2002 (AND CURRENT INTERIM) A.A.S.H.T.O. DESIGN SPECIFICATIONS
 LOAD FACTOR DESIGN METHOD
 HS 25 LIVE LOADING

INSIDE HEIGHT = 8'-0"
 INSIDE WIDTH = 12'-0"
 BARREL LENGTH = 48'-0"
 HEIGHT OF WINGWALL AT END = 1'-9"
 DEPTH OF DROPWALL = 4'-0"
 SKEW ANGLE = 0°-0'-0"
 DESIGN FILL DEPTH = 5'-3"
 UNIT WEIGHT FILL = 130 LBS./CU. FT.
 ANGLE OF INTERNAL FRICTION = 30°

MAXIMUM ALLOWABLE DESIGN STRESSES:
 REINFORCED CONCRETE (C-I-P):
 f'c = 5000 psi n = 8
 fy = 65000 psi REINFORCEMENT

CONSTRUCTION SEQUENCE:

- (A) EXCAVATE FOR BOX CULVERT. PLACE AGGREGATE BASE PER MNDOT SPEC. 2211 UNDER CAST-IN-PLACE PORTION OF THE CULVERT. COMPACTION SHALL BE OBTAINED BY THE QUALITY COMPACTION METHOD.
- (B) POUR BOTTOM SLAB, CUT OFF WALL AND APRON.
- (C) POUR BOX CULVERT SIDES AND WING WALLS.
- (D) POUR LOWER HALF OF CRADLE.
- (E) PLACE TEMPORARY SHEETING OR SHORING AS NEEDED. AFTER SHEETING AND OR SHORING IS IN PLACE, EXCAVATE UNDER FLARED END SECTION OF EXISTING STRUCTURAL PLATE PIPE CULVERT.
- (F) FURNISH AND INSTALL 20 FOOT SECTION OF 128" x 83" CORRUGATED STEEL PIPE ARCH. SHIM/SUPPORT EACH END AS NEEDED TO ACHIEVE CORRECT DRAINAGE ELEVATIONS.
- (G) PLACE LEAN MIX BACKFILL UNDER NEW CORRUGATED STEEL PIPE ARCH AS NECESSARY TO FILL ALL VOIDS.
- (H) GROUT EACH END OF CORRUGATED STEEL PIPE ARCH AS SPECIFIED IN PLANS. GROUT AND GROUT INSTALLATION SHALL BE INCLUDED IN BID PRICE FOR ITEM NO. 2401 "STRUCTURAL CONCRETE (3Y43)".
- (I) POUR UPPER HALF OF CRADLE.
- (J) POUR TOP SLAB OF BOX CULVERT.
- (K) BACKFILL CULVERT PER MNDOT SPEC. 2106.

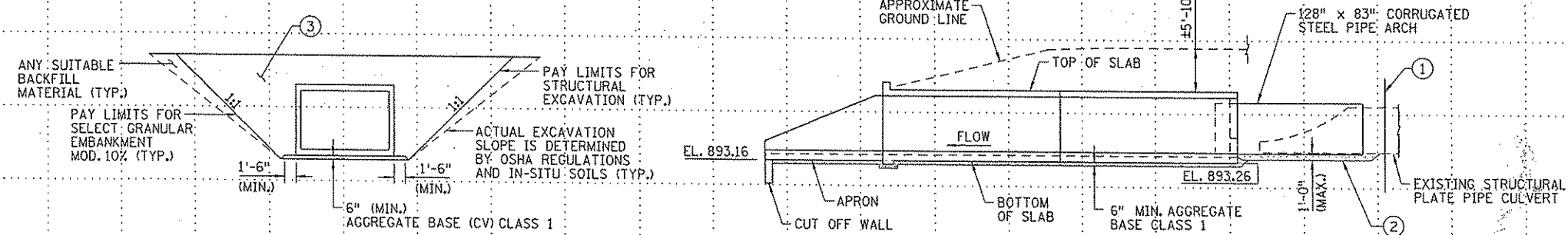


FFF SCHEDULE OF QUANTITIES FOR 12' x 8' BOX CULVERT

ITEM NO.	ITEM	UNIT	QUANTITY
2106	SELECT GRANULAR EMBANKMENT MOD. 10% (CV)	CU. YD.	750
2211	AGGREGATE BASE (CV) CLASS 1	CU. YD.	16
2401	STRUCTURAL CONCRETE (3Y43)	CU. YD.	70 (P)
2401	REINFORCEMENT BARS	POUND	17350 (P)
2451	STRUCTURE EXCAVATION CLASS E	CU. YD.	300
2501	128" SPAN CAS PIPE-ARCH CULVERT 8 GAUGE	LIN. FT.	20 (P)

- NOTES:
- ① TEMPORARY SHEETING OR SHORING MAY BE NECESSARY TO PROTECT ROADWAY. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF SHEETING OR SHORING BASED ON THEIR CONSTRUCTION OPERATIONS. TEMPORARY SHEETING OR SHORING SHALL BE INCLUDED IN BID PRICE FOR ITEM NO. 2451 "STRUCTURE EXCAVATION CLASS E".
 - ② LEAN MIX BACKFILL PER MNDOT SPEC. 2520. LEAN MIX BACKFILL SHALL BE INCLUDED IN BID PRICE FOR ITEM NO. 2401 "STRUCTURAL CONCRETE (3Y43)".
 - ③ SELECT GRANULAR EMBANKMENT PER MNDOT 3149.2B2, MODIFIED TO LESS THAN 10% PASSING A NO. 200 SIEVE. COMPACTION SHALL BE IN ACCORDANCE WITH MNDOT 2105.3FL. MATERIAL SHALL BE PLACED BY THE CONTRACTOR AFTER COMPLETION OF THE BOX CULVERT.
 - ④ 5:1 CORRUGATION IS AN ACCEPTABLE ALTERNATE
 - 5. BRIDGE NAMEPLATE SHALL BE INCLUDED IN BID PRICE FOR ITEM NO. 2401 "STRUCTURAL CONCRETE (3Y43)".

940
930
920
910
900
890
880
870
860



TYPICAL SECTION

TRUNK HIGHWAY NO. 35
 MINNESOTA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 02X05

3.8 MILES SOUTH OF I-35 SPLIT
 12' x 8' BOX CULVERT
 EXTENSION OF EXISTING STRUCTURAL
 PLATE PIPE CULVERT
 HYDINFRA PIPE ID 314149
 BRIDGE I.D. NO. 113

SEC. 24, T31N, R22W
 ANOKA COUNTY

APPROVED: *Kevin L. Swehla* 9/15/09
 FOR STATE BRIDGE ENGINEER DATE

NO	DATE	BY	CHK	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: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 9/14/09 License # 42791

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

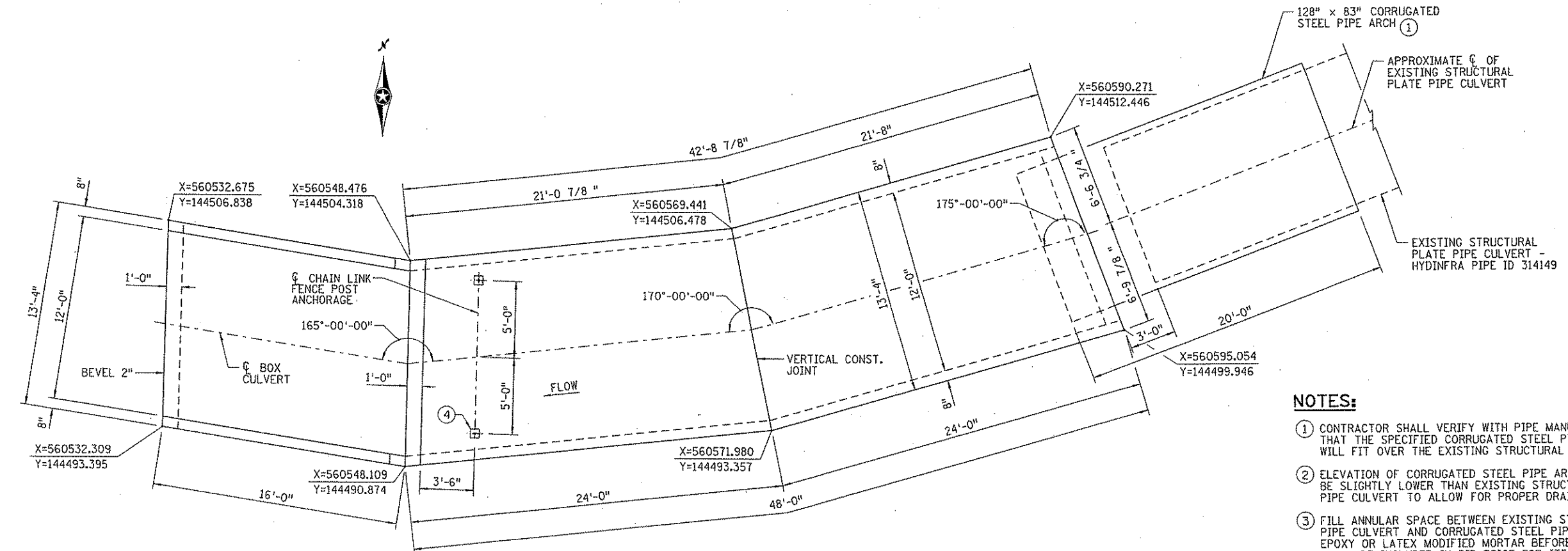
DRAWN BY J. HOFFMAN
 DESIGNED BY D. ROTHSTEIN
 CHECKED BY K. SWEHLA
 COMM. NO. 0086509



ANOKA COUNTY
 C.S.A.H. 14
 BOX CULVERT DETAILS
 (SHEET 1 OF 6)

SHEET 183 OF 471

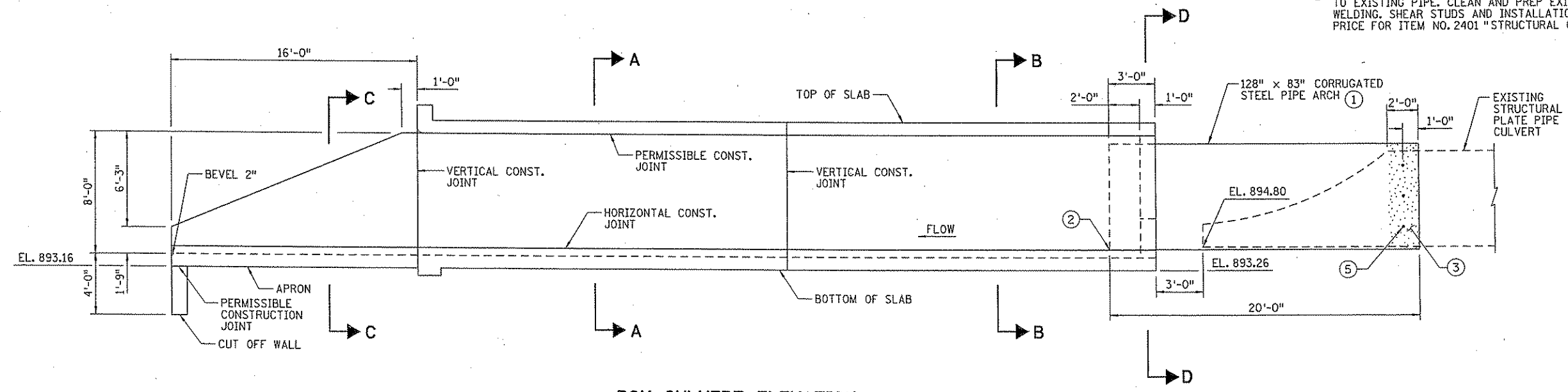
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BOX CULVERT PLAN

NOTES:

- ① CONTRACTOR SHALL VERIFY WITH PIPE MANUFACTURER THAT THE SPECIFIED CORRUGATED STEEL PIPE ARCH WILL FIT OVER THE EXISTING STRUCTURAL PLATE PIPE.
- ② ELEVATION OF CORRUGATED STEEL PIPE ARCH SHALL BE SLIGHTLY LOWER THAN EXISTING STRUCTURAL PLATE PIPE CULVERT TO ALLOW FOR PROPER DRAINAGE.
- ③ FILL ANNULAR SPACE BETWEEN EXISTING STRUCTURAL PLATE PIPE CULVERT AND CORRUGATED STEEL PIPE ARCH WITH APPROVED EPOXY OR LATEX MODIFIED MORTAR BEFORE BACKFILLING. MORTAR SHALL BE INCLUDED IN BID PRICE FOR ITEM NO. 2401 "STRUCTURAL CONCRETE (3Y43)".
- ④ CHAIN LINK FENCE POST ANCHORAGE, SEE DETAIL B905 FOR INSTALLATION. ANCHORAGE SHALL BE INCLUDED IN BID PRICE FOR ITEM NO. 2401 "STRUCTURAL CONCRETE (3Y43)". (TYP.)
- ⑤ PROVIDE SHEAR STUDS 2'-0" ON CENTER. STUDS SHALL BE WELDED TO EXISTING PIPE. CLEAN AND PREP EXISTING PIPE AS NEEDED FOR WELDING. SHEAR STUDS AND INSTALLATION TO BE INCLUDED IN BID PRICE FOR ITEM NO. 2401 "STRUCTURAL CONCRETE (3Y43)".



BOX CULVERT ELEVATION

BRIDGE NO. 02X05

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: KEVIN L. SWEHLA
Kevin L Swehla
 Date: 7/9/09 License # 42791

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY J. HOFFMAN
 DESIGNED BY D. ROTHSTEIN
 CHECKED BY K. SWEHLA
 COMM. NO. 0086509

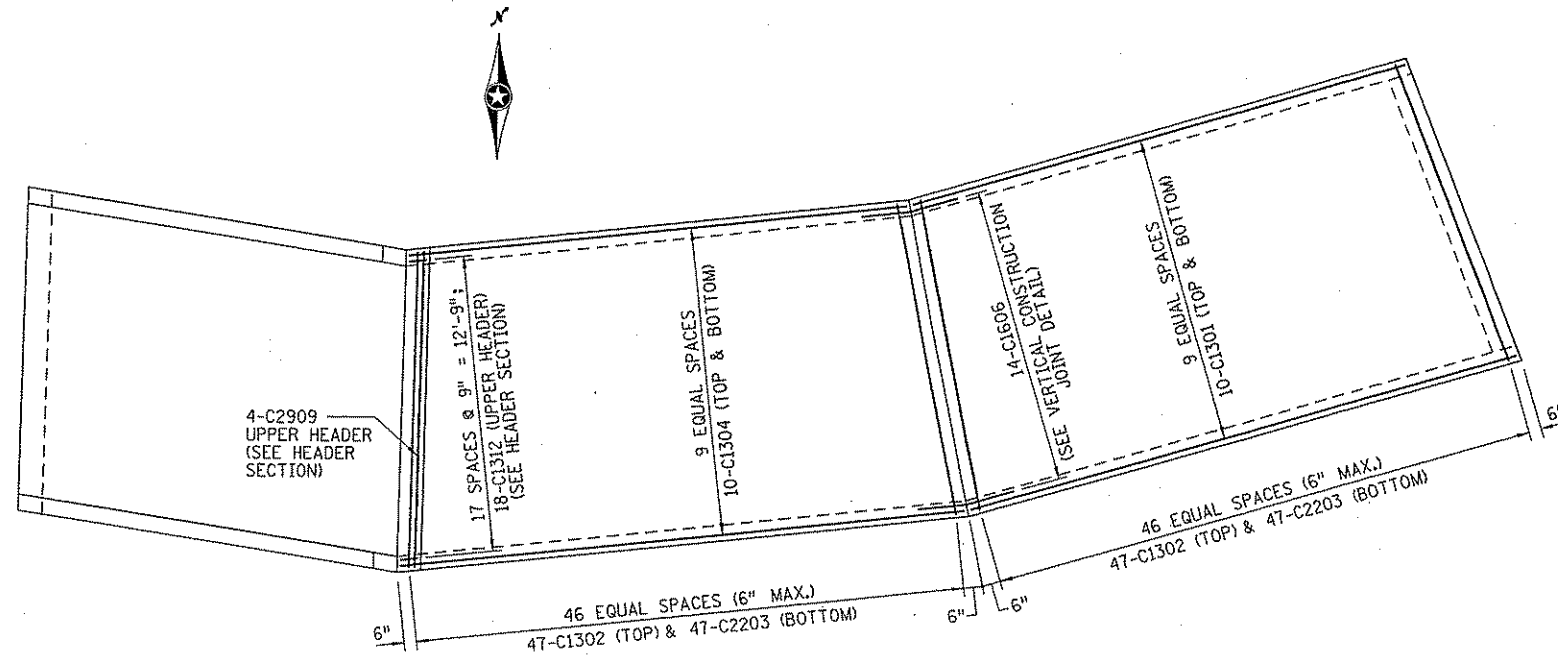


ANOKA COUNTY
 C.S.A.H. 14
 BOX CULVERT DETAILS
 (SHEET 2 OF 6)

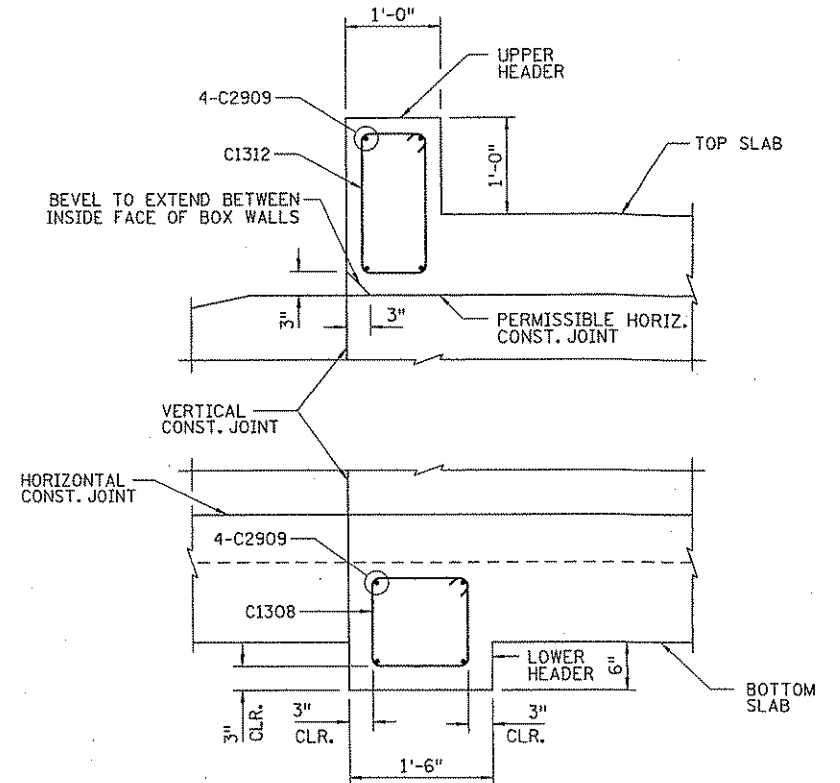
SHEET 184 OF 471

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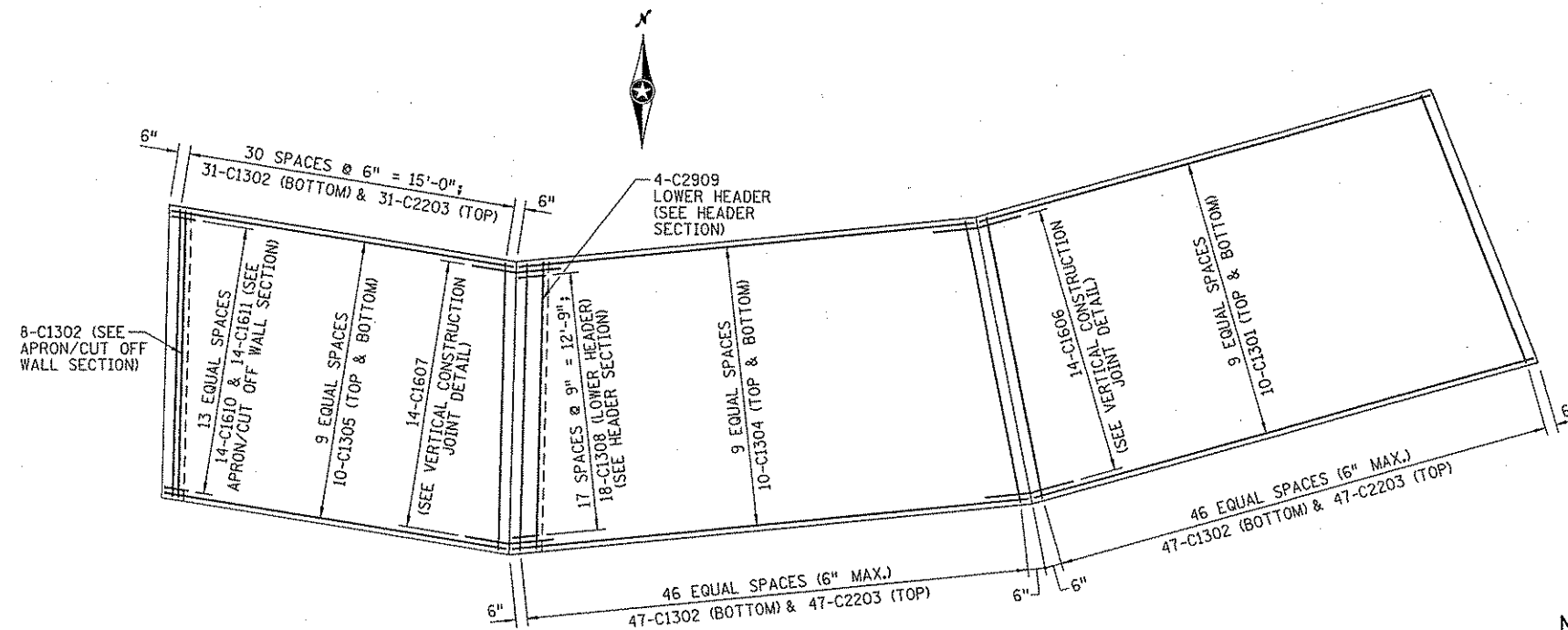
NO.	DATE	BY	CKD	APPR	REVISION



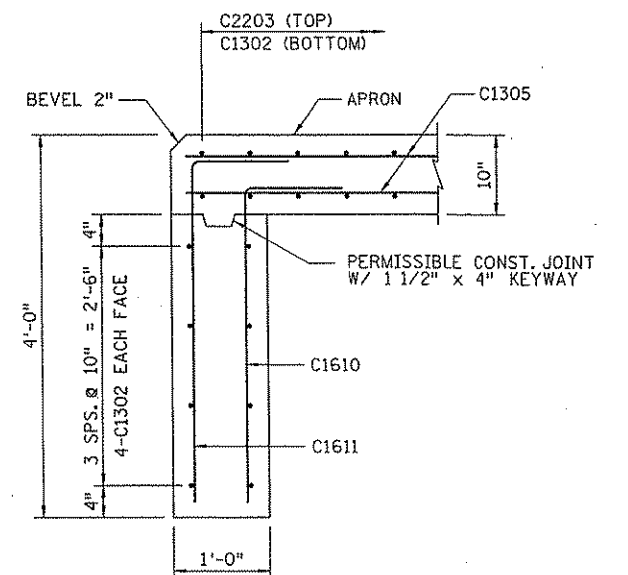
TOP SLAB REINFORCEMENT PLAN



HEADER SECTION



BOTTOM SLAB REINFORCEMENT PLAN
(DOWELS NOT SHOWN FOR CLARITY, SEE SECTIONS)



APRON/CUT OFF WALL SECTION

NOTES:

- E.F. DENOTES EACH FACE
I.F. DENOTES INSIDE FACE
O.F. DENOTES OUTSIDE FACE
- 1 1/2" MIN. AND 2" MAX CONCRETE
OVER ON ALL REINFORCEMENT
UNLESS NOTED OTHERWISE.

BRIDGE NO.
02X05

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: KEVIN L. SWEHLA
Kevin L. Swehla
Date: 7/4/09 License #: 42791

STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-614-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

DRAWN BY
J. HOFFMAN
DESIGNED BY
D. ROTHSTEIN
CHECKED BY
K. SWEHLA
COMM. NO. 0086509



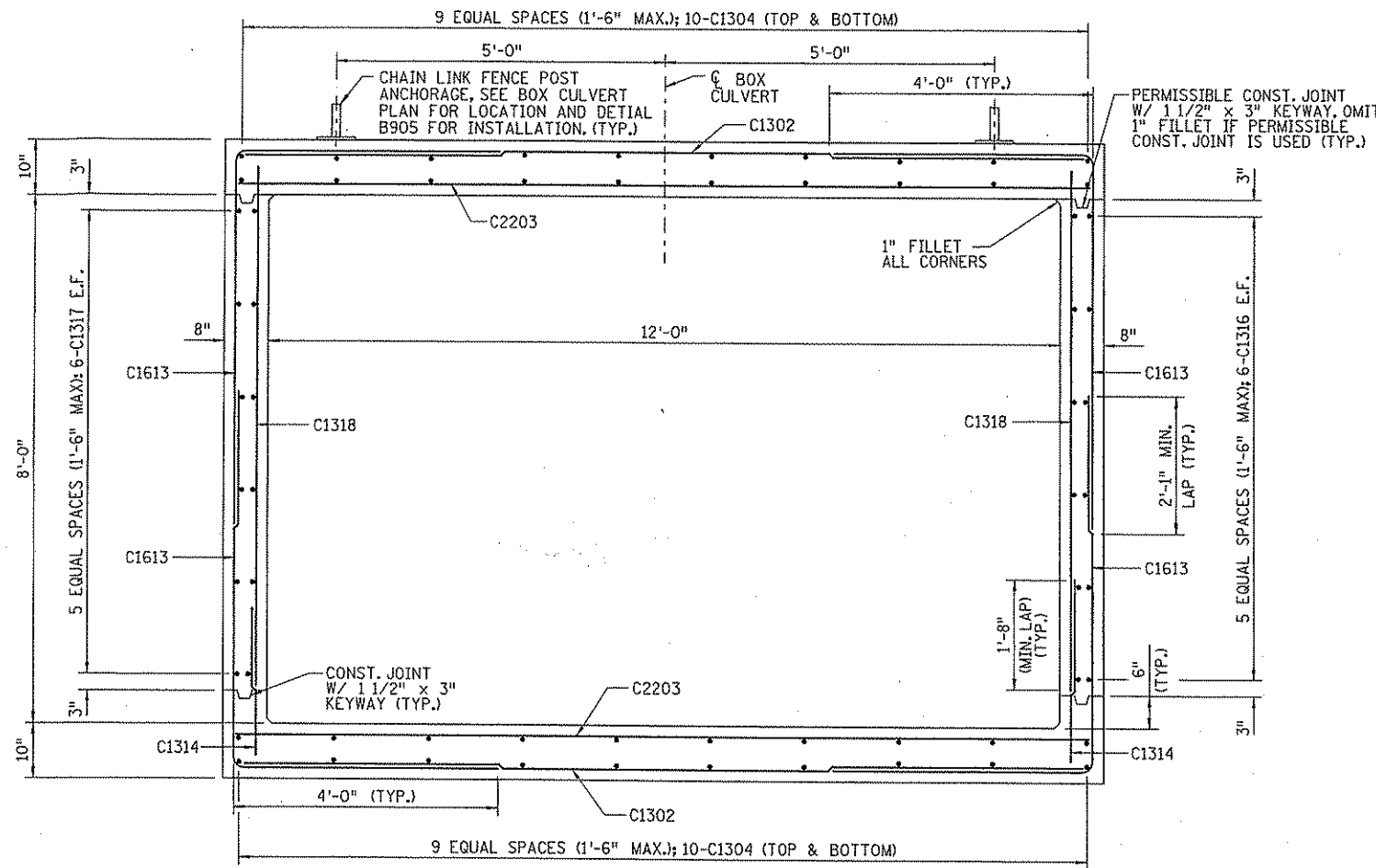
ANOKA COUNTY
C.S.A.H. 14
BOX CULVERT DETAILS
(SHEET 3 OF 6)

SHEET
185
OF
471

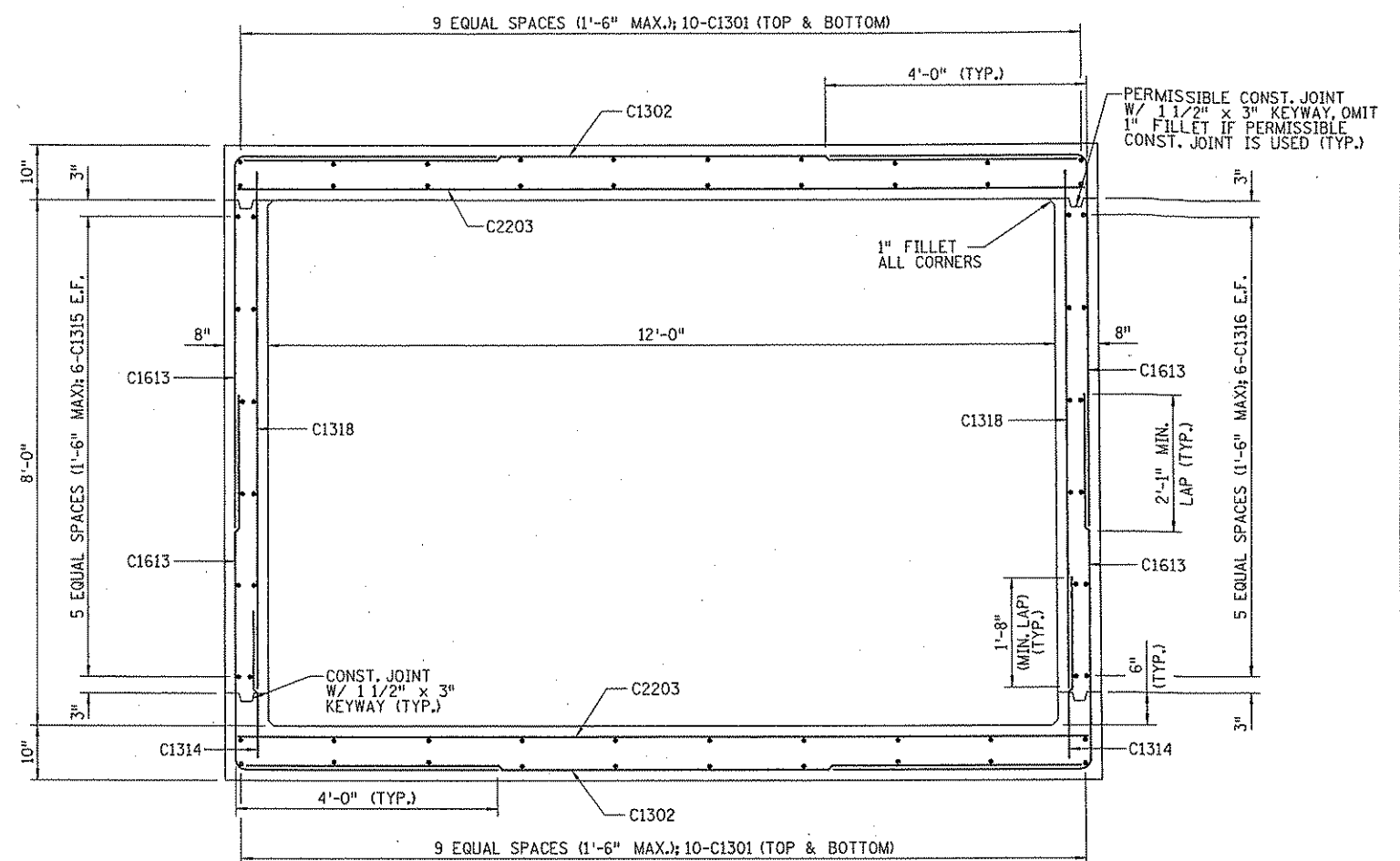
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NO	DATE	BY	CKD	APPR	REVISION

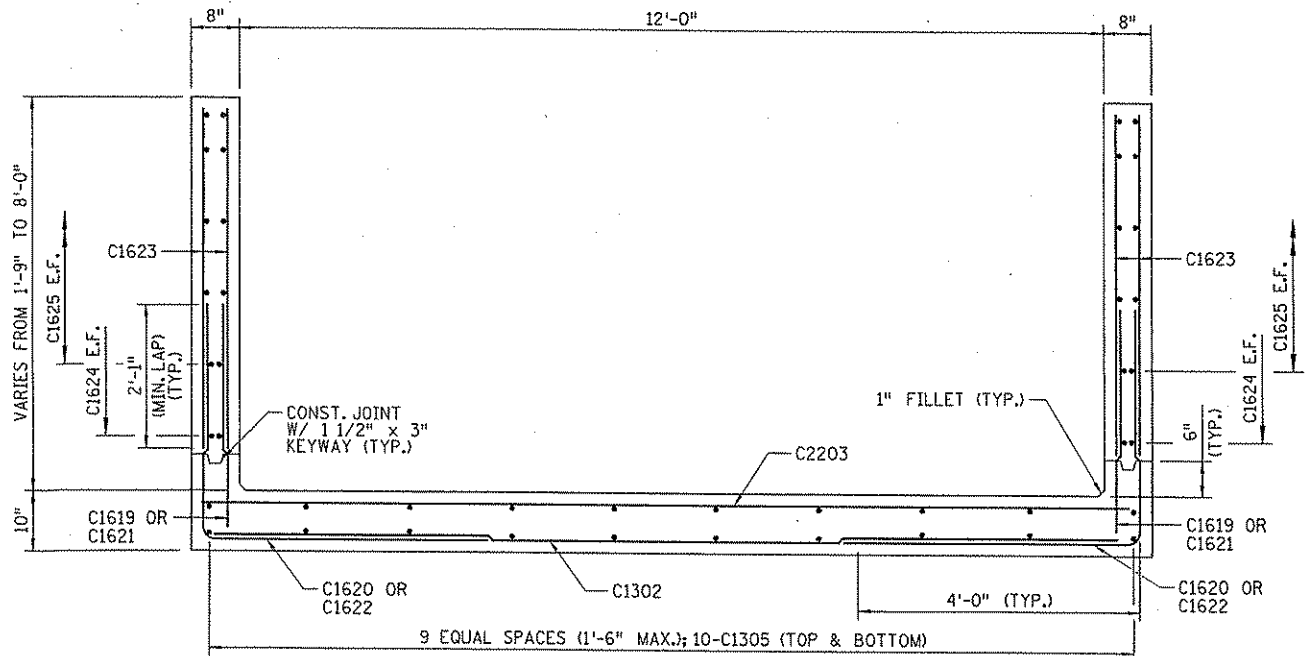
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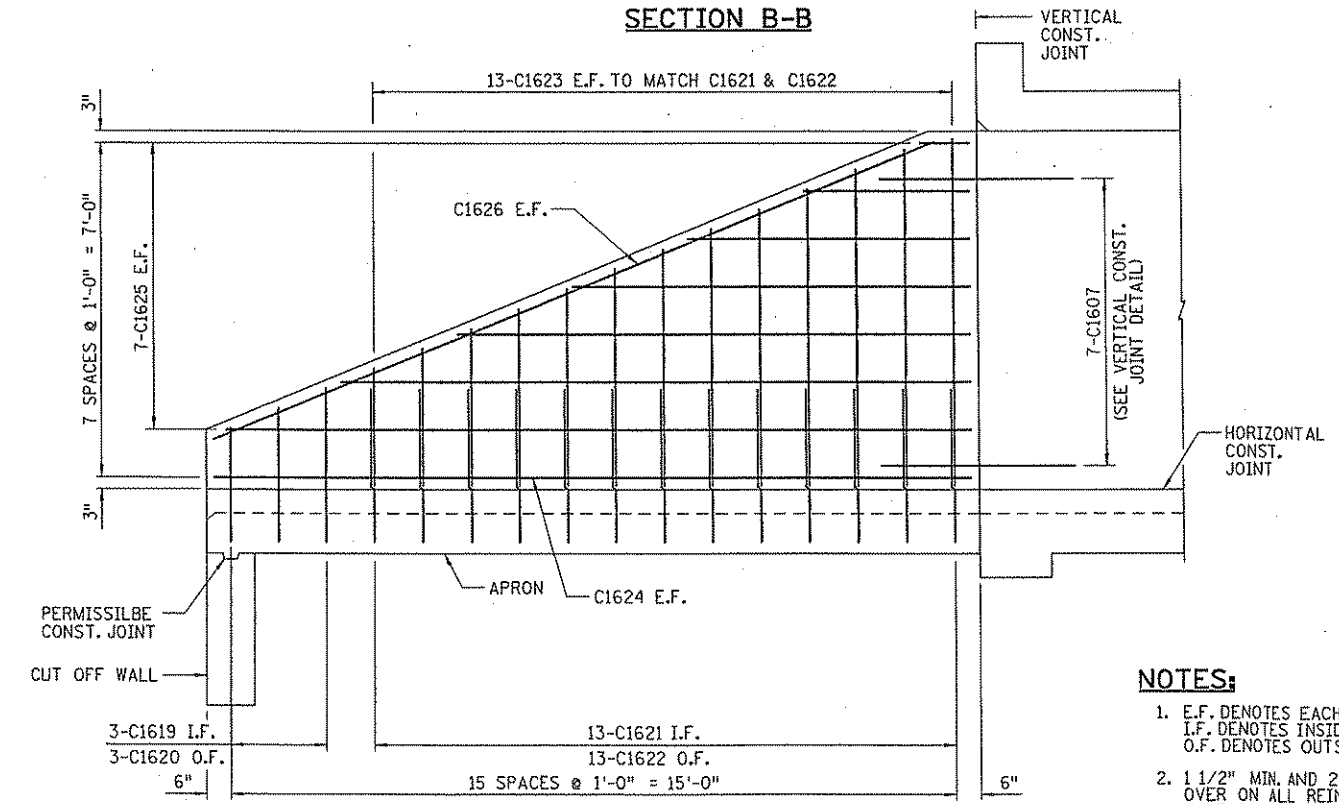
NORTH SIDE SOUTH SIDE
SECTION A-A



NORTH SIDE SOUTH SIDE
SECTION B-B



SECTION C-C



WINGWALL ELEVATION

- NOTES:**
- E.F. DENOTES EACH FACE
I.F. DENOTES INSIDE FACE
O.F. DENOTES OUTSIDE FACE
 - 1 1/2" MIN. AND 2" MAX CONCRETE OVER ON ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

11:45:01 AM
1/4/2009
H:\Projects\6509\Box\C0261429_BOX4.DGN

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: **KEVIN J. SWEHLA**
Kevin J. Swehla
Date: 9/4/09 License #: 42791

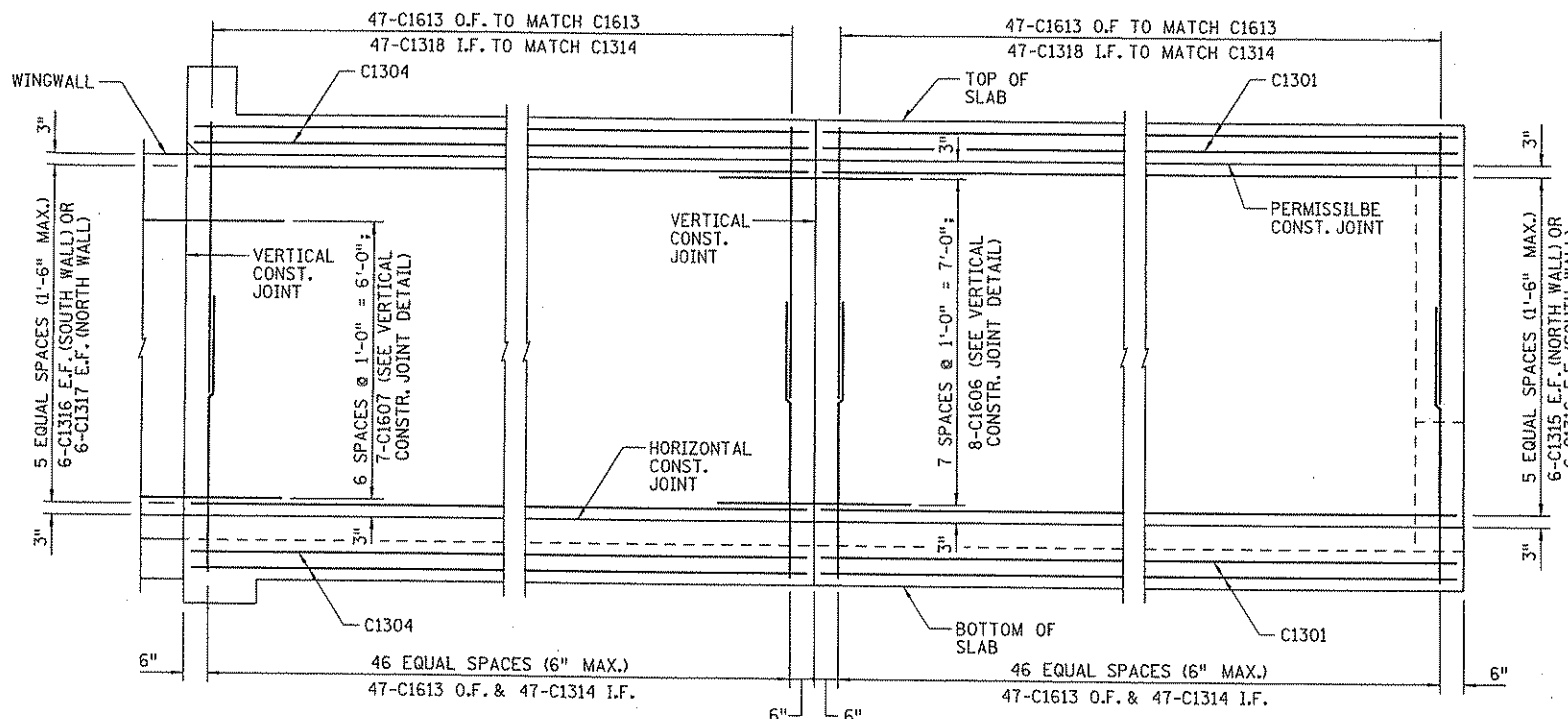
BRIDGE NO. 02X05
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY J. HOFFMAN
DESIGNED BY D. ROTHSTEIN
CHECKED BY K. SWEHLA
COMM. NO. 0086509

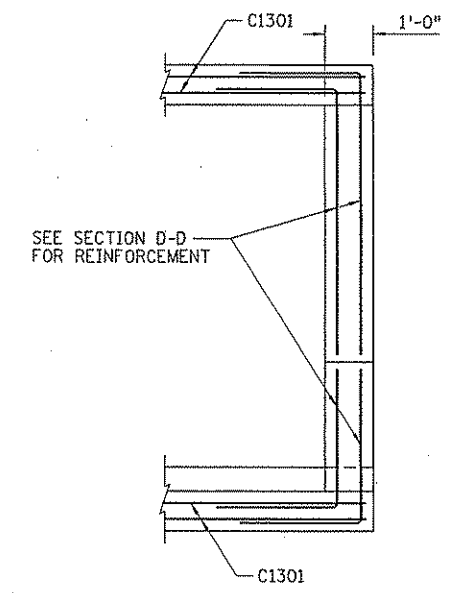


ANOKA COUNTY
C.S.A.H. 14
BOX CULVERT DETAILS
(SHEET 4 OF 6)

SHEET 186 OF 471



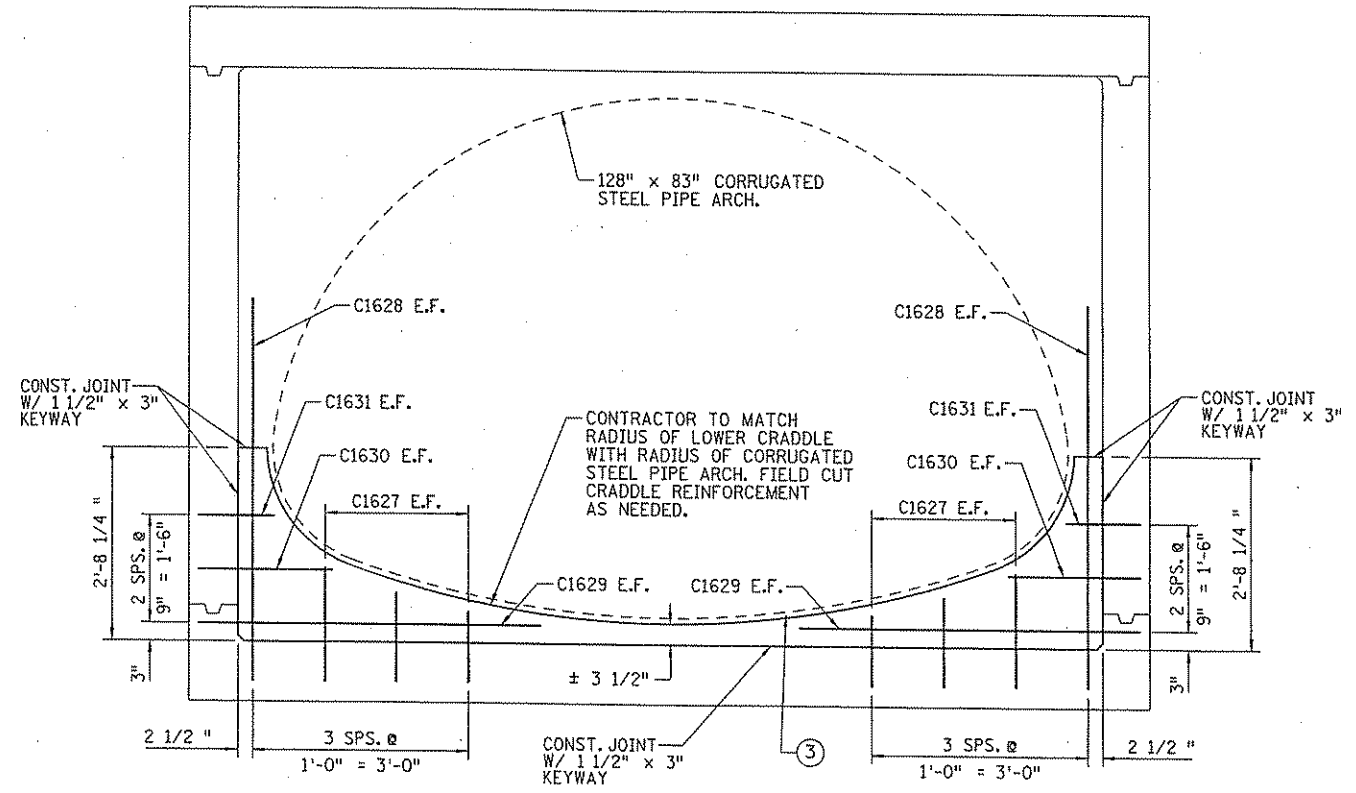
BOX ELEVATION



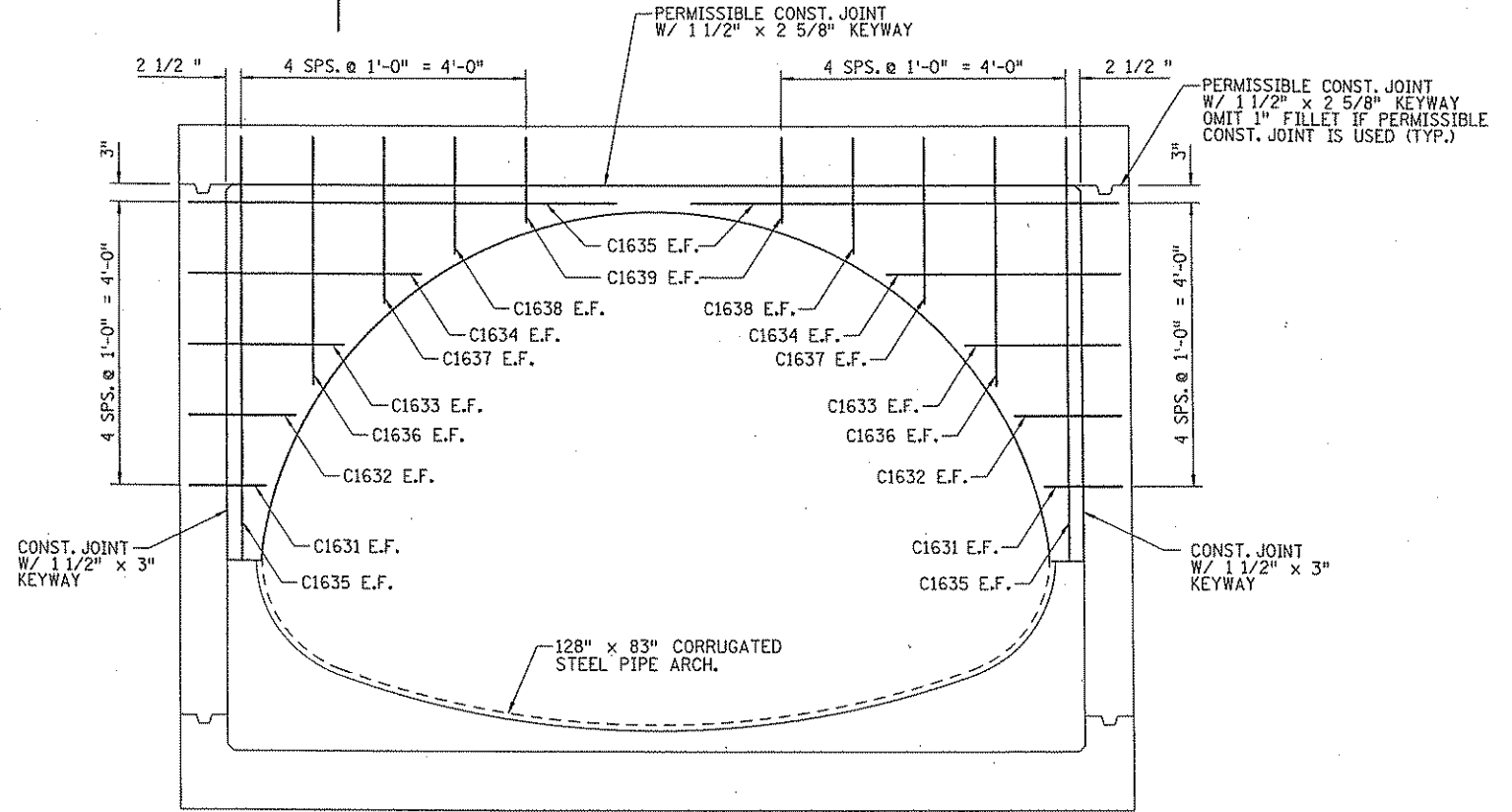
SECTION E-E

NOTES:

1. E.F. DENOTES EACH FACE
I.F. DENOTES INSIDE FACE
O.F. DENOTES OUTSIDE FACE
2. 1 1/2" MIN. AND 2" MAX. CONCRETE COVER ON ALL REINFORCEMENT UNLESS NOTED OTHERWISE.
3. AFTER PLACING CORRUGATED STEEL PIPE ARCH, SHIM TO CORRECT ELEVATION. BEFORE POURING TOP CRADDLER, FILL ANNULAR SPACE BETWEEN PIPE AND LOWER CRADDLER WITH APPROVED EPOXY OR LATEX MODIFIED MORTAR. MORTAR SHALL BE INCLUDED IN BID PRICE FOR ITEM NO. 2401 "STRUCTURAL CONCRETE (3Y43)".



**SECTION D-D
(LOWER CRADDLER)**
(BOX REINFORCEMENT NOT SHOWN FOR CLARITY)



**SECTION D-D
(UPPER CRADDLER)**
(BOX REINFORCEMENT NOT SHOWN FOR CLARITY)

11:46:03 AM 02/20/09 H:\V\101\Bos\6509\Box\0261429_BOX5.DGN

NO	DATE	BY	CXD	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: KEVIN L. SWEHLA
Kevin L Swehla
 Date: 7/14/07 License #: 42791

BRIDGE NO. 02X05

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY J. HOFFMAN
 DESIGNED BY D. ROTHSTEIN
 CHECKED BY K. SWEHLA
 COMM. NO. 0086509



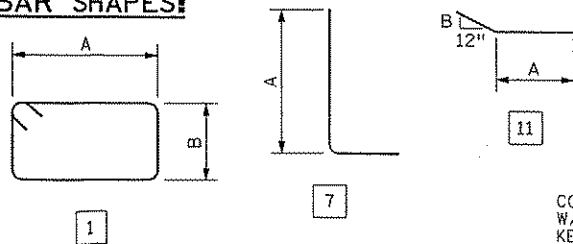
ANOKA COUNTY
 C.S.A.H. 14
 BOX CULVERT DETAILS
 (SHEET 5 OF 6)

SHEET 187 OF 471

BILL OF REINFORCEMENT: BOX CULVERT

MARK	NO	SIZE	LENGTH [FT - IN]	SHAPE	DIMENSION [FT-IN]			LOCATION
					A	B	C	
C1301	4 SER. OF 10	13	21 - 4	STR	-	-	-	TOP & BOT. SLAB
C1302	227	13	13 - 0	STR	-	-	-	BOTTOM SLAB
C2203	219	22	13 - 0	STR	-	-	-	BOTTOM SLAB
C1304	4 SER. OF 10	13	20 - 9	STR	-	-	-	TOP & BOT. SLAB
C1305	20	13	15 - 8	STR	-	-	-	APRON SLAB
C1606	44	16	4 - 0	11	2 - 0	0 - 2	-	DOWEL
C1607	28	16	4 - 0	11	2 - 0	0 - 3	-	DOWEL
C1308	18	13	4 - 5	1	1 - 0	0 - 10	-	HEADER TIE
C2909	8	29	12 - 10	STR	-	-	-	HEADER HORIZ.
C1610	14	16	4 - 3	7	3 - 3	-	-	CUT OFF WALL
C1611	14	16	4 - 8	7	3 - 8	-	-	CUT OFF WALL
C1312	18	13	4 - 9	1	1 - 4	0 - 8	-	HEADER TIE
C1613	376	16	9 - 9	7	5 - 9	-	-	SIDE VERT.
C1314	188	13	3 - 0	STR	-	-	-	SIDE DOWEL
C1315	12	13	21 - 4	STR	-	-	-	SIDE HORIZ.
C1316	24	13	23 - 7	STR	-	-	-	SIDE HORIZ.
C1317	12	13	20 - 9	STR	-	-	-	SIDE HORIZ.
C1318	188	13	8 - 0	STR	-	-	-	SIDE VERT.
C1619	2 SER. OF 3	16	2 - 4	STR	-	-	-	WW DOWEL
C1620	2 SER. OF 3	16	6 - 4	7	2 - 4	-	-	WW DOWEL
C1621	26	16	3 - 2	STR	-	-	-	WW DOWEL
C1622	26	16	7 - 2	7	3 - 2	-	-	WW DOWEL
C1623	4 SER. OF 13	16	2 - 8	STR	-	-	-	WW VERTICAL
C1624	4	16	15 - 8	STR	-	-	-	WW HORIZ.
C1625	4 SER. OF 7	16	1 - 0	STR	-	-	-	WW HORIZ.
C1626	4	16	16 - 2	STR	-	-	-	WW DIAGONAL
C1627	4 SER. OF 3	16	3 - 6	7	1 - 0	-	-	CRADLE
C1628	4	16	7 - 9	7	5 - 3	-	-	CRADLE
C1629	4	16	7 - 2	7	4 - 8	-	-	CRADLE
C1630	4	16	4 - 4	7	1 - 10	-	-	CRADLE
C1631	8	16	3 - 6	7	1 - 0	-	-	CRADLE
C1632	4	16	3 - 11	7	1 - 5	-	-	CRADLE
C1633	4	16	4 - 7	7	2 - 1	-	-	CRADLE
C1634	4	16	5 - 9	7	3 - 3	-	-	CRADLE
C1635	8	16	8 - 5	7	5 - 11	-	-	CRADLE
C1636	4	16	5 - 11	7	3 - 5	-	-	CRADLE
C1637	4	16	4 - 9	7	2 - 3	-	-	CRADLE
C1638	4	16	4 - 1	7	1 - 7	-	-	CRADLE
C1639	4	16	3 - 8	7	1 - 2	-	-	CRADLE

BAR SHAPES:



CONST. JOINT
W/ 1 1/2" x 3"
KEYWAY

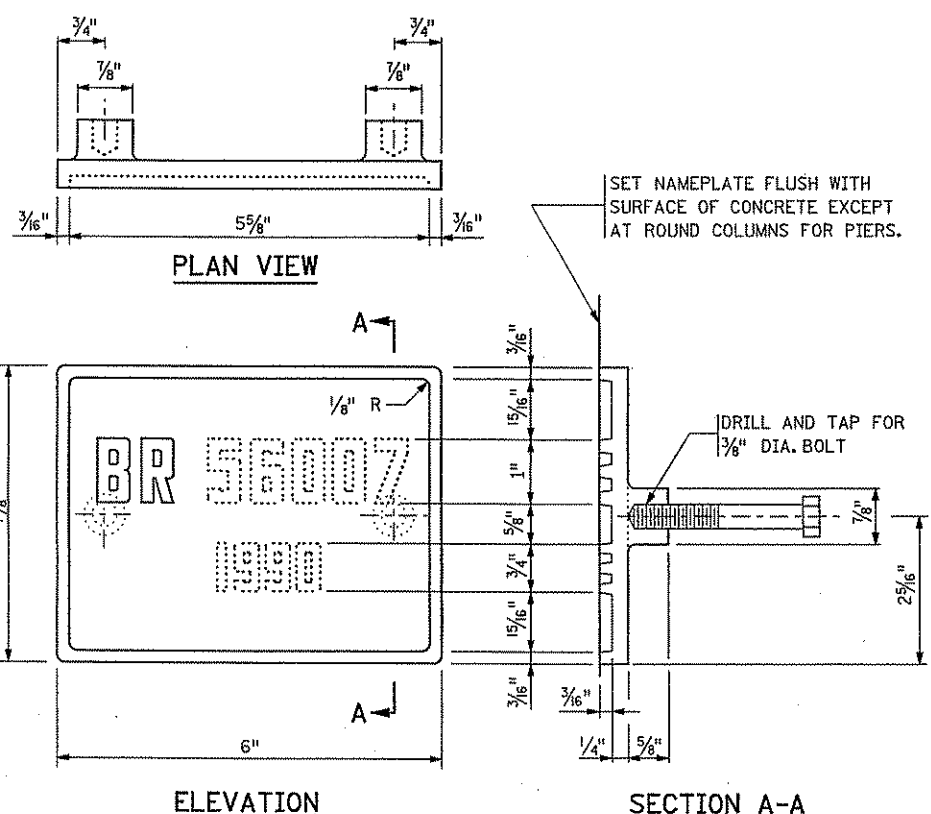
SEE SECTION
THRU BOX &
SECTION THRU
WINGWALL FOR
REINFORCEMENT

HORIZONTAL CONSTRUCTION JOINT DETAIL

C1606 OR C1607 BAR
AT 1'-0" (MAX) CENTERS

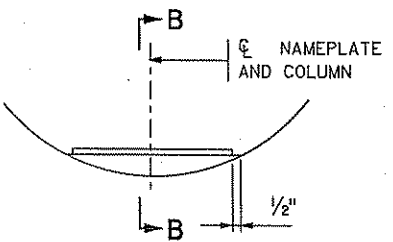
CONSTR. JOINT
W/ 1 1/2" x 3"
KEYWAY

VERTICAL CONSTRUCTION JOINT DETAIL



THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION.
DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

BRIDGE 02X05
YEAR 2010



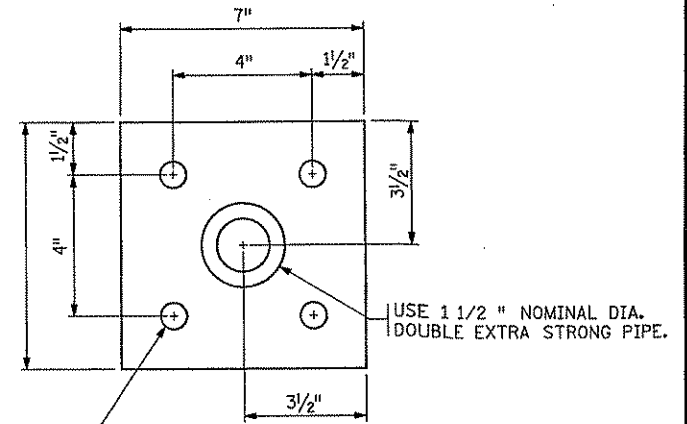
NAMEPLATE PLACEMENT
(ROUND CONCRETE PIER COLUMNS)



NUMBERS FOR NAMEPLATE

NOTES:

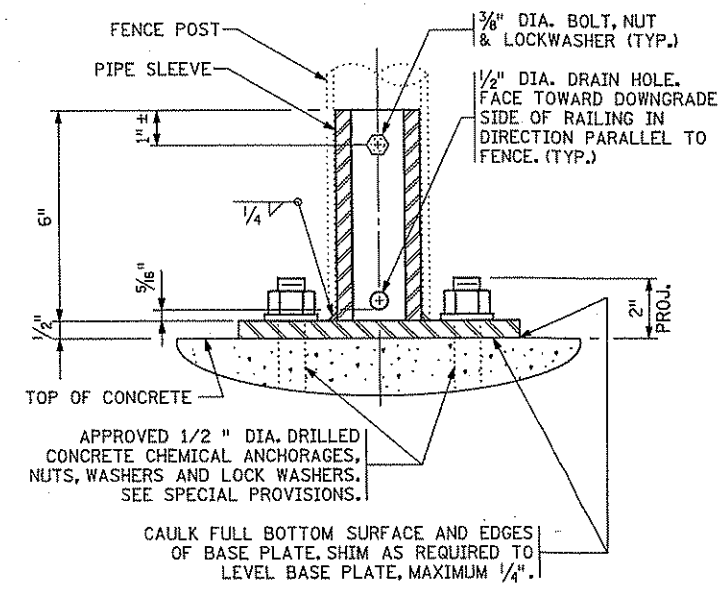
- NO SHOP DRAWING REQUIRED.
- MATERIAL SHALL COMPLY WITH Mn/DOT SPEC. 3327.
- LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.
- DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3" IN 12".
- HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.
- TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.
- FURNISH 2 STEEL BOLTS 3/16" DIA. x 3" LONG WITH EACH PLATE.
- ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH LETTERS AND NUMBERS.



3/4" DIA. HOLES FOR 1/2" DIA. BOLTS OR 1/2" DIA. APPROVED CHEMICAL ANCHORAGES. MINIMUM ULTIMATE PULLOUT STRENGTH = 8 KIPS PER BOLT. SEE SPECIAL PROVISIONS.

PLAN VIEW

ESTIMATED WEIGHT = 10 OR 12 LBS.



APPROVED 1/2" DIA. DRILLED CONCRETE CHEMICAL ANCHORAGES, NUTS, WASHERS AND LOCK WASHERS. SEE SPECIAL PROVISIONS.

CAULK FULL BOTTOM SURFACE AND EDGES OF BASE PLATE, SHIM AS REQUIRED TO LEVEL BASE PLATE, MAXIMUM 1/4".

TYPICAL SECTION

NOTES:

- STRUCTURAL STEEL PER Mn/DOT SPEC. 3306
- STRUCTURAL PIPE PER Mn/DOT SPEC. 3362
- GALVANIZE THE FENCE POST ANCHORAGE AFTER FABRICATION PER Mn/DOT SPEC. 3394. GALVANIZE THE FASTENERS PER Mn/DOT SPEC. 3392.
- DOUBLE EXTRA STRONG PIPE WEIGHTS:
1 1/2" NOMINAL DIA. = 6.41 LBS./FT.

APPROVED: NOVEMBER 22, 2002

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

REVISION

DETAIL NO.

APPROVED: NOVEMBER 22, 2002

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

REVISION

Kevin L. Swehla
STATE BRIDGE ENGINEER

BRIDGE NAMEPLATE
(FOR NEW BRIDGES)

B101

Kevin L. Swehla
STATE BRIDGE ENGINEER

FENCE POST ANCHORAGE

DETAIL NO.

B905

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: KEVIN L. SWEHLA
Kevin L. Swehla
Date: 9/14/09 License #: 42791

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY J. HOFFMAN
DESIGNED BY D. ROTHSTEIN
CHECKED BY K. SWEHLA
COMM. NO. 0086509



ANOKA COUNTY

C.S.A.H. 14
BOX CULVERT DETAILS
(SHEET 6 OF 6)

SHEET 188 OF 471

11:45:05 AM
9/14/2009
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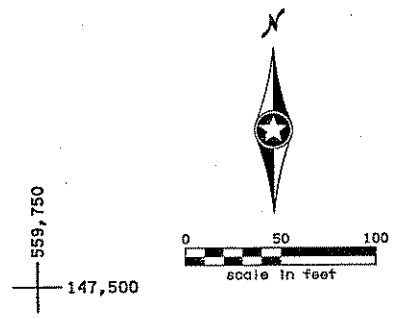
NO	DATE	BY	CKD	APPR	REVISION

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147,500

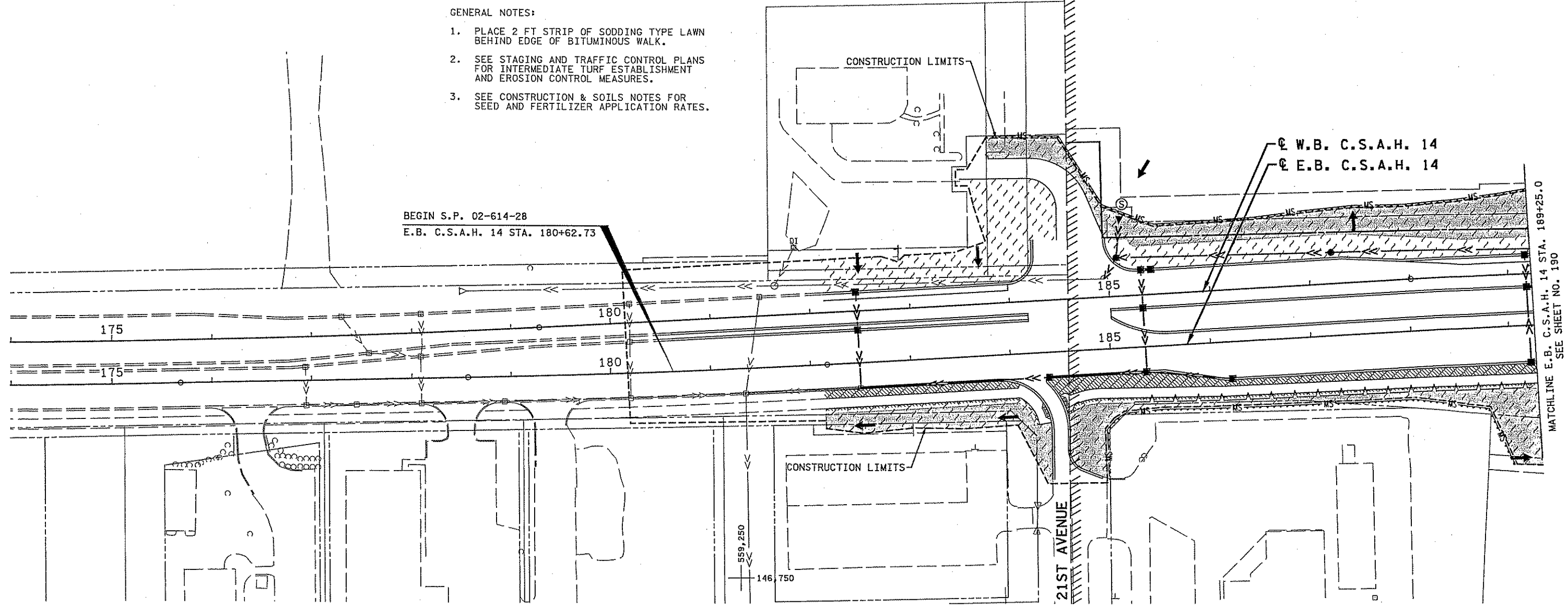
LEGEND TO BE USED FOR ALL EROSION CONTROL AND TURF ESTABLISHMENT PLAN SHEETS

LEGEND

	SEED MIXTURE 350
	SEED MIXTURE 310
	SODDING TYPE LAWN
	TYPE 9 MULCH MATERIAL
	EROSION CONTROL BLANKET CATEGORY 3
	BR FILTER LOG TYPE WOOD FIBER BIOROLL
	MS SILT FENCE (MACHINE SLICED)
	HD SILT FENCE (HEAVY DUTY)
	FLOTATION SILT CURTAIN TYPE MOVING WATER
	SOD (MN/DOT STD. PLATE NO. 9102)
	RIP RAP (MN/DOT STD. PLATE NO.S 3133, 3134 AND 3139)
	DIRECTION OF FLOW



- GENERAL NOTES:
1. PLACE 2 FT STRIP OF SODDING TYPE LAWN BEHIND EDGE OF BITUMINOUS WALK.
 2. SEE STAGING AND TRAFFIC CONTROL PLANS FOR INTERMEDIATE TURF ESTABLISHMENT AND EROSION CONTROL MEASURES.
 3. SEE CONSTRUCTION & SOILS NOTES FOR SEED AND FERTILIZER APPLICATION RATES.



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NO	DATE	BY	CHKD	APPR	REVISION

... \HI-MUNP1an\C0261429_EC1.DGN

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

Print Name: AARON VACEK

Aaron Vacek

Date: 5-22-09 License #: 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY V. MICHELS

DESIGNED BY K. LUDWIG

CHECKED BY S. PRUSAK

COMM. NO. 0086509



ANOKA COUNTY

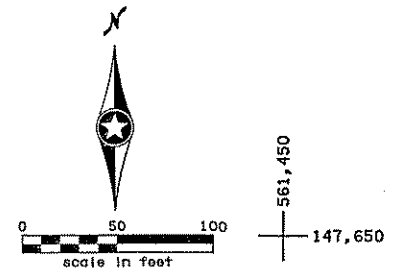
EROSION CONTROL AND TURF ESTABLISHMENT PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

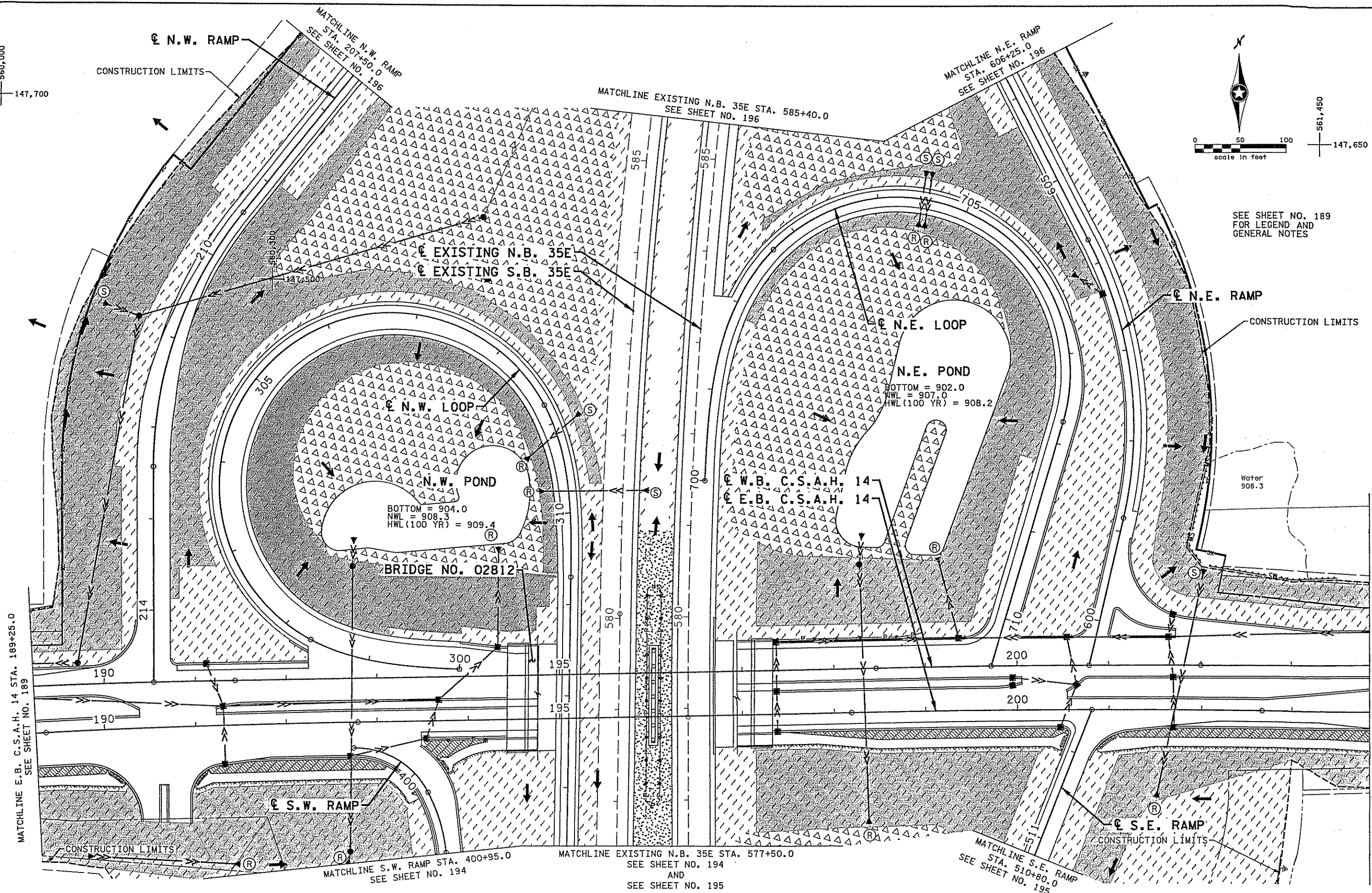
C.S.A.H. 14

SHEET 189 OF 471

560,000
147,700



SEE SHEET NO. 189
FOR LEGEND AND
GENERAL NOTES



MATCHLINE E.B. C.S.A.H. 14 STA. 189+25.0
SEE SHEET NO. 189

MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 191

9/29/09 AM
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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: AARON VACEK
Aaron Vacek
Date: 5/22/09 License #: 44277

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

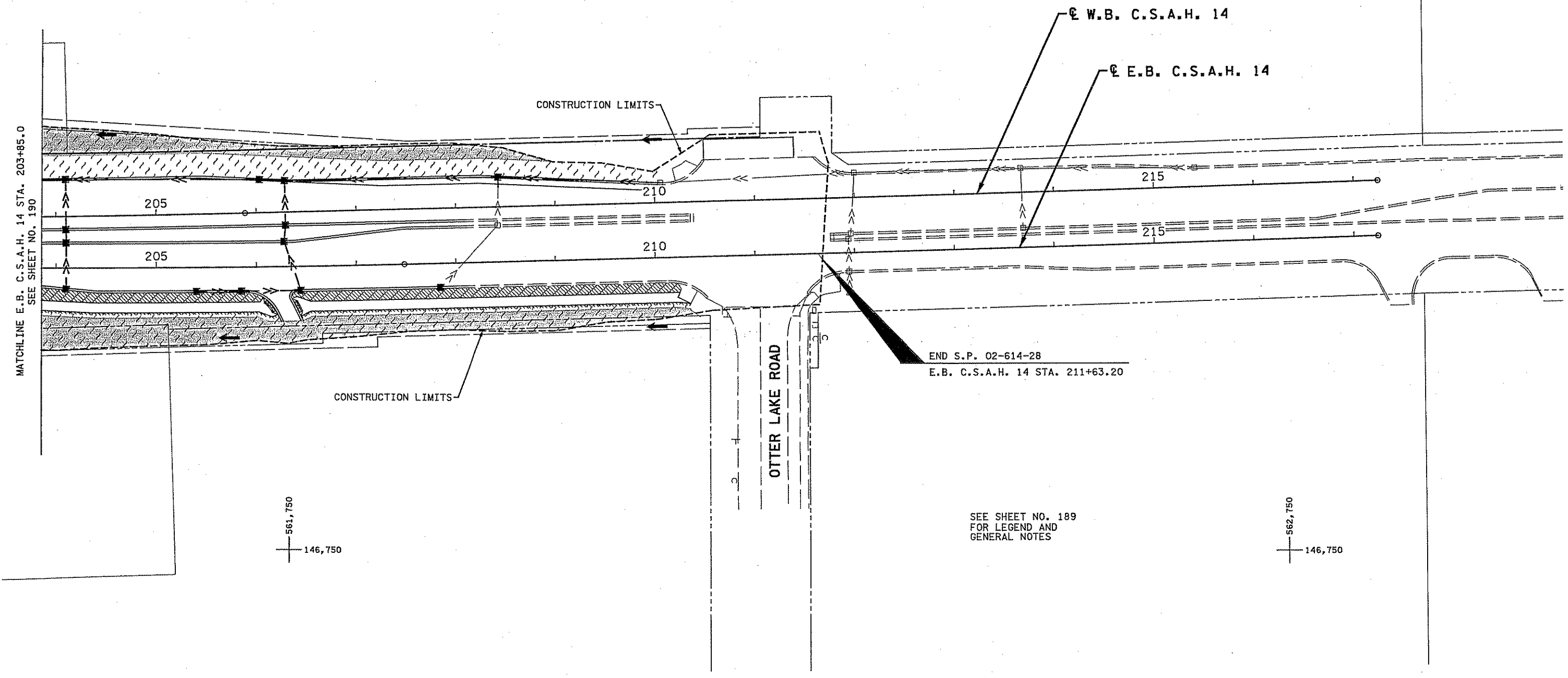
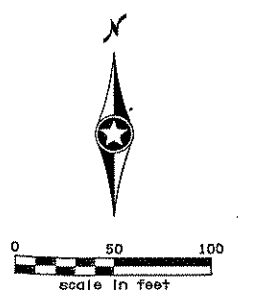
DRAWN BY V. MICHELS
DESIGNED BY K. LUDWIG
CHECKED BY S. PRUSAK
COMM. NO. 0086509



ANOKA COUNTY
EROSION CONTROL AND TURF ESTABLISHMENT PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14, N.W. RAMP, N.E. RAMP, N.W. LOOP,
N.E. LOOP, S.W. RAMP, S.E. RAMP

SHEET 190 OF 471

562,750
147,500



561,750
146,750

562,750
146,750

SEE SHEET NO. 189
FOR LEGEND AND
GENERAL NOTES

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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: AARON VACEK

Aaron Vacek

Date: 6-22-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
K. LUDWIG

CHECKED BY
S. PRUSAK

COMM. NO. 0086509



ANOKA COUNTY

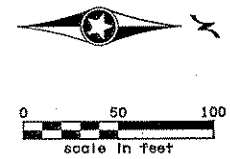
EROSION CONTROL AND TURF ESTABLISHMENT PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

C.S.A.H. 14

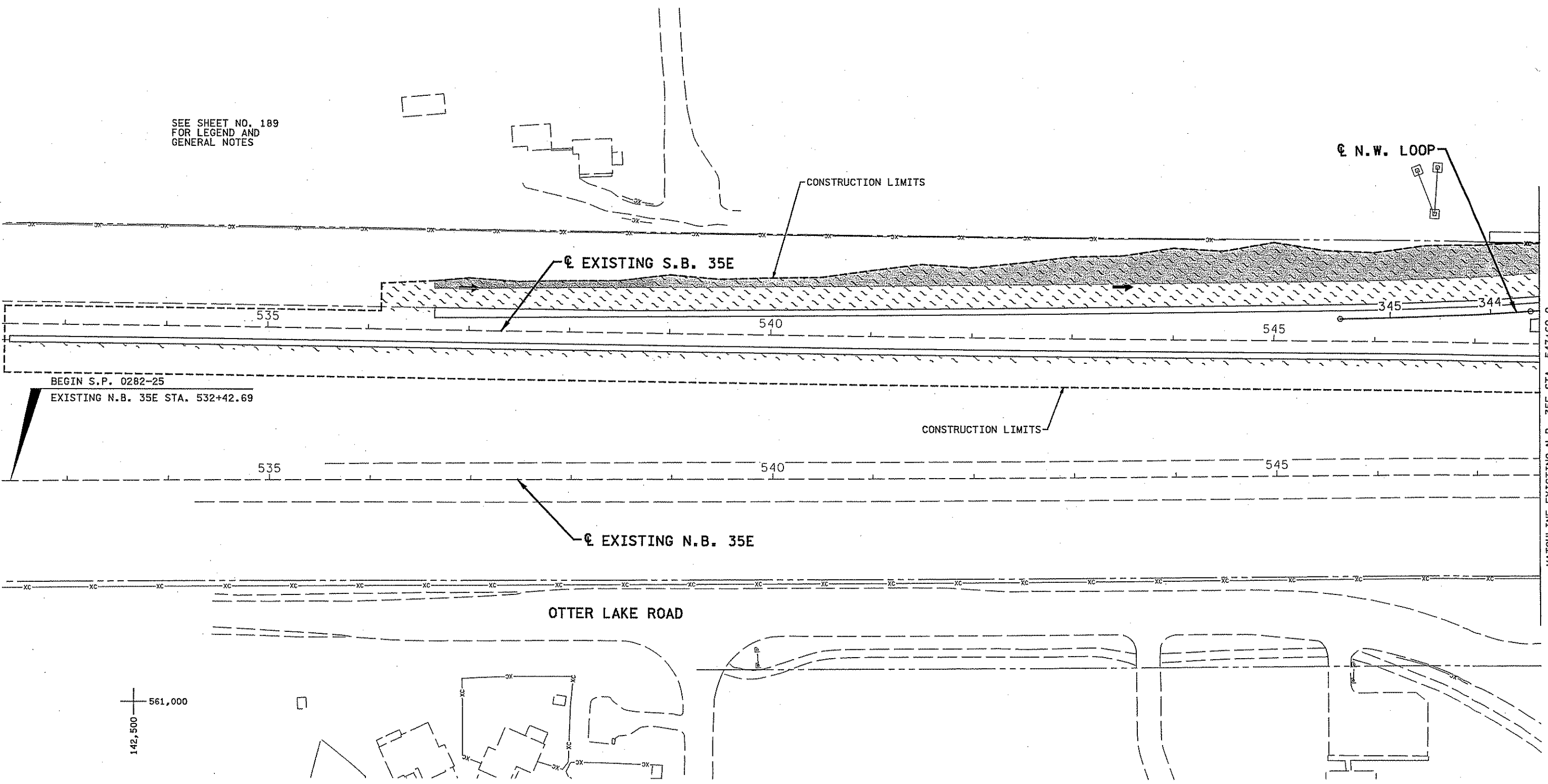
SHEET
191
OF
471

560,250
142,500



560,250
143,750

SEE SHEET NO. 189
FOR LEGEND AND
GENERAL NOTES



MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 193

561,000
142,500

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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: **AARON VACEK**

Date: *5-2-09* License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY K. LUDWIG
CHECKED BY S. PRUSAK
COMM. NO. 0086509

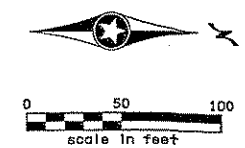


ANOKA COUNTY
EROSION CONTROL AND TURF ESTABLISHMENT PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP

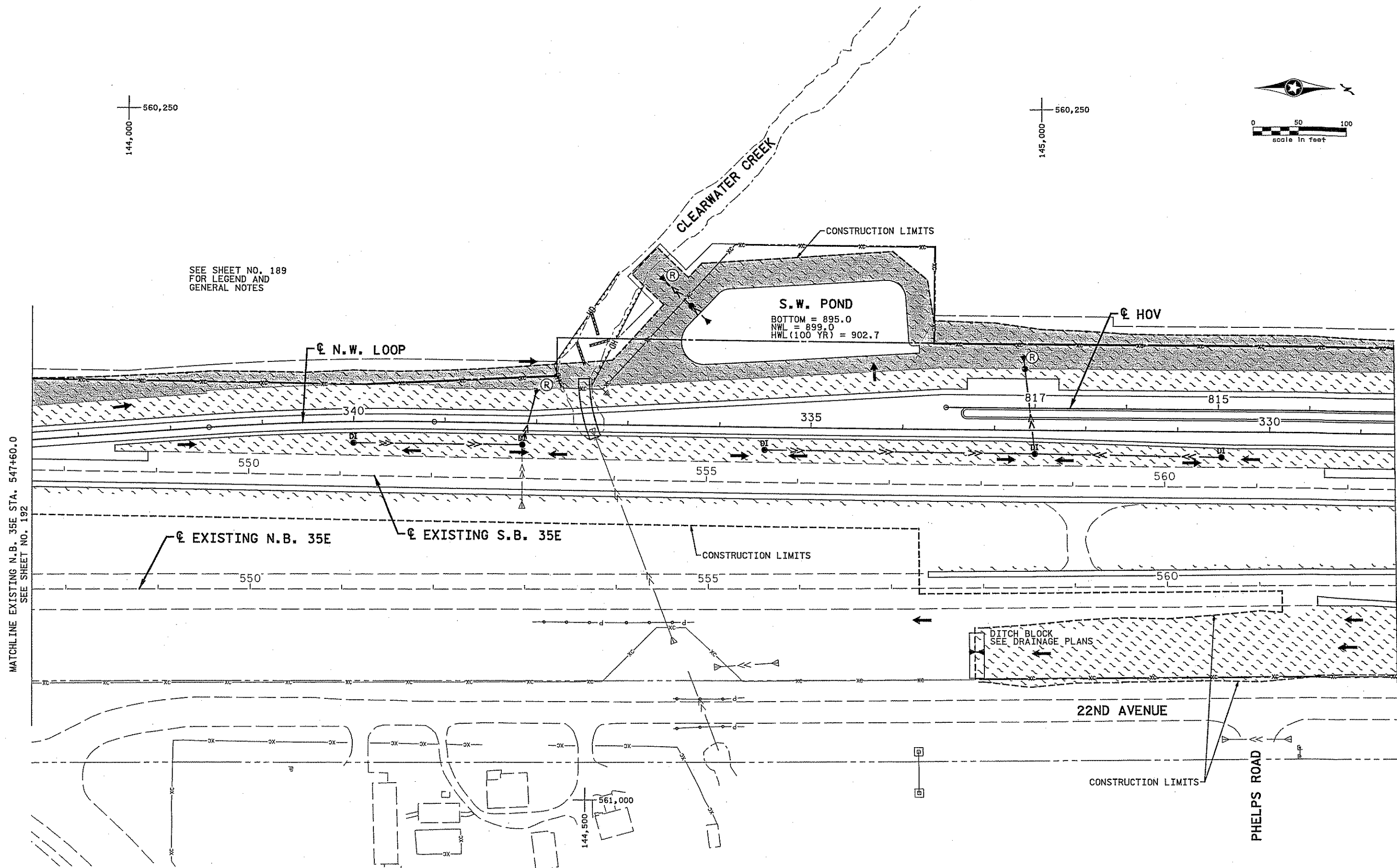
SHEET 192 OF 471

560,250
144,000

560,250
145,000



SEE SHEET NO. 189
FOR LEGEND AND
GENERAL NOTES



MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 192

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 194
AND
SEE SHEET NO. 195

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4/20/2009
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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: **AARON VACEK**

Date: *5.22.09* License #: **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY K. LUDWIG
CHECKED BY S. PRUSAK
COMM. NO. 0086509



ANOKA COUNTY
EROSION CONTROL AND TURF ESTABLISHMENT PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP, HOV

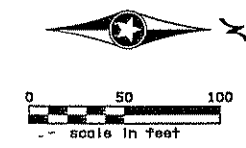
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145,500
560,000

146,250
560,000

146,500
560,250



NORTHERN LIGHTS BLVD

SEE SHEET NO. 189 FOR LEGEND AND GENERAL NOTES

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 193

MATCHLINE S.W. RAMP STA. 400+95.0
SEE SHEET NO. 190

MATCHLINE EXISTING N.B. 35E STA. 577+50.0
SEE SHEET NO. 190

CONSTRUCTION LIMITS

CONSTRUCTION LIMITS

☉ S.W. RAMP

☉ HOV

☉ N.W. LOOP

☉ EXISTING S.B. 35E

810

325

565

410

570

805

320

405

575

800

315

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: AARON VACEK
Aaron Vacek
Date: 8-06-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY K. LUDWIG
CHECKED BY S. PRUSAK
COMM. NO. 0086509



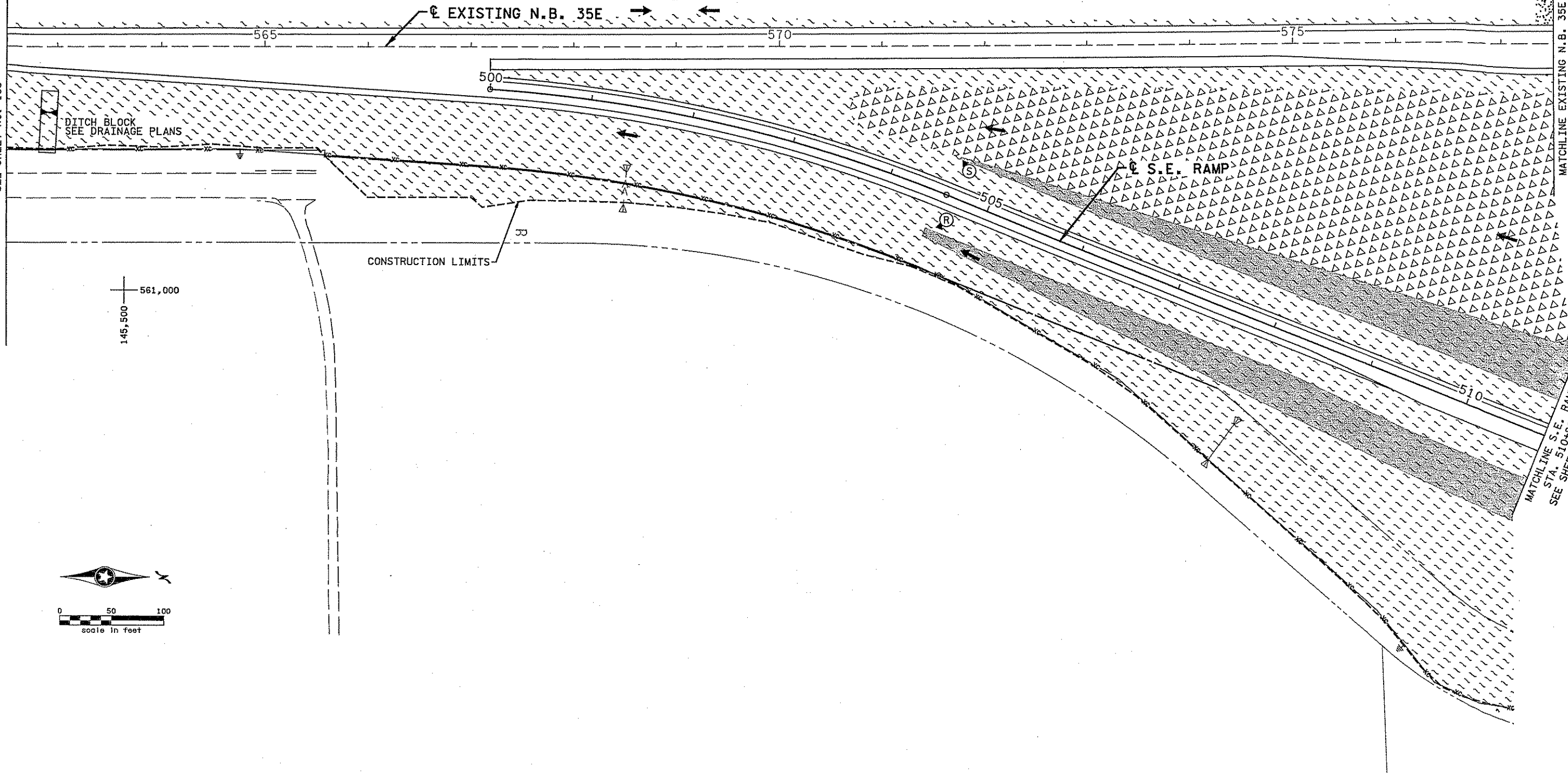
ANOKA COUNTY
EROSION CONTROL AND TURF ESTABLISHMENT PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP, S.W. RAMP, HOV

SHEET 194 OF 471

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 193

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 190

MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 190



561,000
145,500

561,500
145,500

561,500
146,500

SEE SHEET NO. 189
FOR LEGEND AND
GENERAL NOTES

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 4/29/2009
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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: AARON VACEK

Aaron Vacek

Date: 9/29/04 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
K. LUDWIG

CHECKED BY
S. PRUSAK

COMM. NO. 0086509



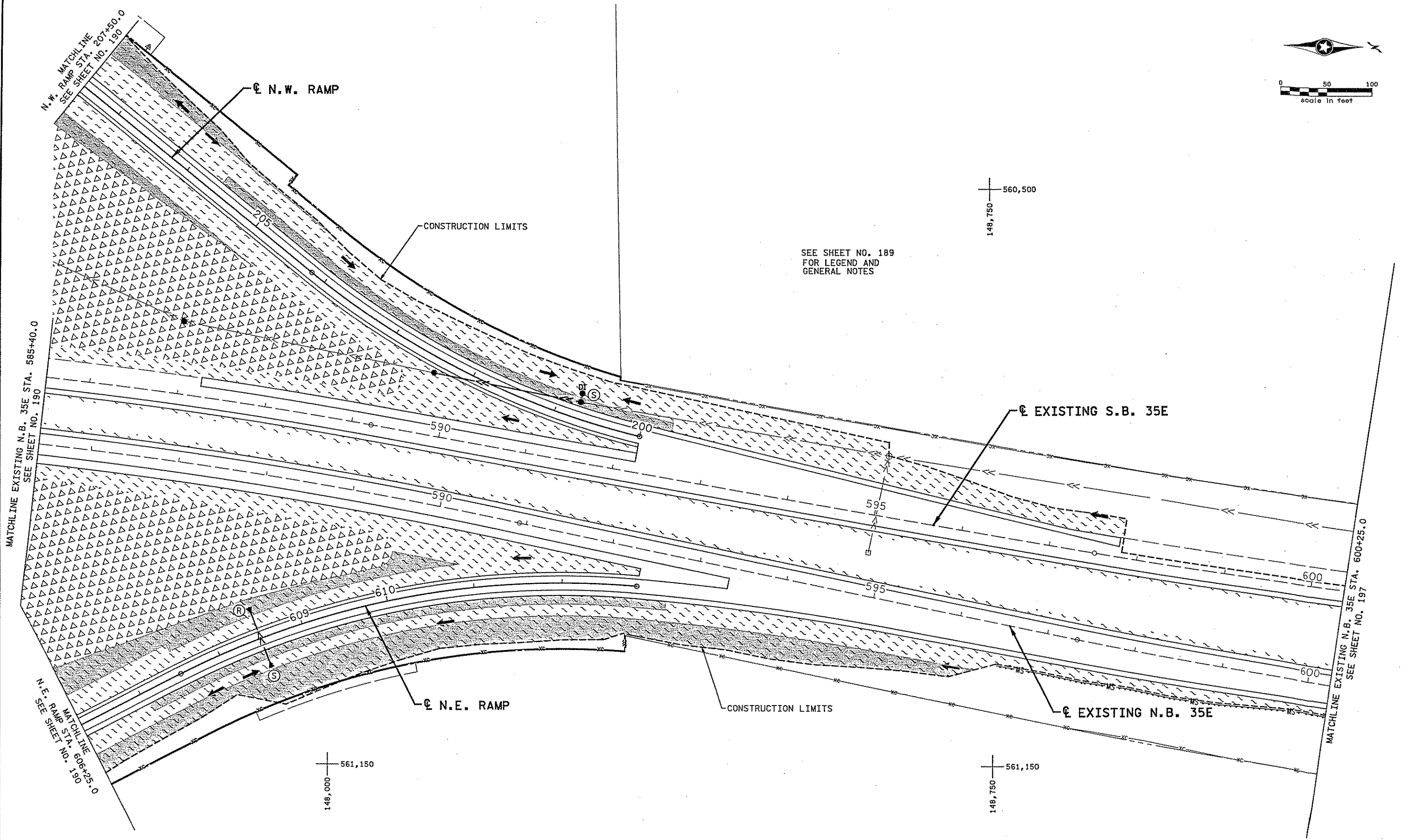
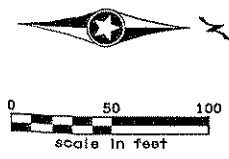
ANOKA COUNTY

EROSION CONTROL AND TURF ESTABLISHMENT PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

S.E. RAMP

SHEET
195
OF
471



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NO	DATE	BY	CKD	APPR	REVISION
...HI-MUNP\an\0261429_EC8.DGN					

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: **AARON VACEK**
Aaron Vacek
 Date: **5-22-23** License # **44277**

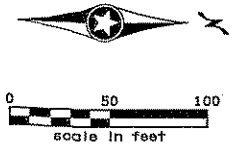
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY K. LUDWIG
 CHECKED BY S. PRUSAK
 COMM. NO. 0086509

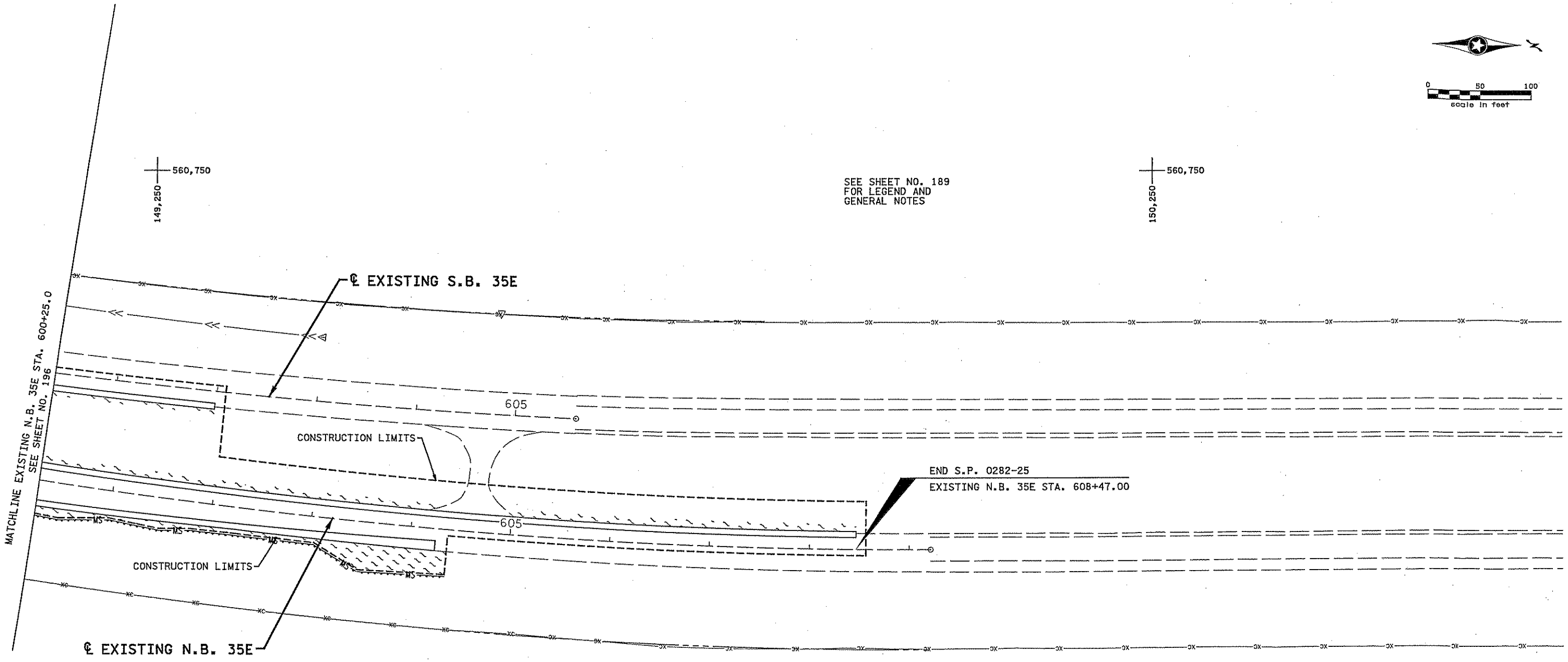


ANOKA COUNTY
 EROSION CONTROL AND TURF ESTABLISHMENT PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.W. RAMP, N.E. RAMP

SHEET 196 OF 471



SEE SHEET NO. 189
FOR LEGEND AND
GENERAL NOTES



MATCHLINE EXISTING N.B. 35E STA. 600+25.0
SEE SHEET NO. 196

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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: **AARON VACEK**

AV

Date: 5-22-09 License #: 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
K. LUDWIG

CHECKED BY
S. PRUSAK

COMM. NO. 0086509



ANOKA COUNTY

EROSION CONTROL AND TURF ESTABLISHMENT PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE









N.E. RAMP TAPER

SHEET
197
OF
471

HH LIGHTING TABULATION OF QUANTITIES				
NOTES	ITEM #	ITEM DESCRIPTION	UNIT	TOTAL
	2545	LIGHTING UNIT TYPE 9-40	EACH	32
	2545	LIGHT BASE DESIGN E	EACH	32
	2545	2" RIGID STEEL CONDUIT	LIN FT	35
	2545	3" NON-METALLIC CONDUIT	LIN FT	985
	2545	UNDERGROUND WIRE 1 COND NO 2	LIN FT	140
	2545	ARMORED CABLE 4 COND NO 4	LIN FT	11762
	2545	SERVICE CABINET SECONDARY TYPE L1	EACH	1
	2545	EQUIPMENT PAD B	EACH	1
	2545	HANDHOLE	EACH	1
	2545	ELECTRICAL SERVICE	EACH	1

THE FOLLOWING STANDARD PLATES APPROVED BY THE DEPT. OF TRANSPORTATION AND THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT

STANDARD PLATES	
PLATE NO.	DESCRIPTION
8106	EQUIPMENT PAD B
8114	PVC / PULLBOX
8127	LIGHT BASE DESIGN E
8140	ROADWAY LIGHTING SERVICE CABINET

LEGEND	
	PROPOSED LIGHTING UNIT TYPE 9-40
	GROUND ROD
	PROPOSED PAD MOUNTED FEED POINT
	PROPOSED HANDHOLE
	PROPOSED PAD MOUNTED TRANSFORMER
	PROPOSED DIRECT BURIED CABLE
	PROPOSED 3" NMC
	MAST ARM LUMINAIRE - SEE SIGNAL PLAN

LEGEND APPLIES TO ALL LIGHTING LAYOUT SHEETS

11:17:21 AM 8/20/2009 P:\proj\65509\1429\1429.tbl

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: **BRIAN D. HOLT**
Brian D. Holt
 Date: **8/20/09** License # **21248**

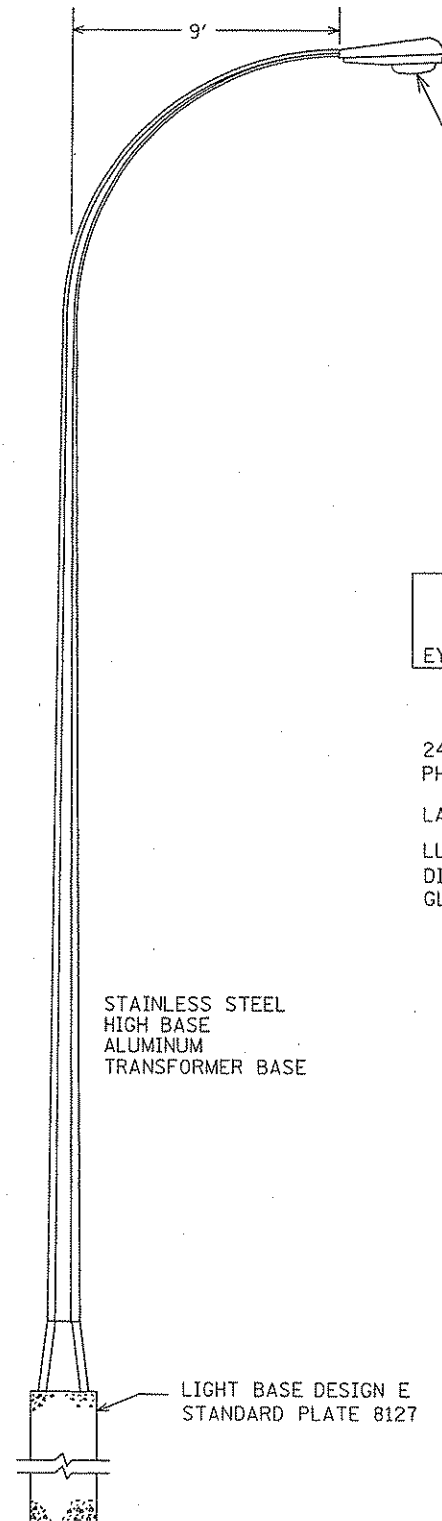
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY J. KRUSE
 DESIGNED BY J. KRUSE
 CHECKED BY B. HOLT
 COMM. NO. 0086509



ANOKA COUNTY
 LIGHTING PLAN
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 LEGEND AND TABULATIONS

SHEET 198 OF 471



250 WATT HIGH PRESSURE SODIUM LUMINAIRE WITH WIRE HOLDER

RADIUS CHART (ENGLISH)

MAST ARM LENGTH	RADIUS
6	5
9	8
12	10

LAMPS
EXTENDED LIFE LAMPS REQUIRED
EYE HIGH PRESSURE SODIUM IGNITION EN

240/480 MULTIVOLT LUMINAIRES WITHOUT PHOTOELECTRIC RECEPTICAL

LAMPS SHALL BE 250 WATT HIGH PRESSURE SODIUM LUMINAIRES SHALL HAVE A TYPE III CUTOFF DISTRIBUTION PER 1983 ANSI/IES STANDARDS WITH SHALLOW GLASS REFRACTOR

STAINLESS STEEL HIGH BASE ALUMINUM TRANSFORMER BASE

LIGHT BASE DESIGN E STANDARD PLATE 8127

LIGHTING UNIT TYPE 9-40 (BREAKAWAY)

9:28:33 AM 11/19/09 C:\P1\6509\VI-MUV\plan\CO261429.LDD1.DGN

NO	DATE	BY	CKD	APPR	REVISION

...HI-MUV\plan\CO261429.LDD1.DGN

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

Print Name: **BRIAN D. HOLT**

Brian D. Holt

Date: 5/26/09 License #: 21248

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY J. KRUSE

DESIGNED BY J. KRUSE

CHECKED BY B. HOLT

COMM. NO. 0086509



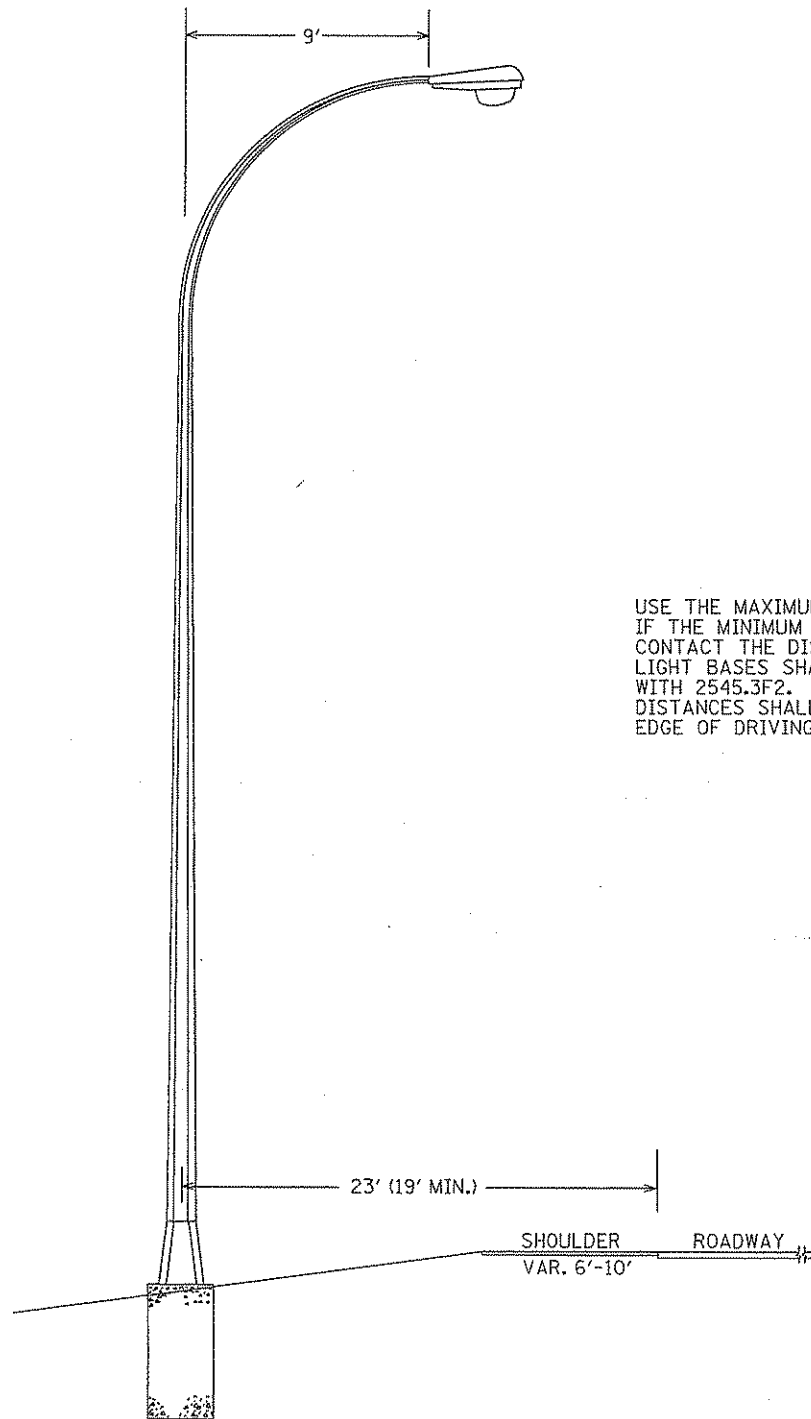
ANOKA COUNTY

LIGHTING PLAN

C.S.A.H. 14/T.H. 35E INTERCHANGE

LIGHTING DETAILS

SHEET 199 OF 471



USE THE MAXIMUM DISTANCE WHENEVER POSSIBLE,
 IF THE MINIMUM DISTANCE CANNOT BE OBTAINED
 CONTACT THE DISTRICT/DIVISION TRAFFIC ENGINEER
 LIGHT BASES SHALL BE INSTALLED IN ACCORDANCE
 WITH 2545.3F2.
 DISTANCES SHALL BE MEASURED FROM THE
 EDGE OF DRIVING LANE OR TURN LANE.

LIGHTING UNIT TYPE 9-40

9:29:14 AM
 4/20/2009
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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: **BRIAN D. HOLT**
Brian D. Holt
 Date: 5/26/09 License # 21248

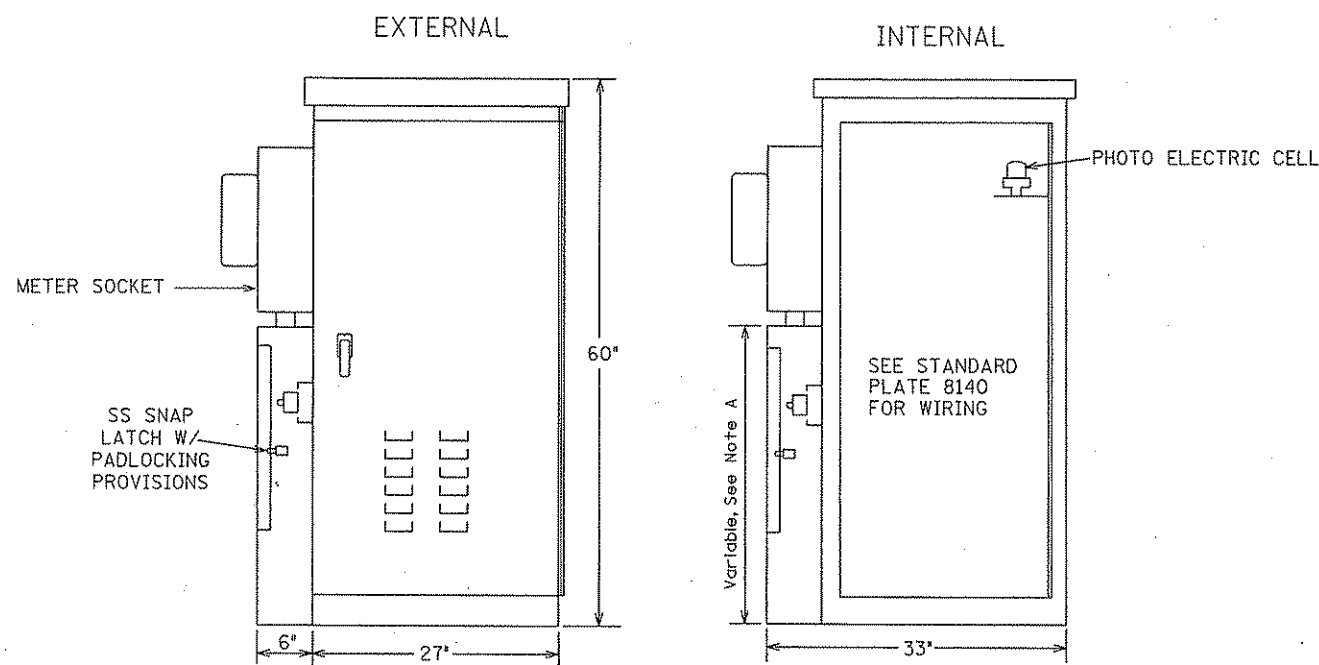
STATE PROJECT NO.
0282-25 (TH 35E)
 STATE PROJECT NO.
02-614-2B
 COUNTY PROJECT NO.
X
 CITY PROJECT NO. X

DRAWN BY
J. KRUSE
 DESIGNED BY
J. KRUSE
 CHECKED BY
B. HOLT
 COMM. NO. 0086509

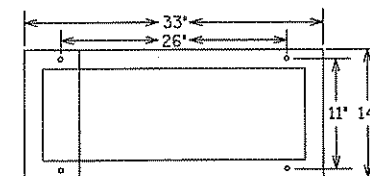


ANOKA COUNTY
 LIGHTING PLAN
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 LIGHTING DETAILS

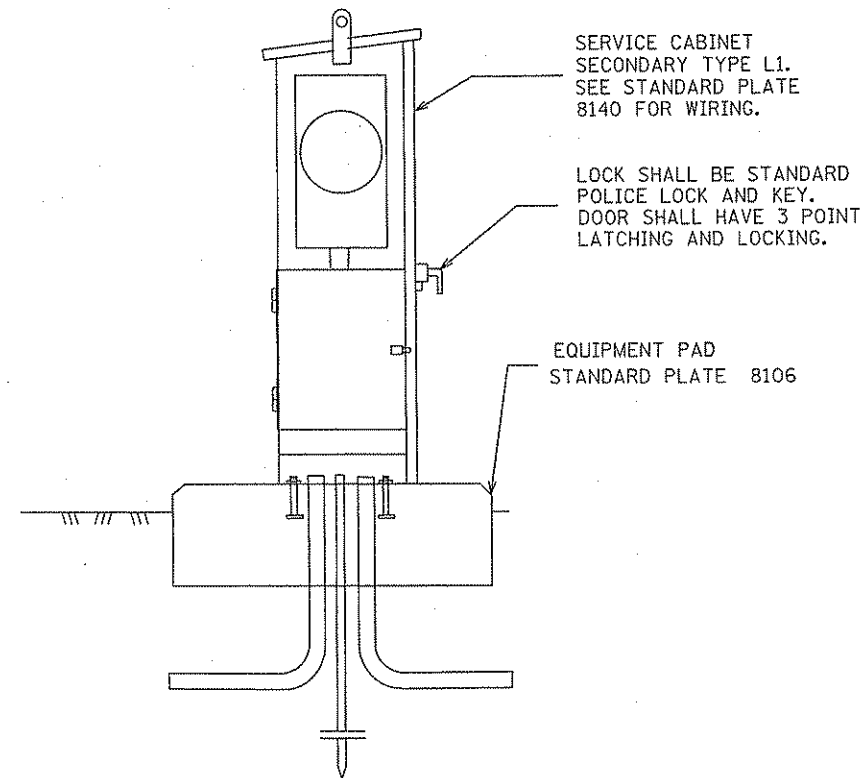
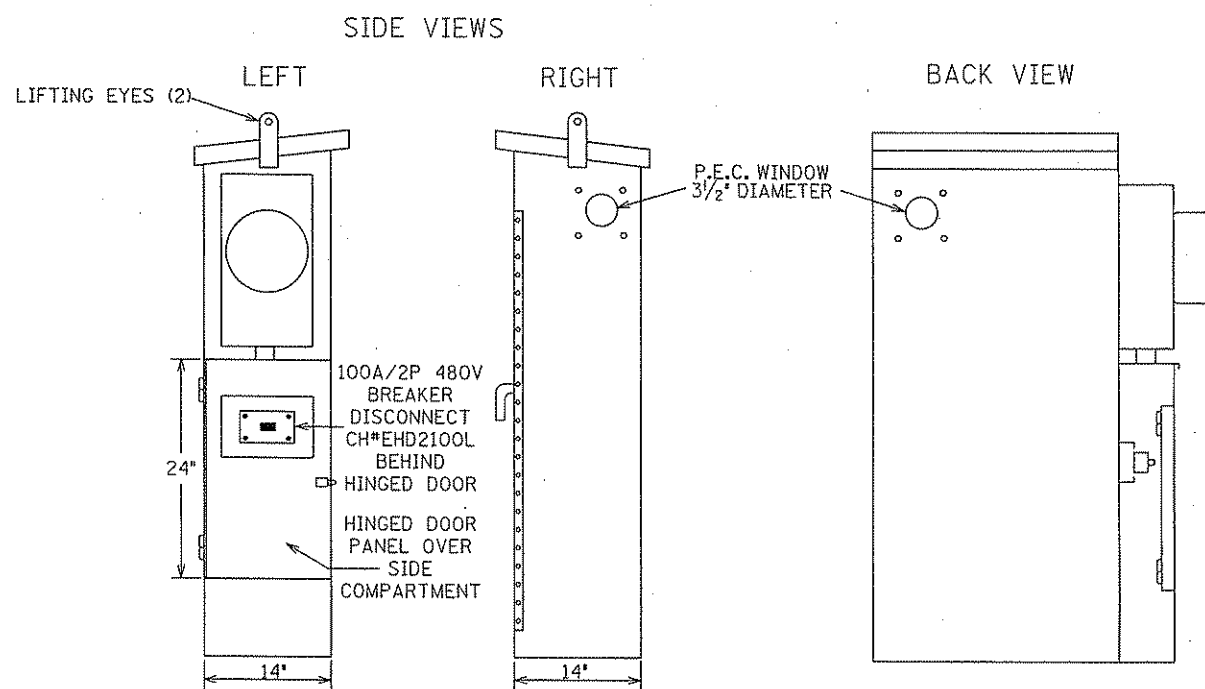
SHEET
200
OF
471



PAD MOUNTING PATTERN



Note A: Height of compartment is approximately 33".
May vary depending upon size of meter socket.



LIGHTING SERVICE CABINET 240/480 VOLT
SERVICE CABINET SECONDARY TYPE L1

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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: **BRIAN D. HOLT**
Brian D. Holt
Date: 5/26/09 License # 21248

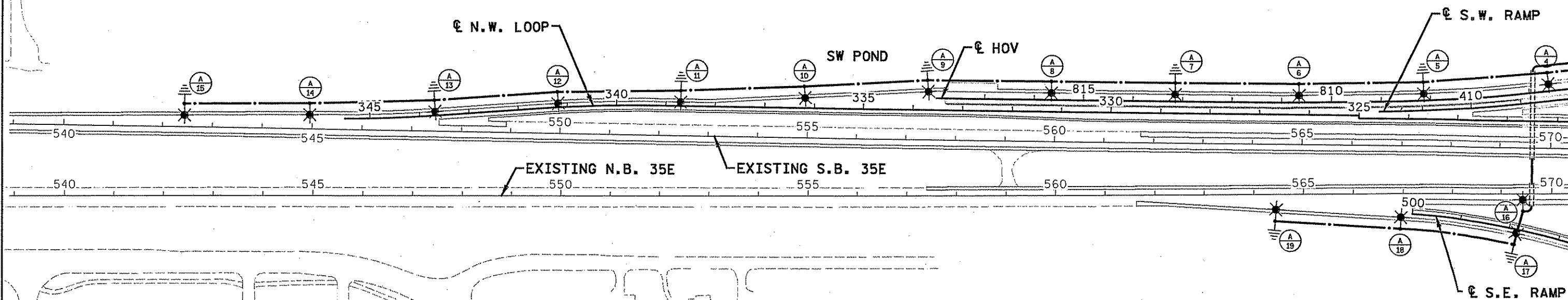
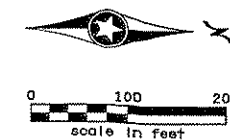
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY J. KRUSE
DESIGNED BY J. KRUSE
CHECKED BY B. HOLT
COMM. NO. 0086509



ANOKA COUNTY
LIGHTING PLAN
C.S.A.H. 14/T.H. 35E INTERCHANGE
LIGHTING DETAILS

SHEET 201 OF 471



PROPOSED LIGHTING UNITS					
NO.	STATION	L	R	LOCATION	LIGHT TYPE
A4	805+61		X	S. W. RAMP	9-40
A5	808+13		X	HOV	9-40
A6	810+64		X	HOV	9-40
A7	813+15		X	HOV	9-40
A8	815+65		X	HOV	9-40
A9	333+71		X	N. W. LOOP	9-40
A10	336+21		X	N. W. LOOP	9-40
A11	338+70		X	N. W. LOOP	9-40
A12	341+18		X	N. W. LOOP	9-40
A13	343+68		X	N. W. LOOP	9-40
A14	544+95	X		EXISTING S.B. 35E	9-40
A15	542+44	X		EXISTING S.B. 35E	9-40
A16	569+43	X	X	EXISTING N.B. 35E	9-40
A17	502+15		X	S. E. RAMP	9-40
A18	566+93	X	X	EXISTING N.B. 35E	9-40
A19	564+43	X	X	EXISTING N.B. 35E	9-40

- NOTES:
- DIRECT BURIED CABLE SHALL BE ARMORED CABLE 4 COND NO 4
 - ALL DIRECT BURIED CABLE PASSING UNDER A ROADWAY SHALL UTILIZE A 3" SLEEVE THAT SHALL BE PLACED PERPENDICULAR TO THE ROADWAY
 - SEE LEGEND ON SHEET NO. 198

11:17:18 AM 8/20/09 P:\projects\6509\HI-MUNPlan\C0261429_111.dgn

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: **BRIAN D. HOLT**
Brian D. Holt
 Date: **8/20/09** License #: **21248**

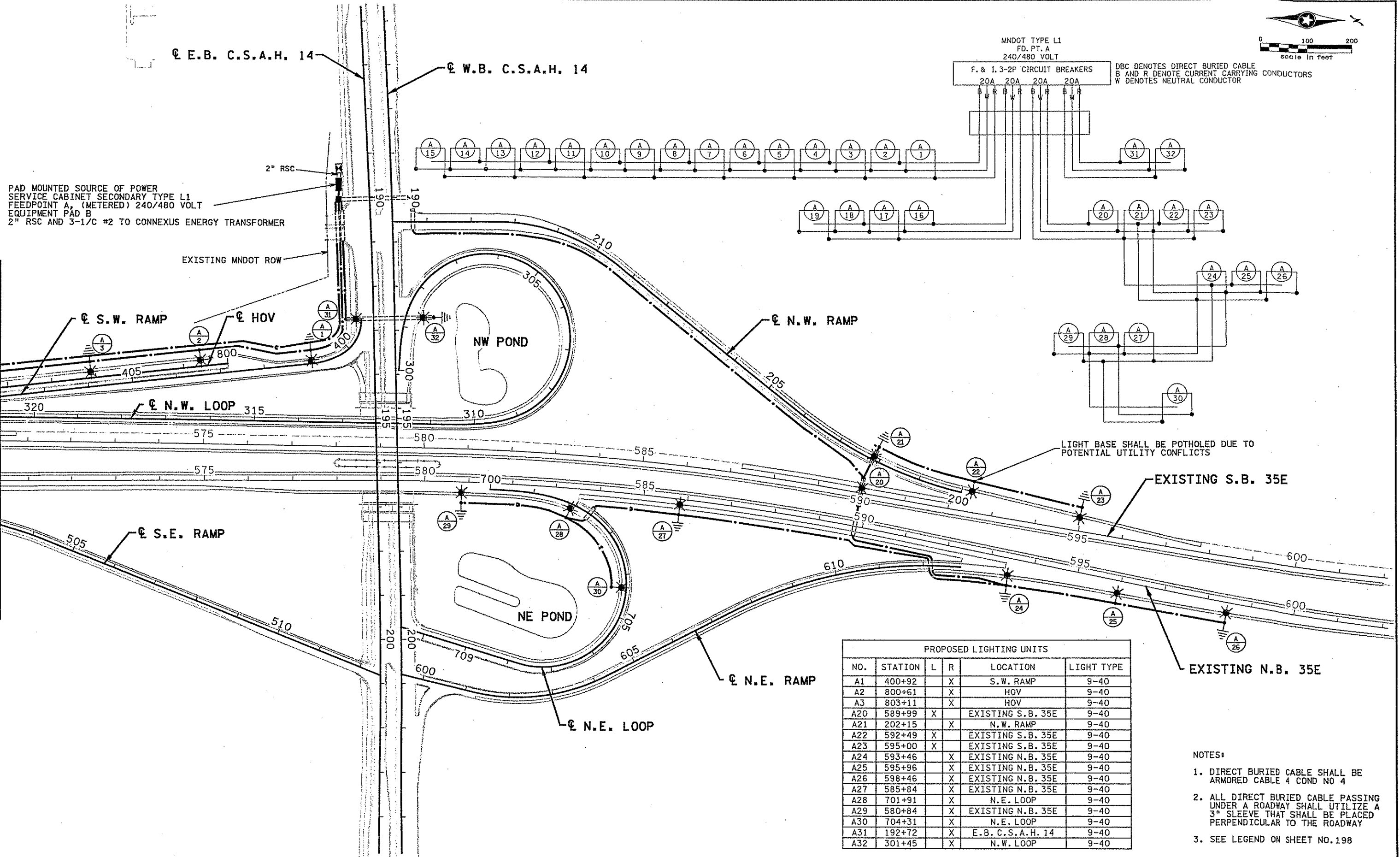
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY J. KRUSE
 DESIGNED BY J. KRUSE
 CHECKED BY B. HOLT
 COMM. NO. 0086509



ANOKA COUNTY
 LIGHTING PLAN
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 LIGHTING LAYOUT

SHEET 202 OF 471



MNDOT TYPE L1
FD. PT. A
240/480 VOLT

F. & I. 3-2P CIRCUIT BREAKERS
20A 20A 20A 20A

DBC DENOTES DIRECT BURIED CABLE
B AND R DENOTE CURRENT CARRYING CONDUCTORS
W DENOTES NEUTRAL CONDUCTOR

PAD MOUNTED SOURCE OF POWER
SERVICE CABINET SECONDARY TYPE L1
FEEDPOINT A, (METERED) 240/480 VOLT
EQUIPMENT PAD B
2" RSC AND 3-1/C #2 TO CONNEXUS ENERGY TRANSFORMER

PROPOSED LIGHTING UNITS

NO.	STATION	L	R	LOCATION	LIGHT TYPE
A1	400+92		X	S.W. RAMP	9-40
A2	800+61		X	HOV	9-40
A3	803+11		X	HOV	9-40
A20	589+99	X		EXISTING S.B. 35E	9-40
A21	202+15		X	N.W. RAMP	9-40
A22	592+49	X		EXISTING S.B. 35E	9-40
A23	595+00	X		EXISTING S.B. 35E	9-40
A24	593+46		X	EXISTING N.B. 35E	9-40
A25	595+96		X	EXISTING N.B. 35E	9-40
A26	598+46		X	EXISTING N.B. 35E	9-40
A27	585+84		X	EXISTING N.B. 35E	9-40
A28	701+91	X		N.E. LOOP	9-40
A29	580+84	X		EXISTING N.B. 35E	9-40
A30	704+31	X		N.E. LOOP	9-40
A31	192+72	X		E.B. C.S.A.H. 14	9-40
A32	301+45		X	N.W. LOOP	9-40

- NOTES:
- DIRECT BURIED CABLE SHALL BE ARMORED CABLE 4 COND NO 4
 - ALL DIRECT BURIED CABLE PASSING UNDER A ROADWAY SHALL UTILIZE A 3" SLEEVE THAT SHALL BE PLACED PERPENDICULAR TO THE ROADWAY
 - SEE LEGEND ON SHEET NO.198

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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: **BRIAN D. HOLT**
Brian D. Holt
 Date: **6/20/09** License # **21248**

STATE PROJECT NO.
0282-25 (TH 35E)
 STATE PROJECT NO.
02-614-28
 COUNTY PROJECT NO.
X
 CITY PROJECT NO. X

DRAWN BY
J. KRUSE
 DESIGNED BY
J. KRUSE
 CHECKED BY
B. HOLT
 COMM. NO. 0086509



ANOKA COUNTY
 LIGHTING PLAN
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 LIGHTING LAYOUT

SHEET
203
OF
471

XX PERMANENT PAVEMENT MARKINGS (SPEC. 2582)											
ALIGNMENT	STATION TO STATION	PAVEMENT MARKING SPECIAL (1,5,6) (SQ FT)	PAVEMENT MESSAGE POLY PREFORM-GROUND IN (1)			PAVEMENT MARKING SPECIAL (2,7) 4" WHITE (LIN FT)	SOLID LINE POLY PREFORM (GROUND IN) (1,2)		BROKEN LINE POLY PREFORM (GROUND IN) (1,3)	DOTTED LINE POLY PREFORM (GROUND IN) (1,4)	SOLID LINE POLY PREFORM (GROUND IN) (1)
			LEFT ARROW (EACH)	RIGHT ARROW (EACH)	HOV DIAMOND (EACH)		4" WHITE (LIN FT)	8" WHITE (LIN FT)	4" WHITE (LIN FT)	8" WHITE (LIN FT)	24" WHITE (LIN FT)
E.B. C.S.A.H. 14	180+63 - 184+58	90				360					
E.B. C.S.A.H. 14	184+58 - 194+42	410	1	1		960	90			60	
E.B. C.S.A.H. 14	194+42 - 211+63	1485				1350	30			35	
EXISTING N.B. 35E	557+30 - 608+57							790	1180	100	
EXISTING S.B. 35E	532+40 - 602+09							700	1570		
N.W. RAMP	200+00 - 214+78		1	1			530				
N.W. LOOP	300+00 - 345+49							790			
N.E. LOOP	700+00 - 710+53						260	180	30		
N.E. RAMP	599+50 - 612+84										
S.W. RAMP	399+25 - 411+86							265	250		
HOV	800+00 - 817+96				2						
S.E. RAMP	500+00 - 512+50			4			260				
PROJECT TOTALS		1985	2	10	2	2670	1170	2725	3000	130	95

NOTES:

- (1) ALL PREFORMED POLYMER TAPE MESSAGING AND STRIPING SHALL UTILIZE THE INLAYED METHOD ON BOTH BITUMINOUS AND CONCRETE PAVEMENTS (INCLUDING BRIDGE DECKS).
- (2) ALL CROSSHATCH STRIPING SHALL BE STRIPED AT 45 DEGREES WITH A 20 FOOT SPACING.
- (3) ALL BROKEN LINE STRIPING SHALL BE STRIPED WITH A 50 FOOT CYCLE. THE CYCLE CONSISTS OF A 10 FOOT STRIPE AND A 40 FOOT GAP.
- (4) ALL DOTTED LINE STRIPING SHALL BE STRIPED WITH A 15 FOOT CYCLE. THE CYCLE CONSISTS OF A 3 FOOT STRIPE AND A 12 FOOT GAP.
- (5) ALL CROSSWALK MARKINGS SHALL BE STRIPED WITH A 6 FOOT CYCLE. THE CYCLE CONSISTS OF A 3 FOOT STRIPE AND A 3 FOOT GAP. ALL CROSSWALK MARKINGS SHALL BE 6 FEET WIDE.
- (6) CONSISTS OF 12 LT ARROWS, 12 RT ARROWS, AND 1625 SQ FT CROSSWALK PREFORMED THERMOPLASTIC.
- (7) THIS IS FOR 24" SOLID WHITE PREFORMED THERMOPLASTIC. (445 X 6 = 2670 LIN FT)

XX PERMANENT PAVEMENT MARKINGS (SPEC. 2582)											
ALIGNMENT	STATION TO STATION	SOLID LINE EPOXY			BROKEN LINE EPOXY (3)	DOTTED LINE EPOXY (4)	SOLID LINE EPOXY (2)		SOLID LINE PAINT (2)		CROSSWALK MARKING POLY PREFORM (GROUND IN) (1,5) (SQ FT)
		4" WHITE (LIN FT)	8" WHITE (LIN FT)	24" WHITE (LIN FT)	4" WHITE (LIN FT)	8" WHITE (LIN FT)	4" YELLOW (LIN FT)	24" YELLOW (LIN FT)	24" WHITE (LIN FT)	24" YELLOW (LIN FT)	
E.B. C.S.A.H. 14	180+63 - 184+58	2450		50	390	60	640	160			
E.B. C.S.A.H. 14	184+58 - 194+42	3010	260	10	380	120	2130	50			
E.B. C.S.A.H. 14	194+42 - 211+63	7400	630		970	70	3860		230	530	125
EXISTING N.B. 35E	557+30 - 608+57	5600					5730				
EXISTING S.B. 35E	532+40 - 602+09	7540					7650				
N.W. RAMP	200+00 - 214+78	1560					1550				
N.W. LOOP	300+00 - 345+49	4570	290				4620				
N.E. LOOP	700+00 - 710+53	1070					920				
N.E. RAMP	599+50 - 612+84	1310					1310				
S.W. RAMP	399+25 - 411+86	1480	60				1030				140
HOV	800+00 - 817+96	1980					1960				
S.E. RAMP	500+00 - 512+50	1310					1320				
PROJECT TOTALS		39280	1240	60	1740	250	32720	210	230	530	265

NOTES:

- (1) ALL PREFORMED POLYMER TAPE MESSAGING AND STRIPING SHALL UTILIZE THE INLAYED METHOD ON BOTH BITUMINOUS AND CONCRETE PAVEMENTS (INCLUDING BRIDGE DECKS).
- (2) ALL CROSSHATCH STRIPING SHALL BE STRIPED AT 45 DEGREES WITH A 20 FOOT SPACING.
- (3) ALL BROKEN LINE STRIPING SHALL BE STRIPED WITH A 50 FOOT CYCLE. THE CYCLE CONSISTS OF A 10 FOOT STRIPE AND A 40 FOOT GAP.
- (4) ALL DOTTED LINE STRIPING SHALL BE STRIPED WITH A 15 FOOT CYCLE. THE CYCLE CONSISTS OF A 3 FOOT STRIPE AND A 12 FOOT GAP.
- (5) ALL CROSSWALK MARKINGS SHALL BE STRIPED WITH A 6 FOOT CYCLE. THE CYCLE CONSISTS OF A 3 FOOT STRIPE AND A 3 FOOT GAP. ALL CROSSWALK MARKINGS SHALL BE 6 FEET WIDE.

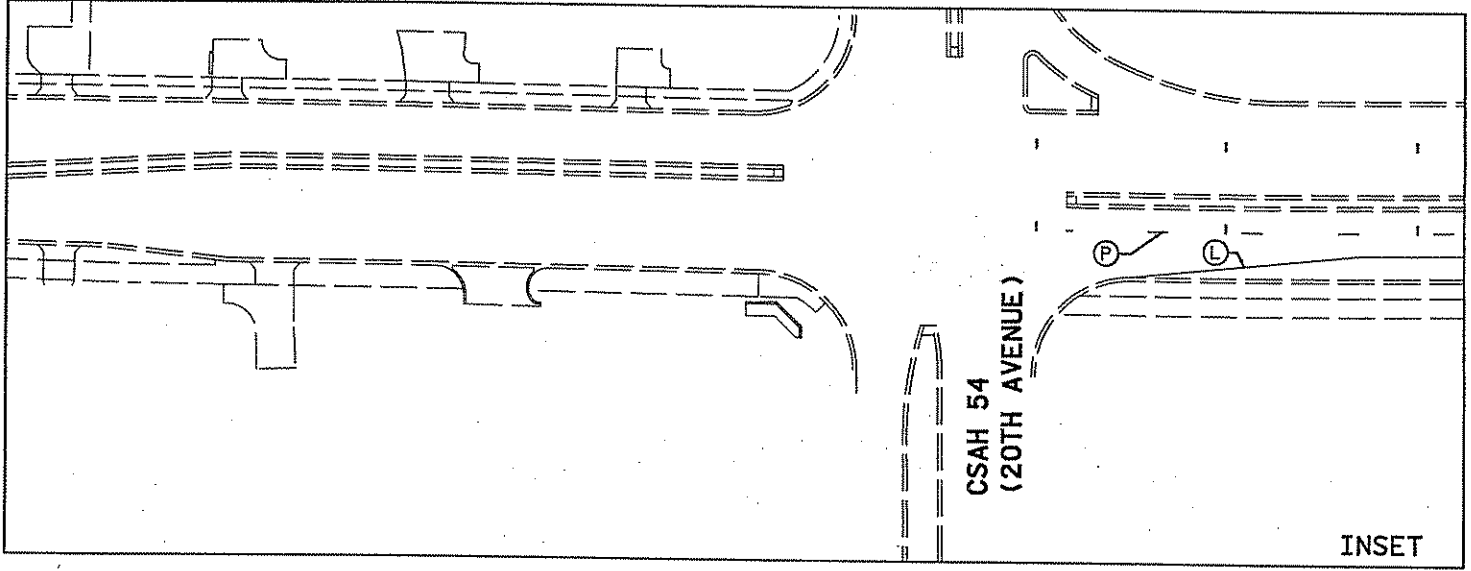
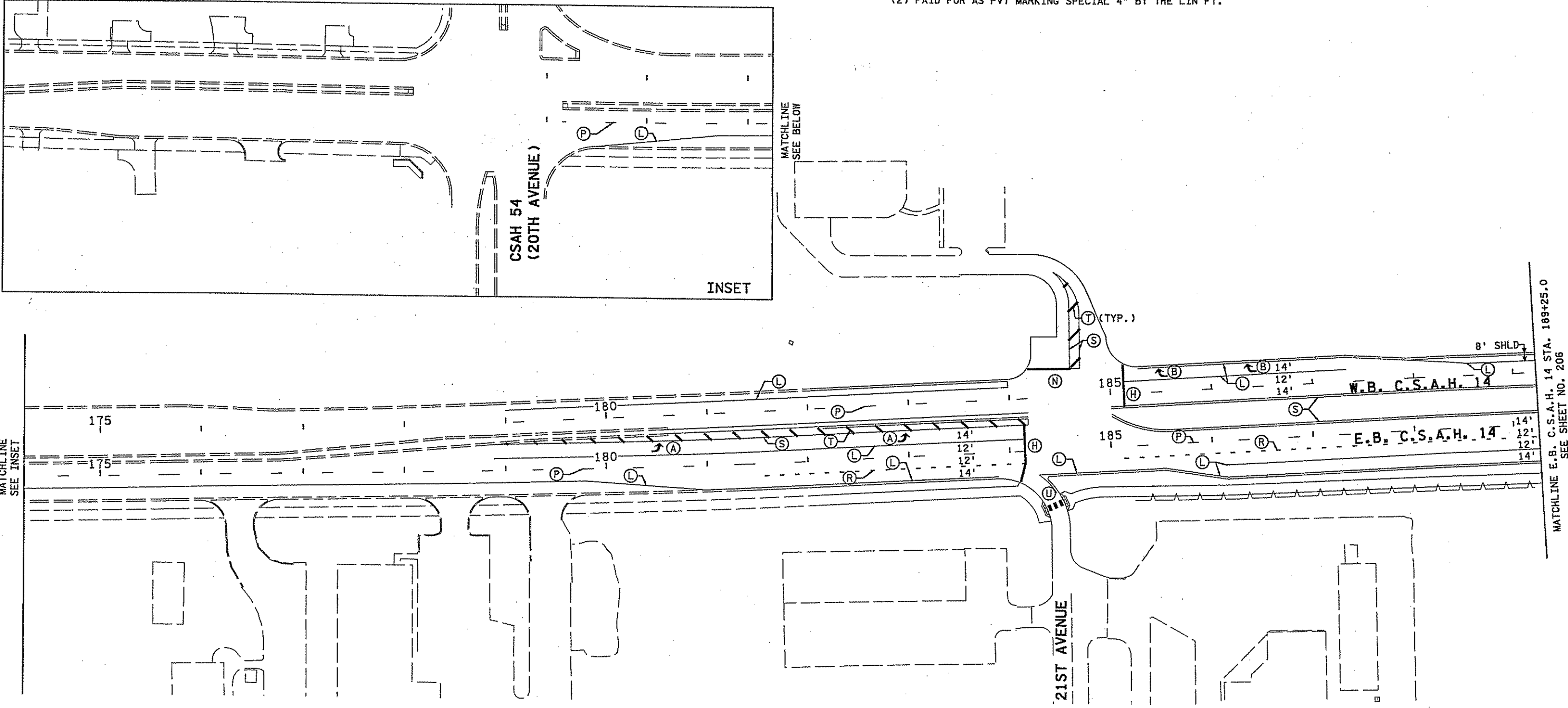
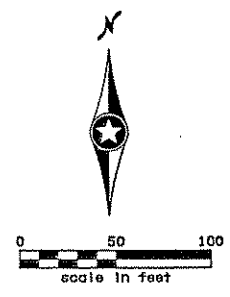
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NO. DATE BY CKD APPR REVISION		I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: <u>AARON VACEK</u> Date: <u>8-26-09</u> License # <u>44277</u>		STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X		DRAWN BY V. MICHELS DESIGNED BY S. PRUSAK CHECKED BY A. DEBRUIN COMM. NO. 0086509		ANOKA COUNTY STRIPING AND PAVEMENT MARKING PLANS C.S.A.H. 14/T.H. 35E INTERCHANGE TABULATIONS		SHEET 204 OF 471	
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THESE NOTES APPLY TO ALL SIGNING & STRIPING PLAN SHEETS.
 GENERAL NOTES:
 CENTERLINE ALIGNMENTS NOT SHOWN ON THIS PLAN FOR CLARITY.
 MATCH EXISTING PAVEMENT MARKINGS AT PROJECT LIMITS AS IDENTIFIED BY THE ENGINEER.
 ALL CONFLICTING PAVEMENT MARKINGS IDENTIFIED BY THE ENGINEER SHALL BE REMOVED. THE METHOD OF REMOVAL SHALL BE APPROVED BY THE ENGINEER.

- NOTES:
- (A) PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC (1)
 - (B) PAVEMENT MESSAGE (RIGHT ARROW) PREFORMED THERMOPLASTIC (1)
 - (H) 24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC (2)
 - (L) 4" SOLID LINE WHITE - EPOXY
 - (N) 24" SOLID LINE WHITE - EPOXY
 - (P) 4" BROKEN LINE WHITE - EPOXY
 - (R) 8" DOTTED LINE WHITE - EPOXY
 - (S) 4" SOLID LINE YELLOW - EPOXY
 - (T) 24" SOLID LINE YELLOW - EPOXY
 - (U) CROSSWALK MARKING - PREFORMED THERMOPLASTIC (1)
- (1) PAID FOR AS PVT MESSAGE SPECIAL BY THE SQ FT.
 (2) PAID FOR AS PVT MARKING SPECIAL 4" BY THE LIN FT.



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 7/21/2009
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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: AARON VACEK
Aaron Vacek
 Date: 8-06-09 License # 44277

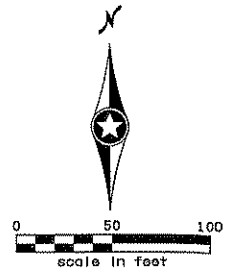
STATE PROJECT NO.
0282-25 (TH 35E)
 STATE PROJECT NO.
02-614-28
 COUNTY PROJECT NO.
X
 CITY PROJECT NO. X

DRAWN BY
V. MICHELS
 DESIGNED BY
S. PRUSAK
 CHECKED BY
A. DEBRUIN
 COMM. NO. 0086509



ANOKA COUNTY
 STRIPING AND PAVEMENT MARKING PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14

SHEET
205
OF
471

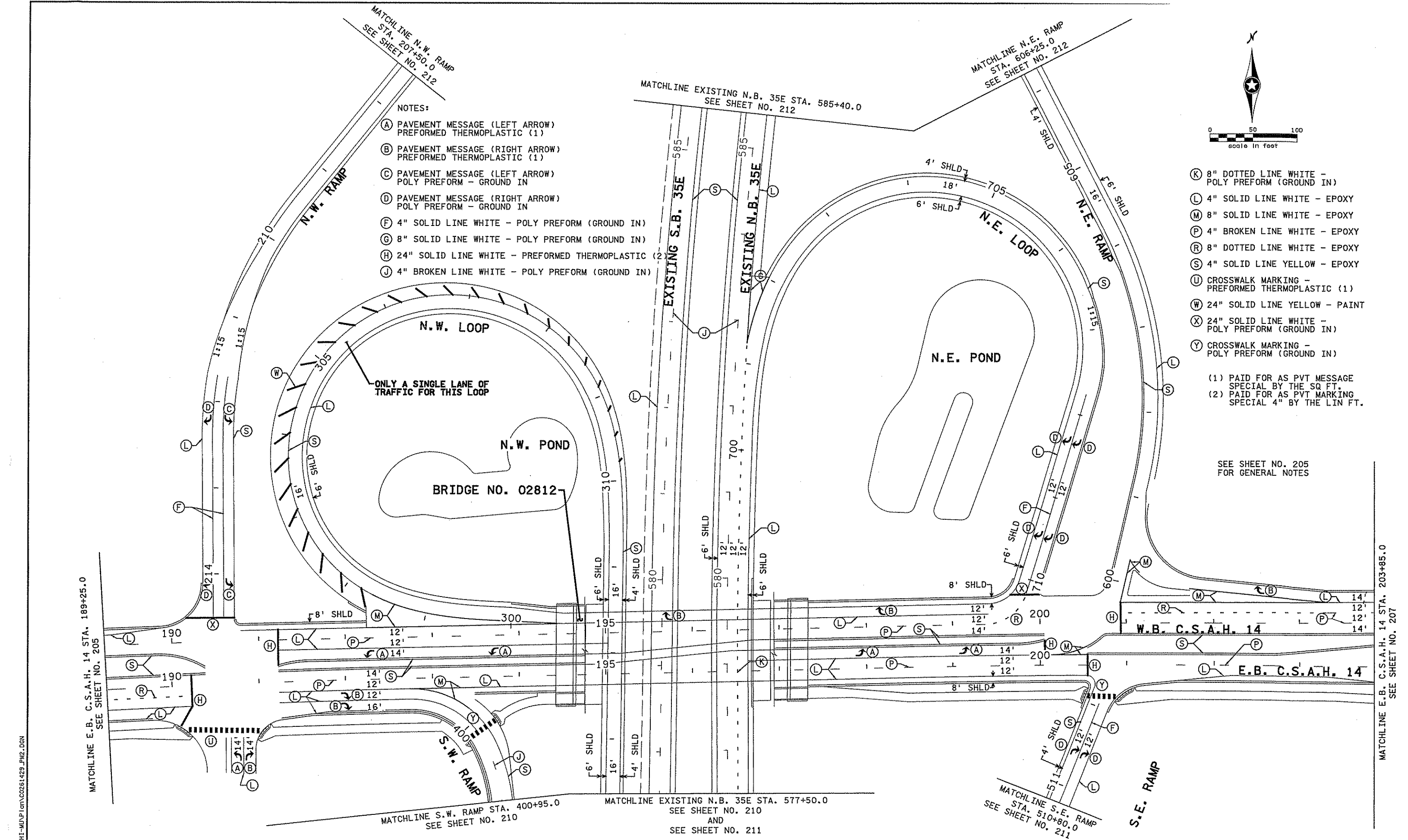


- NOTES:
- (A) PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC (1)
 - (B) PAVEMENT MESSAGE (RIGHT ARROW) PREFORMED THERMOPLASTIC (1)
 - (C) PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM - GROUND IN
 - (D) PAVEMENT MESSAGE (RIGHT ARROW) POLY PREFORM - GROUND IN
 - (F) 4" SOLID LINE WHITE - POLY PREFORM (GROUND IN)
 - (G) 8" SOLID LINE WHITE - POLY PREFORM (GROUND IN)
 - (H) 24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC (2)
 - (J) 4" BROKEN LINE WHITE - POLY PREFORM (GROUND IN)

- (K) 8" DOTTED LINE WHITE - POLY PREFORM (GROUND IN)
- (L) 4" SOLID LINE WHITE - EPOXY
- (M) 8" SOLID LINE WHITE - EPOXY
- (P) 4" BROKEN LINE WHITE - EPOXY
- (R) 8" DOTTED LINE WHITE - EPOXY
- (S) 4" SOLID LINE YELLOW - EPOXY
- (U) CROSSWALK MARKING - PREFORMED THERMOPLASTIC (1)
- (W) 24" SOLID LINE YELLOW - PAINT
- (X) 24" SOLID LINE WHITE - POLY PREFORM (GROUND IN)
- (Y) CROSSWALK MARKING - POLY PREFORM (GROUND IN)

(1) PAID FOR AS PVT MESSAGE SPECIAL BY THE SQ FT.
 (2) PAID FOR AS PVT MARKING SPECIAL 4" BY THE LIN FT.

SEE SHEET NO. 205 FOR GENERAL NOTES



MATCHLINE E.B. C.S.A.H. 14 STA. 189+25.0
 SEE SHEET NO. 205

MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
 SEE SHEET NO. 207

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: AARON VACEK
Aaron Vacek
 Date: 10-28-09 License #: 44277

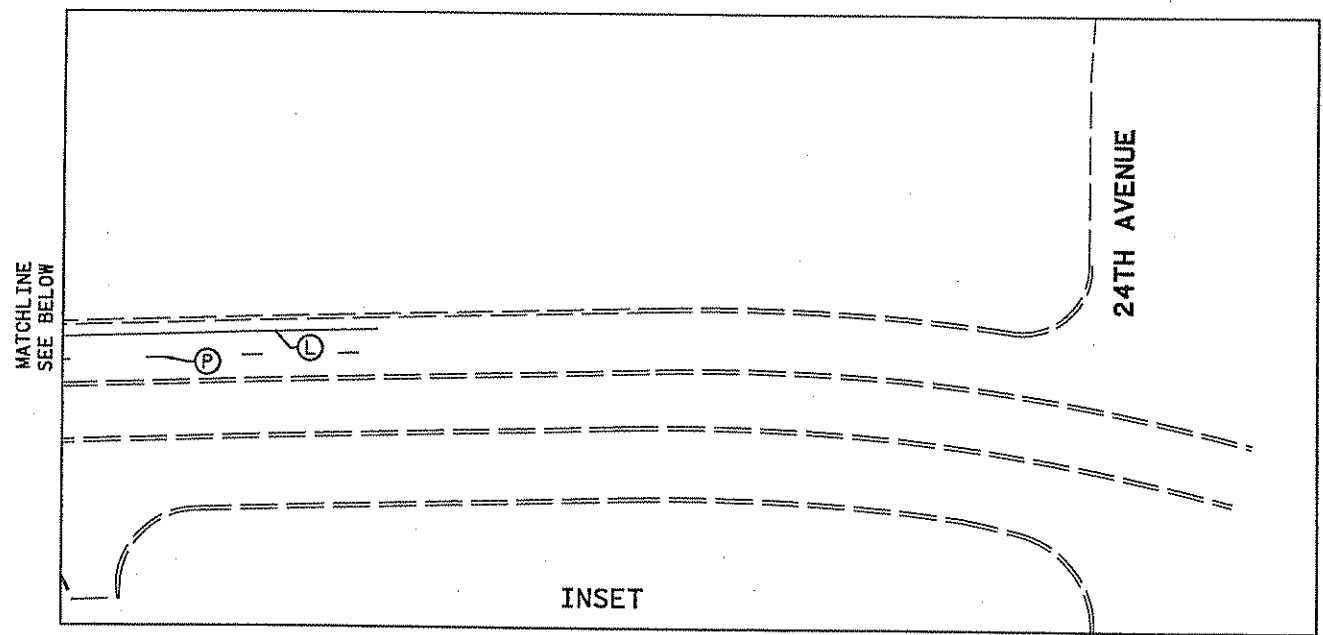
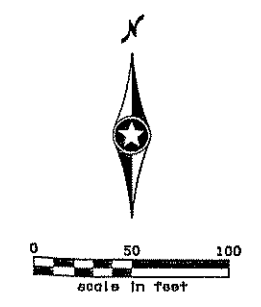
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY S. PRUSAK
 CHECKED BY A. DEBRUIN
 COMM. NO. 0086509

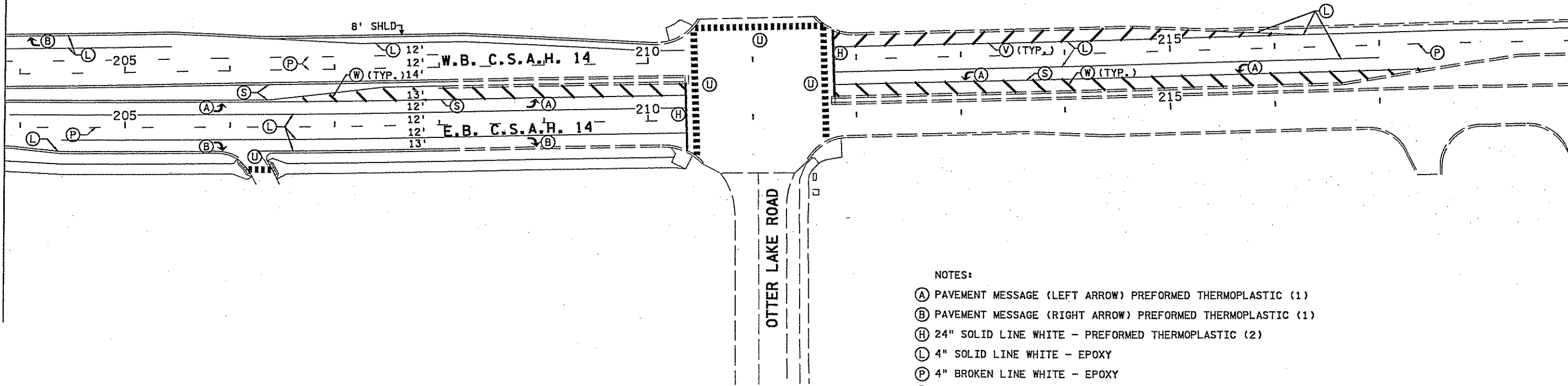
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ANOKA COUNTY
 STRIPING AND PAVEMENT MARKING PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14, N.W. RAMP, N.E. RAMP, N.W. LOOP, N.E. LOOP, S.W. RAMP, S.E. RAMP

SHEET 206 OF 471



MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 206



MATCHLINE
SEE INSET

NOTES:

- (A) PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC (1)
- (B) PAVEMENT MESSAGE (RIGHT ARROW) PREFORMED THERMOPLASTIC (1)
- (H) 24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC (2)
- (L) 4" SOLID LINE WHITE - EPOXY
- (P) 4" BROKEN LINE WHITE - EPOXY
- (S) 4" SOLID LINE YELLOW - EPOXY
- (U) CROSSWALK MARKING - PREFORMED THERMOPLASTIC (1)
- (V) 24" SOLID LINE WHITE - PAINT
- (W) 24" SOLID LINE YELLOW - PAINT

(1) PAID FOR AS PVT MESSAGE SPECIAL BY THE SQ FT.
 (2) PAID FOR AS PVT MARKING SPECIAL 4" BY THE LIN FT.
 SEE SHEET NO. 205
 FOR GENERAL NOTES

2/12/21 PM
7/21/2009
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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: AARON VACEK
 Date: 8-06-09 License # 44277

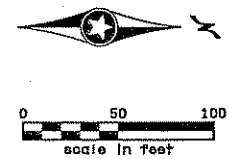
STATE PROJECT NO.
0282-25 (TH 35E)
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DRAWN BY
V. MICHELS
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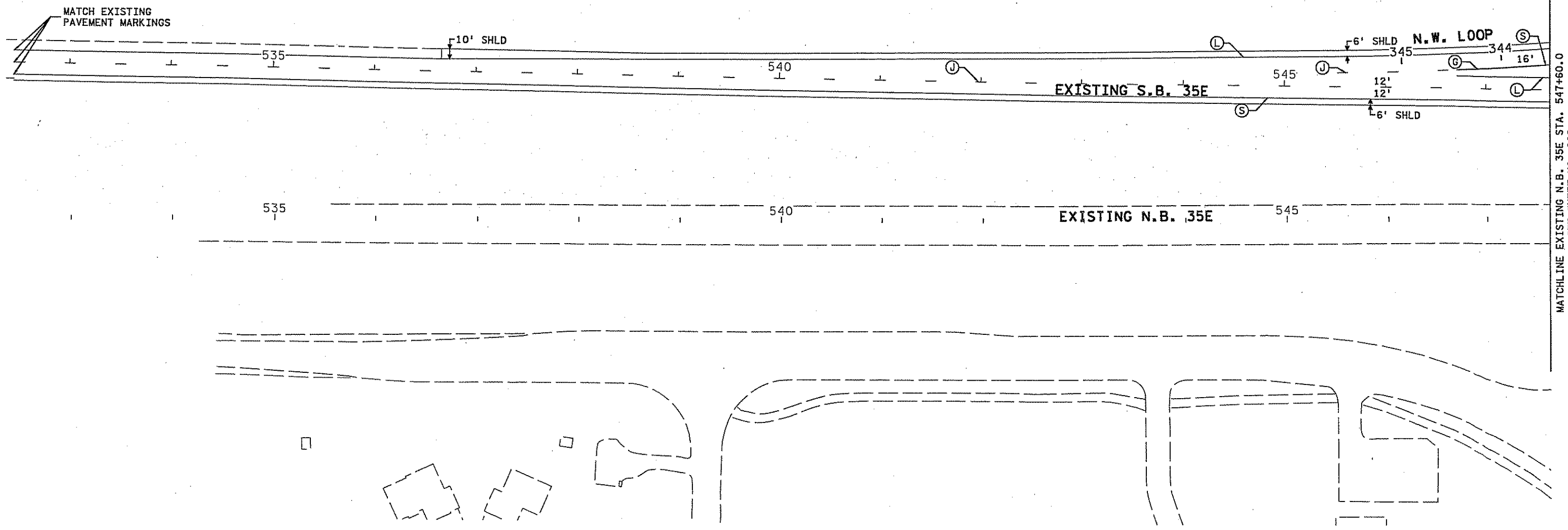
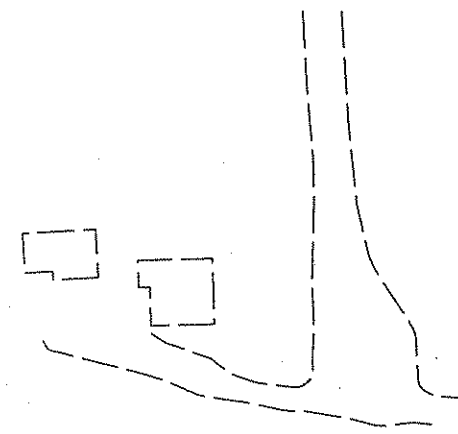
ANOKA COUNTY
 STRIPING AND PAVEMENT MARKING PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14

SHEET
207
OF
471



- NOTES:
- ⓐ 8" SOLID LINE WHITE - POLY PREFORM (GROUND IN)
 - ⓑ 4" BROKEN LINE WHITE - POLY PREFORM (GROUND IN)
 - ⓒ 4" SOLID LINE WHITE - EPOXY
 - ⓓ 4" SOLID LINE YELLOW - EPOXY

SEE SHEET NO. 205
FOR GENERAL NOTES



MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 209

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7/21/2009
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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: AARON VACEK

Aaron Vacek

Date: 8-06-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. DEBRUIN

COMM. NO. 0086509



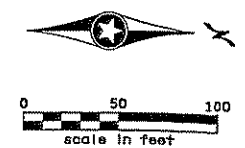
ANOKA COUNTY

STRIPING AND PAVEMENT MARKING PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

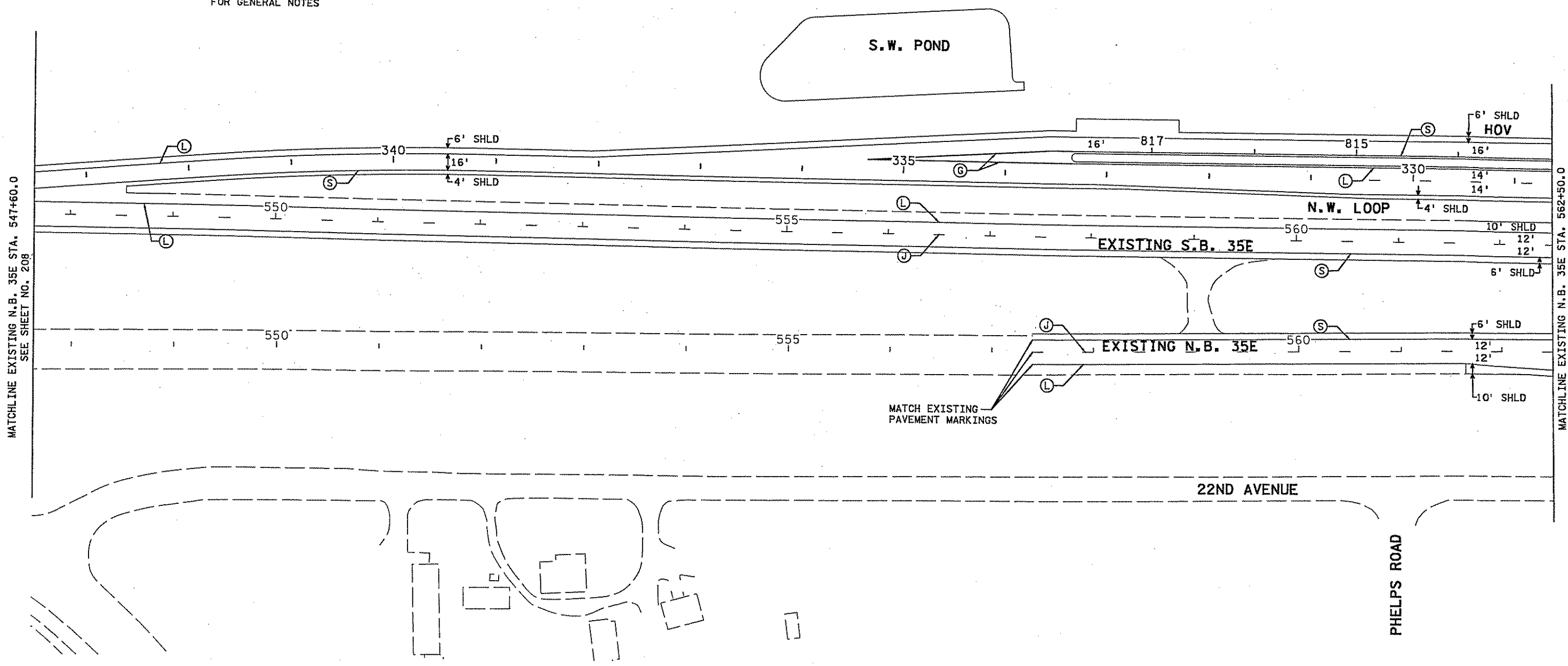
N.W. LOOP

SHEET
208
OF
471



- NOTES:
- ⓐ 8" SOLID LINE WHITE - POLY PREFORM (GROUND IN)
 - ⓑ 4" BROKEN LINE WHITE - POLY PREFORM (GROUND IN)
 - ⓒ 4" SOLID LINE WHITE - EPOXY
 - ⓓ 4" SOLID LINE YELLOW - EPOXY

SEE SHEET NO. 205
FOR GENERAL NOTES



MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 208

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 210
AND
SEE SHEET NO. 211

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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: **AARON VACEK**

Date: 8-06-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. DEBRUIN

COMM. NO. 0086509



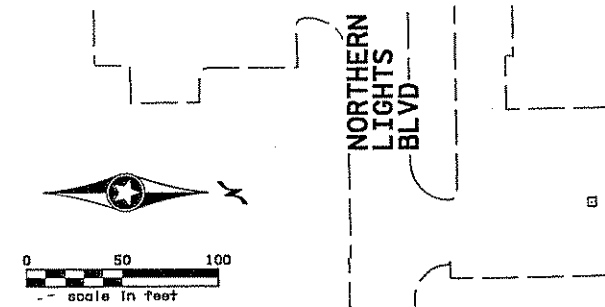
ANOKA COUNTY

STRIPING AND PAVEMENT MARKING PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

N.W. LOOP, HOV

SHEET
209
OF
471

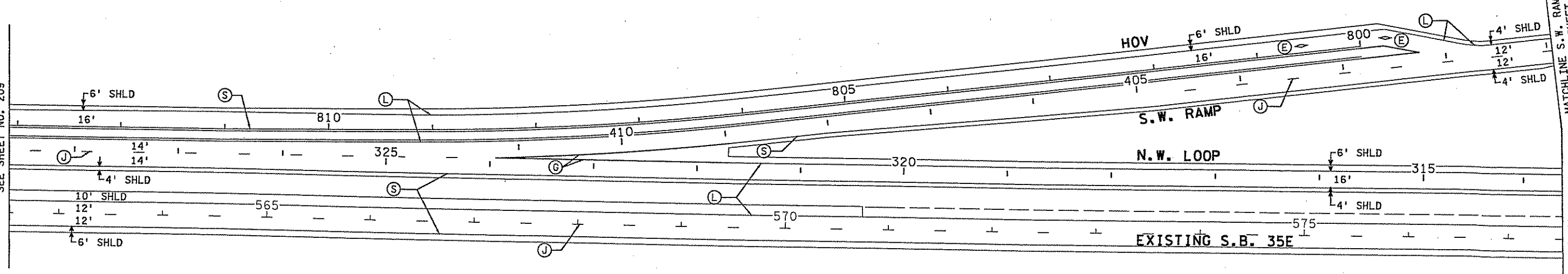


NOTES:

- (E) PAVEMENT MESSAGE (HOV DIAMOND) POLY PREFORM - GROUND IN
- (G) 8" SOLID LINE WHITE - POLY PREFORM (GROUND IN)
- (J) 4" BROKEN LINE WHITE - POLY PREFORM (GROUND IN)
- (L) 4" SOLID LINE WHITE - EPOXY
- (S) 4" SOLID LINE YELLOW - EPOXY

SEE SHEET NO. 205
FOR GENERAL NOTES

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 209



MATCHLINE S.W. RAMP STA. 400+95.0
SEE SHEET NO. 206

MATCHLINE EXISTING
N.B. 35E STA. 577+50.0
SEE SHEET NO. 206

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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: **AARON VACEK**

Date: *2-26-09* License # **44277**

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. DEBRUIN

COMM. NO. 0086509



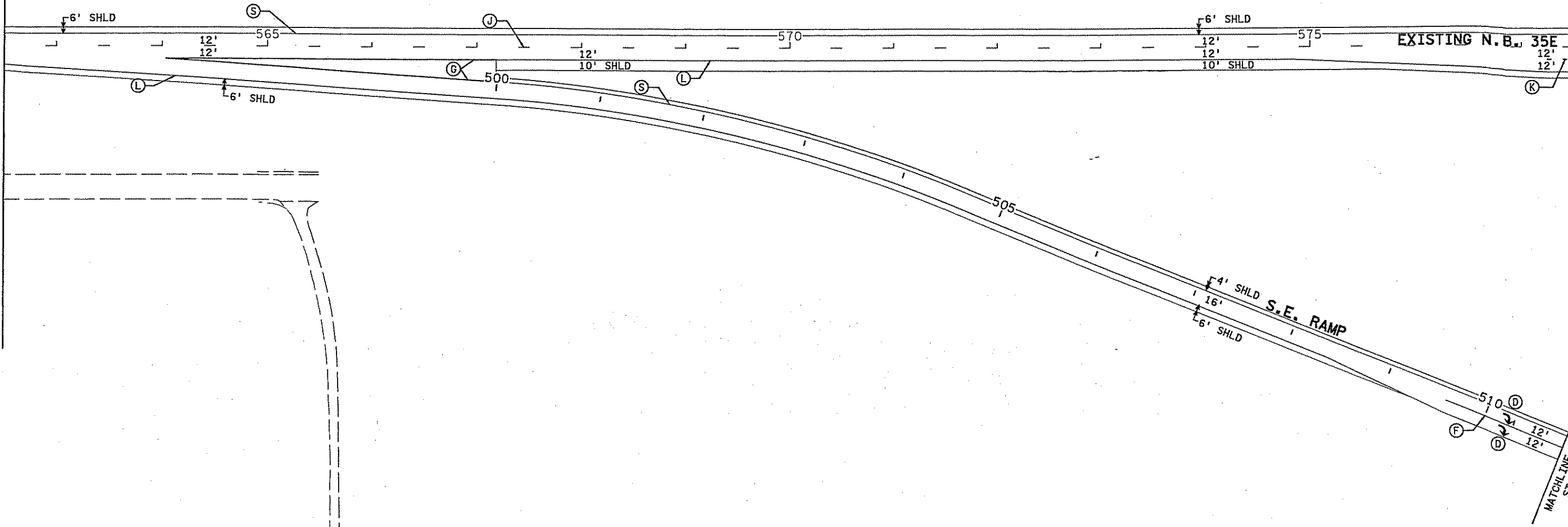
ANOKA COUNTY

STRIPING AND PAVEMENT MARKING PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP, S.W. RAMP, HOV

SHEET
210
OF
471

MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 209

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 206



NOTES:

- (D) PAVEMENT MESSAGE (RIGHT ARROW) POLY PREFORM - GROUND IN
- (F) 4" SOLID LINE WHITE - POLY PREFORM (GROUND IN)
- (G) 8" SOLID LINE WHITE - POLY PREFORM (GROUND IN)
- (J) 4" BROKEN LINE WHITE - POLY PREFORM (GROUND IN)
- (K) 8" DOTTED LINE WHITE - POLY PREFORM (GROUND IN)
- (L) 4" SOLID LINE WHITE - EPOXY
- (S) 4" SOLID LINE YELLOW - EPOXY

SEE SHEET NO. 205
FOR GENERAL NOTES

MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 206

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7/21/2009
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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: AARON VACEK
Aaron Vacek
Date: 8-06-09 License # 44277

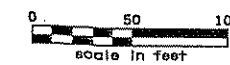
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY S. PRUSAK
CHECKED BY A. DEBRUIN
COMM. NO. 0086509



ANOKA COUNTY
STRIPING AND PAVEMENT MARKING PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
S.E. RAMP

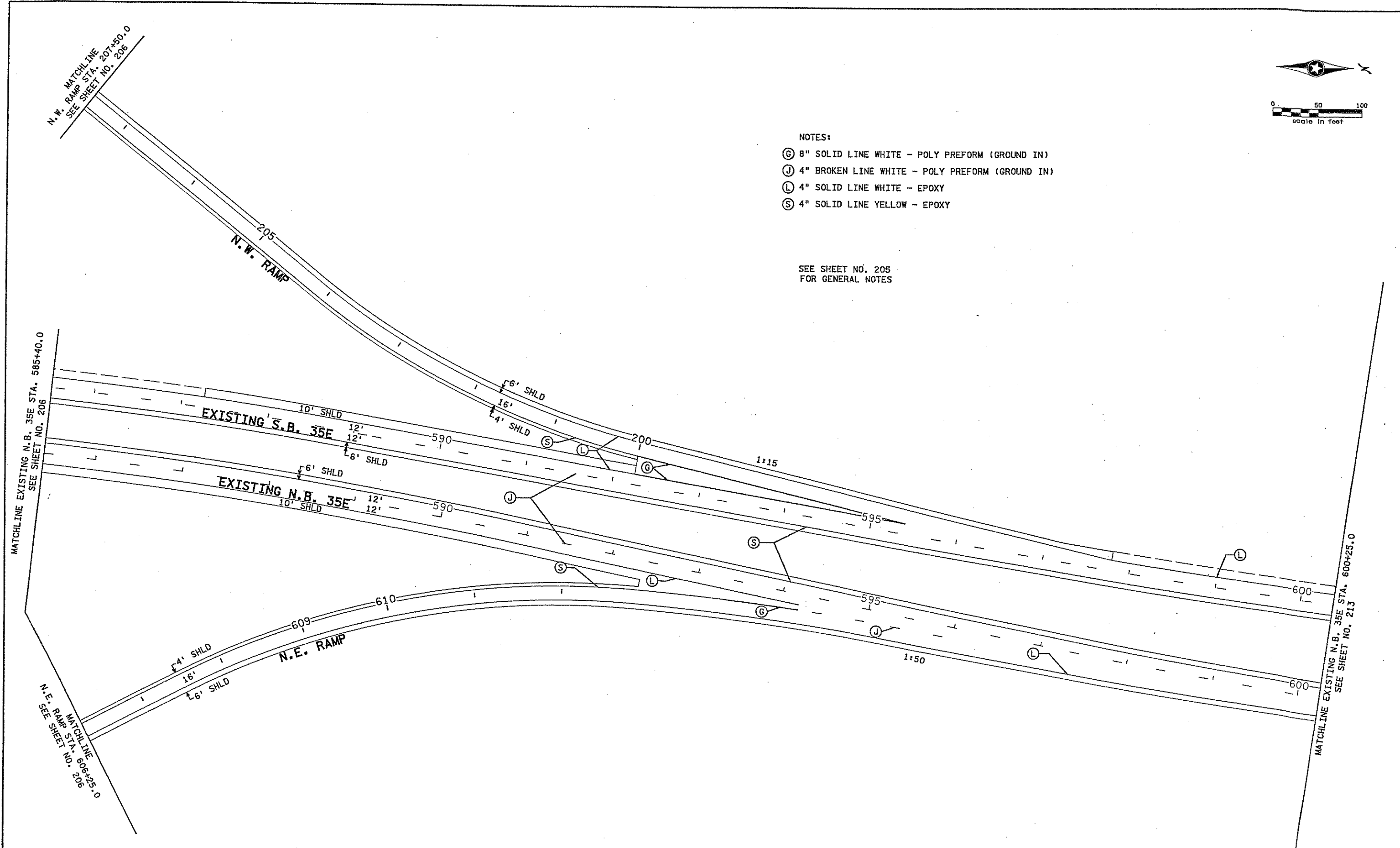
SHEET
211
OF
471



NOTES:

- ⓐ 8" SOLID LINE WHITE - POLY PREFORM (GROUND IN)
- ⓑ 4" BROKEN LINE WHITE - POLY PREFORM (GROUND IN)
- ⓒ 4" SOLID LINE WHITE - EPOXY
- ⓓ 4" SOLID LINE YELLOW - EPOXY

SEE SHEET NO. 205 FOR GENERAL NOTES



2/11/25 PM 7/21/2009 H:\Projects\6509\HI-MU\PI\an\C0261429_PMB.DGN

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: **AARON VACEK**

Aaron Vacek

Date: 8-26-04 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY V. MICHELS

DESIGNED BY S. PRUSAK

CHECKED BY A. DEBRUIN

COMM. NO. 0086509



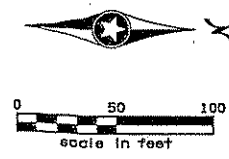
ANOKA COUNTY

STRIPING AND PAVEMENT MARKING PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

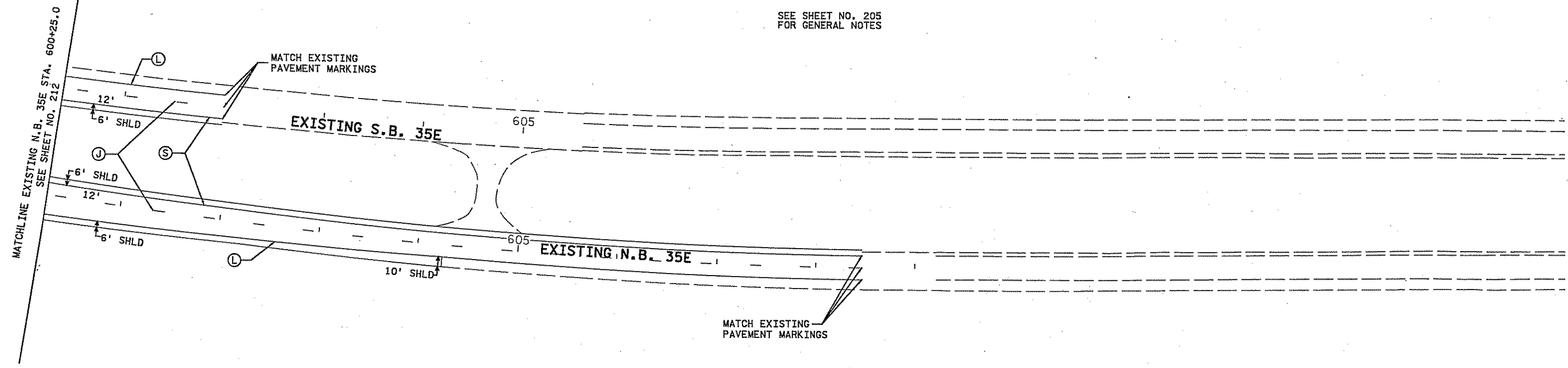
N.W. RAMP, N.E. RAMP

SHEET 212 OF 471



- NOTES:**
- Ⓧ 4" BROKEN LINE WHITE - POLY PREFORM (GROUND IN)
 - Ⓛ 4" SOLID LINE WHITE - EPOXY
 - Ⓢ 4" SOLID LINE YELLOW - EPOXY

SEE SHEET NO. 205
FOR GENERAL NOTES



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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: AARON VACEK

Date: 8-26-09 License # 44277

STATE PROJECT NO.
0262-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
S. PRUSAK

CHECKED BY
A. DEBRUIN

COMM. NO. 0086509



ANOKA COUNTY

STRIPING AND PAVEMENT MARKING PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

N.E. RAMP TAPER

SHEET
213
OF
471

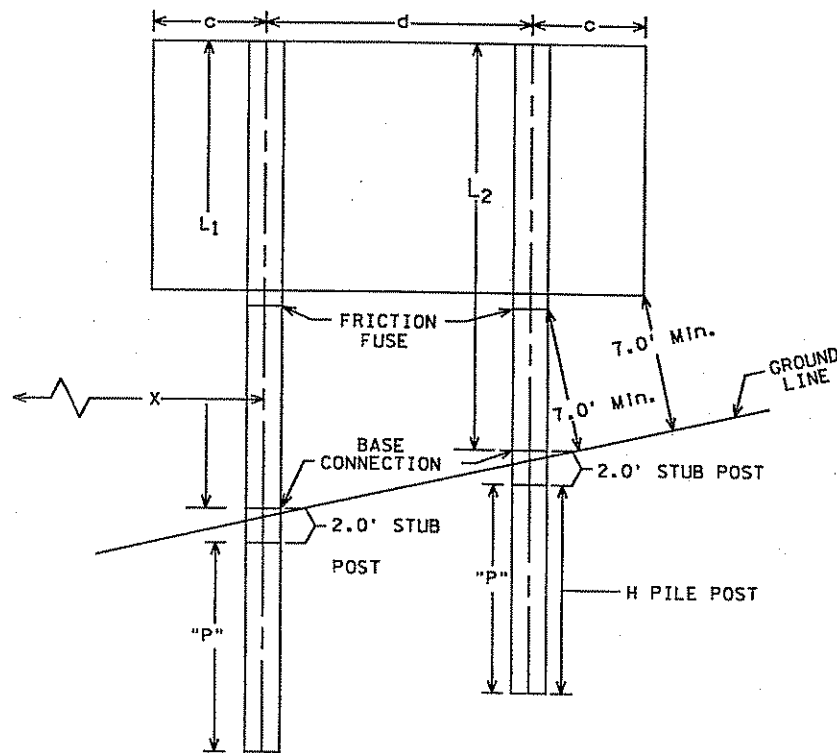
PP		SIGN TYPE A (H PILE FOOTINGS)																	
SIGN NO.	LOCATION	PANEL		POST						PILE		TOTAL WEIGHT STRUCTURAL STEEL (LBS)	"X" (FT)	"H" (FT)					
		SIZE (IN)	AREA (SQ FT)	SIZE	QUANT.	L1 (FT)	L2 (FT)	ADDITIONAL STEEL PER POST (LBS)	WEIGHT (LBS)	c (IN)	d (IN)				"P" (FT)	WEIGHT (LBS)			
A-1	549+47.00 N.B.	138 X 114	109.3	W6 X 20	2	20.0	21.0	104	1028	23	92	12	480	1508	30	5			
A-2	561+63.44 N.B.	126 X 84	73.5	W5 X 16	2	17.0	17.0	67	678	18	90	12	384	1062	30	5			
A-3	575+00.00 N.B.	126 X 84	73.5	W5 X 16	2	16.5	16.5	67	662	18	90	12	384	1046	30	5			
A-4	598+00.00 S.B.	156 X 72	78.0	W5 X 16	2	14.5	13.5	67	582	32	92	12	384	966	30	5			
PROJECT TOTALS		334.3															4582		

DDD POST QUANTITIES			
POST SIZE	QUANTITY (1A)	POST SIZE	QUANTITY (1A)
W4X13	59+13 LBS/FT	W8X28	143+28 LBS/FT
W5X16	67+16 LBS/FT	W8X31	173+31 LBS/FT
W6X20	104+20 LBS/FT	W10X39	195+39 LBS/FT
W8X24	118+24 LBS/FT		

SPECIFIC NOTE:
 (1A) CONSTANT INCLUDES STUB POST WEIGHT.

KK		SALVAGE SIGN TYPE A							
SIGN NO.	LOCATION	QUANTITY	PANEL SIZE (INCH)		POSTS		L1 (LIN FT)	L2 (LIN FT)	NOTES
			EXTRUDED TYPE	FLAT SHEET	BREAK-AWAY	NONBREAK-AWAY			
A-201	563+35 N.B.	1	114 x 72		W4X13		14.5	14.5	(A)
A-202	594+02 S.B.	1	132 x 72		W5X16		15.0	13.5	(A)
PROJECT TOTAL		2							

SPECIFIC NOTE:
 (A) SALVAGED SIGN PANELS AND POSTS TO BE RETURNED TO MN/DOT. SEE SPECIAL PROVISIONS.



BREAKAWAY POSTS-H-PILE FOOTING
 (L1 IS POST NEAREST ROADWAY)
 TYPE A SIGNS

- GENERAL NOTES:
- PILE SHALL BE THE SAME SIZE AS THE SIGN POST AND IS TO BE DRIVEN TO A 12 TO 14 TON BEARING CAPACITY.
 - SEE SHEETS 246 AND 247 FOR STRUCTURAL DETAILS, TYPE A SIGNS (BREAKAWAY).
 - POST LENGTHS ARE APPROXIMATE.
 - "X" IS THE DISTANCE FROM THE EDGE OF THE THRU LANE TO THE FIRST POST.
 - "H" IS THE HEIGHT ABOVE THE PAVEMENT EDGE TO THE BOTTOM EDGE OF THE PANEL.
 - "P" IS THE LENGTH OF H-PILE POST.
 - SEE SHEETS 258 TO 261 FOR CROSS SECTIONS.

A SIGN DATA SHEET
 H-PILE FOOTING

9:53:59 AM
 1/22/2009
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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: <u>ADRIAN S. POTTER</u> <i>Adrian S. Potter</i> Date: <u>07/22/09</u> License # <u>42785</u>		STATE PROJECT NO. 0282-25 (TH. 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X		DRAWN BY S. POSKA DESIGNED BY S. POSKA CHECKED BY A. POTTER COMM. NO. 0086509		ANOKA COUNTY TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE		SHEET 214 OF 471
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UU SALVAGE & INSTALL SIGN TYPE C									
SIGN NO.	QUANTITY	POSTS			(1) MTG. HEIGHT (MIN.) (FT)	PANEL		PANEL LEGEND	NOTES
		NO. & TYPE	KNEE BRACE QUANT.	LENGTH (LIN FT)		SIZE (INCH)			
C-201	1	2-U	1	14	7	21 X 15	JCT		
						24 X 24	CO RD 54		
C-202	2	(3) 2-U	-	13	7	24 X 30	KEEP RIGHT		
C-203	1	(3) 2-U	-	13	7	30 X 30	DO NOT ENTER		
C-204	2	(3) 2-U	-	12	8	36 X 12	ONE WAY		
C-205	1	2-U	-	13	7	30 X 30	RIGHT TURN LANE		
C-206	2	2-U	-	13	7	30 X 30	RIGHT LANE MUST TURN RIGHT		
C-207	2	2-U	-	13	7	24 X 30	SPEED LIMIT 50		
						24 X 12	WEST		
C-208	2	2-U	1	14	7	24 X 24	CO RD 14		
						36 X 36	EMERGENCY STOPPING ONLY		
C-212	2	2-U	1	14	7	36 X 36	EMERGENCY STOPPING ONLY		
C-214	2	2-U	-	13	7	42 X 30	WRONG WAY		
C-215	2	1-U	-	13	7	18 X 24	NON-MOTORIZED TRAFFIC PROHIBITED		
C-216	3	2-U	-	13	7	48 X 48	DO NOT ENTER		
						24 X 12	EAST		
C-218	1	2-U	1	14	7	24 X 24	CO RD 14		
						36 X 36	SIGNAL AHEAD		
C-219	2	2-U	1	14	7	36 X 36	SIGNAL AHEAD		
C-220	2	2-U	-	13	7	24 X 24	NO PARKING		
						24 X 24	NO U-TURN		
C-221	1	(3) 2-U	-	13	7	24 X 30	KEEP RIGHT	(2)	
						21 X 15	JCT		
C-222	1	2-U	1	14	7	24 X 24	CO RD 84		
						30 X 30	DO NOT ENTER		
C-223	1	(3) 2-U	-	13	7	30 X 30	DO NOT ENTER		
C-224	1	(3) 2-U	-	13	7	30 X 30	LEFT LANE MUST TURN LEFT		
C-226	2	2-U	2	19	7	48 X 96	SPEED LIMIT 70 MINIMUM 40		
						30 X 15	SOUTH		
C-227	1	2-U	2	15	7	45 X 36	I-35E		
						48 X 48	MERGE		
C-228	1	(4) 1-T	1	11	7	48 X 48	MERGE		
C-229	1	2-U	1	14	7	60 X 36	ADOPT A HIGHWAY - NOBLE WELDING & MFG. CO.		
C-230	1	2-U	1	14	7	36 X 36	MERGE		
C-231	1	2-U	1	14	7	60 X 36	ADOPT A HIGHWAY - DAUGHTERS OF PENELOPE		
						30 X 15	NORTH		
C-232	1	2-U	2	15	7	42 X 36	I-35E		
PROJECT TOTAL	39								

SPECIFIC NOTES:

- (1) MOUNTING HEIGHT IS MINIMUM, SEE SHEET 249 FOR TYPICAL MOUNTING.
- (2) MOUNT BACK TO BACK.
- (3) MOUNTED IN CONCRETE. SEE SHEET 252 FOR DETAILS.
- (4) MOUNTED IN CONCRETE. SEE SHEET 253 FOR DETAILS.

GENERAL NOTES:

- 1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
- 2. SEE SHEETS 248 - 250 FOR STRUCTURAL DETAILS.
- 3. SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C PANELS.

LL SALVAGE SIGN TYPE C							
SIGN NO.	QUANTITY	POSTS		PANEL		PANEL LEGEND	NOTES
		NO. & TYPE	KNEE BRACE QUANT.	SIZE (INCH)			
C-209	3	2-U	1	30 X 30	STOP		(A)
				6 X 18	ALL WAY		
C-210	2	2-U	2	36 X 12	ONE WAY		(A)
				36 X 12	ONE WAY		
				48 X 48	STOP		
				6 X 18	ALL WAY		
C-211	3	2-U	1	36 X 36	STOP		(A)
				6 X 18	ALL WAY		
C-213	2	2-U	1	36 X 36	STOP AHEAD		(A)
				36 X 12	ONE WAY		
C-217	2	2-U	1	36 X 12	ONE WAY		(A)
				36 X 36	STOP		
				6 X 18	ALL WAY		
PROJECT TOTAL	12						

SPECIFIC NOTE:

(A) SALVAGED SIGN PANELS TO BE RETURNED TO MN/DOT. SEE SPECIAL PROVISIONS.

C SIGN DATA SHEET

8/17/03 AM 7/22/2009 H:\proj\ecofa\6509\HI-MUN\plan\0261429_fb08.dgn

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: <u>AARON VACEK</u> Date: <u>8-06-04</u> License # <u>44277</u>				STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X	DRAWN BY V. MICHELS DESIGNED BY A. DEBRUIN CHECKED BY S. PRUSAK COMM. NO. 0086509	ANOKA COUNTY TABULATIONS C.S.A.H. 14/T.H. 35E INTERCHANGE	SHEET 215 OF 471	
NO DATE BY CKD APPR REVISION								

RR		SIGN PANELS TYPE C										
SIGN NO.	QUANTITY	POSTS			(1) MTG. HEIGHT (MIN.) (FT)	PANEL			CODE NO.	PANEL LEGEND	NOTES	
		NO. & TYPE	KNEE BRACE QUANT.	LENGTH (LIN FT)		SIZE (INCH)	AREA (SQ FT)	TOTAL AREA (SQ FT)				
C-1	1	2-U	1	13	7	86 X 30	17.9	17.9	R3-30ACCD	LT ONLY, THRU ONLY, THRU ONLY, THRU RIGHT		
C-2	1	(4) 2-U	-	13	7	24 X 30	5.0	5.0	R2-1	SPEED LIMIT 50		
C-3	3	2-U	1	16	7	36 X 36 30 X 24	9.0 5.0	42.0	W11-2 W16-7PL	PEDESTRIAN CROSSING DOWN ARROW LEFT		
C-5	1	(2) 2-U	-	13	7	24 X 24	4.0	4.0	R3-2	NO LEFT TURN	(4)	
C-6	1	(2) 2-U	-	15	7	24 X 30	5.0	5.0	R4-7	KEEP RIGHT	(4)	
C-7	3	2-U	-	13	7	30 X 30	6.3	18.9	R3-X1	RIGHT TURN LANE		
C-8	4	(2) 2-U	-	13	7	30 X 30	6.3	25.2	R3-X2	LEFT TURN LANE		
C-9	2	1-U	-	13	7	18 X 24	3.0	6.0	R5-10d	NON-MOTORIZED TRAFFIC PROHIBITED		
C-10	3	2-U	-	13	7	30 X 30	6.3	18.9	R5-1	DO NOT ENTER		
C-11	4	2-U	-	13	7	24 X 24	4.0	16.0	R3-1	NO RIGHT TURN		
C-12	1	2-U	1	16	7	48 X 60	20.0	20.0	W13-2	ADVISORY EXIT SPEED		
C-13	1	2-U	1	14	7	36 X 36	9.0	9.0	W3-3	SIGNAL AHEAD		
C-14	4	2-U	1	13	7	36 X 30	7.5	30.0	R3-30BA	RT ONLY, RT ONLY		
C-15	2	2-U	-	13	7	36 X 24	6.0	12.0	R5-1a	WRONG WAY		
C-16	1	2-U	1	11	7	36 X 36 X 36	3.9	3.9	R1-2	YIELD		
C-17	2	(2) 2-U	-	13	7	30 X 30	6.3	12.6	R5-1	DO NOT ENTER		
C-19	1	2-U	1	15	7	48 X 48	16.0	16.0	W4-1R	MERGE		
C-20	1	2-U	1	14	7	36 X 36	9.0	9.0	W9-2R	LANE ENDS MERGE RIGHT		
C-21	1	(3) 1-T	1	13	7	36 X 60	15.0	15.0	R3-X3	HOV RAMP	(3)	
C-22	1	2-U	1	14	7	36 X 36	9.0	9.0	R16-X4	EMERGENCY STOPPING ONLY		
C-23	2	(4) 2-U	-	13	7	24 X 30 24 X 24	5.0 4.0	18.0	R4-7 R3-4	KEEP RIGHT NO U-TURN	(5)	
C-24	1	(4) 2-U	-	13	7	24 X 30 24 X 24 24 X 24	5.0 4.0 4.0	13.0	R4-7 R3-2 R3-4	KEEP RIGHT NO LEFT TURN NO U-TURN	(5)	
C-25	1	(4) 2-U	-	11	7	30 X 30	6.3	6.3	W12-1	DOUBLE ARROW		
PROJECT TOTAL								332.7				

SPECIFIC NOTES:

- (1) MOUNTING HEIGHT IS MINIMUM, SEE SHEET 249 FOR TYPICAL MOUNTING.
- (2) MOUNTED IN CONCRETE. SEE SHEET 252 FOR DETAILS.
- (3) MOUNTED IN CONCRETE. SEE SHEET 253 FOR DETAILS.
- (4) MOUNTED IN CONCRETE. SEE SHEET 255 FOR DETAILS.
- (5) MOUNT BACK TO BACK.

GENERAL NOTES:

1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
2. SEE SHEETS 248 - 250 FOR STRUCTURAL DETAILS.
3. SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C PANELS.

C SIGN DATA SHEET

2/12/28 PM 7/21/2009 HI:\P\o\ect\6509\HI-MUN\an\0261429_TB10.DGN

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: AARON VACEK
Aaron Vacek
 Date: 8-28-08 License # 44277




STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY A. DEBRUIN
 CHECKED BY S. PRUSAK
 COMM. NO. 0086509



ANOKA COUNTY
 TABULATIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 216 OF 471

SS SIGN PANELS TYPE D											
SIGN NO.	QUANTITY	POSTS					(1) MTG. HEIGHT (MIN.) (LIN FT)	PANEL			PANEL LEGEND
		NO. & TYPE	KNEE BRACE QUANT.	LENGTH (LIN FT)	SPACING (INCH)	SIZE (INCH)		AREA (SQ FT)	TOTAL AREA (SQ FT)		
D-1	1	2-U	2	18.0	54	7	96 X 66	44.0	44.0		
D-3	1	2-U	2	18.0	54	7	90 X 60	37.5	37.5		
D-6	1	4-U	4	19.0	45	7	150 X 78	81.3	81.3		
PROJECT TOTAL								162.8			

SPECIFIC NOTES:

(1) MOUNTING HEIGHT IS MINIMUM, SEE SHEET 249 FOR TYPICAL MOUNTING.

GENERAL NOTES:

1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
2. SEE SHEETS 248 - 250 FOR STRUCTURAL DETAILS.
3. SEE STANDARD SIGNS MANUAL FOR TYPE D STRINGER AND PANEL JOINT DETAILS.

D SIGN DATA SHEET

2:11:29 PM 7/21/2009 H:\Projects\6509\HI-MUP\an\C0261429_TB15.DGN

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: **AARON VACEK**

Aaron Vacek

Date: 8-06-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY V. MICHELS

DESIGNED BY A. DEBRUIN

CHECKED BY S. PRUSAK

COMM. NO. 0086509



ANOKA COUNTY

TABULATIONS

C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 218 OF 471

NN SALVAGE SIGN TYPE EA					
SIGN NO.	QUANTITY	LOCATION	PANEL SIZE	LEGEND	NOTES
			(IN)		
EA-201	3	A-201, 506+50 N.B., 645+00 S.B.	114 X 30	EXIT 123	(2)
EA-202	1	A-202	114 X 30	EXIT 124	(3)
PROJECT TOTAL	4				

EEE SALVAGE & INSTALL SIGN TYPE EA							
SIGN NO.	QUANTITY	LOCATION	POSTS		PANEL SIZE (IN)	LEGEND	NOTES
			NO.	SPACING			
EA-202	1	A-4	3	42	114 X 30	EXIT 123	(2)(4)
PROJECT TOTAL	1						


TT SIGN PANELS TYPE EA								
SIGN NO.	QUANTITY	LOCATION	PANEL (1)			POSTS		PANEL LEGEND
			SIZE (INCH)	AREA (SQ FT)	TOTAL AREA (SQ FT)	NO.	SPACING	
EA-1	1	N.B. STA 506+50	156 X 30	32.5	32.5	4	42	EXITS 123A&B
EA-2	1	A-2	120 X 30	25.0	25.0	3	42	EXIT 123A
EA-3	1	A-3	120 X 30	25.0	25.0	3	42	EXIT 123B
EA-4	1	A-4	150 X 30	31.3	31.3	3	42	EXIT 123B&A
EA-5	1	N.B. STA 645+00	150 X 30	31.3	31.3	3	42	EXIT 123B&A
PROJECT TOTAL					145.1			

GENERAL NOTES:
1. SEE SHEET 257 FOR STRUCTURAL DETAILS.

SPECIFIC NOTES:
(1) SEE SHEET 242 FOR SIGN PANELS.
(2) SALVAGED SIGN PANELS TO BE RETURNED TO MN/DOT. SEE SPECIAL PROVISIONS.
(3) SEE STAGING PLANS FOR DETAILS.
(4) FOR INSTALLATION ATOP AND SALVAGE FROM A-4. SEE STAGING PLANS FOR DETAILS.

EA SIGN DATA SHEET

21:12:30 PM 7/21/2009 H:\Proj\ecta\5509\HI-MU\Plan\CO261429_TB11.DGN

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.		STATE PROJECT NO. 0282-25 (TH 35E)	DRAWN BY V. MICHELS		ANOKA COUNTY		SHEET 219 OF 471
Print Name:		AARON VACEK					STATE PROJECT NO. 02-614-28	DESIGNED BY A. DEBRUIN	TABULATIONS					
Date:		8-06-09					COUNTY PROJECT NO. X	CHECKED BY S. PRUSAK	C.S.A.H. 14/T.H. 35E INTERCHANGE					
License #:		44277					CITY PROJECT NO. X	COMM. NO. 0086509						

WW DELINEATORS & MARKERS			
TYPE	QUANTITY	LOCATION	NOTES
HAZARD MARKER (X4-2)	3	EXIT NOSE, C-6, C-21	(1) (4) (6)
CLEARANCE MARKER (X4-4R)	2	BRIDGE	(2) (4) (5)
CLEARANCE MARKER (X4-4L)	2	BRIDGE	(2) (4) (5)
GUIDE DELINEATOR YELLOW (X4-6)	5	EXIT NOSE	(3)
GUIDE DELINEATOR WHITE (X4-6)	3	EXIT NOSE	(3)
PROJECT TOTALS	15		

EEE REMOVE MARKERS		
TYPE	QUANTITY	LOCATION
CLEARANCE MARKER (X4-4R)	2	E.B. CSAH 14 (STA. 194+42 - 211+63)
SNOW PLOW MARKER (X4-5)	2	E.B. CSAH 14 (STA. 184+58 - 194+42)
SNOW PLOW MARKER (X4-5)	4	E.B. CSAH 14 (STA. 194+42 - 211+63)
RIGHT-OF-WAY BOUNDARY MARKER (X3-1)	5	E.B. CSAH 14 (STA. 194+42 - 211+63)
PROJECT TOTALS	13	

CCC SALVAGE & INSTALL MARKERS			
TYPE	QUANTITY	LOCATION	NOTES
HAZARD MARKER (X4-2)	1	E.B. CSAH 14 (STA. 180+63 - 184+58)	(1) (4)
HAZARD MARKER (X4-2)	4	E.B. CSAH 14 (STA. 184+58 - 194+42)	(1) (4)
HAZARD MARKER (X4-2)	1	E.B. CSAH 14 (STA. 194+42 - 211+63)	(1) (4)
CLEARANCE MARKER (X4-4L)	2	E.B. CSAH 14 (STA. 194+42 - 211+63)	(3) (4)
CLEARANCE MARKER (X4-4R)	1	E.B. CSAH 14 (STA. 194+42 - 211+63)	(3) (4)
PROJECT TOTALS	9		

GENERAL NOTES:

- SEE ROADWAY LAYOUTS FOR DELINEATOR AND MARKER LOCATIONS.
- FOR DELINEATOR AND MARKER PLACEMENT, SEE SHEET 245.

SPECIFIC NOTES:

- SEE STANDARD SIGN MANUAL FOR HAZARD MARKER TYPE X4-2.
- SEE STANDARD SIGN MANUAL FOR CLEARANCE MARKER TYPE X4-4.
- SEE STANDARD SIGN MANUAL FOR DELINEATOR TYPE X4-6.
- INSTALL ON 3 LB/FT POST (Mn/DOT 3401).
- 12" X 36"
- BLACK BACKGROUND.

MARKER AND DELINEATOR DATA SHEET

21:12:30 PM 7/17/2008 H:\P\31\CD\14\509\HI-MU\1\an\0261429_TB13.DGN

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: **AARON VACEK**

Aaron Vacek

Date: 8-06-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY V. MICHELS

DESIGNED BY A. DEBRUIN

CHECKED BY S. PRUSAK

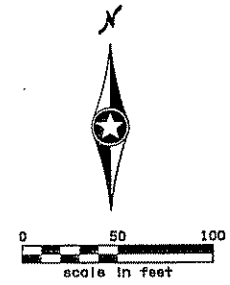
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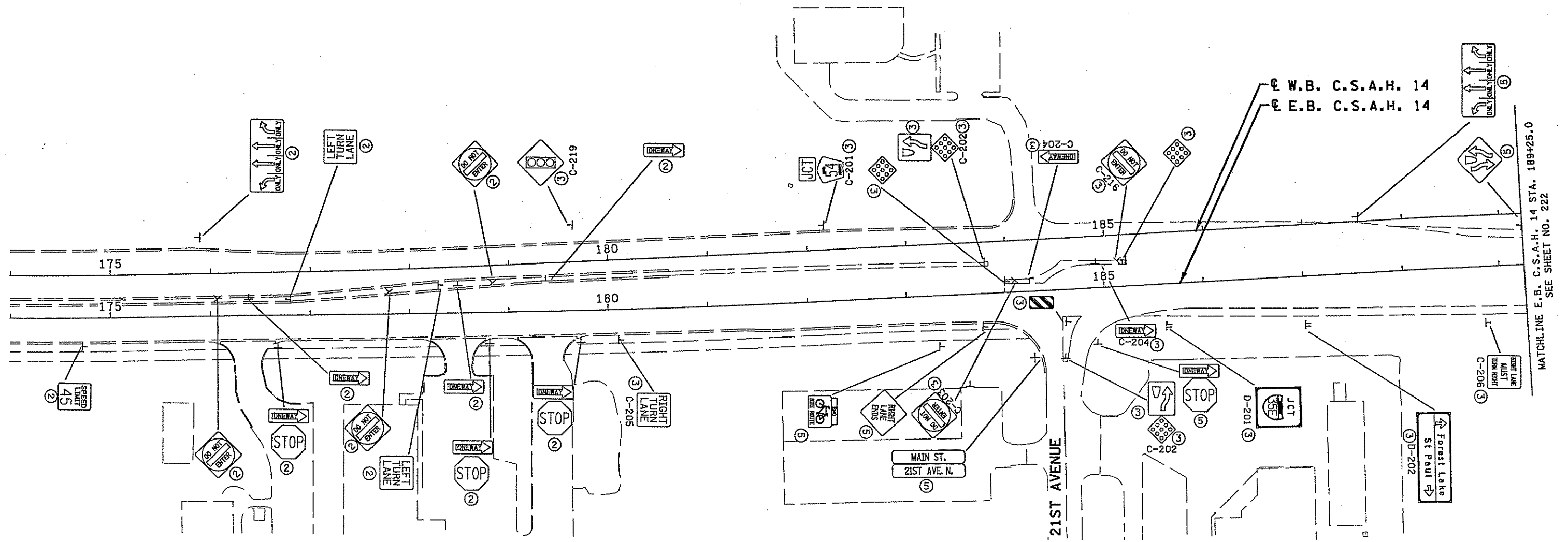
ANOKA COUNTY
TABULATIONS
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 220 OF 471

NOTE:
REMOVAL OF ANY SIGN IS TO BE COORDINATED/
COMPLETED IN CONJUNCTION WITH THE STAGING
AND TRAFFIC CONTROL PLANS AS APPLICABLE.



- NOTES:
- ② INPLACE
 - ③ SALVAGE
 - ⑤ REMOVE SIGN TYPE C



MATCHLINE E.B. C.S.A.H. 14 STA. 189+25.0
SEE SHEET NO. 222

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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: **AARON VACEK**

Aaron Vacek

Date: **6-26-09** License #: **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

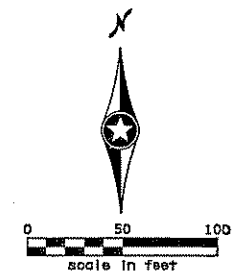
DRAWN BY V. MICHELS
DESIGNED BY A. DEBRUIN
CHECKED BY S. PRUSAK
COMM. NO. 0086509



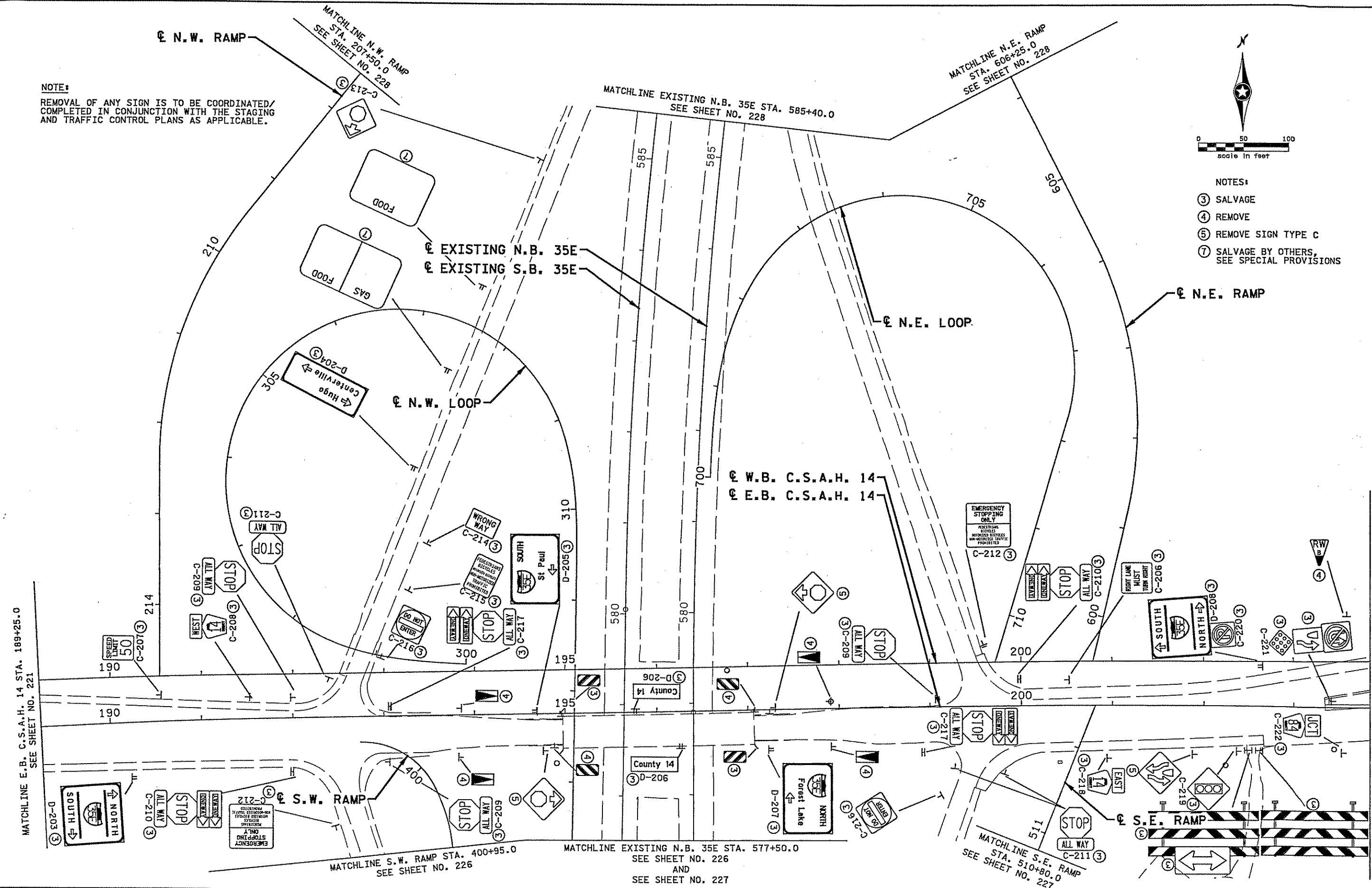
ANOKA COUNTY
SIGN REMOVAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14

SHEET 221 OF 471

NOTE:
REMOVAL OF ANY SIGN IS TO BE COORDINATED/
COMPLETED IN CONJUNCTION WITH THE STAGING
AND TRAFFIC CONTROL PLANS AS APPLICABLE.



- NOTES:
- ③ SALVAGE
 - ④ REMOVE
 - ⑤ REMOVE SIGN TYPE C
 - ⑦ SALVAGE BY OTHERS, SEE SPECIAL PROVISIONS



21:21:33 PM 7/21/2009 H:\proj\ecfe\16509\HI-MU\PI\m\0261429_REMSON2.DGN

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: AARON VACEK

Aaron Vacek

Date: 6-16-09 License # 44277

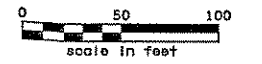
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STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY A. DEBRUIN
CHECKED BY S. PRUSAK
COMM. NO. 0086509



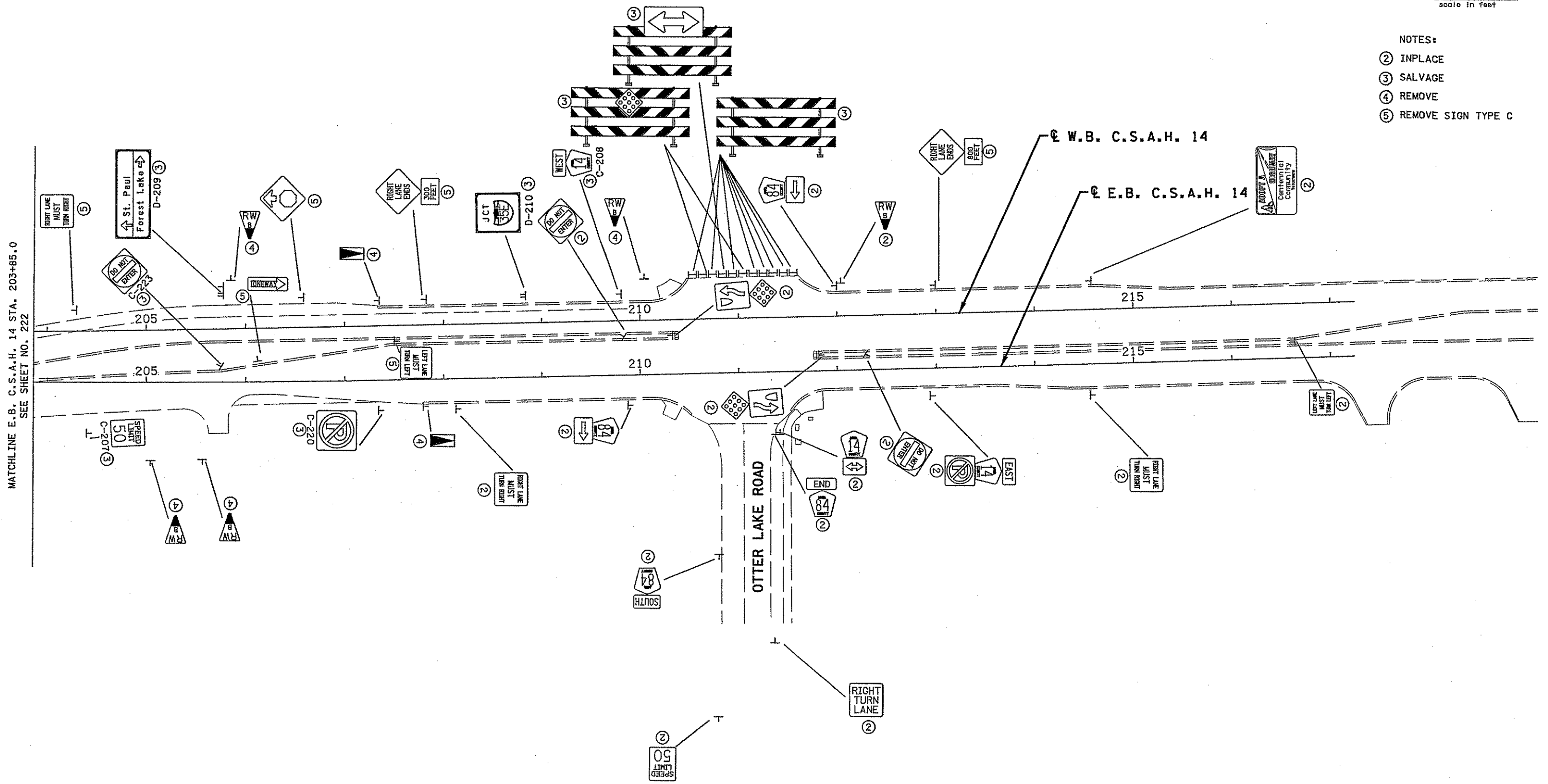
ANOKA COUNTY
SIGN REMOVAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14, N.W. RAMP, N.E. RAMP, N.W. LOOP,
N.E. LOOP, S.W. RAMP, S.E. RAMP

SHEET 222 OF 471



NOTE:
 REMOVAL OF ANY SIGN IS TO BE COORDINATED/
 COMPLETED IN CONJUNCTION WITH THE STAGING
 AND TRAFFIC CONTROL PLANS AS APPLICABLE.

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



MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 222

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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: AARON VACEK
 Date: 1-22-09 License # 44277

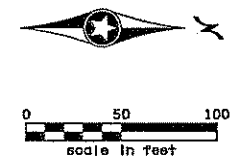
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 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY A. DEBRUIN
 CHECKED BY S. PRUSAK
 COMM. NO. 0086509



ANOKA COUNTY
 SIGN REMOVAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14

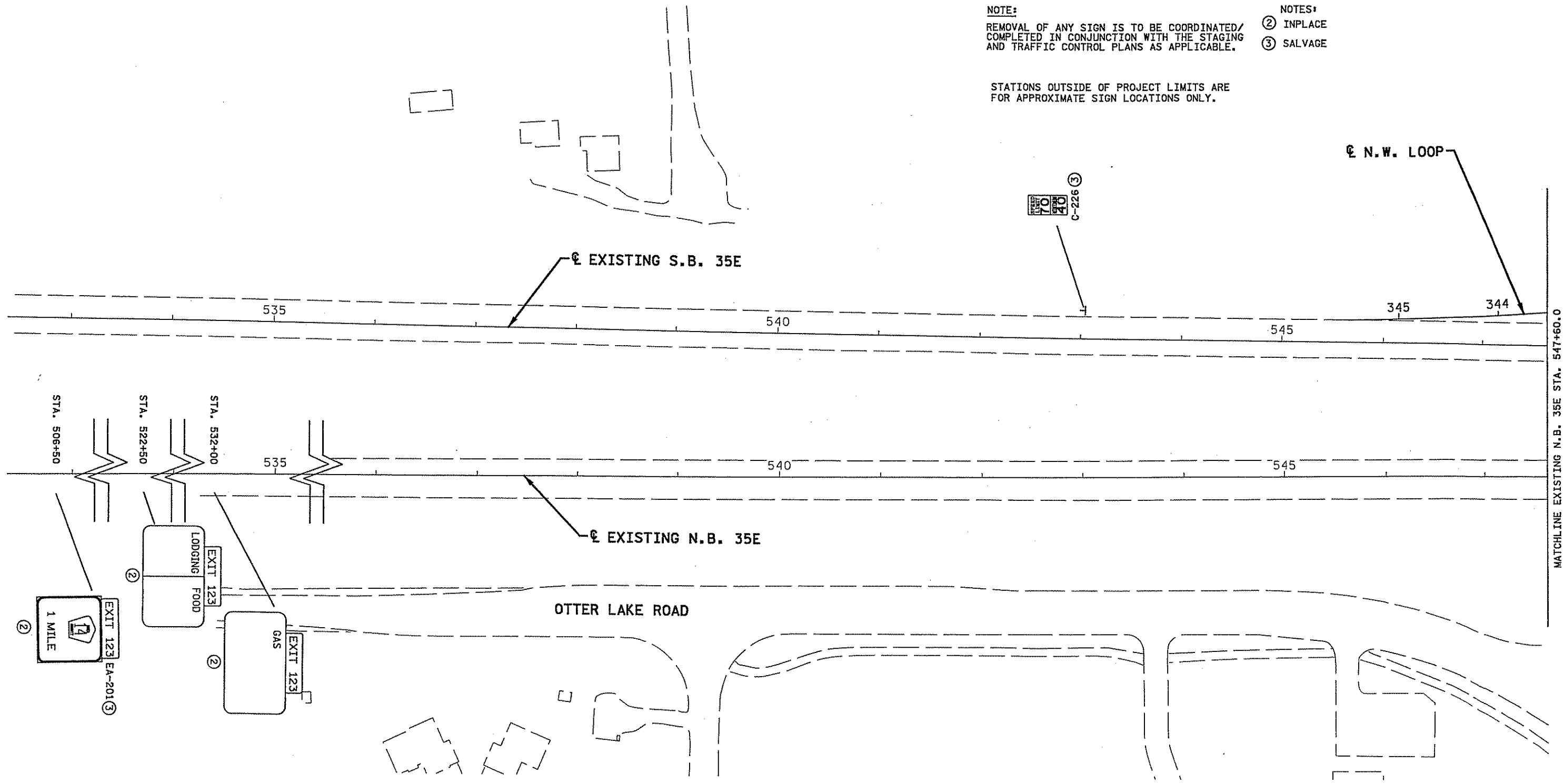
SHEET 223 OF 471



NOTE:
 REMOVAL OF ANY SIGN IS TO BE COORDINATED/
 COMPLETED IN CONJUNCTION WITH THE STAGING
 AND TRAFFIC CONTROL PLANS AS APPLICABLE.

- NOTES:**
 ② INPLACE
 ③ SALVAGE

STATIONS OUTSIDE OF PROJECT LIMITS ARE
 FOR APPROXIMATE SIGN LOCATIONS ONLY.



MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 225

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7/21/2009
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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: AARON VACEK
Aaron Vacek
 Date: 8-06-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)
 STATE PROJECT NO.
02-614-28
 COUNTY PROJECT NO.
X
 CITY PROJECT NO. X

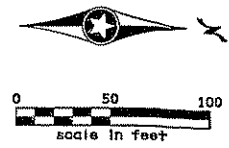
DRAWN BY
V. MICHELS
 DESIGNED BY
A. DEBRUIN
 CHECKED BY
S. PRUSAK
 COMM. NO. 0086509



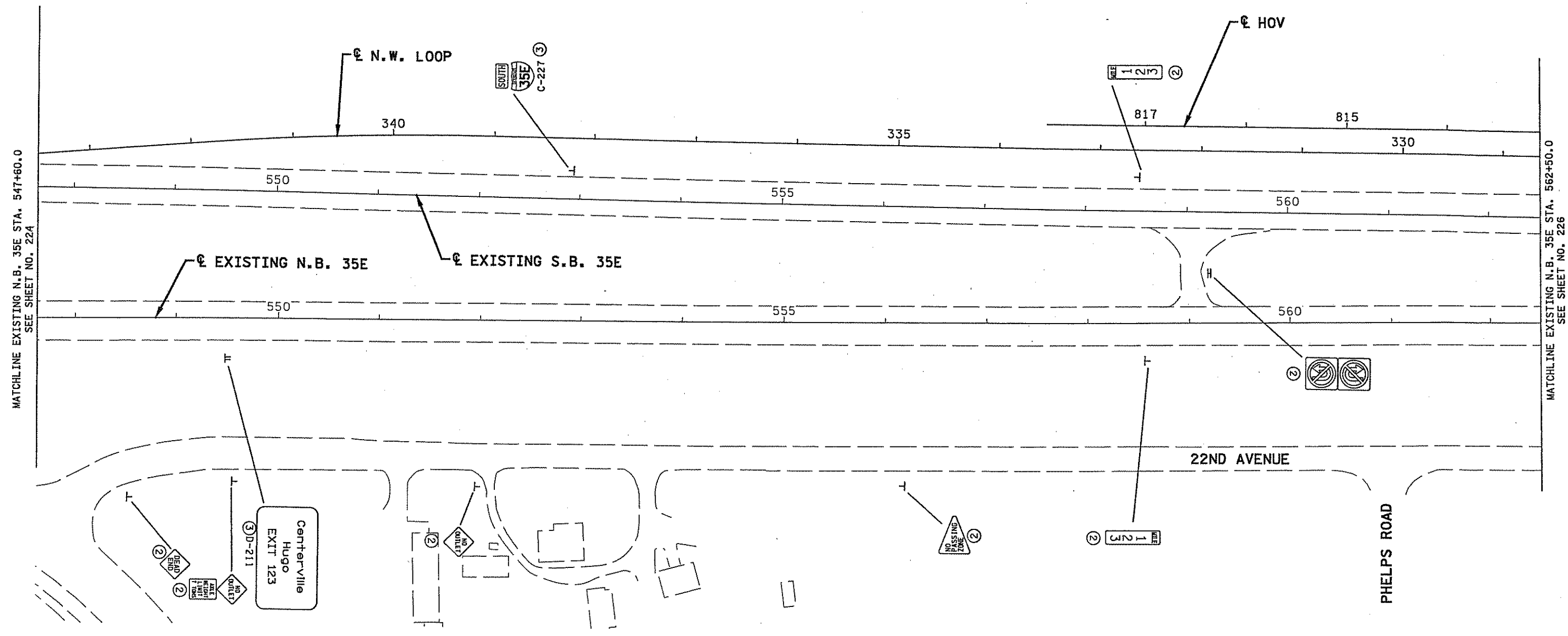
ANOKA COUNTY
 SIGN REMOVAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.W. LOOP

SHEET
224
OF
471

NOTE:
 REMOVAL OF ANY SIGN IS TO BE COORDINATED/
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 AND TRAFFIC CONTROL PLANS AS APPLICABLE.



NOTES:
 (2) INPLACE
 (3) SALVAGE



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NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: **AARON VACEK**

Aaron Vacek

Date: **8-06-09** License # **44277**

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
A. DEBRUIN

CHECKED BY
S. PRUSAK

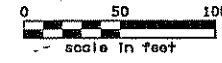
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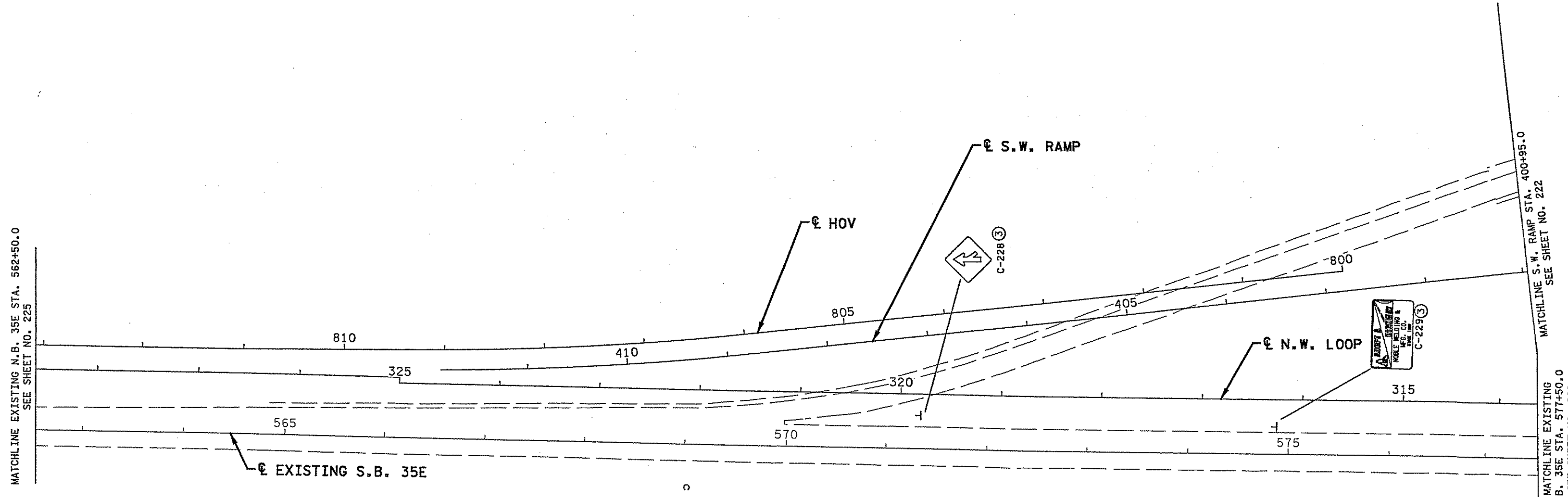
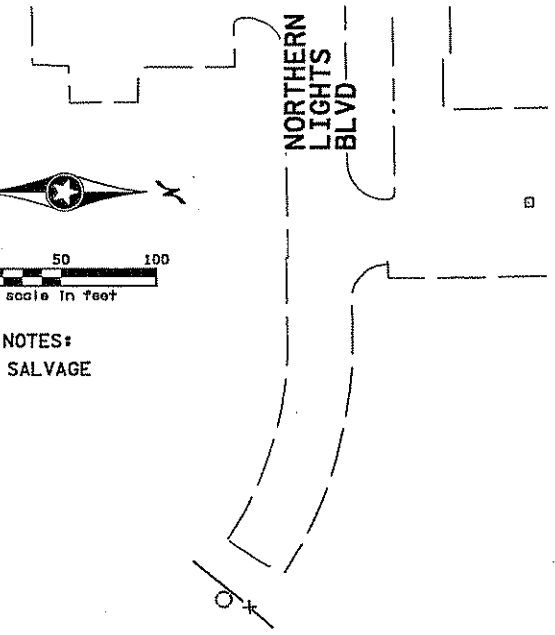
ANOKA COUNTY
 SIGN REMOVAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.W. LOOP, HOV

SHEET
225
OF
471

NOTE:
REMOVAL OF ANY SIGN IS TO BE COORDINATED/
COMPLETED IN CONJUNCTION WITH THE STAGING
AND TRAFFIC CONTROL PLANS AS APPLICABLE.



NOTES:
③ SALVAGE



MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 225

MATCHLINE S.W. RAMP STA. 400+95.0
SEE SHEET NO. 222

MATCHLINE EXISTING
N.B. 35E STA. 577+50.0
SEE SHEET NO. 222

NO	DATE	BY	CHKD	APPR	REVISION

... \PI\an\C0261429_REMSGN6.DGN

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Print Name: AARON VACEK

Aaron Vacek

Date: 8-06-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
A. DEBRUIN

CHECKED BY
S. PRUSAK

COMM. NO. 0086509



ANOKA COUNTY
SIGN REMOVAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP, S.W. RAMP, HOV

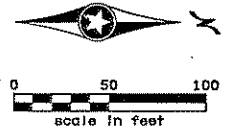
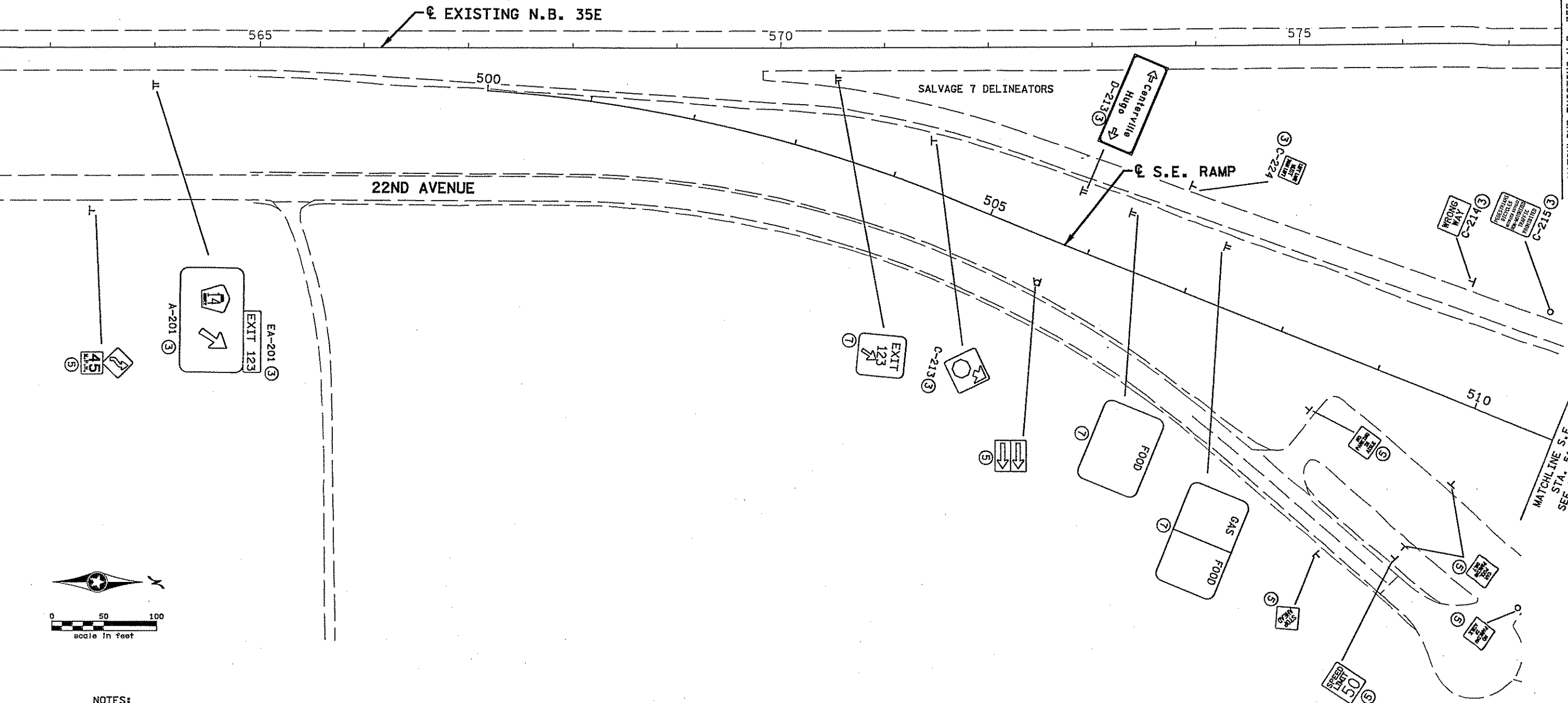
SHEET
226
OF
471

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MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 225

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 222

MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 222



- NOTES:
- ③ SALVAGE
 - ④ REMOVE
 - ⑤ REMOVE SIGN TYPE C
 - ⑦ SALVAGE BY OTHERS, SEE SPECIAL PROVISIONS

NOTE:
REMOVAL OF ANY SIGN IS TO BE COORDINATED/
COMPLETED IN CONJUNCTION WITH THE STAGING
AND TRAFFIC CONTROL PLANS AS APPLICABLE.

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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: AARON VACEK

Aaron Vacek

Date: 8-06-09 License # 44277

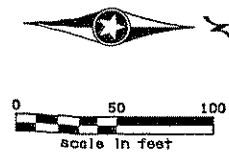
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY A. DEBRUIN
CHECKED BY S. PRUSAK
COMM. NO. 0086509



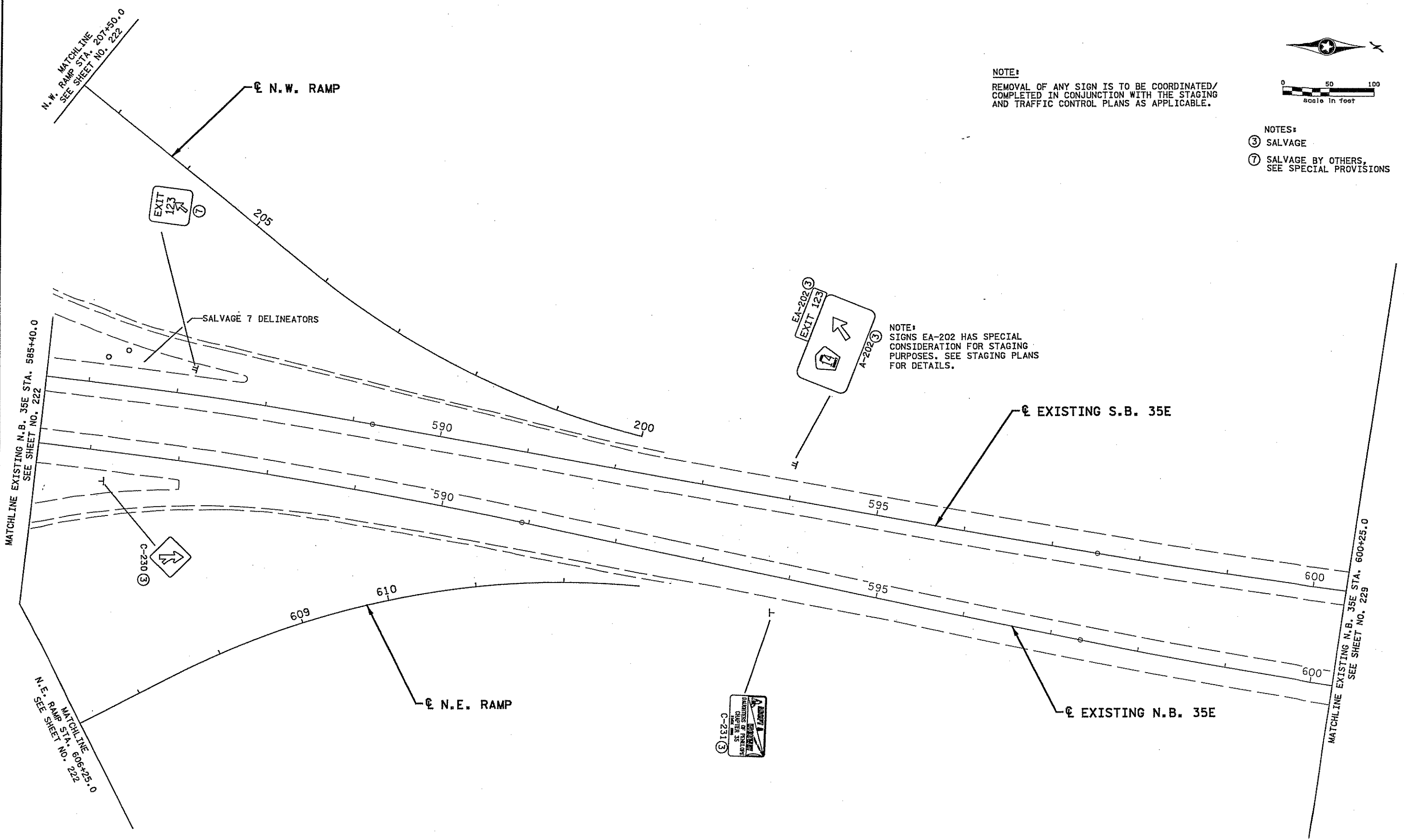
ANOKA COUNTY
SIGN REMOVAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
S.E. RAMP

SHEET 227 OF 471



NOTE:
REMOVAL OF ANY SIGN IS TO BE COORDINATED/
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AND TRAFFIC CONTROL PLANS AS APPLICABLE.

- NOTES:
 ③ SALVAGE
 ⑦ SALVAGE BY OTHERS,
 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: **AARON VACEK**

Aaron Vacek

Date: 8-06-09 License #: 44277

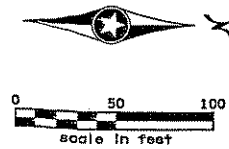
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY A. DEBRUIN
 CHECKED BY S. PRUSAK
 COMM. NO. 0086509



ANOKA COUNTY
 SIGN REMOVAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.W. RAMP, N.E. RAMP

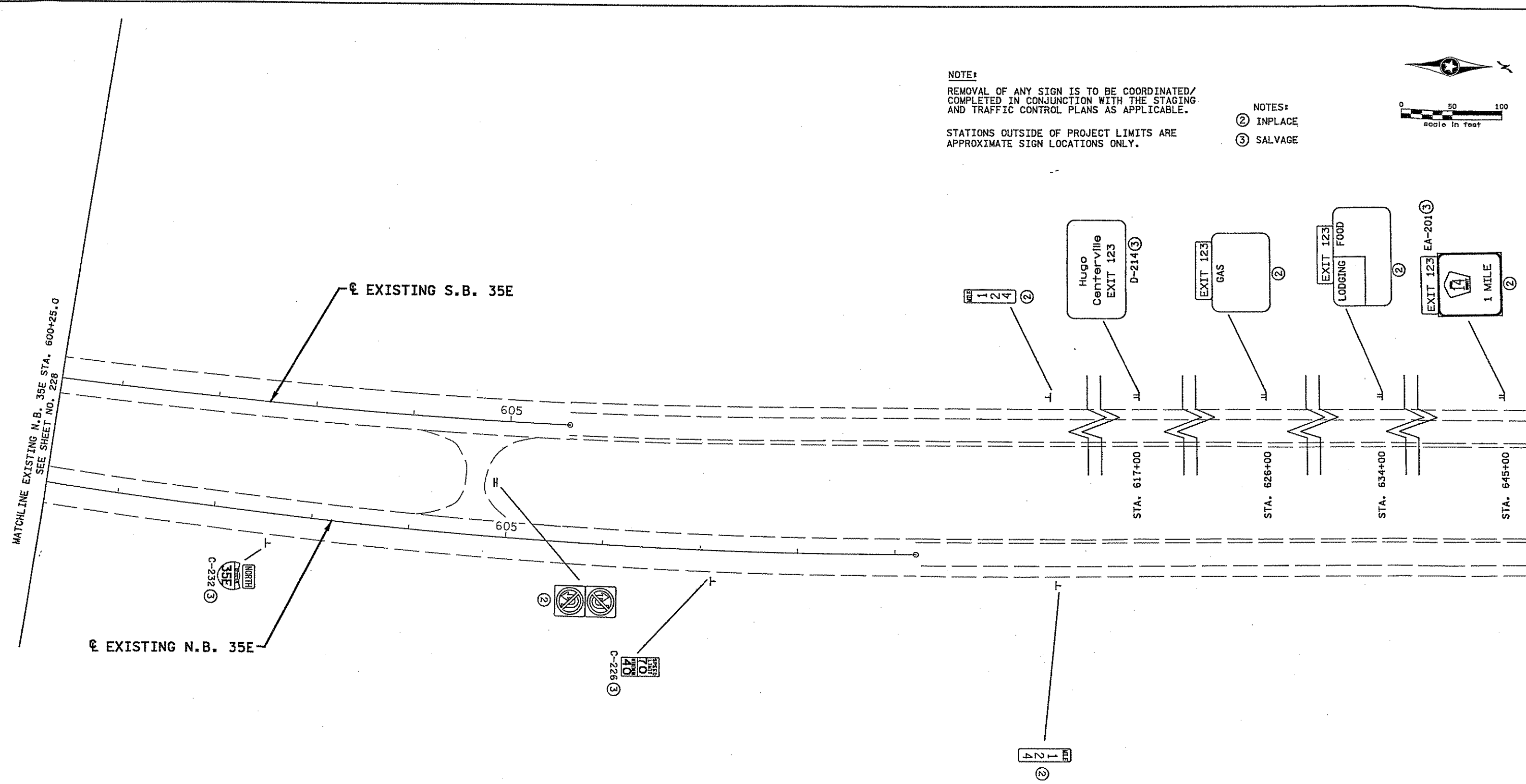
SHEET 228 OF 471



NOTE:
 REMOVAL OF ANY SIGN IS TO BE COORDINATED/
 COMPLETED IN CONJUNCTION WITH THE STAGING
 AND TRAFFIC CONTROL PLANS AS APPLICABLE.

STATIONS OUTSIDE OF PROJECT LIMITS ARE
 APPROXIMATE SIGN LOCATIONS ONLY.

NOTES:
 ② INPLACE
 ③ SALVAGE



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 7/21/2009
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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: AARON VACEK

Aaron Vacek

Date: 8-06-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
A. DEBRUIN

CHECKED BY
S. PRUSAK

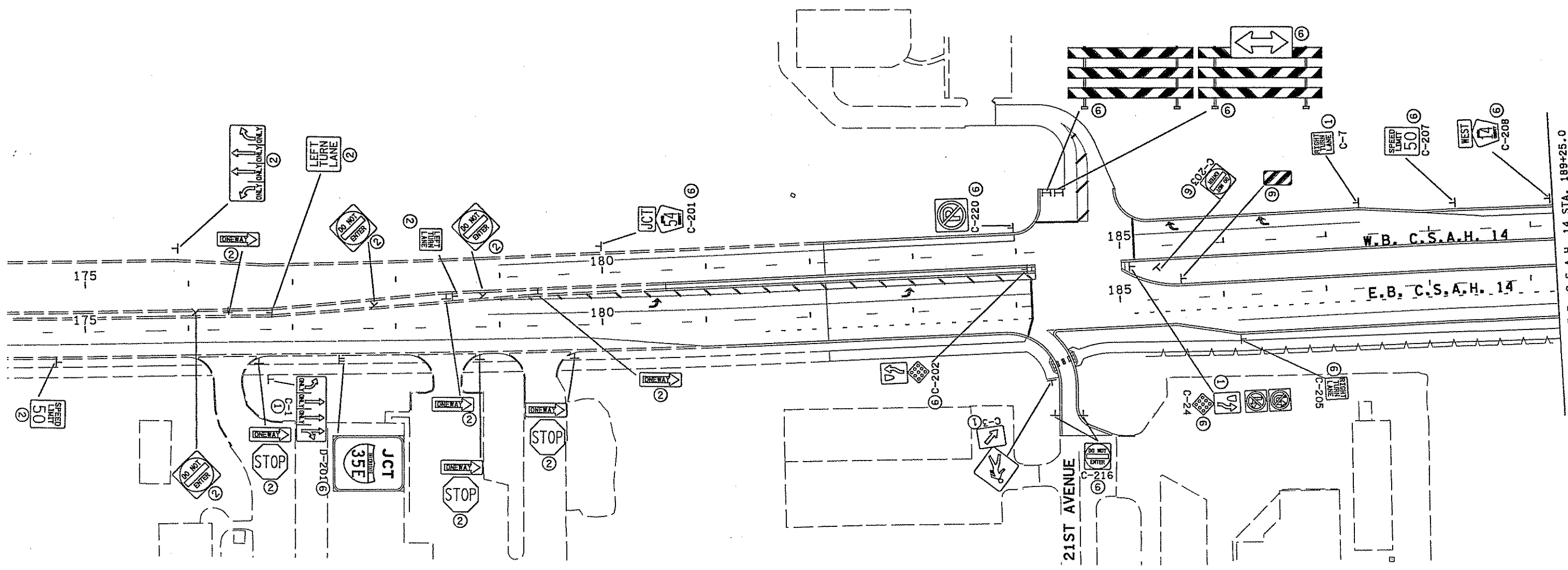
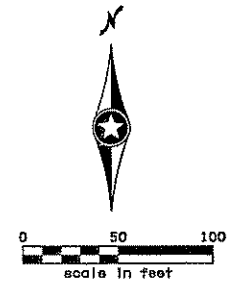
COMM. NO. 0086509



ANOKA COUNTY
 SIGN REMOVAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.E. RAMP TAPER

SHEET
229
OF
471

- NOTES:
- ① FURNISH AND INSTALL
 - ② INPLACE
 - ⑥ INSTALL



MATCHLINE E.B. C.S.A.H. 14 STA. 189+25.0
SEE SHEET NO. 231

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7/21/2009
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NO	DATE	BY	CKD	APPR	REVISION

... \HI-MUP\an\0261429_SGN1.DGN

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Print Name: **AARON VACEK**

Date: 8-26-09 License # 44277

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
V. MICHELS

DESIGNED BY
A. DEBRUIN

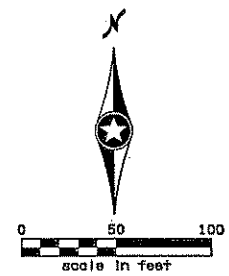
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S. PRUSAK

COMM. NO. 0086509

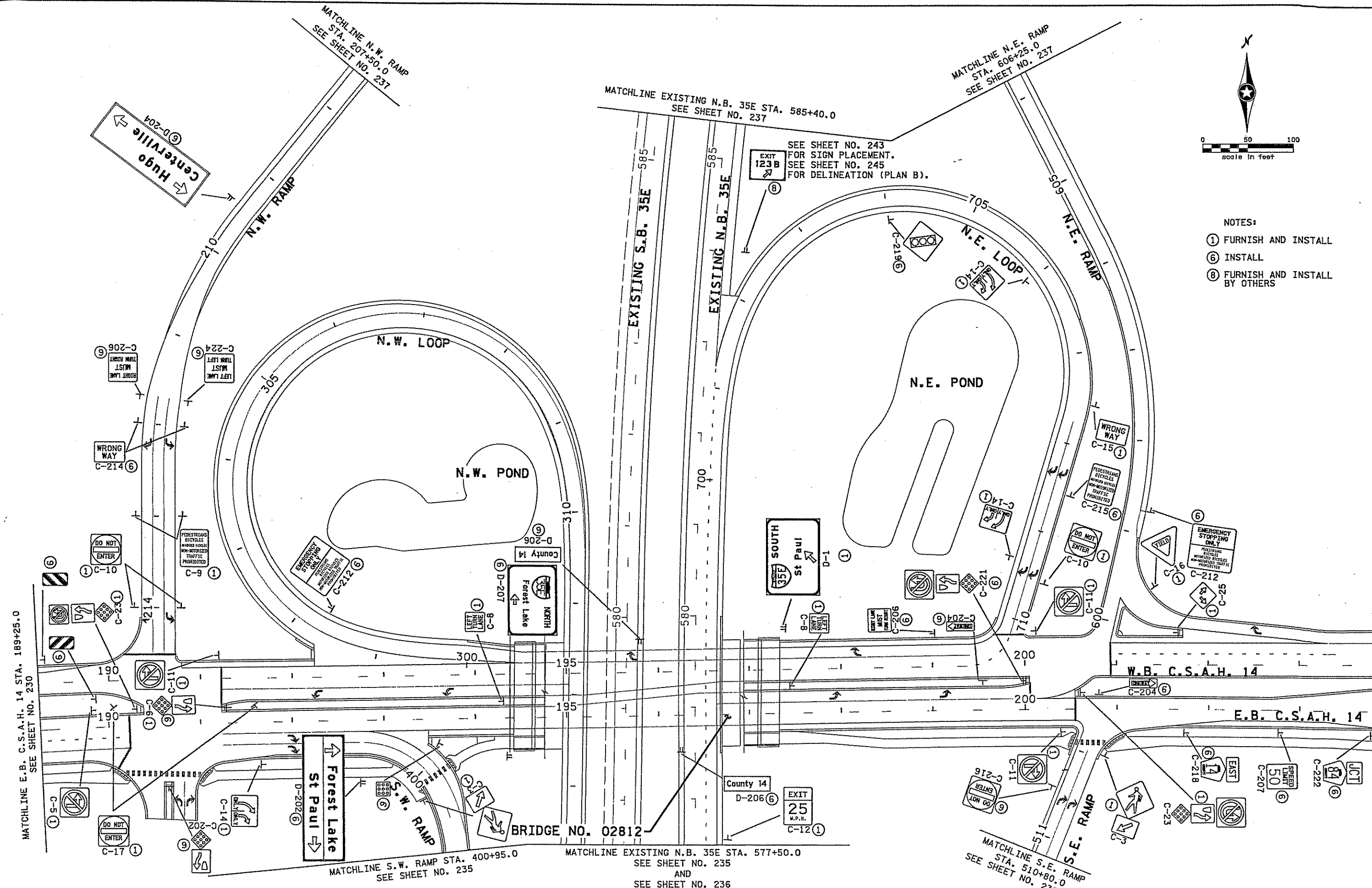


ANOKA COUNTY
SIGNING PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14

SHEET
230
OF
471



- NOTES:
- ① FURNISH AND INSTALL
 - ⑥ INSTALL
 - ⑧ FURNISH AND INSTALL BY OTHERS



2/21/2009 7:21:20 AM H:\Projects\6509\HI-MU\PI\an\CO261429_SGN2.DGN

NO	DATE	BY	CHKD	APPR	REVISION

Print Name: AARON VACEK

Date: 8-26-09 License # 44277

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. 0282-25 (TH 35E)

DESIGNED BY A. DEBRUIN

CHECKED BY S. PRUSAK

COMM. NO. 0086509

SRF CONSULTING GROUP, INC.

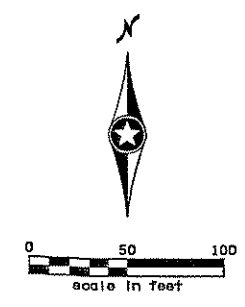
ANOKA COUNTY

SIGNING PLANS

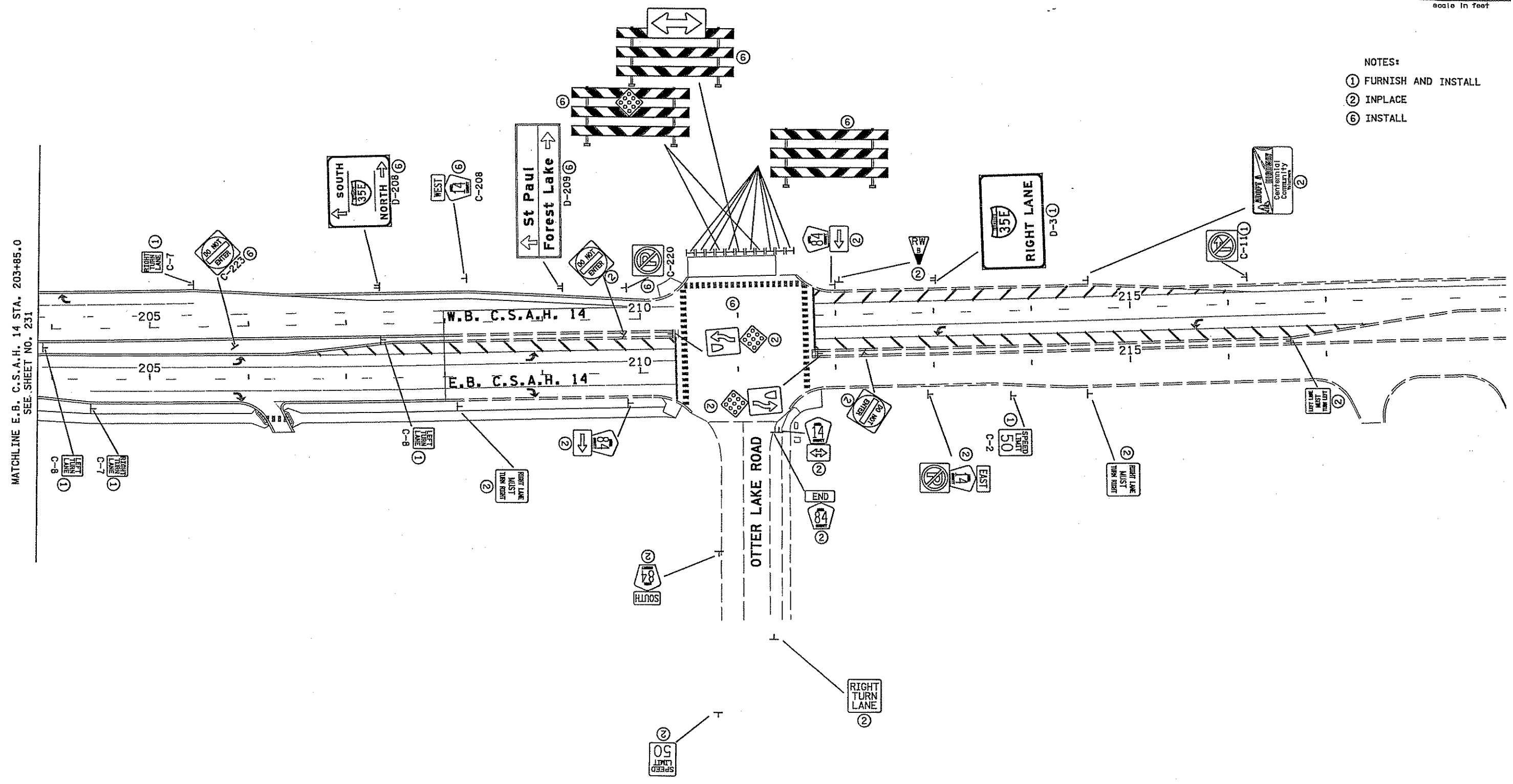
C.S.A.H. 14/T.H. 35E INTERCHANGE

C.S.A.H. 14, N.W. RAMP, N.E. RAMP, N.W. LOOP, N.E. LOOP, S.W. RAMP, S.E. RAMP

SHEET 231 OF 471



- NOTES:
- ① FURNISH AND INSTALL
 - ② INPLACE
 - ⑥ INSTALL



MATCHLINE E.B. C.S.A.H. 14 STA. 203+85.0
SEE SHEET NO. 231

2112144 PM
7/21/2009
H:\Projects\6509\NH-MUP\an\CO261429_SGN3.DGN

NO	DATE	BY	CHKD	APPR	REVISION

... \NH-MUP\an\CO261429_SGN3.DGN

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

Print Name: **AARON VACEK**

Aaron Vacek

Date: 8-06-09 License # 44277

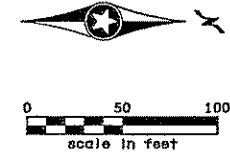
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY A. DEBRUIN
CHECKED BY S. PRUSAK
COMM. NO. 0086509



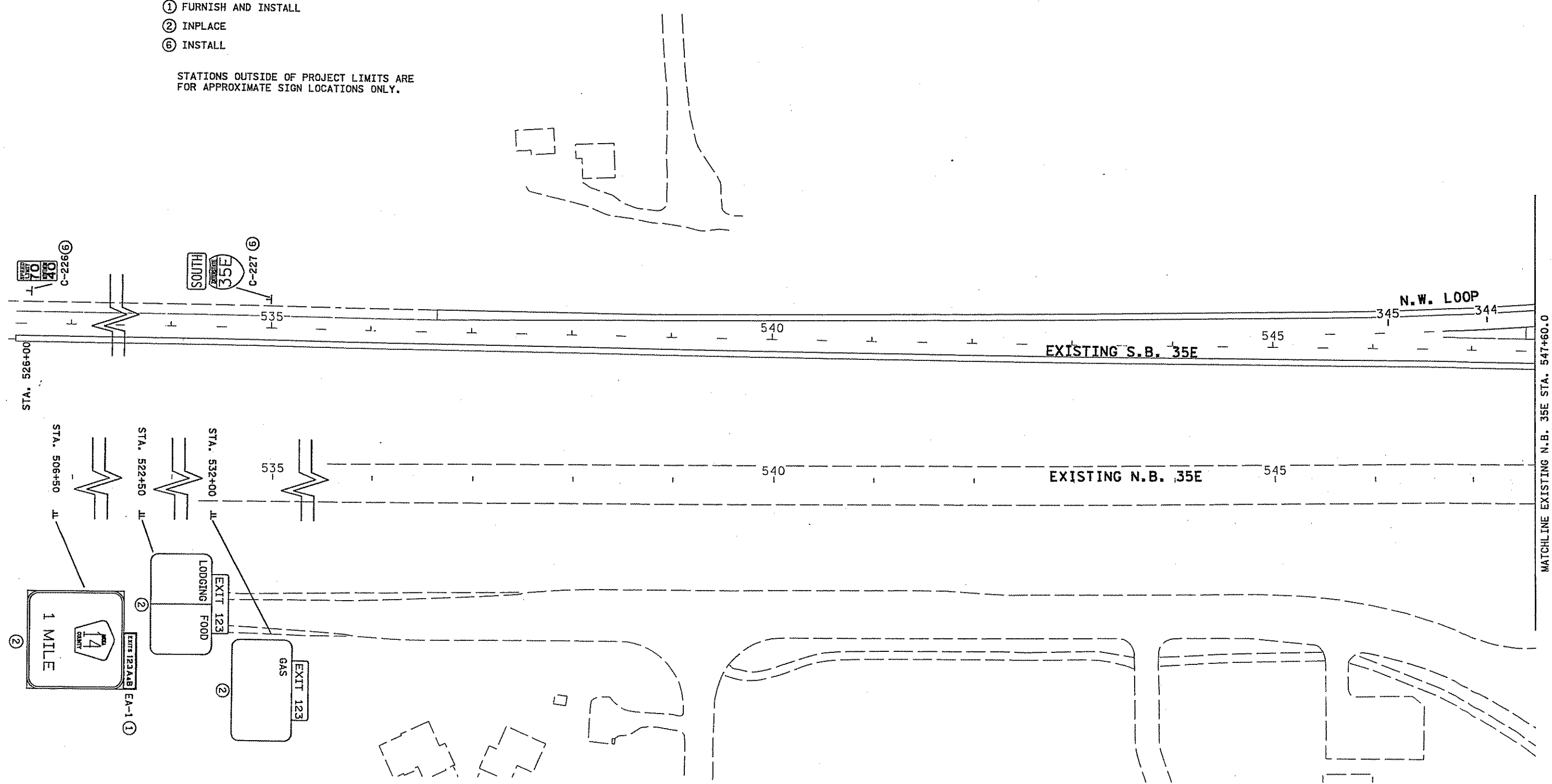
ANOKA COUNTY
SIGNING PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14

SHEET
232
OF
471



- NOTES:
- ① FURNISH AND INSTALL
 - ② INPLACE
 - ⑥ INSTALL

STATIONS OUTSIDE OF PROJECT LIMITS ARE FOR APPROXIMATE SIGN LOCATIONS ONLY.



MATCHLINE EXISTING N.B. 35E STA. 547+60.0
SEE SHEET NO. 234

2:12:45 PM
7/21/2009
H:\Projects\6509\HI-MUN\plan\0261429_SGN4.DGN

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: **AARON VACEK**

Date: 8-06-09 License # 44277

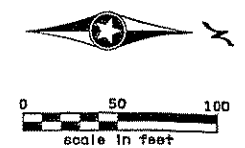
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY A. DEBRUIN
CHECKED BY S. PRUSAK
COMM. NO. 0086509

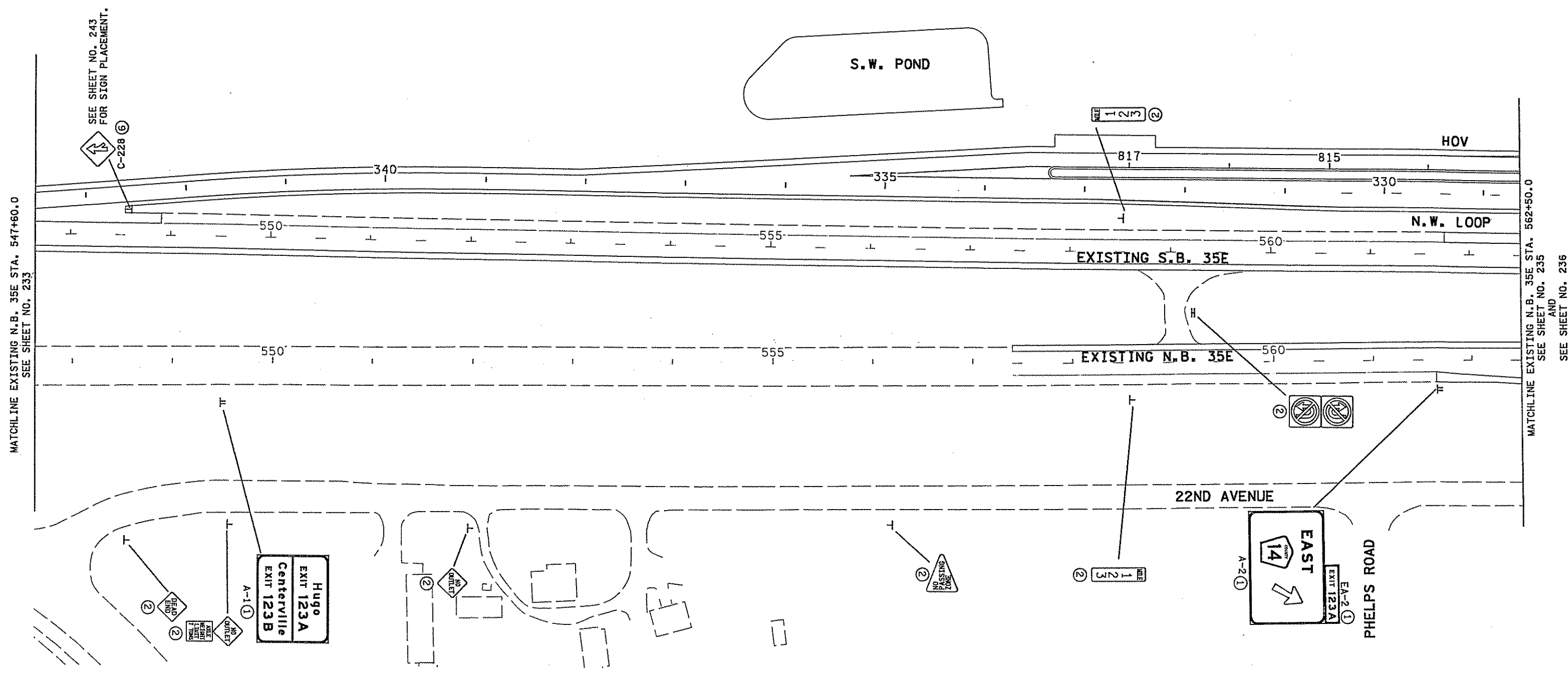


ANOKA COUNTY
SIGNING PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP

SHEET 233 OF 471



- NOTES:
- ① FURNISH AND INSTALL
 - ② INPLACE
 - ⑥ INSTALL



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 7/21/2009
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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: **AARON VACEK**

Date: **8-16-09** License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY A. DEBRUIN
 CHECKED BY S. PRUSAK
 COMM. NO. 0086509

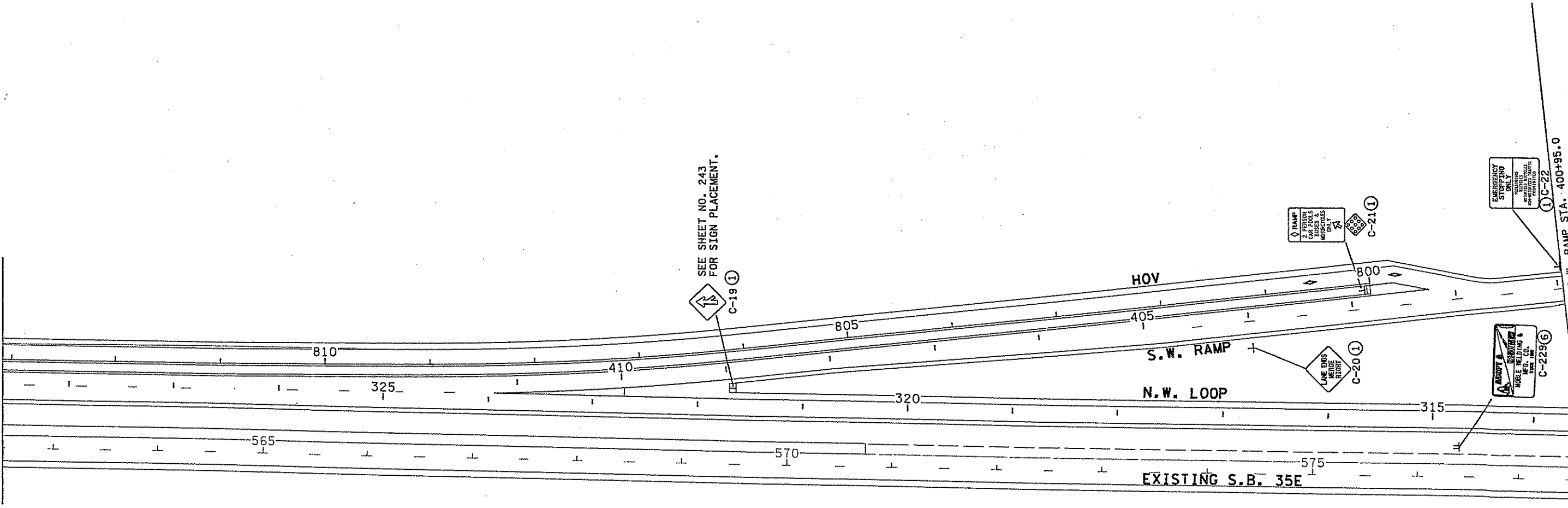


ANOKA COUNTY
 SIGNING PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.W. LOOP, HOV

SHEET 234 OF 471

2:12:47 PM
7/21/2009
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MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 234



- NOTES:
- ① FURNISH AND INSTALL
 - ⑥ INSTALL

SEE SHEET NO. 243
FOR SIGN PLACEMENT.

MATCHLINE S.W. RAMP STA. 400+95.0
SEE SHEET NO. 231

MATCHLINE EXISTING
N.B. 35E STA. 577+50.0
SEE SHEET NO. 231

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: **AARON VACEK**

Date: **6-06-09** License #: **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY A. DEBRUIN
CHECKED BY S. PRUSAK
COMM. NO. 0086509



ANOKA COUNTY
SIGNING PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.W. LOOP, S.W. RAMP, HOV

SHEET 235 OF 471

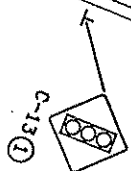
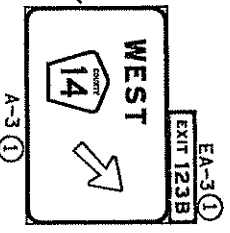
MATCHLINE EXISTING N.B. 35E STA. 562+50.0
SEE SHEET NO. 234

MATCHLINE EXISTING N.B. 35E
STA. 577+50.0
SEE SHEET NO. 231

EXISTING N.B. 35E

SEE SHEET NO. 245
FOR DELINEATION (PLAN A)
(OMIT HAZARD MARKER).

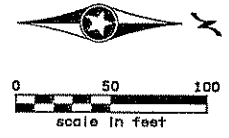
SEE SHEET NO. 243
FOR SIGN PLACEMENT.



MATCHLINE S.E. RAMP
STA. 510+80.0
SEE SHEET NO. 231

S.E. RAMP

- NOTES:
- ① FURNISH AND INSTALL
 - ⑥ INSTALL
 - ⑧ FURNISH AND INSTALL BY OTHERS



2:12:46 PM 7/21/2009 H:\Proj\cort\6509\HI-MUAP\an\CO261429_SGN7.DGN

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: AARON VACEK

Date: 8-06-09 License # 44277

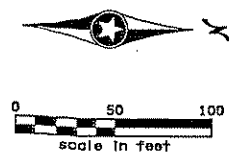
STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY A. DEBRUIN
CHECKED BY S. PRUSAK
COMM. NO. 0086509

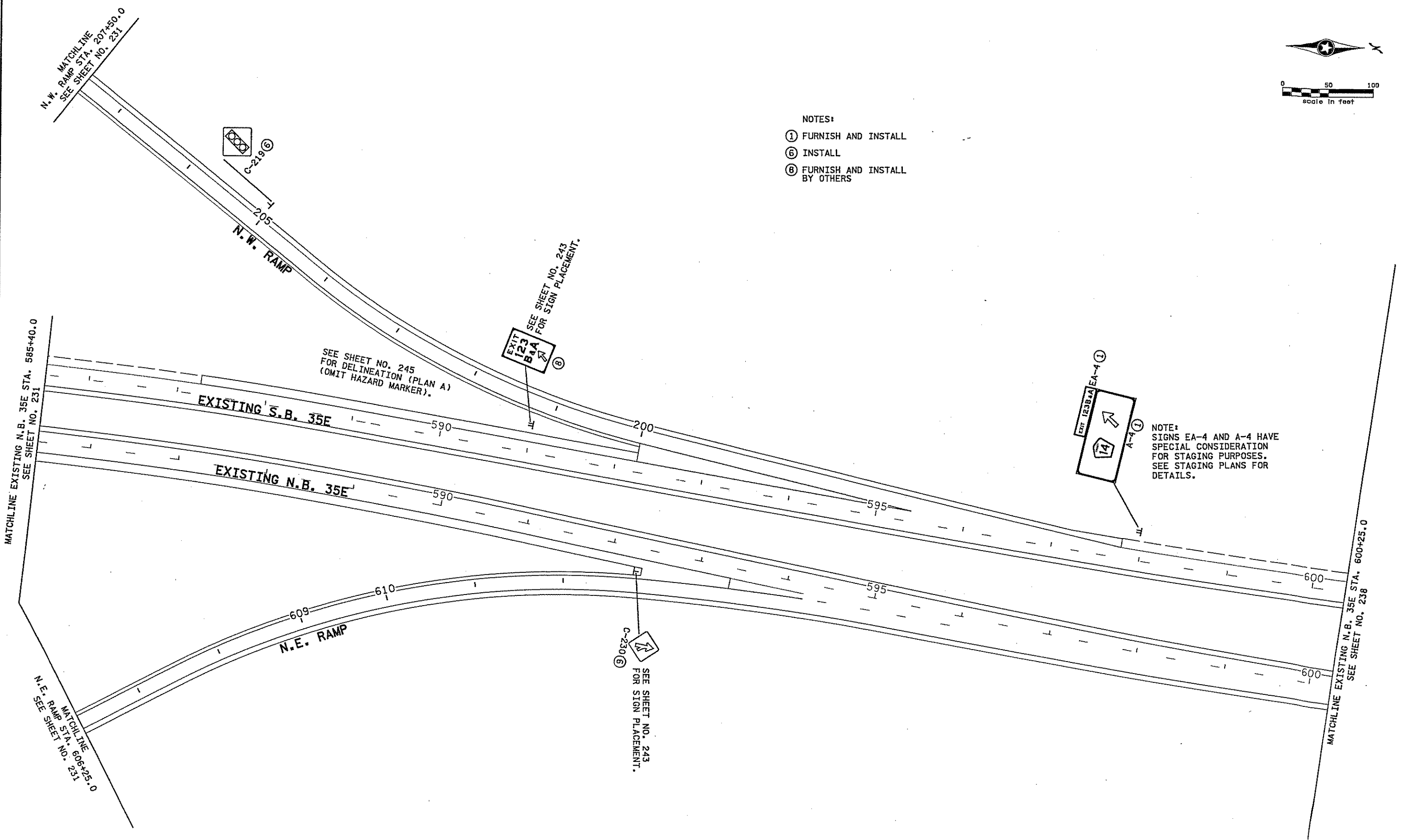


ANOKA COUNTY
SIGNING PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
S.E. RAMP

SHEET 236 OF 471



- NOTES:
- ① FURNISH AND INSTALL
 - ⑥ INSTALL
 - ⑧ FURNISH AND INSTALL BY OTHERS



SEE SHEET NO. 245 FOR DELINEATION (PLAN A) (OMIT HAZARD MARKER).

SEE SHEET NO. 243 FOR SIGN PLACEMENT.

NOTE: SIGNS EA-4 AND A-4 HAVE SPECIAL CONSIDERATION FOR STAGING PURPOSES. SEE STAGING PLANS FOR DETAILS.

2/12/14 9 PM 7/21/2009 BH:\proj\leotis\6509\HI-MUN\plan\CO261429_SGN8.DGN

NO	DATE	BY	CHKD	APPR	REVISION

... \HI-MUN\plan\CO261429_SGN8.DGN

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

Print Name: AARON VACEK

Date: 8-06-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY V. MICHELS

DESIGNED BY A. DEBRUIN

CHECKED BY S. PRUSAK

COMM. NO. 0086509



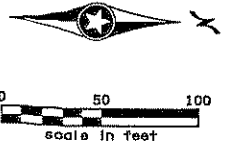
ANOKA COUNTY

SIGNING PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

N.W. RAMP, N.E. RAMP

SHEET 237 OF 471



- NOTES:
- ① FURNISH AND INSTALL
 - ② INPLACE
 - ⑥ INSTALL

MATCHLINE EXISTING N.B. 35E STA. 600+25.0
SEE SHEET NO. 237

EXISTING S.B. 35E

605

605

EXISTING N.B. 35E

Hugo
Centerville
EXIT 123 B&A
D-6 ①

EXIT 123
GAS ②

EXIT 123
LODGING
FOOD ②

EXIT 123 B&A
EA-5 ①
1 MILE ②

STA. 617+00

STA. 626+00

STA. 634+00

STA. 645+00



DATE 1 2 4 ②

2:12:50 PM

7/21/2009

...\\HI-MUN\proj\0261429_SGN9.DGN

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: AARON VACEK

Date: 8-26-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

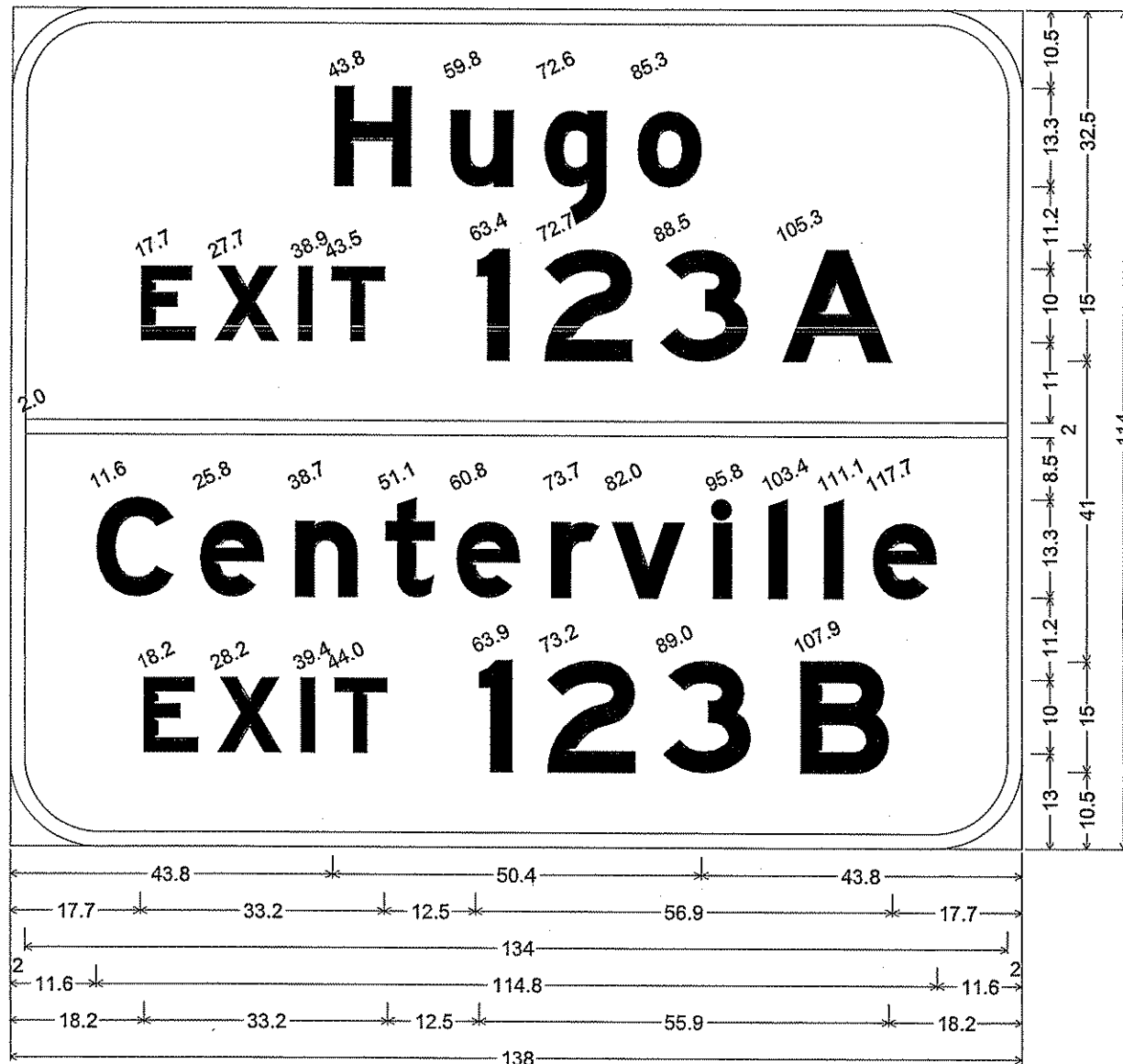
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY A. DEBRUIN
CHECKED BY S. PRUSAK
COMM. NO. 0086509

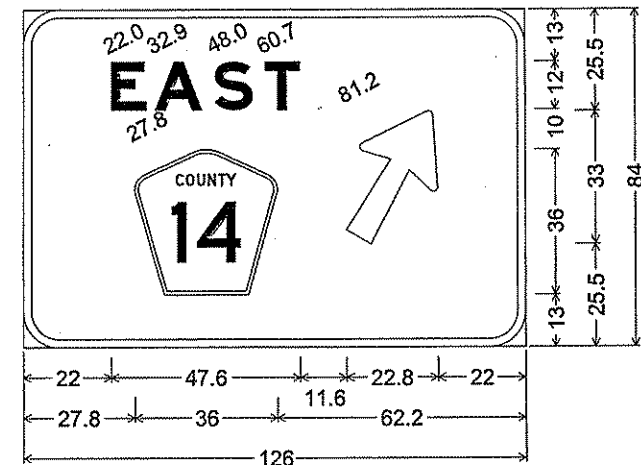


ANOKA COUNTY
SIGNING PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
N.E. RAMP TAPER

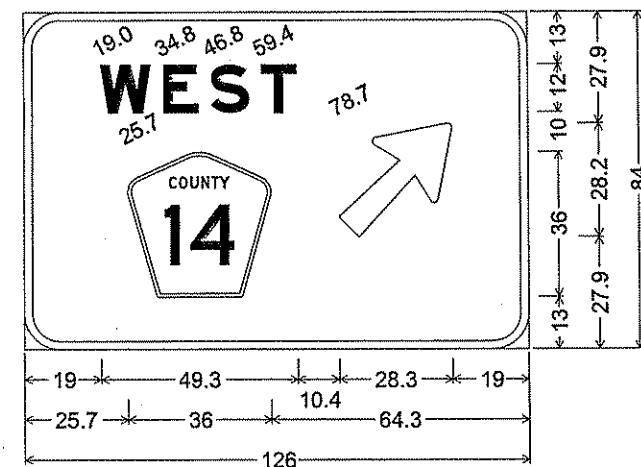
SHEET 238 OF 471



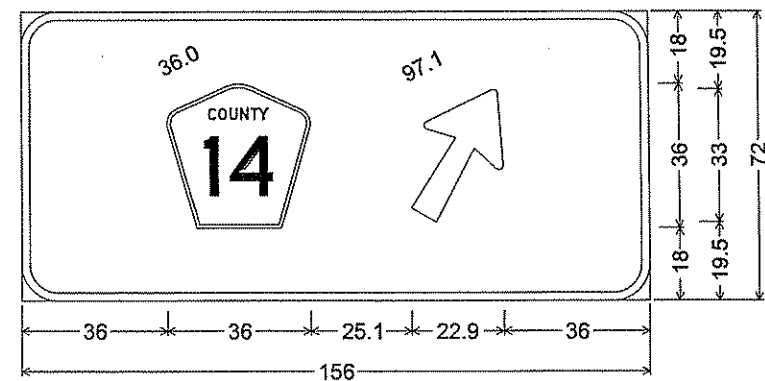
A-1; 12.0" Radius, 2.0" Border, White on Green;
 [Hugo] E Mod; [EXIT 123A] E Mod; [Centerville] E Mod; [EXIT 123B] E Mod;



A-2;
 9.0" Radius, 2.0" Border, White on Green;
 [EAST] E Mod; Arrow 17 - 36.0" 60°;



A-3;
 9.0" Radius, 2.0" Border, White on Green;
 [WEST] E Mod; Arrow 17 - 36.0" 45°;



A-4; 9.0" Radius, 2.0" Border, White on Green;
 Arrow 17 - 36.0" 60°;

NOTES:
 1) CORNERS OF THE SIGN PANEL EXTENDING BEYOND BORDER SHALL NOT BE TRIMMED.
 2) SEE STANDARD SIGNS MANUAL FOR ARROW AND OVERLAY DETAILS.

TYPE A SIGN PANELS

NO	DATE	BY	CHKD	APPR	REVISION

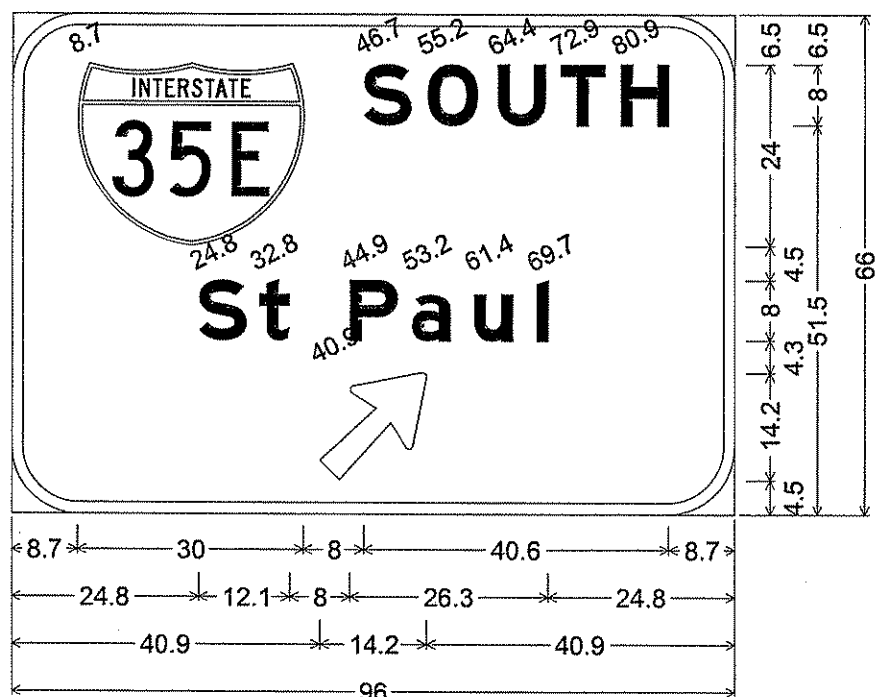
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: **ADRIAN S. POTTER**
Adrian S. Potter
 Date: **05/27/09** License #: **42785**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X
 DRAWN BY M. BRESSLER
 DESIGNED BY M. BRESSLER
 CHECKED BY A. POTTER
 COMM. NO. 0086509

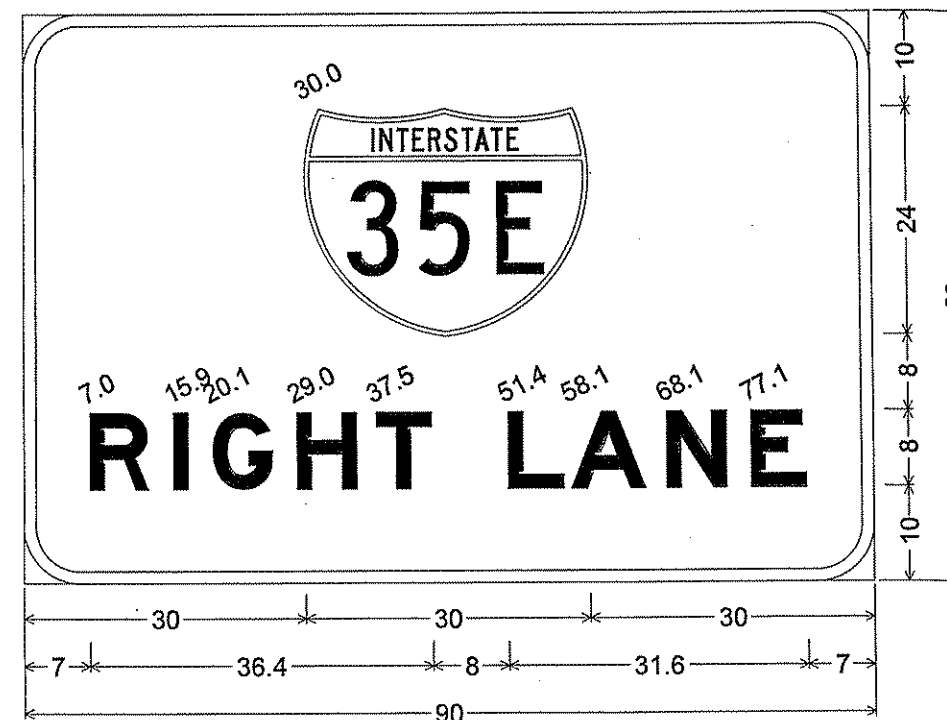


ANOKA COUNTY
 SIGNING PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 PANEL DETAILS

SHEET 239 OF 471



D-1; 9.0" Radius, 1.5" Border, White on Green;
 [SOUTH] E Mod; [St Paul] E Mod;
 Arrow 14 - 18.0" 45°;



D-3; 6.0" Radius, 1.3" Border, White on Green;
 [RIGHT LANE] E Mod;

- NOTES:
 1) CORNERS OF THE SIGN PANEL EXTENDING BEYOND BORDER SHALL NOT BE TRIMMED.
 2) SEE STANDARD SIGNS MANUAL FOR ARROW AND OVERLAY DETAILS.

TYPE D SIGN PANELS

NO	DATE	BY	CHKD	APPR	REVISION

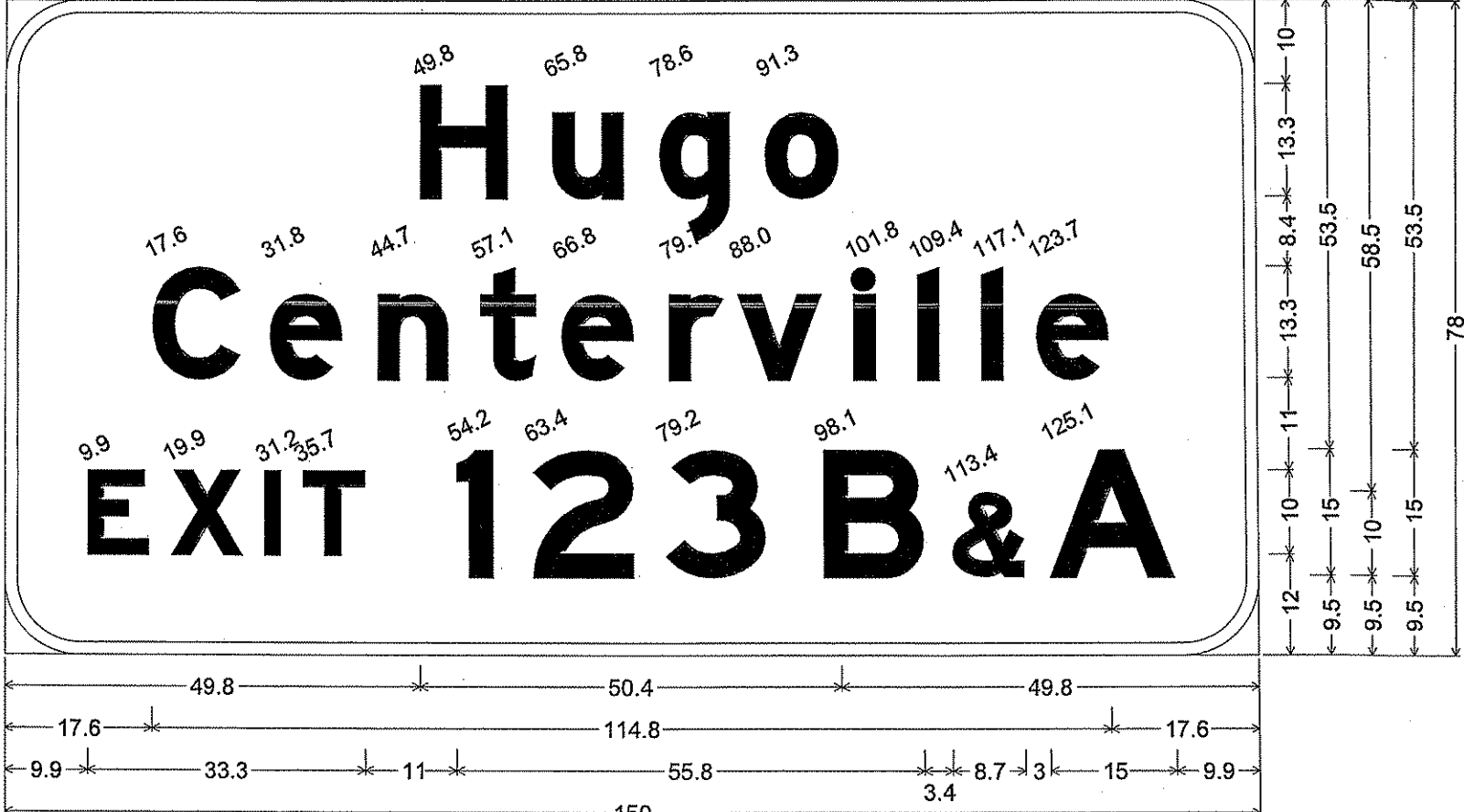
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: **ADRIAN S. POTTER**
Adrian S. Potter
 Date: **05/27/09** License # **42785**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X
 DRAWN BY M. BRESSLER
 DESIGNED BY M. BRESSLER
 CHECKED BY A. POTTER
 COMM. NO. 0086509



ANOKA COUNTY
 SIGNING PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 PANEL DETAILS

SHEET 240 OF 471



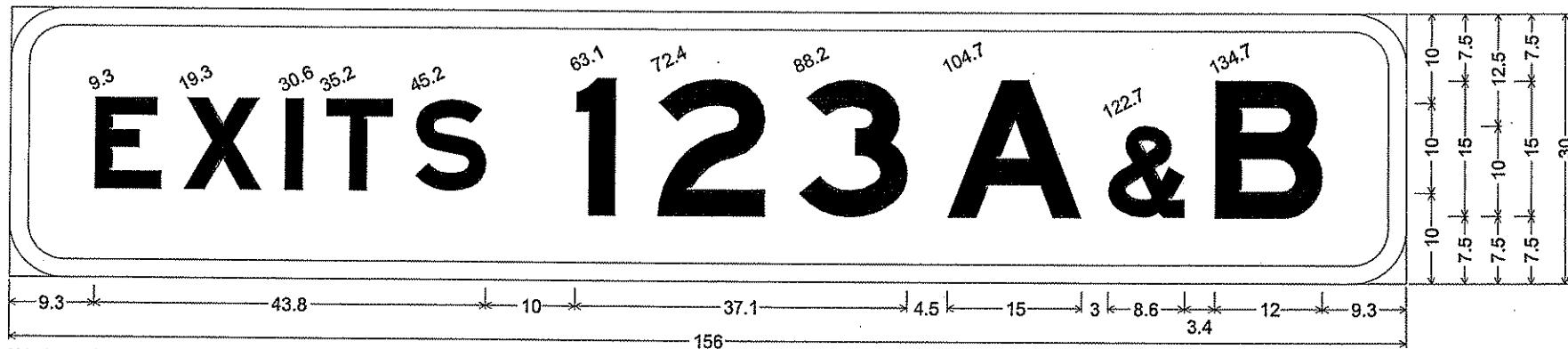
D-6; 9.0" Radius, 1.5" Border, White on Green;
[Hugo] E Mod; [Centerville] E Mod; [EXIT] E Mod; [123B & A] E Mod;

- NOTES:
1) CORNERS OF THE SIGN PANEL EXTENDING BEYOND BORDER SHALL NOT BE TRIMMED.
2) SEE STANDARD SIGNS MANUAL FOR ARROW AND OVERLAY DETAILS.

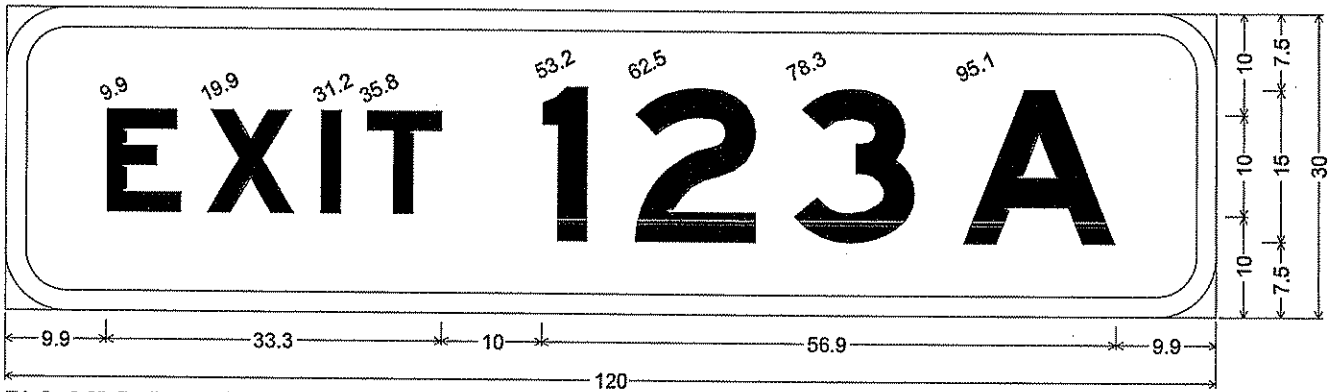
TYPE D SIGN PANELS

					STATE PROJECT NO. 0282-25 (TH 35E)		DRAWN BY M. BRESSLER			ANOKA COUNTY		SHEET 241 OF 471
					STATE PROJECT NO. 02-614-28		DESIGNED BY M. BRESSLER			SIGNING PLANS		
					COUNTY PROJECT NO. X		CHECKED BY A. POTTER		C.S.A.H. 14/T.H. 35E INTERCHANGE		PANEL DETAILS	
					CITY PROJECT NO. X		COMM. NO. 0086509					
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: ADRIAN S. POTTER Date: <u>05/27/09</u> License # <u>42785</u>												
NO	DATE	BY	CHKD	APPR	REVISION							
...\\HI-MUX\Plan\0261429_SP05.DGN												

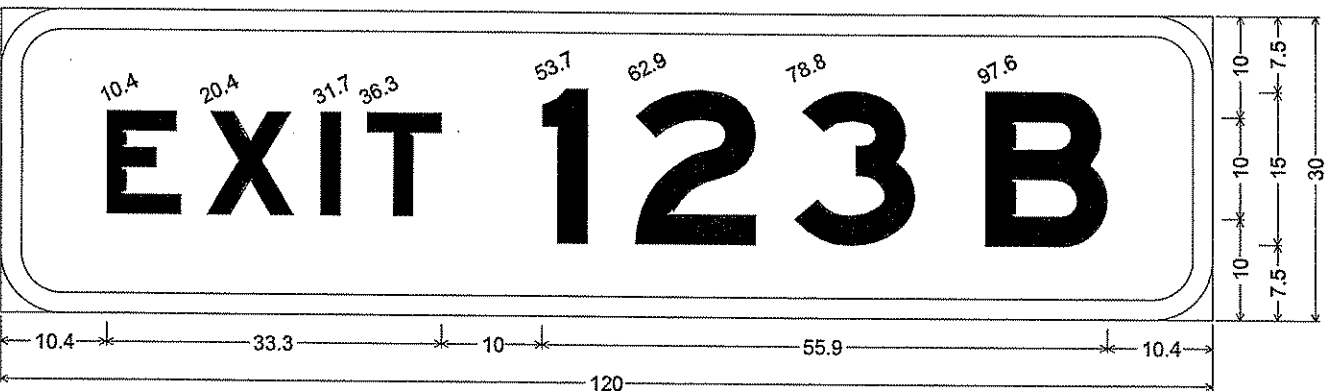
9/30/23 AM
11/2/2009
H:\P\0261429\SP05.DGN



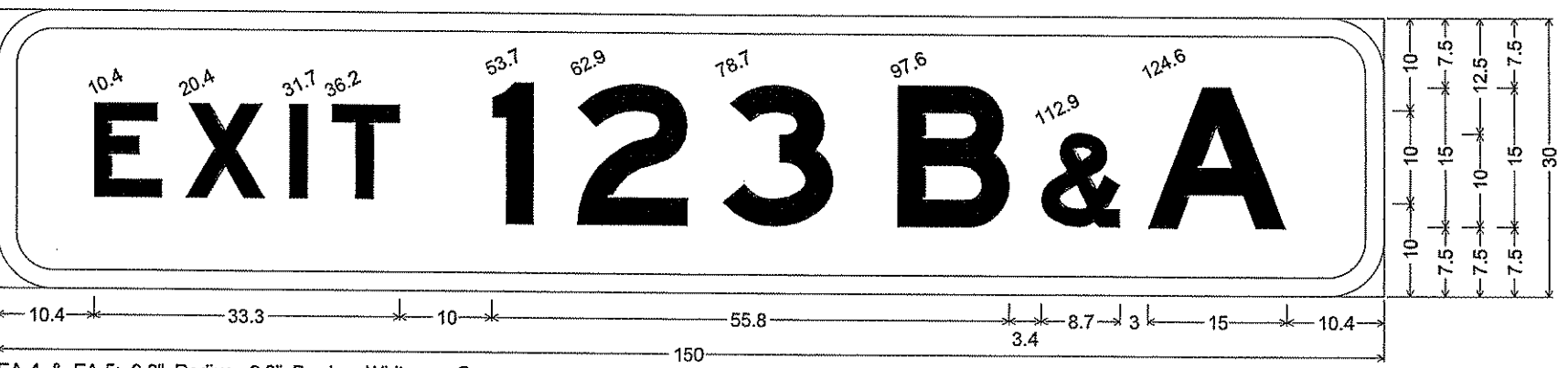
EA-1; 6.0" Radius, 2.0" Border, White on Green;
 [EXITS] E Mod; [123 A & B] E Mod;



EA-2; 6.0" Radius, 2.0" Border, White on Green;
 [EXIT 123A] E Mod;



EA-3; 6.0" Radius, 2.0" Border, White on Green;
 [EXIT 123B] E Mod;



EA-4 & EA-5; 6.0" Radius, 2.0" Border, White on Green;
 [EXIT] E Mod; [123B & A] E Mod;

NOTES:
 1) CORNERS OF THE SIGN PANEL EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.

TYPE EA SIGN PANELS

9/30/24 AM
 14/07/2009
 H:\V\03\14\6508\VI-MUN\Plan\0261429_SP03.DGN

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: **ADRIAN S. POTTER**
Adrian S. Potter
 Date: 05/27/09 License # 42785

STATE PROJECT NO.
0282-25 (TH 35E)
 STATE PROJECT NO.
02-614-28
 COUNTY PROJECT NO.
X
 CITY PROJECT NO. X

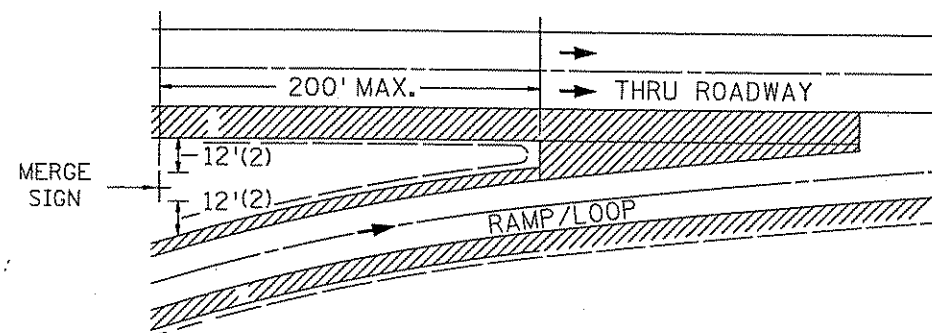
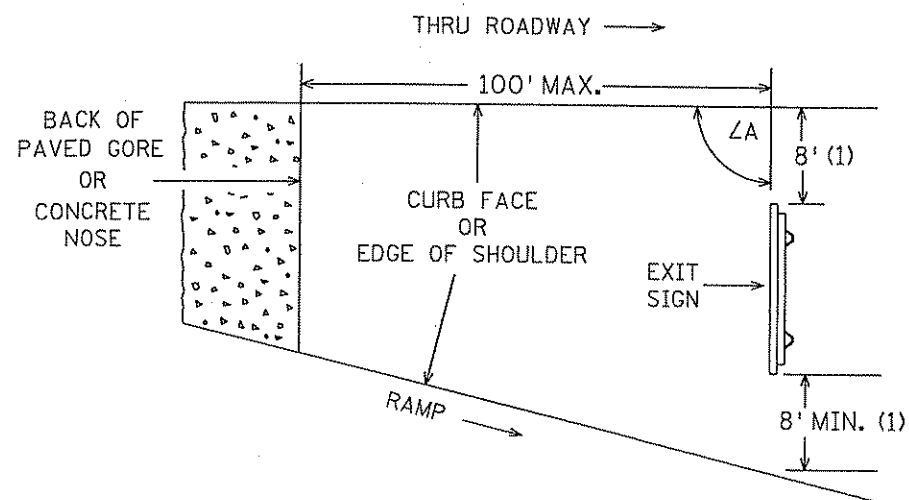
DRAWN BY
M. BRESSLER
 DESIGNED BY
M. BRESSLER
 CHECKED BY
A. POTTER
 COMM. NO. 0086509



ANOKA COUNTY
 SIGNING PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 PANEL DETAILS

SHEET
242
OF
471

GORE PLACEMENT



SPECIFIC NOTES:

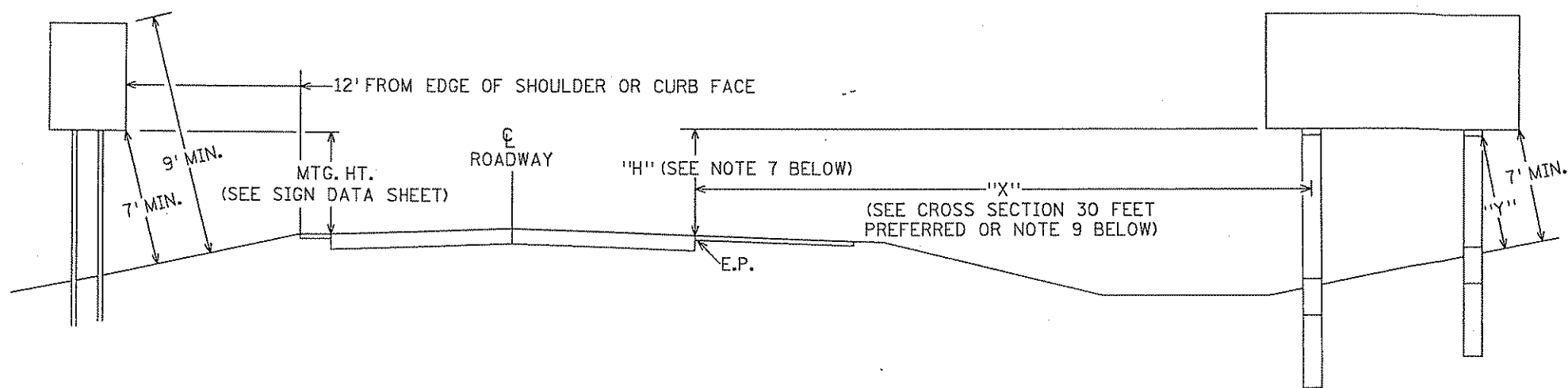
(1) EXIT SIGNS

IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, CONTACT THE PROJECT ENGINEER WHO WILL CONSULT WITH THE STATE SIGNING ENGINEER.

(2) MERGE SIGNS

IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, CONTACT THE PROJECT ENGINEER WHO WILL CONSULT WITH THE STATE SIGNING ENGINEER.

ROADSIDE PLACEMENT



ROUTE MARKER, REGULATORY & WARNING SIGNS - TYPE C
MINOR GUIDE SIGNS - TYPE D

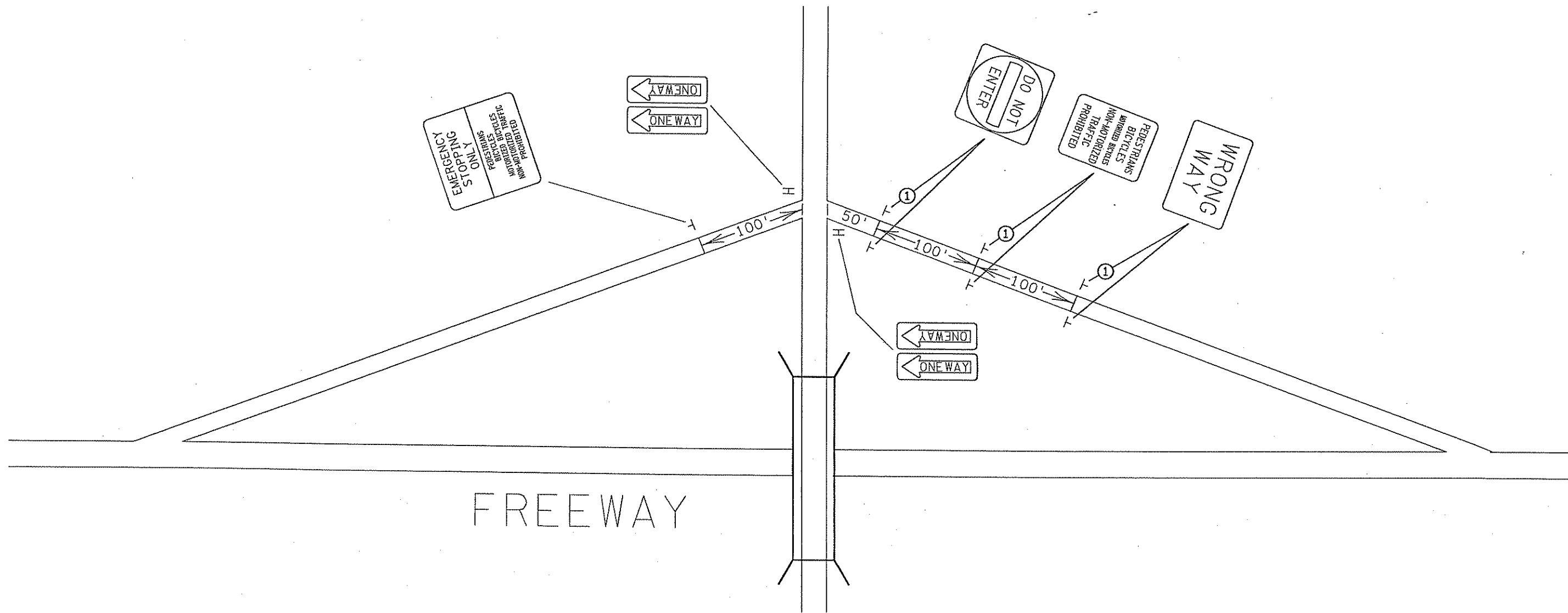
MAJOR GUIDE SIGN - TYPE A

NOTES:

1. IF A SECONDARY SIGN IS MOUNTED BELOW A MAJOR SIGN, THE MAJOR SIGN SHALL BE AT LEAST 8' ABOVE THE PAVEMENT EDGE AND THE SECONDARY SIGN AT LEAST 5'.
2. ALL ROUTE MARKERS, WARNING AND REGULATORY SIGNS SHALL BE AT LEAST 7' ABOVE PAVEMENT EDGE.
3. SIGN FACES SHALL BE VERTICAL.
4. OVERHEAD SIGNS SHALL BE POSITIONED AT RIGHT ANGLES TO THE THRU ROADWAY UNLESS OTHERWISE NOTED.
5. TO AVOID SPECULAR GLARE, $\angle A$ SHALL BE APPROXIMATELY 93° FOR SIGNS LOCATED LESS THAN 30' FROM THE EDGE OF PAVEMENT AND APPROXIMATELY 92° FOR SIGNS LOCATED 30' OR MORE FROM EDGE OF PAVEMENT. THIS APPLIES TO SIGNS TYPE A, C, & D AND INCLUDES SIGNS IN THE GORE.
6. "Y" IS THE PERPENDICULAR DISTANCE FROM THE GROUND LINE TO THE FRICTION FUSE ON THE POST. THIS DISTANCE SHALL BE AT LEAST 7'.
7. WHERE "X" IS LESS THAN 30', "H" SHALL BE $7' \pm 6"$. WHERE "X" IS 30' OR GREATER, MINIMUM AND PREFERRED "H" IS 5'.
8. LATERAL CLEARANCES GIVEN APPLY TO RIGHT AND OR LEFT SIDE INSTALLATION.
9. WHEN A TYPE A SIGN IS INSTALLED DIRECTLY BEHIND TRAFFIC BARRIER, THE LEFT EDGE OF THE SIGN PANEL SHALL BE LOCATED A MINIMUM OF 4 FEET BEHIND THE FACE OF THE TRAFFIC BARRIER.

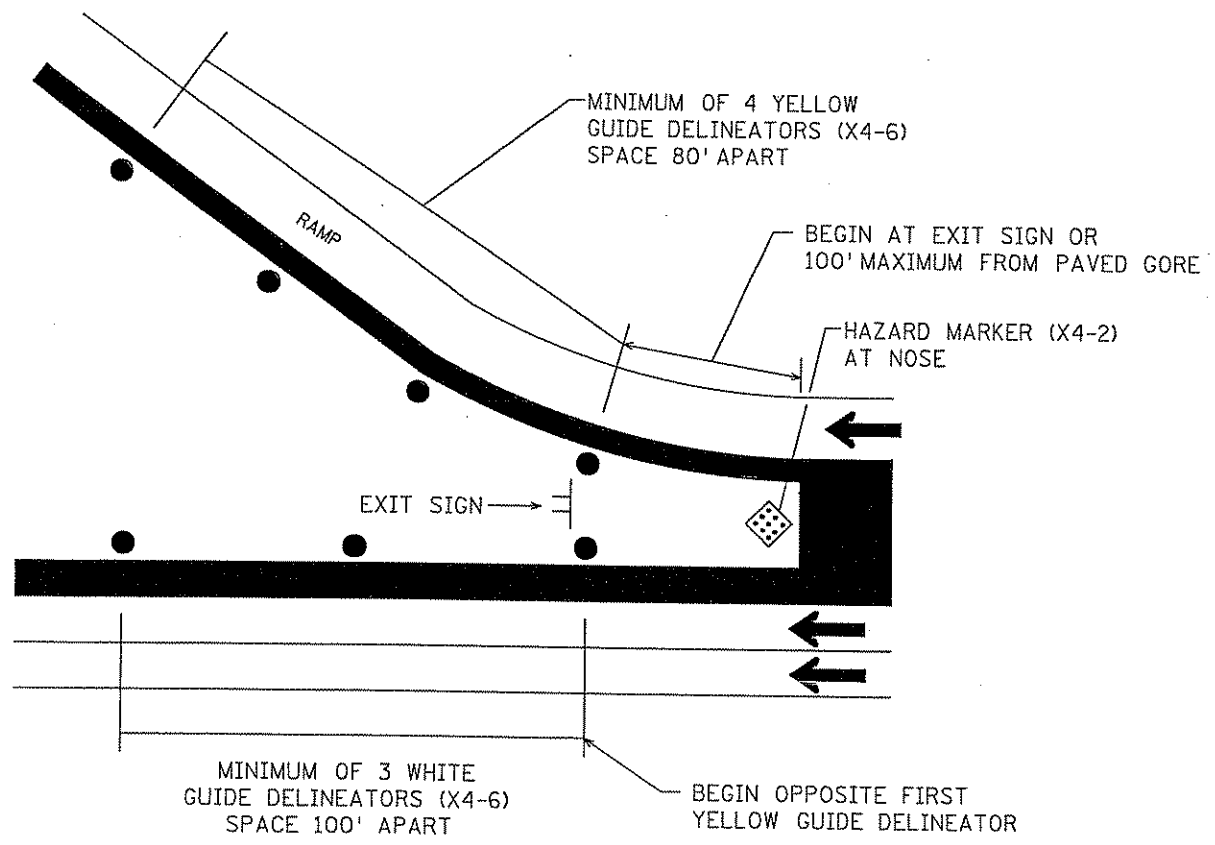
SIGN PLACEMENT

7/11/14 5 AM
8/6/2009
H:\Proj\0261428\0261429_SPN201.DGN

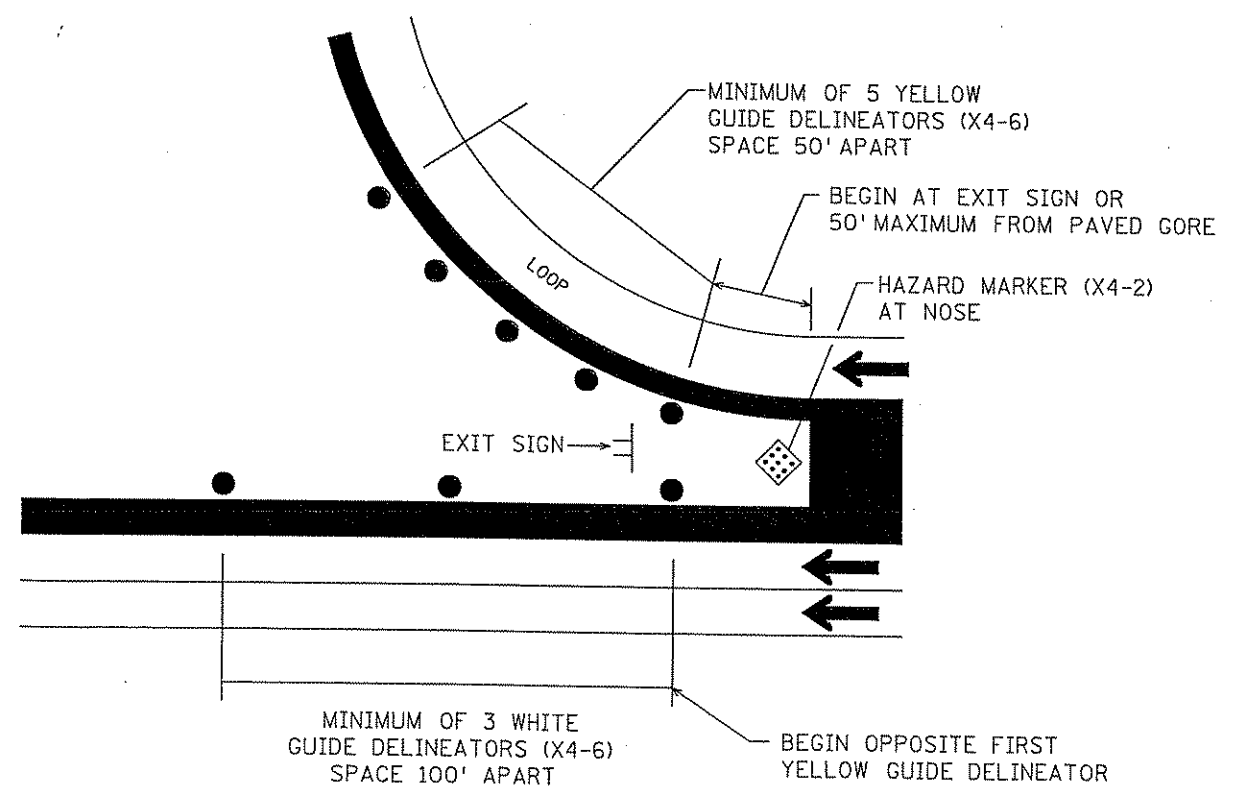


① ADDITIONAL SIGN REQUIRED WHEN RAMP IS 3 LANES OR WIDER

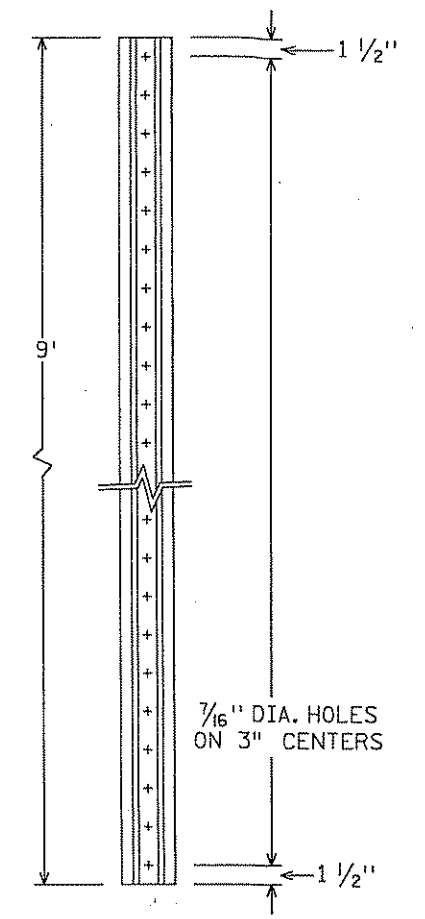
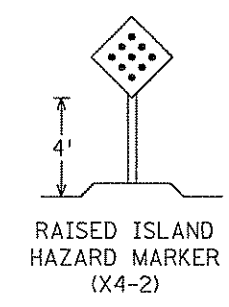
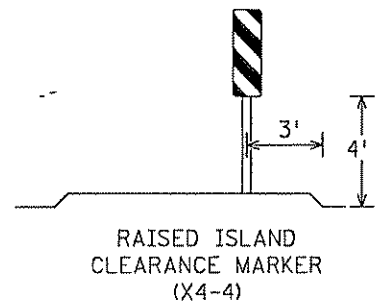
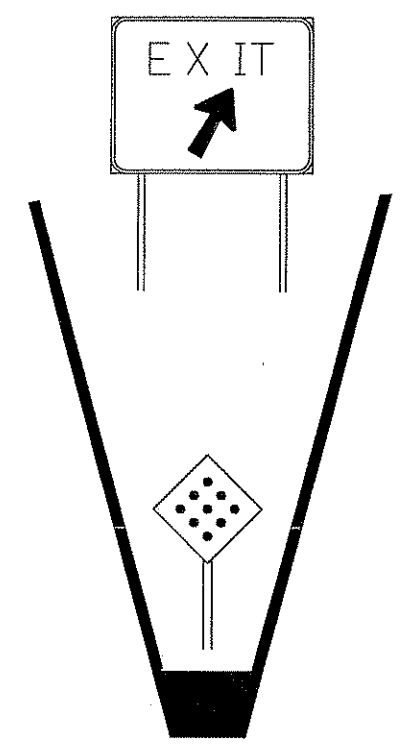
STANDARD SIGN PLACEMENT
REGULATORY SIGNS ON
DIAMOND INTERCHANGE RAMPS



PLAN A
RAMP DELINEATION

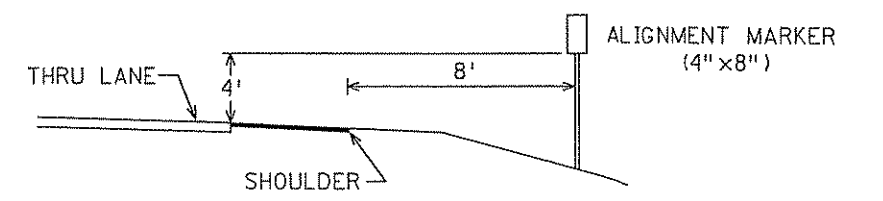
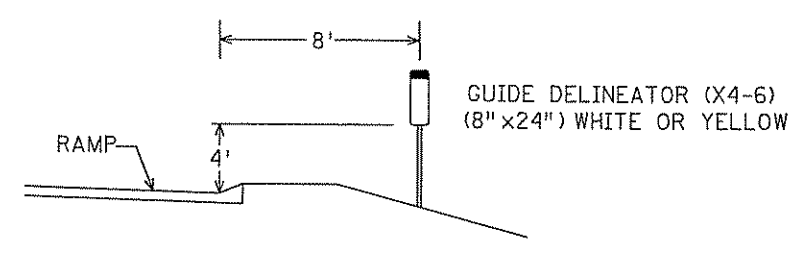
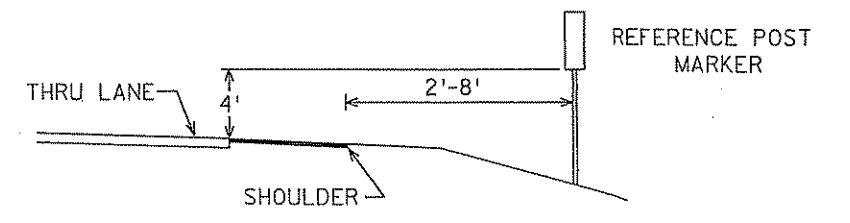
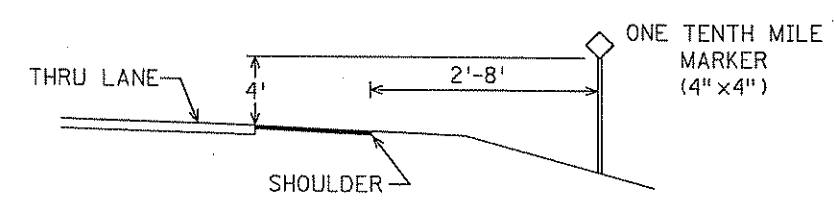


PLAN B
LOOP DELINEATION



MN/DOT 3401
NORMAL WEIGHT = 2 LB./FT.

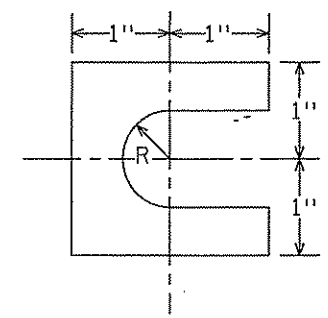
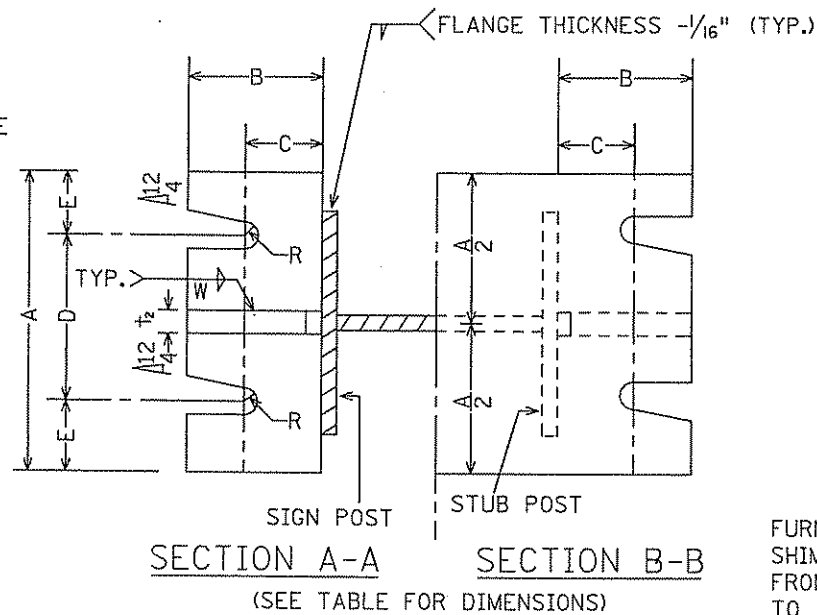
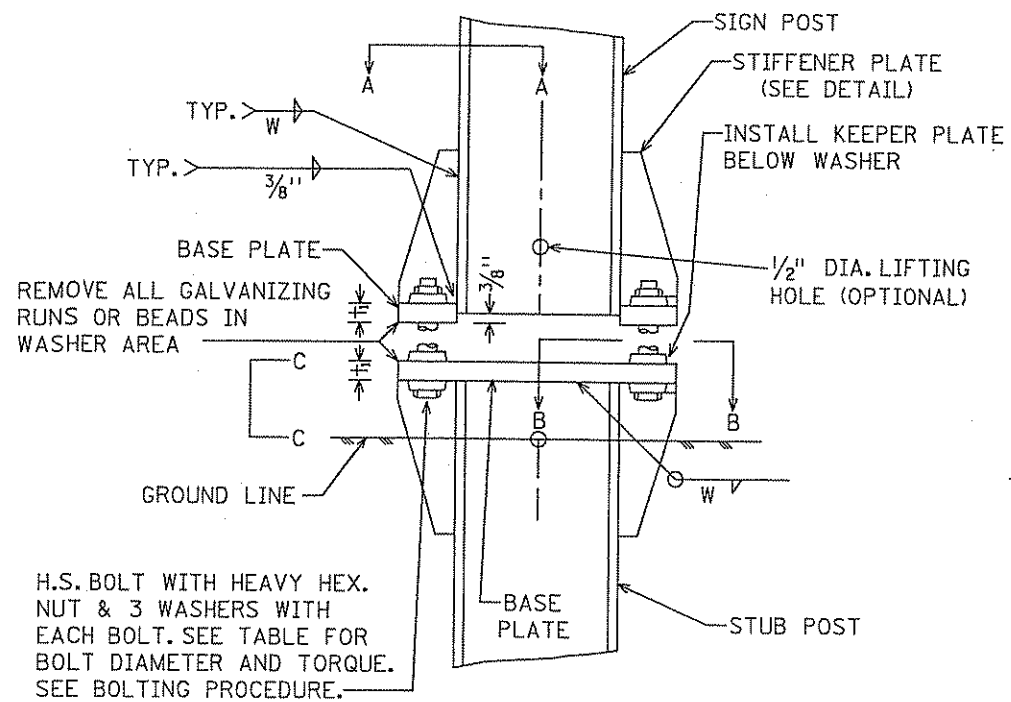
DELINEATOR POST



TYPICAL PLACEMENT

DELINEATORS AND MARKERS

7/11/16 AM
1/6/2009
H:\proj\0261428_SPH22.DGN



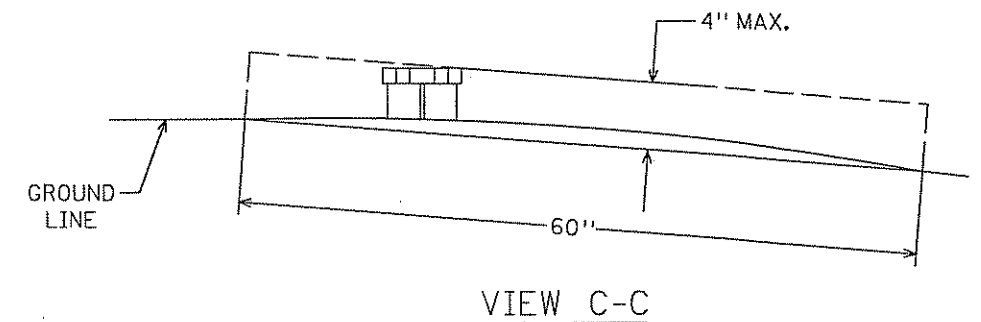
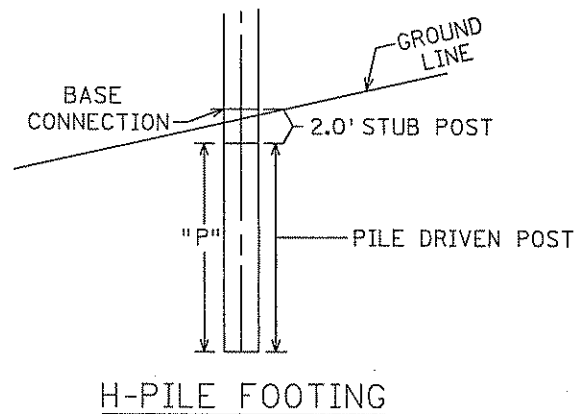
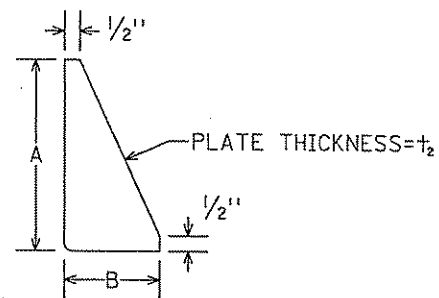
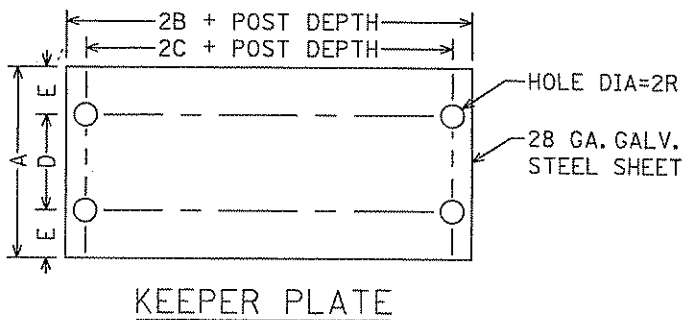
FURNISH TWO-.012" THICK AND TWO-.032" THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M. B36.

BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND WITH ONE OF THE FLAT WASHERS ON EACH BOLT BETWEEN PLATES.
2. SHIM AS REQUIRED TO PLUMB POST.
3. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS AND SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
4. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

SECTIONS SHOWN ARE FOR INSTALLATIONS ON RIGHT SHOULDER AND IN GORE. PLATE SLOT BEVELS ARE OPPOSITE HAND FROM THAT SHOWN FOR INSTALLATIONS ON LEFT SHOULDER.

SIGN POST AND STUB POST ELEVATION



MAXIMUM PROJECTION OF STUB POST SHALL NOT EXTEND BEYOND A LINE, ABOVE AND 4" PARALLEL TO ANY CHORD, WHICH IS PERPENDICULAR TO (OR ALIGNED RADIALLY TO) THE CENTERLINE OF THE HIGHWAY AND HAS ITS (THE CHORD'S) END POINTS ON THE GROUND SURFACE ON OPPOSITE SIDES OF THE STUB POST.

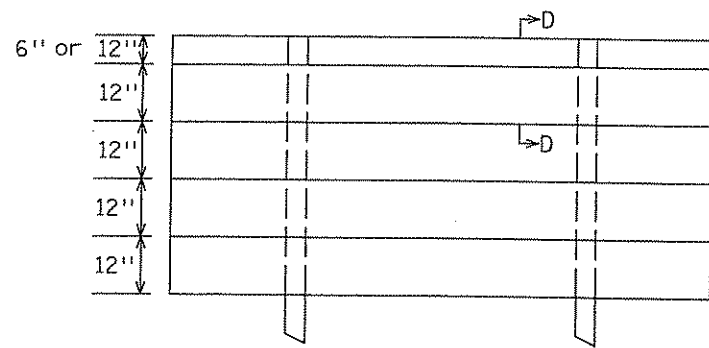
DIMENSION POST SIZE	BASE CONNECTION DATA	FUSE AND HINGE PLATE DATA										FOOTING DATA										
		BOLT SIZE AND TORQUE	A	B	C	D	E	t ₁	t ₂	W	R	G	H	J	K	L	M	d ₁	d ₂	t ₃	BOLT DIA.	STUB POST LENGTH ①
W4X13	3/4" DIA. x 3-1/2" TORQUE=600" #	6"	2 1/2"	1 1/2"	3 1/2"	1 1/4"	1"	1/2"	1/4"	13/32"	2"	1 1/4"	4"	2 1/4"	7/8"	1"	1 1/16"	3/4"	3/8"	5/8"	2'	12'
W5X16	3/4" DIA. x 3-1/2" TORQUE=600" #	6"	2 1/2"	1 1/2"	3 1/2"	1 1/4"	1"	1/2"	1/4"	13/32"	2 1/2"	1 1/4"	5"	2 3/4"	1 1/8"	1 1/8"	1 3/16"	7/8"	3/8"	3/4"	2'	12'
W6X20	7/8" DIA. x 4-1/4" TORQUE=800" #	8"	3"	1 3/4"	4"	2"	1 1/4"	1/2"	1/4"	15/32"	2 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	1 3/8"	1 3/16"	1 1/8"	3/8"	3/4"	2'	12'
W8X24	7/8" DIA. x 4-1/4" TORQUE=800" #	8"	3"	1 3/4"	4"	2"	1 1/4"	1/2"	1/4"	15/32"	2 1/2"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	1 1/2"	1 5/16"	1 1/4"	1/2"	7/8"	2'	12'
W8X28	1" DIA. x 5" TORQUE=1000" #	8"	3"	2"	4"	2"	1 1/2"	3/4"	5/16"	17/32"	2 1/2"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	1 5/8"	1 1/16"	1 1/8"	1/2"	1"	2'	12'
W8X31	1-1/8" DIA. x 5" TORQUE=1200" #	9"	3 1/2"	2"	5"	2"	1 1/2"	3/4"	5/16"	19/32"	3"	1 3/4"	8"	5 1/2"	1 1/4"	2"	1 1/16"	1 1/2"	1/2"	1"	2'	12'
W10X39	1-1/8" DIA. x 5" TORQUE=1200" #	9"	3 1/2"	2"	5"	2"	1 1/2"	3/4"	5/16"	19/32"	3"	1 3/4"	8"	5 1/2"	1 1/4"	1 7/8"	1 3/16"	1 3/8"	1/2"	1 1/8"	2'	12'

SPECIFIC NOTES:

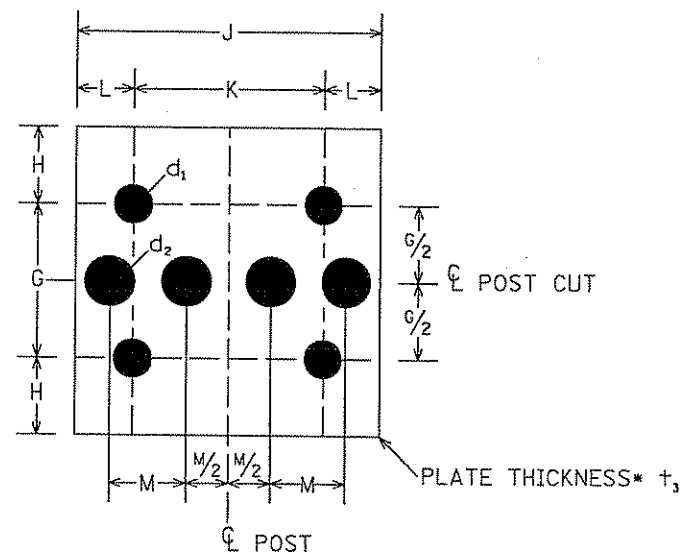
- ① MEASURED FROM TOP OF BASE PLATE
- ② OLD BEAM DEPTH = 10". NEW REVISED BEAM DEPTH = 9-7/8". KEEPER PLATES MUST BE FABRICATED ACCORDINGLY

TYPE A SIGN STRUCTURAL DETAILS
H-PILE FOOTING
SHEET 1 OF 2

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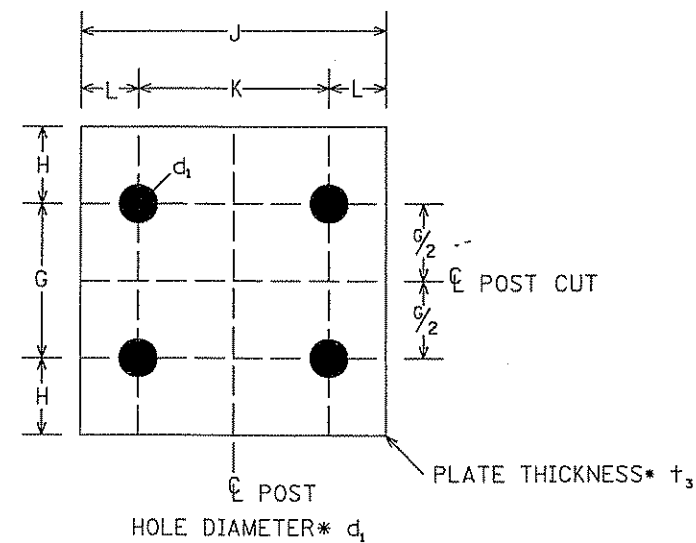


TYPICAL PANEL MOUNTING



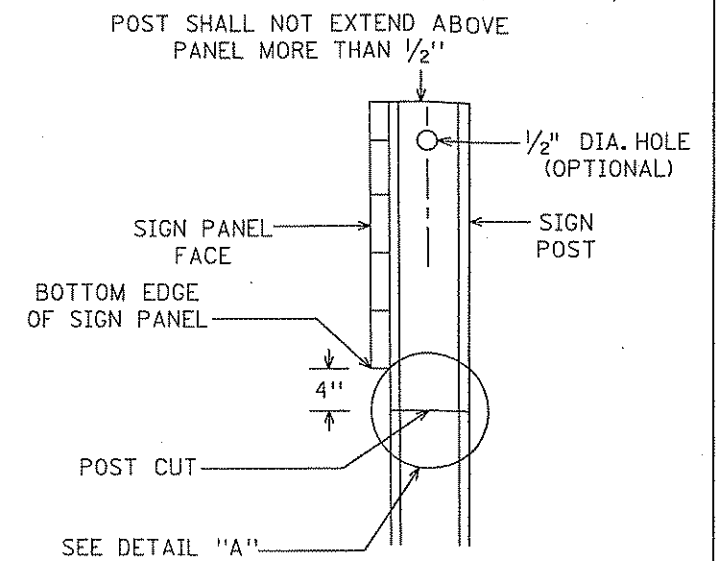
FRICION FUSE PLATE DETAIL

(SEE TABLE ON SHEET 1 OF 2 FOR DIMENSIONS)

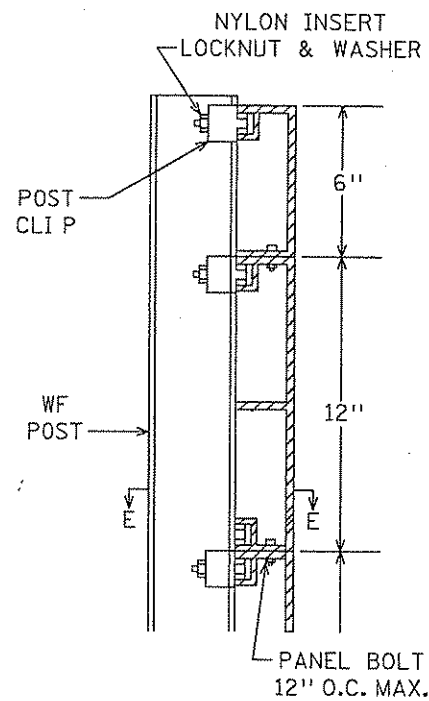


HINGE PLATE DETAIL

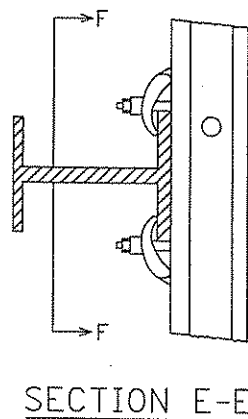
(SEE TABLE ON SHEET 1 OF 2 FOR DIMENSIONS)



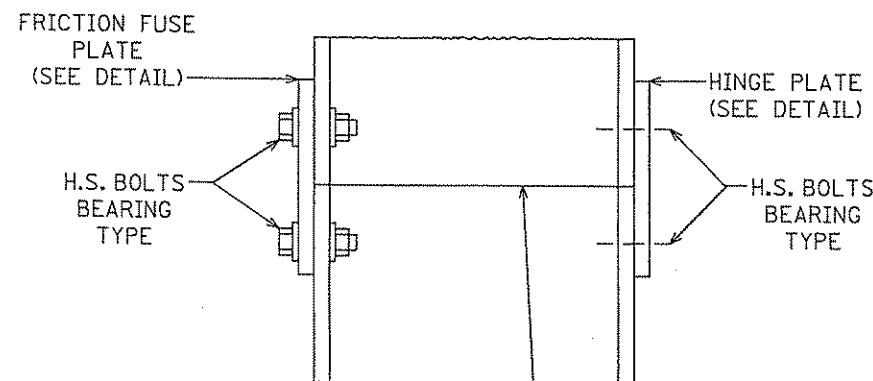
FRICION FUSE SIDE VIEW



SECTION D-D



SECTION E-E



DETAIL "A" FRICTION FUSE

POST SHALL BE SAW CUT BEFORE GALVANIZING. USE H.S. BOLTS WITH HEX. HD., HEX. NUT, AND TWO FLAT WASHERS.

CONTRACTOR NOTE: ALL FRICTION FUSE BOLTS SHALL BE TORQUE WRENCH TIGHTENED IN THE FIELD IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE. NUTS SHALL HAVE BEEN RETAPPED AND BOLT THREADS SHALL HAVE BEEN CLEANED WITH A 1/64" OVERSIZED RETHREADING DIE AFTER GALVANIZING. BEFORE TIGHTENING MAY BEGIN, THE TORQUE WRENCH SHALL BE CALIBRATED WITH A BOLT-TENSION-CALIBRATOR USING TYPICAL BOLT-NUT-WASHER ASSEMBLIES OF EACH SIZE AND LOT TO BE USED SO AS TO SHOW THE TORQUE NECESSARY TO OBTAIN THE FOLLOWING MINIMUM RESIDUAL TENSION IN EACH BOLT.

BOLT SIZE	MIN. RESIDUAL BOLT TENSION
1/2" DIA.	12,050#
5/8" DIA.	19,200#
3/4" DIA.	28,400#
7/8" DIA.	39,250#
1" DIA.	51,500#
1-1/8" DIA.	56,450#

GENERAL NOTES:

- STRUCTURAL STEEL SHALL CONFORM TO MN/DOT 3308. REINFORCING BARS SHALL CONFORM TO MN/DOT 3301. SPIRALS SHALL CONFORM TO MN/DOT 3305-NO SPLICES. HIGH STRENGTH BOLTS SHALL CONFORM TO A.S.T.M.-A325.
- FORMS WILL BE REQUIRED FOR THE EXPOSED VERTICAL SURFACES OF THE FOOTINGS.
- REFER TO "SIGN DATA" SHEET FOR SPECIFIC DATA ON EACH INDIVIDUAL SIGN INSTALLATION.
- FRICTION FUSE PLATE SHALL BE INSTALLED ON SIDE OF POST FACING TRAFFIC.
- ALL POST CUTS SHALL BE SAW CUTS. PLATES MAY BE SHEARED OR FLAME CUT USING A MECHANICALLY GUIDED CUTTING TORCH. EDGE PREPARATION SHALL BE IN ACCORDANCE WITH MN/DOT 2471.3C4 AND MN/DOT 2471.3d4.

NOTE: POST CLIPS SHALL BE INSTALLED ON BOTH SIDES OF EACH POST AT EACH PANEL JOINT AS INDICATED.

SECTION F-F

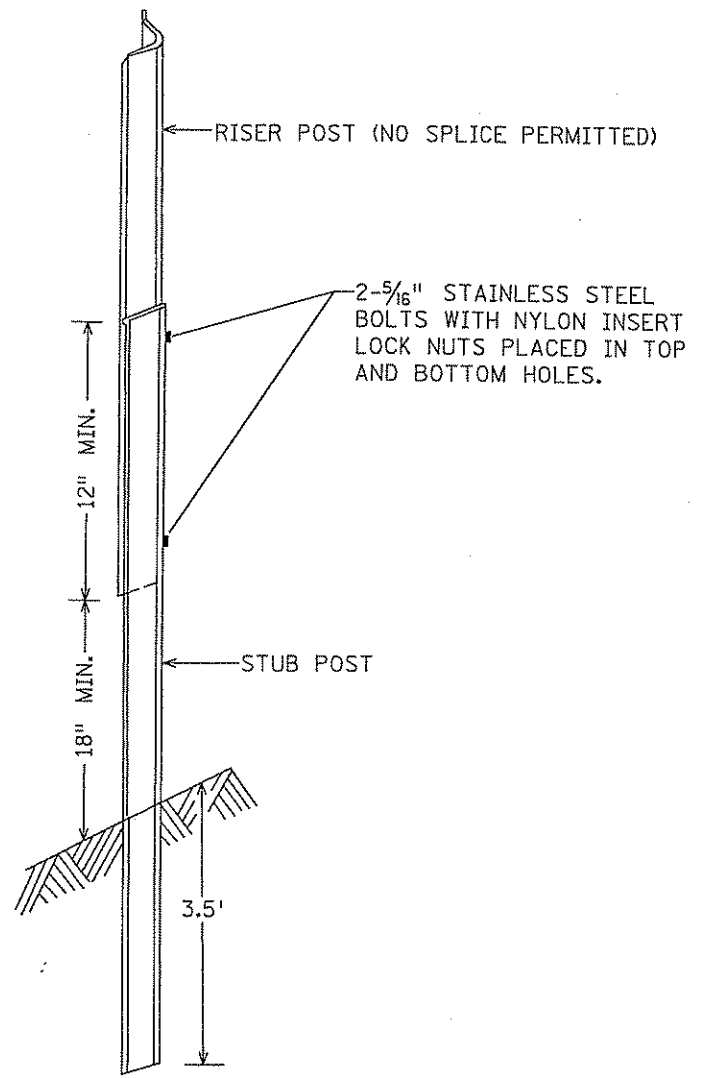
TYPE A SIGN STRUCTURAL DETAILS

SHEET 2 OF 2

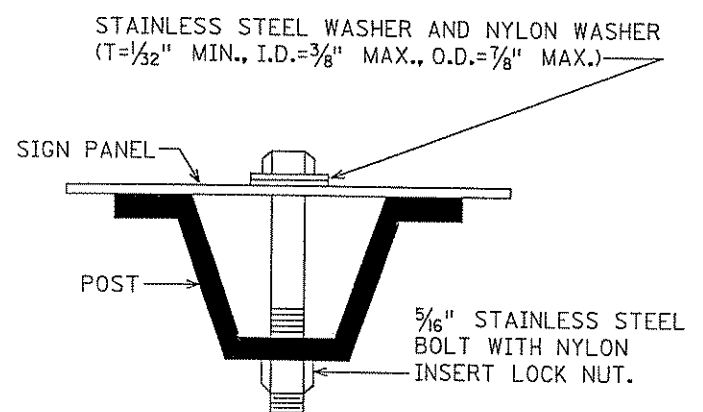
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Revised 10-14-98

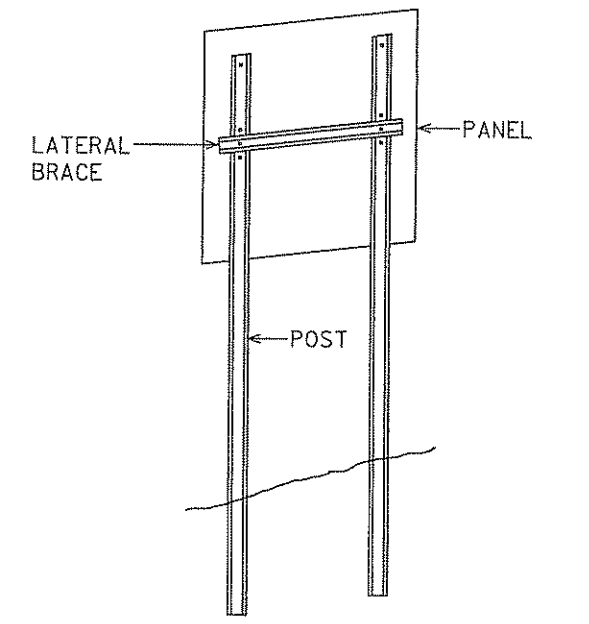
TYPE C & D POST



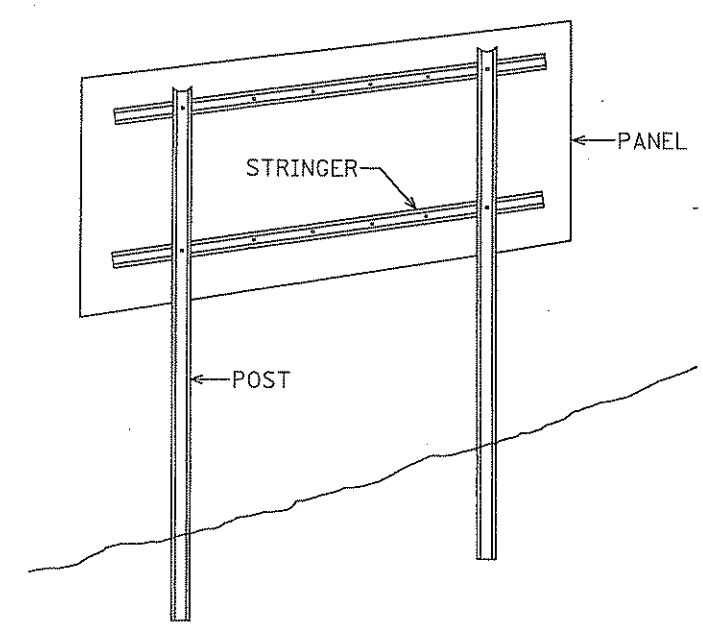
U POST SPLICE



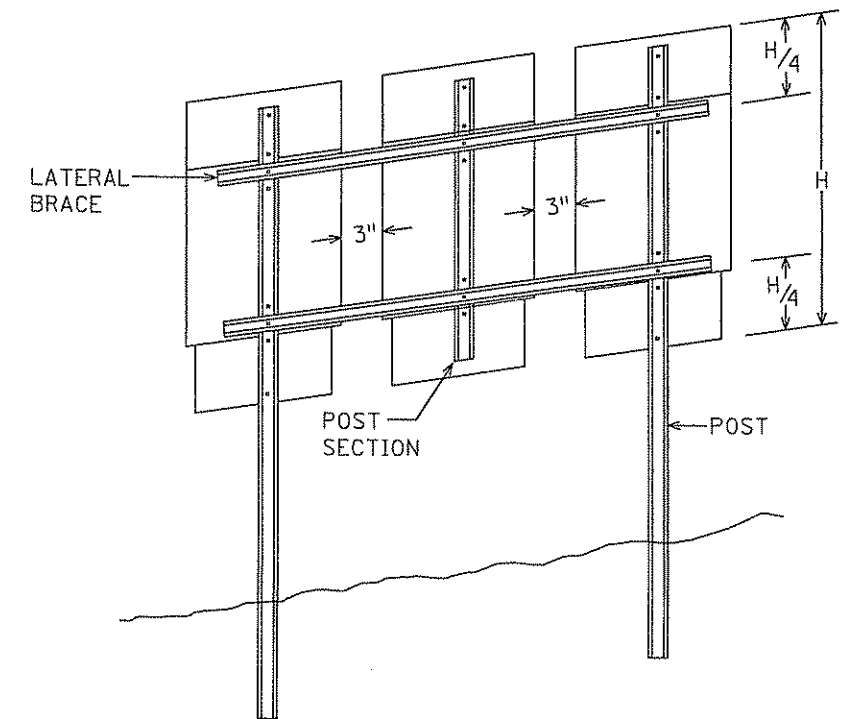
U POST MOUNTING
TYPE C SIGNS



TYPICAL TYPE C INSTALLATION



TYPICAL TYPE D INSTALLATION



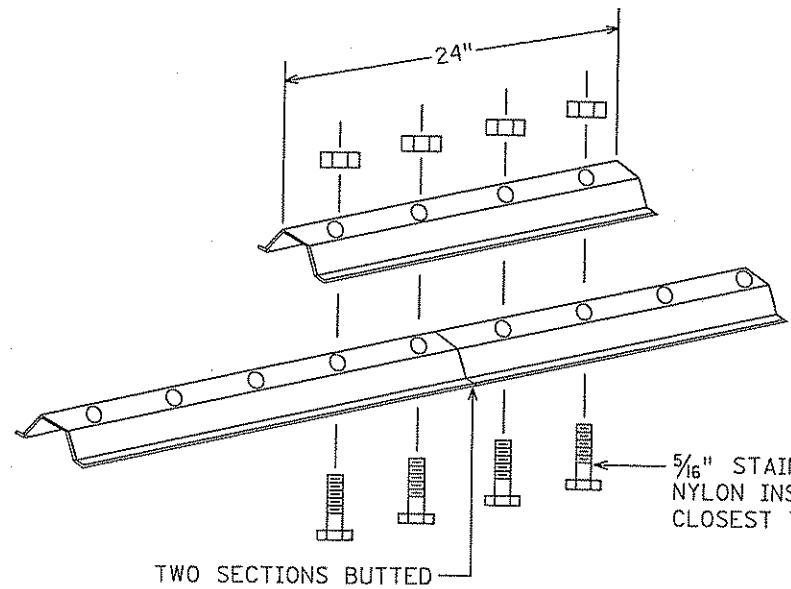
MODIFIED TYPE C INSTALLATION

NOTES:

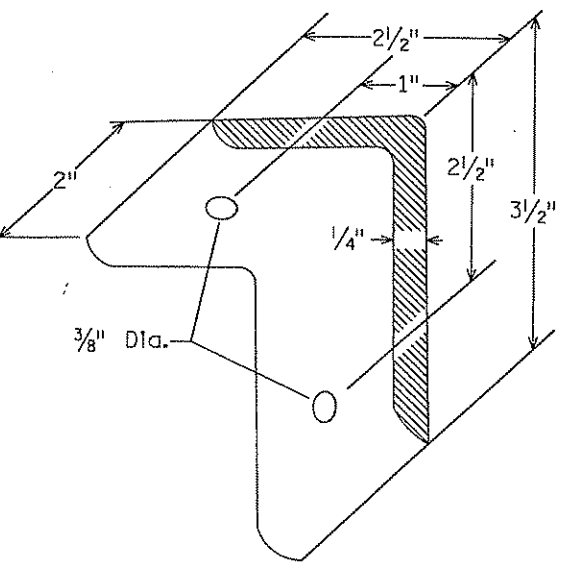
1. USE 3 LB/FT STUB POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO MN/DOT 3401.
2. FOR TYPE D SIGN POSTS LENGTHS AND SPACINGS, SEE SIGN DATA SHEET.
3. TYPE D SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH THE TYPE D STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCH CODE) FOR TYPE C SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
5. ALL RISER (VERTICAL) U POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
6. USE STAINLESS STEEL 5/16" BOLTS, WASHERS AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 3 1/2'.
9. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MN/DOT 3352.2A5.
11. 2 POST TYPE C SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
12. WHERE 2 SINGLE POST TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS.
13. WHERE 3 OR MORE TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND POST SECTION AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN MODIFIED TYPE C INSTALLATION.

TYPE C & D SIGN
STRUCTURAL DETAILS

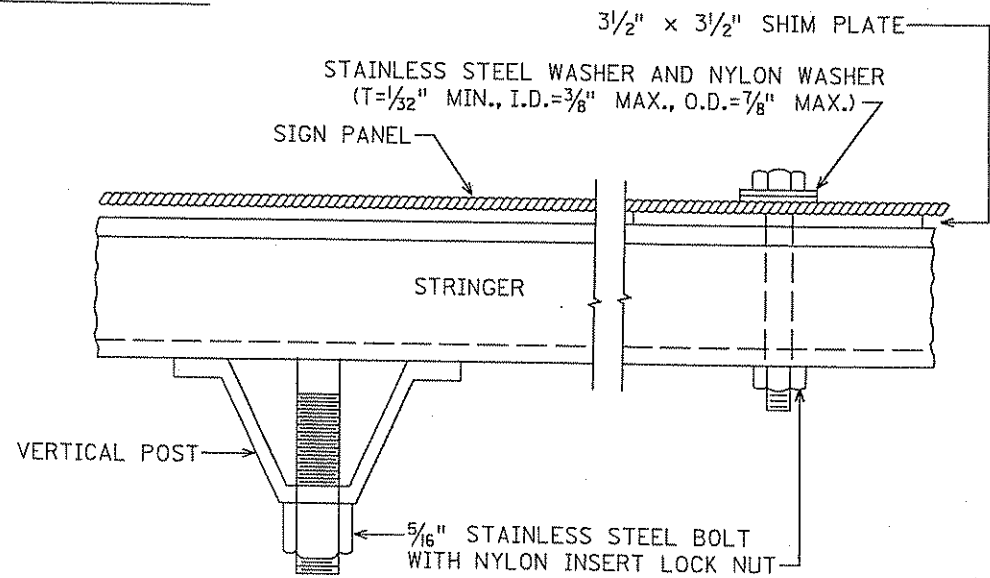
7/11/14 8 AM
8/6/2009
R:\VProj\ecrs\6509\HT-MUN\10\CD261423_SFN23.DGN



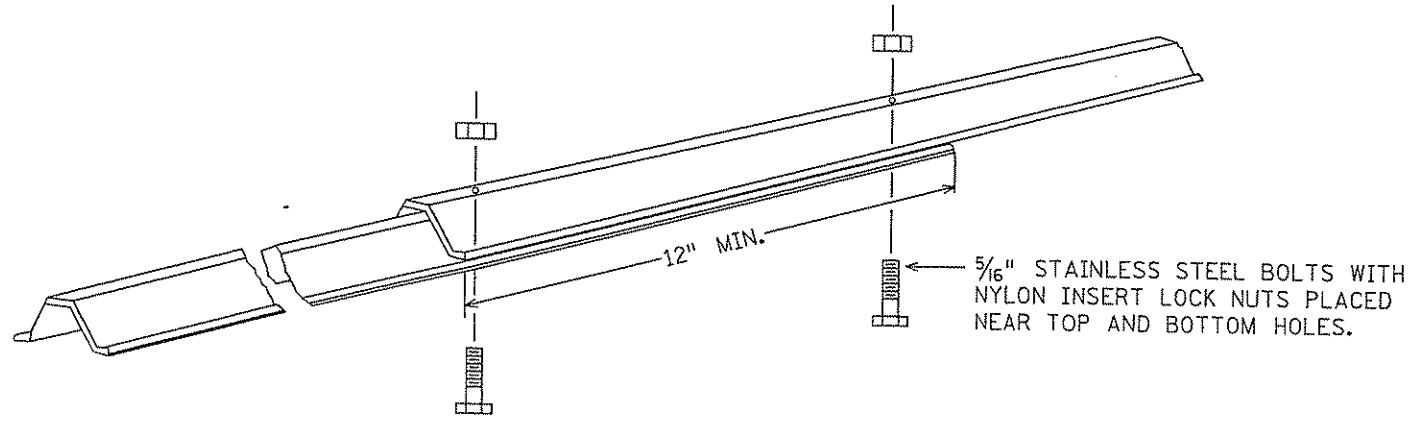
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



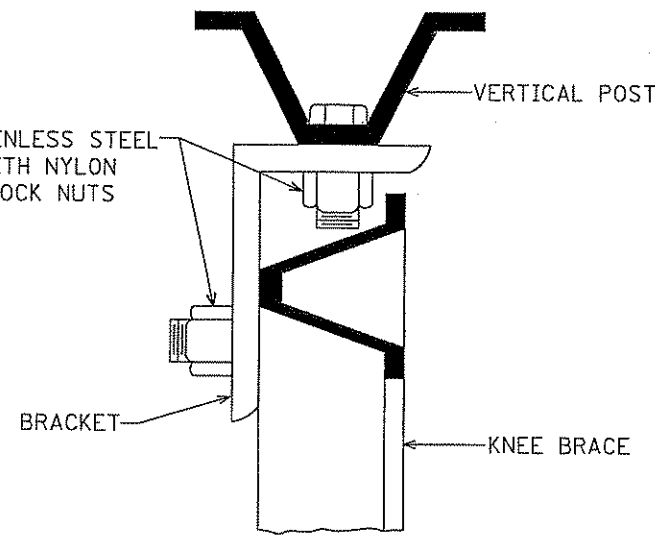
A-FRAME BRACKET
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



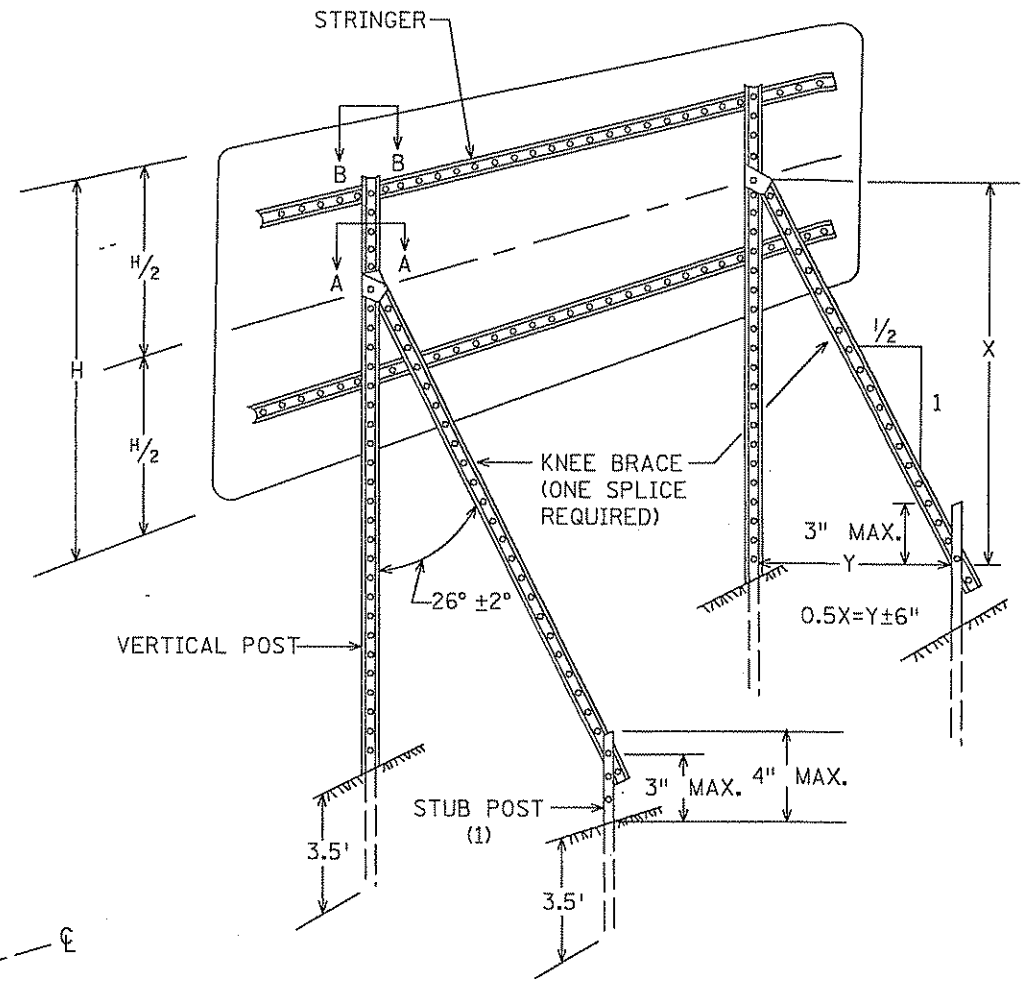
SECTION B-B



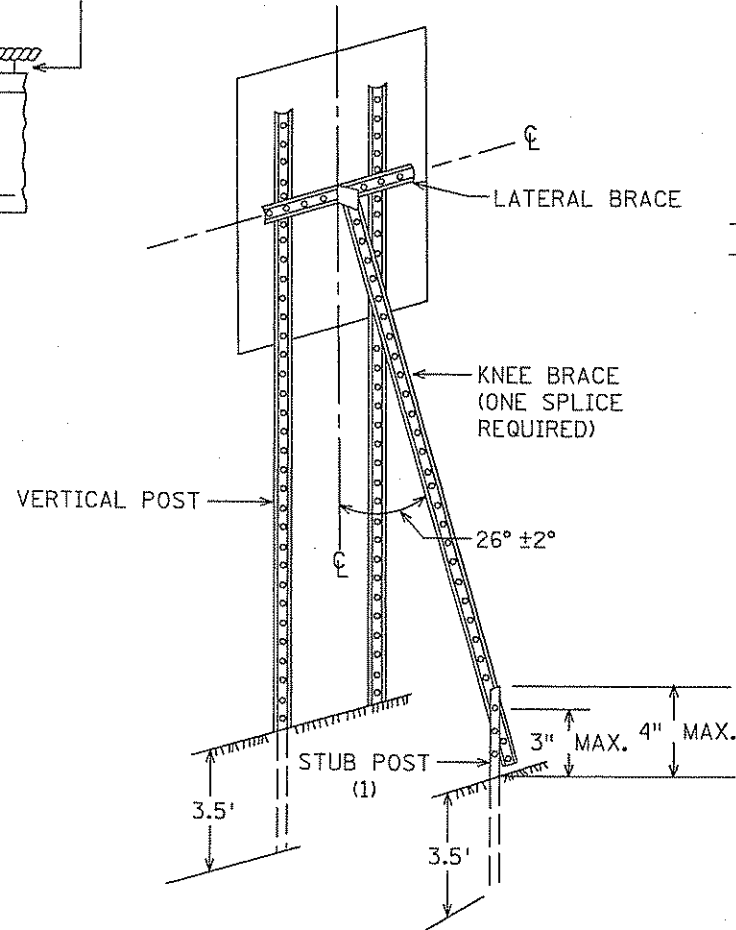
KNEE BRACE SPLICE



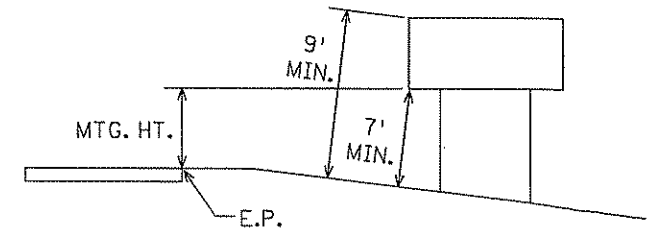
SECTION A-A



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



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

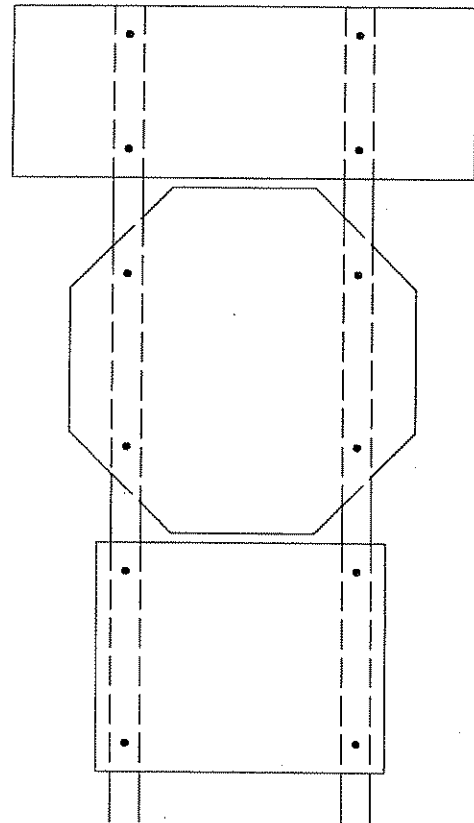


TYPICAL MOUNTING

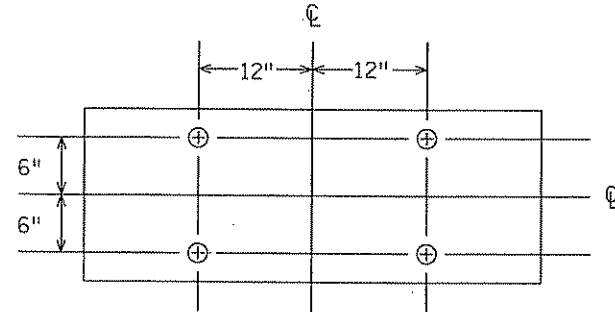
(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST. ATTACH STUB POST AND KNEE BRACE BACK TO BACK.

TYPE C & D SIGN
STRUCTURAL DETAILS

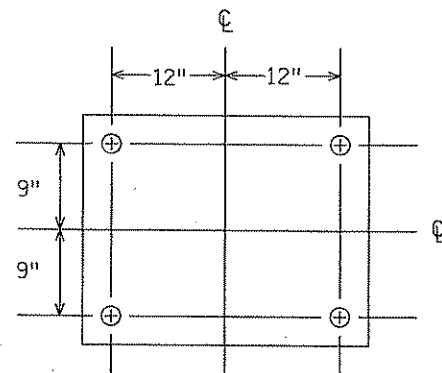
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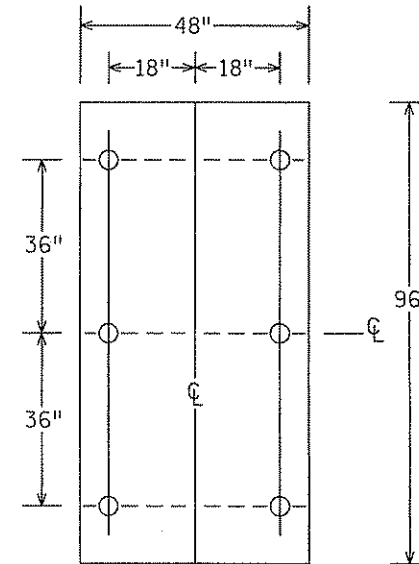
R6-1, R1-1 & (R6-3 OR R6-3a)
MOUNTING



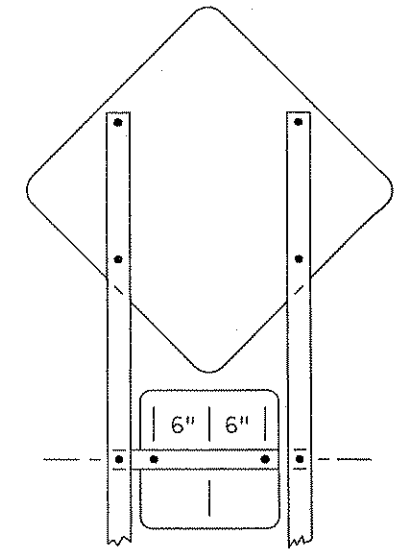
PUNCHING FOR R6-1(48" x 18")



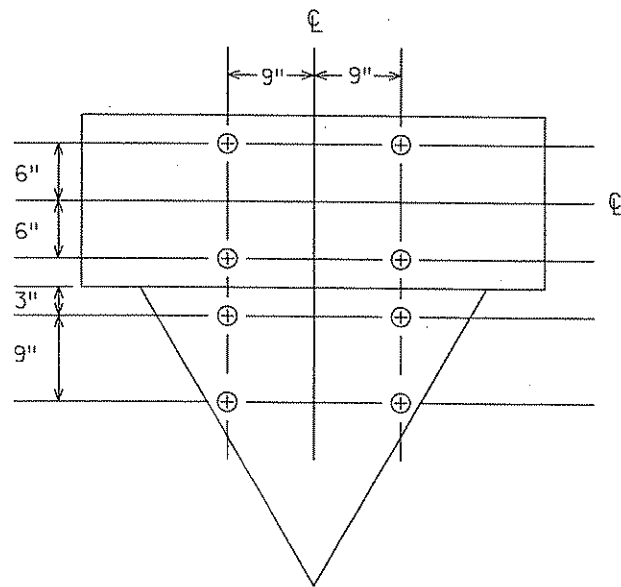
PUNCHING FOR R6-3 OR R6-3a(30" x 24")



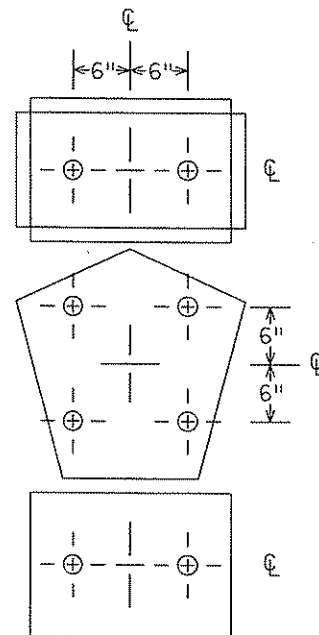
PUNCHING FOR R2-4b
SPEED LIMIT



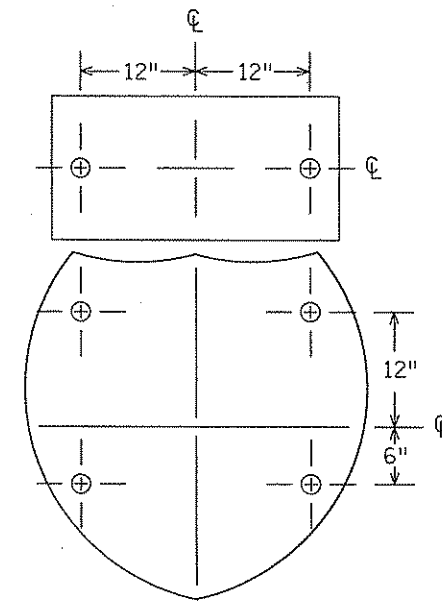
(W1-1, W1-2, W1-3, W1-4 OR W1-5) & W13-1
MOUNTING



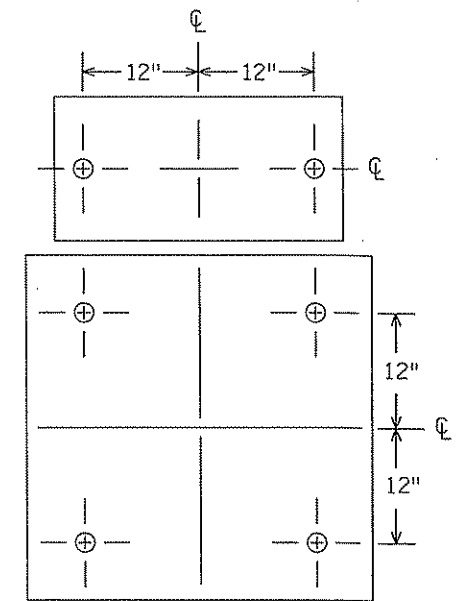
PUNCHING FOR R6-1(48" x 18")
& R1-2(36" x 36" x 36")



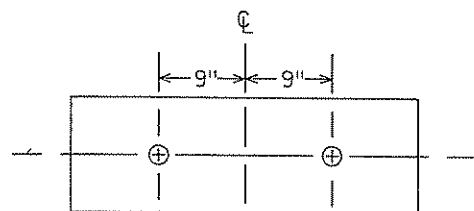
M2-1A [21" x 15"] OR
(M3-1A, M3-2A, M3-3A OR M3-4A) [24" x 12"] AND
M1-6 [24" x 24"] AND
(M5-1A, M5-2A, M6-1A, M6-2A, M6-3A, M6-4A, M6-5A OR M6-6A) [21" x 15"]
PUNCHING



(M3-1A, M3-2A, M3-3A OR M3-4A) [30" x 15"] AND
M1-1 [45" x 36" OR 36" x 36"]
PUNCHING



(M3-1, M3-1A, M3-2, M3-2A, M3-3, M3-3A, M3-4 OR
M3-4A) [30" x 15"] AND (M1-4 OR M1-5A) [36" x 36"]
PUNCHING



PUNCHING FOR R6-1(36" x 12")

TYPE C & D SIGN
STRUCTURAL DETAILS

Sheet 3 of 3

12:55:42 PM
8/19/2009
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REVISED: 10-28-08

STATE PROJ. NO. 02-614-28, 0282-25 (TH35E) SHEET NO. 250 OF 471 SHEETS

SEE TYPE C SIGNS
(SHEET 256).

VIEW A-A

2" I D GALV. SEAMLESS
STRUCTURAL STEEL
PIPE (MN/DOT 3362)

MEDIAN ISLAND
ON BRIDGE

PIPE SLEEVE
SEE BRIDGE PLAN

PIPE STOP

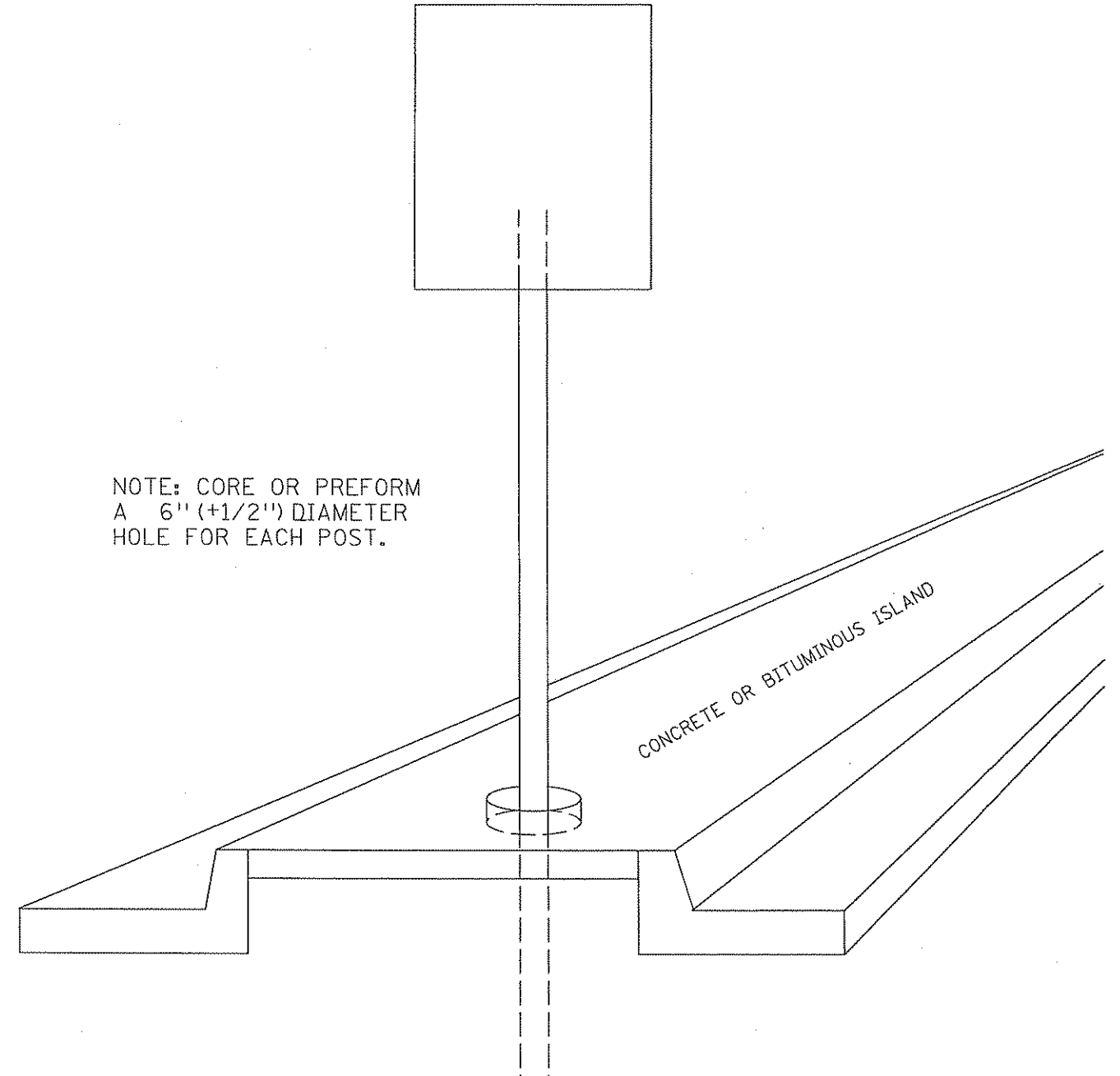
ELEVATION

NOTES:
FOR NOTES AND DETAILS NOT SHOWN, SEE
TYPE C & D SIGN DETAILS - SHEETS 248 - 250

TYPE C SIGNS MOUNTED ON
BRIDGE MEDIAN ISLAND

NOTE: CORE OR PREFORM
A 6" (+1/2") DIAMETER
HOLE FOR EACH POST.

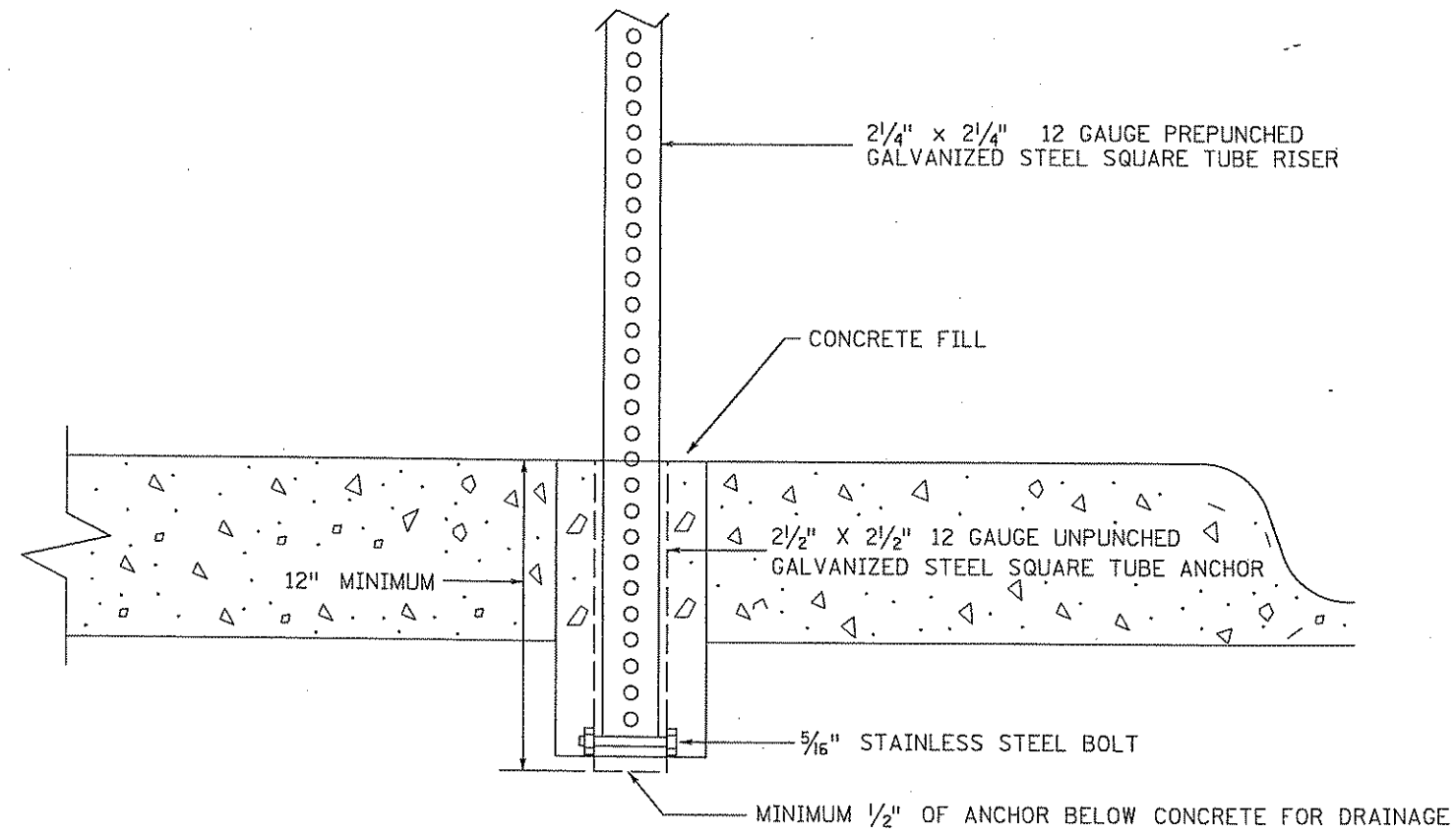
CONCRETE OR BITUMINOUS ISLAND



FLANGED CHANNEL POST MOUNTED THROUGH SURFACED
MEDIAN OR SIDEWALK

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8/19/2009
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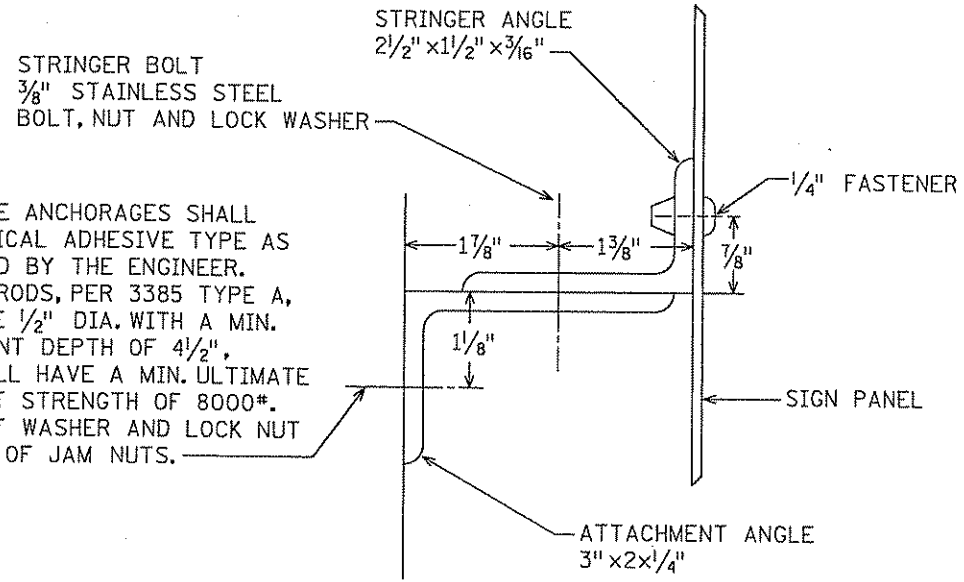
REVISED: 12-23-97



NOTES;

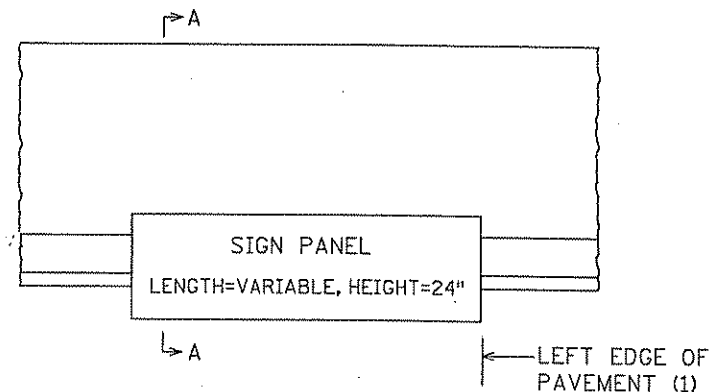
1. DRILL AN 8" DIAMETER HOLE THE FULL DEPTH OF THE ANCHOR.
2. DRILL $\frac{3}{8}$ " HOLES ON OPPOSITE SIDES OF THE UNPUNCHED GALVANIZED STEEL SQUARE TUBE ANCHOR APPROX. 1" FROM THE BOTTOM OF THE ANCHOR. INSERT A $\frac{5}{16}$ " STAINLESS STEEL BOLT THROUGH THE HOLES AND SECURE WITH A STAINLESS STEEL LOCK NUT WITH NYLON INSERT. THE PREPUNCHED GALVANIZED STEEL SQUARE TUBE RISER (TO BE INSERTED INSIDE THE UNPUNCHED GALVANIZED SQUARE TUBE ANCHOR) WILL REST ON BOLT.
3. INSERT THE ANCHOR IN THE HOLE.
4. AFTER INSTALLATION OF THE UNPUNCHED GALVANIZED STEEL SQUARE TUBE ANCHOR, FILL THE HOLE WITH A CONCRETE MIX APPROVED BY THE ENGINEER AND LEVEL OFF THE TOP OF CONCRETE.

TYPE C SIGNS, DELINEATORS &
MARKERS IN CONCRETE



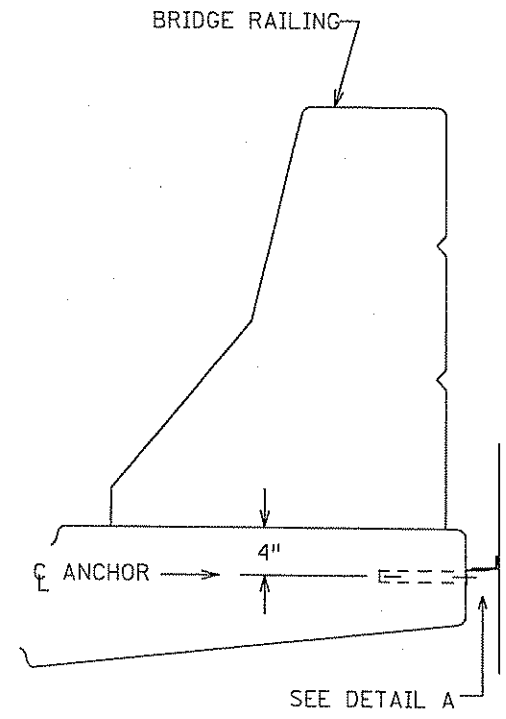
CONCRETE ANCHORAGES SHALL BE CHEMICAL ADHESIVE TYPE AS APPROVED BY THE ENGINEER. ANCHOR RODS, PER 3385 TYPE A, SHALL BE 1/2" DIA. WITH A MIN. EMBEDMENT DEPTH OF 4 1/2", AND SHALL HAVE A MIN. ULTIMATE PULL-OUT STRENGTH OF 8000#. USE FLAT WASHER AND LOCK NUT OR PAIR OF JAM NUTS.

DETAIL A



(1) SIGN PANEL MAY BE SHIFTED LATERALLY IF NECESSARY

ELEVATION

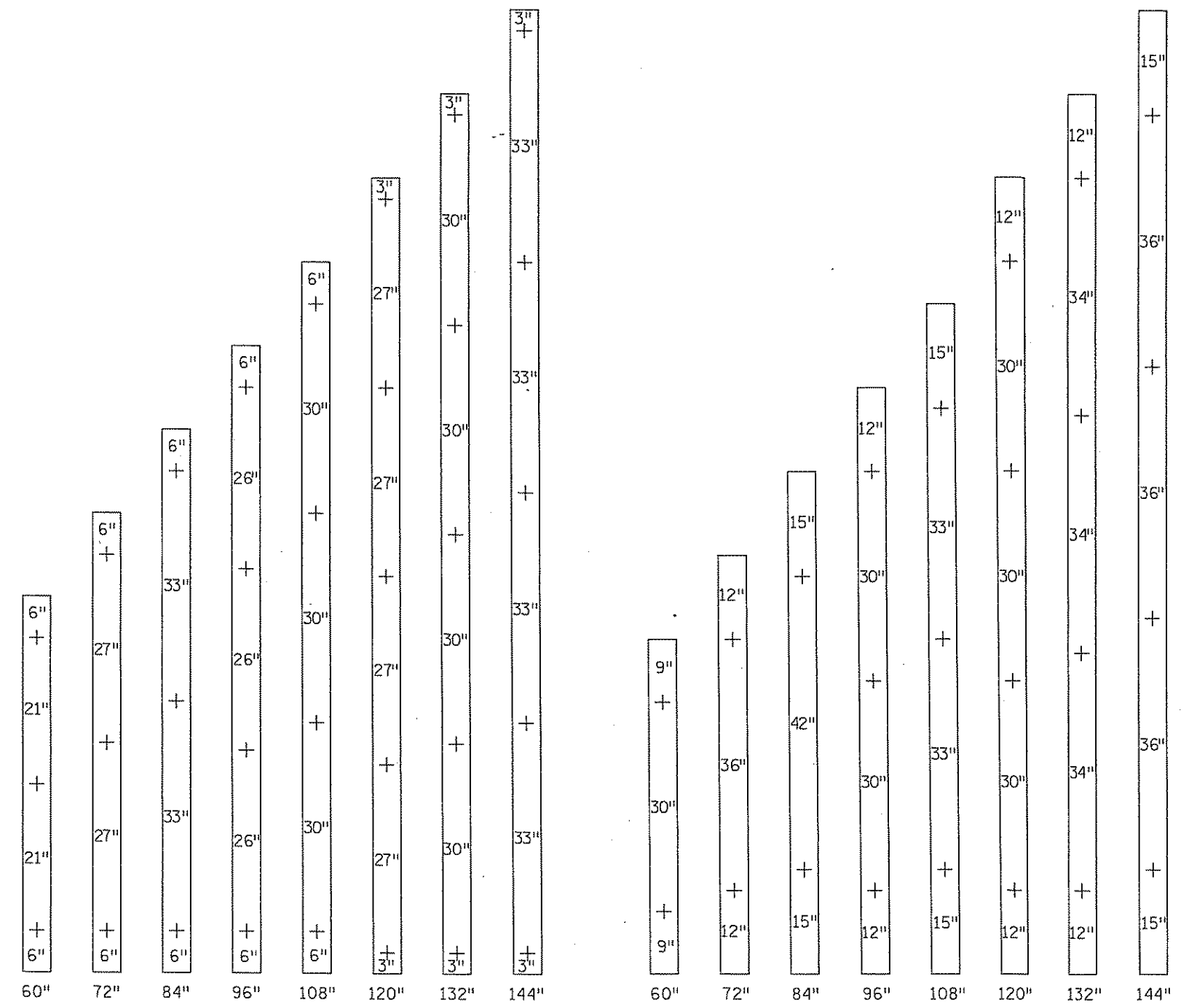


SECTION A-A

PANEL LENGTH	STRINGER ANGLE LENGTH	ATTACHMENT ANGLE LENGTH
60"	54"	48"
72"	66"	60"
84"	78"	72"
96"	90"	84"
108"	102"	96"
120"	114"	108"
132"	126"	120"
144"	138"	132"

NOTES:

- STRUCTURAL STEEL SHALL CONFORM TO MN/DOT 3306 AND SHALL BE GALVANIZED PER MN/DOT 3394.
- SIGN PANEL SHALL BE FASTENED TO STRINGER AT 12" INTERVALS BEGINNING 6" FROM SIGN PANEL EDGE.



SIGN PANEL LENGTH
PUNCHING FOR STRINGER BOLT

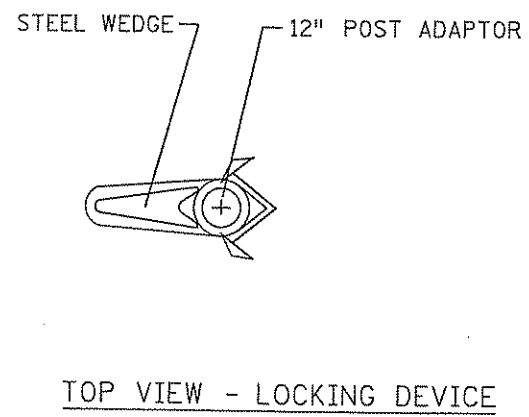
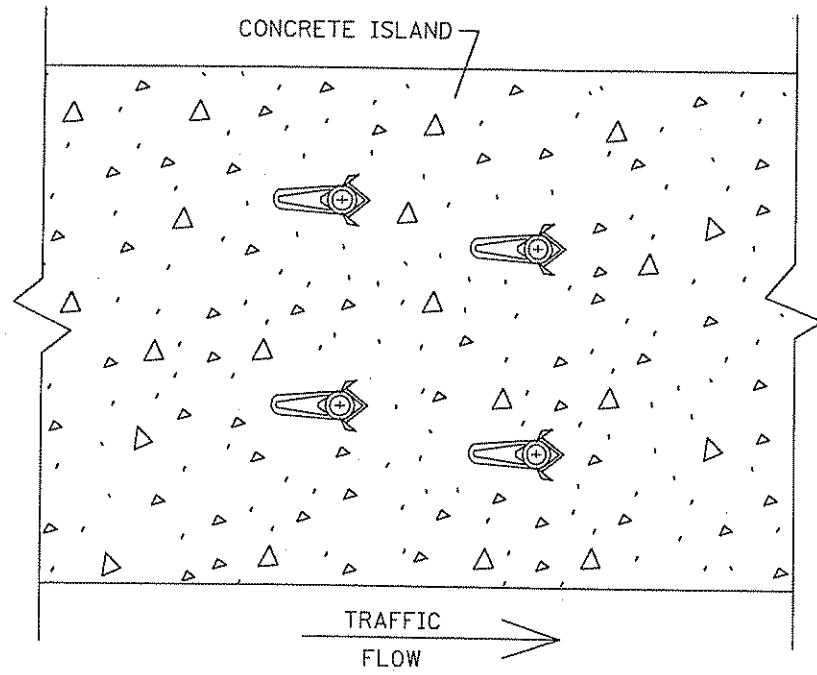
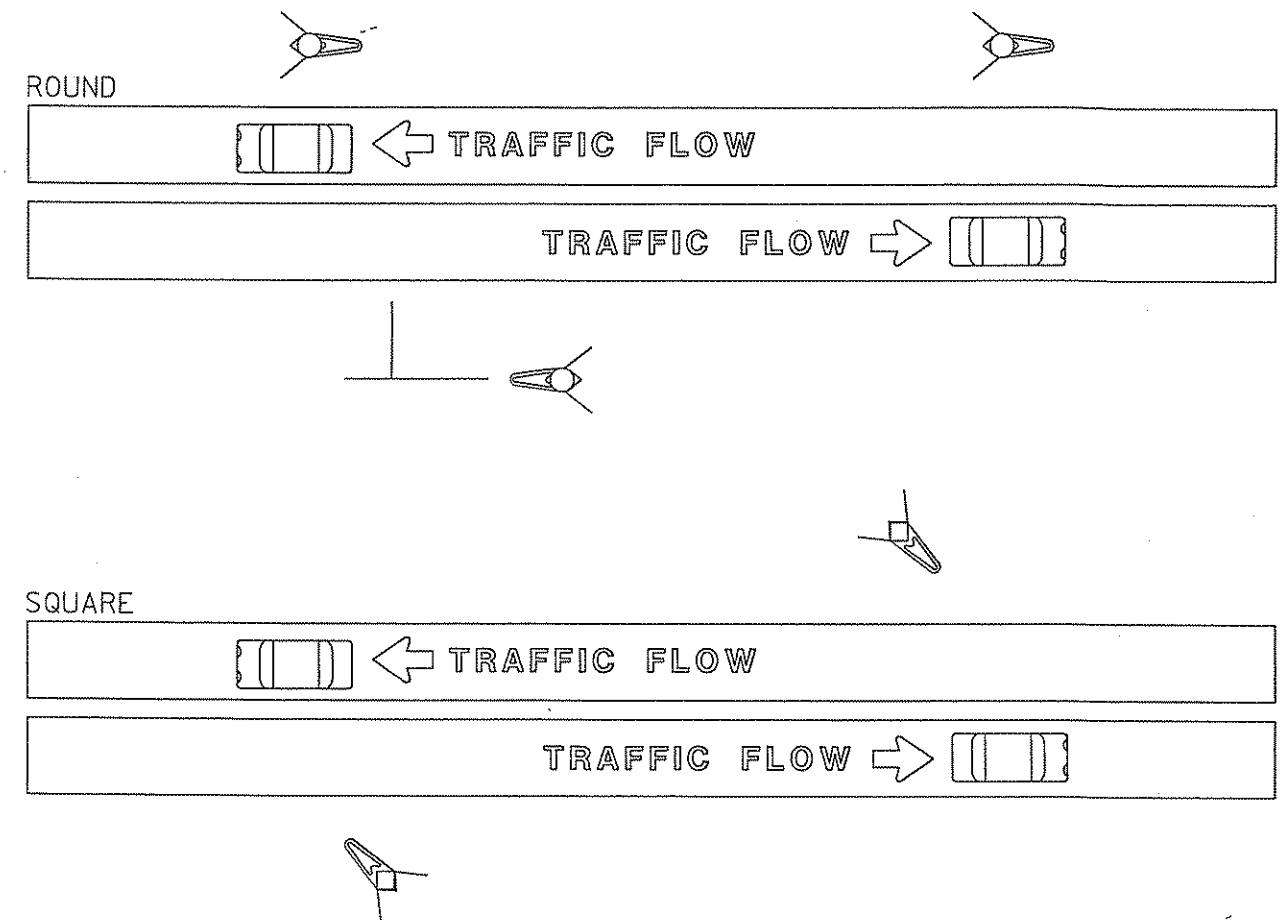
SIGN PANEL LENGTH
PUNCHING FOR CONCRETE ANCHOR

STRUCTURAL DETAILS
BRIDGE MOUNTED TYPE D SIGNS
DESIGN A2

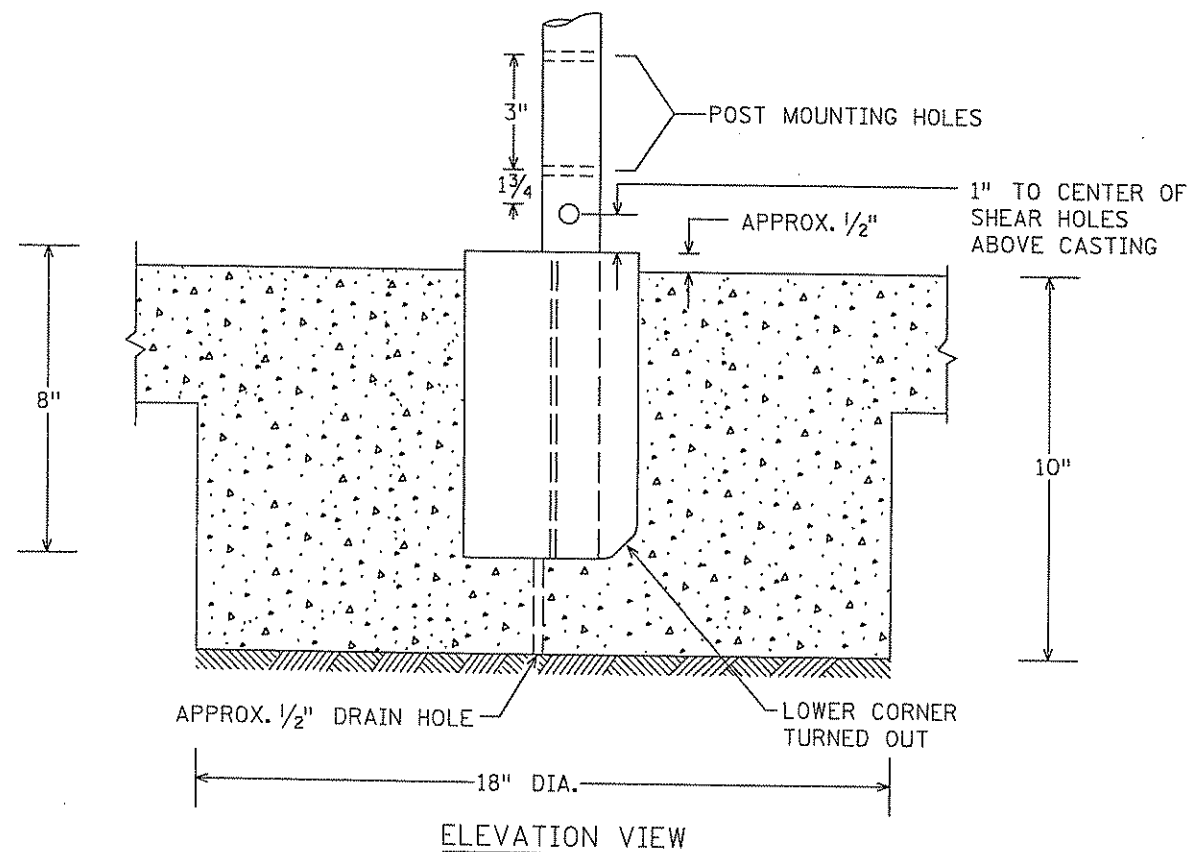
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ROADSIDE OR MEDIAN PLACEMENT FOR ROUND AND U CHANNEL SOCKETS

THE AXIS OF THE SIGNPOST SUPPORT WEDGE SHOULD ALIGN PARALLEL TO THE ROAD
FOR MAXIMUM RESISTANCE TO IMPACT AS SHOWN BELOW:



TOP VIEW
2 POSTS SIGN WITH 2 KNEE BRACES



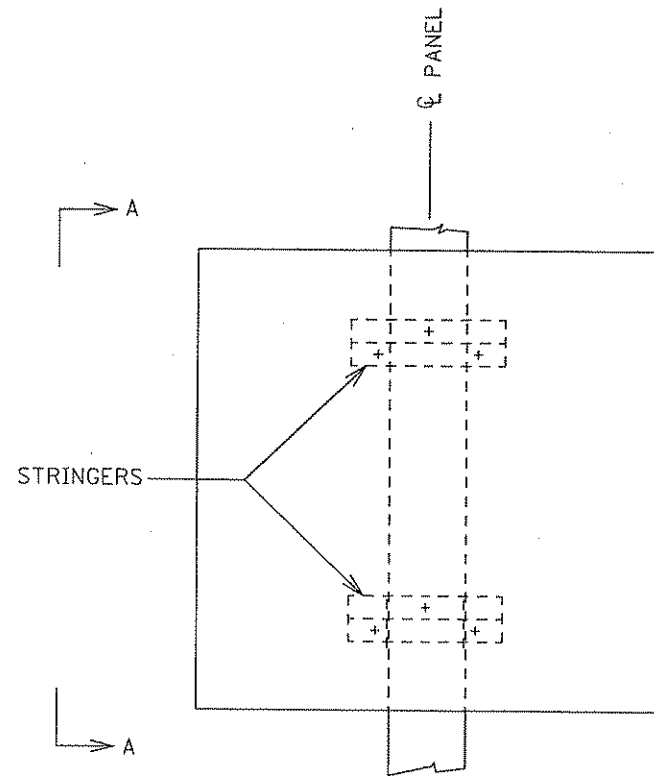
GENERAL NOTES:

1. SEAL BOTTOM OF SIGNPOST SUPPORT WITH DUCT TAPE BEFORE INSTALLATION IN NEW CONCRETE.
2. SIGNPOST SUPPORTS SHALL BE INSTALLED PLUMB AND APPROXIMATELY 1/2" ABOVE THE TOP OF THE CONCRETE SURFACE.

SIGNPOST SUPPORT IN CONCRETE

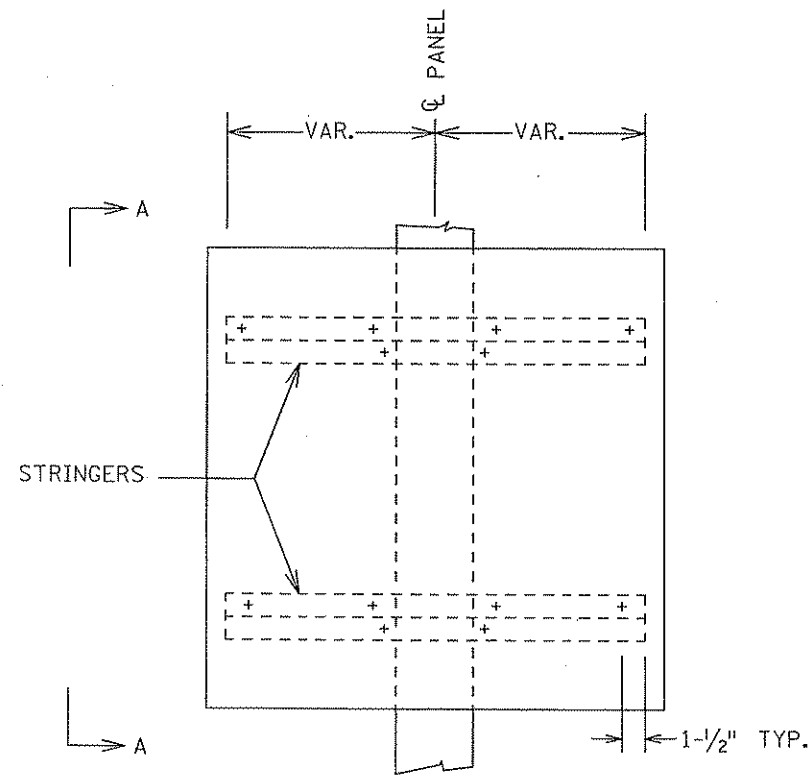
REVISED: 1-27-98

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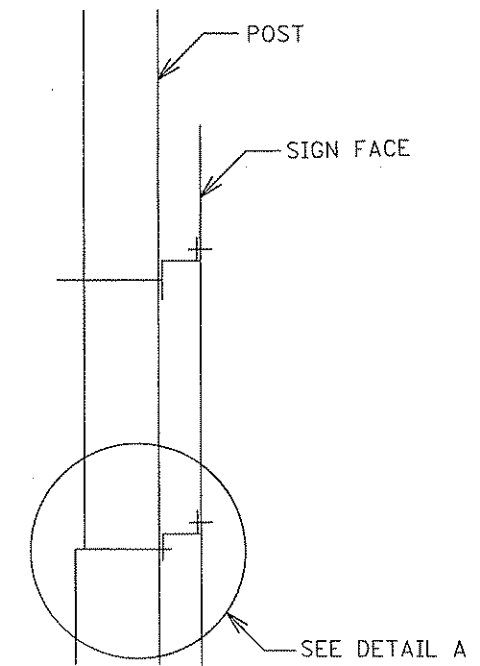
TYPE "C" SIGNS WITH SINGLE POST PUNCHING

ELEVATION

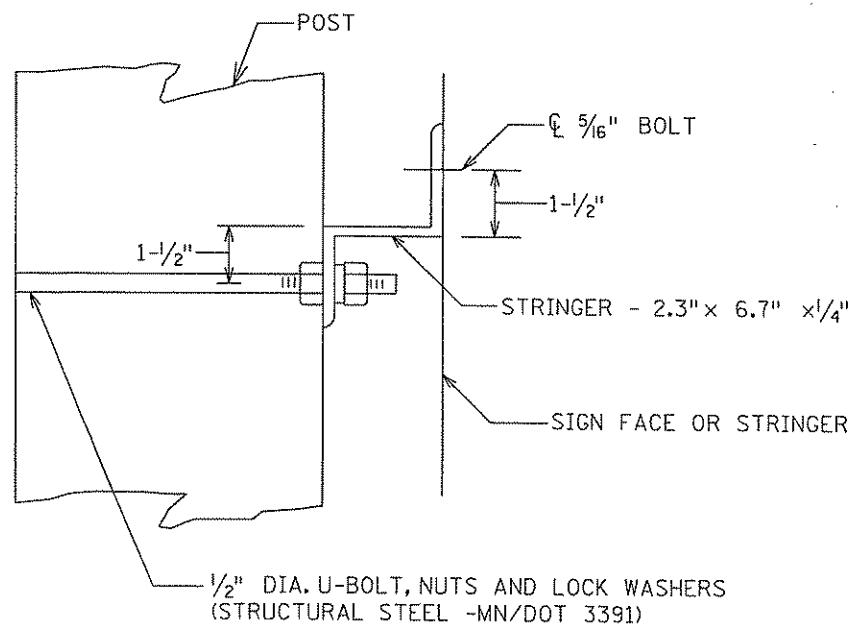


TYPE "C" SIGNS WITH 2-POST PUNCHING

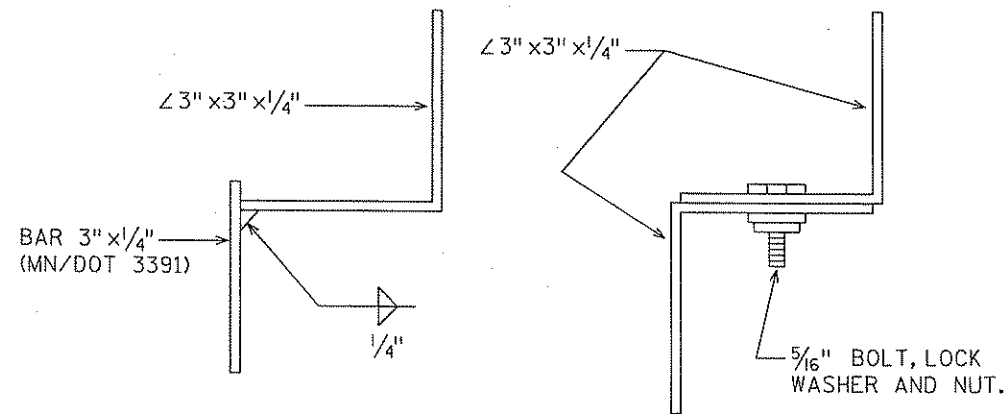
ELEVATION



VIEW A-A



DETAIL A



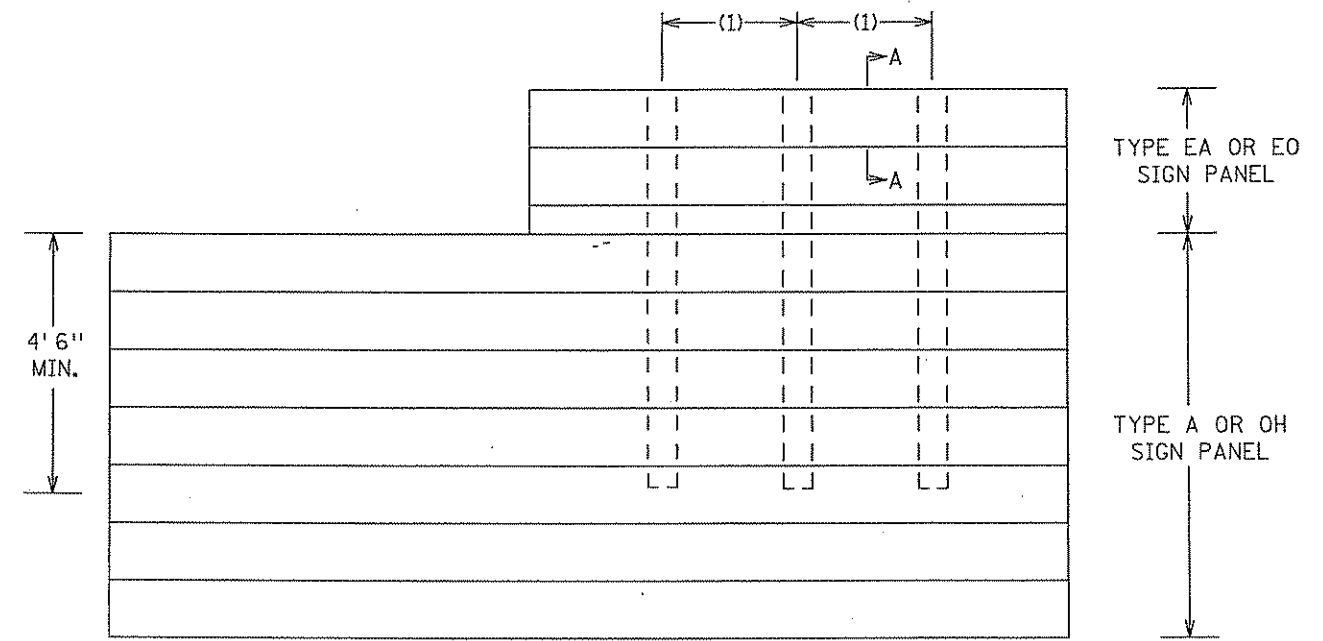
DETAIL A STRINGER ALTERNATES

NOTES:

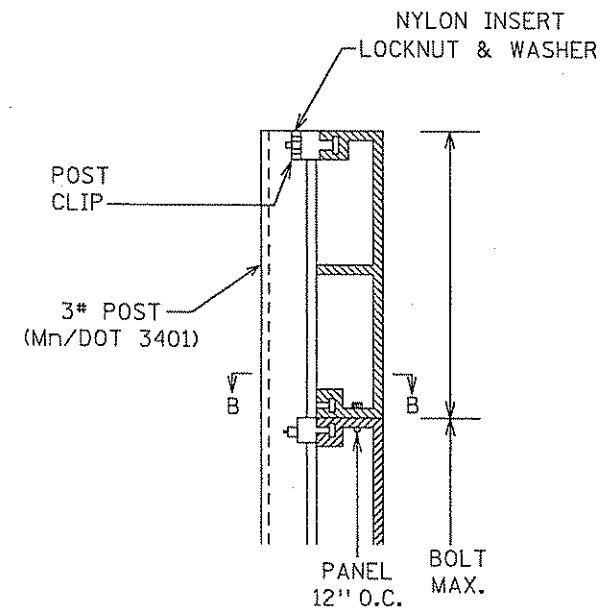
1. FOR DETAILS AND NOTES NOT SHOWN SEE "C" & "D" SIGN DETAILS.
2. FOR BACK TO BACK MOUNTINGS, ROTATE STRINGERS FOR ONE PANEL 180° FROM WHAT IS SHOWN SUCH THAT PANELS CAN BE MOUNTED AT SAME ELEVATION.
3. DETAIL A STRINGER MAY BE ONE OF THE THREE DESIGNS DETAILED OR AN APPROVED EQUAL. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394. FASTENERS SHALL BE IN ACCORDANCE WITH MN/DOT 3391.2B AND SHALL BE GALVANIZED EITHER BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153, OR BY THE MECHANICAL PROCESS IN ACCORDANCE WITH ASTM B695, CLASS 50 OR GREATER.

TYPE C SIGNS MOUNTED ON O-POSTS,
OH SIGN POSTS OR SIGNAL STANDARDS

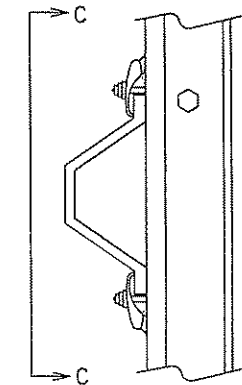
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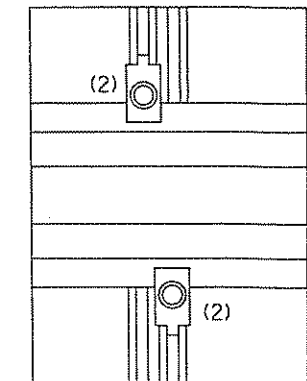
TYPICAL PANEL MOUNTING



SECTION A-A



SECTION B-B



VIEW C-C

SPECIFIC NOTES:

- (1) SEE SIGN DATA SHEET FOR NUMBER AND SPACING OF POSTS. SPACING AND LOCATION CAN BE ADJUSTED WHERE NECESSARY.
- (2) POST CLIPS SHALL BE INSTALLED ON BOTH SIDES OF EACH POST AT EACH PANEL JOINT AS INDICATED.

GENERAL NOTE:

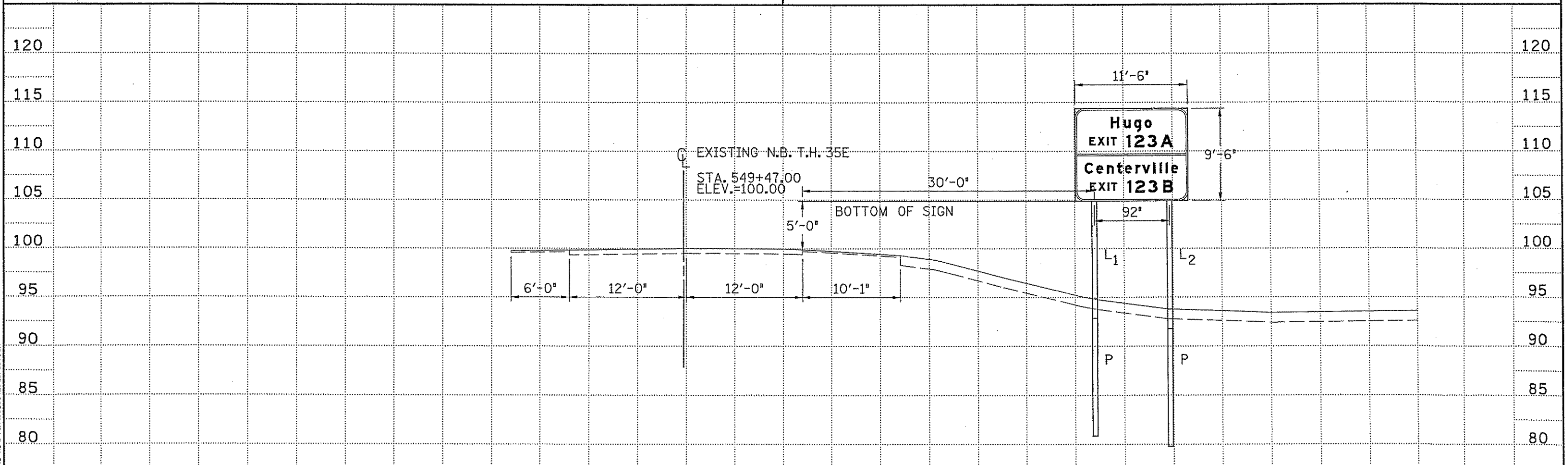
1. TYPE EA OR EO SIGN PANEL SHALL BE LEFT JUSTIFIED FOR LEFT EXITS AND RIGHT JUSTIFIED FOR RIGHT EXITS ON TYPE A OR OH SIGN PANEL.

TYPE EA & EO SIGN
STRUCTURAL DETAILS

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 EA & EO STR. (SHT. 76) 11-01-01

A-1
 N.B. T.H. 35E
 STA. 549+47.00
QUANTITIES

	<u>DESIGN</u>	<u>FINAL</u>
POST TYPE	W6X20	_____
POST LENGTH L ₁	20.0 FT.	_____
POST LENGTH L ₂	21.0 FT.	_____
PILE FOOTING P	12.0 FT.	_____



9130:33 AM
 4/20/2009
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NO	DATE	BY	CKD	APPR	REVISION

... \HI-MU\Plan\0261429.SP08.DGN

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

Print Name: **ADRIAN S. POTTER**

Adrian S. Potter

Date: 05/27/09 License # 42785

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
S. POSKA

DESIGNED BY
S. POSKA

CHECKED BY
A. POTTER

COMM. NO. 0086509



ANOKA COUNTY

SIGNING CROSS SECTIONS

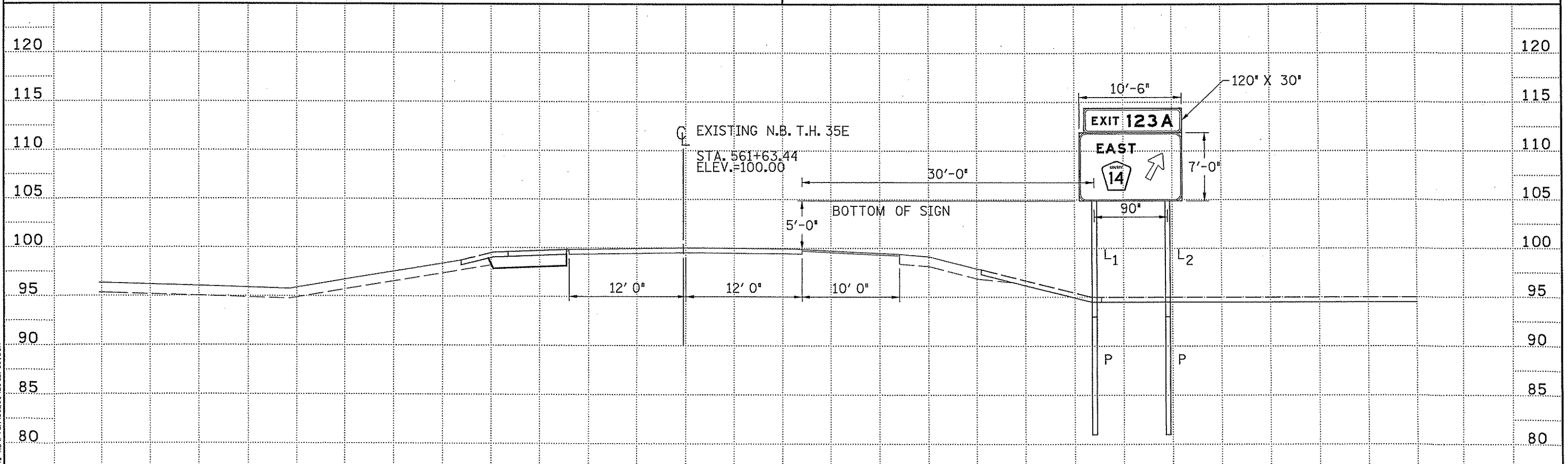
C.S.A.H. 14/T.H. 35E INTERCHANGE

A-1

SHEET
258
OF
471

A-2
 N.B. T.H. 35E
 STA. 561+63.44
QUANTITIES

	<u>DESIGN</u>	<u>FINAL</u>
POST TYPE	W5X16	_____
POST LENGTH L ₁	17.0 FT.	_____
POST LENGTH L ₂	17.0 FT.	_____
PILE FOOTING P	12.0 FT.	_____



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Print Name: **ADRIAN S. POTTER**

Adrian S. Potter

Date: 05/27/09 License # 42785

STATE PROJECT NO.
0262-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
S. POSKA

DESIGNED BY
S. POSKA

CHECKED BY
A. POTTER

COMM. NO. 0086509



ANOKA COUNTY

SIGNING CROSS SECTIONS

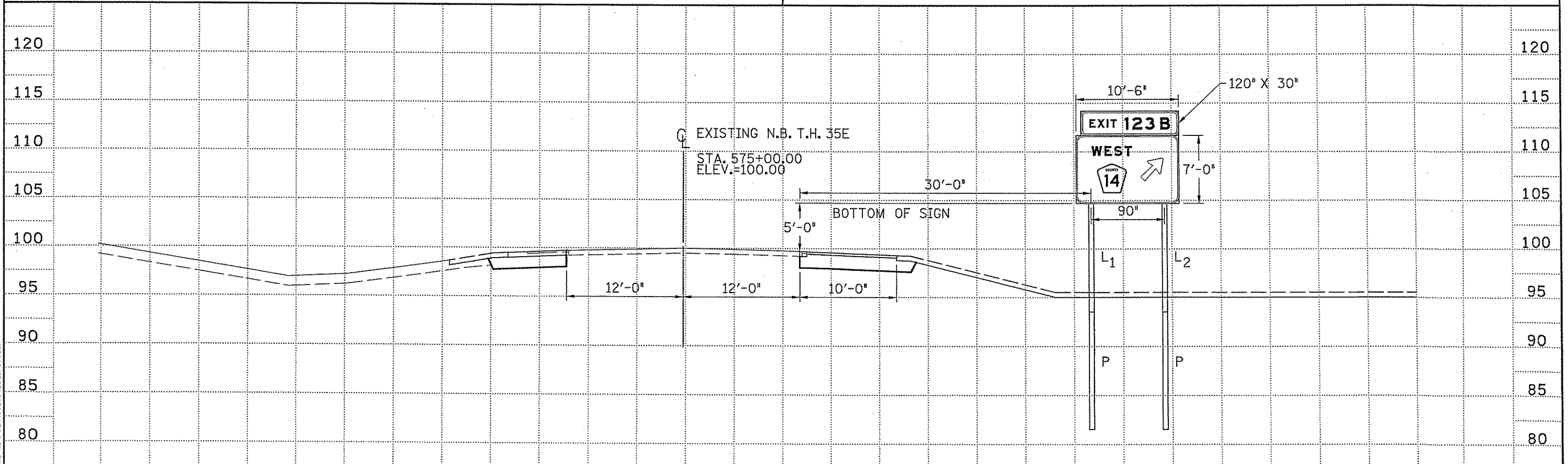
C.S.A.H. 14/T.H. 35E INTERCHANGE

A-2

SHEET
259
OF
471

A-3
 N.B. T.H. 35E
 STA. 575+00.00
QUANTITIES

	<u>DESIGN</u>	<u>FINAL</u>
POST TYPE	W5X16	_____
POST LENGTH L ₁	16.5 FT.	_____
POST LENGTH L ₂	16.5 FT.	_____
PILE FOOTING P	12.0 FT.	_____



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Print Name: **ADRIAN S. POTTER**
Adrian S. Potter
 Date: 05/27/09 License # 42785

STATE PROJECT NO.
0282-25 (TH 35E)
 STATE PROJECT NO.
02-614-28
 COUNTY PROJECT NO.
X
 CITY PROJECT NO. X

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S. POSKA
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A. POTTER
 COMM. NO. 0086509

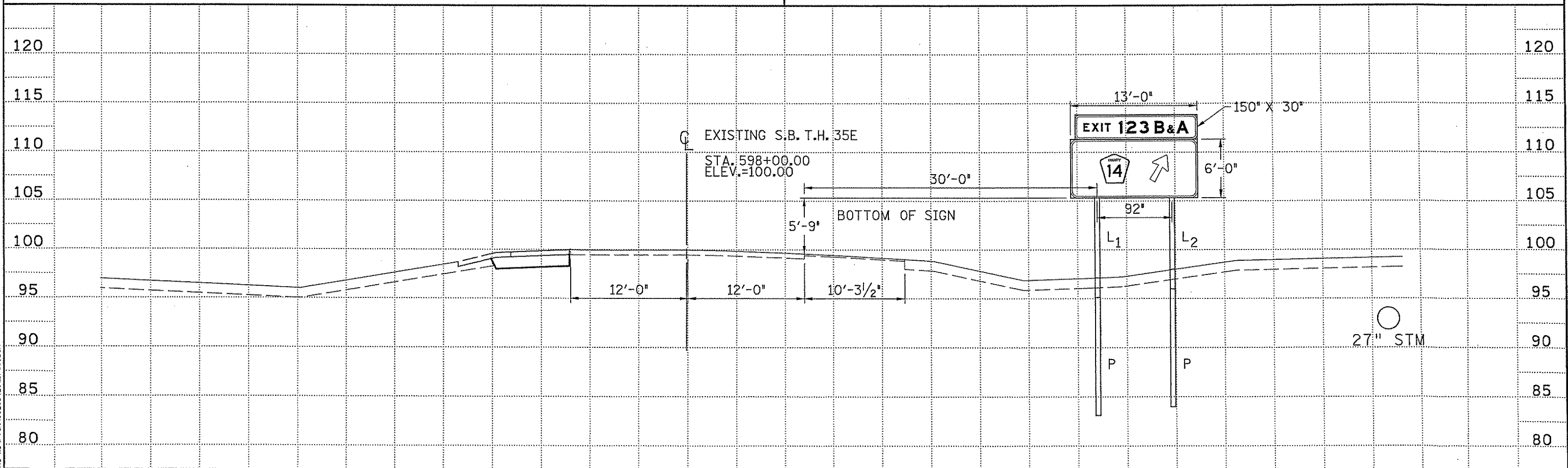


ANOKA COUNTY
 SIGNING CROSS SECTIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 A-3

SHEET
260
OF
471

A-4
 S.B. T.H. 35E
 STA. 598+00.00
QUANTITIES

	<u>DESIGN</u>	<u>FINAL</u>
POST TYPE	W5X16	_____
POST LENGTH L ₁	14.5 FT.	_____
POST LENGTH L ₂	13.5 FT.	_____
PILE FOOTING P	12.0 FT.	_____



NO	DATE	BY	CKD	APPR	REVISION

... \HI-MUNPlan\C0261429_SP09.DGN

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Print Name: **ADRIAN S. POTTER**
Adrian S. Potter
 Date: 05/27/09 License # 42785

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY S. POSKA
 DESIGNED BY S. POSKA
 CHECKED BY A. POTTER
 COMM. NO. 0086509



ANOKA COUNTY
 SIGNING CROSS SECTIONS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 A-4

SHEET 261 OF 471

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ABBREVIATIONS

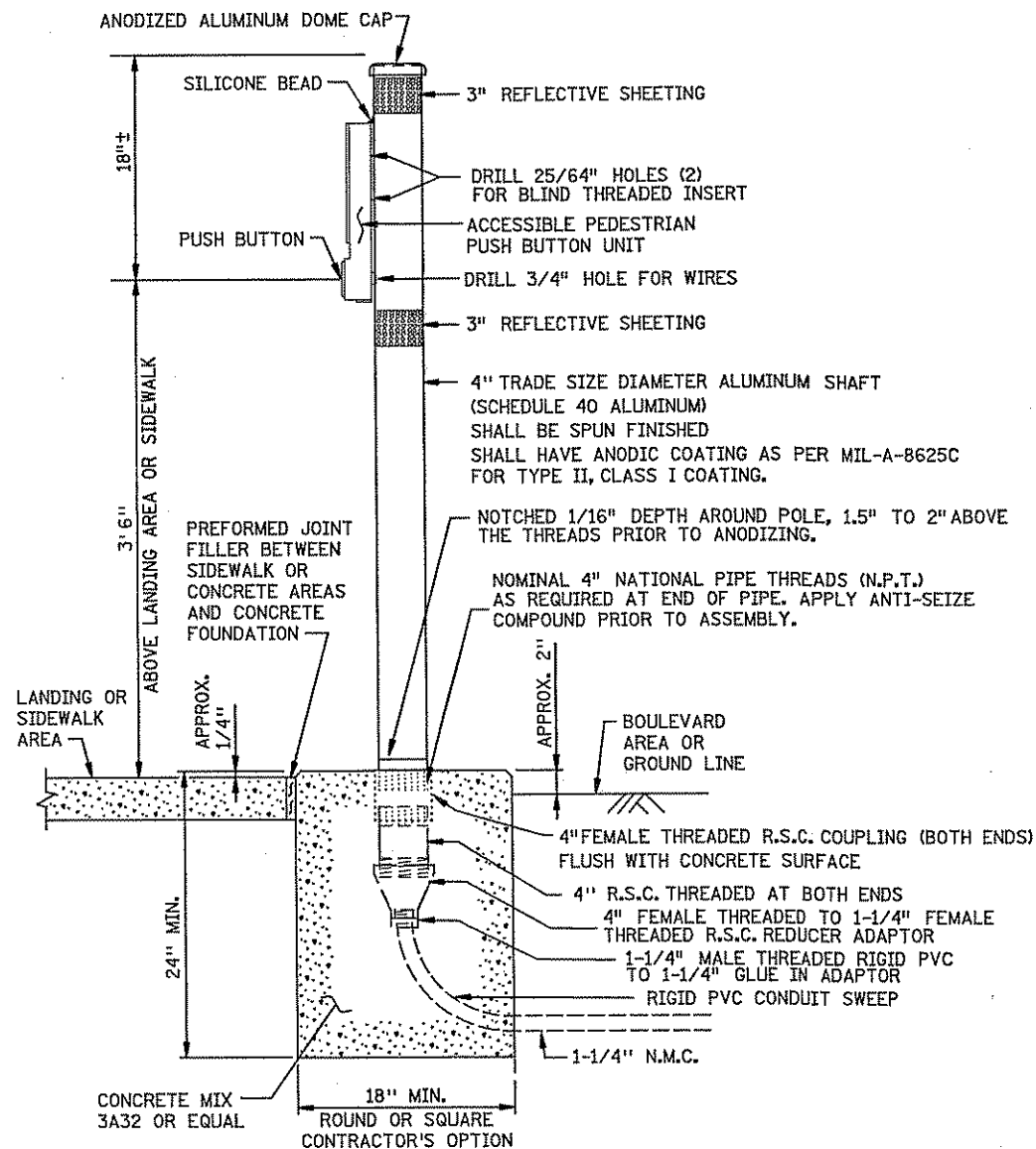
APS	ACCESSIBLE PEDESTRIAN SIGNAL	NEU	NEUTRAL
AWF	ADVANCED WARNING FLASHER	NMC	NONMETALLIC CONDUIT
BL	BLUE	O	ORANGE
BL/BLK	BLUE WITH BLACK TRACER	O/BLK	ORANGE WITH BLACK TRACER
BLK	BLACK	P1-1 (e.g.)	PEDESTRIAN INDICATION (PHASE 1, NO. 1)
BLK/R	BLACK WITH RED TRACER	PB	PUSH BUTTON
BLK/WH	BLACK WITH WHITE TRACER	PB2-1 (e.g.)	PUSH BUTTON (PHASE 2, NO. 1)
C.D.	COUNTDOWN	PEC	PHOTOELECTRIC CELL
CH. SW.	CHECK SWITCH	PED	PEDESTRIAN
CLR	CLEAR	Ø	PHASE
D2-1 (e.g.)	DETECTOR (PHASE 2, NO. 1)	R	RED
DWK	DON'T WALK	R&S	REMOVE AND SALVAGE
EQ.G	EQUIPMENT GROUND	R/BLK	RED WITH BLACK TRACER
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RSC	RIGID STEEL CONDUIT
FL	FLASH/FLASHING	SOP	SOURCE OF POWER
G	GREEN	SPR	SPARE
G/BLK	GREEN WITH BLACK TRACER	ST LHT	STREET LIGHT
GLTA	GREEN LEFT TURN ARROW	STA	STATION
GRN	GREEN	SW	SWITCH
GR. RD.	GROUND ROD	SWD	SWITCHED
GRTA	GREEN RIGHT TURN ARROW	TDW	TELEPHONE DROP WIRE
GTHA	GREEN THRU ARROW	WH	WHITE
HH	HANDHOLE	WH/BLK	WHITE WITH BLACK TRACER
HPS	HIGH PRESSURE SODIUM	WH/R	WHITE WITH RED TRACER
IMC	INTERMEDIATE METAL CONDUIT	WLK	WALK
INP	INPLACE	YEL	YELLOW
INS. GR.	INSULATED GROUND	YLTA	YELLOW LEFT TURN ARROW
JB	JUNCTION BOX	YRTA	YELLOW RIGHT TURN ARROW
LED	LIGHT EMITTING DIODE		
LHT	LIGHT		
LUM	LUMINAIRE		

SIGNAL PLAN LAYOUT LEGEND

- (A) [Symbol] CONTROLLER AND CABINET
 - (1) [Symbol] * LUMINAIRE NO.
 - (1) [Symbol] ↓ PUSHBUTTON STATION
 - (B) [Symbol] ○ SOURCE OF POWER
POLE MOUNT
SOURCE OF POWER
PAD MOUNT
 - 2 [Symbol] ■ PVC HANDHOLE WITH METAL COVER
 - (1) [Symbol] [Symbol] MAST ARM SIGNAL POLE WITH
OPTIONAL LUMINAIRE SHAFT
EXTENSION AS NOTED
 - (1) [Symbol] [Symbol] SIGNAL ASSEMBLY PEDESTAL MOUNT
 - (WP1) [Symbol] * WOOD SERVICE POLE WITH
OPTIONAL LUMINAIRE SHAFT
AS NOTED
 - (A) [Symbol] [Symbol] INPLACE CONTROLLER AND CABINET
 - (B) [Symbol] [Symbol] INPLACE SOURCE OF POWER
POLE MOUNT
INPLACE SOURCE OF POWER
PAD MOUNT
 - 2 [Symbol] □ INPLACE HANDHOLE
 - [Symbol] □ NMC LOOP DETECTION
 - (1) [Symbol] [Symbol] INPLACE MAST ARM OR PEDESTAL
 - [Symbol] ← SIGNAL FACE WITH
BACKGROUND SHIELD
 - [Symbol] ← PEDESTRIAN INDICATION
 - (1-2) [Symbol] SIGNAL PHASE AND FACE NUMBER
 - [Symbol] ← EMERGENCY VEHICLE PRE-EMPTION
(EVP) ONE-WAY
 - [Symbol] ← EMERGENCY VEHICLE PRE-EMPTION
(EVP) ONE-WAY
DETECTOR ONLY
 - [Symbol] ← EMERGENCY VEHICLE PRE-EMPTION
(EVP) ONE-WAY
LIGHT ONLY
 - [Symbol] ← INPLACE EMERGENCY VEHICLE PRE-EMPTION
(EVP) ONE-WAY
 - [Symbol] YAGI ANTENNA
 - [Symbol] SPLICE
 - [Symbol] M- MICROWAVE DETECTION
 - [Symbol] S- SONIC DETECTION
 - [Symbol] → DOWN GUY WITH EXPANDING ANCHOR
 - (BM1) [Symbol] ○ BARREL MOUNTED SIGNAL PEDESTAL
- ===== RIGID STEEL CONDUIT (RSC)
----- NON-METALLIC CONDUIT (NMC)
----- INPLACE CONDUIT
----- SPAN WIRE

PEDESTRIAN PUSH BUTTON STATION

(NOT TO SCALE)



NOTES:

1. PLACEMENT AND ORIENTATION OF THE PUSH BUTTON STATION IS CRITICAL. THE BUTTON ARROW DIRECTION MUST POINT TO THE DIRECTION OF THE APPROPRIATE CROSSING. SCREW IN POST TO A TIGHTENED POSITION BEFORE MOUNTING ACCESSIBLE PEDESTRIAN PUSH BUTTON UNIT TO THE POST.
2. BLIND THREADED INSERTS (RIVET NUT) MUST BE INSTALLED USING MANUFACTURERS SPECIFIC INSTALLATION TOOL. NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE.
3. BLIND THREADED INSERTS SHALL BE ZINC PLATED STEEL WITH 1/4 - 20 UNC THREADS. INSERT SHALL BE SUITABLE FOR USE ON A MOUNTING SURFACE WALL THICKNESS OF .337". APPROVED BLIND THREADED INSERTS CAN BE FOUND ON THE MN/DOT QUALIFIED PRODUCTS LIST.
4. MOUNTING BOLTS SHALL BE 1/4 - 20 STAINLESS STEEL. APPLY BRUSH ON ANTI SEIZE COMPOUND TO BOLTS PRIOR TO ASSEMBLY.
5. APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" POST.
6. THE REFLECTIVE SHEETING SHALL BE WHITE AT INTERSECTION CORNERS AND SHALL BE YELLOW WHEN USED IN CENTER MEDIANS. SEE MN/DOT SIGNING QUALIFIED PRODUCTS LIST (QPL) FOR APPROVED SIGN SHEETING.
7. ANTI-SEIZE COMPOUND MUST BE USED ON THE MOUNTING BOLTS WHEN THE PEDESTRIAN SIGN IS INSTALLED.

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NO	DATE	BY	CHKD	APPR	REVISION

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 Print Name: ADRIAN S. POTTER
Adrian S. Potter
 Date: 05/27/09 License # 42785

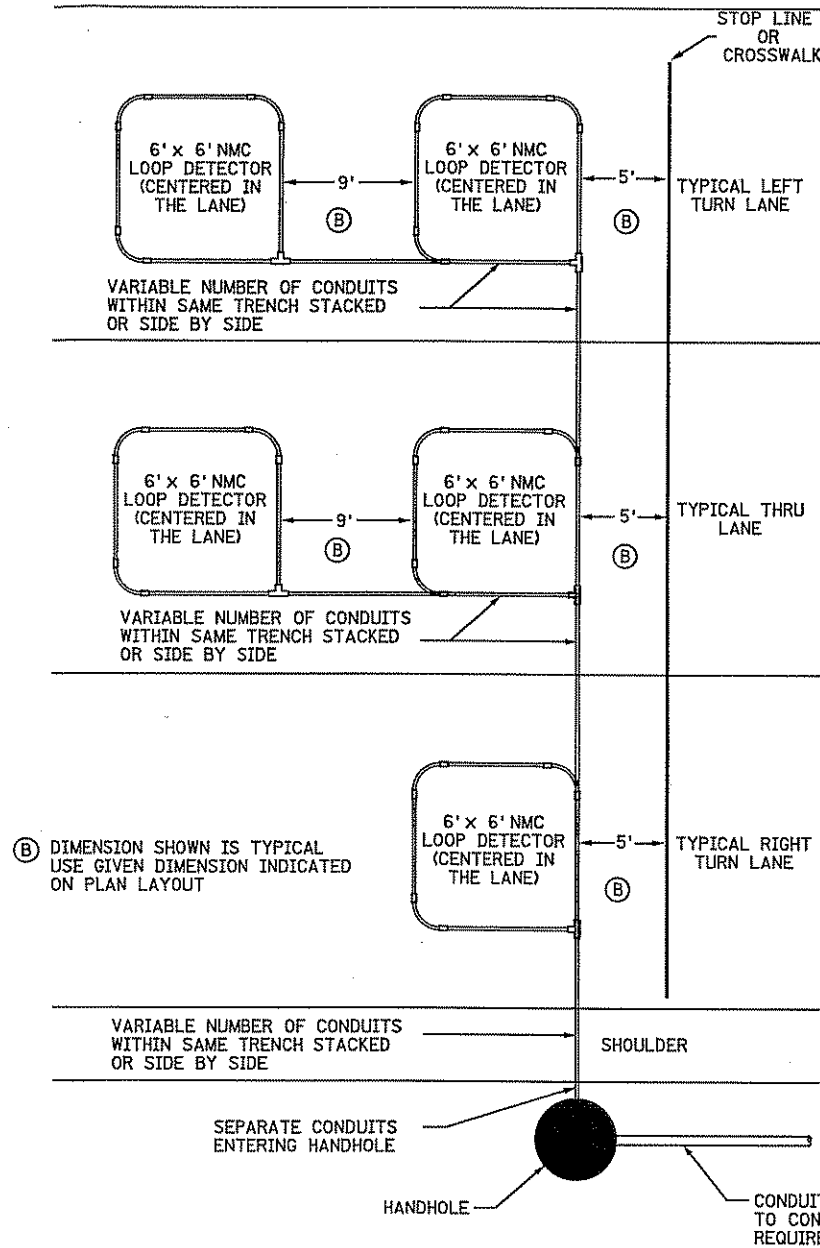
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X
 DRAWN BY M. BRESSLER
 DESIGNED BY M. BRESSLER
 CHECKED BY A. POTTER
 COMM. NO. 0086509



ANOKA COUNTY
 TRAFFIC SIGNAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 SIGNAL PLAN ABBREVIATIONS, LEGEND &
 ACCESSIBLE PUSH BUTTON STATION SEPARATE MOUNTING

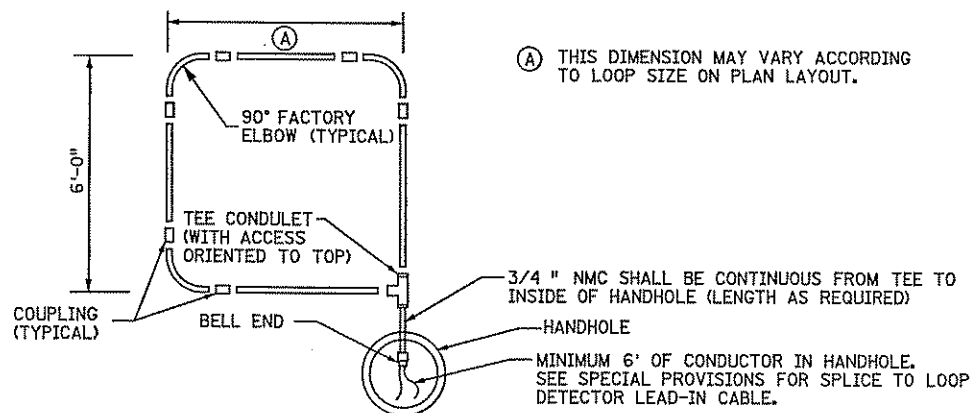
SHEET 262 OF 471

TYPICAL CROSS STREET NMC LOOP DETECTOR LAYOUT



ⓑ DIMENSION SHOWN IS TYPICAL USE GIVEN DIMENSION INDICATED ON PLAN LAYOUT

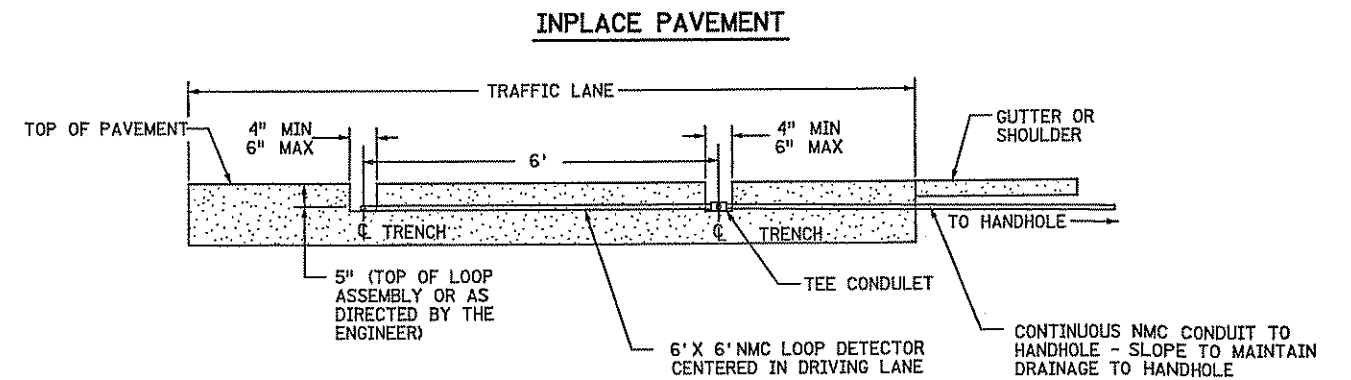
TYPICAL NMC LOOP DETECTOR DETAIL



NOTES:

- ROADWAY LOOP DETECTOR CONDUCTORS AND LOOP DETECTOR LEAD IN CABLES SHALL BE IN ACCORDANCE WITH MN/DOT SPEC 3815.
- THE 3/4" NON-METALLIC CONDUIT (NMC) AND FITTINGS SHALL BE SCHEDULE 40 HEAVY WALL RIGID POLYVINYL CHLORIDE (PVC). SEE SPEC. 3803.
- THREE CORNERS OF EACH LOOP DETECTOR SHALL BE A 90° FACTORY ELBOW (6" RADIUS). THE FOURTH SHALL BE AN NMC TEE CONDULET.
- APPROVED PVC PRIMER AND CEMENT SHALL BE USED FOR THE PVC JOINTS.
- ALL SLACK MUST BE REMOVED FROM LOOP DETECTOR CONDUCTORS WITHIN THE NMC.
- THE ROADWAY LOOP DETECTOR CONDUCTORS (1/C#14) SHALL BE TWISTED THREE TURNS PER FOOT FROM THE NMC TEE CONDULET TO THE HANDHOLE.
- ATTACH A FERROUS METAL ITEM IN OR ADJACENT TO THE TEE CONDULET COVER OR AS DIRECTED BY THE ENGINEER.
- EACH LOOP DETECTOR CONDUIT TO THE HANDHOLE SHALL BE SLOPED TOWARDS THE HANDHOLE.
- LOOP DETECTOR CONDUITS TO THE HANDHOLE MAY BE PLACED WITHIN THE SAME TRENCH.
- THE LOOP DETECTOR ROADWAY CONDUCTORS SHALL EXTEND 6' TO 10' INTO THE HAND HOLE FOR SPLICING.
- NO SPLICES ALLOWED IN CONDUIT.
- THE LOOP DETECTOR ROADWAY CONDUCTORS AND THE LOOP DETECTOR LEAD-IN CABLE CONDUCTORS SHALL BE PROPERLY PREPARED AND CLEANED BEFORE SPLICING.
- SPLICE KITS SHALL BE INSTALLED IN HANDHOLES IN SUCH A MANNER AS TO ENSURE THAT EACH SPLICE KIT IS SUSPENDED AND/OR SECURED NEAR THE TOP OF THE HANDHOLE TO THE SATISFACTION OF THE ENGINEER. (PLACING SPLICE KITS ON TOP OF THE ELECTRICAL CABLES AND CONDUCTORS IS NOT ACCEPTABLE).
- TYPICAL SIZE OF LOOP DETECTORS ARE 6' x 6' AND 6' x 10'. REFER TO INTERSECTION LAYOUT FOR SPECIFIC LOOP DETECTORS TO BE PLACED.
- ALL LOOP DETECTORS SHALL HAVE 4 TURNS OF CONDUCTORS.
- SEE SPECIAL PROVISIONS FOR APPROVED SPLICE KITS.
- PRIOR TO INSTALLING THE APPROVED SPLICE KIT, THE CONTRACTOR SHALL SOLDER THE ENDS OF THE LOOP DETECTOR LEAD IN CONDUCTOR AND SHALL FURNISH AND INSTALL AN APPROPRIATE SIZED WIRE NUT TO THE SOLDERED ENDS PRIOR TO THE INSTALLATION OF THE SPLICE KITS.
- IF BENDING OF THE NMC LOOP LEAD-IN CONDUIT IS REQUIRED, AN APPROPRIATE HEATING BLANKET OR DEVICE APPROVED BY THE ENGINEER SHALL BE USED. EXPOSED FLAME OR TORCHES ARE NOT ALLOWED.

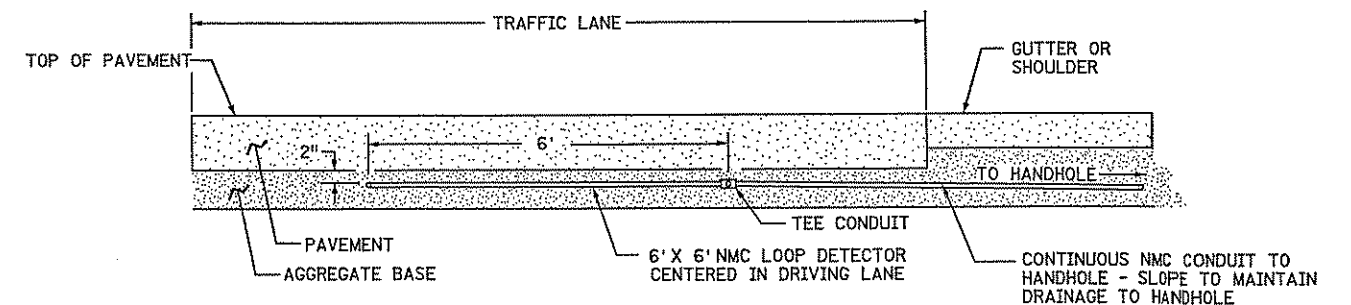
TYPICAL NMC LOOP DETECTOR INSTALLATION



NOTES:

- USE THE LOOP DETECTOR TO BE INSTALLED FOR THE PURPOSE OF MARKING THE PAVEMENT LOCATION FOR THE MILLING OPERATION.
- TO ACHIEVE FULL TRENCH DEPTH FOR CONDUIT PLACEMENT, MILL BEYOND THE DESIRED PAVEMENT MARKING.
- PROVIDE A MINIMUM 5" CLEARANCE, MEASURED FROM THE TOP OF THE FINISHED PAVEMENT TO HIGHEST POINT OF LOOP ASSEMBLY (INCLUDING CONDUIT).
- AN AIR COMPRESSOR UNIT (50 HP) IS REQUIRED FOR REMOVING ALL LOOSE MATERIAL FROM TRENCH PRIOR TO TACK COAT APPLICATION.
- APPLY A TACK COAT AT A UNIFORM RATE TO THE BOTTOM AND EDGES OF THE MILLED AREA. USE AN EMULSIFIED ASPHALT PER SPEC. 2357.2A
- MIXTURE USED TO FILL THE RETROFIT LOOP DETECTOR TRENCHES SHALL MEET THE REQUIREMENTS OF MN/DOT SPECIFICATION 2360. AGGREGATE SIZE A OR B WILL BE ALLOWED WHEN 2360 IS UTILIZED. OTHER WEARING COURSE MIXTURE TYPES ARE ALLOWED WHEN APPROVED BY THE ENGINEER.
- COMPACTION SHALL BE OBTAINED BY THE ORDINARY COMPACTION METHOD. BACKFILL THE TRENCH WITH A MINIMUM OF TWO LIFTS AND COMPACT EACH LIFT. BEFORE COMPACTING THE FIRST LIFT ENSURE THAT THERE IS ADEQUATE MIXTURE ON EACH SIDE AND ABOVE THE CONDUIT SO THAT THE CONDUIT IS NOT DAMAGED DURING COMPACTION OPERATIONS.
- THE COMPACTED MIXTURE IN THE TRENCH SHOULD BE LEFT 1/4" TO 1/2" ABOVE THE ADJACENT PAVEMENT SURFACE TO PROVIDE FOR ADDITIONAL COMPACTION BY TRAFFIC.
- WHEN LOOP DETECTORS ARE MILLED INTO CONCRETE SURFACES, REMOVE RUBBLE, SANDBLAST AND AIR BLAST THE TRENCH TO REMOVE DEBRIS. FILL THE TRENCH WITH AN APPROVED MATERIAL LISTED ON THE MN/DOT CONCRETE UNIT'S WEBSITE FOR: "PACKAGED DRY RAPID HARDENING CEMENTITIOUS MATERIALS FOR CONCRETE REPAIRS". WWW.MRR.DOT.STATE.MN.US/PAVEMENT/CONCRETE/PRODUCTS/CONCRETEREPAIRMATL.PDF
- MILLING IS REQUIRED FOR ALL NMC LOOP INSTALLATIONS. WHEN LOOPS ARE MILLED INTO EXISTING MILLED SURFACE THAT WILL BE OVERLAYED WITH BITUMINOUS, THE MINIMUM TRENCH DEPTH SHALL BE NO LESS THAN THE HIGHEST LOOP ASSEMBLY IN THE TRENCH.
- WHEN MILLING INTO EXISTING BITUMINOUS SURFACE, BE ADVISED THAT CONCRETE MAY BE ENCOUNTERED UNDER THE BITUMINOUS SURFACE.

NEW PAVEMENT



NOTES:

- OBTAIN THE REQUIRED COMPACTION OF THE AGGREGATE BASE AFTER PLACEMENT OF LOOP DETECTOR AND LEAD-IN CONDUIT.
- THE DEPTH OF THE LOOP MEASURED FROM THE TOP OF THE AGGREGATE BASE TO THE TOP OF THE CONDUIT SHALL NOT EXCEED 2".

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NO	DATE	BY	CHK	APPR	REVISION

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Project Name: ADRIAN S. POTTER

Adrian S. Potter

Date: 05/27/09 License # 42785

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
M. BRESSLER

DESIGNED BY
M. BRESSLER

CHECKED BY
A. POTTER

COMM. NO. 0086509

SRE CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC SIGNAL PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

NON-METALLIC CONDUIT LOOP DETECTOR DETAILS

SHEET
263
OF
471

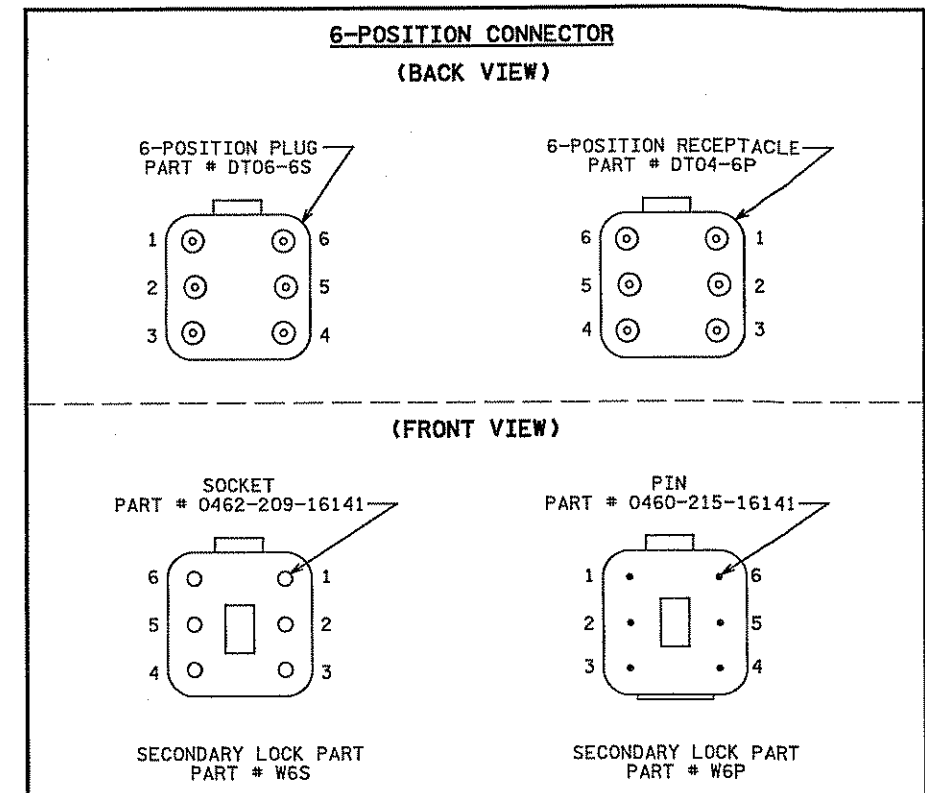
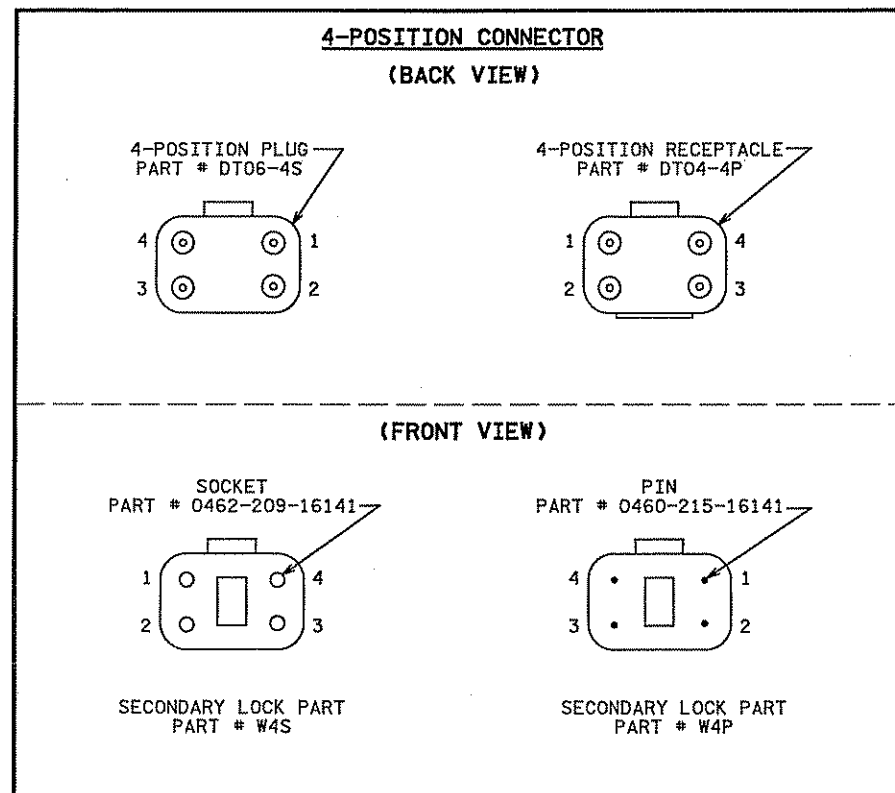
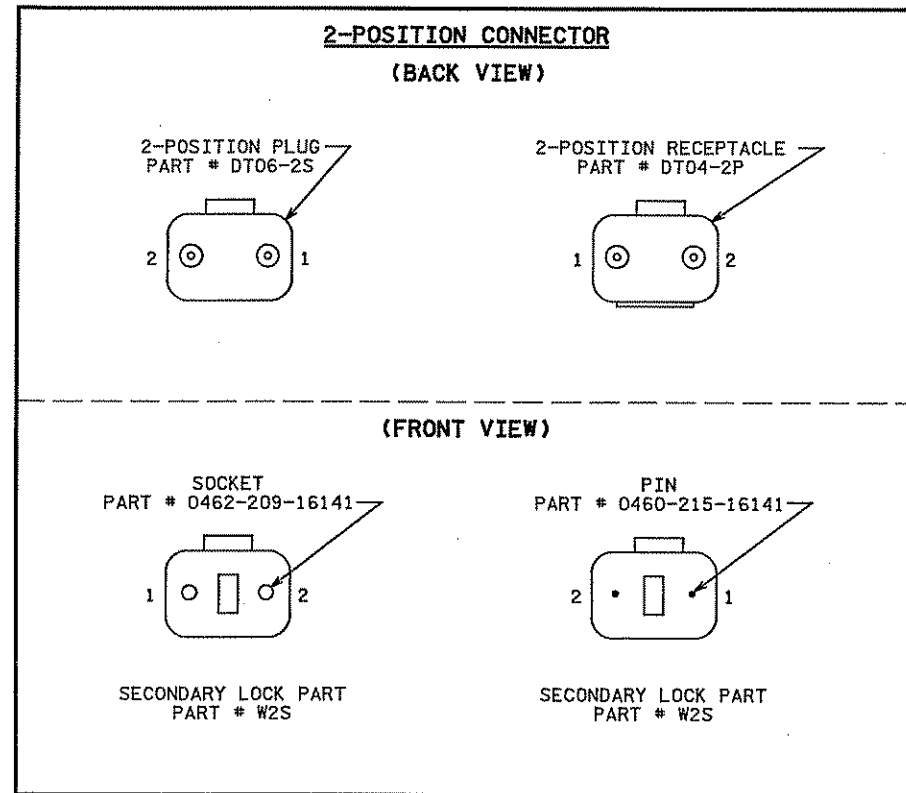


TABLE 1 2 Position DT Connector

Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
BLK	1	BLK	PB (If Required)
WH or CL	2	WH or CL	NEU

TABLE 2a 4 Position DT Connector (3 Section Head/DWK/WLK)

Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
R or R/BLK or BLK	1	R	RED or DWK
O or O/BLK or BLK/WH or BLK	2	BLK/R	YEL or WLK
BL or BL/BLK or BLK/R or BLK	3	BLK	GRN or SPR
WH or WH/BLK or WH/R	4	WH	NEU

TABLE 3 6 Position DT Connector (4 and 5 Section Heads)

Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
R	1	R	RED
O	2	O	YEL
BL	3	BL	GRN
WH	4	WH	NEU
O/BLK	5	BLK/R	YLTA
BL/BLK	6	BLK	GLTA

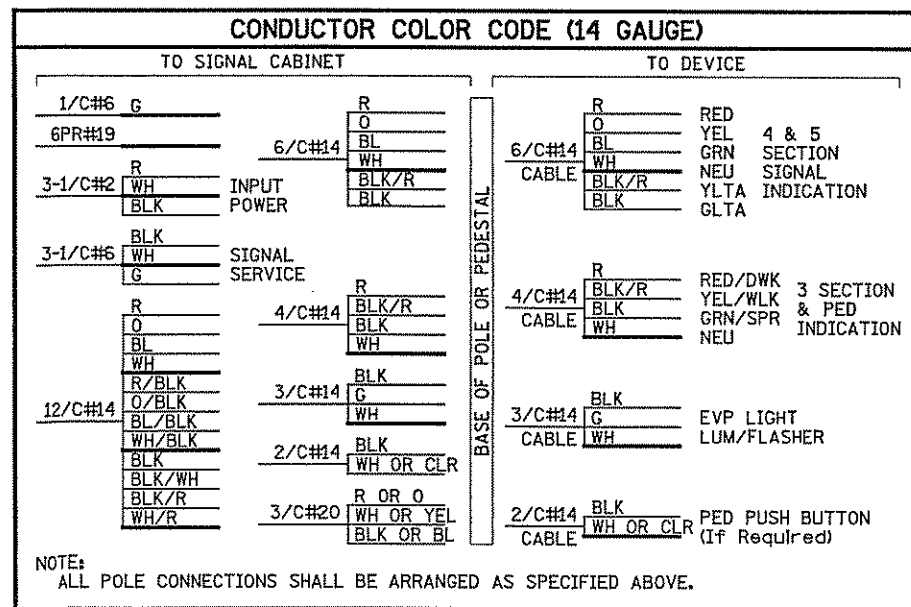


TABLE 2b 4 Position DT Connector (EVP LHT/LUM/Flasher)
(Used with 3 Conductor Cable Only)

Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
BLK	1	BLK	EVP LHT or LUM or RED or YEL
(Not Used)	2	(Not Used)	(Not Used) (See Note #8)
G	3	G	EO.G
WH	4	WH	NEU

- NOTES:**
- DT04-P RECEPTACLE SHALL BE TERMINATED TO THE WIRING HARNESS RUNNING FROM THE BASE/JUNCTION BOX OF THE POLE TO SIGNAL INDICATIONS.
 - DT06-S PLUG SHALL BE TERMINATED TO THE CABLES RUNNING FROM THE TRAFFIC SIGNAL CABINET TO THE BASE/JUNCTION BOX OF THE POLE.
 - THERE SHALL BE A MINIMUM OF 24 INCHES OF SLACK ON EACH CABLE IN EVERY POLE BASE /JUNCTION BOX.
 - STRIP A MAXIMUM OF 6 INCHES OF THE OUTER JACKET OF EACH SIGNAL CABLE.
 - STRIP .250 INCHES OF INSULATION FROM EACH INDIVIDUAL CONDUCTOR.
 - CRIMP PINS OR SOCKETS USING RATCHETING TYPE CRIMPING TOOL HDT-48-00. NO OTHER CRIMPING TOOL WILL BE ALLOWED.
 - WIRES MUST BE TERMINATED AS DETAILED IN TABLES 1 THRU 3 DEPENDING ON WIRE COUNT.
 - ANY UNUSED PIN MUST HAVE A SEALING PLUG INSTALLED IN BOTH THE PLUG & RECEPTACLE (PART # 114017).
 - LABEL EACH HALF OF THE CONNECTOR (PLUG AND RECEPTACLE) WITH THE DEVICE DESIGNATION (AS INDICATED IN THE WIRING DIAGRAM) USING A PERMANENT BLACK MARKER.

Wire 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

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NO	DATE	BY	CHKD	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: ADRIAN S. POTTER

Adrian S. Potter

Date 05/27/09 License # 42785

STATE PROJECT NO.
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COUNTY PROJECT NO.
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CITY PROJECT NO. X

DRAWN BY
M. BRESSLER

DESIGNED BY
M. BRESSLER

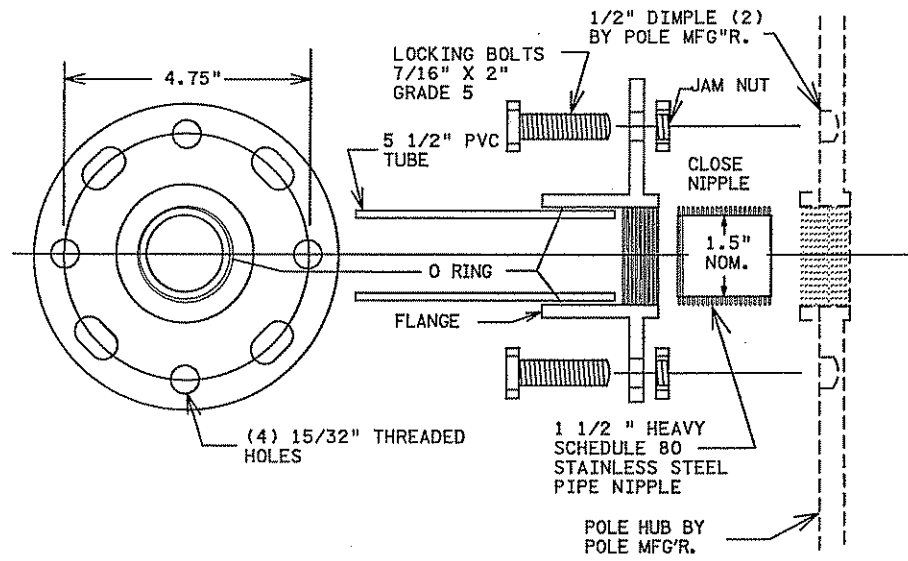
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A. POTTER

COMM. NO. 0086509

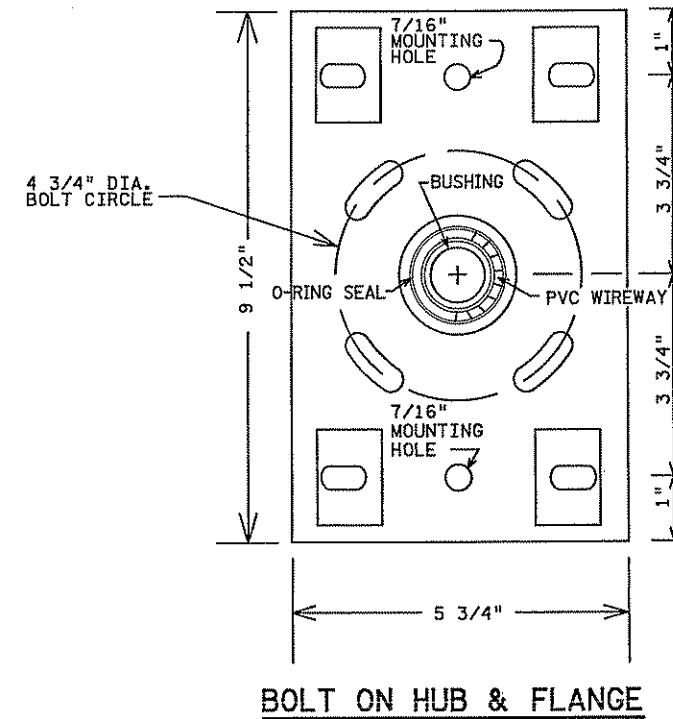


ANOKA COUNTY
TRAFFIC SIGNAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
TRAFFIC SIGNAL POLE BASE CONNECTOR DETAILS

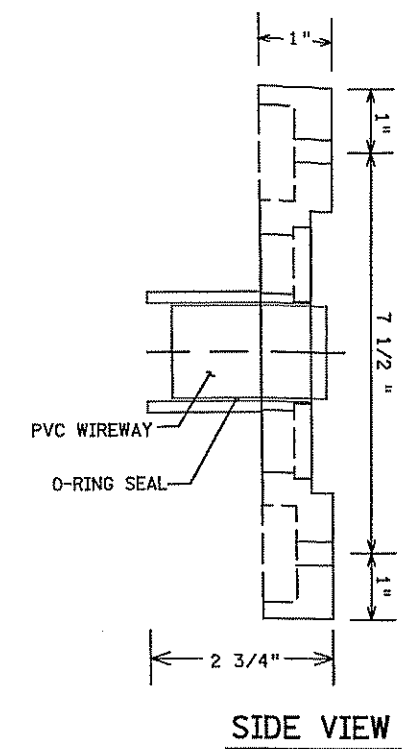
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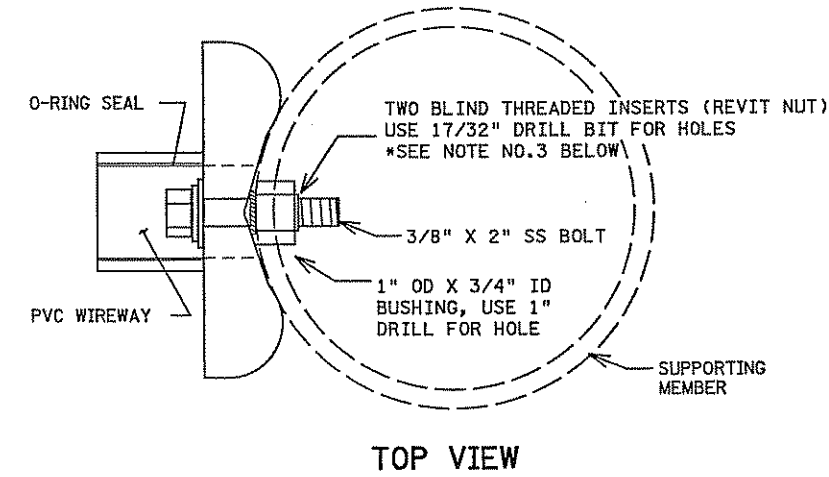
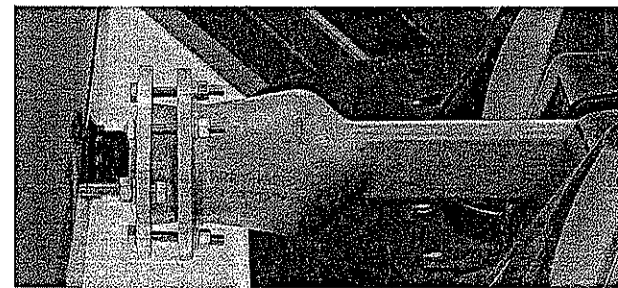
THREADED HUB AND FLANGE POLE ADAPTOR



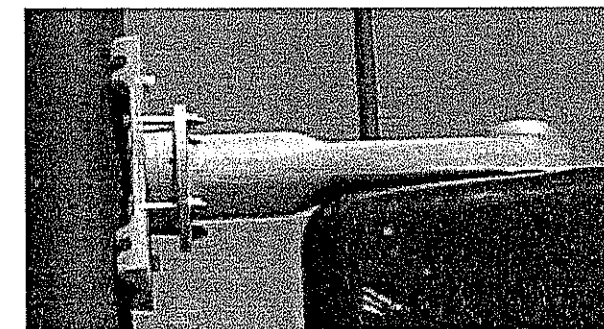
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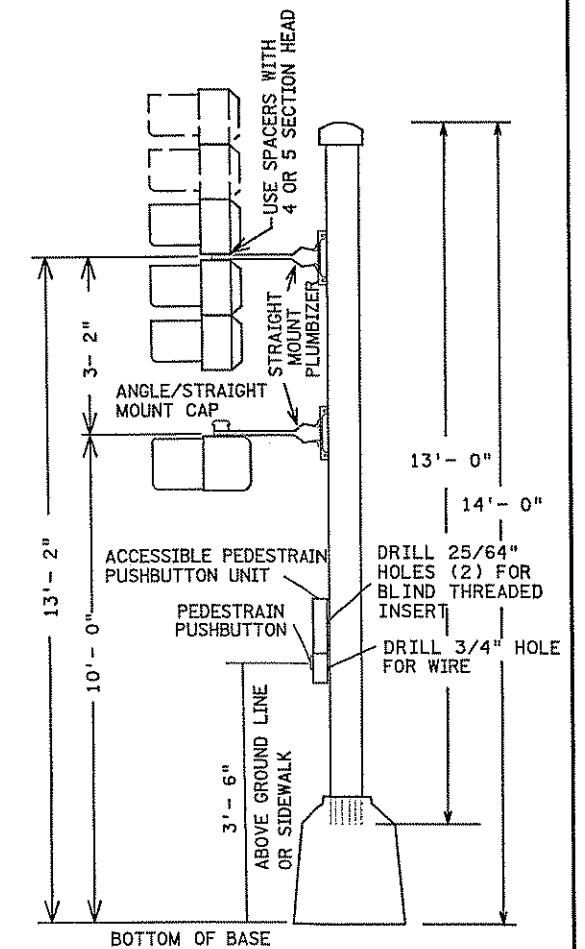
SIDE VIEW



TOP VIEW

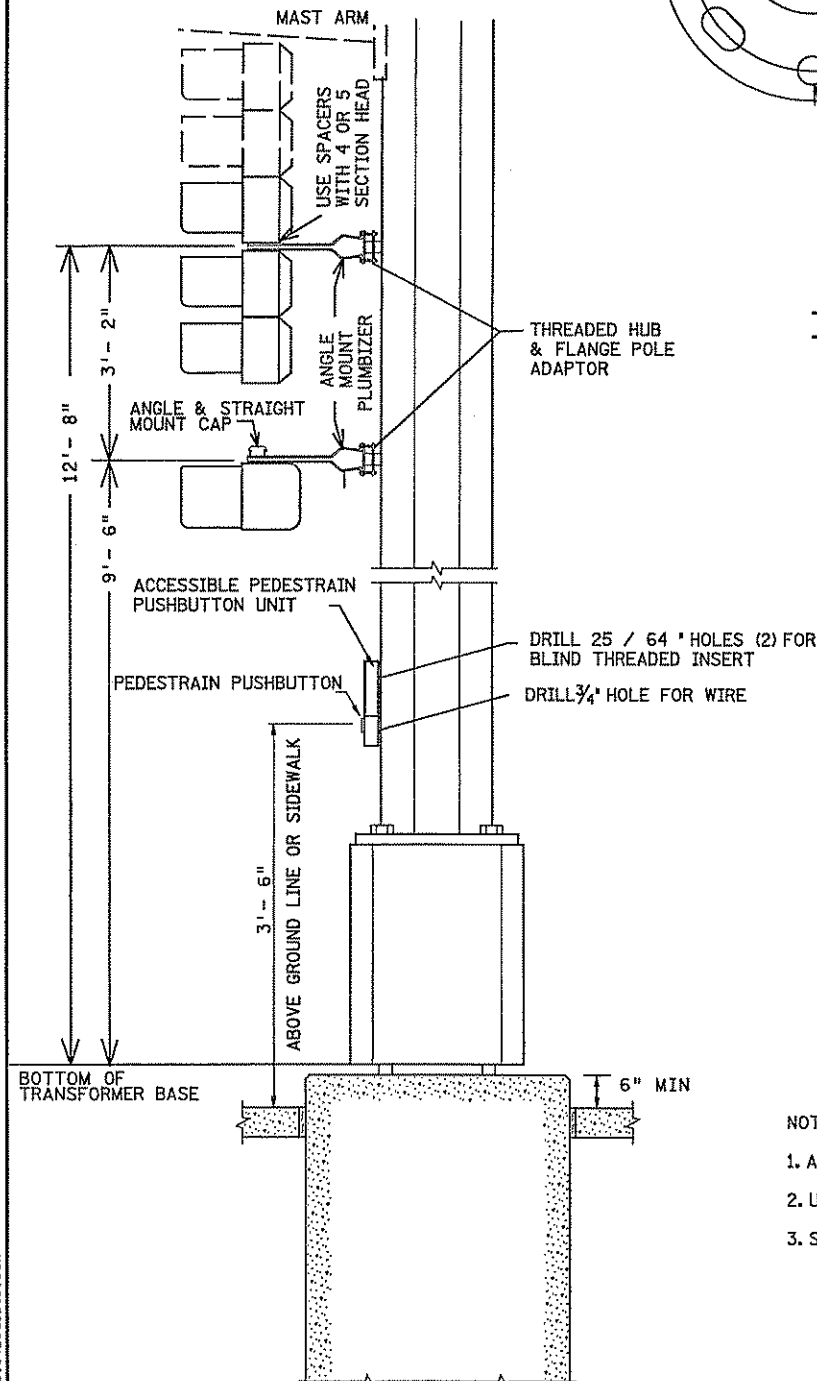


- NOTE:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 & 5 SECTION POLY HEADS.
 3. BLIND THREADED INSERTS (RIVET NUT) MUST BE INSTALLED USING MANUFACTURERS SPECIFIC INSTALLATION TOOL. NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE.
 4. SEE STANDARD PLATE NUMBER 8122 FOR ADDITIONAL PEDESTAL POLE DETAILS.



TYPICAL PEDESTAL MOUNTING

NOT TO SCALE



TYPICAL SIGNAL POLE MOUNTING

NOT TO SCALE

- NOTE:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 & 5 SECTION POLY HEADS.
 3. SEE STANDARD PLATE NUMBER 8123 FOR ADDITIONAL SIGNAL POLE DETAILS.

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Print Name: **ADRIAN S. POTTER**

Adrian S. Potter

Date: **05/27/09** License #: **42785**

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY M. BRESSLER

DESIGNED BY M. BRESSLER

CHECKED BY A. POTTER

COMM. NO. 0086509

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

TRAFFIC SIGNAL PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

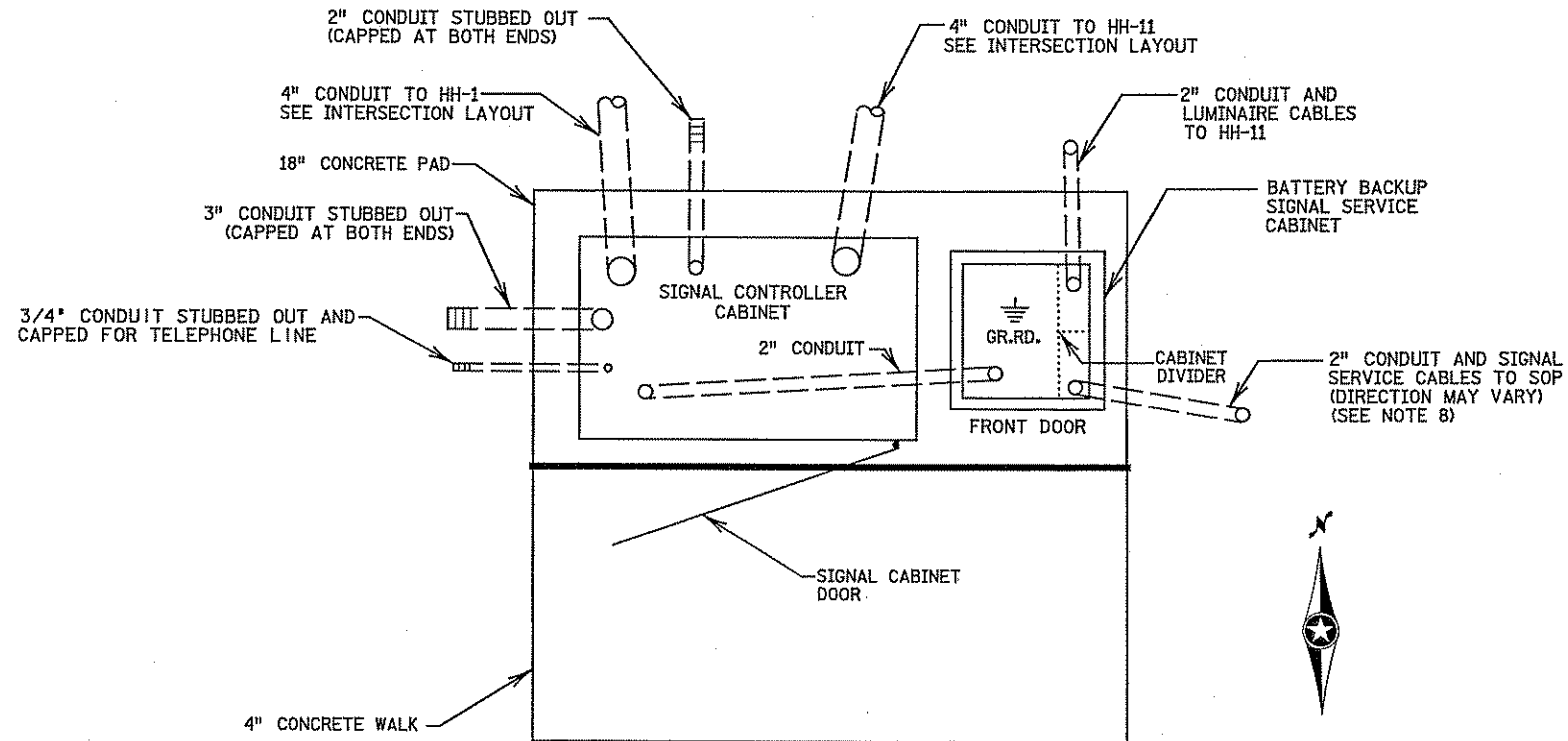
POLE MOUNTED SIGNAL & PEDESTRIAN INDICATION DETAILS

SHEET 265 OF 471

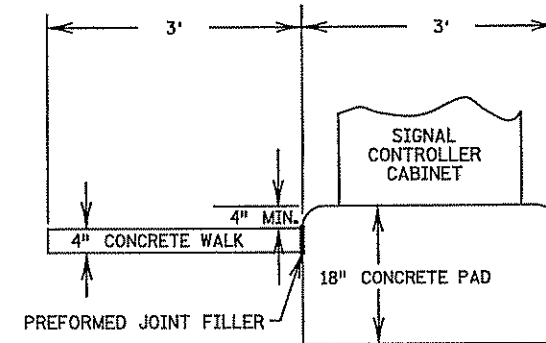
TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

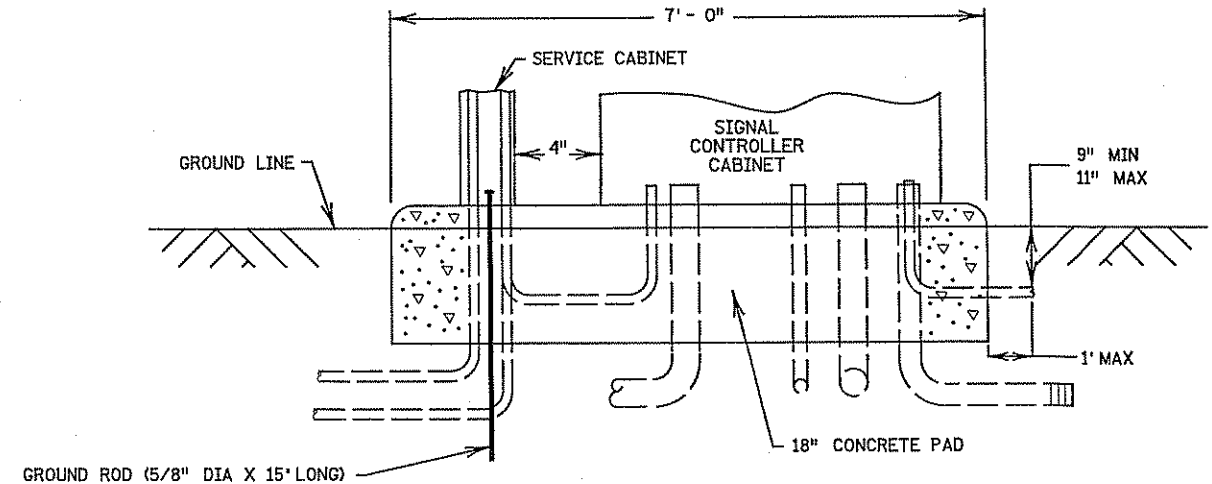
PLAN VIEW



SIDE VIEW



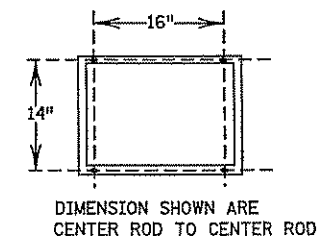
FRONT VIEW



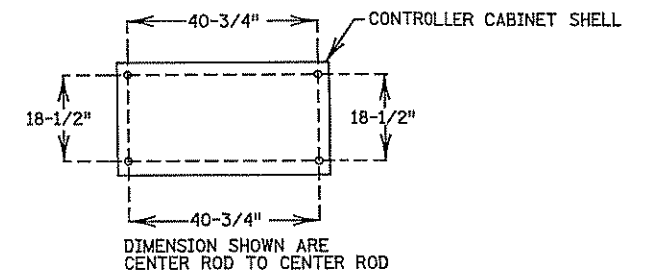
NOTES:

1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE CONTROLLER CABINET SHALL BE FURNISHED BY MN/DOT.
2. THE UPPER PART OF THE EQUIPMENT PAD SHALL BE BEVELED 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 THE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3A32 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. PLACEMENT OF THIS CONDUIT IN PROPER LOCATION IS CRITICAL.
9. ANCHOR RODS SHALL PROJECT A MINIMUM OF 3" ABOVE THE CONCRETE BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).

B.B. SERVICE CABINET BOLT PATTERN



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



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 Primary Name: **ADRIAN S. POTTER**
Adrian S. Potter
 Date: **05/27/09** License #: **42785**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

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 DESIGNED BY M. BRESSLER
 CHECKED BY A. POTTER
 COMM. NO. 0086509



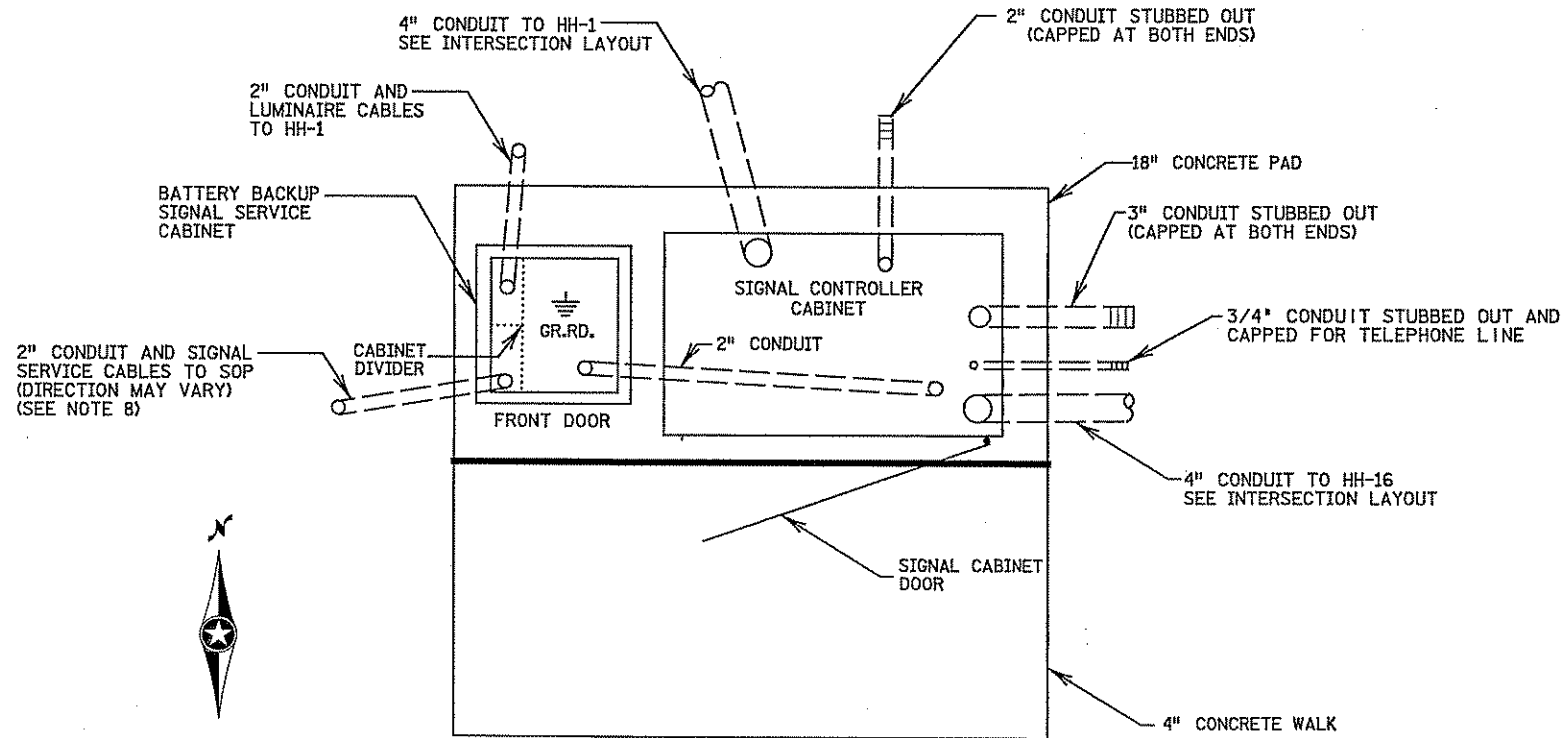
ANOKA COUNTY/CITIES OF CENTERVILLE & LINO LAKES
 TRAFFIC SIGNAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14 & 21ST AVENUE N.
 EQUIPMENT PAD DETAILS (SYSTEM "A")

SHEET 266 OF 471

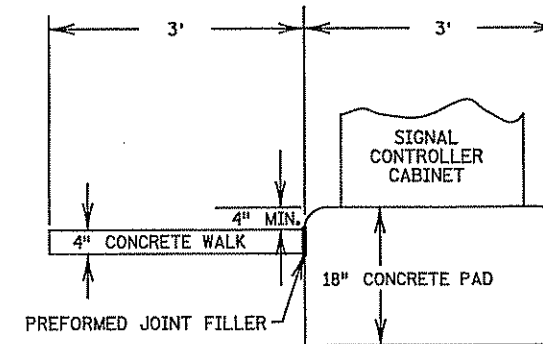
TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

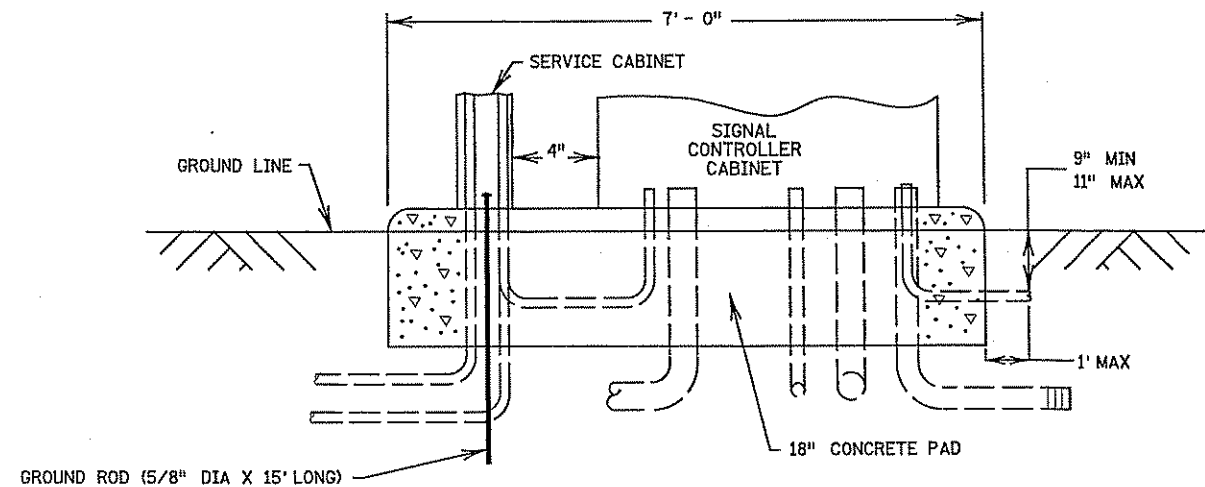
PLAN VIEW



SIDE VIEW



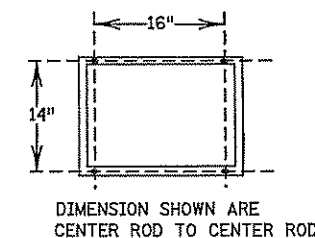
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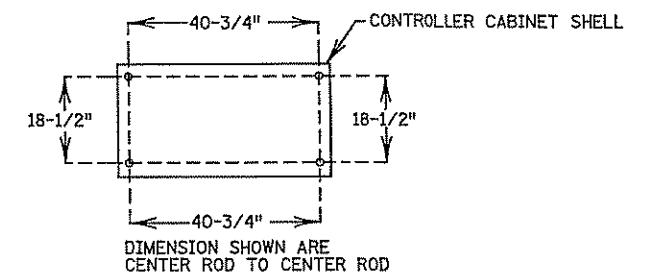
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B.B. SERVICE CABINET BOLT PATTERN



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



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Adrian S. Potter
 Date: 05/27/09 License # 42785

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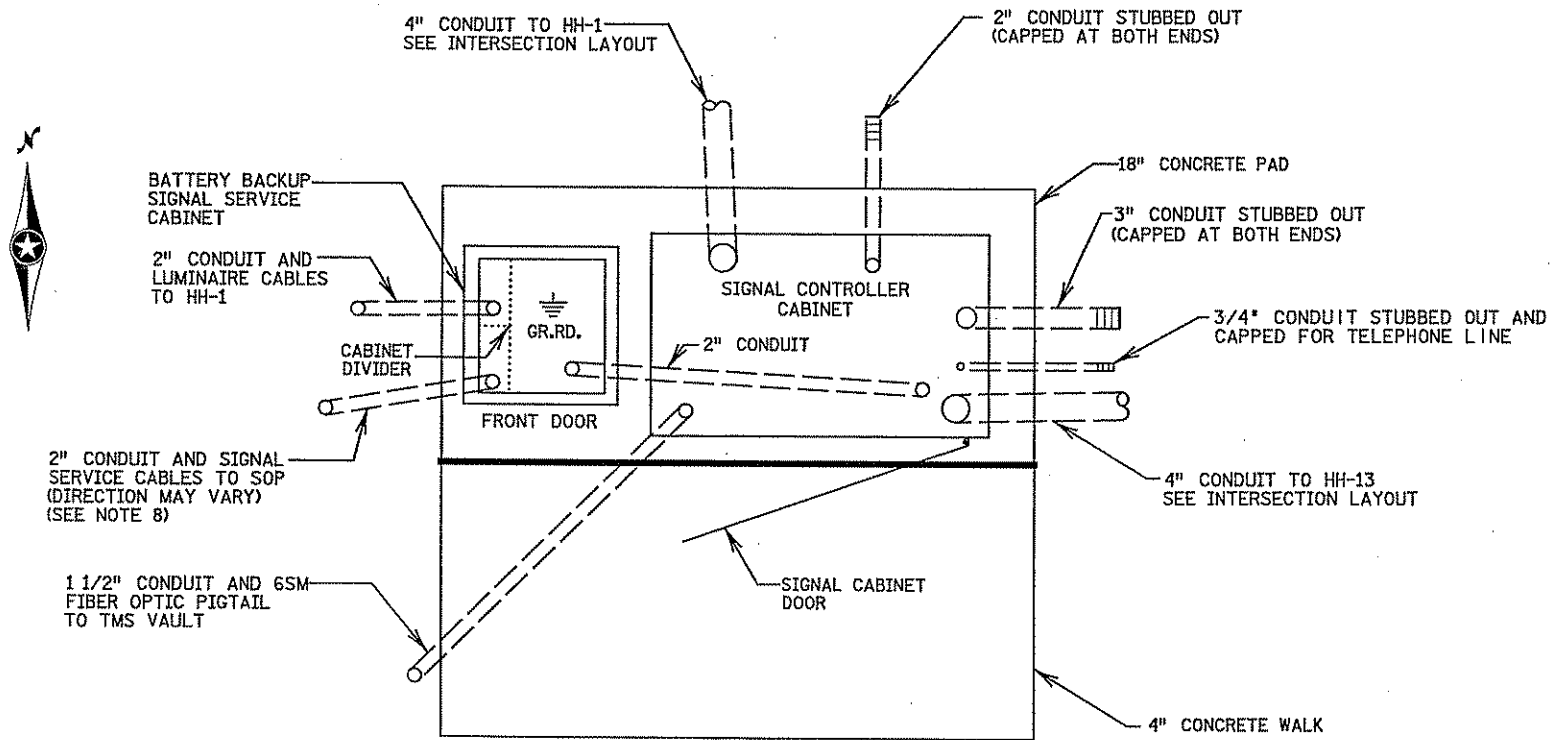
ANOKA COUNTY/CITY OF CENTERVILLE
 TRAFFIC SIGNAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
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 EQUIPMENT PAD DETAILS (SYSTEM "B")

SHEET 267 OF 471

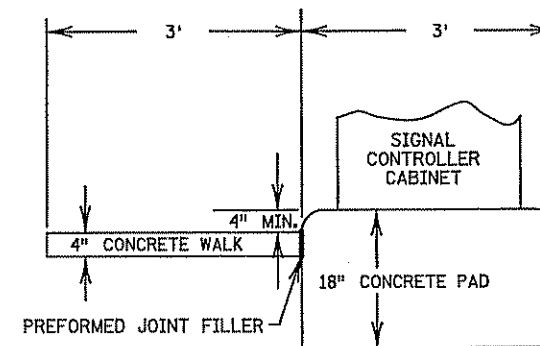
TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

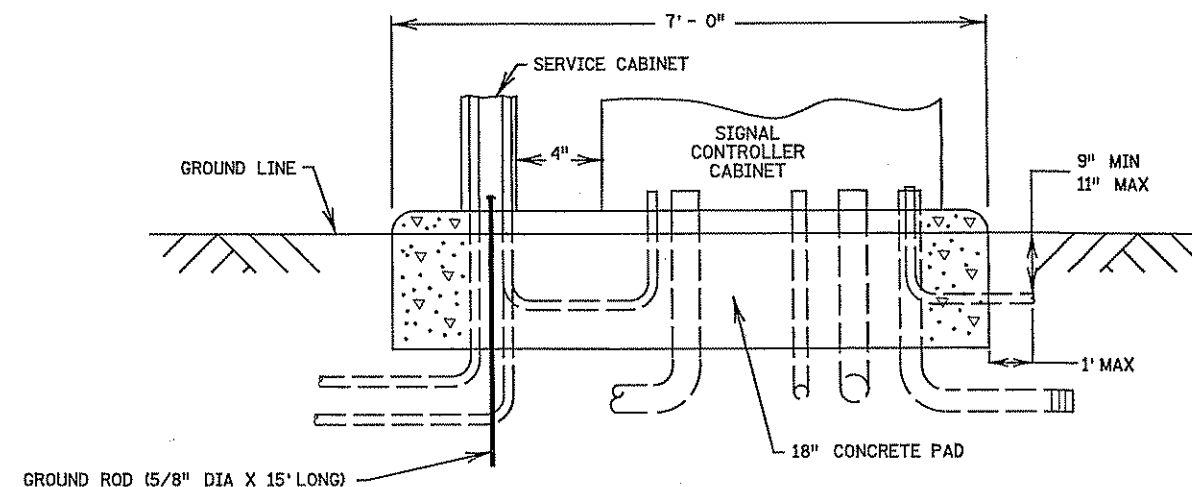
PLAN VIEW



SIDE VIEW



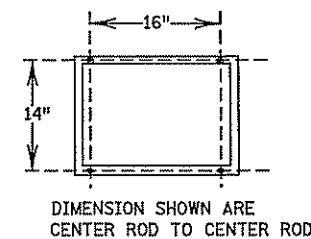
FRONT VIEW



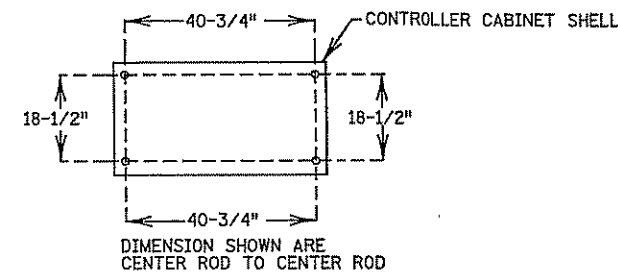
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B.B. SERVICE CABINET BOLT PATTERN



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



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Adrian S. Potter
 Date: 05/27/09 License # 42785

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DRAWN BY M. BRESSLER
 DESIGNED BY M. BRESSLER
 CHECKED BY A. POTTER
 COMM. NO. 0086509



ANOKA COUNTY/CITY OF CENTERVILLE
 TRAFFIC SIGNAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14 & 35E N.E. LOOP/S.E. RAMP
 EQUIPMENT PAD DETAILS (SYSTEM "C")

SHEET 268 OF 471

NMC LOOP DETECTORS			
DESIGNATION	NO. & SIZE/FT.	FUNCTION	LOCATION
D1-1, D1-3	2-6'X6'	1	40'
D1-2, D1-4	2-6'X6'	1	10'
D2-1, D2-2	1-6'X6'	1	400'
D5-1, D5-3	2-6'X6'	1	40'
D5-2, D5-4	2-6'X6'	1	10'
D6-1, D6-2	1-6'X6'	1	400'
D8-1	1-6'X6'	3, 8	250'
D8-2	1-6'X6', 1-6X10'	7	-5', 4'
D8-3	2-6'X6'	1	0', 15'

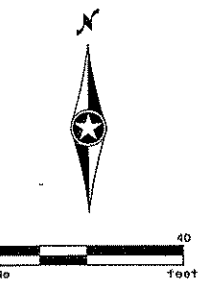
-LOCATION: DISTANCE FROM CROSSWALK/STOP LINE IN FEET

3 PA100 POLE FOUNDATION
 TYPE PA100-A-55-D40-9
 (DAVIT AT 350°)
 3-ONE-WAY SIGNALS OVERHEAD
 (0', 17' AND 29' FROM END OF MAST ARM)
 1-TYPE 10A-POLE MOUNTED AT 90°
 1-TYPE 10B-POLE MOUNTED AT 180°
 LUMINAIRE-200 WATT H.P.S.
 1-PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
 ONE-WAY EYP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1 AND 6)
 2-R6-1 SIGN PANEL (36"X12")-POLE MOUNTED 0° AND 180°
 1-R9-3a SIGN FACING POLE 2
 TYPE D SIGN PANEL OVERHEAD
 EXTEND INTO HH-8:
 3" RSC
 2-12/C#12
 4-3/C#12
 1-3/C#12 (LUM.)
 1-3/C#20

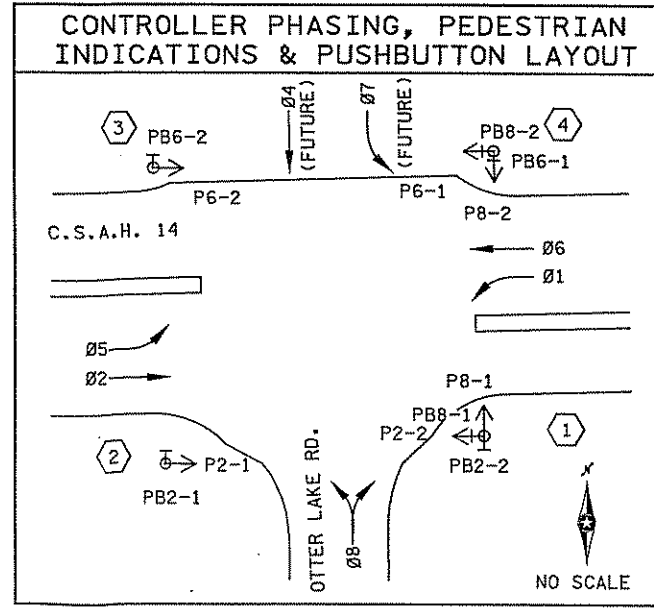
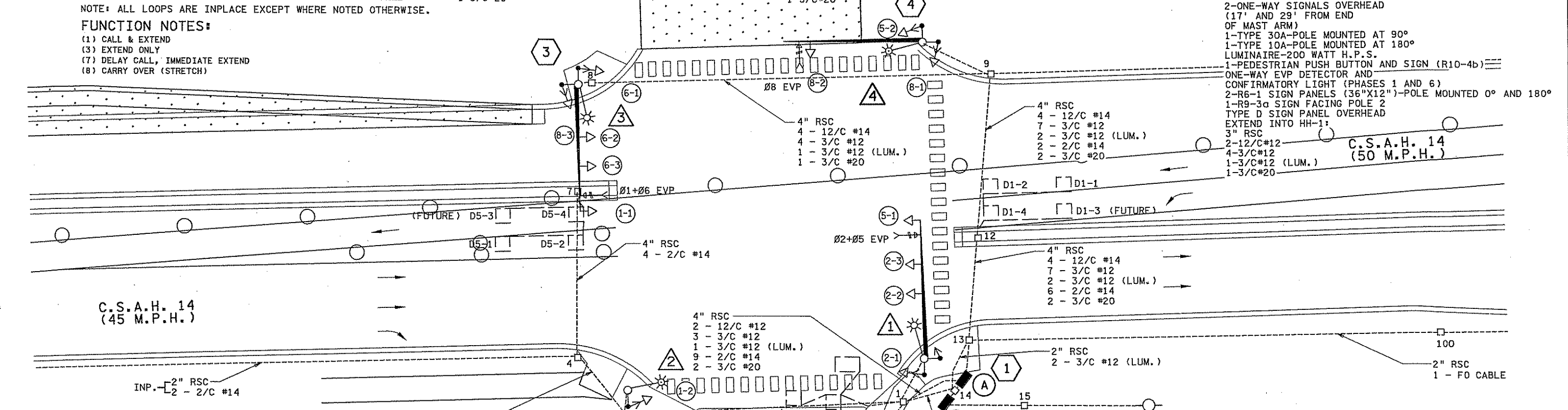
4 PA100 POLE FOUNDATION
 TYPE PA100-A-55-D40-9
 (DAVIT AT 350°)
 2-ONE-WAY SIGNALS OVERHEAD
 (0' AND 17' FROM END OF MAST ARM)
 2-POLE MOUNTED ONE-WAY SIGNALS AT 90° AND 180°
 LUMINAIRE-200 WATT H.P.S.
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE-WAY EYP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
 1-R6-1 SIGN PANEL (36"X12")-POLE MOUNTED 270°
 TYPE D SIGN PANEL OVERHEAD
 EXTEND INTO HH-9:
 3" RSC
 2-12/C#12
 3-3/C#12
 1-3/C#12 (LUM.)
 1-3/C#20

LED SIGNAL INDICATIONS						
FACE	R	Y	G	RLTA	YLTA	GLTA
1-1, 1-2				←	←	←
2-1, 2-2, 2-3	○	○	○			
5-1, 5-2				←	←	←
6-1, 6-2, 6-3	○	○	○			
8-1, 8-2, 8-3	○	○	○			

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



1 PA100 POLE FOUNDATION
 TYPE PA100-A-55-D40-9
 (DAVIT AT 350°)
 2-ONE-WAY SIGNALS OVERHEAD
 (17' AND 29' FROM END OF MAST ARM)
 1-TYPE 30A-POLE MOUNTED AT 90°
 1-TYPE 10A-POLE MOUNTED AT 180°
 LUMINAIRE-200 WATT H.P.S.
 1-PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
 ONE-WAY EYP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1 AND 6)
 2-R6-1 SIGN PANELS (36"X12")-POLE MOUNTED 0° AND 180°
 1-R9-3a SIGN FACING POLE 2
 TYPE D SIGN PANEL OVERHEAD
 EXTEND INTO HH-1:
 3" RSC
 2-12/C#12
 4-3/C#12
 1-3/C#12 (LUM.)
 1-3/C#20



2 PA100 POLE FOUNDATION
 TYPE PA100-D40-9
 (DAVIT AT 350°)
 1-TYPE 10B-POLE MOUNTED AT 90°
 LUMINAIRE-200 WATT H.P.S.
 1-PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)
 1-R6-1 SIGN PANEL (36"X12")-POLE MOUNTED 270°
 1-R9-3a SIGN FACING POLE 3
 EXTEND INTO HH-3:
 3" RSC
 2-12/C#12
 3-3/C#12
 1-3/C#12 (LUM.)
 1-3/C#20

SIGNAL OPERATION NOTES

- NORMAL OPERATION IS 5 PHASE
- FLASH MODE SHALL BE ALL RED
- Ø1, Ø5 SHALL BE PROTECTED LEFT TURNS
- Ø2 AND Ø6 SHALL BE ON VEHICLE RECALL

A CONTROLLER CABINET FOUNDATION
 EXTEND INTO HH-14:
 2" RSC
 3-1/C #6
 EXTEND INTO HH-13:
 4" RSC
 4-12/C#12
 7-3/C#12
 2-3/C#20
 6-2/C#14
 1-FIBER OPTIC (INTERCONNECT)
 EXTEND INTO HH-1:
 4" RSC
 4-12/C#12
 7-3/C#12
 2-3/C#20
 9-2/C#14
 STUB OUT 2-3" RSC (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

B SERVICE CABINET CABINET FOUNDATION
 EXTEND INTO HH-14:
 UNMETERED STREET LIGHT SERVICE
 2" RSC
 4-3/C #12 (LUM.)
 METERED SIGNAL SERVICE
 3-1/C#6
 EXTEND INTO HH-15:
 2" RSC
 3-1/C#2

NOTES:

- 1) ALL ITEMS ARE INPLACE UNLESS NOTED OTHERWISE.
- 2) SEE STAGING AND TRAFFIC CONTROL PLANS FOR CONSTRUCTION STAGING AND TRAFFIC CONTROL ITEMS.
- 3) SEE SHEETS 283 - 285 FOR INFORMATION ONLY.
- 4) SIGNAL SHALL OPERATE UNDER THIS STAGE FOR DURATION OF STAGE 2.
- 5) CONTRACTOR SHALL DISCONNECT LOOP DETECTORS D1-1, D1-2, D2-2, D5-1, D5-2, D5-3 AND D5-4.
- 6) CONTRACTOR SHALL CONNECT AND USE D1-3 AND D1-4.

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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: BRIAN D. HOLT Date: 5/28/09 License # 21428		I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: ADRIAN S. POTTER Date: 5/28/09 License # 42785		STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X	DRAWN BY D. RASMUSSEN DESIGNED BY D. RASMUSSEN CHECKED BY A. POTTER COMM. NO. 0086509	SRF CONSULTING GROUP, INC. ANOKA COUNTY TRAFFIC SIGNAL PLANS C.S.A.H. 14/T.H. 35E INTERCHANGE C.S.A.H. 14 & OTTER LAKE ROAD TEMPORARY INTERSECTION LAYOUT - STAGE 2	SHEET 268A OF 471
NO DATE BY CKD APPR REVISION							

NMC LOOP DETECTORS			
DESIGNATION	NO. & SIZE/FT.	FUNCTION	LOCATION
D1-1,D1-3	2-6'X6'	1	40'
D1-2,D1-4	2-6'X6'	1	10'
D2-1,D2-2	1-6'X6'	1	400'
D5-1,D5-3	2-6'X6'	1	40'
D5-2,D5-4	2-6'X6'	1	10'
D6-1,D6-2	1-6'X6'	1	400'
D8-1	1-6'X6'	3,8	250'
D8-2	1-6'X6',1-6X10'	7	-5', 4'
D8-3	2-6'X6'	1	0',15'

-LOCATION: DISTANCE FROM CROSSWALK/STOP LINE IN FEET

3 PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9
(DAVIT AT 350°)
3-ONE-WAY SIGNALS OVERHEAD
(0', 17' AND 29' FROM END OF MAST ARM)
1-TYPE 10A-POLE MOUNTED AT 90°
1-TYPE 10B-POLE MOUNTED AT 180°
LUMINAIRE-200 WATT H.P.S.
1-PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
ONE-WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1 AND 6)
2-R6-1 SIGN PANEL (36"X12")-POLE MOUNTED 0° AND 180°
1-R9-3a SIGN FACING POLE 2
TYPE D SIGN PANEL OVERHEAD
EXTEND INTO HH-8:
3" RSC
2-12/C#12
4-3/C#12
1-3/C#12 (LUM.)
1-3/C#20

4 PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9
(DAVIT AT 350°)
2-ONE-WAY SIGNALS OVERHEAD
(0' AND 17' FROM END OF MAST ARM)
2-POLE MOUNTED ONE-WAY SIGNALS AT 90° AND 180°
LUMINAIRE-200 WATT H.P.S.
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
ONE-WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
1-R6-1 SIGN PANEL (36"X12")-POLE MOUNTED 270°
TYPE D SIGN PANEL OVERHEAD
EXTEND INTO HH-9:
3" RSC
2-12/C#12
3-3/C#12
1-3/C#12 (LUM.)
1-3/C#20

LED SIGNAL INDICATIONS						
FACE	R	Y	G	RLTA	YLTA	GLTA
1-1,1-2				←	←	←
2-1,2-2,2-3	○	○	○			
5-1,5-2				←	←	←
6-1,6-2,6-3	○	○	○			
8-1,8-2,8-3	○	○	○			

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

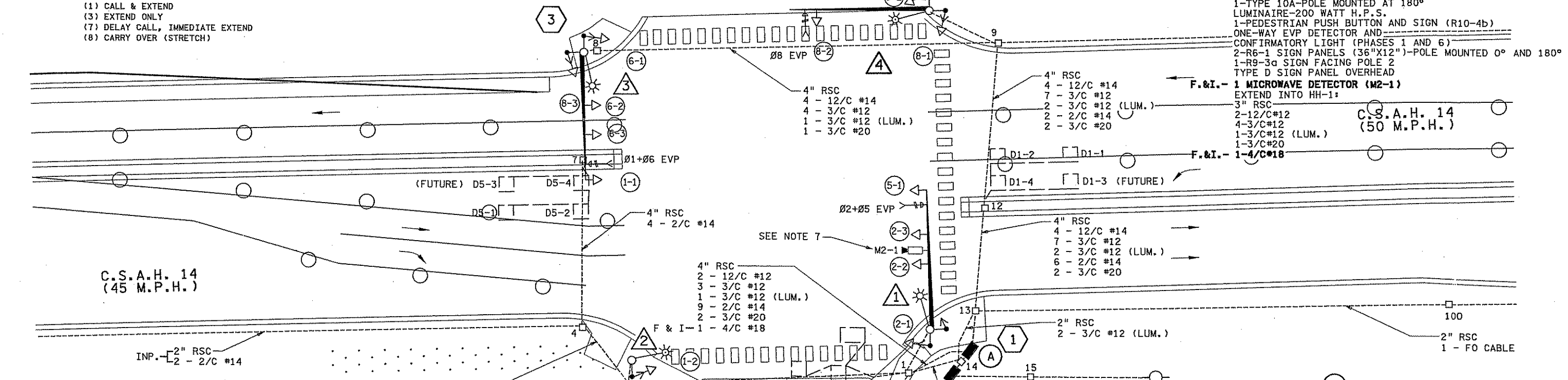
1 PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9
(DAVIT AT 350°)
2-ONE-WAY SIGNALS OVERHEAD
(17' AND 29' FROM END OF MAST ARM)
1-TYPE 30A-POLE MOUNTED AT 90°
1-TYPE 10A-POLE MOUNTED AT 180°
LUMINAIRE-200 WATT H.P.S.
1-PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
ONE-WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1 AND 6)
2-R6-1 SIGN PANELS (36"X12")-POLE MOUNTED 0° AND 180°
1-R9-3a SIGN FACING POLE 2
TYPE D SIGN PANEL OVERHEAD
EXTEND INTO HH-1:
3" RSC
2-12/C#12
4-3/C#12
1-3/C#12 (LUM.)
1-3/C#20
1-4/C#18

SEE NOTES 5 & 6
SEE NOTE 5

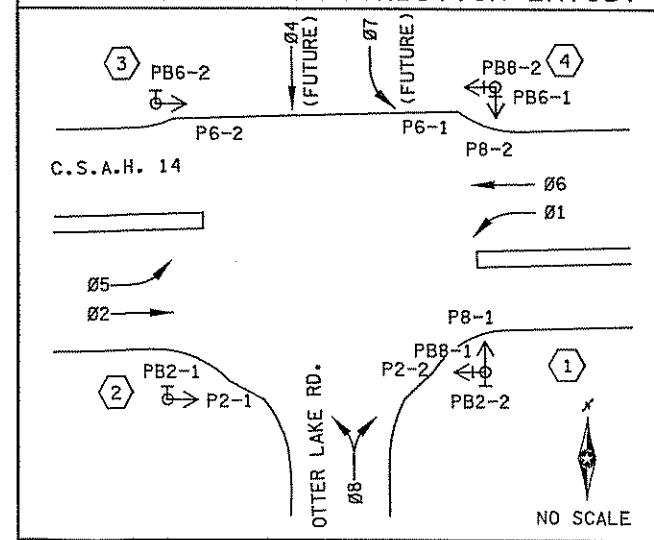
NOTE: ALL LOOPS ARE INPLACE EXCEPT WHERE NOTED OTHERWISE.

FUNCTION NOTES:

- (1) CALL & EXTEND
- (3) EXTEND ONLY
- (7) DELAY CALL, IMMEDIATE EXTEND
- (8) CARRY OVER (STRETCH)



CONTROLLER PHASING, PEDESTRIAN INDICATIONS & PUSHBUTTON LAYOUT



2 PA100 POLE FOUNDATION
TYPE PA100-D40-9
(DAVIT AT 350°)
1-TYPE 10B-POLE MOUNTED AT 90°
LUMINAIRE-200 WATT H.P.S.
1-PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)
1-R6-1 SIGN PANEL (36"X12")-POLE MOUNTED 270°
1-R9-3a SIGN FACING POLE 3
EXTEND INTO HH-3:
3" RSC
2-12/C#12
3-3/C#12
1-3/C#12 (LUM.)
1-3/C#20

SIGNAL OPERATION NOTES
- NORMAL OPERATION IS 5 PHASE
- FLASH MODE SHALL BE ALL RED
- Ø1, Ø5 SHALL BE PROTECTED LEFT TURNS
- Ø2 AND Ø6 SHALL BE ON VEHICLE RECALL

NOTES:

- 1) ALL ITEMS ARE INPLACE UNLESS NOTED OTHERWISE.
- 2) SEE STAGING AND TRAFFIC CONTROL PLANS FOR CONSTRUCTION STAGING AND TRAFFIC CONTROL ITEMS.
- 3) SEE SHEETS 283 - 285 FOR INFORMATION ONLY.
- 4) SIGNAL SHALL OPERATE UNDER THIS STAGE FOR DURATION OF STAGE 3.
- 5) CONTRACTOR SHALL DISCONNECT LOOP DETECTORS D1-1,D1-2,D2-2,D5-1,D5-2 D5-3 AND D5-4. CONTRACTOR SHALL RECONNECT LOOP DETECTOR D6-1.
- 6) CONTRACTOR SHALL CONNECT AND USE D1-3 AND D1-4.
- 7) CONTRACTOR SHALL FURNISH AND INSTALL MICROWAVE DETECTOR M2-1 ON MAST ARM 1 AS SHOWN (SEE SPECIAL PROVISIONS). MICROWAVE DETECTOR M2-1 AND ALL RELATED WIRING SHALL BE REMOVED AT THE END OF STAGE 3.

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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: **BRIAN D. HOLT**
Date: **5/28/09** License #: **21428**

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: **ADRIAN S. POTTER**
Date: **5/28/09** License #: **42785**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY D. RASMUSSEN
DESIGNED BY D. RASMUSSEN
CHECKED BY A. POTTER
COMM. NO. 0086509



ANOKA COUNTY
TRAFFIC SIGNAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
TEMPORARY INTERSECTION LAYOUT - STAGE 3

SHEET 268B OF 471

LED SIGNAL INDICATIONS

FACE	R	Y	G	RLTA	YLTA	GLTA	RRTA	YRTA	GRTA
2-1, 2-2, 2-3, 2-4	●	●	●						
4-1				→	→	→			
4-2, 4-3				←	←	←			
5-1, 5-2				←	←	←			
6-1, 6-2, 6-3	●	●	●						

-ALL VEHICLE SIGNAL INDICATIONS SHALL BE 12"
-EACH SIGNAL FACE SHALL BE BLACK POLYCARBONITE WITH BACKGROUND SHIELD

(A) EQUIPMENT PAD - SEE DETAIL CONTROLLER & CABINET SERVICE CABINET
 * 1 - FIBER-OPTIC TELEMETRY INTERFACE PANEL WITH HARNESS
 2 - FIBER-OPTIC MODEMS
 EXTEND 4" CONDUIT INTO HH-11 WITH:
 4 - 12/C #14 8 - 2/C #14
 2 - 3/C #14 1 - 1/C #6 INS.GR.
 * 1 - FO CABLE (6MM, 6SM)
 EXTEND 4" CONDUIT INTO HH-11 WITH:
 3 - 12/C #14 2 - 2/C #14
 1 - 3/C #14 1 - 1/C #6 INS.GR.
 * 1 - FO CABLE (6MM, 6SM)
 3" CONDUIT STUBBED OUT (THREADED & CAPPED BOTH ENDS)
 3/4" CONDUIT STUBBED OUT (THREADED & CAPPED BOTH ENDS)
 CONTROLLER TO SERVICE CABINET
 EXTEND 2" CONDUIT WITH:
 2 - 1/C #6 AND 1 - 1/C #6 INS.GR.
 SERVICE CABINET TO HH-11
 EXTEND 2" CONDUIT WITH:
 3 - 3/C #14 (LUM.)
 SERVICE CABINET TO HH-12
 EXTEND 2" CONDUIT WITH:
 3 - 1/C #2

PA90 POLE FOUNDATION TYPE PA90-A-D40-9 (DAVIT AT 350°)
 1 - ANGLE MOUNT SIGNAL AT 90°
 LUMINAIRE - 250 WATT H.P.S.
 1 - R9-3a SIGN (18x18) FACING POLE 4
 1 - R9-3a SIGN (18x18) FACING POLE 2
 EXTEND INTO HH-7:
 3" CONDUIT
 1 - 12/C #14
 1 - 3/C #14 (LUM.)
 1 - 1/C #6 INS.GR.

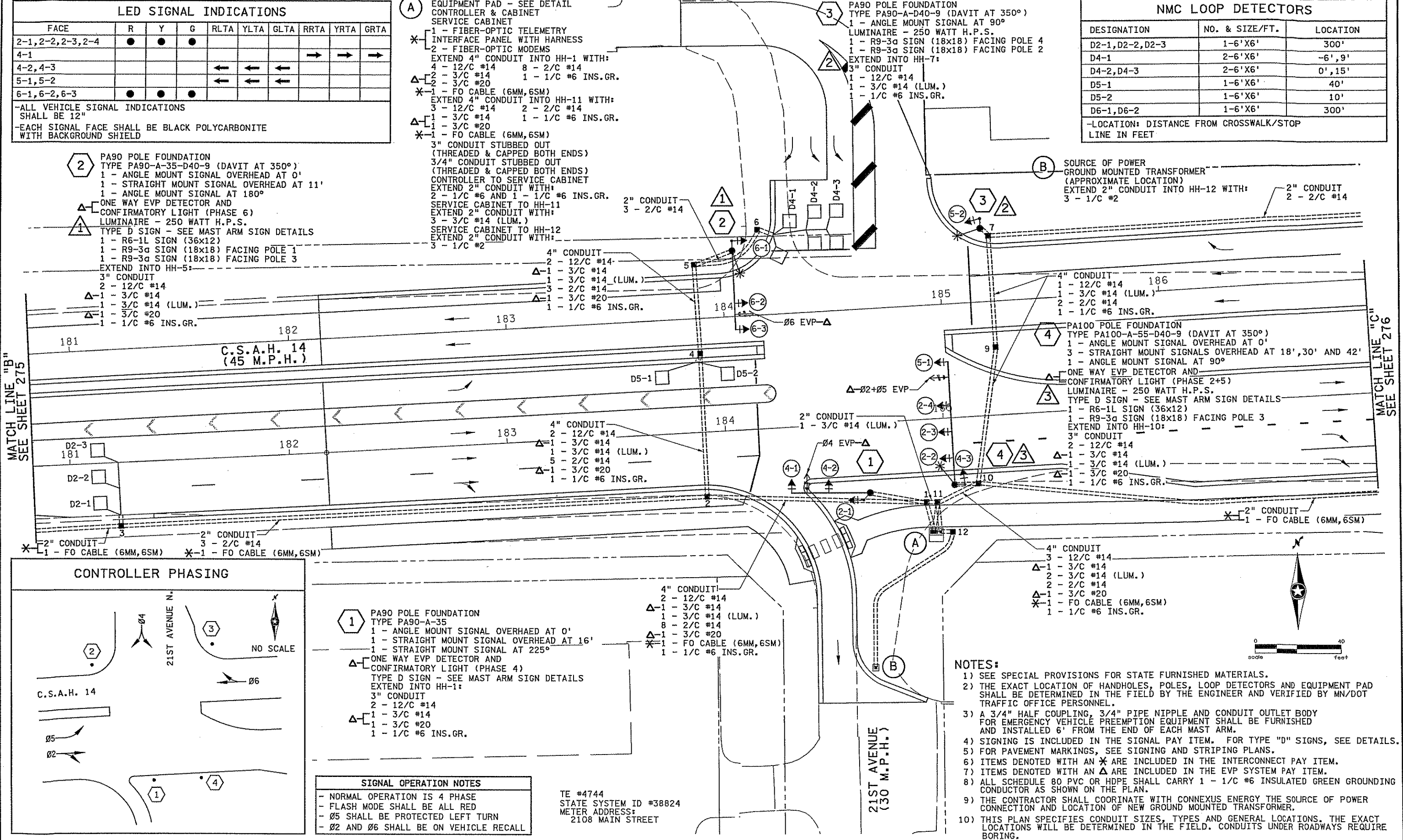
NMC LOOP DETECTORS

DESIGNATION	NO. & SIZE/FT.	LOCATION
D2-1, D2-2, D2-3	1-6'X6'	300'
D4-1	2-6'X6'	-6', 9'
D4-2, D4-3	2-6'X6'	0', 15'
D5-1	1-6'X6'	40'
D5-2	1-6'X6'	10'
D6-1, D6-2	1-6'X6'	300'

-LOCATION: DISTANCE FROM CROSSWALK/STOP LINE IN FEET

(2) PA90 POLE FOUNDATION TYPE PA90-A-35-D40-9 (DAVIT AT 350°)
 1 - ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1 - STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 1 - ANGLE MOUNT SIGNAL AT 180°
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)
 LUMINAIRE - 250 WATT H.P.S.
(1) TYPE D SIGN - SEE MAST ARM SIGN DETAILS
 1 - R6-1L SIGN (36x12)
 1 - R9-3a SIGN (18x18) FACING POLE 1
 1 - R9-3a SIGN (18x18) FACING POLE 3
 EXTEND INTO HH-5:
 3" CONDUIT
 2 - 12/C #14
 1 - 3/C #14
 1 - 3/C #14 (LUM.)
 1 - 3/C #20
 1 - 1/C #6 INS.GR.

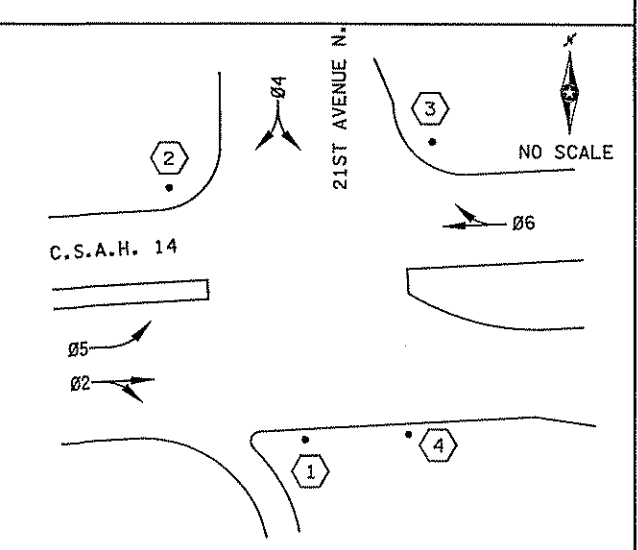
(B) SOURCE OF POWER GROUND MOUNTED TRANSFORMER (APPROXIMATE LOCATION)
 EXTEND 2" CONDUIT INTO HH-12 WITH:
 3 - 1/C #2
 2" CONDUIT 2 - 2/C #14



MATCH LINE "B" SEE SHEET 275

MATCH LINE "C" SEE SHEET 276

CONTROLLER PHASING



(1) PA90 POLE FOUNDATION TYPE PA90-A-35
 1 - ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1 - STRAIGHT MOUNT SIGNAL OVERHEAD AT 16'
 1 - STRAIGHT MOUNT SIGNAL AT 225°
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)
 TYPE D SIGN - SEE MAST ARM SIGN DETAILS
 EXTEND INTO HH-1:
 3" CONDUIT
 2 - 12/C #14
 1 - 3/C #14
 1 - 3/C #20
 1 - 1/C #6 INS.GR.

4" CONDUIT
 2 - 12/C #14
 1 - 3/C #14
 1 - 3/C #14 (LUM.)
 8 - 2/C #14
 1 - 3/C #20
 * 1 - FO CABLE (6MM, 6SM)
 1 - 1/C #6 INS.GR.

4" CONDUIT
 3 - 12/C #14
 1 - 3/C #14
 2 - 3/C #14 (LUM.)
 2 - 2/C #14
 1 - 3/C #20
 * 1 - FO CABLE (6MM, 6SM)
 1 - 1/C #6 INS.GR.

SIGNAL OPERATION NOTES
 - NORMAL OPERATION IS 4 PHASE
 - FLASH MODE SHALL BE ALL RED
 - Ø5 SHALL BE PROTECTED LEFT TURN
 - Ø2 AND Ø6 SHALL BE ON VEHICLE RECALL

TE #4744
 STATE SYSTEM ID #38824
 METER ADDRESS:
 2108 MAIN STREET

NOTES:

- SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
- THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND VERIFIED BY MN/DOT TRAFFIC OFFICE PERSONNEL.
- A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE FURNISHED AND INSTALLED 6' FROM THE END OF EACH MAST ARM.
- SIGNING IS INCLUDED IN THE SIGNAL PAY ITEM. FOR TYPE "D" SIGNS, SEE DETAILS.
- FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
- ITEMS DENOTED WITH AN * ARE INCLUDED IN THE INTERCONNECT PAY ITEM.
- ITEMS DENOTED WITH AN Δ ARE INCLUDED IN THE EVP SYSTEM PAY ITEM.
- ALL SCHEDULE 80 PVC OR HDPE SHALL CARRY 1 - 1/C #6 INSULATED GREEN GROUNDING CONDUCTOR AS SHOWN ON THE PLAN.
- THE CONTRACTOR SHALL COORDINATE WITH CONNEXUS ENERGY THE SOURCE OF POWER CONNECTION AND LOCATION OF NEW GROUND MOUNTED TRANSFORMER.
- THIS PLAN SPECIFIES CONDUIT SIZES, TYPES AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER ROADWAYS REQUIRE BORING.

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NO	DATE	BY	CHKD	APPR	REVISION

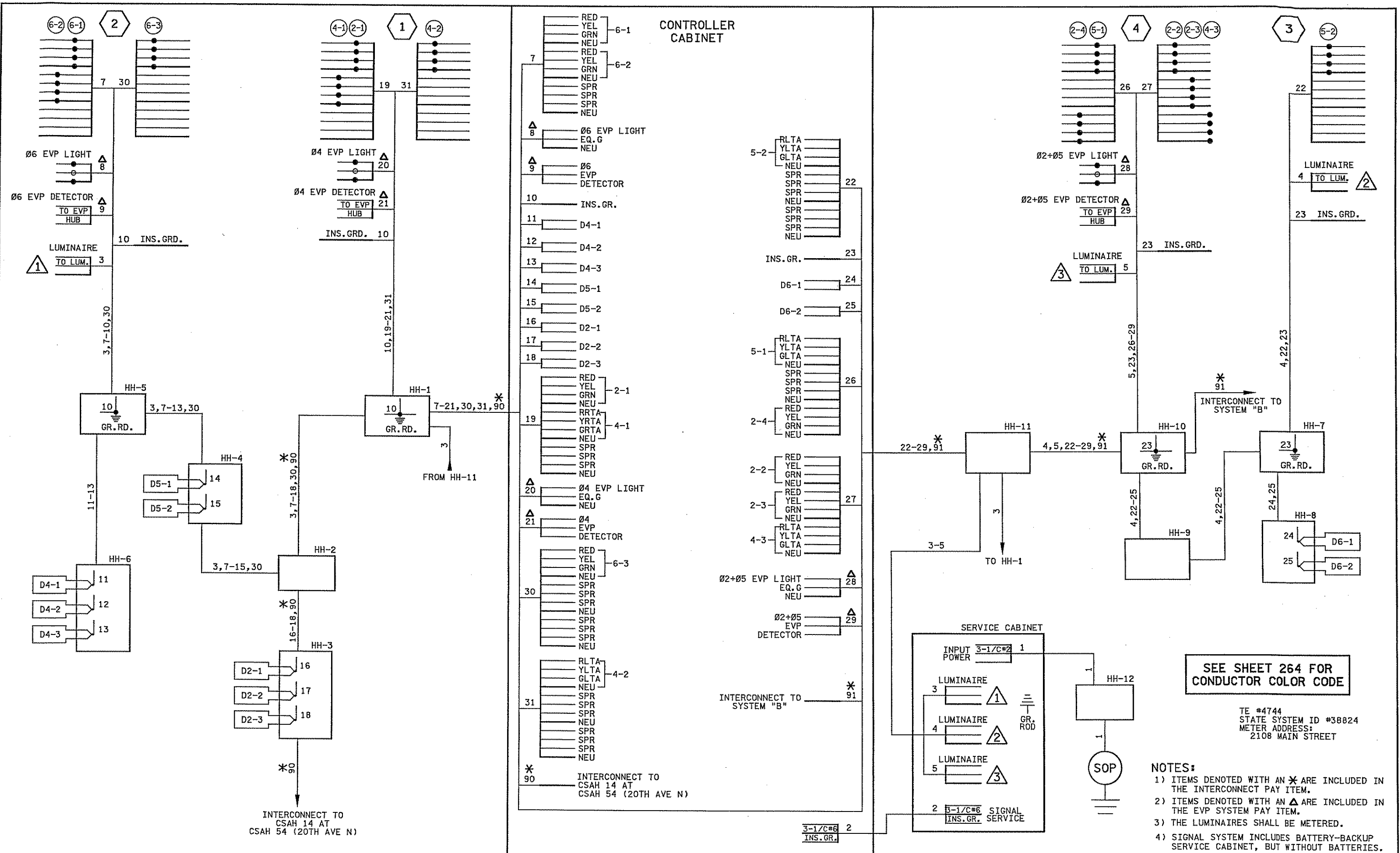
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota.
 Print Name: **Brian D. Holt**
 Date: **5/27/09** License # **21428**

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: **Adrian S. Potter**
 Date: **05/27/09** License # **42785**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY M. BRESSLER
 DESIGNED BY M. BRESSLER
 CHECKED BY A. POTTER
 COMM. NO. 0086509





CONTROLLER CABINET

- RED 6-1
- YEL 6-1
- GRN 6-1
- NEU 6-1
- RED 6-2
- YEL 6-2
- GRN 6-2
- NEU 6-2
- SPR 6-2
- SPR 6-2
- NEU 6-2
- Ø6 EVP LIGHT EQ. G 8
- Ø6 EVP DETECTOR 9
- INS. GR. 10
- D4-1 11
- D4-2 12
- D4-3 13
- D5-1 14
- D5-2 15
- D2-1 16
- D2-2 17
- D2-3 18
- RED 2-1
- YEL 2-1
- GRN 2-1
- NEU 2-1
- RRTA 4-1
- YRTA 4-1
- GRTA 4-1
- NEU 4-1
- SPR 4-1
- SPR 4-1
- NEU 4-1
- Ø4 EVP LIGHT EQ. G 20
- Ø4 EVP DETECTOR 21
- RED 6-3
- YEL 6-3
- GRN 6-3
- NEU 6-3
- SPR 6-3
- SPR 6-3
- NEU 6-3
- RLTA 4-2
- YLTA 4-2
- GLTA 4-2
- NEU 4-2
- SPR 4-2
- SPR 4-2
- NEU 4-2
- Ø2+Ø5 EVP LIGHT EQ. G 28
- Ø2+Ø5 EVP DETECTOR 29
- INTERCONNECT TO SYSTEM "B" 91
- INTERCONNECT TO CSAH 14 AT CSAH 54 (20TH AVE N) 90

SERVICE CABINET

- INPUT POWER 3-1/C#2 1
- LUMINAIRE 3 1
- LUMINAIRE 4 2
- LUMINAIRE 5 3
- 2 5-1/C#6 SIGNAL SERVICE
- INS. GR. 2
- HH-12
- SOP

SEE SHEET 264 FOR CONDUCTOR COLOR CODE

TE #4744
STATE SYSTEM ID #38824
METER ADDRESS:
210B MAIN STREET

- NOTES:**
- 1) ITEMS DENOTED WITH AN * ARE INCLUDED IN THE INTERCONNECT PAY ITEM.
 - 2) ITEMS DENOTED WITH AN Δ ARE INCLUDED IN THE EVP SYSTEM PAY ITEM.
 - 3) THE LUMINAIRE SHALL BE METERED.
 - 4) SIGNAL SYSTEM INCLUDES BATTERY-BACKUP SERVICE CABINET, BUT WITHOUT BATTERIES.

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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: **BRIAN D. HOLT**
Brian D. Holt
Date: **5/27/09** License # 21428

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Print Name: **ADRIAN S. POTTER**
Adrian S. Potter
Date: **05/27/09** License # 42785

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY **M. BRESSLER**
DESIGNED BY **M. BRESSLER**
CHECKED BY **A. POTTER**
COMM. NO. 0086509



ANOKA COUNTY/CITIES OF CENTERVILLE & LINO LAKES
TRAFFIC SIGNAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14 & 21ST AVENUE N.
FIELD WIRING DIAGRAM (SYSTEM "A")

SHEET 270 OF 471

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

-ALL VEHICLE SIGNAL INDICATIONS SHALL BE 12"
-EACH SIGNAL FACE SHALL BE BLACK POLYCARBONITE WITH BACKGROUND SHIELD

2 PA100 POLE FOUNDATION, TYPE PA100-A-50-D40-9 (DAVIT AT 350°)
1 - ANGLE MOUNT SIGNAL OVERHEAD AT 0°
2 - STRAIGHT MOUNT SIGNALS OVERHEAD AT 12° AND 24°
2 - ANGLE MOUNT SIGNALS AT 90° AND 180°

ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 1+6)
LUMINAIRE - 250 WATT H.P.S.
TYPE D SIGN - SEE MAST ARM SIGN DETAILS
1 - R6-1R SIGN (36x12)
1 - R6-1L SIGN (36x12)
1 - R9-3a SIGN (18x18) FACING POLE 1
1 - R9-3a SIGN (18x18) FACING POLE 3
EXTEND INTO HH-5:
3" CONDUIT
2 - 12/C #14
1 - 3/C #14
1 - 3/C #14 (LUM.)
1 - 3/C #20
1 - 1/C #6 INS. GR.

3 PA90 POLE FOUNDATION, TYPE PA90-A-20-D40-9 (DAVIT AT 350°)
1 - ANGLE MOUNT SIGNAL OVERHEAD AT 0°
1 - ANGLE MOUNT SIGNAL AT 180°
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 3)
LUMINAIRE - 250 WATT H.P.S.
TYPE D SIGN - SEE MAST ARM SIGN DETAILS
1 - R6-1R SIGN (36x12)
1 - R6-1L SIGN (36x12)
1 - R9-3a SIGN (18x18) FACING POLE 2
1 - R9-3a SIGN (18x18) FACING POLE 4
EXTEND INTO HH-8:
3" CONDUIT
1 - 12/C #14
1 - 3/C #14
1 - 3/C #14 (LUM.)
1 - 3/C #20
1 - 1/C #6 INS. GR.

NMC LOOP DETECTORS		
DESIGNATION	NO. & SIZE/FT.	LOCATION
D1-1	1-6'X6'	40'
D1-2	1-6'X6'	10'
D2-1,D2-2,D2-3,D2-4	1-6'X6'	300'
D3-1,D3-2	2-6'X6'	0',15'
D4-1,D4-2,D4-3	1-6'X6'	250'
D4-4	2-6'X6'	-6',9'
D4-5,D4-6	2-6'X6'	0',15'
D6-1,D6-2	1-6'X6'	300'

-LOCATION: DISTANCE FROM CROSSWALK/STOP LINE IN FEET

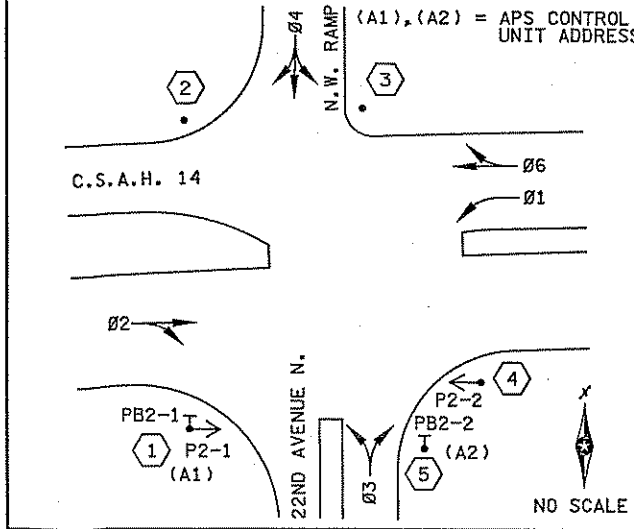
B SOURCE OF POWER
GROUND MOUNTED TRANSFORMER (APPROXIMATE LOCATION)
EXTEND 2" CONDUIT INTO HH-17 WITH:
3 - 1/C #2

A EQUIPMENT PAD - SEE DETAIL
CONTROLLER & CABINET
SERVICE CABINET
1 - FIBER-OPTIC TELEMETRY INTERFACE PANEL WITH HARNESS
2 - FIBER-OPTIC MODEMS
EXTEND 4" CONDUIT INTO HH-1 WITH:
4 - 12/C #14 11 - 2/C #14
2 - 3/C #14 1 - 1/C #6 INS. GR.
2 - 3/C #20
1 - FO CABLE (6MM,6SM)
EXTEND 4" CONDUIT INTO HH-16 WITH:
3 - 12/C #14 1 - 4/C #14
2 - 3/C #14 7 - 2/C #14
2 - 3/C #20 1 - 1/C #6 INS. GR.
1 - FO CABLE (6MM,6SM)
3" CONDUIT STUBBED OUT (THREADED & CAPPED BOTH ENDS)
3/4" CONDUIT STUBBED OUT (THREADED & CAPPED BOTH ENDS)
CONTROLLER TO SERVICE CABINET
EXTEND 2" CONDUIT WITH:
2 - 1/C #6 AND 1 - 1/C #6 INS. GR.
SERVICE CABINET TO HH-1
EXTEND 2" CONDUIT WITH:
4 - 3/C #14 (LUM.)
SERVICE CABINET TO HH-17
EXTEND 2" CONDUIT WITH:
3 - 1/C #2

1 PA100 POLE FOUNDATION, TYPE PA100-A-40-D40-9 (DAVIT AT 350°)
1 - ANGLE MOUNT SIGNAL OVERHEAD AT 0°
2 - ANGLE MOUNT SIGNALS AT 90° AND 180°
1 - ANGLE MOUNT C.D. PED IND AT 90°
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)
LUMINAIRE - 250 WATT H.P.S.
1 - APS PUSH BUTTON AND SIGN (LT ARROW)
TYPE D SIGN - SEE MAST ARM SIGN DETAILS
1 - R6-1R SIGN (36x12)
1 - R6-1L SIGN (36x12)
1 - R9-3a SIGN (18x18) FACING POLE 2
EXTEND INTO HH-1:
3" CONDUIT
2 - 12/C #14 188
1 - 3/C #14
1 - 3/C #14 (LUM.)
1 - 2/C #14
1 - 3/C #20
1 - 1/C #6 INS. GR.

4" CONDUIT
2 - 12/C #14
1 - 3/C #14
1 - 3/C #14 (LUM.)
6 - 2/C #14
1 - 3/C #20
1 - 1/C #6 INS. GR.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS & PUSHBUTTON LAYOUT



2" CONDUIT
4 - 2/C #14
1 - FO CABLE (6MM,6SM)
4" CONDUIT
2 - 12/C #14
1 - 3/C #14
1 - 3/C #14 (LUM.)
10 - 2/C #14
1 - 3/C #20
1 - FO CABLE (6MM,6SM)
1 - 1/C #6 INS. GR.

SIGNAL OPERATION NOTES
- NORMAL OPERATION IS 5 PHASE
- FLASH MODE SHALL BE ALL RED
- Ø1 SHALL BE PROTECTED LEFT TURN
- Ø3 AND Ø4 SHALL BE PHASE SEQUENTIAL
- Ø2 AND Ø6 SHALL BE ON VEHICLE RECALL

MATCH LINE "E"
SEE SHEET 276

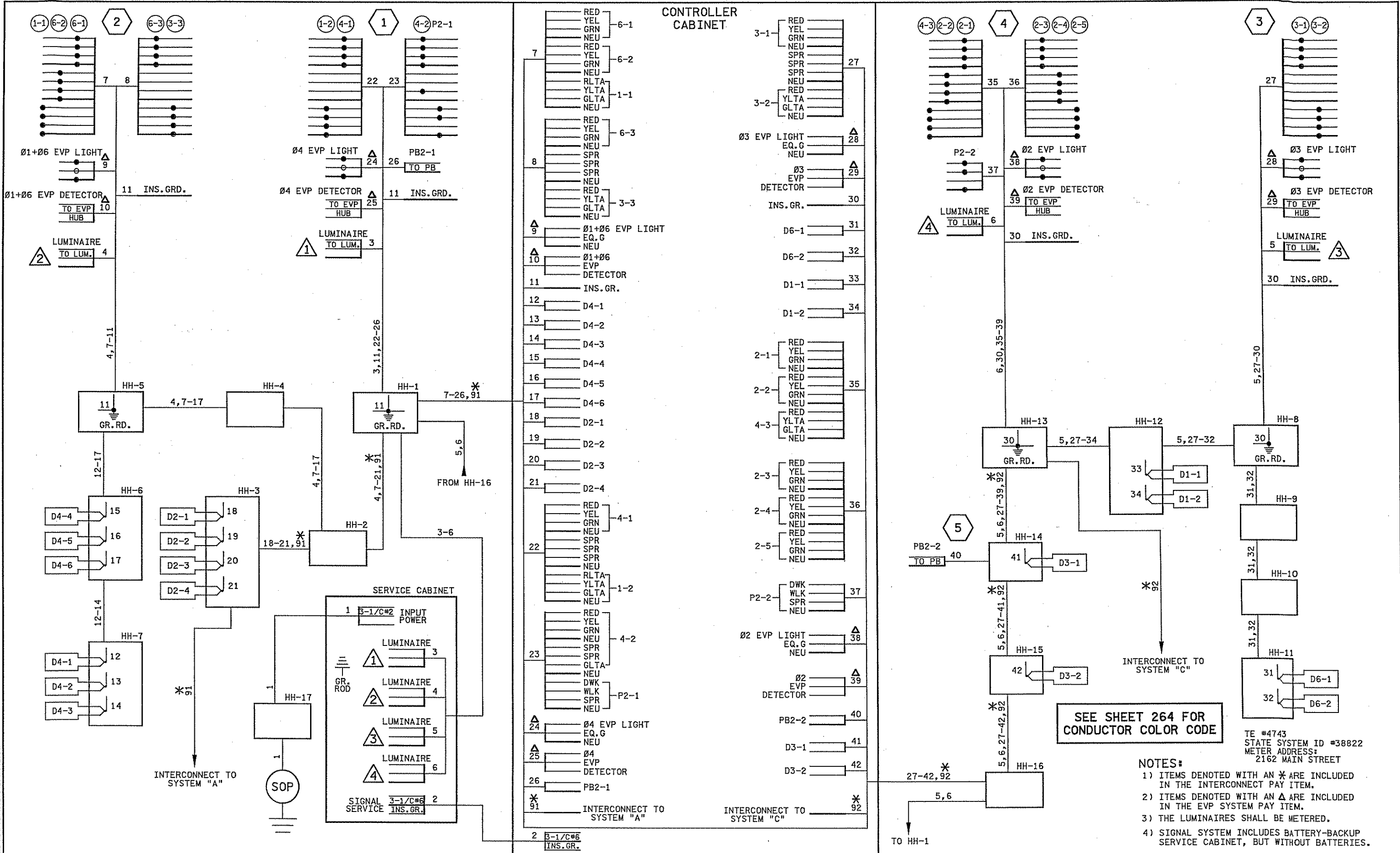
MATCH LINE "D"
SEE SHEET 276

MATCH LINE "F"
SEE SHEET 276

22ND AVENUE N.
(30 M.P.H.)

TE #4743
STATE SYSTEM ID #38822
METER ADDRESS:
2162 MAIN STREET

- NOTES:
- SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
 - THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND VERIFIED BY MN/DOT TRAFFIC OFFICE PERSONNEL.
 - A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE FURNISHED AND INSTALLED 6" FROM THE END OF EACH MAST ARM.
 - SIGNING IS INCLUDED IN THE SIGNAL PAY ITEM. FOR TYPE "D" SIGNS, SEE DETAILS.
 - FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN THE INTERCONNECT PAY ITEM.
 - ITEMS DENOTED WITH AN Δ ARE INCLUDED IN THE EVP SYSTEM PAY ITEM.
 - ALL SCHEDULE 80 PVC OR HDPE SHALL CARRY 1 - 1/C #6 INSULATED GREEN GROUNDING CONDUCTOR AS SHOWN ON THE PLAN.
 - THE CONTRACTOR SHALL COORDINATE WITH CONNEXUS ENERGY THE SOURCE OF POWER CONNECTION AND LOCATION OF NEW GROUND MOUNTED TRANSFORMER.
 - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER ROADWAYS REQUIRE BORING.



SEE SHEET 264 FOR CONDUCTOR COLOR CODE

- NOTES:
- 1) ITEMS DENOTED WITH AN * ARE INCLUDED IN THE INTERCONNECT PAY ITEM.
 - 2) ITEMS DENOTED WITH AN Δ ARE INCLUDED IN THE EVP SYSTEM PAY ITEM.
 - 3) THE LUMINAIRES SHALL BE METERED.
 - 4) SIGNAL SYSTEM INCLUDES BATTERY-BACKUP SERVICE CABINET, BUT WITHOUT BATTERIES.

TE #4743
STATE SYSTEM ID #38822
METER ADDRESS:
2162 MAIN STREET

9130157 AM 4/20/2009 R:\Vp\Projects\6509\NH-MUN\Plan\CO261429_R002.DGN

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 Electrical Engineer under the laws of the State of Minnesota.

Print Name: **BRIAN D. HOLT**
Brian D. Holt
 Date: 5/27/09 License # 21428

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

Print Name: **ADRIAN S. POTTER**
Adrian S. Potter
 Date: 05/27/09 License # 42785

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY M. BRESSLER
 DESIGNED BY M. BRESSLER
 CHECKED BY A. POTTER
 COMM. NO. 0086509



ANOKA COUNTY/CITY OF CENTERVILLE
 TRAFFIC SIGNAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14 & 35E N.W. RAMP/22ND AVENUE N.
 FIELD WIRING DIAGRAM (SYSTEM "B")

SHEET 272 OF 471

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

ALL VEHICLE SIGNAL INDICATIONS SHALL BE 12"
EACH SIGNAL FACE SHALL BE BLACK POLYCARBONITE WITH BACKGROUND SHIELD

3 PA100 POLE FOUNDATION
TYPE PA100-A-50-D40-9 (DAVIT AT 350°)
1 - ANGLE MOUNT SIGNAL OVERHEAD AT 0°
2 - STRAIGHT MOUNT SIGNALS OVERHEAD AT 12' AND 24'
2 - STRAIGHT MOUNT SIGNALS AT 135° AND 225°
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)
LUMINAIRE - 250 WATT H.P.S.
1 TYPE D SIGN - SEE MAST ARM SIGN DETAILS
1 - R9-3a SIGN (18x18) FACING POLE 2
1 - R9-3a SIGN (18x18) FACING POLE 4
EXTEND INTO HH-5:
3" CONDUIT
2 - 12/C #14
Δ-1 - 3/C #14
1 - 3/C #14 (LUM.)
Δ-1 - 3/C #20
1 - 1/C #6 INS.GR.

2 PA90 POLE FOUNDATION
TYPE PA90-A-15-D40-9 (DAVIT AT 350°)
1 - ANGLE MOUNT SIGNAL OVERHEAD AT 0°
1 - ANGLE MOUNT SIGNAL AT 180°
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)
TYPE D SIGN - SEE MAST ARM SIGN DETAILS
1 - R6-1R SIGN (36x12)
1 - R9-3a SIGN (18x18) FACING POLE 3
1 - R9-3a SIGN (18x18) FACING PEDESTAL 1
EXTEND INTO HH-4:
3" CONDUIT
1 - 12/C #14
Δ-1 - 3/C #14
1 - 3/C #20
1 - 1/C #6 INS.GR.

NMC LOOP DETECTORS		
DESIGNATION	NO. & SIZE/FT.	LOCATION
D2-1,D2-2	1-6'X6'	300'
D4-1,D4-2	1-6'X6'	250'
D4-3,D4-4	2-6'X6'	0',15'
D5-1	1-6'X6'	40'
D5-2	1-6'X6'	10'
D6-1,D6-2,D6-3	1-6'X6'	300'
D8-1,D8-2	1-6'X6'	250'
D8-3,D8-4	2-6'X6'	-12',3'

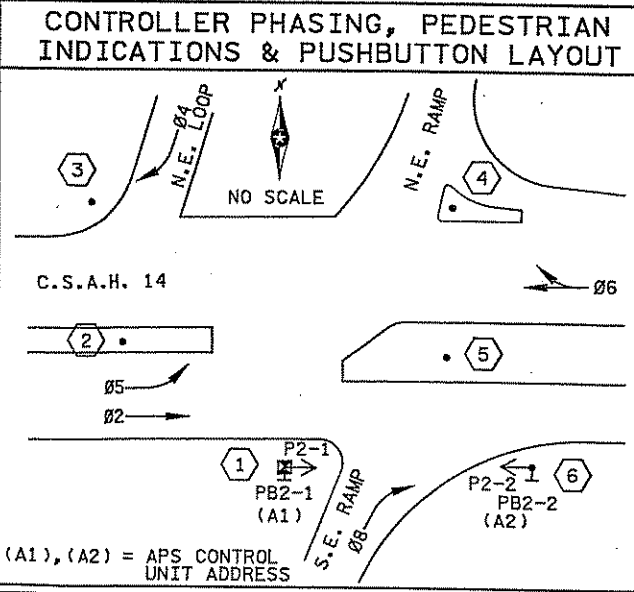
-LOCATION: DISTANCE FROM CROSSWALK/STOP LINE IN FEET

4 PA90 POLE FOUNDATION
TYPE PA90-A-D40-9 (DAVIT AT 350°)
1 - ANGLE MOUNT SIGNAL AT 90°
LUMINAIRE - 250 WATT H.P.S.
1 - R6-1L SIGN (36x12)
1 - R9-3a SIGN (18x18) FACING POLE 3
1 - R9-3a SIGN (18x18) FACING POLE 5
EXTEND INTO HH-7:
3" CONDUIT
1 - 12/C #14
1 - 3/C #14 (LUM.)
1 - 1/C #6 INS.GR.

5 PA90 POLE FOUNDATION
TYPE PA90-A-15-D40-9 (DAVIT AT 350°)
1 - TWO WAY SIGNAL MOUNT OVERHEAD AT 0°
1 - ANGLE MOUNT SIGNAL AT 180°
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
TYPE D SIGN - SEE MAST ARM SIGN DETAILS
1 - R6-1R SIGN (36x12)
1 - R9-3a SIGN (18x18) FACING POLE 4
1 - R9-3a SIGN (18x18) FACING POLE 6
EXTEND INTO HH-8:
3" CONDUIT
1 - 12/C #14
Δ-1 - 3/C #14
1 - 3/C #20
1 - 1/C #6 INS.GR.

6 PA90 POLE FOUNDATION
TYPE PA90-A-35-D40-9 (DAVIT AT 350°)
1 - ANGLE MOUNT SIGNAL OVERHEAD AT 0°
1 - STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'
1 - ANGLE MOUNT SIGNAL AT 180°
1 - ANGLE MOUNT C.D. PED IND AT 180°
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2+5)
LUMINAIRE - 250 WATT H.P.S.
1 - APS PUSH BUTTON AND SIGN (LT ARROW) PB2-2
TYPE D SIGN - SEE MAST ARM SIGN DETAILS
1 - R9-3a SIGN (18x18) FACING POLE 5
EXTEND INTO HH-10:
3" CONDUIT
2 - 12/C #14
Δ-1 - 3/C #14
1 - 3/C #14 (LUM.)
1 - 2/C #14
Δ-1 - 3/C #20
1 - 1/C #6 INS.GR.

A EQUIPMENT PAD - SEE DETAIL
CONTROLLER & CABINET
SERVICE CABINET
1 - FIBER-OPTIC TELEMETRY INTERFACE PANEL WITH HARNESS
2 - FIBER-OPTIC MODEMS
EXTEND 4" CONDUIT INTO HH-1 WITH:
3 - 12/C #14 1 - 4/C #14
2 - 3/C #14 9 - 2/C #14
Δ-2 - 3/C #20 1 - 1/C #6 INS.GR.
* 1 - FO CABLE (6MM,6SM)
EXTEND 4" CONDUIT INTO HH-13 WITH:
4 - 12/C #14 8 - 2/C #14
Δ-2 - 3/C #14 1 - 1/C #6 INS.GR.
* 1 - FO CABLE (6MM,6SM)
3" CONDUIT STUBBED OUT (THREADED & CAPPED BOTH ENDS)
3/4" CONDUIT STUBBED OUT (THREADED & CAPPED BOTH ENDS)
CONTROLLER TO SERVICE CABINET
EXTEND 2" CONDUIT WITH:
2 - 1/C #6 AND 1 - 1/C #6 INS.GR.
SERVICE CABINET TO HH-13
EXTEND 2" CONDUIT WITH:
3 - 3/C #14 (LUM.)
SERVICE CABINET TO HH-14:
EXTEND 2" CONDUIT WITH:
3 - 1/C #2
EXTEND 1 1/2" CONDUIT INTO TMS VAULT WITH:
1 - 6SM FIBER OPTIC PIGTAIL



1 PEDESTAL FOUNDATION
9' PEDESTAL POLE & BASE (8' POLE PLUS BASE)
TYPE 4A BRACKETING
1 - C.D. PED IND
1 - APS PUSH BUTTON AND SIGN (RT ARROW) PB2-1
1 - R9-3a SIGN (18x18) FACING POLE 2
EXTEND INTO HH-1:
3" CONDUIT
1 - 4/C #14
1 - 2/C #14
1 - 1/C #6 INS.GR.

SIGNAL OPERATION NOTES
- NORMAL OPERATION IS 5 PHASE
- FLASH MODE SHALL BE ALL RED
- Ø5 SHALL BE PROTECTED LEFT TURN
- Ø2 AND Ø6 SHALL BE ON VEHICLE RECALL

B SOURCE OF POWER
GROUND MOUNTED TRANSFORMER (APPROXIMATE LOCATION)
2" CONDUIT INTO HH-14 WITH:
3 - 1/C #2

NO	DATE	BY	CHKD	APPR	REVISION
1	7/20/09	Brian D. Holt			

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Electrical Engineer under the laws of the State of Minnesota.
Print Name: **Brian D. Holt**
Date: **7/20/09** License #: **21428**

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Print Name: **Adrian S. Potter**
Date: **07/20/09** License #: **42785**

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

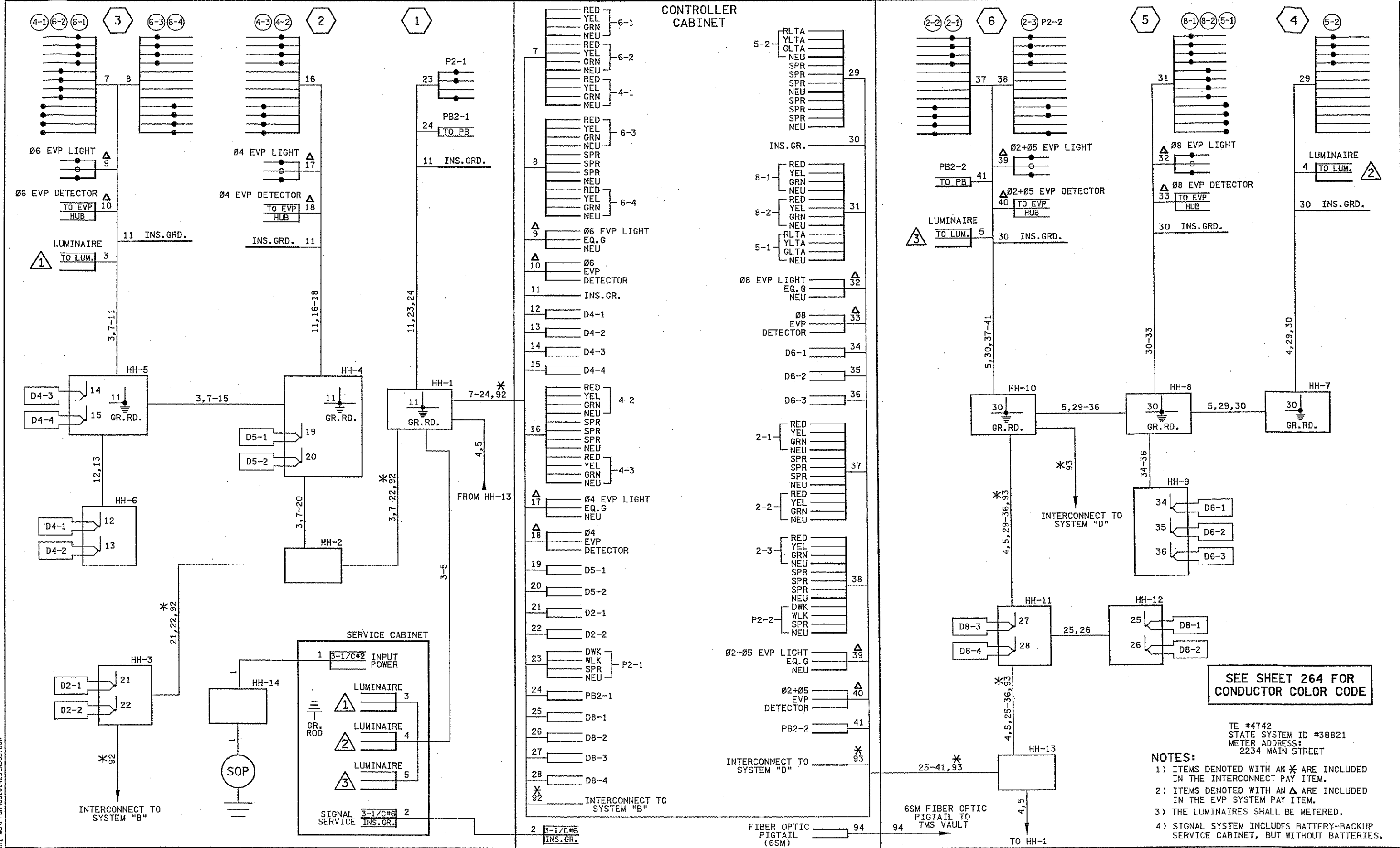
DRAWN BY: M. BRESSLER
DESIGNED BY: M. BRESSLER
CHECKED BY: A. POTTER
COMM. NO. 0086509



ANOKA COUNTY/CITY OF CENTERVILLE
TRAFFIC SIGNAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14 & 35E N.E. LOOP/S.E. RAMP
INTERSECTION LAYOUT (SYSTEM "C")

SHEET 273 OF 471

11:31:29 PM 7/20/2009 H:\Projects\6509\NHI-MUN\I\m\CO261429_R03.DGN



SEE SHEET 264 FOR CONDUCTOR COLOR CODE

TE #4742
STATE SYSTEM ID #38821
METER ADDRESS:
2234 MAIN STREET

- NOTES:**
- 1) ITEMS DENOTED WITH AN * ARE INCLUDED IN THE INTERCONNECT PAY ITEM.
 - 2) ITEMS DENOTED WITH AN Δ ARE INCLUDED IN THE EVP SYSTEM PAY ITEM.
 - 3) THE LUMINAIRES SHALL BE METERED.
 - 4) SIGNAL SYSTEM INCLUDES BATTERY-BACKUP SERVICE CABINET, BUT WITHOUT BATTERIES.

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 5/28/2009
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NO	DATE	BY	CKD	APPR	REVISION

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Print Name: **BRIAN D. HOLT**
Brian D. Holt
 Date: 5/28/09 License # 21428

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

Print Name: **ADRIAN S. POTTER**
Adrian S. Potter
 Date: 5/28/09 License # 42785

STATE PROJECT NO.
0282-25 (TH 35E)
STATE PROJECT NO.
02-614-28
COUNTY PROJECT NO.
X
CITY PROJECT NO. X

DRAWN BY
M. BRESSLER
DESIGNED BY
M. BRESSLER
CHECKED BY
A. POTTER
COMM. NO. 0086509



ANOKA COUNTY/CITY OF CENTERVILLE
 TRAFFIC SIGNAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14 & 35E N.E. LOOP/S.E. RAMP
 FIELD WIRING DIAGRAM (SYSTEM "C")

SHEET
274
OF
471

NMC LOOP DETECTORS			
DESIGNATION	NO. & SIZE/FT.	FUNCTION	LOCATION
D1-1, D1-3	2-6'X6'	1	40'
D1-2, D1-4	2-6'X6'	1	10'
D2-1, D2-2	1-6'X6'	1	400'
D5-1, D5-3	2-6'X6'	1	40'
D5-2, D5-4	2-6'X6'	1	10'
D6-1, D6-2	1-6'X6'	1	400'
D8-1	1-6'X6'	3, 8	250'
D8-2	1-6'X6', 1-6X10'	7	-5', 4'
D8-3	2-6'X6'	1	0', 15'

-LOCATION: DISTANCE FROM CROSSWALK/STOP LINE IN FEET

NOTE: ALL LOOPS ARE INPLACE EXCEPT WHERE NOTED OTHERWISE.

FUNCTION NOTES:

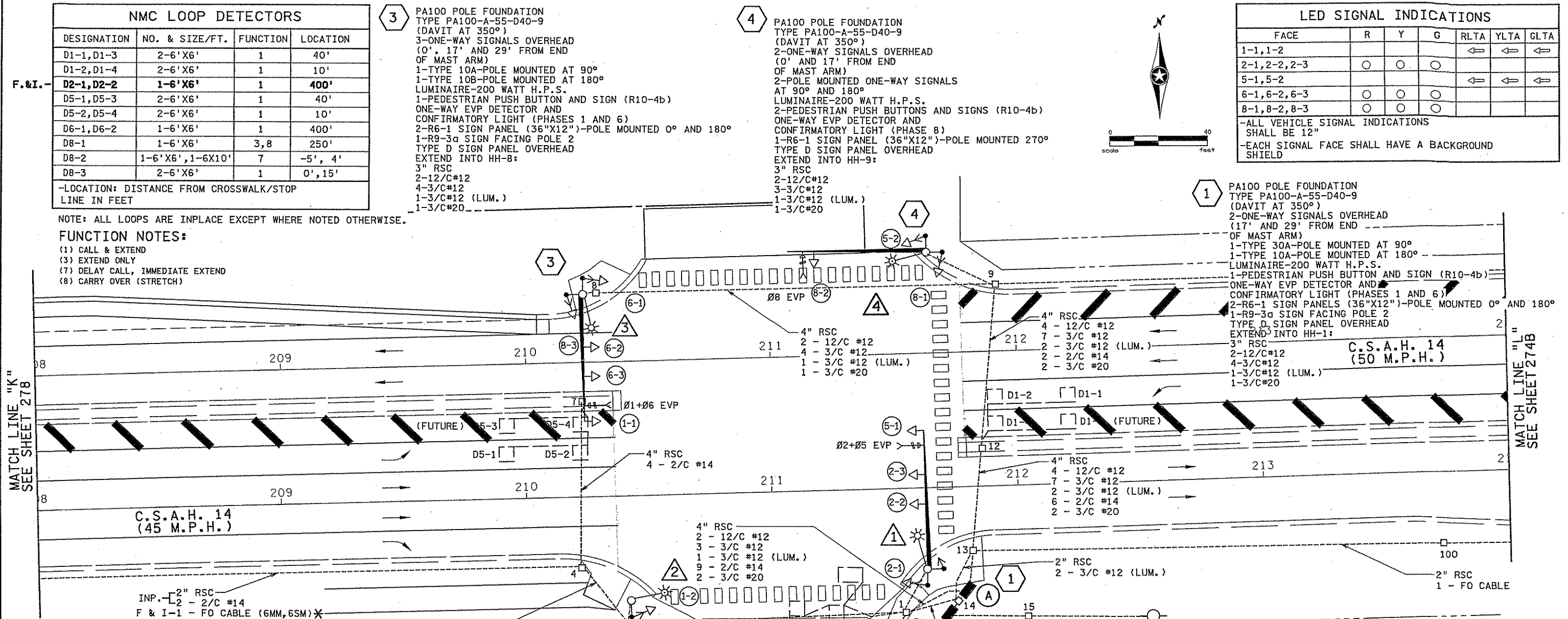
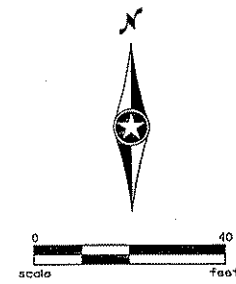
- (1) CALL & EXTEND
- (3) EXTEND ONLY
- (7) DELAY CALL, IMMEDIATE EXTEND
- (8) CARRY OVER (STRETCH)

3 PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9
(DAVIT AT 350°)
3-ONE-WAY SIGNALS OVERHEAD
(0', 17' AND 29' FROM END
OF MAST ARM)
1-TYPE 10A-POLE MOUNTED AT 90°
1-TYPE 10B-POLE MOUNTED AT 180°
LUMINAIRE-200 WATT H.P.S.
1-PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
ONE-WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 1 AND 6)
2-R6-1 SIGN PANEL (36"X12")-POLE MOUNTED 0° AND 180°
1-R9-3a SIGN FACING POLE 2
TYPE D SIGN PANEL OVERHEAD
EXTEND INTO HH-8:
3" RSC
2-12/C#12
4-3/C#12
1-3/C#12 (LUM.)
1-3/C#20

4 PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9
(DAVIT AT 350°)
2-ONE-WAY SIGNALS OVERHEAD
(0' AND 17' FROM END
OF MAST ARM)
2-POLE MOUNTED ONE-WAY SIGNALS
AT 90° AND 180°
LUMINAIRE-200 WATT H.P.S.
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
ONE-WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASE 8)
1-R6-1 SIGN PANEL (36"X12")-POLE MOUNTED 270°
TYPE D SIGN PANEL OVERHEAD
EXTEND INTO HH-9:
3" RSC
2-12/C#12
2-3/C#12
1-3/C#12 (LUM.)
1-3/C#20

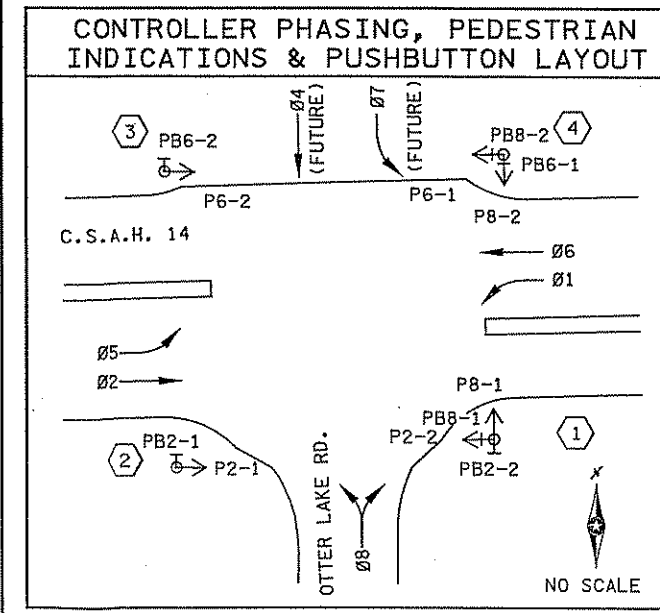
LED SIGNAL INDICATIONS						
FACE	R	Y	G	RLTA	YLTA	GLTA
1-1, 1-2				←	←	←
2-1, 2-2, 2-3	○	○	○			
5-1, 5-2				←	←	←
6-1, 6-2, 6-3	○	○	○			
8-1, 8-2, 8-3	○	○	○			

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



MATCH LINE "K" SEE SHEET 278

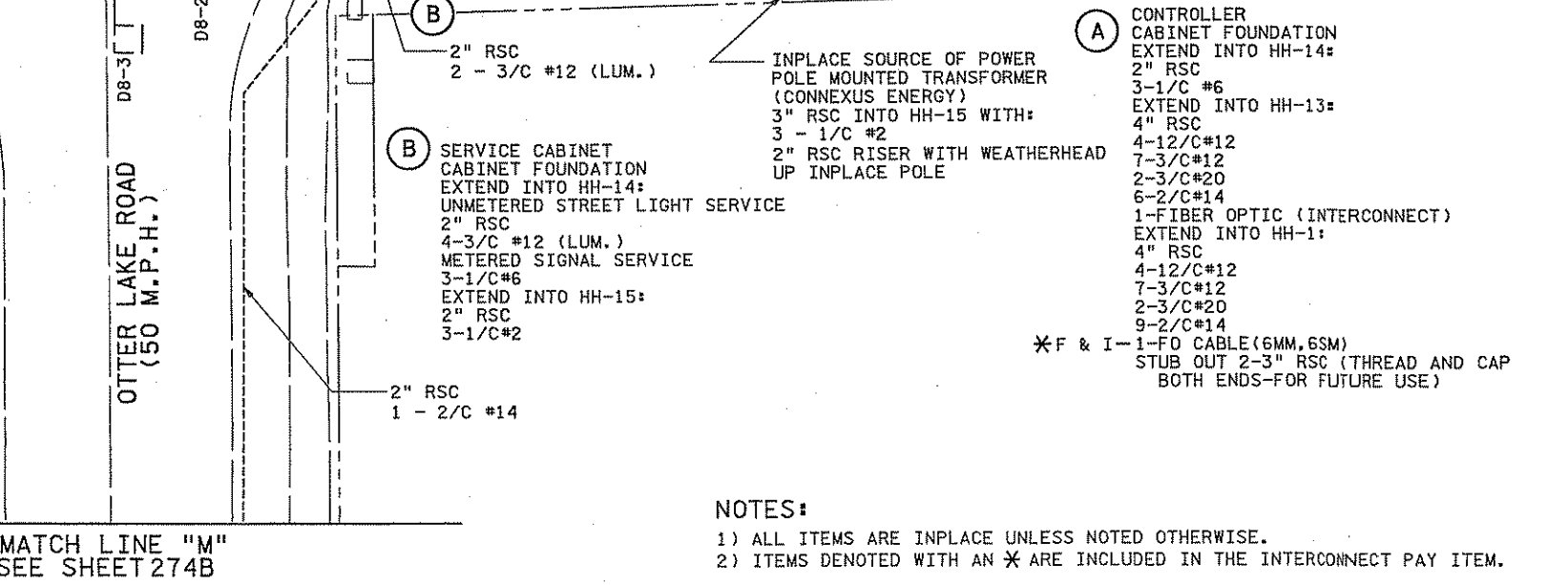
MATCH LINE "L" SEE SHEET 274B



2 PA100 POLE FOUNDATION
TYPE PA100-D40-9
(DAVIT AT 350°)
1-TYPE 10B-POLE MOUNTED AT 90°
LUMINAIRE-200 WATT H.P.S.
1-PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)
1-R6-1 SIGN PANEL (36"X12")-POLE MOUNTED 270°
1-R9-3a SIGN FACING POLE 3
EXTEND INTO HH-3:
3" RSC
2-12/C#12
3-3/C#12
1-3/C#12 (LUM.)
1-3/C#20

SIGNAL OPERATION NOTES

- NORMAL OPERATION IS 5 PHASE
- FLASH MODE SHALL BE ALL RED
- Ø1, Ø5 SHALL BE PROTECTED LEFT TURNS
- Ø2 AND Ø6 SHALL BE ON VEHICLE RECALL

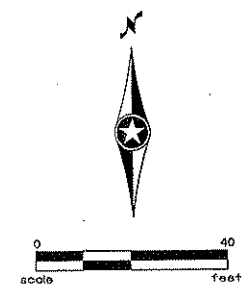


NOTES:

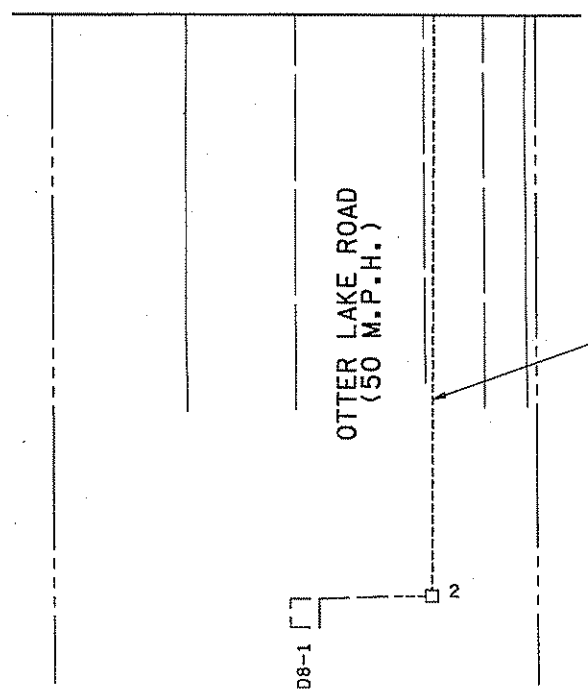
- 1) ALL ITEMS ARE INPLACE UNLESS NOTED OTHERWISE.
- 2) ITEMS DENOTED WITH AN * ARE INCLUDED IN THE INTERCONNECT PAY ITEM.

3:05:20 PM 5/28/2009 H:\Projects\5509\HI-MUP\lan\CO261429_R04.DGN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota. Print Name: Brian D. Holt Date: 5/28/09 License #: 21428		I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: Adrian S. Potter Date: 5/28/09 License #: 42785		STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X	DRAWN BY D. RASMUSSEN DESIGNED BY D. RASMUSSEN CHECKED BY A. POTTER COMM. NO. 0086509		ANOKA COUNTY TRAFFIC SIGNAL PLANS C.S.A.H. 14/T.H. 35E INTERCHANGE C.S.A.H. 14 & OTTER LAKE ROAD REVISED INTERSECTION LAYOUT (SYSTEM "D")	SHEET 274A OF 471
--	--	--	--	---	--	--	---	-------------------



MATCH LINE "M"
SEE SHEET 274A

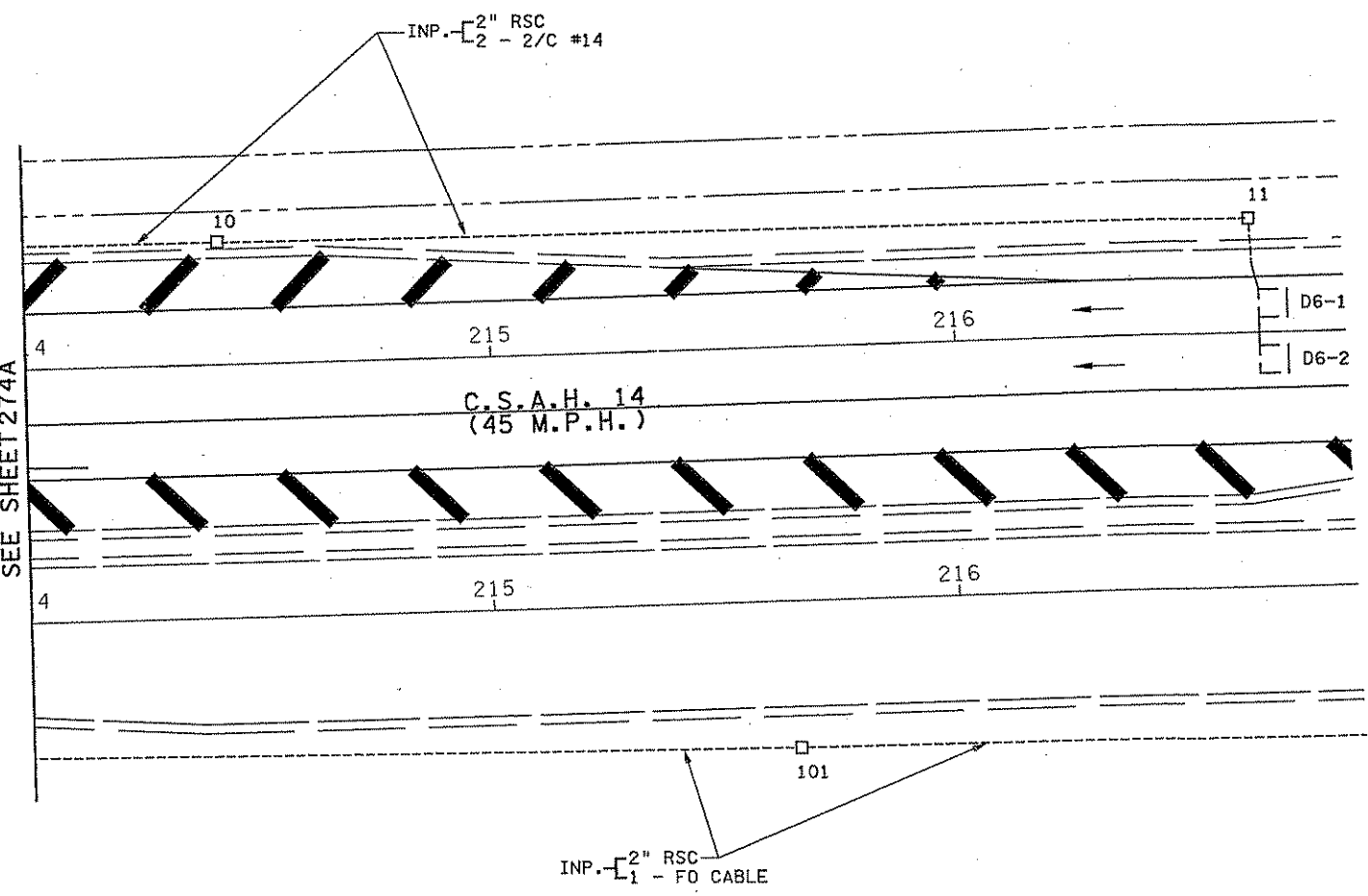


OTTER LAKE ROAD
(50 M.P.H.)

INP.-[2" RSC
1 - 2/C #14



MATCH LINE "L"
SEE SHEET 274A



C.S.A.H. 14
(45 M.P.H.)

INP.-[2" RSC
1 - FO CABLE

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 3/28/09
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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 Electrical Engineer under the laws of the State of Minnesota.

Print Name: **BRIAN D. HOLT**

Brian D. Holt

Date: 5/28/09 License # 21428

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

Print Name: **ADRIAN S. POTTER**

Adrian S. Potter

Date: 5/28/09 License # 42785

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
D. RASMUSSEN

DESIGNED BY
D. RASMUSSEN

CHECKED BY
A. POTTER

COMM. NO. 0086509



ANOKA COUNTY

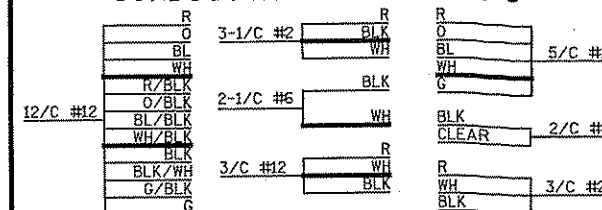
TRAFFIC SIGNAL PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE
C.S.A.H. 14 & OTTER LAKE ROAD
MATCH LINE LAYOUT (SYSTEM "D")

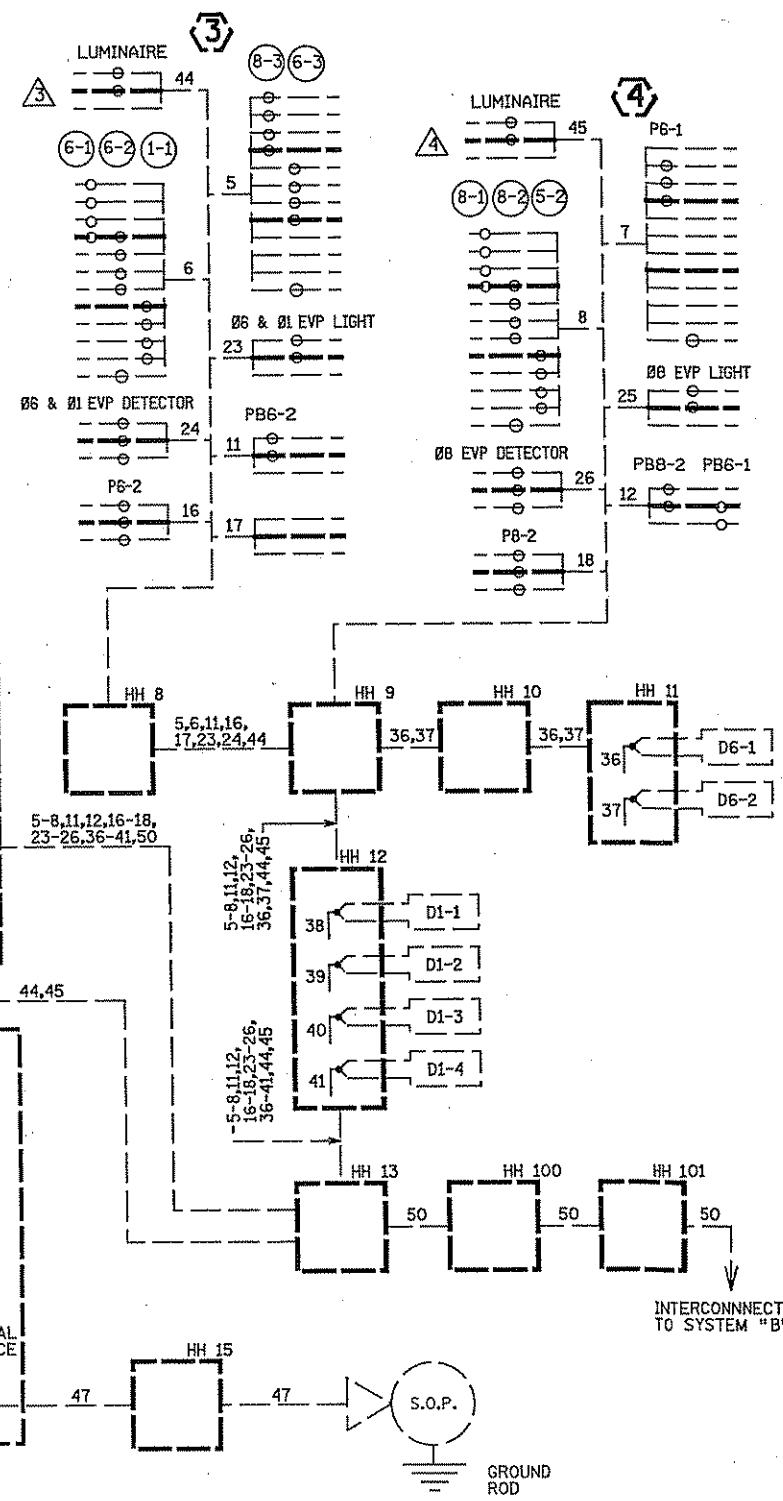
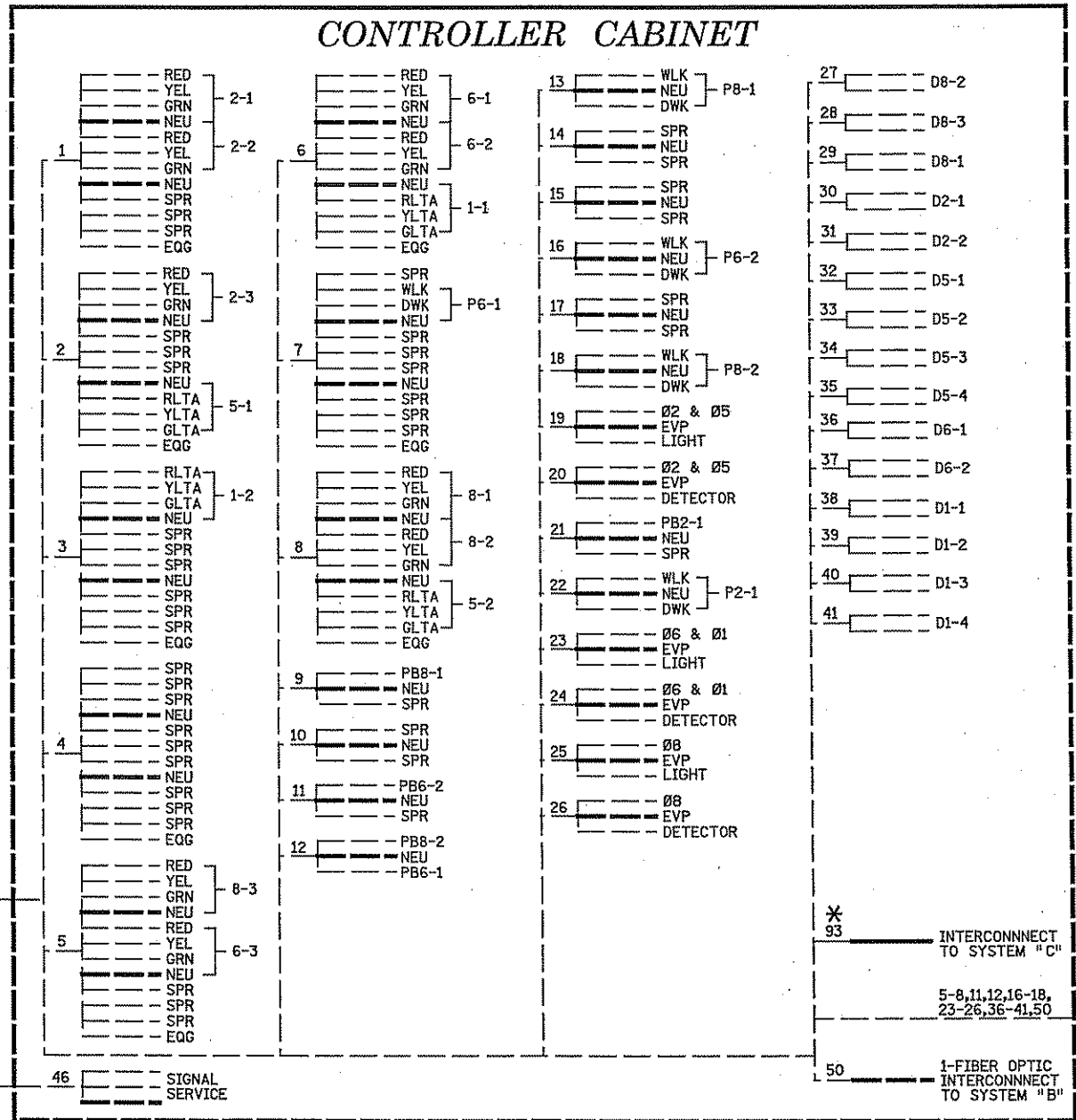
SHEET
274B
OF
471

CONTROLLER CABINET

CONDUCTOR COLOR CODING



NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE



- NOTES:**
- 1) ALL CABLES AND CONDUCTORS ARE INPLACE AND SHALL BE REUSED AS SHOWN UNLESS NOTED OTHERWISE.
 - 2) LOOP DETECTORS DENOTED WITH ■ SHALL BE FURNISH AND INSTALL.
 - 3) ITEMS DENOTED WITH AN * SHALL BE FURNISH AND INSTALL AND ARE INCLUDED IN THE INTERCONNECT PAY ITEM.

1:06:24 PM
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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 Electrical Engineer under the laws of the State of Minnesota.

Print Name: **Brian D. Holt**
 Date: **5/28/09** License #: **21428**

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

Print Name: **Adrian S. Potter**
 Date: **5/28/09** License #: **42785**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

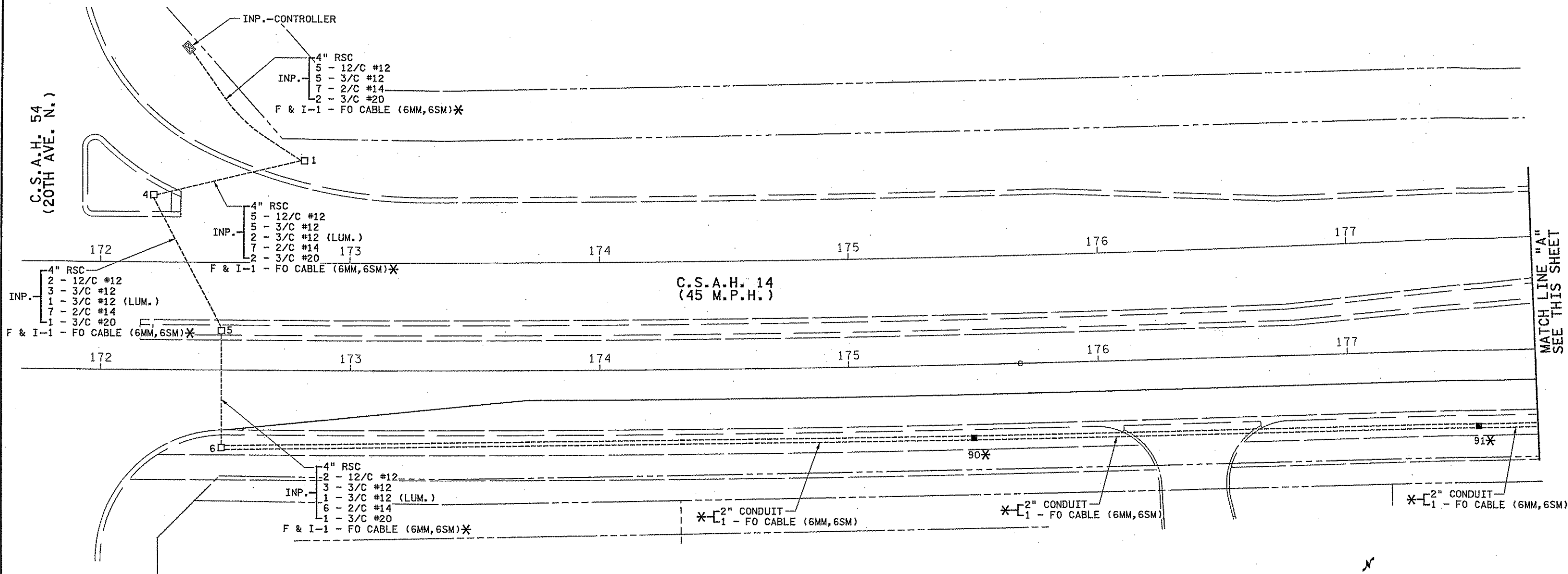
DRAWN BY: D. RASMUSSEN
 DESIGNED BY: D. RASMUSSEN
 CHECKED BY: A. POTTER
 COMM. NO. 0086509



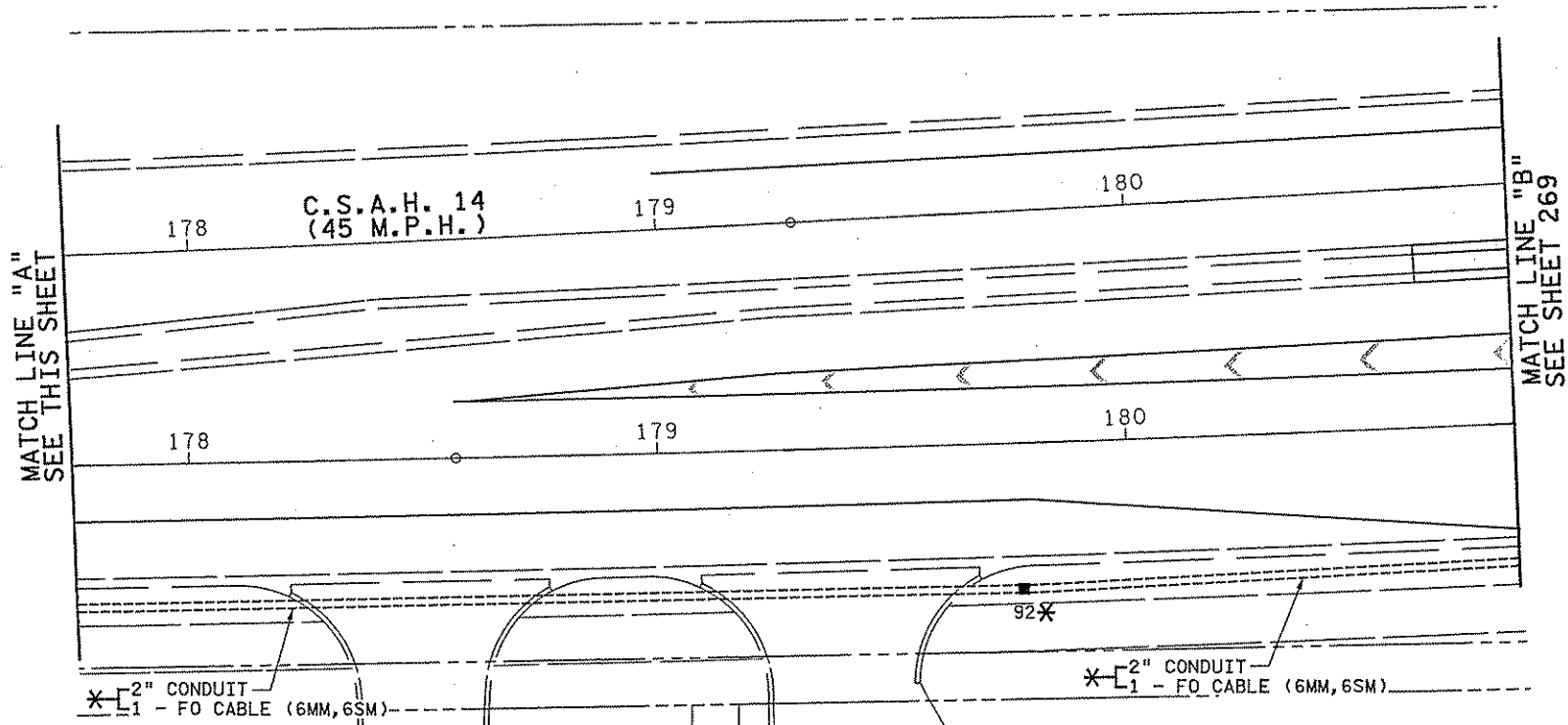
ANOKA COUNTY/CITY OF CENTERVILLE
 TRAFFIC SIGNAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 C.S.A.H. 14 & OTTER LAKE ROAD
 REVISED FIELD WIRING DIAGRAM (SYSTEM "D")

SHEET 274C OF 471

C.S.A.H. 54
(20TH AVE. N.)

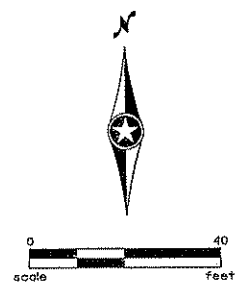


MATCH LINE "A"
SEE THIS SHEET



MATCH LINE "A"
SEE THIS SHEET

MATCH LINE "B"
SEE SHEET 269



- NOTES:**
- 1) SEE SPECIAL PROVISIONS FOR FURNISHED MATERIALS.
 - 2) THE EXACT LOCATION OF HANDHOLES AND LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND VERIFIED BY MN/DOT TRAFFIC PERSONNEL.
 - 3) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
 - 4) ITEMS DENOTED WITH AN * ARE INCLUDED IN THE INTERCONNECT PAY ITEM.
 - 5) THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK. SEE UTILITY PLANS.

9:31:02 AM 4/20/2009 \\P:\proj\dot\65509\NI-MUN\Plan\0261429_IP01.DGN

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 Electrical Engineer under the laws of the State of Minnesota.

Print Name: **BRIAN D. HOLT**
Brian D. Holt
 Date: 5/27/09 License # 21428

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

Print Name: **ADRIAN S. POTTER**
Adrian S. Potter
 Date: 05/27/09 License # 42785

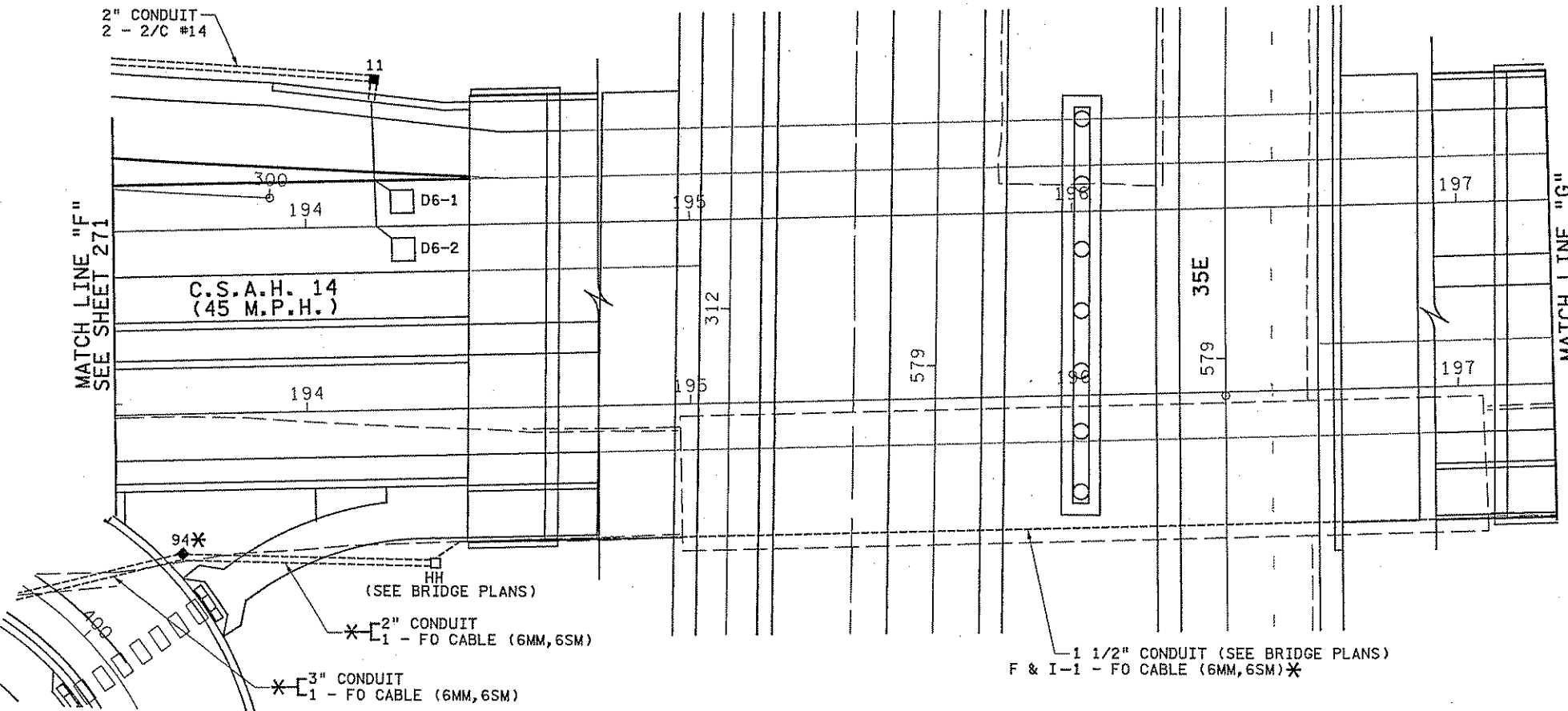
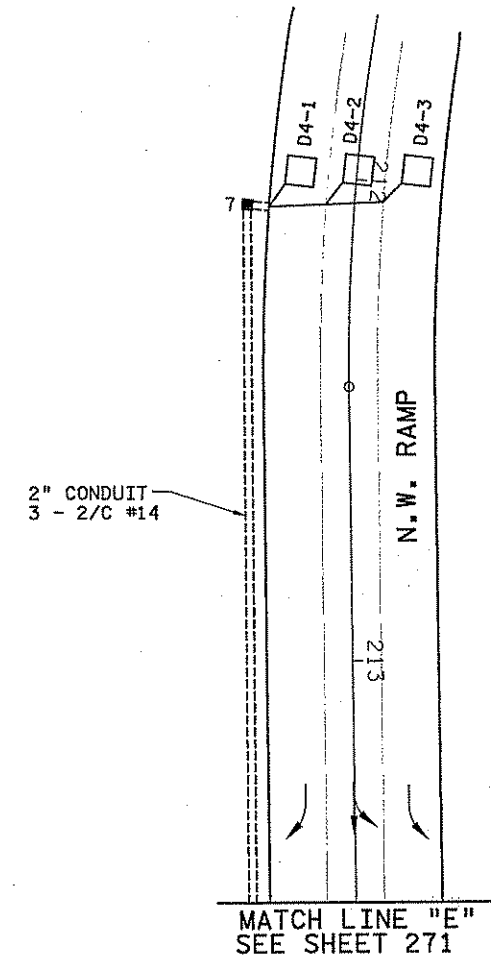
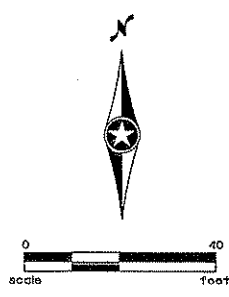
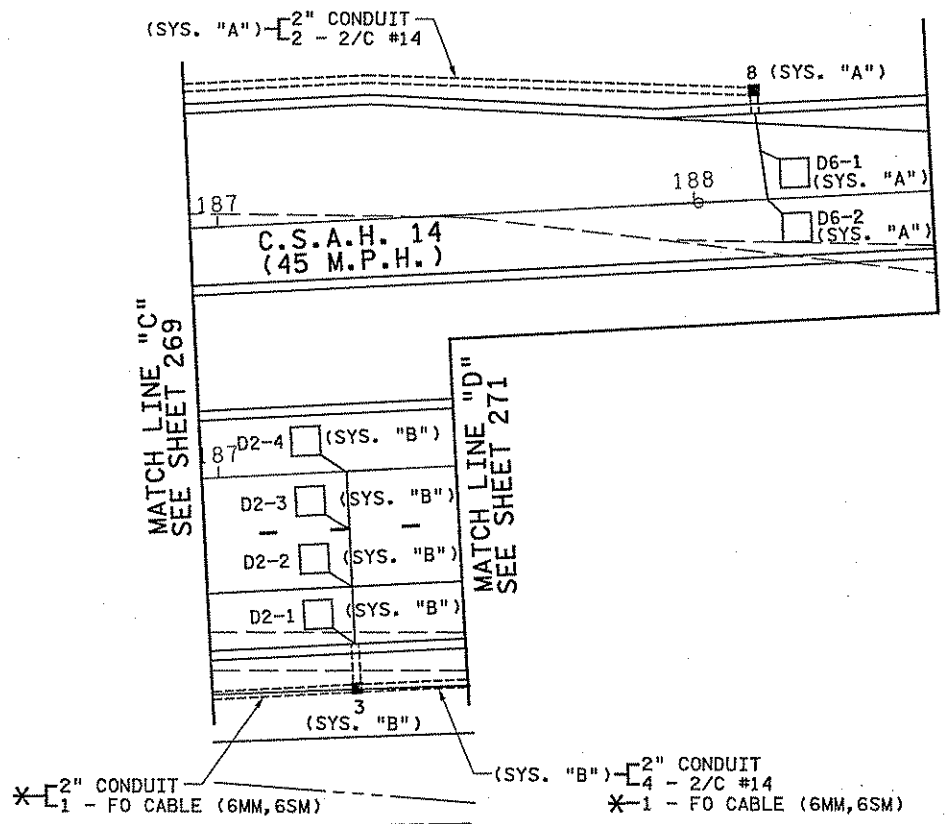
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY M. BRESSLER
 DESIGNED BY M. BRESSLER
 CHECKED BY A. POTTER
 COMM. NO. 0086509



ANOKA COUNTY
 TRAFFIC SIGNAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 MATCH LINE/INTERCONNECT LAYOUT

SHEET 275 OF 471



- NOTES:
- 1) SEE SPECIAL PROVISIONS FOR FURNISHED MATERIALS.
 - 2) THE EXACT LOCATION OF HANDHOLES AND LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND VERIFIED BY MN/DOT TRAFFIC PERSONNEL.
 - 3) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
 - 4) ITEMS DENOTED WITH AN * ARE INCLUDED IN THE INTERCONNECT PAY ITEM.
 - 5) THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK. SEE UTILITY PLANS.

9:31:04 AM 4/20/2009 H:\proj\08156509\VI-MU\Plan\0261429_IP02.DGN

NO	DATE	BY	CHKD	APPR	REVISION

... \HI-MU\Plan\0261429_IP02.DGN

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

Print Name: **BRIAN D. HOLT**

Brian D. Holt

Date: **5/27/09** License # **21428**

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

Print Name: **ADRIAN S. POTTER**

Adrian S. Potter

Date: **05/27/09** License # **42785**

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
M. BRESSLER

DESIGNED BY
M. BRESSLER

CHECKED BY
A. POTTER

COMM. NO. 0086509



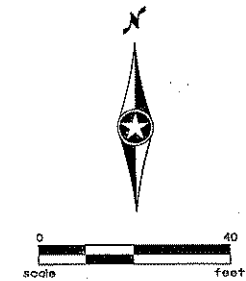
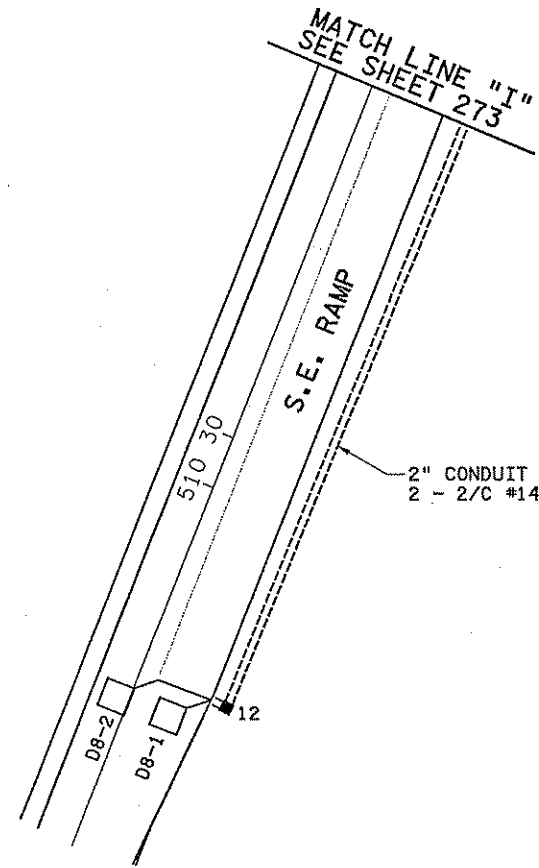
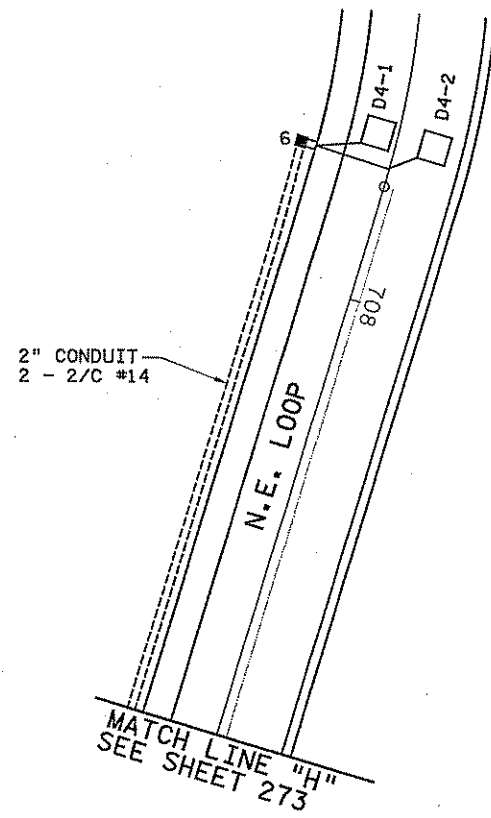
ANOKA COUNTY

TRAFFIC SIGNAL PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

MATCH LINE/INTERCONNECT LAYOUT

SHEET
276
OF
471



NOTES:

- 1) SEE SPECIAL PROVISIONS FOR FURNISHED MATERIALS.
- 2) THE EXACT LOCATION OF HANDHOLES AND LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND VERIFIED BY MN/DOT TRAFFIC PERSONNEL.
- 3) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
- 4) THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK. SEE UTILITY PLANS.

9:31:05 AM 4/20/2009 H:\Projects\6505\HI-MUN\Plan\0261429_IP03.DGN

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota.
 Print Name: BRIAN D. HOLD
Brian D. Hold
 Date: 5/27/09 License # 21428

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: ADRIAN S. POTTER
Adrian S. Potter
 Date: 05/27/09 License # 42785

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

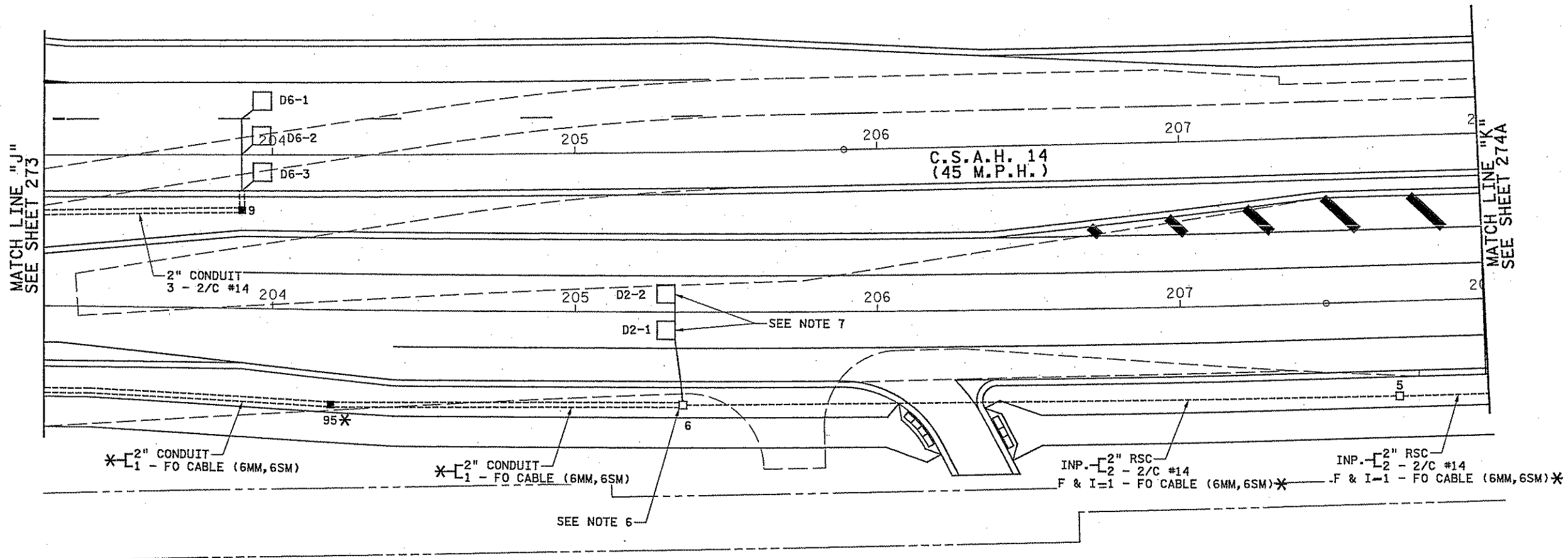
DRAWN BY M. BRESSLER
 DESIGNED BY M. BRESSLER
 CHECKED BY A. POTTER
 COMM. NO. 0086509



ANOKA COUNTY
 TRAFFIC SIGNAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 MATCH LINE/INTERCONNECT LAYOUT

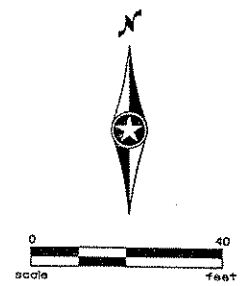
SHEET 277 OF 471

NO	DATE	BY	CKD	APPR	REVISION



MATCH LINE "J"
SEE SHEET 273

MATCH LINE "K"
SEE SHEET 274A



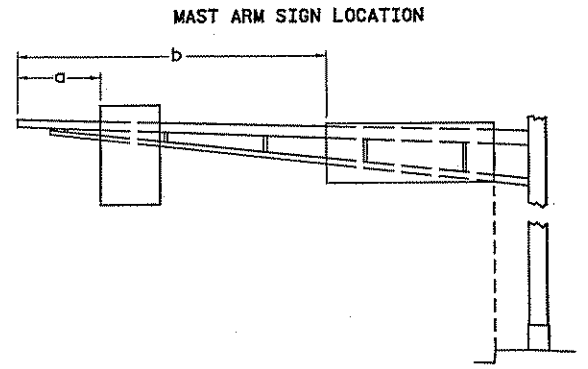
- NOTES:**
- 1) SEE SPECIAL PROVISIONS FOR FURNISHED MATERIALS.
 - 2) THE EXACT LOCATION OF HANDHOLES AND LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND VERIFIED BY MN/DOT TRAFFIC PERSONNEL.
 - 3) FOR PAVEMENT MARKINGS, SEE SIGNING AND STRIPING PLANS.
 - 4) ITEMS DENOTED WITH AN * ARE INCLUDED IN THE INTERCONNECT PAY ITEM.
 - 5) THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK. SEE UTILITY PLANS.
 - 6) THE CONTRACTOR SHALL ADJUST INPLACE HH-6 SO THE TOP OF THE HANDHOLE IS FLUSH WITH FINISHED GRADE TO THE SATISFACTION OF THE ENGINEER.
 - 7) THE CONTRACTOR SHALL REMOVE INPLACE LOOP DETECTORS D2-1 AND D2-2 AND SHALL FURNISH AND INSTALL NEW LOOP DETECTORS D2-1 AND D2-2 IN NEW ROADWAY.

1:33:21 PM
 7/20/2009
 h:\projects\6509\HI-MUNPLAN\C0261429_ip04.dgn

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: BRIAN D. HOLT <i>Brian D. Holt</i> Date: <u>7/20/09</u> License # <u>21428</u>				I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: ADRIAN S. POTTER <i>Adrian S. Potter</i> Date: <u>07/20/09</u> License # <u>42785</u>				STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. X CITY PROJECT NO. X		DRAWN BY M. BRESSLER DESIGNED BY M. BRESSLER CHECKED BY A. POTTER COMM. NO. 0086509		ANOKA COUNTY TRAFFIC SIGNAL PLANS C.S.A.H. 14/T.H. 35E INTERCHANGE MATCH LINE/INTERCONNECT LAYOUT		SHEET 278 OF 471
NO. DATE BY CKD APPR REVISION ... \HI-MUNPLAN\C0261429_ip04.dgn				SRF CONSULTING GROUP, INC.										

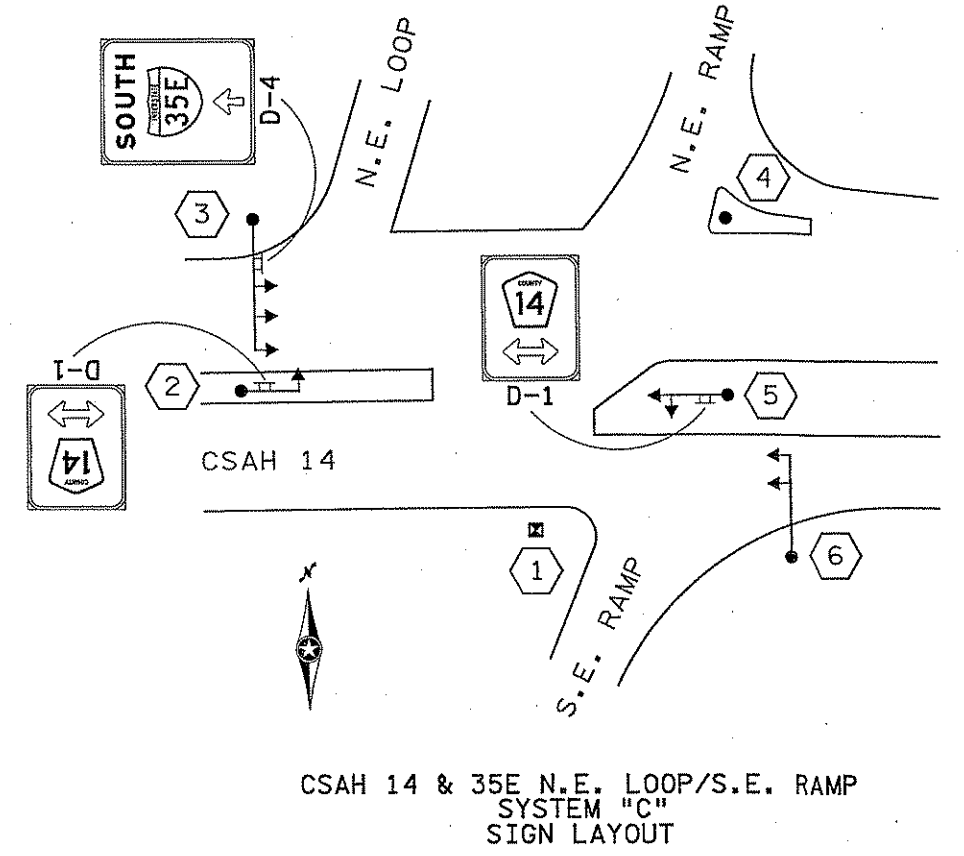
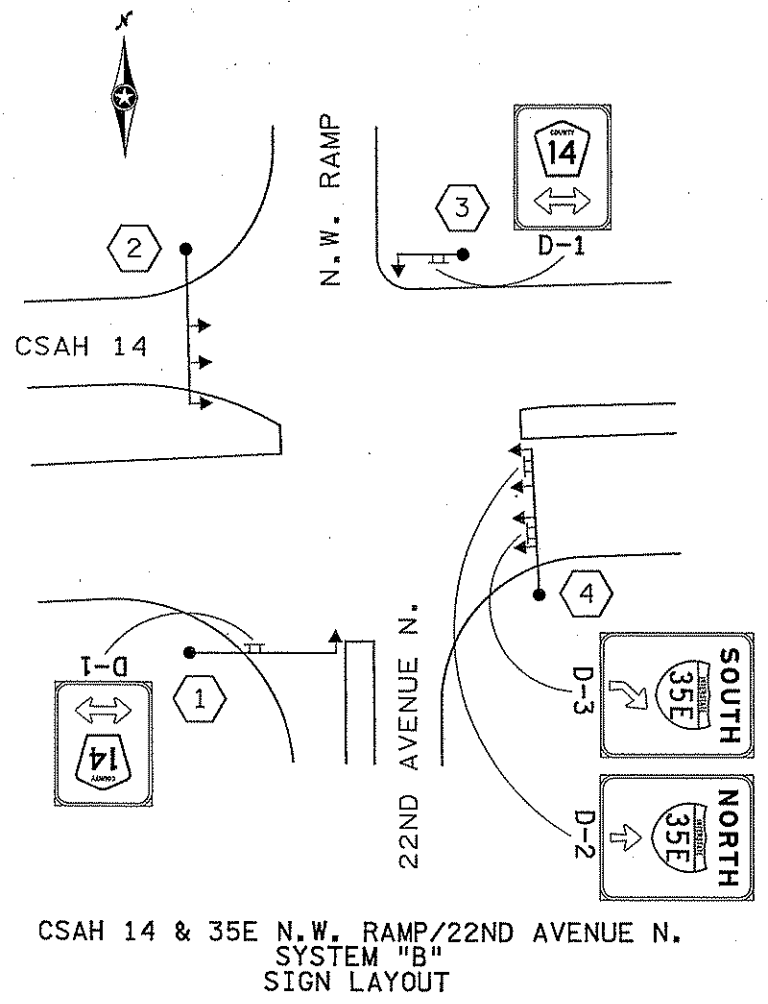
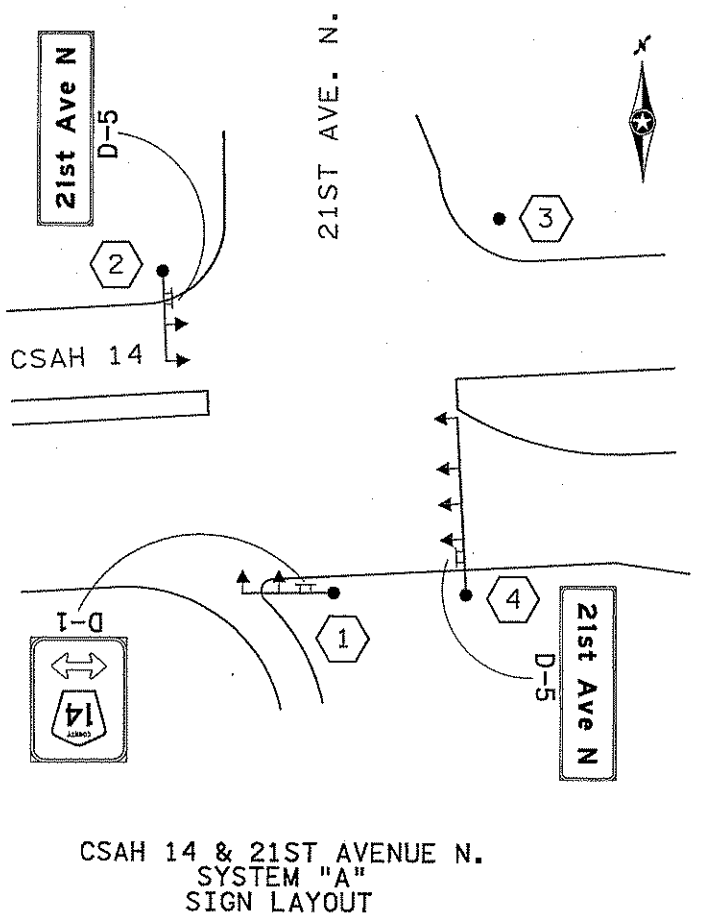
MAST ARM MOUNTED SIGNS								
SIGN PANEL	POLE NO.	a (FT)	b (FT)	SIZE (IN)	MOUNTING BRACKET		AREA/SIGN (SQ.FT.)	NO. REQ.
					NO.	SPACING (1)		
D-1	1		22	42X54	2	----	15.75	1
	2,4		16,46	84X24	3	----	14	2
D-2	1,3		22,10	42X54	2	----	15.75	2
	4	1		54X66	3	----	24.75	1
	4		28	54X66	3	----	24.75	1
D-3	2,5		8,8	42X54	2	----	15.75	2
	3		30	54X66	3	----	24.75	1

OVERLAYS				
CODE NO.	QTY	SIZE (IN)	LEGEND	SQ. FT. PER OVERLAY
M1-6a	5	24x24	14	4



- GENERAL NOTES:
- 1) CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.
 - 2) TYPE D SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
 - 3) FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS SEE STANDARD SIGNS MANUAL, PAGE 105A.
 - 4) FOR TYPE "D" STRINGER AND PANEL JOINT DETAILS SEE STANDARD SIGNS MANUAL, PAGE 105.
 - 5) THE MAST ARM MOUNTED SIGNS ARE INCLUDED IN THE SIGNAL SYSTEM PAY ITEMS.

SPECIFIC NOTE:
 (1) SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE 8/22/05) FOR BRACKET SPACING REQUIREMENTS.



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NO	DATE	BY	CHKD	APPR	REVISION

... \HI-MUP\lan\CO261429_SD09.DGN

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

Print Name: **ADRIAN S. POTTER**

Adrian S. Potter

Date: **05/28/09** License #: **42785**

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
M. BRESSLER

DESIGNED BY
M. BRESSLER

CHECKED BY
A. POTTER

COMM. NO. 0086509



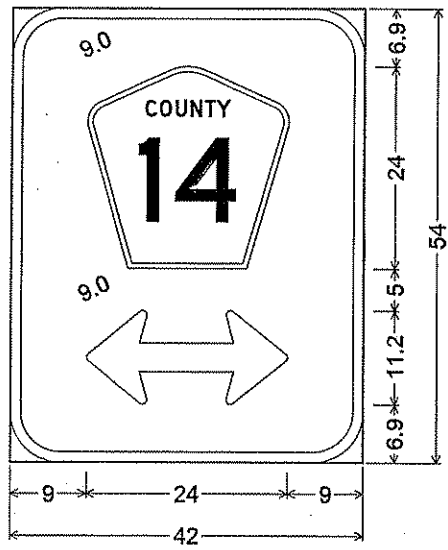
ANOKA COUNTY

TRAFFIC SIGNAL PLANS

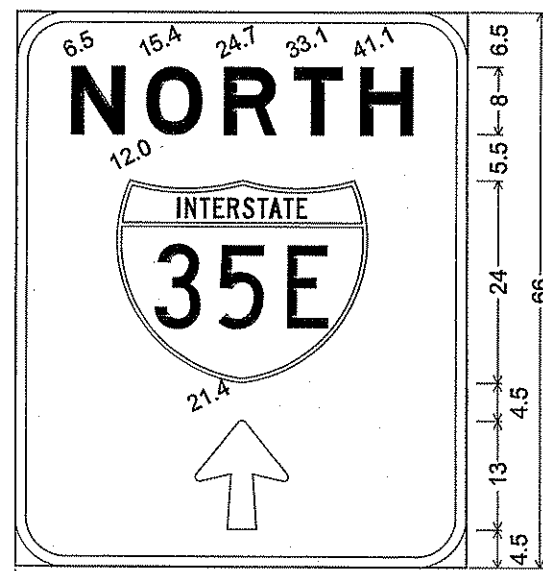
C.S.A.H. 14/T.H. 35E INTERCHANGE

MAST ARM SIGN DETAILS

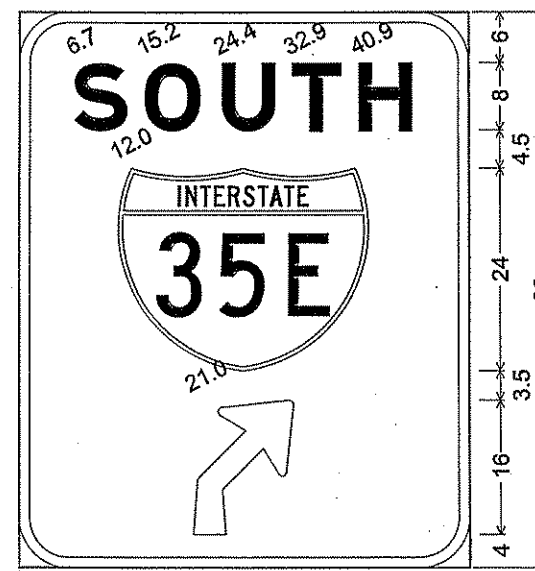
SHEET
279
OF
471



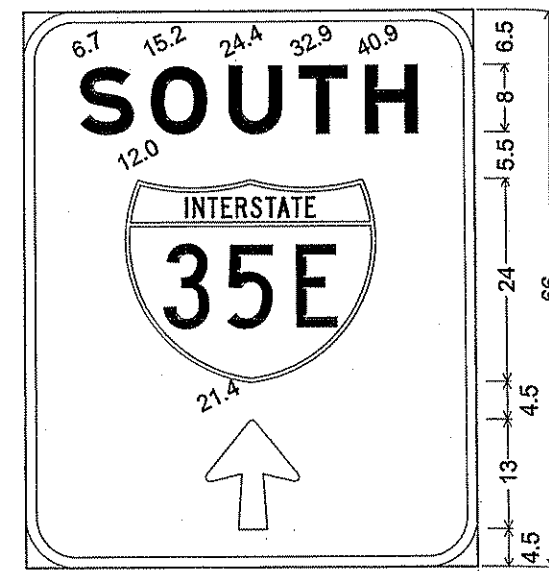
D-1;
6.0" Radius, 1.3" Border, White on Green;
Double Headed Arrow 5 - 24.0" 0°;



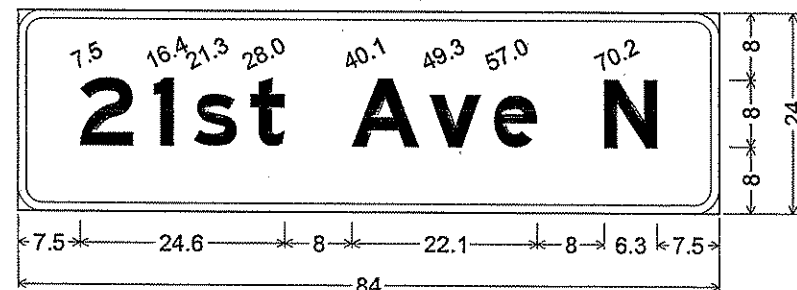
D-2;
6.0" Radius, 1.3" Border, White on Green;
[NORTH] E Mod; Arrow 5 - 13.0" 90°;



D-3;
6.0" Radius, 1.3" Border, White on Green;
[SOUTH] E Mod;
45 Deg Advanced Turn Arrow 12.0" X 16.0";



D-4;
6.0" Radius, 1.3" Border, White on Green;
[SOUTH] E Mod; Arrow 5 - 13.0" 90°;



D-5; 3.0" Radius, 1.0" Border, White on Green;
[21st Ave N] E Mod;

GENERAL NOTES:

- 1) CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.
- 2) TYPE D SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- 3) FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS SEE STANDARD SIGNS MANUAL, PAGE 105A.
- 4) FOR TYPE "D" STRINGER AND PANEL JOINT DETAILS SEE STANDARD SIGNS MANUAL, PAGE 105.
- 5) THE MAST ARM MOUNTED SIGNS ARE INCLUDED IN THE SIGNAL SYSTEM PAY ITEMS.

9:31:09 AM
4/20/2009
H:\Projects\6509\HI-MUVP\101\CO261429_SD10.DGN

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: **ADRIAN S. POTTER**

Adrian S. Potter

Date: 05/27/09 License # 42785

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
M. BRESSLER

DESIGNED BY
M. BRESSLER

CHECKED BY
A. POTTER

COMM. NO. 0086509



ANOKA COUNTY

TRAFFIC SIGNAL PLANS

C.S.A.H. 14/T.H. 35E INTERCHANGE

MAST ARM SIGN DETAILS

SHEET
280
OF
471

LED SIGNAL INDICATIONS						
FACE	R	Y	G	RLTA	YLTA	GLTA
1-1,1-2				←	←	←
2-1,2-2,2-3,2-4	●	●	●			
3-1,3-2				←	←	←
4-1,4-2,4-3	●	●	●			
5-1,5-2				←	←	←
6-1,6-2,6-3,6-4	●	●	●			
7-1,7-2				←	←	←
8-1,8-2,8-3	●	●	●			

-ALL VEHICLE SIGNAL INDICATIONS SHALL BE 12" LED WITH BACKGROUND SHIELDS.

5 PUSH BUTTON STATION
PUSH BUTTON FOUNDATION
1 - PED. PB AND SIGN (R10-4b)
EXTEND INTO HH-16:
3" RSC
1-3/C #12

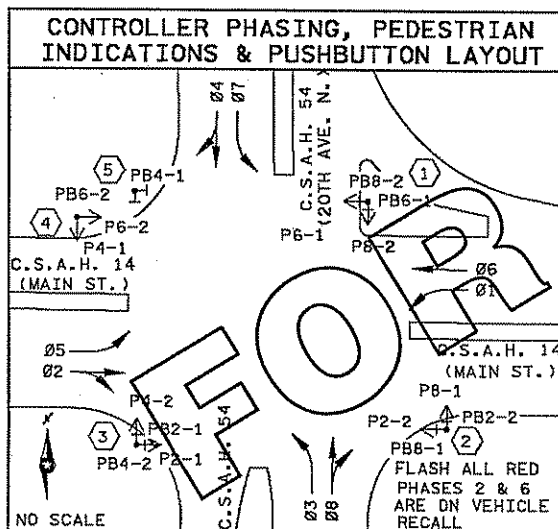
4 TYPE PA100-A50-D30-9 (DAVIT AT 350°)
PA100 POLE FOUNDATION
3 - ONE WAY SIGNALS (OVERHEAD)
(0', 12' AND 24' FROM END OF MAST ARM)
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
(6' FROM END OF MAST ARM)
2 - POLE MOUNTED ONE-WAY SIGNALS AT 45° AND 225°
2 - COUNTDOWN PEDESTRIAN INDICATIONS MOUNTED AT 45° AND 225° (SEE DETAIL)
LUMINAIRE - 250 WATT H.P.S.
2 - PEDESTRIAN PUSH BUTTONS
TYPE D SIGN-SEE SIGNING DETAIL
1-SIGN (R6-1L) ONE WAY
1-SIGN (R6-1R) ONE WAY
EXTEND INTO HH-16 WITH:
3" RSC
2-12/C #12
4-3/C #12
1-3/C #12 (LUM.)
1-2/C #14
1-3/C #20

1 TYPE PA100-A45-D30-9 (DAVIT AT 350°)
PA100 POLE FOUNDATION
3 - ONE WAY SIGNALS (OVERHEAD)
(0', 12' AND 24' FROM END OF MAST ARM)
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
(6' FROM END OF MAST ARM)
3 - POLE MOUNTED ONE-WAY SIGNALS AT 45° , 135° AND 225°
2 - COUNTDOWN PEDESTRIAN INDICATIONS MOUNTED AT 45° AND 225° (SEE DETAIL)
LUMINAIRE - 250 WATT H.P.S.
2 - PEDESTRIAN PUSH BUTTONS
TYPE D SIGN-SEE SIGNING DETAIL
1-SIGN (R6-1L) ONE WAY
1-SIGN (R6-1R) ONE WAY
EXTEND INTO HH-4 WITH:
3" RSC
3-12/C #12
2-3/C #12
1-3/C #12 (LUM.)
1-3/C #20

A EQUIPMENT PAD - SEE DETAIL
CONTROLLER AND CABINET
EXTEND 4" RSC INTO HH-1 WITH:
5-12/C #12, 5-3/C #12
7-2/C #14, 4-3/C #20
EXTEND 4" RSC INTO HH-20 WITH:
5-12/C #12, 7-3/C #12
8-2/C #14, 2-3/C #20
2" RSC TO SIGNAL SERVICE CABINET
3-1/C #6
2" & 3" RSC STUBBED OUT (THREADED AND CAPPED BOTH ENDS)

B SIGNAL SERVICE CABINET TO HH-22 WITH:
2" RSC
2-3/8 #12 (LUM.)
SIGNAL SERVICE CABINET TO HH-1
2-3/C #12 (LUM.)
SIGNAL SERVICE CABINET TO S.O.P.
(VIA HH-21) WITH:
3-1/C #2

C S.O.P. - WOOD POLE
2" RSC RISER AND WEATHERHEAD
3-1/C #2
EXTEND 2" RSC TO HH-21 WITH:
3-1/C #2



3 TYPE PA100-A55-D30-9 (DAVIT AT 350°)
PA100 POLE FOUNDATION
3 - ONE WAY SIGNALS (OVERHEAD)
(0', 18' AND 30' FROM END OF MAST ARM)
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
(6' FROM END OF MAST ARM)
3 - POLE MOUNTED ONE-WAY SIGNALS AT 45°, 135° AND 225°
2 - COUNTDOWN PEDESTRIAN INDICATIONS MOUNTED AT 45° AND 225° (SEE DETAIL)
LUMINAIRE - 250 WATT H.P.S.
2 - PEDESTRIAN PUSH BUTTONS
TYPE D SIGN-SEE SIGNING DETAIL
1-SIGN (R6-1L) ONE WAY
1-SIGN (R6-1R) ONE WAY
EXTEND INTO HH-11 WITH:
3" RSC
2-12/C #12
2-3/C #12
1-3/C #12 (LUM.)
1-3/C #20

2 TYPE PA100-A50-D30-9 (DAVIT AT 350°)
PA100 POLE FOUNDATION
3 - ONE WAY SIGNALS (OVERHEAD)
(0', 12' AND 24' FROM END OF MAST ARM)
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
(6' FROM END OF MAST ARM)
2 - POLE MOUNTED ONE-WAY SIGNALS AT 45° AND 225°
2 - COUNTDOWN PEDESTRIAN INDICATIONS MOUNTED AT 45° AND 225° (SEE DETAIL)
LUMINAIRE - 250 WATT H.P.S.
2 - PEDESTRIAN PUSH BUTTONS
TYPE D SIGN-SEE SIGNING DETAIL
1-SIGN (R6-1L) ONE WAY
1-SIGN (R6-1R) ONE WAY
EXTEND INTO HH-6 WITH:
3" RSC
2-12/C #12
3-3/C #12
1-3/C #12 (LUM.)
1-3/C #20

SEE SHEET 265 FOR NOTES.

LOOP DETECTOR CHART			
DESIGNATION	SIZE	FUNCTION	DISTANCE FROM STOP LINE
D1-1	2-6' x 6'	(1)	0', 15'
D2-1, D2-2	1-6' x 6'	(1)	300'
D3-1	2-6' x 6'	(1)	0', 15'
D4-1	1-6' x 6'	(3/8)	475'
D4-2	3-6' x 6'	(7)	-15', 0', 15'
D4-3	2-6' x 6'	(1)	0', 15'
D5-1	2-6' x 6'	(1)	0', 15'
D6-1, D6-2	1-6' x 6'	(1)	300'
D7-1	2-6' x 6'	(1)	0', 15'
D7-2	2-6' x 6'	(1)	0', 15'
D8-1, D8-2	1-6' x 6'	(3/8)	400'
D8-3	3-6' x 6'	(7)	-15', 0', 15'
D8-4	2-6' x 6'	(1)	0', 15'
D8-5	2-6' x 6'	(1)	0', 15'

FUNCTIONS:
(1) - CALL AND EXTEND
(3) - EXTEND ONLY
(7) - IMMEDIATE EXTEND, DELAY CALL
(8) - DENSITY ONLY

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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: BRIAN D. HOLT License # 21428

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

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY B.BETTS
DESIGNED BY A.POTTER
CHECKED BY G.STUEMPFIC
CORR. NO. 4994

ANOKA COUNTY
INTERSECTION LAYOUT
C.S.A.H. 14
C.S.A.H. 14 (MAIN ST.) AT
C.S.A.H. 54 (20TH AVE. N.)

SHEET 264 OF 492

1:05:32 PM 10/17/2008
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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: BRIAN D. HOLT License # 21428

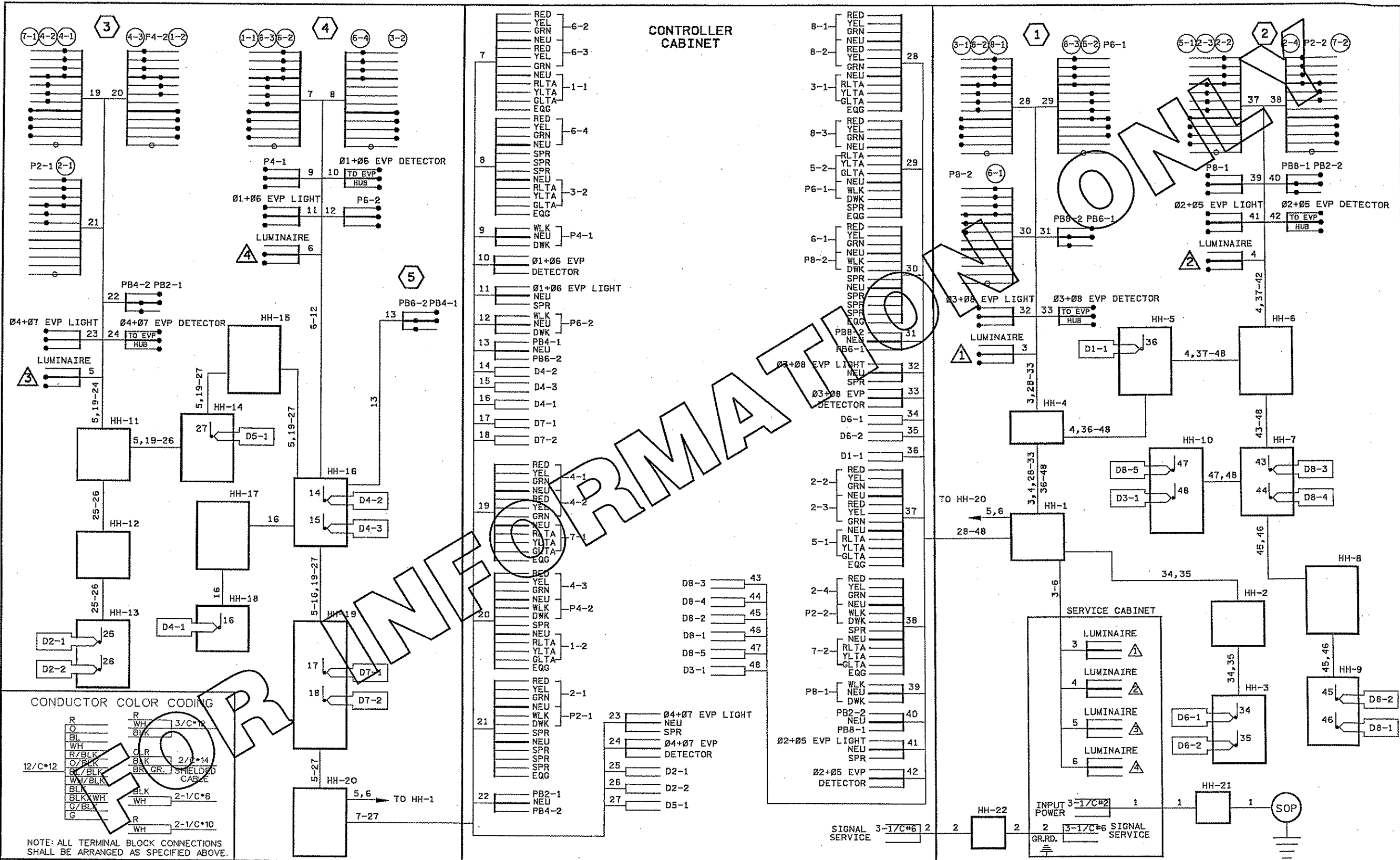
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota.
Print Name: ADRIAN S. POTTER License # 42785

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY B.BETTS
DESIGNED BY A.POTTER
CHECKED BY G.STUEMPFIC
CORR. NO. 4994

ANOKA COUNTY
TRAFFIC SIGNAL PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE
FOR INFORMATION ONLY

SHEET 281 OF 471



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 Electrical Engineer under the laws of the State of Minnesota.

Print Name: **BRIAN D. HOLT**
 License #: 21428
 Date: _____

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 Landscape Architect under the laws of the State of Minnesota.

Print Name: **ADAM S. POTTER**
 License #: 42785
 Date: _____

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY: **B. BETTS**
 DESIGNED BY: **A. POTTER**
 CHECKED BY: **G. STUEMPF**
 COMM. NO. 4994

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
 FIELD WIRING DIAGRAM
 C.S.A.H. 14
 C.S.A.H. 14 (MAIN ST.) AT
 C.S.A.H. 54 (20TH AVE. N.)

SHEET 267 OF 492

NO	DATE	BY	CHKD	APPR	REVISION

Print Name: **BRIAN D. HOLT**
 License #: 21428
 Date: _____

Print Name: **ADAM S. POTTER**
 License #: 42785
 Date: _____

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY: **B. BETTS**
 DESIGNED BY: **A. POTTER**
 CHECKED BY: **G. STUEMPF**
 COMM. NO. 4994

SRF CONSULTING GROUP, INC.

ANOKA COUNTY
 TRAFFIC SIGNAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 FOR INFORMATION ONLY

SHEET 282 OF 471

LOOP DETECTORS			
NUMBER	SIZE (FEET)	FUNCTION	LOCATION
D1-1, D1-3	2-6 x 6	1	40'
D1-2, D1-4	2-6 x 6	1	30'
D2-1, D2-2	6 x 6	1	400'
D5-1, D5-3	2-6 x 6	1	40'
D5-2, D5-4	2-6 x 6	1	10'
D6-1, D6-2	6 x 6	1	400'
D8-1	6 x 6	3, 8	250' *
D8-2	6 x 6, 6 x 10	7	-5' & 4'
D8-3	2-6 x 6	1	0' & 15'

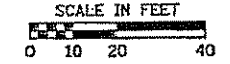
SIGNAL INDICATIONS						
ALL INDICATIONS SHALL BE 12" LED						
FACE	R	Y	G	RLTA	YLTA	GLTA
1-1, 1-2, 5-1, 5-2				←	←	←
2-1, 2-2, 2-3	●	●	●			
6-1, 6-2, 6-3	●	●	●			
8-1, 8-2, 8-3	●	●	●			

* LOOP DETECTOR PLACEMENT ASSUMES 40 MPH DUE TO 35 MPH ADVISORY CURVE APPROACHING INTERSECTION.

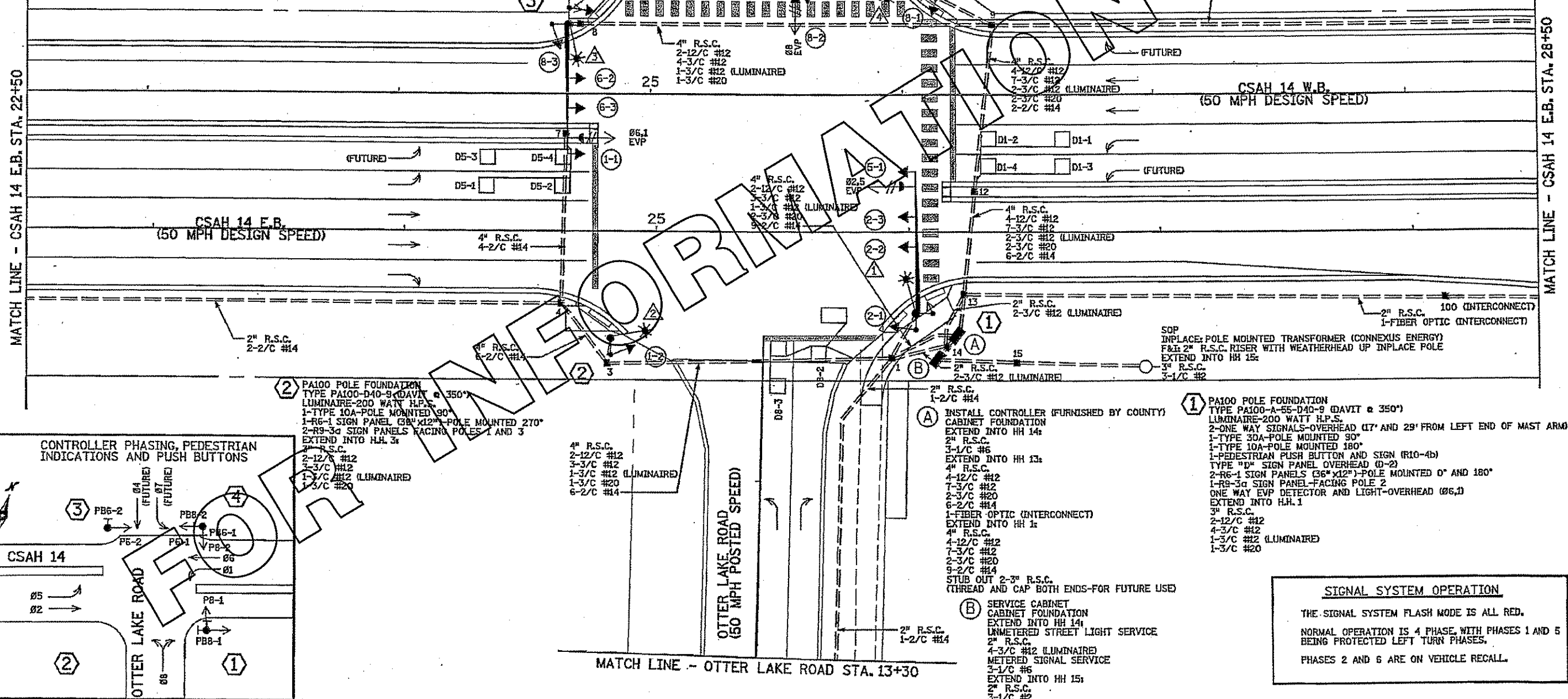
LOOP DETECTORS FUNCTIONS

D CALL AND EXTEND
 3) EXTEND ONLY
 7) DELAY CALL/IMMEDIATE EXTEND
 8) CARRY OVER (STRETCH)

NOTE:
 LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR



- NOTES:**
- THE EXACT LOCATION OF POLES, FOUNDATIONS, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - ALL VEHICLE INDICATIONS AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
 - LUMINAIRES SHALL BE "CORREAR" STYLE.
 - SEE DETAILS FOR HND LOOPS, CABINET FOUNDATIONS, E.V.P. MOUNTING, AND SIGNS.
 - A 3" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE F&I 6' FROM THE END OF EACH MAST ARM.
 - (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR UNDER ITEM 2565.60L (TRAFFIC CONTROL INTERCONNECTION) SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.



SIGNAL SYSTEM OPERATION

THE SIGNAL SYSTEM FLASH MODE IS ALL RED.

NORMAL OPERATION IS 4 PHASE WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.

PHASES 2 AND 6 ARE ON VEHICLE RECALL.

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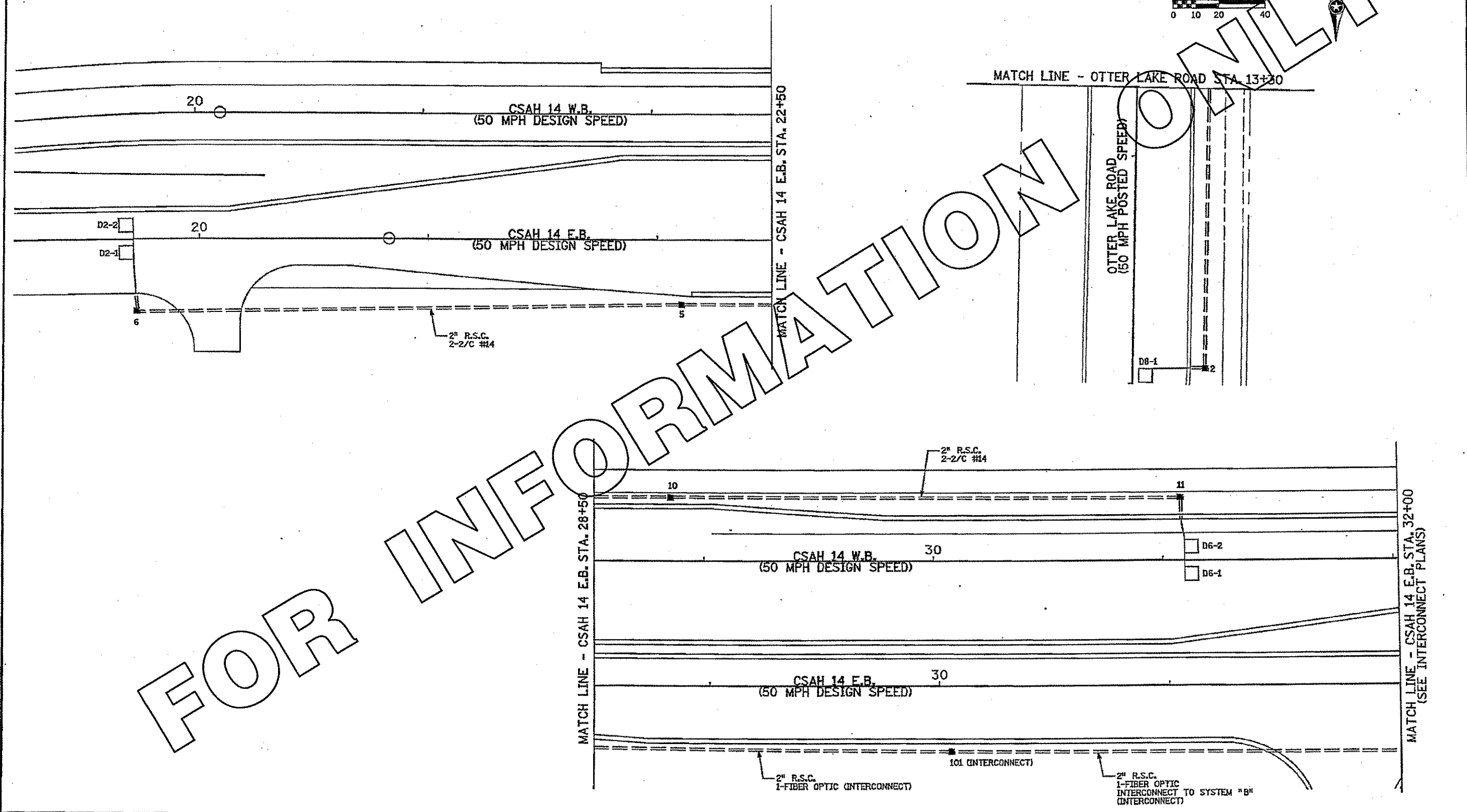
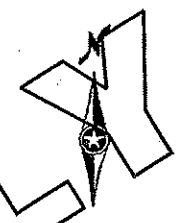
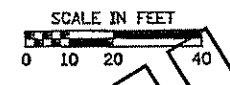
DRAWN BY: TJV CHECKED BY: BDP CERTIFIED BY: *[Signature]* LIC. NO. 26222 DATE 9/2/05

TKDA ENGINEERS ARCHITECTS PLANNERS

INTERSECTION LAYOUT - SYSTEM "A"
 CSAH 14 (MAIN STREET) / CR 84 (OTTER LAKE ROAD)

S.P. 02-614-23 S.P. 82-608-07
 Sheet No. 187 of 296 Sheets

STATE PROJECT NO. 0282-25 (TH 35E)	DRAWN BY	SRF CONSULTING GROUP, INC.	ANOKA COUNTY	SHEET 283 OF 471
STATE PROJECT NO. 02-614-28	DESIGNED BY		TRAFFIC SIGNAL PLANS	
COUNTY PROJECT NO. X	CHECKED BY		C.S.A.H. 14/T.H. 35E INTERCHANGE	
CITY PROJECT NO. X	COMM. NO. 0086509		FOR INFORMATION ONLY	



FOR INFORMATION ONLY

DATE: 8/5/2005 TIME: 2:40:02 PM
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DRAWN BY: TJV	CERTIFIED BY: <i>Brent A. Dauter</i> LICENSED PROFESSIONAL ENGINEER	LIC. NO. <i>2680</i> DATE <i>8/5/05</i>	TKDA ENGINEERS - ARCHITECTS - PLANNERS	MATCH LINE LAYOUT - SYSTEM "A" CSAH 14 (MAIN STREET) / CR 84 (OTTER LAKE ROAD)	S.P. 02-614-23 S.P. 82-608-07 Sheet No. 188 of 296 Sheets
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NO.	DATE	BY	CKD	APPR	REVISION

STATE PROJECT NO. 0282-25 (TH 35E)	DRAWN BY	SRF CONSULTING GROUP, INC.	ANOKA COUNTY	SHEET 284
STATE PROJECT NO. 02-614-28	DESIGNED BY		TRAFFIC SIGNAL PLANS	OF
COUNTY PROJECT NO. X	CHECKED BY		C.S.A.H. 14/T.H. 35E INTERCHANGE	471
CITY PROJECT NO. X	COMM. NO. 0086509		FOR INFORMATION ONLY	

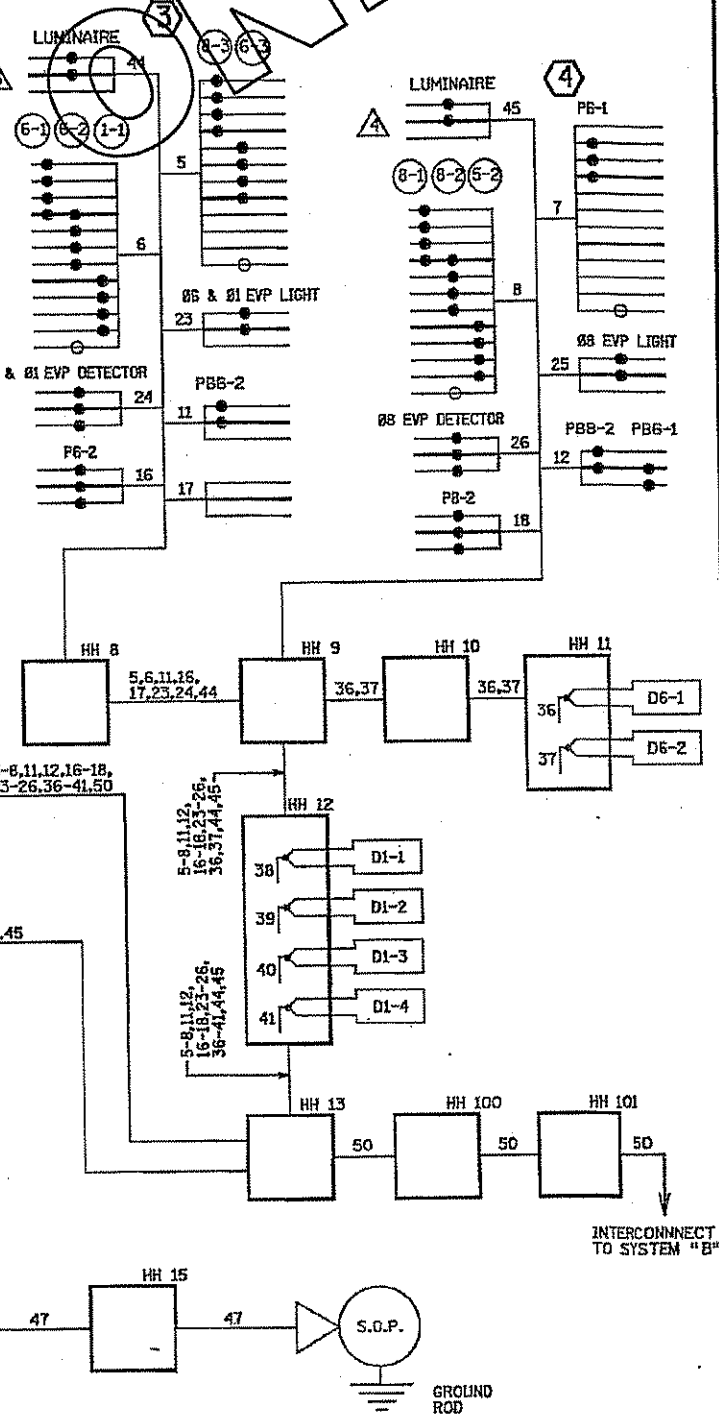
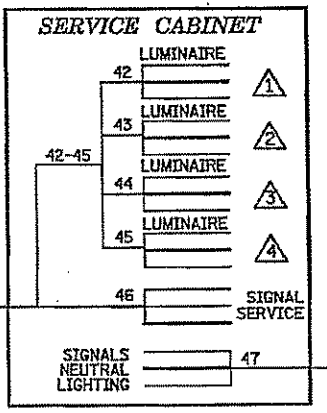
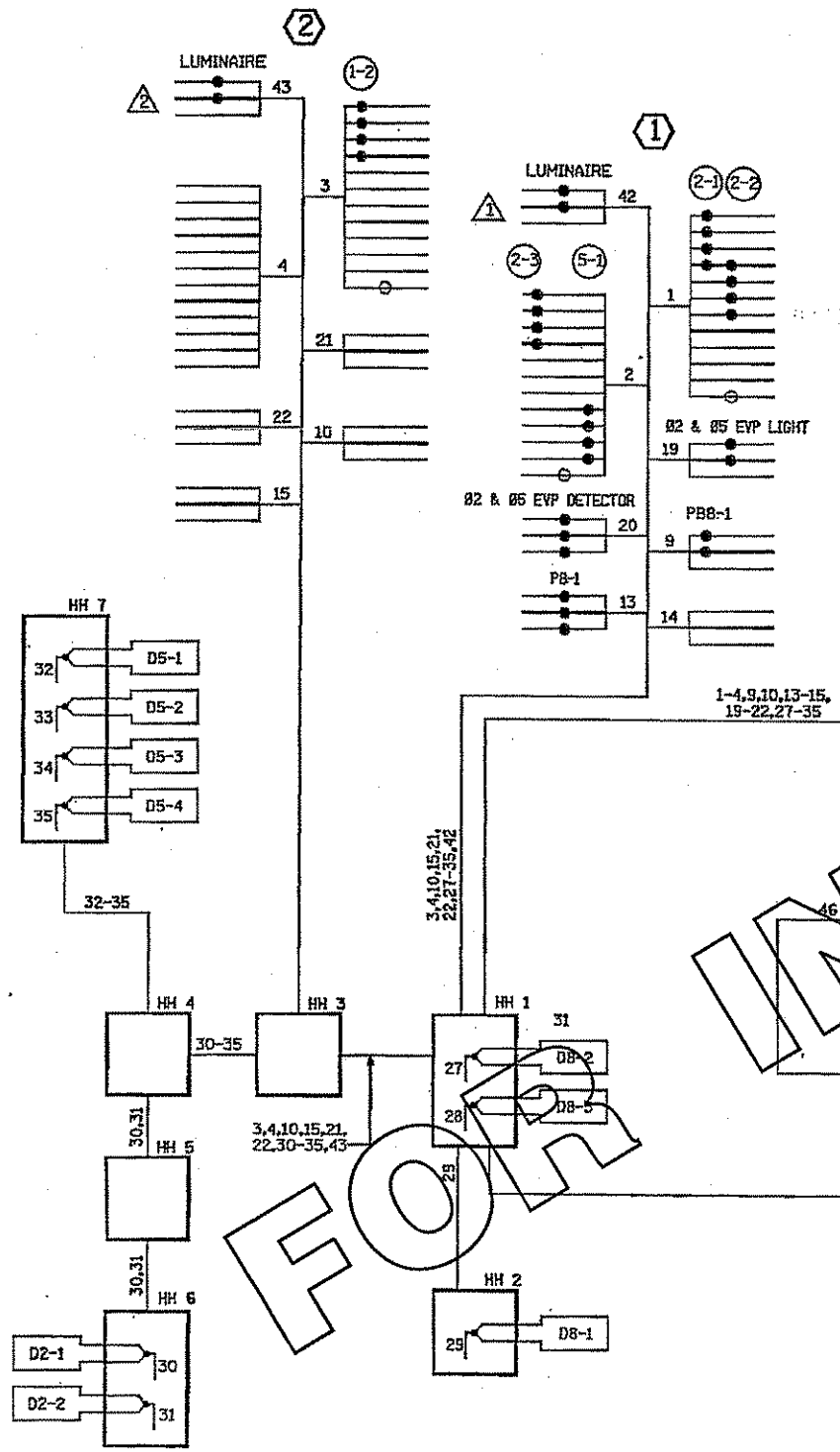
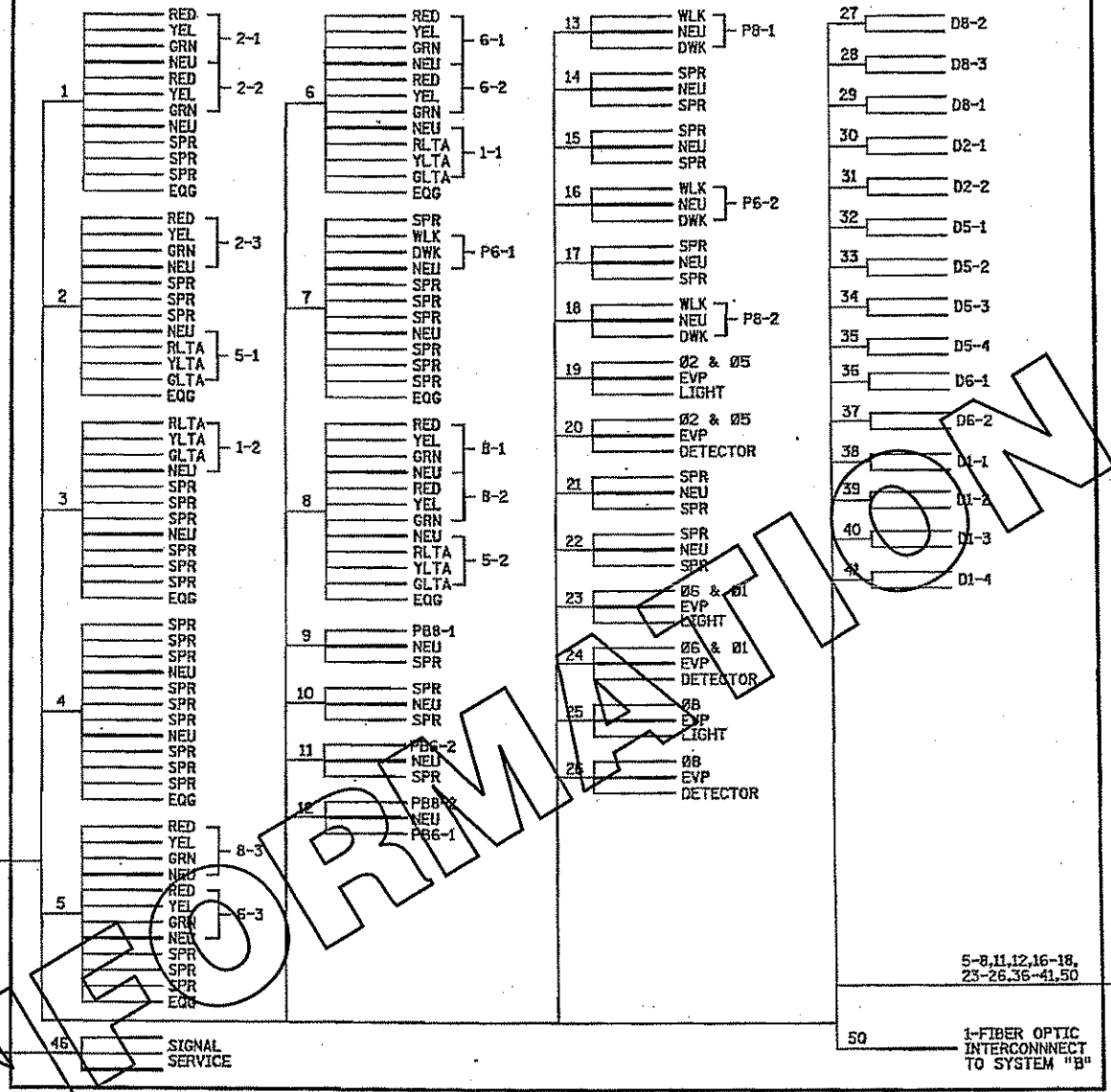
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CONDUCTOR COLOR CODING

R	3-1/C #2	R	R	5/C #12
O		BLK	BLK	
BL		WH	WH	
WH		BLK	WH	
R/BLK	2-1/C #6	WH	BLK	2/C #14
O/BLK		WH	CLEAR	
BL/BLK		WH		
WH/BLK		R	WH	3/C #20
BLK		BLK	BLK	
BLK/WH	3/C #12	BLK		
G/BLK				
G				

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE

CONTROLLER CABINET



DATE: 9/1/2005 TIME: 3:04:20 PM
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FOR INFORMATION

DRAWN BY: SFH
 CHECKED BY: BDP
 CERTIFIED BY: *[Signature]* LIC. NO. 2943 DATE: 8/12/05
TKDA ENGINEERS ARCHITECTS PLANNERS
 WIRING DIAGRAM - SYSTEM "A"
 CSAH 14 (MAIN STREET) / CR 84 (OTTER LAKE ROAD)
 S.P. 02-614-23 S.P. 82-608-07
 Sheet No. 189 of 296 sheets

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NO	DATE	BY	CKD	APPR	REVISION
...

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X
 DRAWN BY
 DESIGNED BY
 CHECKED BY
 COMM. NO. 0086509



ANOKA COUNTY
 TRAFFIC SIGNAL PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 FOR INFORMATION ONLY

SHEET 285 OF 471

LEGEND OF SYMBOLS

	CABLE TRAY
	CONDUIT - INPLACE
	CONDUIT - F&I
	CONDUIT FIBER ONLY - INPLACE
	CONDUIT FIBER ONLY - F&I
	DIRECT BURIED COMMUNICATION CABLE - INPLACE
	DIRECT BURIED COMMUNICATION CABLE - F&I
	DIRECT BURIED POWER CABLE - INPLACE
	DIRECT BURIED POWER CABLE - F&I
	LOOP DETECTOR- DESIGN (SPECIFY)
	FLASHER - INPLACE
	FLASHER - F&I
	FLASHING BEACON - F&I
	FOUNDATION INPLACE, GATE ARM - F&I
	FOUNDATION F&I, GATE ARM - F&I
	GATE ARM - INPLACE
	GUARDRAIL END TREATMENT (SPECIFY)
	GUARDRAIL (PLATE BEAM) - (SPECIFY)
	HANDHOLE - INPLACE
	HANDHOLE - F&I
	JUNCTION BOX OR CONDULET - INPLACE
	JUNCTION BOX OR CONDULET - F&I
	LANE ARROW
	OVERHEAD SIGN - INPLACE
	OVERHEAD SIGN - F&I
	PAD (SPECIFY) - INPLACE
	PAD (SPECIFY) - F&I
	PEDESTAL - INPLACE
	PEDESTAL - F&I

LEGEND OF SYMBOLS

	RAMP CONTROL SIGNAL (DESIGN ONE-WAY) - INPLACE
	RAMP CONTROL SIGNAL (DESIGN ONE-WAY) - F&I
	RAMP CONTROL SIGNAL (DESIGN TWO-WAY) - INPLACE
	RAMP CONTROL SIGNAL (DESIGN TWO-WAY) - F&I
	RAMP CONTROL SIGNAL (DESIGN ONE-WAY)(SCREW IN BASE) - INPLACE
	RAMP CONTROL SIGNAL (DESIGN ONE-WAY)(SCREW IN BASE) - F&I
	RAMP CONTROL SIGNAL (DESIGN TWO-WAY)(SCREW IN BASE) - INPLACE
	RAMP CONTROL SIGNAL (DESIGN TWO-WAY)(SCREW IN BASE) - F&I
	SHELTER (TMS) - INPLACE
	SHELTER (TMS) - F&I
	SIGN (TYPE A OR D) - (SPECIFY)
	SIGN (TYPE C) - (SPECIFY)
	SIGN (TYPE DMS) - (SPECIFY)
	SIGNAL FACE - INPLACE
	SIGNAL FACE - F&I
	SPLICE CABINET - (SPECIFY)
	SPLICE VAULT (FIBER OPTIC) - (SPECIFY)
	TELEVISION CAMERA (CCTV) - (SPECIFY)
	WOOD POLE - F&I
	WOOD POLE - INPLACE
	WOOD POLE F&I, SERVICE INSTALLATION - F&I
	WOOD POLE INPLACE, SERVICE INSTALLATION - F&I
	WOOD POLE INPLACE, SERVICE INSTALLATION - INPLACE
	FIBER PATCHING SHELTER - F&I
	OUTDOOR FIBER SPLICE ENCLOSURE - F&I
	PULL VAULT
	ELECTRICAL SERVICE
	TRANSFORMER

STANDARD PLATES

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

PLATE NO.	DESCRIPTION
3131C	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
8119C	GROUND MOUNTED CABINET FOUNDATION
8120N	POLE FOUNDATION (PA 85)
8150C	INSTALLATION OF CULVERT MARKERS

TMS PLAN SHEET INDEX

DESCRIPTION	SHEET NO.
TMS COMPONENTS	286
ESTIMATED QUANTITIES	287
PLAN SHEET LOCATIONS	288
TMS INPLACE / REMOVAL SHEETS	289-294
TMS PROPOSED CONSTRUCTION SHEETS	295-300
DETAIL SHEET LIST	301
TMS DETAIL PLAN SHEETS	302-315
COMMUNICATIONS SCHEMATICS/TESTING.....	316-328

I HEREBY CERTIFY THAT SHEETS 286 THROUGH 328 OF THIS PLAN WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

GEOFFREY M. PRELGO
 DATE JUNE 12, 2009 LIC. NO. 26530
 DESIGNER Scott Hansen

TMS COMPONENTS

REV. NO.	DATE: / /
REV. NO.	DATE: / /

YY

TABULATION OF ESTIMATED QUANTITIES			
ITEM	NOTES	UNIT	ESTIMATED QUANTITY
REMOVE HANDHOLE		EACH	11
REMOVE FOUNDATION	(A)	EACH	1
SALVAGE FO CABLE		LIN FT	7790
SALVAGE FIBER OPTIC VAULT	(C)	EACH	1
SALVAGE CCTV HARDWARE	(G)	EACH	1
SALVAGE CABINET	(B)	EACH	1
SALVAGE SERVICE CABINET		EACH	1
REMOVE CABLES		LUMP SUM	1
CCTV FOUNDATION		EACH	1
HANDHOLE TYPE-PVC METAL COVER		EACH	18
1.5" NON-METALLIC CONDUIT		LIN FT	5200
2" NON-METALLIC CONDUIT		LIN FT	3520
3" NON-METALLIC CONDUIT		LIN FT	500
4" NON-METALLIC CONDUIT		LIN FT	50
POWER CABLE 3 CONDUCTOR NO 8		LIN FT	200
LEAD-IN CABLE 2 CONDUCTOR NO 14		LIN FT	15080
FIBER OPTIC CABLE TESTING		LUMP SUM	1
ELECTRICAL SERVICE		LUMP SUM	1
FIBER OPTIC PIGTAIL TERMINATION		EACH	2
FIBER OPTIC CABLE SPLICING		EACH	3
RELOCATE SIGN	(D)	EACH	17
INSTALL CABINET	(E)	EACH	1
INSTALL FIBER OPTIC VAULT	(F)	EACH	1
INSTALL CCTV HARDWARE	(G)	EACH	1
LOOP DETECTOR DESIGN PREFORMED		EACH	8
LOOP DETECTOR DESIGN SAWCUT		EACH	6
INSTALL SERVICE CABINET		EACH	1
2" BORED CONDUIT		LIN FT	780
ARMORED FIBER OPTIC PIGTAIL CABLE 6SM		LIN FT	650
FIBER OPTIC TRUNK CABLE 60SM		LIN FT	8100

- (A) INCLUDES CCTV FOUNDATION
- (B) INCLUDES SALVAGING 1-334Z CAB., CABINET FOUNDATION, CONCRETE WALKS & NEOPRENE GASKETS
- (C) INCLUDES OUTDOOR FIBER SPLICE ENCLOSURE & CONCRETE DRAIN HEADWALL
- (D) INCLUDES SALVAGING BURIED CABLE SIGNS & RELOCATING ACCORDING TO BURIED CABLE SIGN PLACEMENT DETAIL.
- (E) INCLUDES INSTALLING SALVAGED 334 CABINET, CABINET FOUNDATION, CONCRETE WALKS & NEOPRENE GASKETS
- (F) INCLUDES INSTALLING SALVAGED FIBER OPTIC VAULT & OUTDOOR FIBER SPLICE ENCLOSURE
- (H) INCLUDES CCTV FOLDING POLE & CCTV POLE MOUNTED CABINET

GENERAL NOTES:

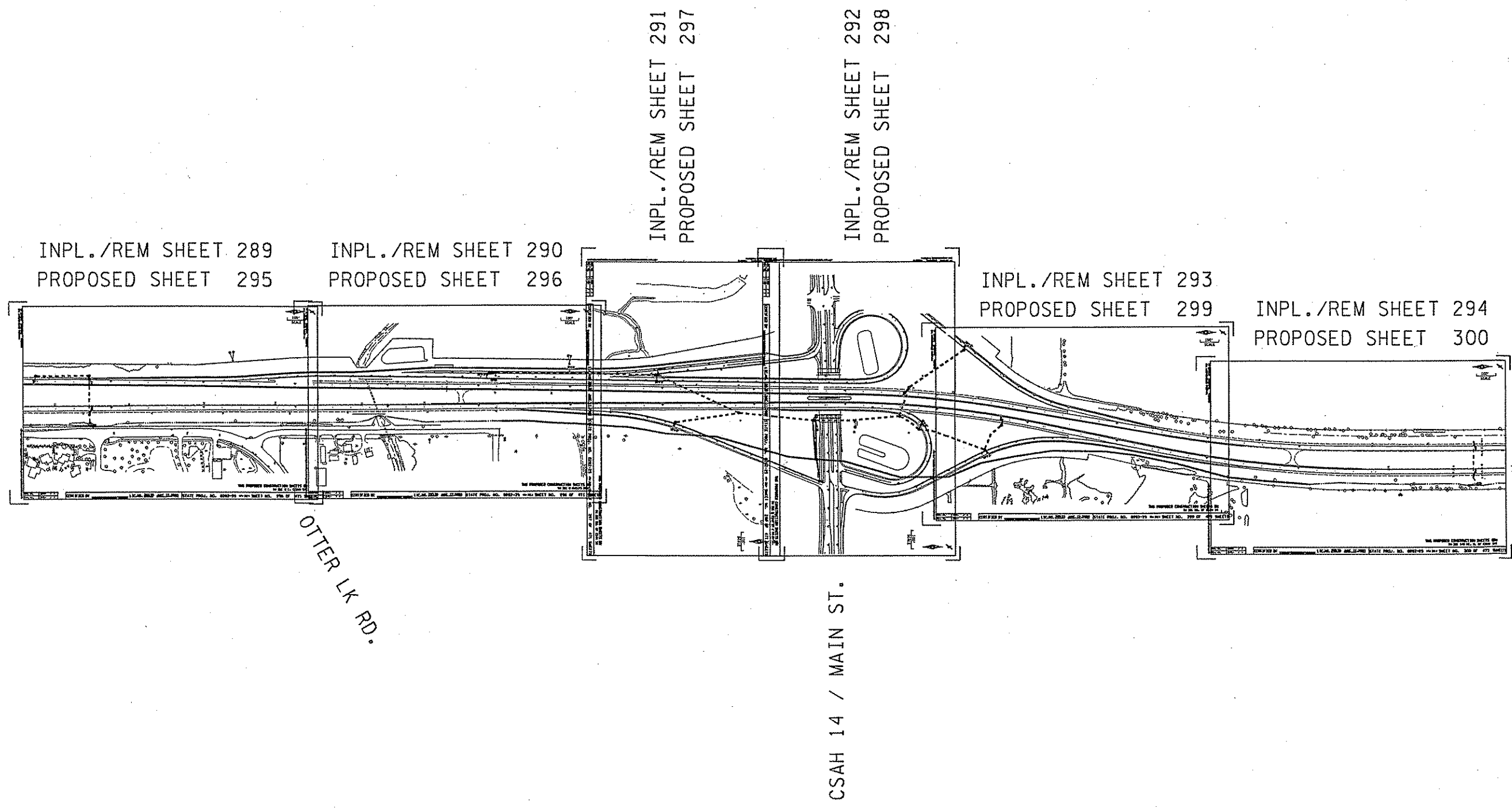
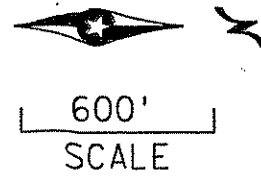
TURF ESTABLISHMENT SHALL BE CONSIDERED INCIDENTAL, APPLIED TO ALL DISTURBED AREAS, AND IN ACCORDANCE WITH MN/DOT 2575.1, 2575.2, 2575.3.

STATEMENT OF ESTIMATED QUANTITIES

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY *Stephen M. Puelco* LIC. NO. 26530 JUNE 12, 2009
 LICENSED PROFESSIONAL ENGINEER

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 287 OF 471 SHEETS



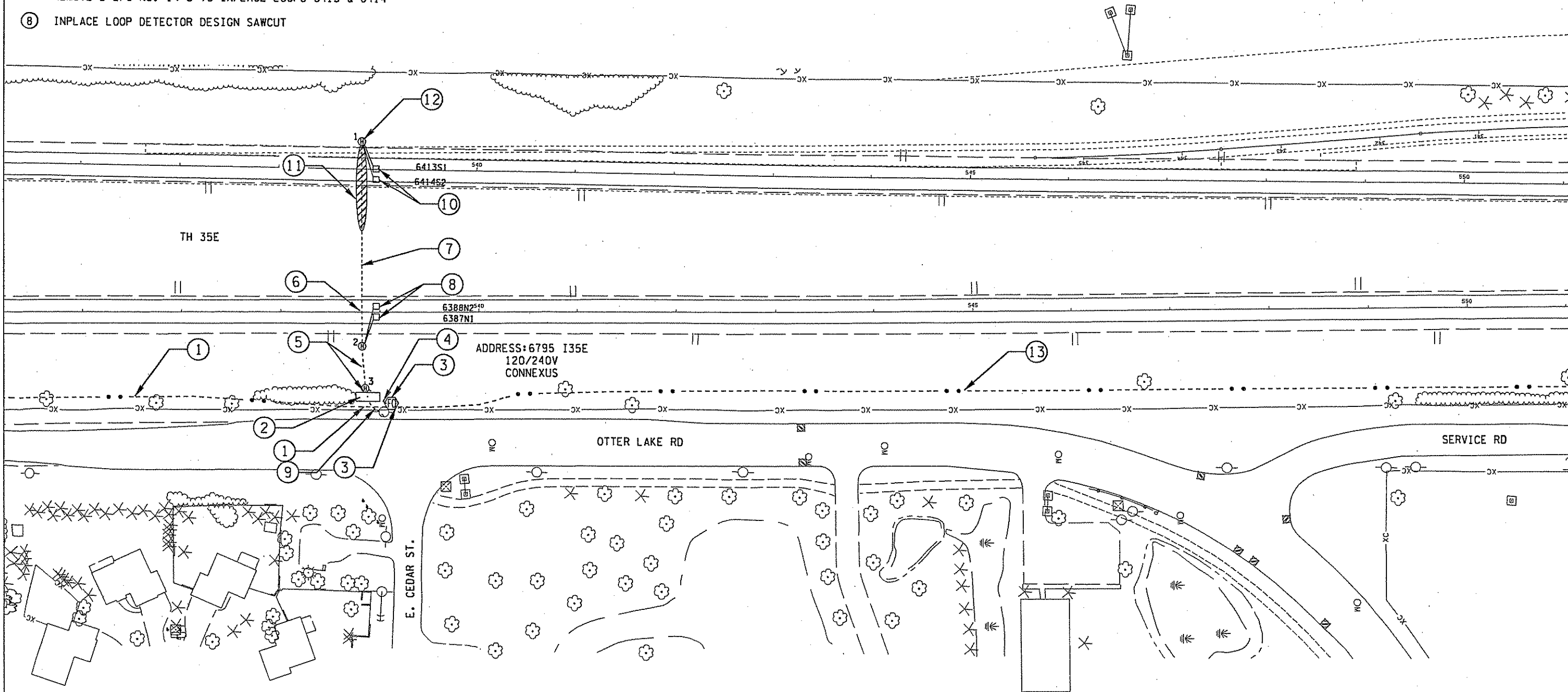
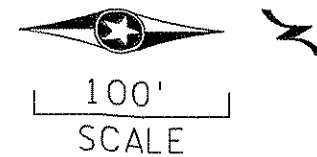
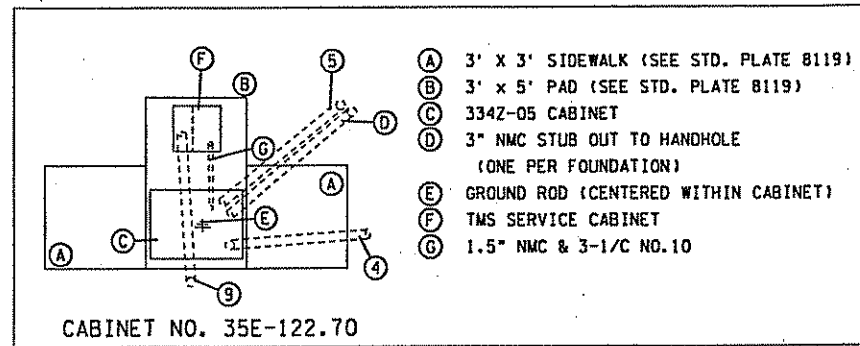
PLAN SHEET LOCATIONS ON
 TH 35E VIC. OF CSAH 14 / MAIN ST.

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY *Jeffrey M. Puleo* LIC. NO. 26530 DATE 2009 STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 288 OF 471 SHEETS
 LICENSED PROFESSIONAL ENGINEER

- ① INPLACE 1.5" NMC & 1-FO CABLE (60SM)
- ② INPLACE 334 SERIES FOUNDATION, 334Z-05 CAB. (35E-122.70) & SERVICE CABINET REMOVE 2-2/C NO. 14'S TO INPLACE LOOPS 6413 & 6414
- ③ INPLACE FO SPLICE VAULT & OUTDOOR FIBER SPLICE ENCL. (SEE NOTE 13)
- ④ INPLACE 1.5" NMC & 1-FO PIGTAIL (6SM)
- ⑤ INPLACE 2" NMC & 4-2/C NO.14 REMOVE 2-2/C NO. 14'S TO INPLACE LOOPS 6413 & 6414
- ⑥ INPLACE 2" NMC BORE & 2-2/C NO.14 REMOVE 2-2/C NO. 14'S TO INPLACE LOOPS 6413 & 6414
- ⑦ INPLACE 2" NMC REMOVE 2-2/C NO. 14'S TO INPLACE LOOPS 6413 & 6414
- ⑧ INPLACE LOOP DETECTOR DESIGN SAWCUT

- ⑨ INPLACE 2" NMC & 3-1/C NO.6 TO SOP (BY OTHERS-CONNEXUS) INPLACE 2" NMC STUB OUT FROM CAB.
- ⑩ ABANDON LOOP DETECTOR'S 6413 & 6414
- ⑪ HAND DIG TO LOCATE 2" NMC (NOTE 7) CUT CONDUIT (2/C NO. 14'S SHOULD BE REMOVED (SEE NOTE 7) PROTECT & CAP EAST SIDE OF CONDUIT (WILL BE REUSED UNDER PROPOSED PLANS) ABANDON WEST SIDE OF CONDUIT.
- ⑫ REMOVE HANDHOLE NO. 1
- ⑬ INPLACE 1.5" NMC & 1-FO CABLE (60SM) SALVAGE 1-FO CABLE (60SM) FROM VAULT (NOTE 3) TO VAULT @ CSAH 14 INTERCHANGE (SEE SHEET 292 NOTE 3)



TMS INPLACE / REMOVAL SHEETS ON
 TH 35E @ E. CEDAR ST.

REV. NO.	DATE: / /
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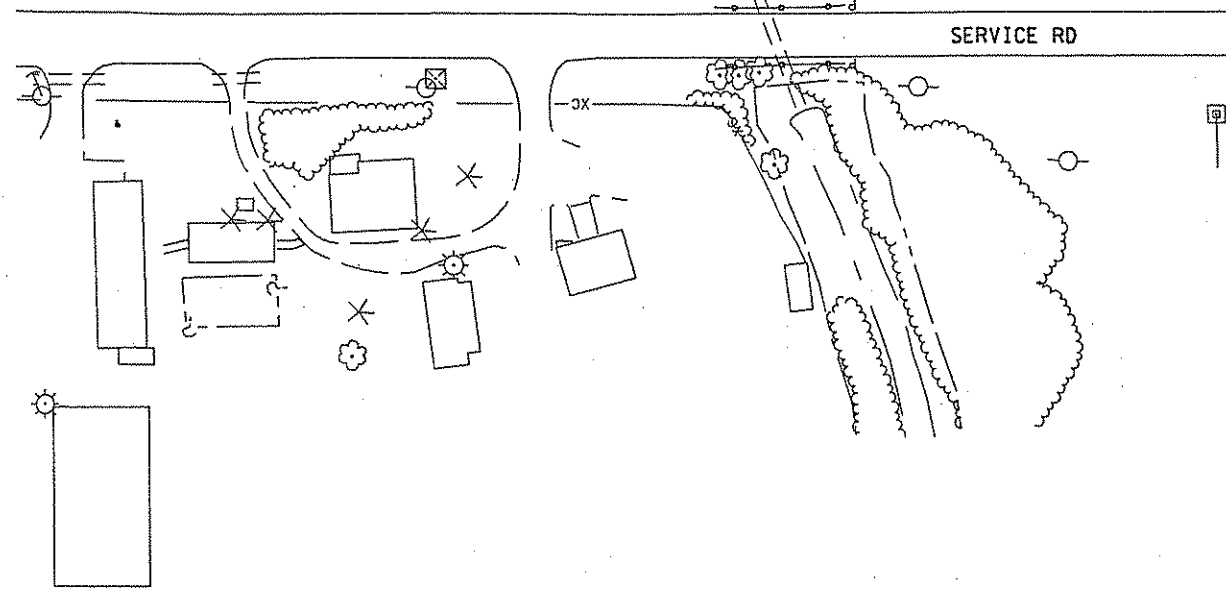
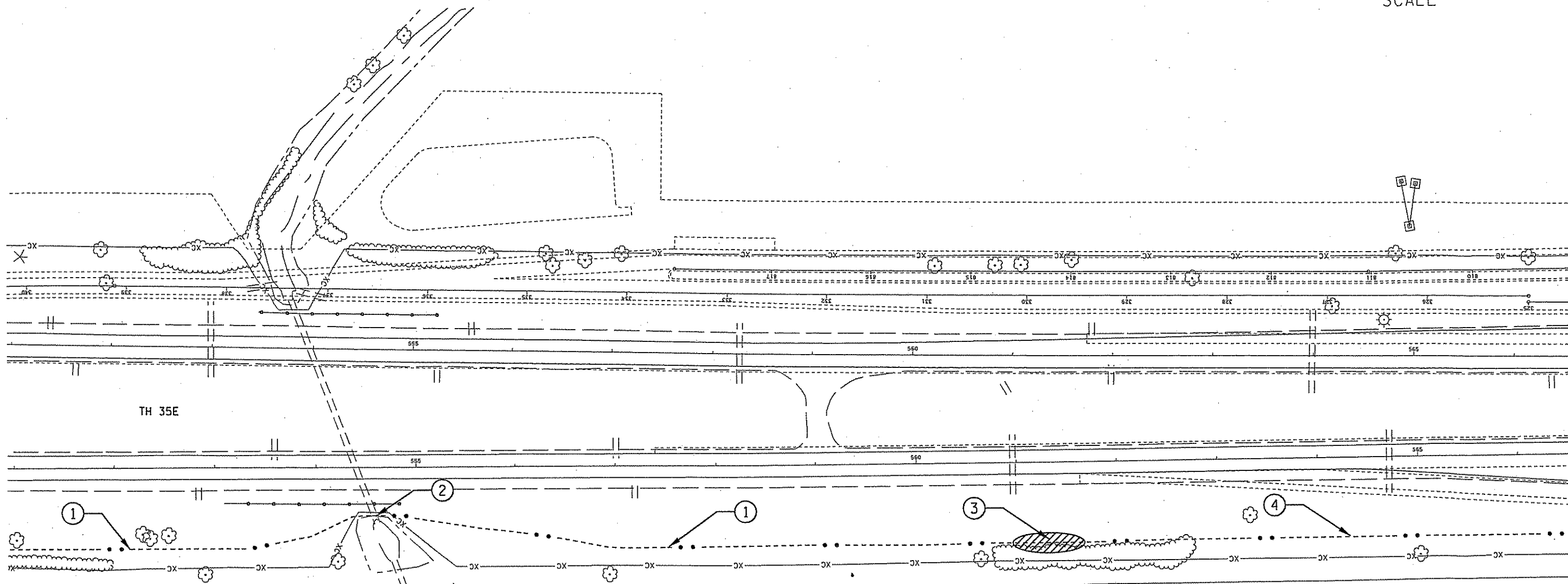
Robert M. Puleo
 LICENSED PROFESSIONAL ENGINEER

LIC. NO. 26530

JUNE 12, 2009

STATE PROJ. NO. 0282-25

(TH 35E) SHEET NO. 289 OF 471 SHEETS



- ① INPLACE 1.5" NMC & 1-FO CABLE (60SM)
SALVAGE 1-FO CABLE (60SM)
- ② INPLACE 1.5" NMC BORE & 1-FO CABLE (60SM)
SALVAGE 1-FO CABLE (60SM)
- ③ ***SALVAGE FO CABLE BEFORE THIS STEP***
VACUUM EXCAVATE TO LOCATE 1.5" NMC @ APPROX. NB STA 561+00 & CUT CONDUIT
CAP END & PROTECT CONDUIT LEADING TO THE SOUTH - INCIDENTAL (THIS CONDUIT WILL
BE REUSED UNDER PROPOSED PLANS)
ABANDON CONDUIT HEADING NORTH TO CSAH 14 VAULT (SEE NOTE NO. 4)
- ④ ABANDON 1.5" NMC FROM NOTE NO. 3 TO CSAH 14 VAULT
SALVAGE 1-FO CABLE (60SM)

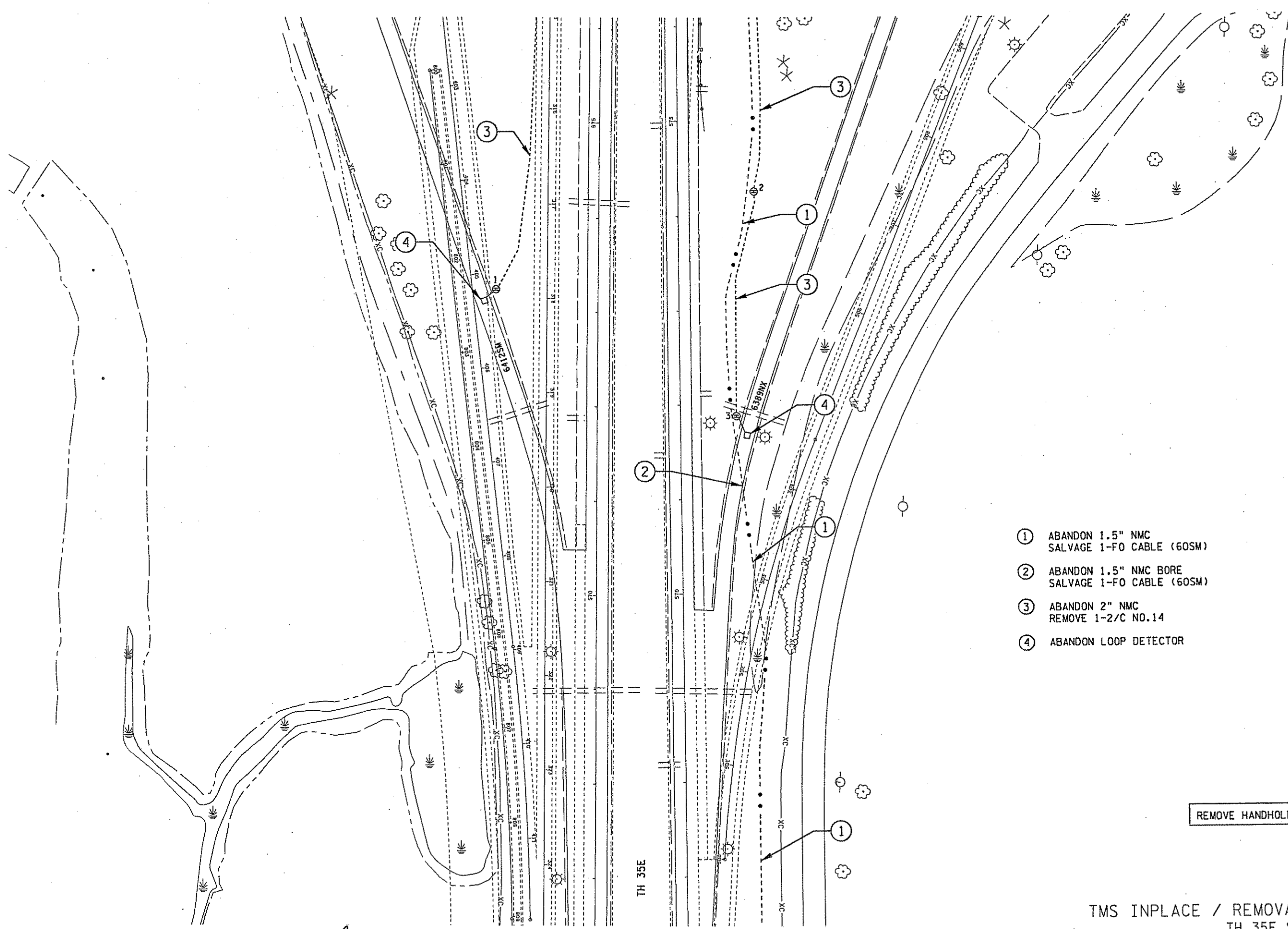
TMS INPLACE / REMOVAL SHEETS ON
 TH 35E @ PHELPS ROAD

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STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 290 OF 471 SHEETS



- ① ABANDON 1.5" NMC
SALVAGE 1-FO CABLE (60SM)
- ② ABANDON 1.5" NMC BORE
SALVAGE 1-FO CABLE (60SM)
- ③ ABANDON 2" NMC
REMOVE 1-2/C NO.14
- ④ ABANDON LOOP DETECTOR

REMOVE HANDHOLES 1-3

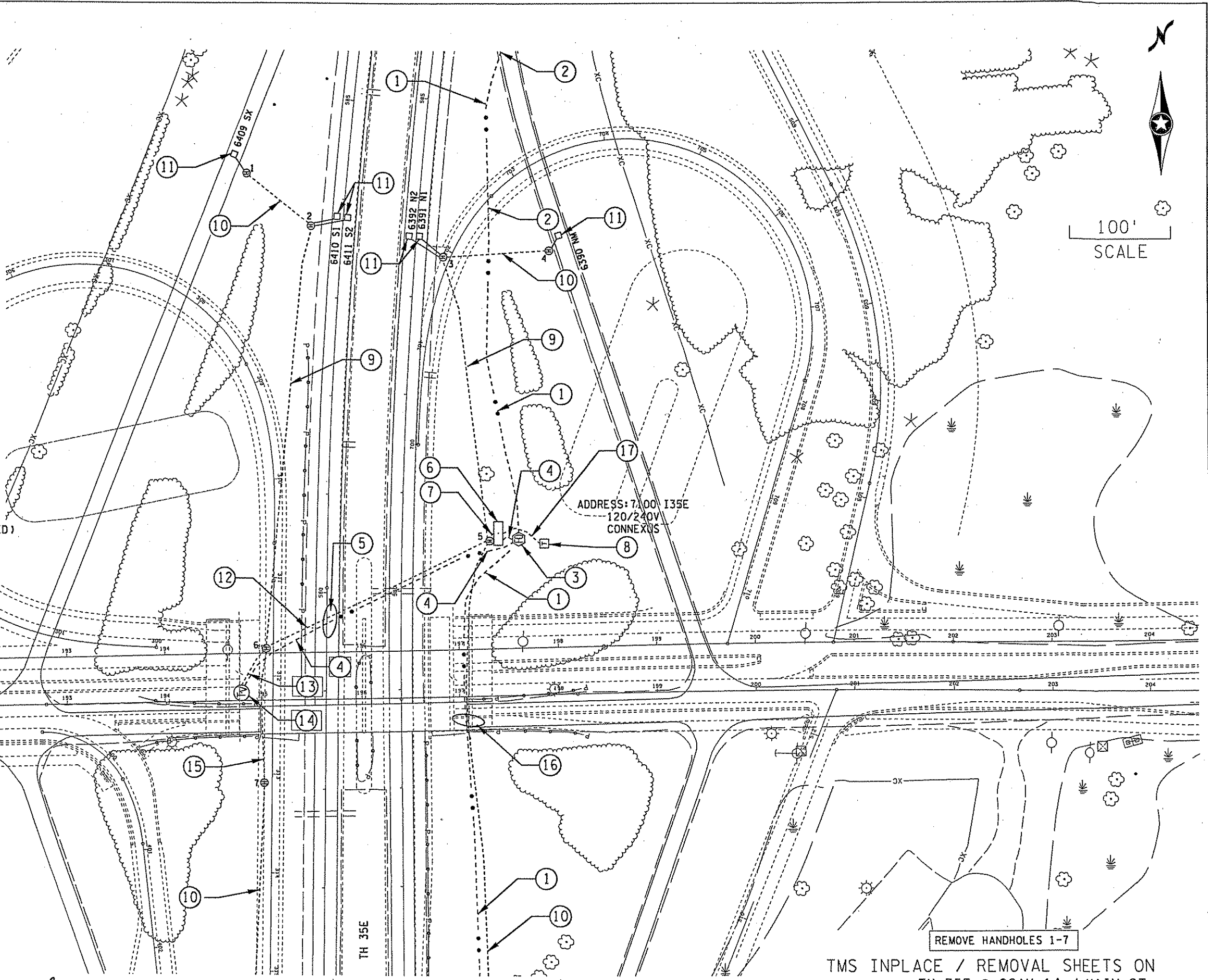
TMS INPLACE / REMOVAL SHEETS ON
 TH 35E SO. OF CSAH 14

REV. NO.	DATE: / /
REV. NO.	DATE: / /

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 LICENSED PROFESSIONAL ENGINEER

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 291 OF 471 SHEETS

- ① ABANDON 1.5" NMC
SALVAGE 1-F0 CABLE (60SM)
- ② ABANDON 1.5" NMC BORE
SALVAGE 1-F0 CABLE (60SM)
- ③ SALVAGE F0 SPLICE VAULT & OUTDOOR FIBER
SPLICE ENCLOSURE
- ④ ABANDON 1.5" NMC
REMOVE 1-F0 PIGTAIL (6SM)
- ⑤ ABANDON 1.5" NMC BORE
REMOVE 1-F0 PIGTAIL (6SM)
ABANDON 2" NMC BORE
REMOVE 4-2/C NO.14
- ⑥ SALVAGE 334Z-05 CAB (35E-123.44), NEOPRENE
GASKETS, SERVICE CABINET & CABINET FOUNDATION
- ⑦ ABANDON 3" NMC
REMOVE 8-2/C NO.14
ABANDON 2" NMC
REMOVE 1-3/C NO.8
- ⑧ INPLACED TRANSFORMER (REMOVED BY OTHERS-CONNEXUS)
- ⑨ ABANDON 2" NMC
REMOVE 3-2/C NO.14
- ⑩ ABANDON 2" NMC
REMOVE 1-2/C NO.14
- ⑪ ABANDON LOOP DETECTOR
- ⑫ ABANDON 2" NMC
REMOVE 1-3/C NO.8 & 4-2/C NO.14
- ⑬ ABANDON 2" NMC
REMOVE 1-3/C NO.8
- ⑭ REMOVE CCTV FOUNDATION
SALVAGE CCTV HARDWARE (CAM 50) (WILL BE REINSTALLED)
(CAMERA WILL BE REMOVED BY TMS INTEGRATOR)



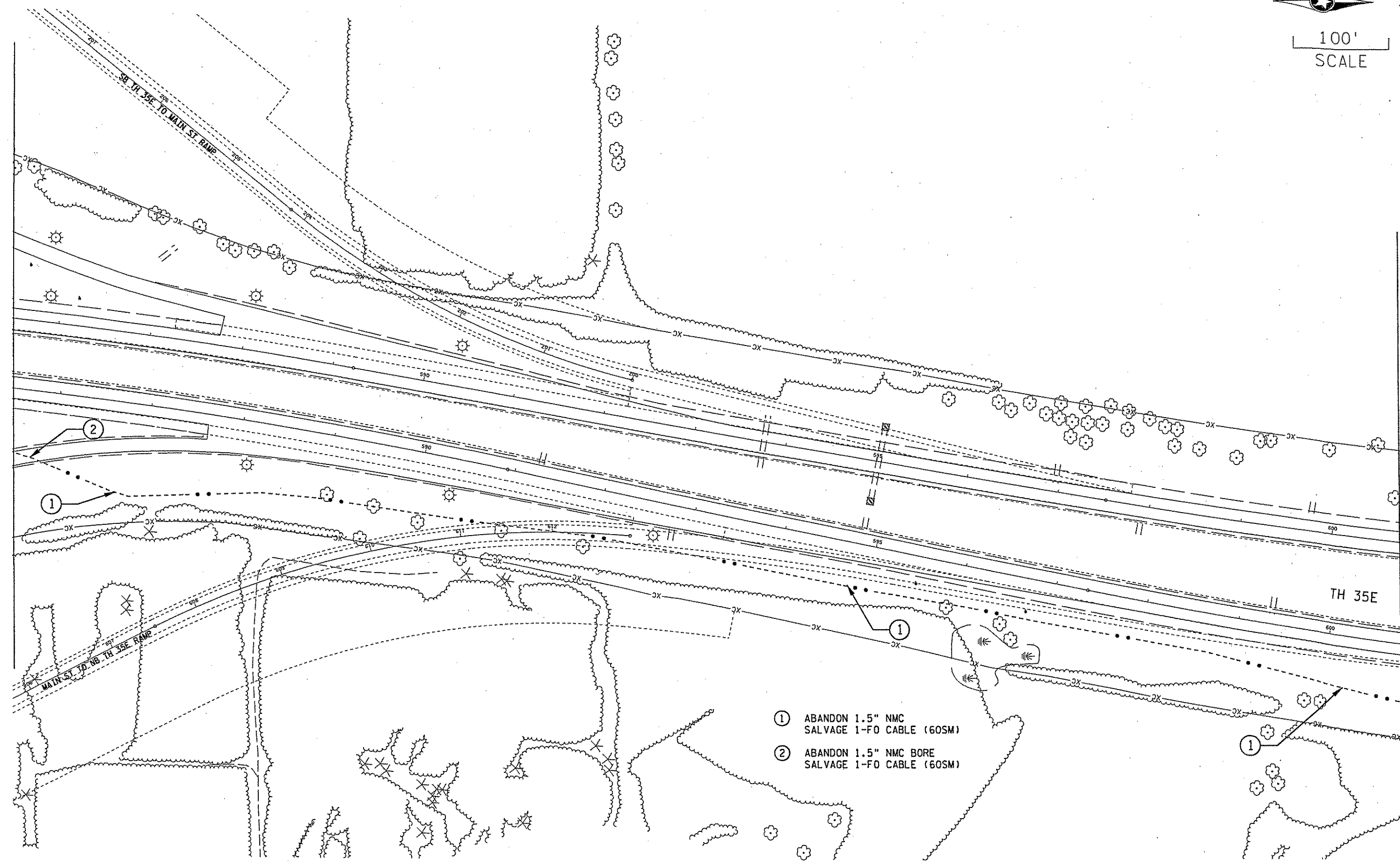
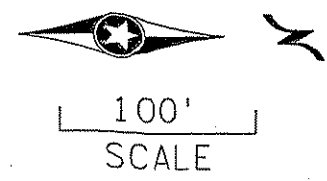
- ⑮ ABANDON 2" NMC BORE
REMOVE 1-2/C NO.14
- ⑯ ABANDON 2" NMC BORE
REMOVE 1-2/C NO.14
ABANDON 1.5" NMC BORE
SALVAGE 1-F0 CABLE (60SM)
- ⑰ ABANDON 2" NMC
REMOVE 3-1/C NO.6 TO CONNEXUS TRANSFORMER
ABANDON 2" NMC STUB OUT FROM CAB.

REMOVE HANDHOLES 1-7

TMS INPLACE / REMOVAL SHEETS ON
 TH 35E @ CSAH 14 / MAIN ST.

REV. NO.	DATE: / /
REV. NO.	DATE: / /

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- ① ABANDON 1.5" NMC
SALVAGE 1-FO CABLE (60SM)
- ② ABANDON 1.5" NMC BORE
SALVAGE 1-FO CABLE (60SM)

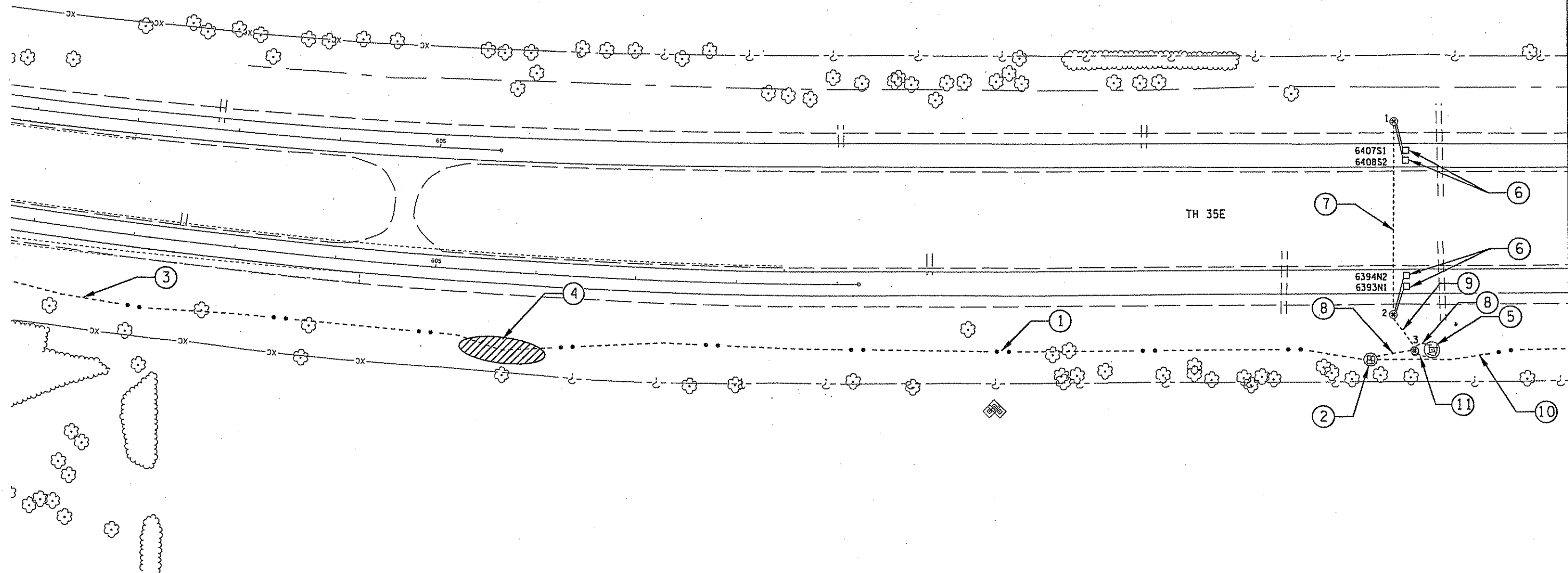
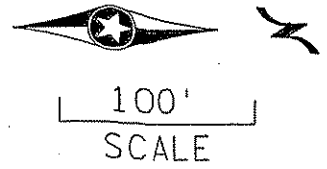
TMS INPLACE / REMOVAL SHEETS ON
 TH 35E NO. OF CSAH 14

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY *Jeffrey M. Poles* LIC. NO. 26530 JUNE 12, 2008
 LICENSED PROFESSIONAL ENGINEER

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- ① INPLACE 1.5" NMC
SALVAGE 1-FO CABLE (60SM)
- ② INPLACE FO SPLICE VAULT, OUTDOOR FIBER SPLICE ENCL.
& FO PIGTAIL (12SM)
- ③ ABANDON 1.5" NMC
SALVAGE 1-FO CABLE (60SM)
- ④ ***SALVAGE FO CABLE BEFORE THIS STEP***
VACUUM EXCAVATE TO LOCATE 1.5" NMC @ APPROX. NB STA 606+00 & CUT CONDUIT
CAP END & PROTECT CONDUIT LEADING TO THE NORTH - INCIDENTAL (THIS CONDUIT WILL
BE REUSED UNDER PROPOSED)
ABANDON CONDUIT HEADING SOUTH TO CSAH 14 VAULT (SEE NOTE 3)
- ⑤ INPLACE CCTV FOUNDATION & CCTV HARDWARE (CAM 51)
- ⑥ INPLACE LOOP DETECTOR
- ⑦ INPLACE 2" NMC & 2-2/C NO. 14
- ⑧ INPLACE 1.5" NMC & FO PIGTAIL (12SM)
- ⑨ INPLACE 2" NMC & 4-2/C NO. 14
- ⑩ INPLACE 1.5" NMC & 1-FO CABLE (60SM)
- ⑪ INPLACE 2" NMC (EMPTY)



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TMS INPLACE / REMOVAL SHEETS ON
 TH 35E 1/2 MI. N. OF CSAH 14

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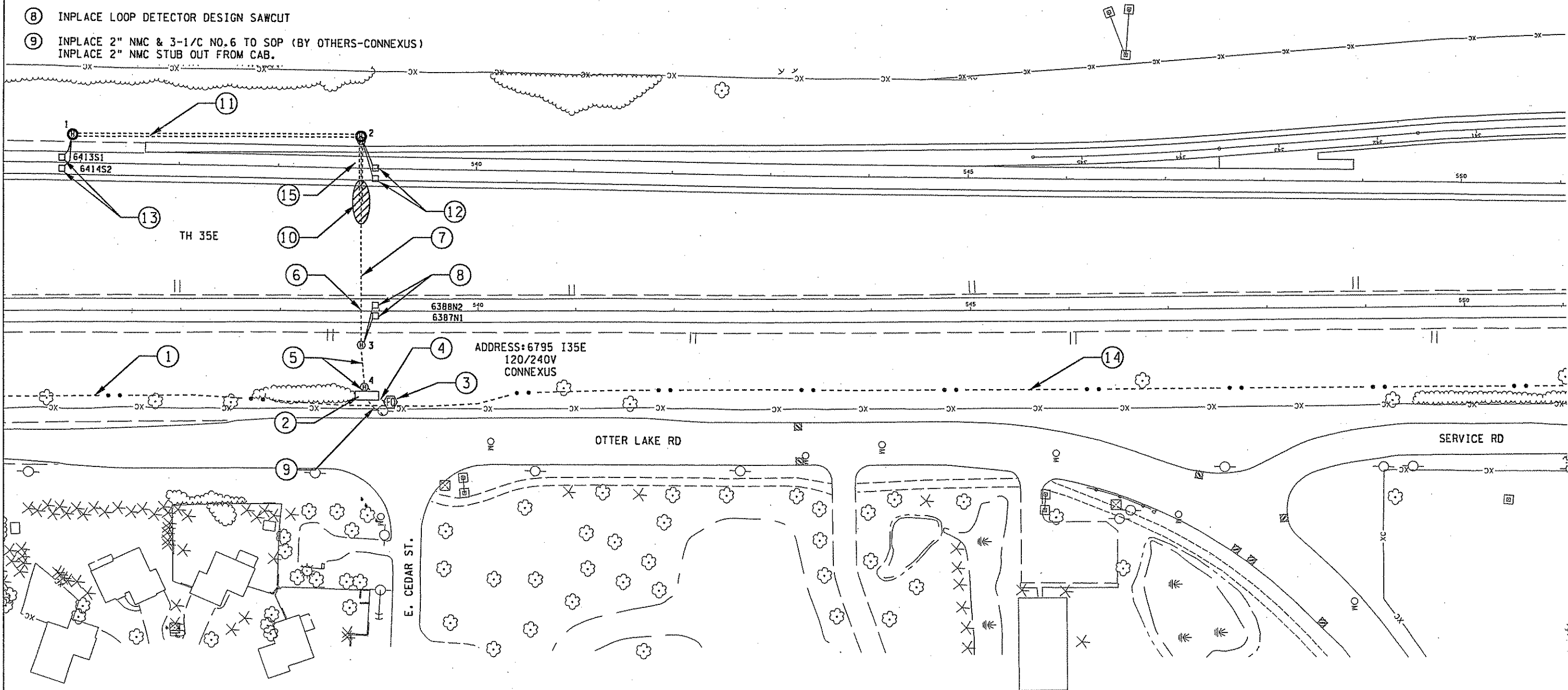
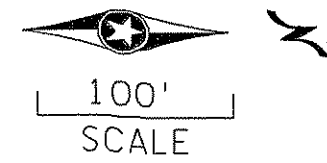
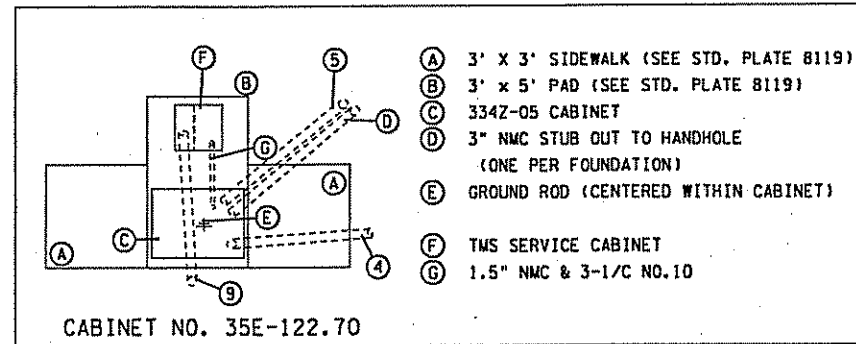
Jeffrey M. Puleo
 LICENSED PROFESSIONAL ENGINEER

LIC. NO. 26530 JUNE 12, 2009

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 294 OF 471 SHEETS

- ① INPLACE 1.5" NMC & 1-FO CABLE (60SM)
- ② INPLACE 334 SERIES FOUNDATION, 334Z-05 CAB. (35E-122.70) & SERVICE CABINET F&I 2-2/C NO. 14 TO NEW LOOPS 6413 & 6414
- ③ INPLACE FO SPLICE VAULT & OUTDOOR FIBER SPLICE ENCL. F&I FO CABLE SPLICING
- ④ INPLACE 1.5" NMC & 1-FO PIGTAIL (6SM)
- ⑤ INPLACE 2" NMC & 2-2/C NO.14 F&I 2-2/C NO. 14 TO NEW LOOPS 6413 & 6414
- ⑥ INPLACE 2" NMC BORE F&I 2-2/C NO. 14 TO NEW LOOPS 6413 & 6414
- ⑦ INPLACE 2" NMC F&I 2-2/C NO. 14 TO NEW LOOPS 6413 & 6414
- ⑧ INPLACE LOOP DETECTOR DESIGN SAWCUT
- ⑨ INPLACE 2" NMC & 3-1/C NO.6 TO SOP (BY OTHERS-CONNEXUS) INPLACE 2" NMC STUB OUT FROM CAB.

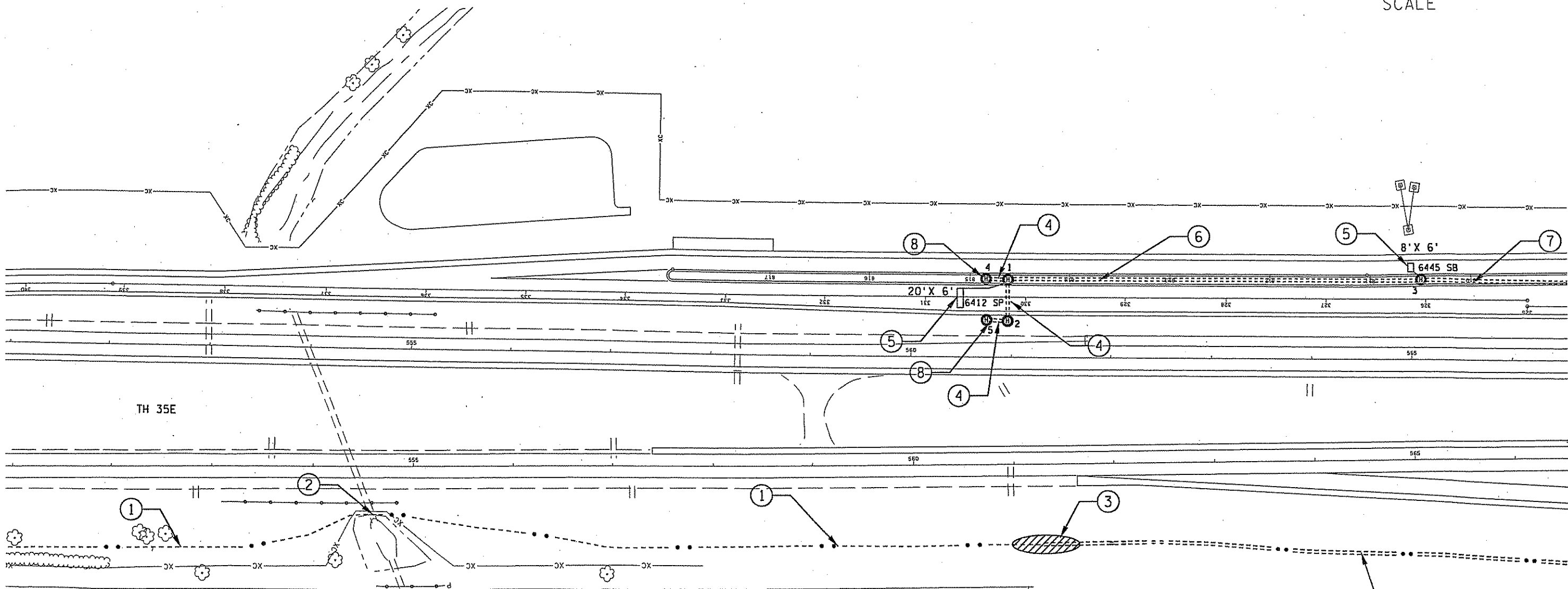
- ⑩ LOCATE INPLACE 2" NMC (SEE INPLACE/ REMOVAL SHEET 289) F&I 2" NMC BORE (FROM PROPOSED HANDHOLE NO. 2 TO INPLACE 2" NMC) CONNECT TO INPLACE CONDUIT - INCIDENTAL (NOTE NO. 7)
- ⑪ F&I 2" NMC & 2-2/C NO. 14 TO NEW LOOPS 6413 & 6414
- ⑫ ABANDONED LOOP DETECTOR DESIGN SAWCUT
- ⑬ F&I LOOP DETECTOR DESIGN SAWCUT
- ⑭ INPLACE 1.5" NMC F&I 1-FO CABLE (60SM)
- ⑮ ABANDONED 2" NMC (SEE INPLACE/REMOVAL SHEET 289) F&I 2" NMC-BORE & 2-2/C NO. 14 TO NEW LOOPS 6413 & 6414



TMS PROPOSED CONSTRUCTION SHEETS ON
 TH 35E @ E. CEDAR ST.

REV. NO.	DATE: / /
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TH 35E

SERVICE RD

PHELPS RD

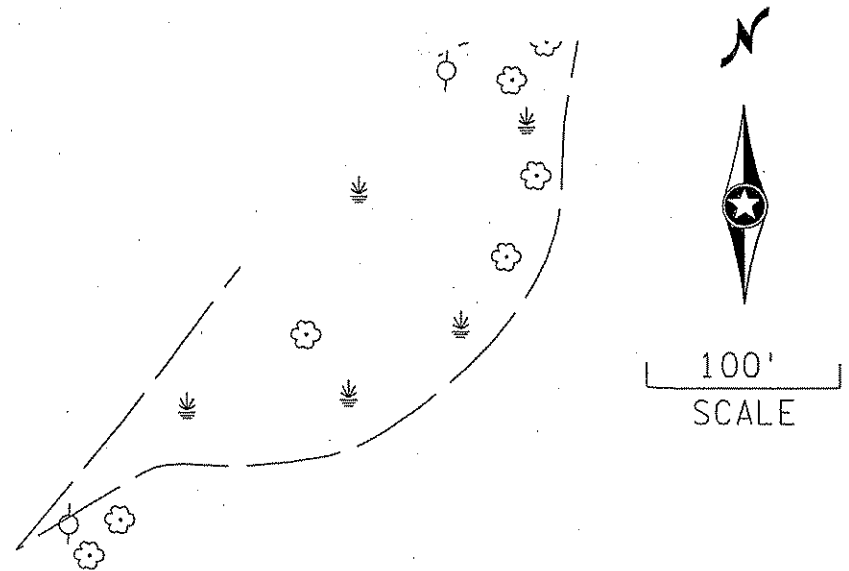
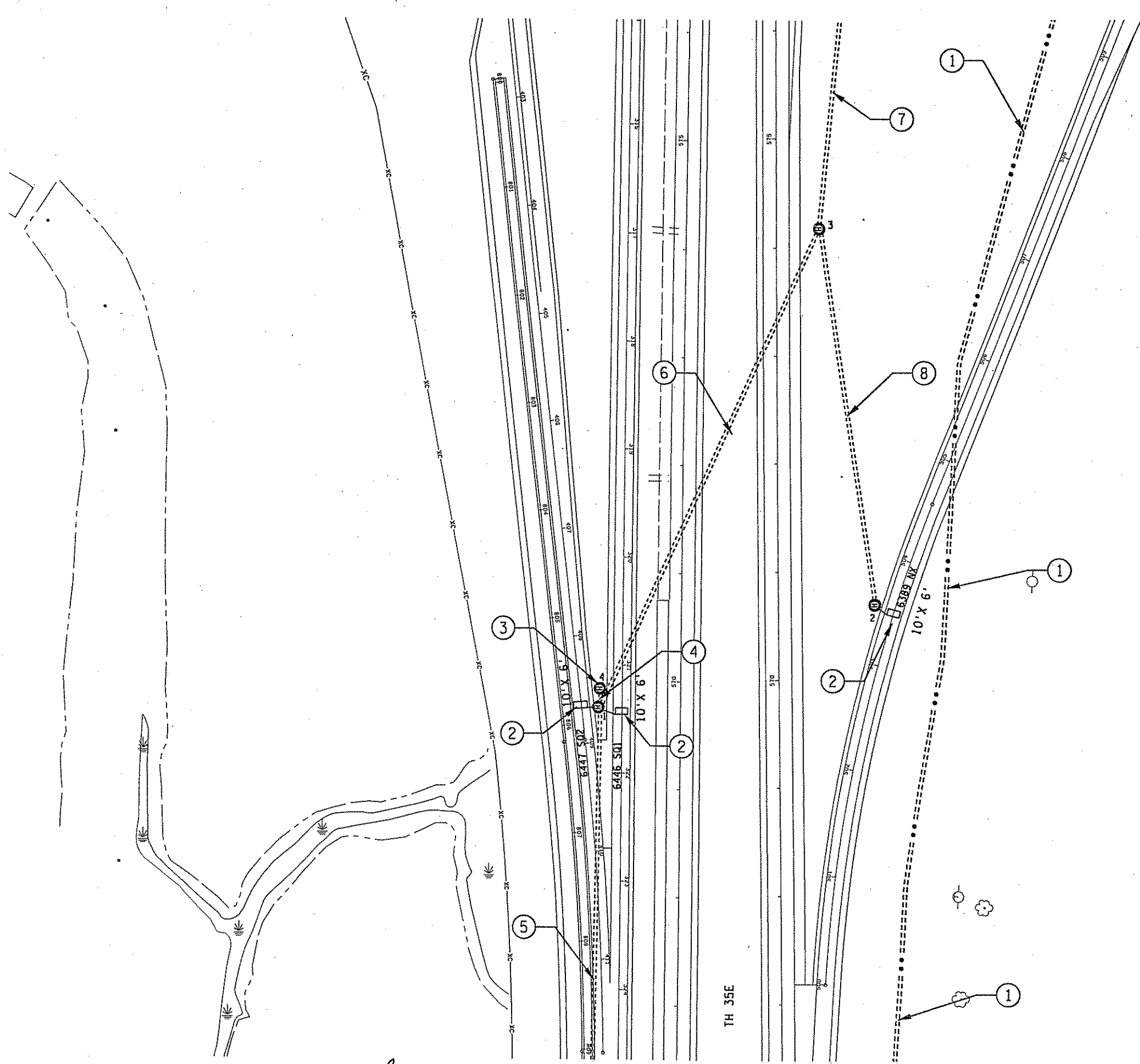
- ① INPLACE 1.5" NMC F&I 1-FO CABLE (60SM)
- ② INPLACE 1.5" NMC BORE F&I 1-FO CABLE (60SM)
- ③ F&I 1.5" NMC (ATTACH TO INPL. NMC - NOTE NO. 1) (SEE INPLACE/REMOVAL SHEET 290) & 1-FO CABLE (60SM)
- ④ F&I 2" NMC & 1-2/C NO. 14 (UNCONNECTED LOCATOR WIRE - WRAP AROUND EYE BOLTS IN HANDHOLES 1,2,4 & 5)
- ⑤ F&I LOOP DETECTOR DESIGN PREFORMED
- ⑥ F&I 2" NMC & 1-2/C NO. 14
- ⑦ F&I 2" NMC & 2-2/C NO. 14
- ⑧ F&I HANDHOLE (FOR FUTURE RCS FOUNDATION)

TMS PROPOSED CONSTRUCTION SHEETS ON
 TH 35E @ PHELPS ROAD

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 LICENSED PROFESSIONAL ENGINEER



- ① F&I 1.5" NMC & 1-FO CABLE (60SM)
- ② F&I LOOP DETECTOR DESIGN PREFORMED
- ③ F&I HANDHOLE (FOR FUTURE POLE FOUNDATION)
- ④ F&I 2" NMC & 1-2/C NO.14
 (UNCONNECTED LOCATOR WIRE - WRAP AROUND
 EYE BOLTS IN END HANDHOLES 1 & 4)
- ⑤ F&I 2" NMC & 2-2/C NO.14
- ⑥ F&I 2" NMC-BORE & 4-2/C NO.14
 ** DUE TO VOLTAGE DROP, THIS CONDUIT MUST BE ANGLED TO
 PROVIDE THE MINIMUM DISTANCE TO LOOP NO. 6412
 (LOCATED ON SHEET 296)
- ⑦ F&I 2" NMC & 5-2/C NO.14
- ⑧ F&I 2" NMC & 1-2/C NO.14

TMS PROPOSED CONSTRUCTION SHEETS ON
 TH 35E SO. OF CSAH 14

REV. NO.	DATE: / /
REV. NO.	DATE: / /

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 LICENSED PROFESSIONAL ENGINEER

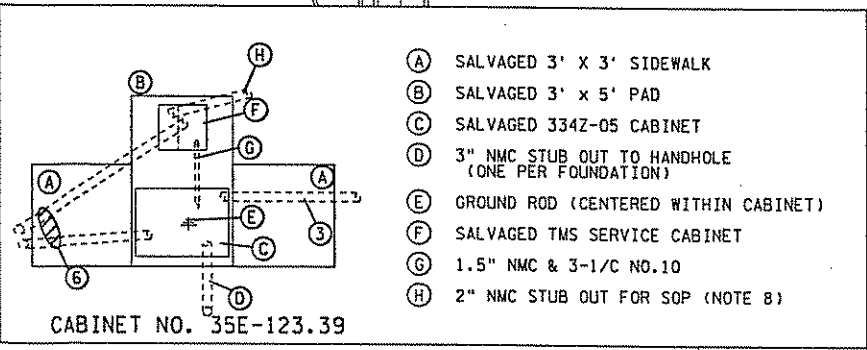
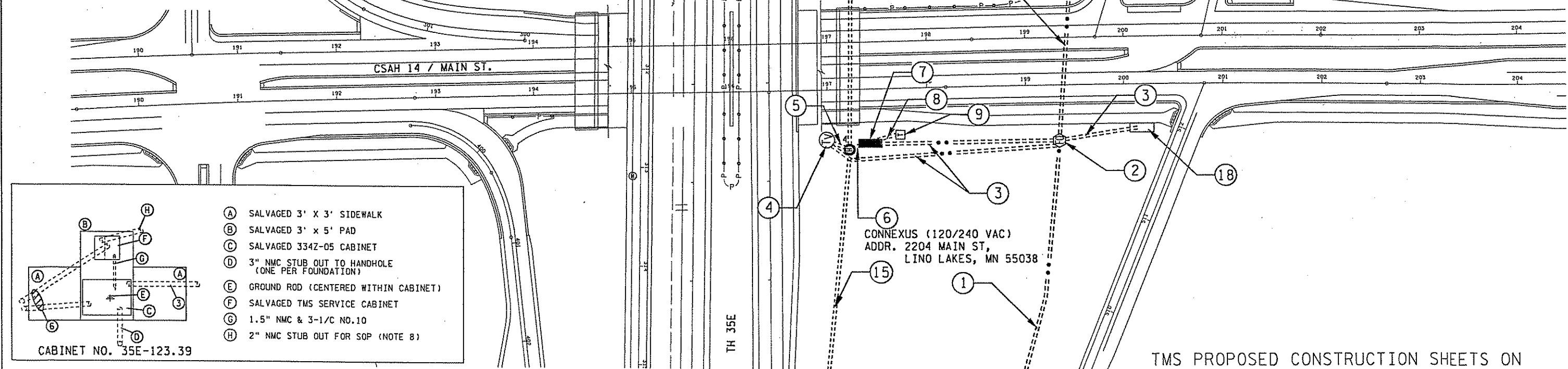
STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 297 OF 471 SHEETS

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- 1 F&I 1.5" NMC & 1-FO CABLE (60SM)
- 2 INSTALL SALVAGED FO SPLICE VAULT & SALVAGED OUTDOOR FIBER SPLICE ENCLOSURE F&I FO CABLE SPLICING
- 3 F&I 1.5" NMC & 1-FO PIGTAIL (6SM)
- 4 F&I CCTV FOUNDATION
 INSTALL SALVAGED CCTV HARDWARE (CAM 50)
 (CAMERA WILL BE INSTALLED BY TMS INTEGRATOR)
 F&I 1-FO PIGTAIL TERMINATION
- 5 F&I 2" NMC & 1-3/C NO.8
- 6 F&I 4" NMC & 12-2/C NO.14
 F&I 2" NMC & 1-3/C NO.8
- 7 INSTALL SALVAGED 334 SERIES FOUNDATION,
 NEOPRENE GASKETS, 334Z-05 CAB (35E-123.39)
 & SERVICE CABINET
 F&I 1-FO PIGTAIL TERMINATION
- 8 2" NMC & 3-1/C NO.6 TO TRANSFORMER
 (BY OTHERS-CONNEXUS)
 F&I 2" NMC STUB OUT FROM CAB.
- 9 PROPOSED TRANSFORMER
 (BY OTHERS-CONNEXUS)
- 10 F&I 3" NMC & 7-2/C NO.14
- 11 F&I 2" NMC-BORE & 3-2/C NO.14
- 12 F&I 2" NMC & 1-2/C NO.14
- 13 F&I LOOP DETECTOR DESIGN PREFORMED
- 14 F&I 2" NMC & 4-2/C NO.14
- 15 F&I 2" NMC & 5-2/C NO.14
- 16 F&I LOOP DETECTOR DESIGN SAWCUT
- 17 F&I 2" NMC & 3-2/C NO.14
- 18 INPLACE SIGNAL CABINET (BY OTHERS)



100'
 SCALE



- A SALVAGED 3' X 3' SIDEWALK
- B SALVAGED 3' X 5' PAD
- C SALVAGED 334Z-05 CABINET
- D 3" NMC STUB OUT TO HANDHOLE (ONE PER FOUNDATION)
- E GROUND ROD (CENTERED WITHIN CABINET)
- F SALVAGED TMS SERVICE CABINET
- G 1.5" NMC & 3-1/C NO.10
- H 2" NMC STUB OUT FOR SOP (NOTE 8)

TMS PROPOSED CONSTRUCTION SHEETS ON
 TH 35E @ CSAH 14 / MAIN ST.

REV. NO.	DATE: / /
REV. NO.	DATE: / /

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 LICENSED PROFESSIONAL ENGINEER

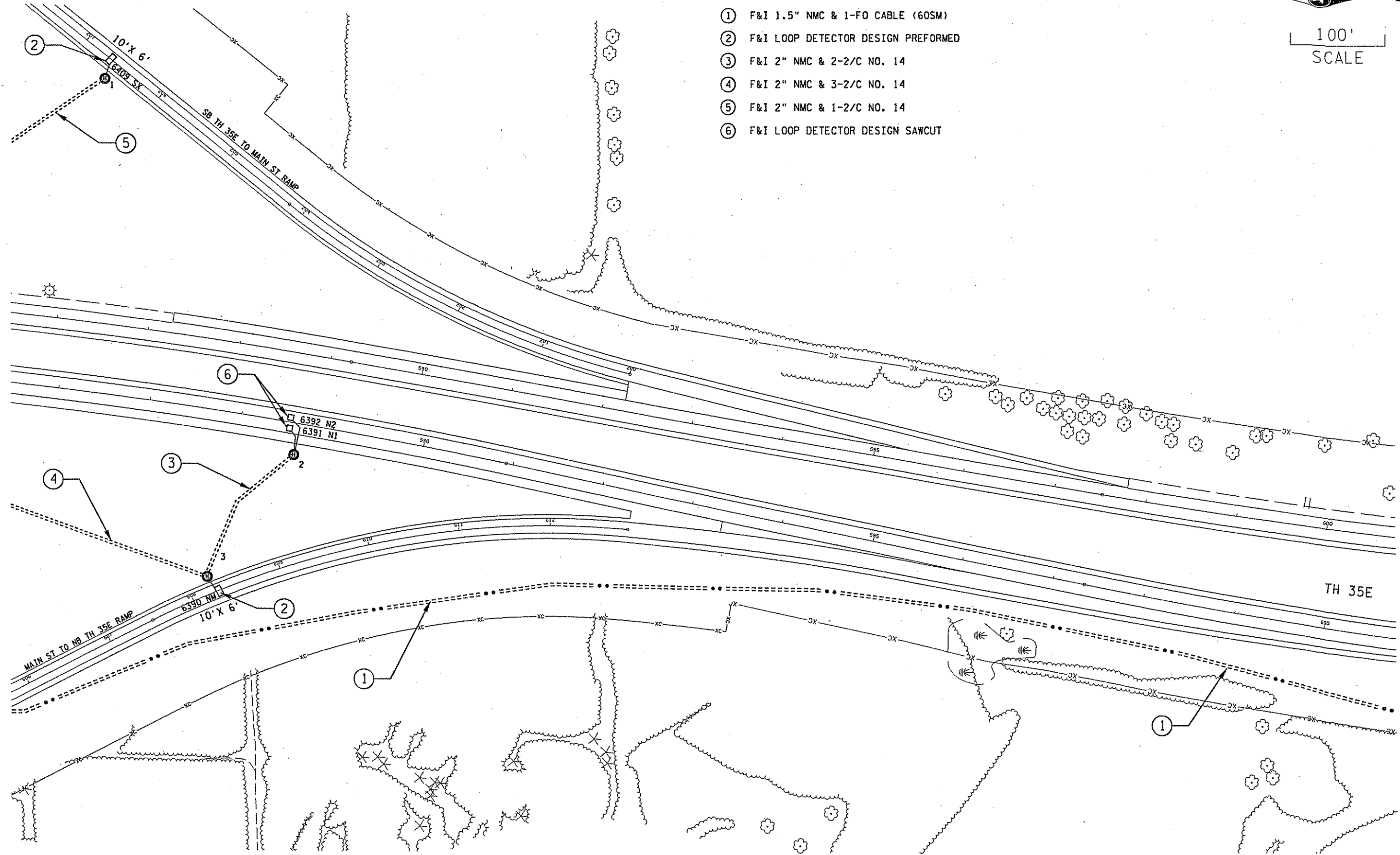
STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 298 OF 471 SHEETS

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100'
 SCALE

- ① F&I 1.5" NMC & 1-FO CABLE (60SM)
- ② F&I LOOP DETECTOR DESIGN PREFORMED
- ③ F&I 2" NMC & 2-2/C NO. 14
- ④ F&I 2" NMC & 3-2/C NO. 14
- ⑤ F&I 2" NMC & 1-2/C NO. 14
- ⑥ F&I LOOP DETECTOR DESIGN SAWCUT

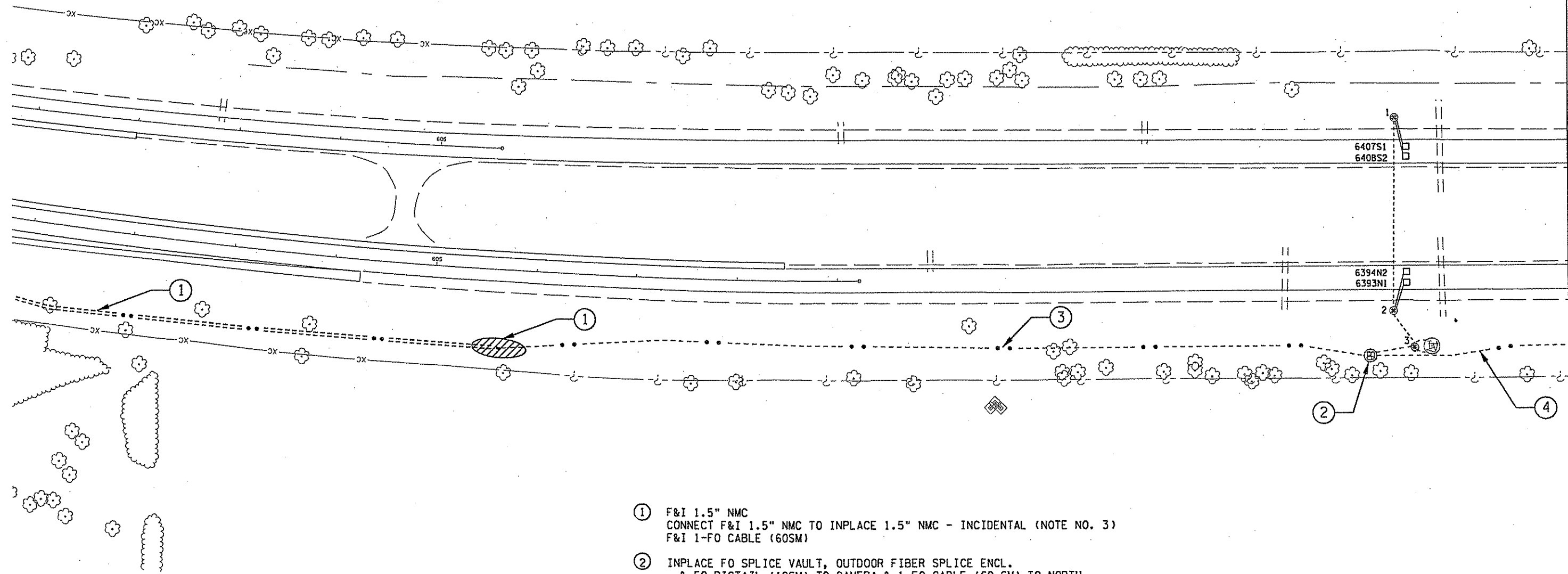
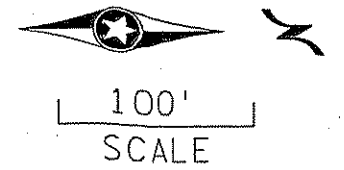


TMS PROPOSED CONSTRUCTION SHEETS ON
 TH 35E NO. OF CSAH 14

REV. NO.	DATE: / /
REV. NO.	DATE: / /

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 LICENSED PROFESSIONAL ENGINEER

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 299 OF 471 SHEETS



- ① F&I 1.5" NMC
 CONNECT F&I 1.5" NMC TO INPLACE 1.5" NMC - INCIDENTAL (NOTE NO. 3)
 F&I 1-FO CABLE (60SM)
- ② INPLACE FO SPLICE VAULT, OUTDOOR FIBER SPLICE ENCL.
 & FO PIGTAIL (12SM) TO CAMERA & 1-FO CABLE (60 SM) TO NORTH
 F&I FO CABLE SPLICING
- ③ INPLACE 1.5" NMC
 F&I 1-FO CABLE (60SM)
- ④ INPLACE 1.5" NMC & 1-FO CABLE (60SM)

TMS PROPOSED CONSTRUCTION SHEETS ON
 TH 35E 1/2 MI. N. OF CSAH 14

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REV. NO.	DATE: / /
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 LICENSED PROFESSIONAL ENGINEER

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 300 OF 471 SHEETS

SHEET NO.	DETAIL
302	HANDHOLE DETAIL
303	FIBER OPTIC SLICE VAULT (FOR INFO ONLY)
304	FIBER OPTIC SPLICE VAULT INSTALLATION
305	FIBER OPTIC CABLE LABELING DETAIL
306	TMS SAWCUT LOOP DETECTOR TYPICAL - PART ONE
307	TMS "PREFORMED" LOOP DETECTOR - PART ONE
308	TMC LOOP DETECTOR - PART TWO & PREFORMED LOOP CHART
309	FUTURE RAMP CONTROL SIGNAL FOUNDATION DETAIL
310	SIGNING LAYOUT WITH H.O.V. LANE
311	CCTV POLE INSTALLATION DETAIL
312	POLE MOUNTED FIBER TERMINATION CABINET
313	TYPICAL FOUNDATION DETAILS
314	TYPICAL 334 CABINET INSTALLATION
315	BURIED CABLE SIGN PLACEMENT

DETAIL SHEET LIST

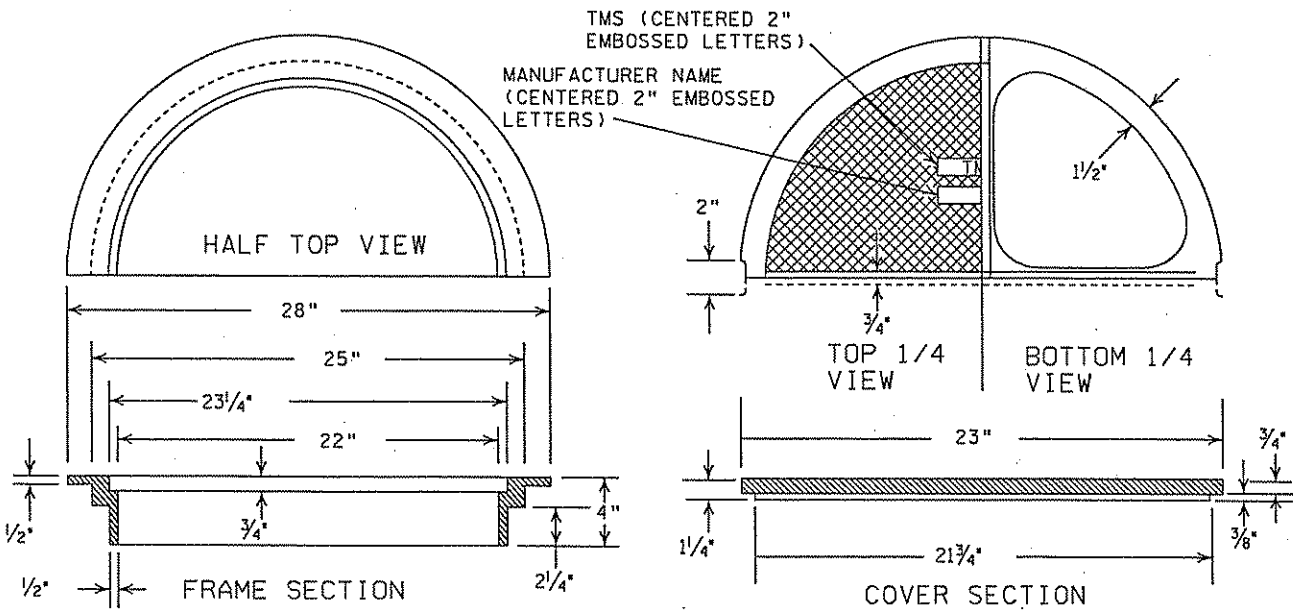
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CERTIFIED BY Joseph M. Puleo LIC.NO. 26530 JUNE 12, 2009 STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 301 OF 471 SHEETS

LICENSED PROFESSIONAL ENGINEER

NOTES:

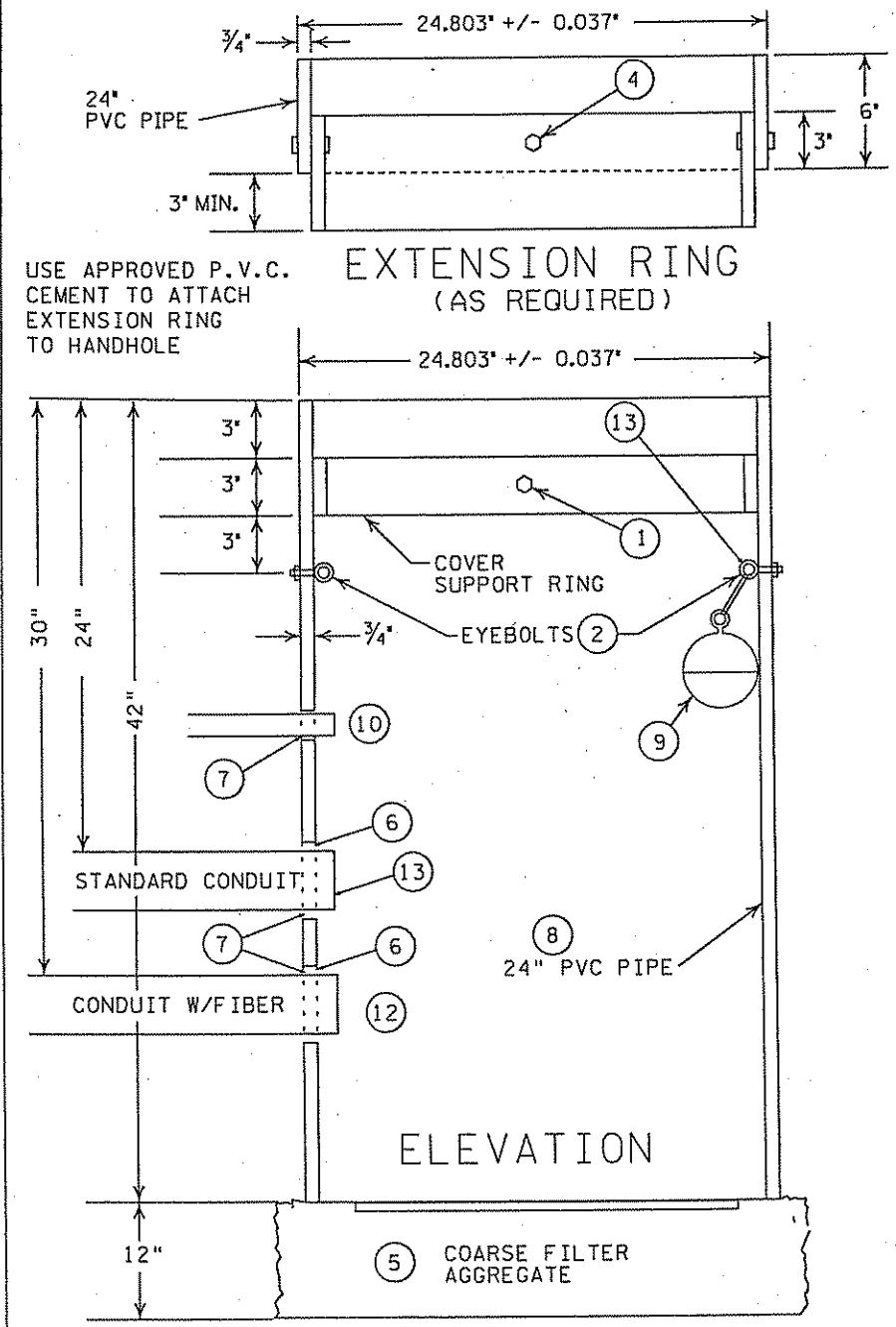
- ① ATTACH SPLIT 24" DIA. P.V.C. COVER SUPPORT RING WITH FOUR 3/8 " DIA. X 2" LONG BOLTS AND NUTS AT 90° APART.
- ② TWO TYPE 2 SHOULDER EYEBOLTS, 3/8 " DIA. X 1 1/4 " SHANK LENGTH, WITH HEX. NUTS AT 180° APART (FOR LIFTING HANDHOLES AND SUPPORTING ELECTRICAL CABLES).
- ③ FOUR 1/4 " X 1 1/4 " LONG GALVANIZED LAG SCREWS.
- ④ ATTACH SPLIT 24" DIA. PVC EXTENSION RING WITH FOUR 3/8 " DIA. X 2" LONG BOLTS AT 90° APART. THE BOLTS & NUTS COMPLY WITH MN/DOT 3391.2E, THE OTHER HARDWARE WITH 3392.
- ⑤ COMPACT COARSE FILTER AGGREGATE COMPLYING WITH MN/DOT 3149.2H TO A 12" DEPTH.
- ⑥ CONDUIT ENTRANCES IN THE BARREL ARE SIZED 1.0" LARGER THAN THE CONDUIT USED.
- ⑦ PLUG HANDHOLE AT CONDUIT INSTALLATION, PROVIDING A WATER TIGHT SEAL.
- ⑧ THE PVC PIPE COMPLIES WITH ASTM F 9T-1.
- ⑨ INSTALL ORANGE LOCATER BALL WITH TIE WRAP TO EYE BOLT
- ⑩ MINIMUM CONDUIT DEPTH FOR LOOP WIRES SHALL BE 1.5'.
- ⑪ F&I CONDUITS NO SHARPER THAN 135 DEG. FOR INSTALLATIONS OF CONDUIT WHERE FIBER WILL PASS THRU.
- ⑫ F&I CONDUITS WITH FIBER PASSING THRU AT 30" DEPTH THRU HANDHOLES. TRANSITION TO/FROM STANDARD 36" FIBER DEPTH OR PUSH DEPTH OUTSIDE HANDHOLES. NOTE:PROVIDE 36" CONDUIT STUB OUT FOR DIRECT BURIED FIBER PASSING THRU HANDHOLE.
- ⑬ F&I 1-2/C NO. 14 IN ALL EMPTY CONDUITS. ATTACH END OF WIRE TO EYEBOLT IN LAST HANDHOLE.



FRAME AND COVER CASTING

NOTE:
 ALL CASTINGS ARE GRAY IRON PER
 MN/DOT SPEC. 3321 CLASS 35B

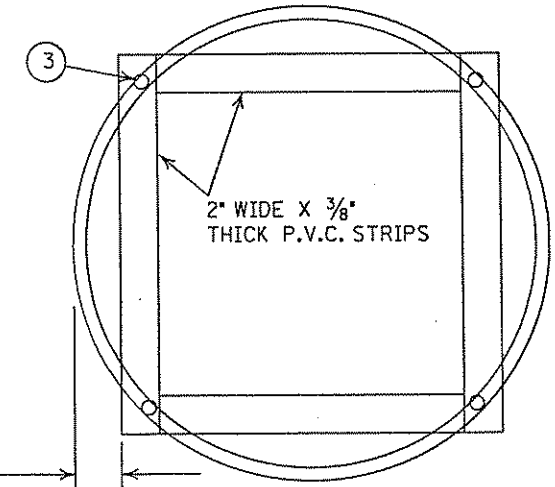
LIGHT DUTY METAL COVER



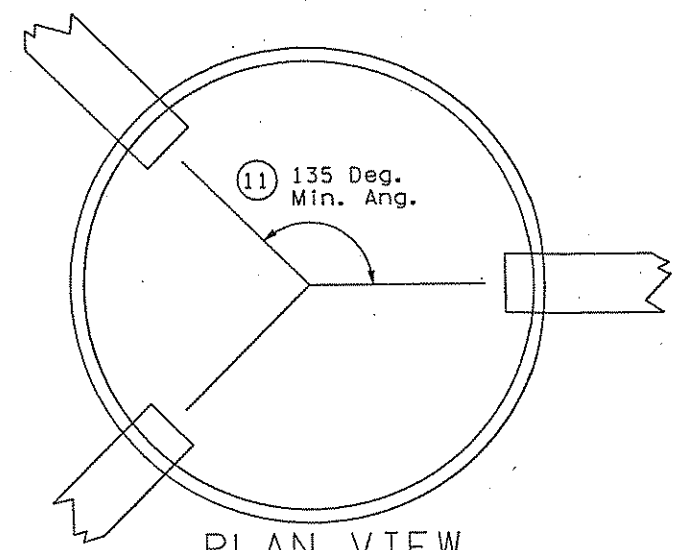
**EXTENSION RING
 (AS REQUIRED)**

USE APPROVED P.V.C. CEMENT TO ATTACH EXTENSION RING TO HANDHOLE

ELEVATION



BOTTOM VIEW



PLAN VIEW

HANDHOLE DETAIL - (PVC HANDHOLE/METAL COVER)

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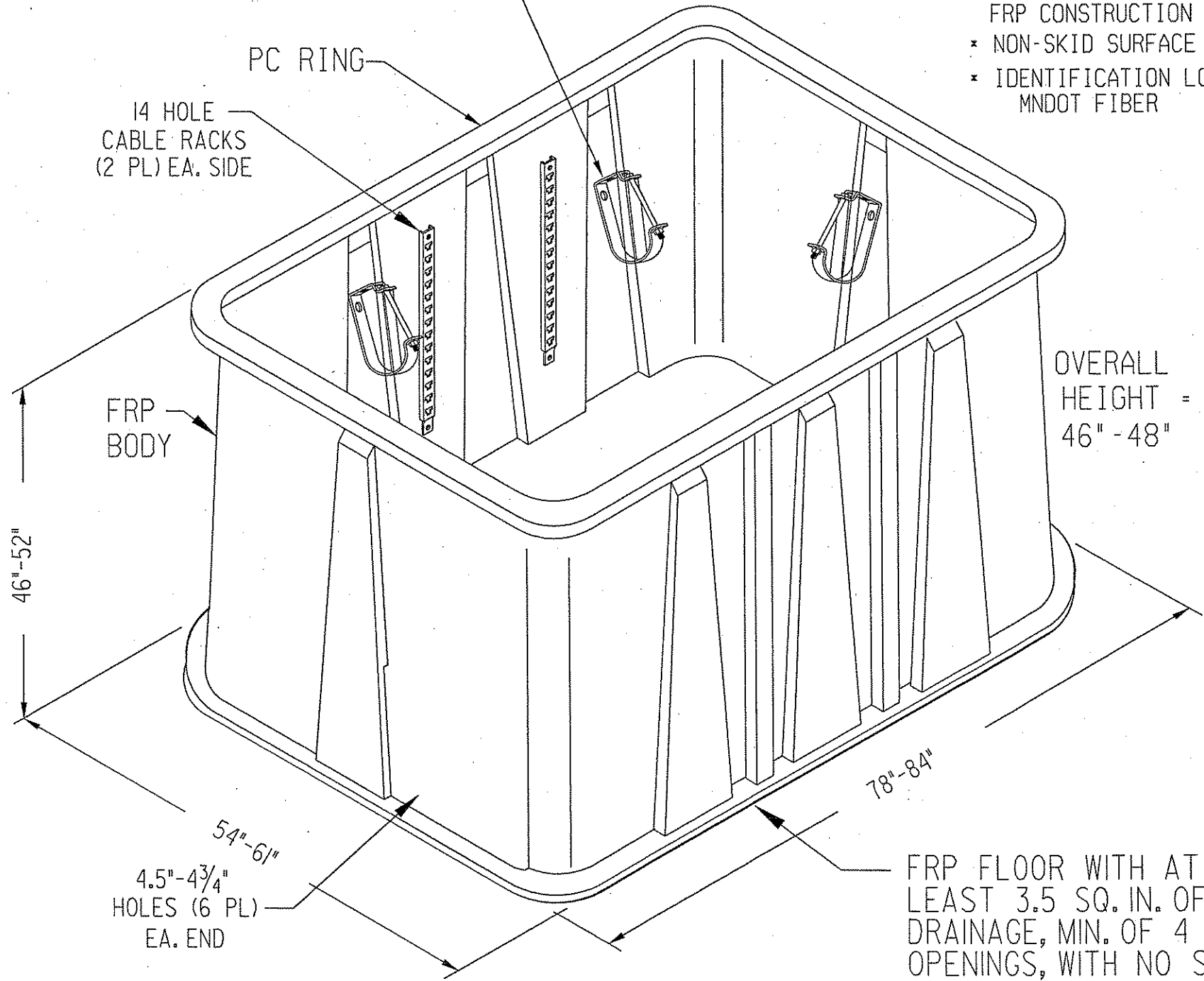
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STAINLESS STEEL COILING BRACKETS,
 SIZED FOR 4" PIPE
 & 8-3/8" IN HEIGHT (6 EACH).
 PLACE 12" BELOW TOP OF PC RING.
 FASTEN WITH SS HH BOLTS 5/8" X 4-1/2"
 LONG AND SS "NYLOCK" STYLE LOCKNUT

COVER FEATURES

- * (2) 3/8"-16 UNC X 3-1/2" LONG
 HEX HEAD STAINLESS STEEL BOLTS
 W/SELF ALIGNING REPLACEABLE
 STAINLESS STEEL NUTS POSITIONED
 IN HOLES TO ALLOW DRAINAGE OF
 SOIL & DEBRIS
- * POLYMER CONCRETE
 FRP CONSTRUCTION
- * NON-SKID SURFACE
- * IDENTIFICATION LOGO:
 MNDOT FIBER

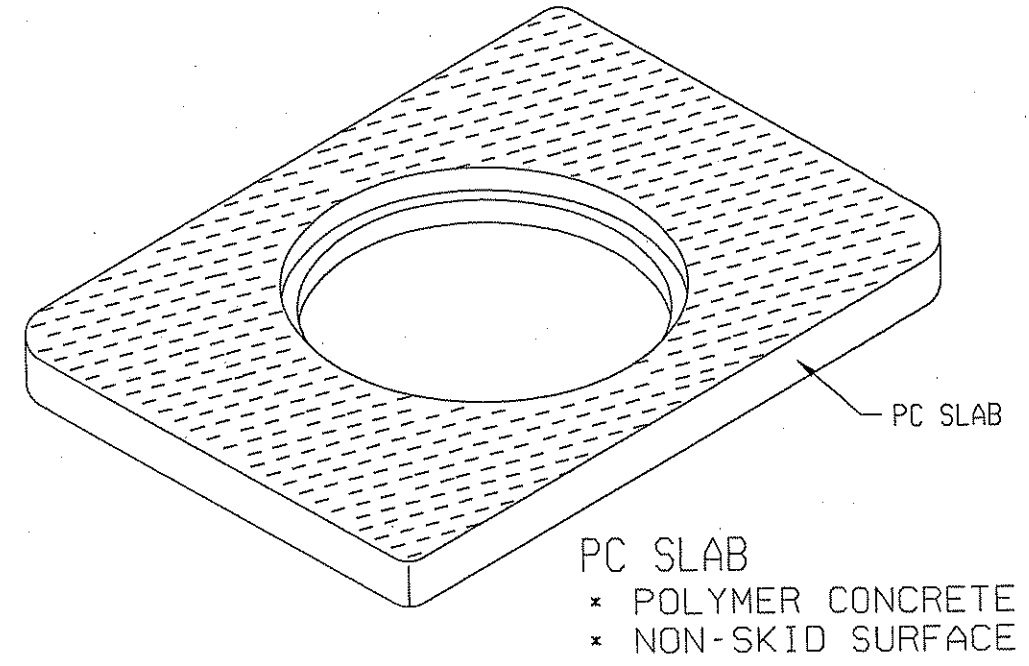
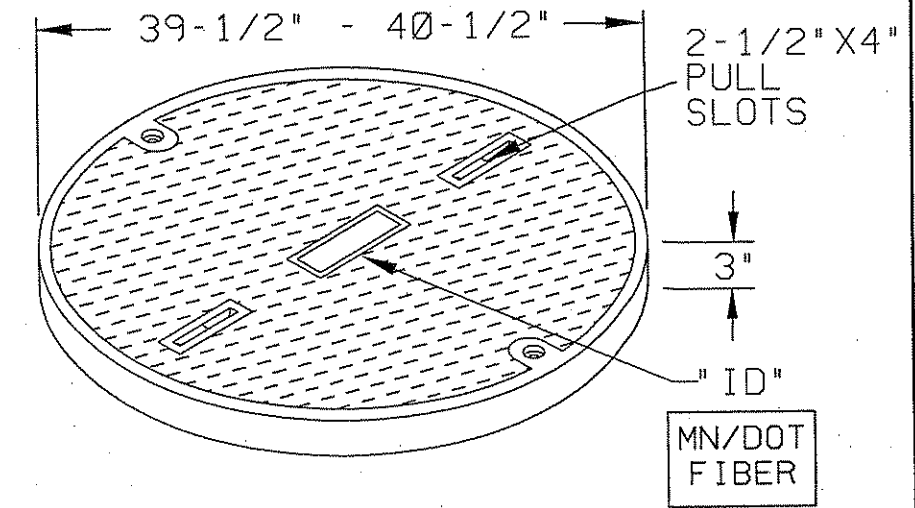
ENTIRE ASSEMBLY SHALL BE RATED
 FOR MINIMUM DESIGN LOAD OF
 15,000 LB. AND TEST LOAD OF 20,000 LB.



OVERALL
 HEIGHT =
 46" - 48"

FRP FLOOR WITH AT
 LEAST 3.5 SQ. IN. OF
 DRAINAGE, MIN. OF 4
 OPENINGS, WITH NO SLOT
 WIDTH OR HOLE DIA.
 LARGER THAN 1/2".

DRAWING NOT TO SCALE
 * ALL BOLTS STAINLESS STEEL

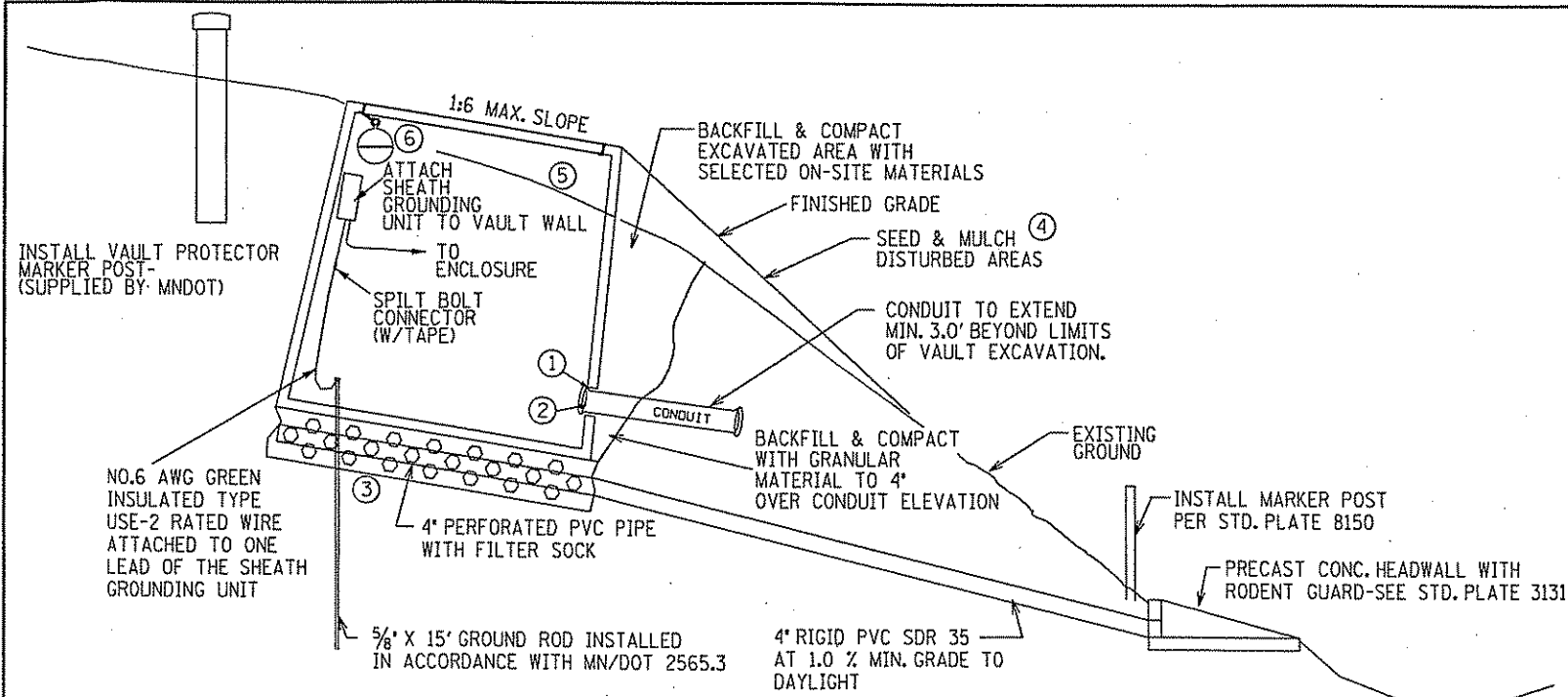


FRP VAULT FEATURES

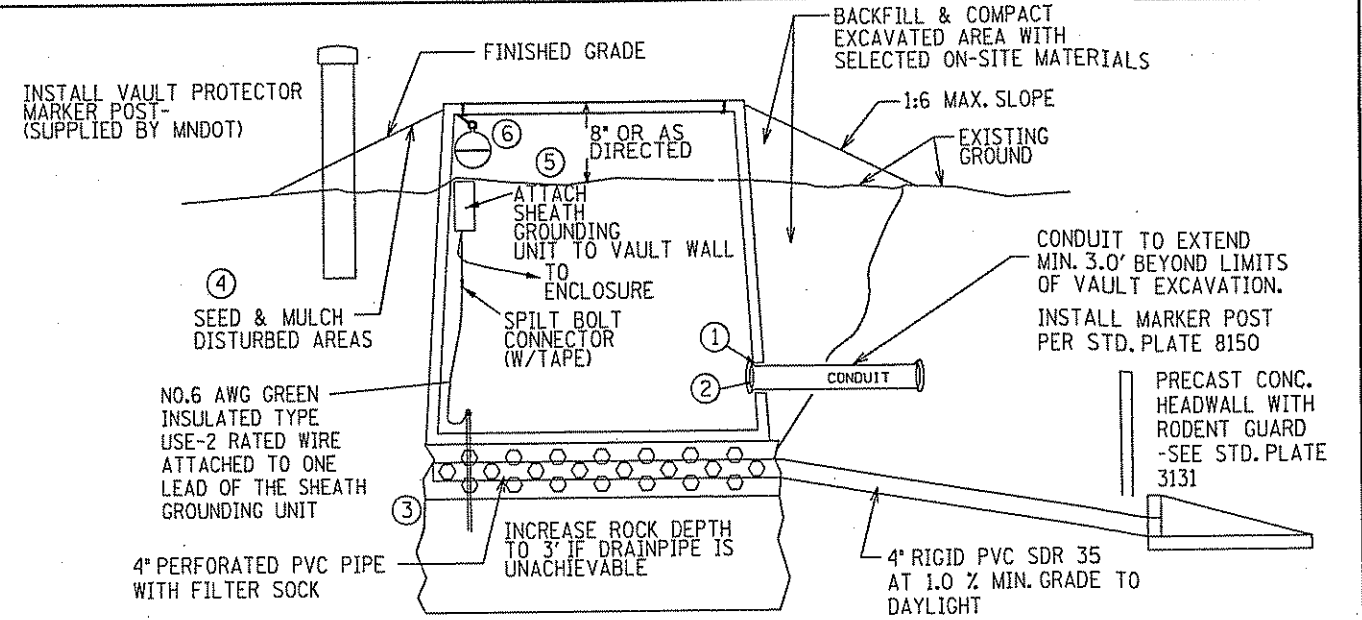
- * FIBERGLASS REINFORCED POLYMER
 (FRP) CONSTRUCTION

(FOR INFO ONLY)
 FIBER OPTIC SPLICE VAULT

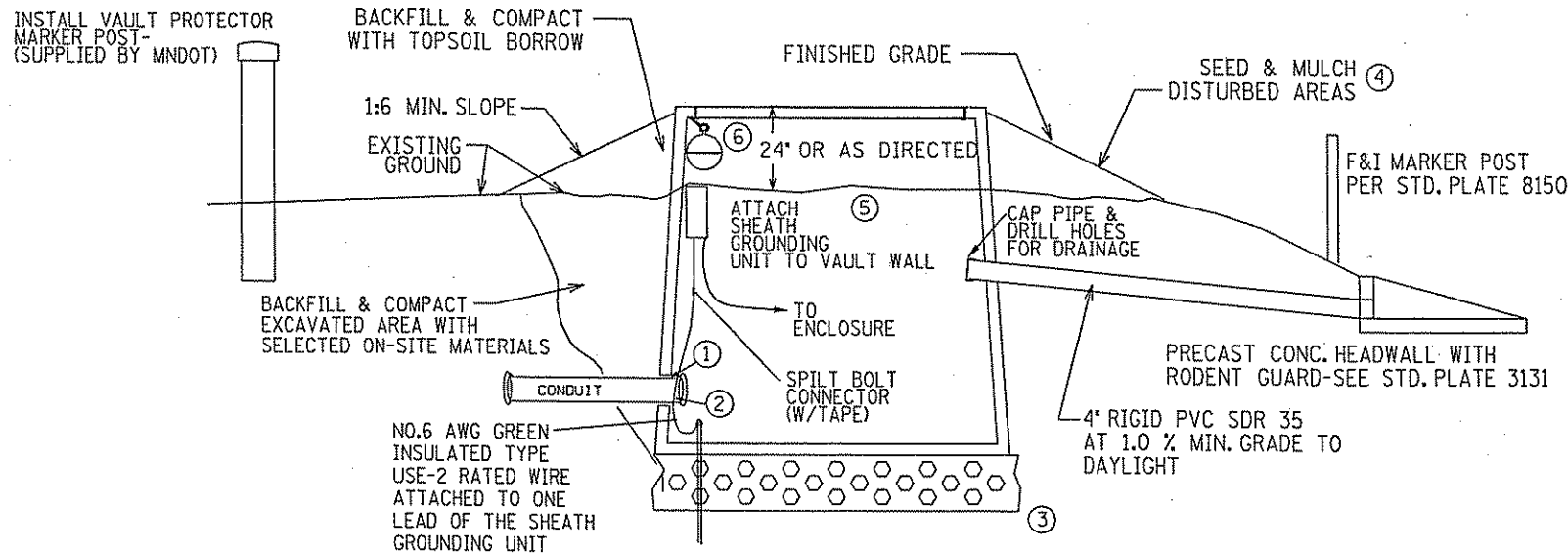
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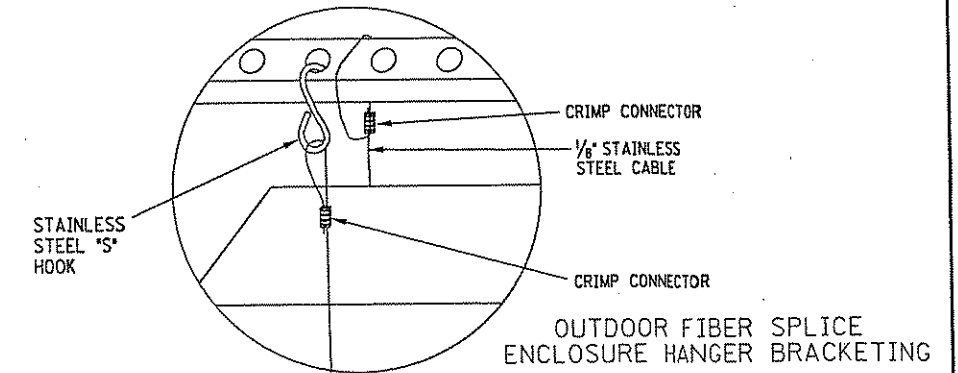
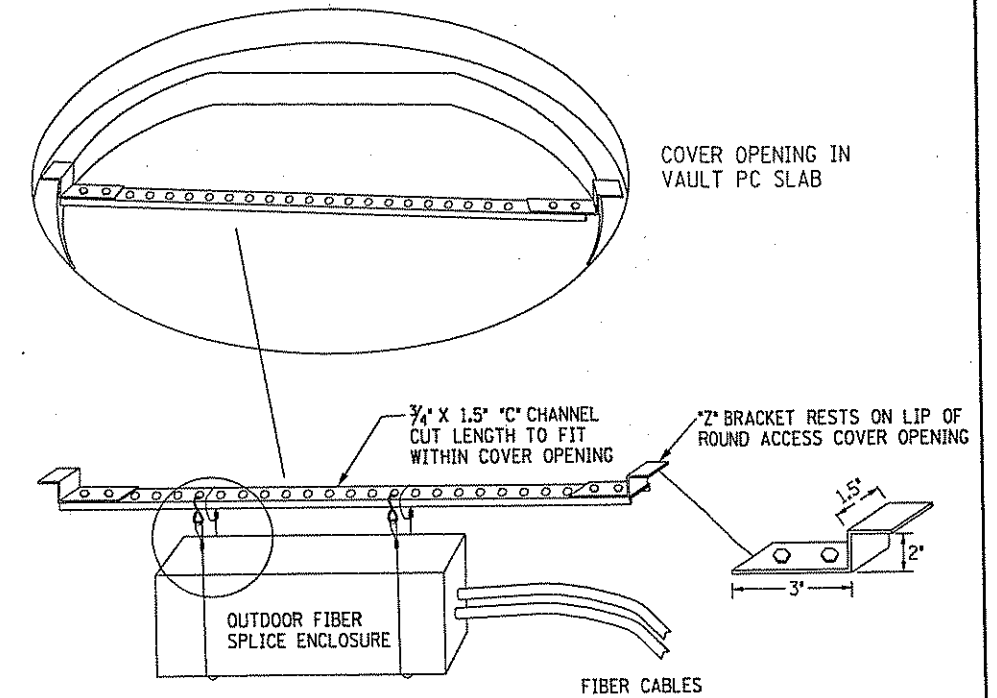
VAULT INSTALLATION & DRAINAGE SYSTEM (SLOPED AREAS)



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



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



FIBER OPTIC SPLICE VAULT INSTALLATION

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 WITH SEED MIXTURE 240 AND TYPE I MULCH PER MNDOT 2575.3
- ⑤ STRIP TOPSOIL FROM VAULT AND SLOPE AREAS PRIOR TO VAULT INSTALLATION (INCIDENTAL)
- ⑥ MOUNT LOCATOR BALL WITH TIE WRAP TO COVER LEDGE

GENERAL NOTES

1. GROUND CONNECTIONS SHALL BE COATED WITH OXIDATION PROHIBITING COMPOUND.
2. CABLE SHALL ENTER BELOW THE SUPPORT BRACKETS WITH 60' OF EXTRA CABLE FOR EACH CABLE COILED AROUND INSIDE OF SUPPORT BRACKETS. CABLES SHALL BE CUT TO THE SAME LENGTH
3. ALL HARDWARE SHALL BE STAINLESS STEEL WITH EXCEPTION OF THE "C" CHANNEL MOUNTING BAR.
4. THE FRAME AND LID OF THE VAULT SHALL BE IN ACCORDANCE WITH AASHTO LOAD RATING H-10

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LIC. NO. 26530

JUNE 12, 2009

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 304 OF 471 SHEETS

GENERAL NOTES

* Add cable identifiers to color coded electrical tape with a permanent marker as shown on this detail.

e.g.: 94.41 East 24SM 01467M.
 94.41 = Cable ID#
 East = Direction
 24SM = Cable fiber count
 01467 = Nearest cable length marking to where the tape is applied.

* Electrical tape colors:
 NB (Blue)
 SB (Green)
 EB (Yellow)
 WB (Orange)
 Pigtails (White)

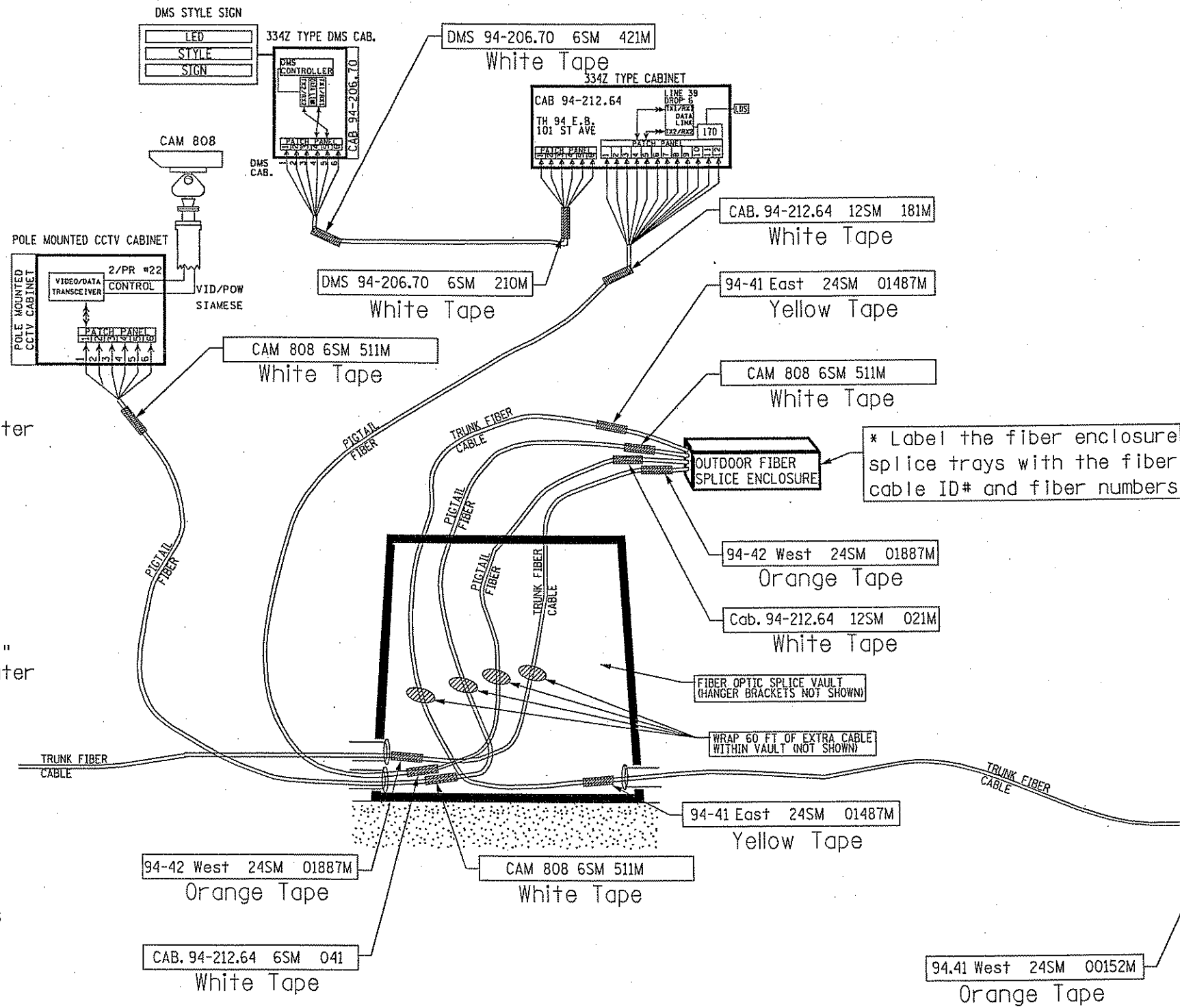
* The electrical tape with the identifiers is added to:

- 334Z-Type Cabinets to within 18" of the entrance conduit on the outer jacket of the fiber optic cable.
- Pole Mounted CCTV Cabinet between the entrance point and the fiber termination panel.
- FO Splice Vaults to within 18" of the splice enclosure and the entrance conduit.
- TMS Shelter Cabinets to within 18" of the entrance conduit on the outer jacket of the fiber optic cable and again to within 18" of the splice panel on the inner jacket of the fiber optic cable.

* Neatly tape the fiber optic cables together as needed near the fiber enclosure then throughout the length of slack.

* Neatly coil the fiber optic cables into the fiber optic hanger brackets inside the vault.

* This drawing is not intended to show the fiber optic cables in their final position.



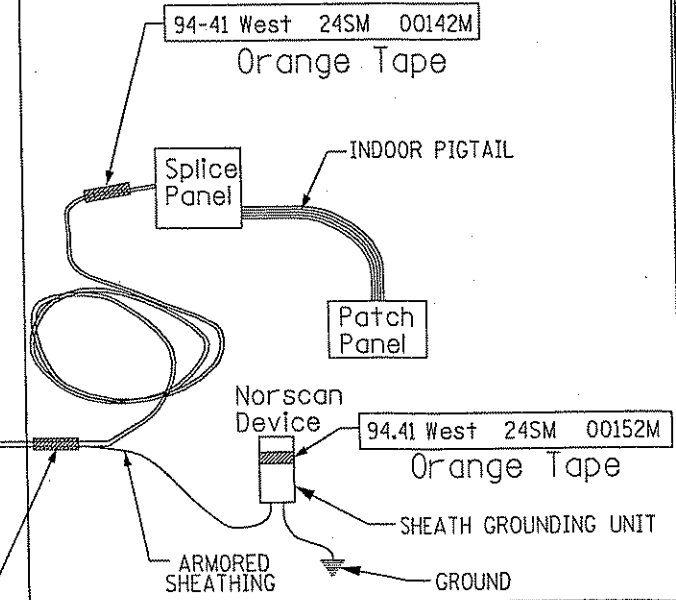
PLEASE NOTE: OUTDOOR FIBER SPLICE ENCLOSURE IS SHOWN OUTSIDE OF THE SPLICE VAULT. THE ACTUAL PLACEMENT IS WITHIN THE VAULT HANGING ON BRACKETS (NOT SHOWN)

TMS SHELTER CABINET

SHELTER NOTES

- * Label the indoor pigtail six-paks on the outer jacket at both the splice tray/wheel and inside the patch panel to indicate the fiber cable ID # and which six fibers the six-paks are spliced to: (e.g. 94-12 SM7-12)
- * Label the front of the splice panels with the fiber cable ID#, direction, and fiber count.
- * Label splice trays/wheels with the fiber cable ID# and the fiber count.
- * Label the front of patch panels with the fiber cable ID#, direction and fiber count.
- * Label the sheath grounding unit with the fiber cable ID#, direction and fiber count.

* Label the fiber enclosure splice trays with the fiber cable ID# and fiber numbers



FIBER OPTIC CABLE LABELING DETAIL

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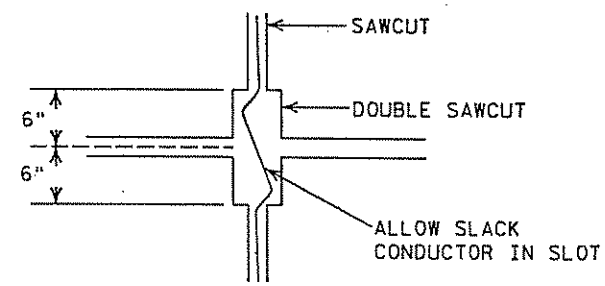
LIC. NO. 26530 JUNE 12, 2009

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 305 OF 471 SHEETS

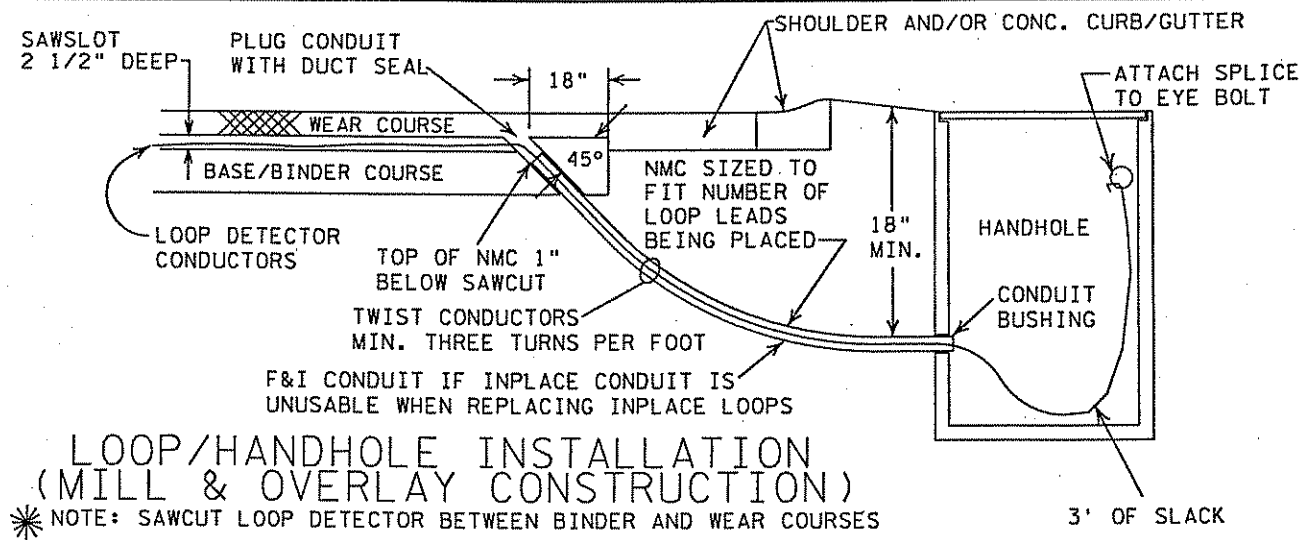
Hansl Sco CO. 30XD014 TMS 7/16/2009 7:46:15 AM
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1. SAWCUT DETECTORS IN RAMPS & LOOPS ARE VARIABLE SIZED, AND INSTALLED IN THE CENTER OF THE LANE.
 2. THE LOOP DETECTOR CONDUCTOR IS 1/C NO.14 COPPER, XLPE OR XHHW INSULATED WIRE. THE WIRE IS CONTAINED IN A FLEXIBLE POLYETHYLENE TUBING.
 3. USE A SEALANT MADE SPECIFICALLY TO SEAL LOOP DETECTOR SAWCUTS IN CONCRETE ROADWAYS. USE AN APPROVED SEALANT IN BITUMINOUS ROADWAYS AND CONCRETE ROADWAYS THAT ARE TO BE OVERLAYED WITH BITUMINOUS.
- METHOD**
4. CLEAN ALL DEBRIS FROM THE ENTIRE LOOP DETECTOR AREA.
 5. MARK THE LOOP SAWCUTS ON THE ROADWAY.
NOTE: LOCATE LOOPS IN PAVEMENT TO MINIMIZE THE CROSSING OF JOINTS AND CRACKS WITHIN THE PAVEMENT.
 6. SAW THE CUT TO 2 1/2" +/- 1/4" DEEP BY 1/8" WIDER THAN THE "OD" OF THE CONDUCTOR. SMOOTH THE BOTTOM AND ANGLES TO PREVENT DAMAGE TO INSULATION.
 7. REAM THE CONDUIT ENDS. PLUG THE CONDUIT IN THE ROADWAY TO PREVENT THE LOOP SEALANT FROM ENTERING THE CONDUIT.
 8. DRILL THE CORNERS 1/4" DEEPER THAN THE SAW SLOT AND SMOOTH THE HOLE CORNERS.
 9. CLEAN AND DRY THE ENTIRE LOOP DETECTOR AREA.
 10. F&I BEAD OF LOOP DETECTOR SEALANT TO WITHIN 6" OF LOOP CONDUCTORS CONDUIT. INSTALL CLEAN, DRY LOOP CONDUCTOR STAYING TO THE OUTSIDE OF THE CORNERS. DO NOT INSTALL THE CONDUCTOR TIGHT. PUSH THE CONDUCTORS TO THE BOTTOM OF THE SAWCUT WITH A BLUNT TOOL.
 11. INSTALL 3/4" DIAMETER BY 2" FOAM BACKER ROD AT 2.0' INTERVALS TO HOLD THE CONDUCTOR AT THE BOTTOM OF THE SAWCUT. INSTALL LOOP SEALANT.
 12. F&I CONDUCTOR PER JOINT/CRACK DETAIL EACH TIME A JOINT OR PAVEMENT CRACK IS CROSSED.
 13. TWIST THE CONDUCTORS 9 TURNS PER METER IN THE CONDUIT FROM THE ROADWAY TO THE SPLICE WITHIN THE HANDHOLE.
 14. SOLDER THE LOOP CONDUCTOR TO LEAD-IN LEAVING THE JOINTS STAGGERED. PLACE IT INTO SPLICE ENCAPSULATOR WITH A PLASTIC TUBE AND END CAPS THAT FUNCTION AS SPOUTS. USE A TWO PART INSULATING RESIN, CONFINED IN A UNIPAK, THAT TURNS BLACK WHEN MIXED AND BECOMES HARD WHEN CURED. F&I BOTH LOOP CONDUCTORS AND LEAD-IN WIRE INTO THE SAME END OF THE TUBE AND ENCAPSULATE THE SPLICE.
 15. SAWCUTS SHALL REMAIN 2.0' FROM OTHER SAWCUTS.
 16. FILL SAW SLOT UNIFORMLY ACCORDING TO THE LOOP SEALANT MANUFACTURERS RECOMMENDED DEPTH. WIPE ALL EXCESS SEALANT MATERIAL FROM THE ROADWAY SURFACE.

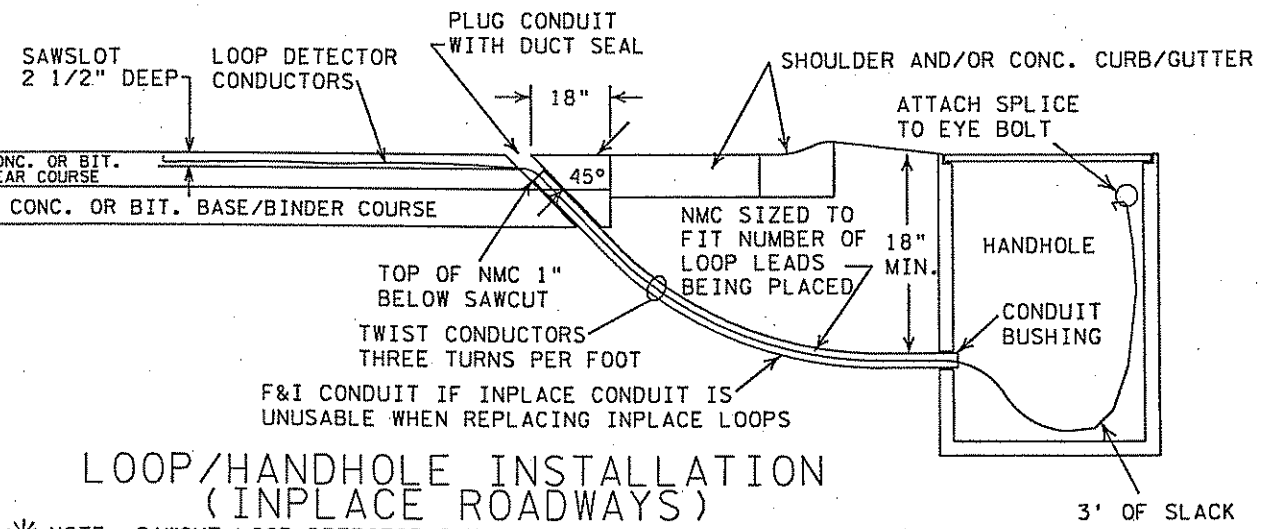
NOTE: ALL SAWCUT LOOP DETECTORS SHALL HAVE 4 TURNS



JOINT/CRACK INSTALLATION

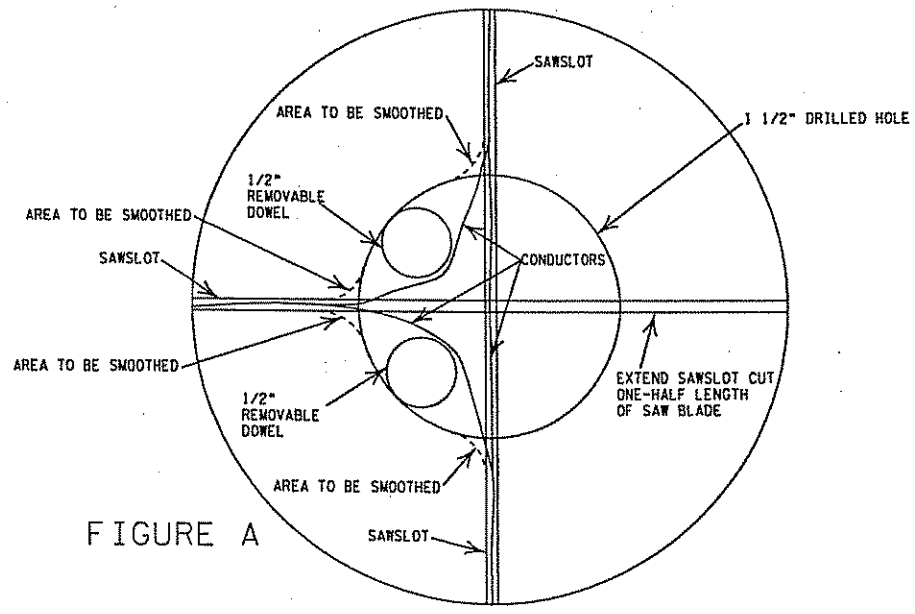


**LOOP/HANDHOLE INSTALLATION
(MILL & OVERLAY CONSTRUCTION)**

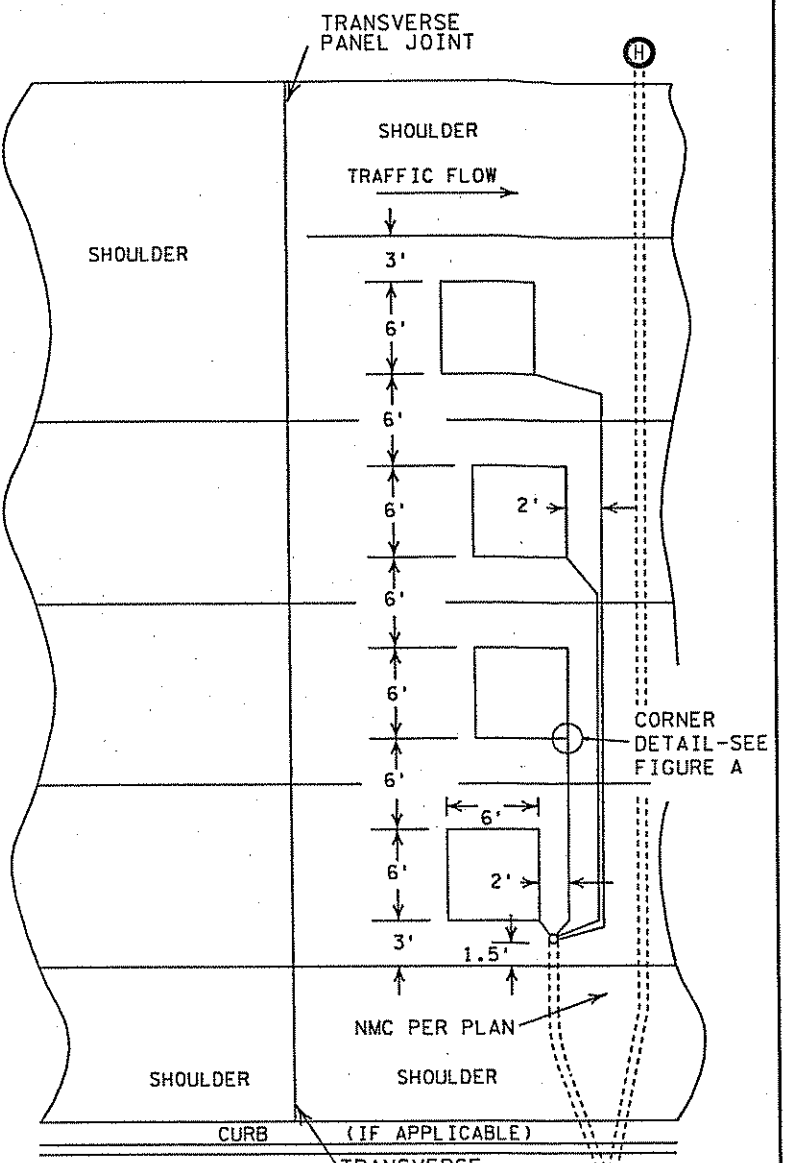


**LOOP/HANDHOLE INSTALLATION
(INPLACE ROADWAYS)**

* NOTE: SAWCUT LOOP DETECTOR INTO WEAR COURSE OR CONC. SURFACE

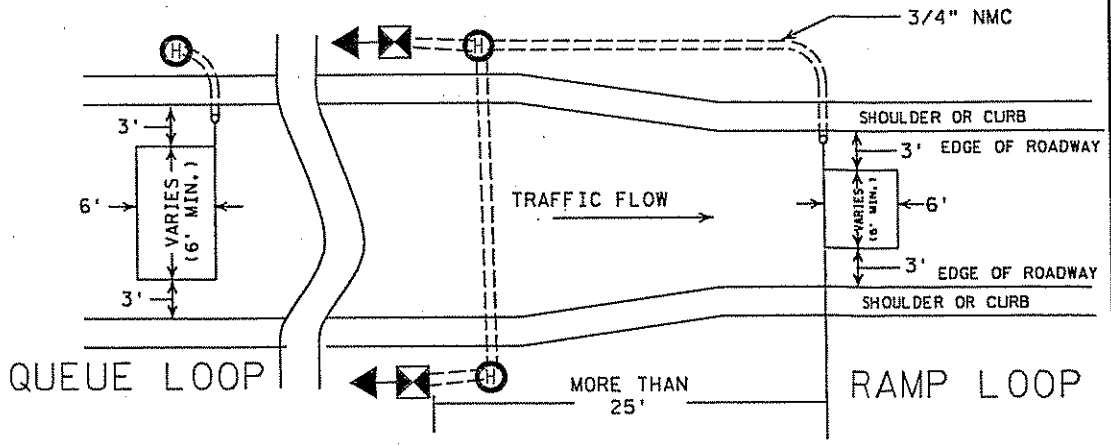


DRILL SAWCUT CORNERS



MAINLINE DETECTORS

NOTE: LOOP LEADS SHALL NOT CROSS TRANSVERSE JOINTS IN CONCRETE PAVEMENT. MOVE A LOOP TO THE NEXT PANEL AND F&I A SEPARATE CONDUIT TO THE HH IF ALL LOOPS WILL NOT FIT ONE PANEL AND MAINTAIN SEPARATIONS SHOWN



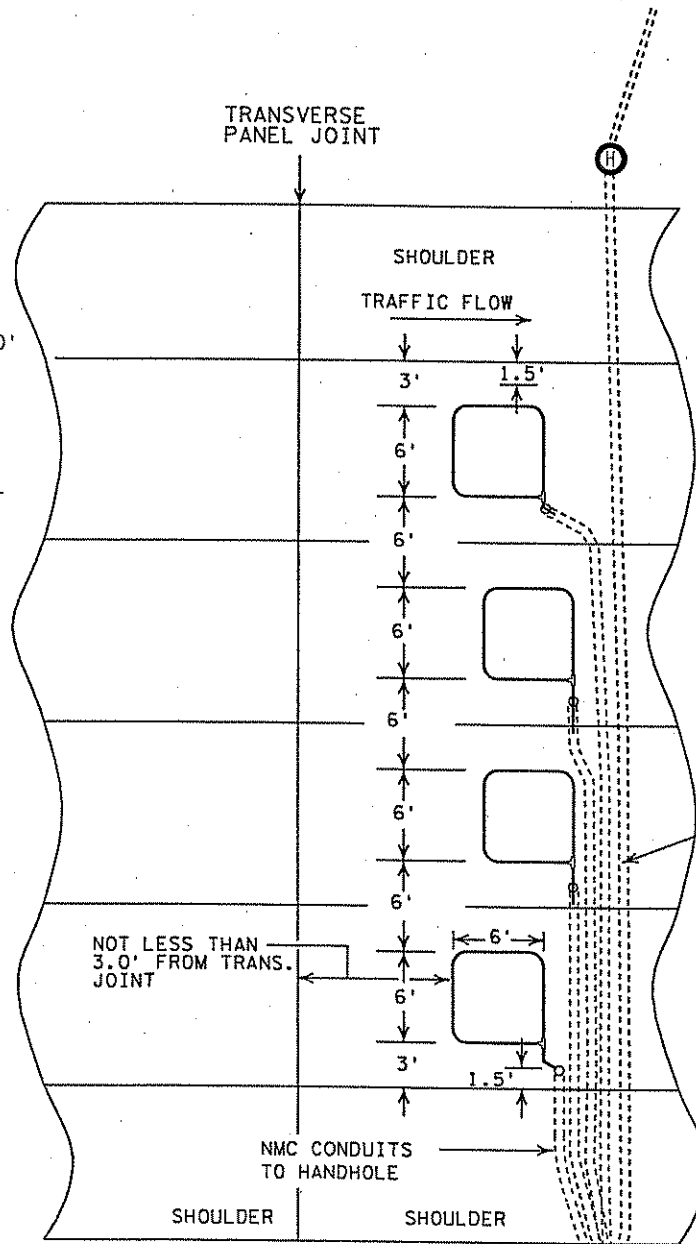
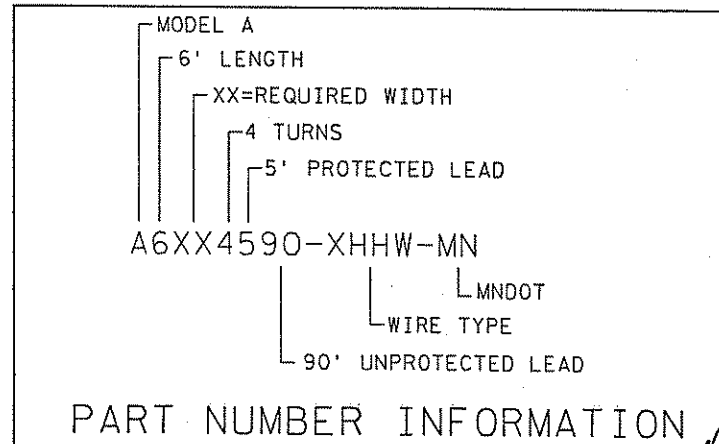
TMS SAWCUT LOOP DETECTOR TYPICAL-PART ONE

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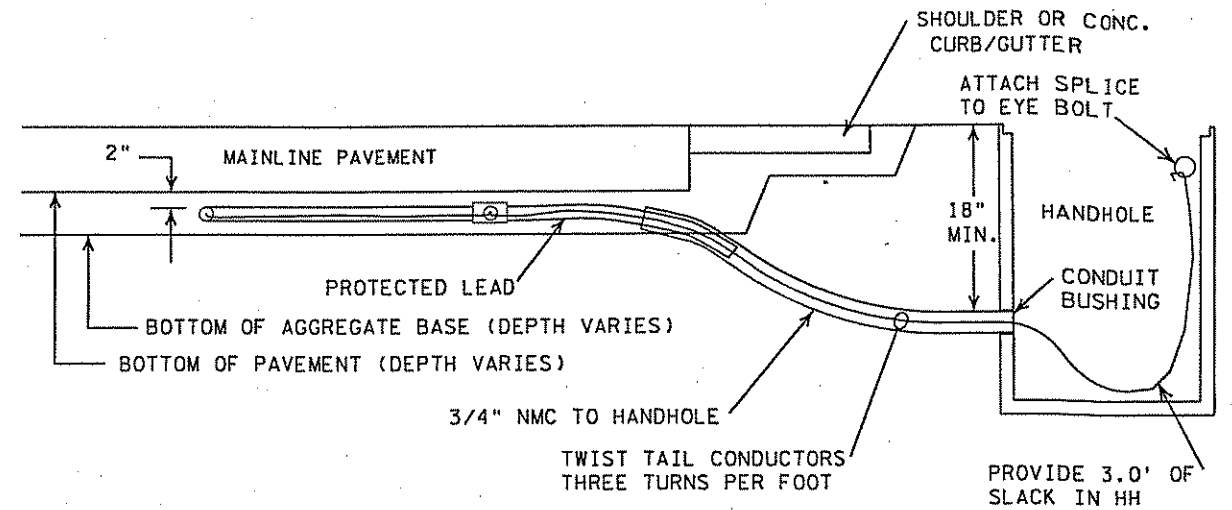
GENERAL NOTES:

1. SEE SPECIAL PROVISIONS FOR REQUIRED LOOP DETECTOR CONDUCTOR SPLICE KIT.
2. THE LOOP DETECTOR HEAD SHALL BE 5/8" O.D. POLYPROPYLENE CONDUIT AND SHALL BE INJECTED WITH HOT RUBBERIZED ASPHALT AFTER CONDUCTOR PLACEMENT TO ENCAPSULATE THE WIRE AND PROVIDE A MOISTURE BARRIER
3. PREFORMED LOOP DETECTORS ARE VARIABLE SIZED DEPENDING ON ROADWAY LOCATION AND SHALL BE INSTALLED IN THE CENTER OF THE LANE. PAVEMENT JOINTS FOR CONCRETE PAVING SHALL BE ESTABLISHED BEFORE LOOP PLACEMENT TO MAINTAIN A MIN. OF 3.0' FROM DOWEL BASKET PLACEMENT
4. THE LOOP DETECTOR CONDUCTOR IS 1/C NO. 16 STRANDED COPPER WITH XHHW INSULATION.
5. THE PROTECTED LEAD PORTION OF LOOP SHALL EXTEND FROM THE TEE CONNECTOR, ENDING A MIN. OF 1.0' INSIDE THE NMC CONDUIT
6. THE LOOP DETECTOR CONDUCTORS SHALL BE TWISTED THREE TURNS PER FOOT FROM THE NMC TEE CONNECTOR TO THE HANDHOLE.
7. EACH LOOP DETECTOR CONDUIT TO THE HANDHOLE SHALL BE SLOPED TOWARDS THE HANDHOLE.
8. THE LOOP DETECTOR CONDUCTORS SHALL END IN THE HANDHOLE.
9. NO SPLICES ALLOWED IN LOOP CONDUCTOR EXCEPT AT HANDHOLE
10. SEE SPECIAL PROVISIONS FOR TESTING REQUIREMENTS OF LOOP DETECTORS
11. THE LOOP DETECTOR CONDUCTORS AND THE LOOP DETECTOR LEAD-IN CABLE CONDUCTORS SHALL BE PROPERLY PREPARED AND CLEANED BEFORE SPLICING. SOLDER THE LOOP CONDUCTOR TO LEAD-IN CONDUCTORS, THEN PLACE IT INTO THE SPLICE ENCAPSULATOR
12. INSTALL THE SPLICE IN A PLASTIC TUBE WITH END CAPS THAT FUNCTION AS SPOUTS. USE A TWO PART INSULATING RESIN, CONFINED IN A UNIPAK, THAT TURNS BLACK WHEN MIXED AND BECOMES HARD WHEN CURED. F&I BOTH LOOP CONDUCTORS AND LEAD-IN INTO THE SAME END OF THE TUBE AND ENCAPSULATE THE SPLICE.
13. THE LOOP INSULATION RESISTANCE READING MUST BE GREATER THAN 100 MEG OHM.
14. "NEVER FAIL LOOP SYSTEMS" DETECTOR-MODEL A WITH THE MNDOT PART NUMBER NOTED BELOW HAS MET THESE REQUIREMENTS

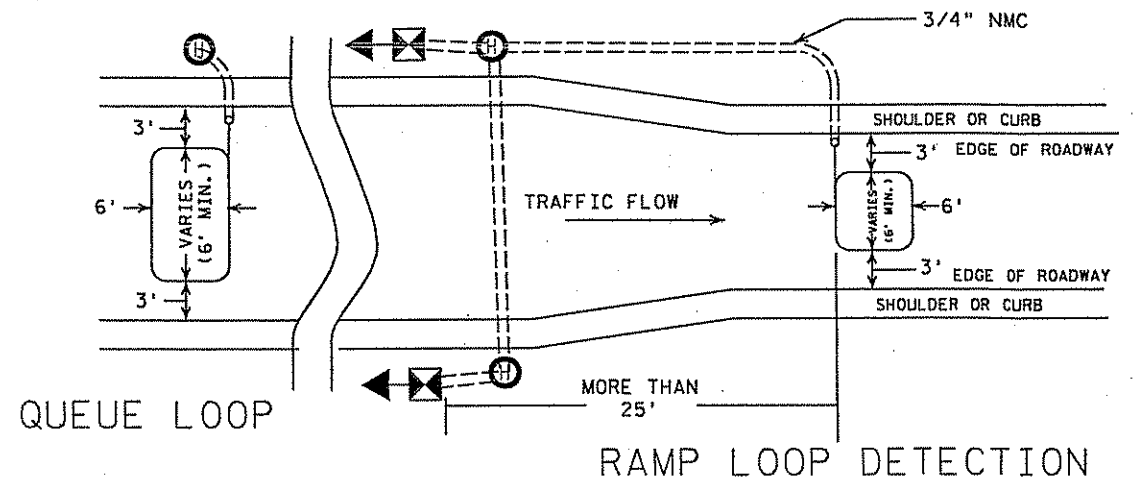


MAINLINE DETECTORS

EXAMPLE
 WITH 2 LOOPS
 TO ONE HANDHOLE



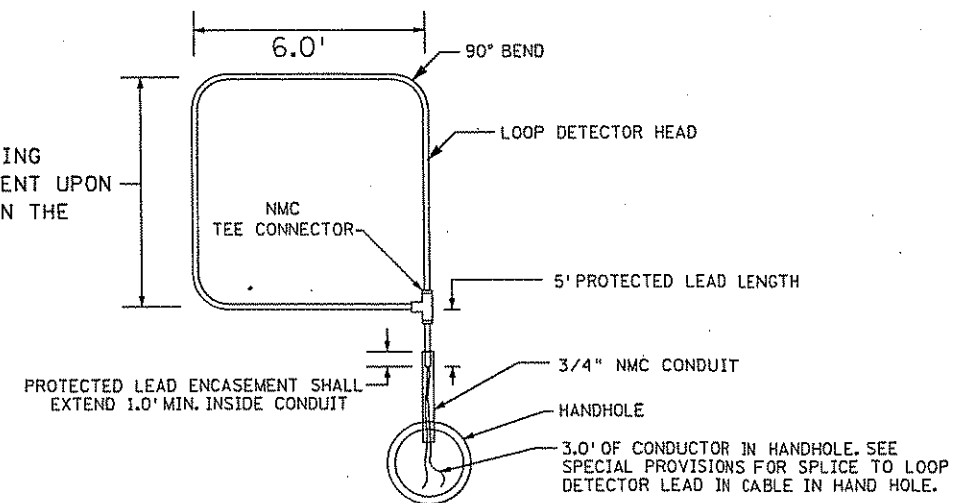
CONDUIT/HANDHOLE INSTALLATION



QUEUE LOOP

RAMP LOOP DETECTION

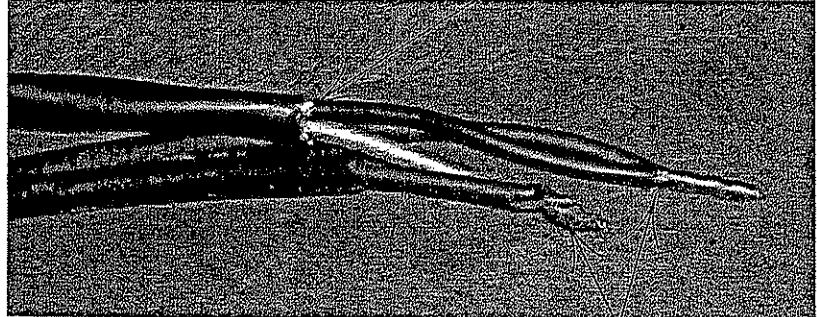
THIS DIMENSION VARIES ACCORDING TO DETECTOR SIZE & IS DEPENDENT UPON THE DETECTORS LOCATION WITHIN THE ROADWAY, RAMP, OR LOOP



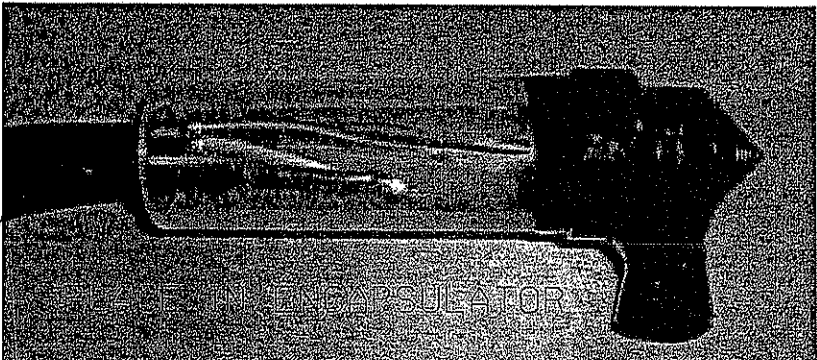
TYPICAL PREFORMED LOOP DETECTOR DETAIL

TMS "PREFORMED" LOOP DETECTOR-PART ONE

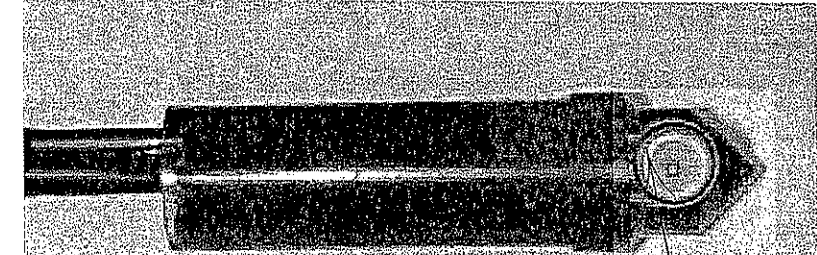
CUT & REMOVE DRAIN WIRE



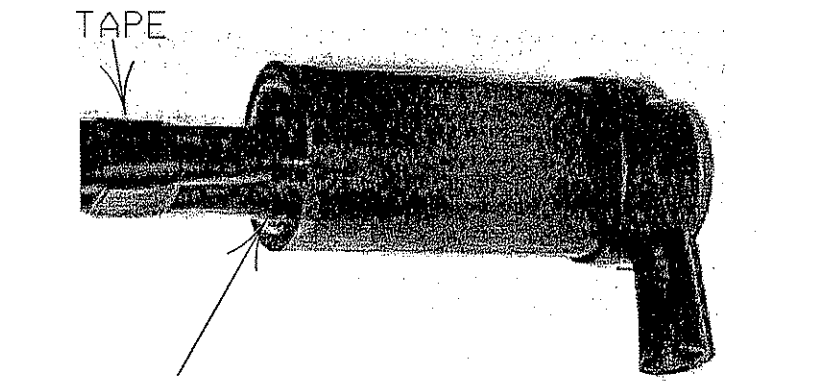
STAGGER SOLDERED BUTT SPLICE



TAPE WIRE TOGETHER BEFORE SPLICE



PLACE WIRE NUT IN ONE END TO BLOCK OPENING



FILL ENCAPSULATOR COMPLETELY-ALLOW FINISHED SPLICE TO CURE SO EPOXY DOES NOT RUN OUT

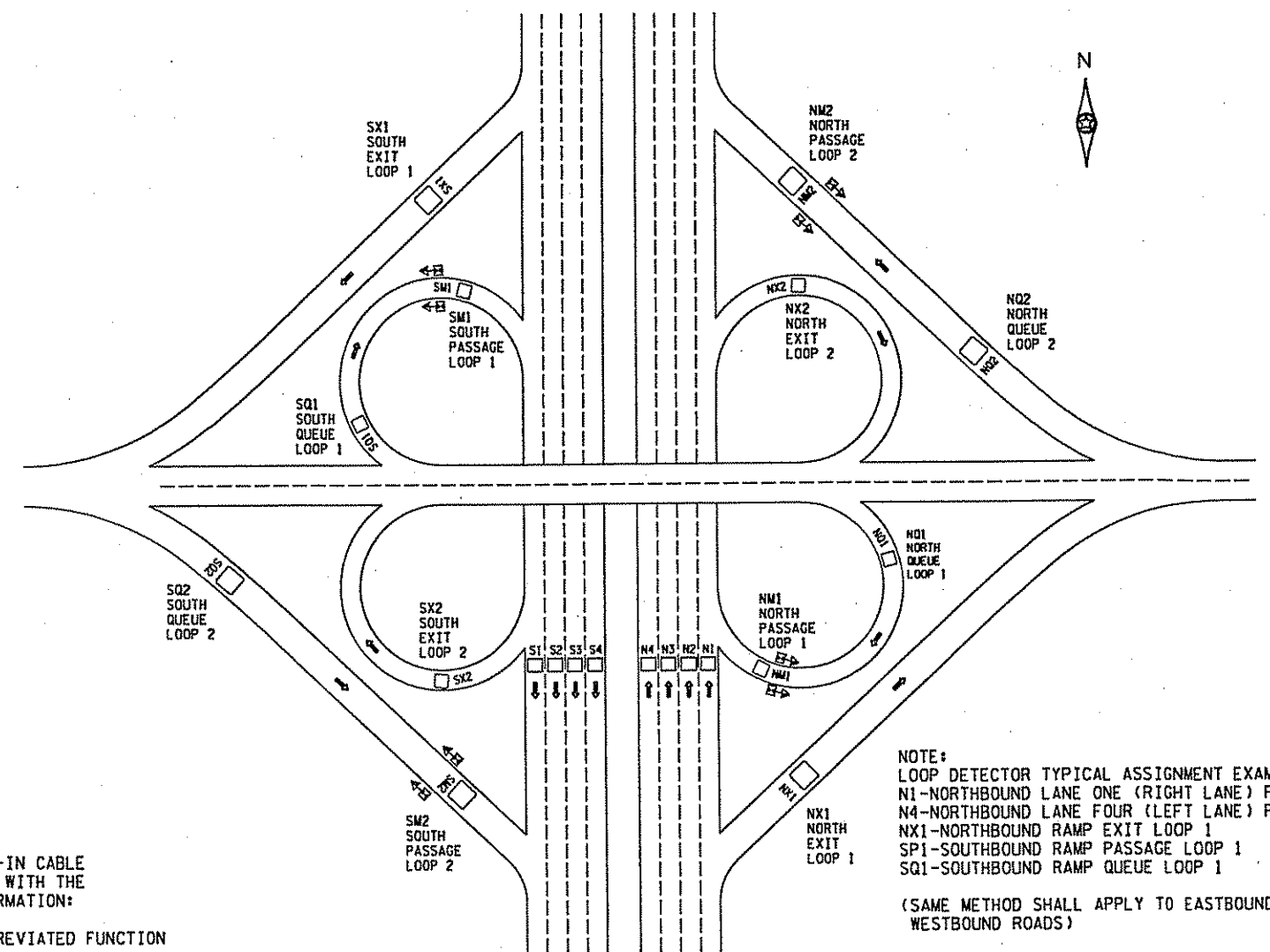
LOOP DETECTOR SPLICE FOR SAWCUT AND PREFORMED LOOPS

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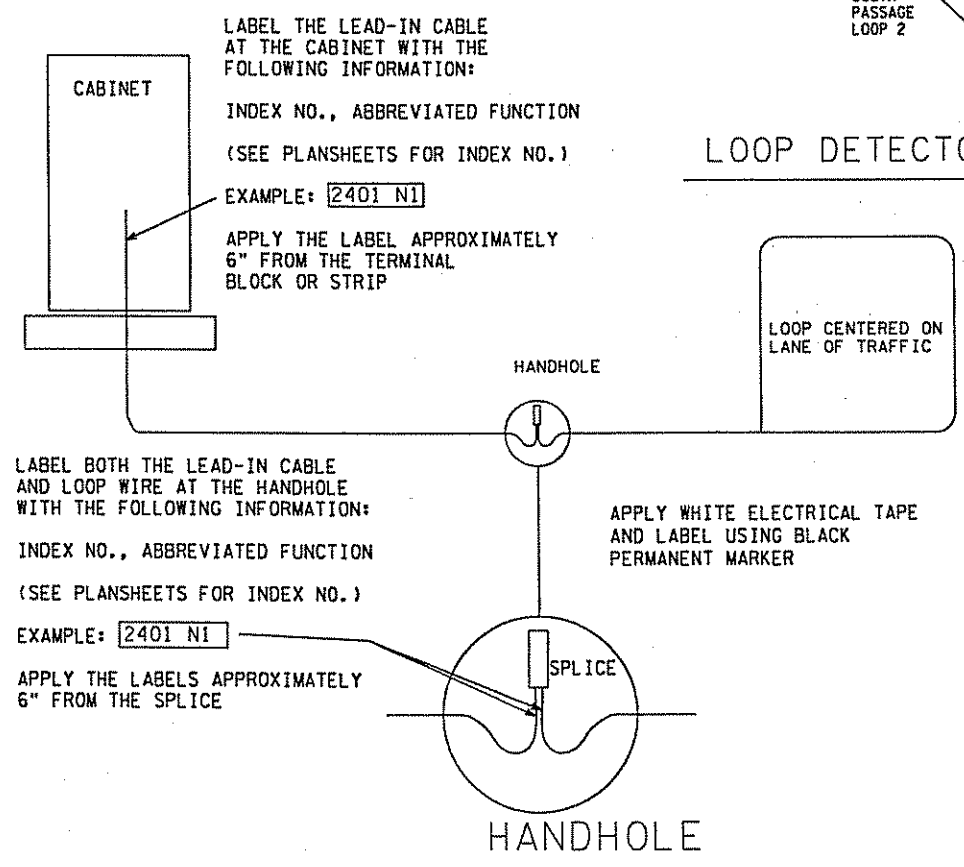
LIC. NO. 26530 JUNE 12, 2009

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 308 OF 471 SHEETS



NOTE:
 LOOP DETECTOR TYPICAL ASSIGNMENT EXAMPLES
 N1-NORTHBOUND LANE ONE (RIGHT LANE) POSITION
 N4-NORTHBOUND LANE FOUR (LEFT LANE) POSITION
 NX1-NORTHBOUND RAMP EXIT LOOP 1
 SP1-SOUTHBOUND RAMP PASSAGE LOOP 1
 SQ1-SOUTHBOUND RAMP QUEUE LOOP 1
 (SAME METHOD SHALL APPLY TO EASTBOUND & WESTBOUND ROADS)

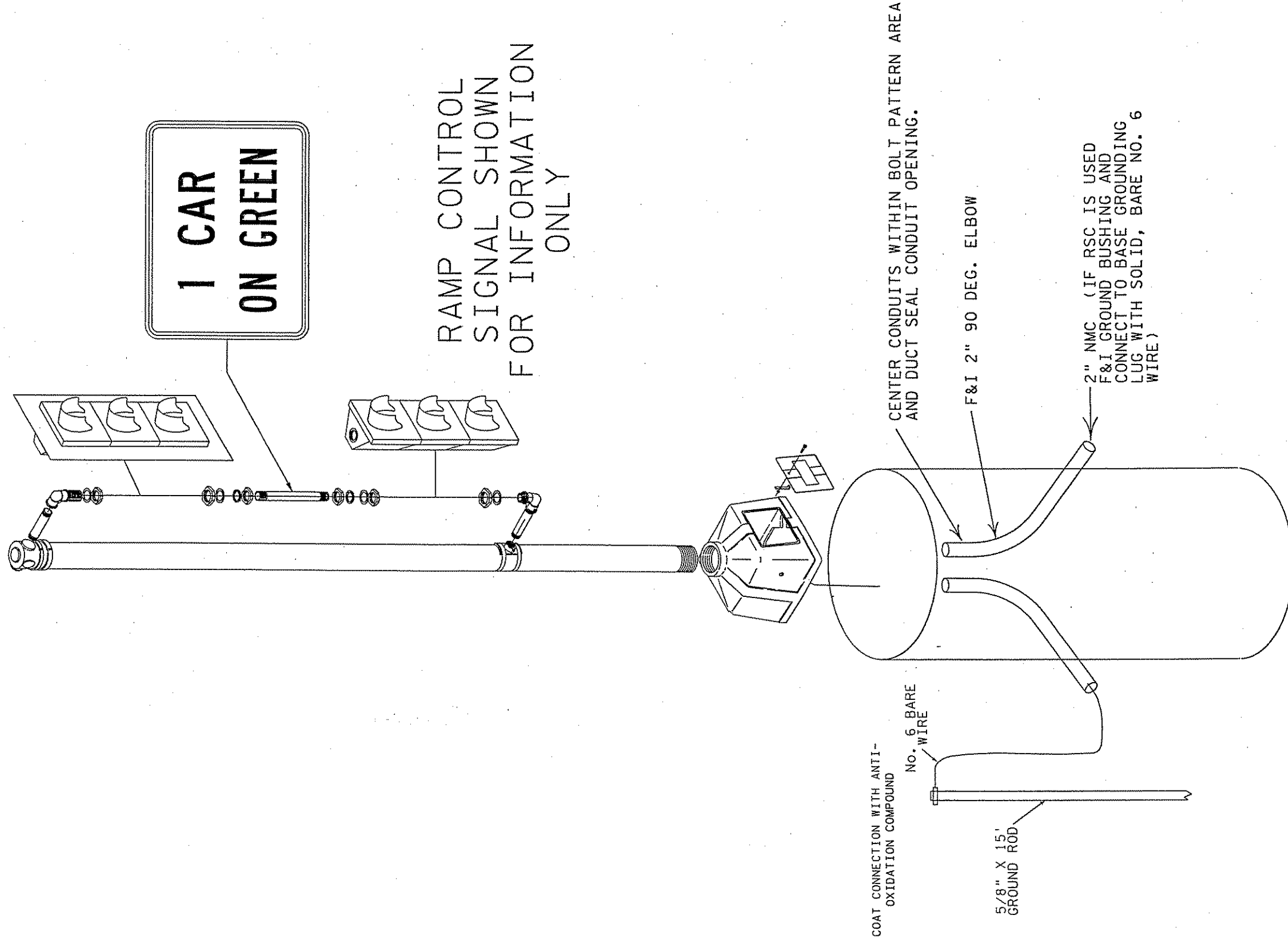
LOOP DETECTOR FUNCTION DESIGNATIONS



LOOP DETECTOR CABLE LABELING

LOOP DETECTOR DESIGN PREFORMED			
PAGE NO.	LOOP NO.	SIZE	LOOP DES.
296	6412	20' X 6'	SP
296	6445	8' X 6'	SB
297	6446	10' X 6'	SQ1
297	6447	10' X 6'	SQ2
297	6389	10' X 6'	NX1
298	6448	12' X 6'	NX2
299	6409	10' X 6'	SX
299	6390	10' X 6'	NM

TMS LOOP DETECTOR TYPICAL-PART TWO



**1 CAR
ON GREEN**

RAMP CONTROL
 SIGNAL SHOWN
 FOR INFORMATION
 ONLY

F&I HANDHOLE FOR USE
 AS FUTURE RAMP CONTROL
 SIGNAL FOUNDATION FORM

FUTURE RAMP
 CONTROL SIGNAL
 FOUNDATION DETAIL

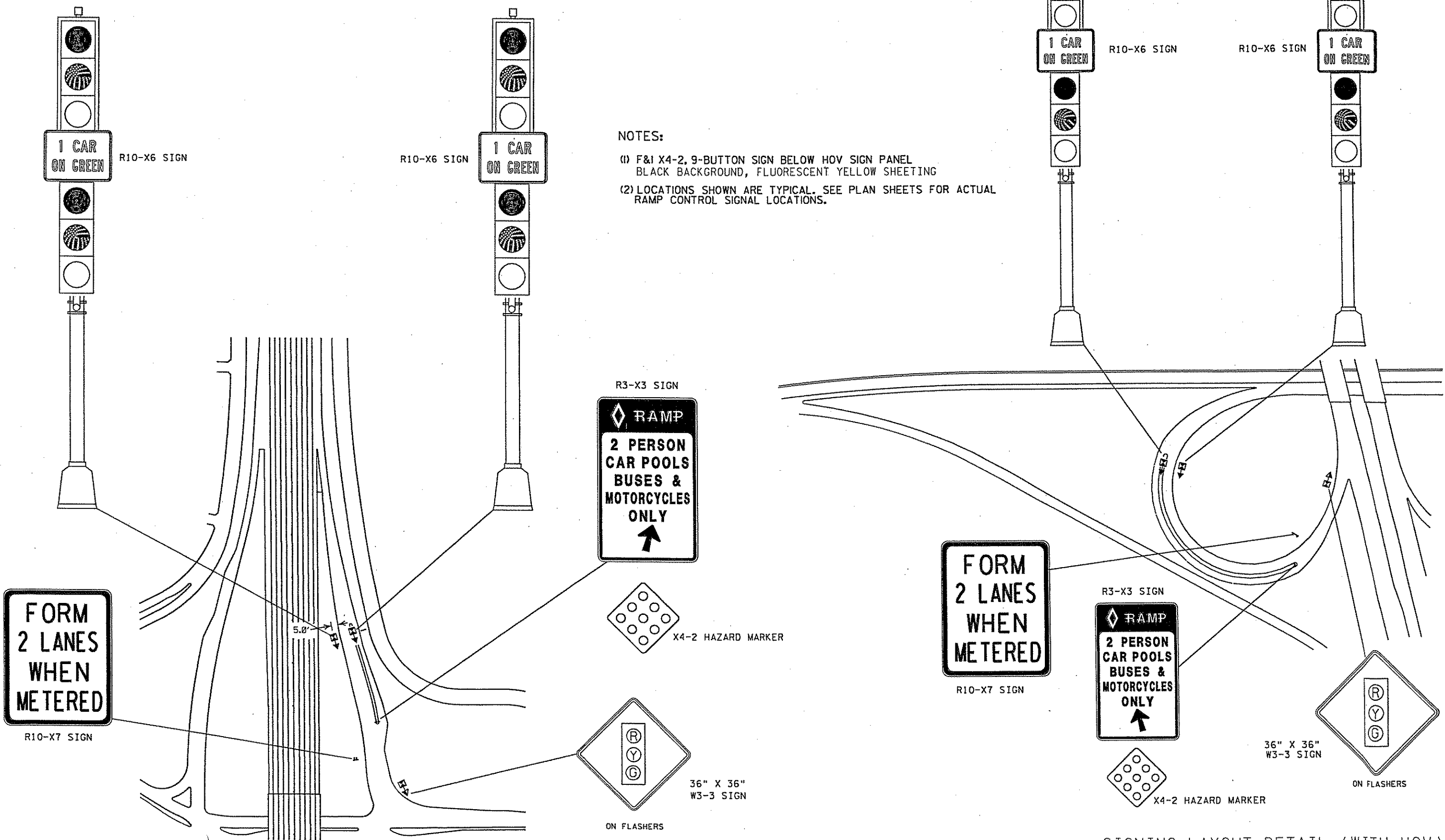
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LIC. NO. 26530 JUNE 12, 2009

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 309 OF 471 SHEETS



NOTES:

- (1) F&I X4-2, 9-BUTTON SIGN BELOW HOV SIGN PANEL
 BLACK BACKGROUND, FLUORESCENT YELLOW SHEETING
- (2) LOCATIONS SHOWN ARE TYPICAL. SEE PLAN SHEETS FOR ACTUAL
 RAMP CONTROL SIGNAL LOCATIONS.

SIGNING LAYOUT DETAIL (WITH HOV)

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY *[Signature]* LIC. NO. 26530 JUNE 12, 2009
 LICENSED PROFESSIONAL ENGINEER

CAMERA INSTALLATION
BY OTHERS

7/16" BRAIDED GROUND
CONDUCTOR (32 STRAND,
17 GA TINNED COPPER)

SECURE GROUND BRAID TO POLE
AT ALL LOCATIONS WITH A
PLATED PARALLEL CONNECTOR
CASTING W/1/2" CLEARANCE HOLE
(THOMPSON LIGHTNING PROTECTION
INC. PART NO. 141T HAS MET
SPECIFICATIONS)

USE ANTI-SEIZE COMPOUND ON
ALL THREADS PERMATEX
(PASTE TYPE) PART NO. 133K
IS AN APPROVED ANTI-SEIZE
COMPOUND

GREASE HINGE

MOUNT POLE CABINET TO POLE,
CAULK POLE BOX OPENING AT POLE
TO ELIMINATE WATER INTRUSION

EXOTHERMICALLY WELD OR
PRESSURE CRIMP NO.6 AWG
WIRE FROM POLE MOUNTED CAB.
GROUND BUSS AND 7/16" GROUND
CONDUCTOR TO GROUND ROD
LOCATED NEXT TO FOUNDATION

6"

F&I 3.0' X 3.0' X 4"
SIDEWALK UNDER POLE CABINET

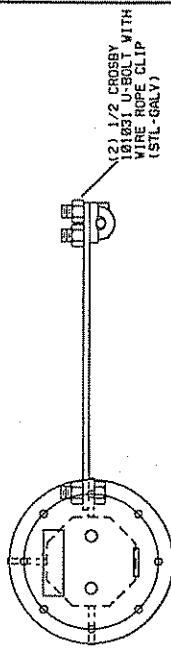
ONE-PIECE 15' GROUND ROD

F&I 3.0' X 3.0' X 4"
SIDEWALK UNDER CRANK OPENING

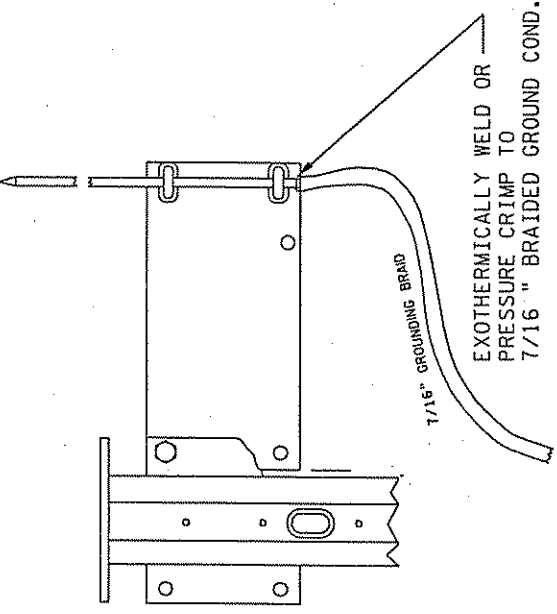
TOP OF GRADE

POSITION SIDEWALKS 6" BELOW
TOP OF CCTV FOUNDATION, BACK FILL
AS NEEDED TO CREATE A SMOOTH
TRANSITION FROM INPLACE GRADE
TO SIDEWALKS

LIGHTNING ROD DETAIL

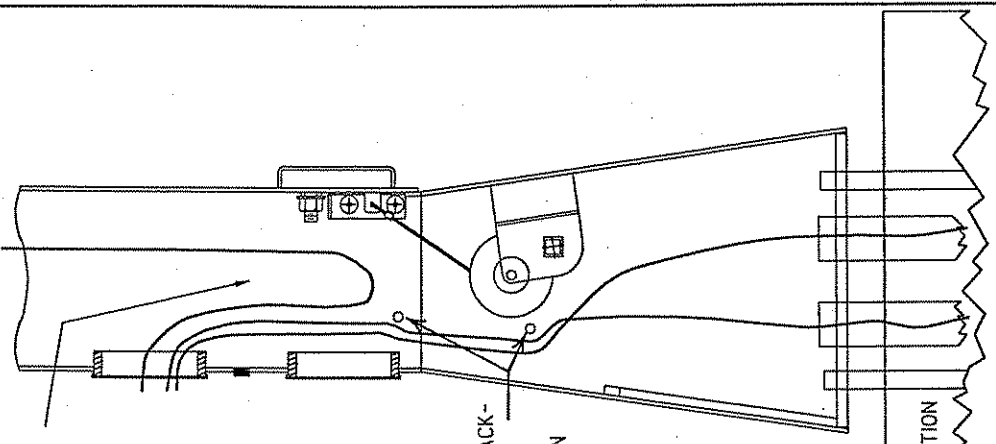


POSITION LIGHTNING ROD ASSEMBLY
90 DEGREES AWAY FROM HIGHWAY CENTERLINE,
AWAY FROM CAMERAS VIEW OF TRAFFIC



CABLE ROUTING DETAIL

PROVIDE 1.0' SLACK
LOOP ON RG59,
3/C NO.12 AND 15/C
NO.18 CABLES



ROUTE CABLES ON BACK-
SIDE OF 1/2" RODS TO
AVOID INTERFERENCE
WITH WINCH OPERATION

CCTV
FOUNDATION

KEEP EXCESS CONDUCTOR
TO A MINIMUM USING
SHORTEST ROUTE TO
GROUND ROD

CCTV POLE INSTALLATION DETAIL

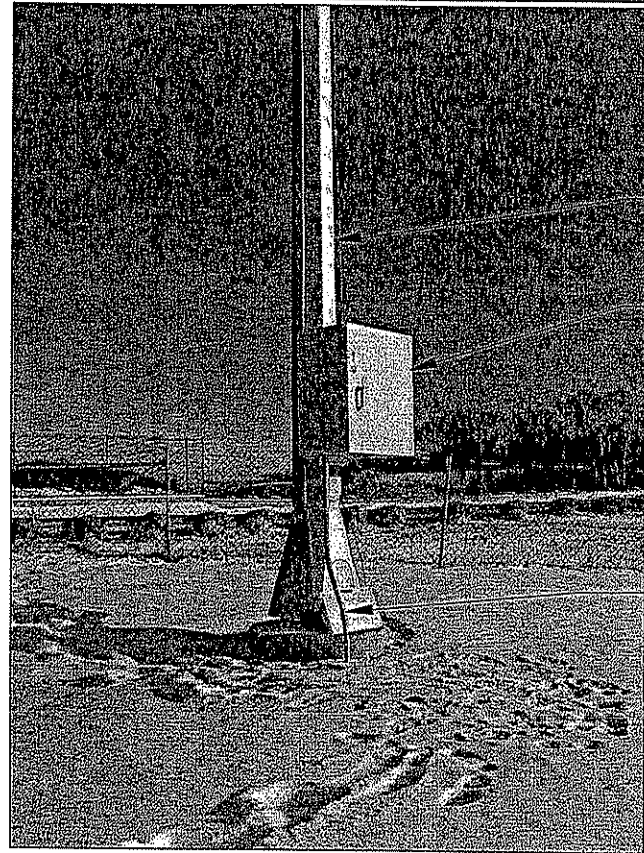
REV. NO.	DATE:	/ /
REV. NO.	DATE:	/ /

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[Signature]
LICENSED PROFESSIONAL ENGINEER

LIC.NO. 26530 JUNE 12, 2009

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 311 OF 471 SHEETS

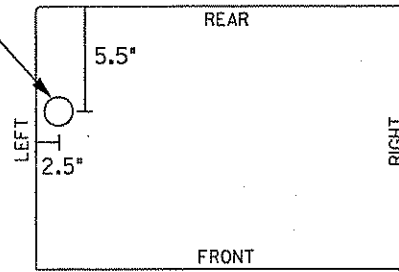


CCTV HARDWARE

POLE MOUNTED
CCTV CABINET

PIGTAIL CONDUIT

PROPOSED OPENING FOR 1.5" SCH. 80
CONDUIT-CONTRACTOR TO VERIFY
LOCATION & F&IN FIELD



F&I CONDUIT BUSHINGS
TO SECURE CONDUIT TO CABINET

CAB. BOTTOM VIEW

MOUNT POLE CABINET TO POLE, IF A
MANUFACTURES GASKET IS NOT PROVIDED
CAULK POLE BOX OPENING AT POLE
TO ELIMINATE WATER INTRUSION

1.5" SCH. 80 CONDUIT
FOR FO PIGTAIL FOR
EXPOSED PORTION-DO
NOT BLOCK ACCESS
DOOR

EXOTHERMICALLY WELD OR
PRESSURE CRIMP NO.6 AWG
WIRE FROM POLE MOUNTED CAB.
GROUND BUSS AND 1/16" GROUND
CONDUCTOR TO GROUND ROD
LOCATED NEXT TO FOUNDATION-
PLACE TOP OF GROUND ROD BELOW
FINISHED GRADE.

KEEP EXCESS CONDUCTOR
TO A MINIMUM USING
SHORTEST ROUTE TO
GROUND ROD

MOUNT POLE CABINET TO POLE,
CAULK POLE BOX OPENING AT POLE
TO ELIMINATE WATER INTRUSION

EXOTHERMICALLY WELD OR
PRESSURE CRIMP NO.6 AWG
WIRE FROM POLE MOUNTED CAB.
GROUND BUSS AND 1/16" GROUND
CONDUCTOR TO GROUND ROD
LOCATED NEXT TO FOUNDATION-
PLACE TOP OF GROUND ROD BELOW
FINISHED GRADE.

KEEP EXCESS CONDUCTOR
TO A MINIMUM USING
SHORTEST ROUTE TO
GROUND ROD

6"
PROVIDE LONG
RADIUS BEND

F&I 3.0' X 3.0' X 4"
SIDEWALK UNDER CRANK OPENING

TOP OF GRADE

ONE-PIECE 15' GROUND ROD

FOR ELECTRICAL
POWER

1" CONDUIT FOR
ELECTRICAL GROUND

1.5" SCH. 80 CONDUIT
FOR FO PIGTAIL

F&I 3.0' X 3.0' X 4"
SIDEWALK UNDER POLE CABINET

TOP OF GRADE

ONE-PIECE 15' GROUND ROD

POSITION SIDEWALKS 6" BELOW
TOP OF CCTV FOUNDATION, BACK FILL
AS NEEDED TO CREATE A SMOOTH
TRANSITION FROM INPLACE GRADE
TO SIDEWALKS

FRONT VIEW

SIDE VIEW

POLE MOUNTED FIBER TERMINATION CABINET

REV. NO.	DATE: / /
REV. NO.	DATE: / /

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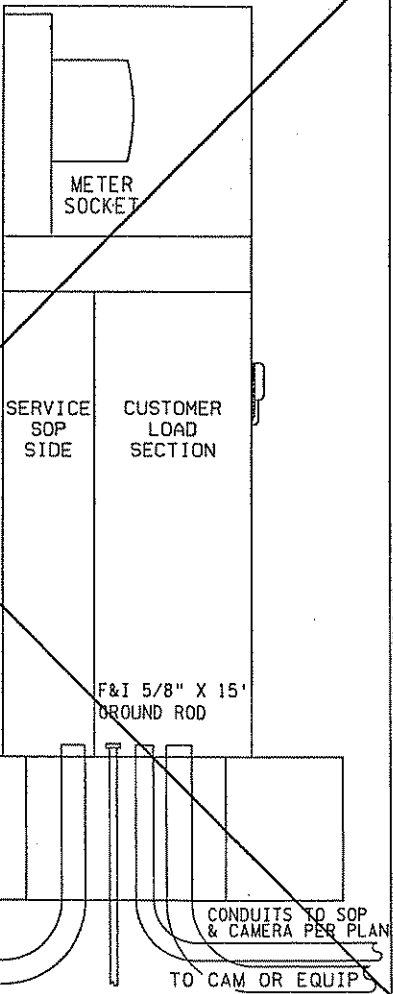
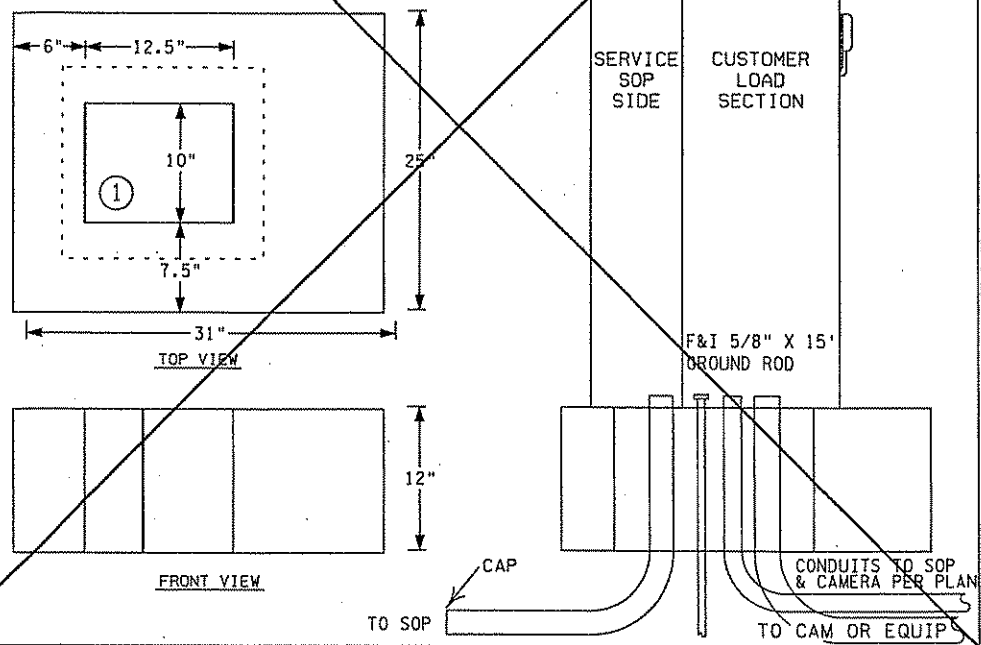
Jeffrey M. Puleo
 LICENSED PROFESSIONAL ENGINEER

LIC. NO. 26530 JUNE 12, 2009

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 312 OF 471 SHEETS

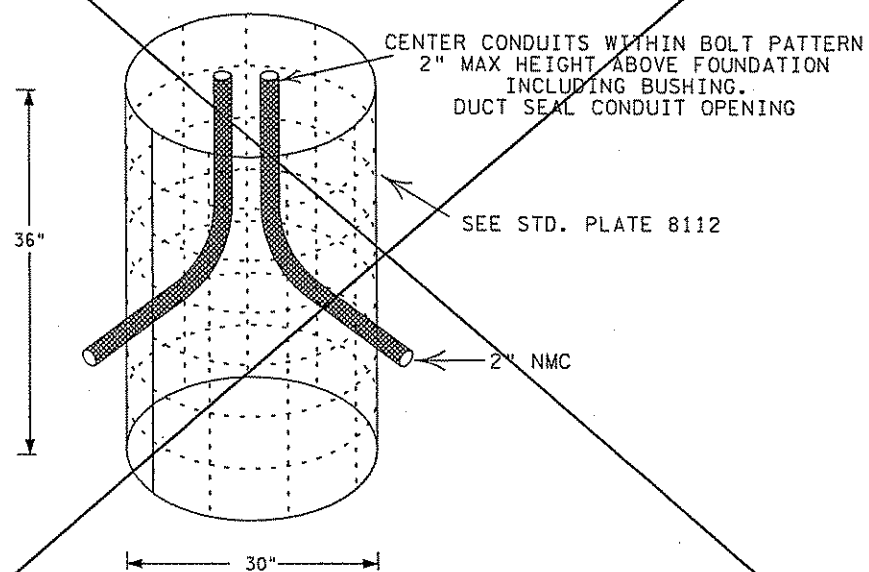
STAND ALONE SERVICE FOUNDATION
 (SEE TMS SERVICE EQUIPMENT DETAIL)

① AFTER FOUNDATION AND CONDUITS ARE SET, FILL OPENING WITH SAND AND PLACE 1 INCH OF GROUT FLUSH WITH SURFACE OF FOUNDATION.



SEE STD. PLATE 8112 FOR ANCHOR BOLT REQUIREMENTS

NOTE: INSTALL SCREW-IN RCS FOUNDATION WITHIN CONCRETE AREAS AS DIRECTED IN PLANS



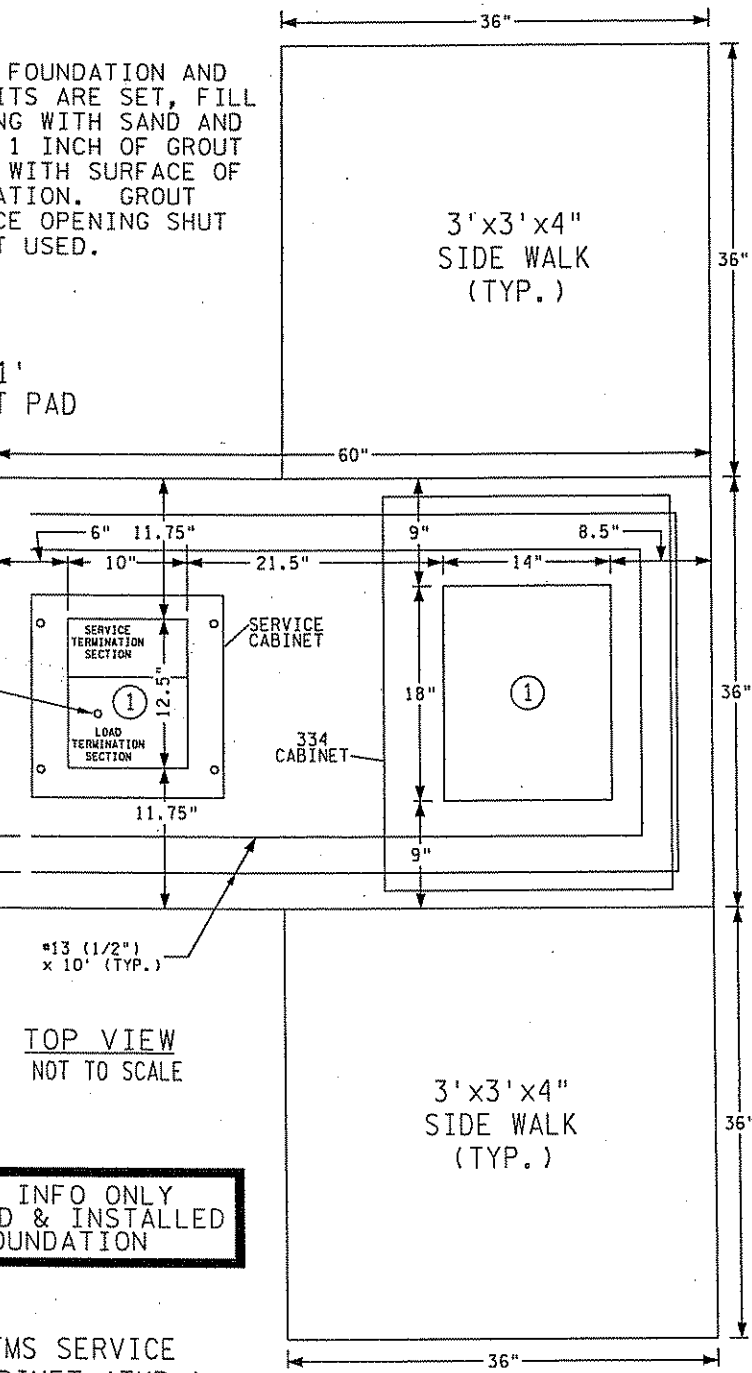
CONCRETE RAMP CONTROL SIGNAL FOUNDATION
 (SEE RAMP CONTROL SIGNAL DETAIL)

① AFTER FOUNDATION AND CONDUITS ARE SET, FILL OPENING WITH SAND AND PLACE 1 INCH OF GROUT FLUSH WITH SURFACE OF FOUNDATION. GROUT SERVICE OPENING SHUT IF NOT USED.

3'x5'x1' EQUIPMENT PAD (TYP.)

F&I 5/8" X 15' GROUND ROD. NOTE: PLACE GROUND ROD WITHIN 334 CAB IF SERVICE IS NOT PRESENT ON PAD.

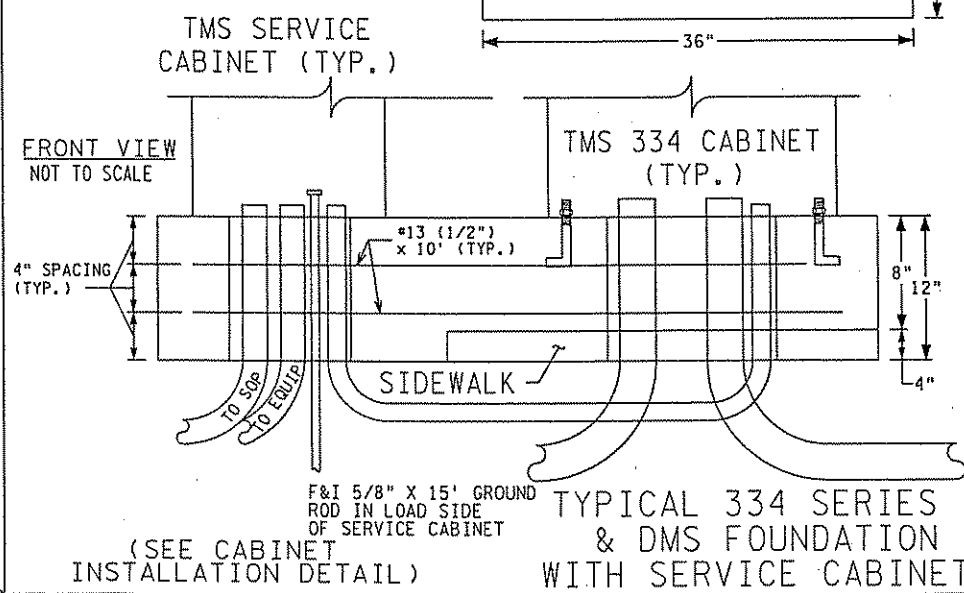
3" SPACING TYP.



TOP VIEW NOT TO SCALE

3'x3'x4" SIDE WALK (TYP.)

FOR INFO ONLY SALVAGED & INSTALLED FOUNDATION



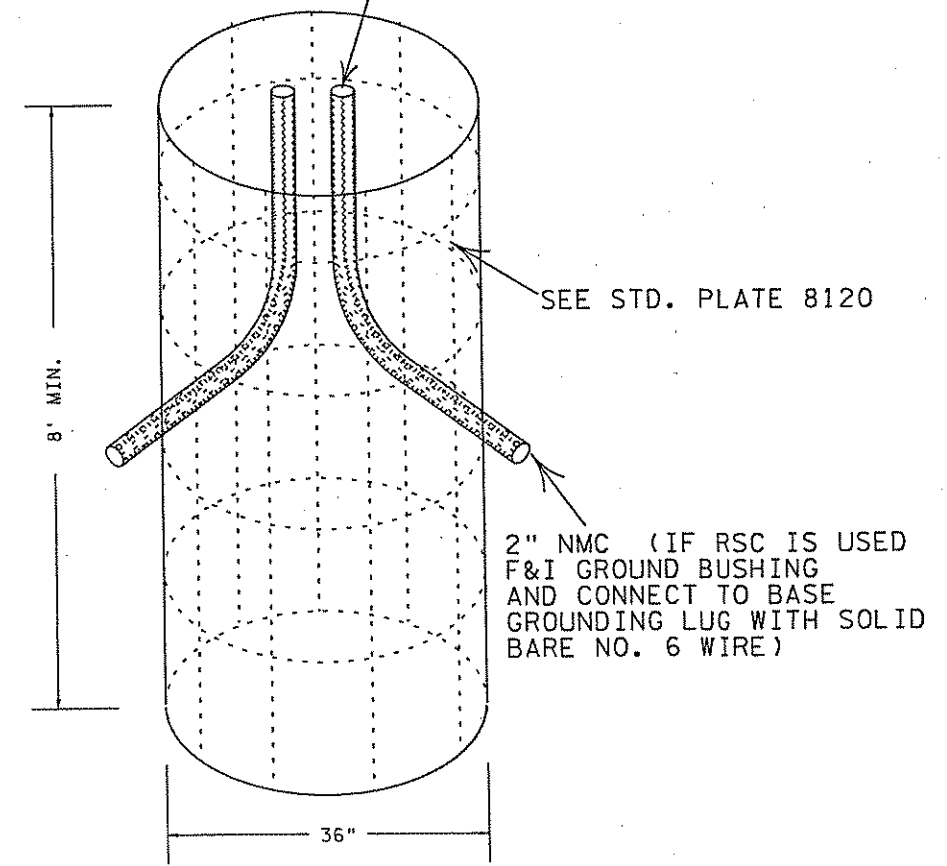
FRONT VIEW NOT TO SCALE

TMS 334 CABINET (TYP.)

TYPICAL 334 SERIES & DMS FOUNDATION WITH SERVICE CABINET

SEE STD. PLATE 8120 FOR ANCHOR BOLT REQUIREMENTS

CENTER CONDUITS WITHIN BOLT PATTERN 2" MAX HEIGHT ABOVE FOUNDATION INCLUDING BUSHING.



CCTV POLE FOUNDATION
 (SEE CCTV INSTALLATION DETAIL)

TYPICAL FOUNDATION DETAILS

REV. NO.	DATE: / /
REV. NO.	DATE: / /

- ① F&I 3-1/C NO10 POWER CABLE - TERMINATE AT EACH END
- ② F&I 2/C NO14-
- ③ F&I 1-FO PIGTAIL-PLACE 1 LOOP (15') OF PIGTAIL CABLE WITHIN CABINET AGAINST SIDEWALL. CONNECT ARMOUR TO NORSCAN DEVICE-TERMINATE END & LAND IN PATCH PANEL
- ④ FIBER OPTIC PATCH CORDS (MNDOT PROVIDED & INSTALLED)
- ⑤ F&I 5/C NO12-TERMINATE EACH END PER RCS DETAIL
- ⑥ RS232 LINE (MNDOT PROVIDED & INSTALLED)
- ⑦ F&I 1-1/C NO6 BARE GROUND WIRE-COAT CONNECTION WITH ANTI-OXIDIZING AGENT
- ⑧ INSTALL NEOPRENE GASKET (SUPPLIED BY MNDOT)
- ⑨ DATA LINK (MNDOT PROVIDED & INSTALLED)
- ⑩ SHEATH GROUNDING UNIT (NORSCAN #2706)

MNDOT PROVIDED

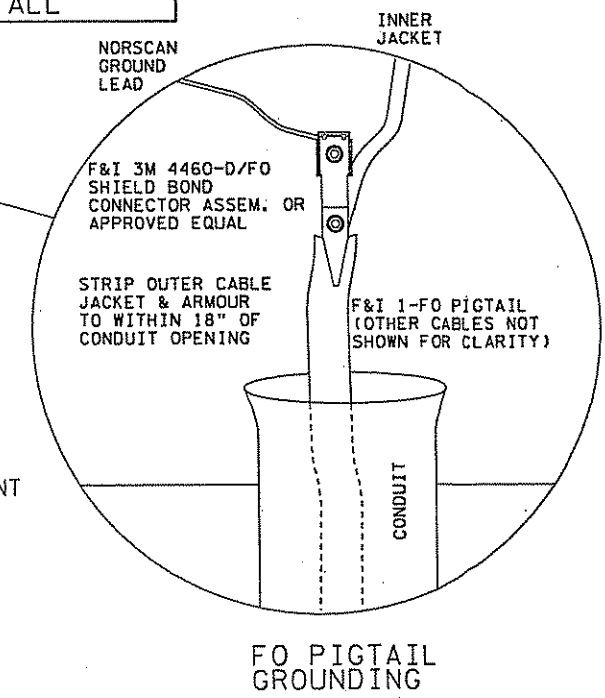
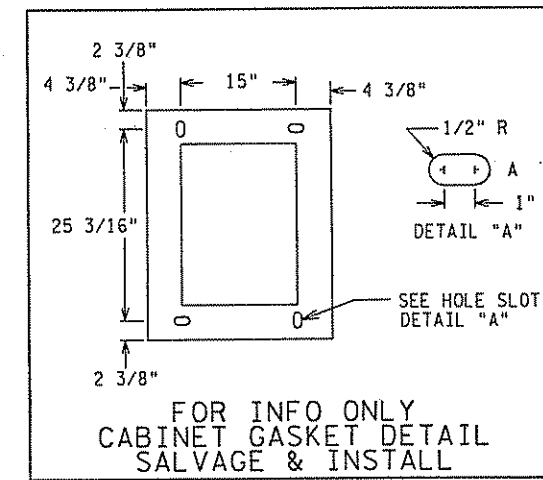
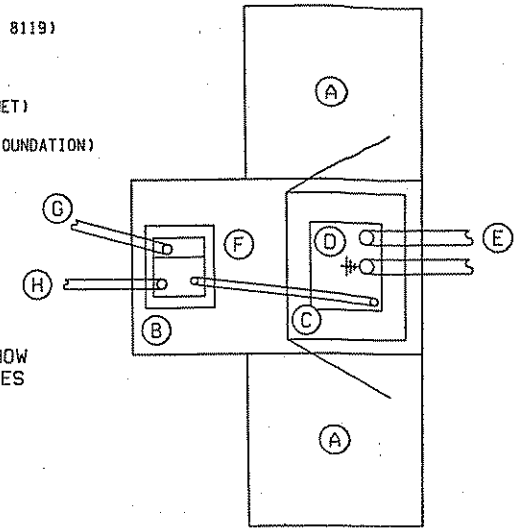
1. TMS 334Z CONTROL CABINET WITH:
 - A) 170 CONTROLLER
 - B) FIBER OPTIC PATCH PANEL
 - C) CB ENCL. & BREAKER INSIDE CABINET
 - D) NEOPRENE CAB. GASKET

MNDOT PROVIDED & INSTALLED

1. FIBER OPTIC PATCH CORDS
2. FO PIGTAIL & PATCH PANEL LABELS WITHIN DMS CABINET
3. DATA LINK

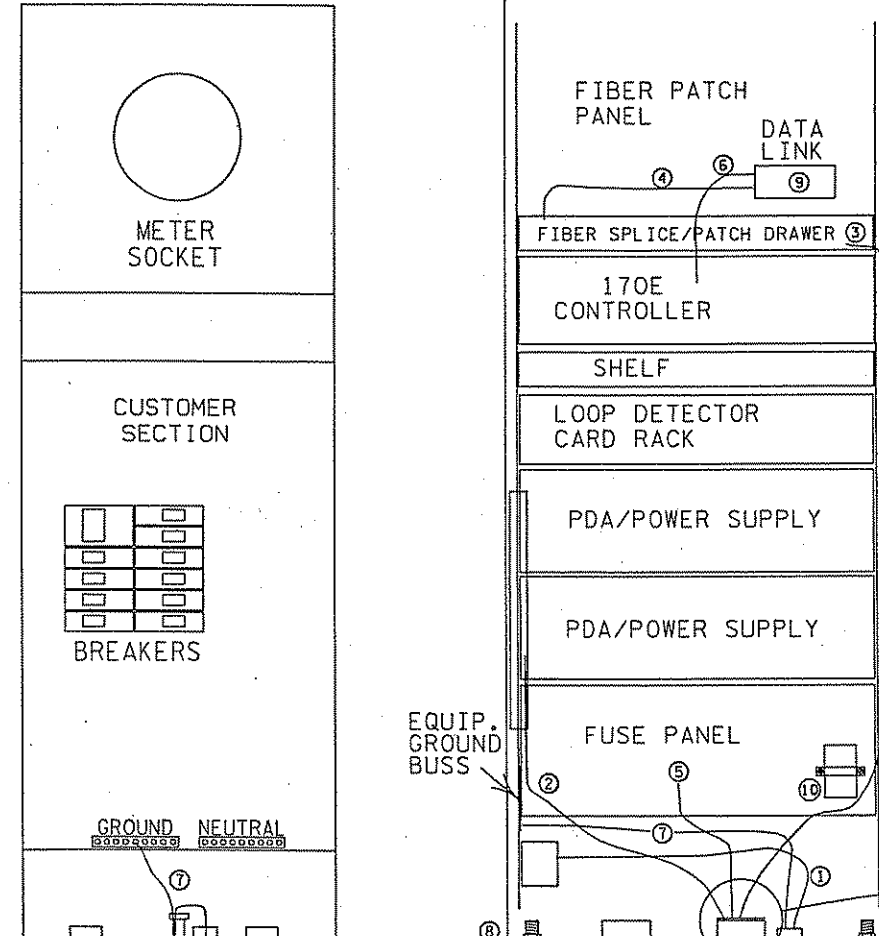
- (A) 3' X 3' SIDEWALK (SEE STD. PLATE 8119)
- (B) 3' X 5' CONC. PAD (SEE STD. PLATE 8119)
- (C) 334Z STYLE CABINET LOCATION
- (D) GROUND ROD (CENTERED WITHIN CABINET)
- (E) 3" NMC CAPPED STUB OUT (ONE PER FOUNDATION)
- (F) 1.5" NMC & 3-1/C NO.10
- (G) 3" NMC FOR ELECTRICAL SERVICE
- (H) 2" NMC TO CAMERA

NOTE: THIS TYPICAL DOES NOT SHOW CONDUITS INDICATED IN PLAN NOTES



INSTALL ELEC. SERVICE CABINET (SALVAGED)

INSTALL 334 SERIES TMS CTRL CABINET (SALVAGED)



INSTALL SALVAGED 3'x5'x1' FOUNDATION (TYP.)

F&I CONDUITS TO SOP AND CAMERA PER PLAN

F&I 3" CONDUIT STUB (ONE PER FOUNDATION)

INSTALL SALVAGED 3'x3'x4" SIDEWALK (FRONT AND BACK) (TYP.)

F&I CONDUITS PER DETAILS & PLAN

F&I 5/8" X 15' GROUND ROD. NOTE: PLACE GROUND ROD WITHIN 334 CAB IF SERVICE IS NOT PRESENT ON PAD.

TYPICAL 334 SERIES TMS CABINET INSTALLATION

TYPICAL 334 CABINET INSTALLATION

REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY

[Signature]
 LICENSED PROFESSIONAL ENGINEER

LIC.NO. 26530 JUNE 12, 2009

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 314 OF 471 SHEETS

CAUTION

**BURIED
 FIBER OPTIC
 CABLE**

**BEFORE DIGGING
 CALL**

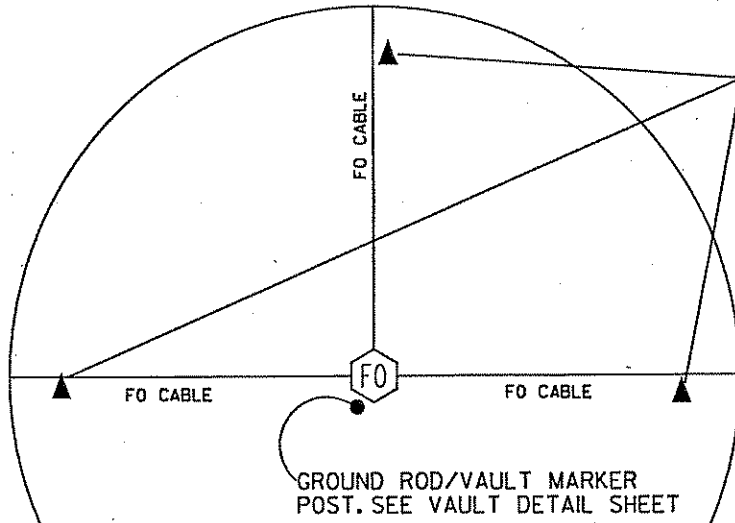
**GOPHER STATE ONE CALL
 (651)454-0002**



8" X 12" .75"R.

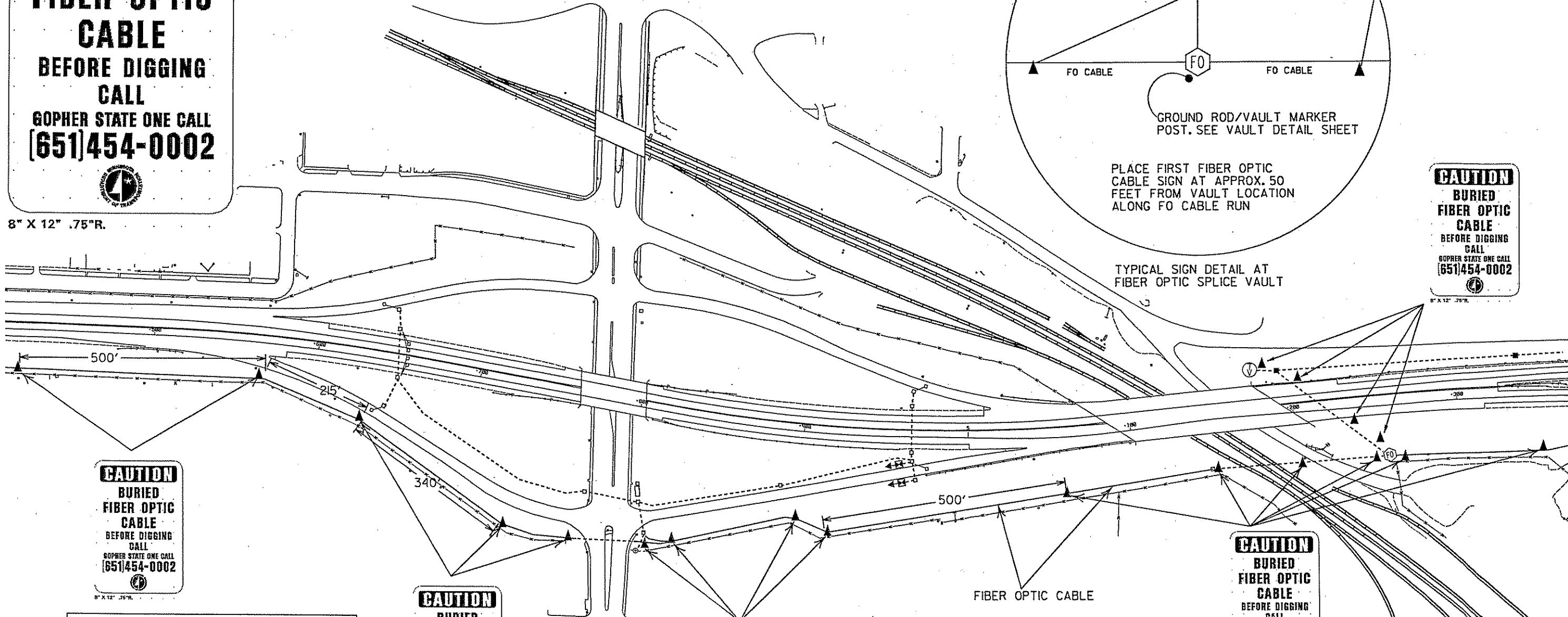
CAUTION
**BURIED
 FIBER OPTIC
 CABLE**
 BEFORE DIGGING
 CALL
 GOPHER STATE ONE CALL
(651)454-0002

CAUTION
**BURIED
 FIBER OPTIC
 CABLE**
 BEFORE DIGGING
 CALL
 GOPHER STATE ONE CALL
(651)454-0002



PLACE FIRST FIBER OPTIC
 CABLE SIGN AT APPROX. 50
 FEET FROM VULT LOCATION
 ALONG FO CABLE RUN

TYPICAL SIGN DETAIL AT
 FIBER OPTIC SPLICE VULT

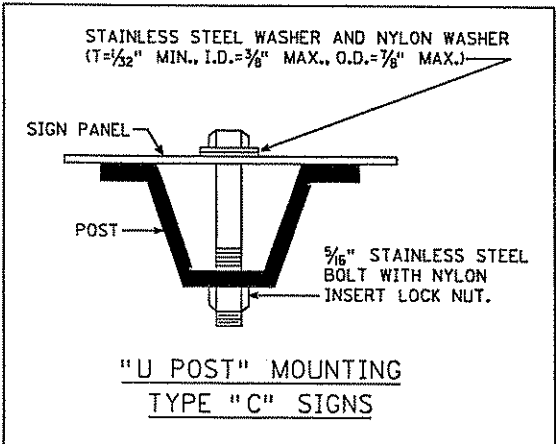


CAUTION
**BURIED
 FIBER OPTIC
 CABLE**
 BEFORE DIGGING
 CALL
 GOPHER STATE ONE CALL
(651)454-0002

CAUTION
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 CABLE**
 BEFORE DIGGING
 CALL
 GOPHER STATE ONE CALL
(651)454-0002



▲ = BURIED CABLE SIGN

- F&I BURIED CABLE SIGN A MAXIMUM OF 500 FEET APART.
- F&I ONE SIGN AT CHANGE IN CABLE DIRECTION TO INDICATE CHANGE POINT AND NEW DIRECTION.
- F&I BURIED CABLE SIGNS 16 FEET BEHIND CURB OR EDGE OF ROADWAY AT ROADWAY CROSSINGS.
- F&I BURIED CABLE SIGNS 25 FEET FROM RAILROAD OR AS DIRECTED IN CROSSING PERMIT.
- AT VULT LOCATIONS MARKER POST IS PER VULT DETAIL.
- F&I ADDITION BURIED CABLE SIGN IF UNABLE TO SEE FROM SIGN TO SIGN (THIS INCLUDES CHANGES IN ELEVATION).
- F&I BURIED CABLE SIGNS BETWEEN CABLE AND R/W FENCE, 3.0' FROM CABLE WITH SIGN PANEL PARALLEL TO BURIED CABLE

BURIED CABLE SIGN PLACEMENT TYPICAL

REV. NO.	DATE: / /
REV. NO.	DATE: / /

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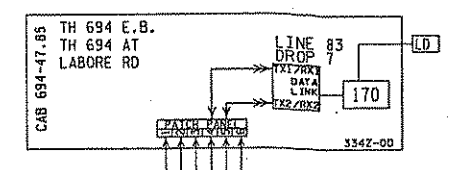
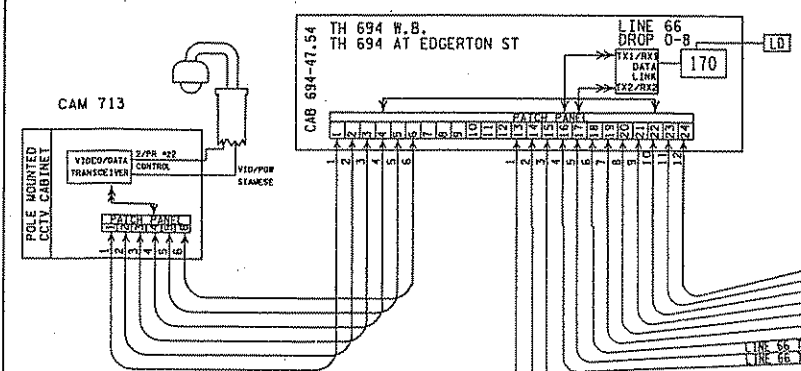
Jeffrey M. Puleo
 LICENSED PROFESSIONAL ENGINEER

LIC. NO. 26530 JUNE 12, 2009

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 315 OF 471 SHEETS

SEE SHEET 317 FOR POWER METER TEST BUBBLES

TRUNK ID# 35E-53



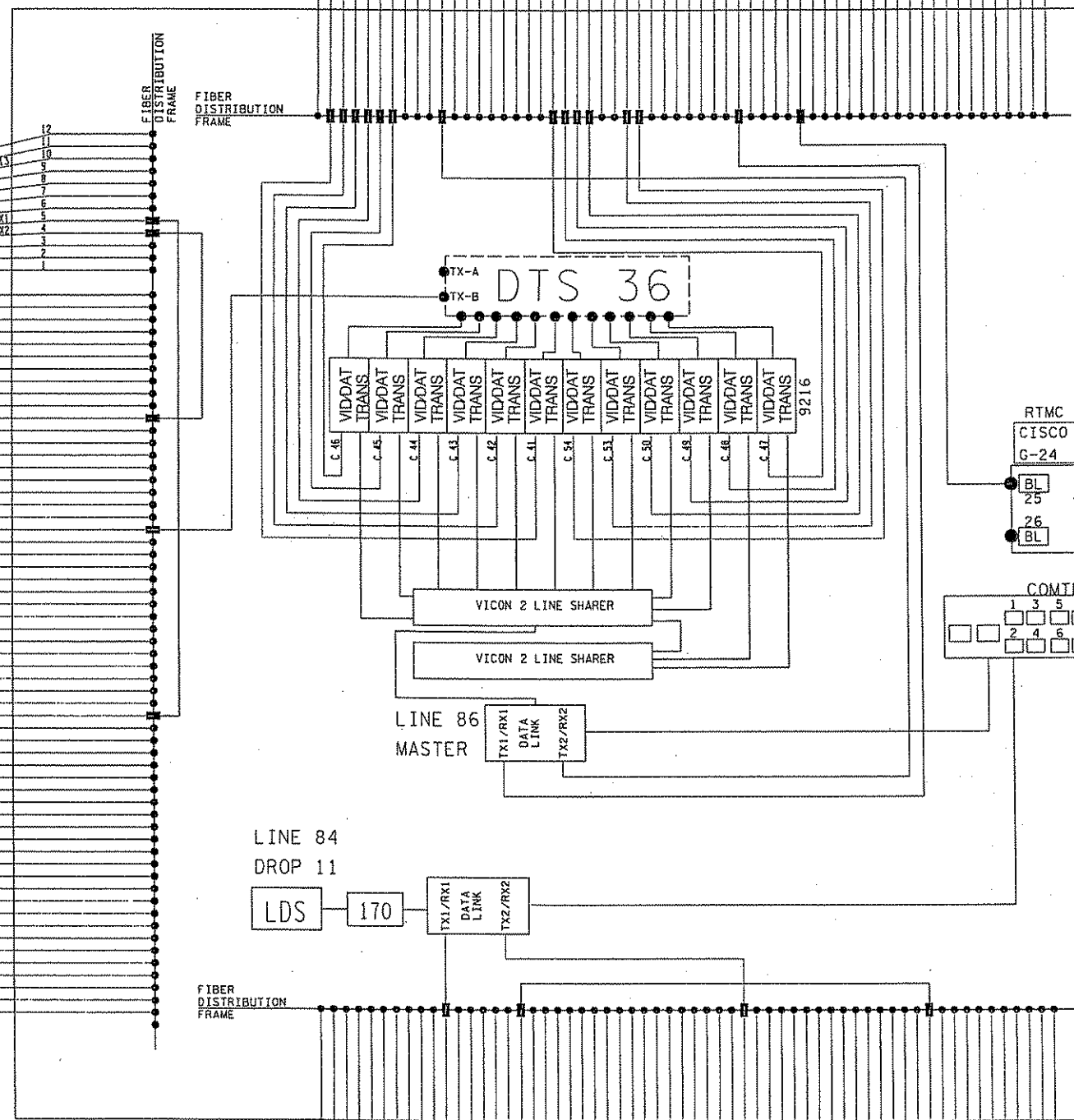
PATCHING SHELTER TH 694 & TH35E NO.114.42

TEST POINTS FOR SALVAGED FIBER FROM SOUTH OF MAIN ST

1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
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41	41	41
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43	43	43
44	44	44
45	45	45
46	46	46
47	47	47
48	48	48
49	49	49
50	50	50
51	51	51
52	52	52
53	53	53
54	54	54
55	55	55
56	56	56
57	57	57
58	58	58
59	59	59
60	60	60

WEST ON TH 694

TRUNK ID# 694.12



SOUTH ON TH 35E

TRUNK ID# 35E-52

TRUNK ID# 694.13

EAST ON TH 694

- FDF = FIBER DISTRIBUTION FRAME
- ⊠ = DIRECT PIGTAIL TERMINATION FROM TRUNK LINE TO FRONT OF FDF
- = FDF TERMINATED FIBER
- = FDF TERMINATED FIBER W/ PATCHCORD CONNECTION
- = SINGLE-MODE (MAIN FIBERS ONLY)
- - - = MULTI-MODE (MAIN FIBERS ONLY)
- ⋯ = BAD FIBER (DON'T USE)
- * = DENOTES 1550 LASER FOR DV6000

REV. NO.	DATE	/ /
REV. NO.	DATE	/ /

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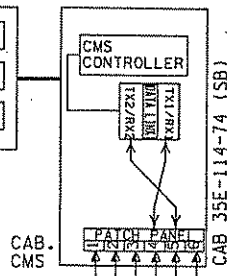
FIBER OPTIC SCHEMATIC SHELTER @ TH 694 & TH 35E

○ = FURNISHED SPLICE NO SPLICE OTR
READING REQUIRED AT THIS LOCATION

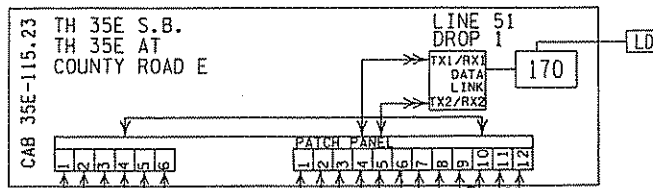
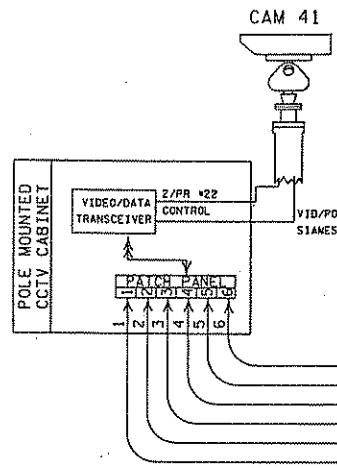
POWER METER TEST POINT
INSERT OPTICAL LINK LOSS IN DB
(TEST MULTI-MODE FIBER AT 1310)
(TEST SINGLE-MODE FIBER AT 1550)

FURNISHED SPLICE
INSERT OTR SPLICE LOSS
SHOT FROM THIS DIRECTION

LED
STYLE
SIGN



INPLACE
PIGTAIL ID#: CAM41



INPLACE
PIGTAIL ID#: CAB 35E-115.23

PATCHING SHELTER
TH 694 & TH35E
NO. 114.42

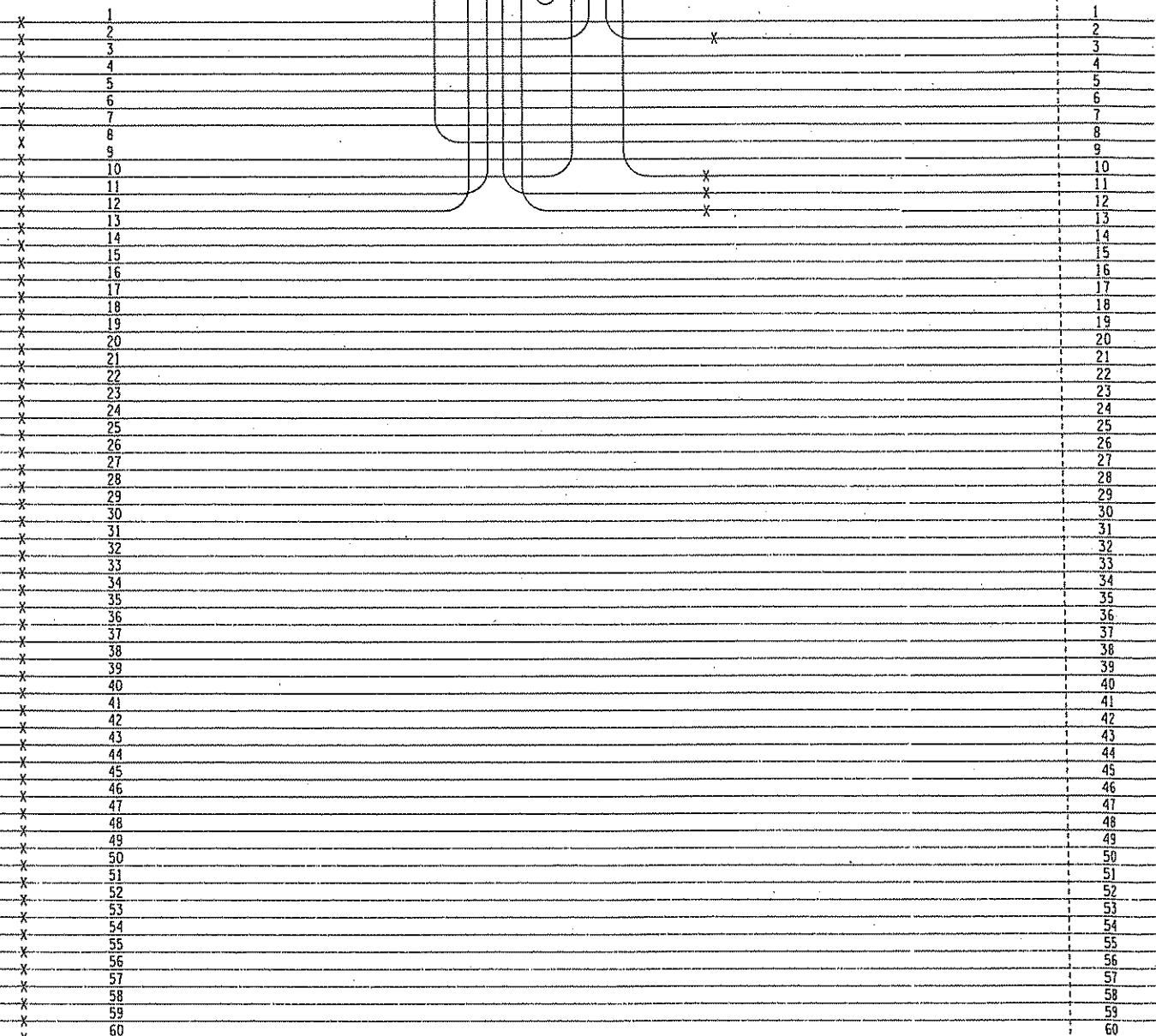
FIBER
DISTRIBUTION
FRAME

INPLACE
PIGTAIL ID#: DMS 35E-114.74

- 1
- 2 CAMERA 41
- 3 CAMERA 42
- 4 CAMERA 43
- 5 CAMERA 44
- 6 CAMERA 45
- 7 CAMERA 46
- 8 ETHERNET RING
- 9
- 10 CAM TO CAM
- 11 LINE 86 TX1/RX1-TX2/RX2
- 12 LINE 86 SPARE
- 13 CAM 51 DET. STA.
- 14 CAM 52 DET. STA.
- 15
- 16
- 17 LED CMS LINE 64 SPF1-SPF2
- 18 LED CMS LINE 51 SPARE
- 19
- 20 CAMERA 47
- 21 CAMERA 48
- 22 CAMERA 49
- 23 CAMERA 50
- 24 FUT. CAM. 51
- 25 FUT. CAM. 52
- 26 CAMERA 53
- 27 CAMERA 54
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- 45
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- 47
- 48
- 49
- 50
- 51
- 52
- 53
- 54 CMS LINE 64 SPF2-SPF1
- 55 RAMSEY CO. CONNECTION
- 56 RAMSEY CO. CONNECTION
- 57 RAMSEY CO. CONNECTION
- 58 RAMSEY CO. CONNECTION
- 59 RAMSEY CO. CONNECTION
- 60 RAMSEY CO. CONNECTION

TRUNK
ID# 35E-53

INPLACE FO SPLICE VAULT
TH 35E @ COUNTY ROAD E



SEE SHEET 316

SEE SHEET 318

FIBER OPTIC SCHEMATIC
TH 35E AT COUNTY ROAD E

REV. NO.	DATE	/ /
REV. NO.	DATE	/ /

CERTIFIED BY

Jeffrey M. Puelzo
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 26530

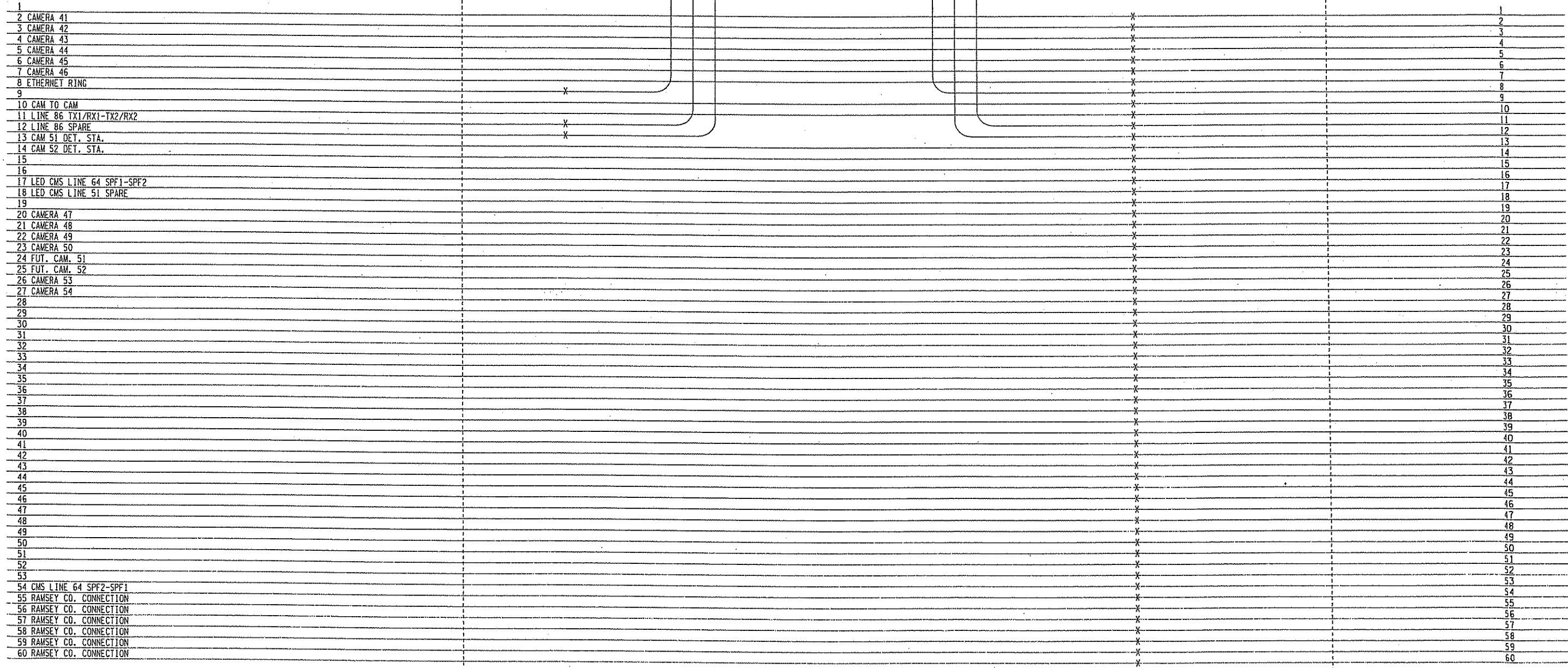
JUNE 12, 2009

STATE PROJ. NO. 0282-25

(TH 35E) SHEET NO. 317 OF 471 SHEETS

SEE SHEET 317

SEE SHEET 319



PIGTAIL ID#:
CAB 35E-116.0

PIGTAIL ID#:
CAB 35E-116.25

TRUNK
ID# 35E-55

TRUNK
ID# 35E-54

TH 35E N OF GOOSE LAKE
INPLACE SPLICE VAULT

FIBER OPTIC SCHEMATIC
TH 35E NORTH OF GOOSE LAKE RD


REV. NO.	DATE	/ /
REV. NO.	DATE	/ /

CERTIFIED BY  LIC. NO. 26530 JUNE 12, 2009 STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 318 OF 471 SHEETS

LICENSED PROFESSIONAL ENGINEER

U = FURNISHED SPLICE NO SPLICE OTRD READING REQUIRED AT THIS LOCATION

POWER METER TEST POINT
 INSERT OPTICAL LINK LOSS IN dB
 (TEST MULTI MODE FIBER AT 1310)
 (TEST SINGLE MODE FIBER AT 1550)

FURNISHED SPLICE


INSERT OTRD SPLICE LOSS SHOT FROM THIS DIRECTION
 INSERT OTRD SPLICE LOSS SHOT FROM THIS DIRECTION

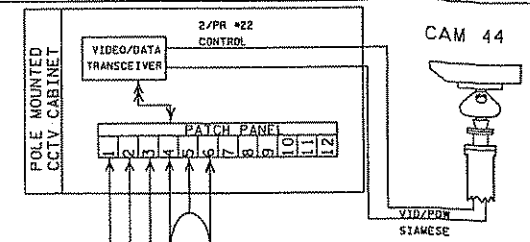
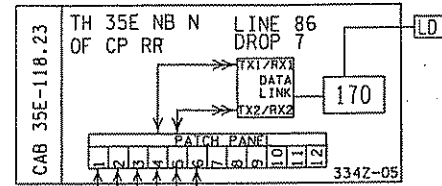
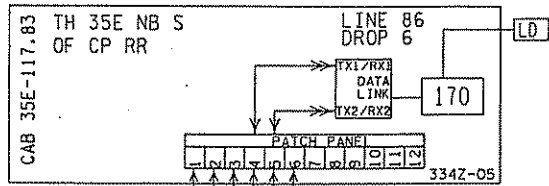
○ = FURNISHED SPLICE NO SPLICE OTR
READING REQUIRED AT THIS LOCATION

POWER METER TEST POINT
INSERT OPTICAL LINK LOSS IN dB
(TEST MULTI MODE FIBER AT 1310)
(TEST SINGLE MODE FIBER AT 1550)

FURNISHED SPLICE

INSERT OTR SPLICE LOSS
SHOT FROM THIS DIRECTION →

← SHOT FROM THIS DIRECTION



PIGTAIL ID#:
CAB 35E-117.83

PIGTAIL ID#:
CAB 35E-118.23

PIGTAIL ID#:
CAM44

TRUNK
ID# 35E-59

1				1				1
2 CAMERA 41	X			2				2
3 CAMERA 42	X			3				3
4 CAMERA 43	X			4				4
5 CAMERA 44	X			5				5
6 CAMERA 45	X			6			X	6
7 CAMERA 46	X			7				7
8 ETHERNET RING	X			8				8
9	X	X		9			X	9
10 CAM TO CAM	X			10				10
11 LINE 86 TX1/RX1-TX2/RX2	X	X		11			X	11
12 LINE 86 SPARE	X			12				12
13 CAM 51 DET. STA.	X	X		13		X		13
14 CAM 52 DET. STA.	X			14				14
15	X			15				15
16	X			16				16
17 LED CMS LINE 64 SPF1-SPF2	X			17				17
18 LED CMS LINE 51 SPARE	X			18				18
19	X			19				19
20 CAMERA 47	X			20				20
21 CAMERA 48	X			21				21
22 CAMERA 49	X			22				22
23 CAMERA 50	X			23				23
24 FUT. CAM. 51	X			24				24
25 FUT. CAM. 52	X			25				25
26 CAMERA 53	X			26				26
27 CAMERA 54	X			27				27
28	X			28				28
29	X			29				29
30	X			30				30
31	X			31				31
32	X			32				32
33	X			33				33
34	X			34				34
35	X			35				35
36	X			36				36
37	X			37				37
38	X			38				38
39	X			39				39
40	X			40				40
41	X			41				41
42	X			42				42
43	X			43				43
44	X			44				44
45	X			45				45
46	X			46				46
47	X			47				47
48	X			48				48
49	X			49				49
50	X			50				50
51	X			51				51
52	X			52				52
53	X			53				53
54 CMS LINE 64 SPF2-SPF1	X			54				54
55 RAMSEY CO. CONNECTION	X			55				55
56 RAMSEY CO. CONNECTION	X			56				56
57 RAMSEY CO. CONNECTION	X			57				57
58 RAMSEY CO. CONNECTION	X			58				58
59 RAMSEY CO. CONNECTION	X			59				59
60 RAMSEY CO. CONNECTION	X			60				60

TRUNK
ID# 35E-57

TH 35E SOUTH OF CP RR

TRUNK
ID# 35E-58

TH 35E NORTH OF CP RR

FIBER OPTIC SCHEMATIC
TH 35E AT CADANIAN PACIFIC RR

REV. NO.	DATE	/ /
REV. NO.	DATE	/ /

CERTIFIED BY

Jeffrey M. Puleo
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 26530

JUNE 12, 2009

STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 320 OF 471 SHEETS

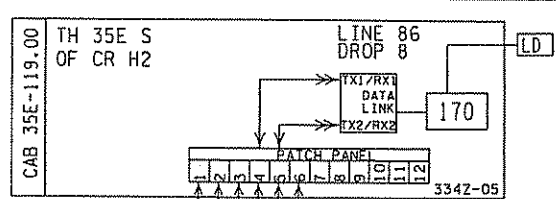
SEE SHEET 319

SEE SHEET 321

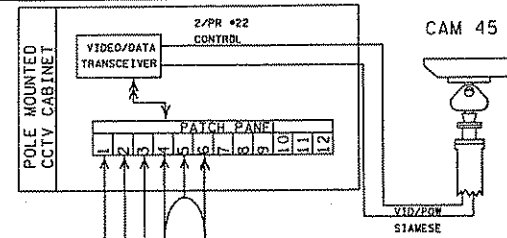
○ = FURNISHED SPLICE NO SPLICE OTRD READING REQUIRED AT THIS LOCATION

POWER METER TEST POINT
 INSERT OPTICAL LINK LOSS IN DB (TEST MULTI-MODE FIBER AT 1310) (TEST SINGLE-MODE FIBER AT 1550)

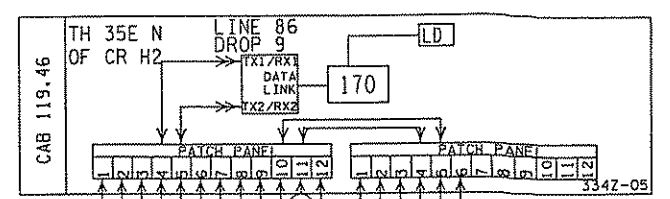
FURNISHED SPLICE
 INSERT OTRD SPLICE LOSS SHOT FROM THIS DIRECTION



PIGTAIL ID#: CAB 35E-119.00



PIGTAIL ID#: CAM45



PIGTAIL ID#: CAB 35E-119.46

- 1 CAMERA 41
- 2 CAMERA 42
- 3 CAMERA 43
- 4 CAMERA 44
- 5 CAMERA 45
- 6 CAMERA 46
- 7 CAMERA 47
- 8 ETHERNET RING
- 9
- 10 CAM TO CAM
- 11 LINE 86 TX1/RX1-TX2/RX2
- 12 LINE 86 SPARE
- 13 CAM 51 DET. STA.
- 14 CAM 52 DET. STA.
- 15
- 16
- 17 LED CMS LINE 64 SPF1-SPF2
- 18 LED CMS LINE 51 SPARE
- 19
- 20 CAMERA 47
- 21 CAMERA 48
- 22 CAMERA 49
- 23 CAMERA 50
- 24 FUT. CAM. 51
- 25 FUT. CAM. 52
- 26 CAMERA 53
- 27 CAMERA 54
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- 54 CMS LINE 64 SPF2-SPF1
- 55 RAMSEY CO. CONNECTION
- 56 RAMSEY CO. CONNECTION
- 57 RAMSEY CO. CONNECTION
- 58 RAMSEY CO. CONNECTION
- 59 RAMSEY CO. CONNECTION
- 60 RAMSEY CO. CONNECTION

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- 4 SPF1
- 5 SPF2
- 6

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SEE SHEET 320

SEE SHEET 322

TRUNK ID# 35E-59

TH 35E SOUTH OF H2

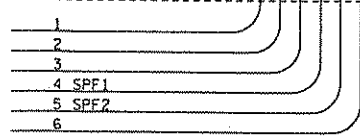
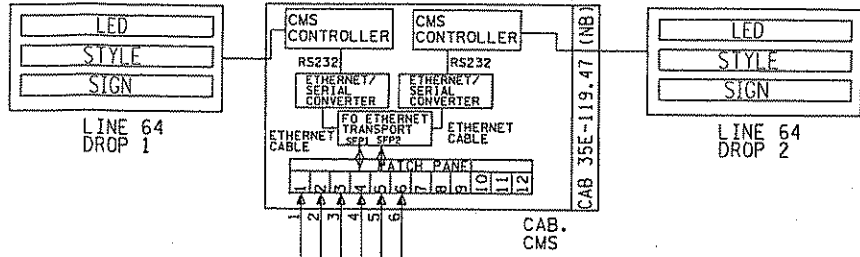
TRUNK ID# 35E-60

TH 35E NORTH OF H2

FIBER OPTIC SCHEMATIC TH 35E AT COUNTY ROAD H2

REV. NO.	DATE	/ /
REV. NO.	DATE	/ /

CERTIFIED BY *[Signature]* LIC. NO. 26530 JUNE 12, 2009 STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 321 OF 471 SHEETS



- 1
- 2 CAMERA 41
- 3 CAMERA 42
- 4 CAMERA 43
- 5 CAMERA 44
- 6 CAMERA 45
- 7 CAMERA 46
- 8 ETHERNET RING
- 9
- 10 CAM TO CAM
- 11 LINE 86 TX1/RX1-TX2/RX2
- 12 LINE 86 SPARE
- 13 CAM 51 DET. STA.
- 14 CAM 52 DET. STA.
- 15
- 16
- 17 LED CMS LINE 64 SPF1-SPF2
- 18 LED CMS LINE 51 SPARE
- 19
- 20 CAMERA 47
- 21 CAMERA 48
- 22 CAMERA 49
- 23 CAMERA 50
- 24 FUT. CAM. 51
- 25 FUT. CAM. 52
- 26 CAMERA 53
- 27 CAMERA 54
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- 54 CMS LINE 64 SPF2-SPF1
- 55 RAMSEY CO. CONNECTION
- 56 RAMSEY CO. CONNECTION
- 57 RAMSEY CO. CONNECTION
- 58 RAMSEY CO. CONNECTION
- 59 RAMSEY CO. CONNECTION
- 60 RAMSEY CO. CONNECTION

TH 35E NORTH OF H2

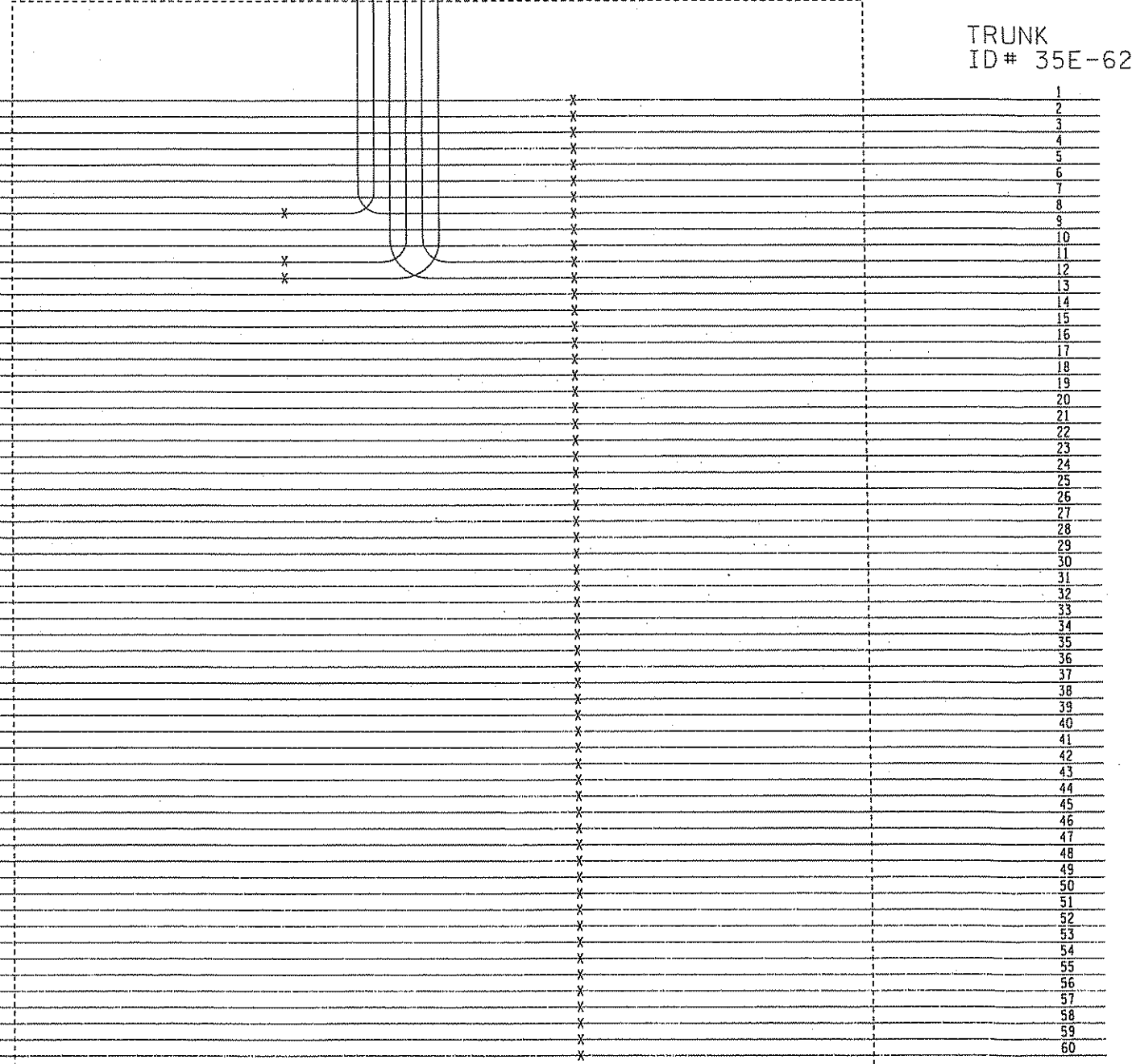
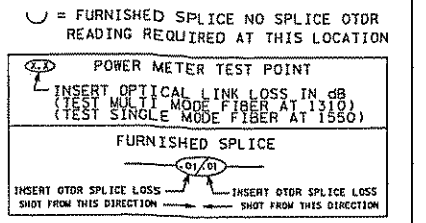
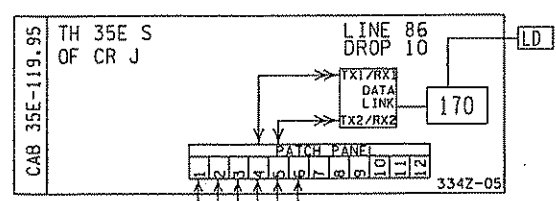
TRUNK ID# 35E-61

TH 35E SOUTH OF CR J

FIBER OPTIC SCHEMATIC TH 35E SOUTH OF COUNTY ROAD J

PIGTAIL ID#: CAB 35E-119.95

TRUNK ID# 35E-62

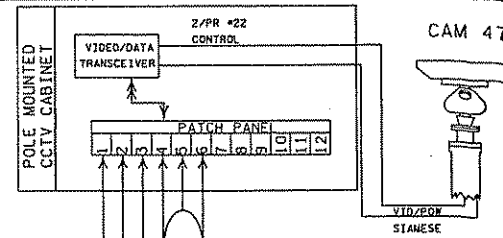
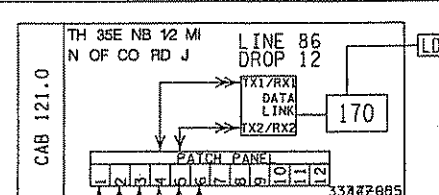
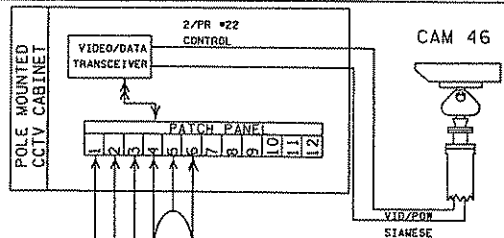
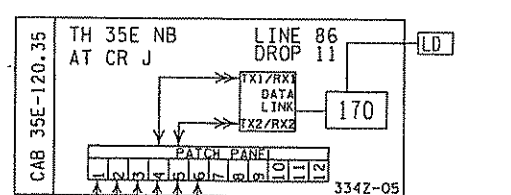
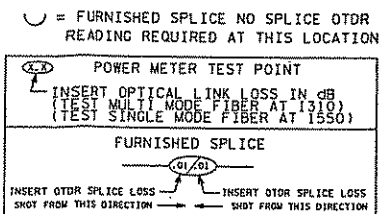


SEE SHEET 321

SEE SHEET 323

REV. NO.	DATE	/ /
REV. NO.	DATE	/ /

CERTIFIED BY *[Signature]* LIC. NO. 26530 JUNE 12, 2009 STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 322 OF 471 SHEETS



PIGTAIL ID#:
CAB 35E-120.35

PIGTAIL ID#:
CAM 46

PIGTAIL ID#:
CAB 35E-121.0

PIGTAIL ID#:
CAM 47

- 1
- 2 CAMERA 41
- 3 CAMERA 42
- 4 CAMERA 43
- 5 CAMERA 44
- 6 CAMERA 45
- 7 CAMERA 46
- 8 ETHERNET RING
- 9
- 10 CAM TO CAM
- 11 LINE B6 TX1/RX1-TX2/RX2
- 12 LINE B6 SPARE
- 13 CAM 51 DET. STA.
- 14 CAM 52 DET. STA.
- 15
- 16
- 17 LED CMS LINE 64 SPF1-SPF2
- 18 LED CMS LINE 51 SPARE
- 19
- 20 CAMERA 47
- 21 CAMERA 48
- 22 CAMERA 49
- 23 CAMERA 50
- 24 FUT. CAM. 51
- 25 FUT. CAM. 52
- 26 CAMERA 53
- 27 CAMERA 54
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- 54 CMS LINE 64 SPF2-SPF1
- 55 RAMSEY CO. CONNECTION
- 56 RAMSEY CO. CONNECTION
- 57 RAMSEY CO. CONNECTION
- 58 RAMSEY CO. CONNECTION
- 59 RAMSEY CO. CONNECTION
- 60 RAMSEY CO. CONNECTION

TH 35E AT CR J

TRUNK ID# 35E-63

TH 35E 1/2 MI NORTH OF CR J

FIBER OPTIC SCHEMATIC TH 35E AT COUNTY ROAD J

TRUNK ID# 35E-64

SEE SHEET 322

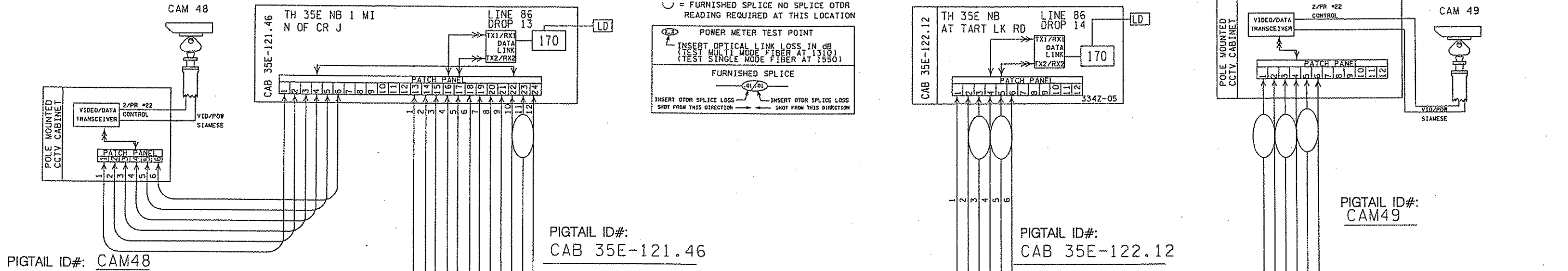
SEE SHEET 324

REV. NO.	DATE	///
REV. NO.	DATE	///

CERTIFIED BY *[Signature]* LIC.NO. 26530 JUNE 12, 2009 STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 323 OF 471 SHEETS

SEE SHEET 323

SEE SHEET 325



TRUNK ID# 35E-66

1			
2 CAMERA 41	X		
3 CAMERA 42	X		
4 CAMERA 43	X		
5 CAMERA 44	X		
6 CAMERA 45	X		
7 CAMERA 46	X		
8 ETHERNET RING	X		
9	X	X	
10 CAM TO CAM	X	X	
11 LINE 86 TX1/RX1-TX2/RX2	X	X	X
12 LINE 86 SPARE	X	X	
13 CAM 51 DET. STA.	X	X	
14 CAM 52 DET. STA.	X	X	
15	X	X	
16	X	X	
17 LED CMS LINE 64 SPF1-SPF2	X	X	
18 LED CMS LINE 51 SPARE	X	X	
19	X	X	
20 CAMERA 47	X	X	
21 CAMERA 48	X	X	
22 CAMERA 49	X	X	
23 CAMERA 50	X	X	
24 FUT. CAM. 51	X	X	X
25 FUT. CAM. 52	X	X	X
26 CAMERA 53	X	X	
27 CAMERA 54	X	X	
28	X	X	
29	X	X	
30	X	X	
31	X	X	
32	X	X	
33	X	X	
34	X	X	
35	X	X	
36	X	X	
37	X	X	
38	X	X	
39	X	X	
40	X	X	
41	X	X	
42	X	X	
43	X	X	
44	X	X	
45	X	X	
46	X	X	
47	X	X	
48	X	X	
49	X	X	
50	X	X	
51	X	X	
52	X	X	
53	X	X	
54 CMS LINE 64 SPF2-SPF1	X	X	
55 RAMSEY CO. CONNECTION	X	X	
56 RAMSEY CO. CONNECTION	X	X	
57 RAMSEY CO. CONNECTION	X	X	
58 RAMSEY CO. CONNECTION	X	X	
59 RAMSEY CO. CONNECTION	X	X	
60 RAMSEY CO. CONNECTION	X	X	

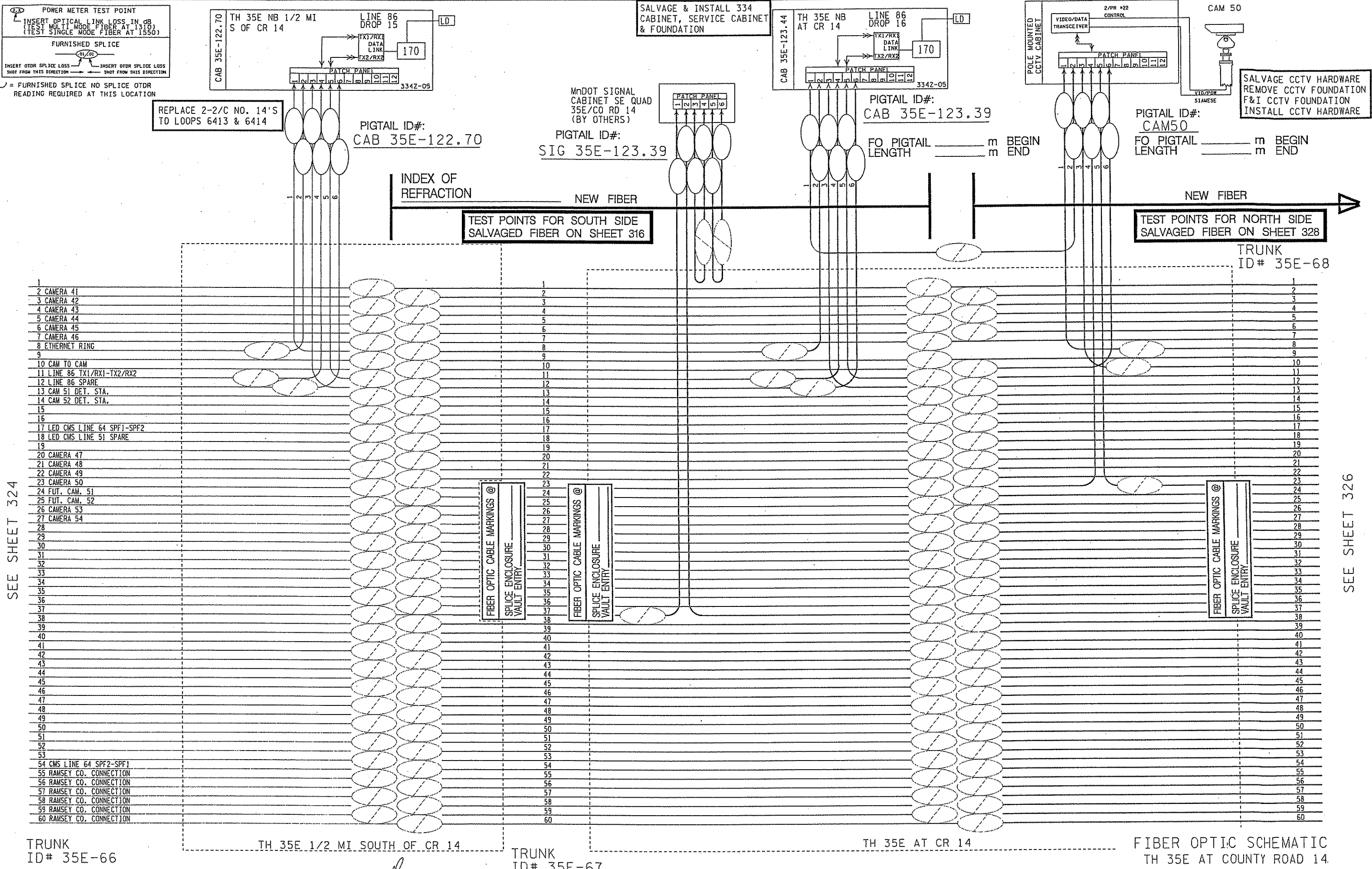
TH 35E 1 MI NORTH OF CR J

TRUNK ID# 35E-65

TH 35E 1-1.4 MI SOUTH OF CR 14

TRUNK ID# 35E-64

FIBER OPTIC SCHEMATIC TH 35E SOUTH OF COUNTY ROAD 14

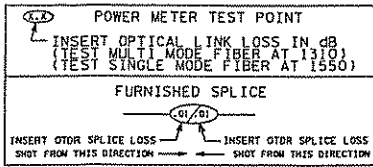


1	2 CAMERA 41
2	3 CAMERA 42
3	4 CAMERA 43
4	5 CAMERA 44
5	6 CAMERA 45
6	7 CAMERA 46
7	8 ETHERNET RING
8	9
9	10 CAM TO CAM
10	11 LINE 86 TX1/RX1-TX2/RX2
11	12 LINE 86 SPARE
12	13 CAM 51 DET. STA.
13	14 CAM 52 DET. STA.
14	15
15	16
16	17 LED CMS LINE 64 SPF1-SPF2
17	18 LED CMS LINE 51 SPARE
18	19
19	20 CAMERA 47
20	21 CAMERA 48
21	22 CAMERA 49
22	23 CAMERA 50
23	24 FUT. CAM. 51
24	25 FUT. CAM. 52
25	26 CAMERA 53
26	27 CAMERA 54
27	28
28	29
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43	44
44	45
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51	52
52	53
53	54 CMS LINE 64 SPF2-SPF1
54	55 RAMSEY CO. CONNECTION
55	56 RAMSEY CO. CONNECTION
56	57 RAMSEY CO. CONNECTION
57	58 RAMSEY CO. CONNECTION
58	59 RAMSEY CO. CONNECTION
59	60 RAMSEY CO. CONNECTION

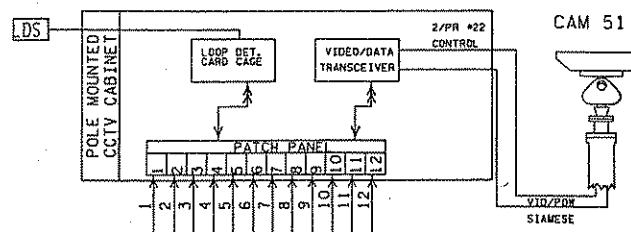
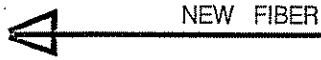
SEE SHEET 324

SEE SHEET 326

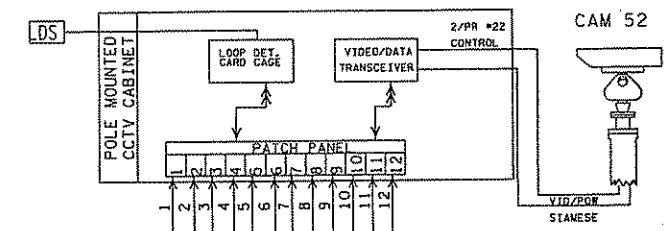
U = FURNISHED SPLICE NO SPLICE OTRD READING REQUIRED AT THIS LOCATION



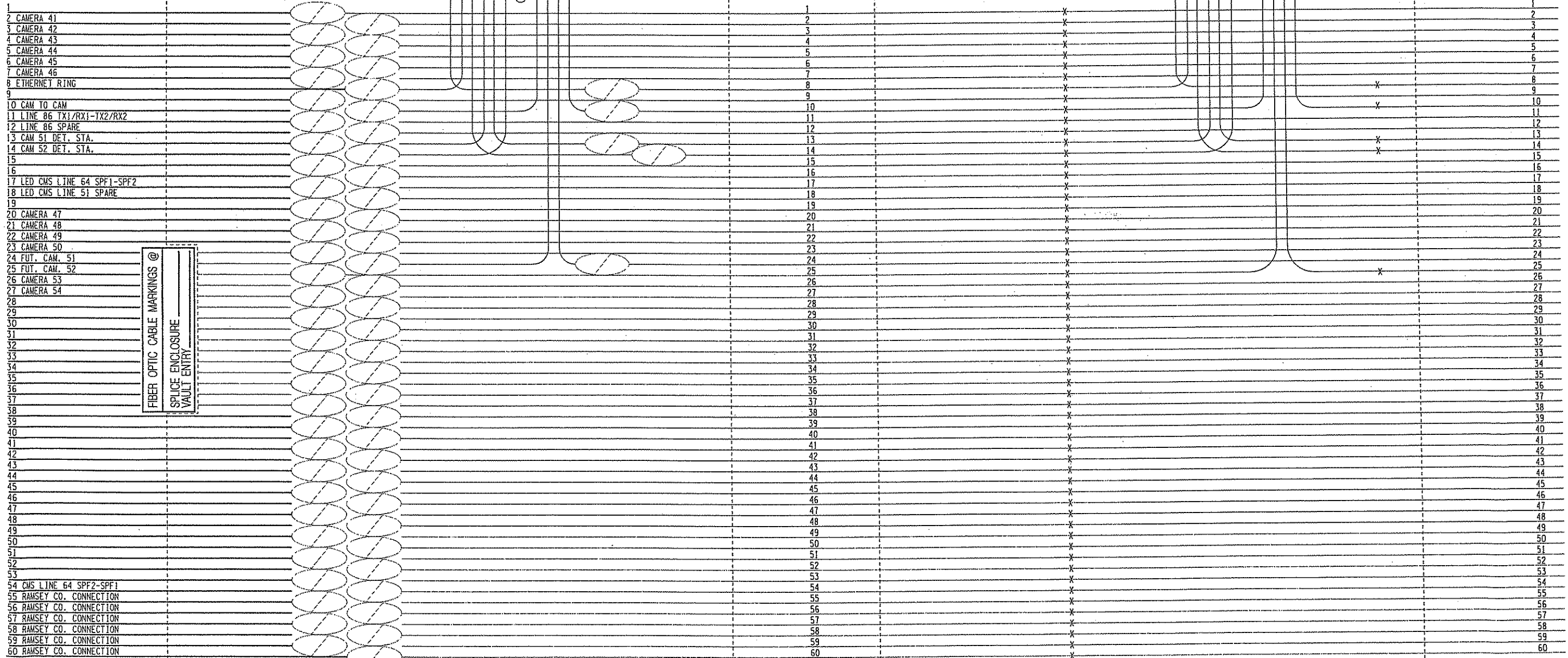
INDEX OF REFRACTION



PIGTAIL ID#:
CAM51



PIGTAIL ID#:
CAM52



TRUNK ID# 35E-68

TH 35E NORTH OF CR 14

TRUNK ID# 35E-69

TH 35E SOUTH OF 80TH ST

FIBER OPTIC SCHEMATIC TH 35E S. OF 80TH STREET

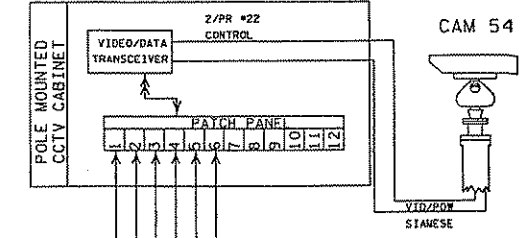
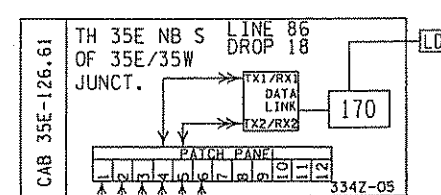
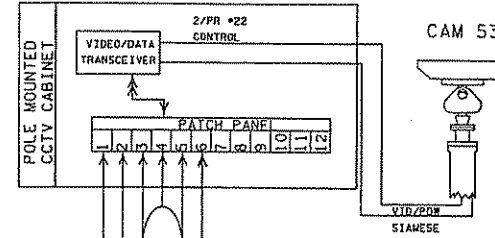
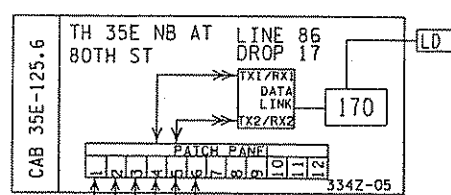
SEE SHEET 325

SEE SHEET 327

REV. NO.	DATE	/ /
REV. NO.	DATE	/ /

CERTIFIED BY *[Signature]* LIC.NO. 26530 JUNE 12, 2009 STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 326 OF 471 SHEETS

○ = FURNISHED SPLICE NO SPLICE OTDR READING REQUIRED AT THIS LOCATION
 ○ = POWER METER TEST POINT
 ○ = INSERT OPTICAL LINK LOSS IN DB (TEST MULTI-MODE FIBER AT 1310) (TEST SINGLE MODE FIBER AT 1550)
 ○ = FURNISHED SPLICE
 ○ = INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION
 ○ = INSERT OTDR SPLICE LOSS SHOT FROM THIS DIRECTION



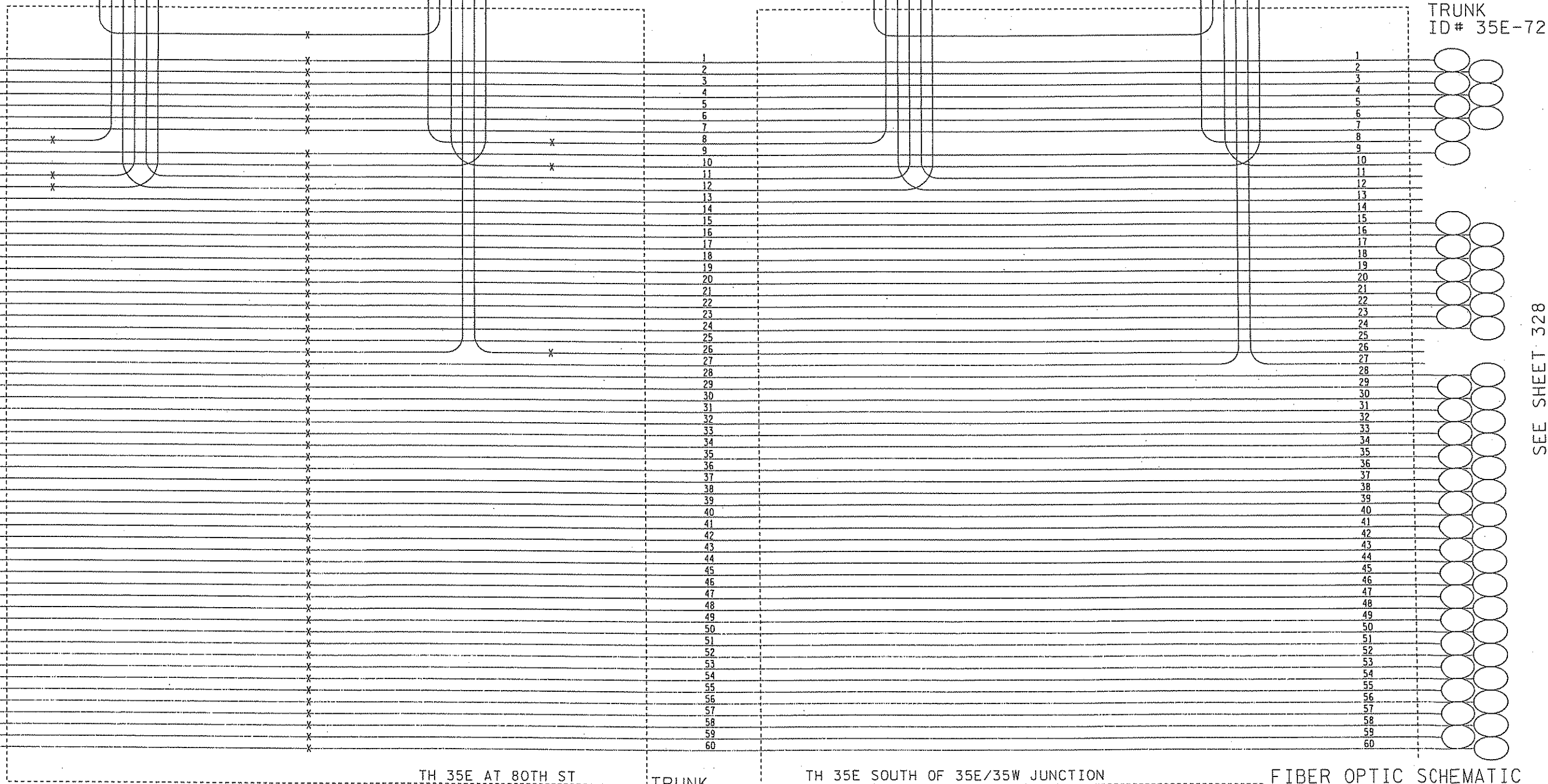
PIGTAIL ID#: CAB 35E-125.6

PIGTAIL ID#: CAM53

PIGTAIL ID#: CAB 35E-126.61

PIGTAIL ID#: CAM54

- 1
- 2 CAMERA 41
- 3 CAMERA 42
- 4 CAMERA 43
- 5 CAMERA 44
- 6 CAMERA 45
- 7 CAMERA 46
- 8 ETHERNET RING
- 9
- 10 CAM TO CAM
- 11 LINE 86 TX1/RX1-TX2/RX2
- 12 LINE 86 SPARE
- 13 CAM 51 DET. STA.
- 14 CAM 52 DET. STA.
- 15
- 16
- 17 LED CMS LINE 64 SPF1-SPF2
- 18 LED CMS LINE 51 SPARE
- 19
- 20 CAMERA 47
- 21 CAMERA 48
- 22 CAMERA 49
- 23 CAMERA 50
- 24 FUT. CAM. 51
- 25 FUT. CAM. 52
- 26 CAMERA 53
- 27 CAMERA 54
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- 53
- 54 CMS LINE 64 SPF2-SPF1
- 55 RAMSEY CO. CONNECTION
- 56 RAMSEY CO. CONNECTION
- 57 RAMSEY CO. CONNECTION
- 58 RAMSEY CO. CONNECTION
- 59 RAMSEY CO. CONNECTION
- 60 RAMSEY CO. CONNECTION



TRUNK ID# 35E-70

TH 35E AT 80TH ST

TRUNK ID# 35E-71

TH 35E SOUTH OF 35E/35W JUNCTION

FIBER OPTIC SCHEMATIC TH 35E AT 35E/35W JUNCTION

REV. NO.	DATE	/ /
REV. NO.	DATE	/ /

CERTIFIED BY

[Signature]
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 26530

JUNE 12, 2009

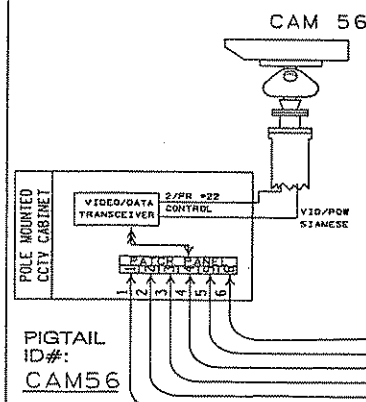
STATE PROJ. NO. 0282-25 (TH 35E) SHEET NO. 327 OF 471 SHEETS

SEE SHEET 328

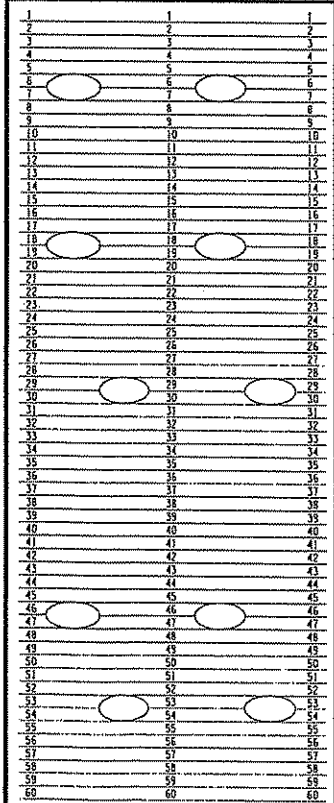
SOUTH 35W TRUNK ID# 35W-66

PIGTAIL ID#: DMS35-128.50

m B
m E



TEST POINTS FOR SALVAGED FIBER FROM NORTH OF MAIN ST

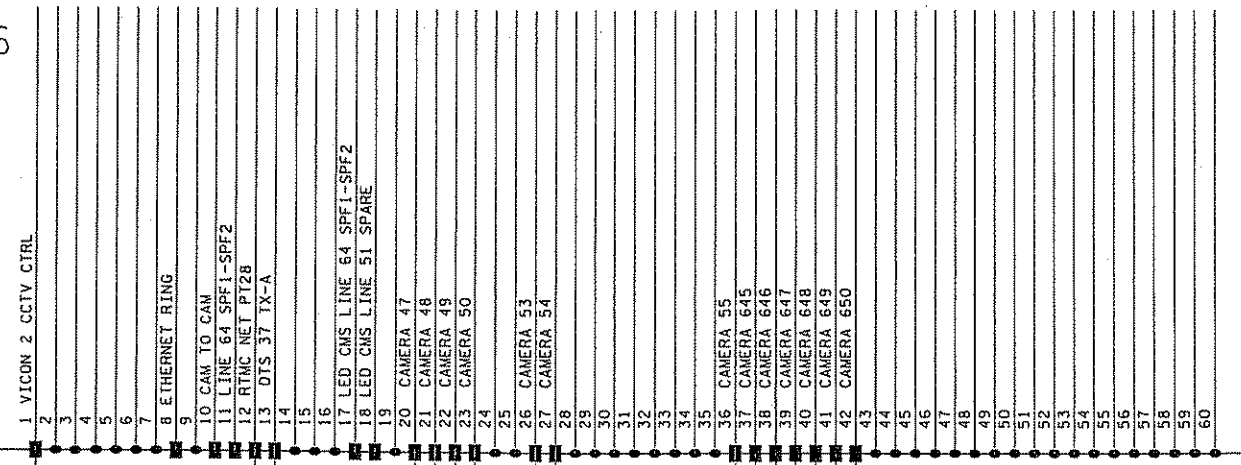
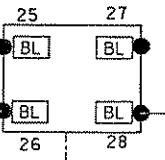


SEE SHEET 327 FOR POWER METER TEST BUBBLES

- 1 CAMERA 41 BU
- 2 CAMERA 42 BU
- 3 CAMERA 43 BU
- 4 CAMERA 44 BU
- 5 CAMERA 45 BU
- 6 CAMERA 46 BU
- 7 CAMERA 47 BU
- 8 ETHERNET RING
- 9
- 10 CAM TO CAM
- 11 LINE 86 TX1/RX1-TX2/RX2
- 12 LINE 86 SPARE
- 13 CAM 51 DET. STA.
- 14 CAM 52 DET. STA.
- 15
- 16
- 17 LED CMS RING SFP1-SFP2
- 18 LED CMS RING SPARE
- 19
- 20 CAMERA 47 BU
- 21 CAMERA 48 BU
- 22 CAMERA 49 BU
- 23 CAMERA 50 BU
- 24 FUT. CAM. 51
- 25 FUT. CAM. 52
- 26 CAMERA 53
- 27 CAMERA 54
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40 RTMC NET PT 26
- 41
- 42
- 43
- 44
- 45
- 46
- 47
- 48
- 49
- 50
- 51
- 52
- 53
- 54 LED CMS RING SFP2-SFP1
- 55 RAMSEY CO. CONNECTION
- 56 RAMSEY CO. CONNECTION
- 57 RAMSEY CO. CONNECTION
- 58 RAMSEY CO. CONNECTION
- 59 RAMSEY CO. CONNECTION
- 60 RAMSEY CO. CONNECTION

SOUTH 35E TRUNK ID# 35E.72

RTMC NET CISCO 3750 G-24



OPT 9216 VICON 2 CCTV CTRL

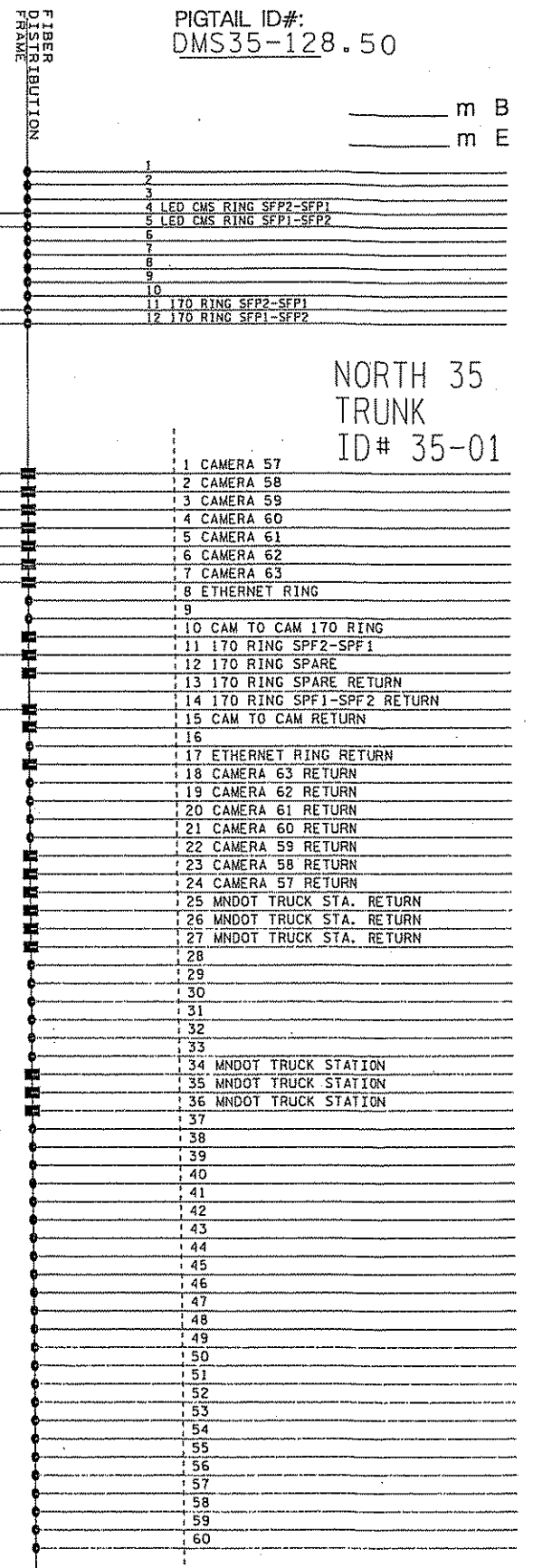
CONTROL ETHERNET TO SERIAL

RHINO DMS RING FO ETHERNET TRANSPORT SFP1 SFP2 SERV PORT

RHINO 170 RING FO ETHERNET TRANSPORT SFP1 SFP2 SERV PORT

ETHERNET/SERIAL CONVERTER

LINE 87 DROP 1 170



NORTH 35 TRUNK ID# 35-01

FIBER OPTIC SCHEMATIC SHELTER TH 35 SB (NO. 128.0)

REV. NO.	DATE	/ /
REV. NO.	DATE	/ /

CERTIFIED BY

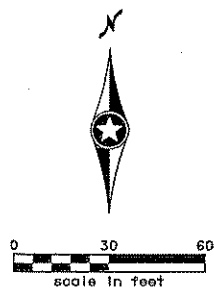
[Signature]
LICENSED PROFESSIONAL ENGINEER

LIC.NO. 26530

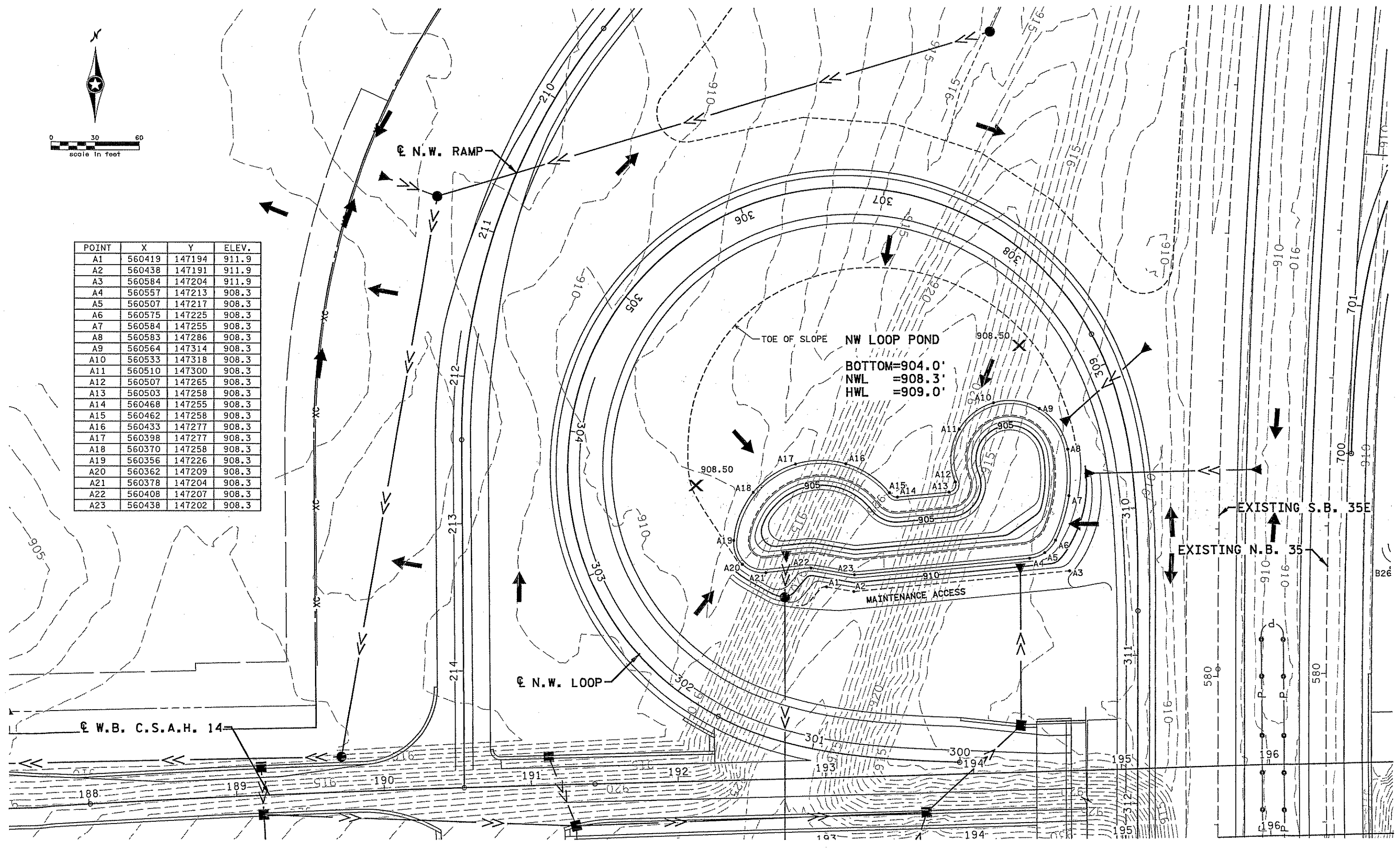
JUNE 12, 2009

STATE PROJ. NO. 0282-25

(TH 35E) SHEET NO. 328 OF 471 SHEETS



POINT	X	Y	ELEV.
A1	560419	147194	911.9
A2	560438	147191	911.9
A3	560584	147204	911.9
A4	560557	147213	908.3
A5	560507	147217	908.3
A6	560575	147225	908.3
A7	560584	147255	908.3
A8	560583	147286	908.3
A9	560564	147314	908.3
A10	560533	147318	908.3
A11	560510	147300	908.3
A12	560507	147265	908.3
A13	560503	147258	908.3
A14	560468	147255	908.3
A15	560462	147258	908.3
A16	560433	147277	908.3
A17	560398	147277	908.3
A18	560370	147258	908.3
A19	560356	147226	908.3
A20	560362	147209	908.3
A21	560378	147204	908.3
A22	560408	147207	908.3
A23	560438	147202	908.3



9:31:34 AM
 4/20/2009
 H:\Projects\6509\N1-MU\Plan\0261429_CN1.DGN

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: **ERIC D. ROERISH**

Eric D. Roerish

Date: **05/22/09** License #: **45645**

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

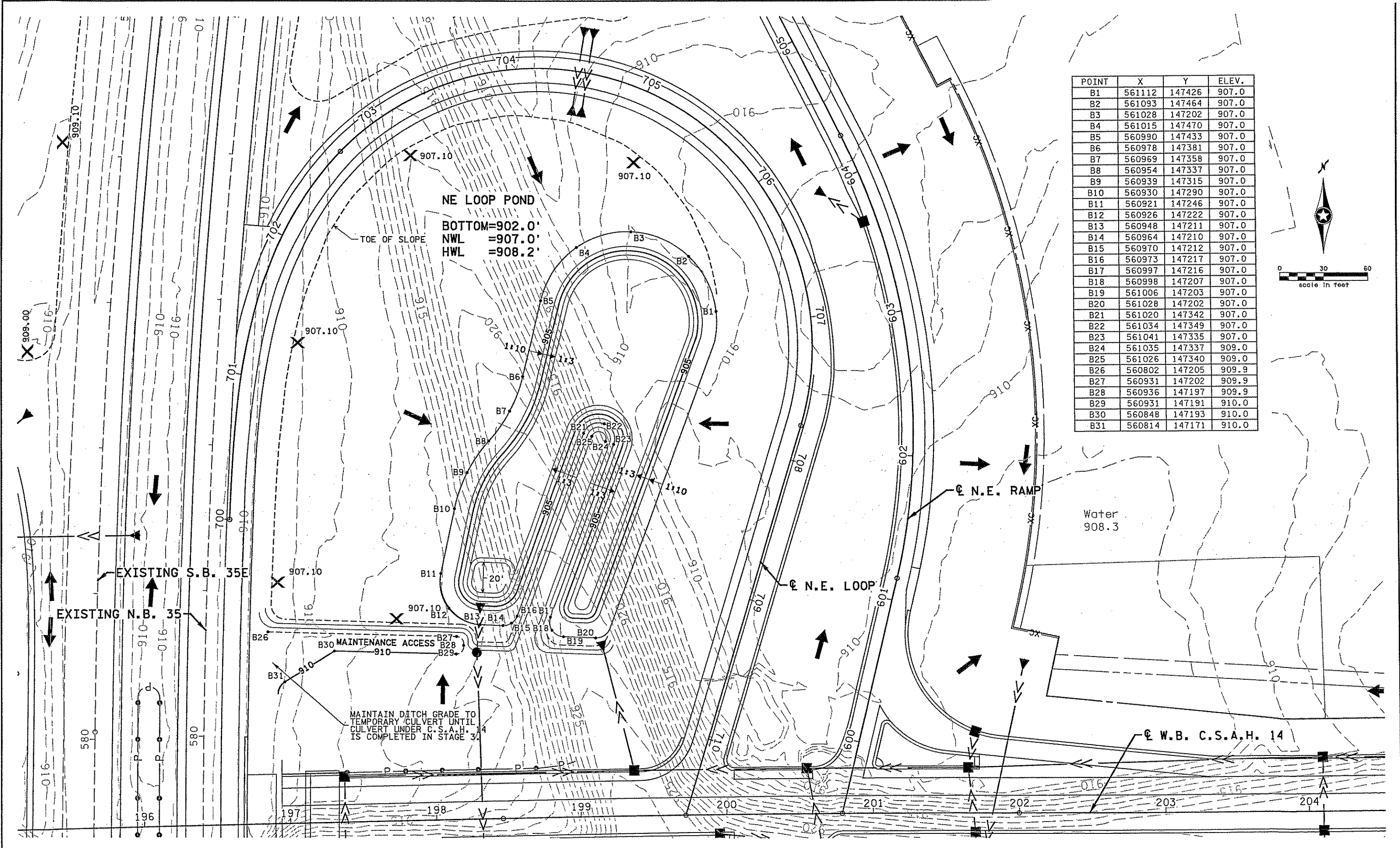
CITY PROJECT NO. X

DRAWN BY W. ANDERSON
 DESIGNED BY K. LUDWIG
 CHECKED BY E. ROERISH
 COMM. NO. 0086509



ANOKA COUNTY
 CONTOUR PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.W. POND

SHEET 329 OF 471



POINT	X	Y	ELEV.
B1	561112	147426	907.0
B2	561093	147464	907.0
B3	561028	147202	907.0
B4	561015	147470	907.0
B5	560990	147433	907.0
B6	560978	147381	907.0
B7	560969	147358	907.0
B8	560954	147337	907.0
B9	560939	147315	907.0
B10	560930	147290	907.0
B11	560921	147246	907.0
B12	560926	147222	907.0
B13	560948	147211	907.0
B14	560964	147210	907.0
B15	560970	147212	907.0
B16	560973	147217	907.0
B17	560997	147216	907.0
B18	560998	147207	907.0
B19	561006	147203	907.0
B20	561028	147202	907.0
B21	561020	147342	907.0
B22	561034	147349	907.0
B23	561041	147335	907.0
B24	561035	147337	909.0
B25	561026	147340	909.0
B26	560802	147205	909.9
B27	560931	147202	909.9
B28	560936	147197	909.9
B29	560931	147191	910.0
B30	560848	147193	910.0
B31	560814	147171	910.0

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 4/20/2009
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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: **ERIC D. ROERISH**
Eric D. Roerish
 Date: **05/12/09** License #: **45645**

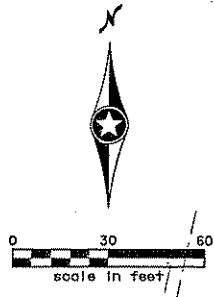
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY W. ANDERSON
 DESIGNED BY K. LUDWIG
 CHECKED BY E. ROERISH
 COMM. NO. 0086509



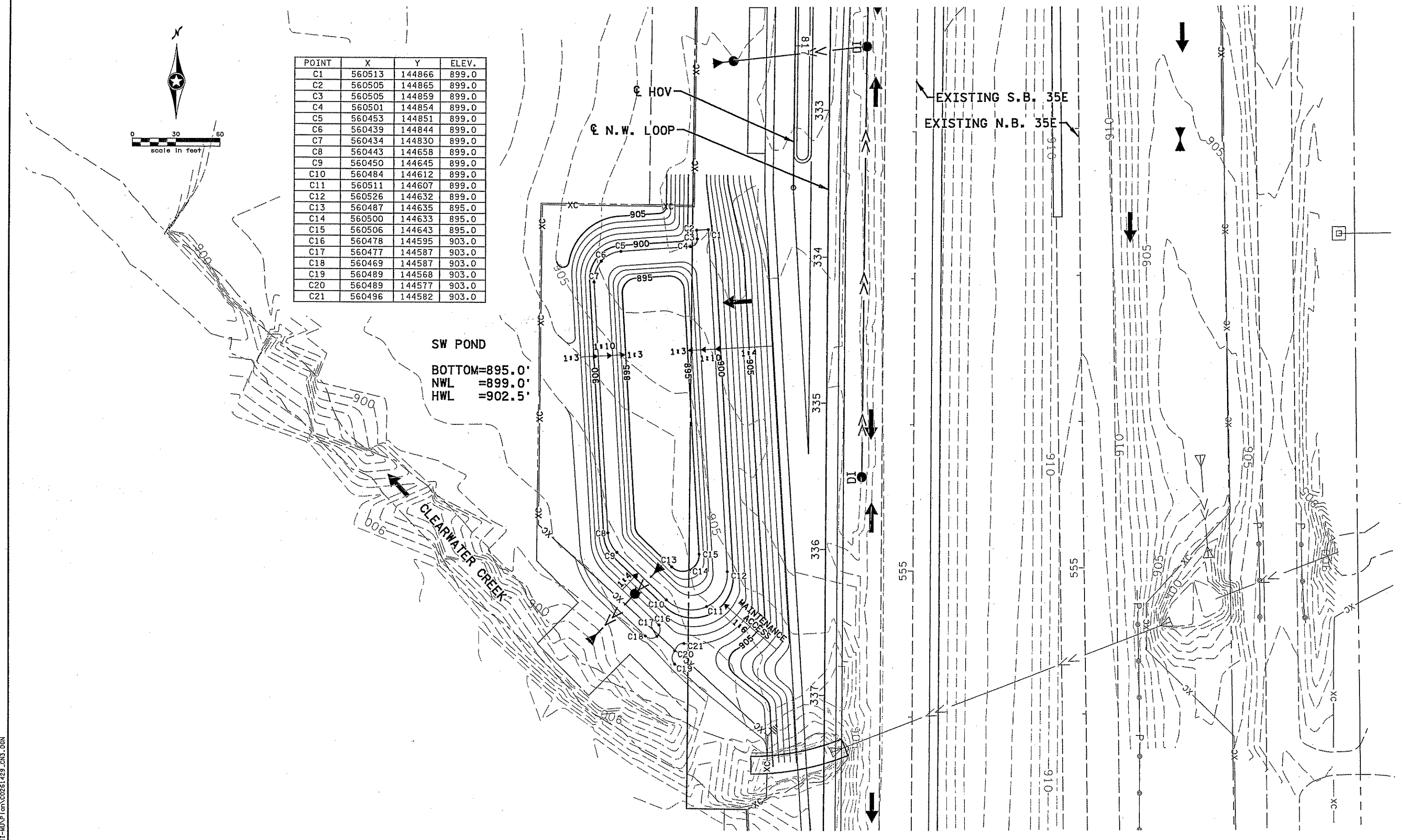
ANOKA COUNTY
 CONTOUR PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.E. POND

SHEET
 330
 OF
 471



POINT	X	Y	ELEV.
C1	560513	144866	899.0
C2	560505	144865	899.0
C3	560505	144859	899.0
C4	560501	144854	899.0
C5	560453	144851	899.0
C6	560439	144844	899.0
C7	560434	144830	899.0
C8	560443	144658	899.0
C9	560450	144645	899.0
C10	560484	144612	899.0
C11	560511	144607	899.0
C12	560526	144632	899.0
C13	560487	144635	895.0
C14	560500	144633	895.0
C15	560506	144643	895.0
C16	560478	144595	903.0
C17	560477	144587	903.0
C18	560469	144587	903.0
C19	560489	144568	903.0
C20	560489	144577	903.0
C21	560496	144582	903.0

SW POND
 BOTTOM=895.0'
 NWL =899.0'
 HWL =902.5'



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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: **ERIC D. ROERISH**

Eric D. Roerish

Date: 05/22/09 License: 45645

STATE PROJECT NO.
0282-25 (TH 35E)

STATE PROJECT NO.
02-614-28

COUNTY PROJECT NO.
X

CITY PROJECT NO. X

DRAWN BY
W. ANDERSON

DESIGNED BY
K. LUDWIG

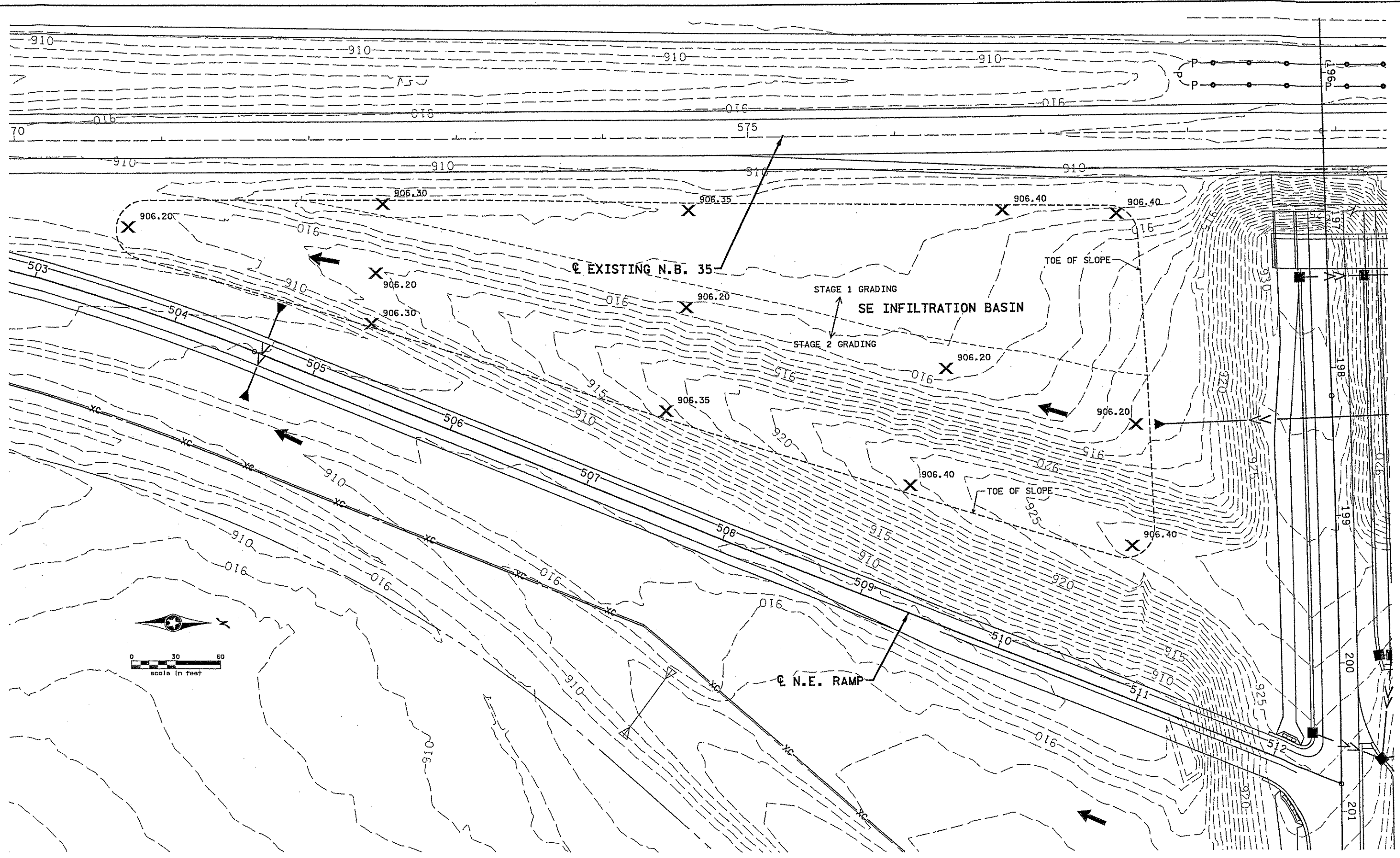
CHECKED BY
E. ROERISH

COMM. NO. 0086509



ANOKA COUNTY
 CONTOUR PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 S.W. POND

SHEET
 331
 OF
 471



10:18:44 AM
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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: **ERIC D. ROERISH**
Eric D. Roerish
 Date: 5/17/09 License #: 45645

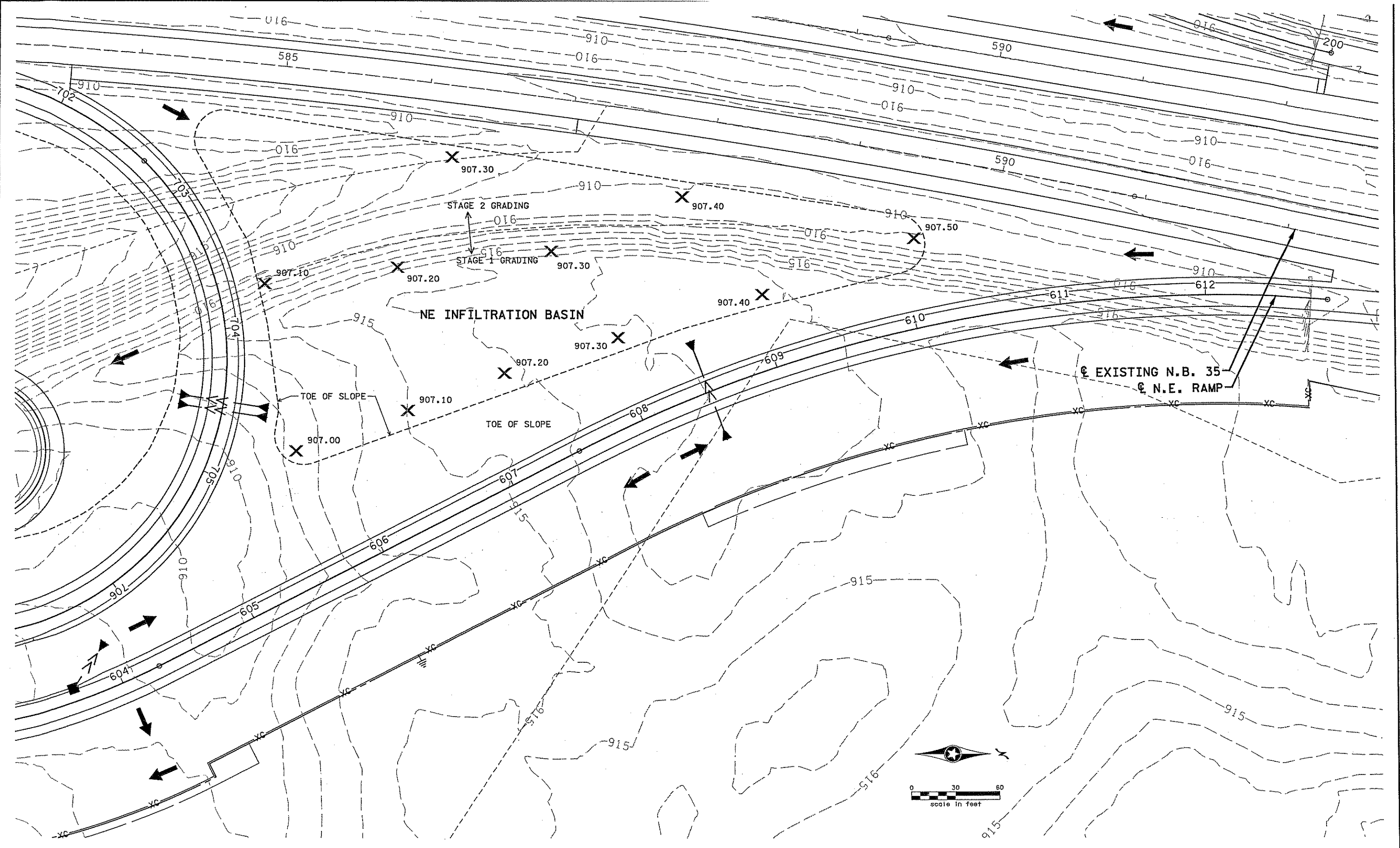
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY W. ANDERSON
 DESIGNED BY K. LUDWIG
 CHECKED BY E. ROERISH
 COMM. NO. 0086509



ANOKA COUNTY
 CONTOUR PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 S.E. INFIELD

SHEET 332 OF 471



9/31/11 AM
 9/30/2009
 H:\projects\6509\HI-MUN\plan\0261429_CN5.DGN

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: **ERIC D. ROERISH**
Eric D. Roerish
 Date: *05/22/09* License # 45645

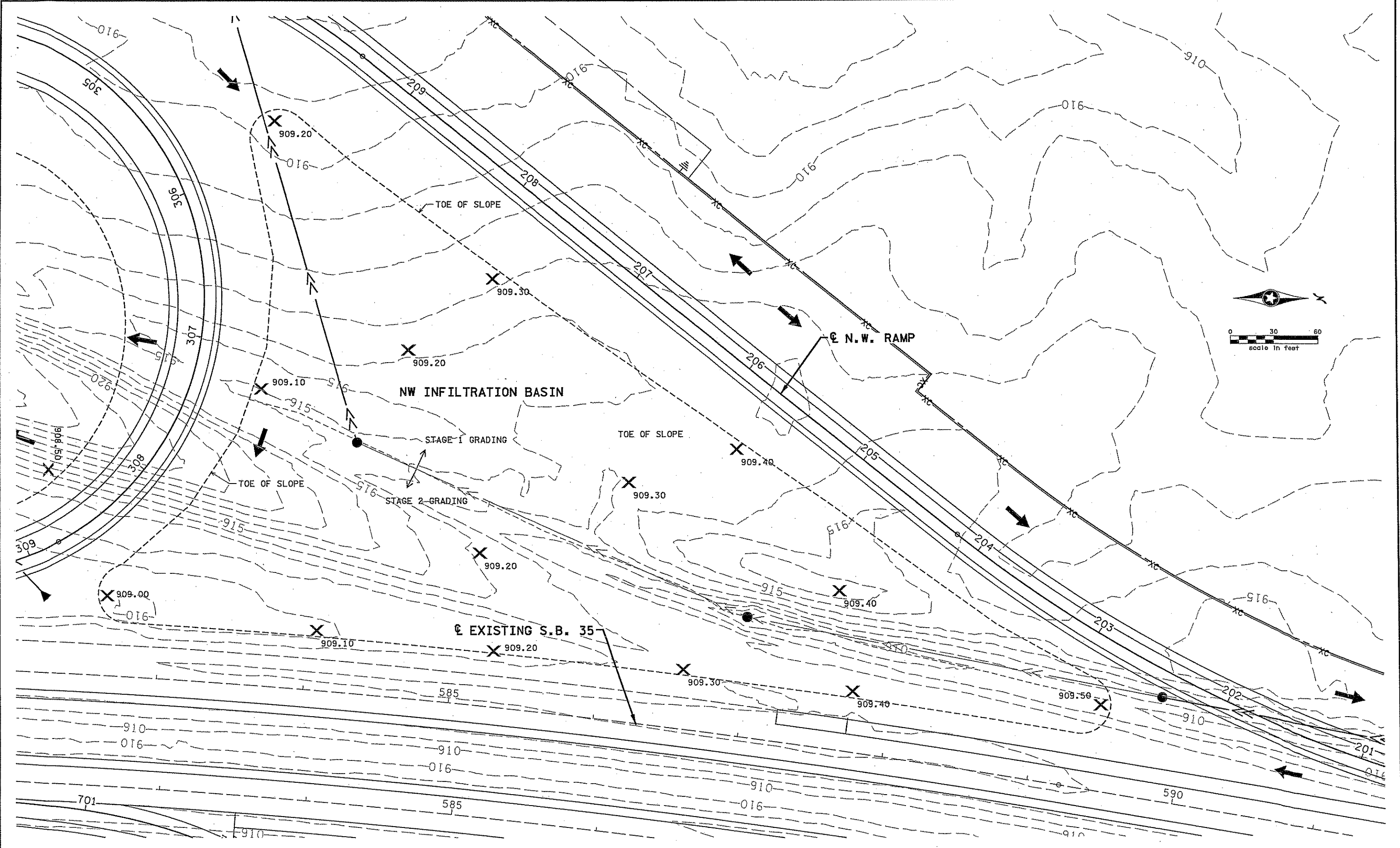
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY W. ANDERSON
 DESIGNED BY K. LUDWIG
 CHECKED BY E. ROERISH
 COMM. NO. 0086509



ANOKA COUNTY
 CONTOUR PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.E. INFILTRATION BASIN

SHEET 333 OF 471



9:31:42 AM
 4/20/2009
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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: **ERIC D. ROERISH**
Eric D. Roerish
 Date: *05/24/09* License #: 45645

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

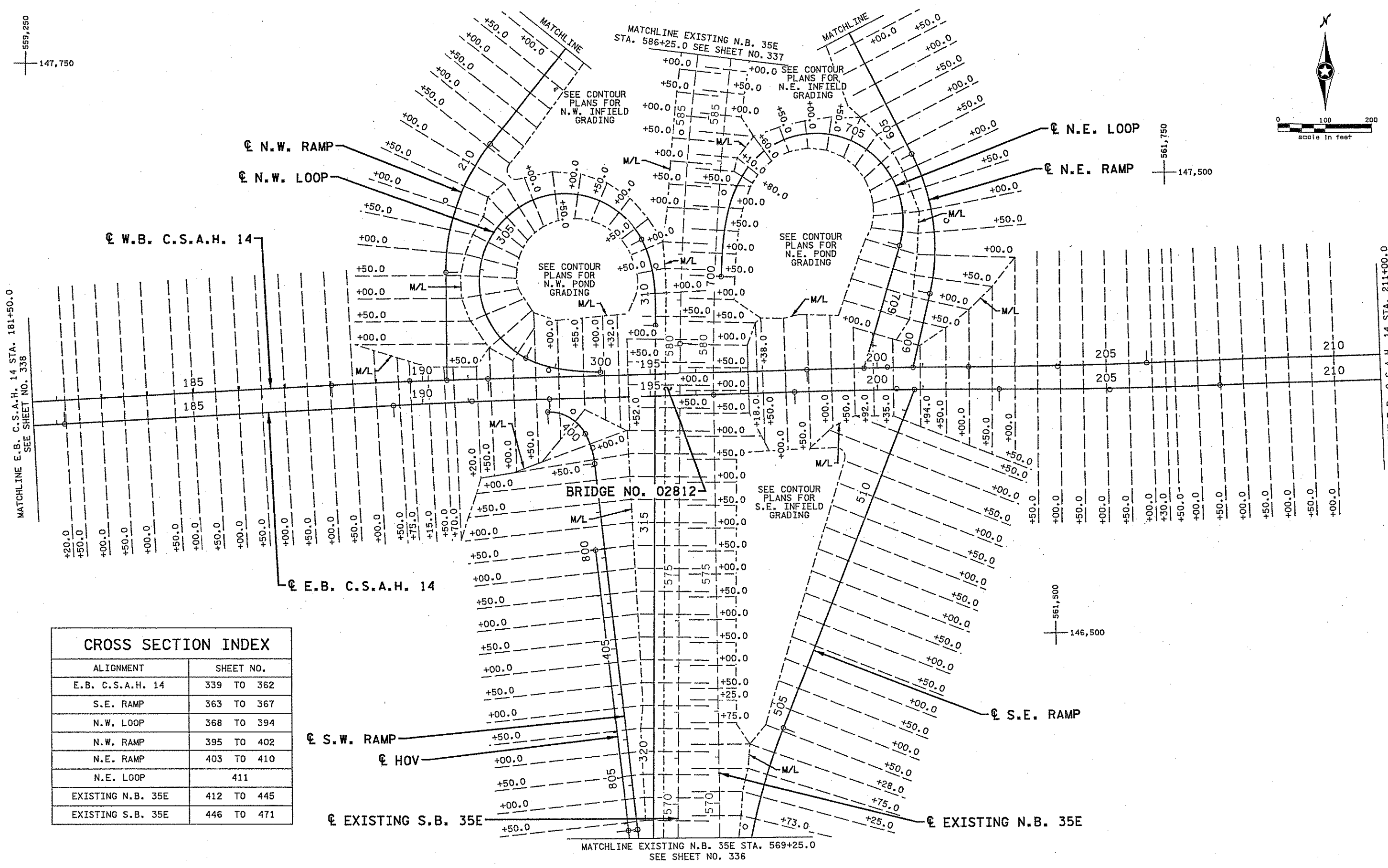
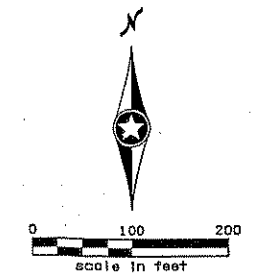
DRAWN BY W. ANDERSON
 DESIGNED BY K. LUDWIG
 CHECKED BY E. ROERISH
 COMM. NO. 0086509



ANOKA COUNTY
 CONTOUR PLANS
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 N.W. INFILDT

SHEET 334 OF 471

559,250
147,750



W.B. C.S.A.H. 14

N.W. RAMP
N.W. LOOP

N.E. LOOP
N.E. RAMP

E.B. C.S.A.H. 14

BRIDGE NO. 02812

SEE CONTOUR PLANS FOR S.E. INFIELD GRADING

SEE CONTOUR PLANS FOR N.E. POND GRADING

SEE CONTOUR PLANS FOR N.W. INFIELD GRADING

SEE CONTOUR PLANS FOR N.W. POND GRADING

S.E. RAMP

S.W. RAMP
HOV

EXISTING S.B. 35E

EXISTING N.B. 35E

MATCHLINE EXISTING N.B. 35E STA. 569+25.0
SEE SHEET NO. 336

MATCHLINE E.B. C.S.A.H. 14 STA. 181+50.0
SEE SHEET NO. 338

MATCHLINE E.B. C.S.A.H. 14 STA. 211+00.0
SEE SHEET NO. 338

CROSS SECTION INDEX	
ALIGNMENT	SHEET NO.
E.B. C.S.A.H. 14	339 TO 362
S.E. RAMP	363 TO 367
N.W. LOOP	368 TO 394
N.W. RAMP	395 TO 402
N.E. RAMP	403 TO 410
N.E. LOOP	411
EXISTING N.B. 35E	412 TO 445
EXISTING S.B. 35E	446 TO 471

9/31/14 AM 4/20/2009 H:\Projects\6509\HI-MU\P\on\CD261429_XSL1.DGN

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: AARON VACEK
Date: 5-22-09 License #: 44277

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO. X
CITY PROJECT NO. X

DRAWN BY V. MICHELS
DESIGNED BY A. VACEK
CHECKED BY K. KRECH
COMM. NO. 0086509

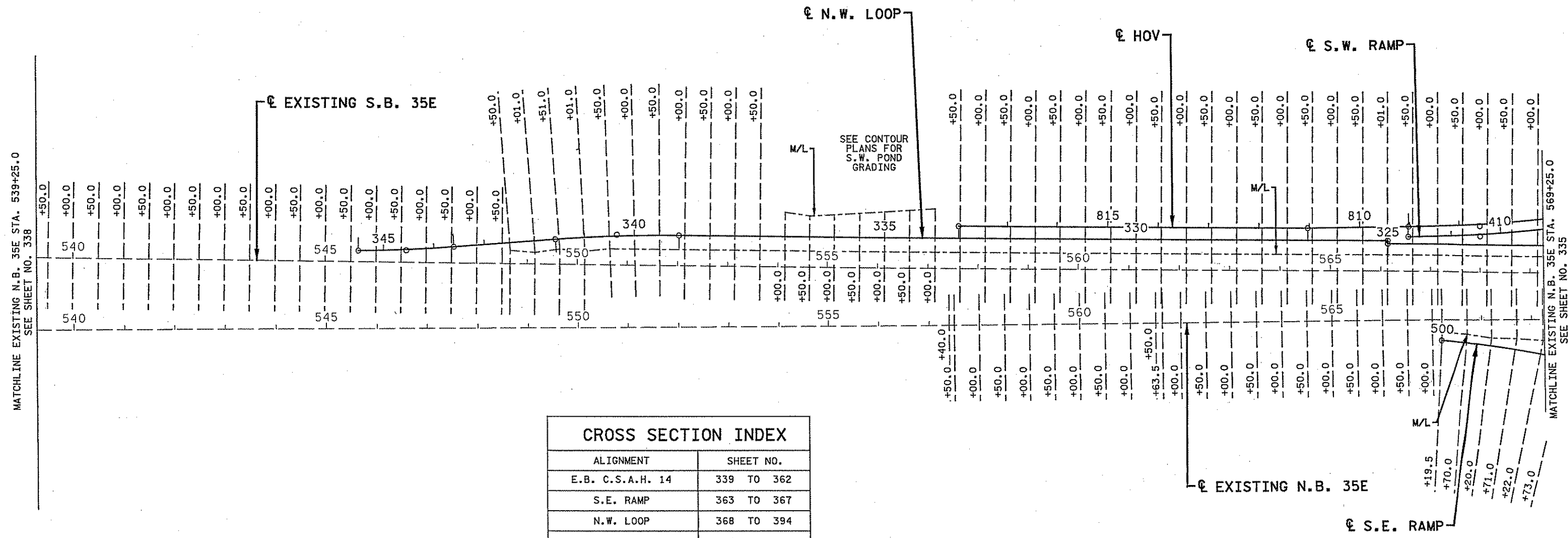


ANOKA COUNTY
CROSS SECTION LAYOUT PLANS
C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 335 OF 471



559,750
143,250



CROSS SECTION INDEX	
ALIGNMENT	SHEET NO.
E.B. C.S.A.H. 14	339 TO 362
S.E. RAMP	363 TO 367
N.W. LOOP	368 TO 394
N.W. RAMP	395 TO 402
N.E. RAMP	403 TO 410
N.E. LOOP	411
EXISTING N.B. 35E	412 TO 445
EXISTING S.B. 35E	446 TO 471

561,250
143,250

561,250
145,250

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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: **AARON VACEK**
Aaron Vacek
 Date: **5-22-09** License # **44277**

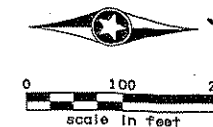
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X

DRAWN BY V. MICHELS
 DESIGNED BY A. VACEK
 CHECKED BY K. KRECH
 COMM. NO. 0086509

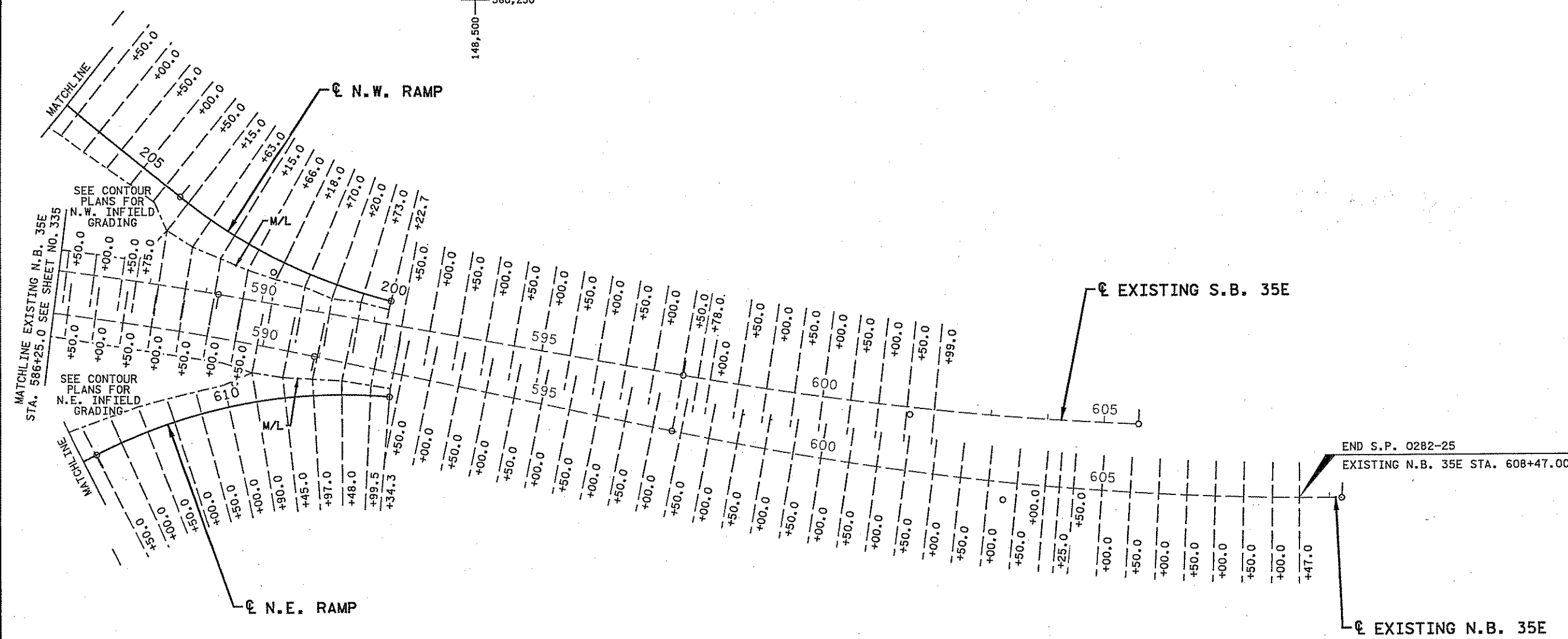


ANOKA COUNTY
 CROSS SECTION LAYOUT PLAN
 C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 336 OF 471



560,250
148,500



561,500
148,500

561,500
149,750

CROSS SECTION INDEX

ALIGNMENT	SHEET NO.
E.B. C.S.A.H. 14	339 TO 362
S.E. RAMP	363 TO 367
N.W. LOOP	368 TO 394
N.W. RAMP	395 TO 402
N.E. RAMP	403 TO 410
N.E. LOOP	411
EXISTING N.B. 35E	412 TO 445
EXISTING S.B. 35E	446 TO 471

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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: **AARON VACEK**

Aaron Vacek

Date: 5-22-09 License # 44277

STATE PROJECT NO. 0282-25 (TH 35E)

STATE PROJECT NO. 02-614-28

COUNTY PROJECT NO. X

CITY PROJECT NO. X

DRAWN BY V. MICHELS

DESIGNED BY A. VACEK

CHECKED BY K. KRECH

COMM. NO. 0086509

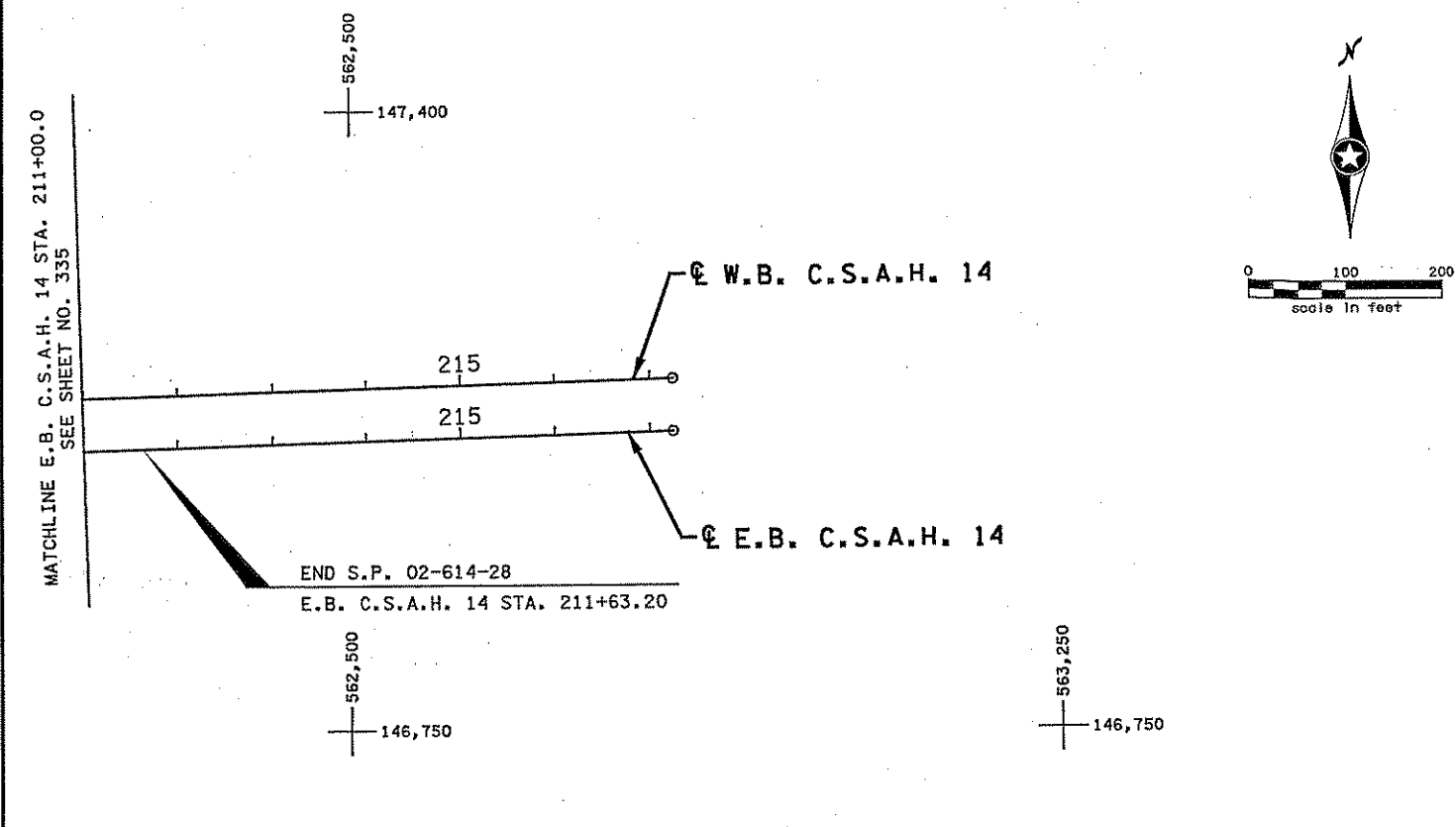
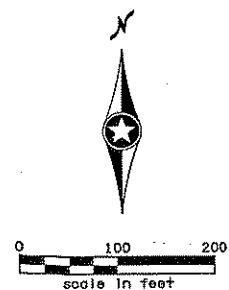
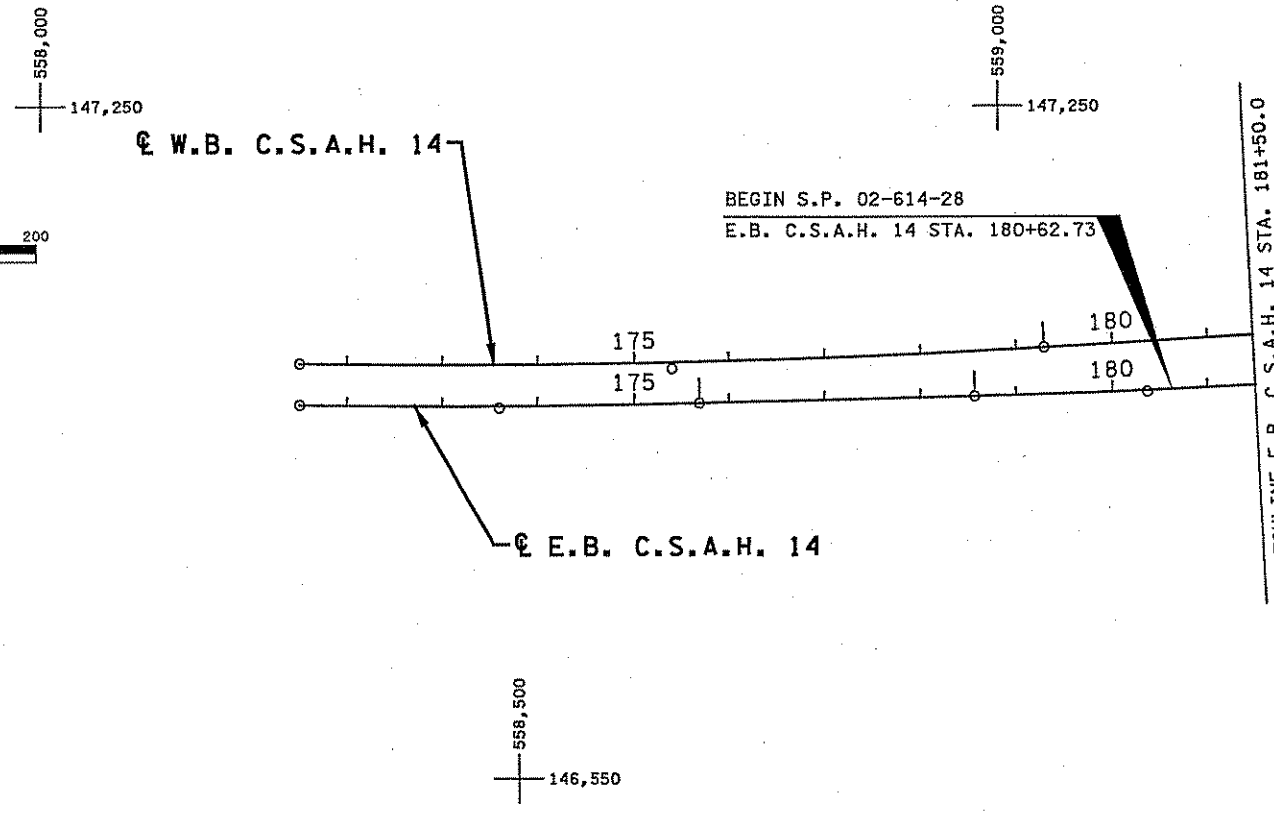
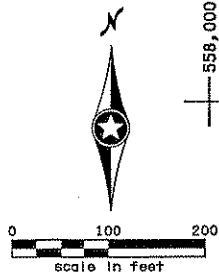


ANOKA COUNTY

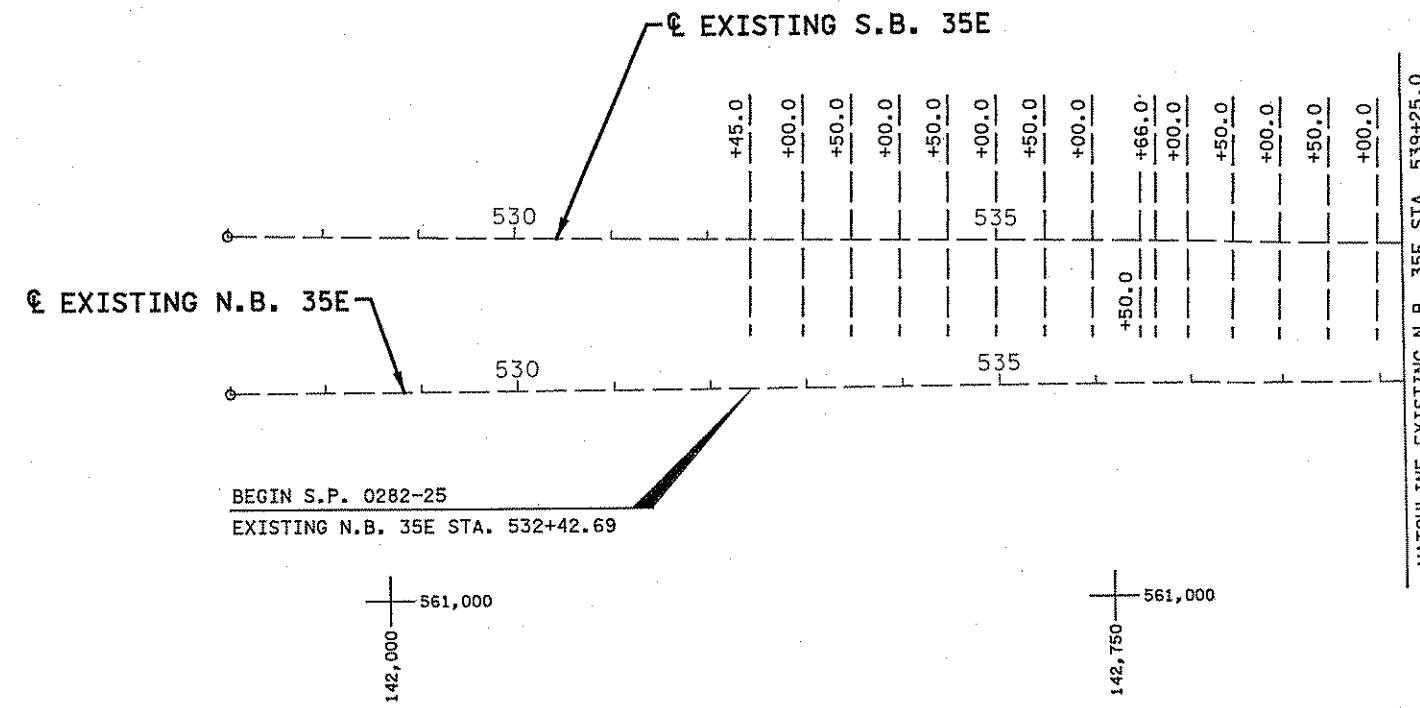
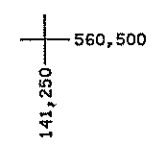
CROSS SECTION LAYOUT PLAN

C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET 337 OF 471



CROSS SECTION INDEX	
ALIGNMENT	SHEET NO.
E.B. C.S.A.H. 14	339 TO 362
S.E. RAMP	363 TO 367
N.W. LOOP	368 TO 394
N.W. RAMP	395 TO 402
N.E. RAMP	403 TO 410
N.E. LOOP	411
EXISTING N.B. 35E	412 TO 445
EXISTING S.B. 35E	446 TO 471



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NO.	DATE	BY	CHKD	APPR	REVISION

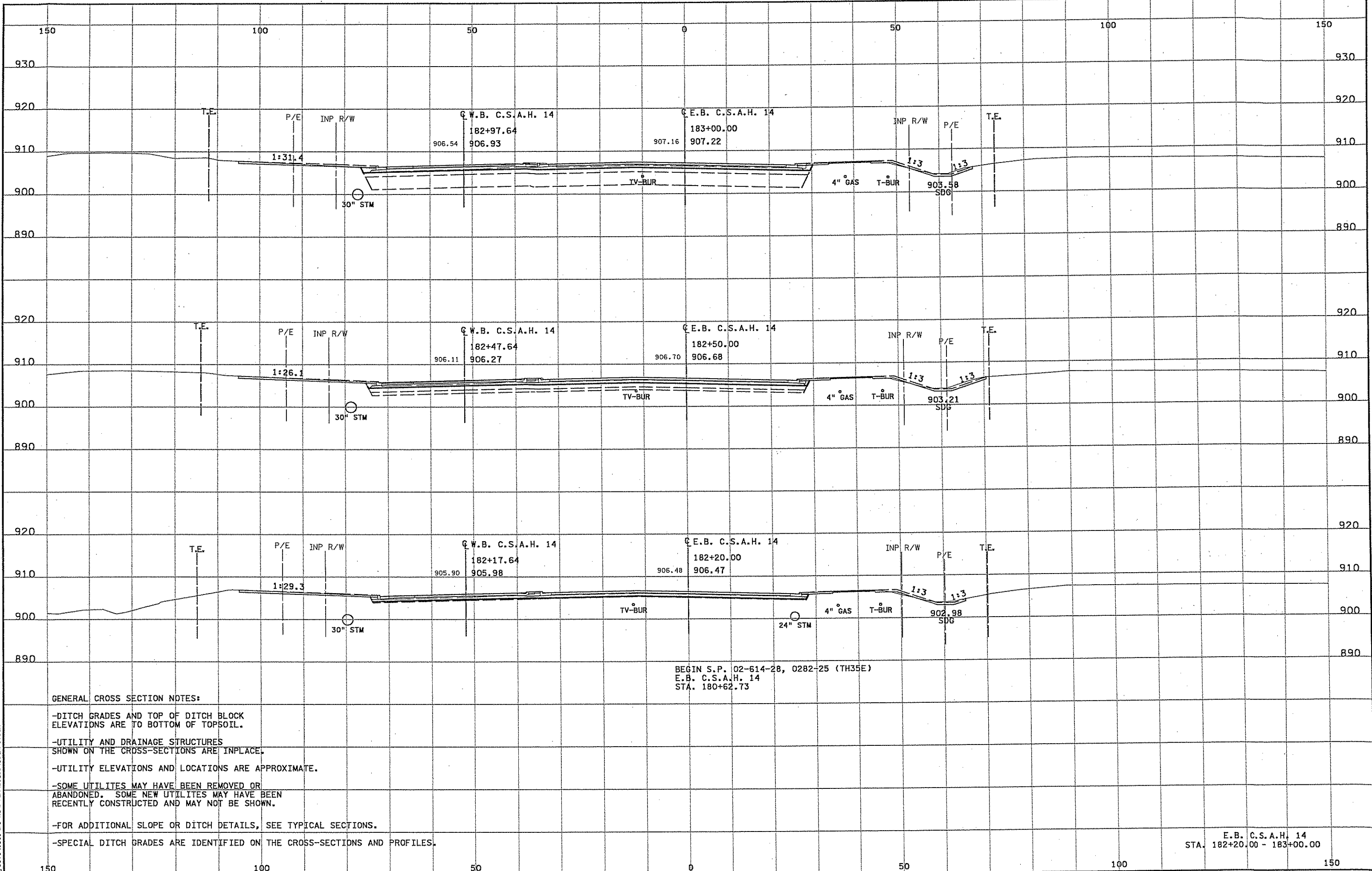
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: **AARON VACEK**
 Date: *5-22-09* License # **44277**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO. X
 CITY PROJECT NO. X
 DRAWN BY V. MICHELS
 DESIGNED BY A. VACEK
 CHECKED BY K. KRECH
 COMM. NO. 0086509



ANOKA COUNTY
 CROSS SECTION LAYOUT PLAN
 C.S.A.H. 14/T.H. 35E INTERCHANGE

SHEET
338
 OF
471



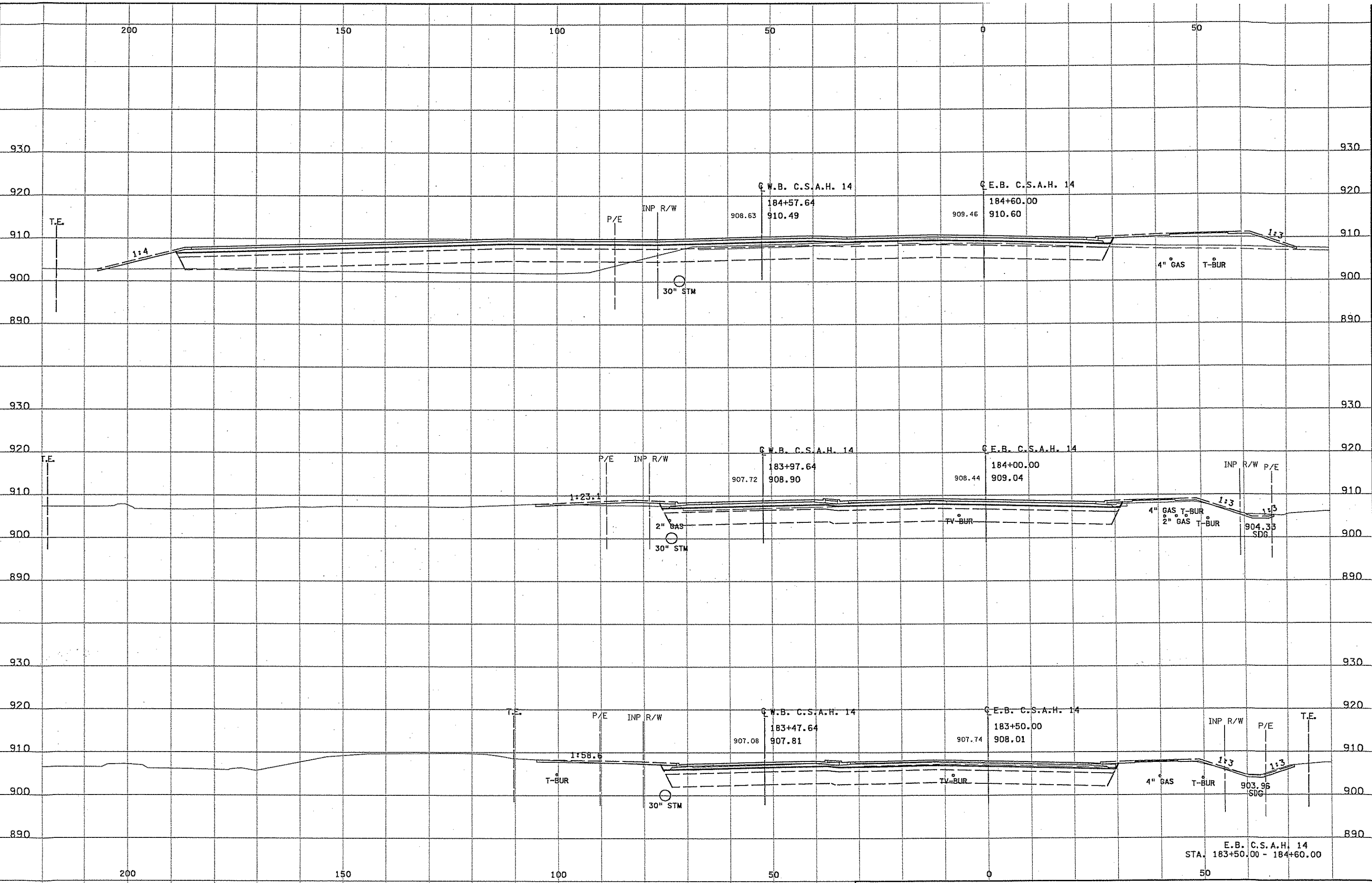
BEGIN S.P. 02-614-28, 0282-25 (TH35E)
 E.B. C.S.A.H. 14
 STA. 180+62.73

- GENERAL CROSS SECTION NOTES:**
- DITCH GRADES AND TOP OF DITCH BLOCK ELEVATIONS ARE TO BOTTOM OF TOPSOIL.
 - UTILITY AND DRAINAGE STRUCTURES SHOWN ON THE CROSS-SECTIONS ARE INPLACE.
 - UTILITY ELEVATIONS AND LOCATIONS ARE APPROXIMATE.
 - SOME UTILITIES MAY HAVE BEEN REMOVED OR ABANDONED. SOME NEW UTILITIES MAY HAVE BEEN RECENTLY CONSTRUCTED AND MAY NOT BE SHOWN.
 - FOR ADDITIONAL SLOPE OR DITCH DETAILS, SEE TYPICAL SECTIONS.
 - SPECIAL DITCH GRADES ARE IDENTIFIED ON THE CROSS-SECTIONS AND PROFILES.

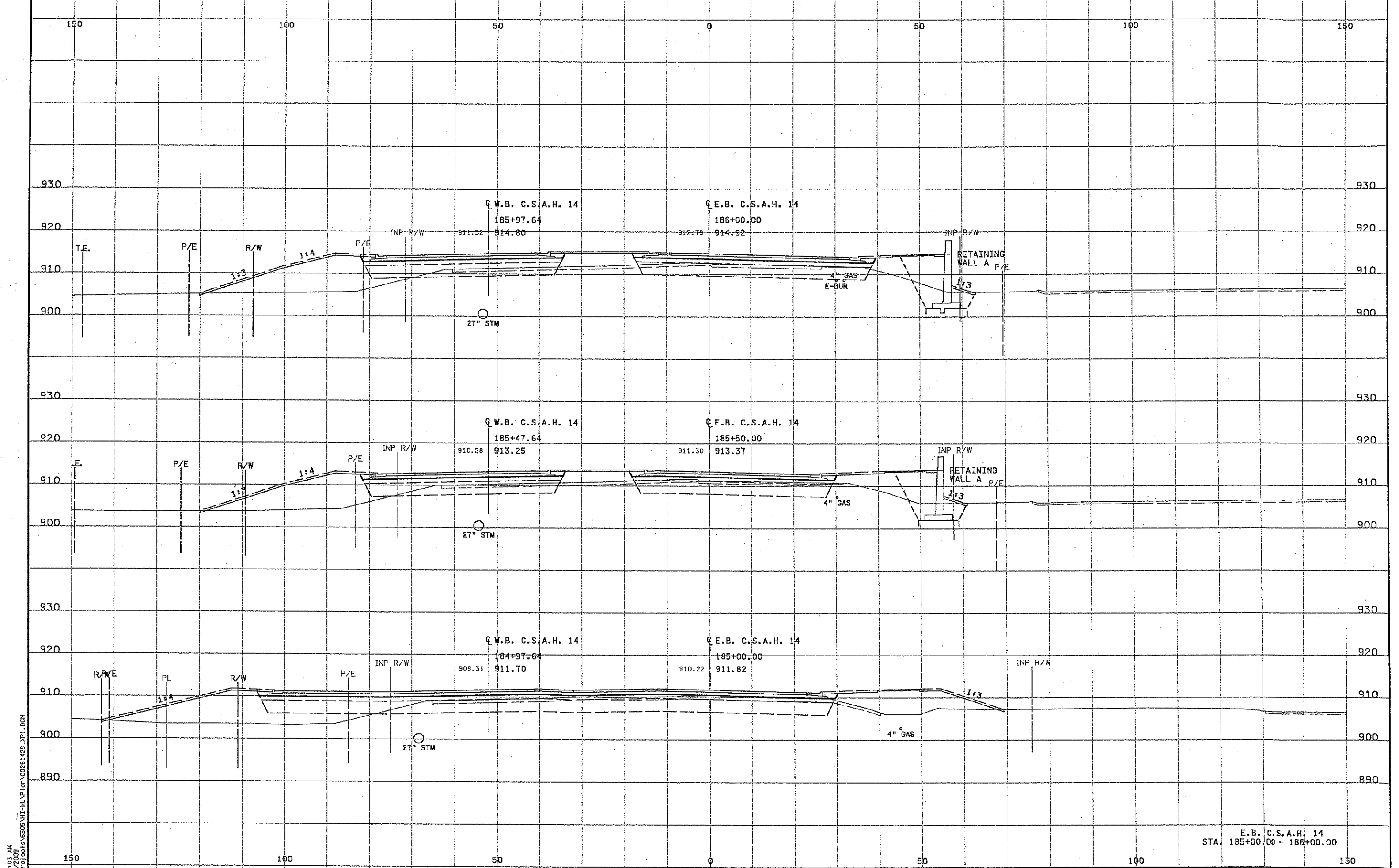
E.B. C.S.A.H. 14
 STA. 182+20.00 - 183+00.00

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8/19/2009
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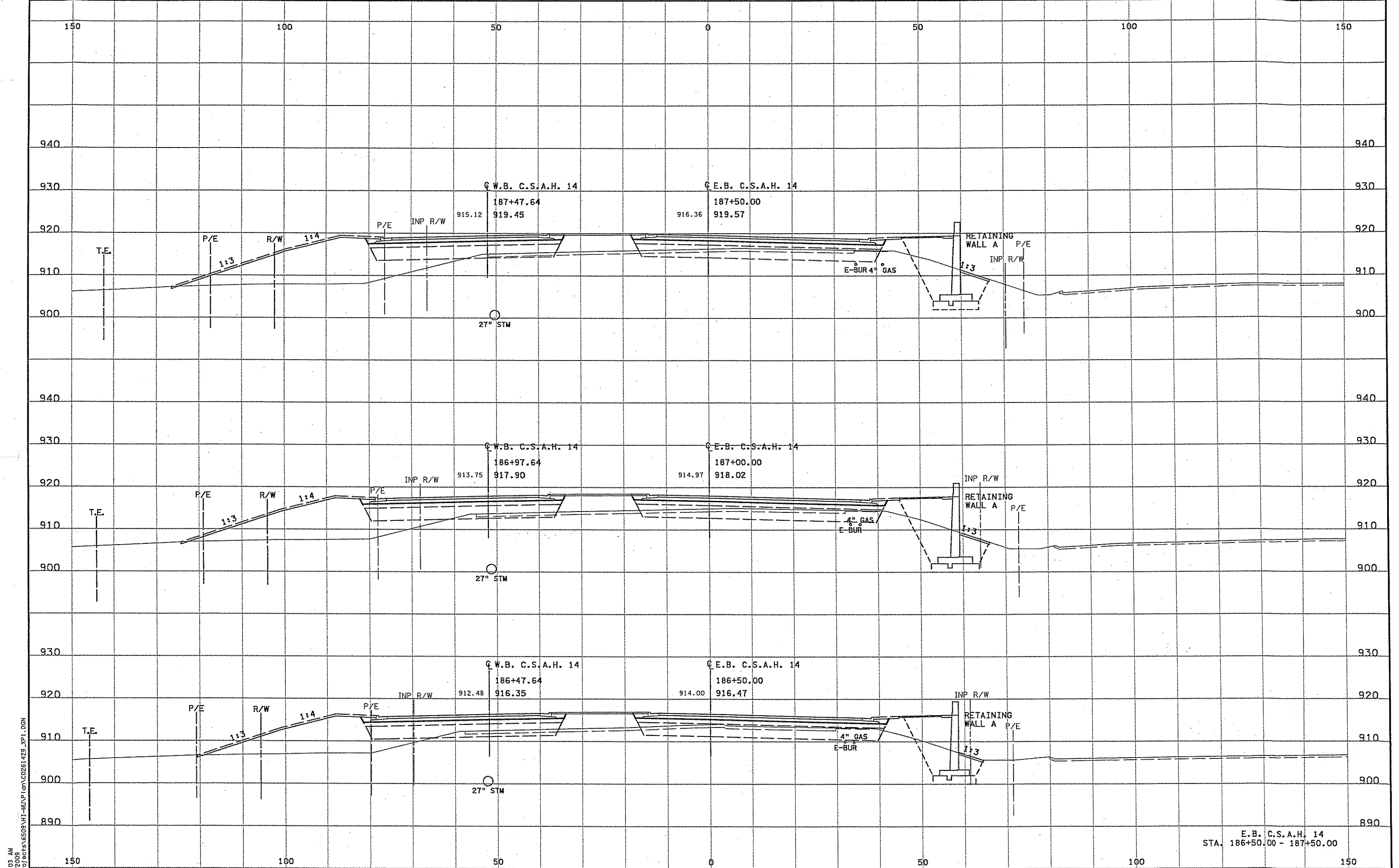


E.B. C.S.A.H. 14
STA. 183+50.00 - 184+60.00



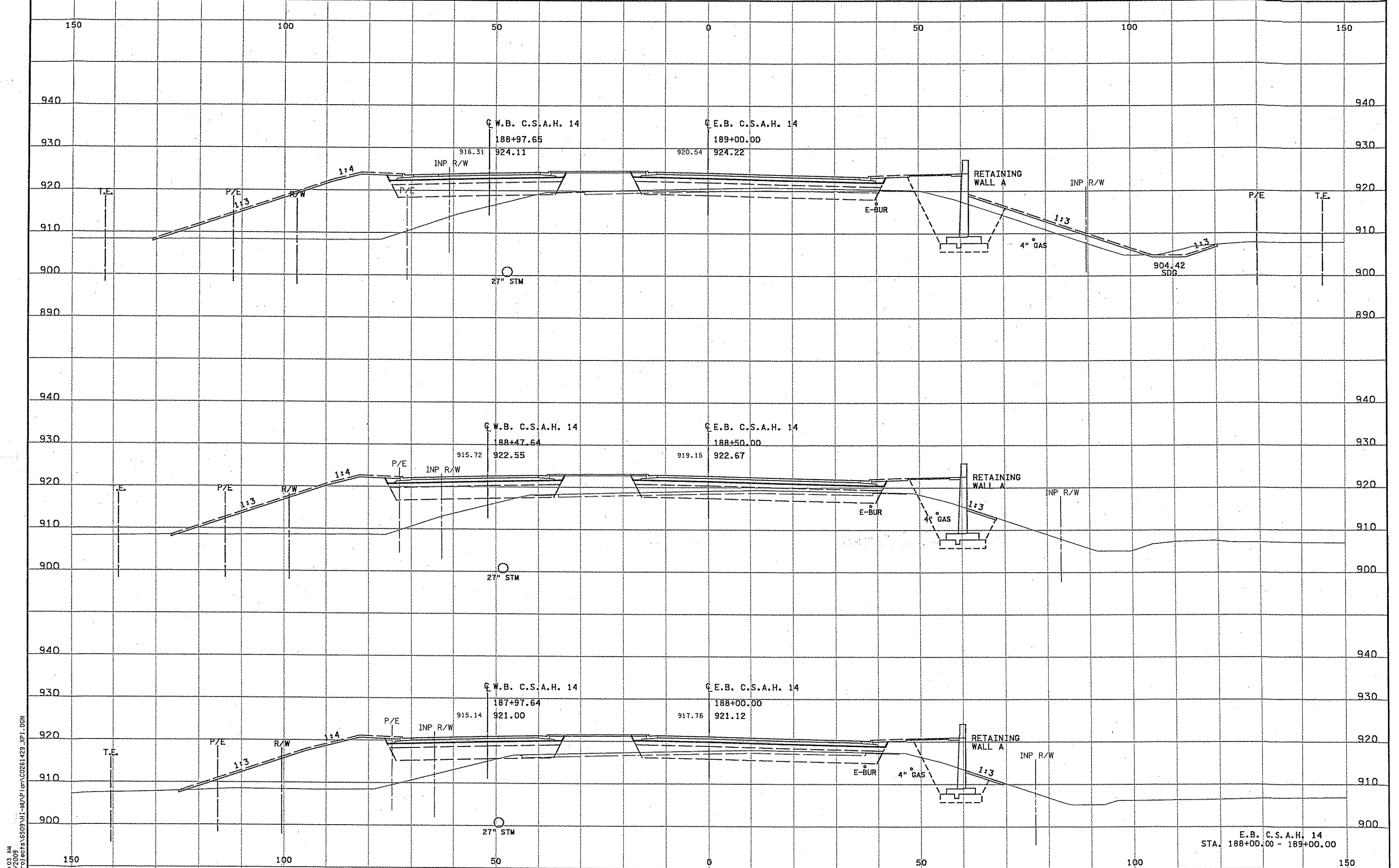
E.B. C.S.A.H. 14
STA. 185+00.00 - 186+00.00

9/26/03 AM
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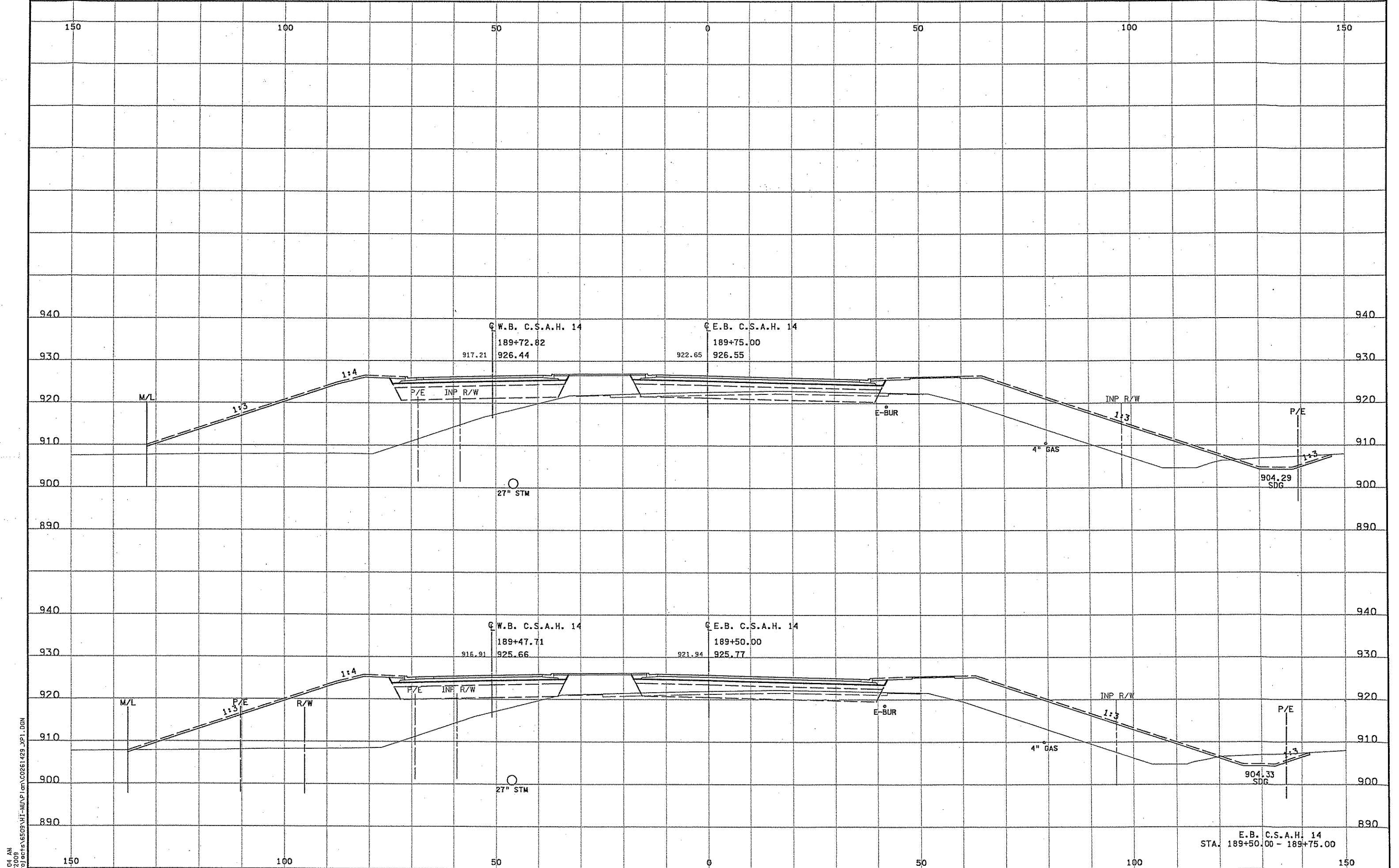
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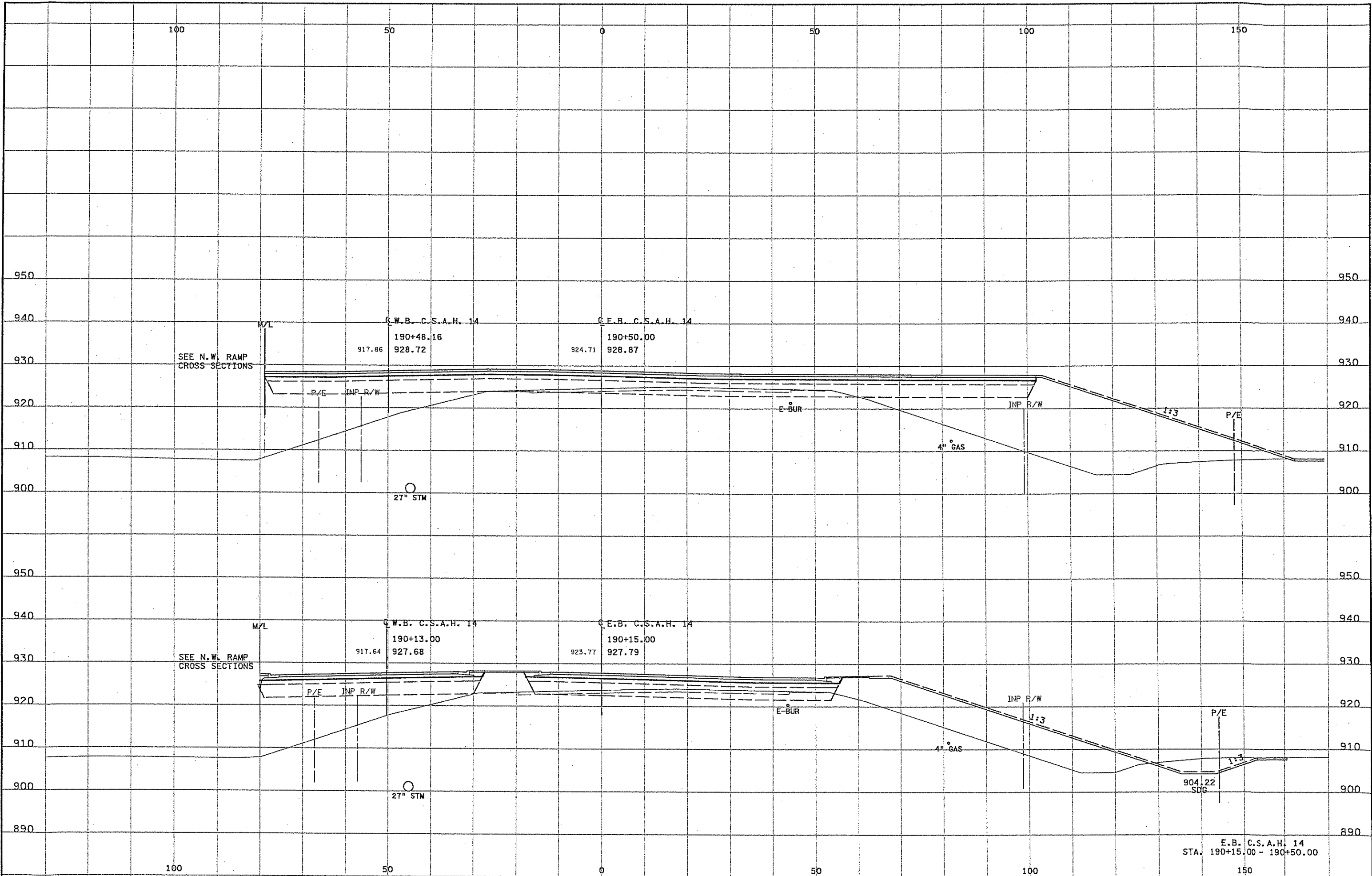
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STA. 188+00.00 - 189+00.00

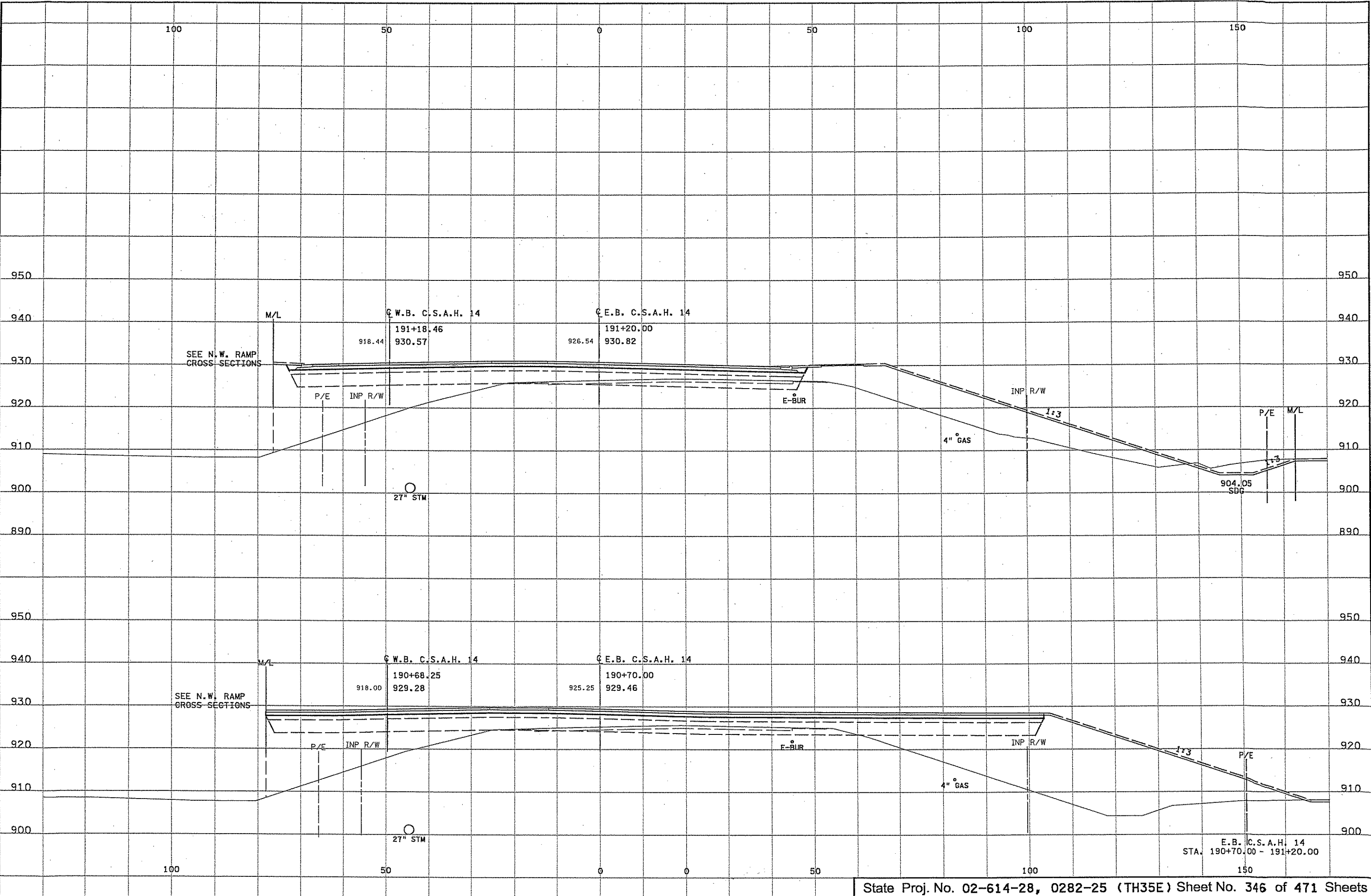
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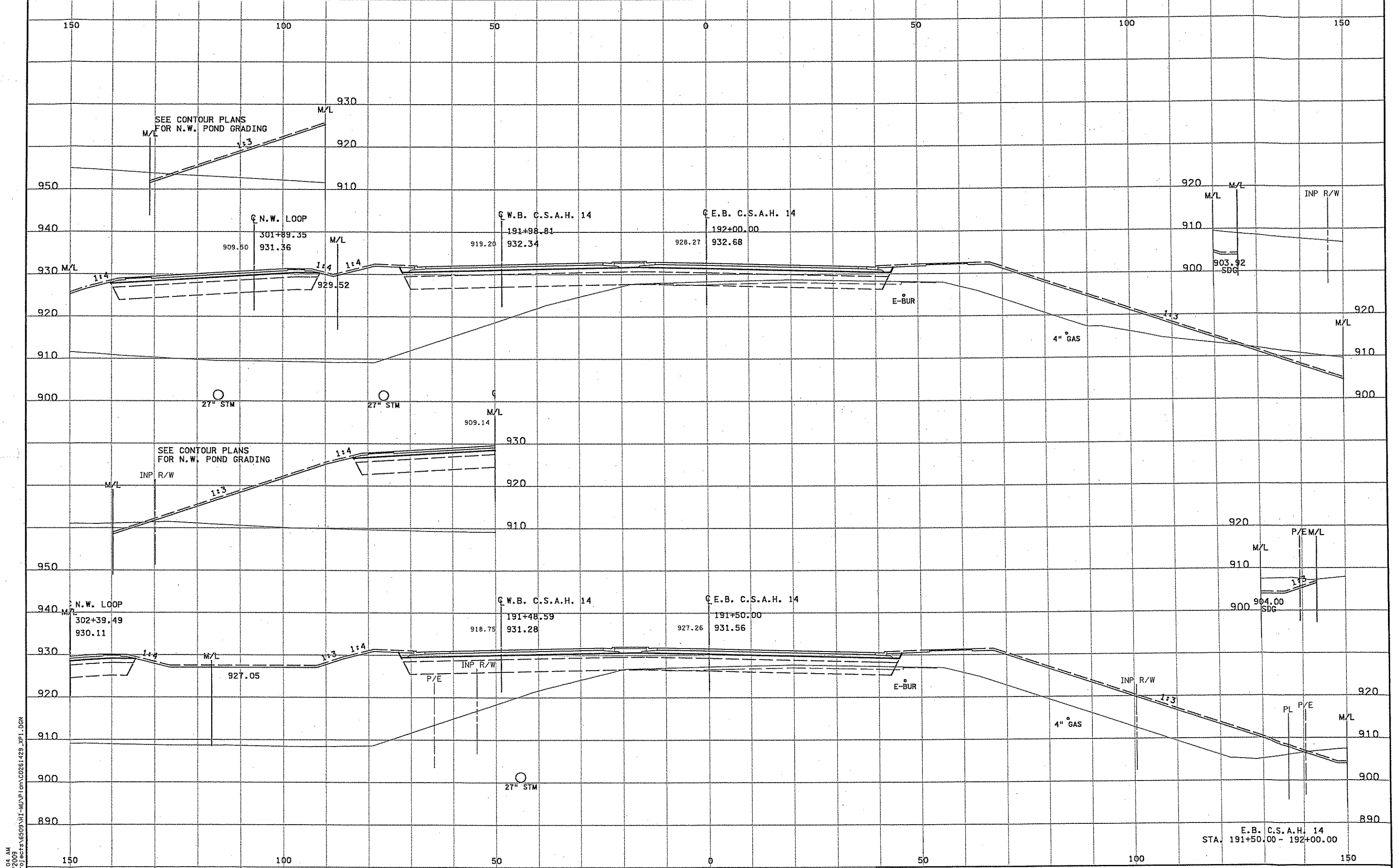
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8/18/2009
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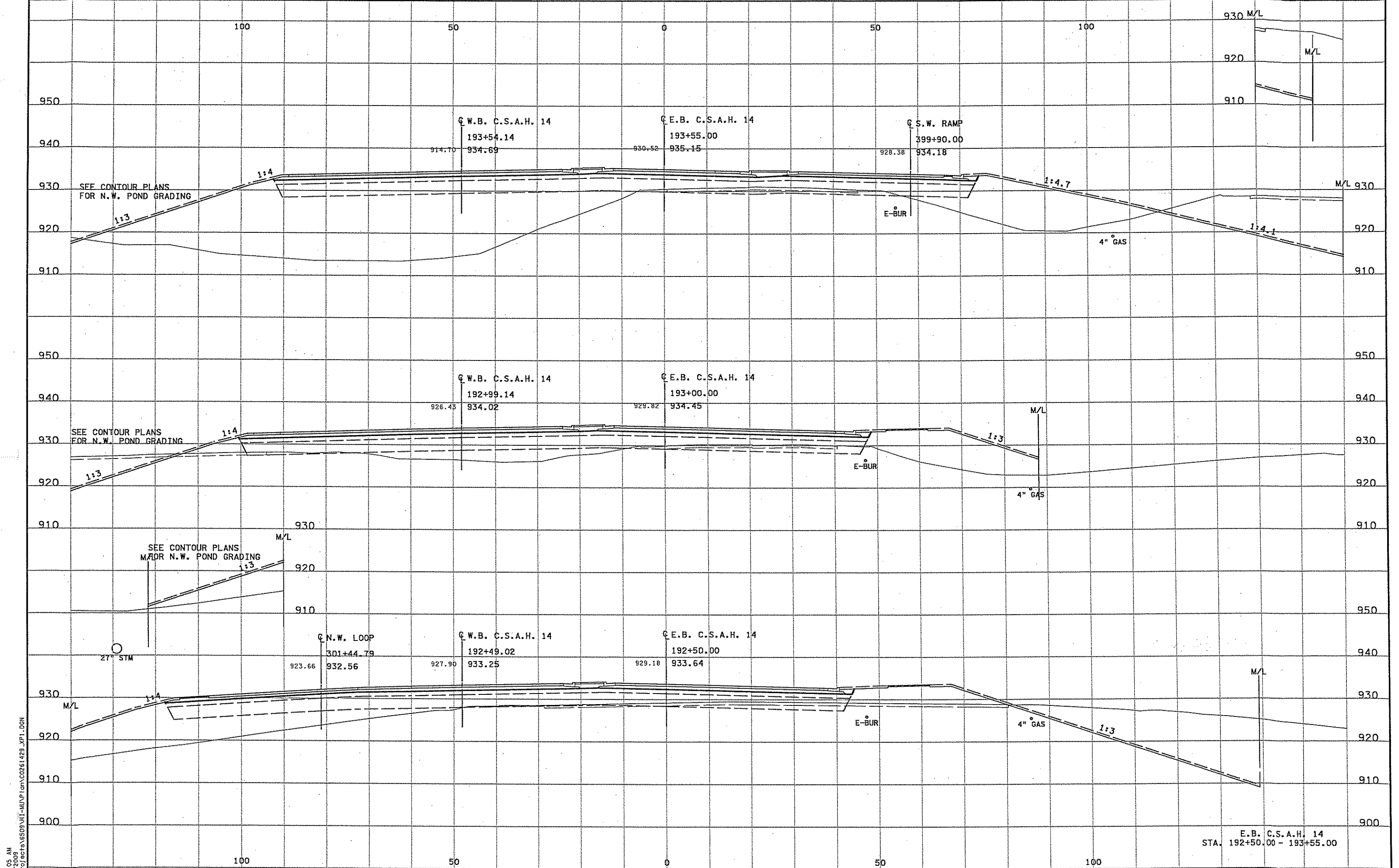


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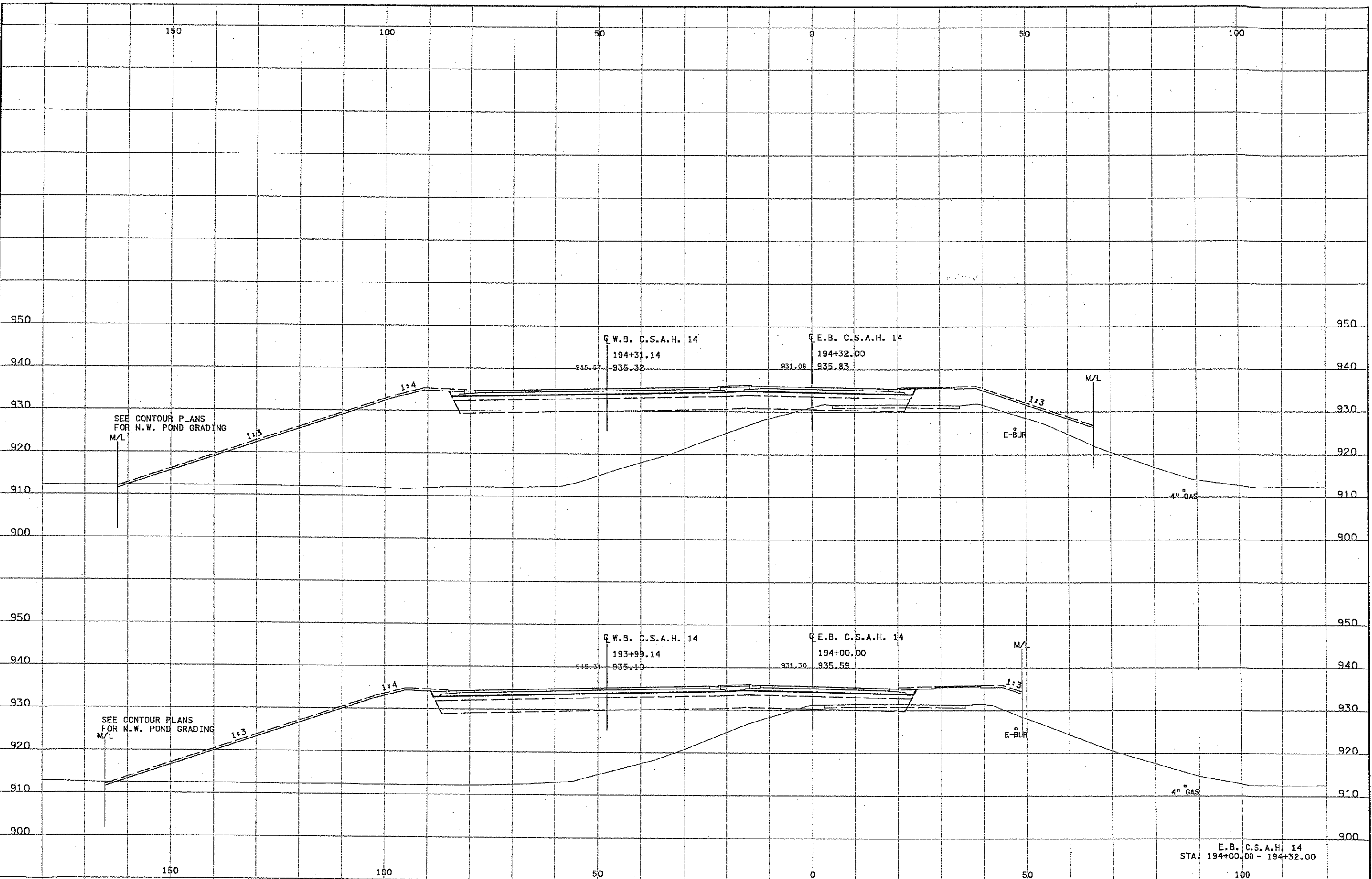
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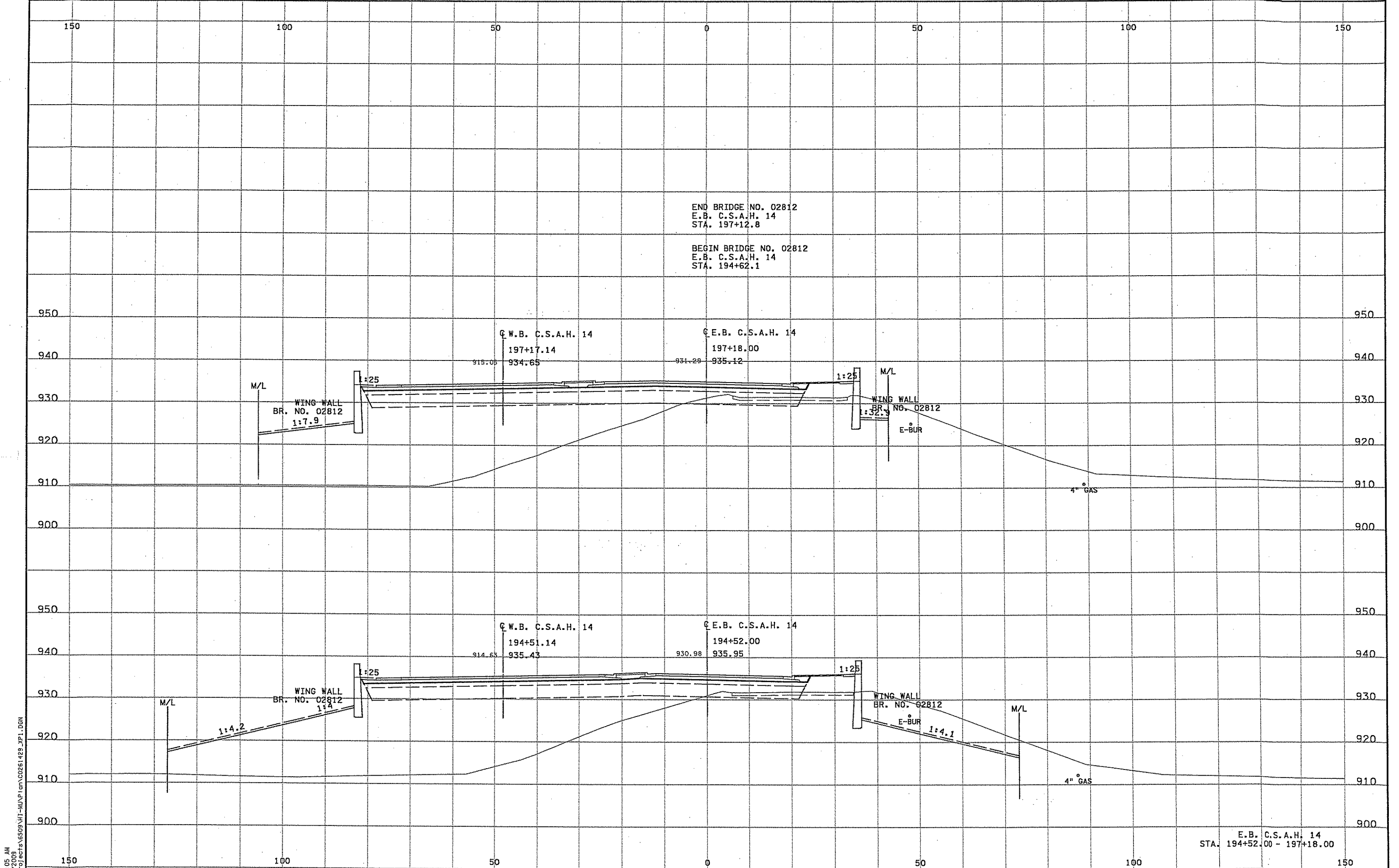
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E.B. C.S.A.H. 14
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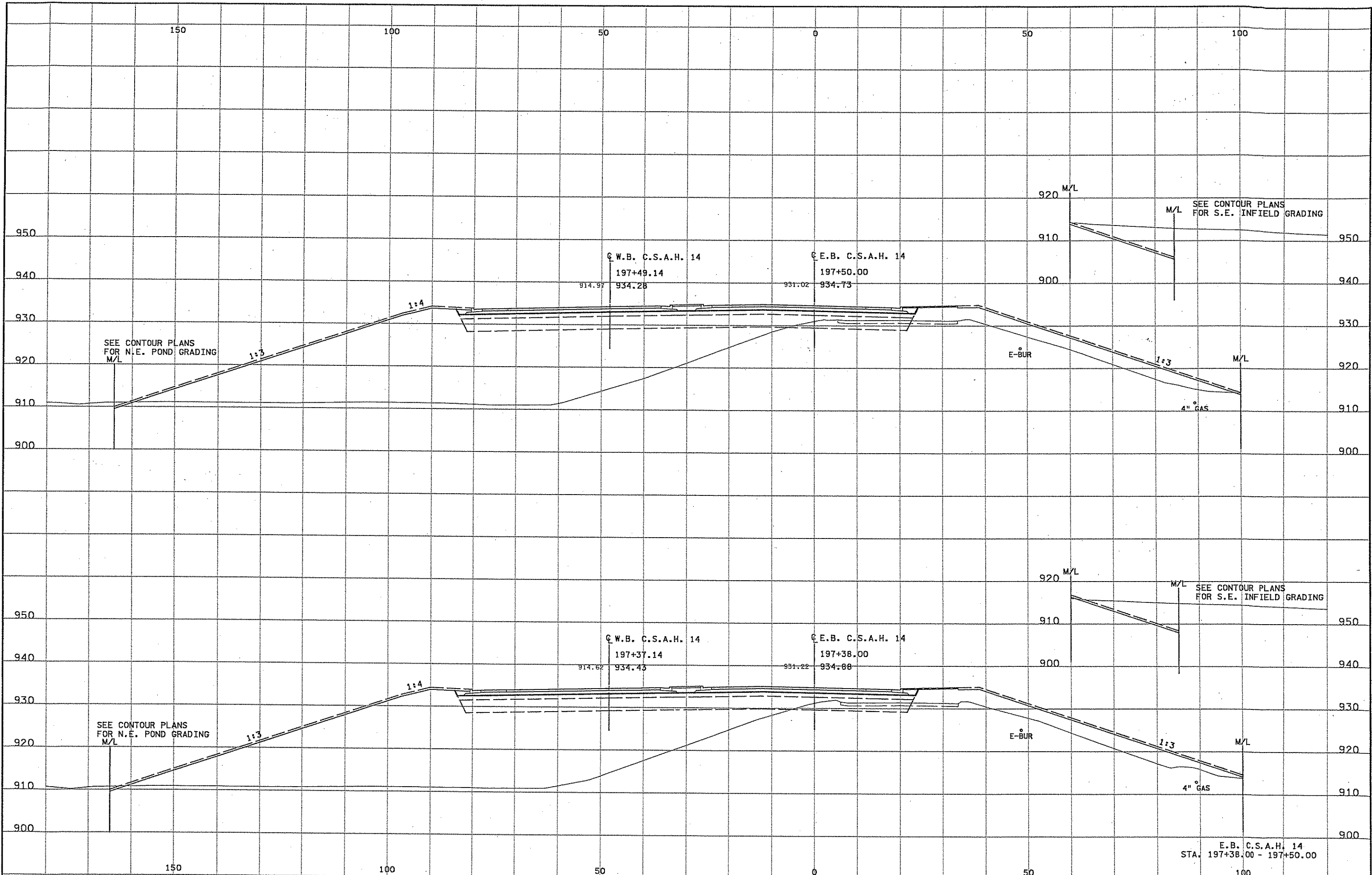


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STA. 194+00.00 - 194+32.00



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8/19/2009
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150

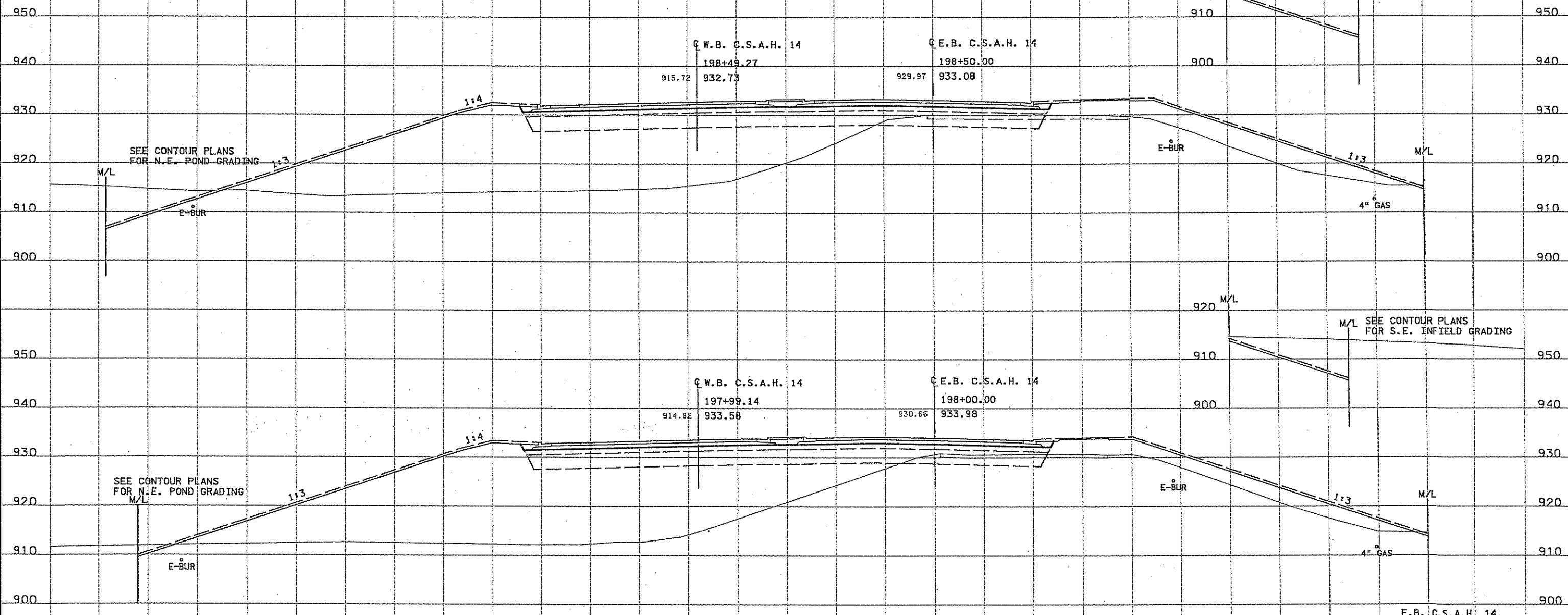
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SEE CONTOUR PLANS FOR N.E. POND GRADING

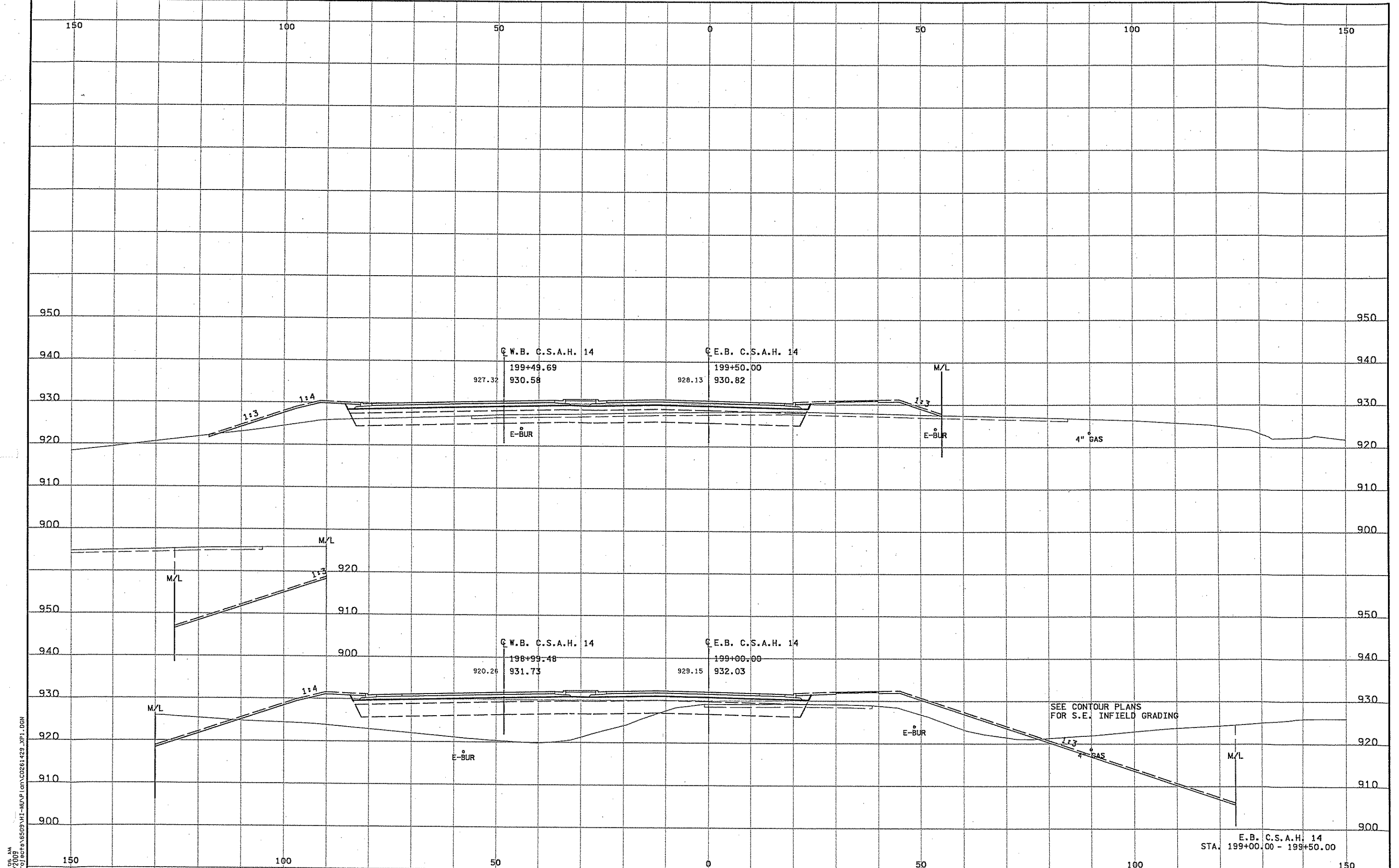
SEE CONTOUR PLANS FOR S.E. INFIELD GRADING

SEE CONTOUR PLANS FOR N.E. POND GRADING

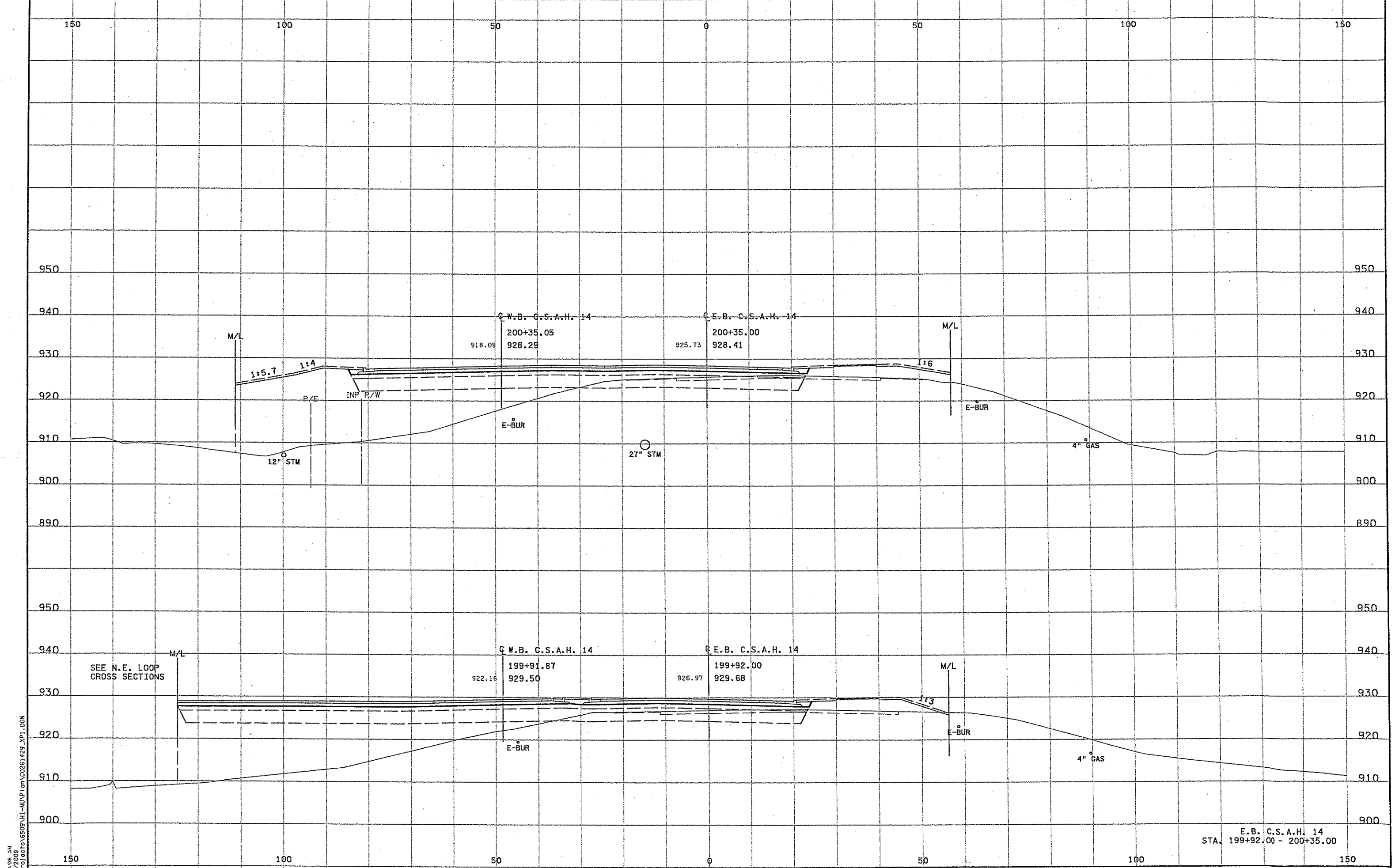
SEE CONTOUR PLANS FOR S.E. INFIELD GRADING

E.B. C.S.A.H. 14
STA. 198+00.00 - 198+50.00

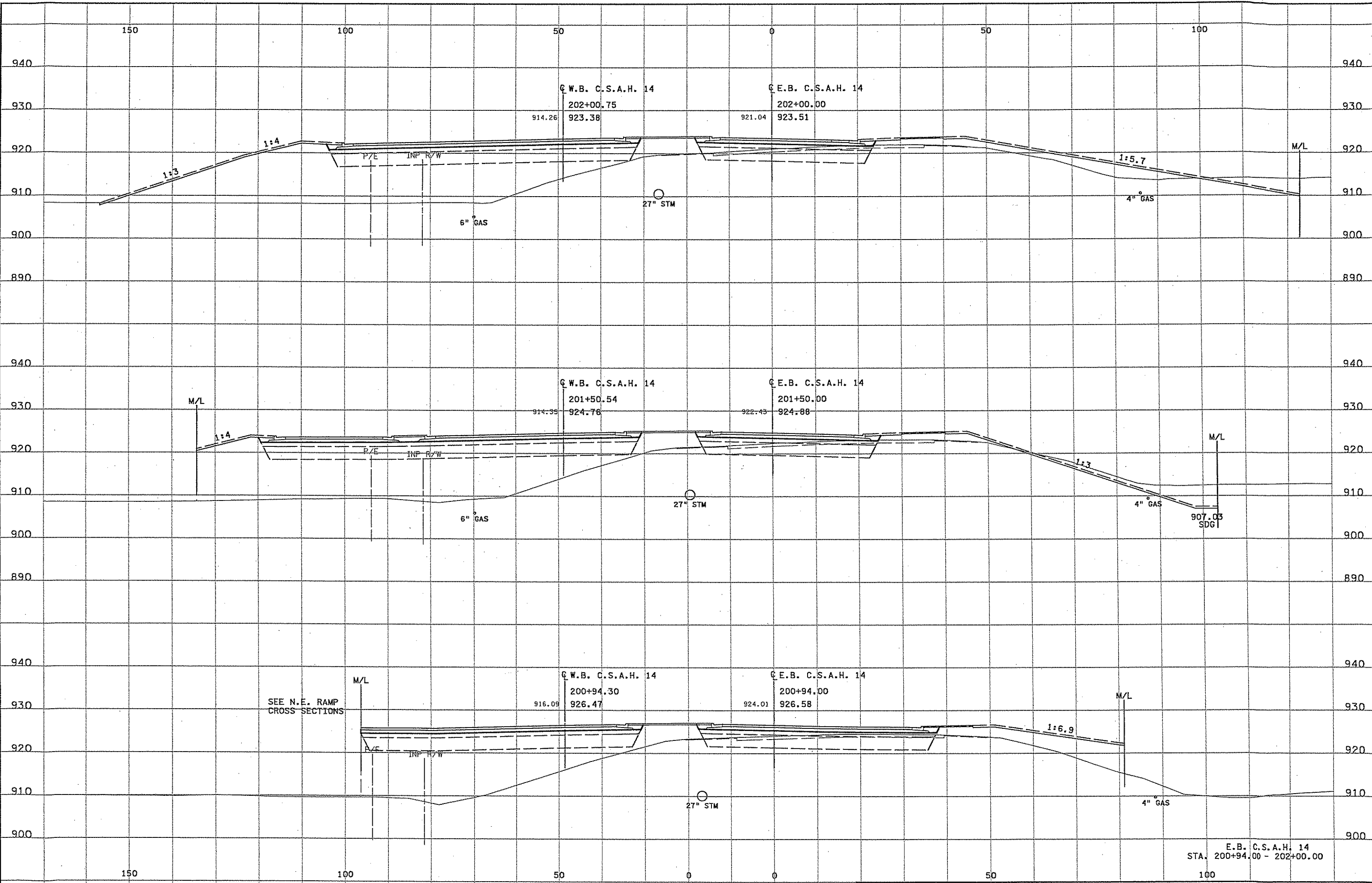
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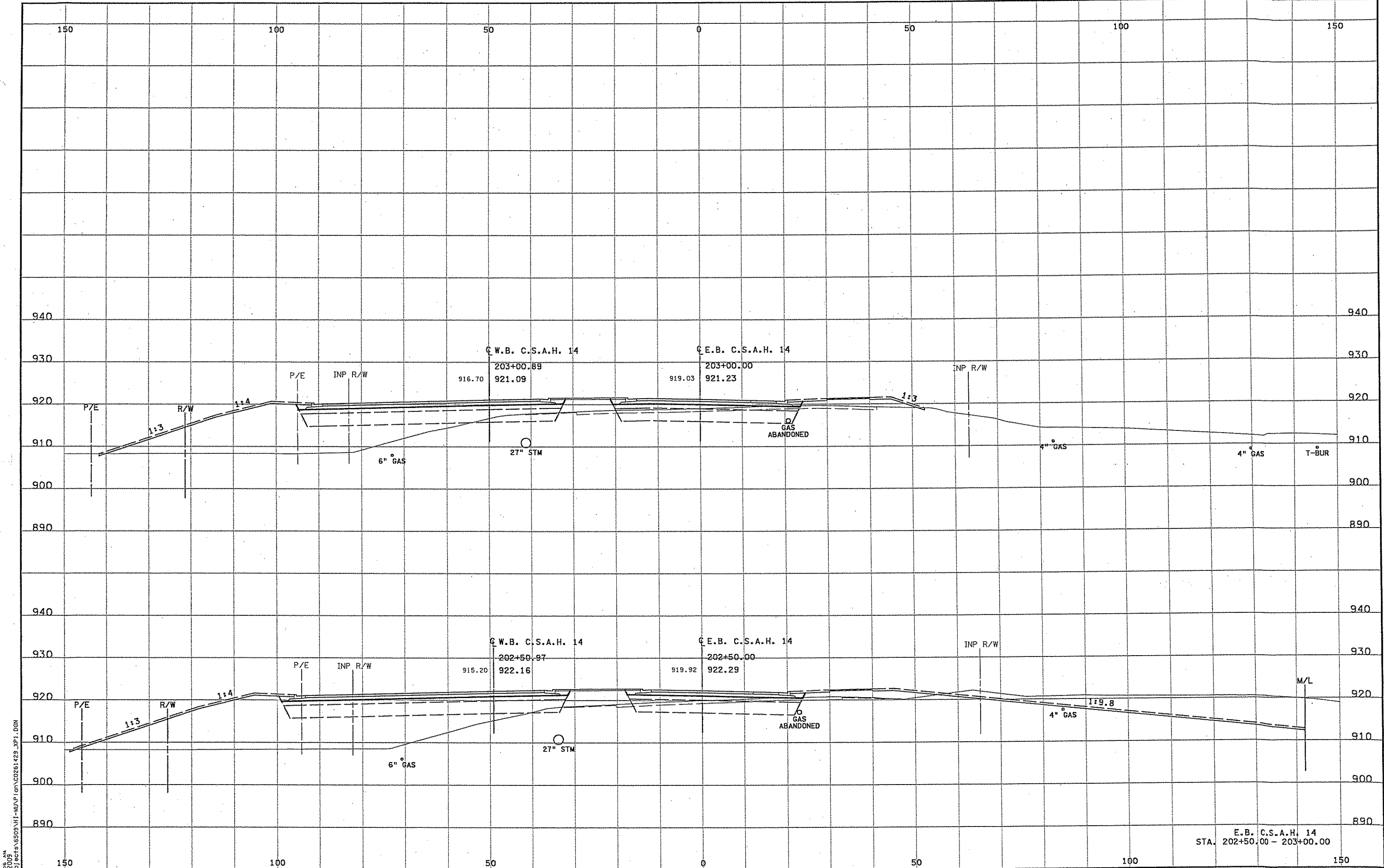
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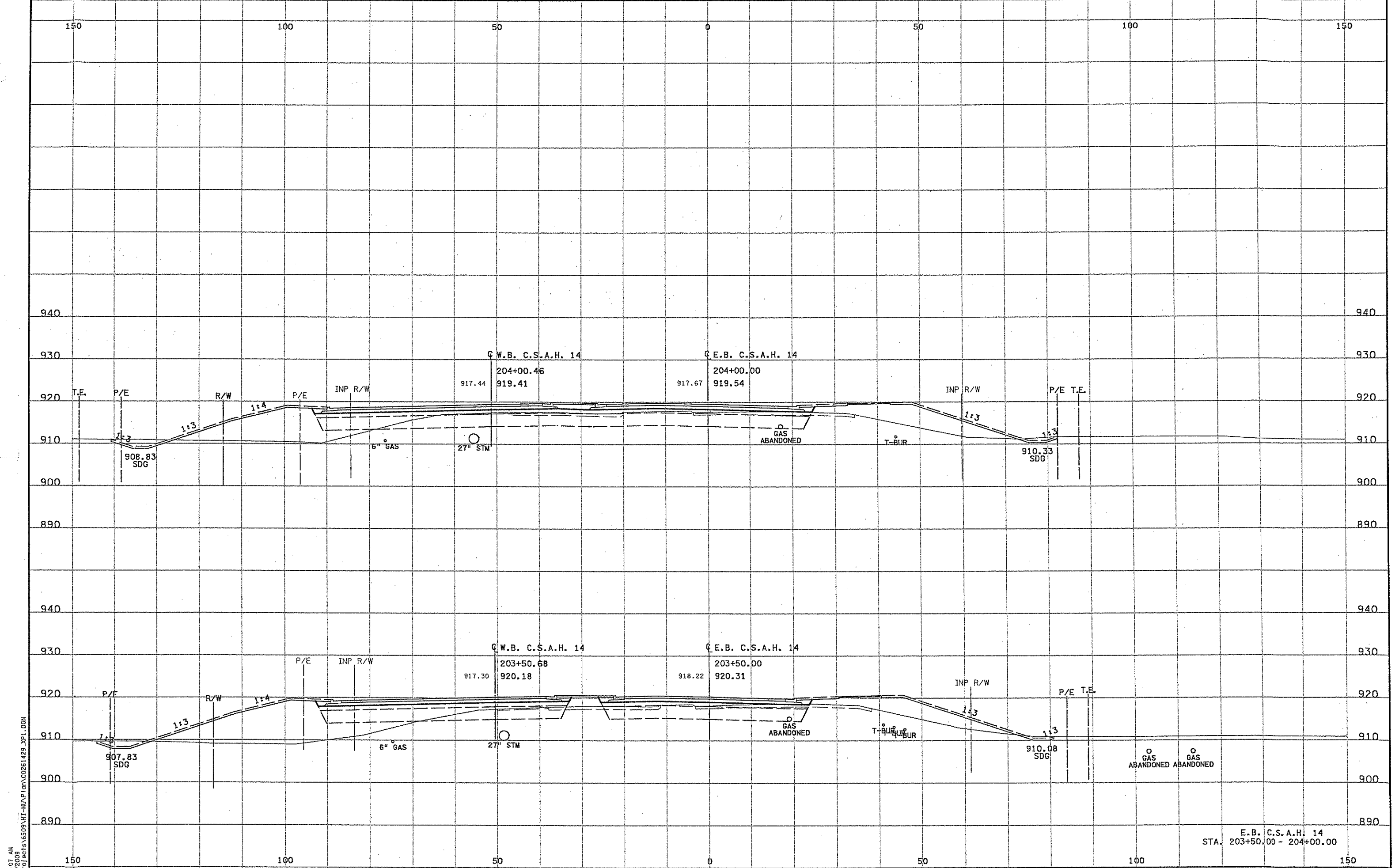


3/28/06 AM
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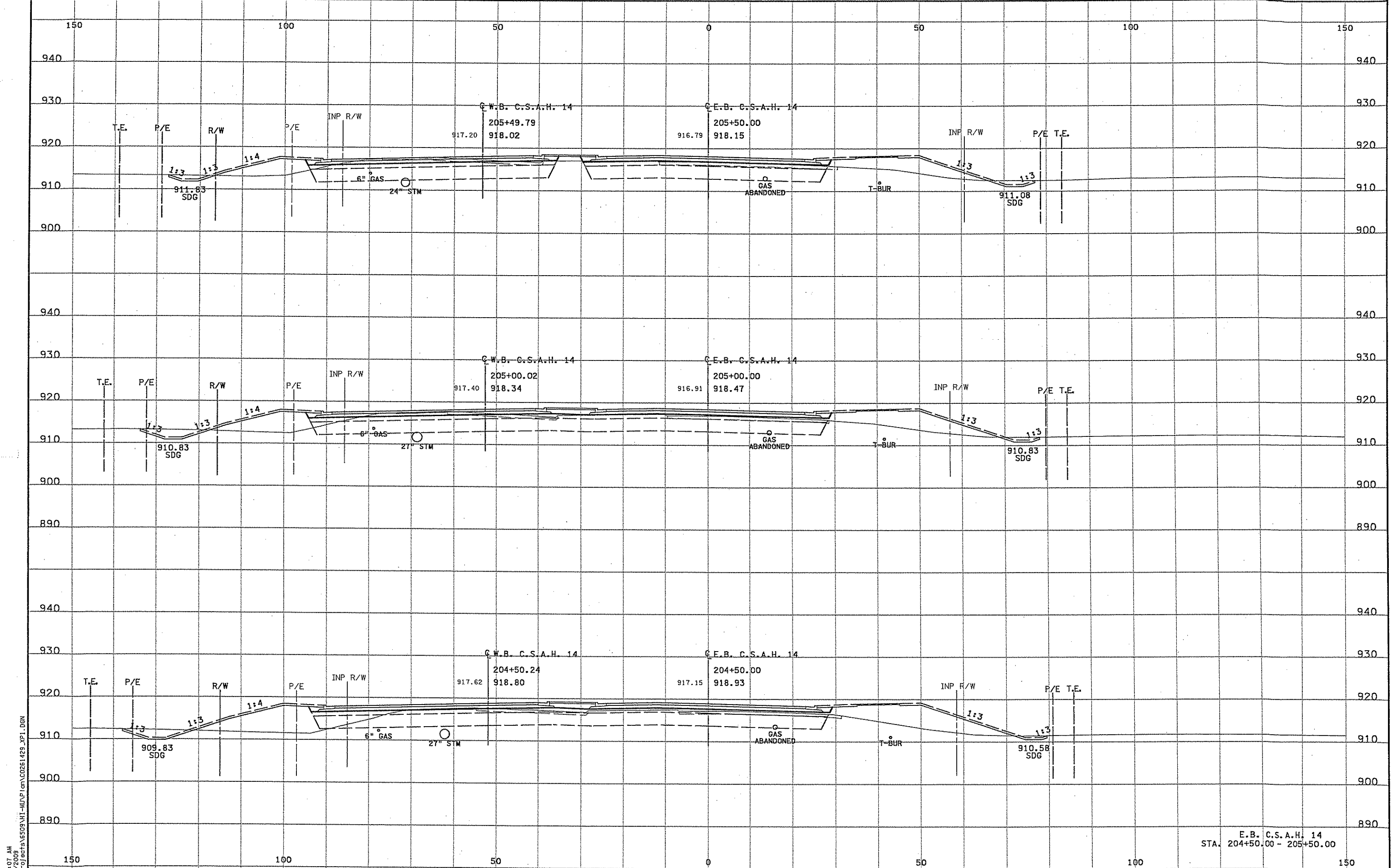
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E.B. C.S.A.H. 14
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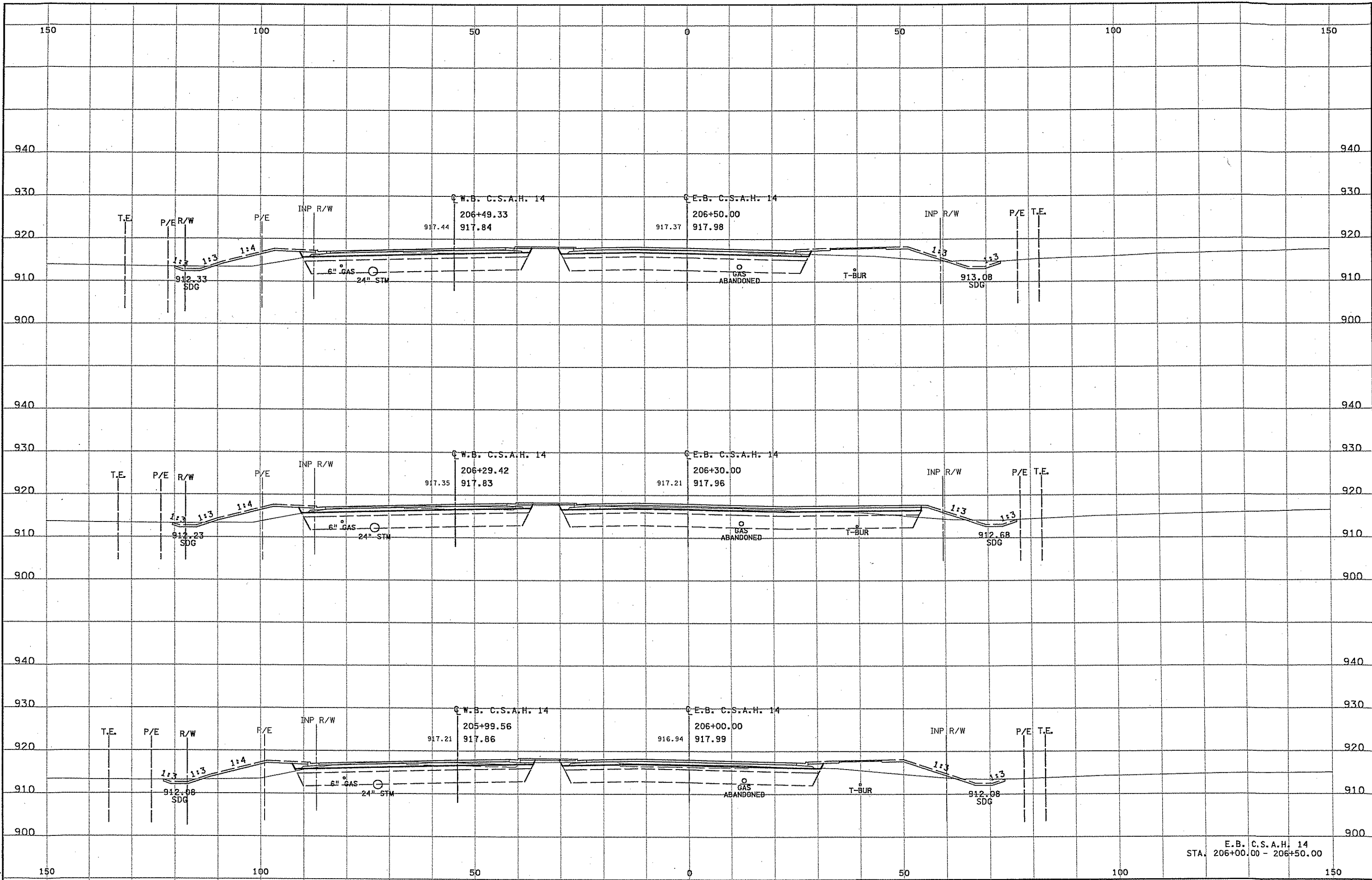
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 STA. 203+50.00 - 204+00.00



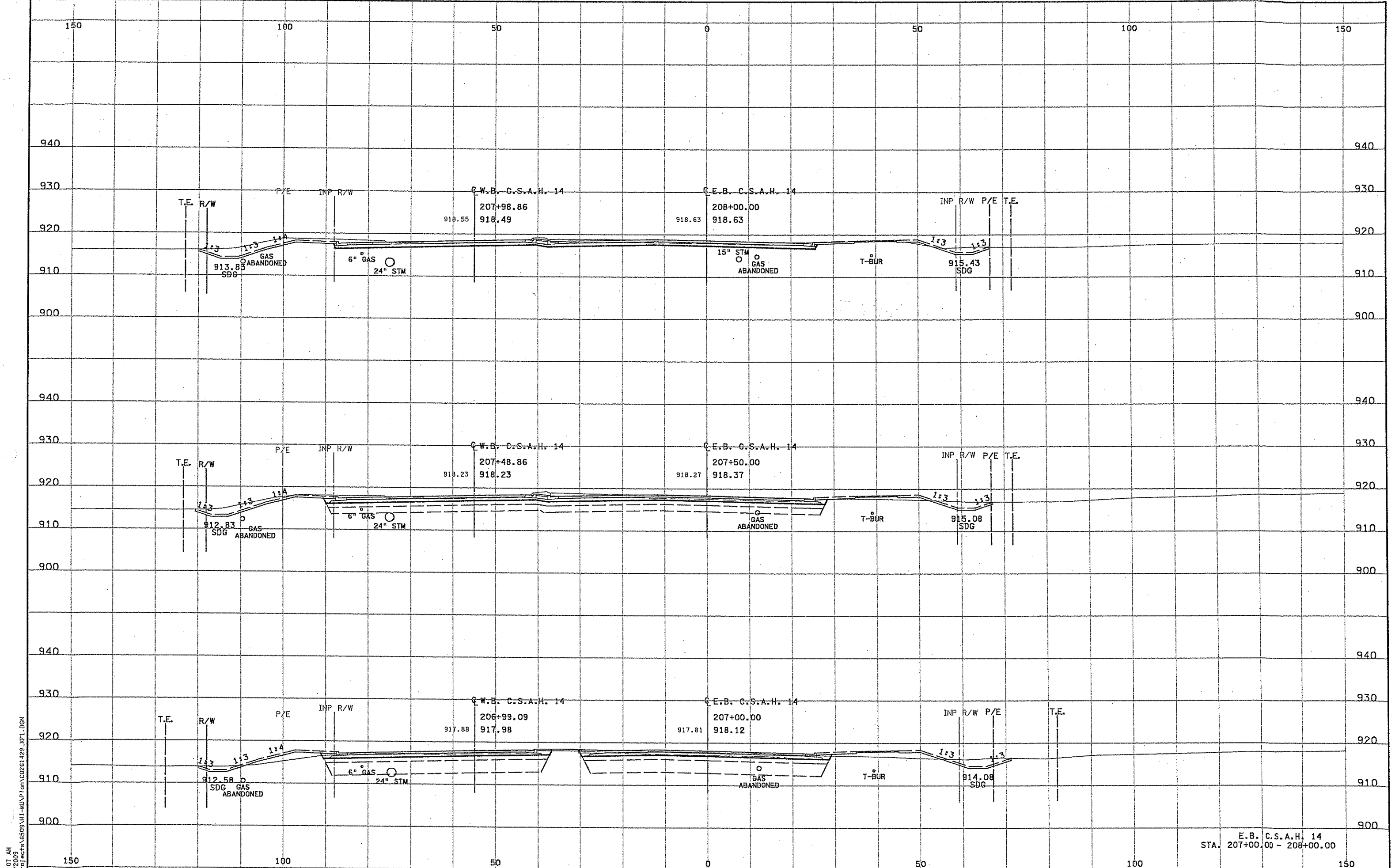
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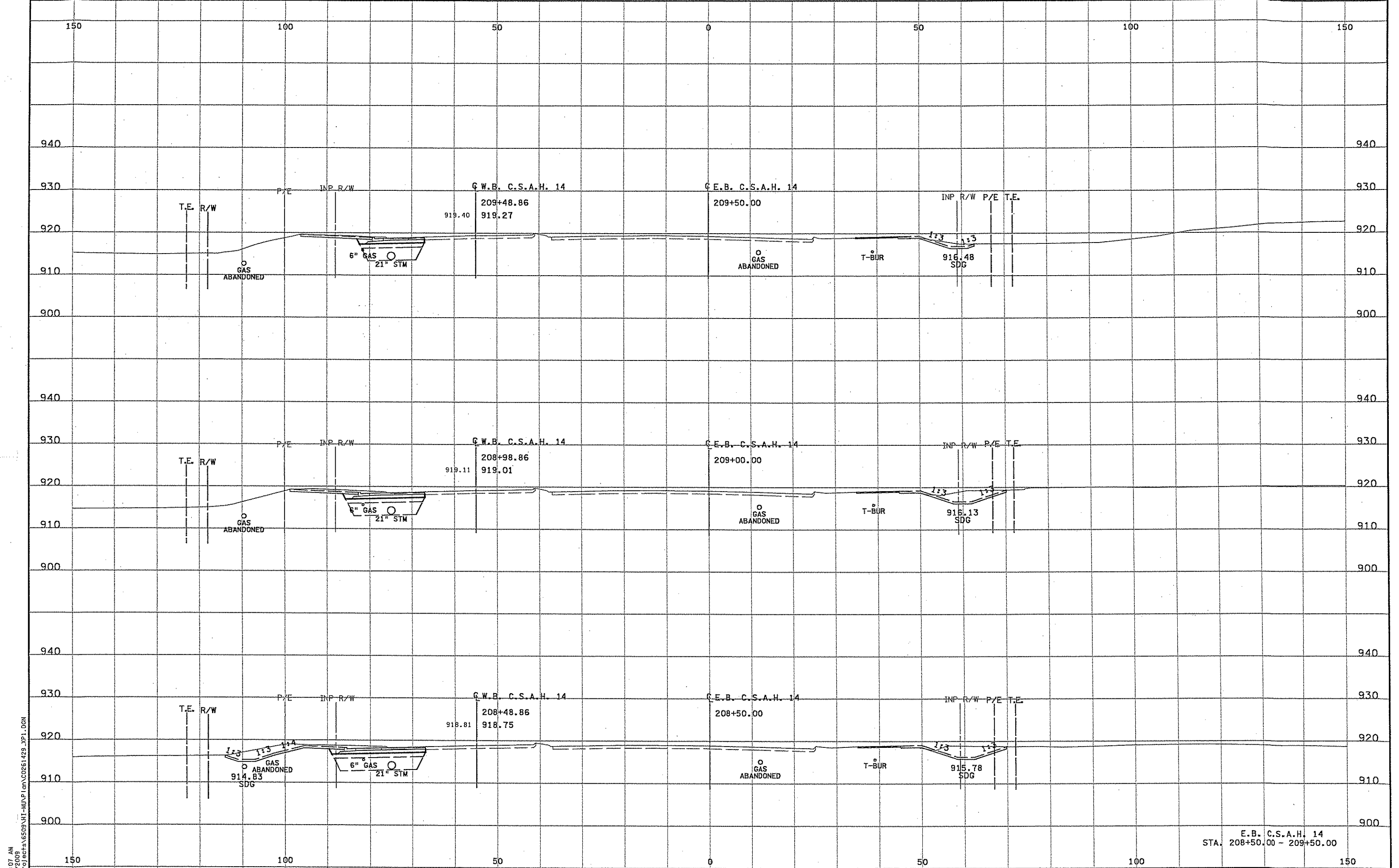


E.B. C.S.A.H. 14
STA. 206+00.00 - 206+50.00



9/18/07 AM
 8/19/2008
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E.B. C.S.A.H. 14
 STA. 207+00.00 - 208+00.00



E.B. C.S.A.H. 14
 STA. 208+50.00 - 209+50.00

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940 940

930 930

920 920

910 910

900 900

940 940

930 930

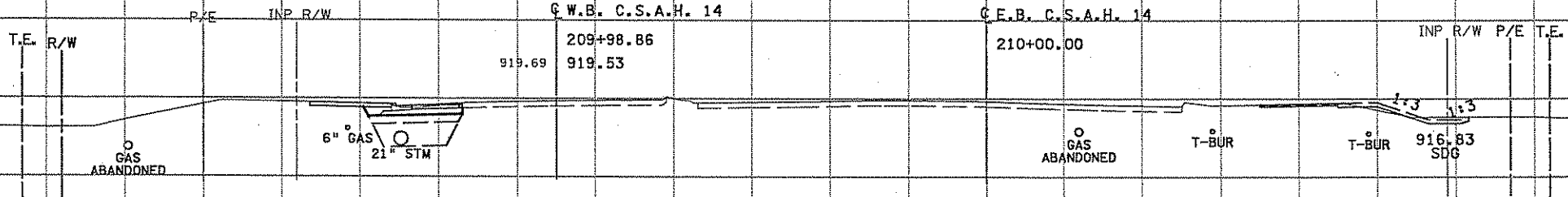
920 920

910 910

900 900

150 100 50 0 50 100 150

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E.B. C.S.A.H. 14
STA. 211+63.20



C.W.B. C.S.A.H. 14

C.E.B. C.S.A.H. 14

209+98.86
919.53

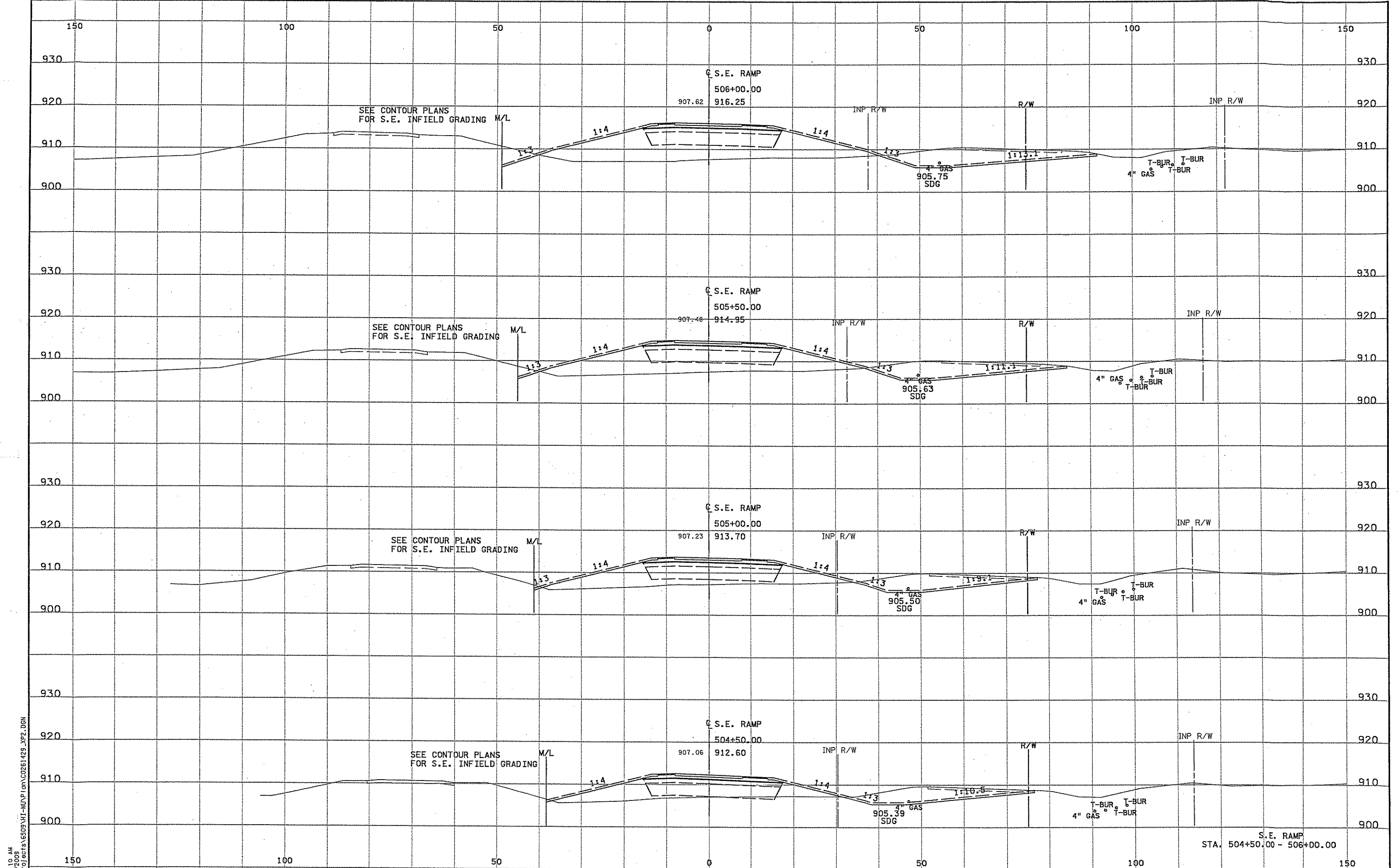
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INP. R/W P/E T.E.

916.83
SDG

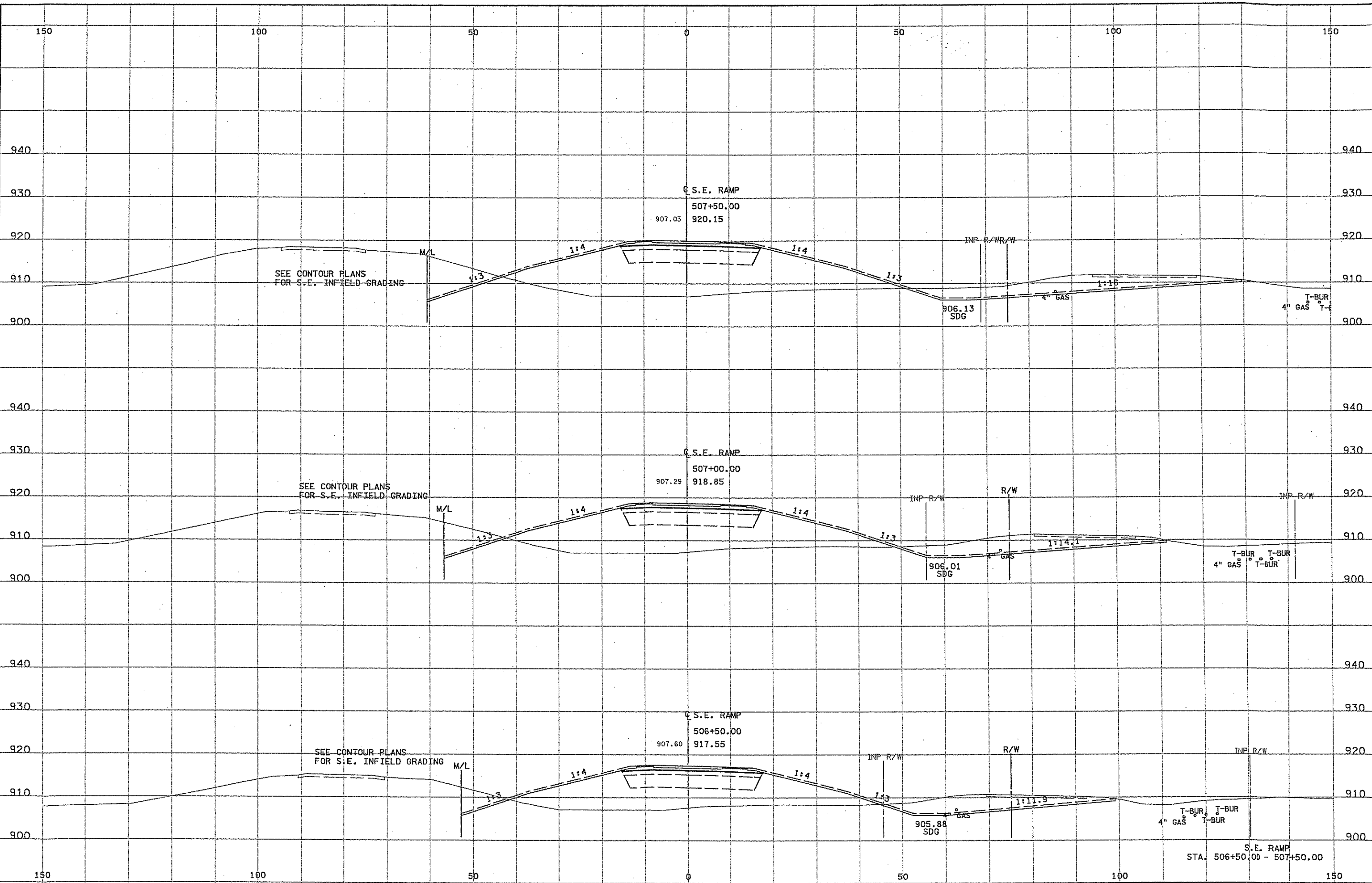
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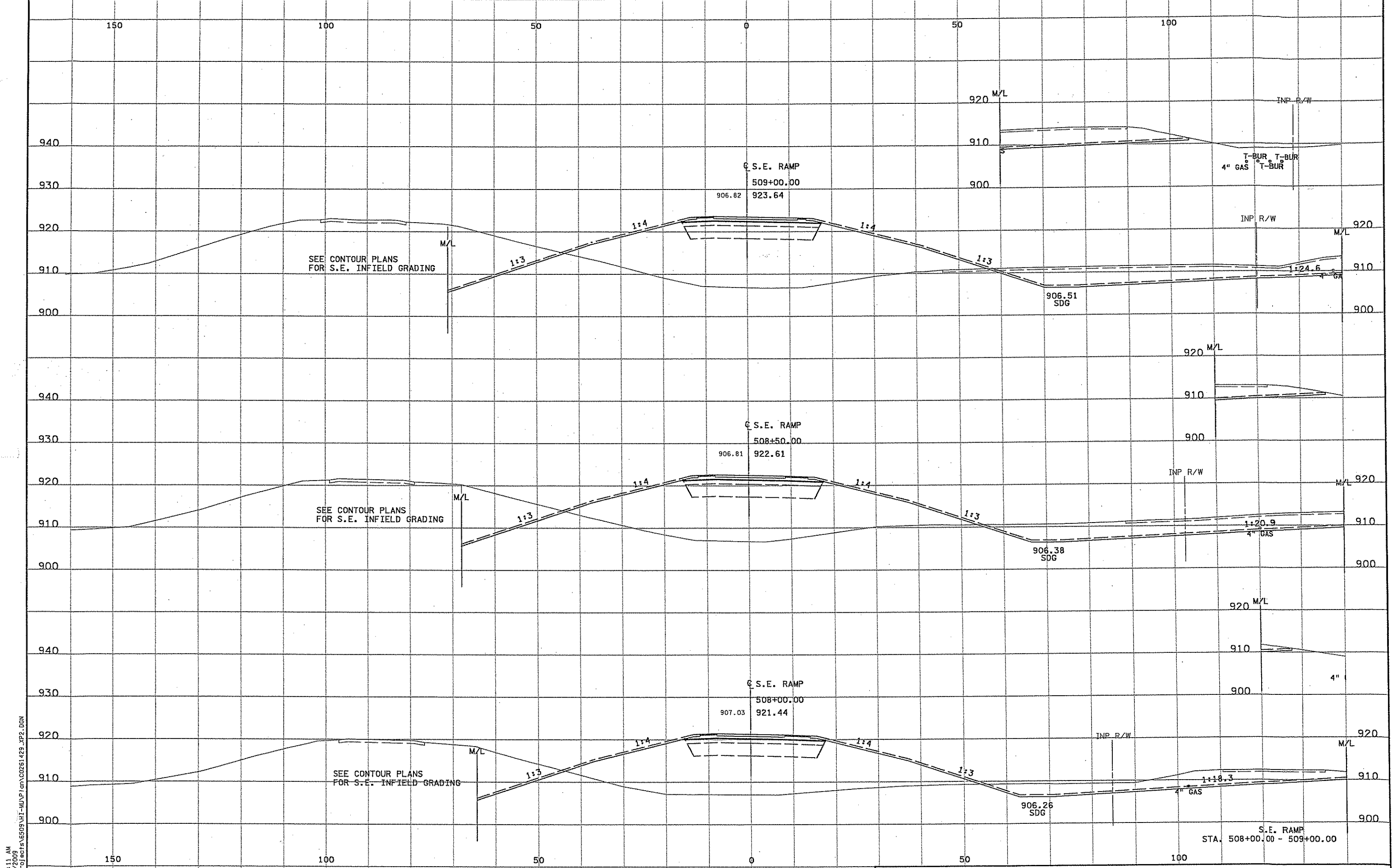
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9:58:11 AM
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9:58:11 AM
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150

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100

940

930

920

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940

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920

910

900

940

930

920

910

900

M/L

920

910

900

INP R/W

1:33.2

4" GAS

INP R/W

4" GAS

T-BUR

T-BUR

S.E. RAMP

510+50.00

907.34

925.88

1:4

1:4

1:3

1:3

M/L

SEE CONTOUR PLANS
FOR S.E. INFIELD GRADING

M/L 920

910

900

M/L

920

910

900

INP R/W

1:30.8

4" GAS

4" GAS

T-BUR

T-BUR

S.E. RAMP

510+00.00

907.21

925.28

1:4

1:4

1:3

1:3

M/L

SEE CONTOUR PLANS
FOR S.E. INFIELD GRADING

M/L 920

910

900

M/L

920

910

900

INP R/W

1:25.9

4" GAS

4" GAS

T-BUR

T-BUR

S.E. RAMP

509+50.00

906.99

924.53

1:4

1:4

1:3

1:3

M/L

SEE CONTOUR PLANS
FOR S.E. INFIELD GRADING

M/L 920

910

900

S.E. RAMP
STA. 509+50.00 - 510+50.00

150

100

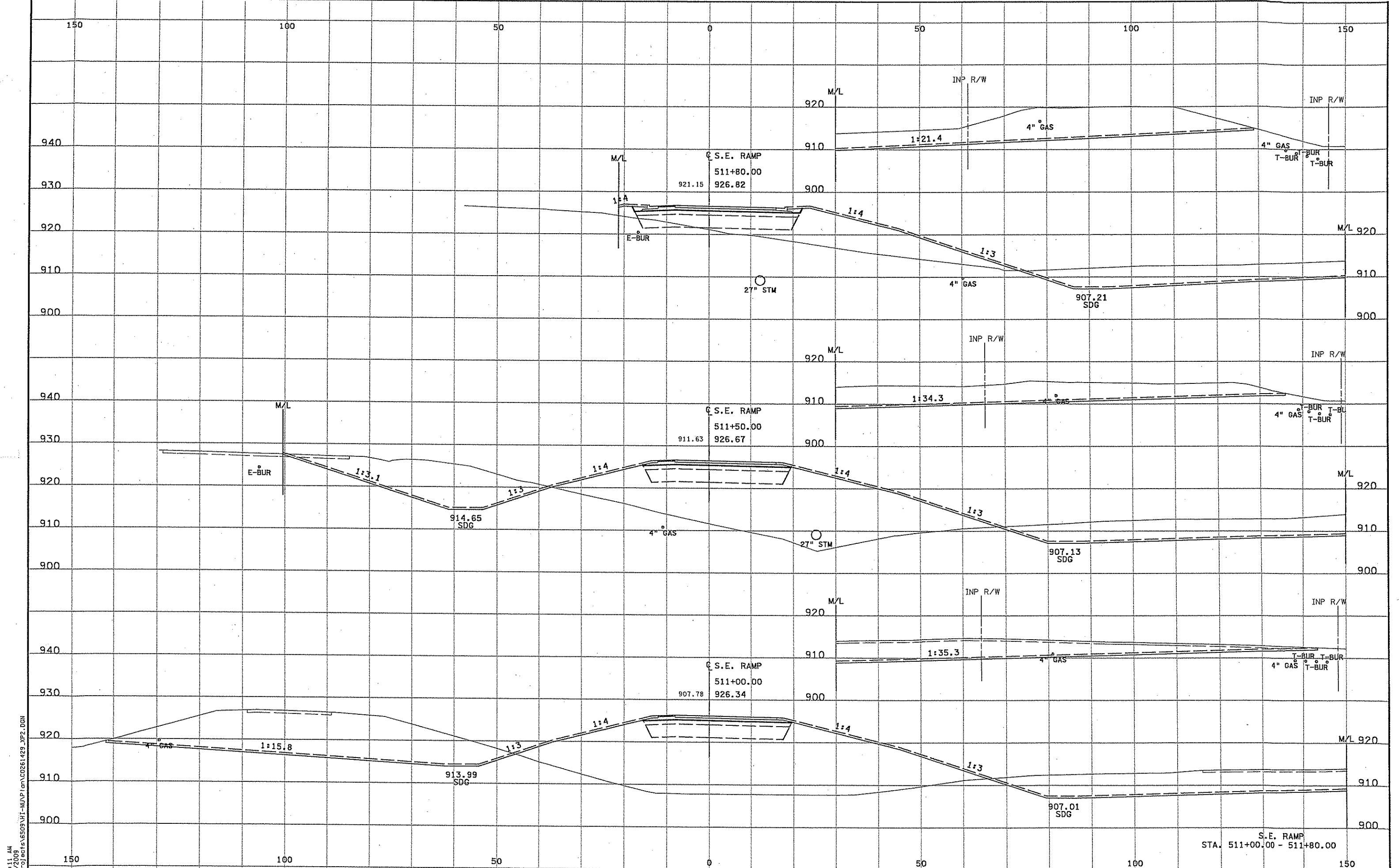
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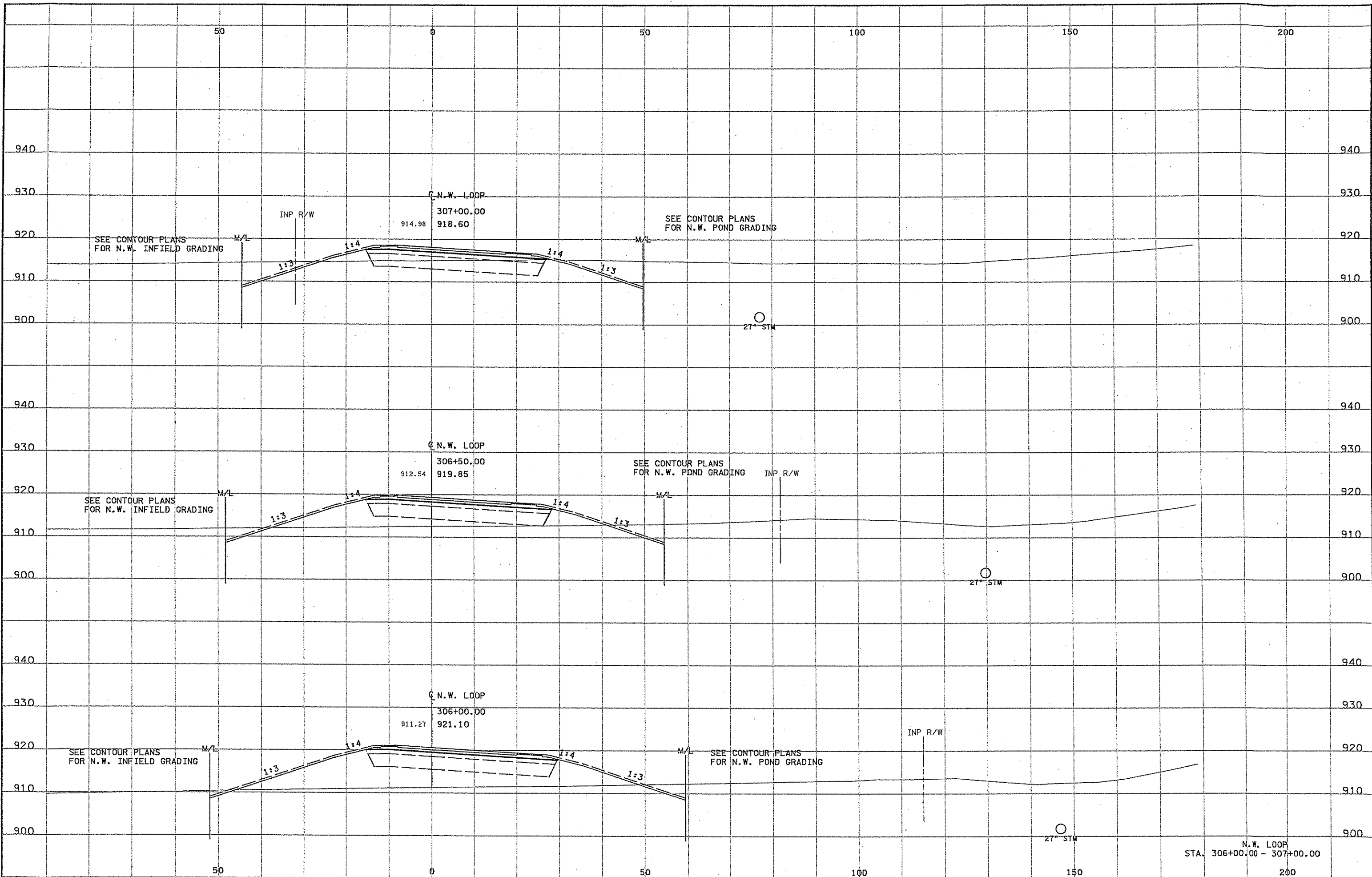
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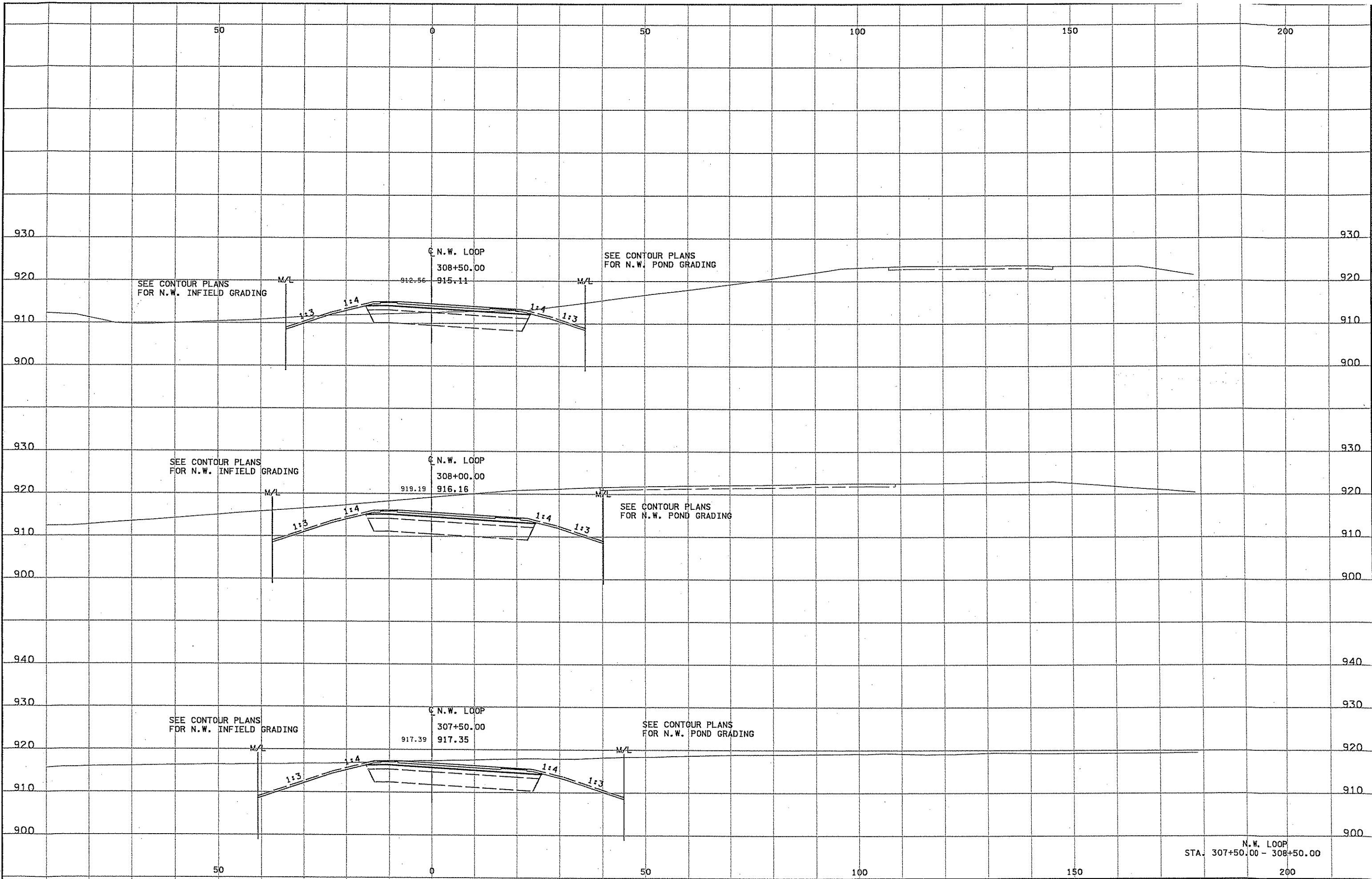
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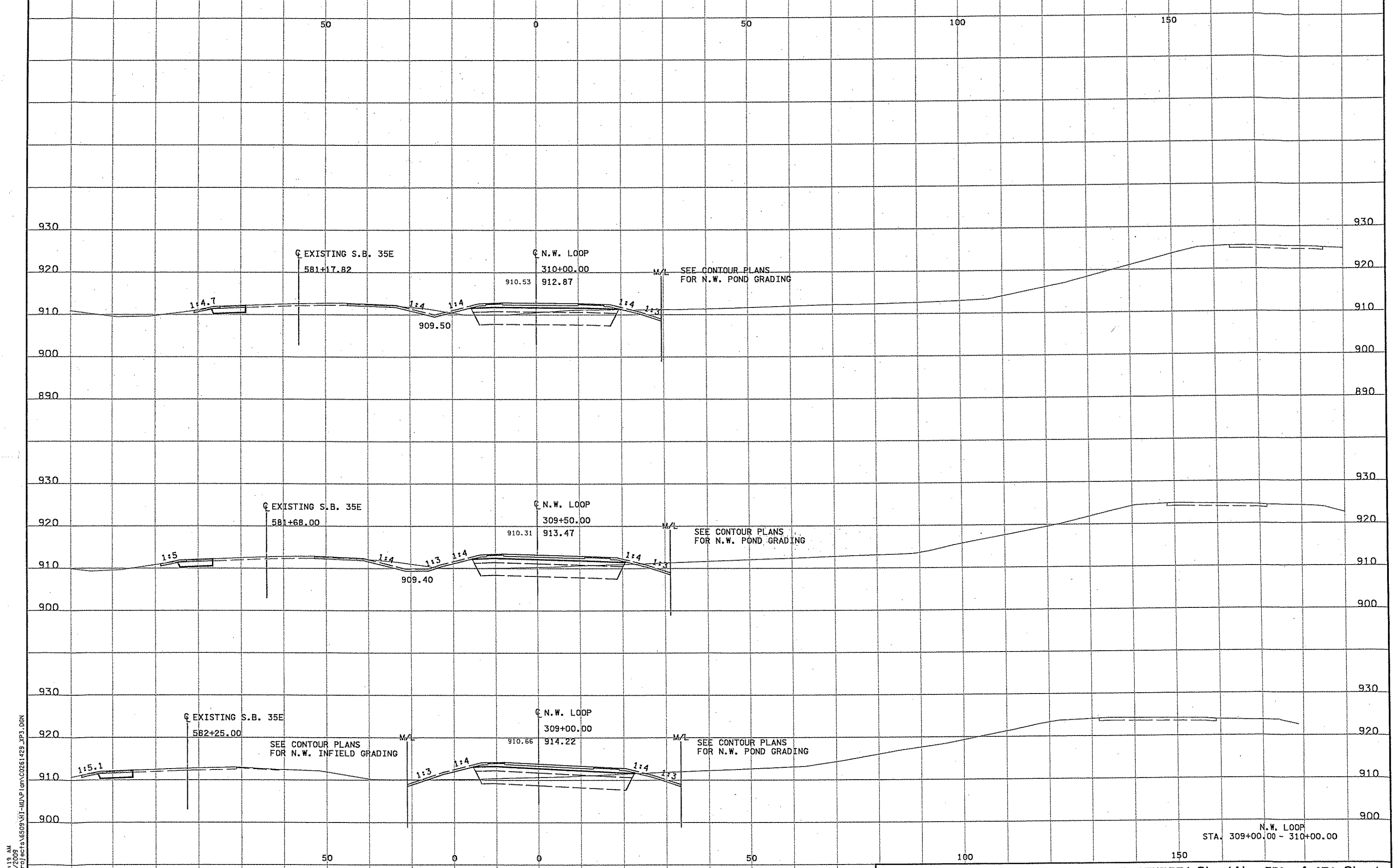


N.W. LOOP
STA. 306+00.00 - 307+00.00

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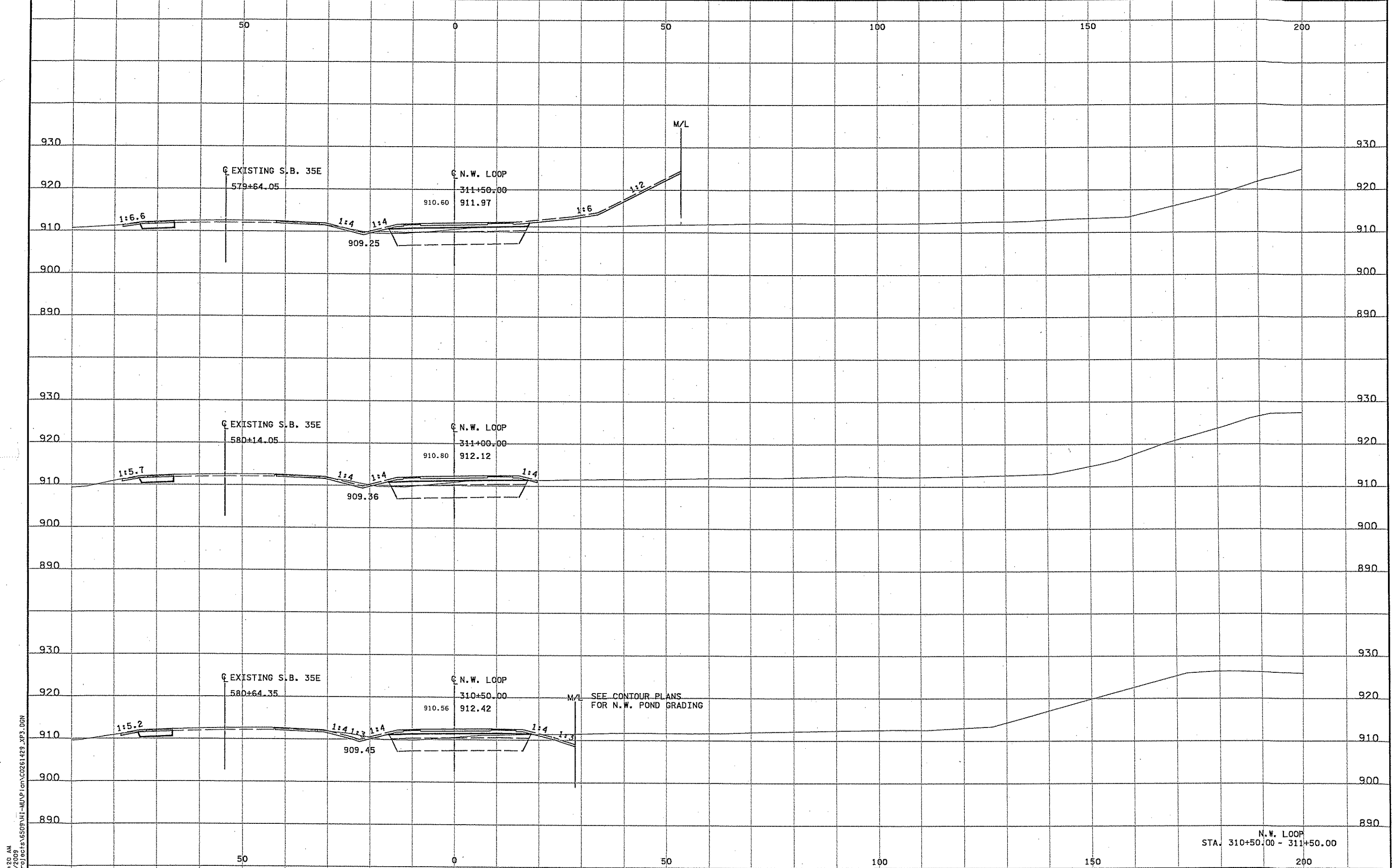


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STA. 307+50.00 - 308+50.00



N.W. LOOP
STA. 309+00.00 - 310+00.00

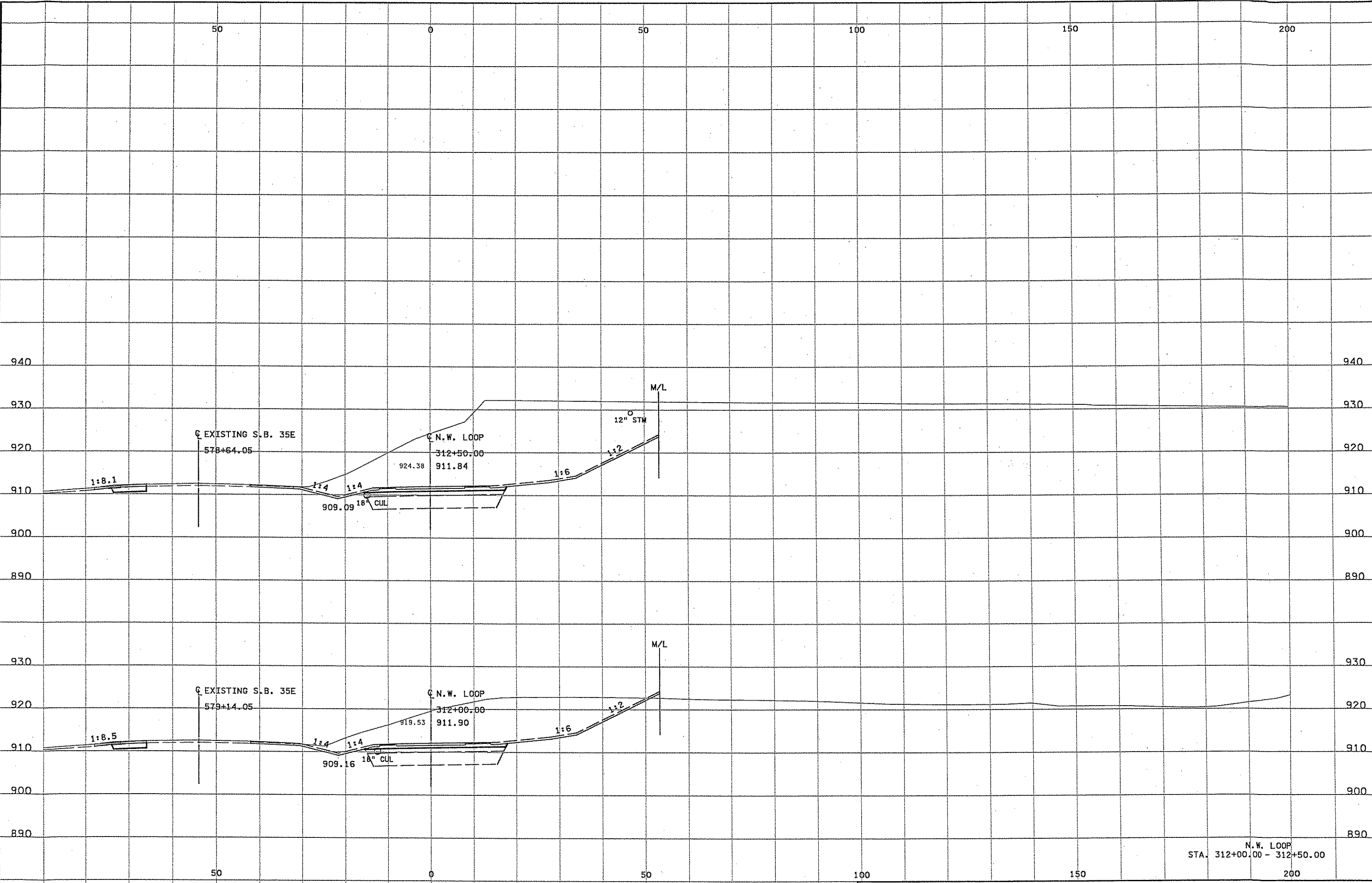
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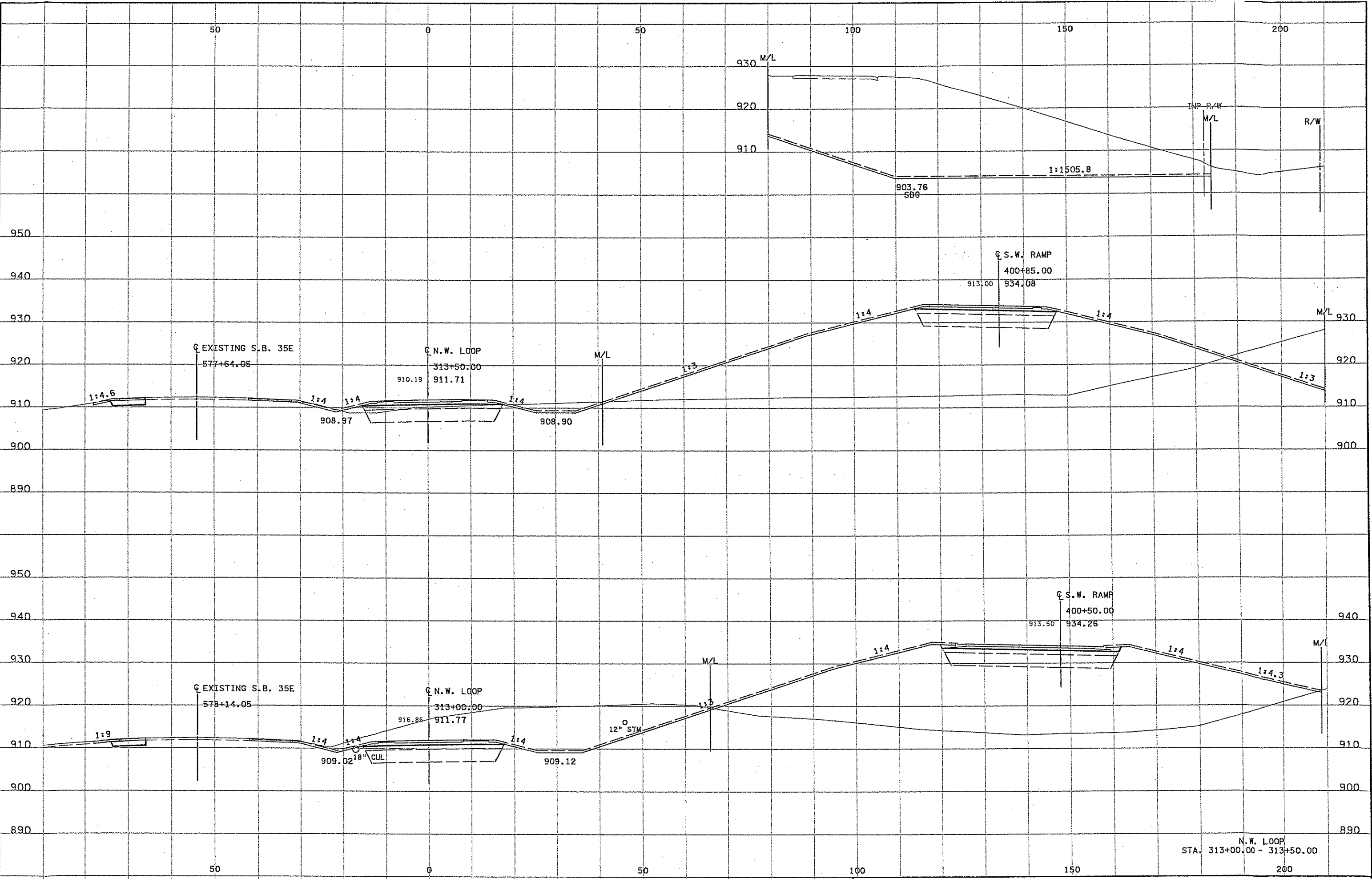
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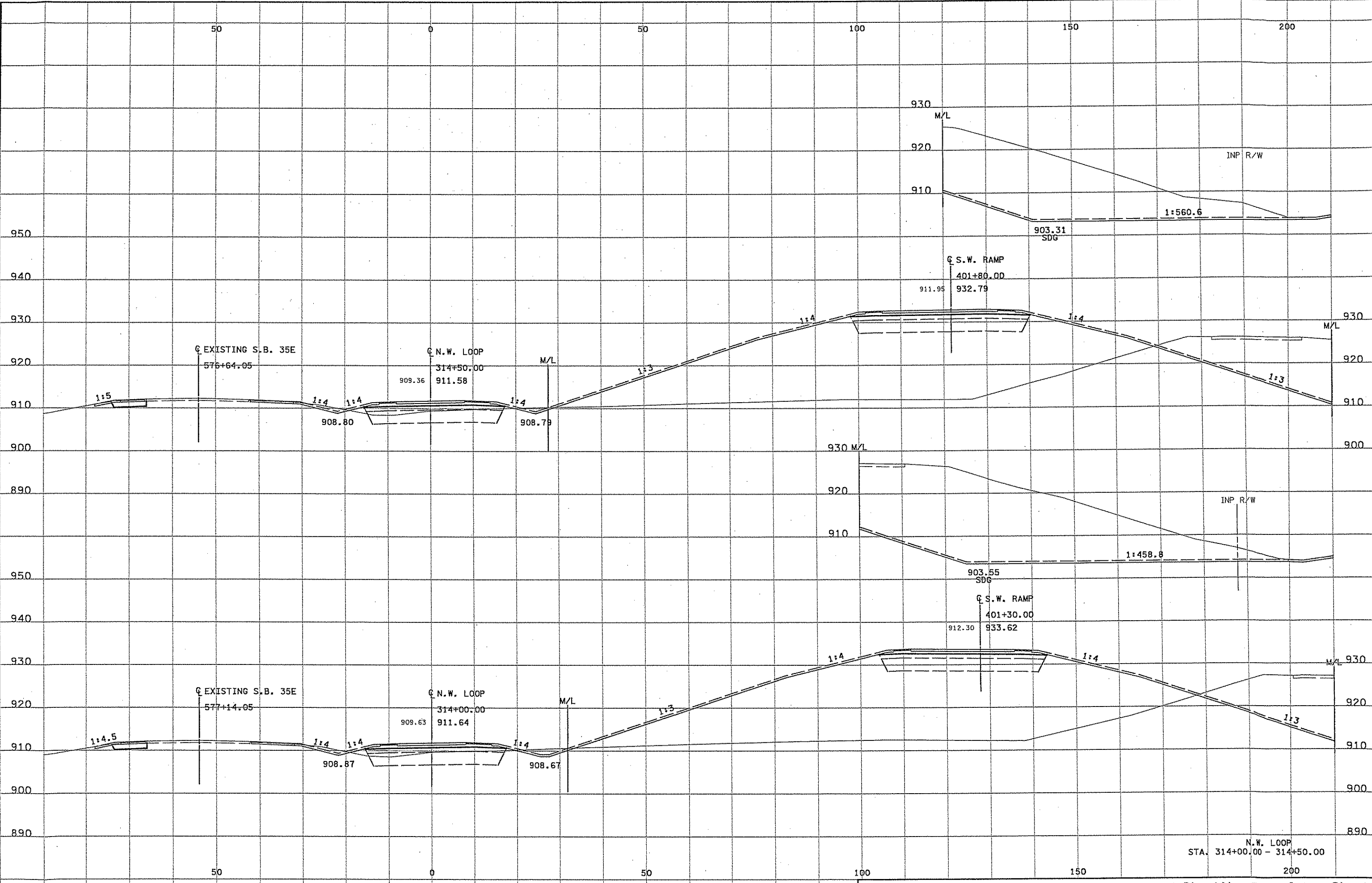


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STA. 312+00.00 - 312+50.00

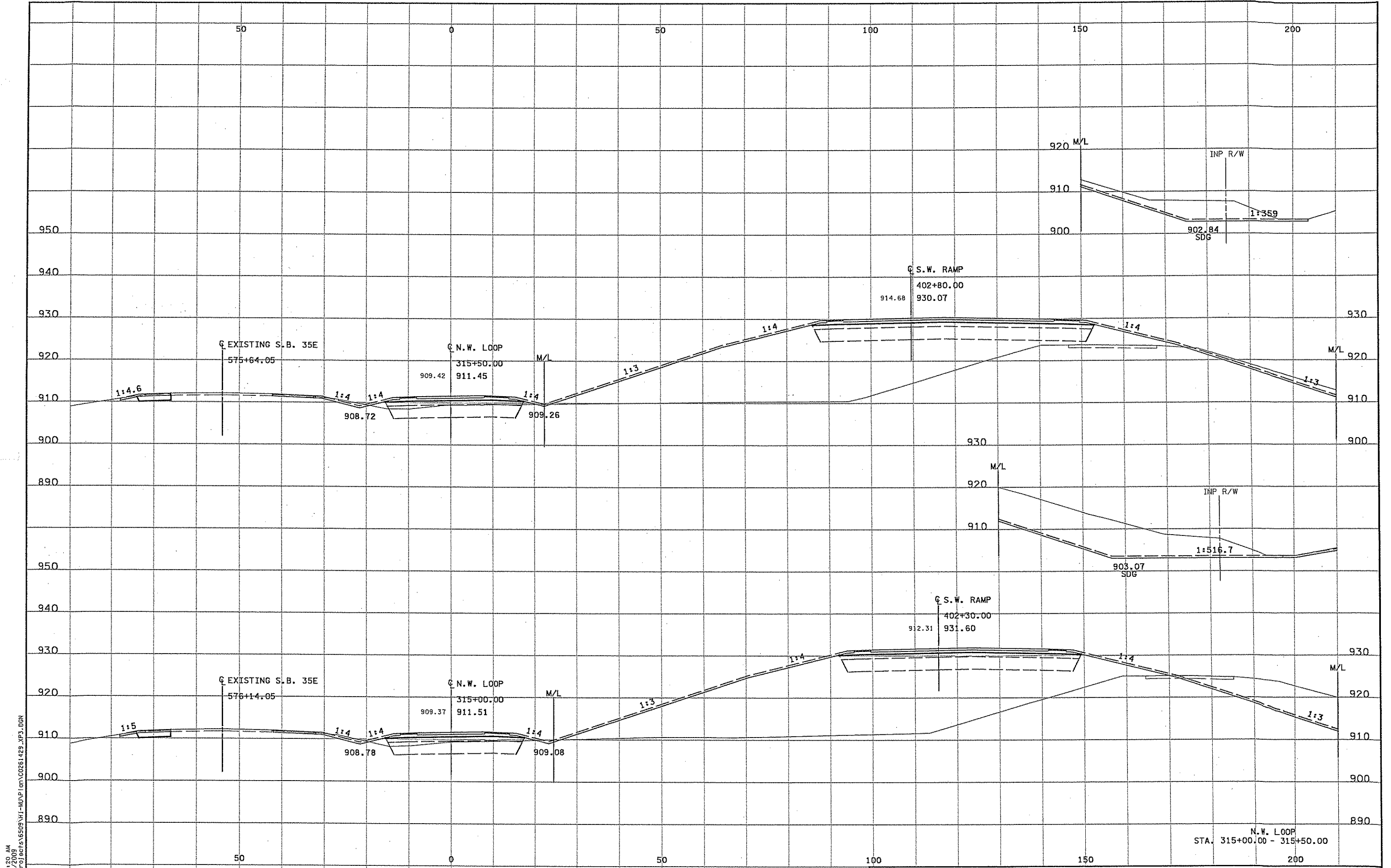
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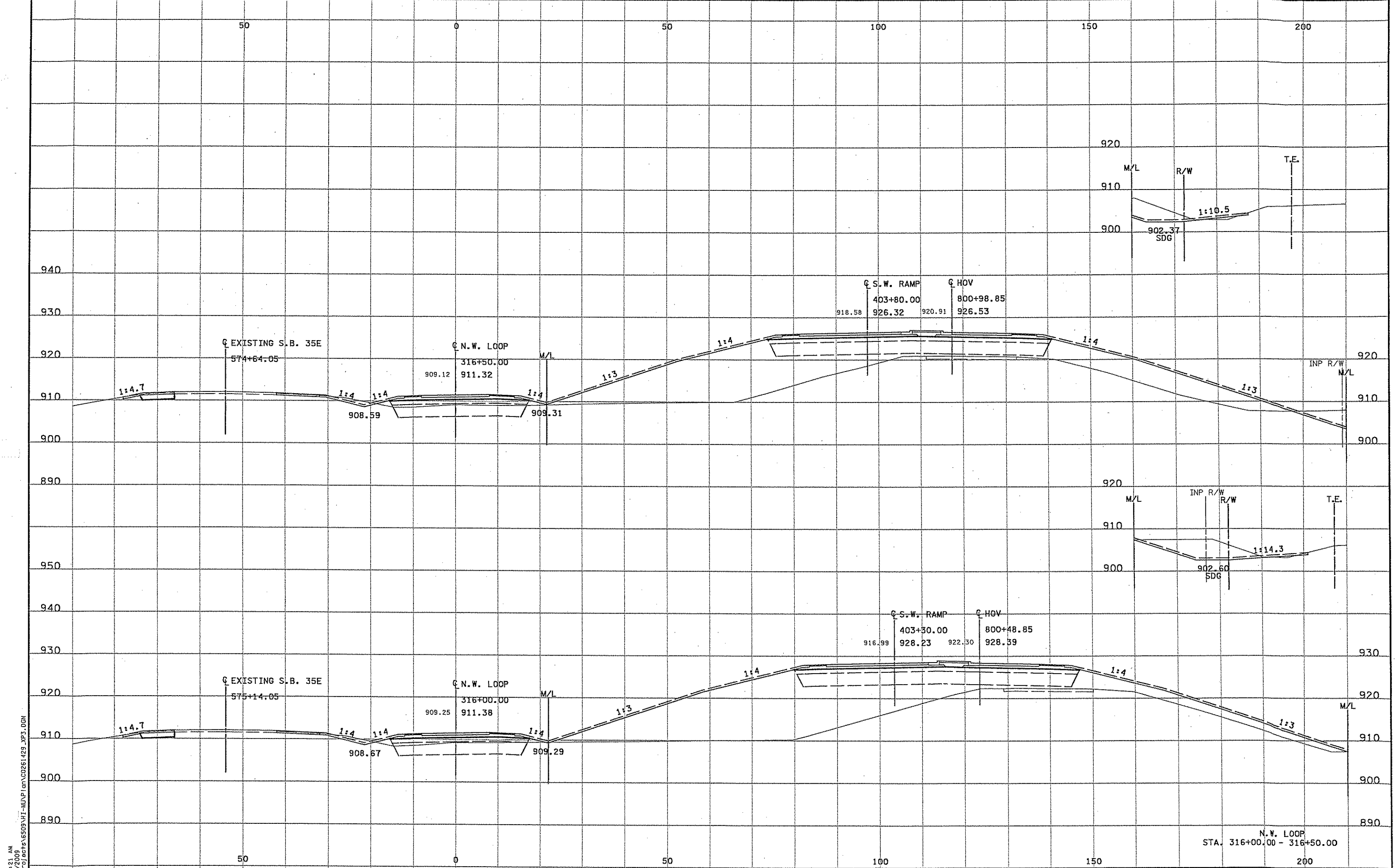
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STA. 314+00.00 - 314+50.00

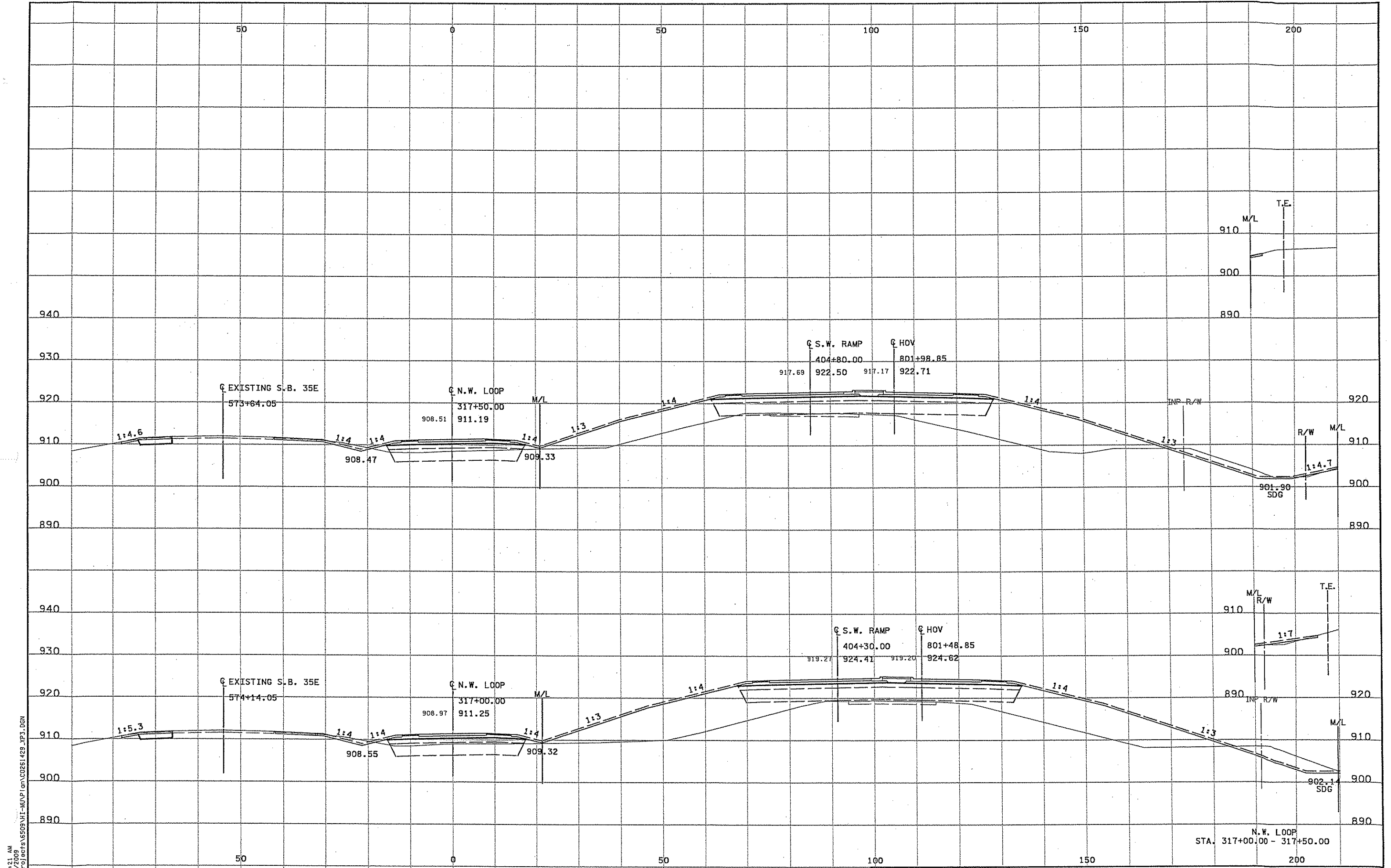


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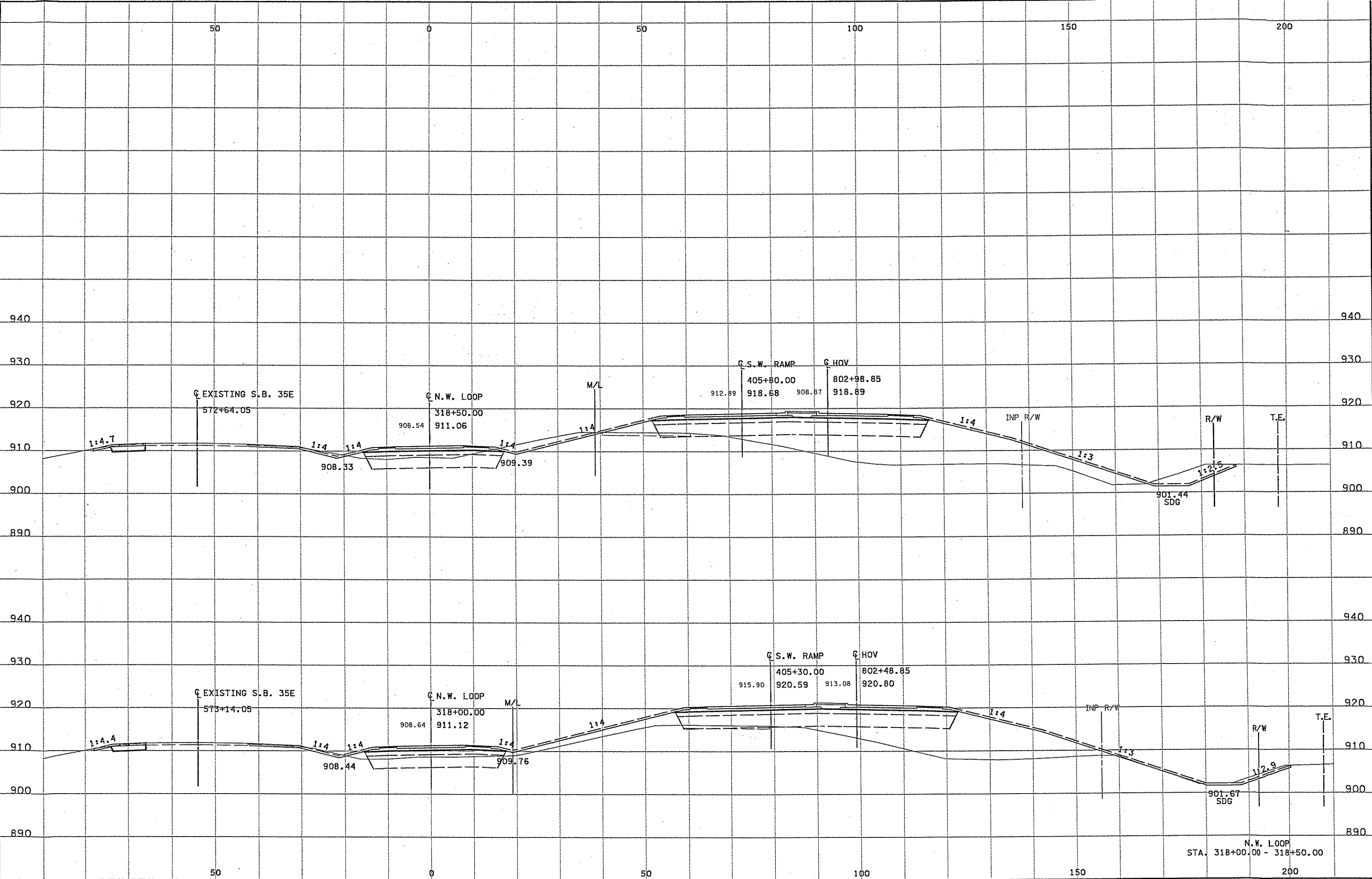
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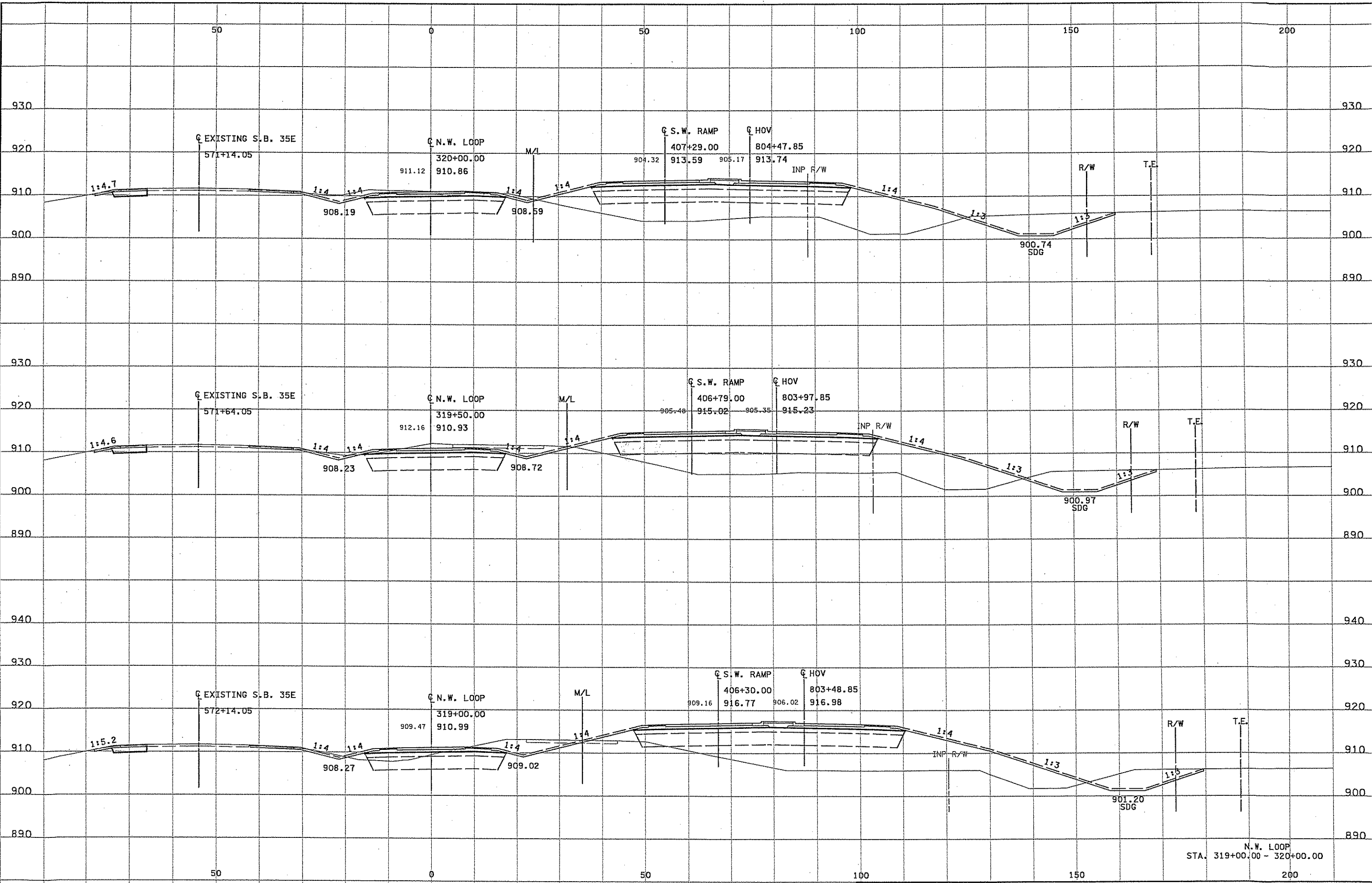
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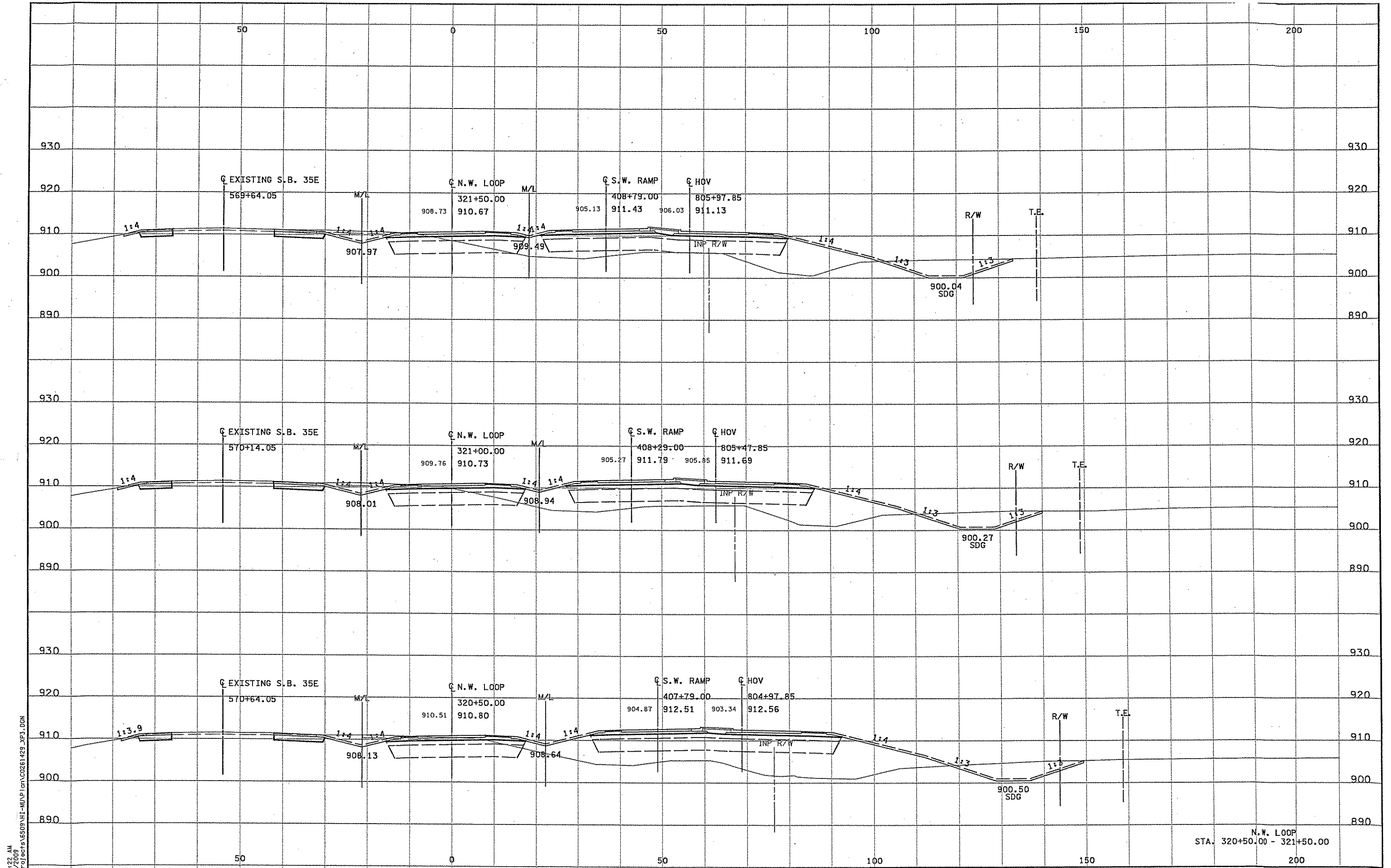
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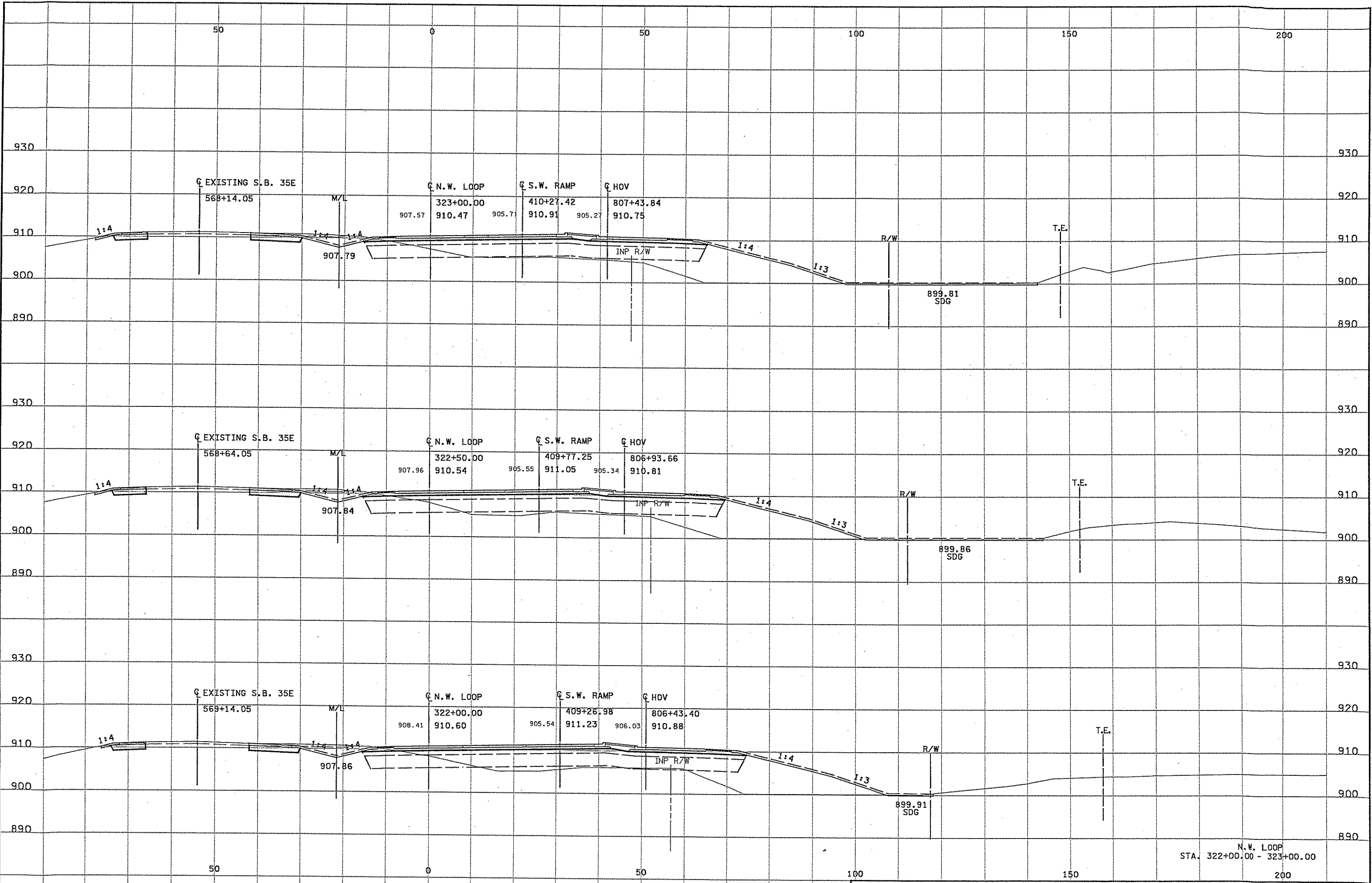
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N.W. LOOP
 STA. 319+00.00 - 320+00.00



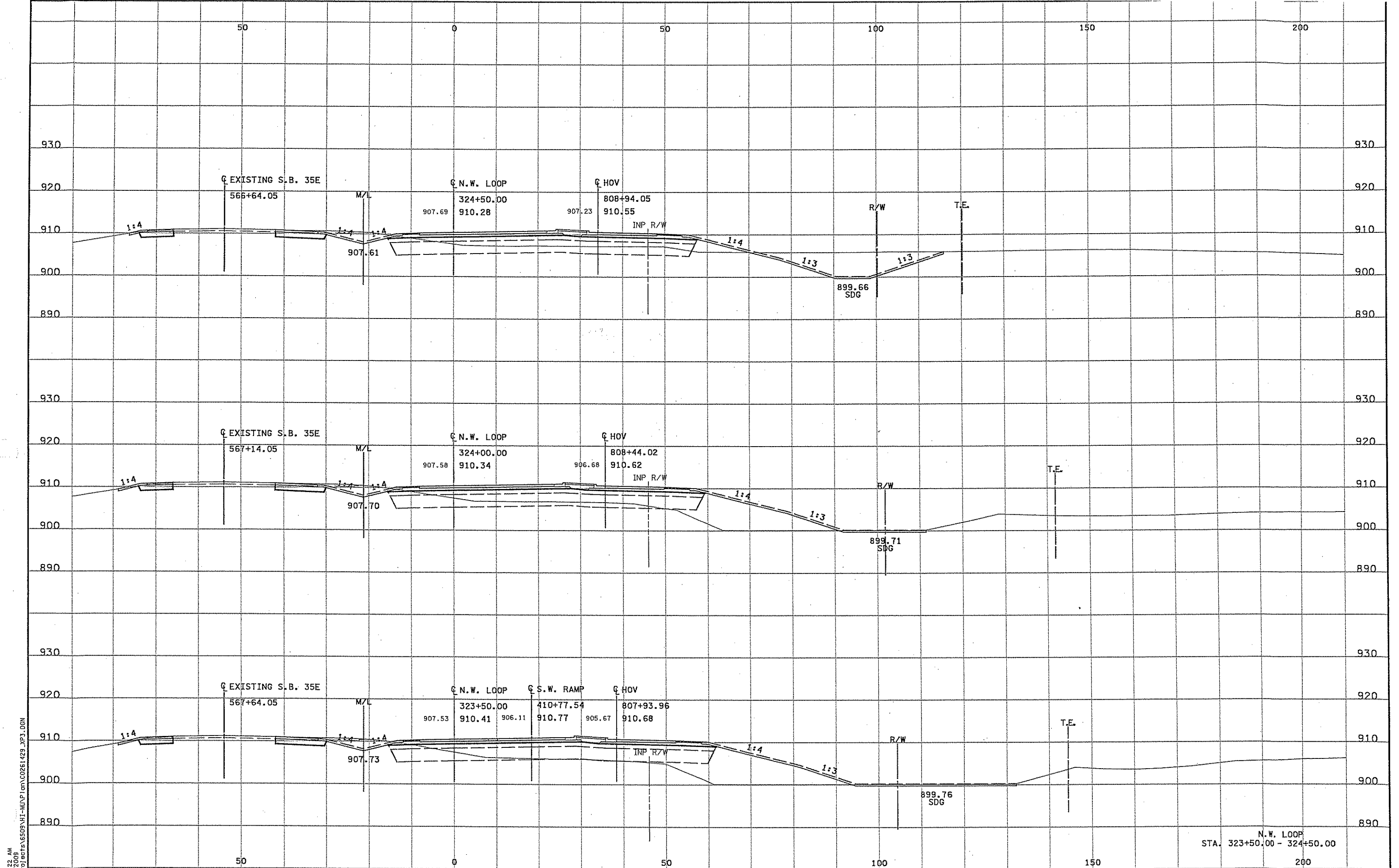
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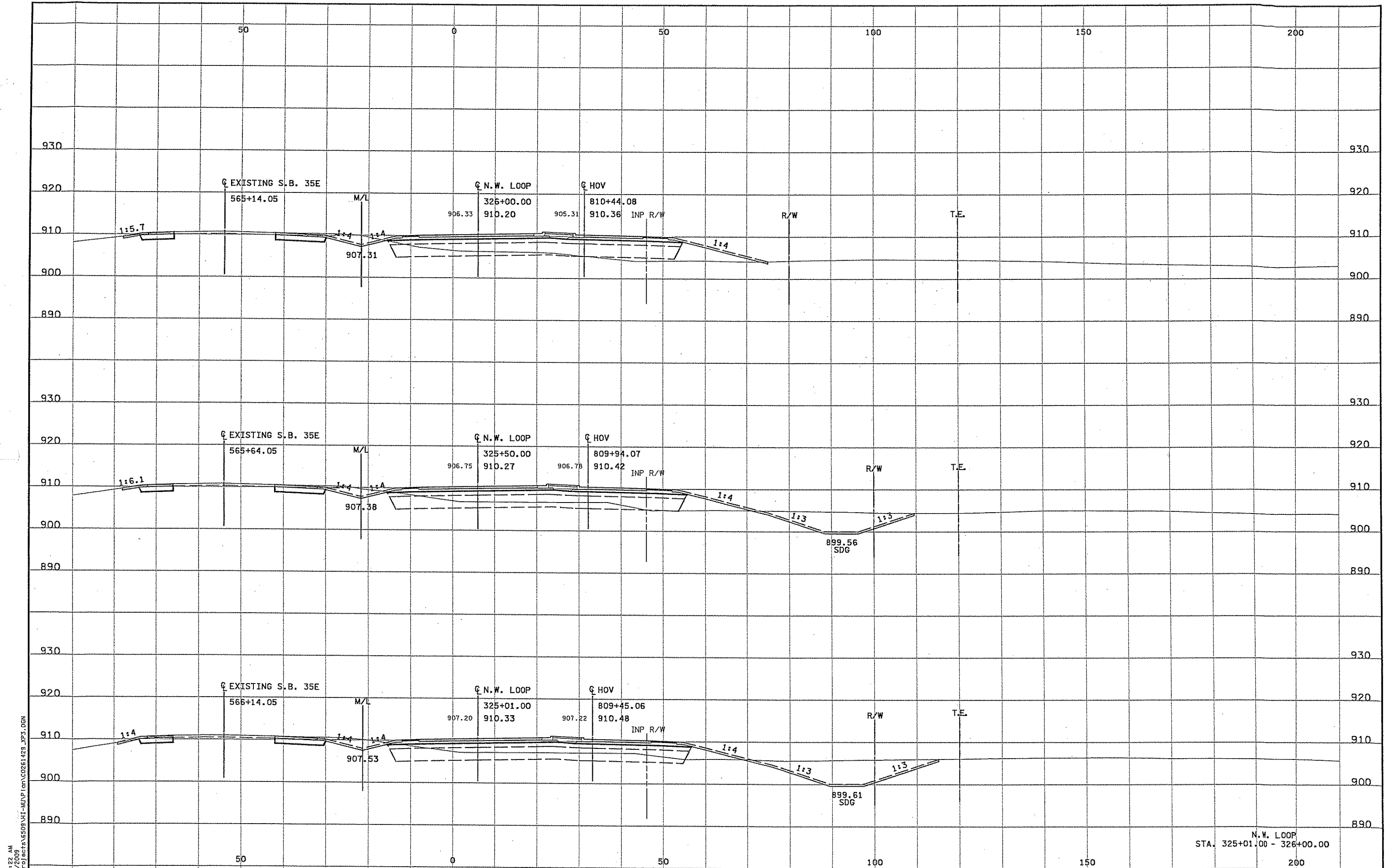
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N.W. LOOP
 STA. 322+00.00 - 323+00.00



8/5/22 AM
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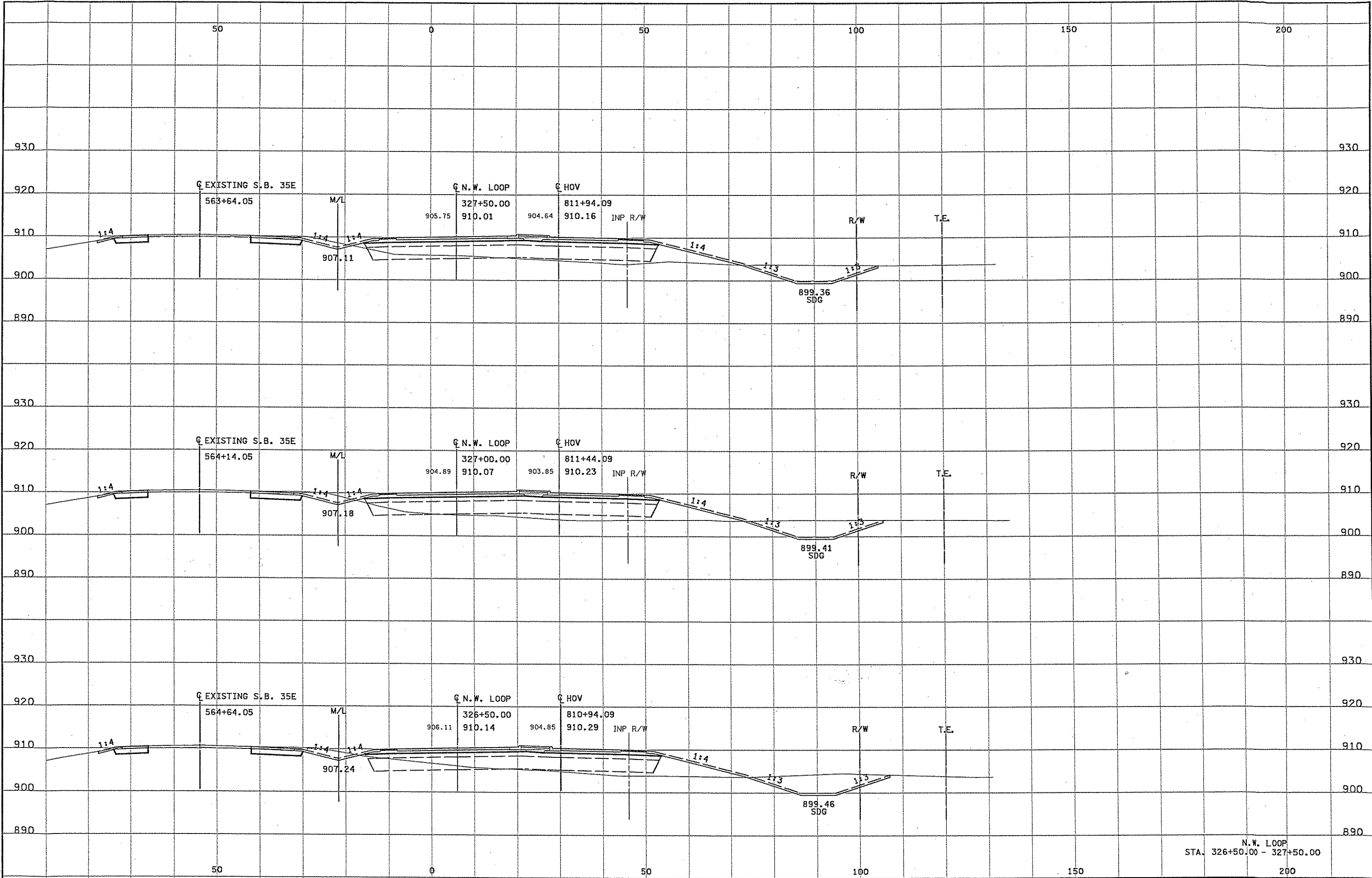
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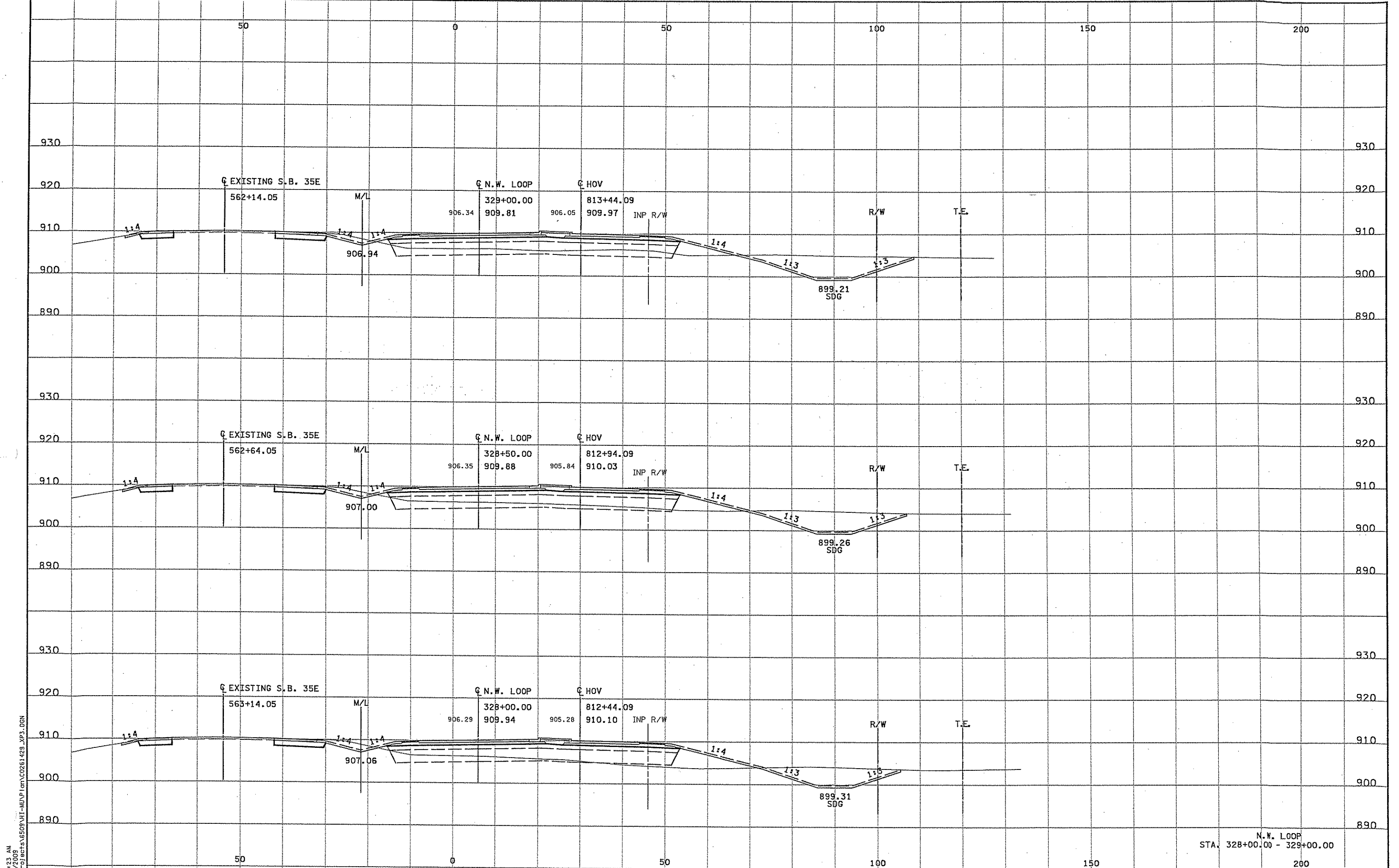
9/18/22 AM
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N.W. LOOP
 STA. 325+01.00 - 326+00.00

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9/16/2009
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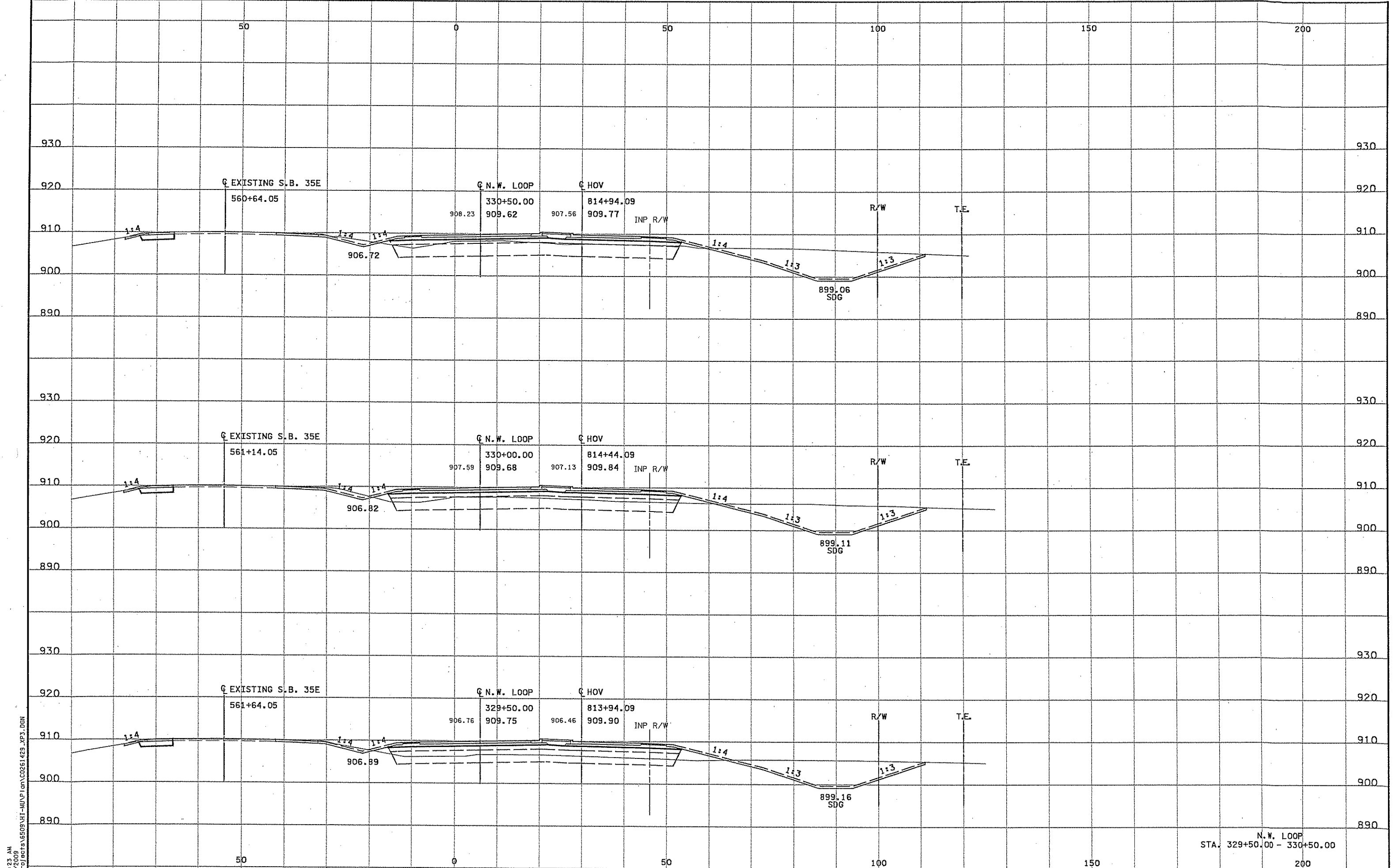


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STA. 326+50.00 - 327+50.00



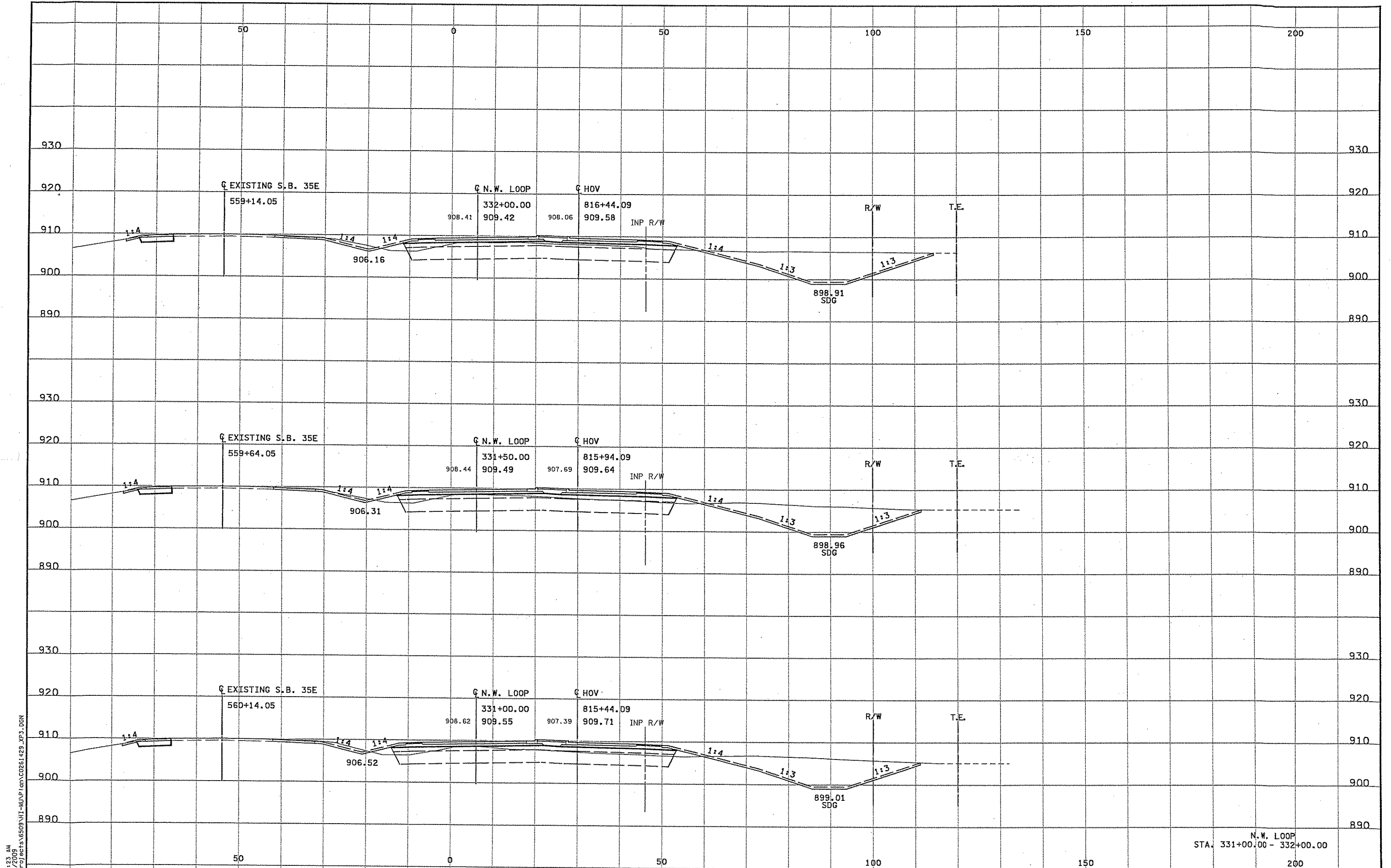
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N.W. LOOP
 STA. 328+00.00 - 329+00.00



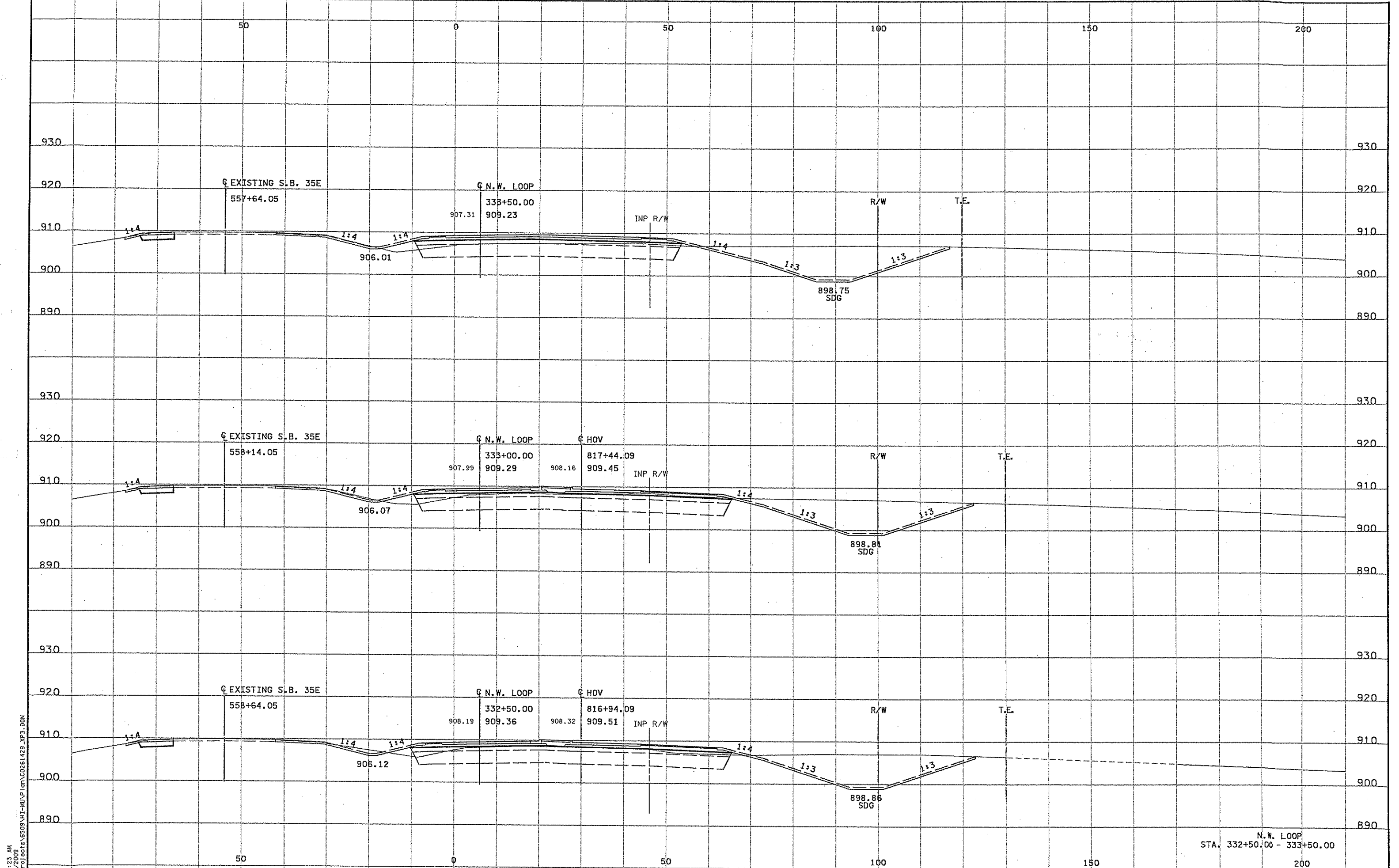
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N.W. LOOP
 STA. 329+50.00 - 330+50.00



8:59:23 AM
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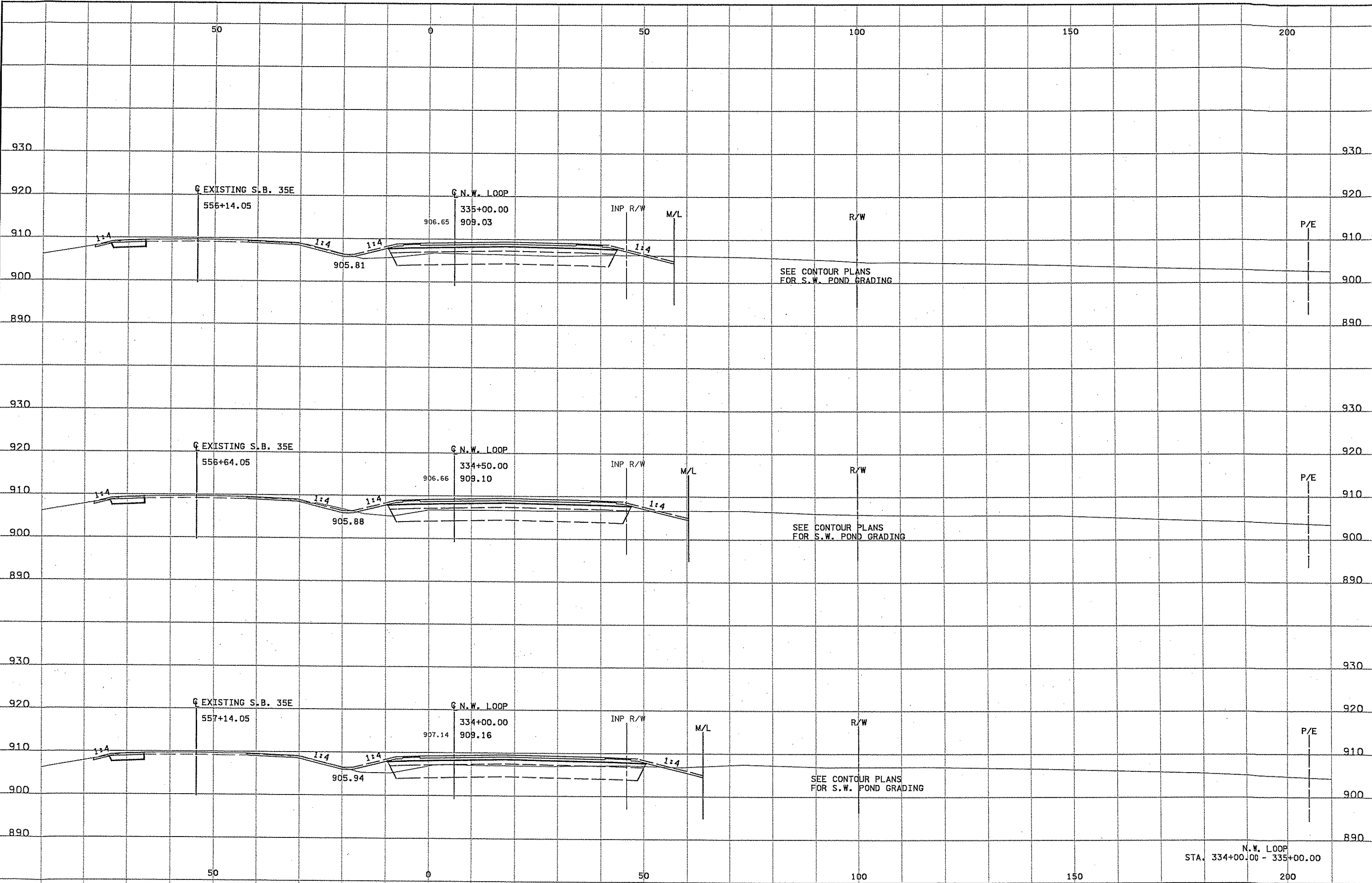
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 STA. 331+00.00 - 332+00.00



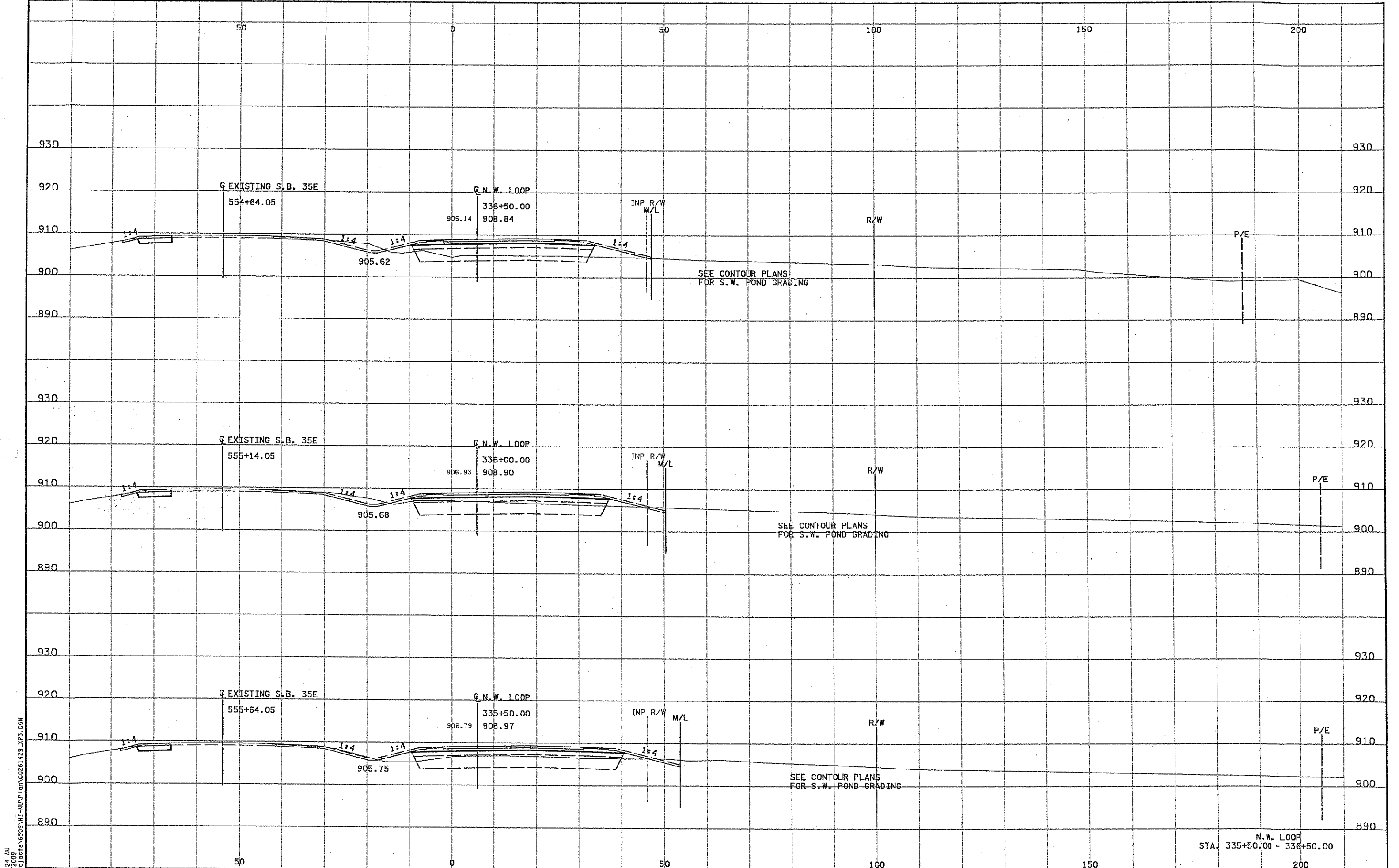
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N.W. LOOP
 STA. 332+50.00 - 333+50.00

9/18/12 4 AM
8/19/2009
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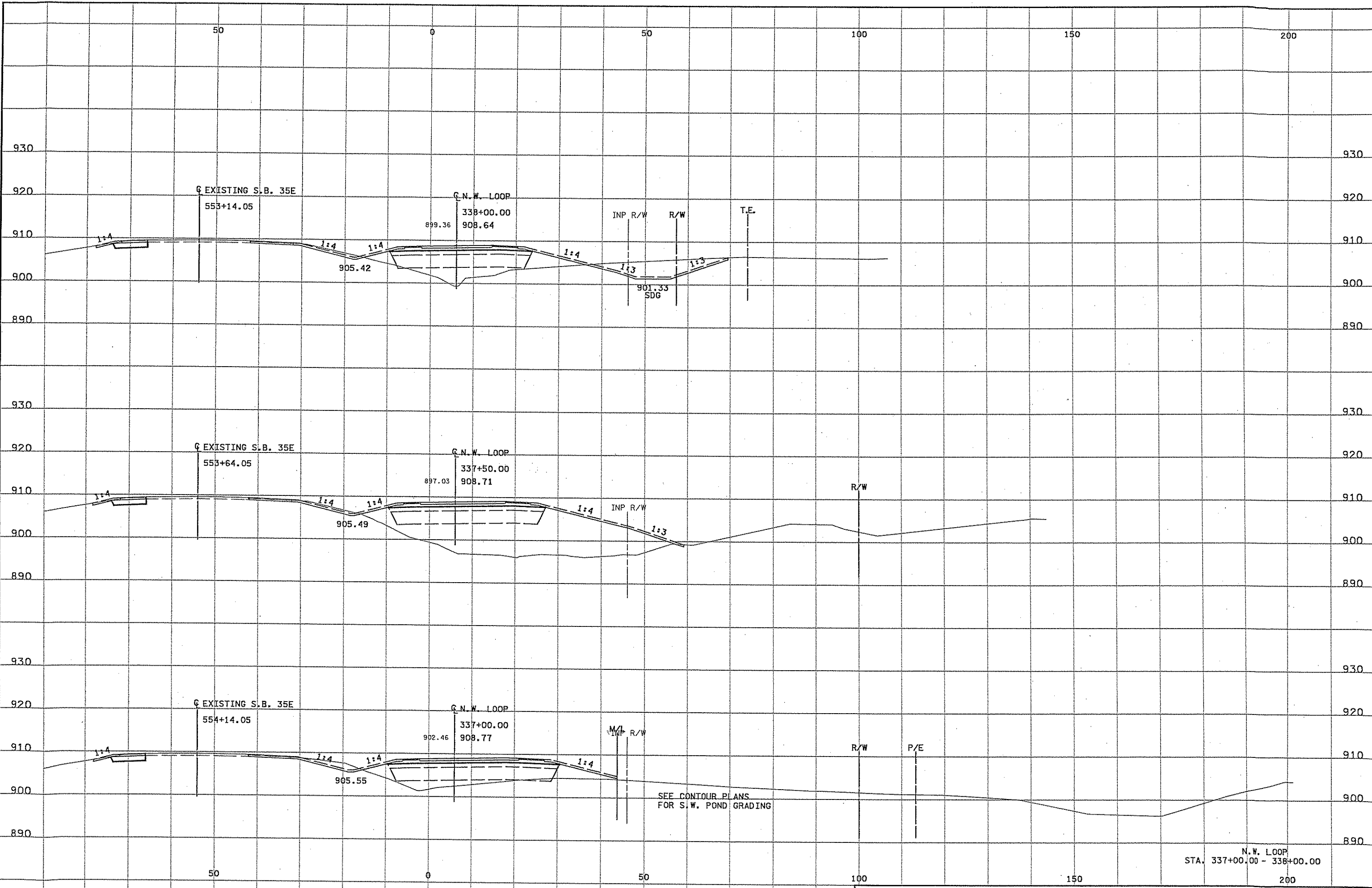
N.W. LOOP
STA. 334+00.00 - 335+00.00



N.W. LOOP
 STA. 335+50.00 - 336+50.00

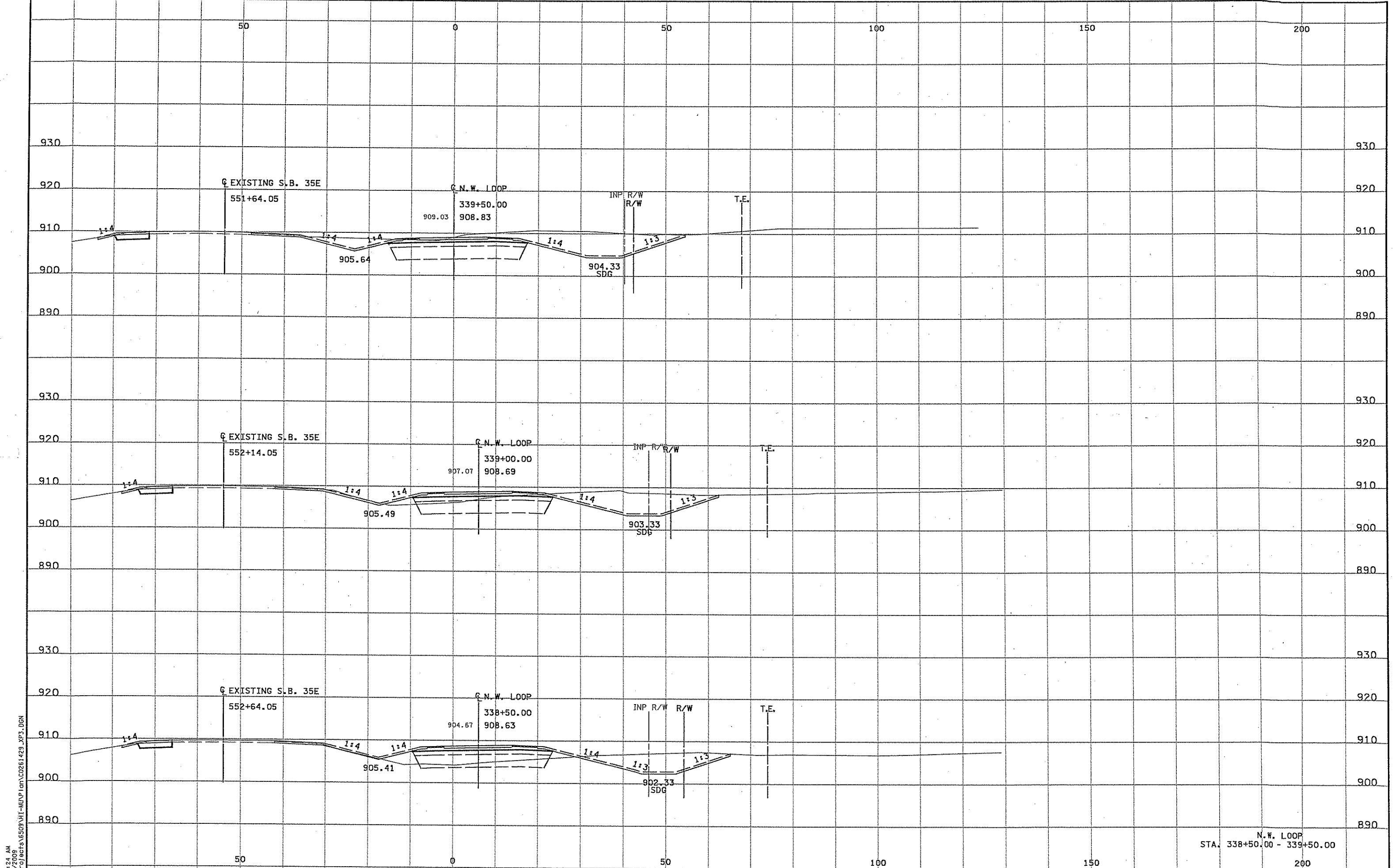
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8/18/2008
8:19:20 AM
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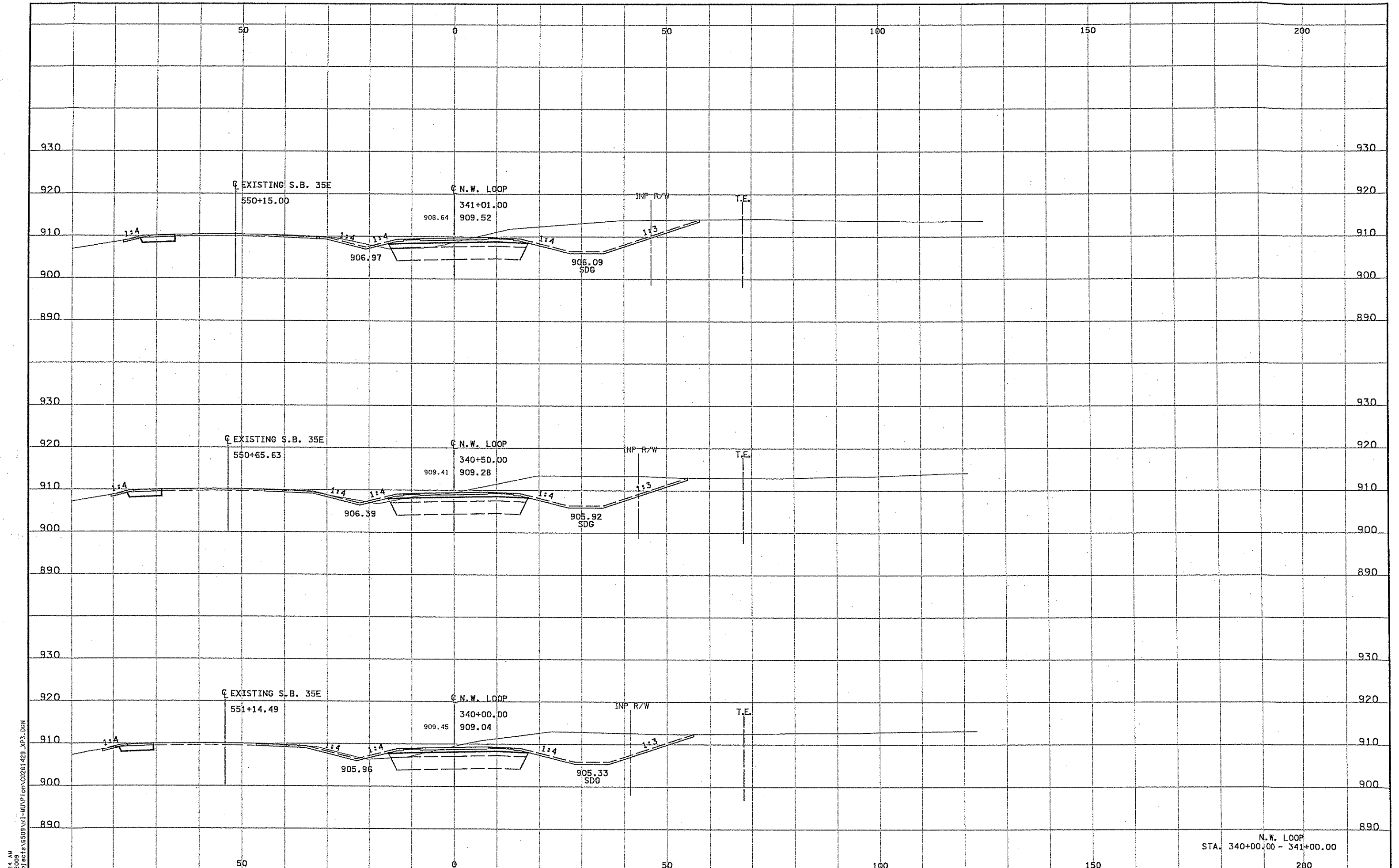
SEE CONTOUR PLANS
FOR S.W. POND GRADING

N.W. LOOP
STA. 337+00.00 - 338+00.00



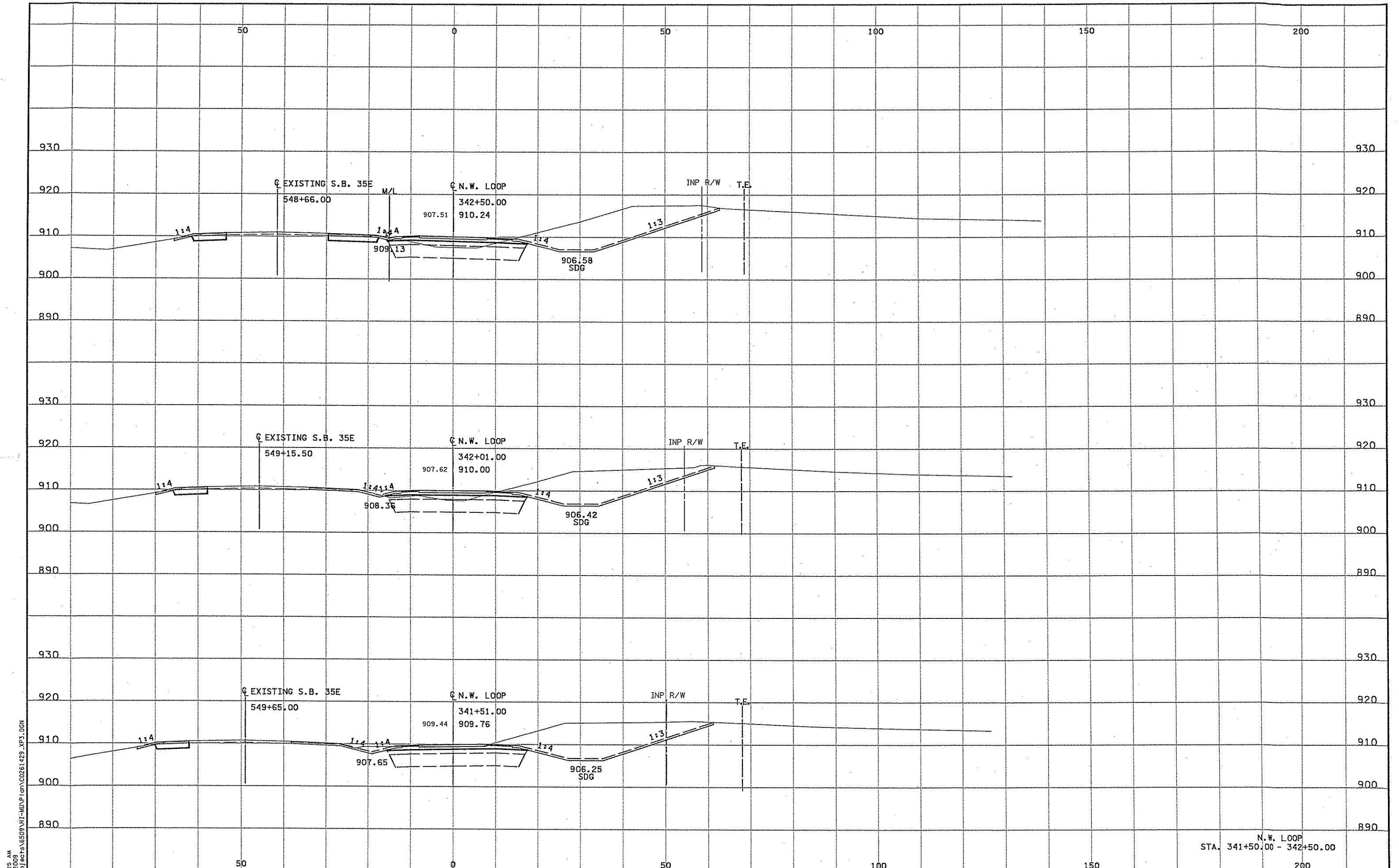
N.W. LOOP
 STA. 338+50.00 - 339+50.00

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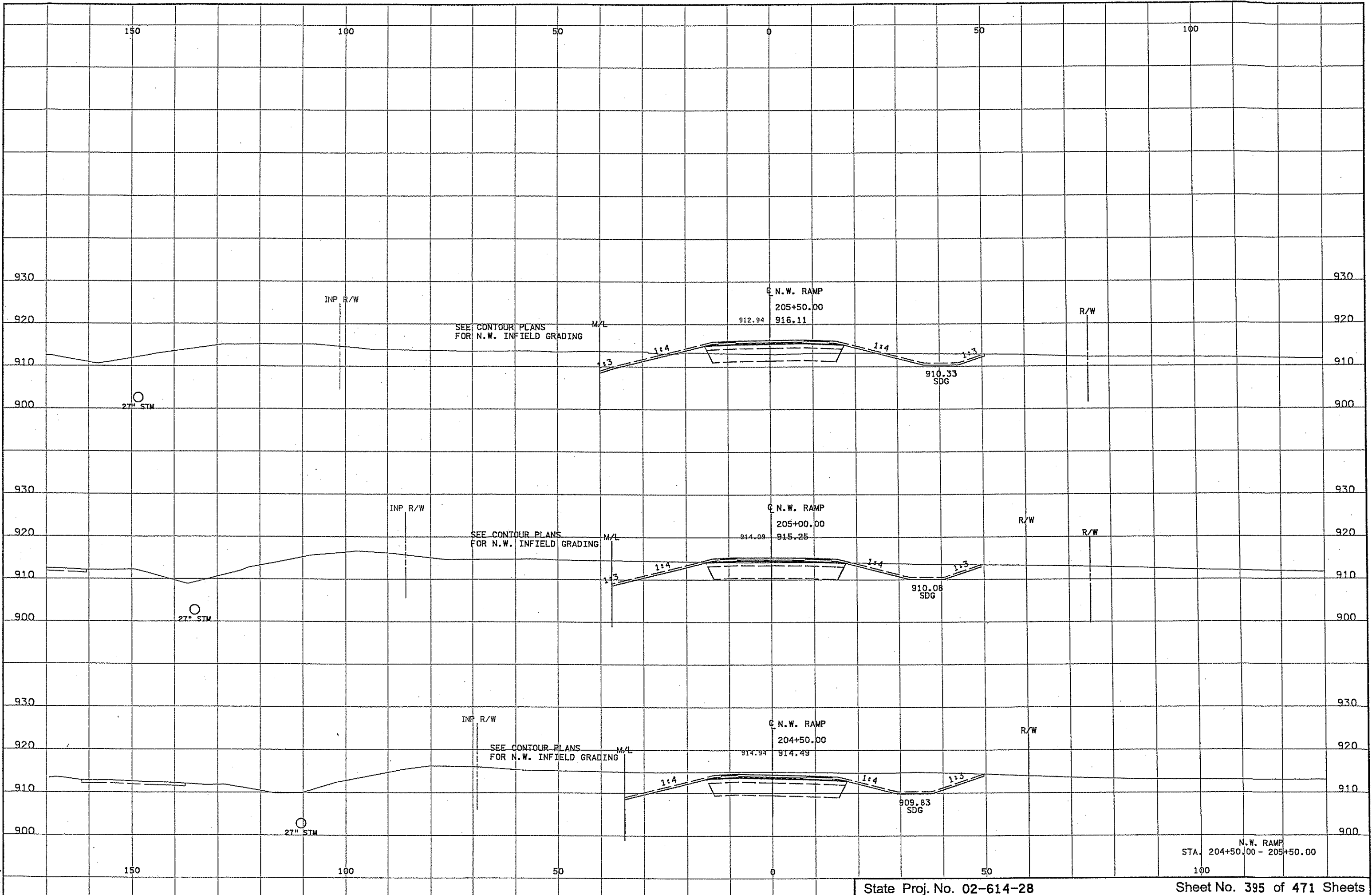
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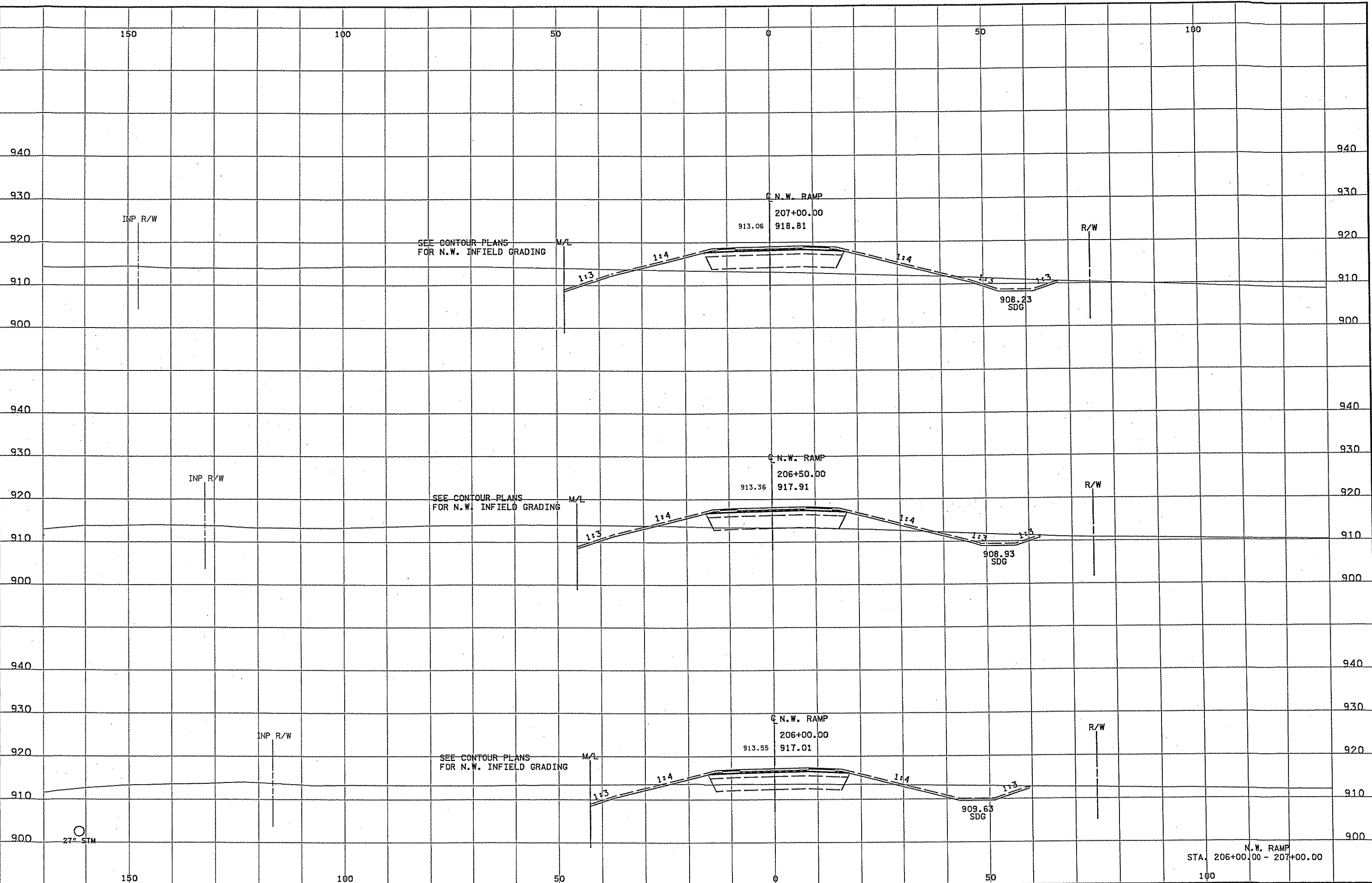
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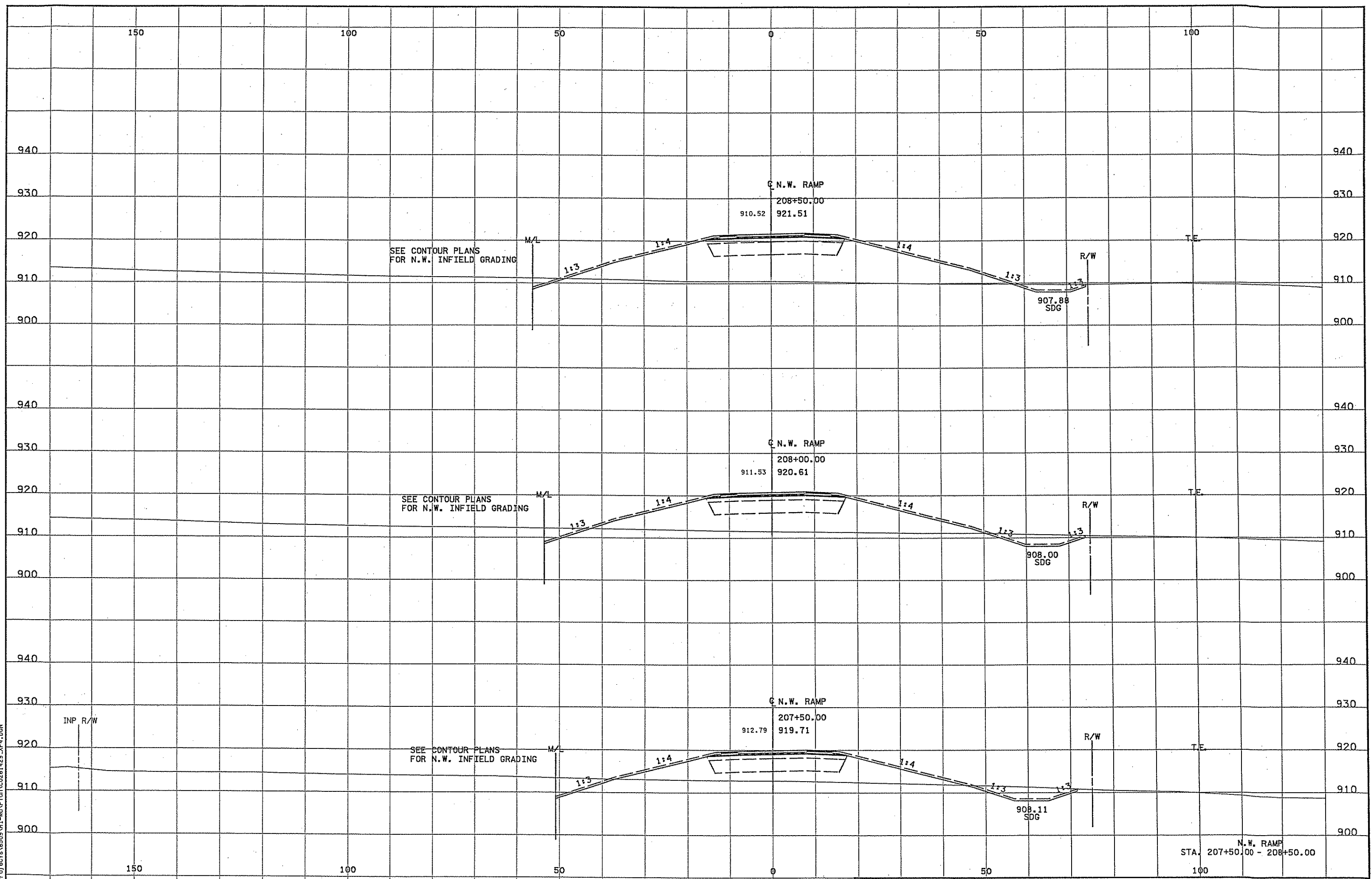
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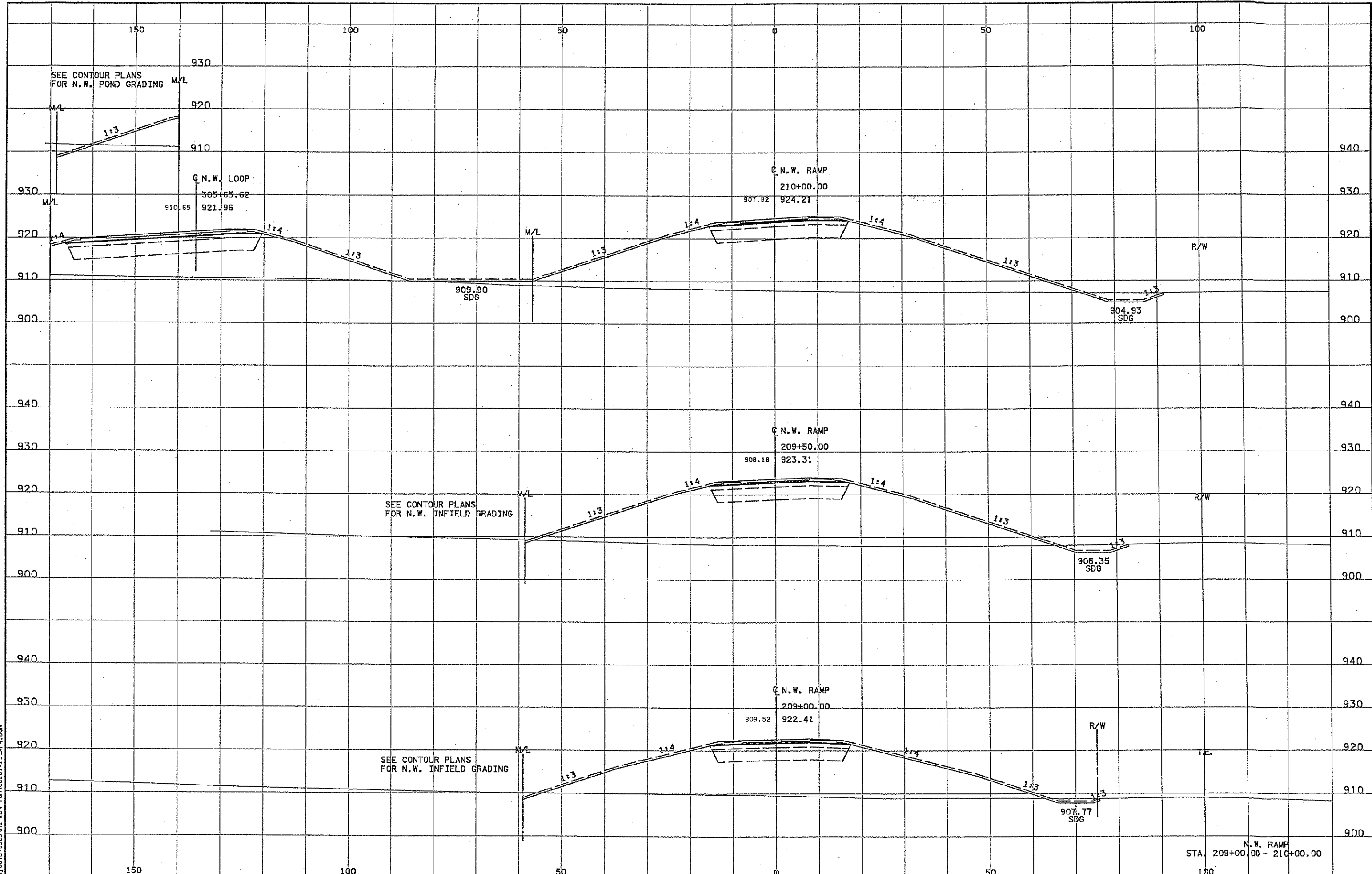
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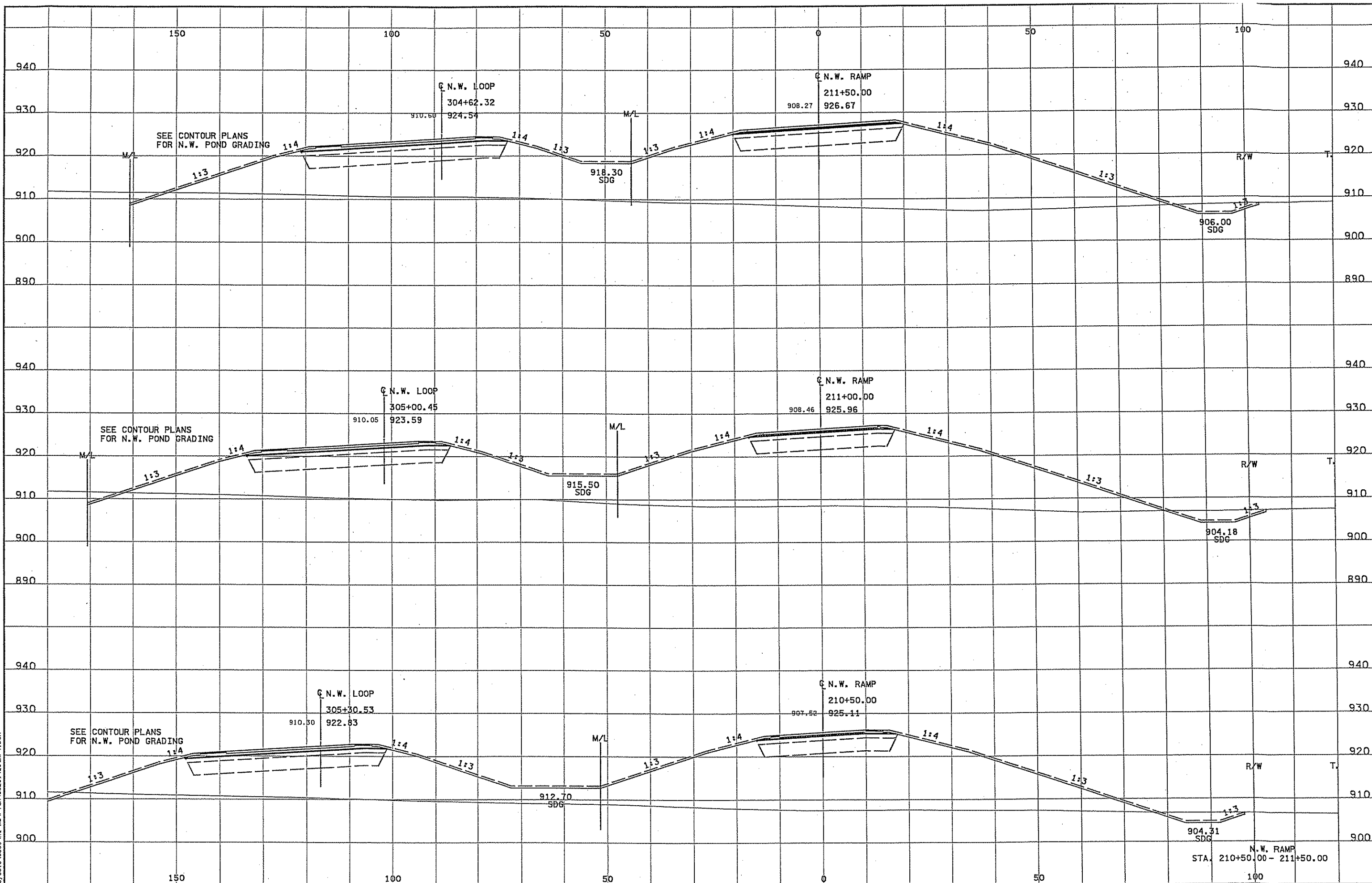


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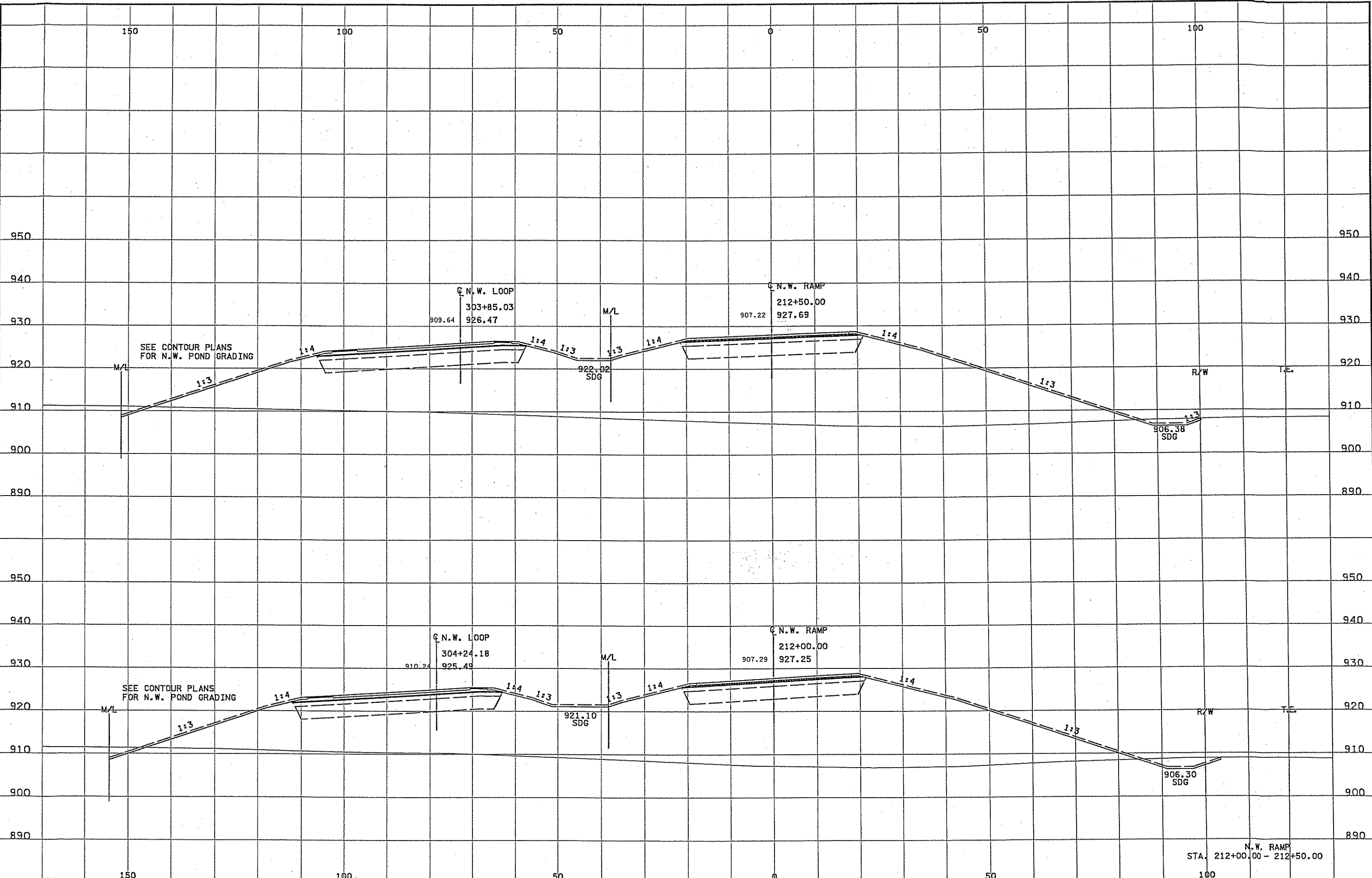
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SEE CONTOUR PLANS
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SEE CONTOUR PLANS
FOR N.W. POND GRADING

G.N.W. LOOP
303+85.03
926.47

G.N.W. LOOP
304+24.18
925.49

G.N.W. RAMP
212+50.00
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G.N.W. RAMP
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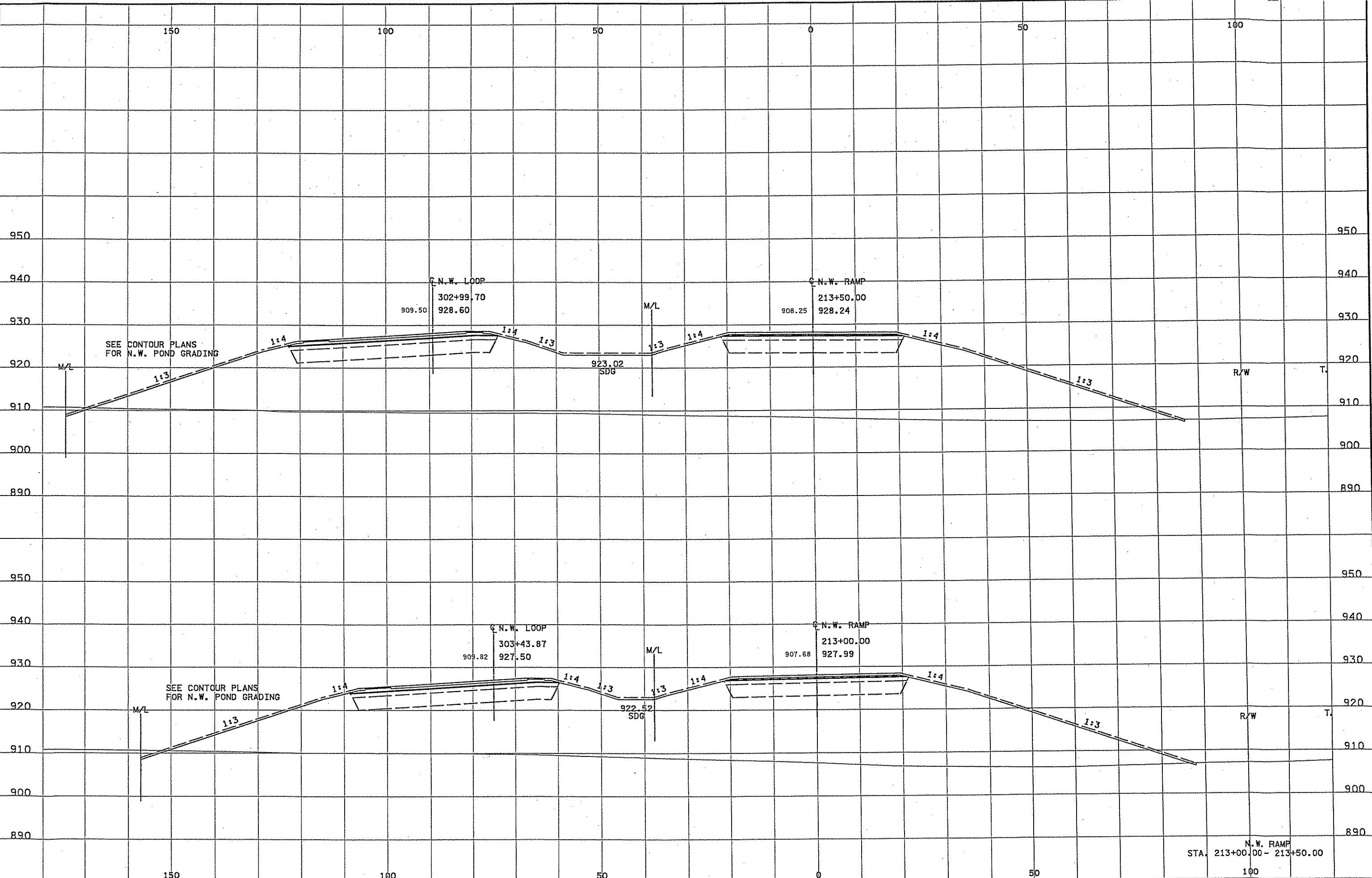
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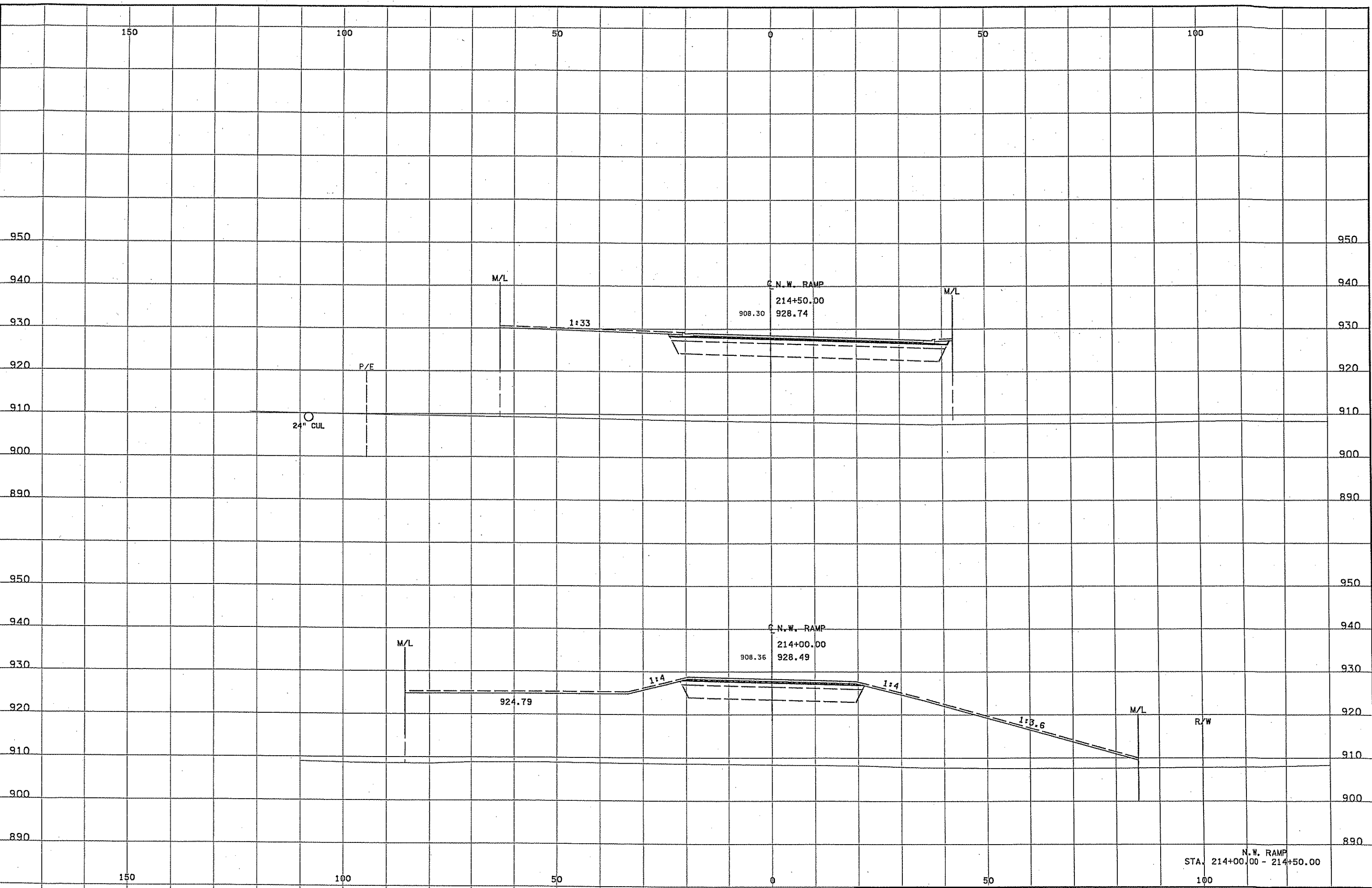
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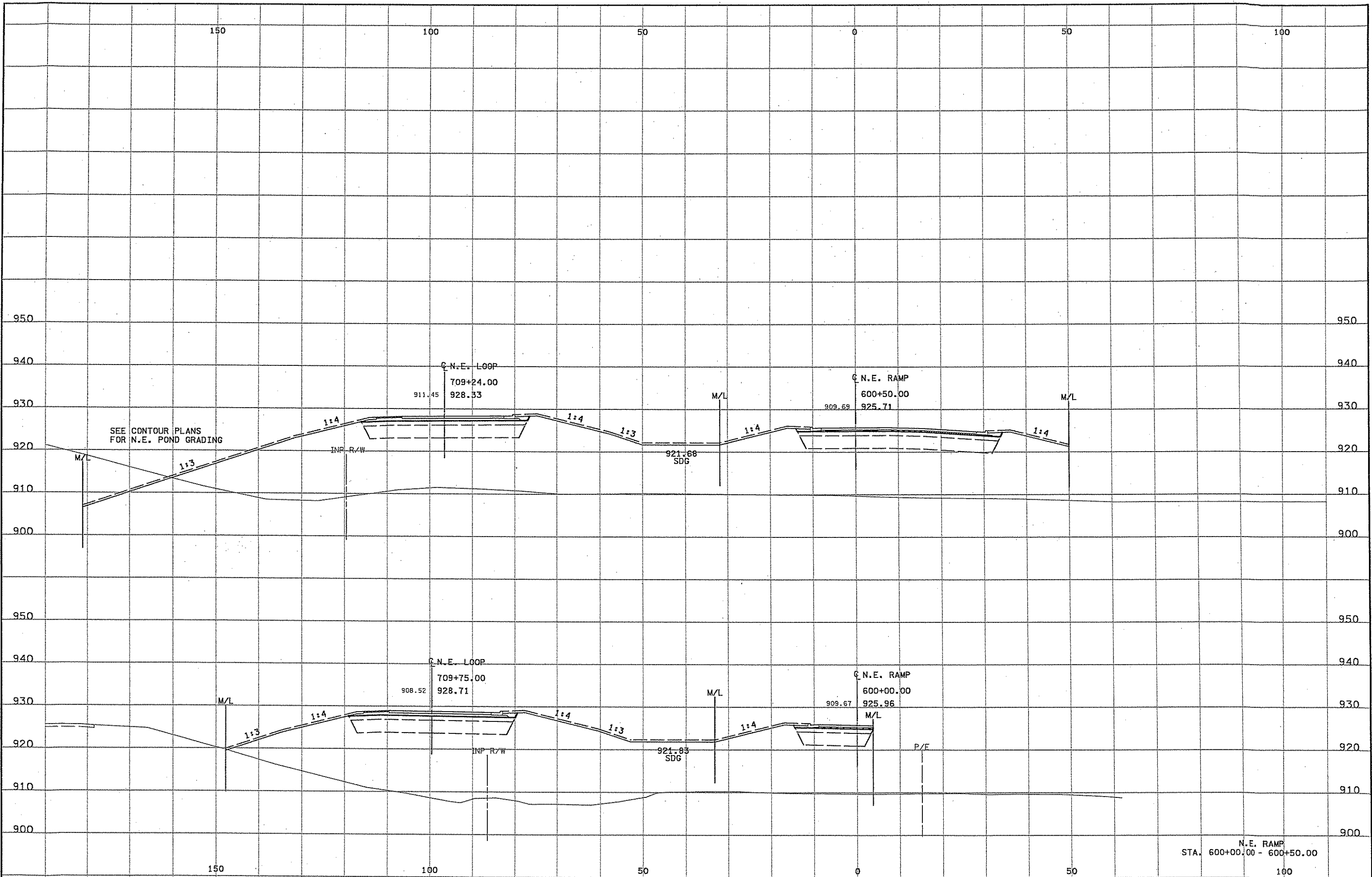
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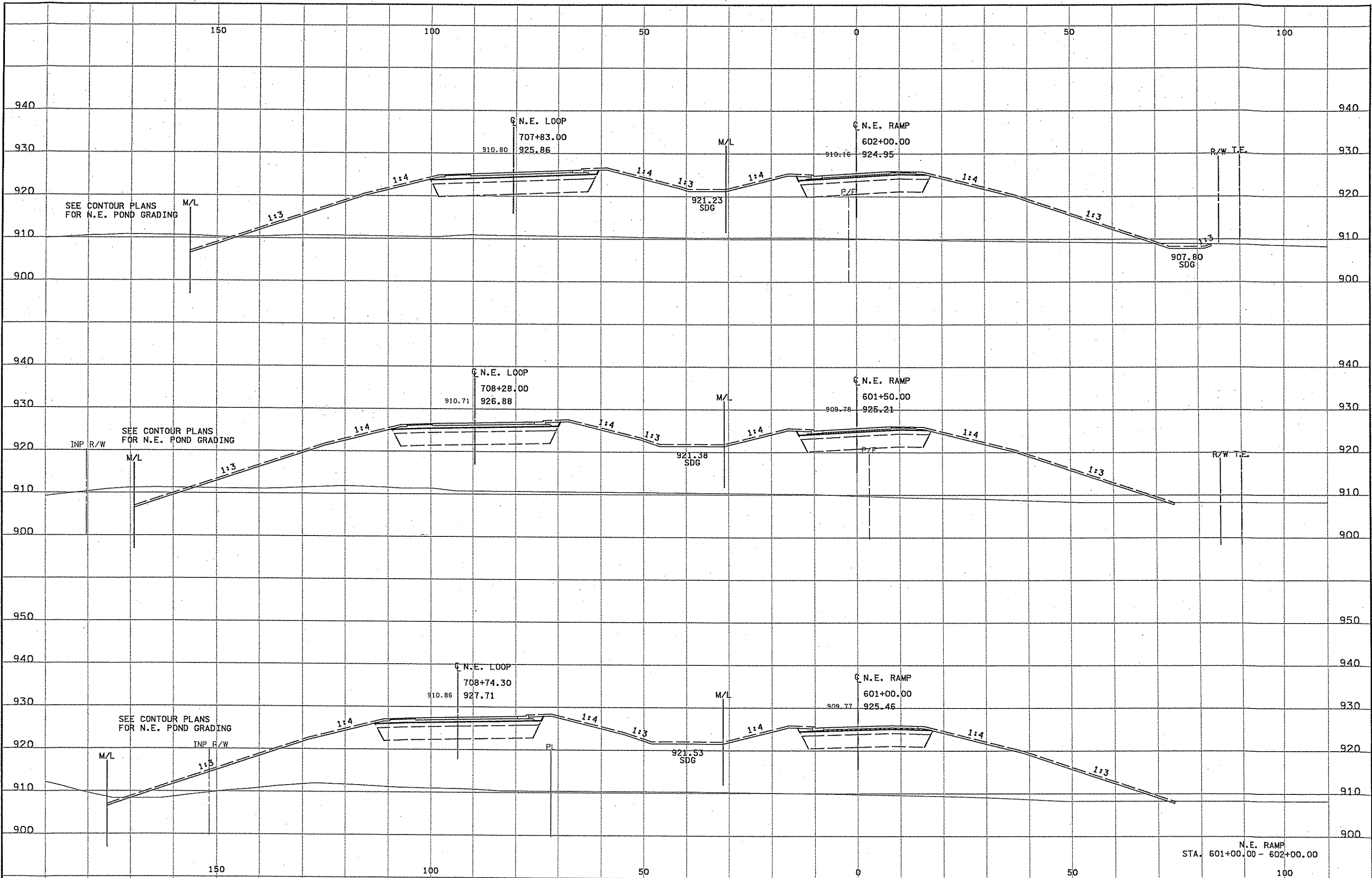
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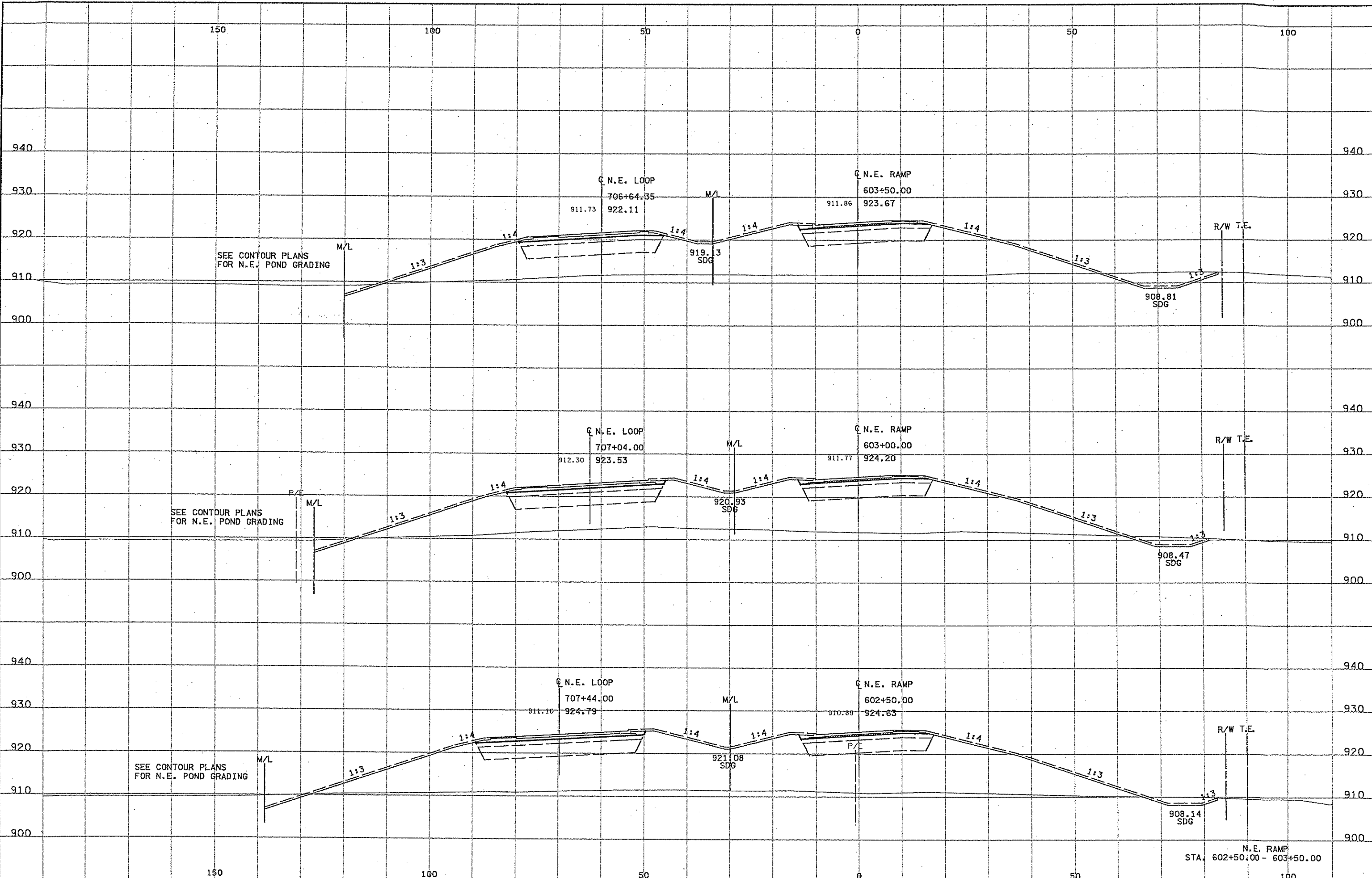


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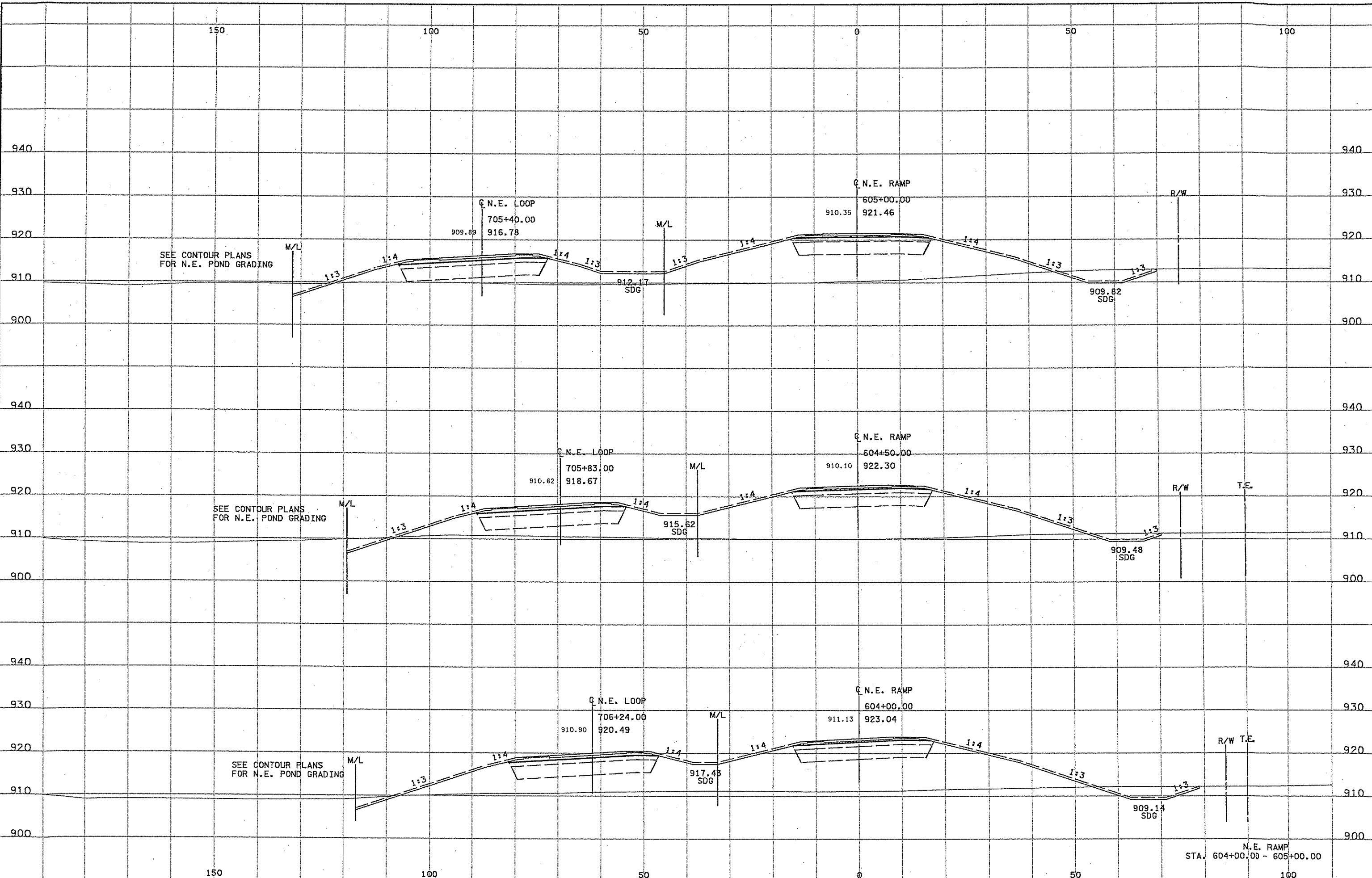


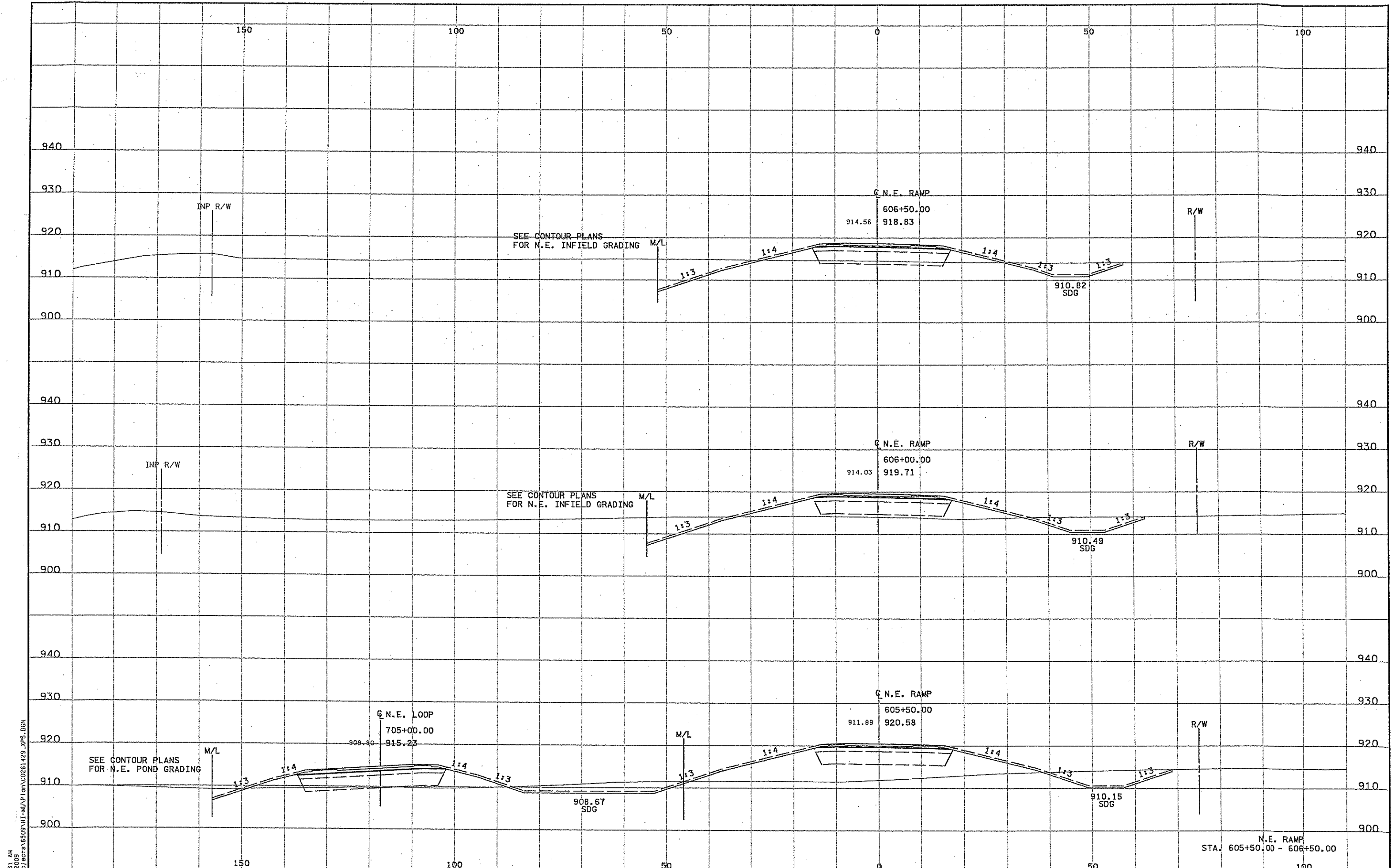
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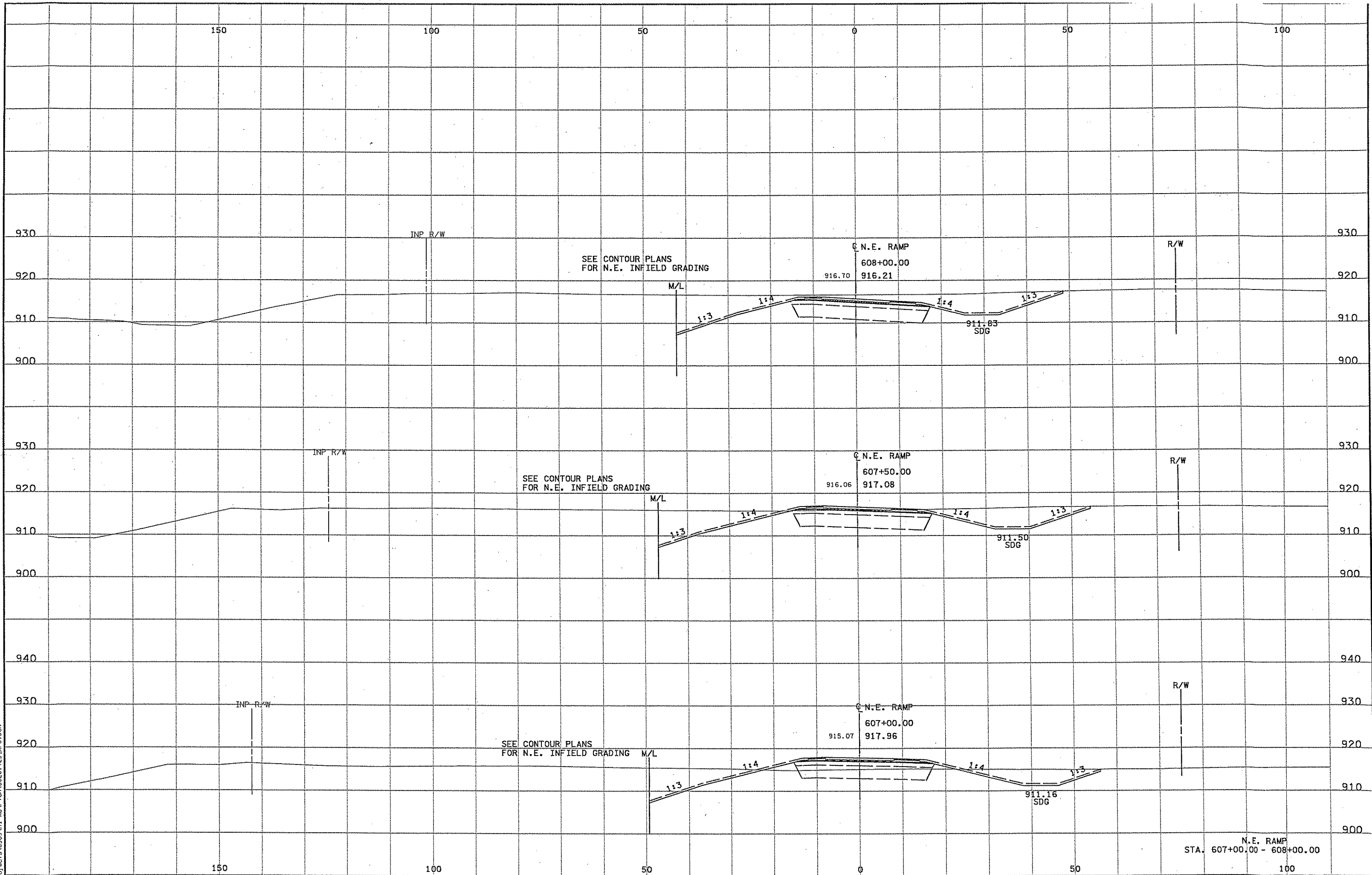
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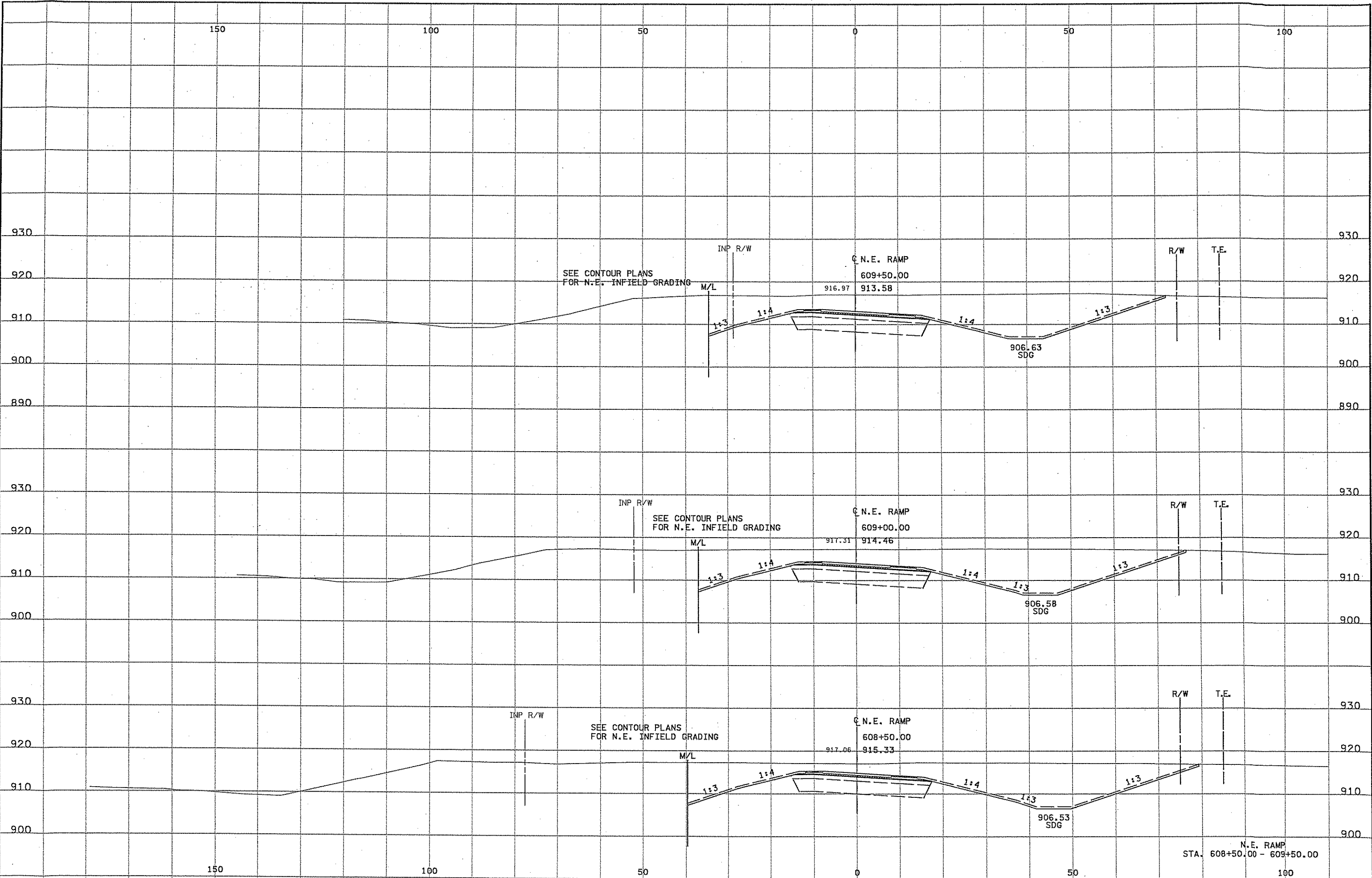
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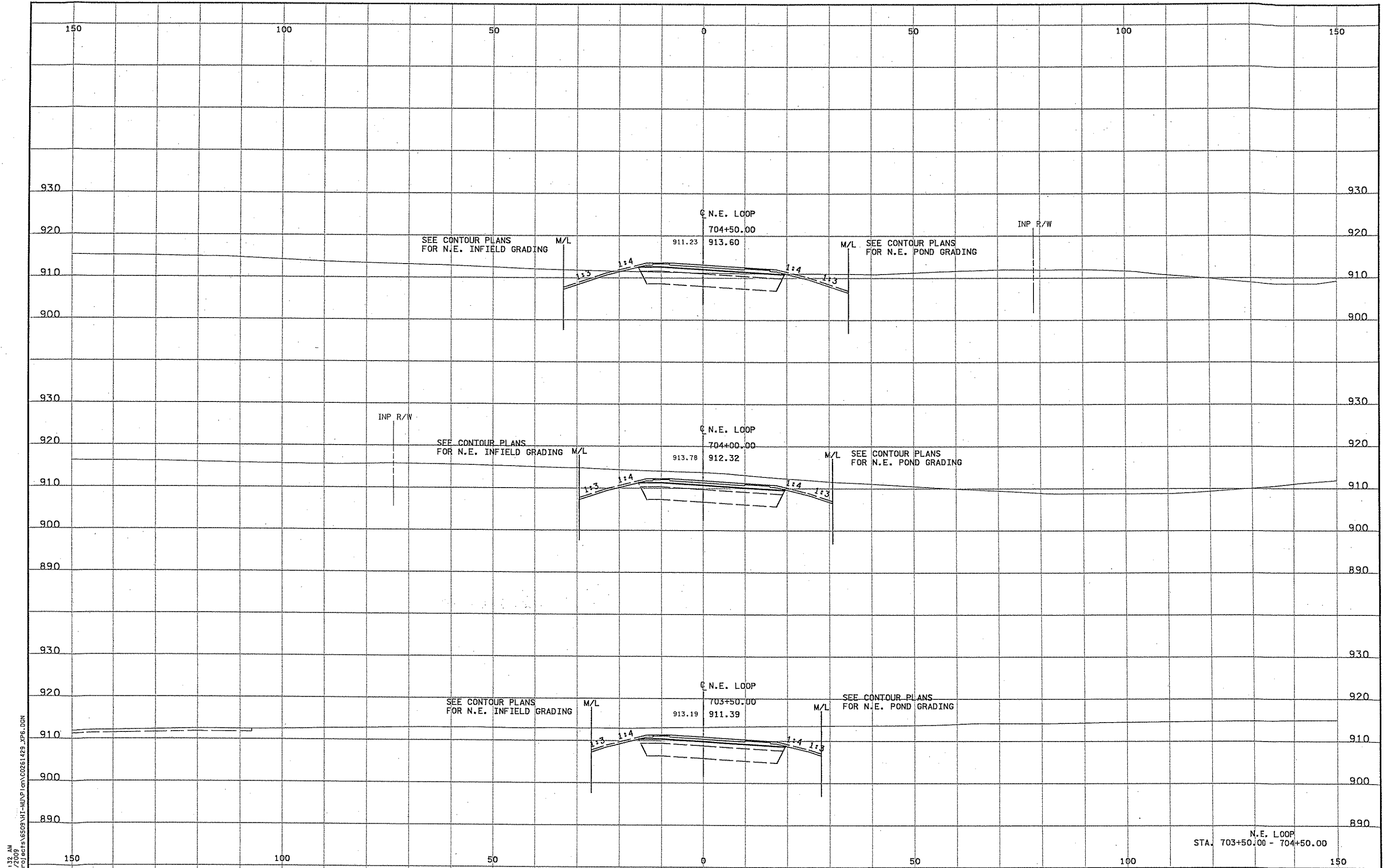


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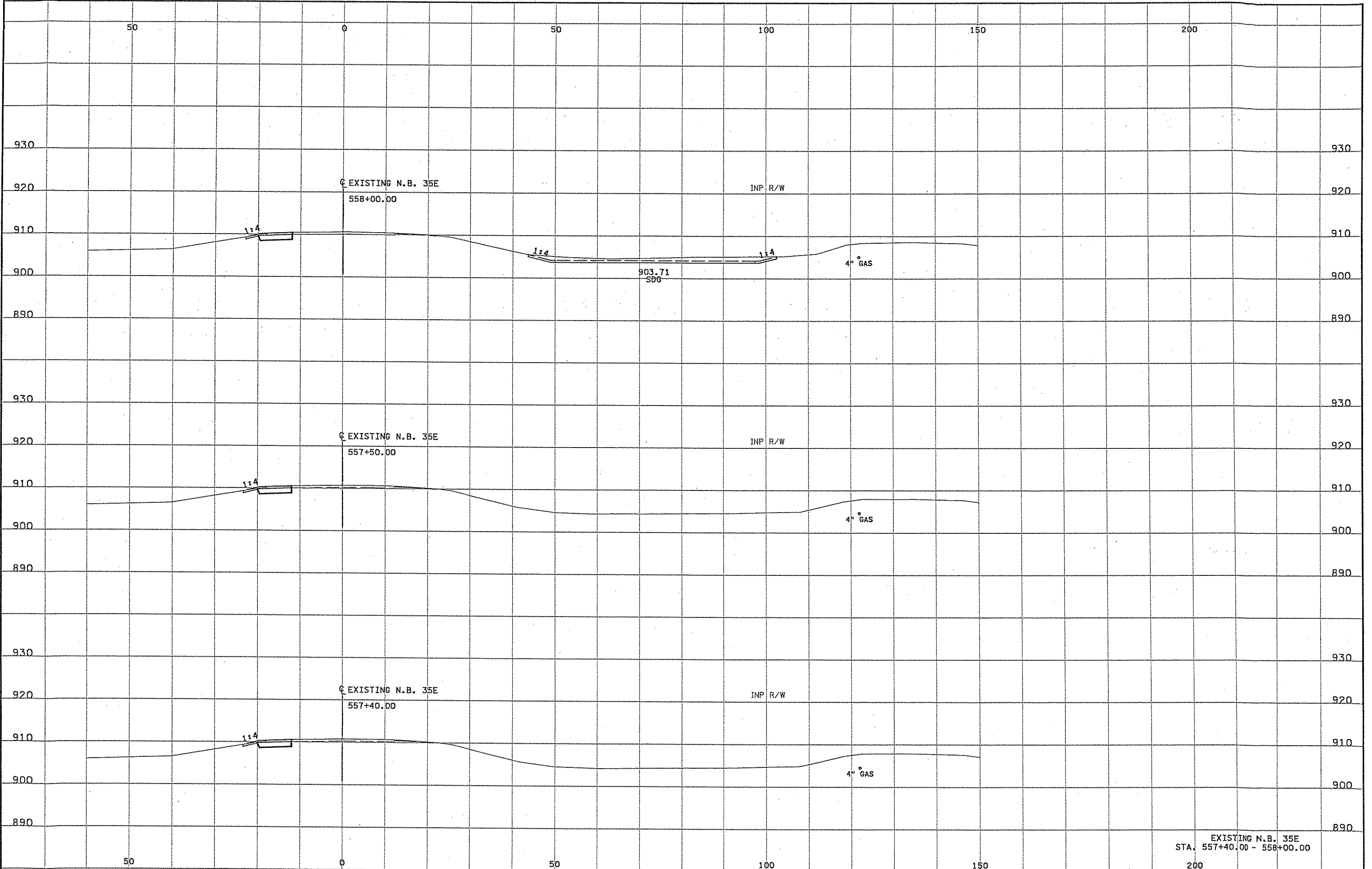
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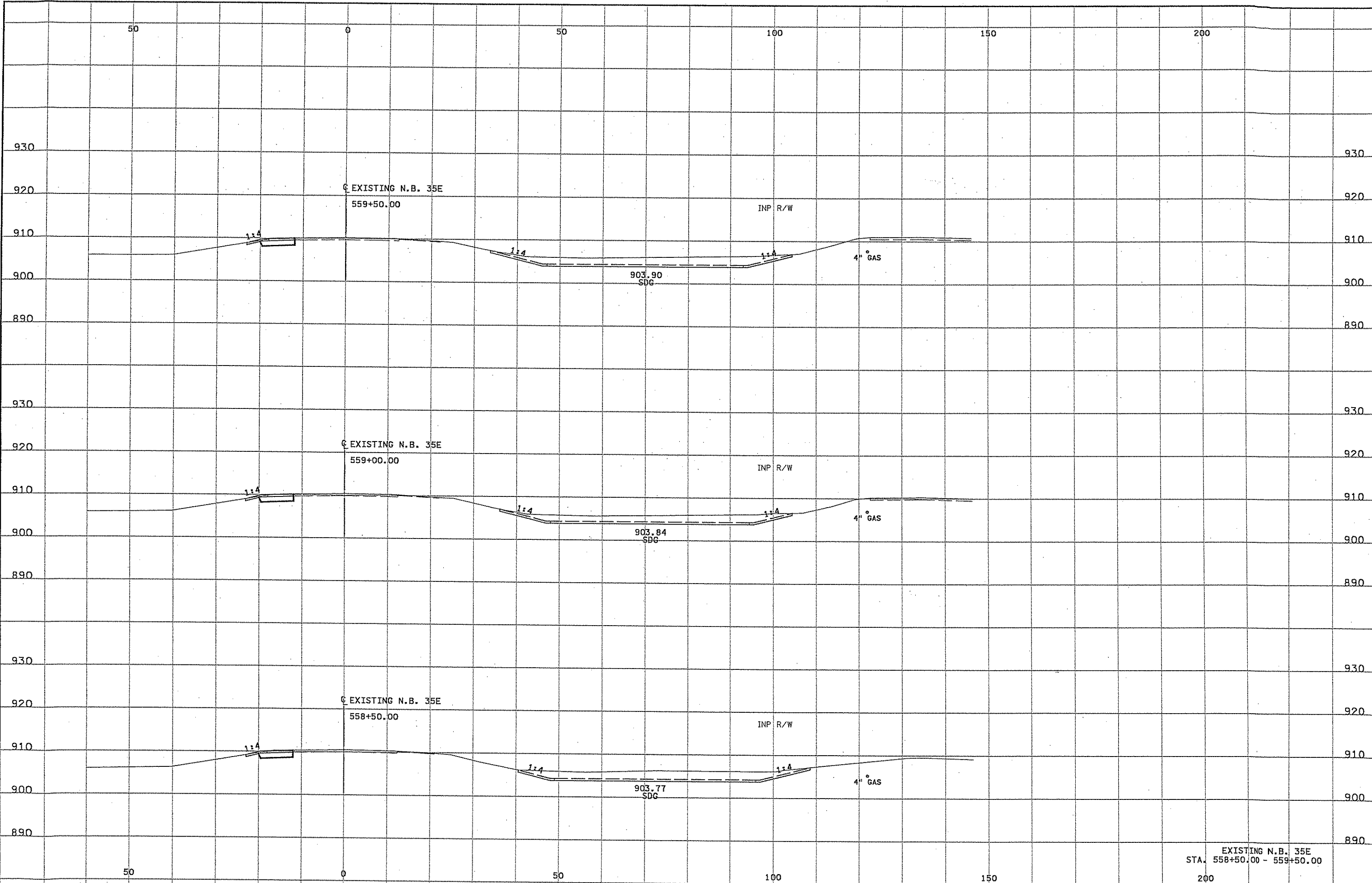
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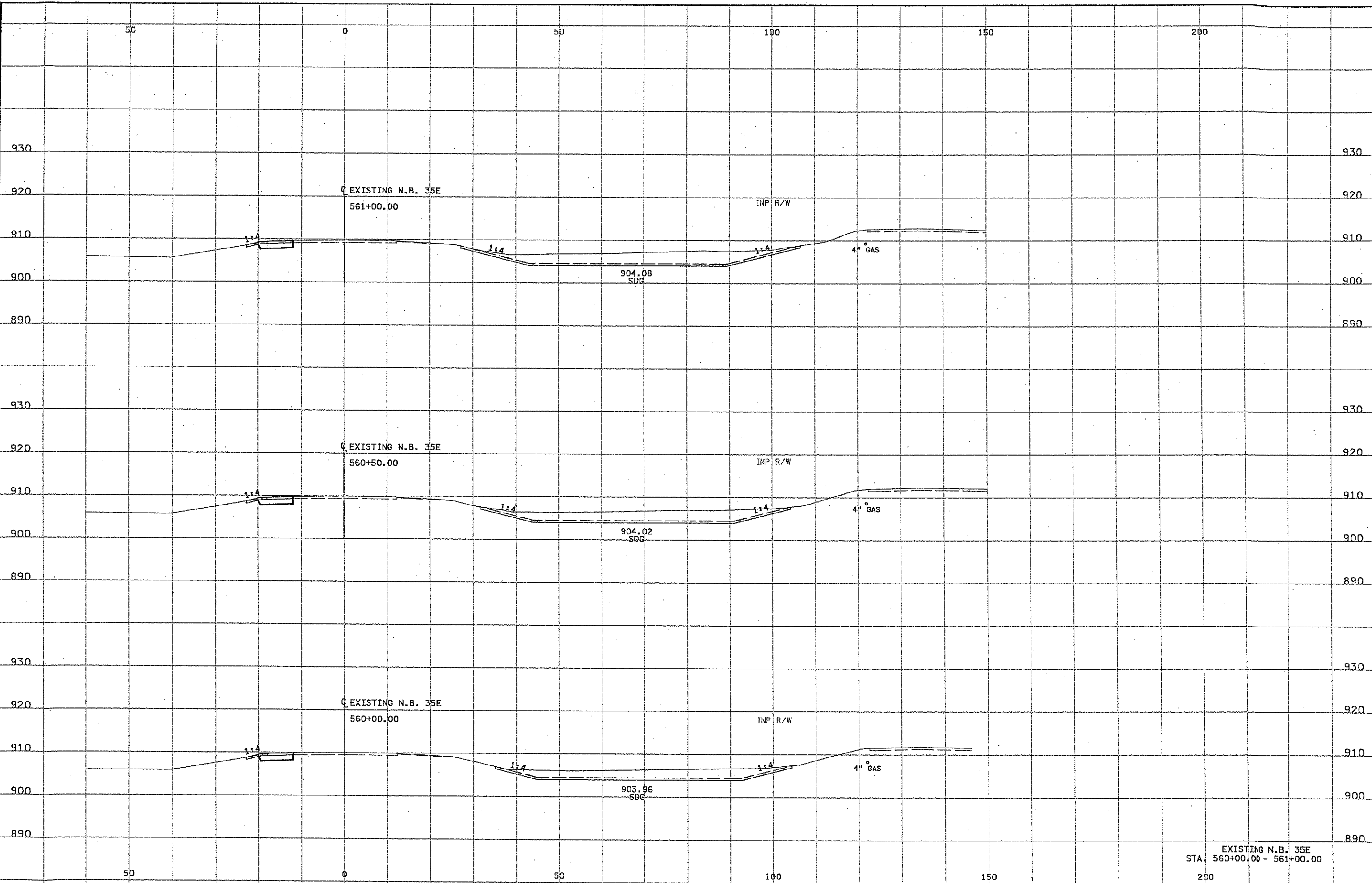
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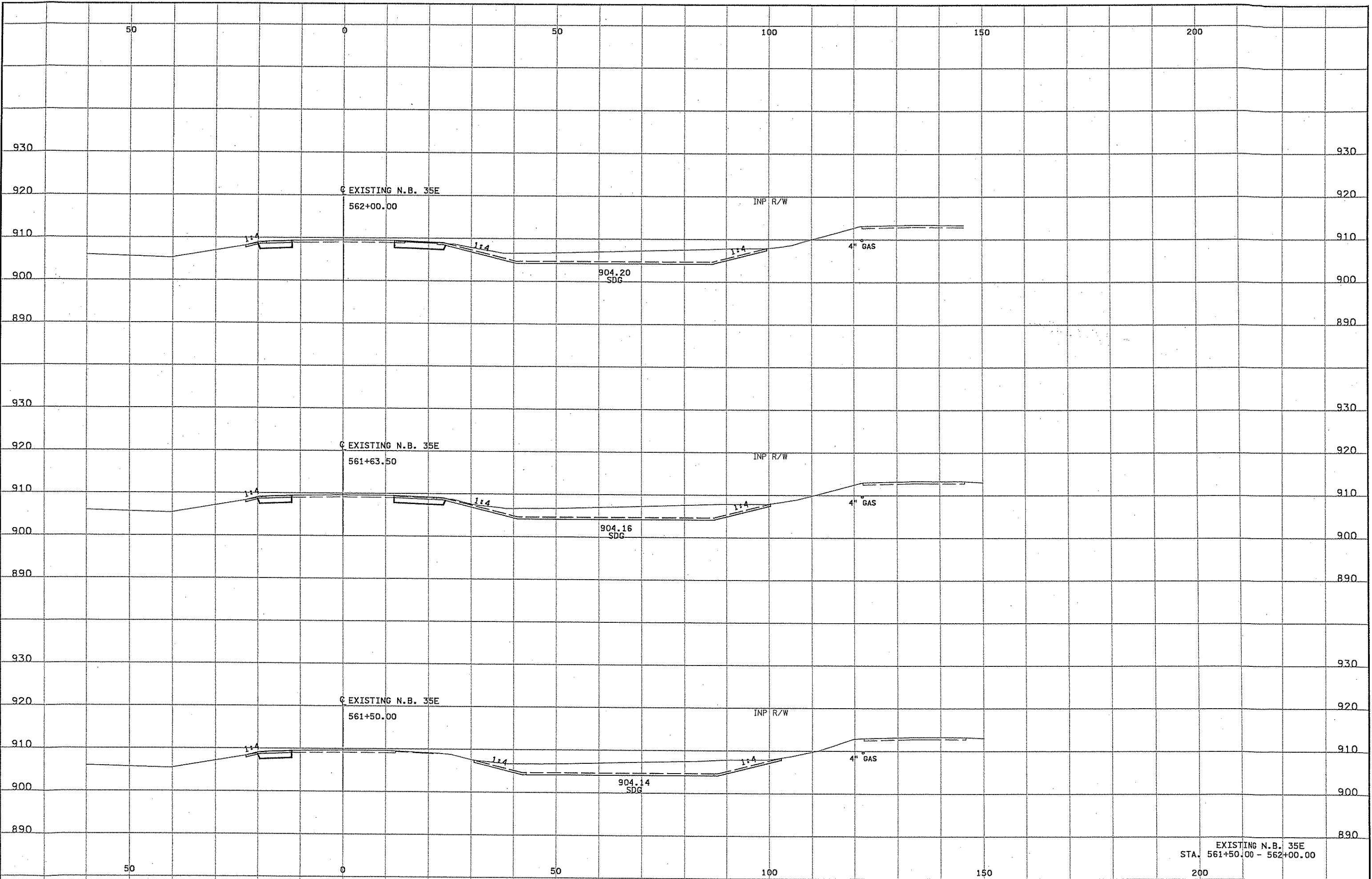
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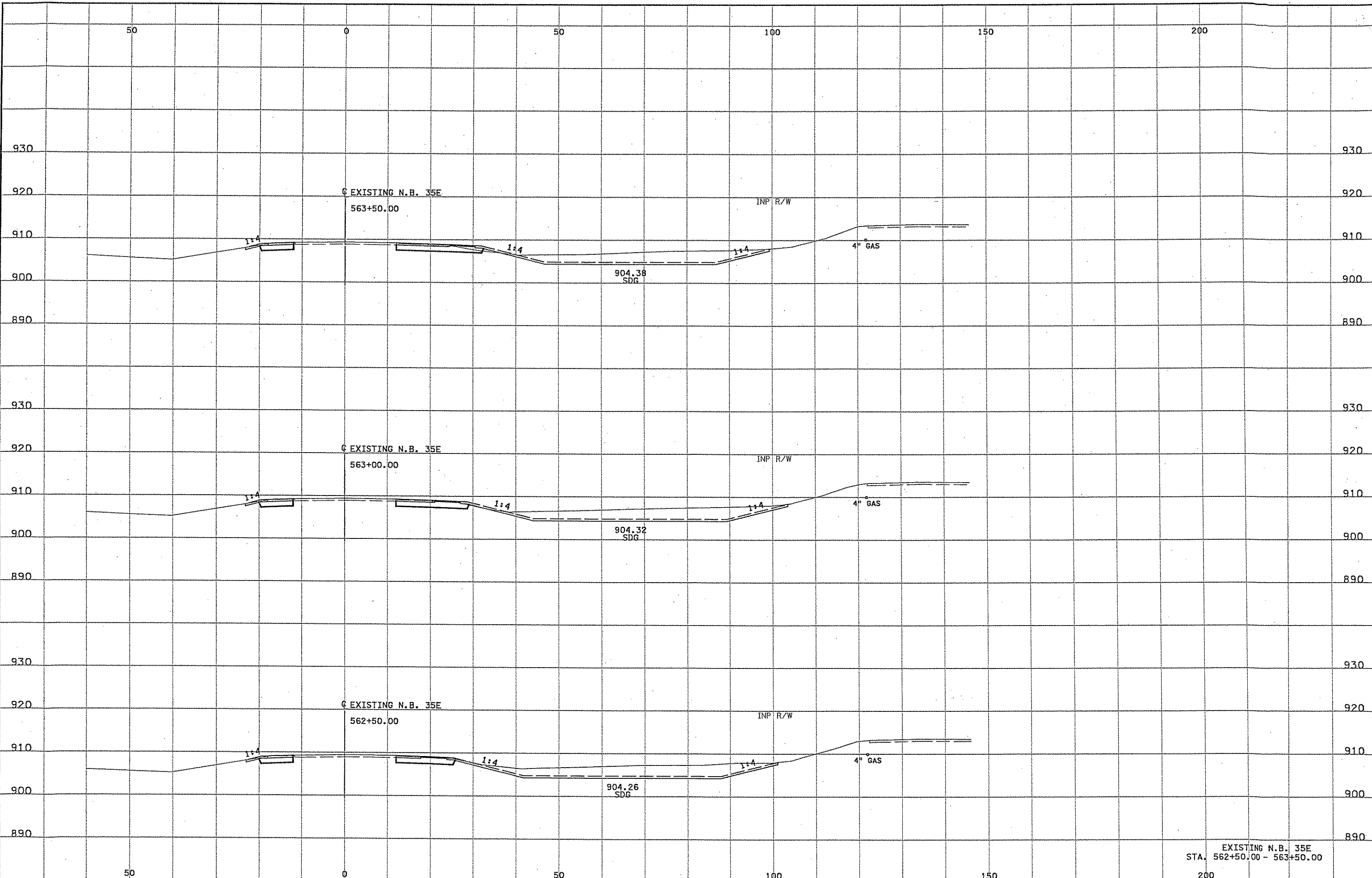
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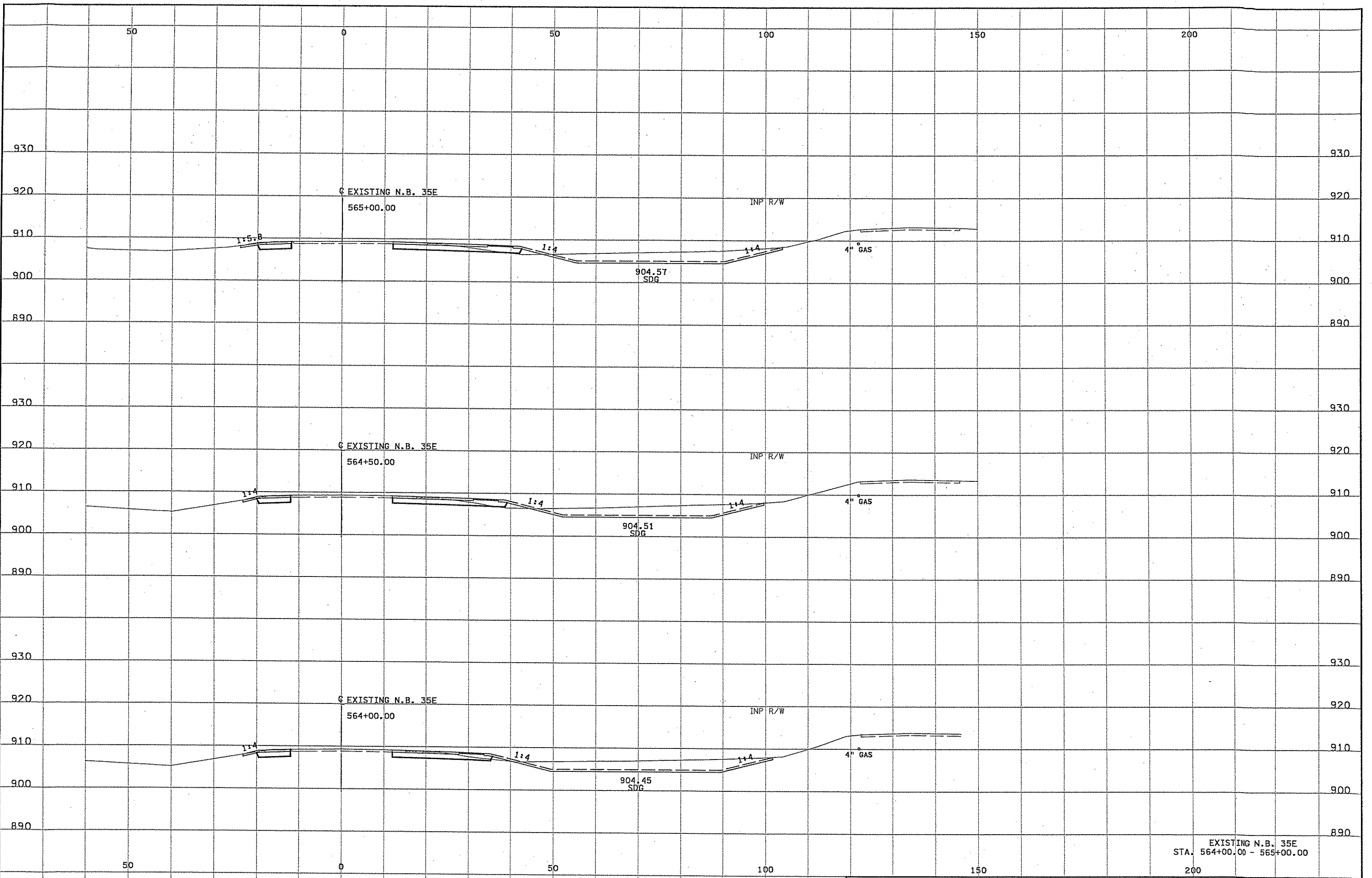
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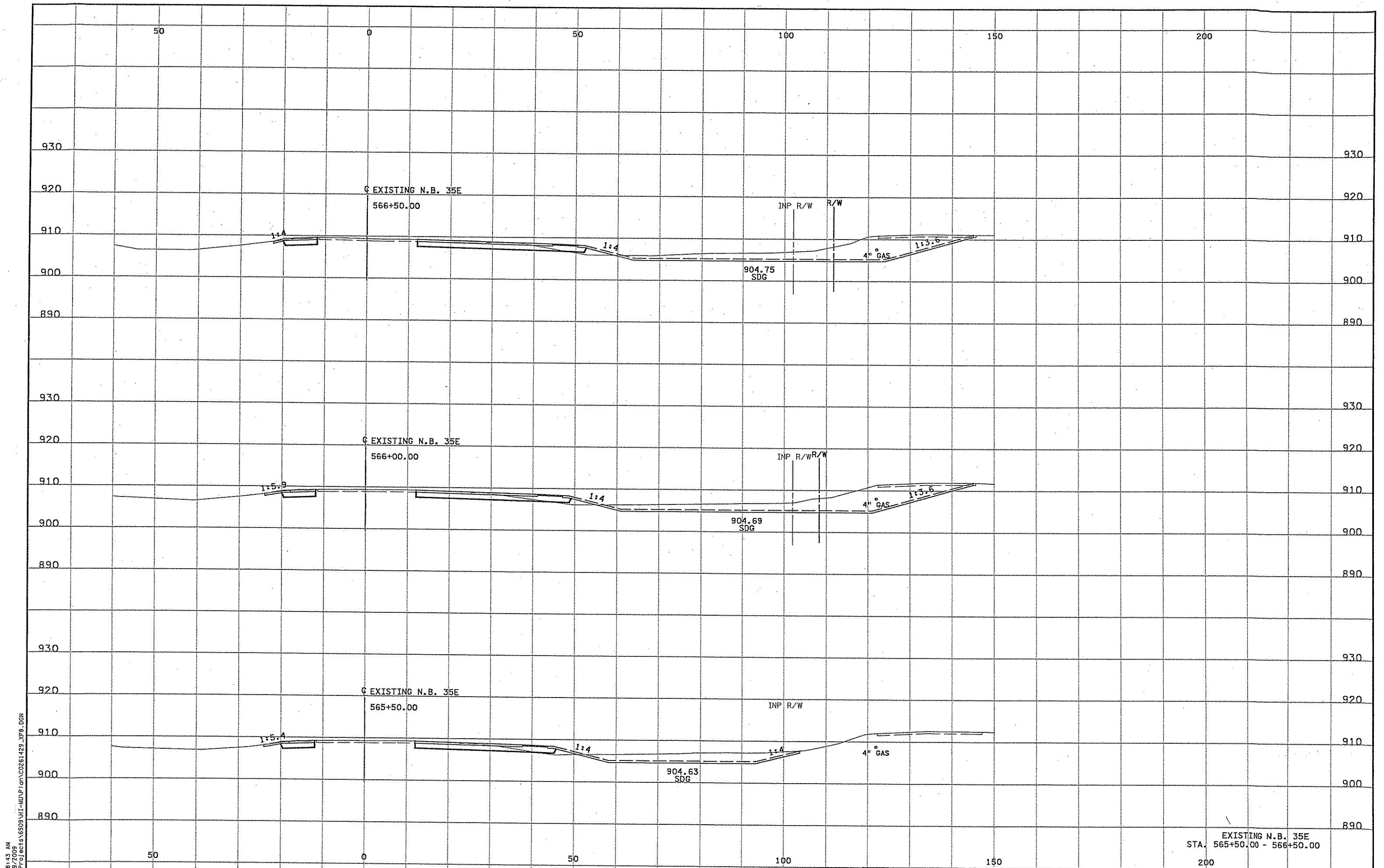


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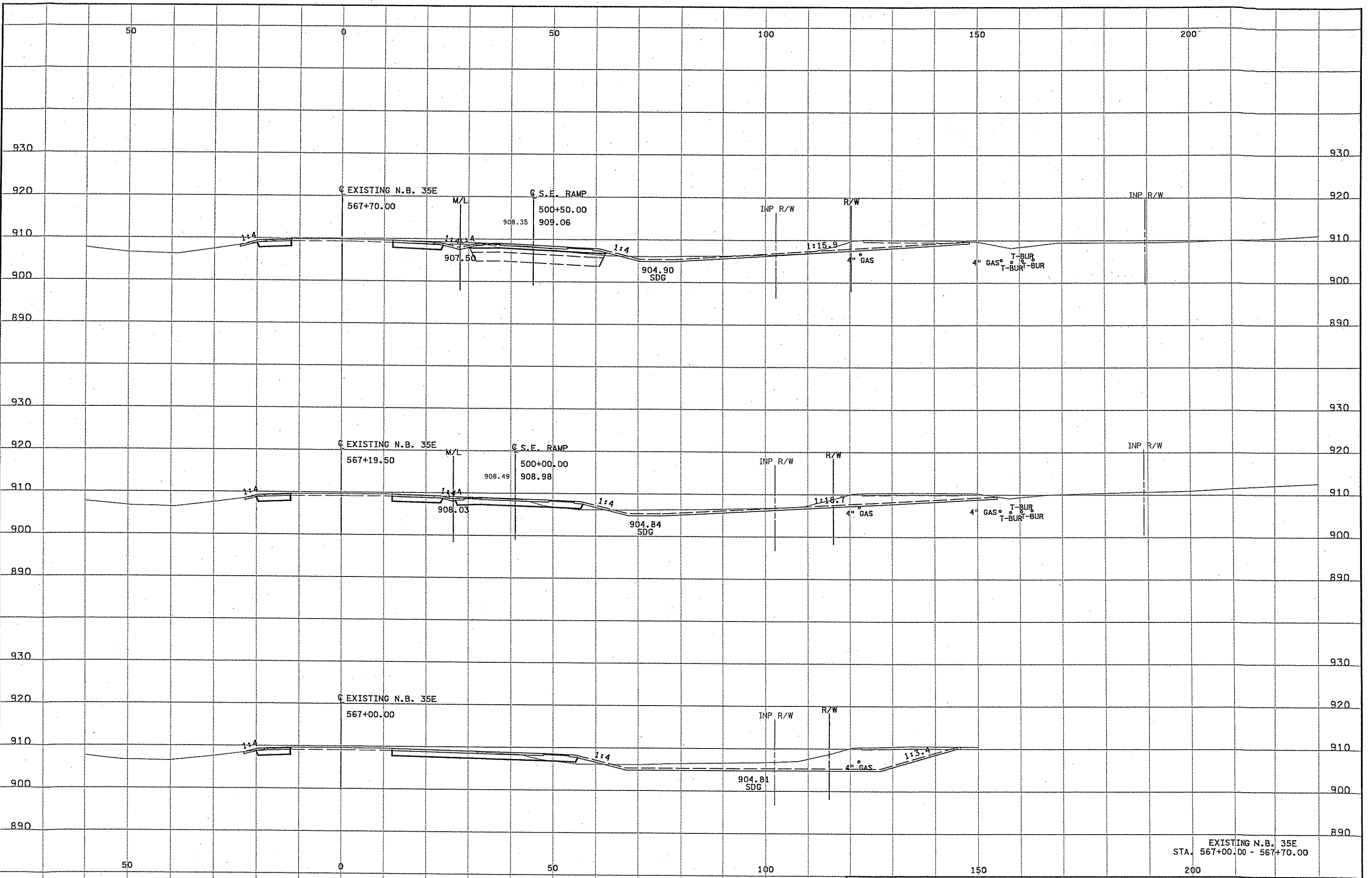
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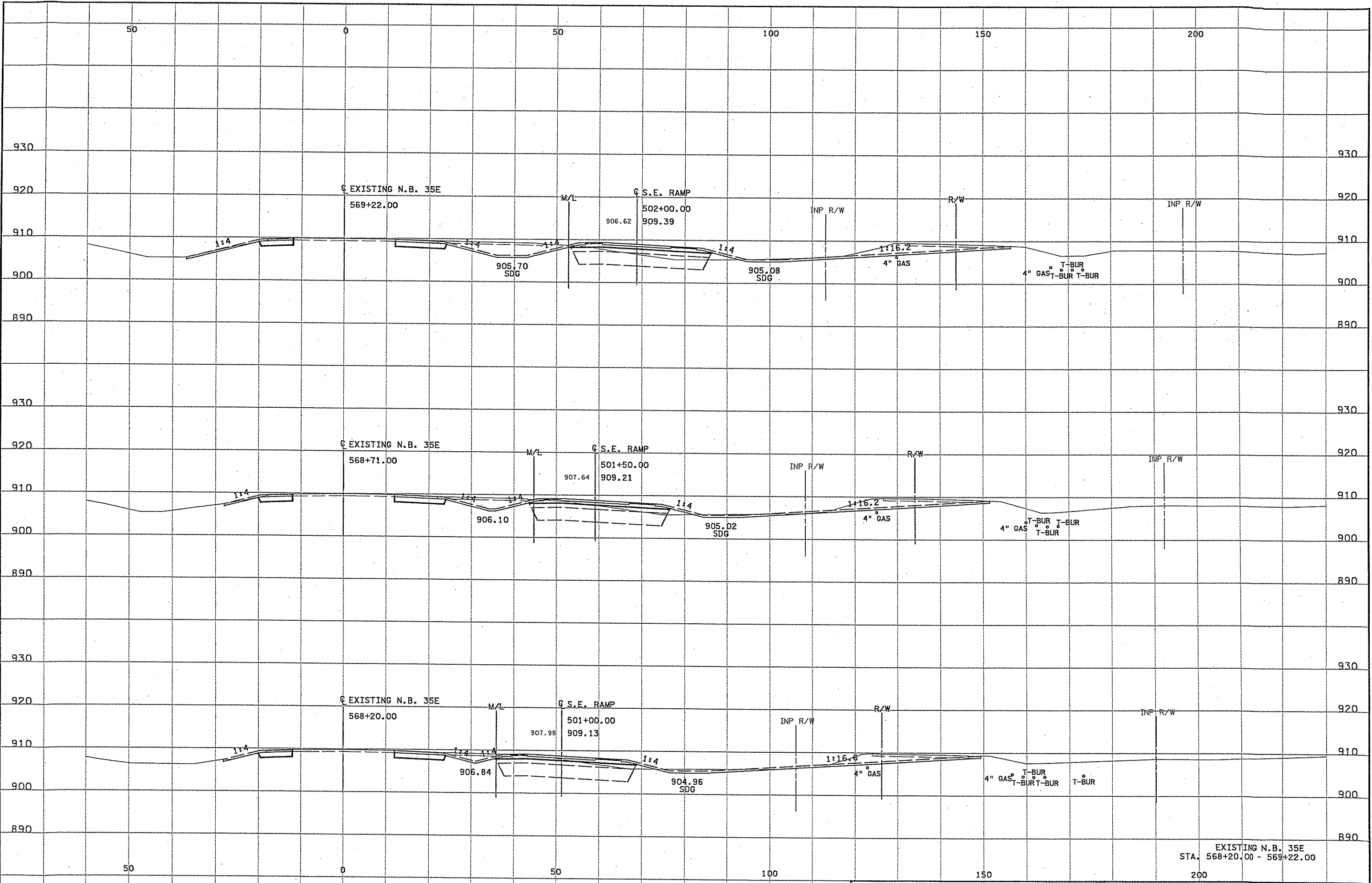
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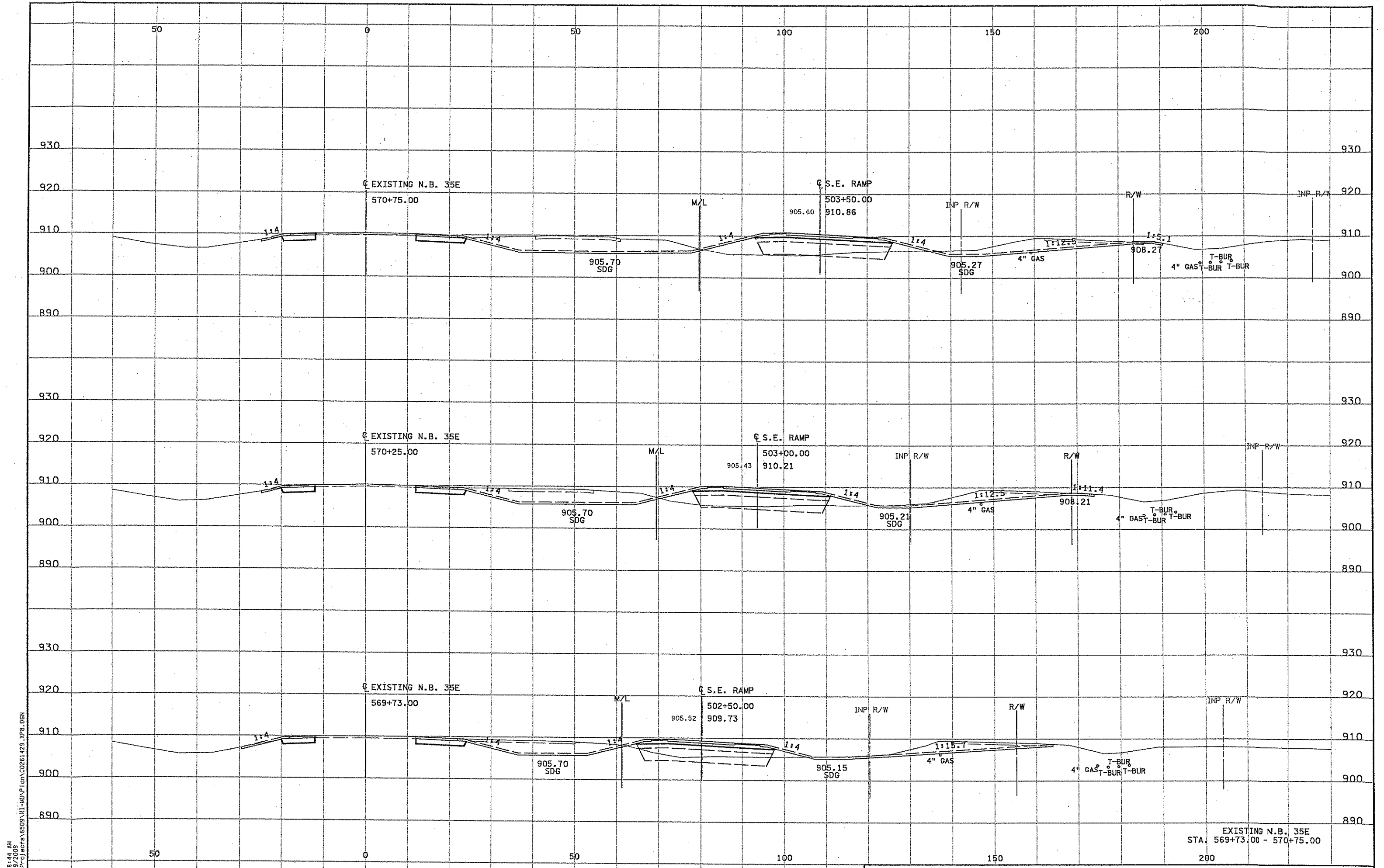


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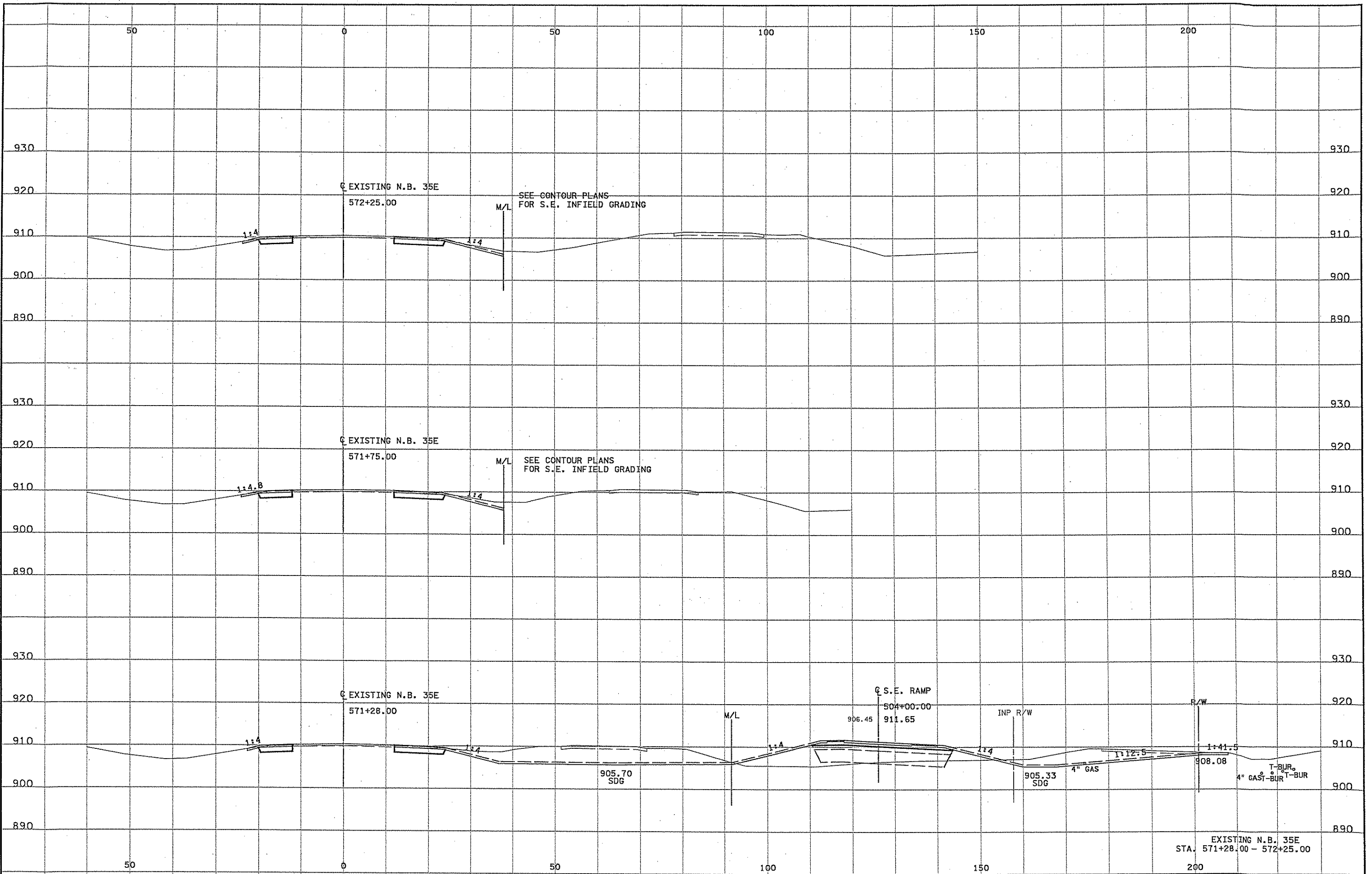
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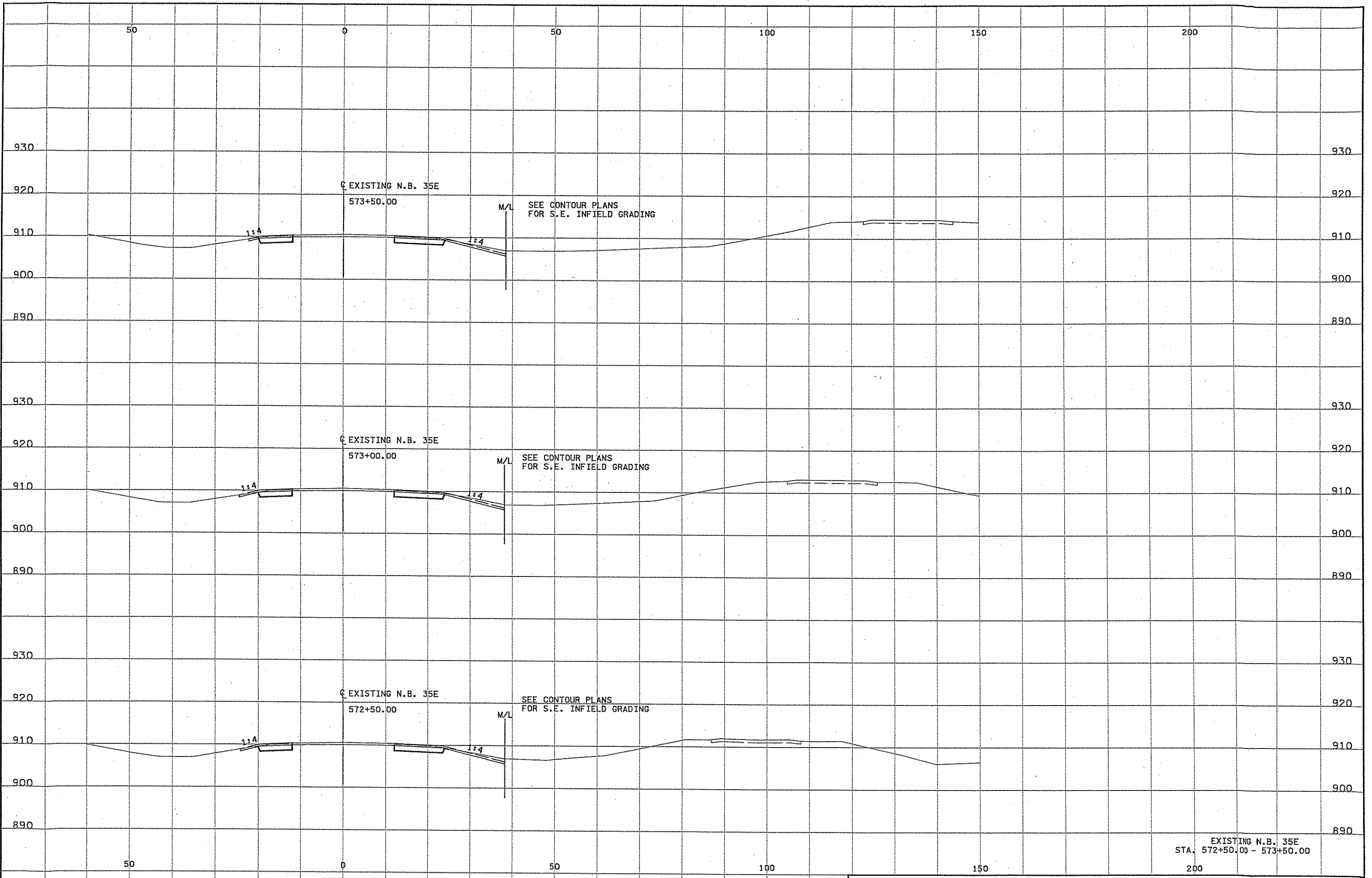
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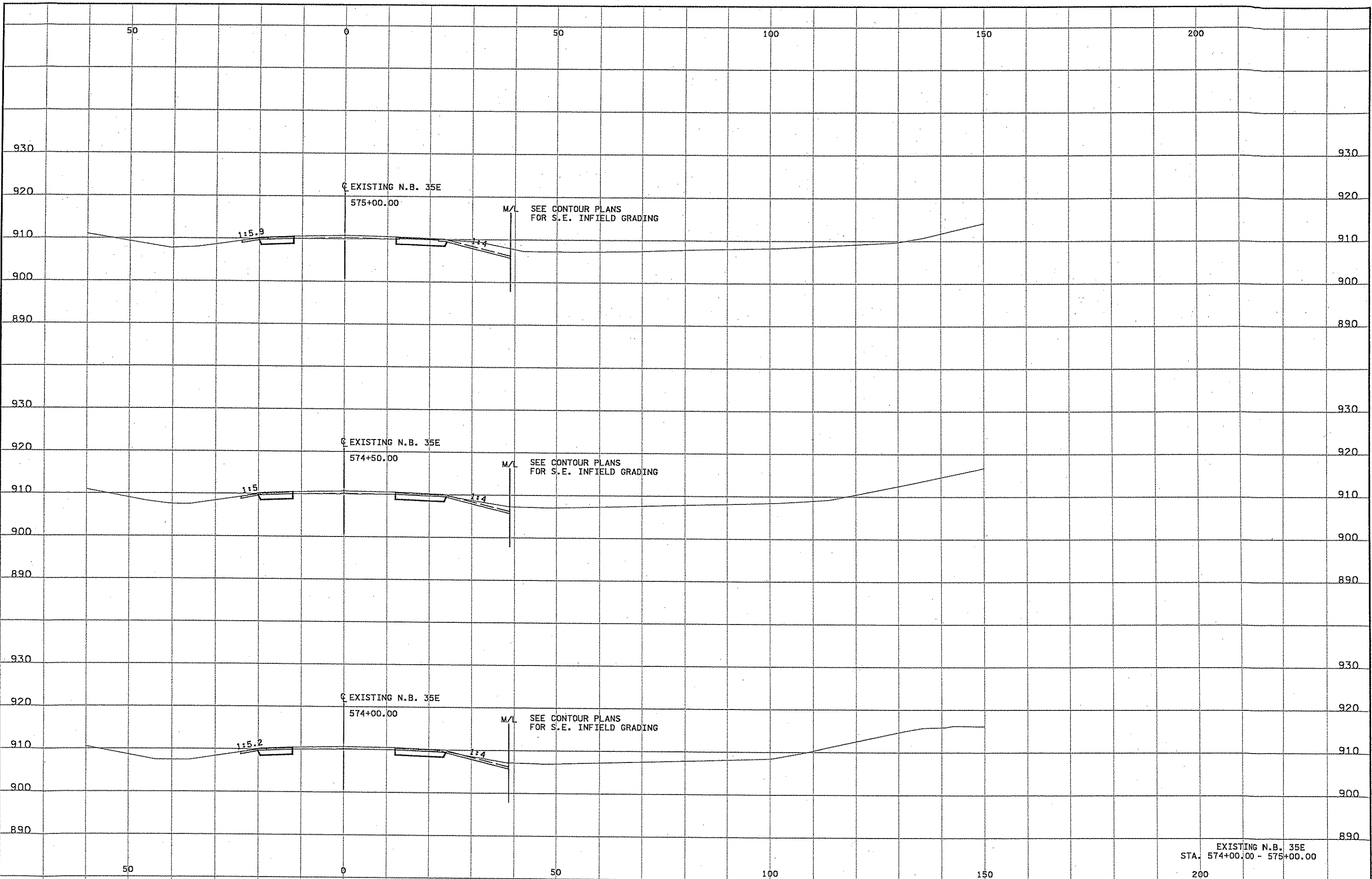


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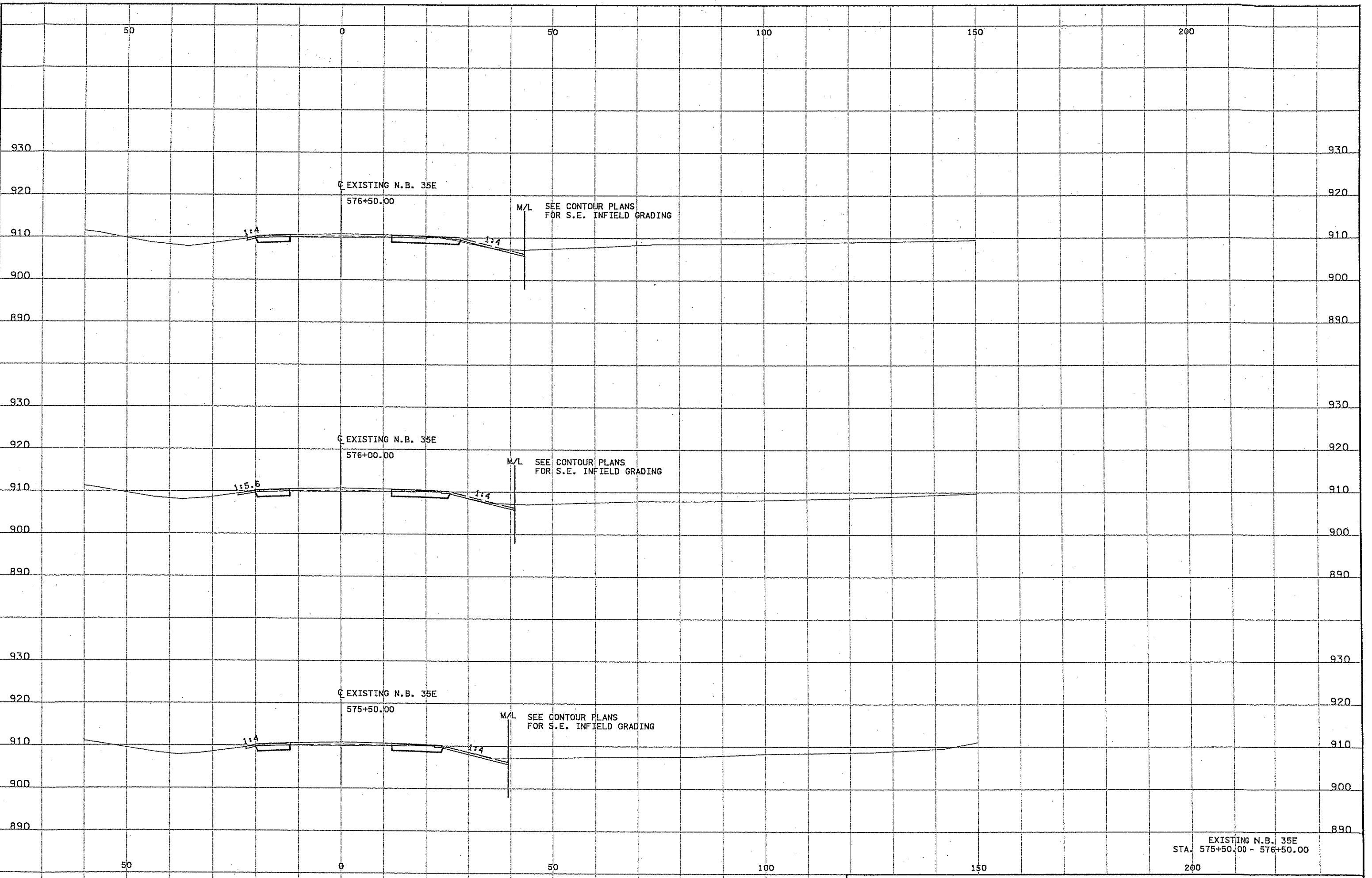
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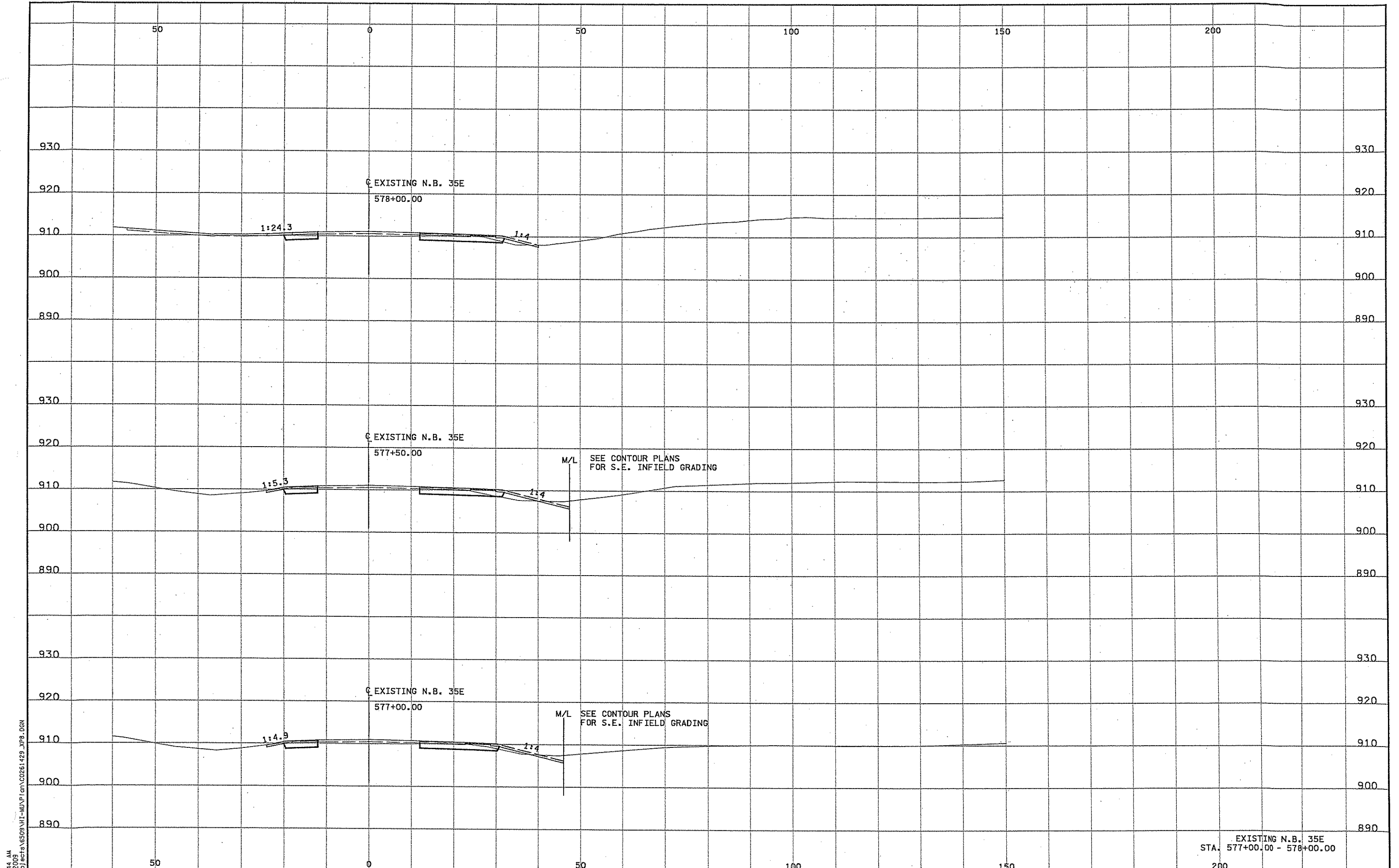


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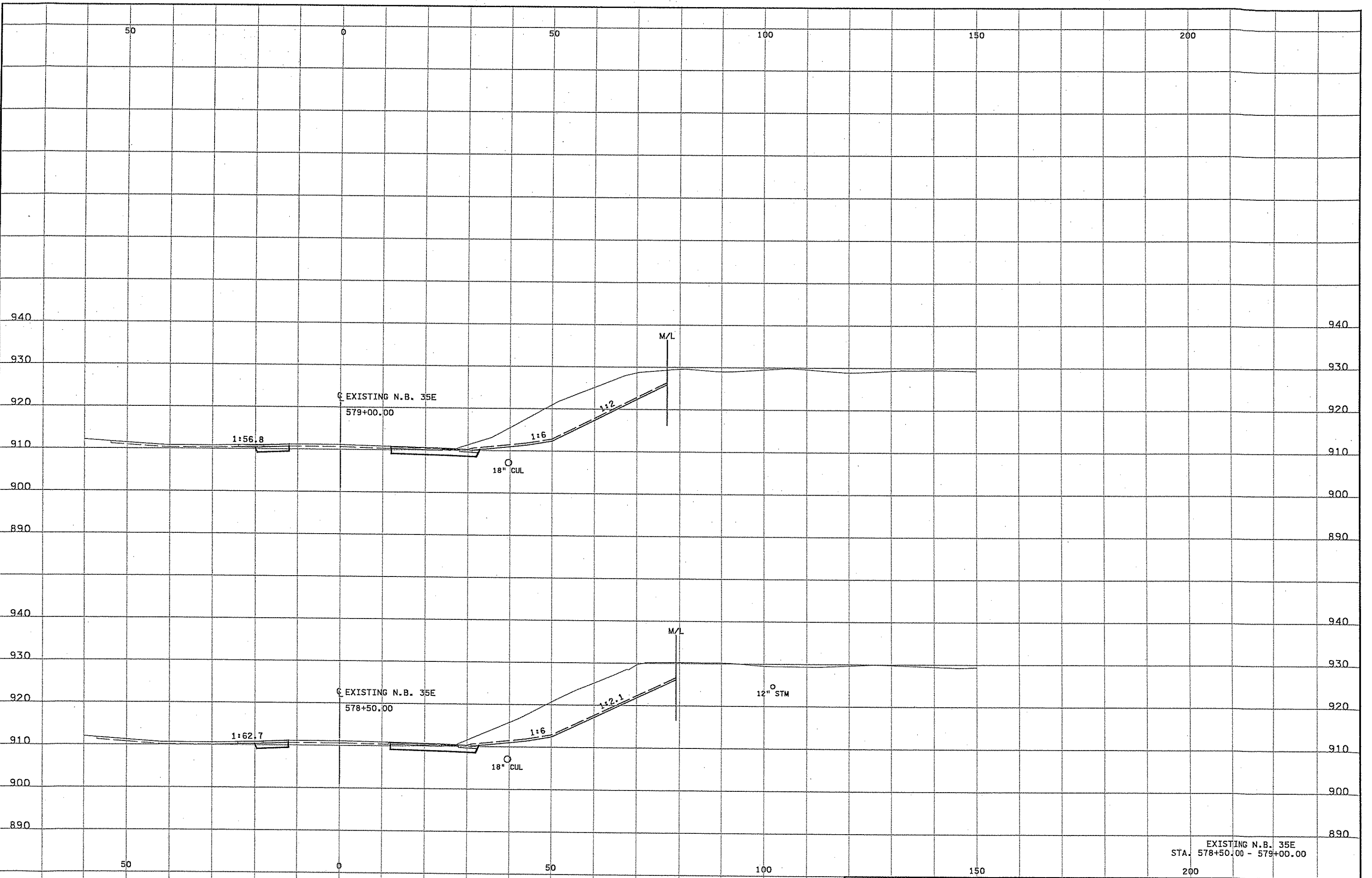
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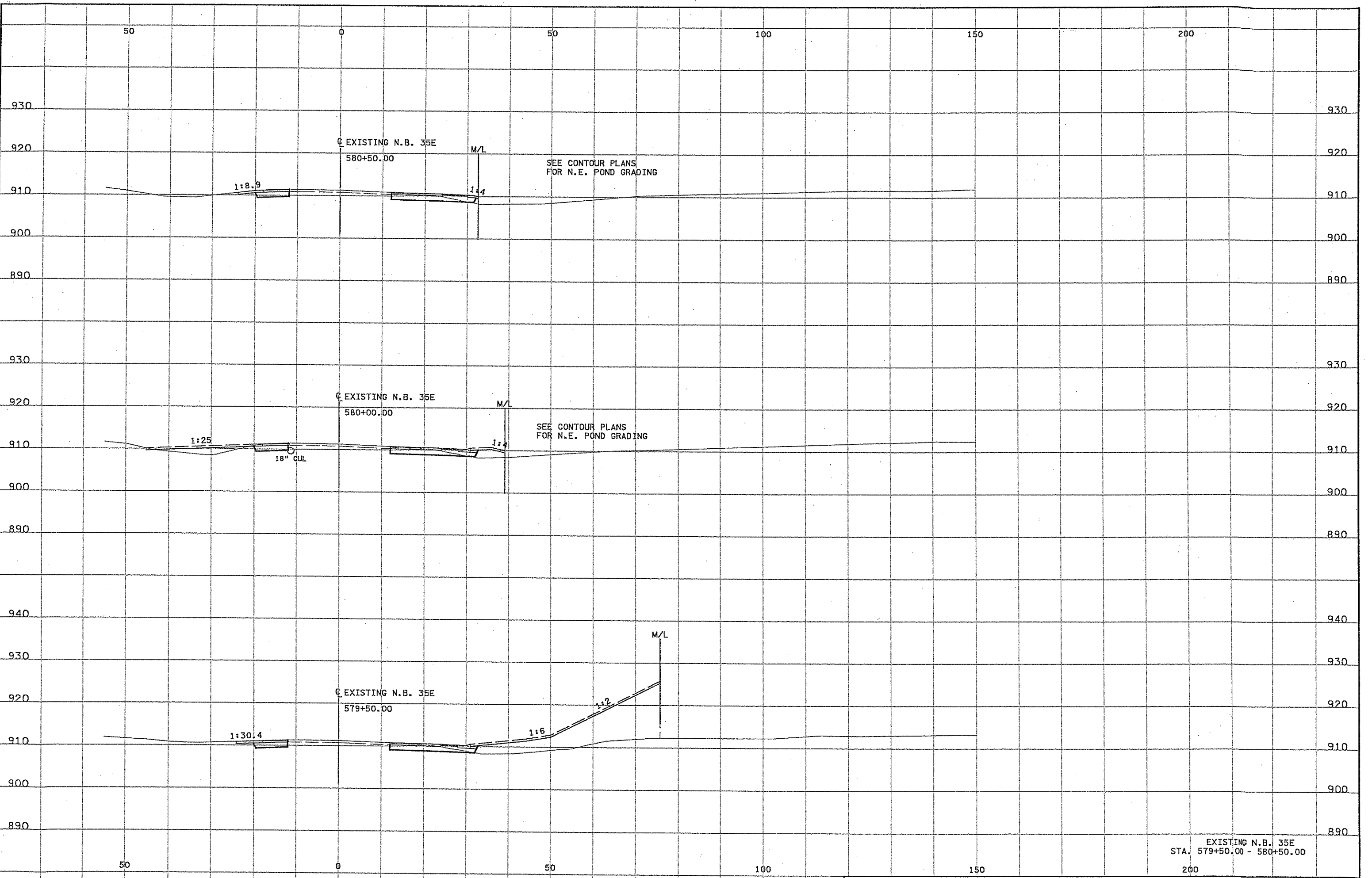
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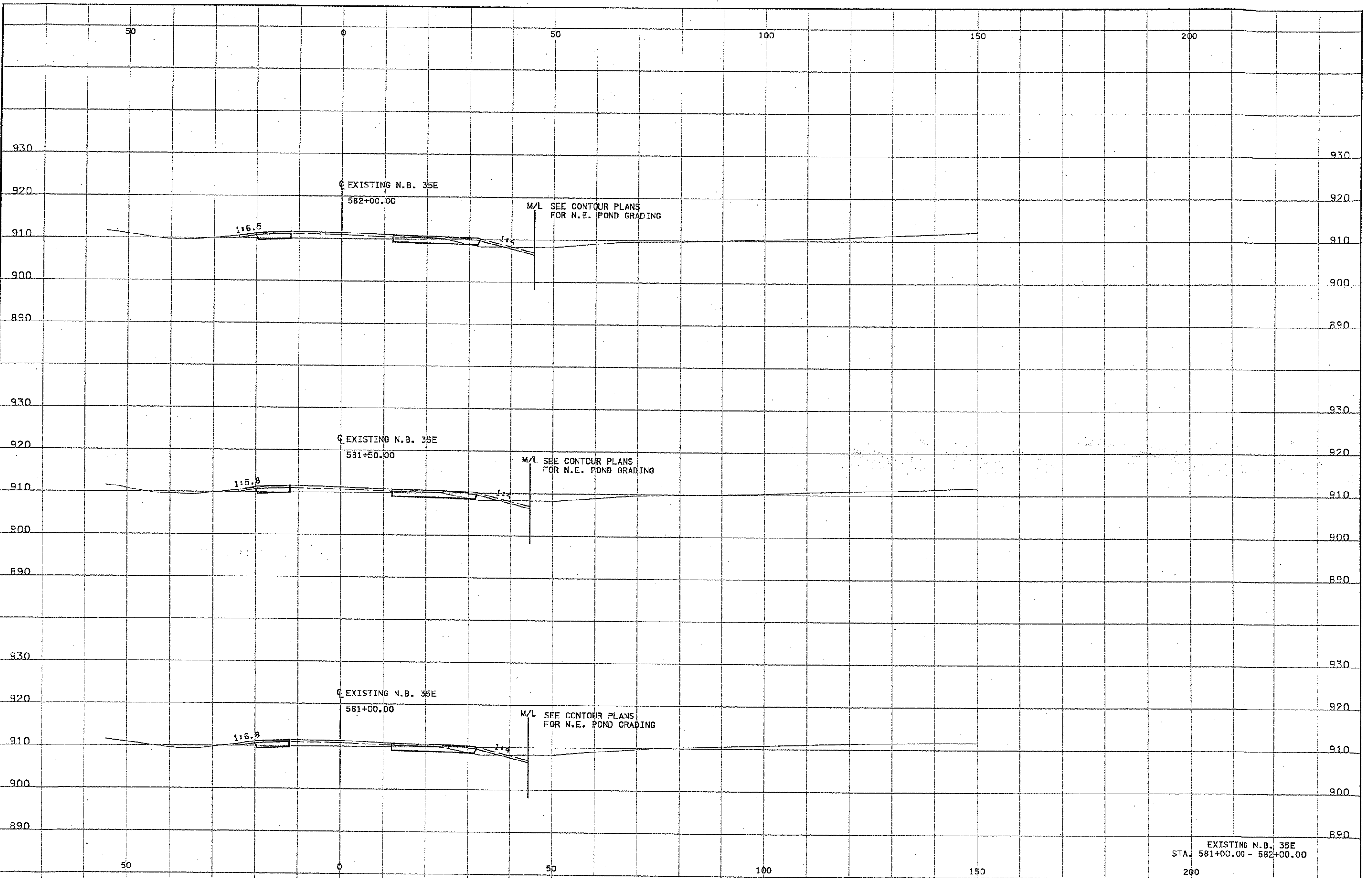
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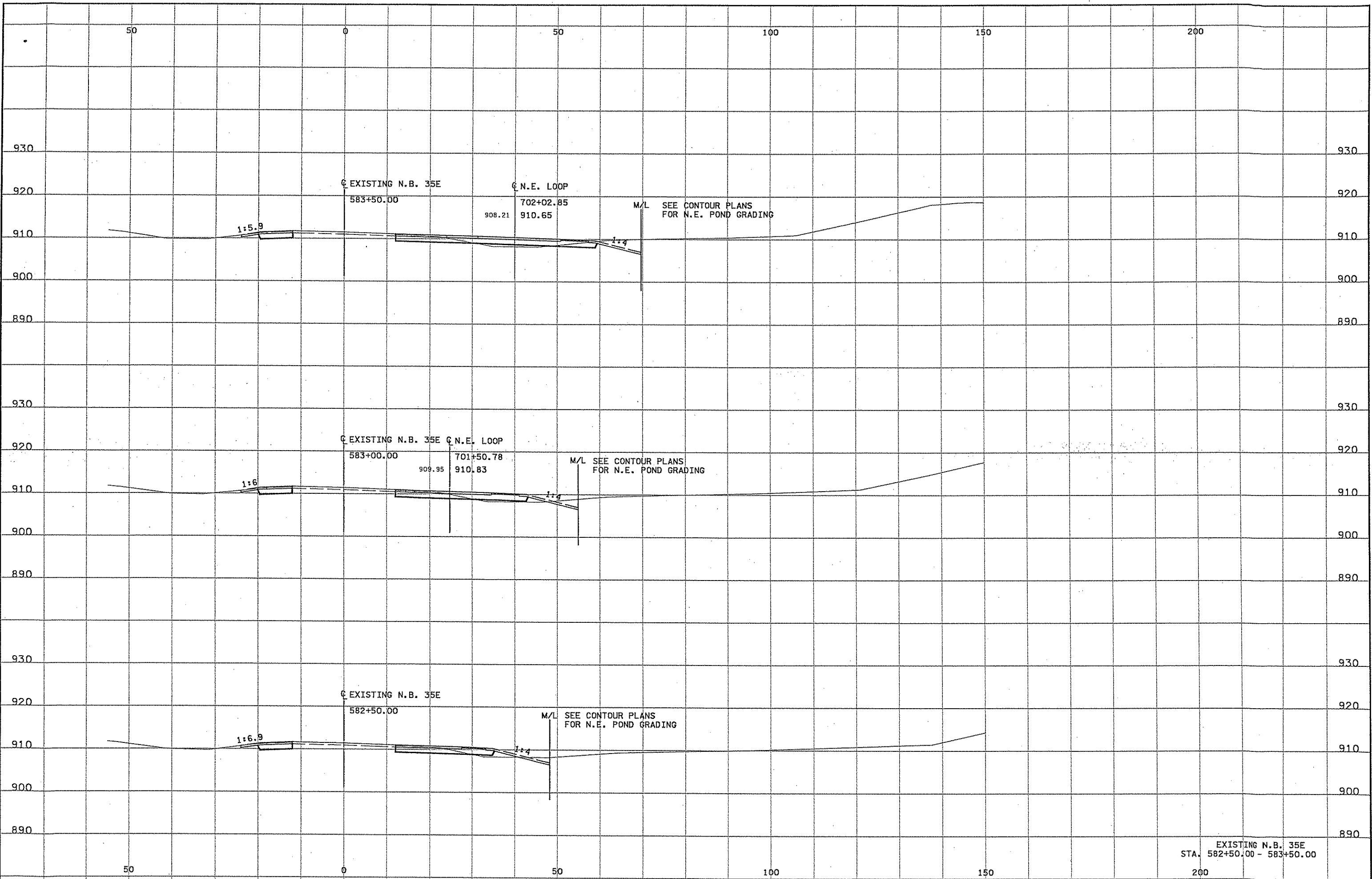
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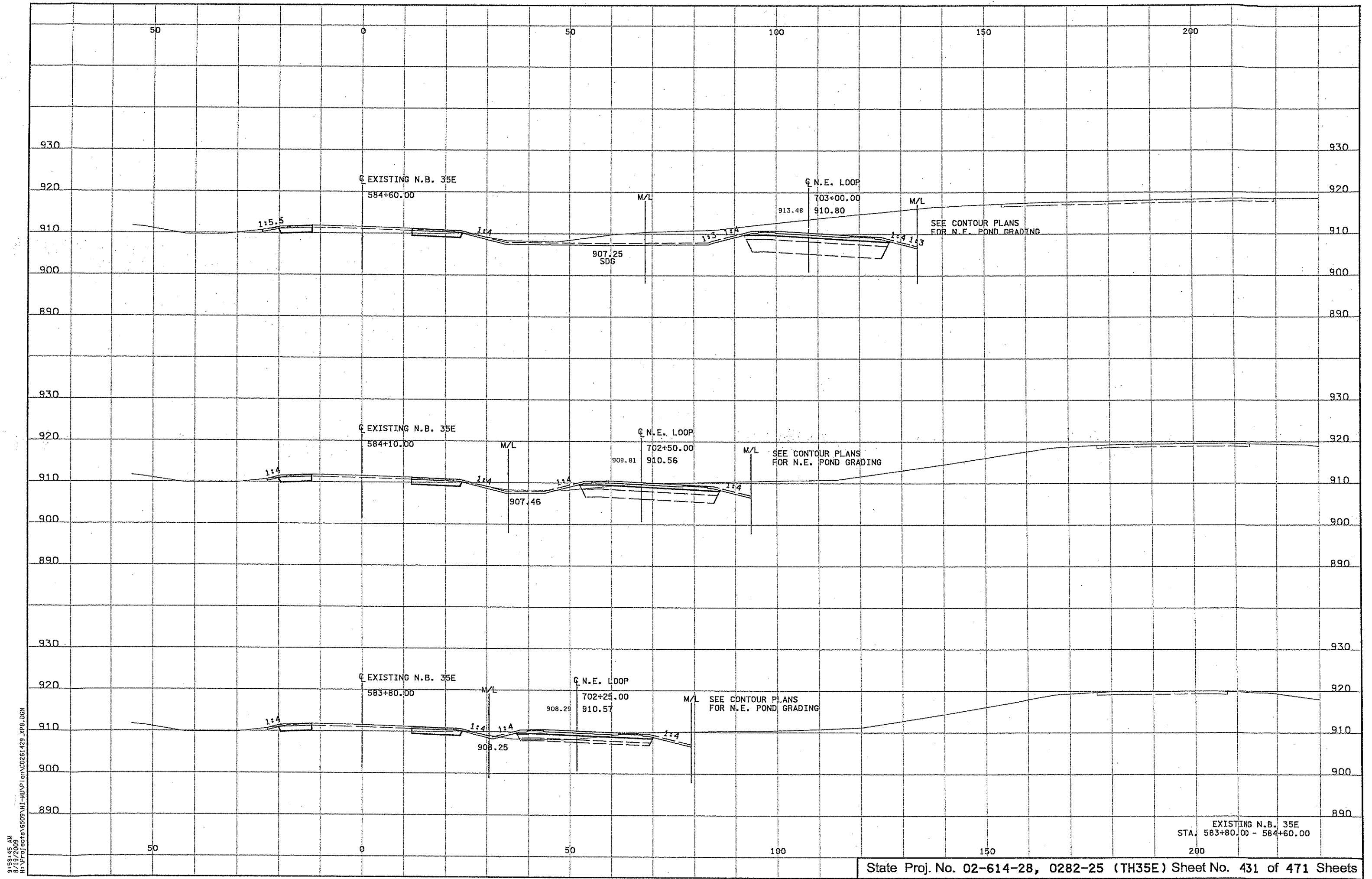


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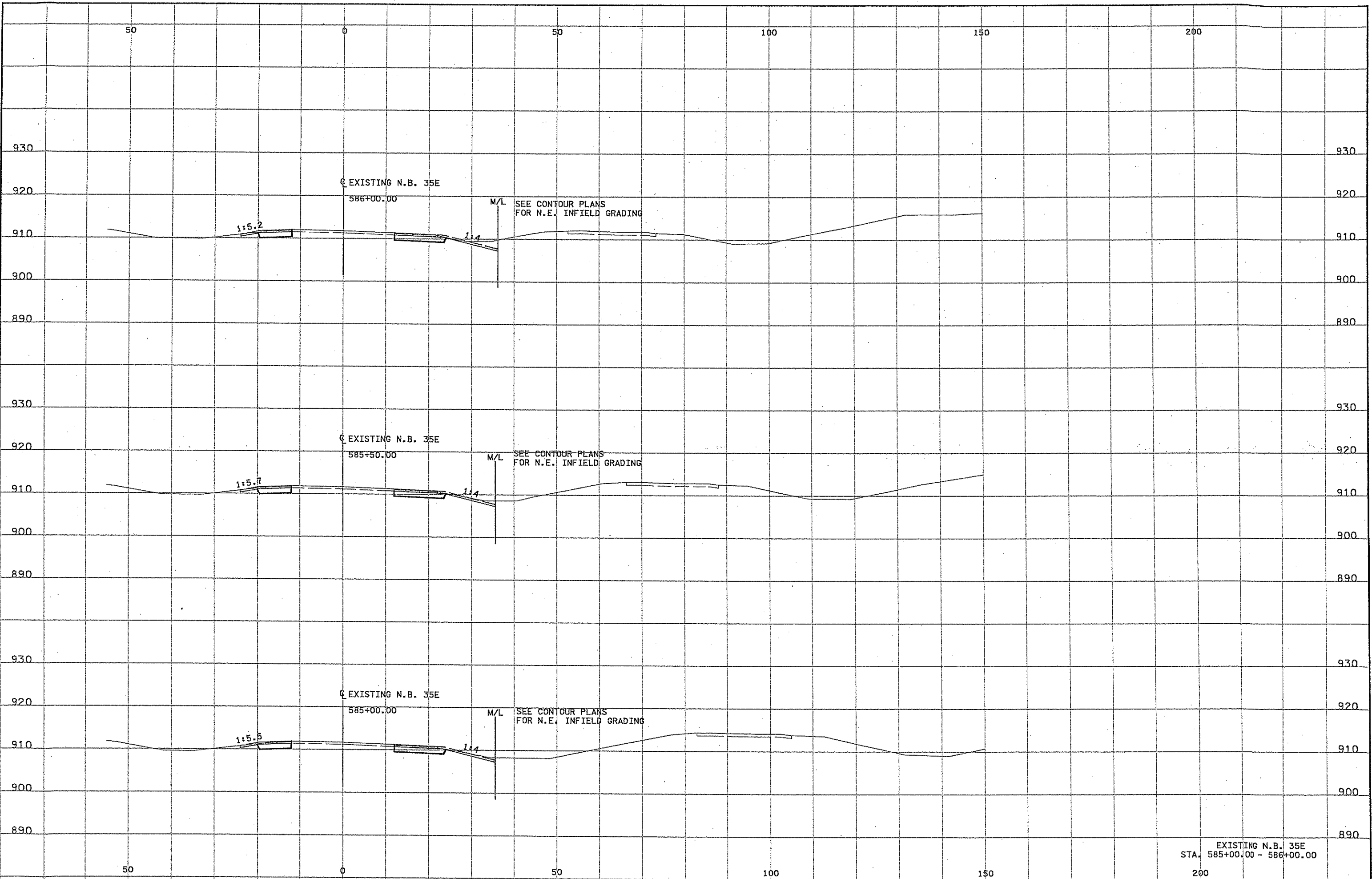
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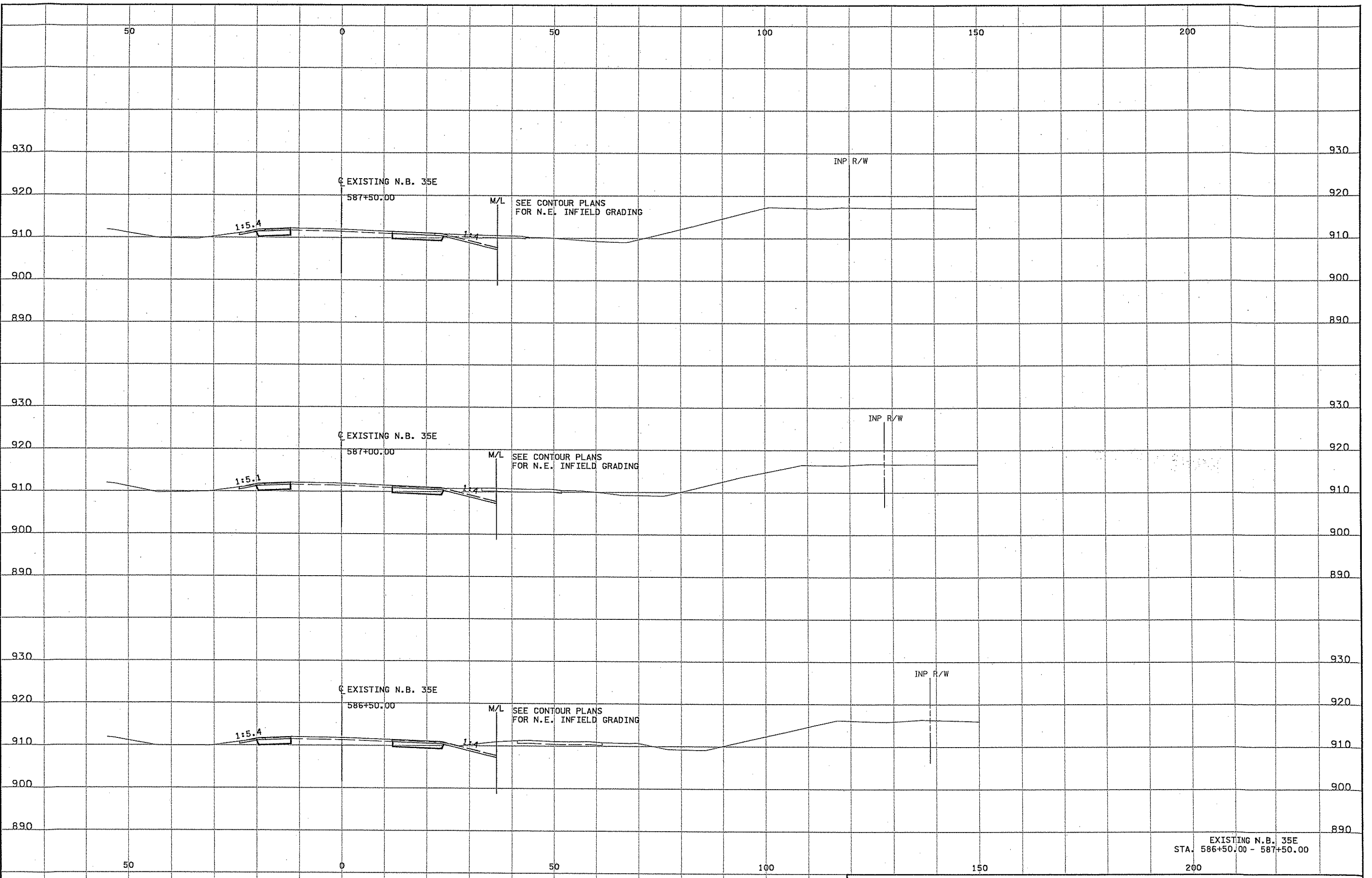
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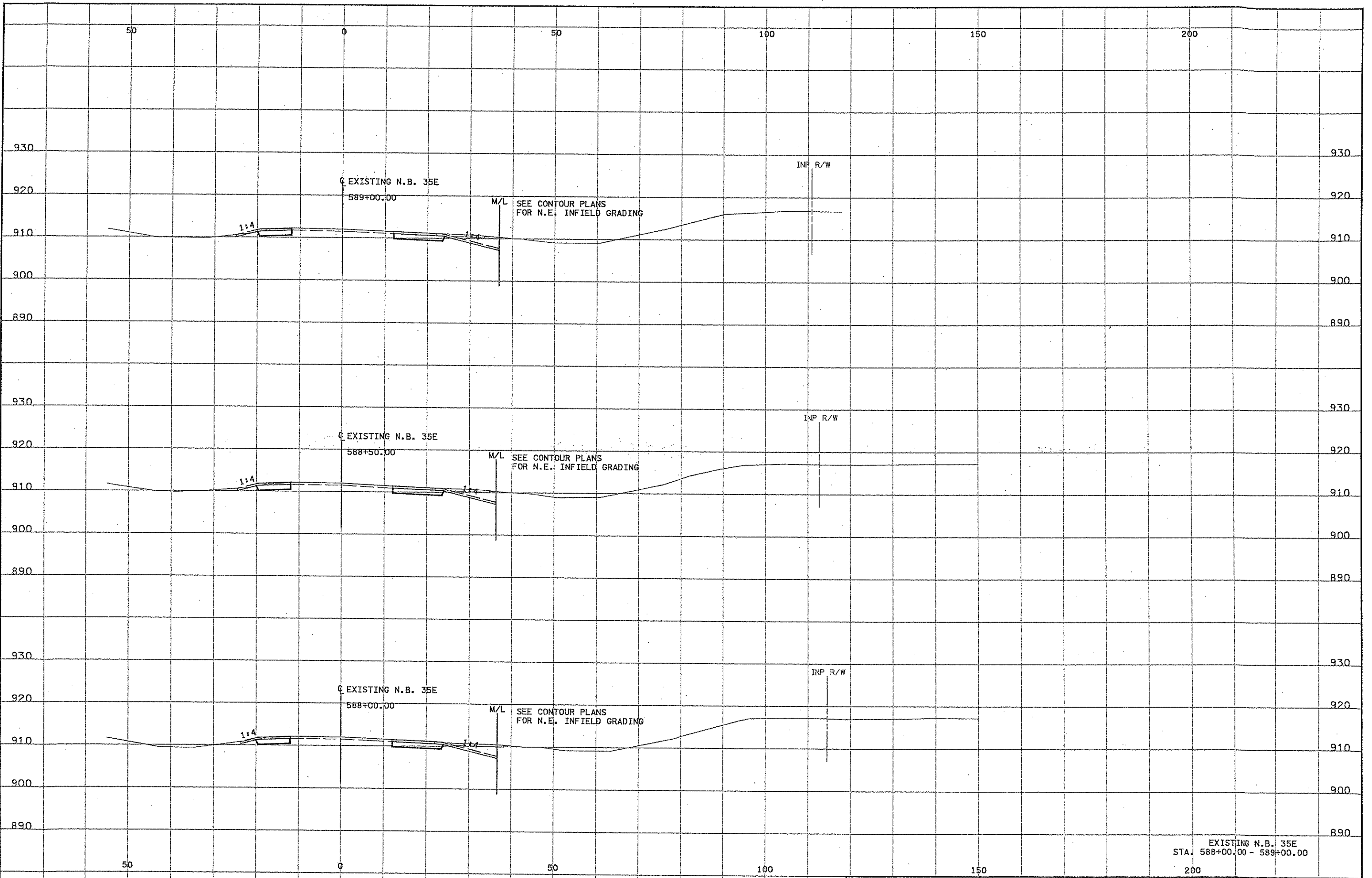
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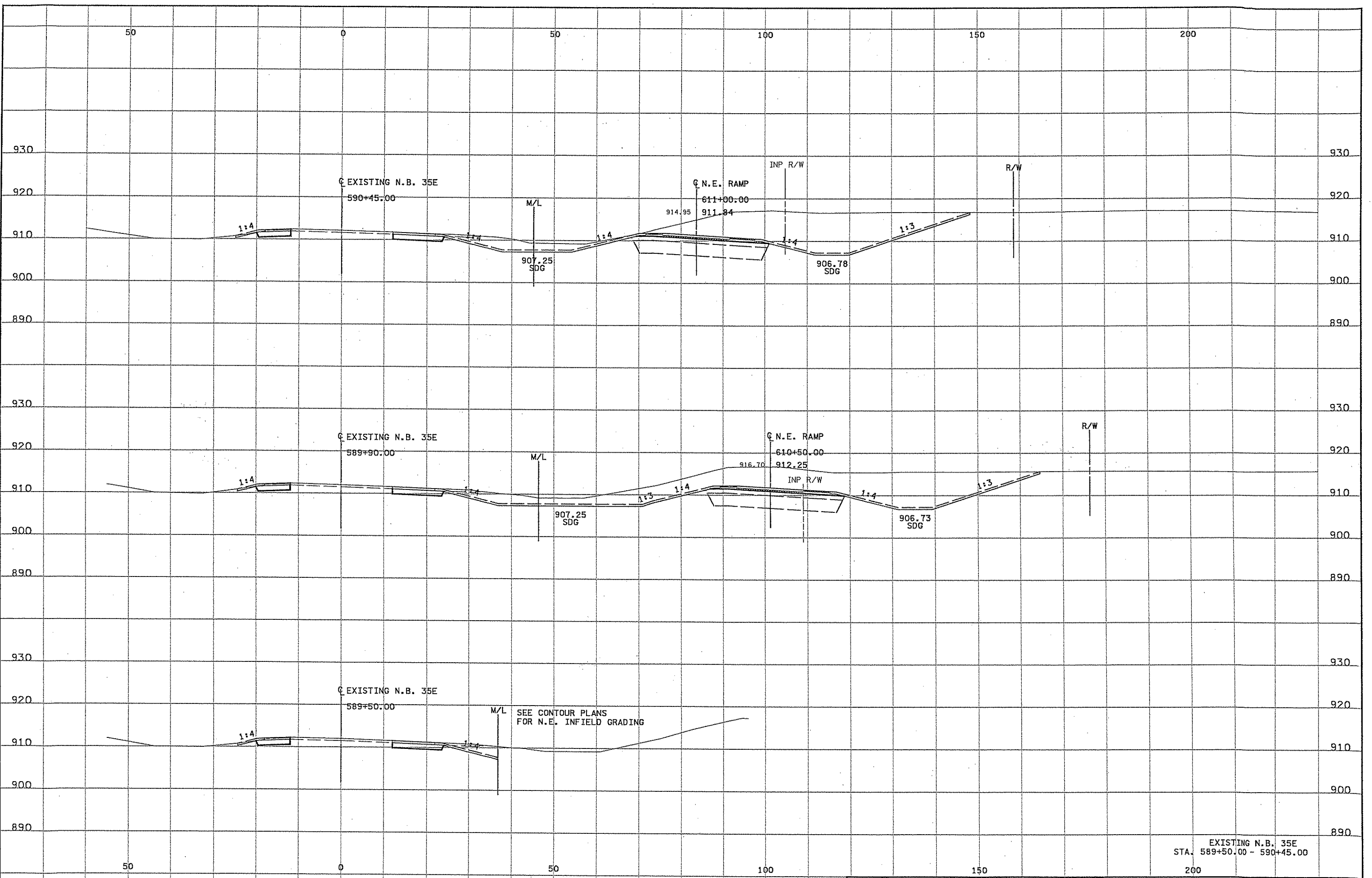
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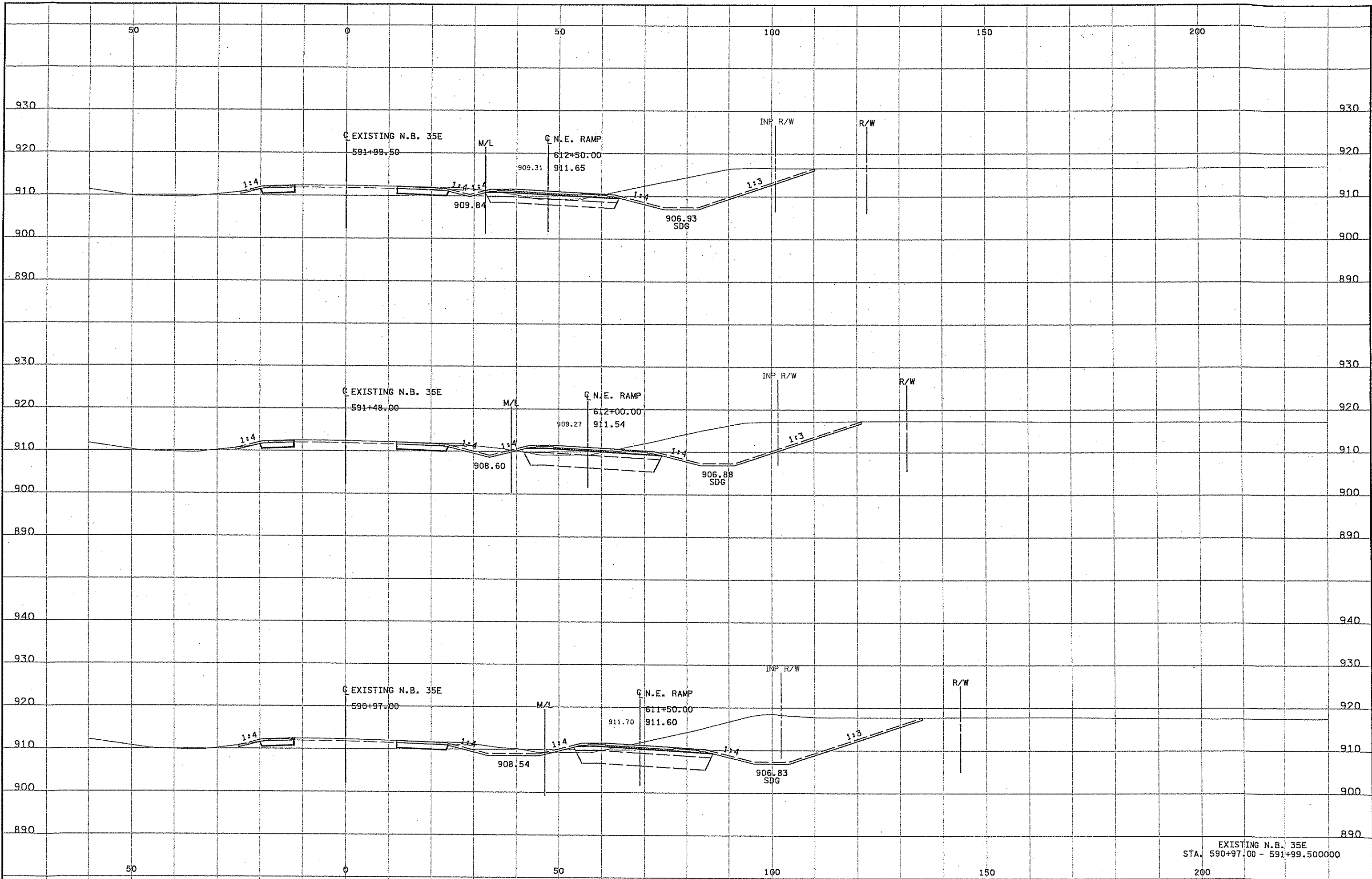
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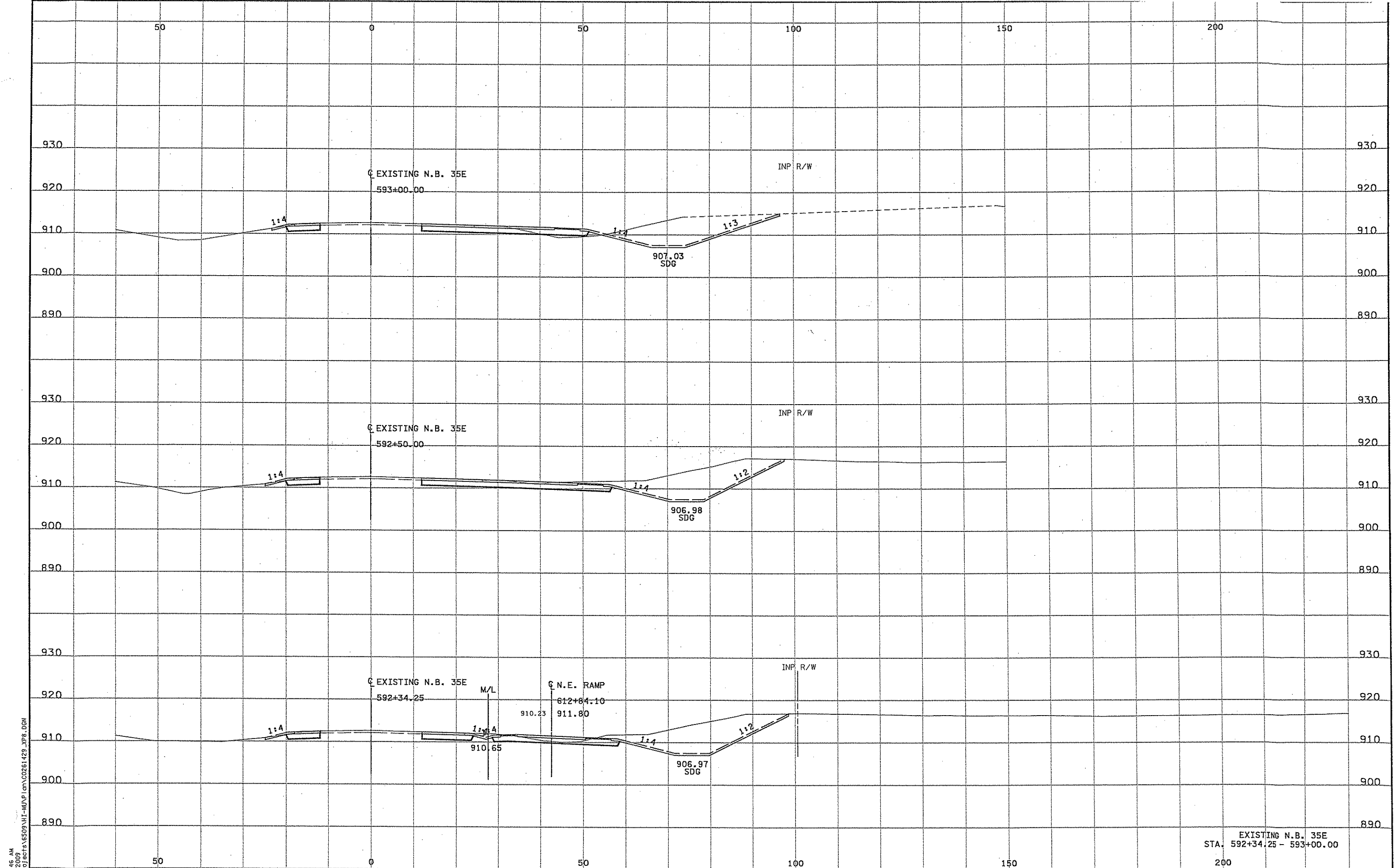


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STA. 590+97.00 - 591+99.50000



EXISTING N.B. 35E
593+00.00

INP R/W

907.03
SDG

EXISTING N.B. 35E
592+50.00

INP R/W

906.98
SDG

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M/L

N.E. RAMP
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INP R/W

910.23

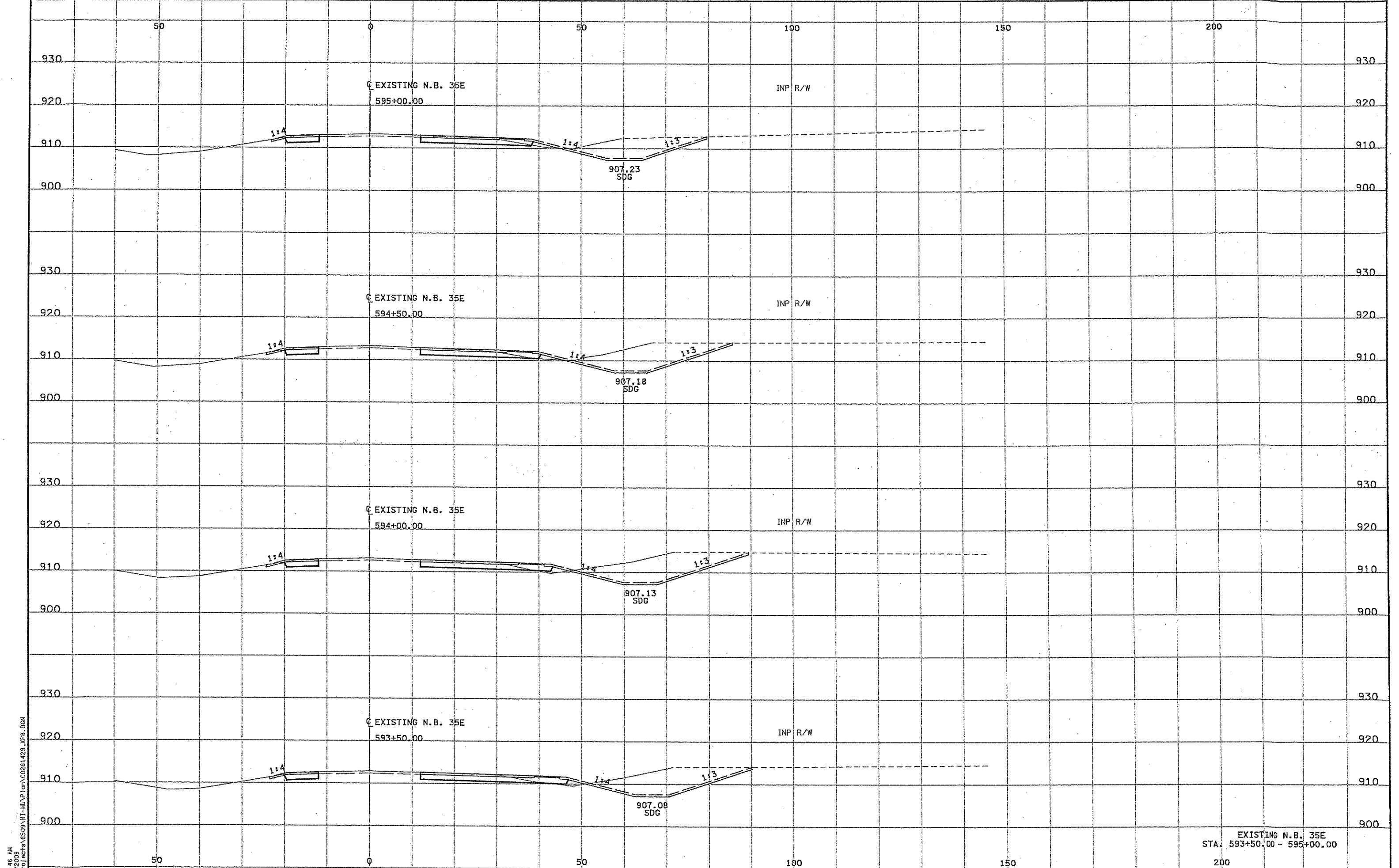
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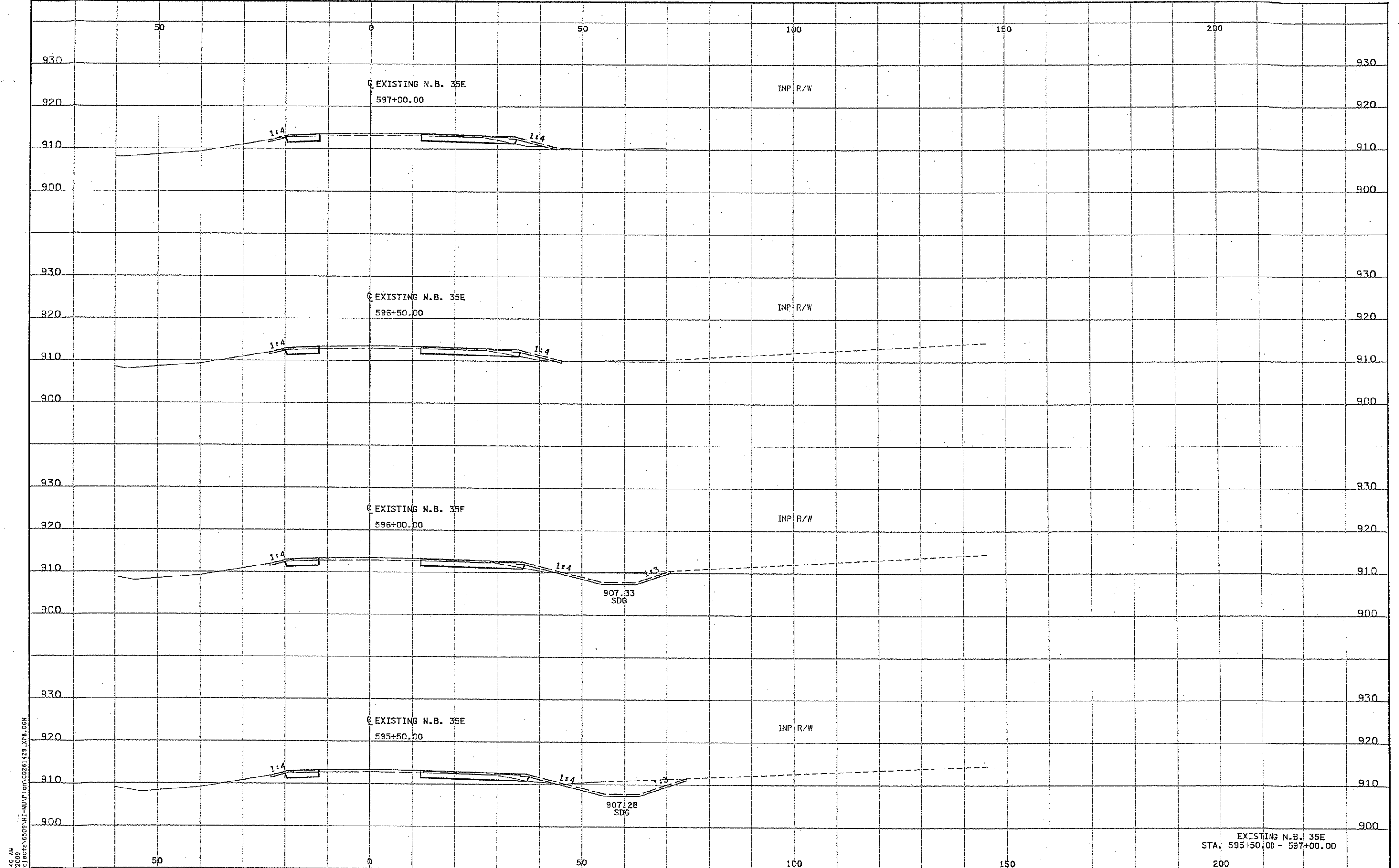
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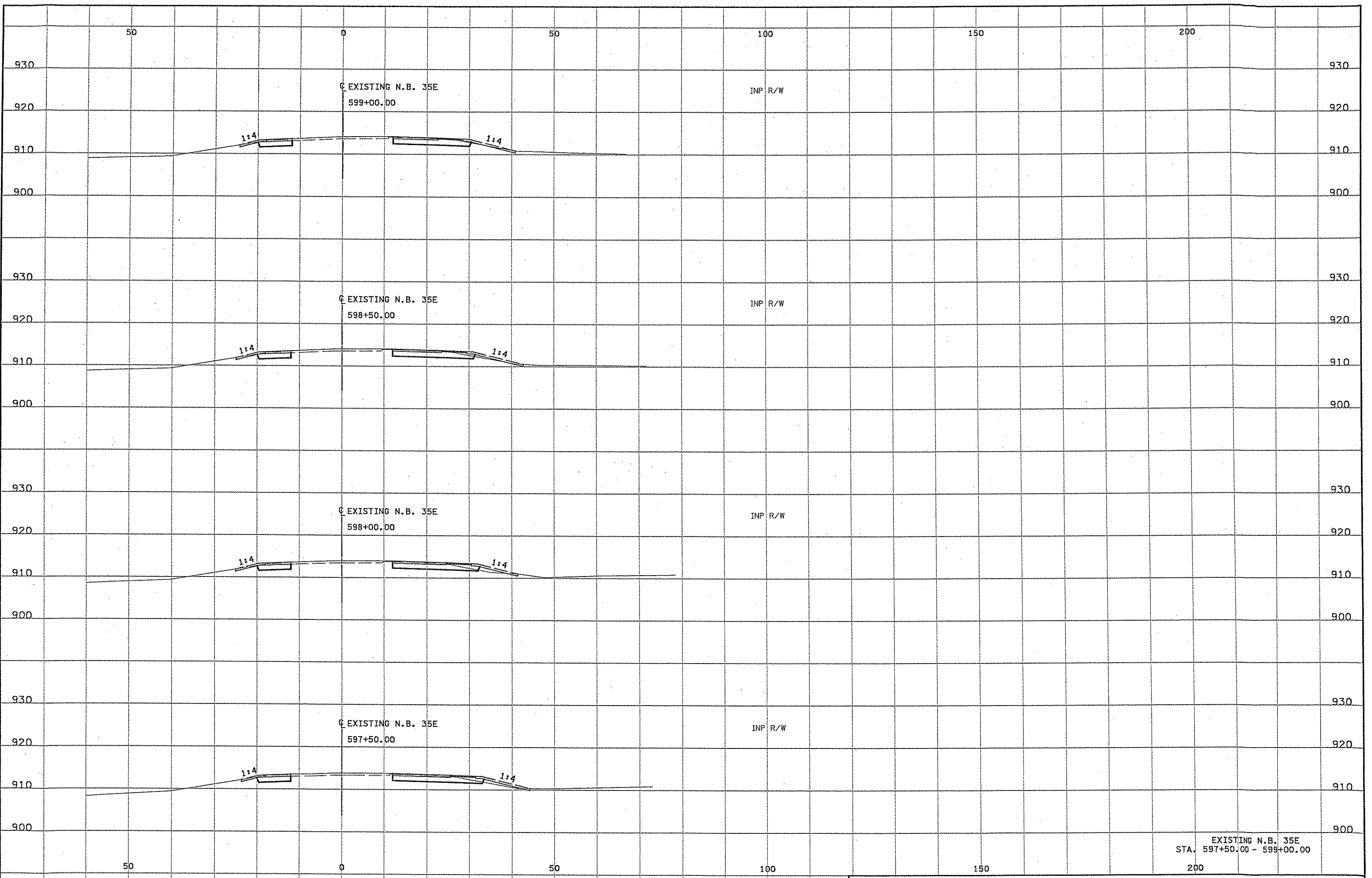
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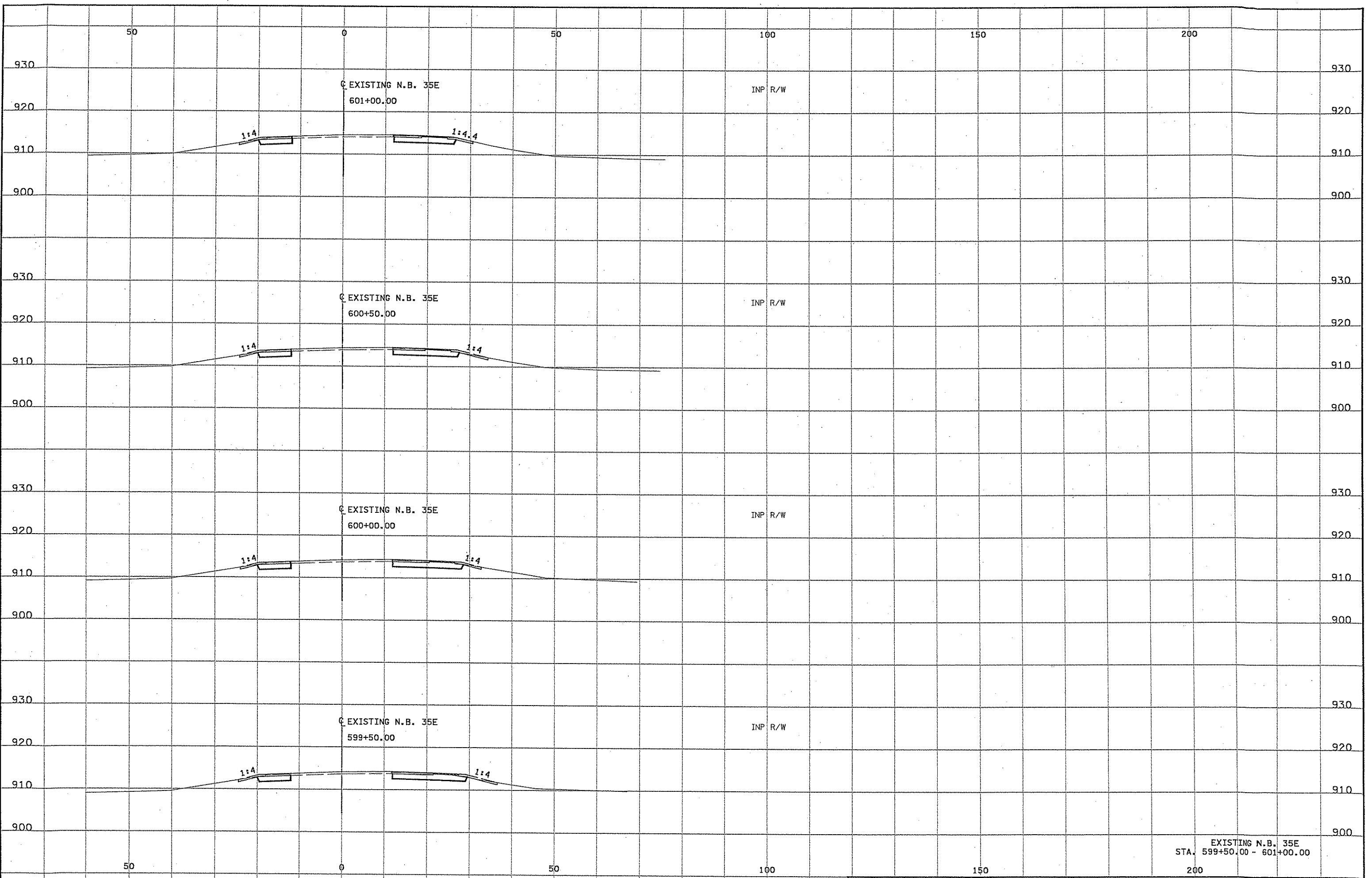
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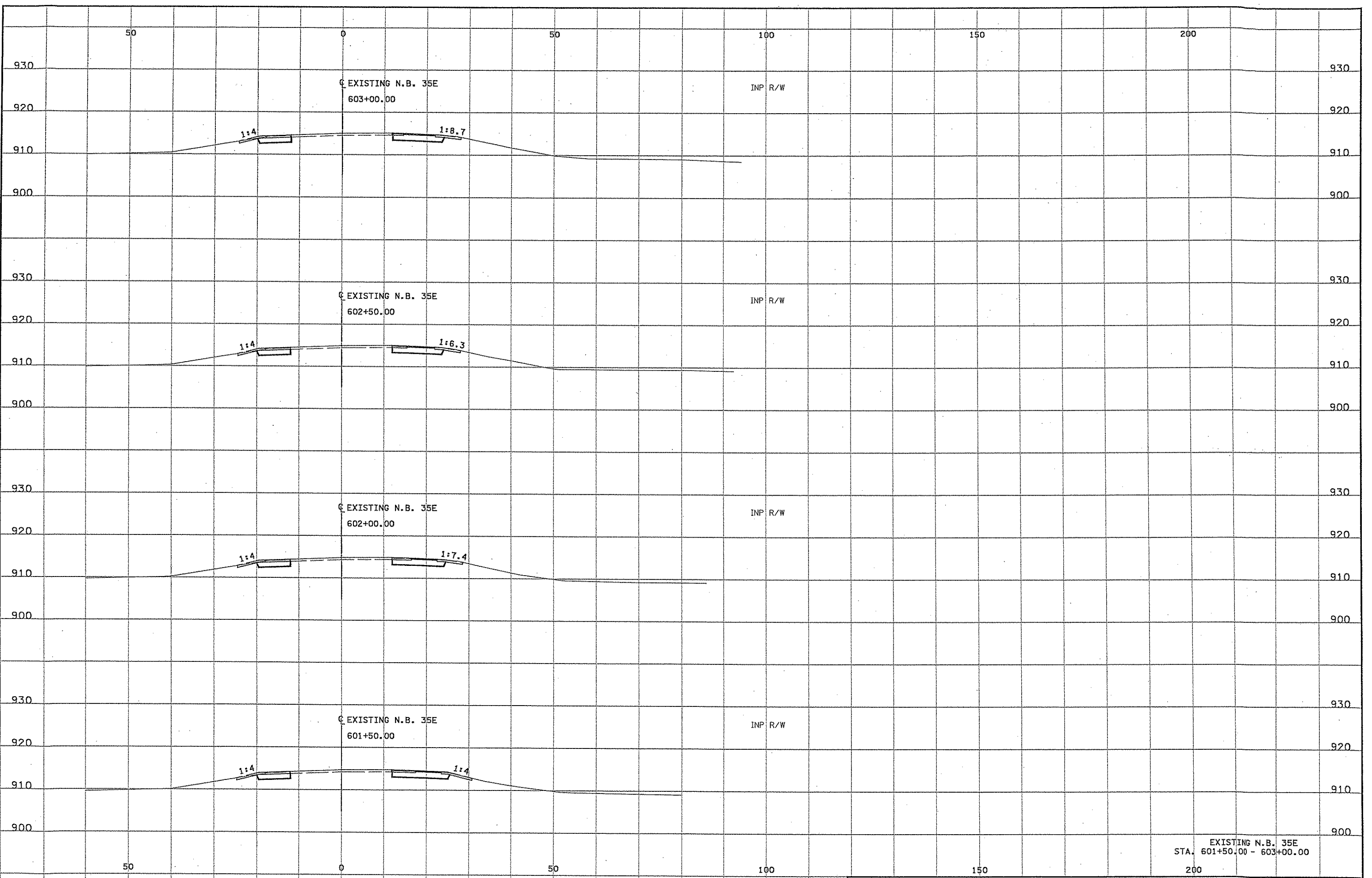
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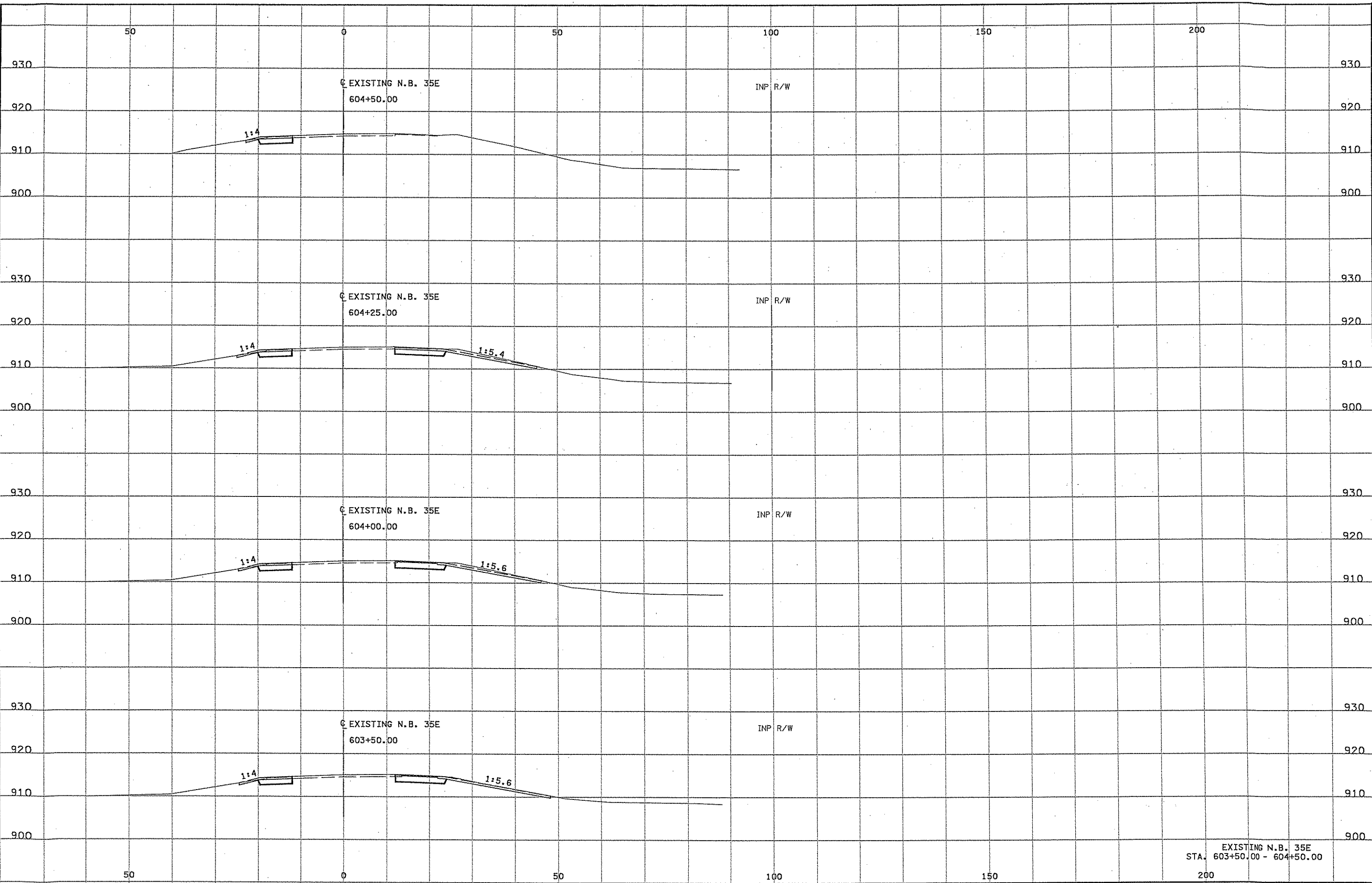
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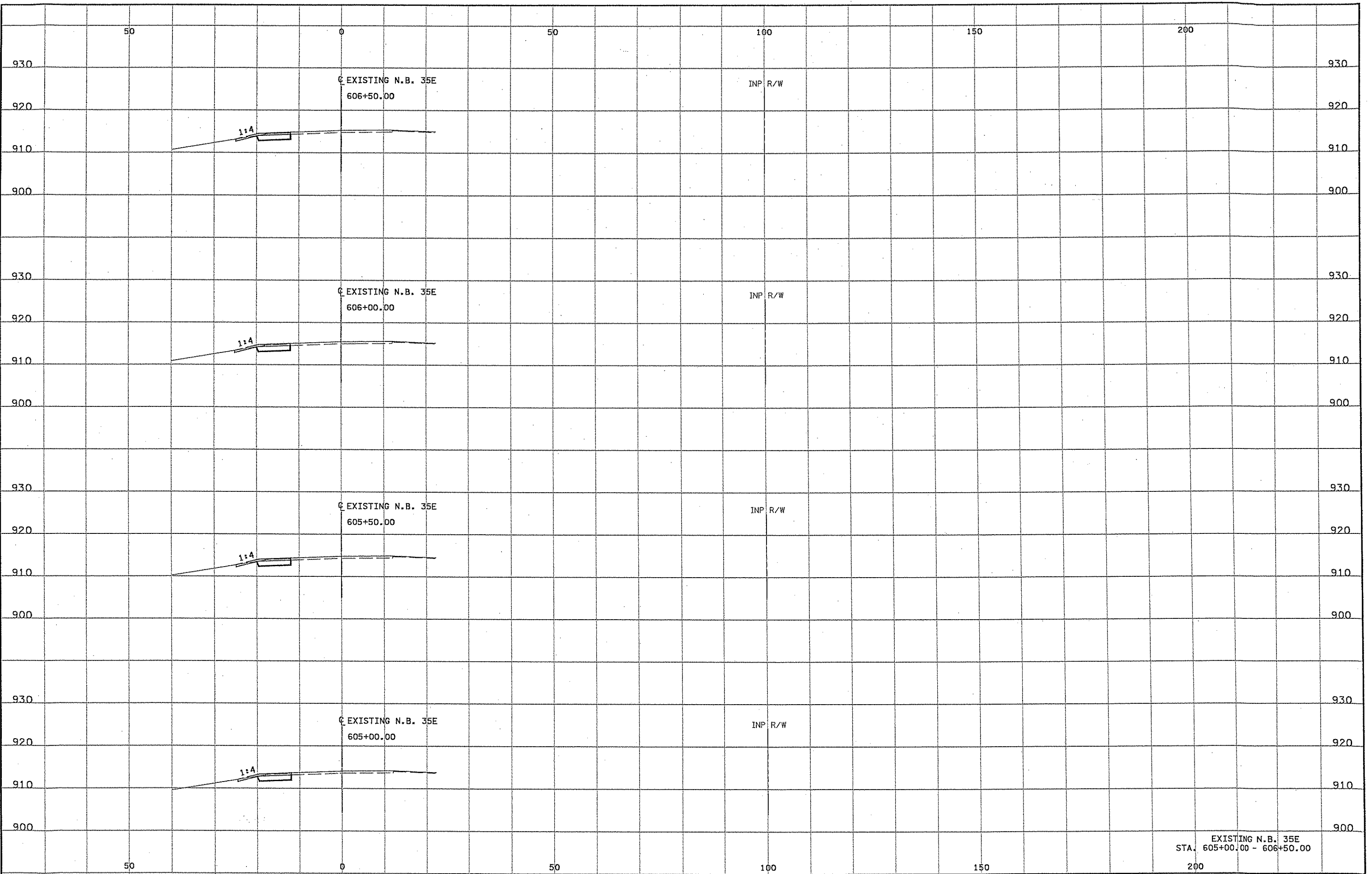
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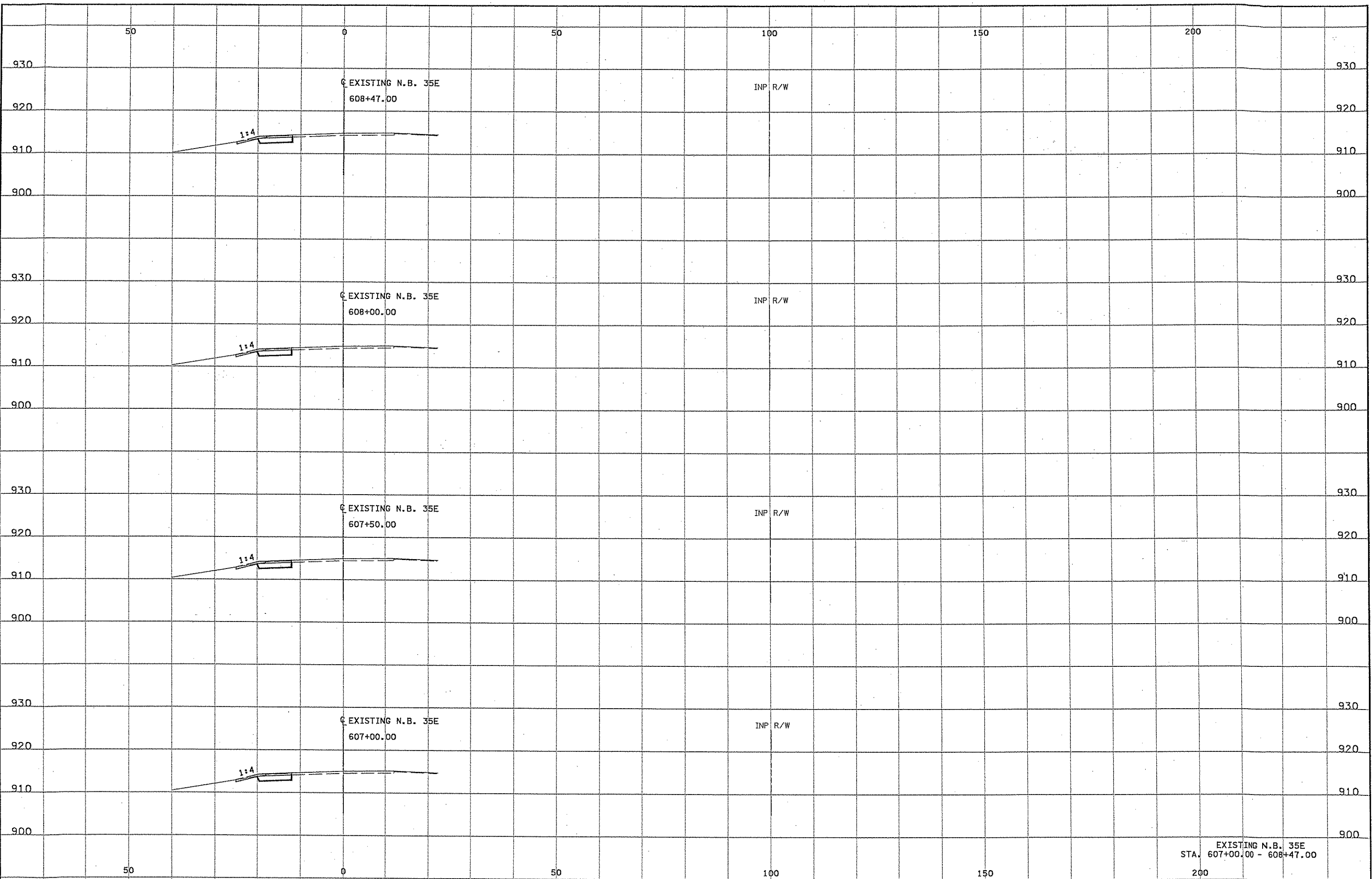
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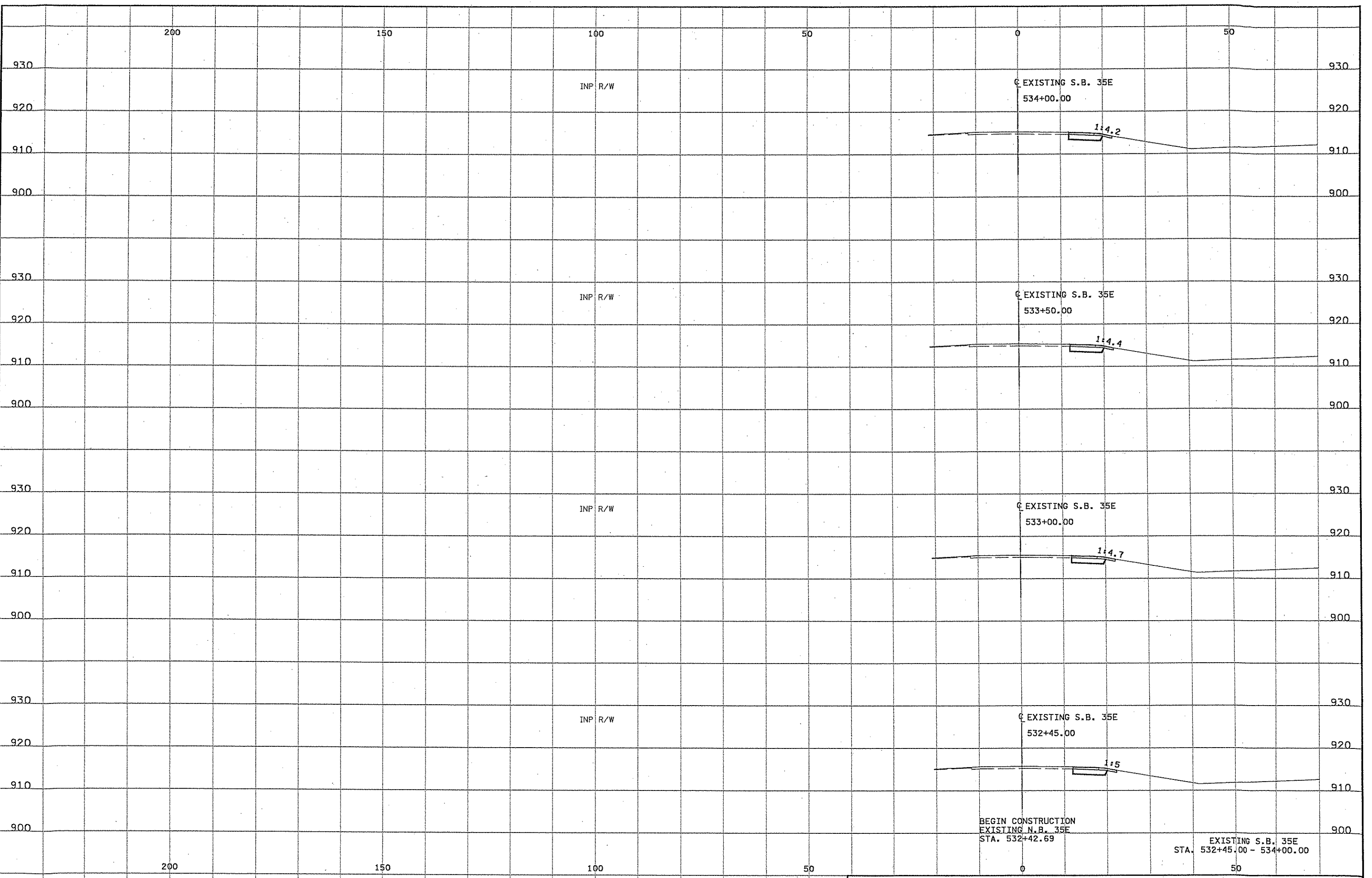
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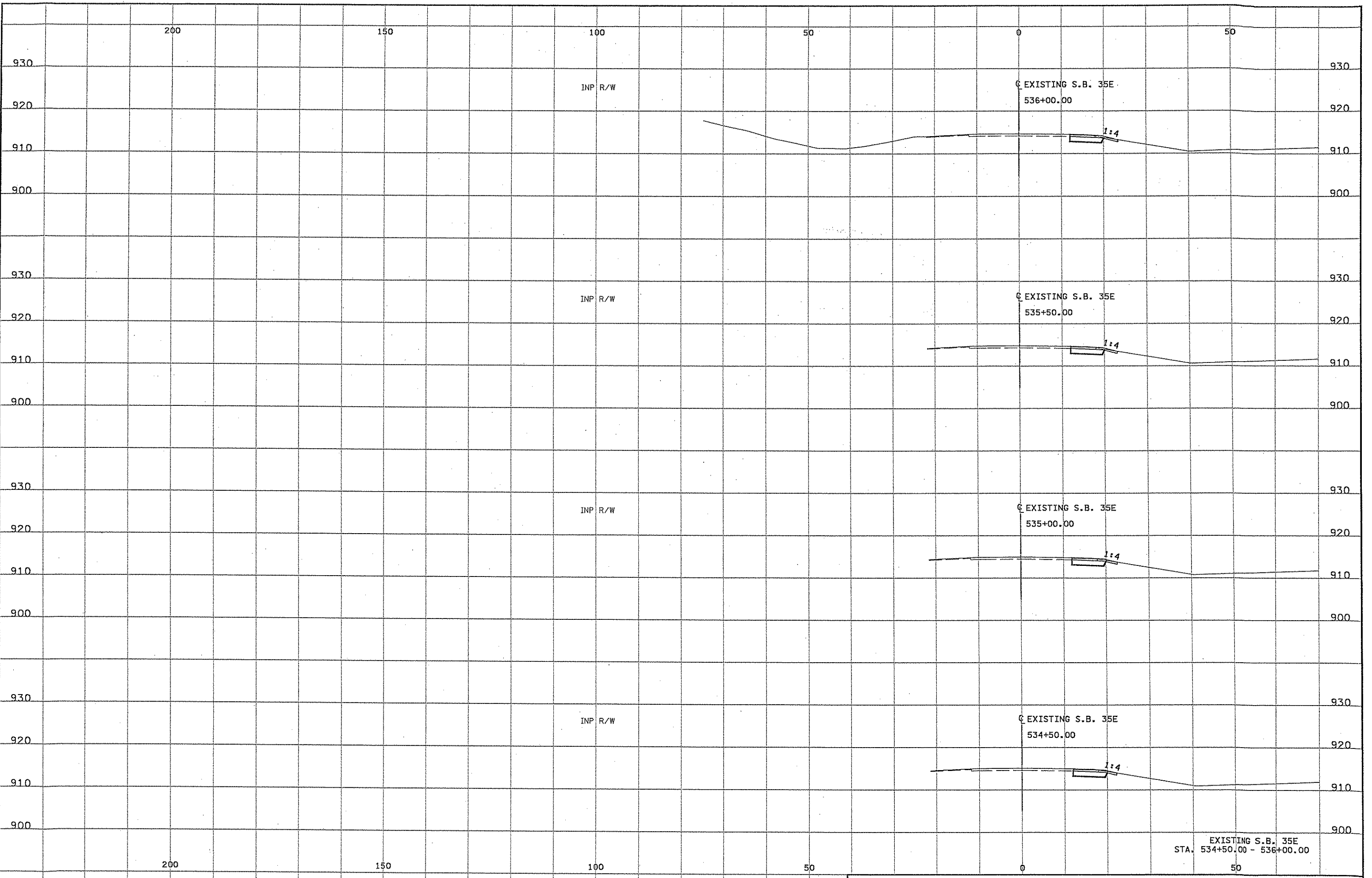


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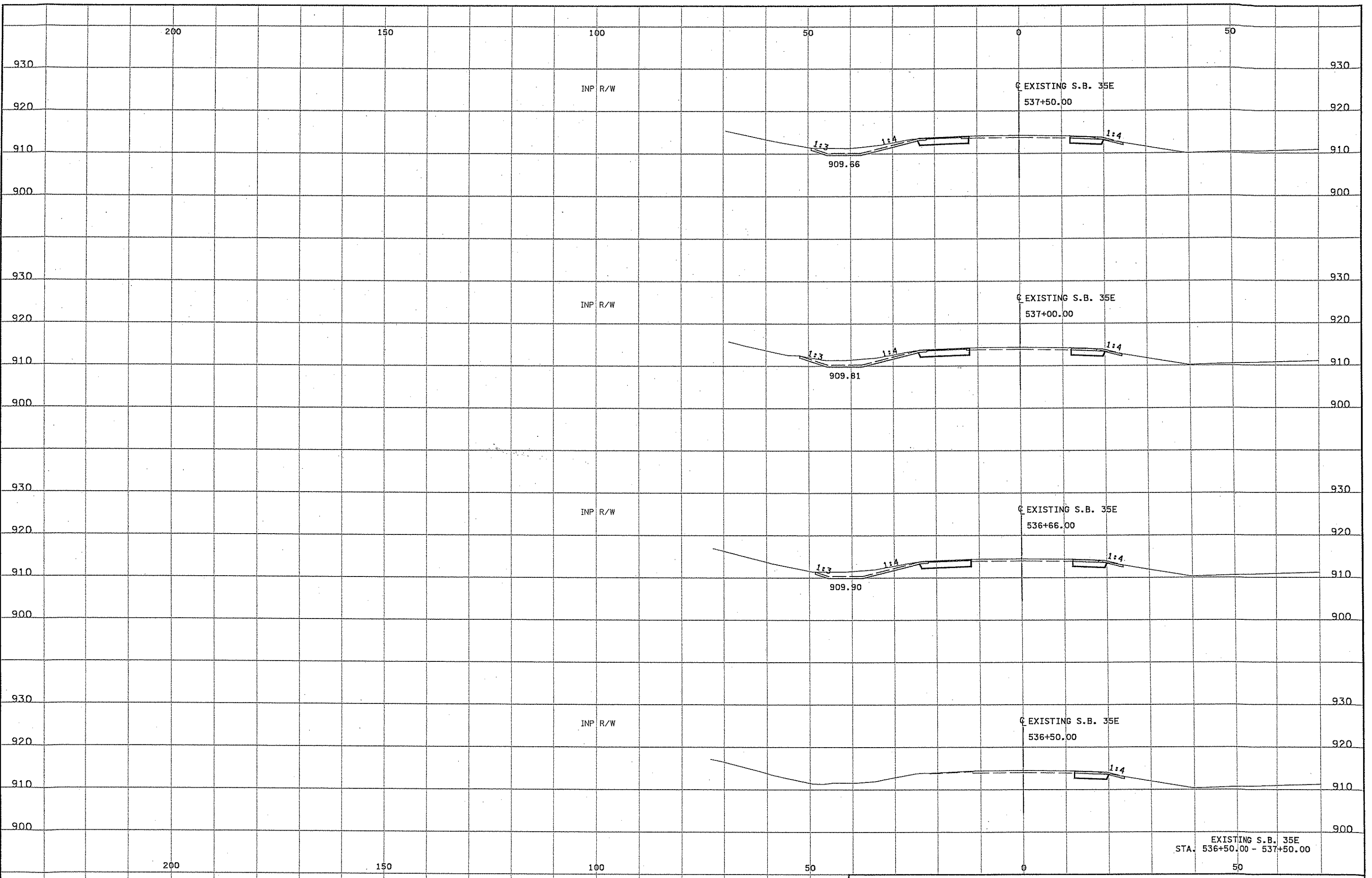


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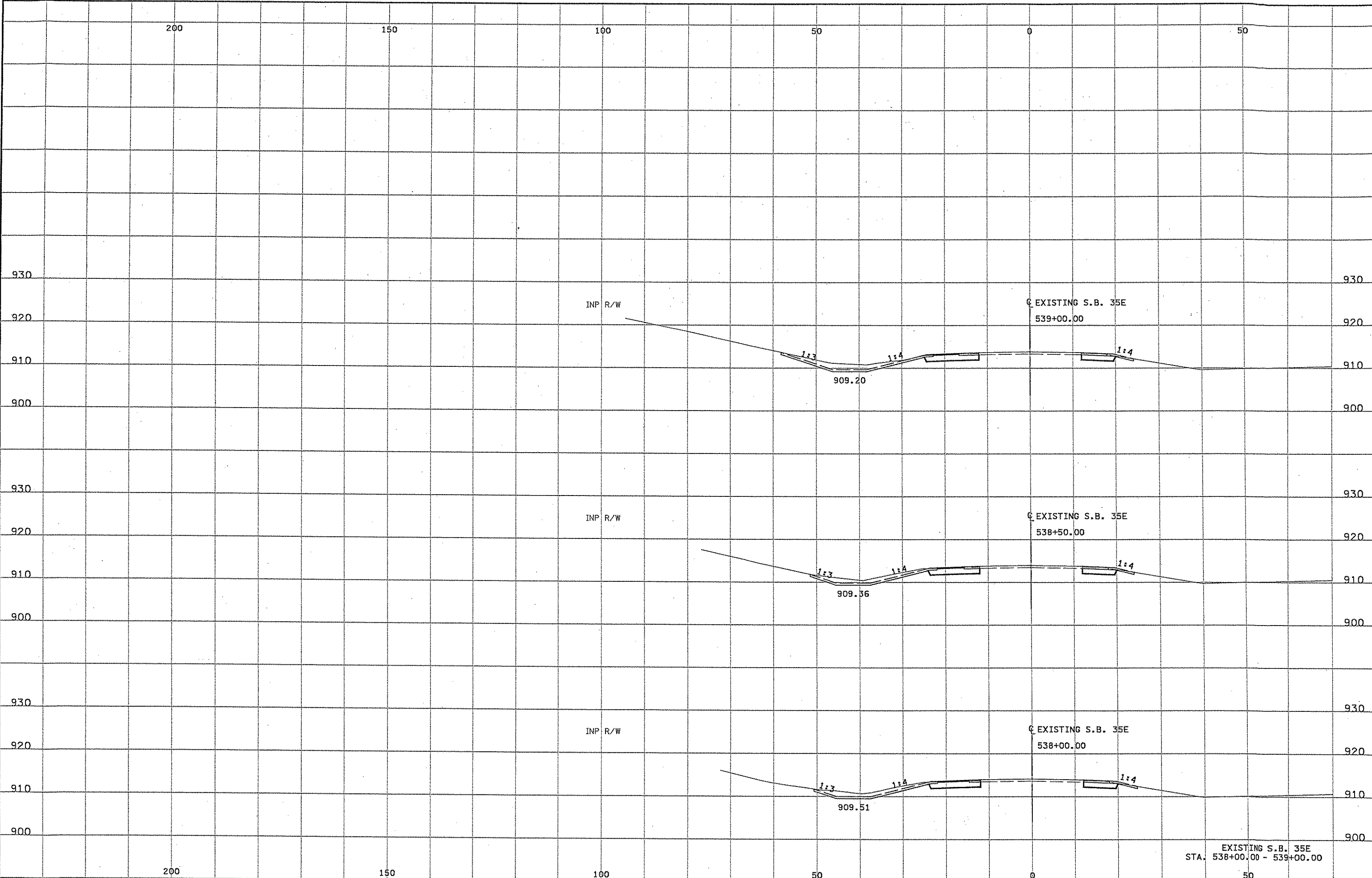
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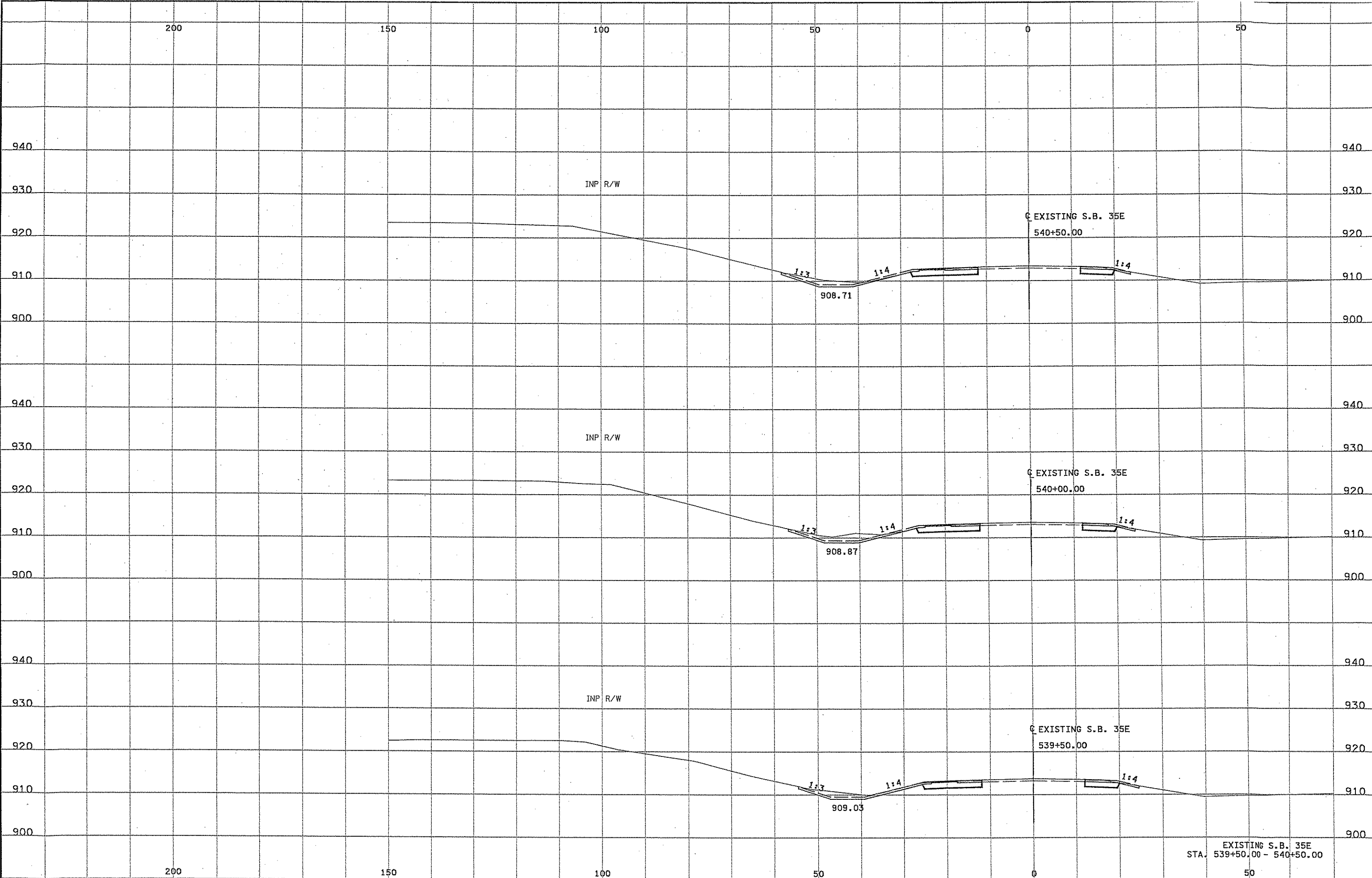
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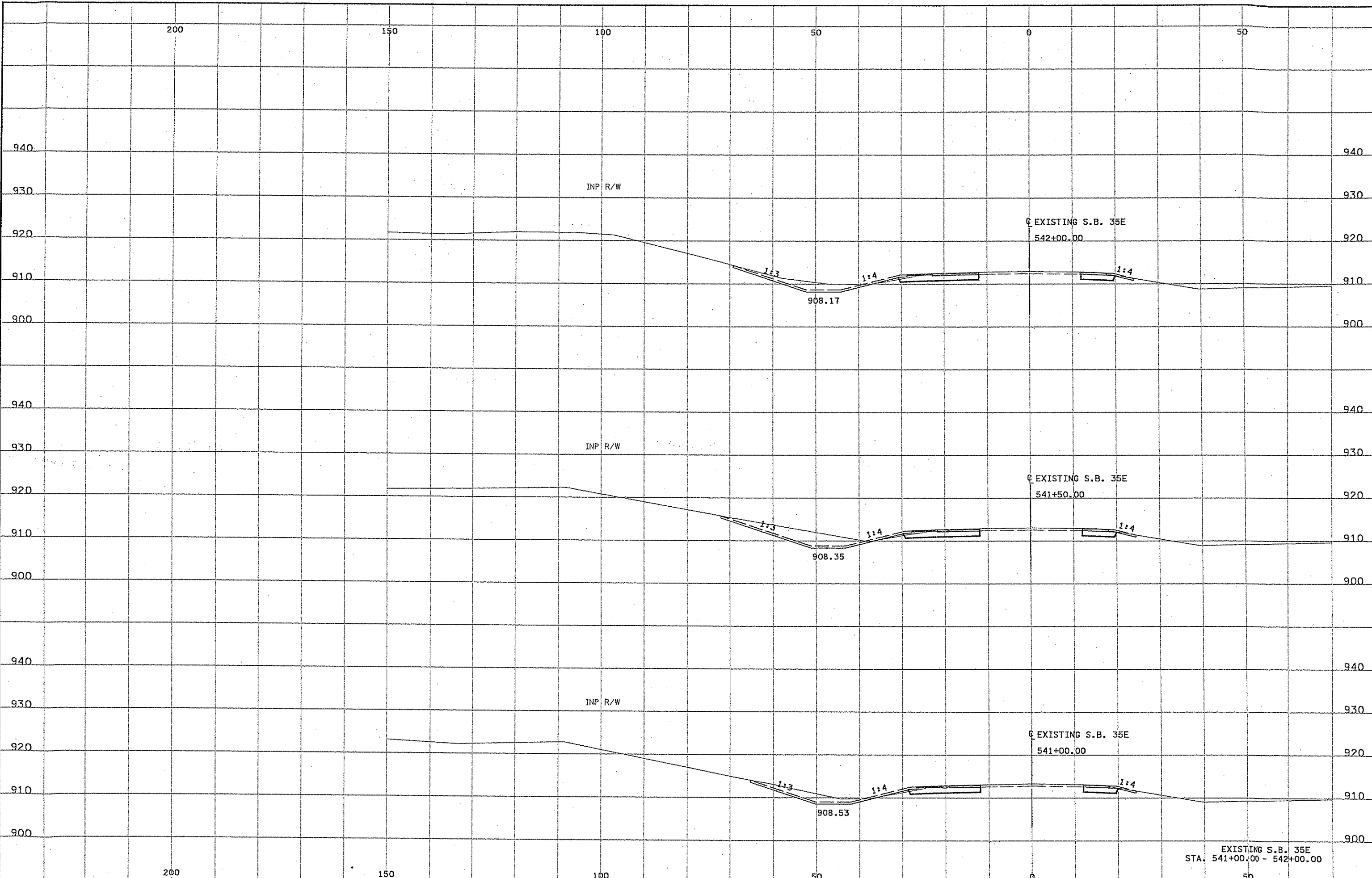
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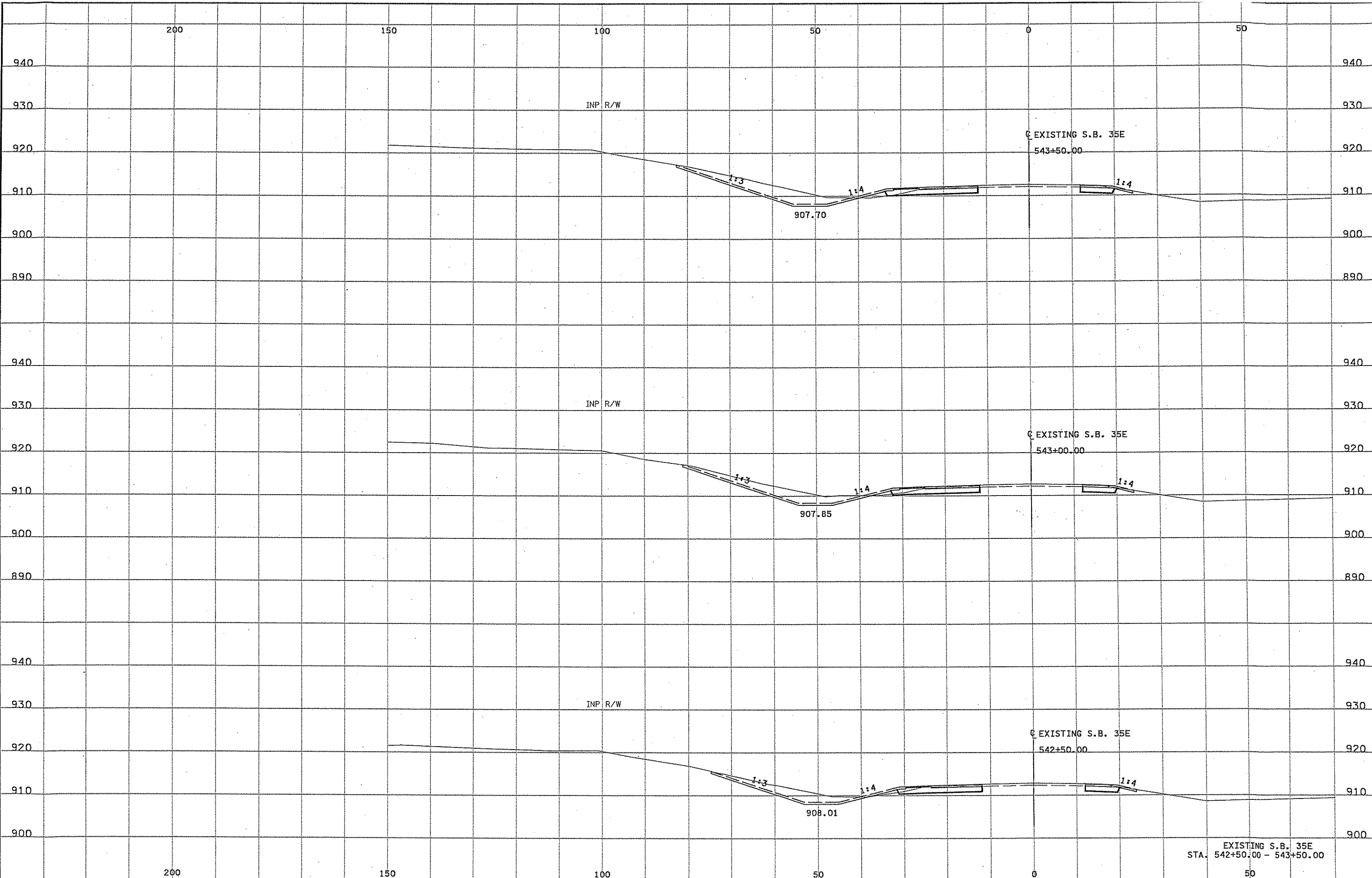
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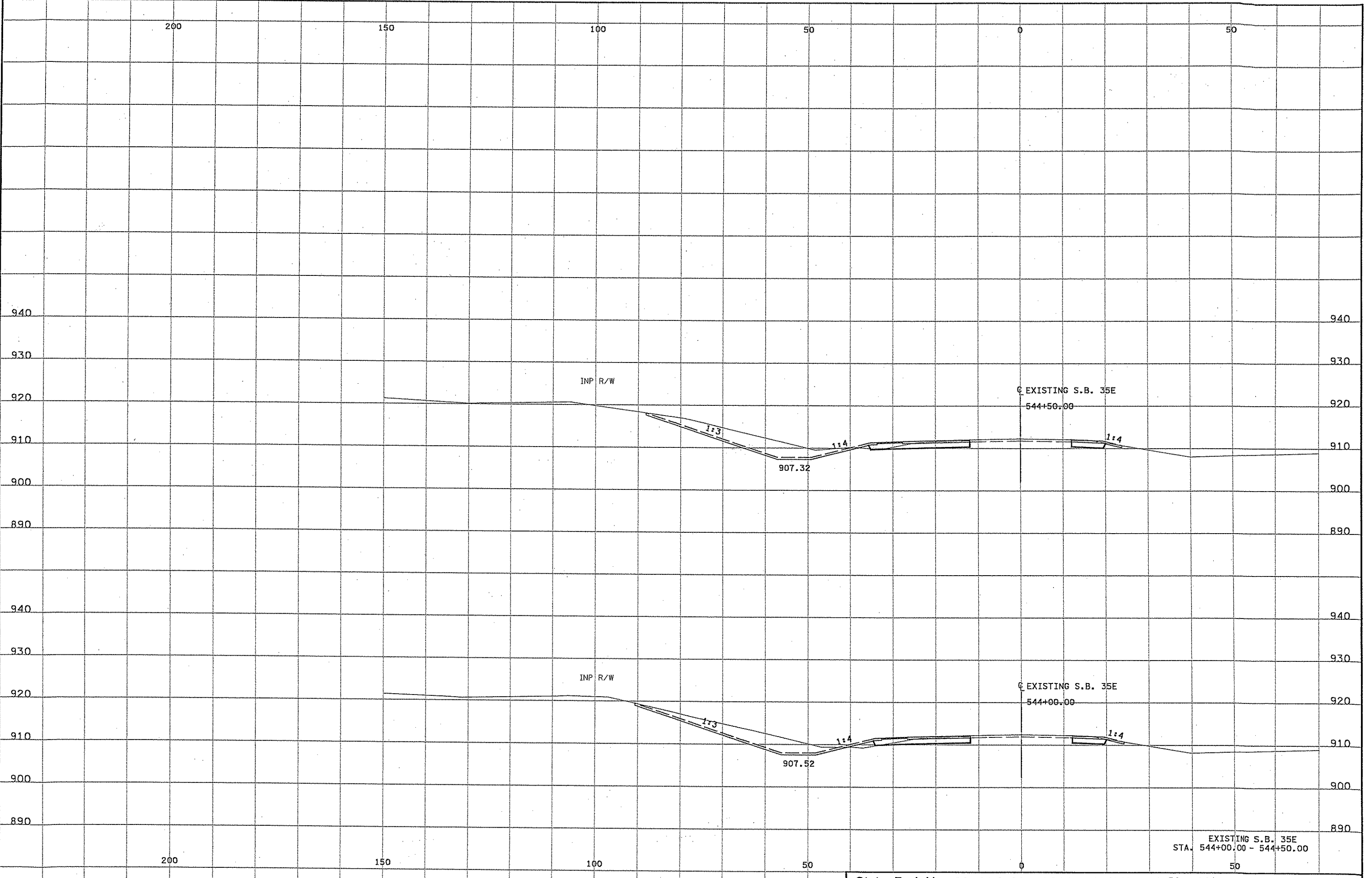


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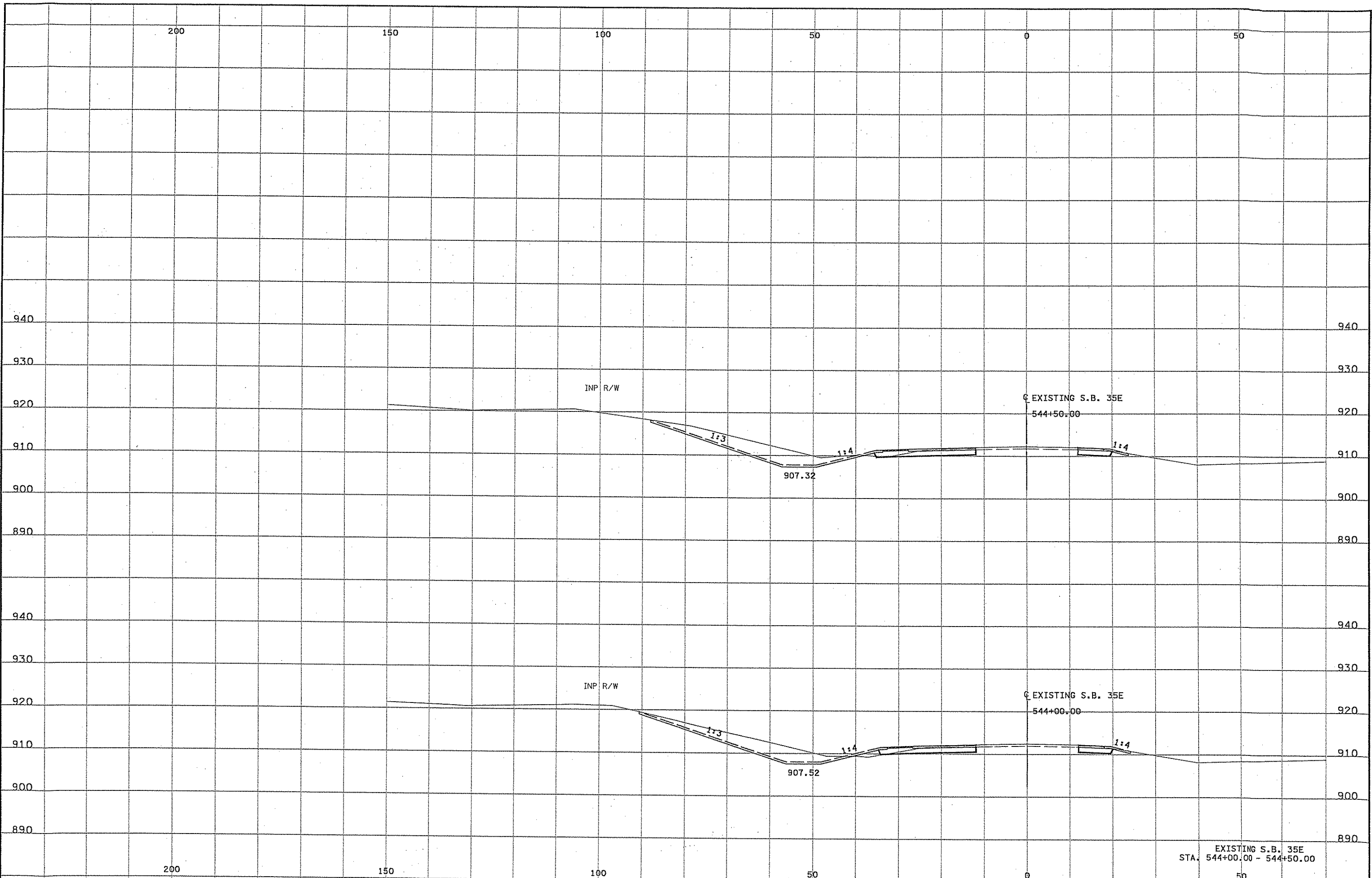


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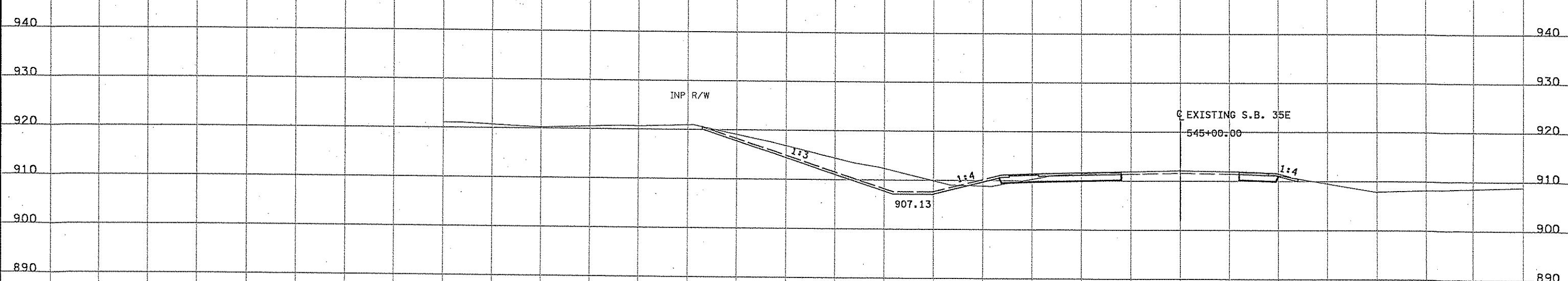
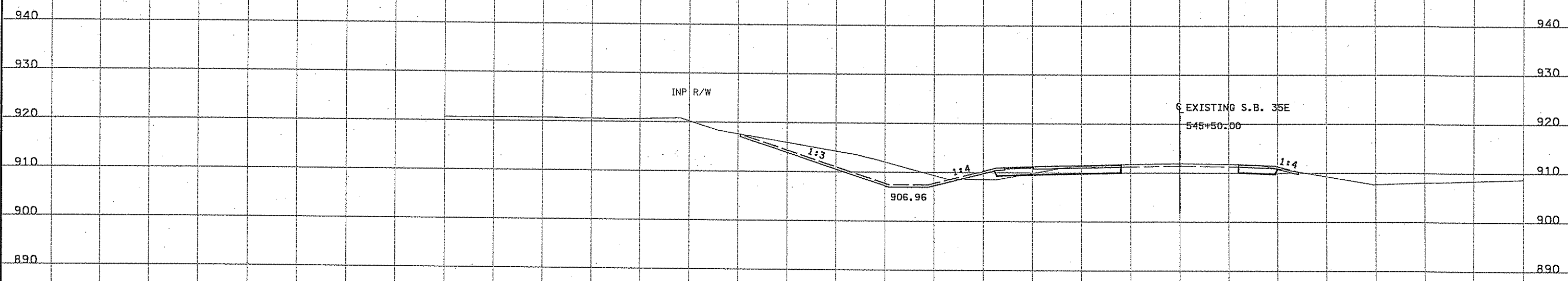
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890

INP R/W

Q N.W. LOOP

Q EXISTING S.B. 35E

344+65.35 546+50.00

910.61 911.25

1:3

1:4

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907.30 SDG

940

940

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930

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INP R/W

Q N.W. LOOP

Q EXISTING S.B. 35E

345+15.40 546+00.00

910.98 911.47

1:3

1:4

1:4

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EXISTING S.B. 35E
STA. 546+00.00 - 546+50.00

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890

T.E. INP R/W

Q N.W. LOOP

Q EXISTING S.B. 35E

343+65.13
909.00
910.78

547+50.00

1:3

1:4

1:4

906.97
SDG

940

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INP R/W

Q N.W. LOOP

Q EXISTING S.B. 35E

344+15.27
910.07
911.03

547+00.00

1:3

1:4

1:4

907.13
SDG

EXISTING S.B. 35E
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T.E. INP R/W

Q N.W. LOOP

Q EXISTING S.B. 35E
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1:3

906.63
SDG

1:4

1:4

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Q N.W. LOOP

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908.72

343+14.94
910.53

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SDG

1:4

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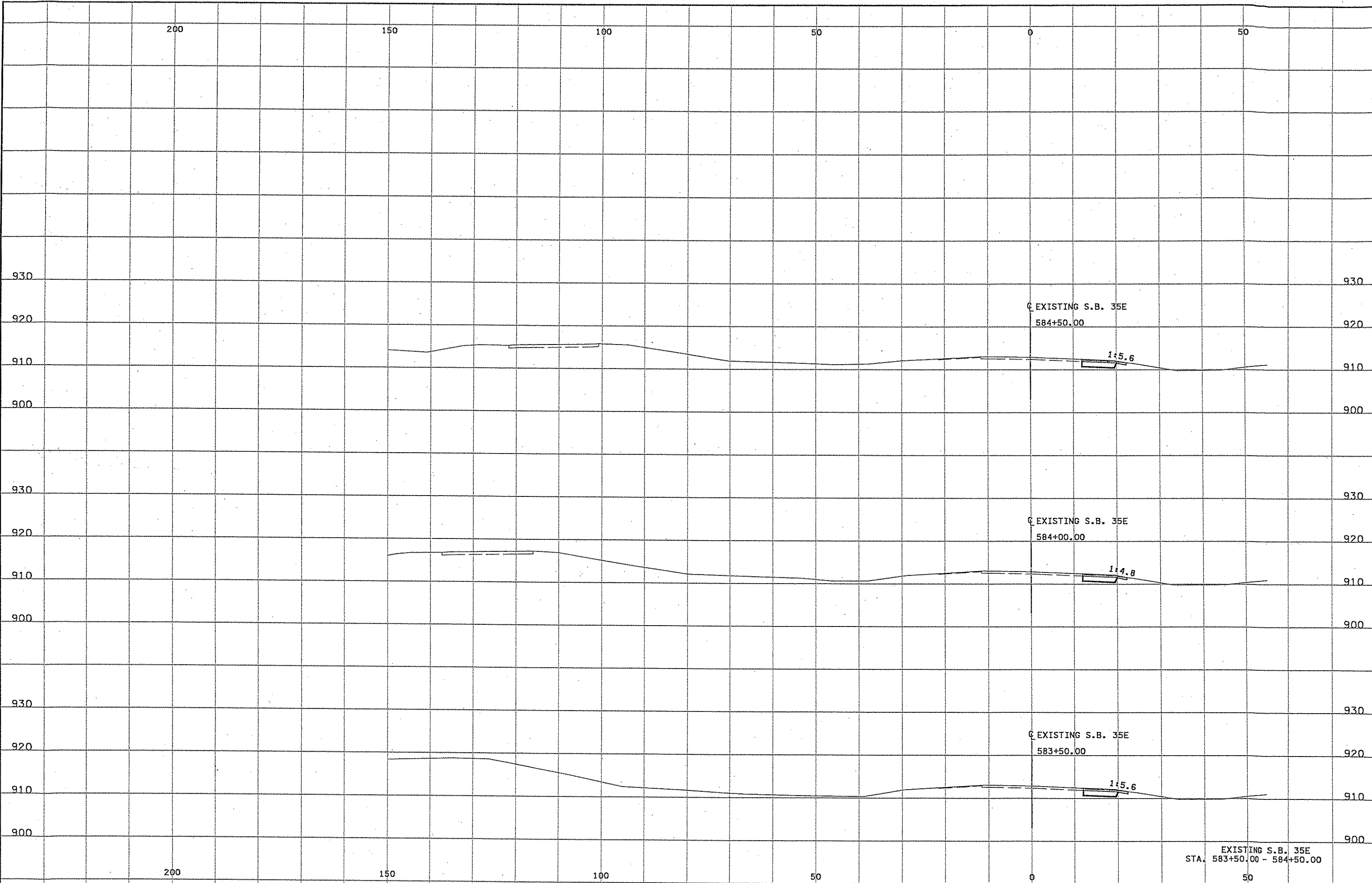
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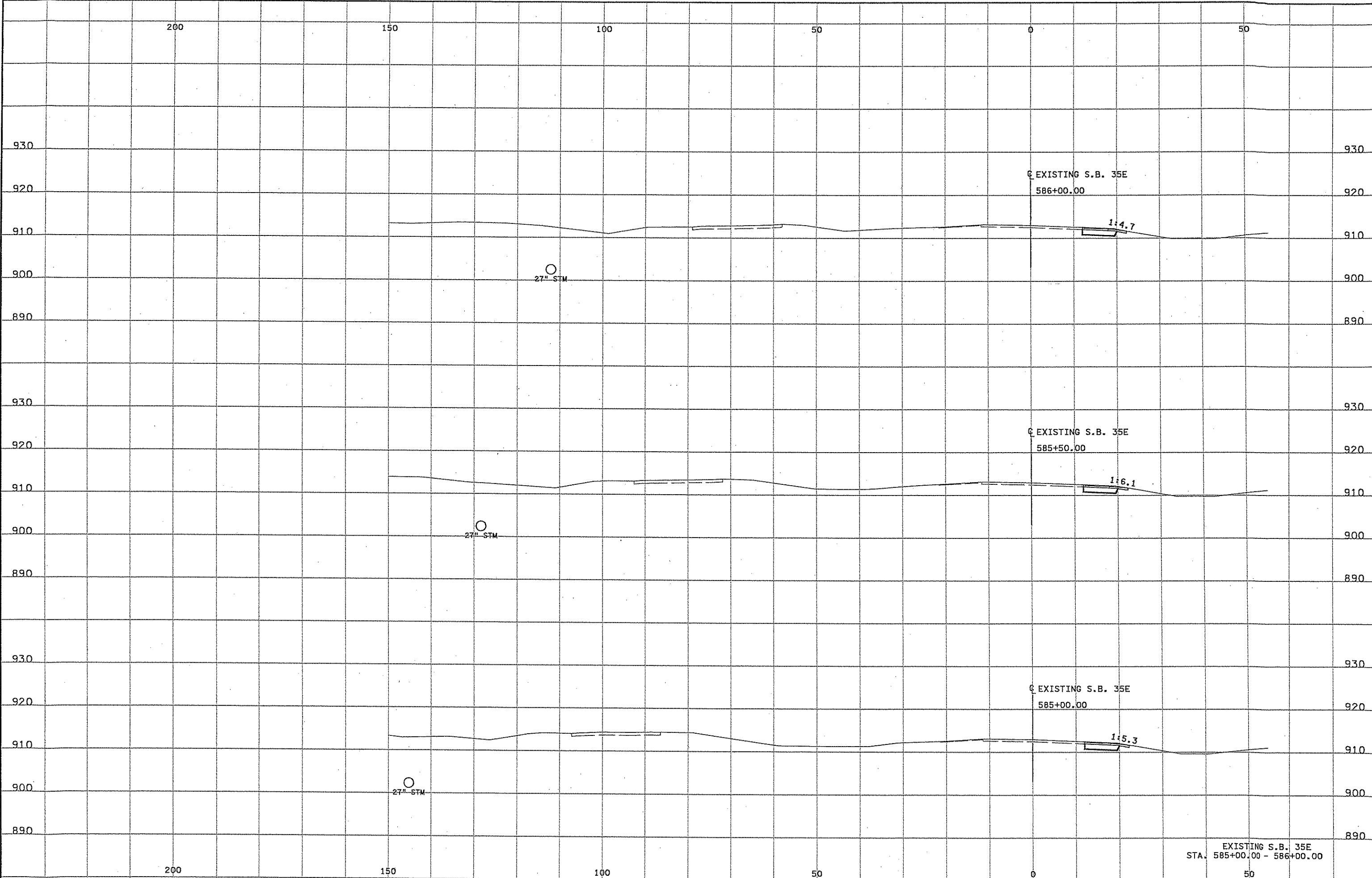
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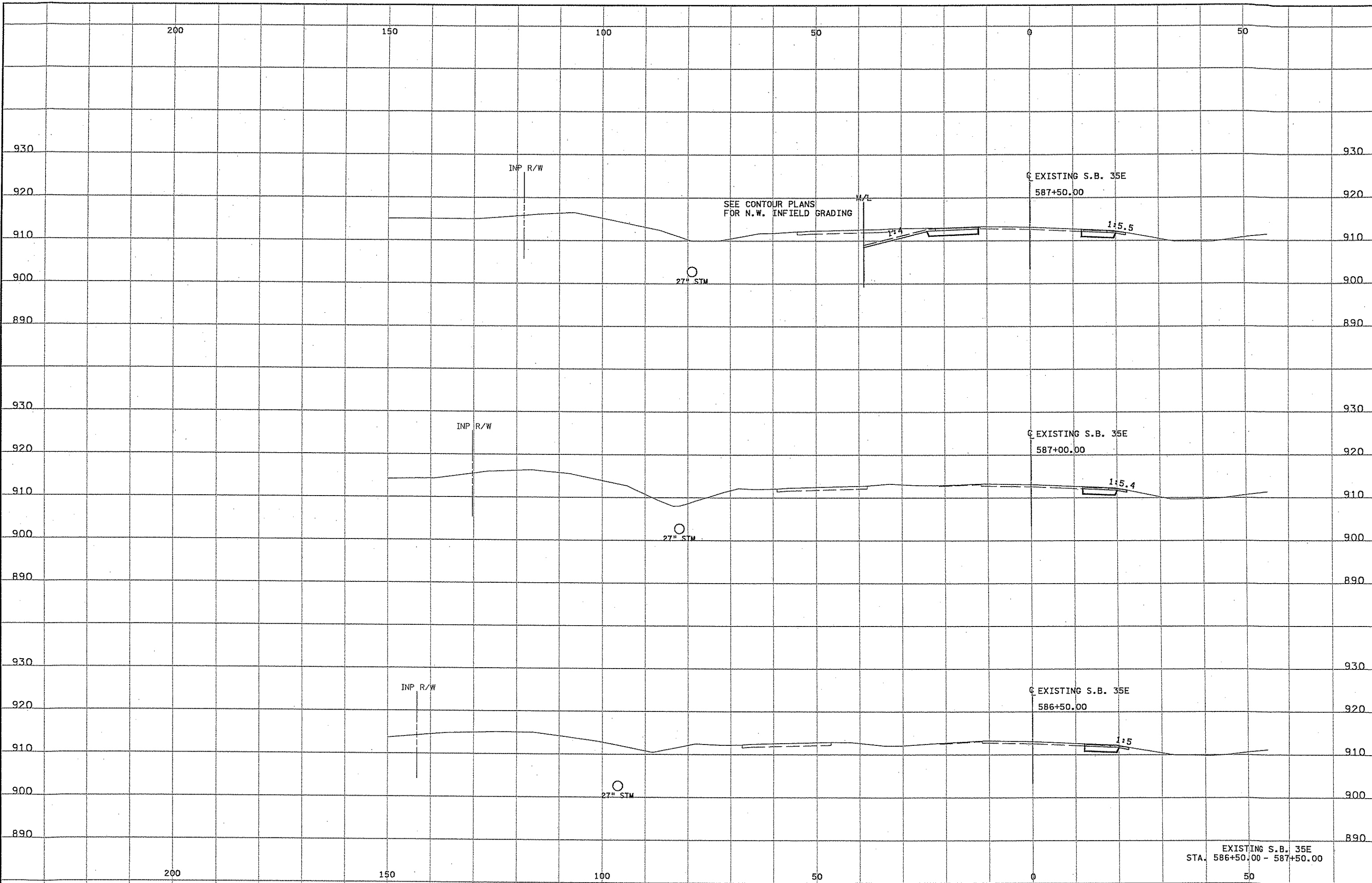
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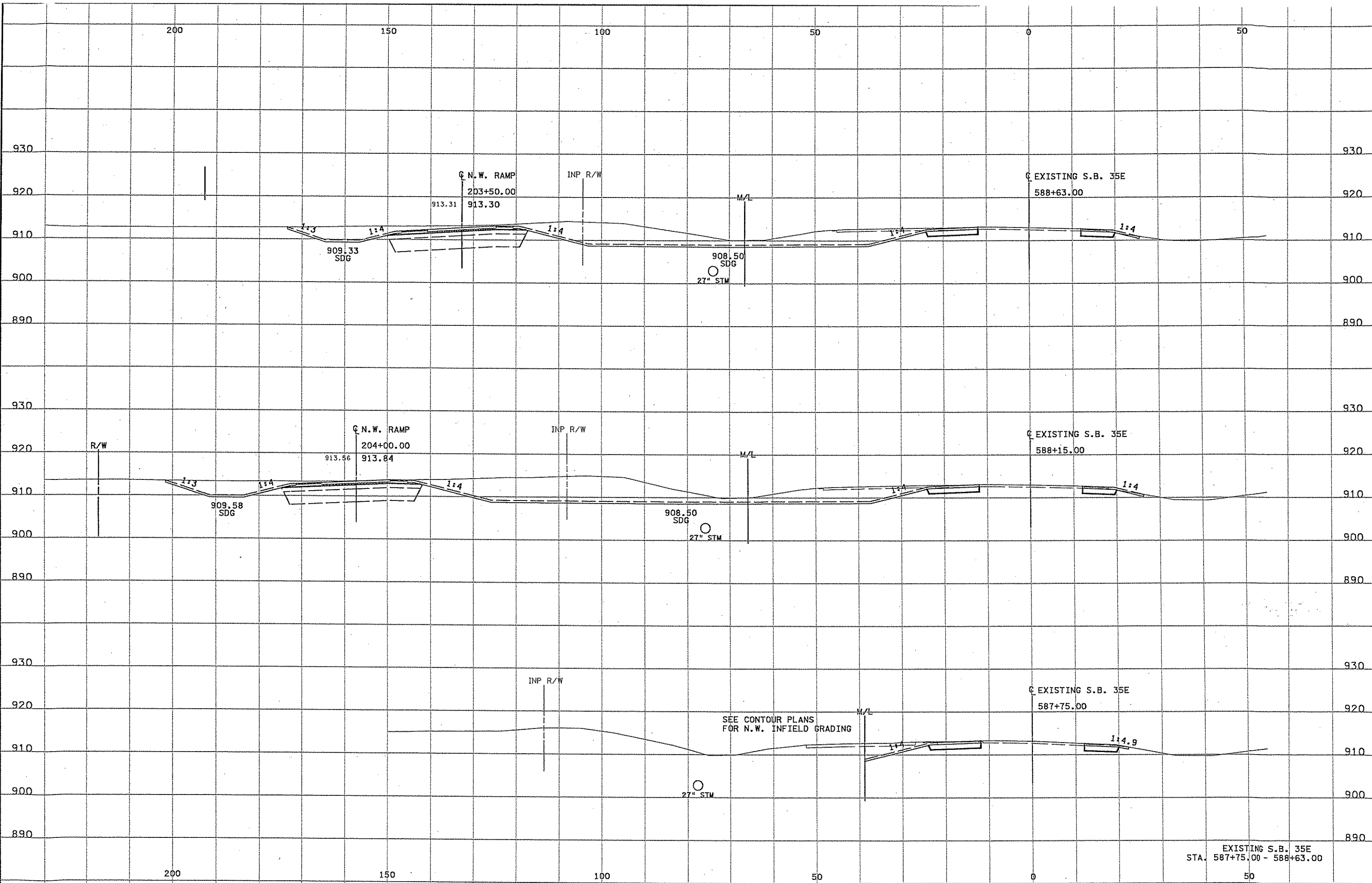


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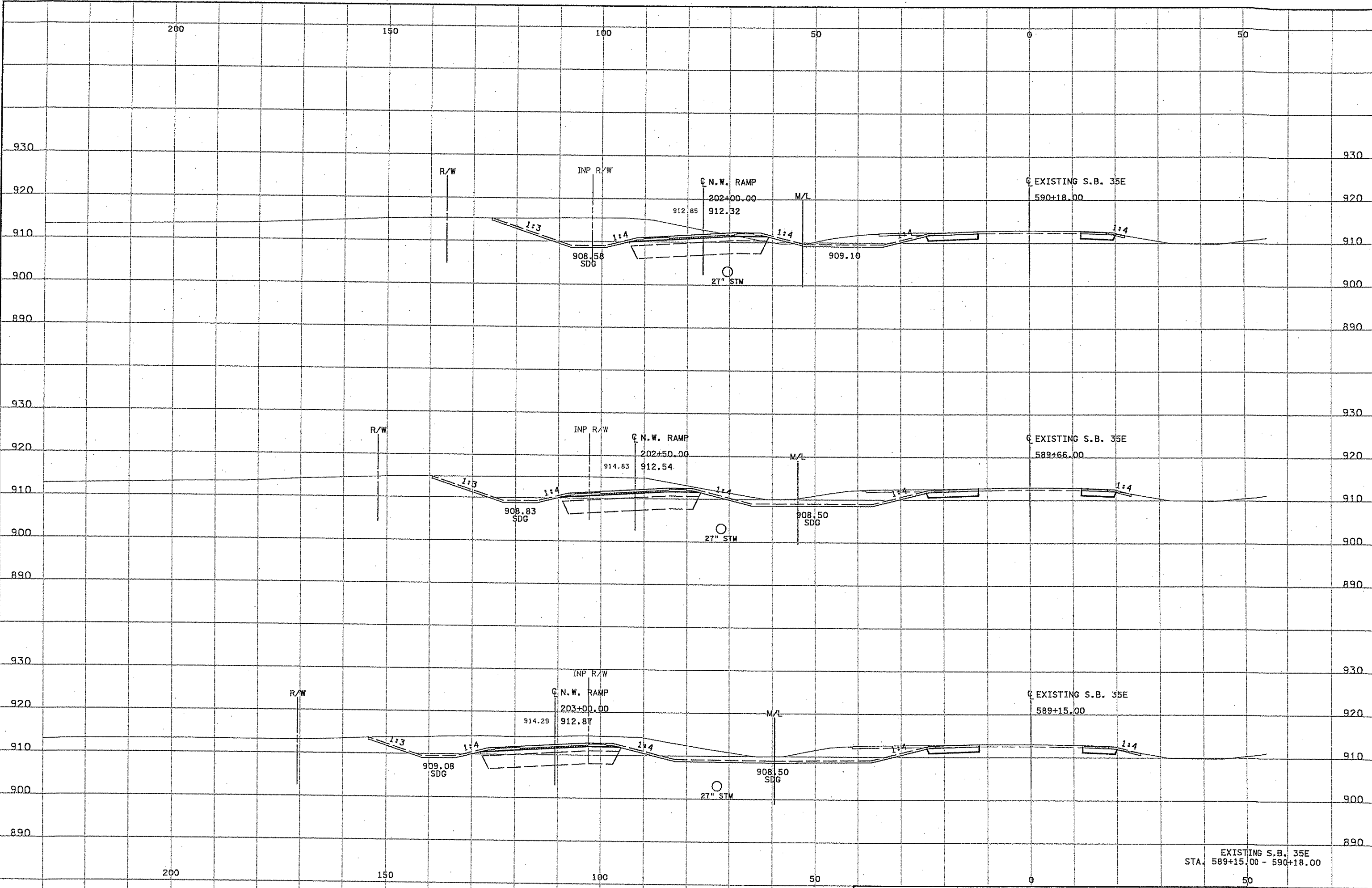


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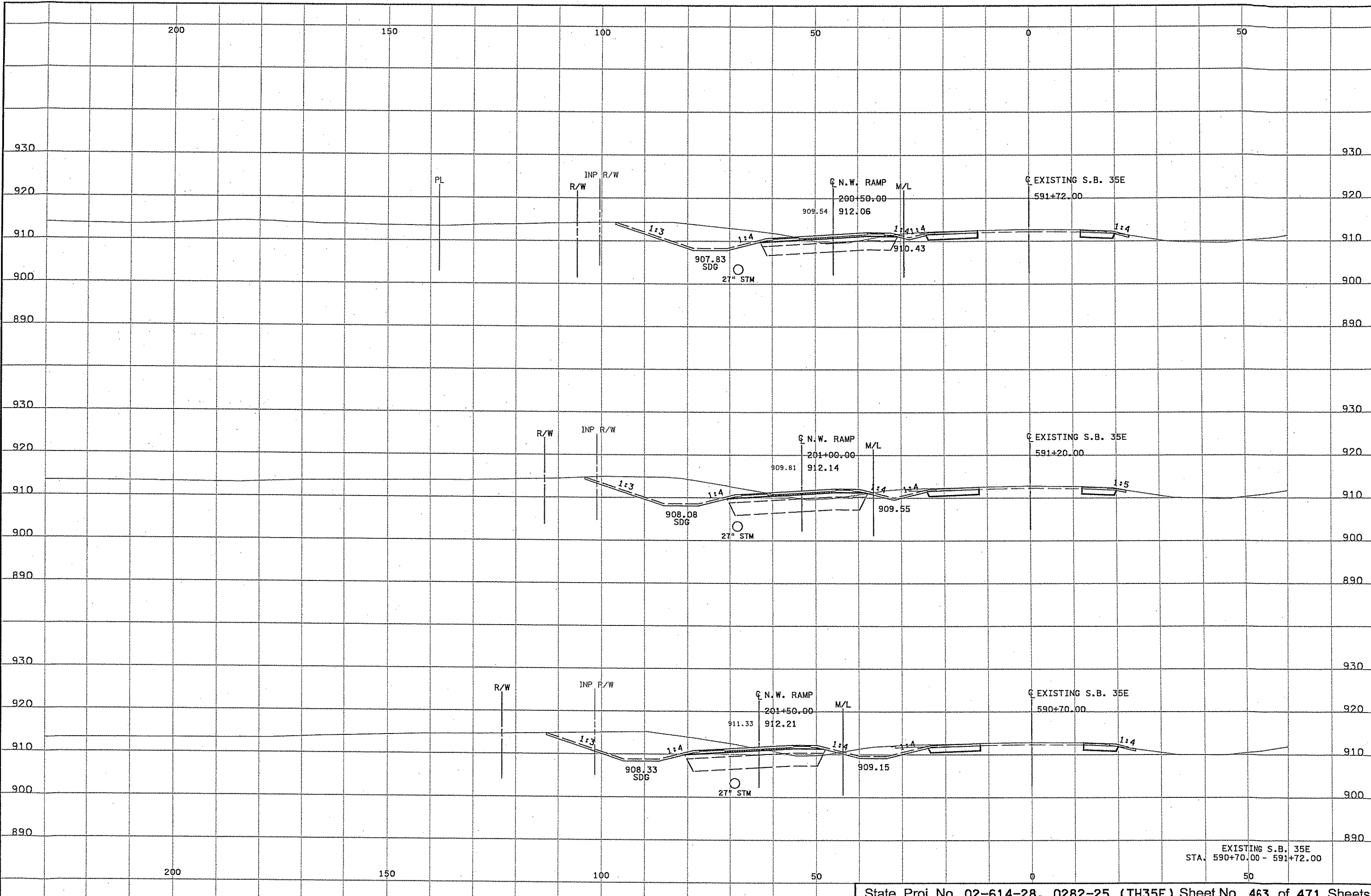


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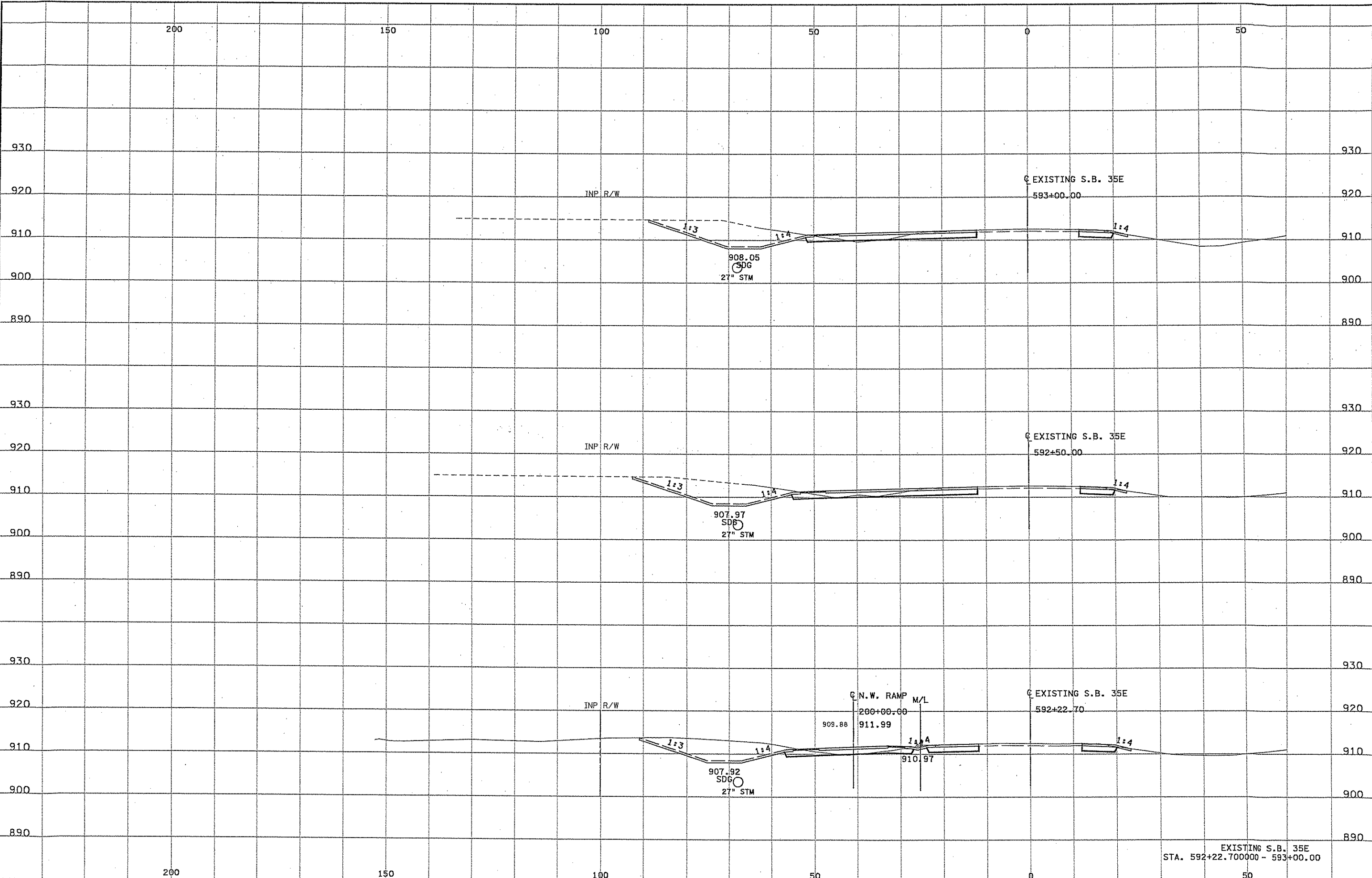
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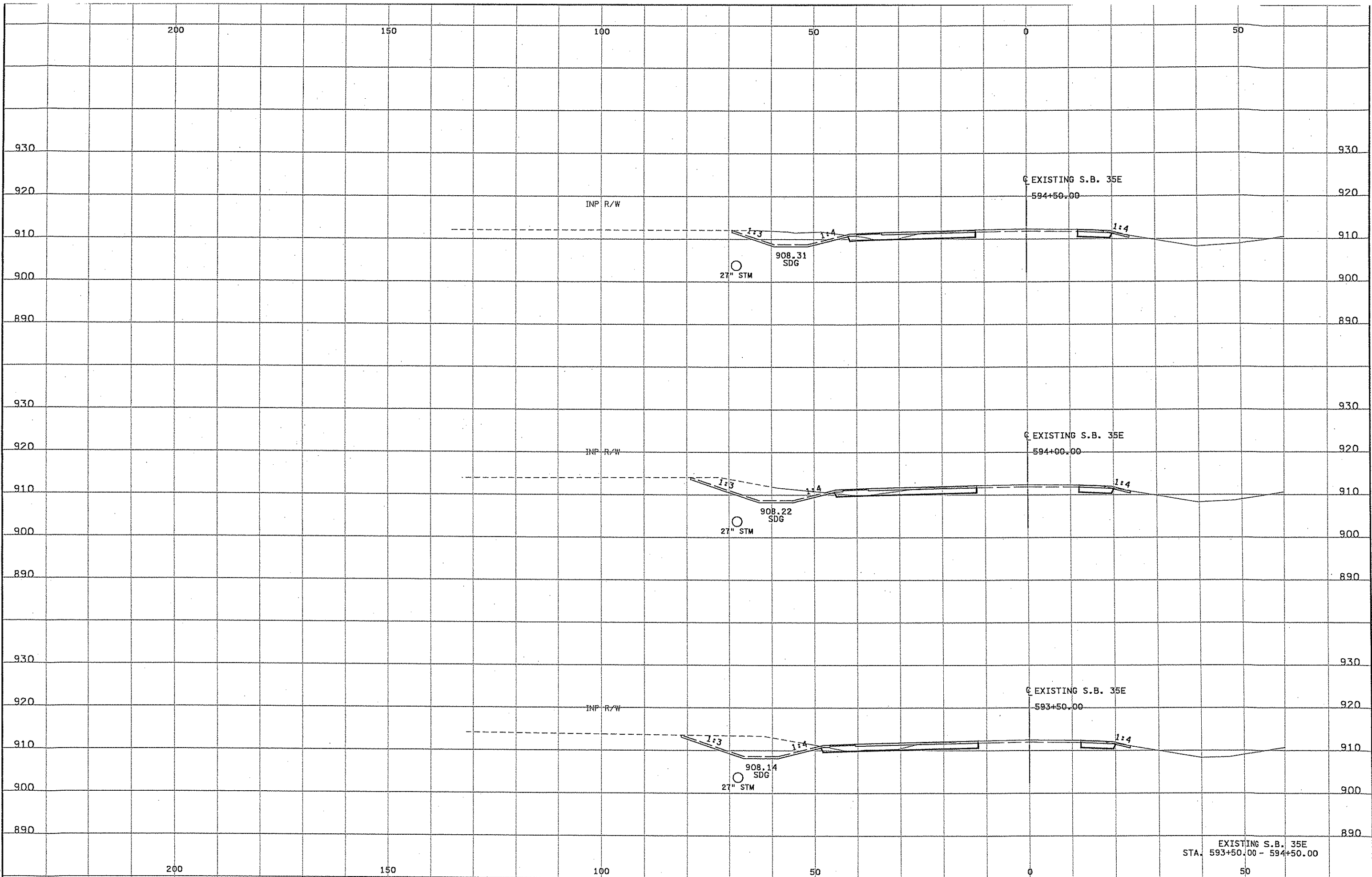
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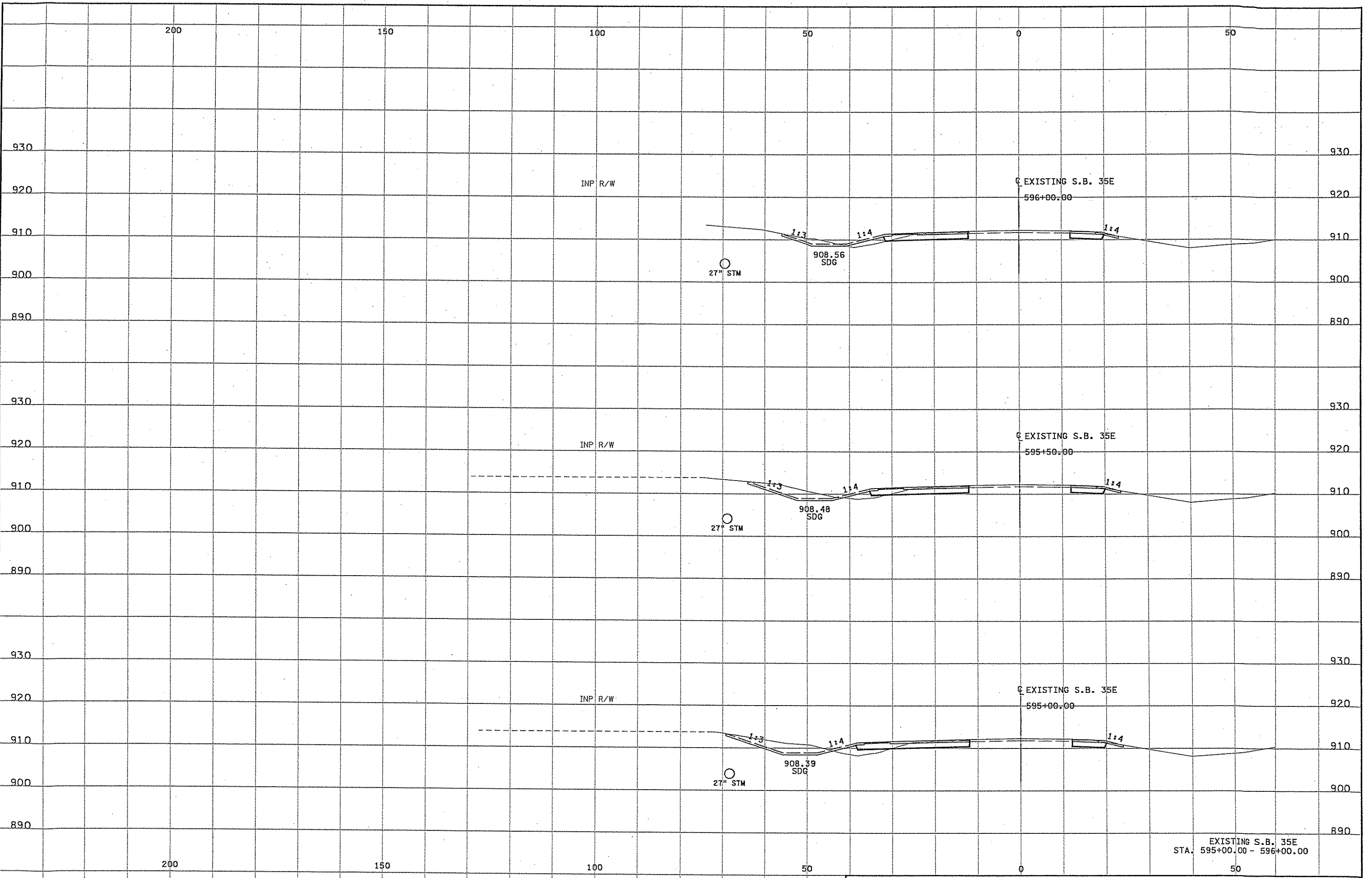


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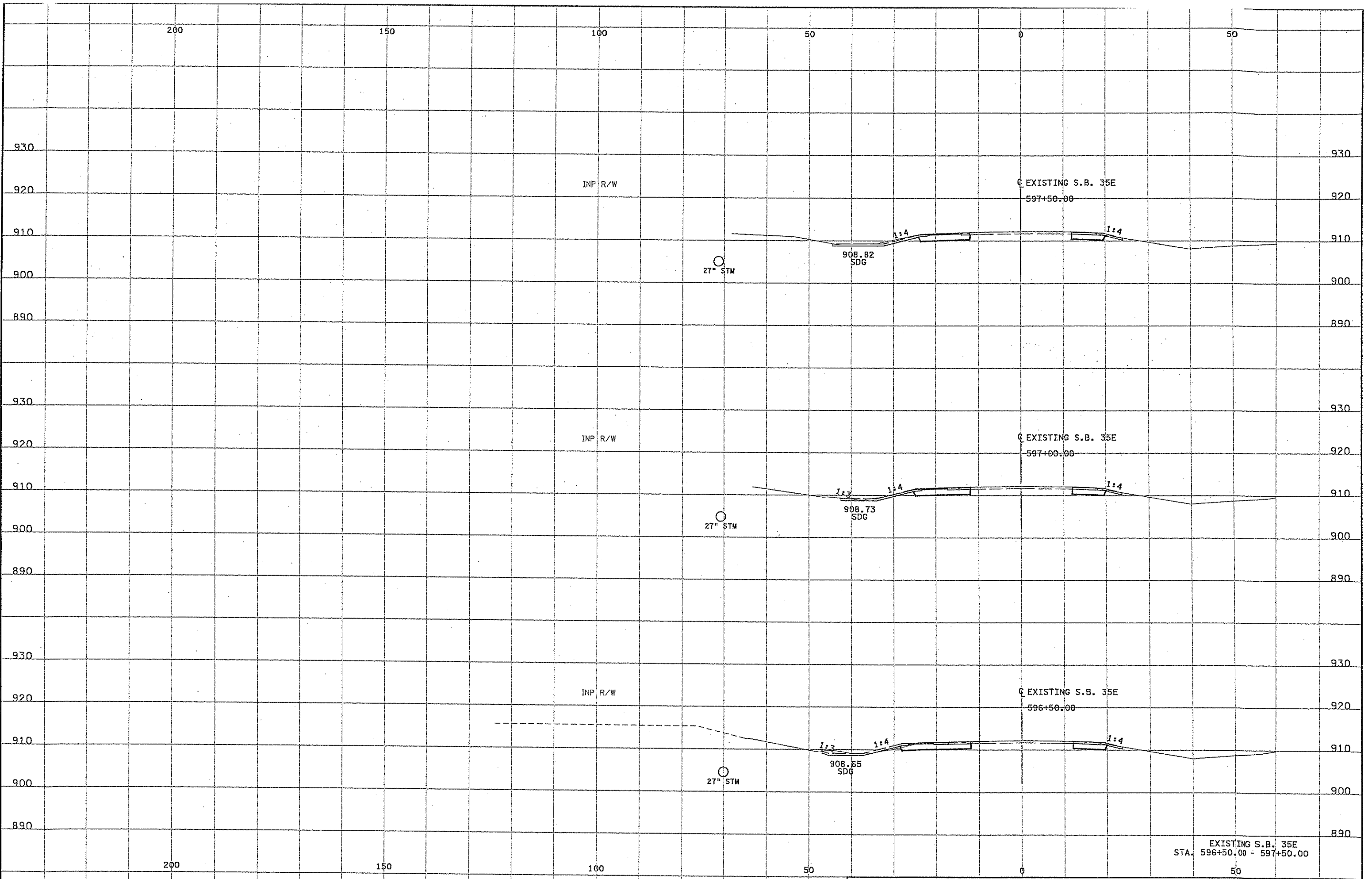


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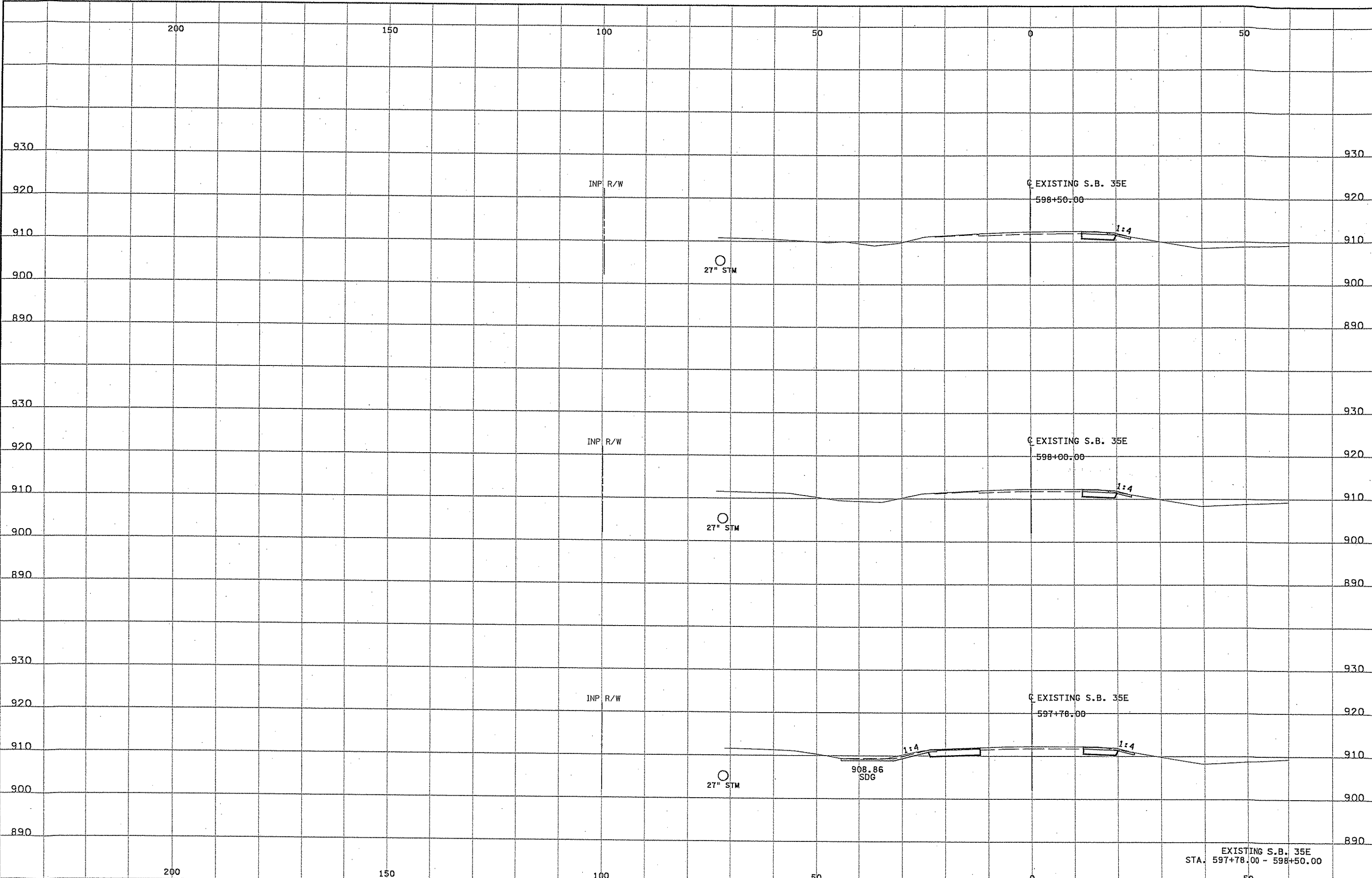
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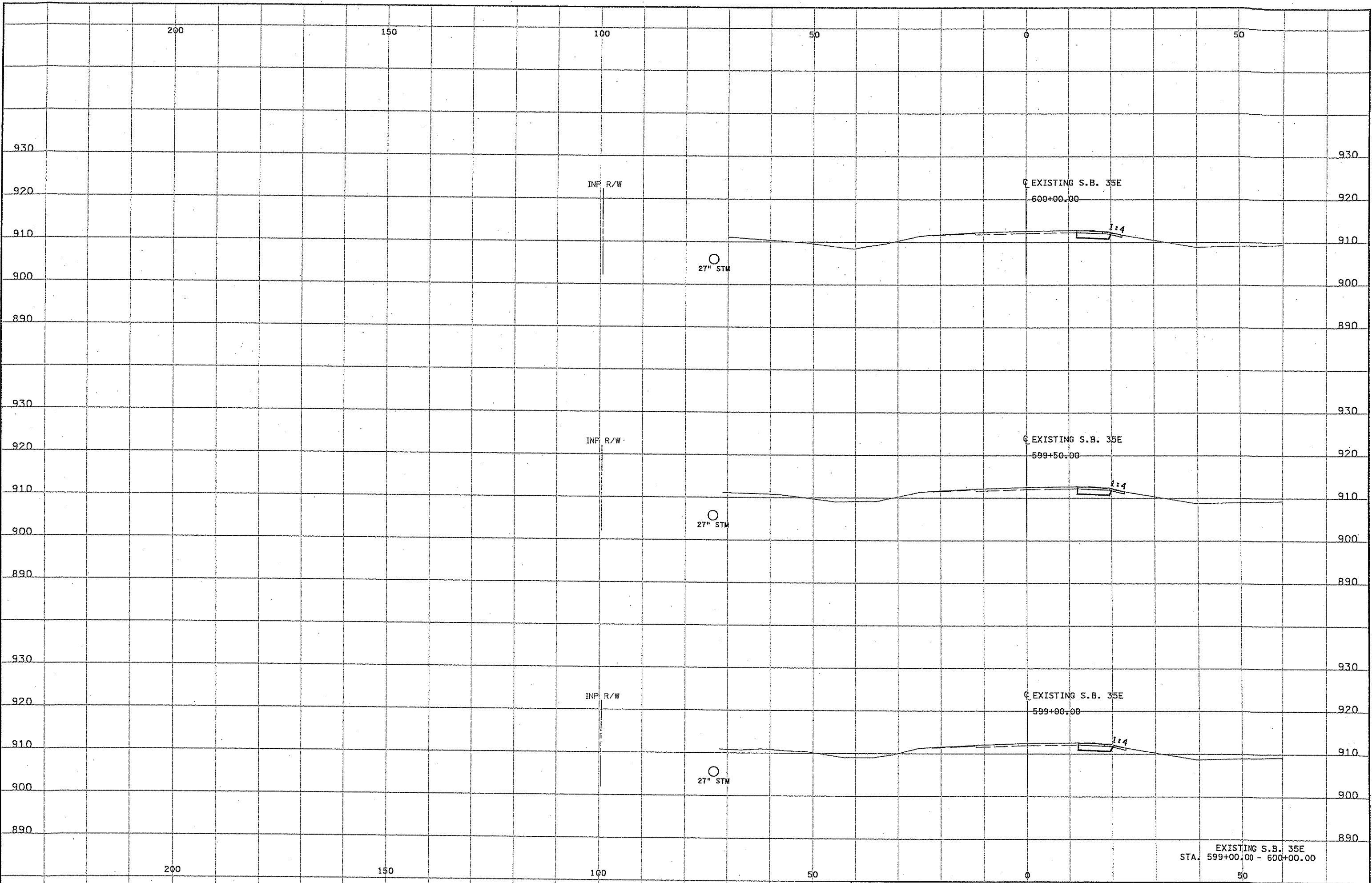


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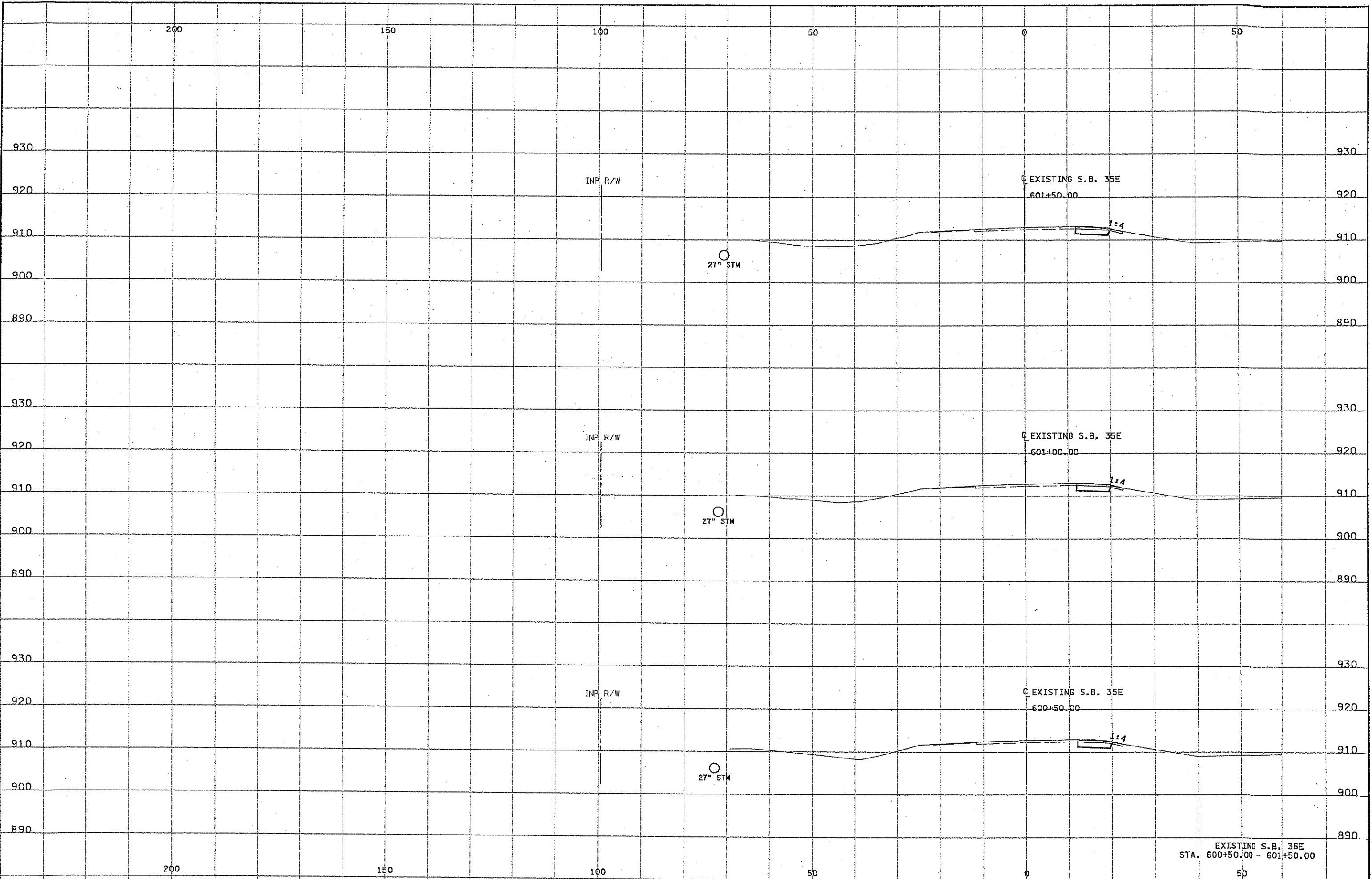
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EXISTING S.B. 35E
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11/17/2009
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EXISTING S.B. 35E
STA. 600+50.00 - 601+50.00

200

150

100

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930

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920

920

910

910

900

900

200

150

100

50

0

50

INP. R/W

27" STM

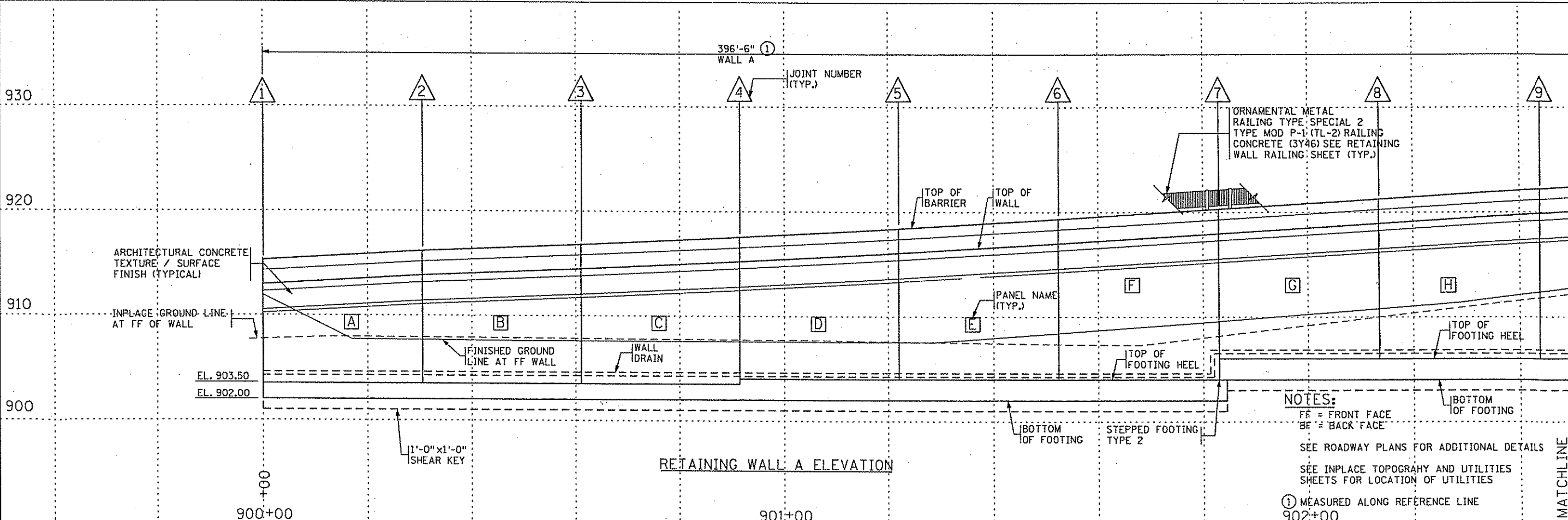
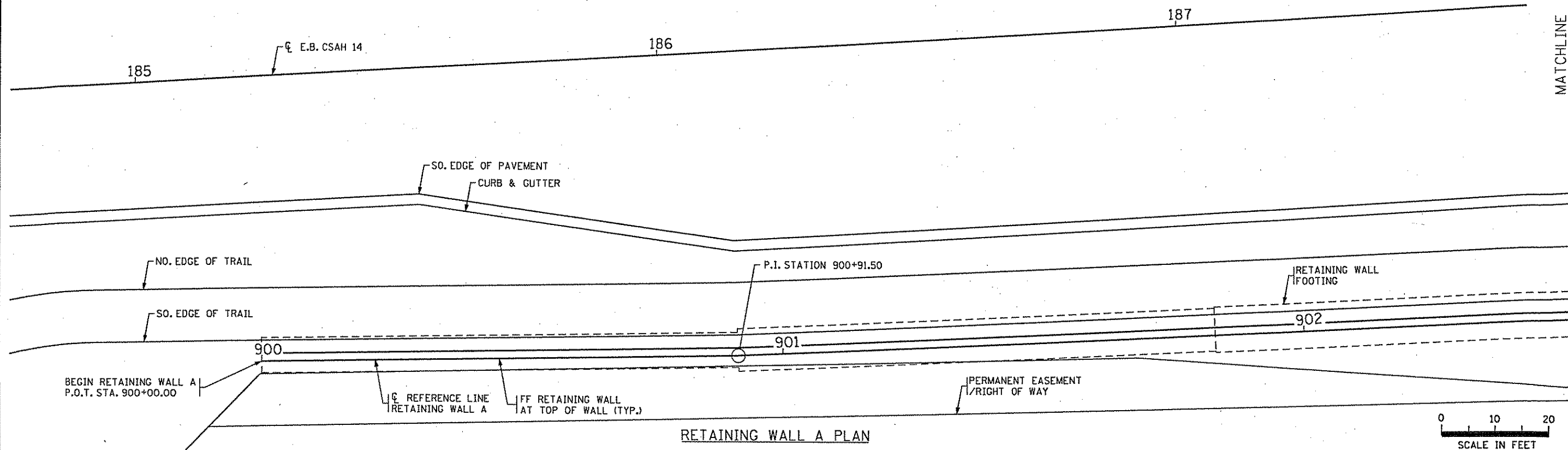
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EXISTING S.B. 35E
601+99.00

1:4

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STA. 601+99.00 - 601+99.00

9:58:57 AM
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NOTES:
 FF = FRONT FACE
 BF = BACK FACE
 SEE ROADWAY PLANS FOR ADDITIONAL DETAILS
 SEE INPLACE TOPOGRAPHY AND UTILITIES SHEETS FOR LOCATION OF UTILITIES
 ① MEASURED ALONG REFERENCE LINE

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 Electrical Engineer under the laws of the State of Minnesota.
 Print Name: **JANET ELIZABETH GRONERT**
Janet Elizabeth Gronert
 Date: **5/28/09** License # **44325**

STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO.
 CITY PROJECT NO.
 DRAWN BY J. PEAKE
 DESIGNED BY J. GRONERT
 CHECKED BY F. JORDAN
 COMM. NO. 0086509

BLOOM CONSULTANTS, LLC
 ENGINEERS PLANNERS SCIENTISTS
 7500 N. Hudson Blvd., Suite 120 • St. Paul, MN 55128
 Phone: (651) 785-1801 Fax: (651) 785-1808

ANOKA COUNTY
 PLAN & ELEVATION
C.S.A.H. 14/T.H. 35E INTERCHANGE
 RETAINING WALL A

SHEET
 W1
 OF
 W10

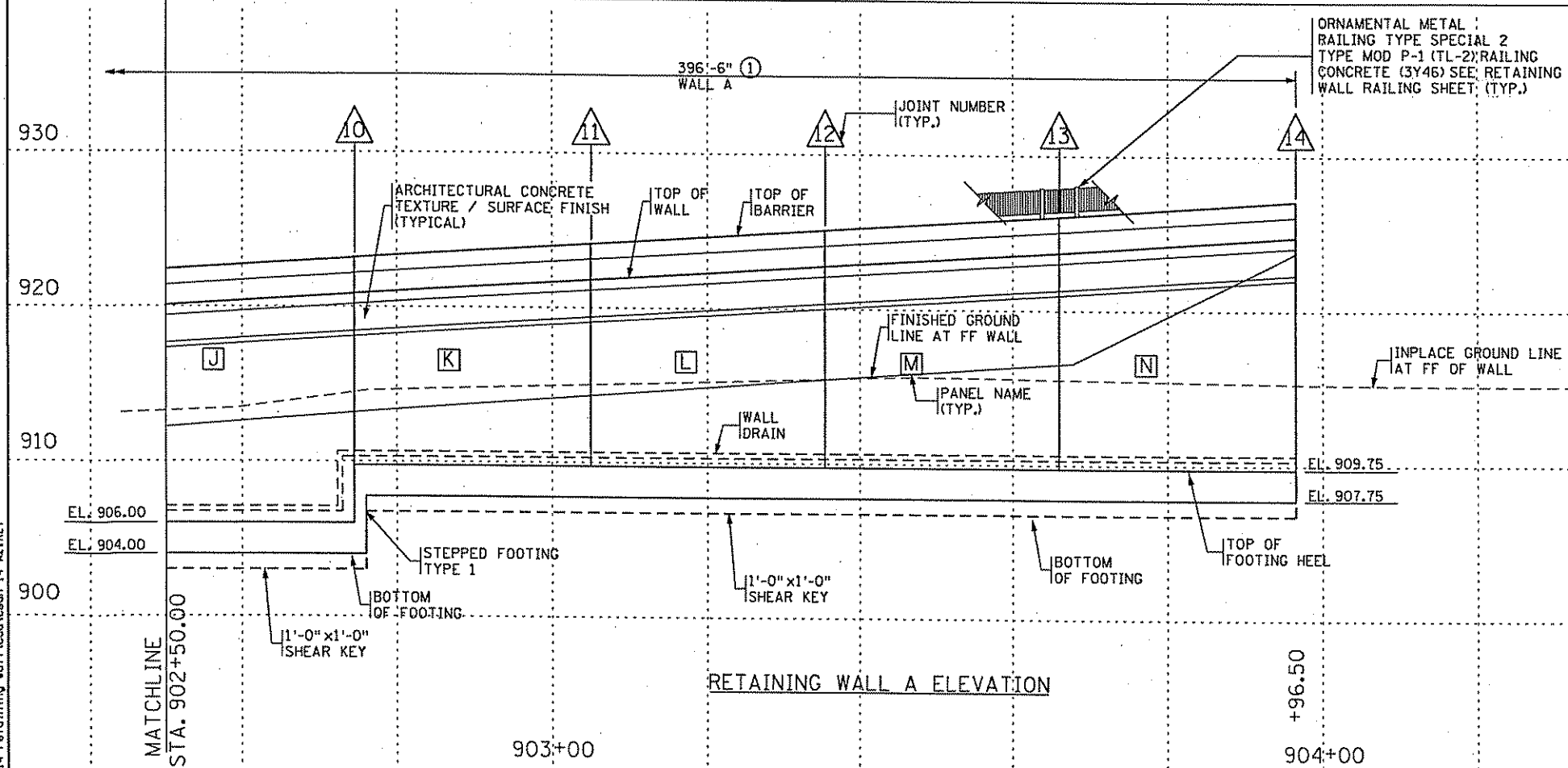
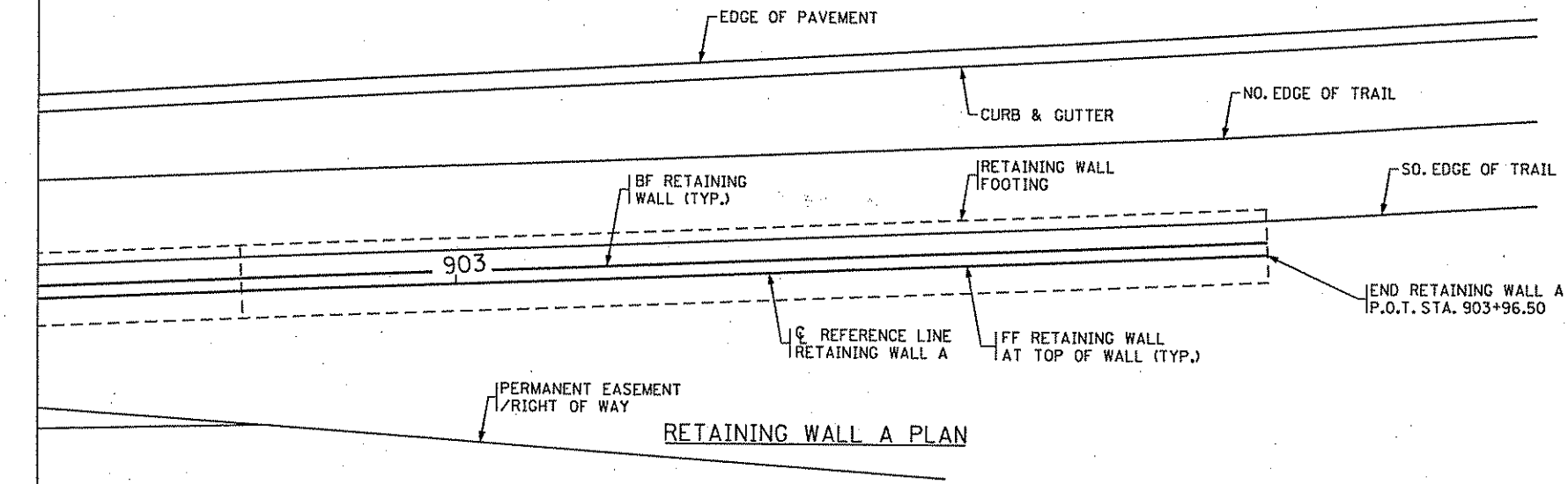
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MATCHLINE
STA. 902+50.00

188
E.B. CSAH 14



- NOTES:**
 FF = FRONT FACE
 BF = BACK FACE
 SEE ROADWAY PLANS FOR ADDITIONAL DETAILS
 SEE INPLACE TOPOGRAPHY AND UTILITIES SHEETS FOR LOCATION OF UTILITIES
 ① MEASURED ALONG REFERENCE LINE



1:08:30 PM
 5/28/2009
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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 Electrical Engineer under the laws of the State of Minnesota.
 Pr. Name: JANET ELIZABETH GRONERT
Janet Elizabeth Gronert
 Date: 5/28/09 License # 44325

STATE PROJECT NO. 0282-25 (TH 35E)
 DESIGNED BY J. PEAKE
 COUNTY PROJECT NO. 02-614-28
 CHECKED BY F. JORDAN
 CITY PROJECT NO. COMM. NO. 0086509

BLOOM CONSULTANTS, LLC
 ENGINEERS PLANNERS SCIENTISTS
 7800 N. Hudson Blvd., Suite 120 • St. Paul, MN 55128
 Phone: (651) 786-1801 Fax: (651) 786-1808

ANOKA COUNTY
 RETAINING WALL A
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 PLAN AND ELEVATION

SHEET
 W2
 OF
 W10

GEOMETRICS FOR RETAINING WALL A

JOINT NO.	JOINT TYPE	STEM JOINT STATION ①	ELEVATIONS				HEIGHT OF STEM (FEET)	PANEL NAME	PANEL LENGTH (FEET) ③
			FINISHED GROUNDLINE FF WALL	TOP OF WALL ①	TOP OF FOOTING (HEEL)	BOTTOM OF FOOTING			
1		900+00.00	911.94	912.94	903.50	902.00	9.44	A	30.5
2	CONSTRUCTION	900+30.50	907.70	913.83	903.50	902.00	10.33	B	30.5
3	CONSTRUCTION	900+61.00	907.55	914.47	903.50	902.00	10.97	C	30.5
4	CORK & DOWEL	900+91.50	907.49	915.20	903.50/904.00	902.00	11.70/11.20	D	30.5
5	CONSTRUCTION	901+22.00	907.52	916.05	904.00	902.00	12.05	E	30.5
6	CONSTRUCTION	901+52.50	908.41	916.99	904.00	902.00	12.99	F	30.5
7	CORK & DOWEL	901+83.00	909.56	917.95	904.00/906.00	902.00/904.00	13.95/11.95	G	30.5
8	CONSTRUCTION	902+13.50	910.77	918.91	906.00	904.00	12.91	H	30.5
9	CONSTRUCTION	902+44.00	911.97	919.87	906.00	904.00	13.87	I	30.5
10	CORK & DOWEL	902+74.50	913.15	920.83	906.00/909.75	904.00/907.75	14.83/11.08	J	30.5
11	CONSTRUCTION	903+05.00	914.30	921.80	909.75	907.75	12.05	K	30.5
12	CONSTRUCTION	903+35.50	915.38	922.76	909.75	907.75	13.01	L	30.5
13	CORK & DOWEL	903+66.00	916.22	923.72	909.75	907.75	13.97	M	30.5
14		903+96.50	923.76	924.76	909.75	907.75	15.01	N	30.5

REFERENCE LINE ALIGNMENT TABULATION FOR RETAINING WALL A

POINT	STATION	COORDINATES		DELTA	REMARKS
		X	Y		
P.O.T.	900+00.00	559,643.179	146,925.102		BEGIN WALL (AZIMUTH = 359°-07'-34")
P.I.	900+91.50	559,734.668	146,926.497		(AZIMUTH = 357°-35'-58")
P.O.T.	903+96.50	560,039.400	146,939.272		END WALL

SUMMARY OF DRAINAGE QUANTITIES ⑤⑧

ITEM	UNIT	TOTAL
4" DIA. PERFORATED PIPE	LIN. FT.	396
4" DIA. NON-PERFORATED PIPE	LIN. FT.	10
4" DIA. END CAP	EACH	1
4" DIA. 45° ELBOW	EACH	1

NOTES:

UTILITIES:

EXISTING AND PROPOSED UTILITIES ARE SHOWN IN THE GRADING PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES AND SHALL EXERCISE CARE IN ADJACENT CONSTRUCTION.

EXCAVATION AND EMBANKMENT:

ALL EXCAVATION AND EMBANKMENT WORK SHALL CONFORM TO MN/DOT 2451.

CONCRETE:

ALL CONCRETE SHALL CONFORM TO MN/DOT 2461.

TRANSVERSE CONSTRUCTION JOINTS IN FOOTING ARE PERMISSIBLE. KEYWAYS AND CONTINUOUS REINFORCEMENT ARE REQUIRED THROUGH THESE JOINTS.

THE THICKNESS OF THE ARCHITECTURAL CONCRETE TEXTURE VARIES WITH THE TEXTURE RELIEF. THE STRUCTURAL CONCRETE 3Y43 QTYS DO NOT INCLUDE THE MATERIAL WITHIN THE ARCHITECTURAL CONCRETE TEXTURE. CONCRETE NEEDED FOR THE TEXTURING IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE. SEE SPECIAL PROVISIONS.

REINFORCING STEEL:

REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO MN/DOT 3301, GRADE 60 AND EPOXY COATED EXCEPT AS NOTED.

ALL BENT BAR DIMENSIONS ARE GIVEN OUT-TO-OUT.

THE CLEAR DISTANCE BETWEEN REINFORCEMENT BARS AND FACE OF CONCRETE SHALL BE 3" IN FOOTING, 5" IN BOTTOM OF SPREAD FOOTINGS, AND 2" ELSEWHERE, UNLESS OTHERWISE NOTED.

THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATES THE BAR SIZE. SEE CONVERSION CHARTS FOR METRIC DESIGNATION.

BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED. ALL BARS WHICH COME OUT OF THE FOOTING AND ALL BARS WHICH ARE ABOVE THE FOOTING SHALL BE EPOXY COATED.

THE CONTRACTOR HAS THE OPTION OF SUBSTITUTING 60'-0" LONG BARS FOR THE LONGITUDINAL FOOTING STEEL SHOWN. CHANGES IN THE BILL OF REINFORCEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PAYMENT WILL BE BASED ON QUANTITIES SHOWN.

FOR VARIABLE STEM HEIGHTS, VARY THE LAP LENGTH OF THE VERTICAL REINFORCEMENT. MINIMUM LAP LENGTHS ARE GIVEN IN THE TABLE ON WALL REINFORCEMENT SHEET. SMALLER BAR GOVERNS LAP LENGTH.

DOWEL BAR ASSEMBLY:

CORK & DOWEL JOINTS MUST BE SPACED AT 91'-6" MAXIMUM. CHANGES IN LOCATION OF CORK & DOWELS JOINTS ARE NOT ALLOWED.

DOWELED JOINTS ARE INCLUDED IN PRICE BID FOR OTHER ITEMS.

GEOMETRICS AND GRADES:

DATA FOR BASELINE GEOMETRY IS TABULATED FOR WALL ALIGNMENT, SEE LAYOUT SHEETS. WALL ALIGNMENT REFERENCE IS ALONG FRONT FACE OF WALL.

ON UP TO 10% SLOPES, THE CONTRACTOR HAS THE OPTION OF POURING FOOTINGS SLOPED OR STEPPED. ADDITIONAL CONCRETE VOLUMES AND CHANGES TO THE BILL OF REINFORCEMENT WHICH MAY RESULT FROM CONTRACTOR REQUESTED OPTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL PAYMENT WILL BE MADE.

SEE PANEL TABULATION SHEETS FOR RETAINING WALL DIMENSIONS

POURING SEQUENCE:

THE POURING SEQUENCE SHALL BE AT THE CONTRACTOR'S OPTION, BUT MUST BE SUBMITTED (WITH ADEQUATE APPROVAL TIME) TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING THE FIRST POUR.

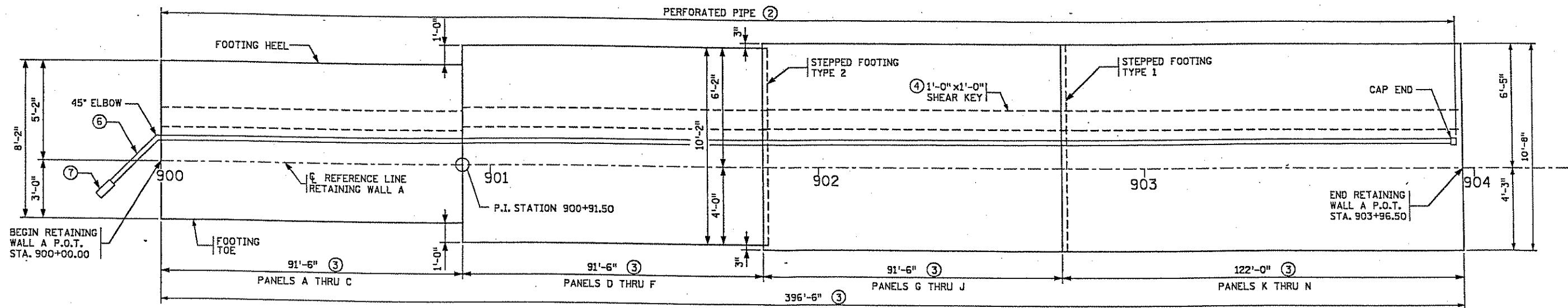
CONSTRUCTION:

CONSTRUCTION SHALL BE IN ACCORDANCE WITH MN/DOT 2411, EXCEPT AS NOTED.

FOOTING PLAN NOTES:

WALL STEM NOT SHOWN FOR CLARITY.

- ① AT REFERENCE LINE WALL A.
- ② 4" NOMINAL DIA. PERFORATED PIPE PER MN/DOT SPEC. 3245 WRAP PERFORATED PIPE WITH GEOTEXTILE PER MN/DOT SPEC. 3733, TYPE 1. ATTACH TO PIPE PER MN/DOT SPEC 2502.
- ③ MEASURED ALONG REFERENCE LINE.
- ④ CONTRACTOR SHALL CONSTRUCT SHEAR KEY WITHOUT FORMS.
- ⑤ SEE SPECIAL PROVISIONS.
- ⑥ APPROX. 10'-0", 4" DIA. NOMINAL NON-PERFORATED PIPE PER SPEC. 3245. MIN 1/8" PER FOOT SLOPE.
- ⑦ DAYLIGHT END OF PIPE IN SLOPE. PROVIDE A PRECAST CONCRETE HEADWALL WITH RODENT SCREEN. SEE STANDARD PLATE 3131 FOR DETAILS.
- ⑧ PAID FOR AS DRAINAGE SYSTEM - LUMP SUM.



WALL A RETAINING WALL FOOTING LAYOUT AND DRAINAGE PLAN
NO SCALE

14-117 BH
1/27/2008
F:\14-117-0000\CSAH 14-1355E\geom-14-A3_RET.dgn

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 Electrical Engineer under the laws of the State of Minnesota. Print Name: JANET ELIZABETH GRONET <i>Janet Gronet</i> Date: 8/7/07 License #: 44325	STATE PROJECT NO. 0282-25 (TH 35E) DESIGNED BY J. PEAKE DRAWN BY J. GRONET CHECKED BY M. THARANIYIL CITY PROJECT NO. COMM. NO. 0086509
						BLOOM COMPANIES, LLC Infrastructure Innovation and Ingenuity 7300 N. Hudson Blvd., Suite 120 • St. Paul, MN 55128 Phone: (651) 786-1801 Fax: (651) 786-1808	ANOKA COUNTY RETAINING WALL A C.S.A.H. 14/T.H. 35E INTERCHANGE GEOMETRIC TABS, FOOTING AND DRAINAGE LAYOUT
							SHEET W3 OF W10

SCHEDULE OF QUANTITIES FOR WALL A

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
2401	TYPE MOD P-1 (TL-2) RAILING CONCRETE (3Y46) (P)	LIN FT	397
2402	ORNAMENTAL METAL RAILING TYPE SPECIAL 2 (P)	LIN FT	397
2411	STRUCTURAL CONCRETE (1A43) (P)	CU YD	304
2411	STRUCTURAL CONCRETE (3Y43) (P)	CU YD	331
2411	REINFORCEMENT BARS (P)	POUND	22410
2411	REINFORCEMENT BARS (EPOXY COATED) (P)	POUND	41560
2411	ARCHITECTURAL CONCRETE TEXTURE (BUSH HAMMER) (P)	SQ FT	4635
2411	ARCHITECTURAL SURFACE FINISH (SINGLE COLOR) (P)	SQ FT	4635
2502	DRAINAGE SYSTEM	LUMP SUM	1
2557	ELECTRICAL GROUND	EACH	1

(P) DENOTES PLAN QUANTITY

SOFT METRIC BAR SIZE DESIGNATION	INCH-POUND BAR SIZE DESIGNATION
#10	#3
#13	#4
#16	#5
#19	#6
#22	#7
#25	#8
#29	#9
#32	#10
#36	#11
#43	#14
#57	#18

5
5
6

BAR LAP (CLASS C)

BAR SIZE	PLAIN	EPOXY
5	2'-5"	2'-6"
6	2'-11"	3'-10"
7	3'-8"	4'-11"
8	4'-10"	6'-5"
9	6'-1"	8'-1"

BAR LAP (CLASS A)

BAR SIZE	PLAIN	EPOXY
5		1'-11"
6		2'-3"
7		2'-11"
8		3'-9"
9		4'-9"

DESIGN CRITERIA

1992 A.A.S.H.T.O. DESIGN SPECIFICATIONS
 DESIGN LOADING : 2 FEET LIVE LOAD SURCHARGE
 WORKING STRESS - STABILITY, FOUNDATIONS
 LOAD FACTOR DESIGN - REINFORCED CONCRETE
 $f'_c = 4,000$ PSI
 $f_y = 60,000$ PSI
 $n = 8$

FACTOR OF SAFETY OVERTURNING: 2.0 MINIMUM
 FACTOR OF SAFETY SLIDING: 1.5 MINIMUM
 LOCATION OF RESULTANT: MIDDLE 1/3 OF FOOTING
 NEGLECTING SOIL IN FRONT OF WALL.

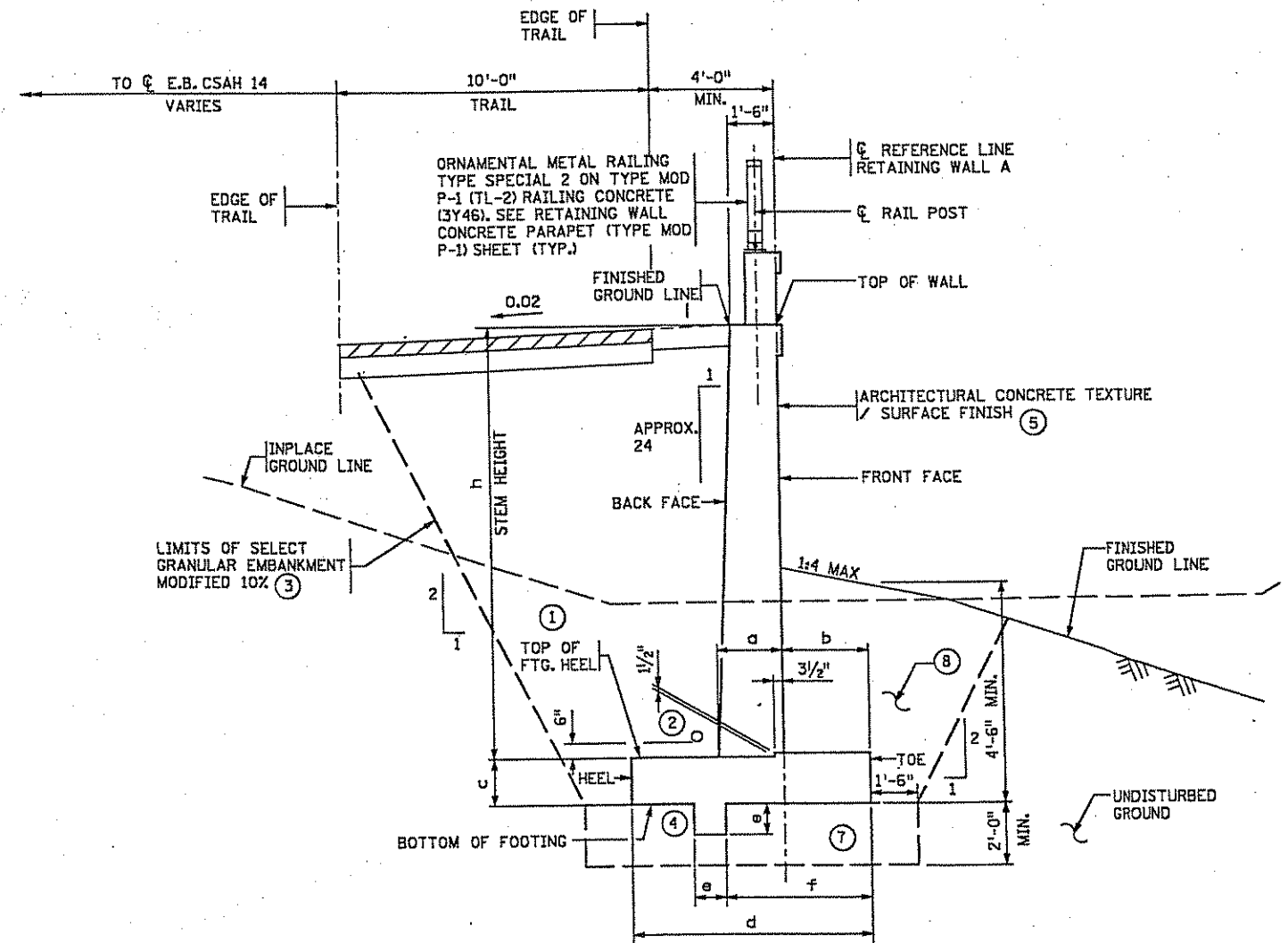
BACKFILL CHARACTERISTICS:
 INTERNAL ANGLE OF FRICTION: 35°
 = 33 PCF EQUIVALENT FLUID PRESSURE ACTIVE STATE
 = 53 PCF EQUIVALENT FLUID PRESSURE AT REST STATE
 $\beta_o = 1.0$
 COEFFICIENT OF FRICTION: 0.55
 UNIT WEIGHT: 125 PCF

NET ALLOWABLE BEARING PRESSURE = 2500 PSF

FOUNDATION REPORT AND RECOMMENDATIONS PREPARED BY AET, DATED DEC. 3, 2008

NOTES:

- SELECT GRANULAR EMBANKMENT MODIFIED 10% FOR BACKFILL. COMPACTION TO 100% OF STANDARD PROCTOR, SEE ROADWAY PLANS.
- 4" NOMINAL DIA. PERFORATED PIPE PER MN/DOT SPEC. 3245 WRAP PERFORATED PIPE WITH GEOTEXTILE PER MN/DOT SPEC 3733, TYPE 1. ATTACH TO PIPE PER MN/DOT SPEC. 2502. SEE FOOTING & DRAINAGE LAYOUT SHEET.
- LIMITS OF STRUCTURE EXCAVATION CLAS U. ACTUAL SLOPES AS CONSTRUCTED IN THE FIELD SHALL BE IN COMPLIANCE WITH MN/DOT SPEC 1706, SEE ROADWAY PLANS.
- CONTRACTOR SHALL CONSTRUCT SHEAR KEY WITHOUT FORMS.
- SEE SPECIAL PROVISIONS.
- PAID FOR AS DRAINAGE SYSTEM - LUMP SUM.
- GRANULAR EMBANKMENT PER MN/DOT 3149.2B1. COMPACTION TO 100% OF STANDARD PROCTOR, SEE ROADWAY PLANS.
- BACKFILL WITH SUITABLE GRADING MATERIAL, SEE ROADWAY PLANS.



RETAINING WALL A TYPICAL SECTION
NO SCALE

1:50 P.M. 7/27/2009 F:\B12-XXXX CSAH 14-1355E\cadd\14-A4_RET.dgn

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 Electrical Engineer under the laws of the State of Minnesota.
 Print Name: JANET ELIZABETH GRONET
Janet Elizabeth Gronet
 Date: 9/7/09 License #: 44325

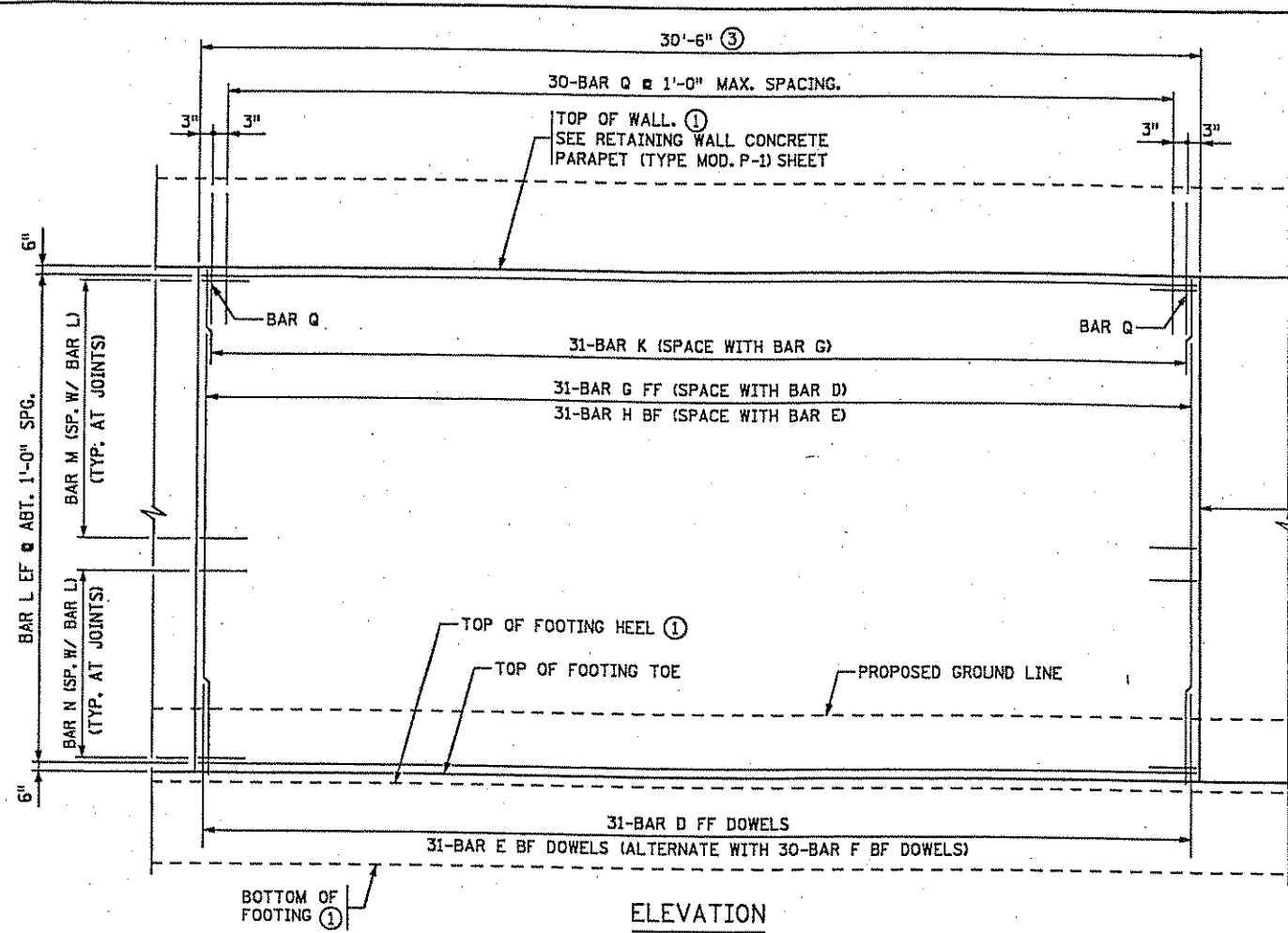
STATE PROJECT NO. 0282-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO.
 CITY PROJECT NO.

DRAWN BY J. PEAKE
 DESIGNED BY J. GRONERT
 CHECKED BY M. THARANIYIL
 COMM. NO. 0086509

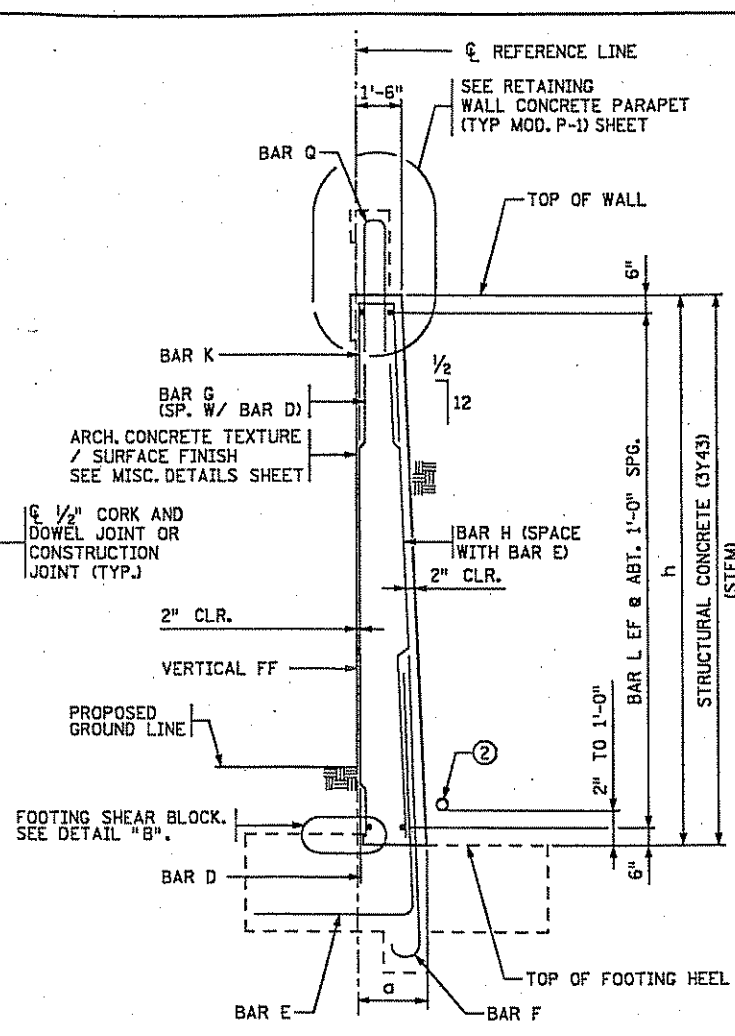
BLOOM COMPANIES, LLC
 Infrastructure Innovation and Integrity
 7500 N. Hudson Blvd., Suite 120 • St. Paul, MN 55128
 Phone: (651) 785-1901 Fax: (651) 785-1908

ANOKA COUNTY
 RETAINING WALL A
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 TYPICAL SECTION AND QUANTITIES

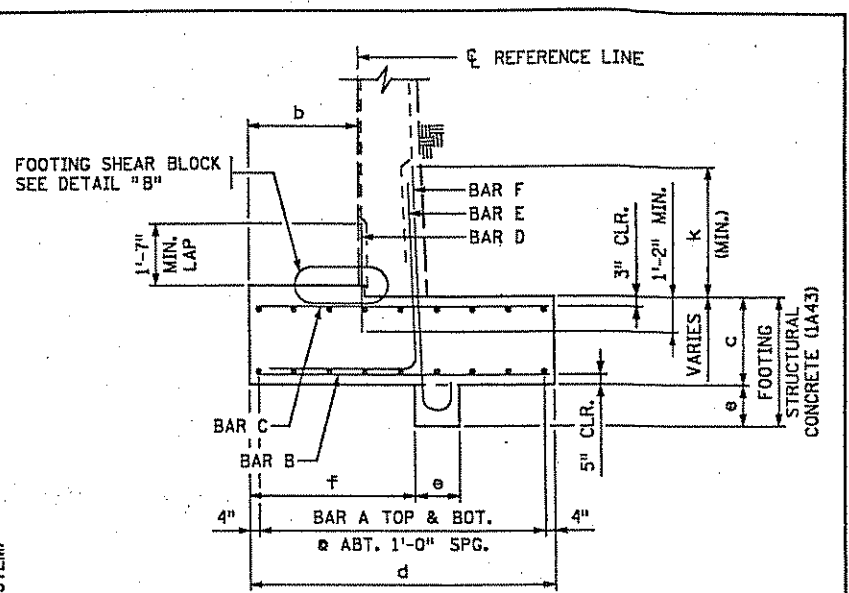
SHEET W4 OF W10



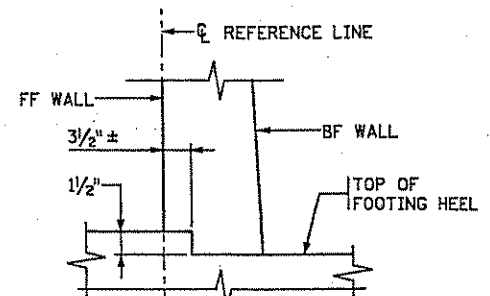
ELEVATION



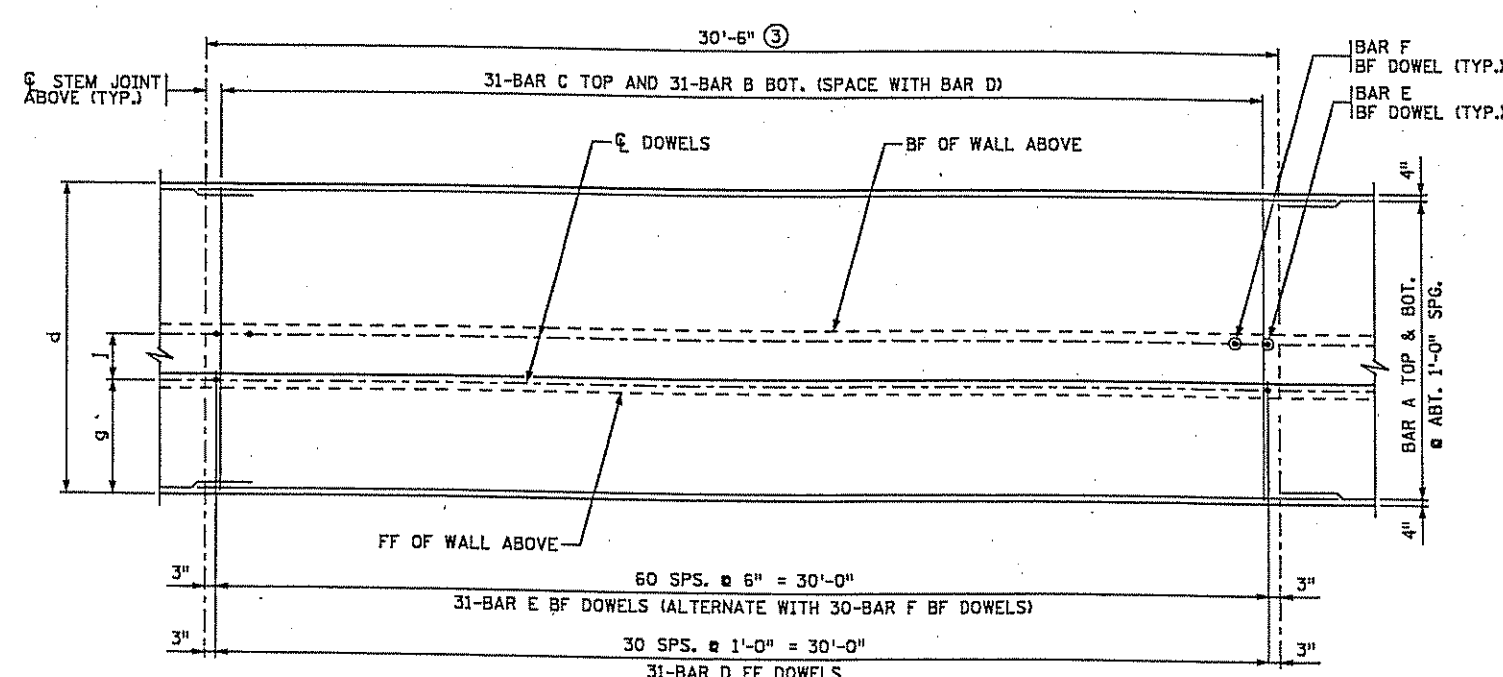
WALL SECTION
BARRIER OPTION SHOWN



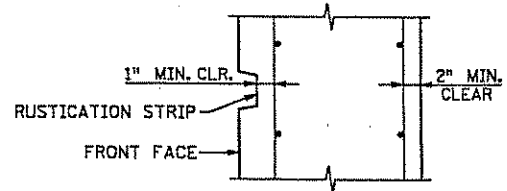
TYPICAL SECTION THROUGH SPREAD FOOTING



DETAIL "B"



FOOTING PLAN ~ REINFORCEMENT



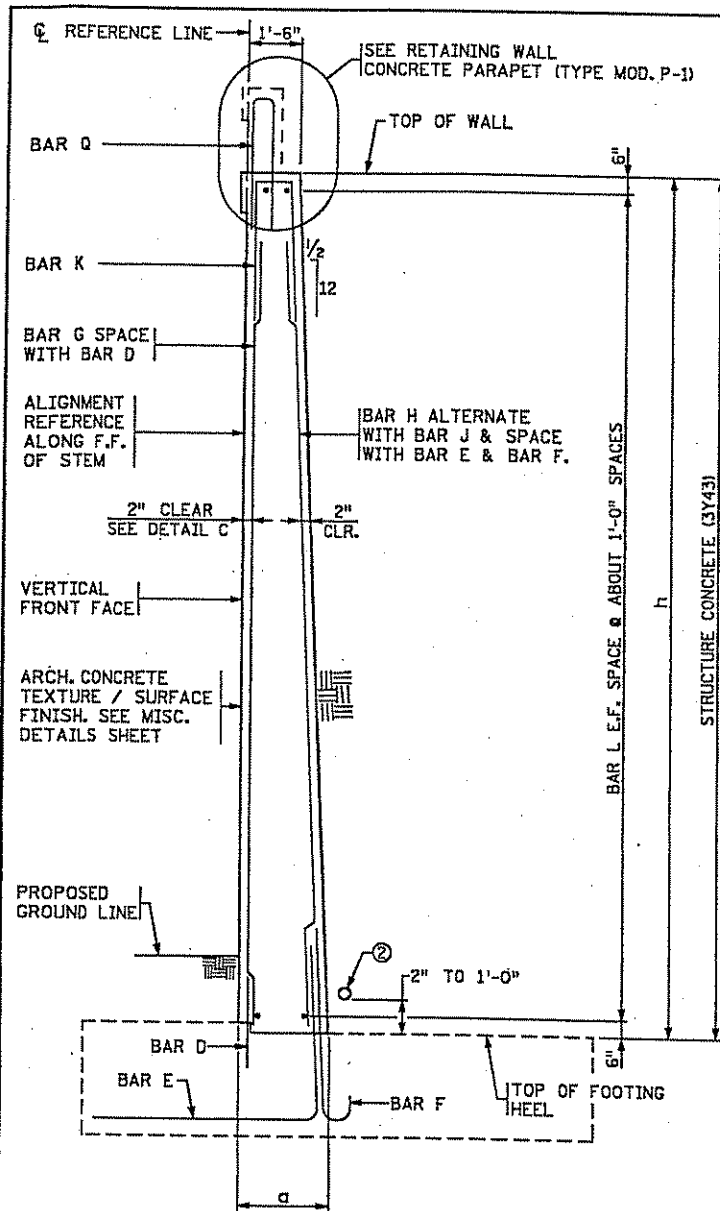
DETAIL C

GENERAL NOTES

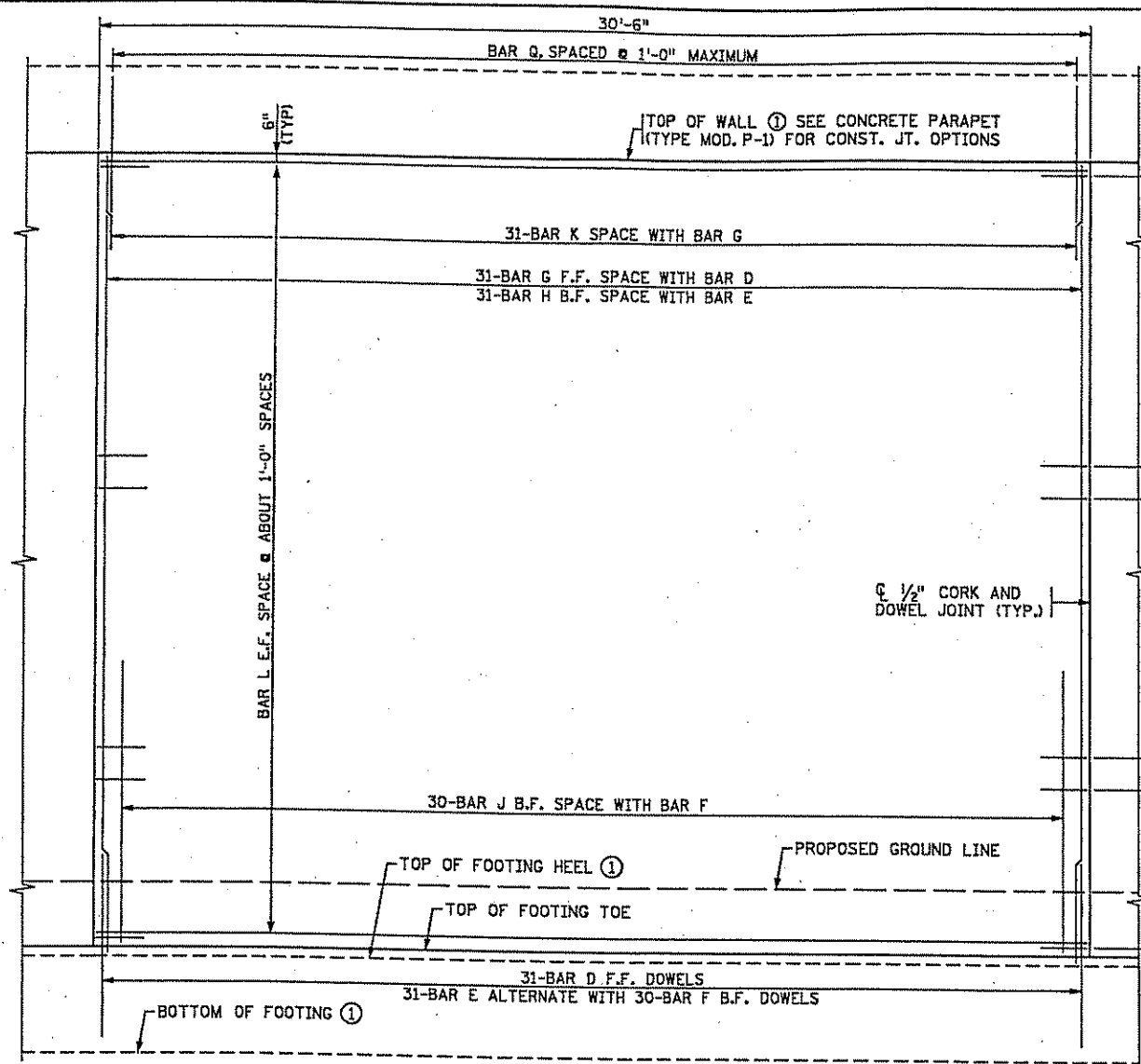
- STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS, EXCEPT FOR STEPPED CONDITIONS.
- FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED.
- BF = BACK FACE.
FF = FRONT FACE.
EF = EACH FACE.
- ① STRAIGHT LINE BETWEEN JOINT ELEVATIONS
- ② WALL DRAIN. SEE FOOTING & DRAINAGE LAYOUT SHEET FOR DETAILS.
- ③ PANEL LENGTH MAY VARY UP TO ±1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY.
- ④ SEE FOOTING & DRAINAGE LAYOUT SHEET FOR ADDITIONAL DETAILS.

1:51:07 PM 7/21/2009 F:\BME-xxxx\CSAH 14-1355E\sheet-14-A5-RET.dgn

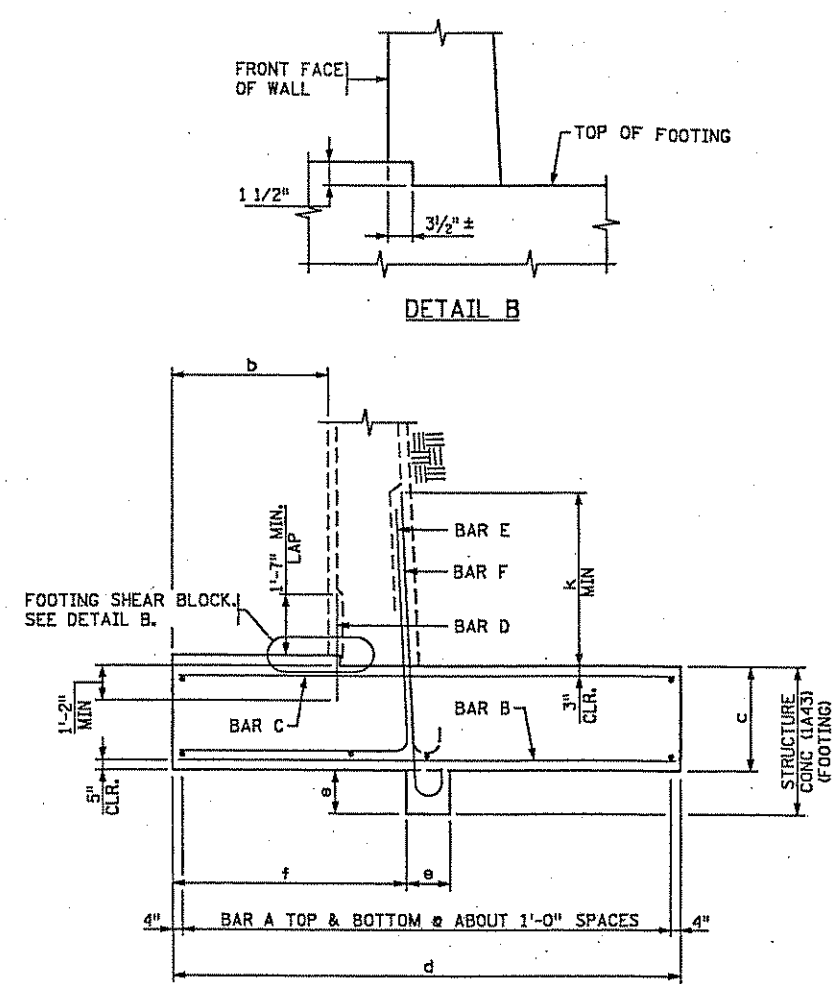
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota. Name: <u>JANET ELIZABETH GRONERT</u> Date: <u>9/7/09</u> License: <u>44325</u>				STATE PROJECT NO. 0292-25 (TH 35E) STATE PROJECT NO. 02-614-2B COUNTY PROJECT NO. CITY PROJECT NO.	DRAWN BY J. PEAKE DESIGNED BY J. GRONERT CHECKED BY M. THARANIYIL COMM. NO. 0086509	BLOOM COMPANIES, LLC <i>Infrastructure Innovation and Ingenuity</i> 7900 N. Hudson Blvd., Suite 120 • St. Paul, MN 56128 Phone: (651) 785-1801 Fax: (651) 785-1803	ANOKA COUNTY RETAINING WALL A C.S.A.H. 14/T.H. 35E INTERCHANGE PANELS A THRU F	SHEET W5 OF W10
NO	DATE	BY	CKD	APPR	REVISION			



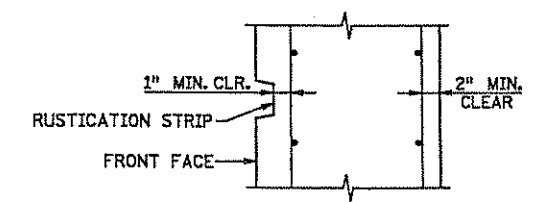
WALL SECTION
BARRIER OPTION SHOWN



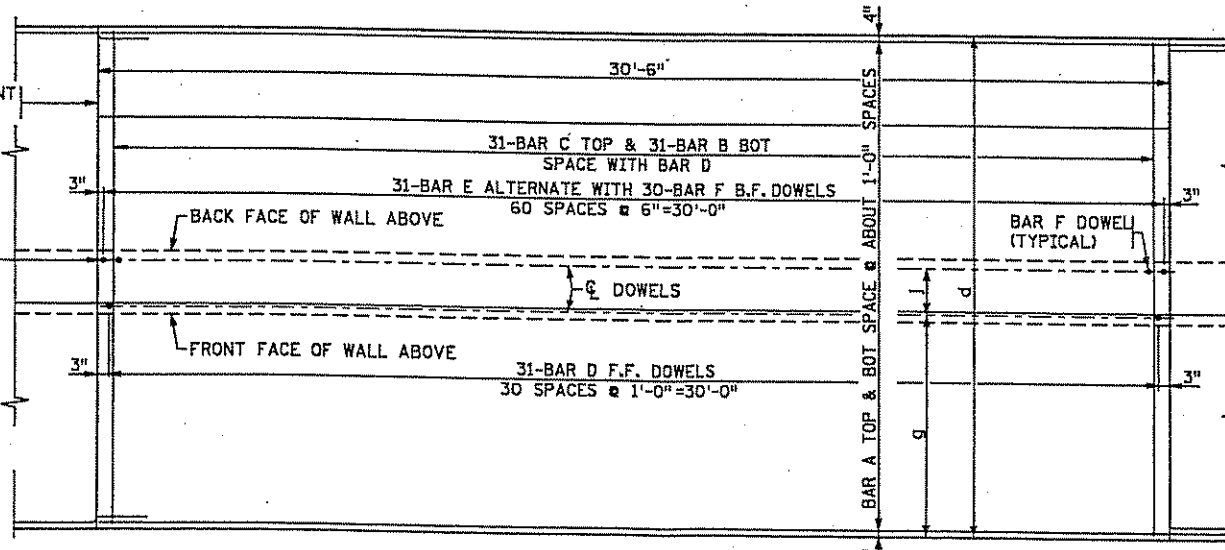
ELEVATION



TYPICAL SECTION THRU SPREAD FOOTING



DETAIL C



FOOTING REINFORCEMENT

GENERAL NOTES

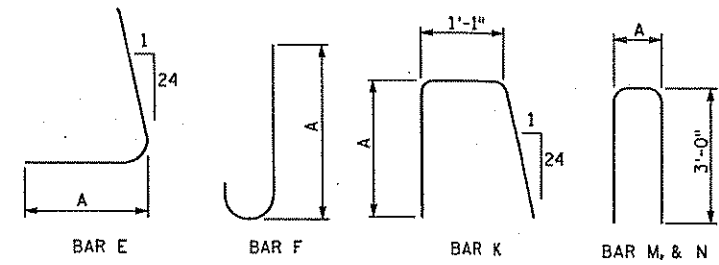
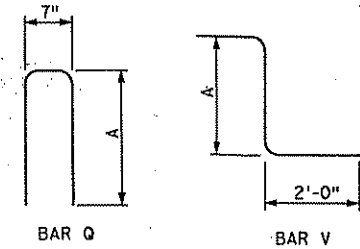
- STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS, EXCEPT FOR STEPPED CONDITIONS.
- FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED.
- BF = BACK FACE, FF = FRONT FACE, EF = EACH FACE.
- ① STRAIGHT LINE BETWEEN JOINT ELEVATIONS
- ② WALL DRAIN. SEE FOOTING & DRAINAGE LAYOUT SHEET FOR DETAILS.
- 3 PANEL LENGTH MAY VARY UP TO ±1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY.
- 4 SEE FOOTING & DRAINAGE LAYOUT SHEET FOR ADDITIONAL DETAILS.

1:51:19 PM 7/27/2009 F:\BME-XXXX\CSAH 14-1365E\sheet-14-A6_rst.dgn

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Name: JANEI ELIZABETH GRONET Date: 8/1/09 License: 44325				STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. CITY PROJECT NO.	DRAWN BY J. PEAKE DESIGNED BY J. GRONERT CHECKED BY M. THARANYIL COMM. NO. 0086509	BLOOM COMPANIES, LLC <i>Infrastructure Innovation and Ingenuity</i> 7800 N. Hudson Blvd., Suite 120 • St. Paul, MN 55128 Phone: (651) 786-1801 Fax: (651) 786-1803	ANOKA COUNTY RETAINING WALL A C.S.A.H. 14/T.H. 35E INTERCHANGE PANELS G THRU N	SHEET W6 OF W10
NO	DATE	BY	CKD	APPR	REVISION			

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.	DIMENSIONS & QUANTITIES	BAR	MARK	NO.	LENGTH	A	LOCATION	WT.	DIMENSIONS & QUANTITIES	BAR	MARK	NO.	LENGTH	A	LOCATION	WT.	DIMENSIONS & QUANTITIES	BAR	MARK	NO.	LENGTH	A	LOCATION	WT.	DIMENSIONS & QUANTITIES
h = 9.44' TO 11.70' PANELS: A, B AND C L=30'-6"								h = 11.20' TO 12.99' PANELS: D AND E L=30'-6"								h = 12.99' TO 13.95' PANELS: F L=30'-6"								h = 13.87' TO 14.83' PANELS: J L=30'-6"							
SPREAD FOOTING REINFORCEMENT								SPREAD FOOTING REINFORCEMENT								SPREAD FOOTING REINFORCEMENT								SPREAD FOOTING REINFORCEMENT							
DIMENSIONS								DIMENSIONS								DIMENSIONS								DIMENSIONS							
A	F501	18	32'-11"	STR.	LONG T & B	618	SPREAD FOOTING	A	F501	22	32'-11"	STR.	LONG T & B	755	SPREAD FOOTING	A	F501	22	32'-11"	STR.	LONG T & B	755	SPREAD FOOTING	A	F501	22	32'-11"	STR.	LONG T & B	755	SPREAD FOOTING
B	F602	31	7'-8"	STR.	TRANS BOT	357	b 3'-0" e 1'-0"	B	F602	31	9'-8"	STR.	TRANS BOT	450	b 4'-0" e 1'-0"	B	F602	35	9'-8"	STR.	TRANS BOT	450	b 4'-0" e 1'-0"	B	F602	35	10'-2"	STR.	TRANS BOT	535	b 4'-3" e 1'-0"
C	F503	31	7'-8"	STR.	TRANS TOP	248	c 1'-6" f 4'-9 1/4"	C	F603	31	9'-8"	STR.	TRANS TOP	450	c 2'-0" f 5'-11 1/2"	C	F603	35	9'-8"	STR.	TRANS TOP	450	c 2'-0" f 5'-11 1/2"	C	F703	39	10'-2"	STR.	TRANS TOP	811	c 2'-0" f 6'-3"
							d 8'-2" g 3'-2 5/8"								d 10'-2" g 4'-2 5/8"								d 10'-2" g 4'-2 5/8"								d 10'-8" g 4'-5 5/8"
STEM								STEM								STEM								STEM							
							a 2'-0" k 4'-3"								a 2'-1" k 6'-3"								a 2'-1" k 6'-3"								a 2'-2" k 3'-6"
							j 1'-7 3/8"								j 1'-8 3/8"								j 1'-8 3/8"								j 1'-9 5/8"
FOOTING DOWELS & STEM REINFORCEMENT								FOOTING DOWELS & STEM REINFORCEMENT								FOOTING DOWELS & STEM REINFORCEMENT								FOOTING DOWELS & STEM REINFORCEMENT							
QUANTITIES								QUANTITIES								QUANTITIES								QUANTITIES							
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURE CONCRETE (1A43)	D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURE CONCRETE (1A43)	D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURE CONCRETE (1A43)	D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURE CONCRETE (1A43)
E	F505E	31	6'-10"	0'-10"	DOWEL BF	221	(FOOTING)	E	F505E	31	8'-10"	8'-6"	DOWEL BF	286	(FOOTING)	E	F505E	31	8'-10"	10"	DOWEL BF	286	(FOOTING)	E	F605E	31	10'-2"	4'-11"	DOWEL BF	473	(FOOTING)
F	F506E	30	7'-3"	6'-3"	DOWEL BF	227	SPREAD 15.4 CY	F	F506E	30	9'-6"	10"	DOWEL BF	297	SPREAD 24.7 CY	F	F506E	30	9'-6"	8'-6"	DOWEL BF	297	SPREAD 26.1 CY	F	F606E	30	7'-0"	6'-0"	DOWEL BF	315	SPREAD 28.9 CY
G	S401E	31	9'-1"	STR.	VERT FF	188		G	S401E	31	10'-10"	STR.	VERT FF	224		G	S401E	31	11'-3"	STR.	VERT FF	233		G	S401E	31	13'-3"	STR.	VERT FF	274	
H	S502E	31	9'-3"	STR.	VERT BF	299	STRUCTURE CONCRETE (3Y43)	H	S502E	31	10'-10"	STR.	VERT BF	350	STRUCTURE CONCRETE (3Y43)	H	S502E	31	11'-3"	STR.	VERT BF	364	STRUCTURE CONCRETE (3Y43)	H	S502E	31	13'-3"	STR.	VERT BF	428	STRUCTURE CONCRETE (3Y43)
J	S 03E			STR.	VERT BF		(STEM)	J	S503E			STR.	VERT BF		(STEM)	J	S503E			STR.	VERT BF		(STEM)	J	S503E	30	8'-3"	STR.	VERT BF	258	(STEM)
K	S504E	31	10'-7"	4'-9"	TIE	342	21.0 CY	K	S504E	31	10'-7"	4'-9"	TIE	342	24.7 CY	K	S504E	31	10'-7"	4'-9"	TIE	342	27.3 CY	K	S504E	31	10'-7"	4'-9"	TIE	342	29.7 CY
L	S405E	24	30'-0"	STR.	HORIZ EF	481	REINFORCEMENT (PLAIN)	L	S405E	28	30'-0"	STR.	HORIZ EF	561	REINFORCEMENT (PLAIN)	L	S405E	28	30'-0"	STR.	HORIZ EF	561	REINFORCEMENT (PLAIN)	L	S405E	32	30'-0"	STR.	HORIZ EF	641	REINFORCEMENT (PLAIN)
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 1223 LB	M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 1655 LB	M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 1988 LB	M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 2514 LB
N	S507E	4	7'-9"	1'-9"	EXP JT TIE	32		N	S507E	8	7'-9"	1'-9"	EXP JT TIE	65		N	S507E	8	7'-9"	1'-9"	EXP JT TIE	65		N	S507E	12	7'-9"	1'-9"	EXP JT TIE	97	
P	S508E		8'-2"	2'-2"	EXP JT TIE		REINFORCEMENT (EPOXY)	P	S508E		8'-2"	2'-2"	EXP JT TIE		REINFORCEMENT (EPOXY)	P	S508E		8'-2"	2'-2"	EXP JT TIE		REINFORCEMENT (EPOXY)	P	S508E		8'-2"	2'-2"	EXP JT TIE		REINFORCEMENT (EPOXY)
Q	S509E	38	8'-7"	4'-0"	RAIL DOWEL	340	2380 LB	Q	S509E	38	8'-7"	4'-0"	RAIL DOWEL	340	2715 LB	Q	S509E	38	8'-7"	4'-0"	RAIL DOWEL	340	2738 LB	Q	S509E	38	8'-7"	4'-0"	RAIL DOWEL	340	3418 LB

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.	DIMENSIONS & QUANTITIES
h = 11.08' TO 15.01' PANELS: G, H, K, L, M, AND N L=30'-6"							
SPREAD FOOTING REINFORCEMENT							
DIMENSIONS							
A	F501	22	32'-11"	STR.	LONG T & B	755	SPREAD FOOTING
B	F602	31	10'-2"	STR.	TRANS BOT	473	b 4'-3" e 1'-0"
C	F703	31	10'-2"	STR.	TRANS TOP	644	c 2'-0" f 6'-3"
							d 10'-8" g 4'-5 5/8"
STEM							
							a 2'-2" k 3'-6"
							j 1'-9 5/8"
FOOTING DOWELS & STEM REINFORCEMENT							
QUANTITIES							
D	F504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURE CONCRETE (1A43)
E	F605E	31	10'-2"	4'-11"	DOWEL BF	473	(FOOTING)
F	F606E	30	7'-0"	6'-0"	DOWEL BF	315	SPREAD 25.9 CY
G	S401E	31	10'-9"	STR.	VERT FF	223	
H	S502E	31	10'-9"	STR.	VERT BF	348	STRUCTURE CONCRETE (3Y43)
J	S503E	30	8'-3"	STR.	VERT BF	258	(STEM)
K	S504E	31	14'-1"	6'-6"	TIE	455	26.9 CY
L	S405E	32	30'-0"	STR.	HORIZ EF	641	REINFORCEMENT (PLAIN)
M	S506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD 1872 LB
N	S507E	12	7'-9"	1'-9"	EXP JT TIE	97	
P	S508E		8'-2"	2'-2"	EXP JT TIE		REINFORCEMENT (EPOXY)
Q	S509E	38	8'-7"	4'-0"	RAIL DOWEL	340	3400 LB



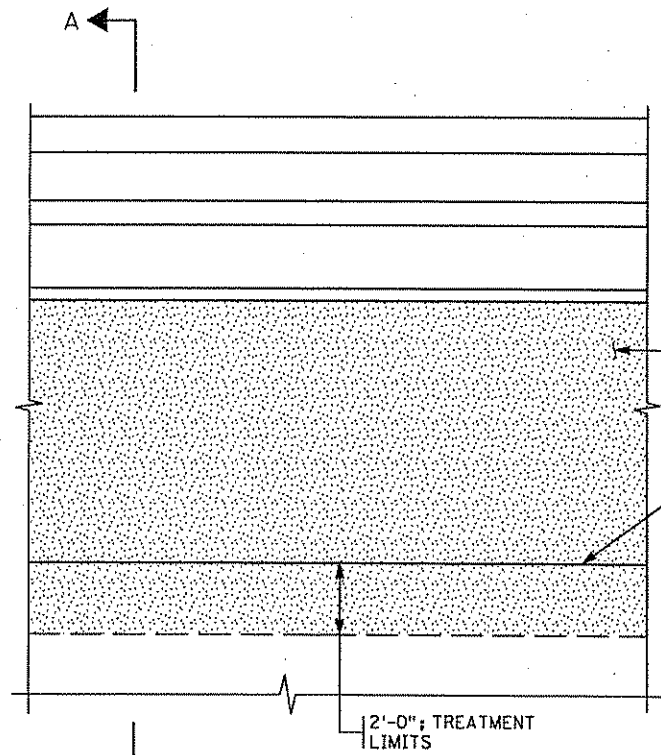
SOFT METRIC BAR SIZE DESIGNATION	INCH-POUND BAR SIZE DESIGNATION
#10	#3
#13	#4
#16	#5
#19	#6
#22	#7
#25	#8
#29	#9
#32	#10
#36	#11
#43	#14
#57	#18

NOTES:

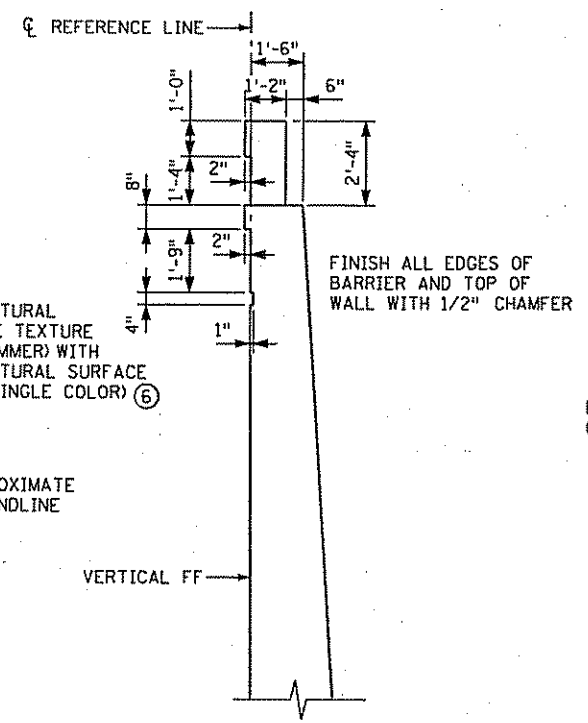
- L = PANEL LENGTH
- FF = FRONT FACE
- BF = BACK FACE
- EF = EACH FACE
- BARS MARKED WITH THE SUFFIX "E" ARE EPOXY COATED.
- THE REINFORCEMENT QUANTITIES IN THE BILL OF REINFORCEMENT TABLE ARE THE NUMBER OF BARS REQUIRED IN EACH PANEL UNIT.
- SEE GEOMETRICS & ALIGNMENT TABULATION SHEET FOR ELEVATION AND STEM HEIGHT AT EACH JOINT.

3/19/01 PM
 3/28/2009
 F:\BMS-1306\CSAH 14 retaining wall\ccad\csah-14-A7.rvt
 ... \ccad\csah-14-A7.rvt

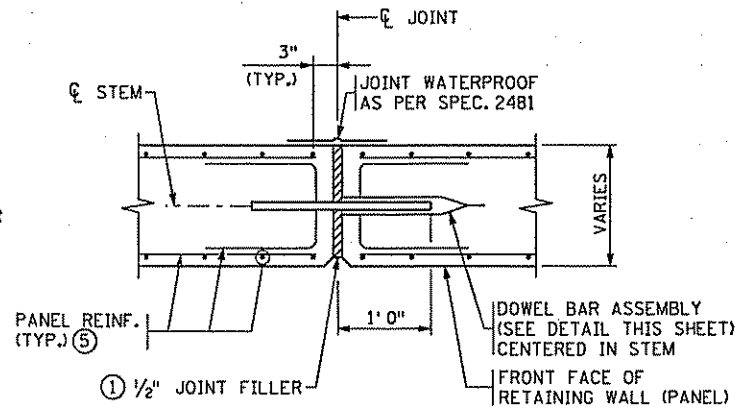
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Electrical Engineer under the laws of the State of Minnesota. Print Name: JANET ELIZABETH GRONERT Date: 5/28/09 License #: 44325	STATE PROJECT NO. 0282-25 (TH 35E) STATE PROJECT NO. 02-614-28 COUNTY PROJECT NO. CITY PROJECT NO.	DRAWN BY J. PEAKE DESIGNED BY J. GRONERT CHECKED BY F. JORDAN COMM. NO. 0086509	BLOOM CONSULTANTS, LLC ENGINEERS PLANNERS SCIENTISTS 7800 N. Hudson Blvd., Suite 120 • St. Paul, MN 55128 Phone: (651) 785-1801 Fax: (651) 785-1808	ANOKA COUNTY RETAINING WALL A C.S.A.H. 14/T.H. 35E INTERCHANGE PANEL TABULATIONS	SHEET W7 OF W10
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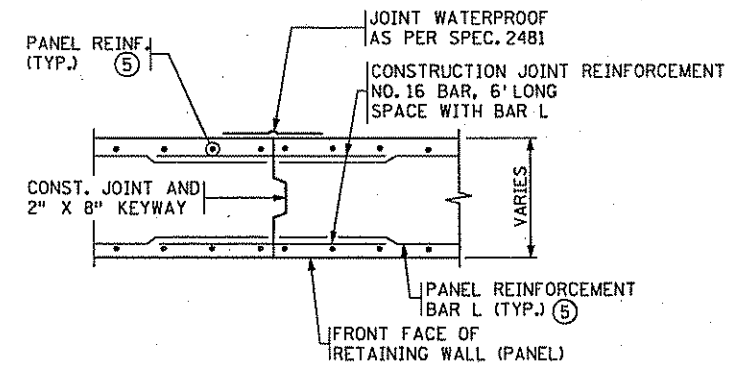
ARCHITECTURAL CONCRETE TEXTURE / SURFACE FINISH ELEVATION



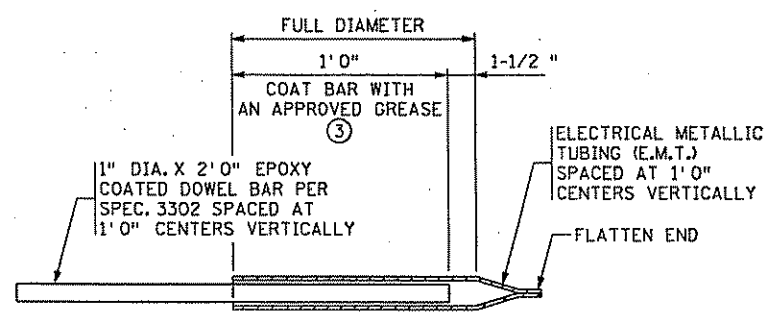
ARCHITECTURAL CONCRETE TEXTURE / SURFACE FINISH SECTION A-A



CORK AND DOWELED JOINT DETAIL (TYPICAL SECTION THROUGH JOINT)



CONSTRUCTION JOINT DETAIL (TYPICAL SECTION THROUGH JOINT)



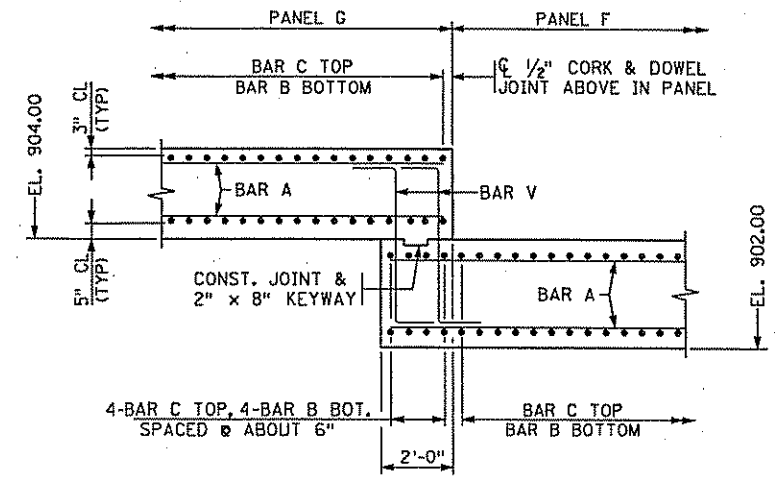
DOWEL BAR ASSEMBLY

NOTES:

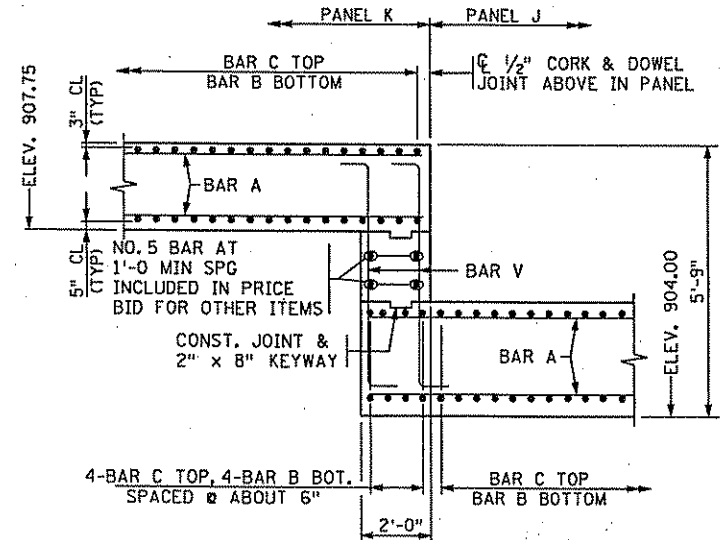
THE MATERIALS AND PLACEMENT OF THE CORK AND DOWEL JOINT/ CONSTRUCTION JOINT (DOWEL BAR ASSEMBLIES, NO. 16 REINFORCING BARS, JOINT FILLER, AND JOINT WATERPROOFING) ARE INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

THE CONTRACTOR SHALL ASSIGN TO THE REINFORCING BAR SUPPLIER THE RESPONSIBILITY OF SUPPLYING THE NECESSARY MATERIALS ASSOCIATED WITH THE DETAILS SHOWN ON THIS SHEET.

- ① JOINT FILLER SHALL BE CORK (SPEC. 2401.3E3).
- ② CONSTRUCTION JOINT(S) MAY BE SUBSTITUTED FOR SOME OF THE CORK AND DOWEL JOINT(S) AT THE CONTRACTOR'S OPTION. CORK AND DOWEL JOINT(S) MUST BE SPACED AT 9'-6" MAXIMUM. CORK AND DOWEL JOINT(S) MUST BE USED IN VERTICAL JOINT(S) AT FOOTING STEP LOCATIONS.
- ③ GREASE SHALL BE AN APPROVED HIGH PRESSURE TYPE THAT IS EFFECTIVE OVER THE FULL RANGE OF EXPECTED TEMPERATURES AND RESISTANT TO CHEMICAL ACTION.
- ④ DOWEL BAR ASSEMBLY MUST BE INSTALLED PERPENDICULAR TO JOINT AND PARALLEL TO THE WALL FACE, AND TO EACH OTHER.
- ⑤ SEE PANEL SHEETS FOR REINFORCING DETAILS.
- ⑥ SEE SPECIAL PROVISION FOR ARCHITECTURAL CONCRETE TEXTURE AND ARCHITECTURAL SURFACE FINISH.



STEPPED FOOTING DETAIL - LONGIT. SECTION (TYPE 2) (SPREAD FOOTING SHOWN)



STEPPED FOOTING DETAIL - LONGIT. SECTION (TYPE 1) (SPREAD FOOTING SHOWN)

SOFT METRIC BAR SIZE DESIGNATION	INCH-POUND BAR SIZE DESIGNATION
#10	#3
#13	#4
#16	#5
#19	#6
#22	#7
#25	#8
#29	#9
#32	#10
#36	#11
#43	#14
#57	#18

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 Electrical Engineer under the laws of the State of Minnesota.
 Print Name: JANET ELIZABETH GRONERT
Janet Elizabeth Gronert
 Date 5/28/09 License # 44325

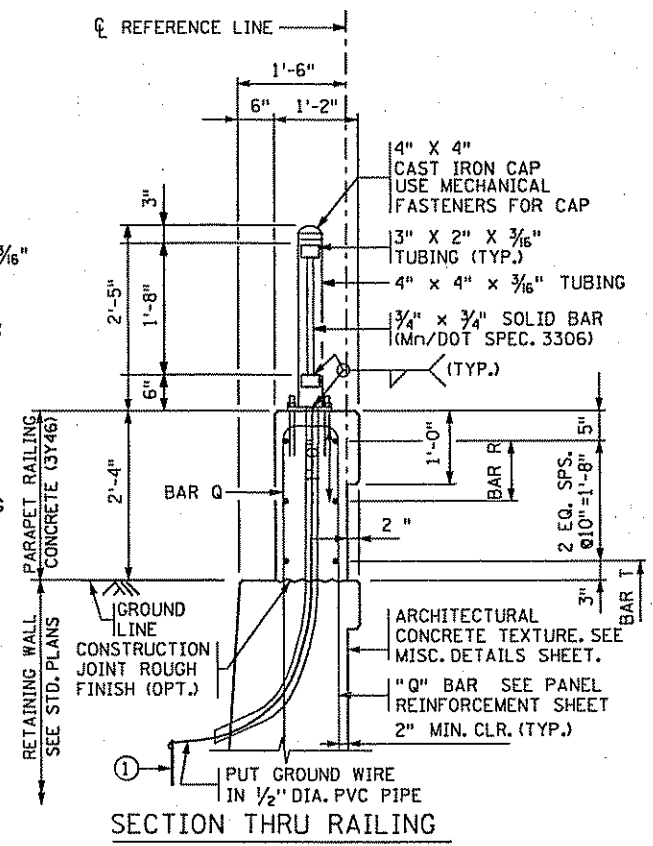
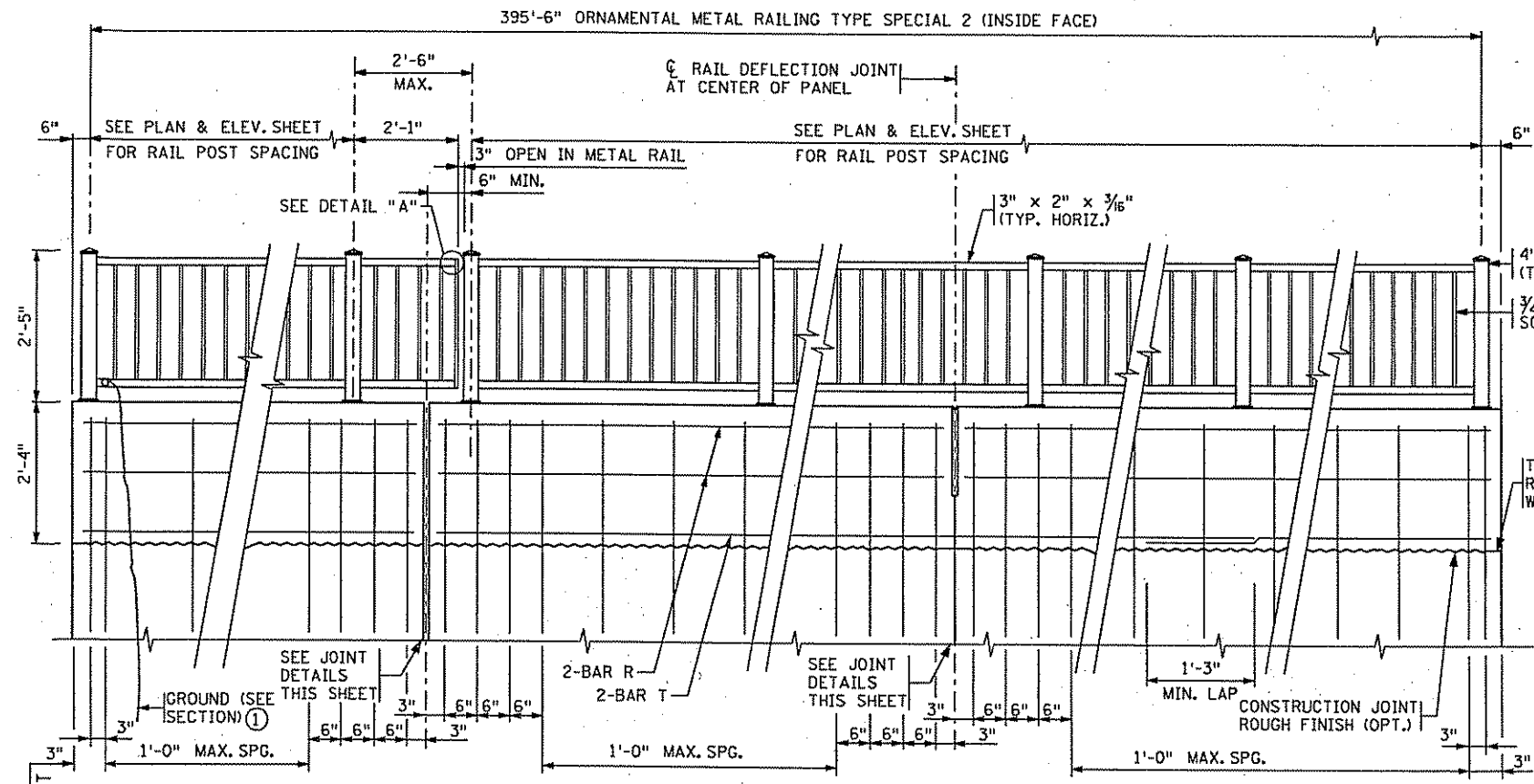
STATE PROJECT NO. 02B2-25 (TH 35E)
 STATE PROJECT NO. 02-614-28
 COUNTY PROJECT NO.
 CITY PROJECT NO.

DRAWN BY J. PEAKE
 DESIGNED BY J. GRONERT
 CHECKED BY F. JORDAN
 COMM. NO. 0085509

BLOOM CONSULTANTS, LLC
 ENGINEERS PLANNERS SCIENTISTS
 7800 N. Hudson Blvd., Suite 120 • St. Paul, MN 55128
 Phone: (651) 786-1801 Fax: (651) 785-1808

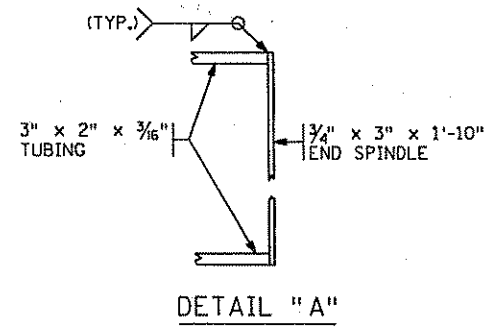
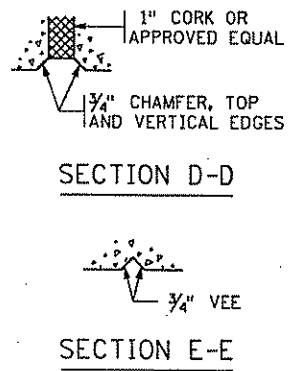
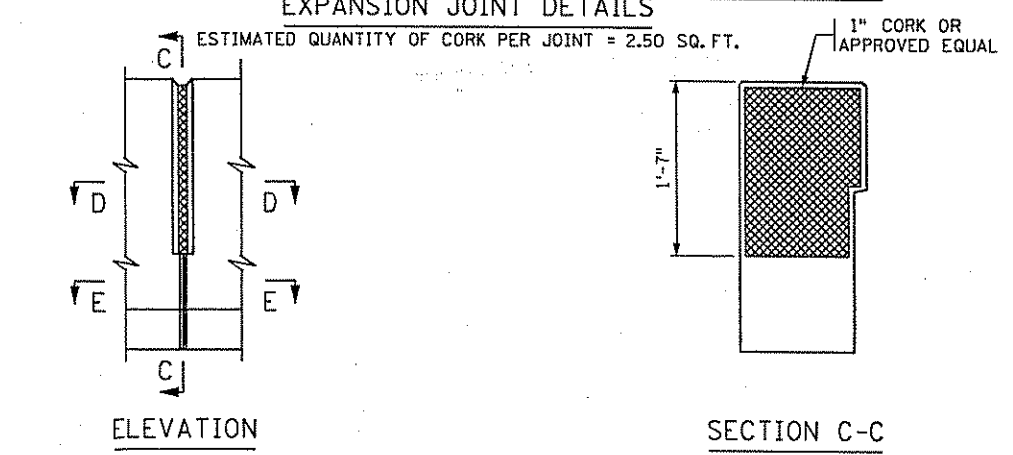
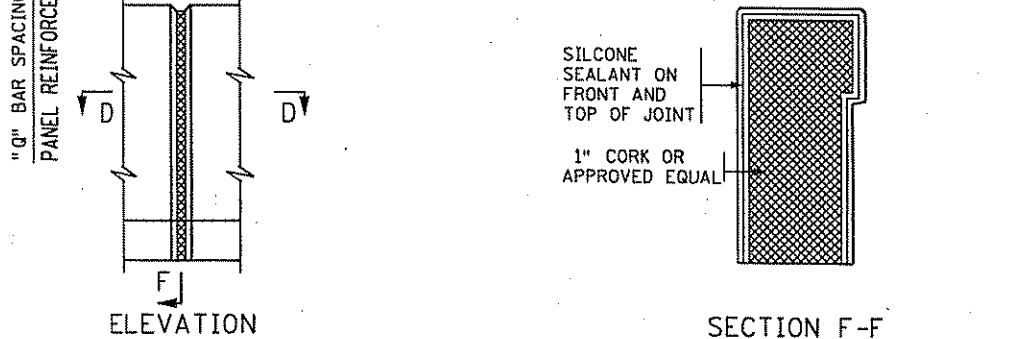
ANOKA COUNTY
 RETAINING WALL A
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 MISCELLANEOUS DETAILS

SHEET W8 OF W10



BILL OF REINFORCEMENT FOR TYPE MOD P-1 RAILING CONCRETE					
TYPICAL RAILING ON RETAINING WALL (2)					
30' 6\"/>					
BAR	MARK	NO.	LENGTH	SHAPE	LOCATION
R	R1601E	8	14' 11\"/>		
T	R1602E	2	30' 2\"/>		
PARAPET RAIL CONC. (3Y46)				REINFORCEMENT BARS (EPOXY)	
2.6 CU YD (3)				188 POUND	

EXP. JOINT AT CORK & DOWEL JOINTS
 DEF. JOINT AT CONSTRUCTION JOINTS
 INSIDE ELEVATION OF TYPE MOD P-1 (TL-2) RAILING CONCRETE (3Y46)



GENERAL NOTES

LENGTH OF "TYPE MOD P-1 (TL-2) RAILING CONCRETE (3Y46)" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE BARRIER.

TYPE MOD P-1 (TL-2) RAILING CONCRETE (3Y46) = 375 LBS./FT. (0.150 CU. YDS./FT.)

CONCRETE RAILING DEFLECTION JOINTS SHALL BE LOCATED AT STEM CONSTRUCTION JOINTS.

CONCRETE RAILING EXPANSION JOINTS SHALL BE LOCATED AT STEM CORK AND DOWEL JOINTS.

SEE PLAN & ELEVATION SHEET FOR JOINT SPACING.

RAIL QUANTITIES ARE INCLUDED IN SUMMARY OF QUANTITIES FOR RETAINING WALL.

CORK SHALL COMPLY WITH SPEC. 3702. SECURE CORK WITH 2 1/2" LONG 11 GA. COPPER NAILS ABOUT 18" CENTERS. CORK AND NAILS INCLUDED IN PRICE BID FOR OTHER ITEMS.

① PROVIDE ELECTRICAL GROUNDS FOR METAL RAILING PER SPEC. 2557

② REINFORCEMENT SHOWN ASSUMES RAIL DEFLECTION JOINT LOCATED IN CENTER OF PANEL.

③ FOR INFORMATIONAL PURPOSES ONLY.

5/28/2009
 P:\14-1306 CSAR 14 retaining wall\cod\csah-14-A9.RET

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 Electrical Engineer under the laws of the State of Minnesota.

Print Name: **JANET ELIZABETH GRONERT**

Janet Elizabeth Gronert

Date: _____ License #: **44325**

STATE PROJECT NO. 0282-25 (TH 35E)

DESIGNED BY J. PEAKE

STATE PROJECT NO. 02-614-28

CHECKED BY F. JORDAN

COUNTY PROJECT NO.

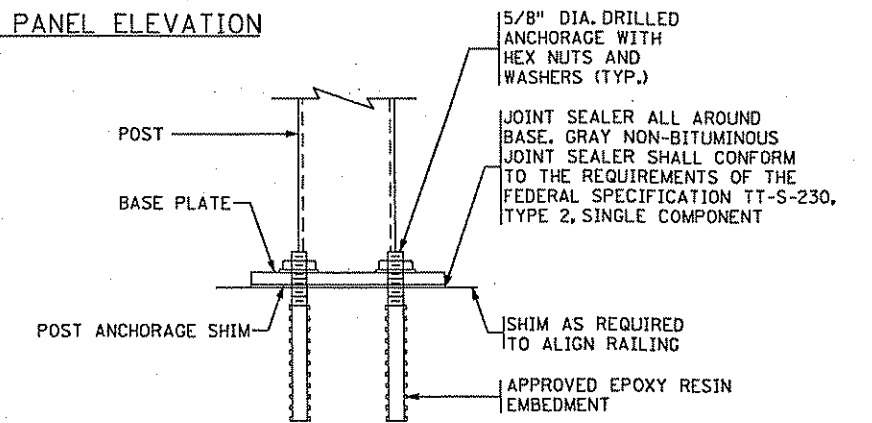
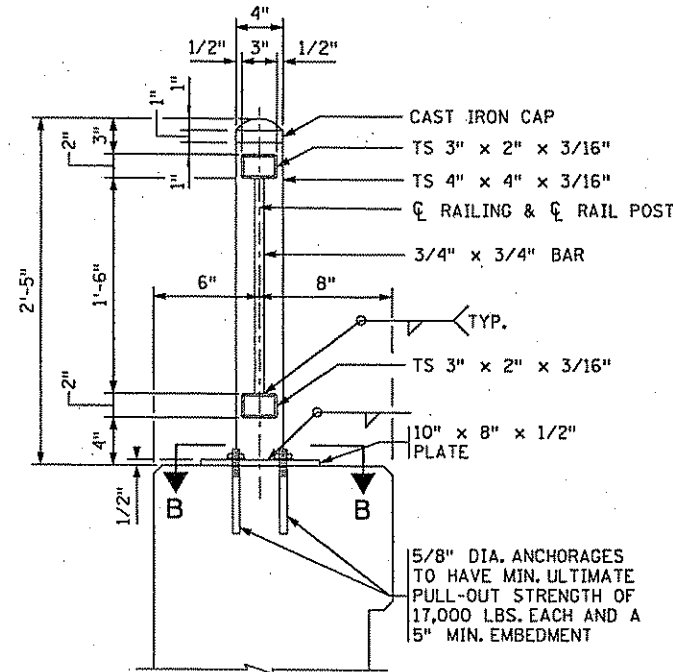
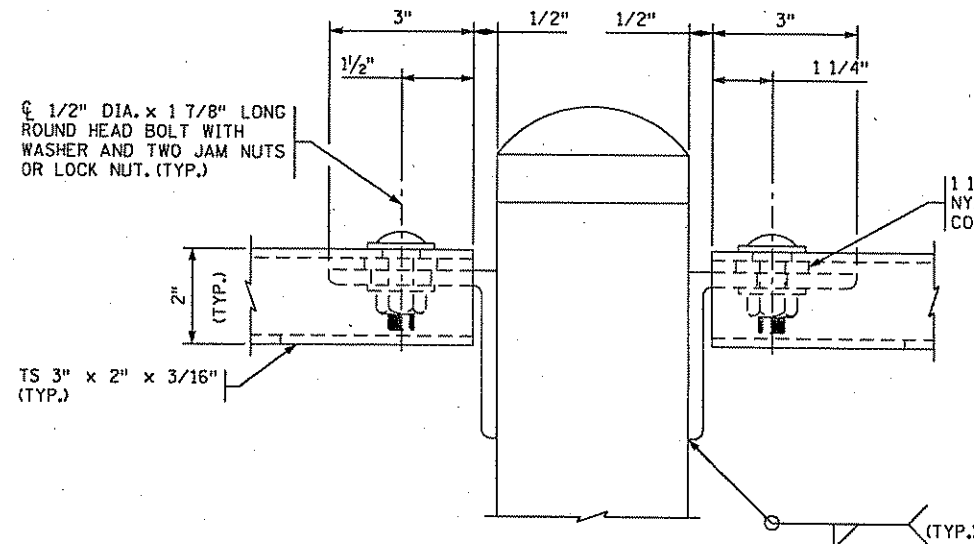
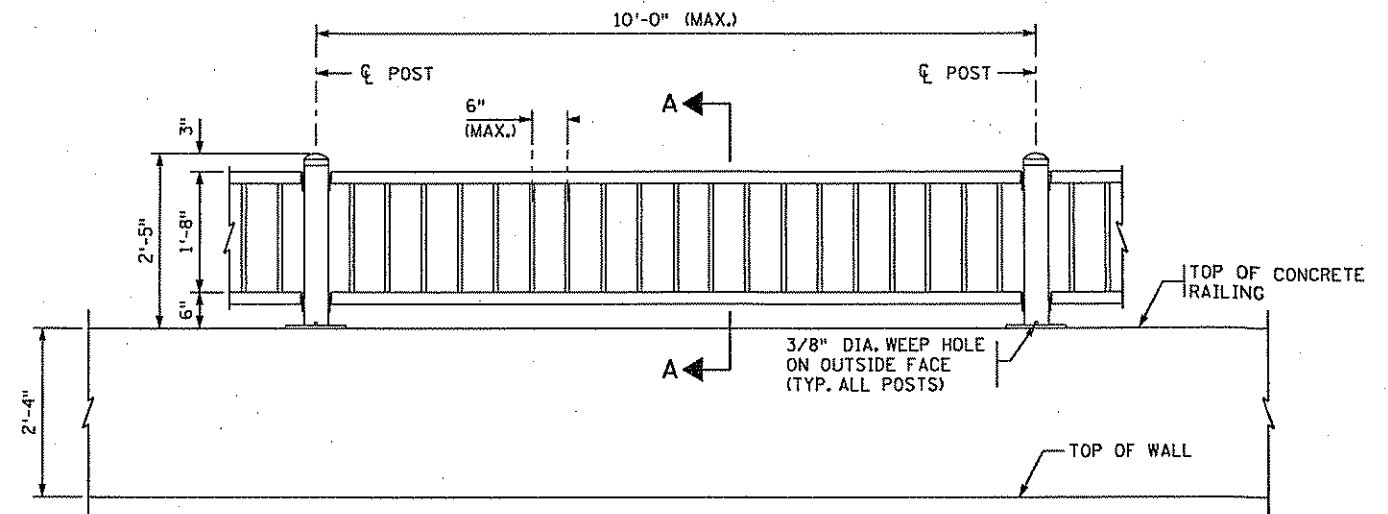
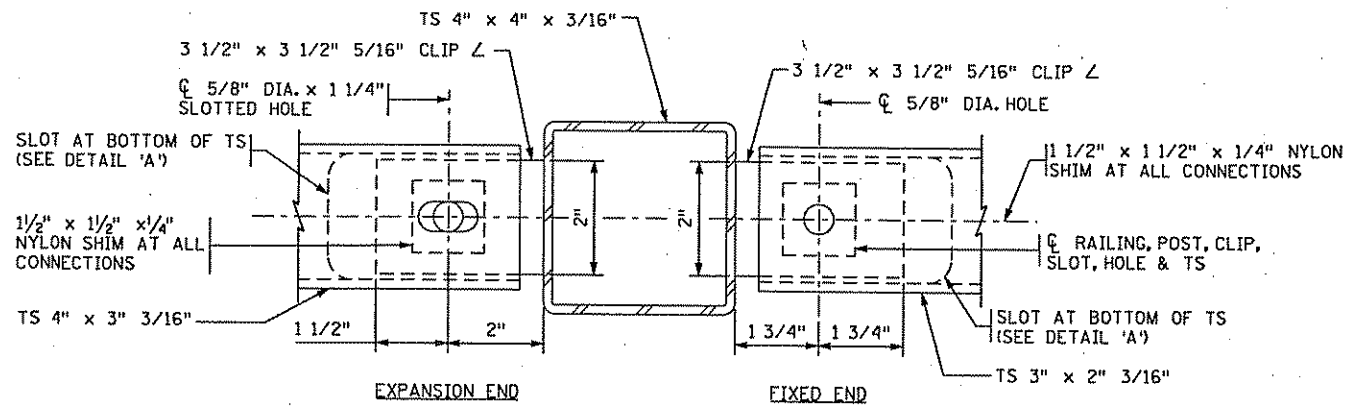
COMM. NO. 0086509

BLOOM CONSULTANTS, LLC
 ENGINEERS PLANNERS SCIENTISTS

7800 N. Hudson Blvd., Suite 120 • St. Paul, MN 55128
 Phone: (651) 786-1801 Fax: (651) 786-1808

ANOKA COUNTY
 RETAINING WALL A
 C.S.A.H. 14/T.H. 35E INTERCHANGE
 CONCRETE PARAPET (TYPE MOD P-1)

SHEET
 W9
 OF
 W10



HORIZONTAL RAIL CONNECTION DETAIL
(TOP RAIL CONNECTION SHOWN, ALL RAIL CONNECTIONS ARE SIMILAR)

TYPICAL PANEL ELEVATION

RAILPOST ANCHORAGE

ANCHORAGES TO HAVE MIN. ULTIMATE PULLOUT STRENGTH OF 17,000 LBS. EACH AND A 5" MIN. EMBEDMENT

GENERAL NOTES:

LENGTH OF "ORNAMENTAL METAL RAILING TYPE SPECIAL 2" FOR PAYMENT SHALL BE MEASURED BETWEEN THE ϕ OF END POST.

PRICE BID FOR ORNAMENTAL METAL RAILING TYPE SPECIAL 2 INCLUDES ANCHORAGES AND ALL MATERIAL ABOVE TOP OF TYPE MOD P-1 (TL-2) RAILING CONCRETE (3Y46).

ALL STRUCTURAL STEEL TUBING IN THE RAIL SHALL BE PER 3361 TYPE A.

MATERIAL FOR CLOSURE ANGLES AND BASE PLATES SHALL CONFORM TO MN/DOT SPEC. 3306.

FOR RAILING POST ANCHORAGE TYPE A SEE MN/DOT SPEC. 3385 AND SPECIAL PROVISIONS.

RAIL POSTS AND PICKETS SHALL BE NORMAL TO GRADE.

FOR RAIL COATING SEE SPECIAL PROVISIONS.

THE RAILING, BASE PLATES AND PROTRUDING PORTIONS OF ANCHOR RODS, BOLTS, NUTS AND WASHERS SHALL BE PAINTED AFTER GALVANIZING IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

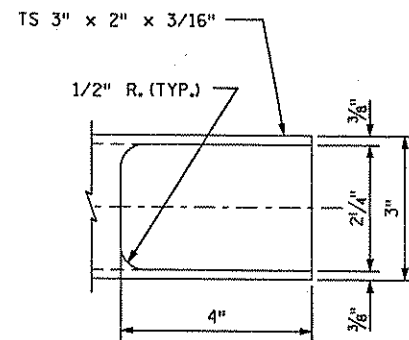
RAILING SHALL BE GROUNDED WITH $\frac{5}{8}$ " DIAMETER COPPER ROD PER SPEC. 2557.3.E.

THE CONNECTION AT ONE END OF EACH PANEL SHALL ALLOW FOR EXPANSION.

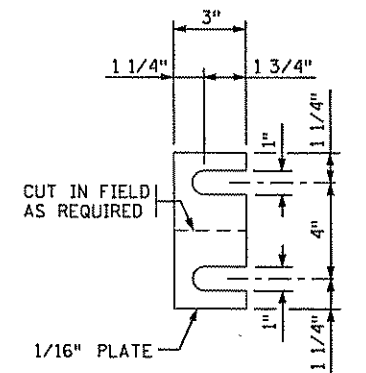
GALVANIZE THREADED RODS, BOLTS, NUTS AND WASHERS PER MN/DOT SPEC. 3392.

GALVANIZE ALL RAILING MEMBERS PER MN/DOT SPEC. 3394 AFTER FABRICATION.

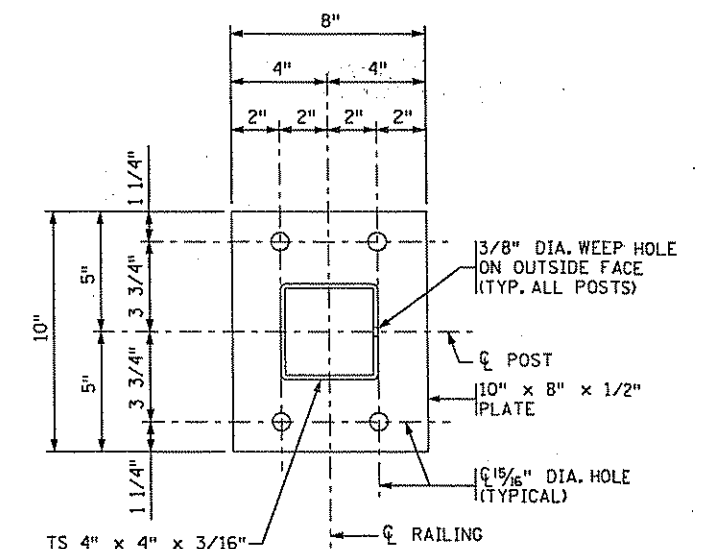
ALL RAILING MEMBERS SHALL BE FLAT AFTER FABRICATION AND GALVANIZING TO WITHIN $\frac{1}{8}$ " IN 10 FT. VERTICAL AND HORIZONTALLY BY MECHANICAL MEANS WITHOUT DAMAGE TO THE ZINC COATING.



DETAIL 'A'



POST ANCHORAGE SHIM
(RAILING NOT SHOWN)



SECTION B-B

3/20/14 BY P/CSAH/1306 CSAH 14 retaining wall\ccscsh-14-A10.RET

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 Electrical Engineer under the laws of the State of Minnesota.
Print Name: JANET ELIZABETH GRONERT
Janet Elizabeth Gronert
Date 5/28/09 License # 44325

STATE PROJECT NO. 0282-25 (TH 35E)
STATE PROJECT NO. 02-614-28
COUNTY PROJECT NO.
CITY PROJECT NO.

DRAWN BY J. PEAKE
DESIGNED BY J. GRONERT
CHECKED BY F. JORDAN
COMM. NO. 0086509

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ANOKA COUNTY
RETAINING WALL A
C.S.A.H. 14/T.H. 35E INTERCHANGE
ORNAMENTAL METAL RAILING TYPE SPECIAL 2

SHEET
W10
OF
W10

DESIGN DATA

2007 (AND CURRENT INTERIM) A.A.S.H.T.O. LRFD BRIDGE DESIGN SPECIFICATIONS
 LRFD METHOD
 HL-93 LIVE LOADING
 DEAD LOAD INCLUDES 20 psf ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS.
 MAXIMUM ALLOWABLE DESIGN STRESSES:
 REINFORCED CONCRETE:
 $f'_c = 4000$ psi $n = 8$
 $f_y = 60000$ psi REINFORCEMENT
 PRESTRESSED CONCRETE:
 $f'_c = 7400$ psi $n = 1$
 $f'_{pu} = 270000$ psi LOW RELAXATION STRANDS
 DESIGN SPEED:
 OVER = 45 mph UNDER = 70 mph
 APPROXIMATE DECK AREA 29162 ft².
 2030 PROJECTED TRAFFIC VOLUMES:
 A.D.T. ROADWAY OVER - 47,300
 A.D.T. ROADWAY UNDER - 120,000
 OPERATING RATING HS 41.0

CURVE NO. 1 DATA

P.I. STA. 584+93.49
 X=560754.506
 Y=147627.398
 $\Delta = 12^\circ-01'-07''$
 $D = 1^\circ-00'-00''$
 $T = 603.14'$
 $L = 1201.86'$
 $R = 5729.58'$
 P.C. STA. = 578+90.35
 P.T. STA. = 590+92.21

NOTES:

- ① VARIES FROM 14'-0" TO 26'-0"
- ② VARIES FROM 26'-0" TO 14'-0"
- ③ 8'-0"
- ④ 6'-0" SHOULDER IN PROPOSED CONDITION 12'-0" LANE IN FUTURE EXPANSION
- ⑤ 11'-0" SHOULDER IN FUTURE EXPANSION
- ⑥ VARIES FROM 6'-0" TO 8'-0"
- ⑦ 1-1/2" N.M.C.; CONDUIT SYSTEMS (SIGNALS)
- ⑧ SEE BRIDGE SURVEY PLAN & PROFILE FOR EXISTING UTILITY INFORMATION.
- ⑨ TEMPORARY SHEETING OR SHORING MAY BE NECESSARY TO PROTECT EXISTING ROADWAY AND BRIDGE. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF SHEETING OR SHORING BASED ON THEIR CONSTRUCTION OPERATIONS. TEMPORARY SHEETING OR SHORING SHALL BE INCLUDED IN LUMP SUM PAYMENT FOR STRUCTURAL EXCAVATION.
10. SLOPES ARE EXPRESSED AS A RATIO OF VERTICAL DISTANCE : HORIZONTAL DISTANCE.

CONSTRUCTION NOTES

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH DRILLING HOLES FOR ANCHOR RODS. THE SUPERSTRUCTURE BEAMS SHALL BE ERECTED IN FINAL POSITION PRIOR TO DRILLING HOLES FOR AND PLACING ANCHOR RODS.

THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE WHICH APPROXIMATES THE NOMINAL DIAMETER OF THE BAR IN MILLIMETERS (mm).

BAR MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED.

ALL REINFORCEMENT SHALL BE 2 IN. CLEAR, UNLESS SHOWN OR NOTED OTHERWISE.

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 PILE LOADS SHOWN IN THE PLANS AND THE CORRESPONDING NOMINAL PILE BEARING RESISTANCE (R_n) WERE COMPUTED USING LRFD METHODOLOGY. PILE BEARING RESISTANCE DETERMINED IN THE FIELD SHALL INCORPORATE THE METHODS AND/OR FORMULAS DESCRIBED IN THE SPECIAL PROVISIONS.

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.

Print Name: KEVIN L. SWEHLA
 Signature: *Kevin L Swehla*
 Date: 4/15/09 License # 42791
SRE CONSULTING GROUP, INC.

ANOKA COUNTY

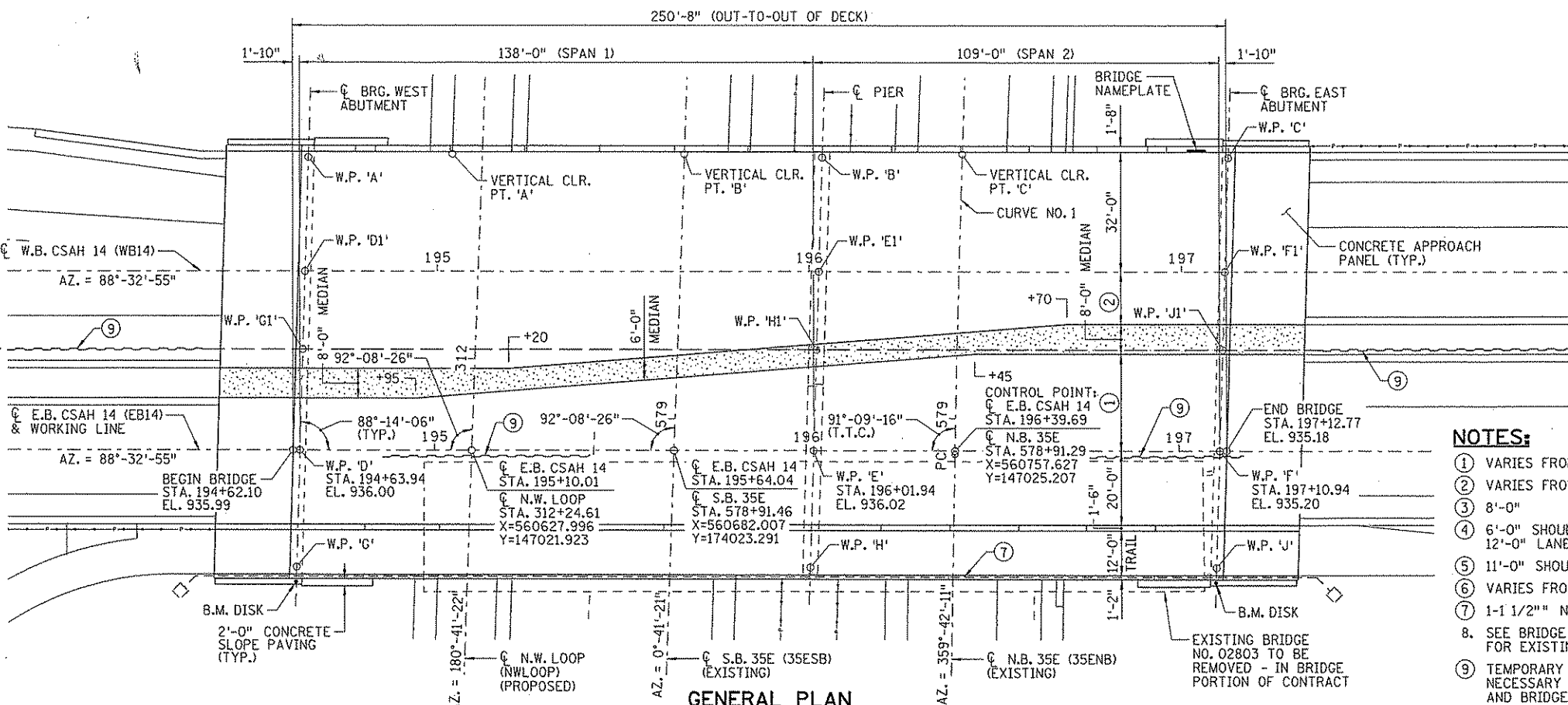
BRIDGE NO. 02812

3.8 MILES SOUTH OF I-35 SPLIT
 MN63 PRESTRESSED CONCRETE BEAMS
 138'-109' SPANS
 100' ROADWAY INCLUDING MEDIAN & SHOULDERS,
 1-12' TRAIL

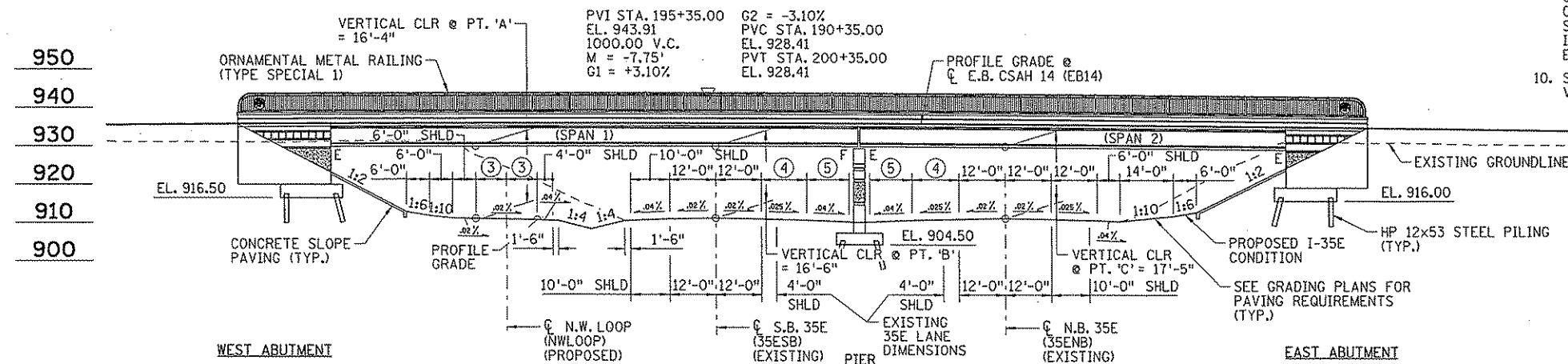
BRIDGE I.D. NO. 501

SEC. 24, T31N, R22W,
 ANOKA COUNTY
 APPROVED: *Kevin Swehla* 5/7/09
 STATE BRIDGE ENGINEER DATE

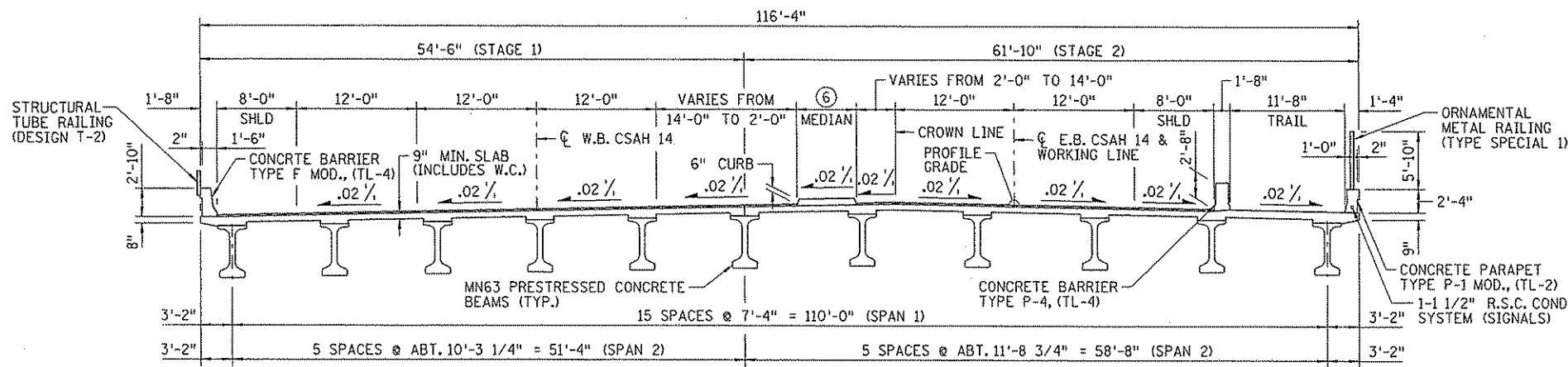
LIST OF SHEETS	
B1	GENERAL PLAN & ELEVATION
B2	BRIDGE LAYOUT
B3 & B4	STAGING DETAILS
B5	ARCHITECTURAL DETAILS
B6 - B15	ABUTMENT DETAILS
B16 - B20	PIER DETAILS
B21	FRAMING PLAN
B22 & B23	MN63 P/S CONCRETE BEAMS
B24 - B30	BRIDGE DECK DETAILS
B31 & B32	CONCRETE BARRIER DETAILS
B33	CONCRETE PARAPET DETAILS
B34	STRUCTURAL TUBE RAILING DETAILS
B35 & B36	ORNAMENTAL METAL RAILING DETAILS
B37	BRIDGE SLOPE PAVING
B38 & 39	BRIDGE APPROACH PANEL
B40 - B44	B-DETAILS
B45	AS-BUILT BRIDGE DATA
B46	BRIDGE SURVEY
B47	BRIDGE SURVEY PLAN & PROFILE
B48 & B49	BORINGS



GENERAL PLAN

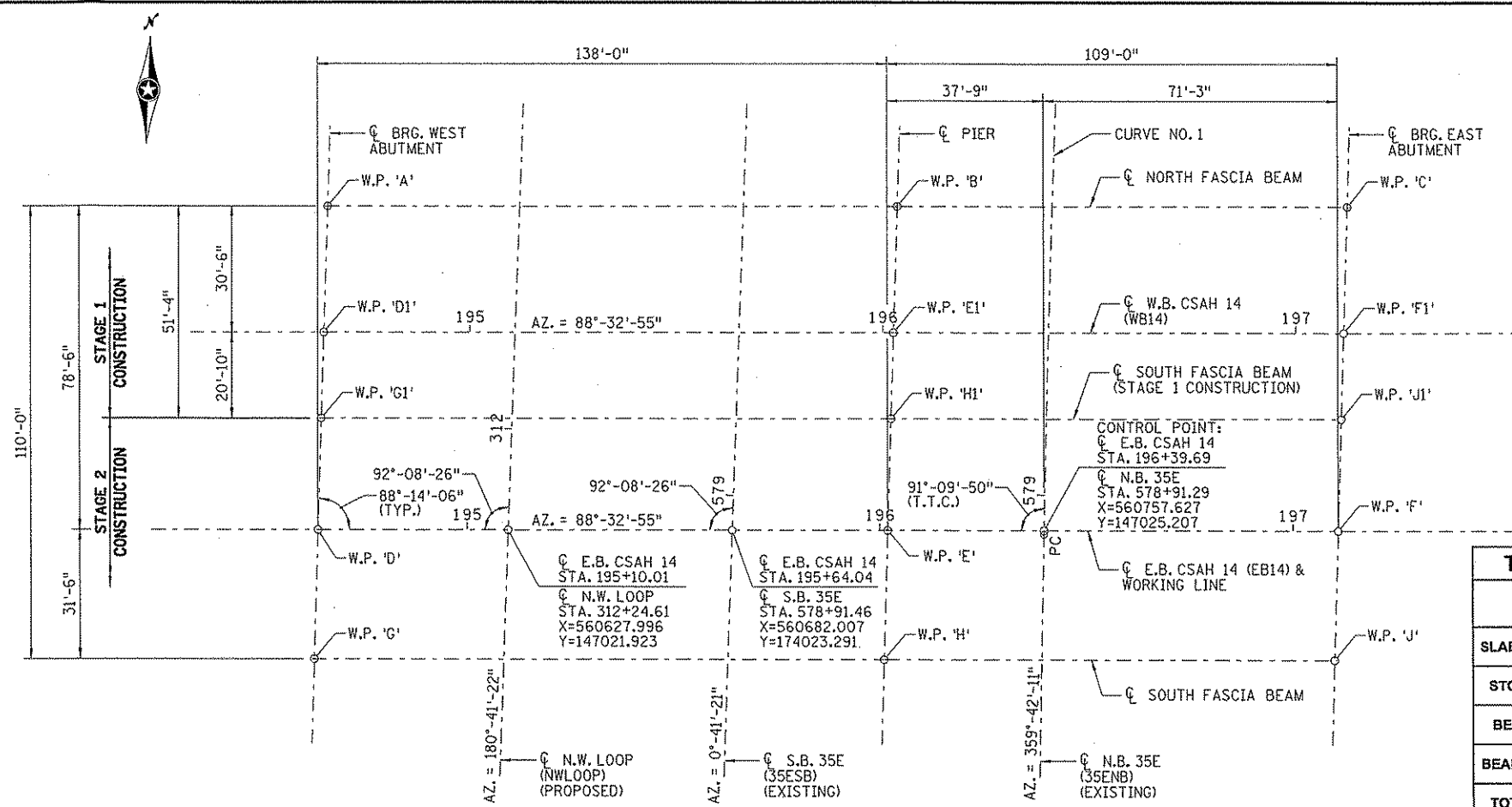


GENERAL ELEVATION

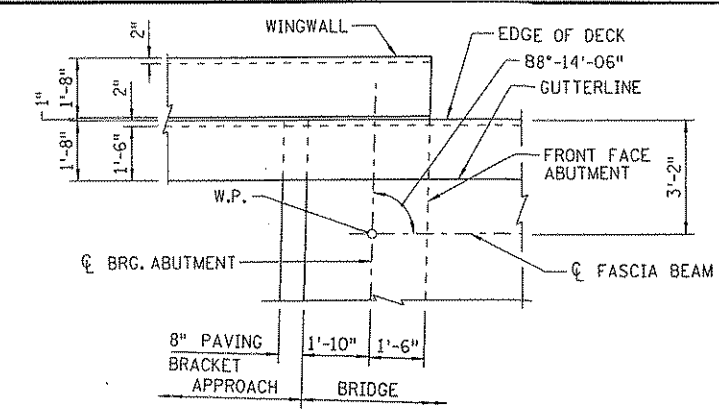


TYPICAL SECTION

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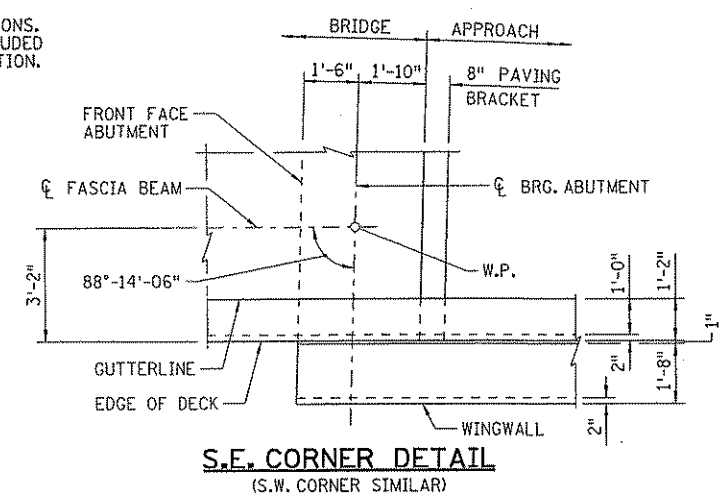


CURVE NO. 1 DATA
 P.I. STA. 584+93.49
 X=560754.506
 Y=147627.398
 Δ = 12°-01'-07"
 D = 1°-00'-00"
 T = 603.14'
 L = 1201.86'
 R = 5729.58'
 P.C. STA. = 578+90.35
 P.T. STA. = 590+92.21



NOTES:
 ① TEMPORARY SHEETING OR SHORING MAY BE NECESSARY TO PROTECT EXISTING ROADWAY AND BRIDGE. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF SHEETING OR SHORING BASED ON THEIR CONSTRUCTION OPERATIONS. TEMPORARY SHEETING OR SHORING SHALL BE INCLUDED IN LUMP SUM PAYMENT FOR STRUCTURAL EXCAVATION.

TOP OF ROADWAY TO BRIDGE SEAT			
	W. ABUT.	PIER	E. ABUT.
SLAB THICKNESS	9"	9"	9"
STOOL HEIGHT	3"	3"	3"
BEAM HEIGHT	63"	63"	63"
BEARING HEIGHT	5 1/4"	3 1/4"	5 1/4"
TOTAL HEIGHT	6'-8 1/4"	6'-6 1/4"	6'-8 1/4"
TOTAL HEIGHT	6.69'	6.52'	6.69'



WORKING POINT LAYOUT

DIMENSIONS BETWEEN WORKING POINTS - STAGE 1 CONSTRUCTION										COORDINATES		ELEVATION			POINT	
POINT	STATION	A	B	C	D1	E1	F1	G1	H1	J1	X	Y	TOP OF FIN. DECK	FIN. DECK TO BR. SEAT		BRIDGE SEAT
A	194+66.36		138.00		30.51	140.41			145.76	250.73	560582.362	147099.292	934.92	6.68	928.24	A
B	196+04.36			109.00		30.51	112.28	148.72		119.05	560720.318	147102.787	934.92	6.52	928.40	B
C	197+13.36						30.51	253.83	121.92		560829.283	147105.548	934.08	6.68	927.40	C
D1	194+65.42					138.00		20.84	138.93		560582.195	147068.778	935.53	-	-	D1
E1	196+03.42						109.00		20.84	110.34	560720.151	147072.273	935.53	-	-	E1
F1	197+12.42									20.84	560829.116	147075.034	934.70	-	-	F1
G1	194+64.77								138.00		560582.081	147047.935	935.94	6.68	929.26	G1
H1	196+02.77									109.00	560720.037	147051.430	935.95	6.52	929.43	H1
J1	197+11.77										560829.002	147054.191	935.13	6.69	928.44	J1

DIMENSIONS BETWEEN WORKING POINTS - FINAL CONSTRUCTION										COORDINATES		ELEVATION			POINT	
POINT	STATION	A	B	C	D	E	F	G	H	J	X	Y	TOP OF FIN. DECK	FIN. DECK TO BR. SEAT		BRIDGE SEAT
A	194+66.36		138.00		78.54	156.67			173.84	267.29	560582.362	147099.292	934.92	6.68	928.24	A
B	196+04.36			109.00		78.54	132.37	179.14		152.49	560720.318	147102.787	934.92	6.52	928.40	B
C	197+13.36						78.54	273.49	157.26		560829.283	147105.548	934.08	6.68	927.40	C
D	194+63.94					138.00		31.51	140.60		560581.932	147020.756	936.00	-	-	D
E	196+01.94						109.00		31.51	112.53	560719.888	147024.251	936.02	-	-	E
F	197+10.94									31.51	560828.853	147027.012	935.20	-	-	F
G	194+62.97								138.00		560581.760	146989.241	935.37	6.69	928.68	G
H	196+00.97									109.00	560719.716	146992.736	935.39	6.52	928.87	H
J	197+09.97										560828.881	146995.497	934.58	6.69	927.89	J

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE			
ITEM NO.	ITEM	UNIT	QUANTITY
2104.601	REMOVE REGULATED WASTE MATERIAL (BRIDGE)	LUMP SUM	1
2301.553	BRIDGE APPROACH PANEL	SQ. YD.	482 (P)
2401.501	STRUCTURAL CONCRETE (1A43)	CU. YD.	474 (P)
2401.501	STRUCTURAL CONCRETE (3Y43)	CU. YD.	635 (P)
2401.512	BRIDGE SLAB CONCRETE (3Y36)	SQ. FT.	29162 (P)
2401.513	TYPE MOD P-1 (TL-2) RAILING CONC (3Y46)	LIN. FT.	291 (P)
2401.513	TYPE P-4 (TL-4) RAILING CONCRETE (3Y46)	LIN. FT.	291 (P)
2401.513	TYPE MOD F (TL-4) RAILING CONCRETE(3Y46)	LIN. FT.	291 (P)
2401.516	RAISED MEDIAN CONCRETE (3Y46)	SQ. FT.	2029 (P)
2401.541	REINFORCEMENT BARS	POUND	42700 (P)
2401.541	REINFORCEMENT BARS (EPOXY COATED)	POUND	274190 (P)
2401.601	STRUCTURE EXCAVATION	LUMP SUM	1
2401.618	BRIDGE DECK PLANING	SQ. FT.	25100 (P)
2402.583	ORNAMENTAL METAL RAILING TYPE SPECIAL 1	LIN. FT.	288 (P)
2402.584	STRUCTURAL TUBE RAILING DESIGN T-2	LIN. FT.	291 (P)
2402.595	BEARING ASSEMBLY	EACH	54
2404.501	CONCRETE WEARING COURSE (3U17A)	SQ. FT.	27041 (P)
2405.502	PRESTRESSED CONCRETE BEAMS MN63	LIN. FT.	3421 (P)
2405.511	DIAPHRAGMS FOR TYPE MN63 PREST BEAMS	LIN. FT.	687 (P)
2411.618	ARCHITECTURAL CONCRETE TEXTURE (BUSH HAMMER)	SQ. FT.	2454 (P)
2411.618	ARCHITECTURAL SURFACE FINISH (SINGLE COLOR)	SQ. FT.	2454 (P)
2442.501	REMOVE EXISTING BRIDGE	LUMP SUM	1
2452.510	STEEL H-PILING DRIVEN 12"	LIN. FT.	7110
2452.511	STEEL H-PILING DELIVERED 12"	LIN. FT.	7110
2452.520	STEEL H-TEST PILE 70 FEET LONG 12"	EACH	3
2452.520	STEEL H-TEST PILE 80 FEET LONG 12"	EACH	6
2452.602	PILE TIP PROTECTION 12"	EACH	117
2502.502	DRAINAGE SYSTEM TYPE (B910)	LUMP SUM	1
2514.501	CONCRETE SLOPE PAVING	SQ. YD.	640 (P)
2545.509	CONDUIT SYSTEM (SIGNALS)	LUMP SUM	1

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.
 Pr Int Name: KEVIN L. SWEHLA
 Date: 4/15/09 License #: 42791

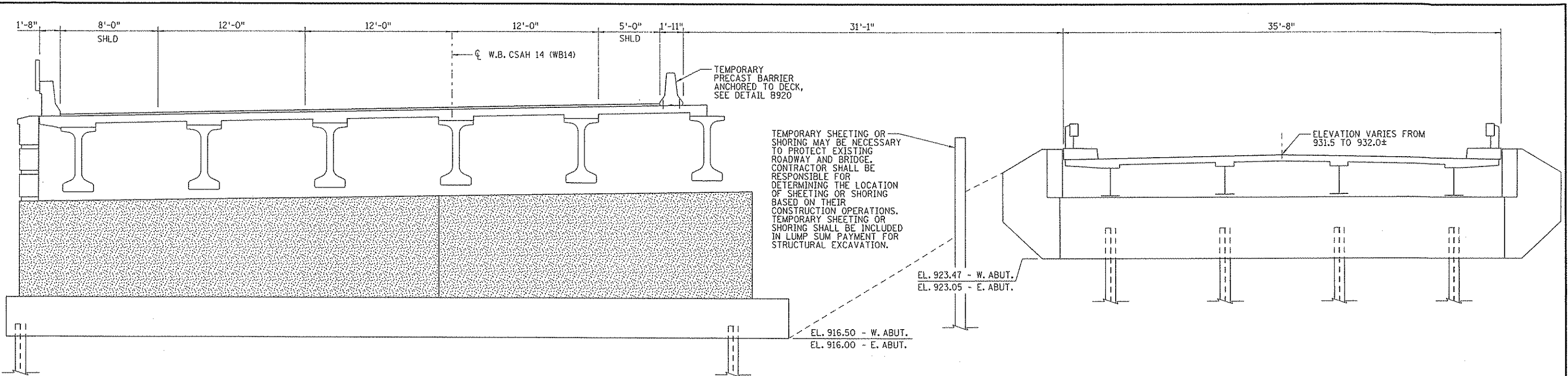
STATE PROJ. NO.
02-614-28
 BRIDGE NO.
02812
 DRAWN BY
E. JOHNSON
 DESIGNED BY
D. ROTHSTEIN
 CHECKED BY
K.SWEHLA
 COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
 BRIDGE LAYOUT
 SHEET B2 OF B49

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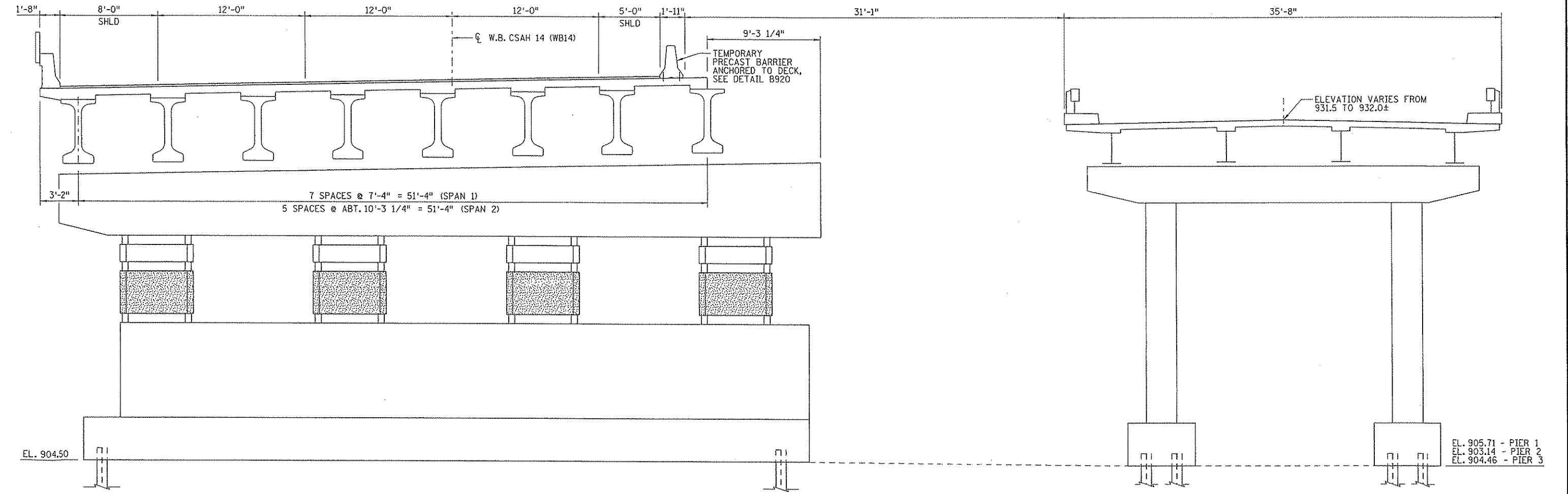
NO	DATE	BY	CHKD	APPR	REVISION



PROPOSED BRIDGE NO. 02812
(EAST ABUTMENT SHOWN, WEST ABUTMENT SIMILAR)

STAGE 1 CONSTRUCTION AT ABUTMENTS

EXISTING BRIDGE NO. 02803



PROPOSED BRIDGE NO. 02812

STAGE 1 CONSTRUCTION AT PIER

EXISTING BRIDGE NO. 02803

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NO	DATE	BY	CKD	APPR	REVISION

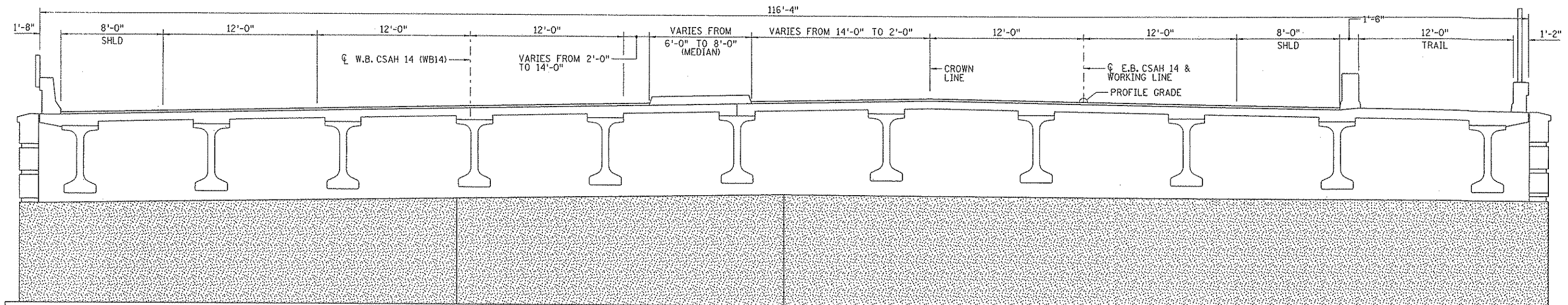
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Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License #: 42791

STATE PROJ. NO. 02-614-28	DRAWN BY E. JOHNSON
BRIDGE NO. 02812	DESIGNED BY D. ROTHSTEIN
	CHECKED BY K. SWEHLA
	COMM. NO. 6509



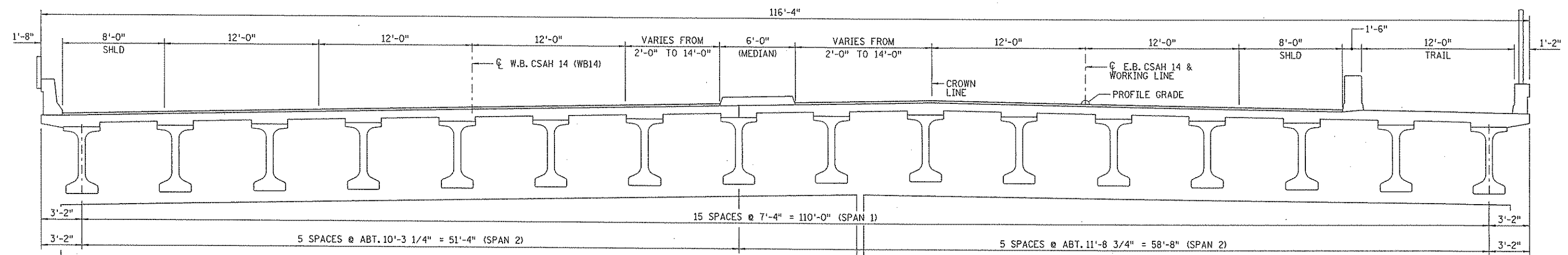
ANOKA COUNTY	SHEET B3 OF B49
CSAH 14 OVER I-35E	
STAGING DETAILS	



FINAL STAGE CONSTRUCTION AT ABUTMENTS

PROPOSED BRIDGE NO. 02812
(EAST ABUTMENT SHOWN, WEST ABUTMENT SIMILAR)

EL. 916.50 - W. ABUT.
EL. 916.00 - E. ABUT.



FINAL CONSTRUCTION AT PIER

PROPOSED BRIDGE NO. 02812

EL. 904.50

7:16:03 AM
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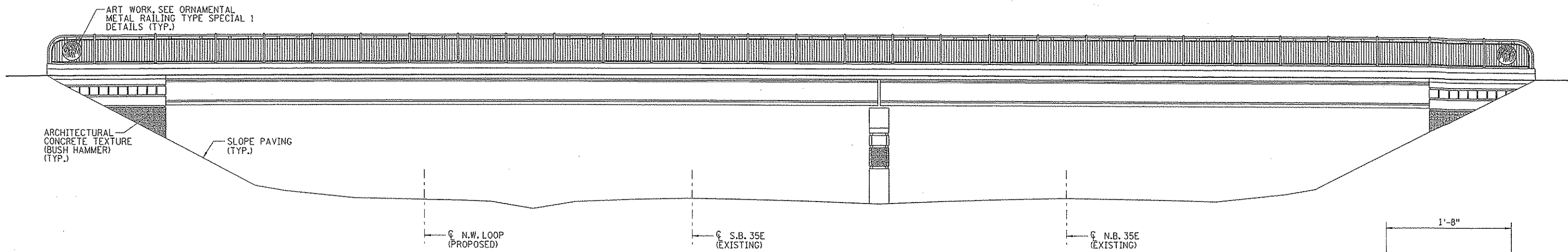
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Print Name: KEVIN L. SWEHLA
Kevin L Swehla
Date: 4/15/09 License #: 42791

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BRIDGE NO.
02812
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DESIGNED BY
D. ROTHSTEIN
CHECKED BY
K.SWEHLA
COMM. NO. 6509

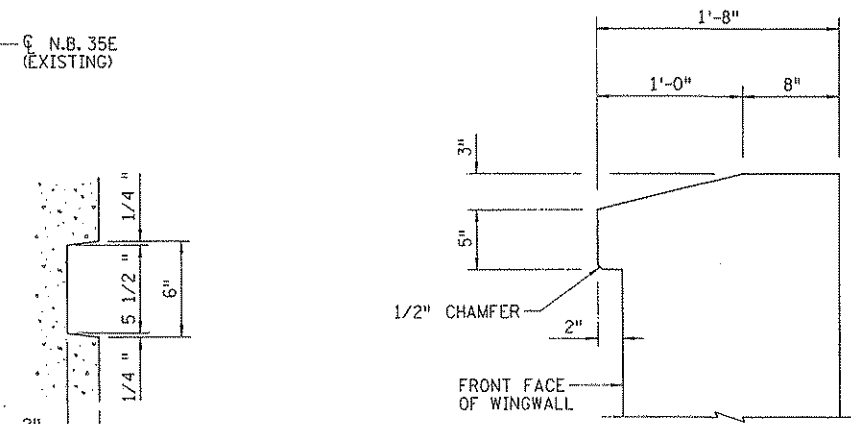


ANOKA COUNTY
CSAH 14 OVER I-35E
STAGING DETAILS

SHEET
B4
OF
B49

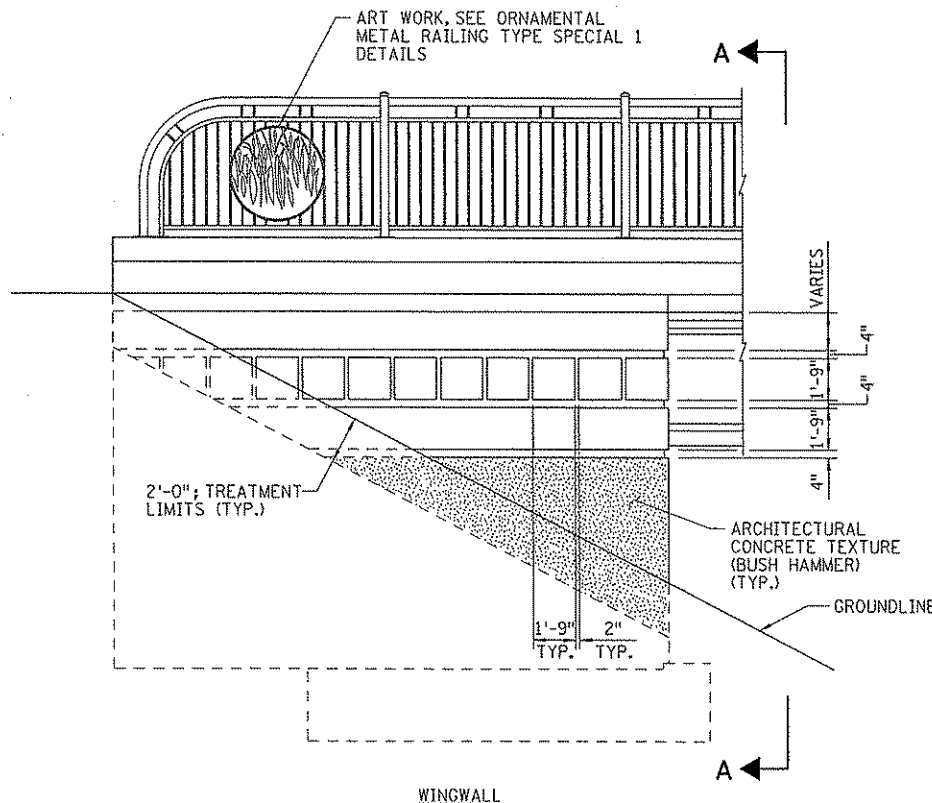


ARCHITECTURAL ELEVATION

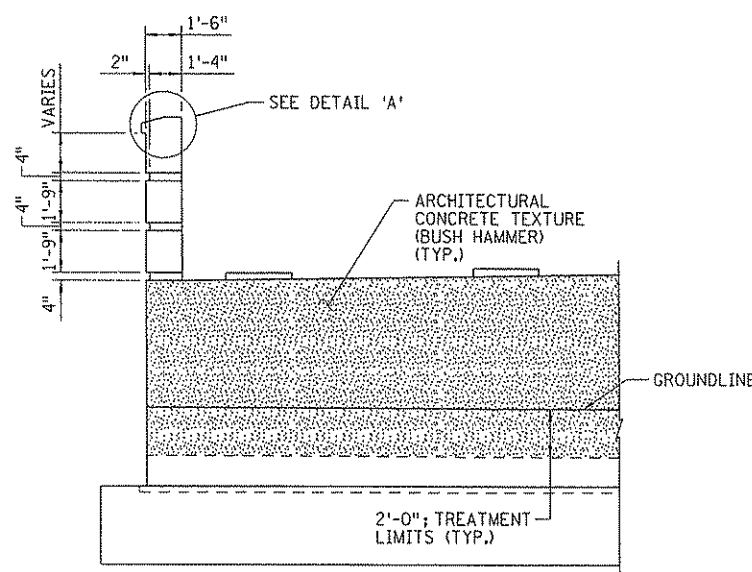


DETAIL 'B'

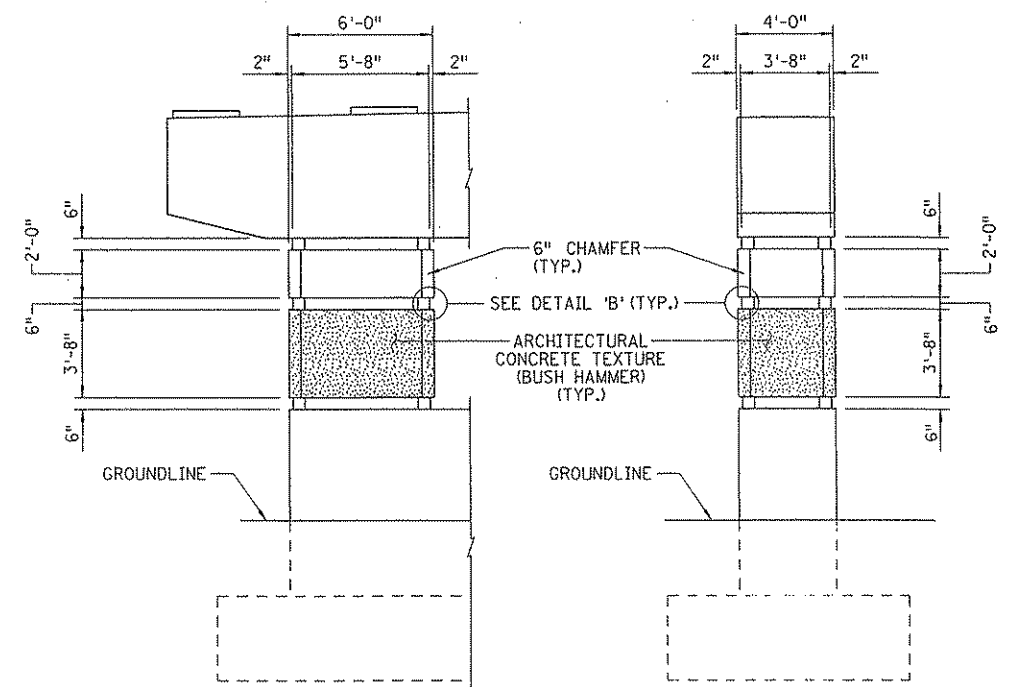
DETAIL 'A'



ABUTMENT DETAIL



SECTION A-A
(ORNAMENTAL METAL RAILING NOT SHOWN)



PIER DETAIL
(TYPICAL ALL COLUMNS)

6:53:13 AM 4/27/2009 ...\\br\flnal\plan\6509_arch01.dgn

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 Print Name: KEVIN L. SWEHLA
Kevin L Swehla
 Date: 4/15/09 License #: 42791

STATE PROJ. NO.
02-614-28
 BRIDGE NO.
02812
 DRAWN BY
J. HOFFMAN
 DESIGNED BY
D. ROTHSTEIN
 CHECKED BY
K. SWEHLA
 COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
 ARCHITECTURAL DETAIL

SHEET
 B5
 OF
 B49

WEST ABUTMENT COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD + EARTH PRESSURE	98.8
FACTORED LIVE LOAD	18.5
FACTORED DOWN DRAG	21.6
* FACTORED DESIGN LOAD	138.9

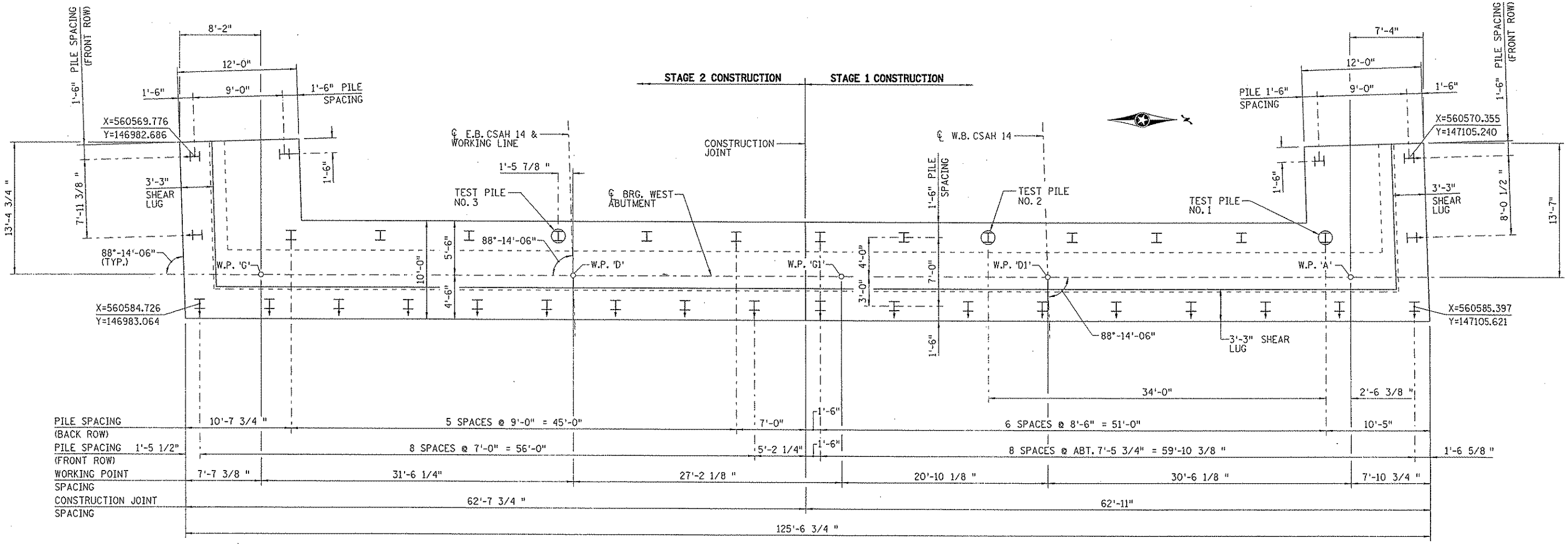
* BASED ON STRENGTH I LOAD COMBINATION

WEST ABUTMENT REQUIRED NOMINAL PILE BEARING RESISTANCE R _n - TONS/PILE		
FIELD CONTROL METHOD	Φ _{dyn}	* R _n
Mn/DOT NOMINAL RESISTANCE FORMULA	0.40	347.3
PDA	0.65	213.7

* R_n = FACTORED DESIGN LOAD/Φ_{dyn}

PILE NOTES:

- 3 - HP 12x53 TEST H-PILES, 80 FEET LONG.
 - 34 - HP 12x53 H-PILES, ESTIMATED LENGTH 70 FEET LONG.
 - 37 - HP 12x53 H-PILES REQUIRED FOR WEST ABUTMENT.
- PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
- PILES MARKED THUS \perp SHALL BE BATTERED 3" PER FOOT IN THE DIRECTION SHOWN.
- FOR PILE SPLICE, SEE DETAIL B202.
- ALL PILES TO BE HP 12x53 AND SHALL HAVE PILE TIP PROTECTION 12".



FOOTING PLAN

6:53:15 AM H:\projects\6509\br\In\an\6509_abt01.dgn

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Print Name: KEVIN L. SWEHLA

Kevin L. Swehla

Date: 4/15/09 License #: 42791

STATE PROJ. NO.
02-614-28

BRIDGE NO.
02812

DRAWN BY
K. NELSON

DESIGNED BY
D. ROTHSTEIN

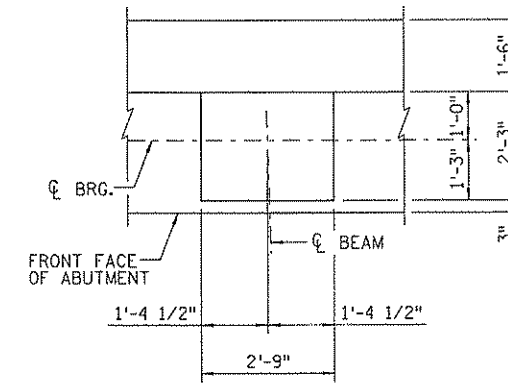
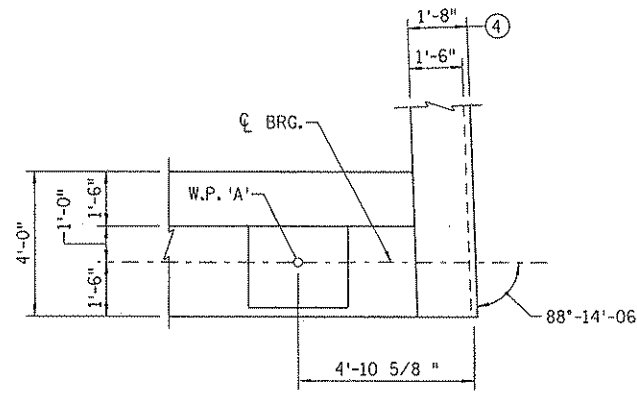
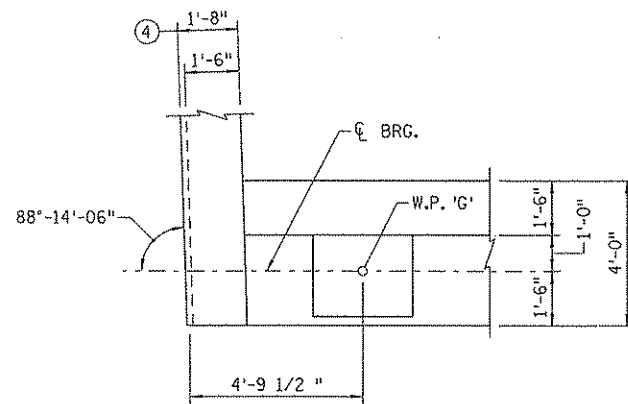
CHECKED BY
K. SWEHLA

COMM. NO. 6509

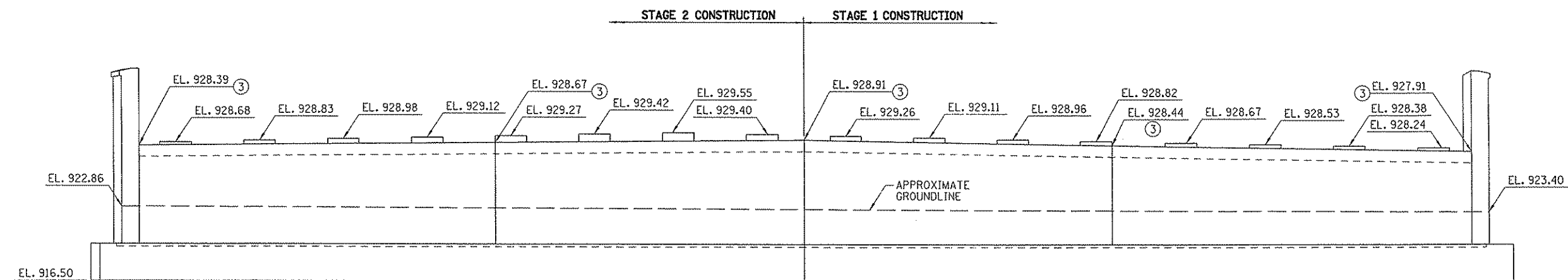
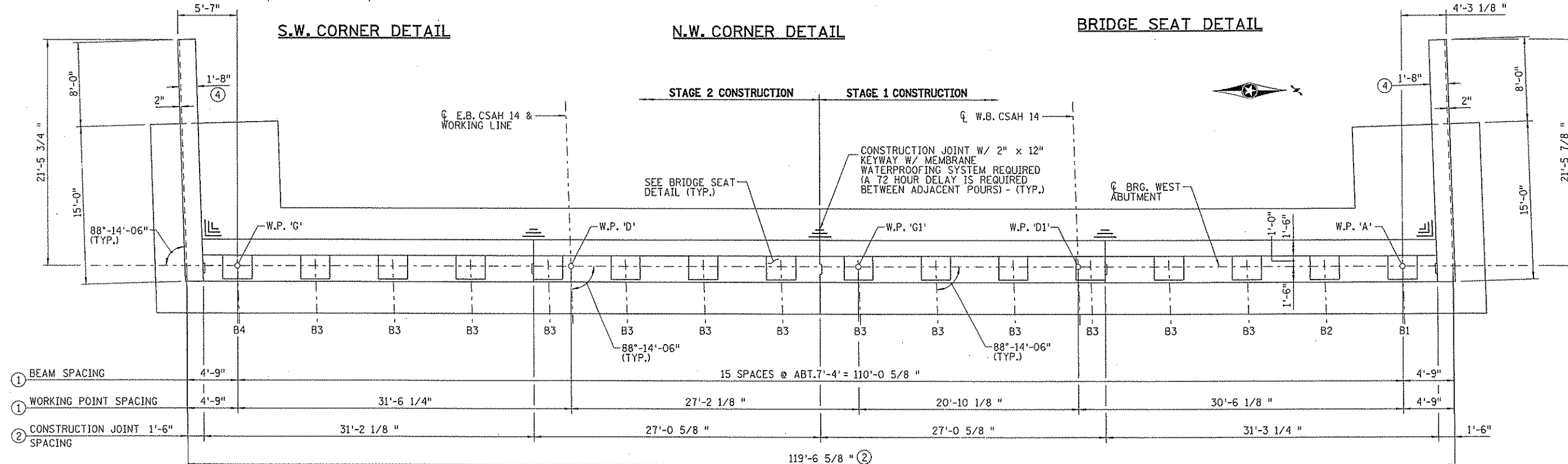


ANOKA COUNTY
CSAH 14 OVER I-35E
WEST ABUTMENT DETAILS
(SHEET 1 OF 5)

SHEET
B6
OF
B49



- NOTES:**
- ① MEASURED AT ϕ OF BEARING.
 - ② MEASURED ALONG FRONT FACE OF ABUTMENT.
 - ③ ELEVATIONS ARE AT FRONT FACE.
 - ④ DIMENSION AT TOP OF WALL



6:53:17 AM 4/17/2009 ... \br\final\plan\6509_abt02.dgn

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Print Name: KEVIN L. SWEHLA

Kevin L. Swehla

Date: 4/15/09 License #: 42791

STATE PROJ. NO. 02-614-28

BRIDGE NO. 02812

DRAWN BY K. NELSON

DESIGNED BY D. ROTHSTEIN

CHECKED BY K. SWEHLA

COMM. NO. 6509

SRF CONSULTING GROUP, INC.

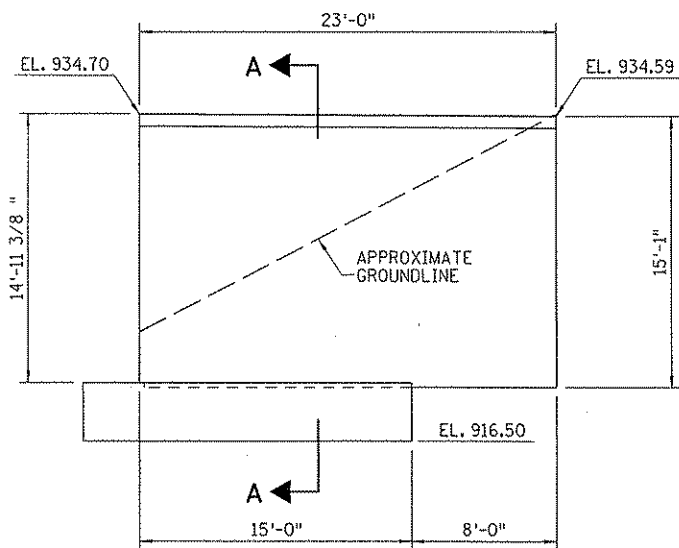
ANOKA COUNTY

CSAH 14 OVER I-35E

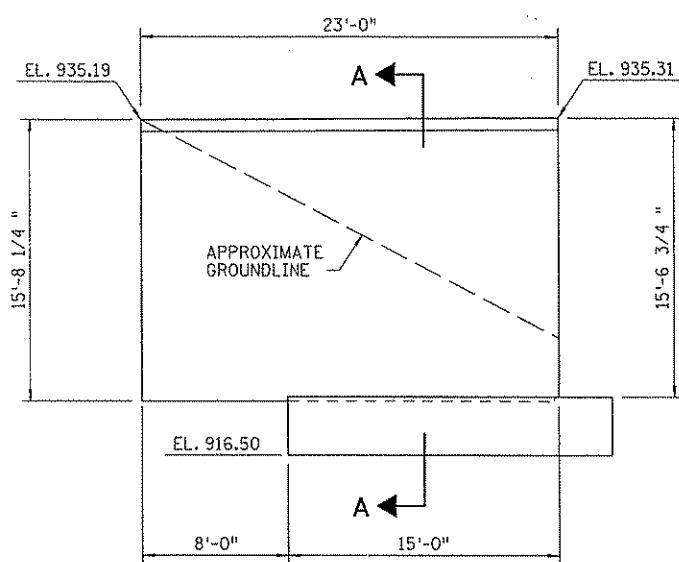
WEST ABUTMENT DETAILS

(SHEET 2 OF 5)

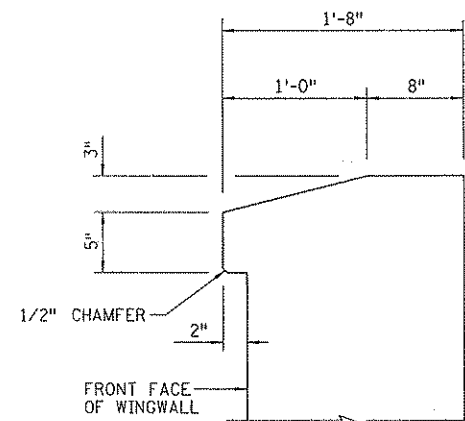
SHEET B7 OF B49



N.W. WINGWALL ELEVATION



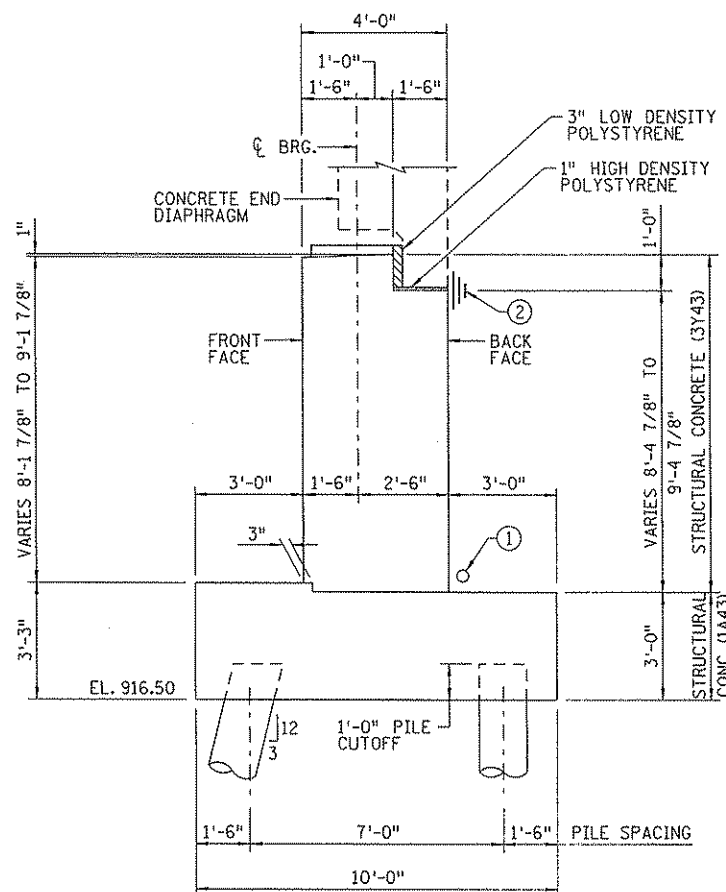
S.W. WINGWALL ELEVATION



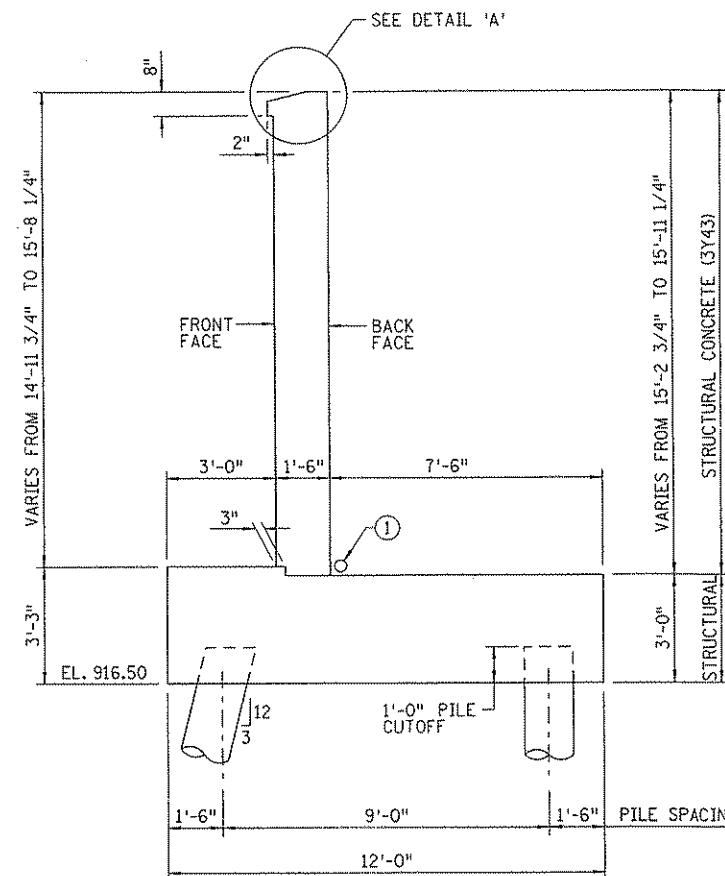
DETAIL 'A'

NOTES:

- ① 4" NOMINAL DIA. PERFORATED PIPE, SEE DETAIL B910.
- ② MEMBRANE WATERPROOFING SYSTEM.



SECTION THRU ABUTMENT



SECTION A-A

6:53:19 AM 4/9/2009 T:\proj\6509\6509.dwg

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 Print Name: **KEVIN L. SWEHLA**
Kevin L Swehla
 Date: **4/15/09** License # **42791**

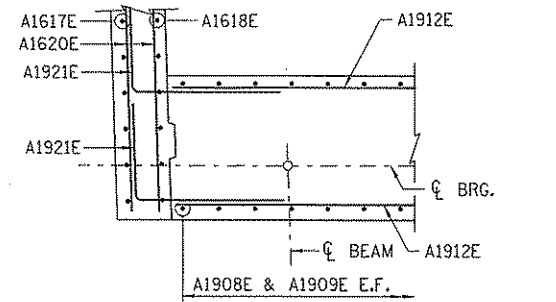
STATE PROJ. NO.
02-614-28
 BRIDGE NO.
02812

DRAWN BY
K. NELSON
 DESIGNED BY
D. ROTHSTEIN
 CHECKED BY
K. SWEHLA
 COMM. NO. 6509

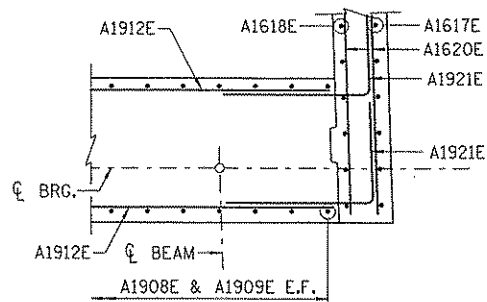


ANOKA COUNTY
 CSAH 14 OVER I-35E
WEST ABUTMENT DETAILS
 (SHEET 3 OF 5)

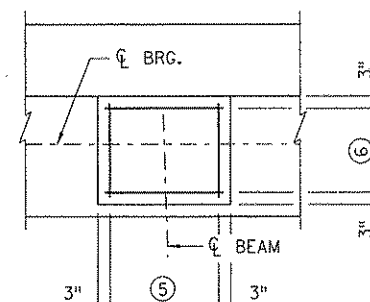
SHEET
B8
OF
B49



S.W. CORNER REINFORCEMENT DETAIL



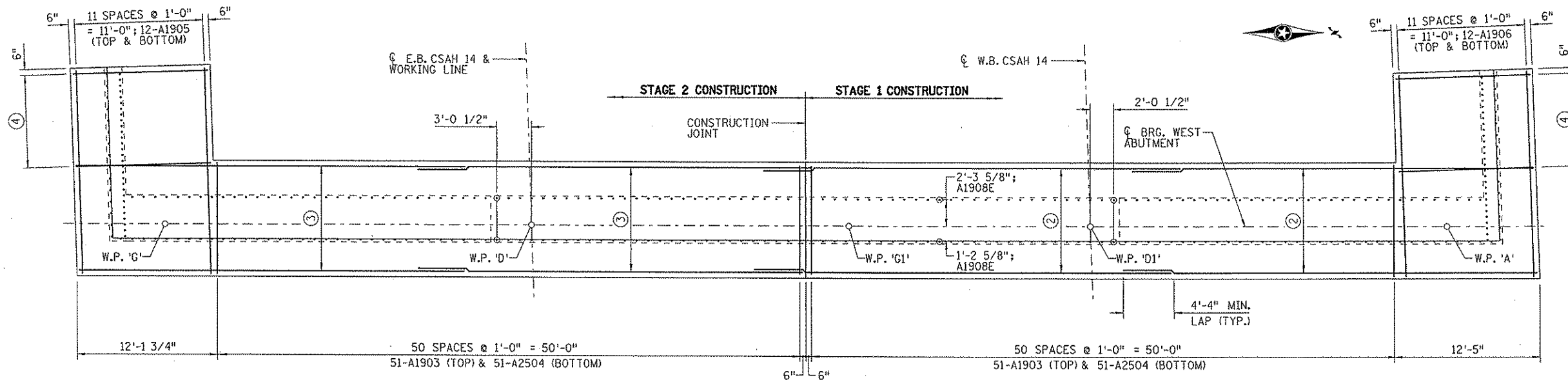
N.W. CORNER REINFORCEMENT DETAIL



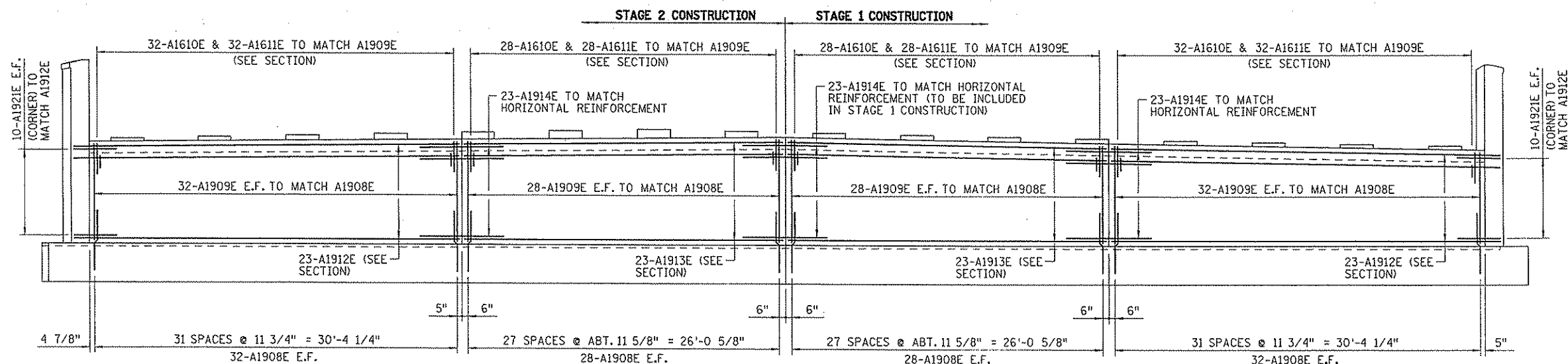
BRIDGE SEAT REINFORCEMENT DETAIL

NOTES:

1. F.F. DENOTES FRONT FACE.
B.F. DENOTES BACK FACE.
E.F. DENOTES EACH FACE.
- ② 11 SPACES @ 10" = 9'-2";
12-A2201 (TOP & BOTTOM)
- ③ 11 SPACES @ 10" = 9'-2";
12-A2202 (TOP & BOTTOM)
- ④ 16 SPACES @ 6" = 8'-0"; 17-A1907 (TOP) &
8 SPACES @ 1'-0" = 8'-0"; 9-A1907 (BOTTOM)
- ⑤ 4 SPACES @ 6 3/4" = 2'-3"; 5-A1322E
- ⑥ 3 SPACES @ 7' = 1'-9"; 4-A1323E



FOOTING REINFORCEMENT PLAN



REINFORCEMENT ELEVATION

8:48:44 AM
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NO	DATE	BY	CHKD	APPR	REVISION

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 Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License #: 42791

STATE PROJ. NO.
 02-614-28
 BRIDGE NO.
 02812

DRAWN BY
 K. NELSON
 DESIGNED BY
 D. ROTHSTEIN
 CHECKED BY
 K. SWEHLA
 COMM. NO. 6509



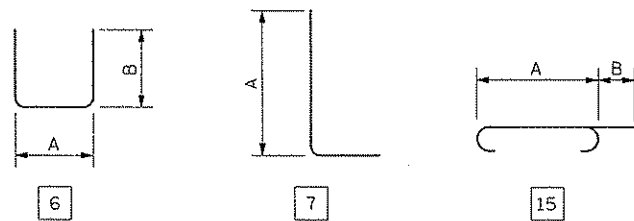
ANOKA COUNTY
 CSAH 14 OVER I-35E
 WEST ABUTMENT DETAILS
 (SHEET 4 OF 5)

SHEET
 B9
 OF
 B49

SUMMARY OF QUANTITIES : W. ABUTMENT		
ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (1A43)	CU. YD.	166
STRUCTURAL CONCRETE (3Y43)	CU. YD.	192
REINFORCEMENT BARS	POUND	13790
REINFORCEMENT BARS (EPOXY COATED)	POUND	15750
STEEL H-PILING DRIVEN 12"	LIN. FT.	2380
STEEL H-PILING DELIVERED 12"	LIN. FT.	2380
STEEL H-TEST PILE 80 FEET LONG 12"	EACH	3
PILE TIP PROTECTION 12"	EACH	37
MEMBRANE WATERPROOFING SYSTEM	LIN. FT.	175
1" LOW DENSITY POLYSTYRENE	LIN. FT.	117
3" LOW DENSITY POLYSTYRENE	LIN. FT.	117
B. M. DISK	EACH	1
ARCHITECTURAL SURFACE FINISH (SINGLE COLOR)	SQ. FT.	987
ARCHITECTURAL CONCRETE TEXTURE (BUSH HAMMER)	SQ. FT.	987

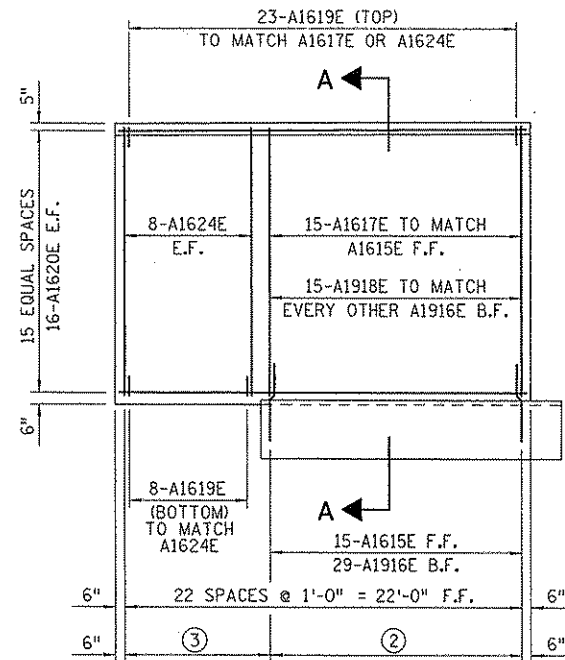
BILL OF REINFORCEMENT: WEST ABUTMENT									
MARK	NO	SIZE	LENGTH [FT - IN]	SHAPE	DIMENSION [FT-IN]			LOCATION	
					A	B	C		
A2201	48	22	35 - 9	STR	-	-	-	FOOTING	
A2202	48	22	33 - 6	STR	-	-	-	FOOTING	
A1903	102	19	10 - 10	15	9 - 6	0 - 8	-	FOOTING	
A2504	102	25	11 - 4	15	9 - 6	0 - 11	-	FOOTING	
A1905	24	19	17 - 5	STR	-	-	-	FOOTING	
A1906	24	19	17 - 2	STR	-	-	-	FOOTING	
A1907	52	19	12 - 10	15	11 - 6	0 - 8	-	FOOTING	
A1908E	240	19	6 - 8	7	5 - 8	-	-	STEM DOWEL	
A1909E	240	19	7 - 0	STR	-	-	-	STEM VERT.	
A1610E	120	16	5 - 7	6	3 - 7	1 - 0	-	STEM TOP	
A1611E	120	16	6 - 1	6	2 - 1	2 - 0	-	STEM TOP	
A1912E	46	19	30 - 10	STR	-	-	-	STEM HORIZ.	
A1913E	46	19	26 - 8	STR	-	-	-	STEM HORIZ.	
A1914E	69	19	7 - 4	STR	-	-	-	HORIZ. DOWEL	
A1615E	30	16	6 - 3	7	5 - 5	-	-	WW DOWEL	
A1916E	58	19	9 - 0	7	8 - 0	-	-	WW DOWEL	
A1617E	46	16	14 - 6	STR	-	-	-	WW VERT.	
A1618E	30	16	11 - 9	STR	-	-	-	WW VERT.	
A1619E	62	16	3 - 1	6	1 - 1	1 - 0	-	WW TOP	
A1620E	64	16	22 - 7	STR	-	-	-	WW HORIZ.	
A1921E	40	19	10 - 0	7	5 - 0	-	-	CORNER	
A1322E	80	13	4 - 11	6	1 - 11	1 - 6	-	BR. SEAT	
A1323E	64	13	5 - 5	6	2 - 5	1 - 6	-	BR. SEAT	
A1624E	16	16	15 - 1	STR	-	-	-	WW VERT.	

BAR SHAPES:

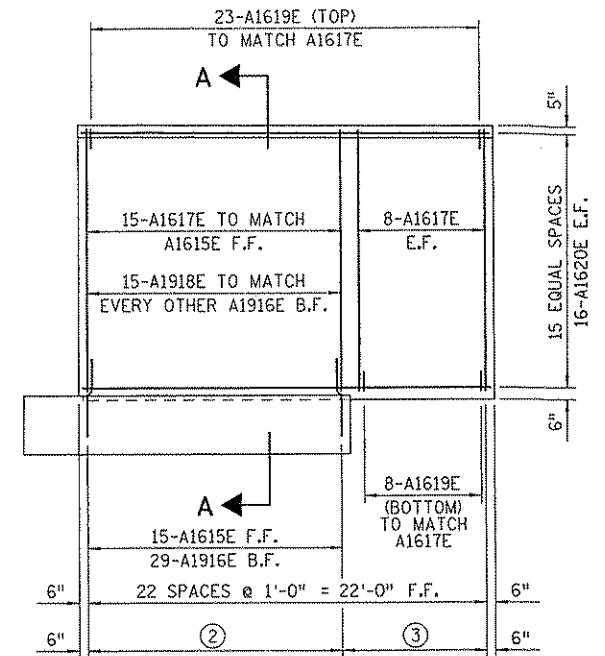


NOTES:

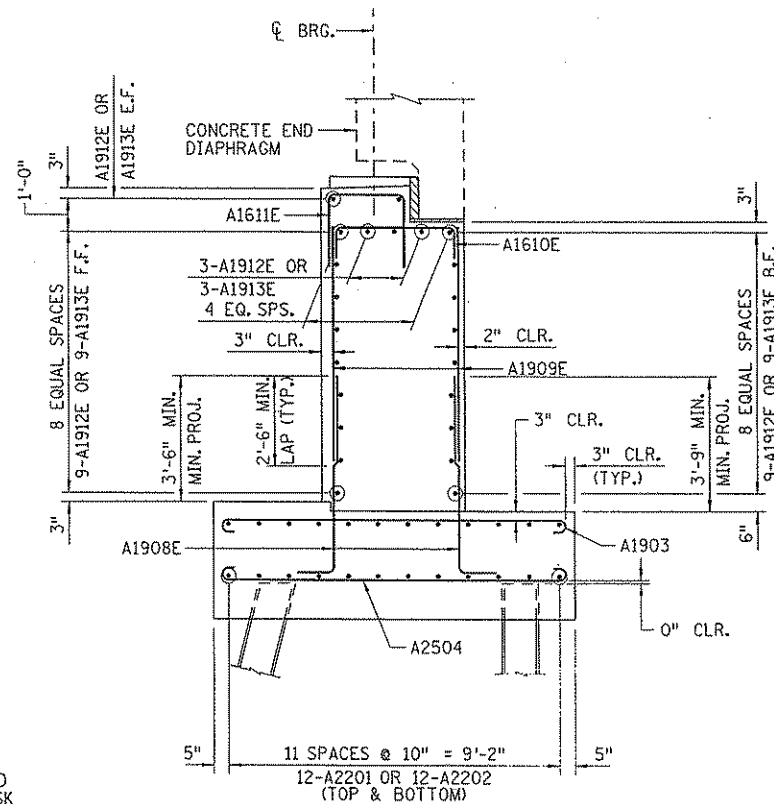
- F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE
E.F. DENOTES EACH FACE
- 28 SPACES @ 6" = 14'-0" B.F.
- 8 SPACES @ 1'-0" = 8'-0" B.F.
- INCLUDED IN PAYMENT FOR "STRUCTURAL CONCRETE (3Y43)".
- COUNTY WILL FURNISH DISK. BEND PRONGS OUTWARD TO ANCHOR DISK IN CONCRETE. BOTTOM OF DISK TOP TO BE PLACED FLUSH WITH CONCRETE. PAYMENT FOR PLACING DISK TO BE INCLUDED IN PRICE BID FOR "STRUCTURAL CONCRETE (3Y43)".



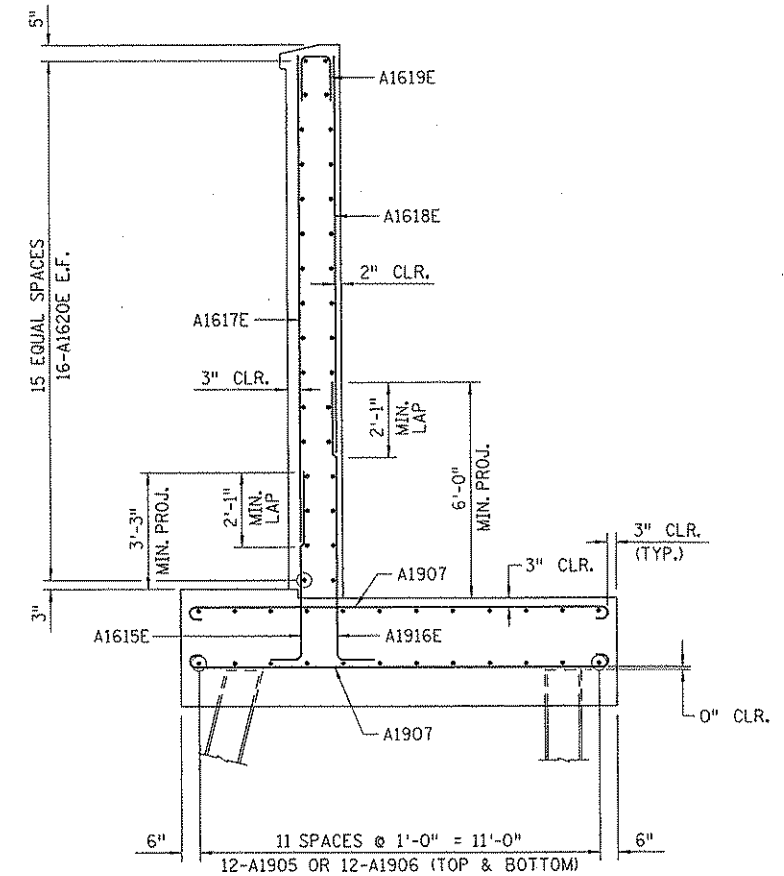
S.W. WINGWALL REINFORCEMENT ELEVATION



N.W. WINGWALL REINFORCEMENT ELEVATION



REINFORCEMENT SECTION THRU ABUTMENT



REINFORCEMENT SECTION A-A

6:53:22 AM 4/9/2009 ...\\br\final\plan\6509_abt05.dgn

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License #: 42791

STATE PROJ. NO.
02-614-28
 BRIDGE NO.
02812

DRAWN BY
K. NELSON
 DESIGNED BY
D. ROTHSTEIN
 CHECKED BY
K. SWEHLA
 COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
 WEST ABUTMENT DETAILS
 (SHEET 5 OF 5)

SHEET
B10
OF
B49

EAST ABUTMENT COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD + EARTH PRESSURE	99.6
FACTORED LIVE LOAD	20.1
FACTORED DOWN DRAG	20.3
* FACTORED DESIGN LOAD	140.0

* BASED ON STRENGTH I LOAD COMBINATION

EAST ABUTMENT REQUIRED NOMINAL PILE BEARING RESISTANCE R_n - TONS/PILE		
FIELD CONTROL METHOD	ϕ_{dyn}	* R_n
Mn/DOT NOMINAL RESISTANCE FORMULA	0.4	350.0
PDA	0.65	215.4

* R_n = FACTORED DESIGN LOAD / ϕ_{dyn}

PILE NOTES:

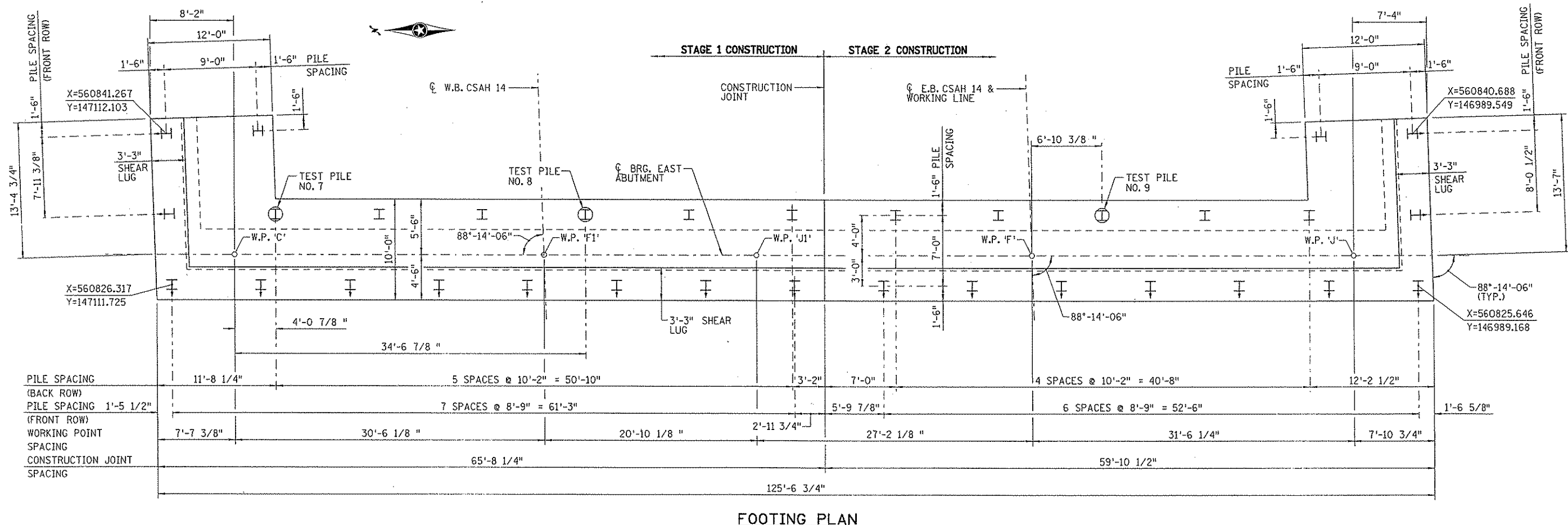
- 3 - HP 12x53 TEST H-PILES, 80 FEET LONG.
- 29 - HP 12x53 H-PILES, ESTIMATED LENGTH 70 FEET LONG.
- 32 - HP 12x53 H-PILES REQUIRED FOR EAST ABUTMENT.

PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.

PILES MARKED THUS \perp SHALL BE BATTERED 3" PER FOOT IN THE DIRECTION SHOWN.

FOR PILE SPLICE, SEE DETAIL B202.

ALL PILES TO BE HP 12x53 AND SHALL HAVE PILE TIP PROTECTION 12".



FOOTING PLAN

6:53:24 AM 4/9/2009 ... \br\find\p\an\6509_abt06.dgn

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: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License #: 42791

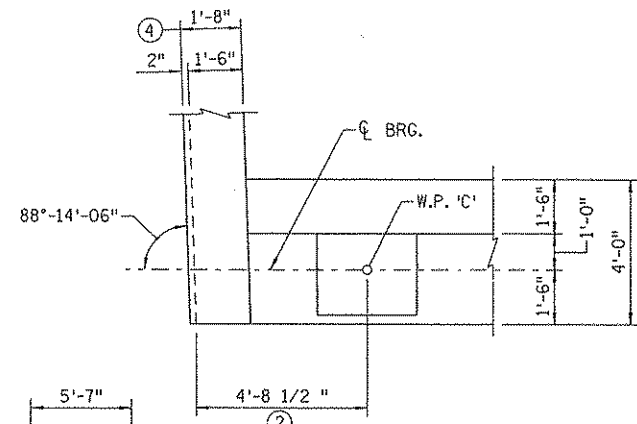
STATE PROJ. NO. 02-614-28
 BRIDGE NO. 02812

DRAWN BY J. HOFFMAN
 DESIGNED BY D. ROTHSTEIN
 CHECKED BY K. SWEHLA
 COMM. NO. 6509

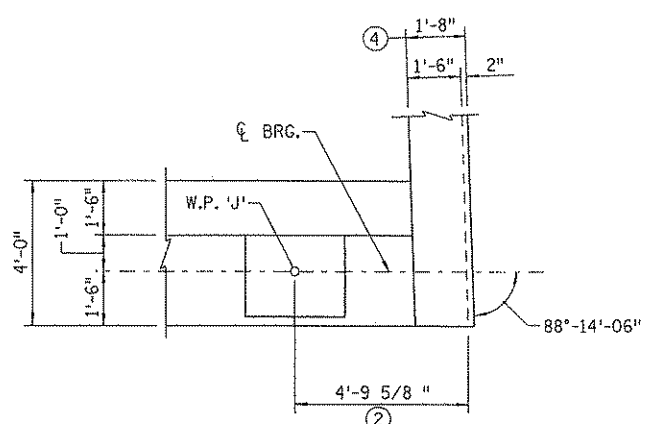


ANOKA COUNTY
 CSAH 14 OVER I-35E
 EAST ABUTMENT DETAILS
 (SHEET 1 OF 5)

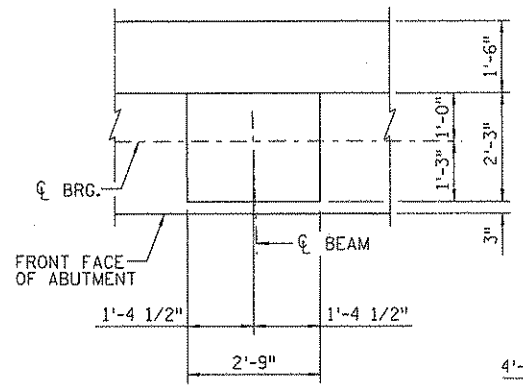
SHEET B11 OF B49



N.E. CORNER DETAIL

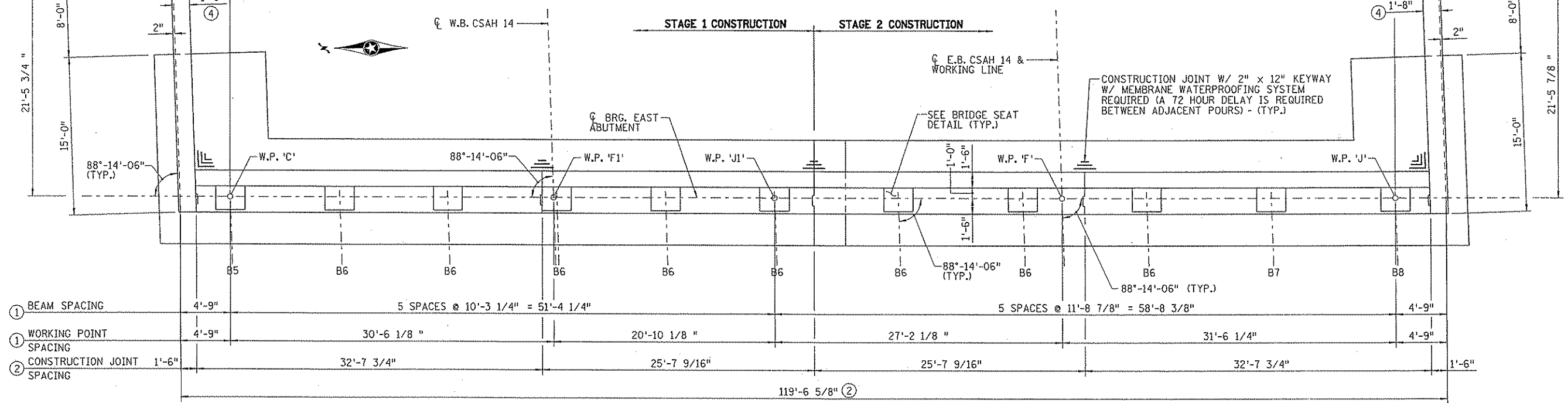


S.E. CORNER DETAIL

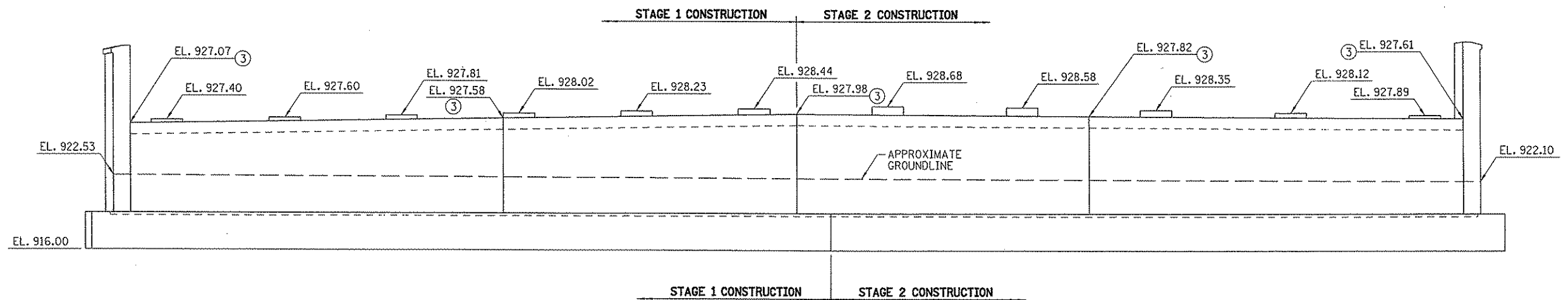


BRIDGE SEAT DETAIL

- NOTES:**
- ① MEASURED AT ϕ OF BEARING.
 - ② MEASURED ALONG FRONT FACE OF ABUTMENT.
 - ③ ELEVATIONS ARE AT FRONT FACE.
 - ④ DIMENSION AT TOP OF WALL.



PLAN



ELEVATION

9/15/09 9:53:25 AM
 H:\projects\6509\br\Final\plan\6509_abt07.dgn

NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: KEVIN L. SWEHLA
Kevin L Swehla
 Date: 9/15/09 License #: 42791

STATE PROJ. NO.
02-614-28

BRIDGE NO.
02812

DRAWN BY
J. HOFFMAN

DESIGNED BY
D. ROTHSTEIN

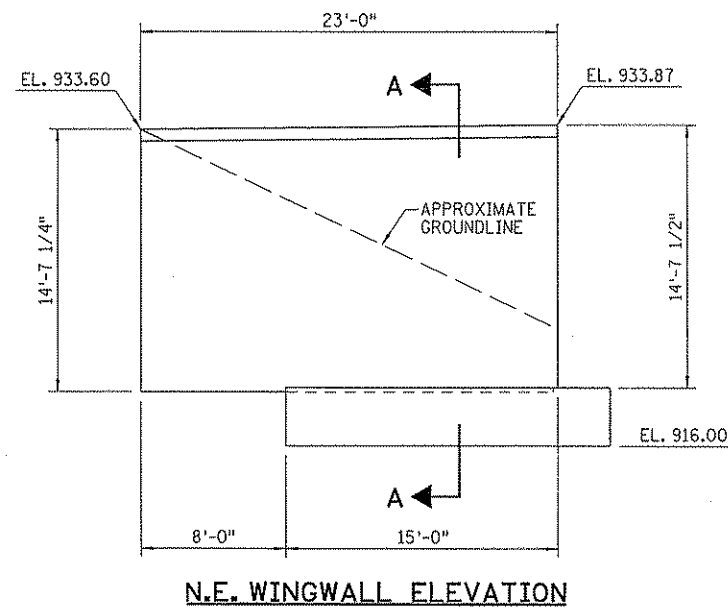
CHECKED BY
K. SWEHLA

COMM. NO. 6509

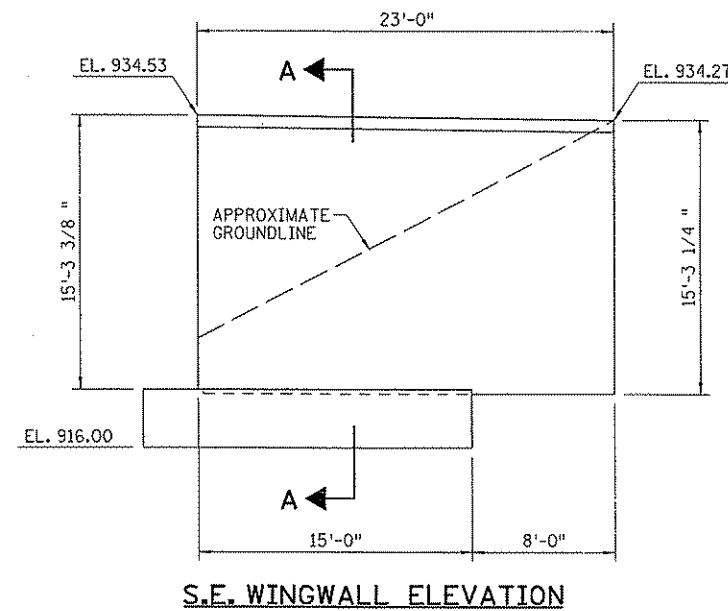


ANOKA COUNTY
 CSAH 14 OVER I-35E
 EAST ABUTMENT DETAILS
 (SHEET 2 OF 5)

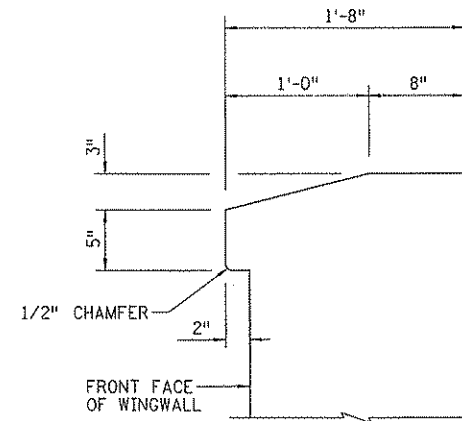
SHEET
B12
OF
B49



N.E. WINGWALL ELEVATION



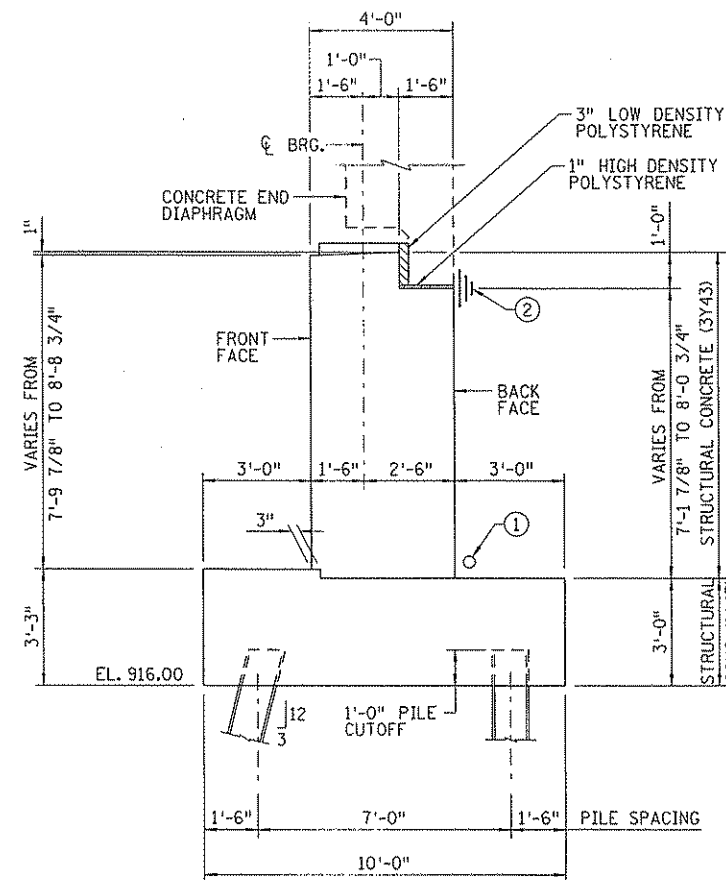
S.E. WINGWALL ELEVATION



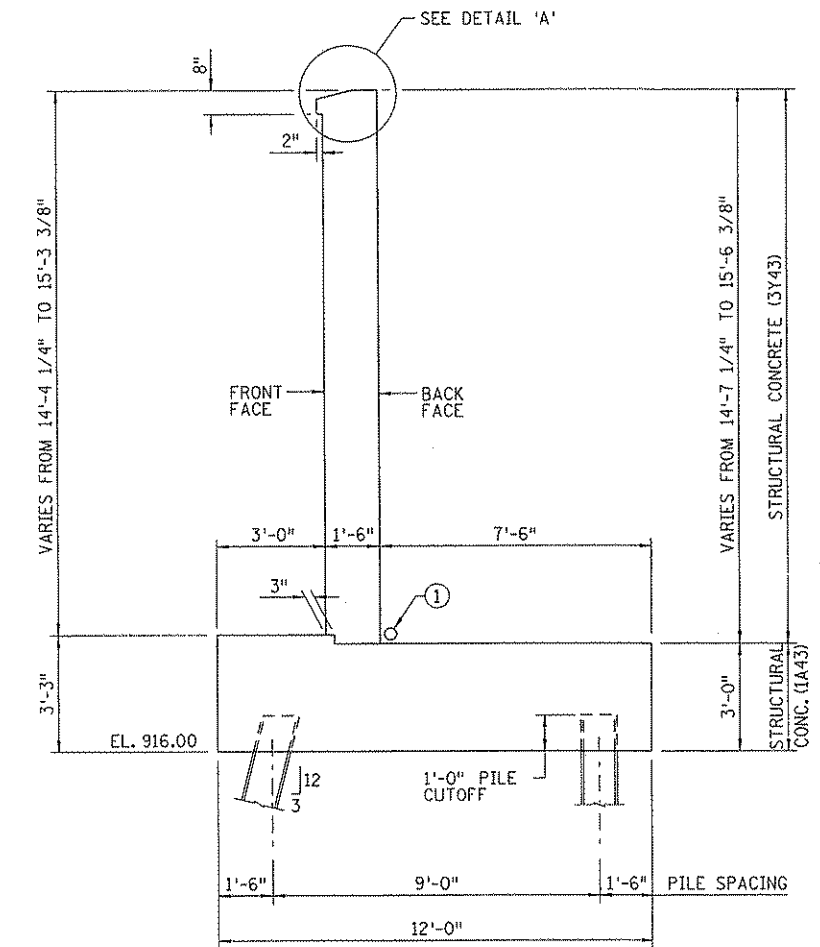
DETAIL 'A'

NOTES:

- ① 4" NOMINAL DIA. PERFORATED PIPE, SEE DETAIL B910.
- ② MEMBRANE WATERPROOFING SYSTEM.



SECTION THRU ABUTMENT



SECTION A-A

8:53:28 AM
 4/15/09
 h:\proj\lects\6509\br\fin\p\con\6509_abt08.dgn

NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: **KEVIN L. SWEHLA**
Kevin L. Swehla
 Date: **4/15/09** License # **42791**

STATE PROJ. NO.
 02-614-28

BRIDGE NO.
 02812

DRAWN BY
 J. HOFFMAN

DESIGNED BY
 D. ROTHSTEIN

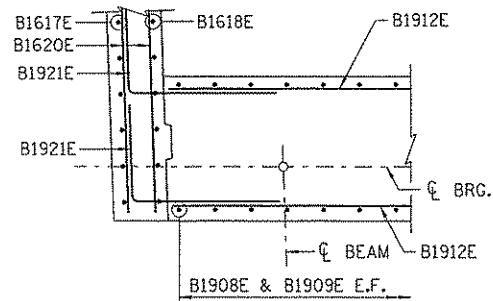
CHECKED BY
 K. SWEHLA

COMM. NO. 6509

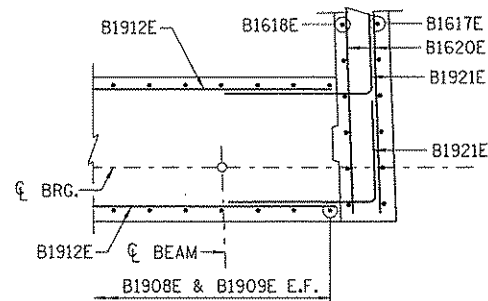


ANOKA COUNTY
 CSAH 14 OVER I-35E
EAST ABUTMENT DETAILS
 (SHEET 3 OF 5)

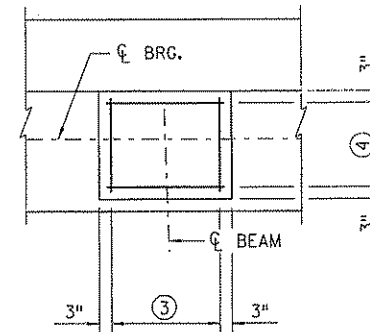
SHEET
 B13
OF
 B49



N.E. CORNER REINFORCEMENT DETAIL



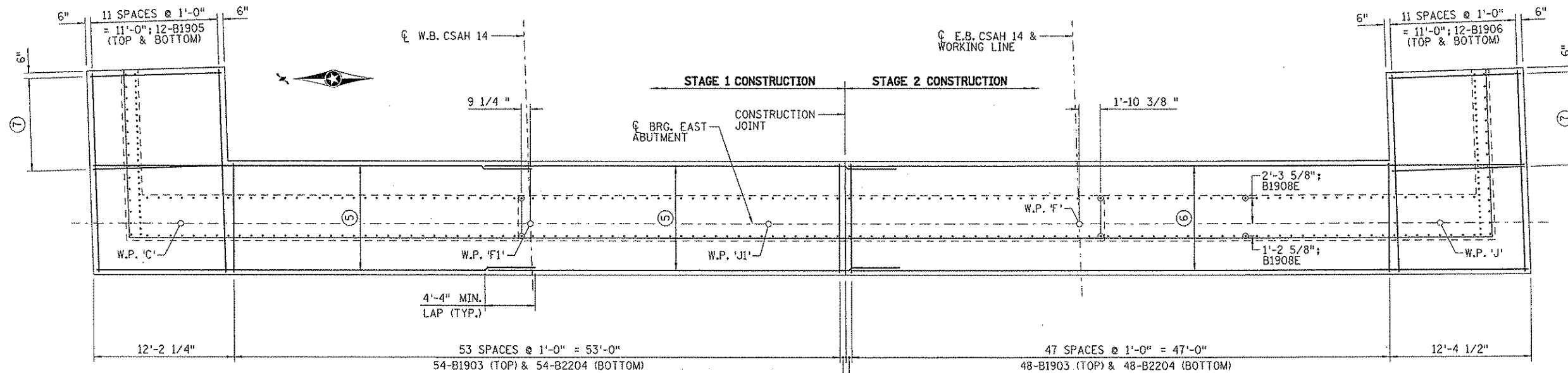
S.E. CORNER REINFORCEMENT DETAIL



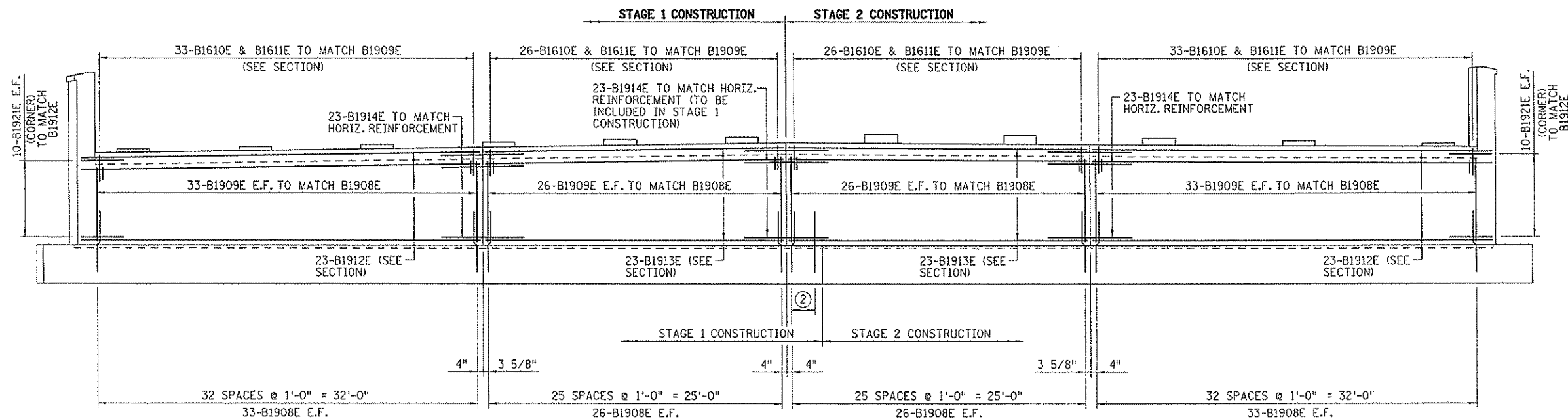
BRIDGE SEAT REINFORCEMENT DETAIL

NOTES:

1. F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE
E.F. DENOTES EACH FACE
- ② 3-B1908E DOWELS TO BE INCLUDED IN STAGE 1 CONSTRUCTION.
- ③ 4 SPACES @ 6 3/4" = 2'-3"; 5-B1322E.
- ④ 3 SPACES @ 7" = 1'-9"; 4-B1323E.
- ⑤ 13 SPACES @ 8 1/2" = 9'-2 1/2"; 14-B2201 (TOP & BOTTOM)
- ⑥ 13 SPACES @ 8 1/2" = 9'-2 1/2"; 14-B2202 (TOP & BOTTOM)
- ⑦ 16 SPACES @ 6" = 8'-0"; 17-B1907 (TOP) & 8 SPACES @ 1'-0" = 8'-0"; 9-B1907 (BOTTOM)



FOOTING REINFORCEMENT PLAN



REINFORCEMENT ELEVATION

8:48:46 AM 9/15/09 ...br\Final\plan\6509_abt09.dgn

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 9/15/09 License #: 42791

STATE PROJ. NO.
02-614-28
 BRIDGE NO.
02812

DRAWN BY
J. HOFFMAN
 DESIGNED BY
D. ROTHSTEIN
 CHECKED BY
K. SWEHLA
 COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
 EAST ABUTMENT DETAILS
 (SHEET 4 OF 5)

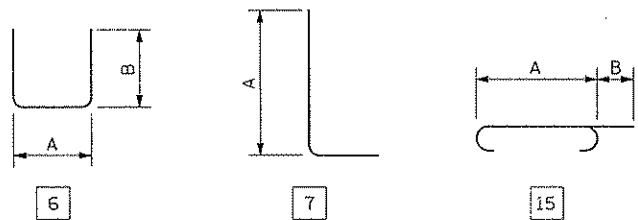
SHEET
B14
OF
B49

NO	DATE	BY	CHKD	APPR	REVISION

SUMMARY OF QUANTITIES : E. ABUTMENT		
ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (1A43)	CU. YD.	166
STRUCTURAL CONCRETE (3Y43)	CU. YD.	184
REINFORCEMENT BARS	POUND	13900
REINFORCEMENT BARS (EPOXY COATED)	POUND	15740
STEEL H-PILING DRIVEN 12"	LIN. FT.	2030
STEEL H-PILING DELIVERED 12"	LIN. FT.	2030
STEEL H-TEST PILE 80 FEET LONG 12"	EACH	3
PILE TIP PROTECTION 12"	EACH	32
MEMBRANE WATERPROOFING SYSTEM	LIN. FT.	175
1" LOW DENSITY POLYSTYRENE	LIN. FT.	117
3" LOW DENSITY POLYSTYRENE	LIN. FT.	117
B. M. DISK	EACH	1
ARCHITECTURAL SURFACE FINISH (SINGLE COLOR)	SQ. FT.	983
ARCHITECTURAL CONCRETE TEXTURE (BUSH HAMMER)	SQ. FT.	983

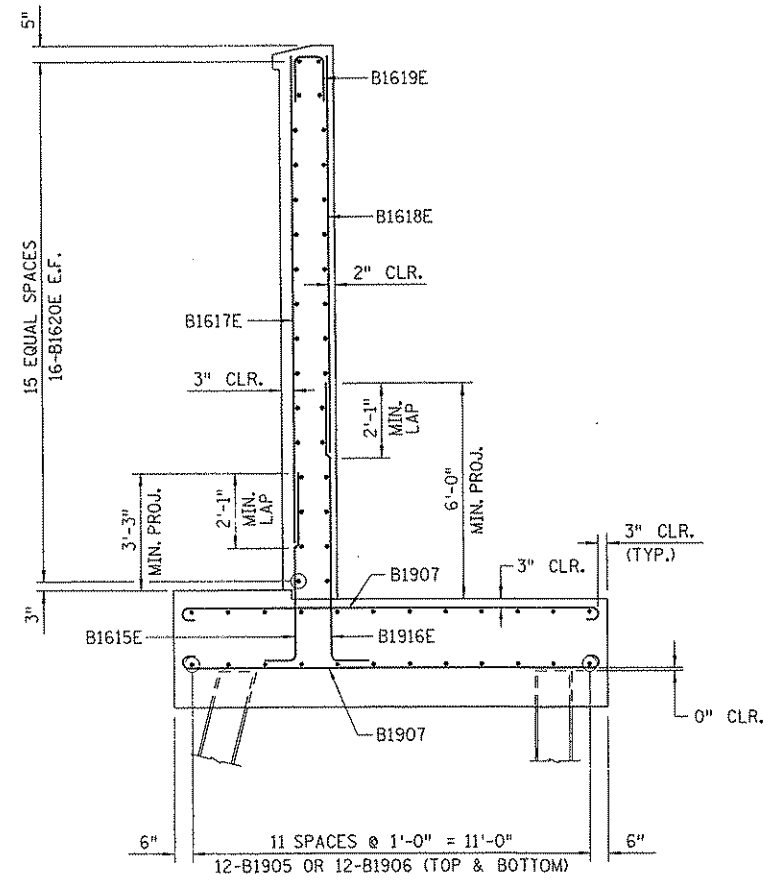
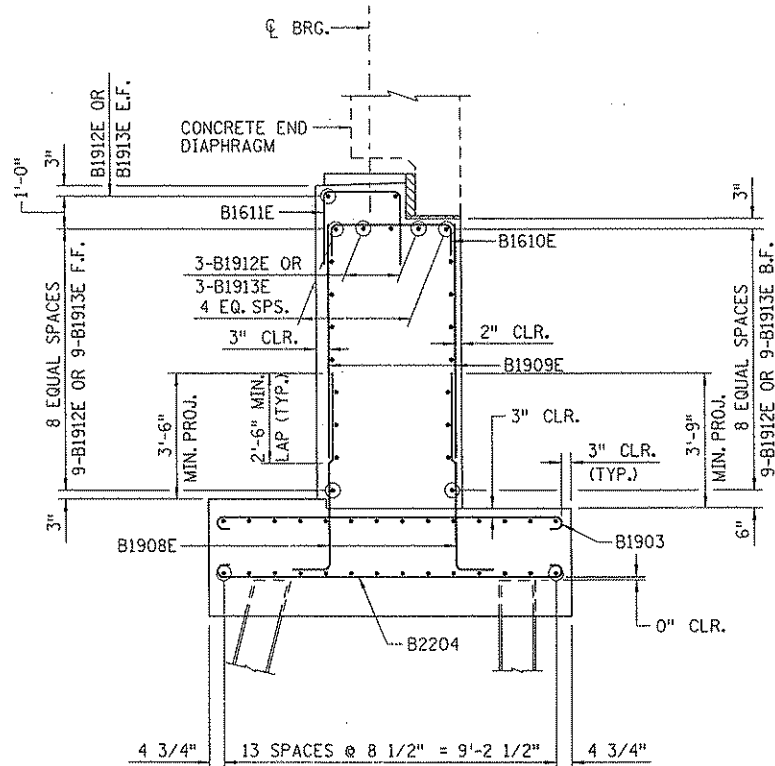
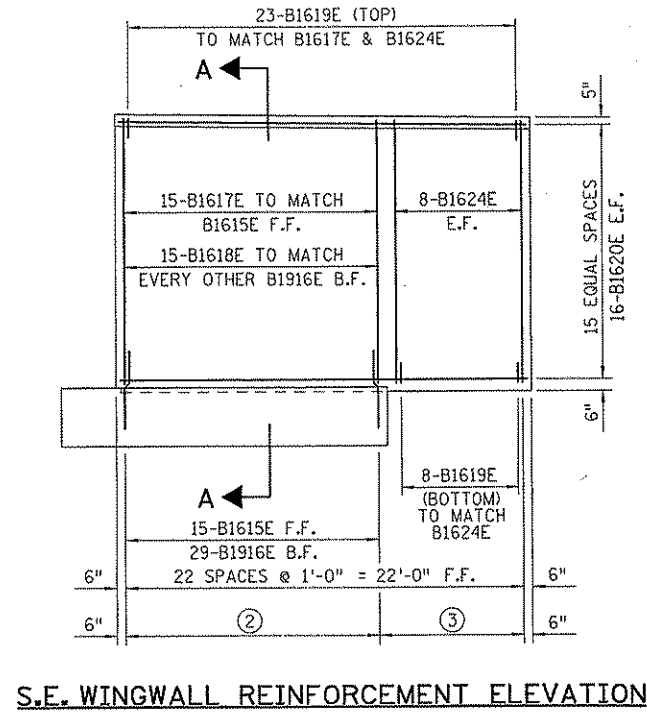
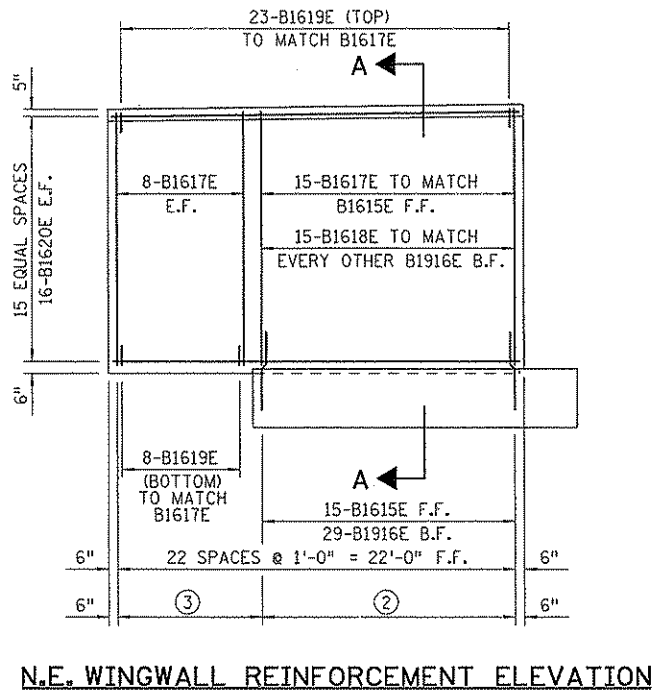
BILL OF REINFORCEMENT: EAST ABUTMENT								
MARK	NO	SIZE	LENGTH [FT - IN]	SHAPE	DIMENSION [FT-IN]			LOCATION
					A	B	C	
B2201	56	22	37 - 4	STR	-	-	-	FOOTING
B2202	28	22	59 - 1	STR	-	-	-	FOOTING
B1903	102	19	10 - 10	15	9 - 6	0 - 8	-	FOOTING
B2204	102	22	11 - 2	15	9 - 6	0 - 10	-	FOOTING
B1905	24	19	17 - 5	STR	-	-	-	FOOTING
B1906	24	19	17 - 2	STR	-	-	-	FOOTING
B1907	52	19	12 - 10	15	11 - 6	0 - 8	-	FOOTING
B1908E	236	19	6 - 8	7	5 - 8	-	-	STEM DOWEL
B1909E	236	19	6 - 6	STR	-	-	-	STEM VERT.
B1610E	118	16	5 - 7	6	3 - 7	1 - 0	-	STEM TOP
B1611E	118	16	6 - 1	6	2 - 1	2 - 0	-	STEM TOP
B1912E	46	19	32 - 2	STR	-	-	-	STEM HORIZ.
B1913E	46	19	25 - 3	STR	-	-	-	STEM HORIZ.
B1914E	69	19	7 - 4	STR	-	-	-	STEM DOWEL
B1615E	30	16	6 - 3	7	5 - 5	-	-	WW DOWEL
B1916E	58	19	9 - 0	7	8 - 0	-	-	WW DOWEL
B1617E	46	16	14 - 0	STR	-	-	-	WW VERT.
B1618E	30	16	11 - 6	STR	-	-	-	WW VERT.
B1619E	62	16	3 - 1	6	1 - 1	1 - 0	-	WW TOP
B1620E	64	16	22 - 7	STR	-	-	-	WW HORIZ.
B1921E	40	19	10 - 0	7	5 - 0	-	-	CORNER
B1322E	55	13	4 - 11	6	1 - 11	1 - 6	-	BR. SEAT
B1323E	44	13	5 - 5	6	2 - 5	1 - 6	-	BR. SEAT
B1624E	16	16	14 - 8	STR	-	-	-	WW VERT.

BAR SHAPES:



NOTES:

- F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE
E.F. DENOTES EACH FACE
- 28 SPACES @ 6" = 14'-0" B.F.
- 8 SPACES @ 1'-0" = 8'-0" B.F.
- INCLUDED IN PAYMENT FOR "STRUCTURAL CONCRETE (3Y43)".
- COUNTY WILL FURNISH DISK. BEND PRONGS OUTWARD TO ANCHOR DISK IN CONCRETE. BOTTOM OF DISK TOP TO BE PLACED FLUSH WITH CONCRETE. PAYMENT FOR PLACING DISK TO BE INCLUDED IN PRICE BID FOR "STRUCTURAL CONCRETE (3Y43)".



REINFORCEMENT SECTION THRU ABUTMENT

REINFORCEMENT SECTION A-A

6/5/31:32 AM 4/9/2009 D:\proj\ecrs\6509\br\final\p\an\6509_abt10.dgn

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: KEVIN L. SWEHLA
Kevin L Swehla
 Date: 4/15/09 License #: 42791

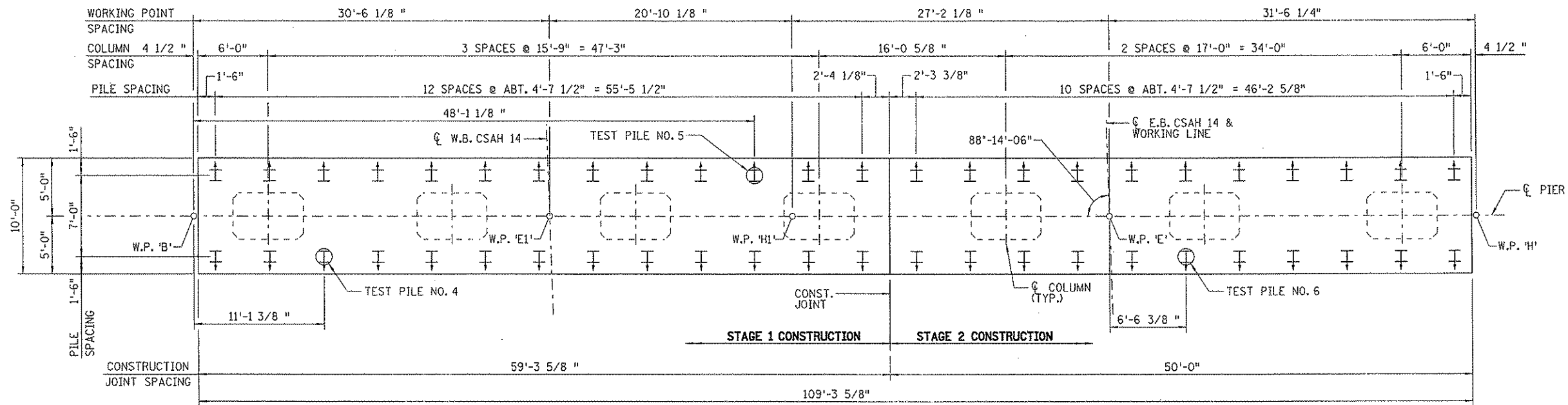
STATE PROJ. NO.
02-614-28
 BRIDGE NO.
02812

DRAWN BY
J. HOFFMAN
 DESIGNED BY
D. ROTHSTEIN
 CHECKED BY
K. SWEHLA
 COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
 EAST ABUTMENT DETAILS
 (SHEET 5 OF 5)

SHEET
B15
OF
B49



FOOTING PLAN

PIER COMPUTED PILE LOAD - TONS/PILE	
FACTORED DEAD LOAD	117.8
FACTORED LIVE LOAD	12.9
FACTORED OVERTURNING	8.9
* FACTORED DESIGN LOAD	139.6

* BASED ON STRENGTH I LOAD COMBINATION

PIER REQUIRED NOMINAL PILE BEARING RESISTANCE R_n - TONS/PILE		
FIELD CONTROL METHOD	Φ dyn	* R_n
Mn/DOT NOMINAL RESISTANCE FORMULA	0.40	349.0
PDA	0.65	214.8

* R_n = FACTORED DESIGN LOAD / Φ dyn

PILE NOTES:

- 3 - HP 12x53 TEST H-PILES, 70 FEET LONG.
- 45 - HP 12x53 H-PILES, ESTIMATED LENGTH 60 FEET LONG.
- 48 - HP 12x53 H-PILES REQUIRED FOR PIER.

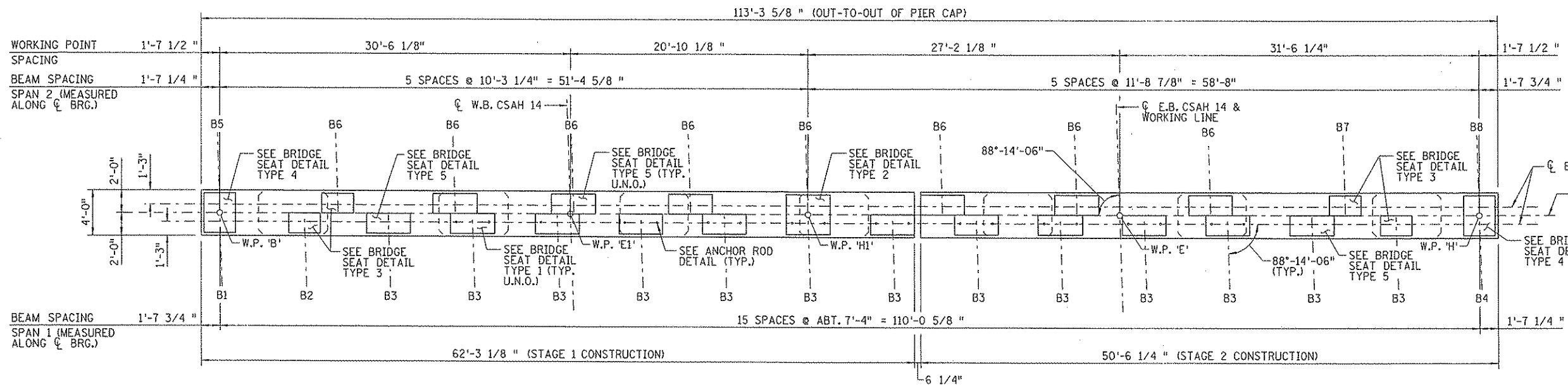
PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
PILES MARKED THUS \perp SHALL BE BATTERED 2" PER FOOT IN THE DIRECTION SHOWN.

FOR PILE SPLICE, SEE DETAIL B202.
ALL PILES TO BE HP 12x53 AND SHALL HAVE PILE TIP PROTECTION 12".

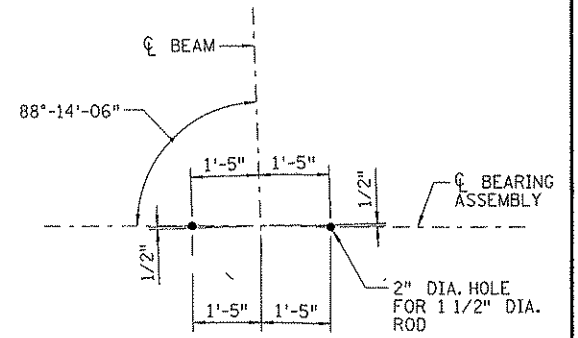
SUMMARY OF QUANTITIES : PIER		
ITEM	UNIT	QUANTITY
STRUCTURAL CONCRETE (1A43)	CU. YD.	142
STRUCTURAL CONCRETE (3Y43)	CU. YD.	259
REINFORCEMENT BARS	POUND	15010
REINFORCEMENT BARS (EPOXY COATED)	POUND	32450
STEEL H-PILING DRIVEN 12"	LIN. FT.	2700
STEEL H-PILING DELIVERED 12"	LIN. FT.	2700
STEEL H-TEST PILE 70 FEET LONG 12"	EACH	3
PILE TIP PROTECTION 12"	EACH	48
ARCHITECTURAL SURFACE FINISH (SINGLE COLOR)	SQ. FT.	484
ARCHITECTURAL CONCRETE TEXTURE (BUSH HAMMER)	SQ. FT.	484

6:53:34 AM 4/9/2009 H:\p\ol\6509\br\final\plan\6509_p1r01.dgn

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: KEVIN L. SWEHLA <i>Kevin L. Swehla</i> Date: 4/15/09 License #: 42791				STATE PROJ. NO. 02-614-28 BRIDGE NO. 02812	DRAWN BY E. JOHNSON DESIGNED BY D. ROTHSTEIN CHECKED BY K. SWEHLA COMM. NO. 6509	SRF CONSULTING GROUP, INC.	ANOKA COUNTY CSAH 14 OVER I-35E PIER DETAILS (SHEET 1 OF 5)	SHEET B16 OF B49
REVISION NO. DATE BY CKD APPR								

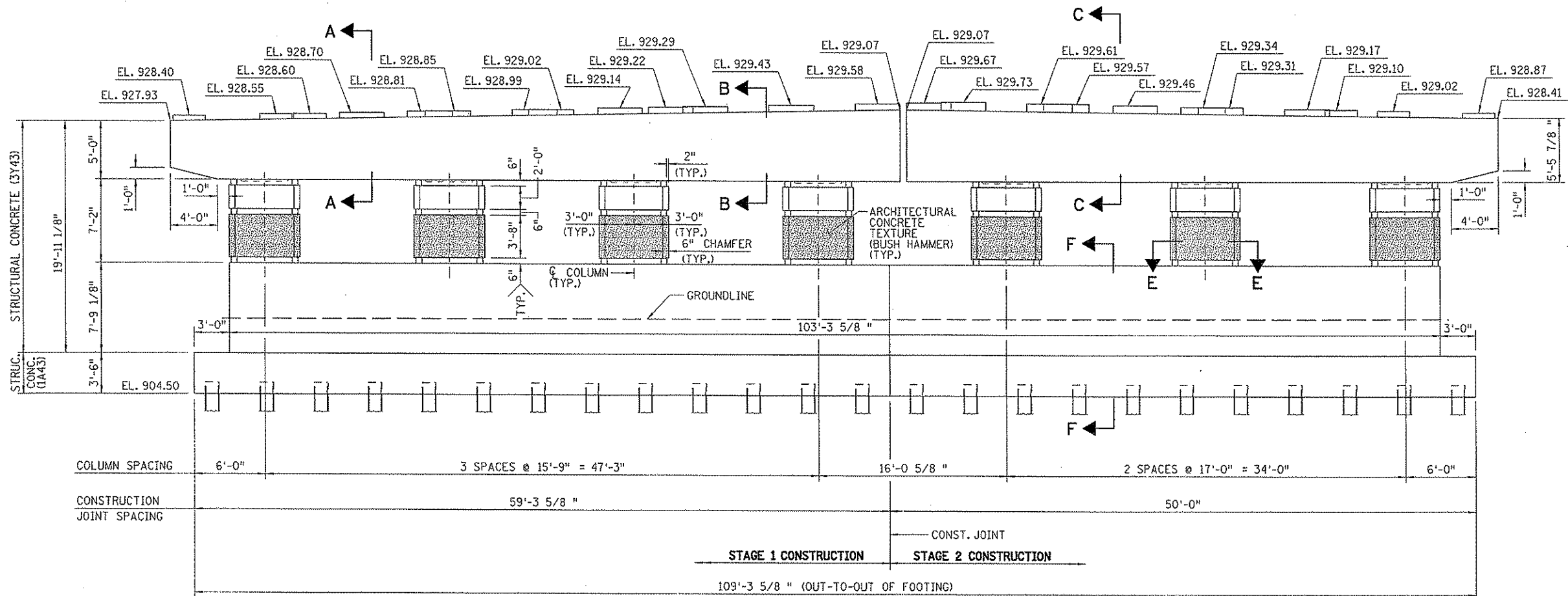


PLAN

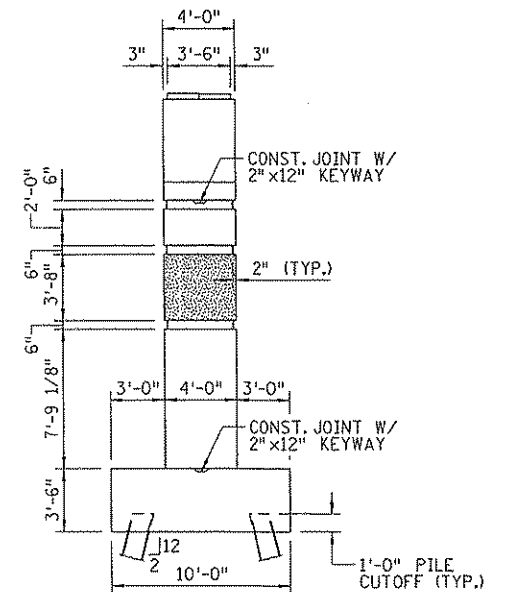


ANCHOR ROD LAYOUT (FOR BEARING F-1)

- NOTES:**
1. U.N.O. DENOTES UNLESS NOTED OTHERWISE.



ELEVATION



TYPICAL COLUMN VIEW

4/15/09 4:48:20 PM h:\proj\acs\6509\br\Final\p1an\6509_p1r02.dgn

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: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License #: 42791

STATE PROJ. NO.
02-614-28
 BRIDGE NO.
02812

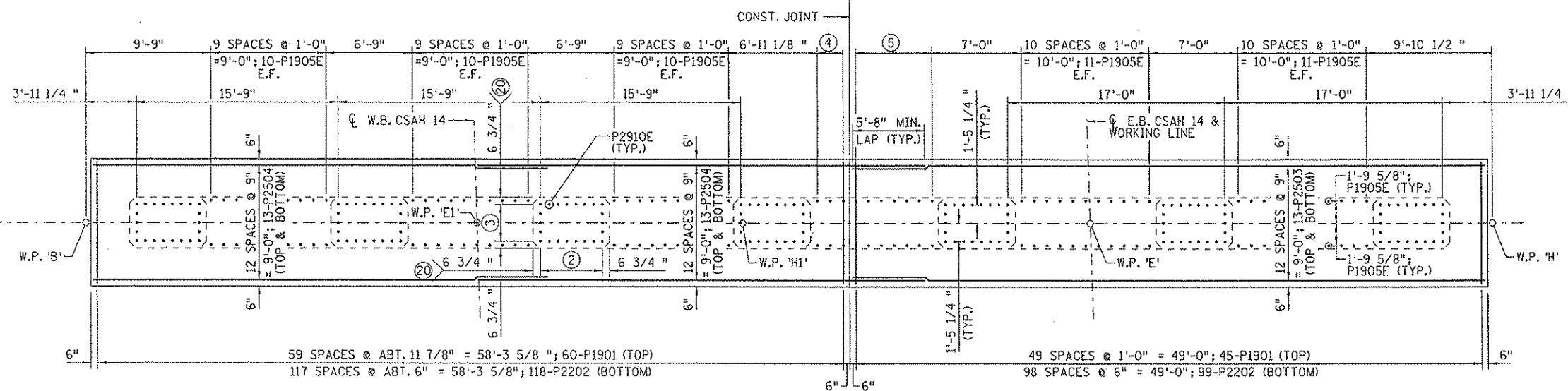
DRAWN BY
E. JOHNSON
 DESIGNED BY
D. ROTHSTEIN
 CHECKED BY
K. SWEHLA
 COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
 PIER DETAILS
 (SHEET 2 OF 5)

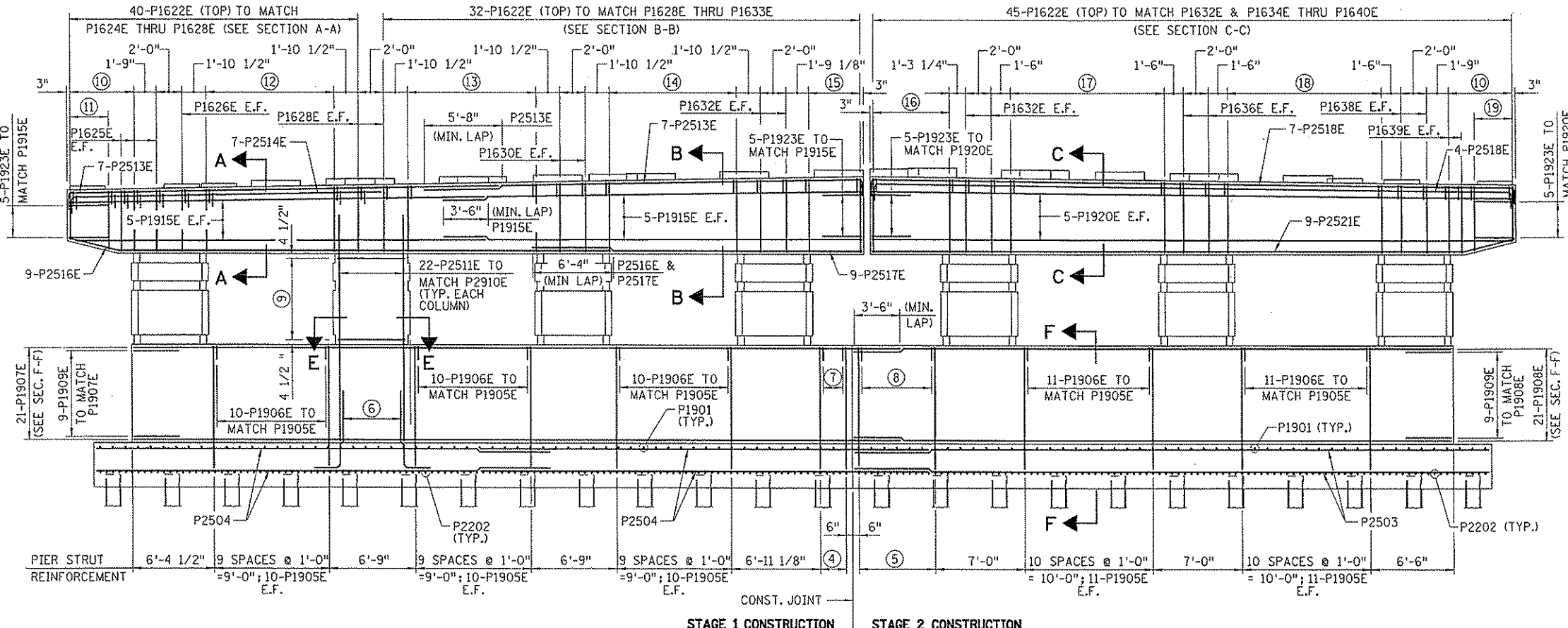
SHEET
B17
OF
B49

STAGE 1 CONSTRUCTION STAGE 2 CONSTRUCTION

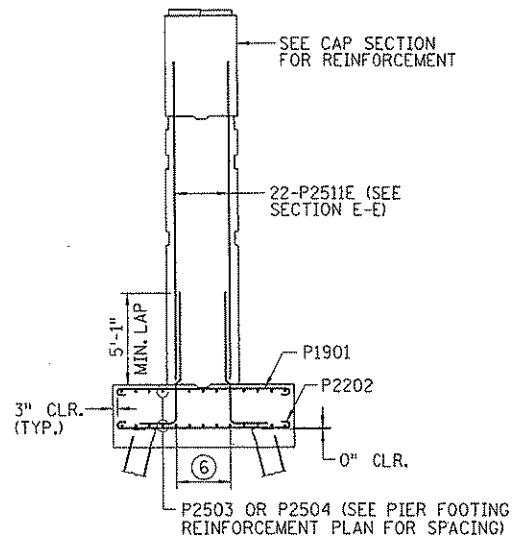


PIER FOOTING REINFORCEMENT PLAN

- NOTES:**
1. E.F. DENOTES EACH FACE
F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE
 - ② 7 SPACES @ 8 3/8" = 4'-10 1/2"
 - ③ 4 SPACES @ 8 5/8" = 2'-10 1/2"
 - ④ 2 SPACES @ 1'-0" = 2'-0"; 3-P1905E E.F.
 - ⑤ 6 SPACES @ 1'-0" = 6'-0"; 7-P1905E E.F.
 - ⑥ 22-P2910E (TYP. EACH COLUMN) - (SEE SECTION E-E).
 - ⑦ 3-P1906E TO MATCH P1905E.
 - ⑧ 7-P1906E TO MATCH P1905E.
 - ⑨ 7 SPACES @ 11" = 6'-5"; 8-P1612E & 16-P1319E (TYP. EACH COLUMN) (SEE SECTION E-E).
 - ⑩ 5 SPACES @ 1'-0" = 5'-0"
 - ⑪ 4-P1624E E.F.
 - ⑫ 10 SPACES @ 1'-0" = 10'-0"; 11-P1627E E.F.
 - ⑬ 10 SPACES @ 1'-0" = 10'-0"; 11-P1629E E.F.
 - ⑭ 10 SPACES @ 1'-0" = 10'-0"; 11-P1631E E.F.
 - ⑮ 4 SPACES @ 1'-0" = 4'-0"; 5-P1633E E.F.
 - ⑯ 6 SPACES @ 1'-0" = 6'-0"; 7-P1634E E.F.
 - ⑰ 12 SPACES @ 1'-0" = 12'-0"; 13-P1635E E.F.
 - ⑱ 12 SPACES @ 1'-0" = 12'-0"; 13-P1637E E.F.
 - ⑲ 4-P1640E E.F.
 - ⑳ TYP. EACH COLUMN.



REINFORCEMENT ELEVATION



TYPICAL SECTION THRU COLUMN
(HORIZONTAL REINFORCEMENT IN STRUT AND COLUMN NOT SHOWN FOR CLARITY)

6:53:38 AM 4/9/2009 ... \br\l\an\p\an\6509_p1r03.dgn

NO.	DATE	BY	CHKD	APPR	REVISION

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Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License #: 42791

STATE PROJ. NO.
02-614-28

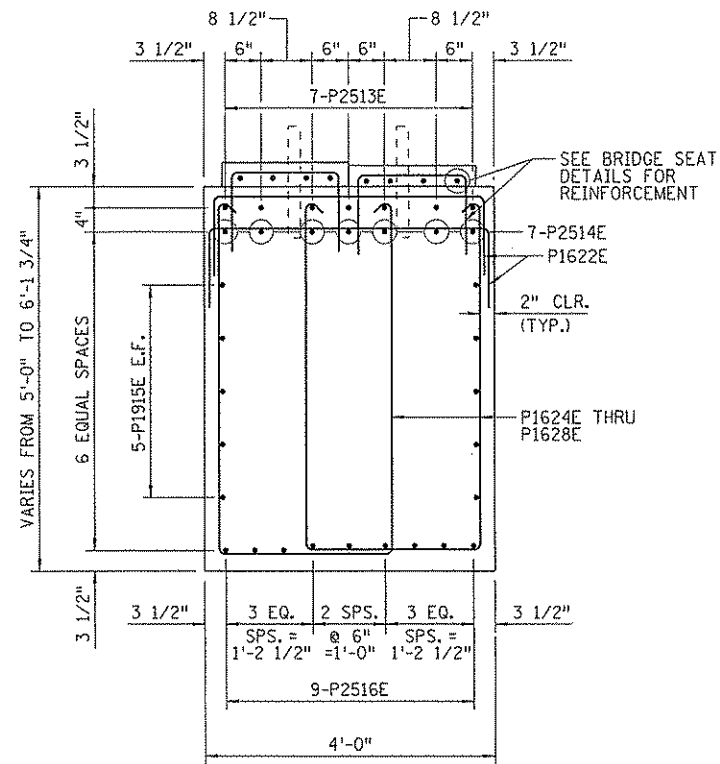
BRIDGE NO.
02812

COMM. NO. 6509

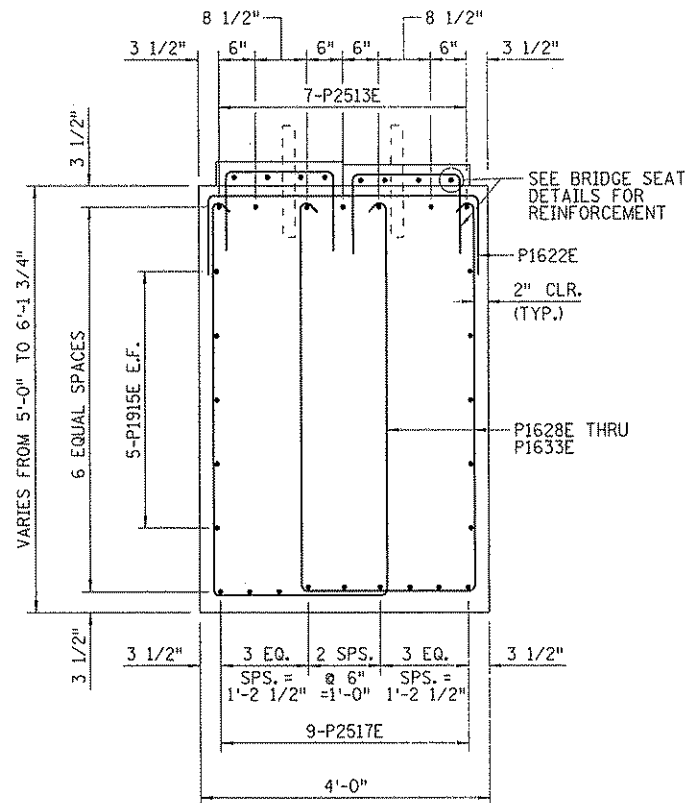


ANOKA COUNTY
CSAH 14 OVER I-35E
PIER DETAILS
(SHEET 3 OF 5)

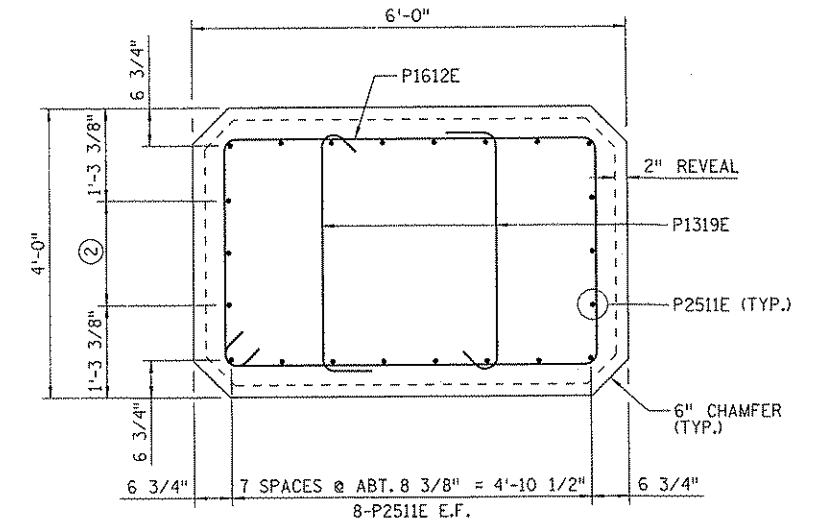
SHEET
B18
OF
B49



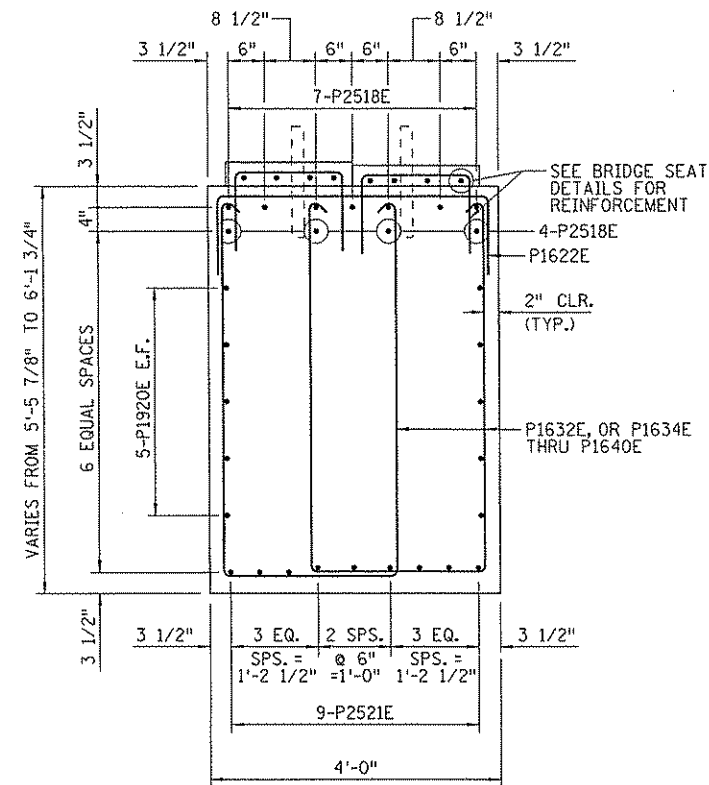
SECTION A-A



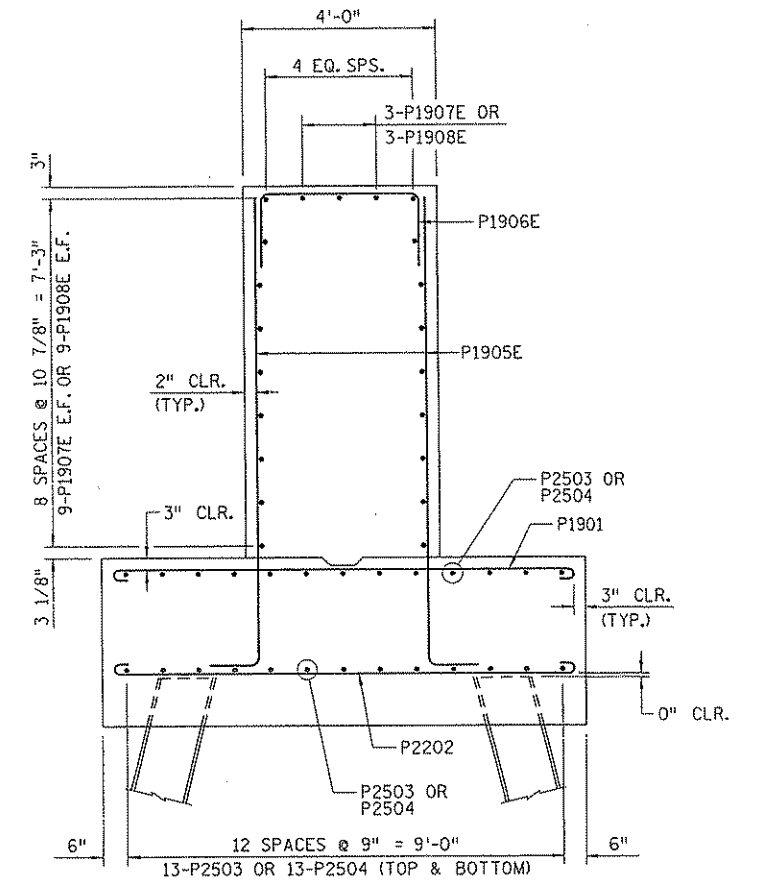
SECTION B-B



SECTION E-E
(P2910E DOWELS TO MATCH P2511E SPACING)



SECTION C-C



SECTION F-F

NOTES:

1. E.F. DENOTES EACH FACE.
- ② 2 SPACES @ 8 5/8" = 1'-5 1/4"; 3-P2511E E.F.

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NO	DATE	BY	CKD	APPR	REVISION

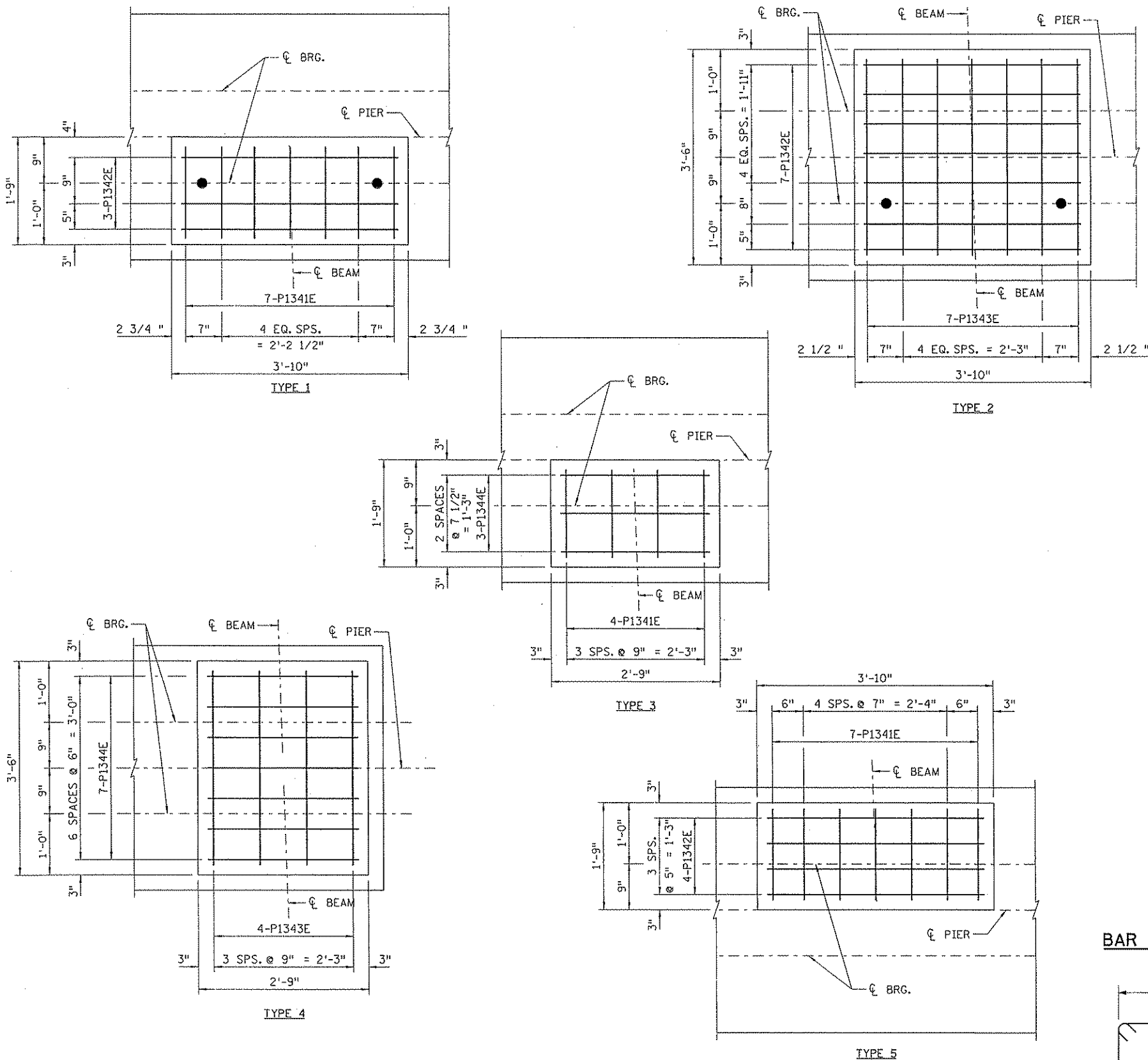
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 Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License #: 42791

STATE PROJ. NO.
02-614-28
 BRIDGE NO.
02812
 DRAWN BY
E. JOHNSON
 DESIGNED BY
D. ROTHSTEIN
 CHECKED BY
K. SWEHLA
 COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
 PIER DETAILS
 (SHEET 4 OF 5)

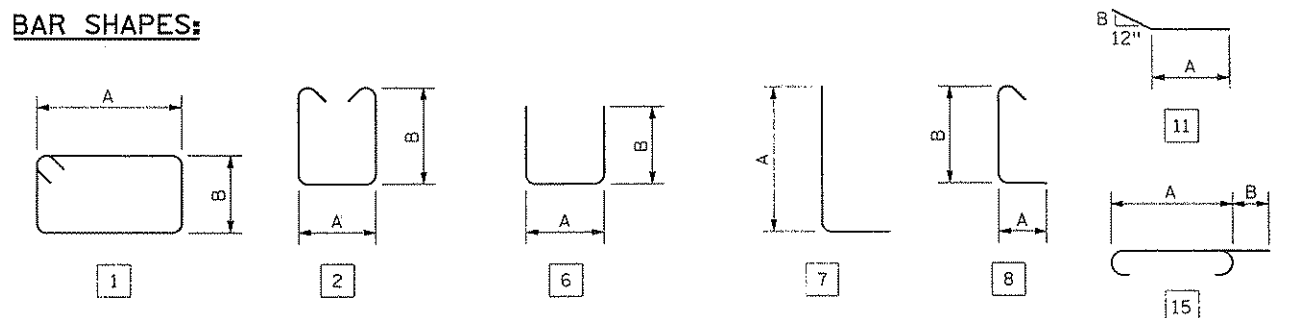
SHEET
B19
OF
B49



BRIDGE SEAT DETAILS

MARK	NO	SIZE	LENGTH [FT-IN]	SHAPE	DIMENSION [FT-IN]			LOCATION
					A	B	C	
P1901	105	19	10 - 10	15	9 - 6	0 - 8	-	FOOTING
P2202	217	22	11 - 2	15	9 - 6	0 - 10	-	FOOTING
P2503	26	25	49 - 6	STR	-	-	-	FOOTING
P2504	52	25	35 - 4	STR	-	-	-	FOOTING
P1905E	124	19	10 - 11	7	9 - 11	-	-	STRUT DOWEL
P1906E	62	19	5 - 8	6	3 - 8	1 - 0	-	STRUT TOP
P1907E	21	19	60 - 0	STR	-	-	-	STRUT HORIZ.
P1908E	21	19	46 - 8	STR	-	-	-	STRUT HORIZ.
P1909E	18	19	10 - 6	6	3 - 6	3 - 6	-	STRUT END
P2910E	154	29	9 - 1	7	7 - 6	-	-	COLUMN DOWEL
P2511E	154	25	18 - 6	STR	-	-	-	COLUMN VERT.
P1612E	56	16	17 - 7	1	5 - 2	3 - 2	-	COLUMN TIE
P2513E	14	25	35 - 2	7	33 - 10	-	-	CAP HORIZ.
P2514E	7	25	25 - 4	7	24 - 0	-	-	CAP HORIZ.
P1915E	20	19	32 - 9	STR	-	-	-	CAP HORIZ.
P2516E	9	25	42 - 8	11	38 - 8	0 - 3	-	CAP HORIZ.
P2517E	9	25	25 - 9	STR	-	-	-	CAP HORIZ.
P2518E	11	25	52 - 10	6	50 - 2	1 - 4	-	CAP HORIZ.
P1319E	112	13	3 - 11	8	0 - 5	3 - 2	-	COLUMN TIE
P1920E	10	19	50 - 2	STR	-	-	-	CAP HORIZ.
P2521E	9	25	50 - 3	11	46 - 3	0 - 3	-	CAP HORIZ.
P1622E	117	16	6 - 8	6	3 - 8	1 - 6	-	CAP TOP
P1923E	20	19	6 - 6	6	3 - 6	1 - 6	-	CAP END
P1624E	2 SER. OF 4	16	10 - 7	2	2 - 4	3 - 8	-	CAP STIRRUP
P1625E	6	16	12 - 9	2	2 - 4	4 - 9	-	CAP STIRRUP
P1626E	2	16	12 - 11	2	2 - 4	4 - 10	-	CAP STIRRUP
P1627E	2 SER. OF 11	16	12 - 11	2	2 - 4	4 - 10	-	CAP STIRRUP
P1628E	4	16	13 - 5	2	2 - 4	5 - 1	-	CAP STIRRUP
P1629E	2 SER. OF 11	16	13 - 5	2	2 - 4	5 - 1	-	CAP STIRRUP
P1630E	4	16	13 - 11	2	2 - 4	5 - 4	-	CAP STIRRUP
P1631E	2 SER. OF 11	16	14 - 1	2	2 - 4	5 - 5	-	CAP STIRRUP
P1632E	8	16	14 - 7	2	2 - 4	5 - 8	-	CAP STIRRUP
P1633E	2 SER. OF 5	16	14 - 7	2	2 - 4	5 - 8	-	CAP STIRRUP
P1634E	2 SER. OF 7	16	14 - 9	2	2 - 4	5 - 9	-	CAP STIRRUP
P1635E	2 SER. OF 13	16	14 - 3	2	2 - 4	5 - 6	-	CAP STIRRUP
P1636E	4	16	14 - 1	2	2 - 4	5 - 5	-	CAP STIRRUP
P1637E	2 SER. OF 13	16	13 - 9	2	2 - 4	5 - 3	-	CAP STIRRUP
P1638E	4	16	13 - 9	2	2 - 4	5 - 3	-	CAP STIRRUP
P1639E	4	16	13 - 7	2	2 - 4	5 - 2	-	CAP STIRRUP
P1640E	2 SER. OF 4	16	11 - 7	2	2 - 4	4 - 2	-	CAP STIRRUP
P1341E	135	13	4 - 5	6	1 - 5	1 - 6	-	BRIDGE SEAT
P1342E	63	13	6 - 6	6	3 - 6	1 - 6	-	BRIDGE SEAT
P1343E	15	13	6 - 2	6	3 - 2	1 - 6	-	BRIDGE SEAT
P1344E	26	13	5 - 5	6	2 - 5	1 - 6	-	BRIDGE SEAT

BAR SHAPES:



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NO	DATE	BY	CHKD	APPR	REVISION

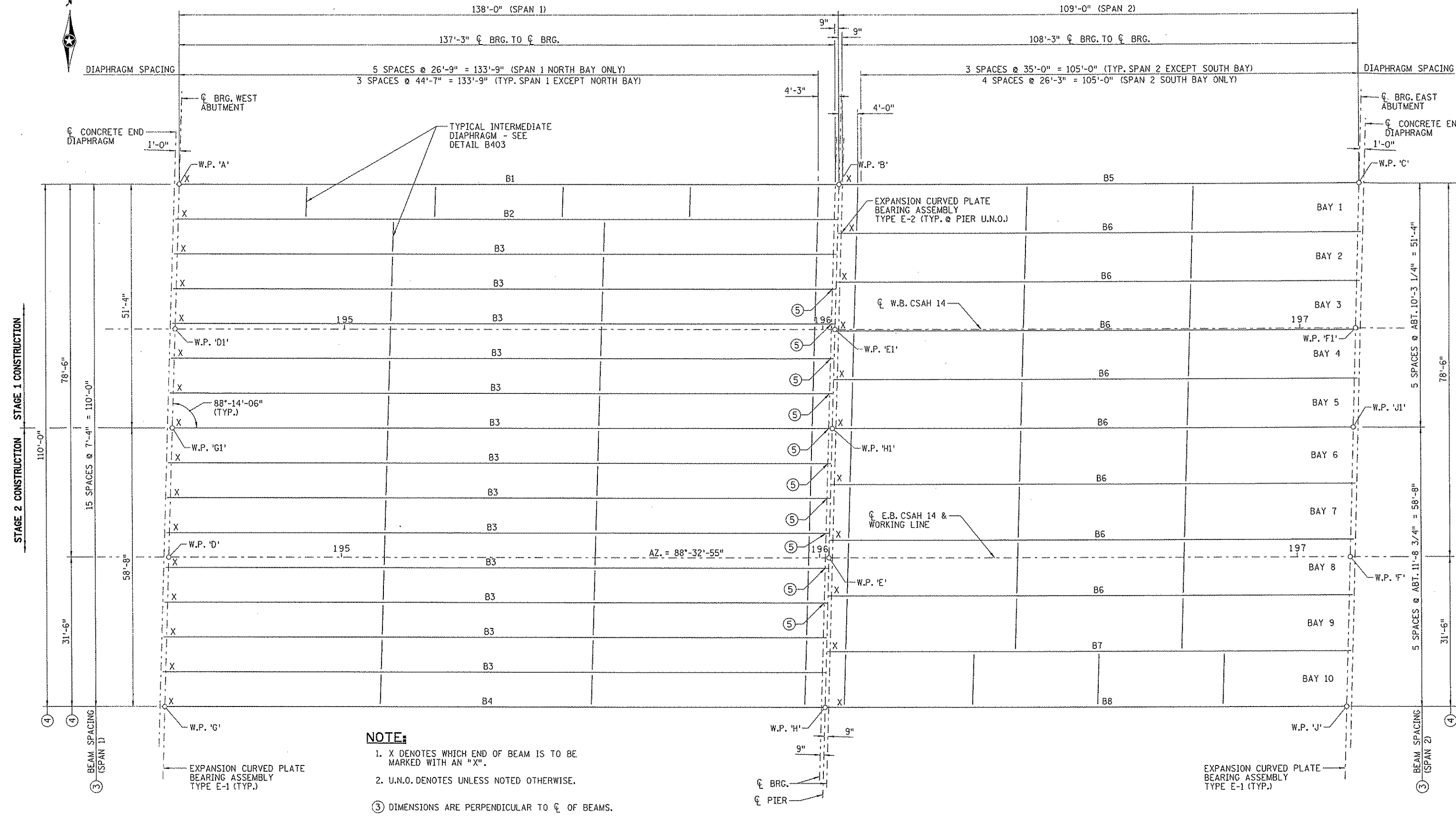
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License #: 42791

STATE PROJ. NO. 02-614-28
 BRIDGE NO. 02812
 DRAWN BY E. JOHNSON
 DESIGNED BY D. ROTHSTEIN
 CHECKED BY K. SWEHLA
 COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
 PIER DETAILS
 (SHEET 5 OF 5)

SHEET B20 OF B49



- NOTE:**
- X DENOTES WHICH END OF BEAM IS TO BE MARKED WITH AN "X".
 - U.N.O. DENOTES UNLESS NOTED OTHERWISE.
 - ③ DIMENSIONS ARE PERPENDICULAR TO ϕ OF BEAMS.
 - ④ DIMENSIONS ARE PERPENDICULAR TO WORKING LINE.
 - ⑤ FIXED CURVED PLATE BEARING ASSEMBLY TYPE F-1

FRAMING PLAN

8:48:47 AM 4/29/2009 D:\proj\brs\6509\br\final\plan\6509_sup01.dgn

NO	DATE	BY	CKD	APPR	REVISION

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Print Name: **KEVIN L. SWEHL**
Kevin L Swehle
 Date: **7/15/09** License #: **42791**

STATE PROJ. NO.
02-614-28

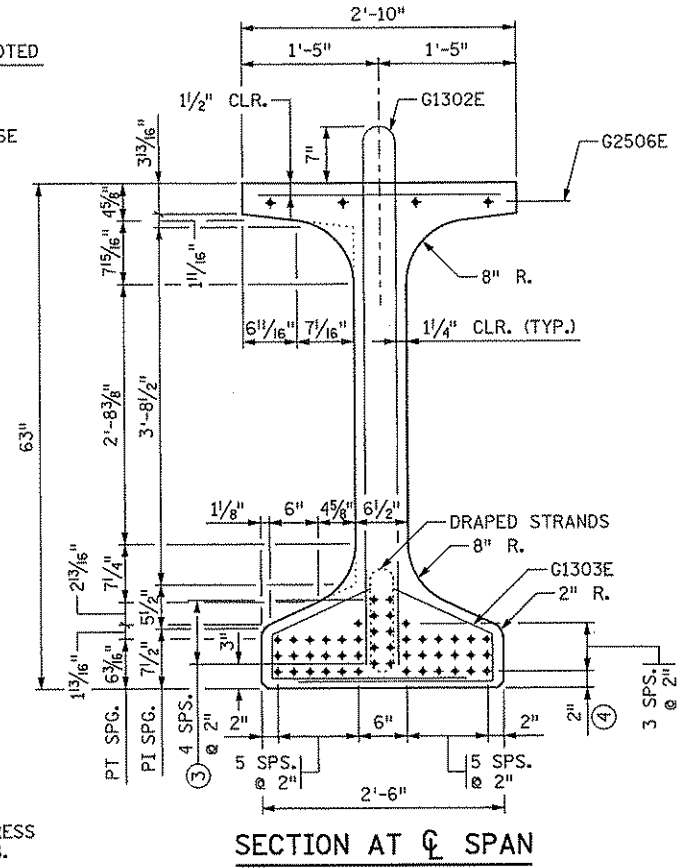
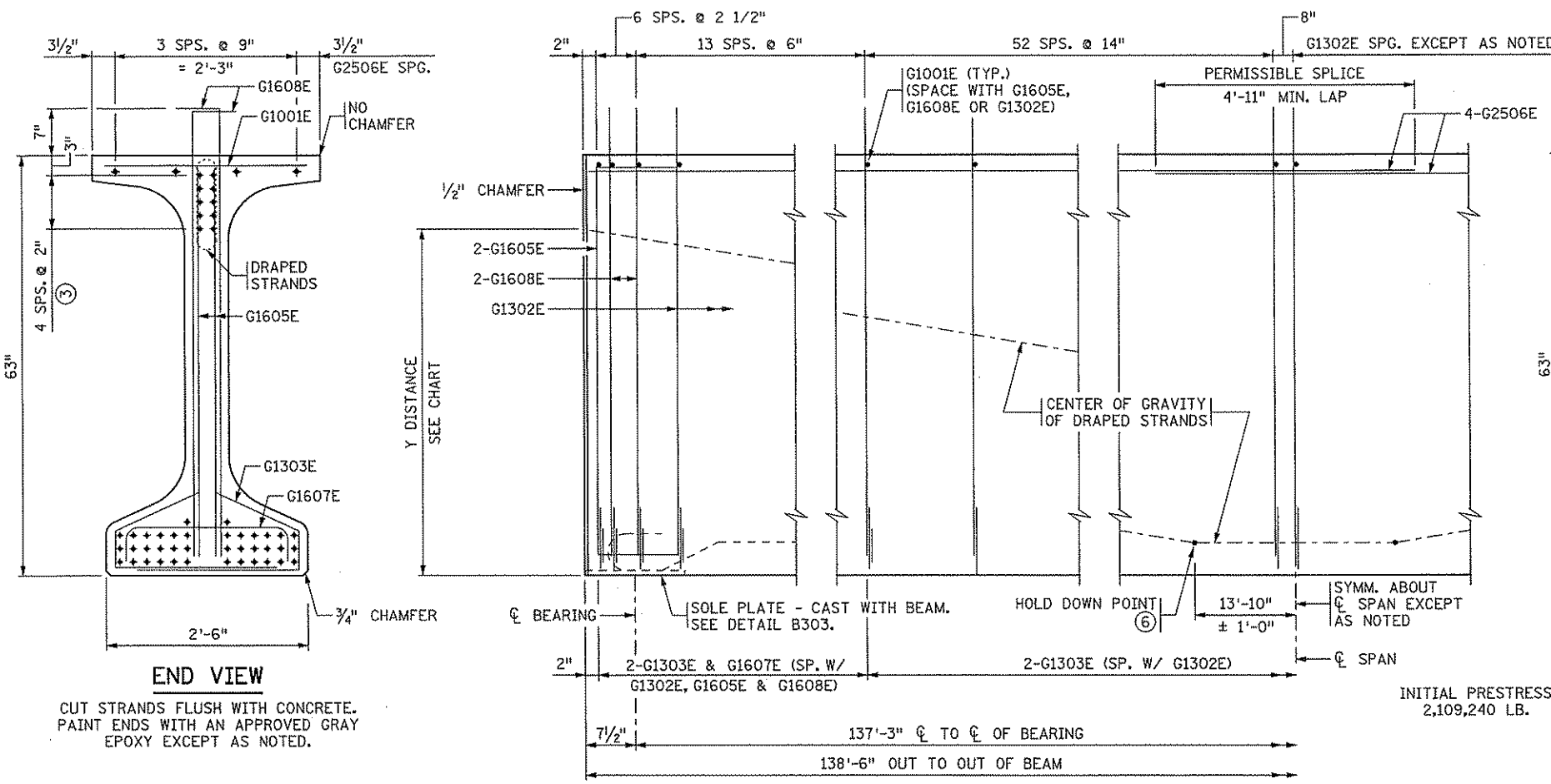
BRIDGE NO.
02812

COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
 FRAMING PLAN

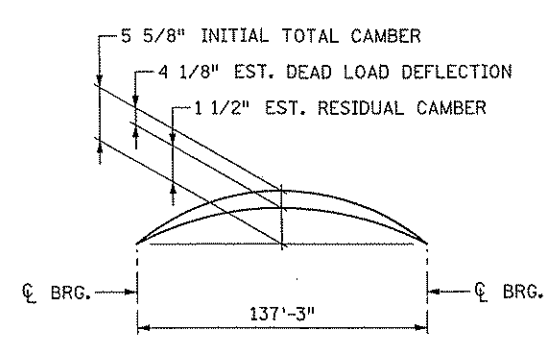
SHEET
B21
OF
B49



Y DISTANCES (IN INCHES)			
	NO.	Σ SPAN	END
STRAIGHT STRANDS	38	4.21	
DRAPED STRANDS	10	7.00	56
TOTAL STRANDS	48	4.79	

Y = DISTANCE TO CENTER OF GRAVITY OF STRANDS FROM BOTTOM OF BEAM. ALL STRANDS SPACED 2" CENTER TO CENTER, HORIZONTALLY AND VERTICALLY, EXCEPT AS NOTED.

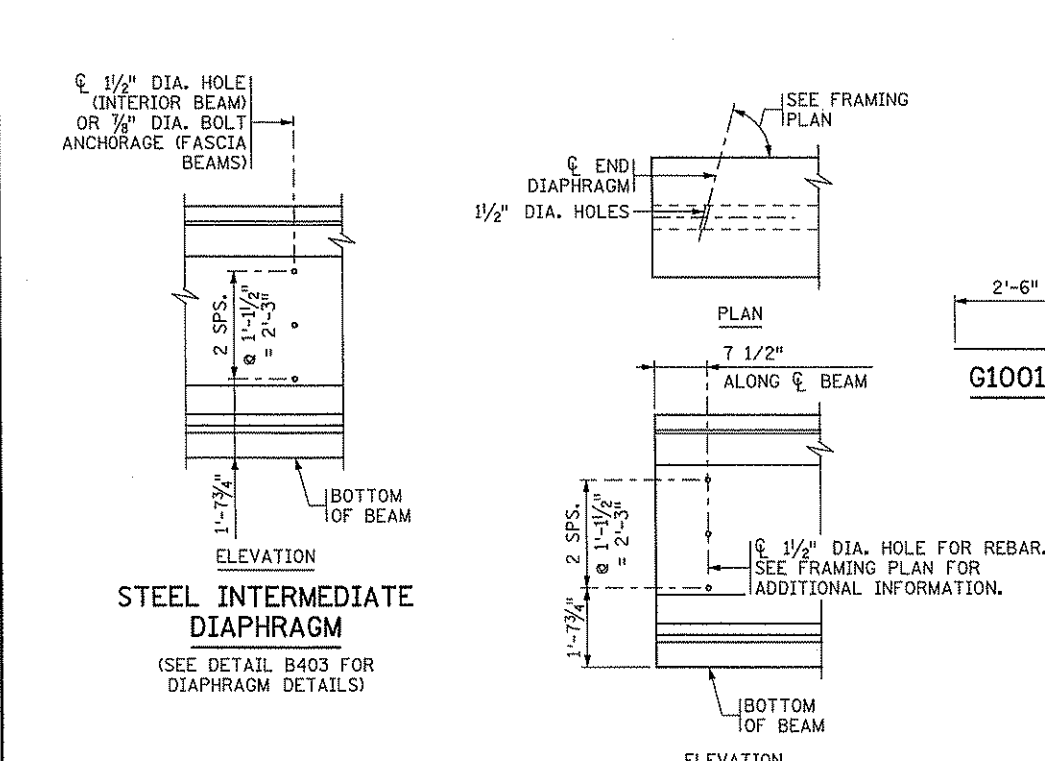
ⓐ A TOLERANCE OF ± 1" WILL BE PERMITTED IN THIS DIMENSION.



INITIAL CAMBER IS GIVEN AFTER DIAPHRAGMS ARE IN PLACE.

DEAD LOAD DEFLECTION SHOWN IS FOR WEIGHT OF SLAB, WEARING COURSE, RAILING, SIDEWALK AND MEDIAN WHERE APPLICABLE.

ENGINEER WILL TAKE ELEVATIONS AT TOP OF BEAMS AFTER ERECTION AND WILL ALLOW FOR DEFLECTION SHOWN TO ENABLE CONTRACTOR TO BUILD FORMS TO CORRECT GRADE AND SPECIFIED SLAB THICKNESS.



BEAM ELEVATION

SECTION AT CENTER SPAN

GENERAL NOTES

TOPS OF BEAMS SHALL BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BOND. PROVIDE HANDLING HOOKS OR DEVICES AS REQUIRED BY CONTRACTOR.

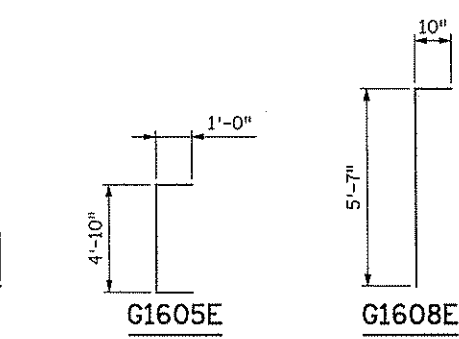
EACH BEAM SHALL BE MARKED, SHOWING BRIDGE NUMBER, CASTING DATE, AND INDIVIDUAL IDENTIFICATION LETTERS AND NUMBERS. MARKINGS SHALL BE MADE ON THE FACE OF THE BEAM, NEAR THE END, SO LOCATED THAT THEY WILL BE EXPOSED AFTER THE END DIAPHRAGMS HAVE BEEN CAST. FASCIA BEAMS SHALL BE MARKED ON THE INSIDE FACE. ALL MARKINGS SHALL BE STENCILED AND BE CLEARLY LEGIBLE. FOR LOCATION OF BEAMS, SEE FRAMING PLAN.

ALL MATERIAL AND WORK SHOWN OR NOTED ON THIS SHEET SHALL BE INCLUDED IN UNIT PRICE BID FOR PRESTRESSED CONCRETE BEAMS. SEE Mn/DOT SPEC. 2405.

SEE FRAMING PLAN FOR BEAM END MARKED "X" AND DIAPHRAGM SPACING. APPROXIMATE WEIGHT OF BEAM IS 61 TONS.

AS AN ALTERNATE TO THE DIAPHRAGM ANCHORAGES SHOWN, THE CONTRACTOR MAY SUBMIT DETAILS OF A CAST-IN-PLACE ANCHORAGE TO THE ENGINEER FOR APPROVAL. ANCHORAGE MUST PROVIDE AN ULTIMATE PULL OUT STRENGTH OF 15 KIPS PER ANCHORAGE.

- ① MINIMUM CONCRETE STRENGTH AT TIME OF PRESTRESS TRANSFER.
- ② MINIMUM CONCRETE STRENGTH WHEN BEAM CAN BE TRANSPORTED AND INSTALLED.
- ③ DRAPED STRANDS.
- ④ STRAIGHT STRANDS.
- ⑤ PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION STRAND, CONFORMING TO ASTM A416, GRADE 270.
- ⑥ CENTER OF GRAVITY OF HOLD DOWNS WHEN MULTIPLE HOLD DOWNS ARE USED.



MINIMUM CONCRETE STRENGTH - P.S.I.	
① f'cl	② f'c
6.9	7.4

PRESTRESSING STRAND DIAMETER
1/2" <input type="checkbox"/>
5/8" <input checked="" type="checkbox"/>

CALCULATED PRESTRESS LOSSES	
ELASTIC SHORTENING LOSS	22.5 KSI
LONG TERM LOSS	25.8 KSI
TOTAL	48.3 KSI

REVISED:
APPROVED: JUNE 14, 2006
David L. Bergman
STATE BRIDGE ENGINEER

BEAMS B1-B4
MODIFIED
FIG. 5-397.509

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: KEVIN L. SWEHLA
Kevin L. Swehla
Date: 7/15/09 License #: 42791

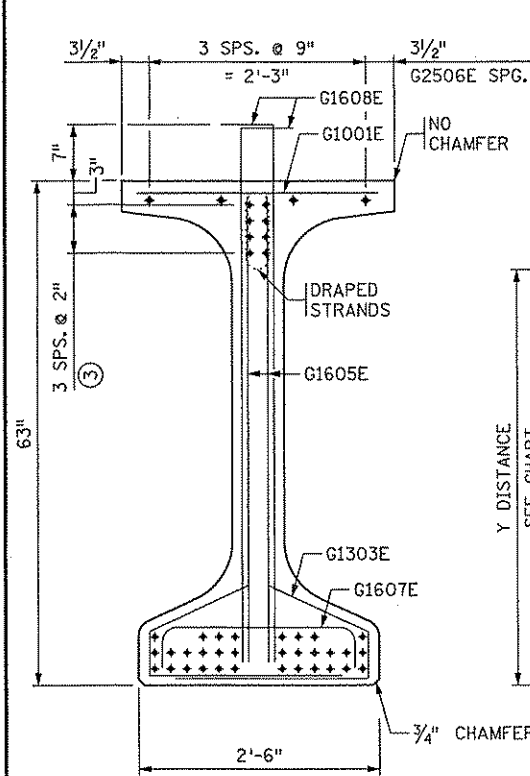
STATE PROJ. NO. 02-614-28
BRIDGE NO. 02812
DRAWN BY J. HOFFMAN
DESIGNED BY D. ROTHSTEIN
CHECKED BY K. SWEHLA
COMM. NO. 6509



ANOKA COUNTY
CSAH 14 OVER I-35E
MN63" PRESTRESSED CONCRETE BEAM (PRETENSIONED) MN63-139 (SHEET 1 OF 2)
SHEET B22 OF B49

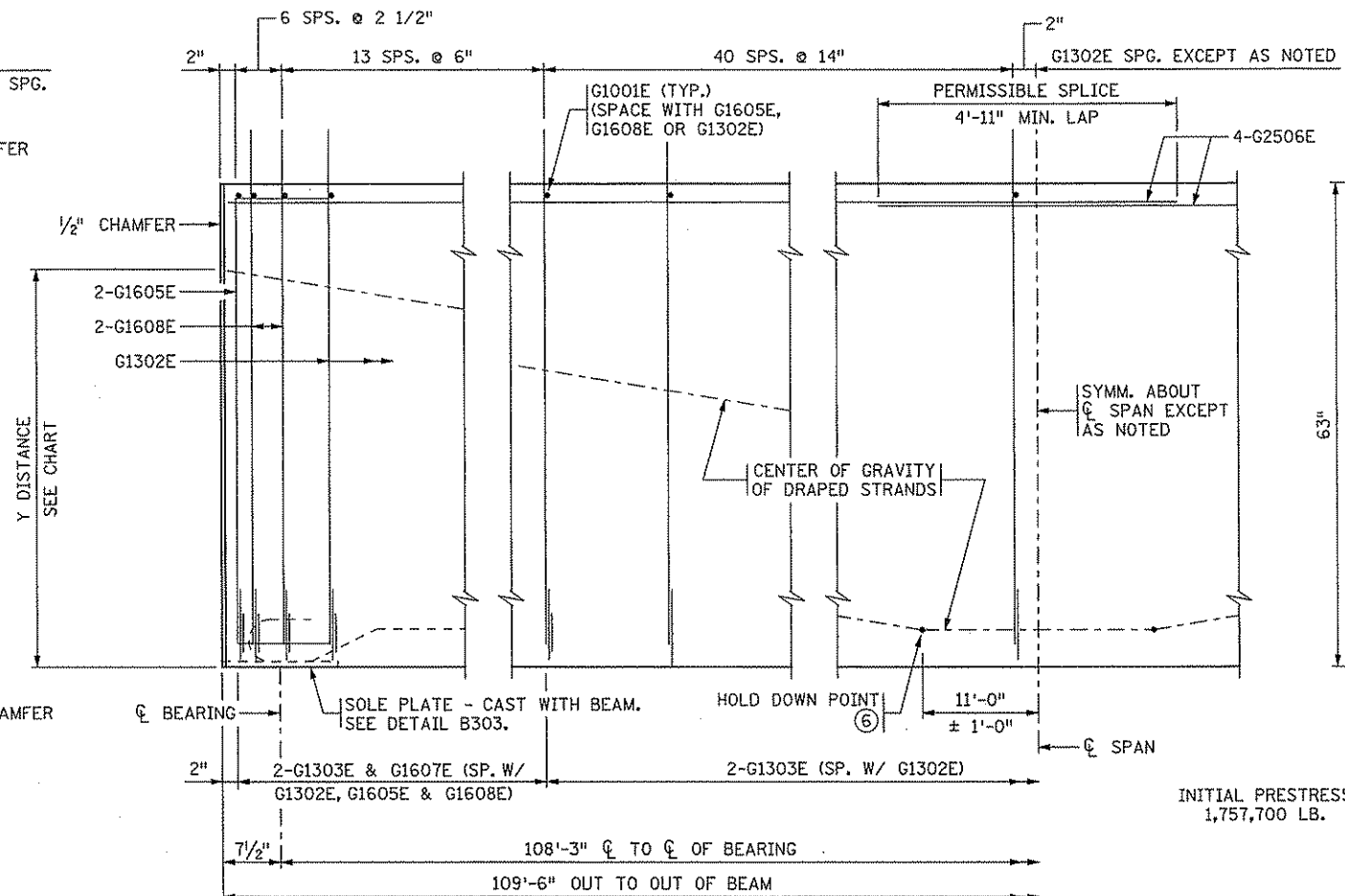
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NO.	DATE	BY	CHKD	APPR	REVISION



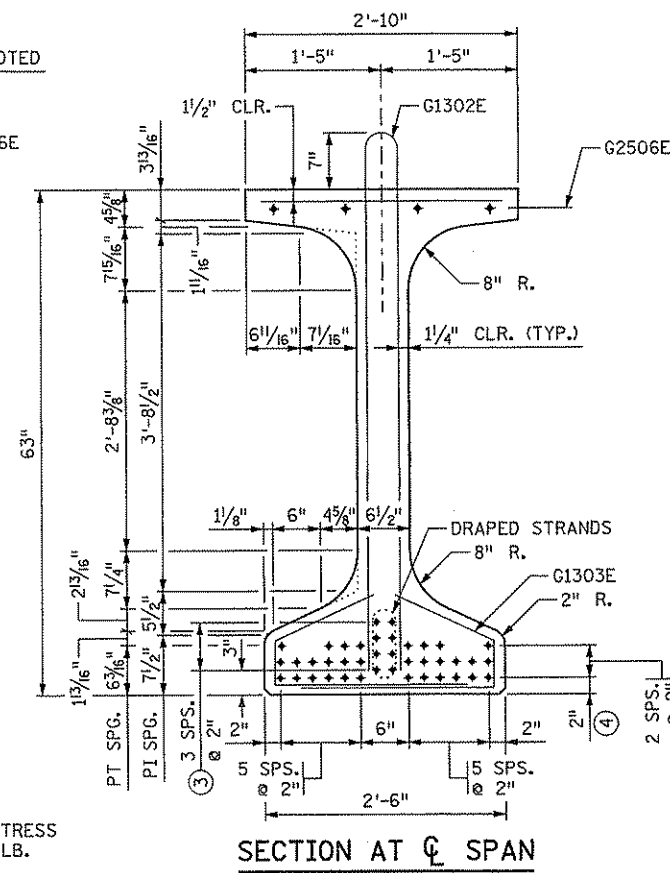
END VIEW

CUT STRANDS FLUSH WITH CONCRETE. PAINT ENDS WITH AN APPROVED GRAY EPOXY EXCEPT AS NOTED.



BEAM ELEVATION

INITIAL PRESTRESS 1,757,700 LB.

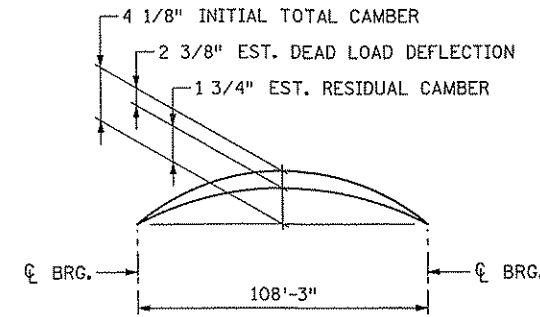


SECTION AT CL SPAN

Y DISTANCES (IN INCHES)			
	NO.	CL SPAN	END
STRAIGHT STRANDS	32	3.75	
DRAPED STRANDS	8	6.00	57
TOTAL STRANDS	40	4.20	

Y = DISTANCE TO CENTER OF GRAVITY OF STRANDS FROM BOTTOM OF BEAM. ALL STRANDS SPACED 2" CENTER TO CENTER, HORIZONTALLY AND VERTICALLY, EXCEPT AS NOTED.

A TOLERANCE OF ± 1" WILL BE PERMITTED IN THIS DIMENSION.

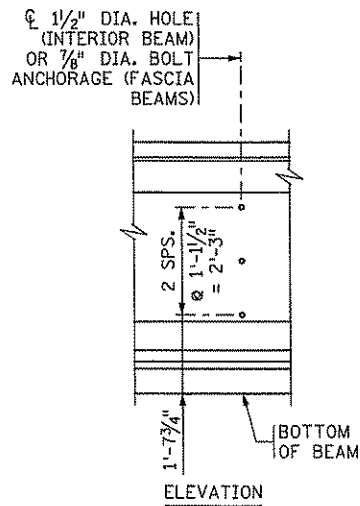


CAMBER DIAGRAM

INITIAL CAMBER IS GIVEN AFTER DIAPHRAGMS ARE IN PLACE.

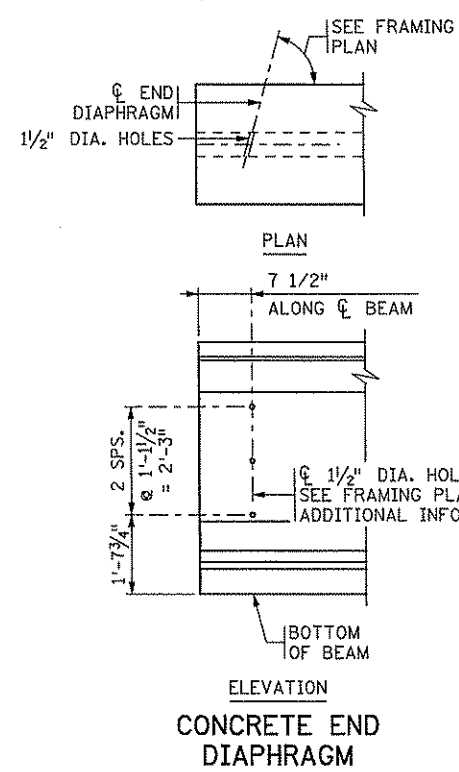
DEAD LOAD DEFLECTION SHOWN IS FOR WEIGHT OF SLAB, WEARING COURSE, RAILING, SIDEWALK AND MEDIAN WHERE APPLICABLE.

ENGINEER WILL TAKE ELEVATIONS AT TOP OF BEAMS AFTER ERECTION AND WILL ALLOW FOR DEFLECTION SHOWN TO ENABLE CONTRACTOR TO BUILD FORMS TO CORRECT GRADE AND SPECIFIED SLAB THICKNESS.

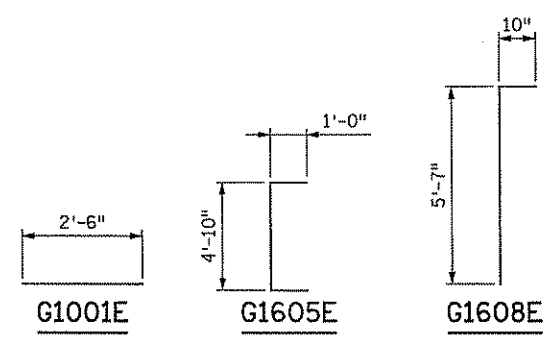


STEEL INTERMEDIATE DIAPHRAGM

(SEE DETAIL B403 FOR DIAPHRAGM DETAILS)



CONCRETE END DIAPHRAGM

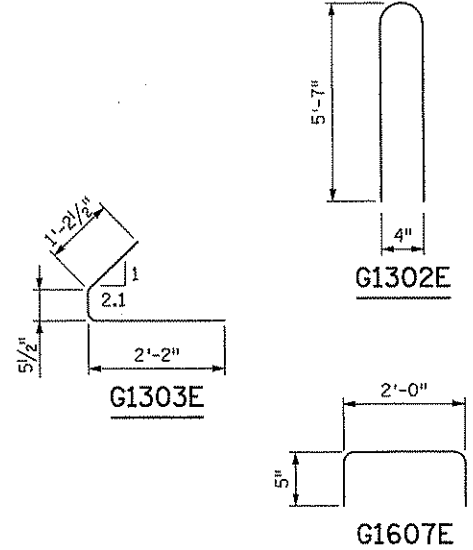


MINIMUM CONCRETE STRENGTH - P.S.I.

① f'cl	② f'c
6.0	6.5

PRESTRESSING STRAND DIAMETER

⑤ 1/2" □
0.60" ☒



CALCULATED PRESTRESS LOSSES

ELASTIC SHORTENING LOSS	22.4 KSI
LONG TERM LOSS	25.8 KSI
TOTAL	48.2 KSI

GENERAL NOTES

- TOPS OF BEAMS SHALL BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BOND. PROVIDE HANDLING HOOKS OR DEVICES AS REQUIRED BY CONTRACTOR.
- EACH BEAM SHALL BE MARKED, SHOWING BRIDGE NUMBER, CASTING DATE, AND INDIVIDUAL IDENTIFICATION LETTERS AND NUMBERS. MARKINGS SHALL BE MADE ON THE FACE OF THE BEAM, NEAR THE END, SO LOCATED THAT THEY WILL BE EXPOSED AFTER THE END DIAPHRAGMS HAVE BEEN CAST. FASCIA BEAMS SHALL BE MARKED ON THE INSIDE FACE. ALL MARKINGS SHALL BE STENCILED AND BE CLEARLY LEGIBLE. FOR LOCATION OF BEAMS, SEE FRAMING PLAN.
- ALL MATERIAL AND WORK SHOWN OR NOTED ON THIS SHEET SHALL BE INCLUDED IN UNIT PRICE BID FOR PRESTRESSED CONCRETE BEAMS. SEE Mn/DOT SPEC. 2405.
- SEE FRAMING PLAN FOR BEAM END MARKED "X" AND DIAPHRAGM SPACING.
- APPROXIMATE WEIGHT OF BEAM IS 48 TONS.

AS AN ALTERNATE TO THE DIAPHRAGM ANCHORAGES SHOWN, THE CONTRACTOR MAY SUBMIT DETAILS OF A CAST-IN-PLACE ANCHORAGE TO THE ENGINEER FOR APPROVAL. ANCHORAGE MUST PROVIDE AN ULTIMATE PULL OUT STRENGTH OF 15 KIPS PER ANCHORAGE.

- ① MINIMUM CONCRETE STRENGTH AT TIME OF PRESTRESS TRANSFER.
- ② MINIMUM CONCRETE STRENGTH WHEN BEAM CAN BE TRANSPORTED AND INSTALLED.
- ③ DRAPED STRANDS.
- ④ STRAIGHT STRANDS.
- ⑤ PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION STRAND, CONFORMING TO ASTM A416, GRADE 270.
- ⑥ CENTER OF GRAVITY OF HOLD DOWNS WHEN MULTIPLE HOLD DOWNS ARE USED.

REVISED:
APPROVED: JUNE 14, 2006
David A. Johnson
STATE BRIDGE ENGINEER

BEAMS B5-B8

MODIFIED
FIG. 5-397.509

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: KEVIN L. SWEHLA
Kevin L. Swehla
Date: 4/15/09 License: 42791

STATE PROJ. NO.
02-614-28
BRIDGE NO.
02812
DRAWN BY
J. HOFFMAN
DESIGNED BY
D. ROTHSTEIN
CHECKED BY
K. SWEHLA
COMM. NO. 6509



ANOKA COUNTY
CSAH 14 OVER I-35E
MN63" PRESTRESSED CONCRETE BEAM
(PRETENSIONED) MN63-110
(SHEET 2 OF 2)

SHEET
B23
OF
B49

6:53:46 AM 4/9/2009 ... \br\final\plan\6509_pcb02.dgn

250'-8" (OUT-TO-OUT OF DECK) ①

139'-10" (SPAN 1) ①

110'-10" (SPAN 2) ①

20'-0 1/8"

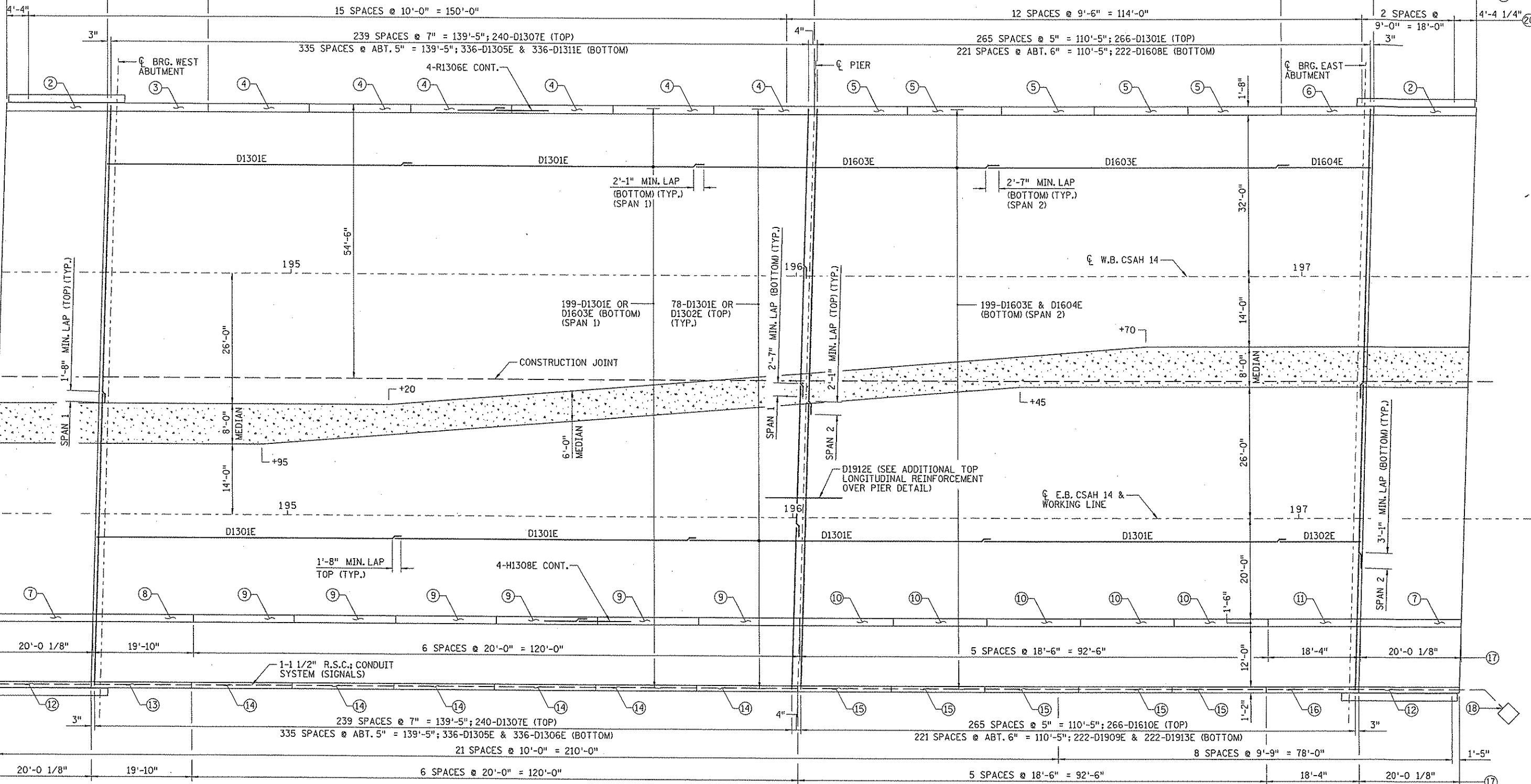
19'-10"

6 SPACES @ 20'-0" = 120'-0"

5 SPACES @ 18'-6" = 92'-6"

18'-4"

20'-0 1/8" ①⑦



- NOTES:**
- ① MEASURED ALONG EDGE OF DECK.
 - ② 26-R1601E, 24-R1602E, 1-R1603E, 1-R1604E, 1-R2205E, 2-R1308E & 2-R1311E.
 - ③ 22-R1601E, 22-R1602E & 4-R1307E.
 - ④ 22-R1601E, 22-R1602E & 4-R1308E.
 - ⑤ 21-R1601E, 21-R1602E & 4-R1309E.
 - ⑥ 21-R1601E, 21-R1602E & 4-R1310E.
 - ⑦ 26-H1601E, 24-H1602E, 1-H1603E, 1-H1604E, 1-H2205E, 2-H1306E, 2-H1307E & 2-H1310E.
 - ⑧ 22-H1601E, 22-H1602E & 4-H1309E.
 - ⑨ 22-H1601E, 22-H1602E & 4-H1310E.
 - ⑩ 21-H1601E, 21-H1602E & 4-H1311E.
 - ⑪ 21-H1601E, 21-H1602E & 4-H1312E.
 - ⑫ 25-F1601E & 6-F1302E.
 - ⑬ 24-F1601E & 6-F1303E.
 - ⑭ 24-F1601E & 6-F1302E.
 - ⑮ 22-F1601E & 6-F1304E.
 - ⑯ 22-F1601E & 6-F1305E.
 - ⑰ CONCRETE RAILING DEFLECTION JOINT SPACING. MEASURED ALONG EDGE OF RAILING.
 - ⑱ ORNAMENTAL METAL RAILING (TYPE SPECIAL). POST SPACING MEASURED ALONG C OF RAILING AT C OF POST. SEE ORNAMENTAL METAL RAILING (TYPE SPECIAL) DETAIL SHEETS. (POSTS NOT FOR CLARITY).
 - ⑲ ORNAMENTAL METAL RAILING (TYPE SPECIAL). POST SPACING MEASURED ALONG C OF RAILING AT C OF POST. SEE ORNAMENTAL METAL RAILING (TYPE SPECIAL) DETAIL SHEETS. (POSTS NOT FOR CLARITY).
 - ⑳ STRUCTURAL TUBE RAILING (DESIGN T-2) POST SPACING. MEASURED ALONG EDGE OF DECK. (POST NOT SHOWN FOR CLARITY).
 - ㉑ LONGITUDINAL DECK REINFORCEMENT LAP SPLICES SHALL BE STAGGERED, EVERY OTHER BAR.

BRIDGE DECK LAYOUT

11:09:56 AM 4/30/2009 ...\\brj\brj\6509\brj\final\plan\6509_sup02.dgn

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Pr Int Name: **KEVIN L. SWEHLA**

Kevin L Swehla

Date: **4/15/09** License #: **42791**

STATE PROJ. NO.
02-614-28

BRIDGE NO.
02812

DRAWN BY
J. HOFFMAN

DESIGNED BY
D. ROTHSTEIN

CHECKED BY
K. SWEHLA

COMM. NO. 6509



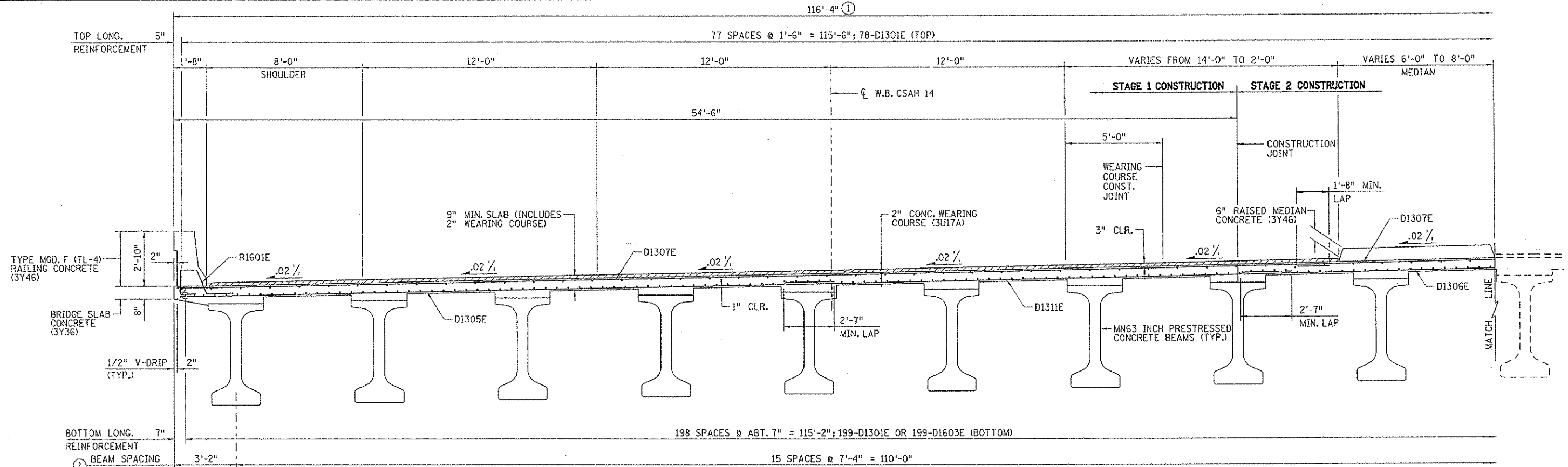
ANOKA COUNTY

CSAH 14 OVER I-35E

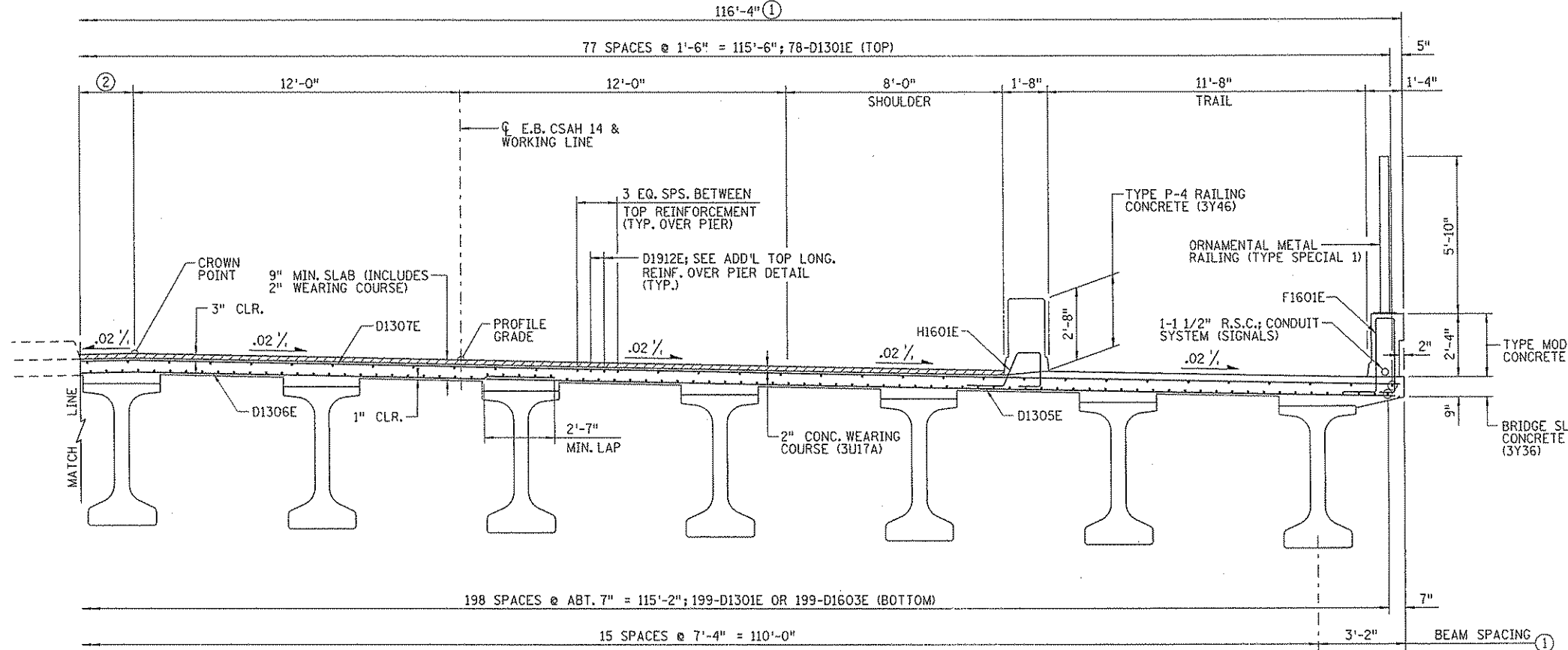
BRIDGE DECK DETAILS

(SHEET 1 OF 7)

SHEET
B24
OF
B49



PARTIAL TRANSVERSE SECTION - SPAN 1



PARTIAL TRANSVERSE SECTION - SPAN 1

- NOTES:**
- ① DIMENSION MEASURED PERPENDICULAR TO WORKING LINE.
 - ② VARIES FROM 2'-0" TO 14'-0".

6:53:50 AM
 4/9/2009
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NO	DATE	BY	CKD	APPR	REVISION

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Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License: 42791

STATE PROJ. NO.
02-614-28

BRIDGE NO.
02812

COMM. NO. 6509

DRAWN BY
J. HOFFMAN

DESIGNED BY
D. ROTHSTEIN

CHECKED BY
K. SWEHLA

SRF CONSULTING GROUP, INC.

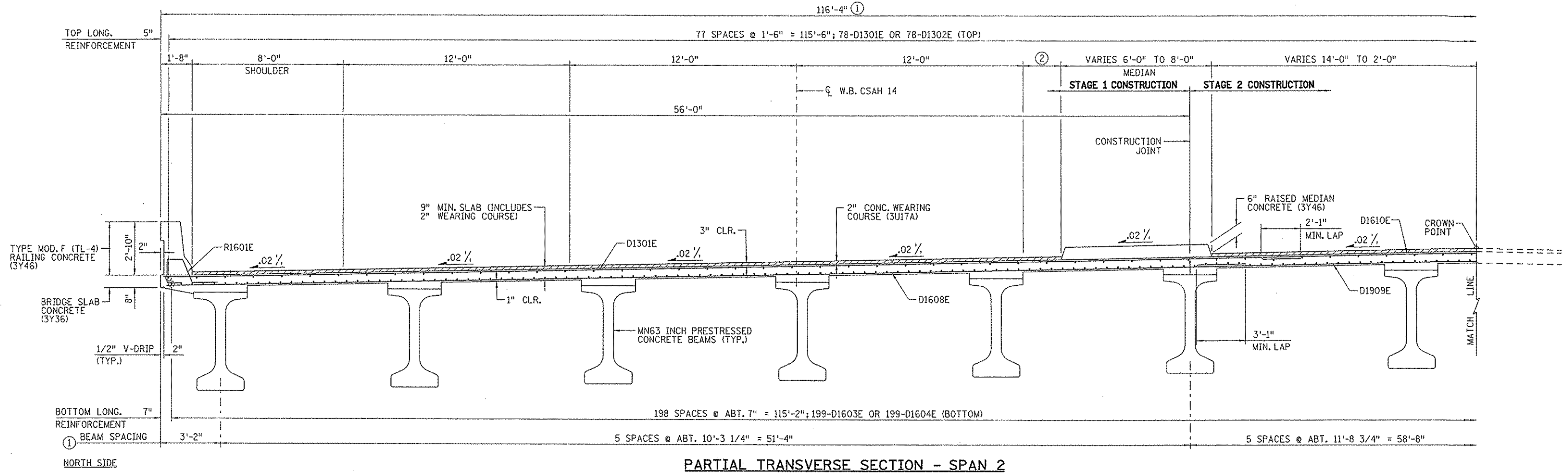
ANOKA COUNTY

CSAH 14 OVER I-35E

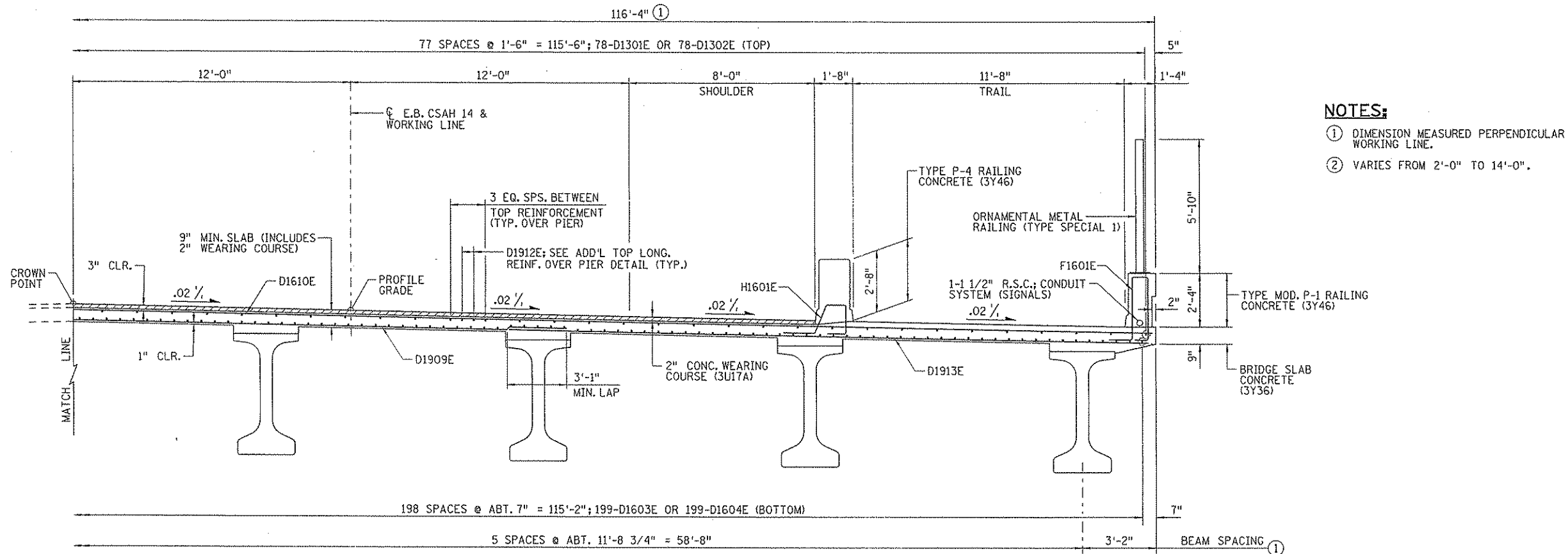
BRIDGE DECK DETAILS

(SHEET 2 OF 7)

SHEET
B25
OF
B49



PARTIAL TRANSVERSE SECTION - SPAN 2



PARTIAL TRANSVERSE SECTION - SPAN 2

- NOTES:**
- ① DIMENSION MEASURED PERPENDICULAR TO WORKING LINE.
 - ② VARIES FROM 2'-0" TO 14'-0".

6:53:51 AM 4/15/2009 ... \br\F\nd\plan\6509_sup04.dgn

NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: **KEVIN L. SWEHLA**
Kevin L Swehla
 Date: 4/15/09 License #: 42791

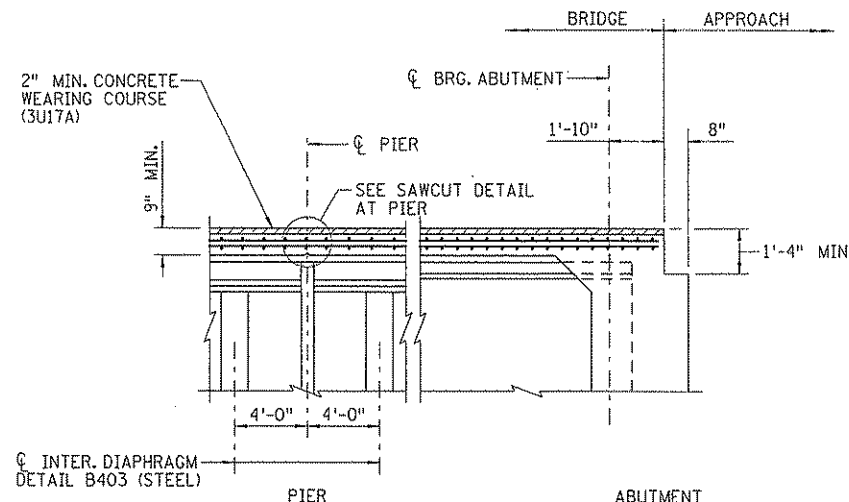
STATE PROJ. NO. 02-614-28
 BRIDGE NO. 02812

DRAWN BY J. HOFFMAN
 DESIGNED BY D. ROTHSTEIN
 CHECKED BY K. SWEHLA
 COMM. NO. 6509

SRF CONSULTING GROUP, INC.

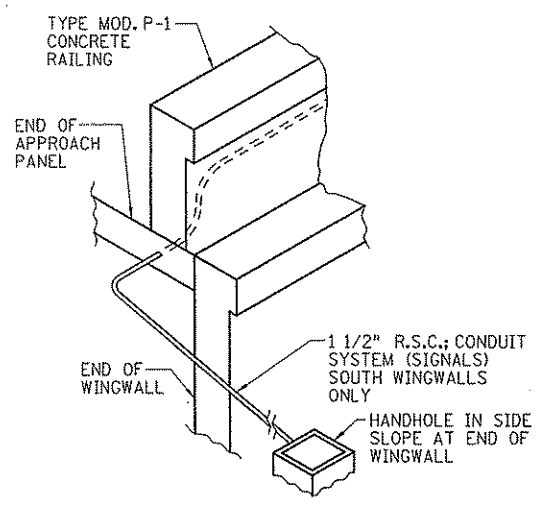
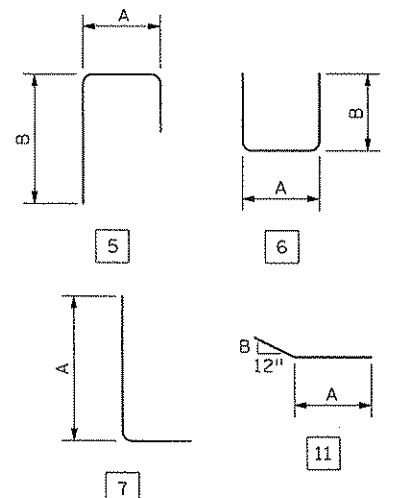
ANOKA COUNTY
 CSAH 14 OVER I-35E
 BRIDGE DECK DETAILS
 (SHEET 3 OF 7)

SHEET B26 OF B49



LONGITUDINAL SECTION
(DIMS. SHOWN ARE PERP. TO C BRG.)

BAR SHAPES:



CONDUIT DETAIL

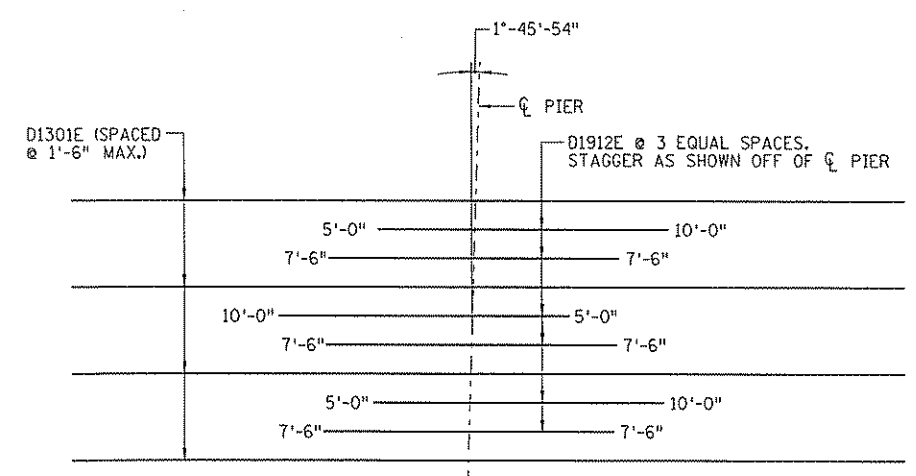
MARK	NO	SIZE	LENGTH [FT - IN]	SHAPE	DIMENSION [FT-IN]			LOCATION
					A	B	C	
D1301E	976	13	60 - 0	STR	-	-	-	TRANS. & LONG.
D1302E	78	13	17 - 0	STR	-	-	-	TOP LONG.
D1603E	398	16	60 - 0	STR	-	-	-	BOTTOM LONG.
D1604E	199	16	19 - 8	STR	-	-	-	BOTTOM LONG.
D1305E	672	13	33 - 6	STR	-	-	-	BOTTOM TRANS.
D1306E	336	13	30 - 4	STR	-	-	-	BOTTOM TRANS.
D1307E	480	13	59 - 0	STR	-	-	-	TOP TRANS.
D1608E	222	16	57 - 3	STR	-	-	-	BOTTOM TRANS.
D1909E	222	19	36 - 9	STR	-	-	-	BOTTOM TRANS.
D1610E	266	16	58 - 2	STR	-	-	-	BOTTOM TRANS.
D1311E	336	13	26 - 2	STR	-	-	-	BOTTOM TRANS.
D1912E	154	19	15 - 0	STR	-	-	-	OVER PIER
D1913E	222	19	28 - 0	STR	-	-	-	BOTTOM TRANS.
D1914E	30	19	4 - 2	STR	-	-	-	DIAPH. HORIZ.
D1915E	10	19	7 - 1	STR	-	-	-	DIAPH. HORIZ.
D1916E	10	19	8 - 6	STR	-	-	-	DIAPH. HORIZ.
D1917E	168	19	13 - 0	5	2 - 8	5 - 8	-	DIAPH. STIRRUPS
D1918E	308	19	5 - 11	7	4 - 8	-	-	DIAPH. VERT.
D1919E	168	19	5 - 9	11	4 - 9	1 - 0	-	DIAPH. DIAGONAL
D1920E	160	19	6 - 4	11	5 - 4	1 - 0	-	DIAPH. DIAGONAL
D1921E	81	19	6 - 0	STR	-	-	-	DIAPH. BEAMS
D1922E	276	19	8 - 11	6	0 - 11	4 - 0	-	DIAPH. STIRRUPS
D1923E	168	19	5 - 8	6	2 - 8	1 - 6	-	DIAPH. TIES
D1924E	216	19	8 - 0	6	1 - 6	3 - 3	-	DIAPH. TIES
D1925E	60	19	6 - 5	STR	-	-	-	DIAPH. HORIZ.
D1926E	20	19	9 - 4	STR	-	-	-	DIAPH. HORIZ.
D1927E	20	19	10 - 8	STR	-	-	-	DIAPH. HORIZ.
D1928E	28	19	58 - 2	STR	-	-	-	DIAPH. HORIZ.
D1929E	56	19	32 - 8	STR	-	-	-	DIAPH. HORIZ.

SUMMARY OF QUANTITIES : SUPERSTRUCTURE		
ITEM	UNIT	QUANTITY
7	BRIDGE SLAB CONCRETE (3Y36)	SQ. FT. 29162
4	TYPE MOD. P-1 (TL-2) RAILING CONCRETE (3Y46)	LIN. FT. 291
5	TYPE P-4 (TL-4) RAILING CONCRETE (3Y46)	LIN. FT. 291
6	TYPE MOD F (TL-4) RAILING CONCRETE(3Y46)	LIN. FT. 291
8	RAISED MEDIAN CONCRETE (3Y46)	SQ. FT. 2029
3	REINFORCEMENT BARS (EPOXY COATED)	POUND 210250
	BRIDGE DECK PLANING	SQ. FT. 25100
	ORNAMENTAL METAL RAILING TYPE SPECIAL	LIN. FT. 288
	STRUCTURAL TUBE RAILING DESIGN T-2	LIN. FT. 291
	BEARING ASSEMBLY	EACH 54
11	CONCRETE WEARING COURSE (3U17A)	SQ. FT. 27041
	PRESTRESSED CONCRETE BEAMS MN63	LIN. FT. 3421
	DIAPHRAGMS FOR TYPE MN63 PREST. CONCRETE BEAMS	LIN. FT. 687
10	FIXED CURVED PLATE BEARING ASSY., TYPE F-1	EACH 10
10	EXP. CURVED PLATE BEARING ASSY., TYPE E-1	EACH 44
2	BRIDGE NAMEPLATE	EACH 1
2	JOINT FILLER 1\"/>	

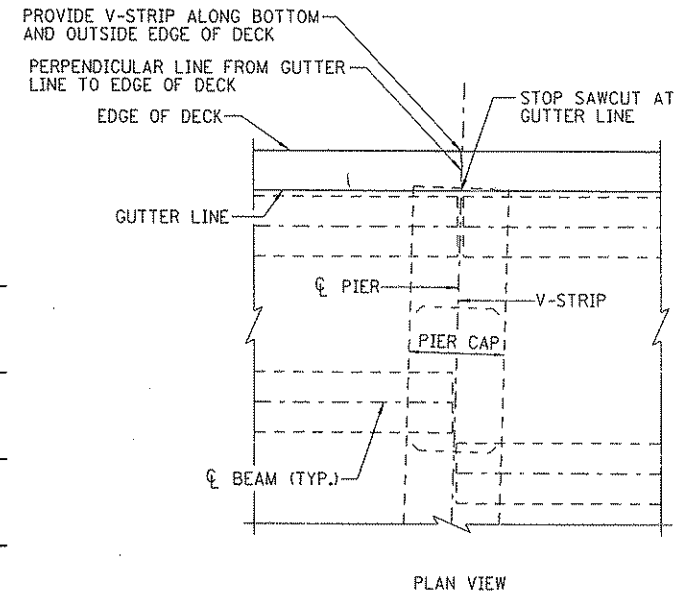
SUMMARY OF QUANTITIES NOTES:

- QUANTITIES LISTED ARE FOR INFORMATIONAL PURPOSES, ANY ADDITIONAL MINOR ITEMS OR SLIGHT CHANGES IN QUANTITIES REQUIRED SHALL BE FURNISHED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION.
- TO BE INCLUDED IN PRICE BID FOR RAILING CONCRETE.
- INCLUDES DECK, CONCRETE RAILING AND END DIAPHRAGM REINFORCEMENT.
- TYPE MOD. P-1 (TL-2) RAILING CONCRETE MIX NO. (3Y46) VOLUME IS APPROXIMATELY 27 CU. YDS.
- TYPE P-4 (TL-4) RAILING CONCRETE MIX NO. (3Y46) VOLUME IS APPROXIMATELY 42 CU. YDS.
- TYPE MOD. F (TL-4) RAILING CONCRETE MIX NO. (3Y46) VOLUME IS APPROXIMATELY 36 CU. YDS.
- BRIDGE SLAB CONCRETE (3Y36) VOLUME IS APPROXIMATELY 865 CU. YDS. USING AN AVERAGE STOOL HEIGHT OF 2 INCHES AND INCLUDES CONCRETE END DIAPHRAGMS.
- RAISED MEDIAN CONCRETE (3Y46) IS APPROXIMATELY 50 CU. YDS.
- PAYMENT FOR BEAMS INCLUDED IN ITEM "PRESTRESSED CONCRETE BEAMS MN63" PER LIN. FT.
- PAYMENT FOR BEARINGS INCLUDED IN ITEM "BEARING ASSEMBLY" PER EACH.
- CONCRETE WEARING COURSE TYPE (3U17A) VOLUME IS APPROXIMATELY 167 CU. YDS. WHICH INCLUDES 23 CU. YDS. FOR APPROACH PANELS.

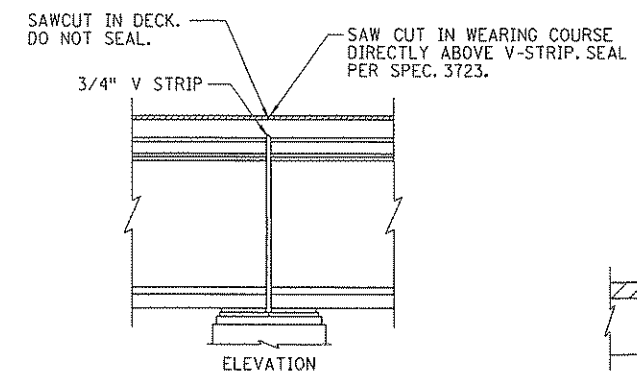
SUMMARY OF QUANTITIES : CONDUIT SYSTEM (SIGNALS) ①		
ITEM	UNIT	QUANTITY
1 1/2\"/>		



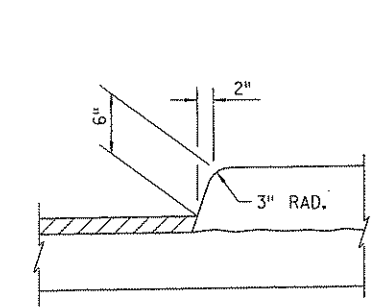
ADDITIONAL TOP LONGITUDINAL REINFORCEMENT OVER PIER



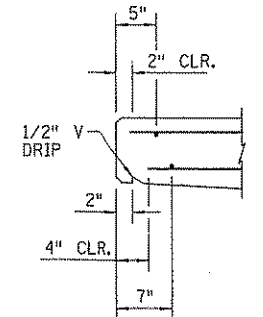
SAWCUT DETAIL AT PIER



ELEVATION



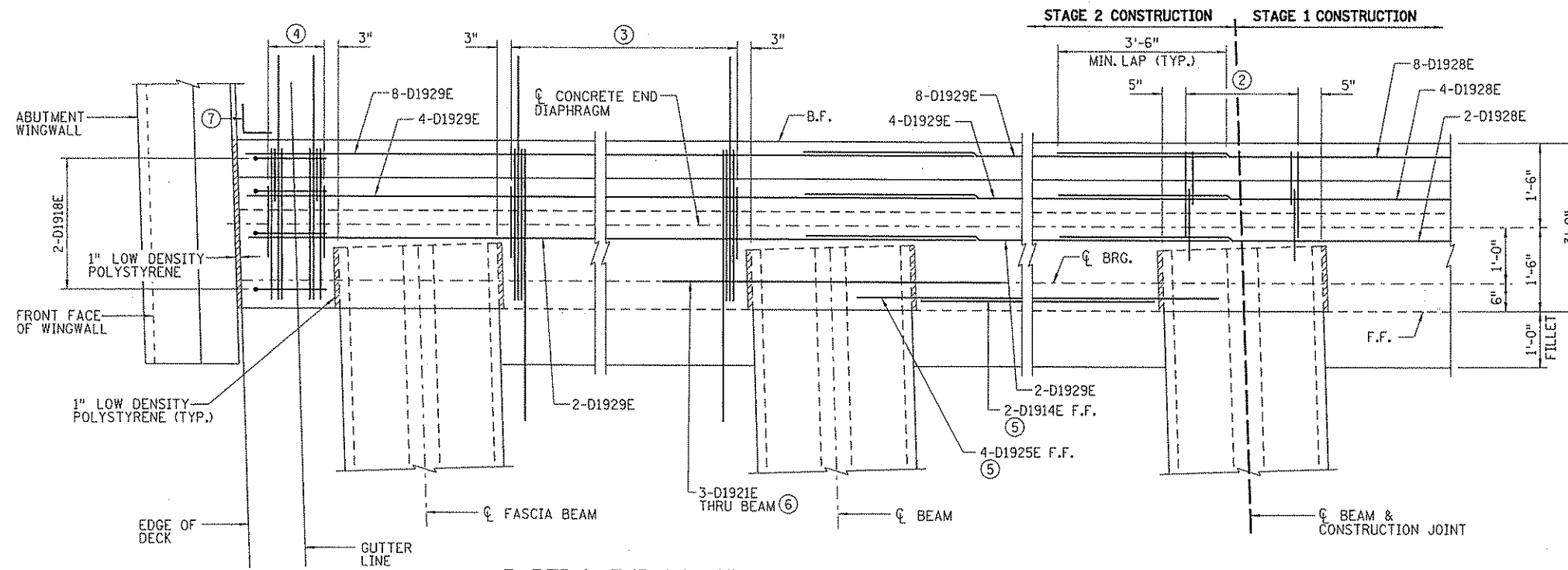
MEDIAN DETAIL



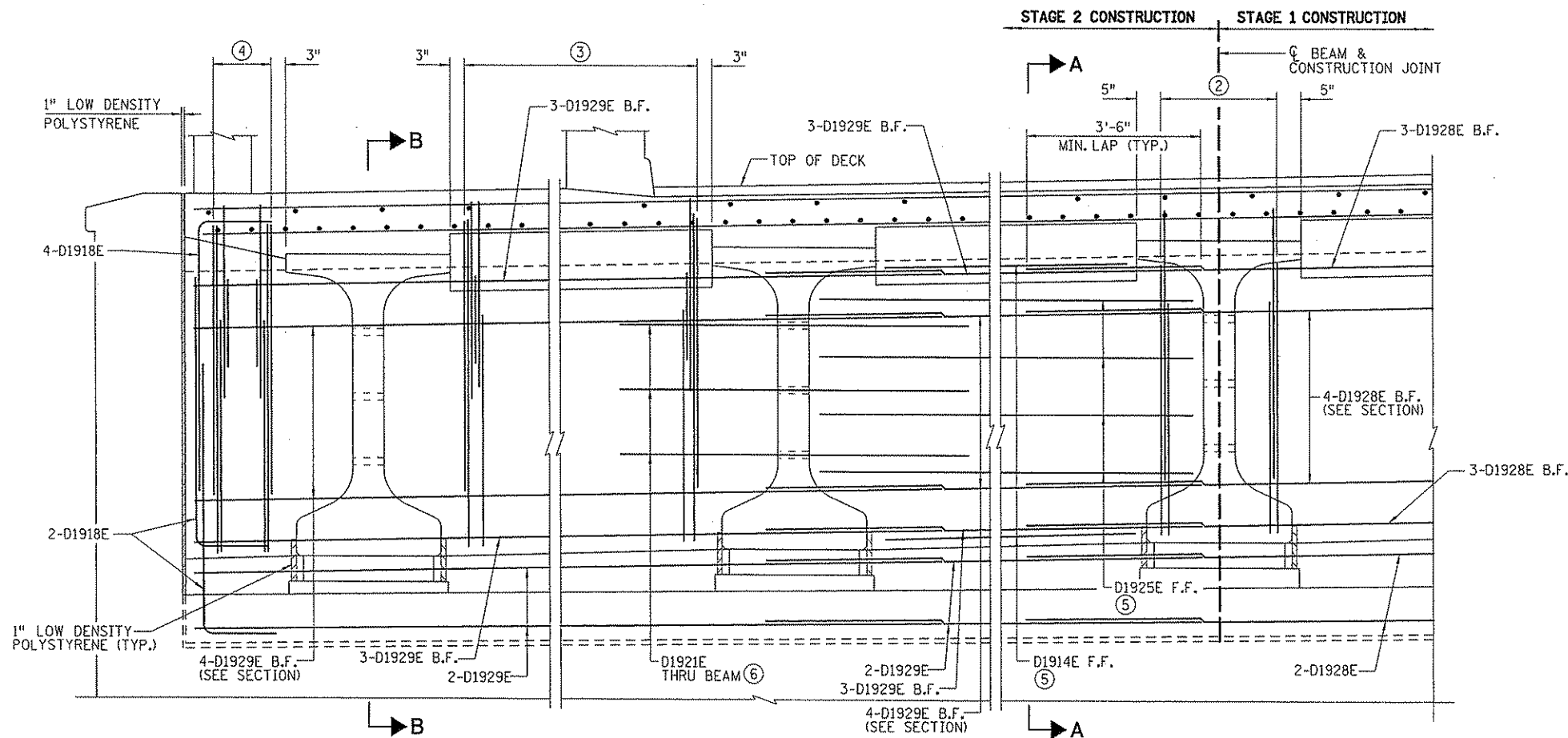
EDGE OF SLAB DETAIL

8:48:49 AM 4/9/2009 ... \br\fnai\plan\6509_sup05.dgn

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: KEVIN L. SWEHLA <i>Kevin L. Swehla</i> Date: 4/15/09 License #: 42791				STATE PROJ. NO. 02-614-28 BRIDGE NO. 02812	DRAWN BY J. HOFFMAN DESIGNED BY D. ROTHSTEIN CHECKED BY K. SWEHLA COMM. NO. 6509	SRF CONSULTING GROUP, INC.	ANOKA COUNTY CSAH 14 OVER I-35E BRIDGE DECK DETAILS (SHEET 4 OF 7)	SHEET B27 OF B49		
NO	DATE	BY	CHKD	APPR	REVISION					



PARTIAL END DIAPHRAGM PLAN AT WEST ABUTMENT
(SOUTH END OF DIAPHRAGM SHOWN, NORTH END SIMILAR)



PARTIAL END DIAPHRAGM ELEVATION AT WEST ABUTMENT
(SOUTH END OF DIAPHRAGM SHOWN, NORTH END SIMILAR)

NOTES

1. F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE
- ② 3 SPACES @ 8" = 2'-0"; 4-D1918E,
4-D1922E & 8-D1924E (TYP. @ EACH BEAM)
- ③ 4 SPACES @ 1'-0" = 4'-0"; 5-D1917E, 5-D1918E,
5-D1919E, 5-D1920E, 5-D1922E & 5-D1923E
(TYP. BETWEEN EACH BEAM)
- ④ 1'-0"; 2-D1917E, 2-D1918E, 2-D1919E,
2-D1922E, & 2-D1923E (TYP. @ EACH FASCIA)
- ⑤ TYP. BETWEEN EACH BEAM
- ⑥ TYP. @ EACH BEAM
- ⑦ MEMBRANE WATERPROOFING SYSTEM

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NO	DATE	BY	CKD	APPR	REVISION

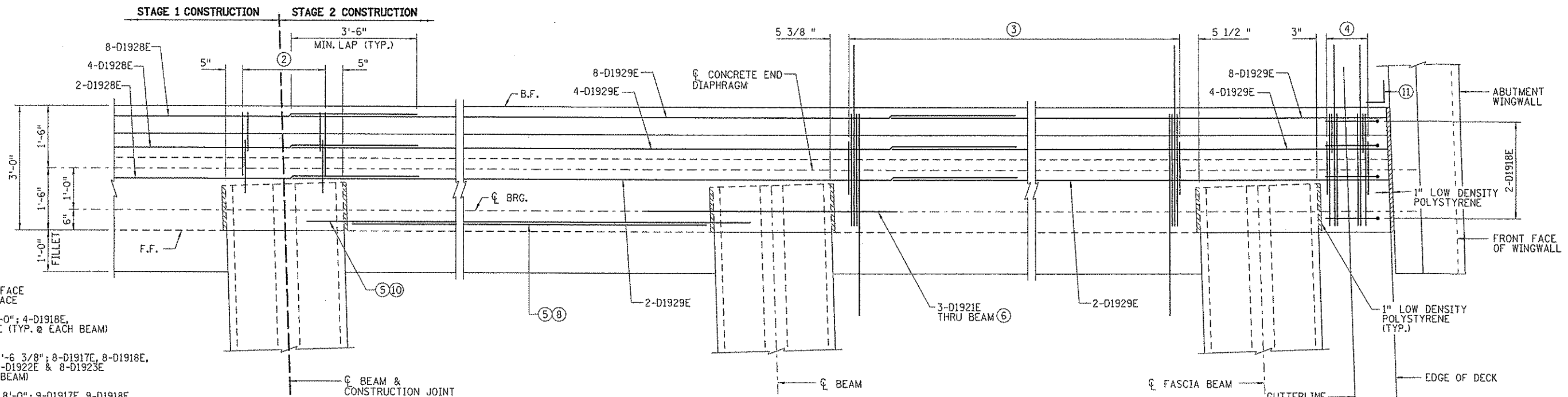
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 7/15/09 License #: 42791

STATE PROJ. NO.
02-614-28
 BRIDGE NO.
02812
 COMM. NO. 6509

DRAWN BY
J. HOFFMAN
 DESIGNED BY
D. ROTHSTEIN
 CHECKED BY
K. SWEHLA
SRF CONSULTING GROUP, INC.

ANOKA COUNTY
 CSAH 14 OVER I-35E
 BRIDGE DECK DETAILS
 (SHEET 5 OF 7)

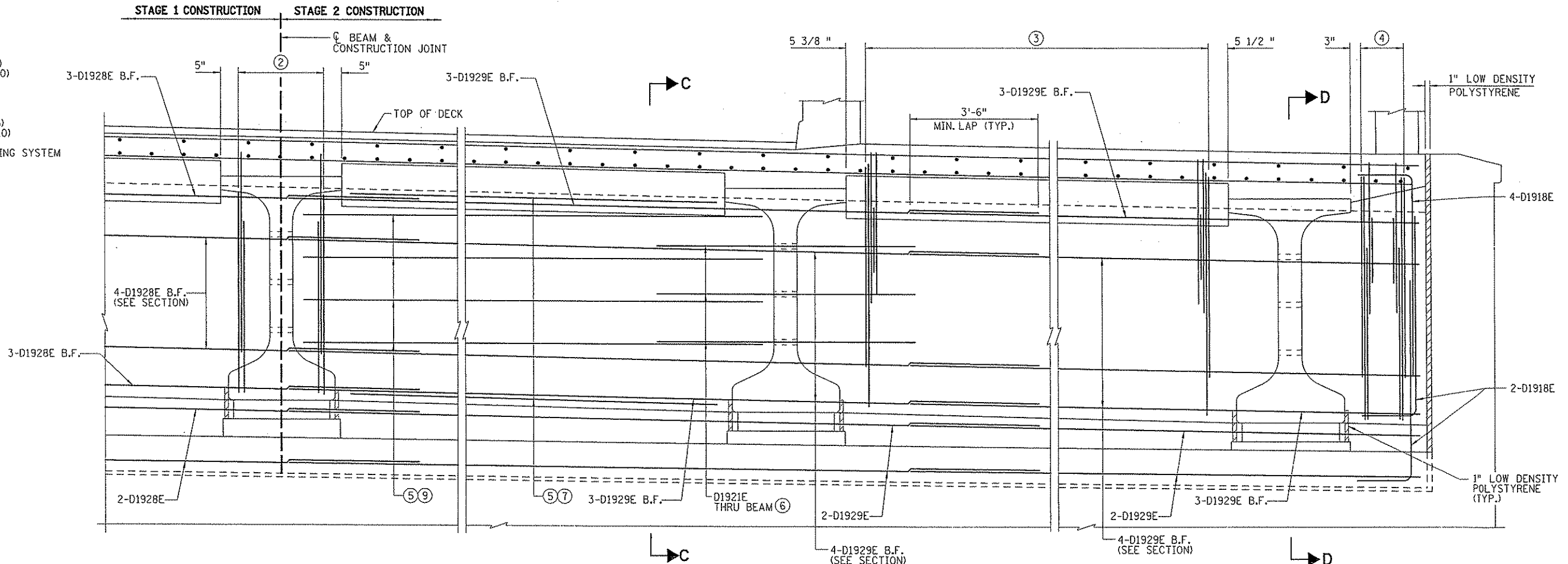
SHEET
B28
OF
B49



PARTIAL END DIAPHRAGM PLAN AT EAST ABUTMENT
(SOUTH END OF DIAPHRAGM SHOWN, NORTH END SIMILAR)

NOTES

1. F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE
2. 3 SPACES @ 8" = 2'-0"; 4-D1918E,
4-D1922E & 8-D1924E (TYP. @ EACH BEAM)
3. BAYS 1-5:
7 EQUAL SPACES = 6'-6 3/8"; 8-D1917E, 8-D1918E,
8-D1919E, 8-D1920E, 8-D1922E & 8-D1923E
(TYP. BETWEEN EACH BEAM)
BAYS 6-10:
8 SPACES @ 1'-0" = 8'-0"; 9-D1917E, 9-D1918E,
9-D1919E, 9-D1920E, 9-D1922E & 9-D1923E
(TYP. BETWEEN EACH BEAM)
4. 1'-0"; 2-D1917E, 2-D1918E, 2-D1919E,
2-D1922E, & 2-D1923E (TYP. @ EACH FASCIA)
5. TYP. BETWEEN EACH BEAM
6. TYP. @ EACH BEAM
7. D1915E F.F. (BAYS 1-5)
D1916E F.F. (BAYS 6-10)
8. 2-D1915E F.F. (BAYS 1-5)
2-D1916E F.F. (BAYS 6-10)
9. D1926E F.F. (BAYS 1-5)
D1927E F.F. (BAYS 6-10)
10. 4-D1926E F.F. (BAYS 1-5)
4-D1927E F.F. (BAYS 6-10)
11. MEMBRANE WATERPROOFING SYSTEM



PARTIAL END DIAPHRAGM ELEVATION AT EAST ABUTMENT
(SOUTH END OF DIAPHRAGM SHOWN, NORTH END SIMILAR)

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NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: KEVIN L. SWEHLA
Date: 4/15/09 License #: 42791

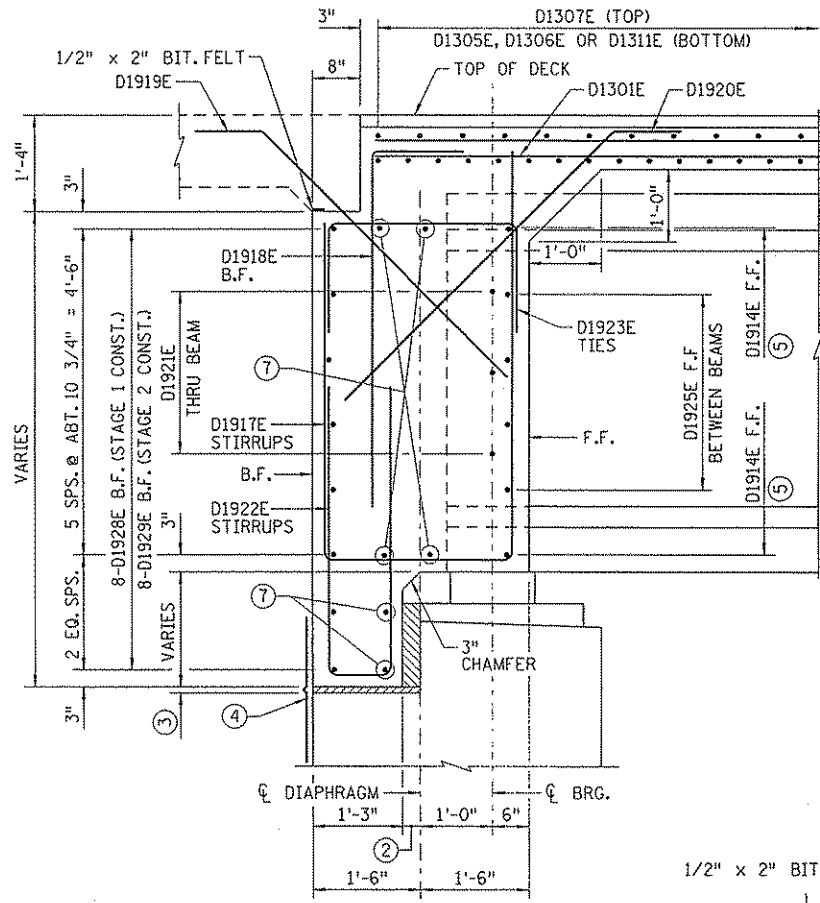
STATE PROJ. NO.
02-614-28
BRIDGE NO.
02812

DRAWN BY
J. HOFFMAN
DESIGNED BY
D. ROTHSTEIN
CHECKED BY
K. SWEHLA
COMM. NO. 6509

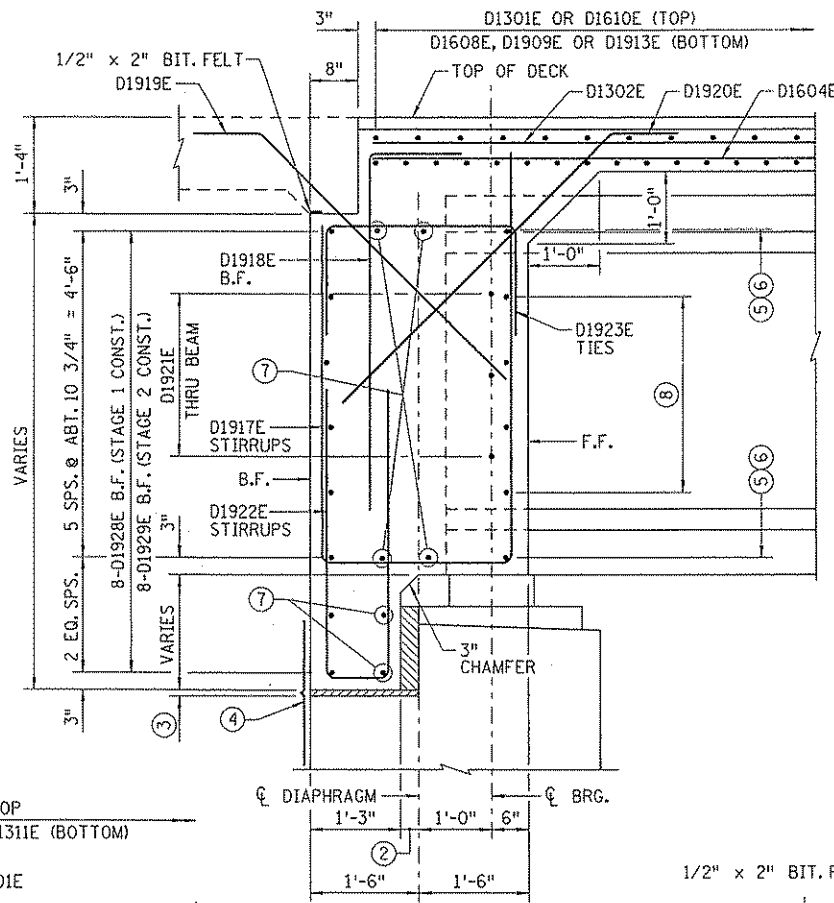


ANOKA COUNTY
CSAH 14 OVER I-35E
BRIDGE DECK DETAILS
(SHEET 6 OF 7)

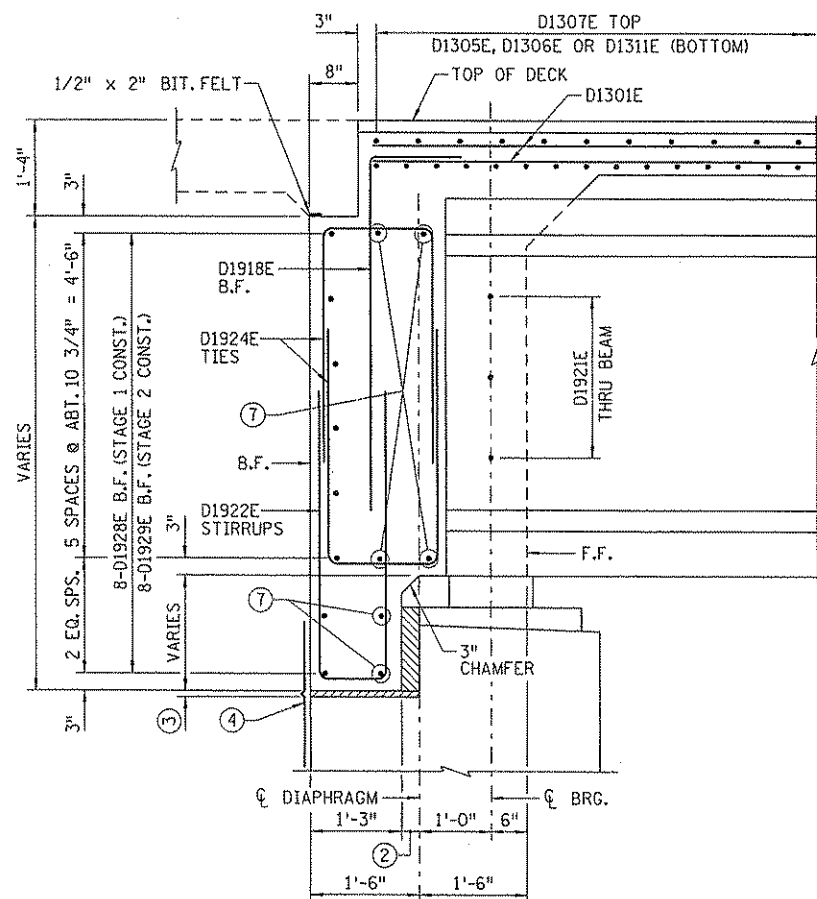
SHEET
B29
OF
B49



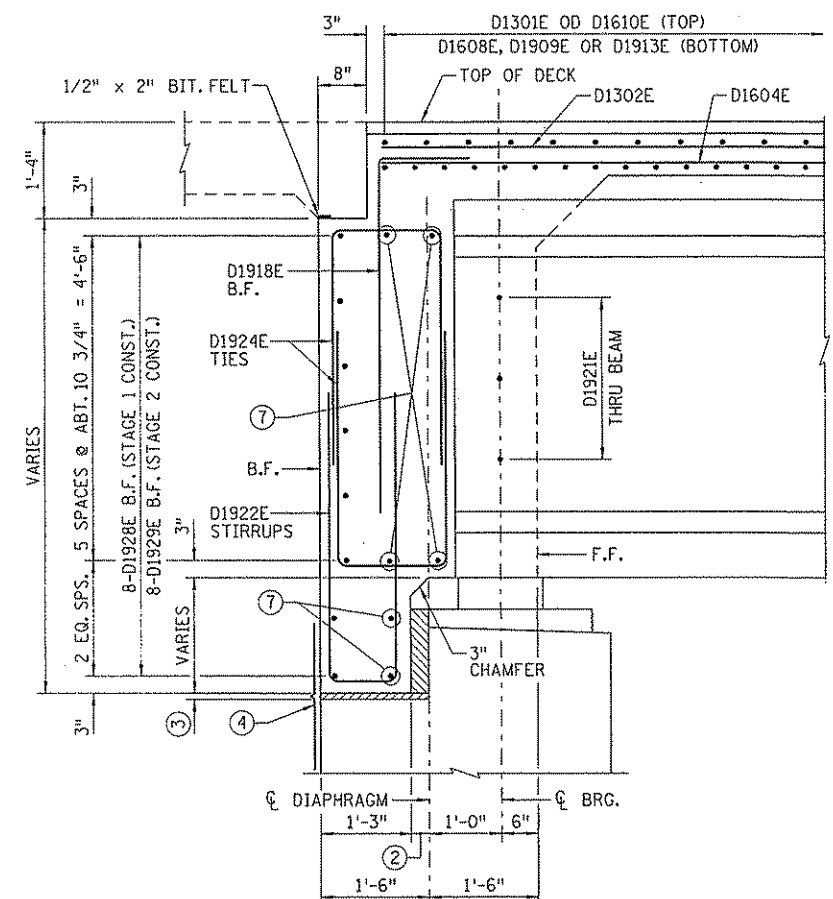
SECTION A-A
(BETWEEN BEAM)



SECTION C-C
(BETWEEN BEAM)



SECTION B-B
(AT BEAM)



SECTION D-D
(AT BEAM)

- NOTES:**
1. F.F. DENOTES FRONT FACE
B.F. DENOTES BACK FACE
 2. 3" LOW DENSITY POLYSTYRENE.
 3. 1" HIGH DENSITY POLYSTYRENE.
 4. WATERPROOF MEMBRANE PER MN/DOT 2481.3B EXCEPT THE STRIP SHALL BE 24" WIDE TO ALLOW MOVEMENT. THE MEMBRANE PLACEMENT SHALL BE SUCH THAT A 1" WRINKLE SHALL BE FORMED OVER THE JOINT OPENING. THE COST IS INCIDENTAL TO "STRUCTURAL CONCRETE (3Y43)".
 5. TYP. BETWEEN EACH BEAM
 6. D1915E F.F (BAYS 1-5)
D1916E F.F (BAYS 6-10)
 7. D1928E (STAGE 1 CONSTRUCTION)
D1929E (STAGE 2 CONSTRUCTION)
 8. D1926E F.F (BAYS 1-5)
D1927E F.F (BAYS 6-10)
 9. CONCRETE END DIAPHRAGMS TO BE BRIDGE SLAB CONCRETE (3Y36).

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NO	DATE	BY	CKD	APPR	REVISION

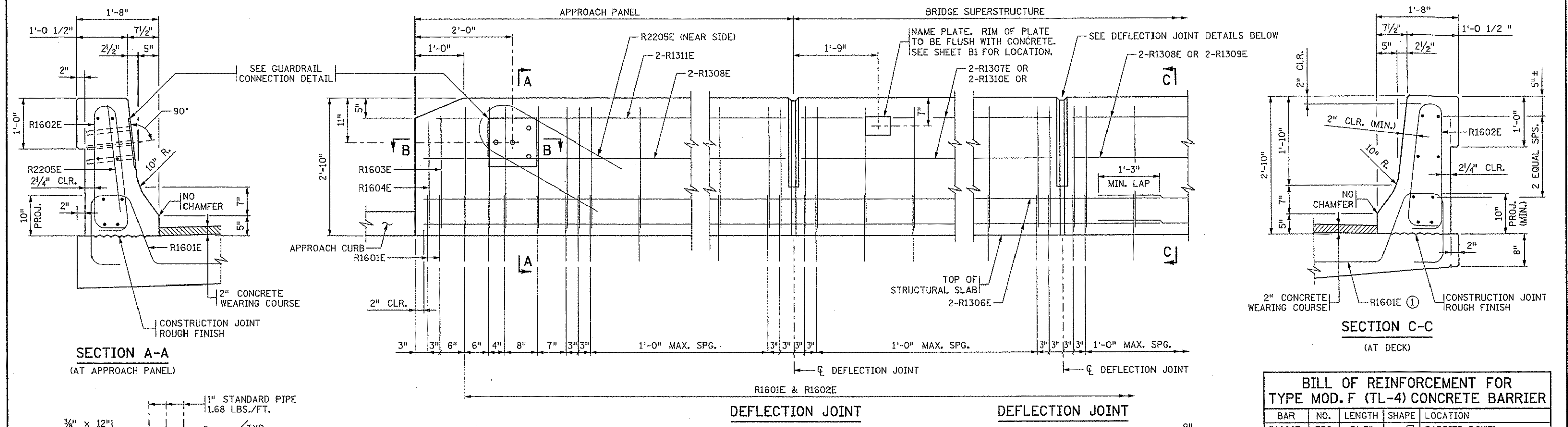
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 Prt Int Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License #: 42791

STATE PROJ. NO. 02-614-28
 BRIDGE NO. 02812
 DRAWN BY J. HOFFMAN
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 CHECKED BY K. SWEHLA
 COMM. NO. 6509



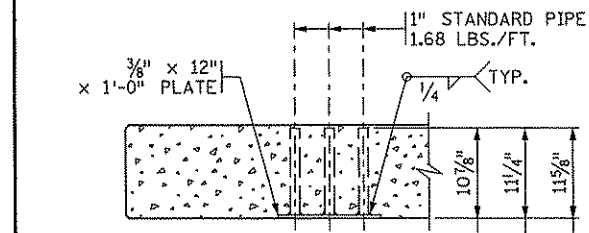
ANOKA COUNTY
 CSAH 14 OVER I-35E
 BRIDGE DECK DETAILS
 (SHEET 7 OF 7)

SHEET B30 OF B49



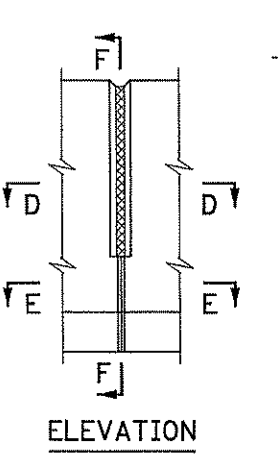
SECTION A-A
(AT APPROACH PANEL)

SECTION C-C
(AT DECK)



SECTION B-B
(REINFORCEMENT NOT SHOWN)
★ DIMENSIONS INCLUDE 3/8" PLATE

INSIDE REINFORCEMENT ELEVATION OF TYPE MOD. F (TL-4) CONCRETE BARRIER
(CONCRETE WEARING COURSE NOT SHOWN)



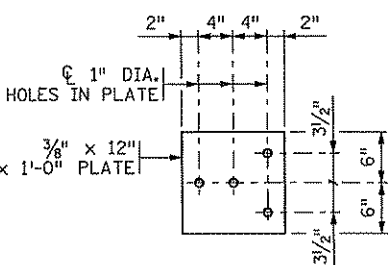
SECTION D-D

SECTION E-E

ELEVATION

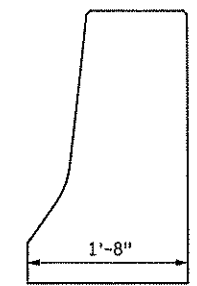
SECTION F-F

TYP. OUTSIDE ELEVATION OF END SECTION

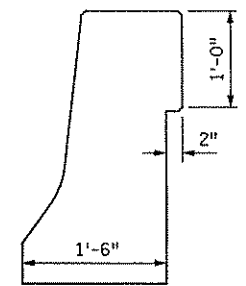


GUARDRAIL CONNECTION DETAIL

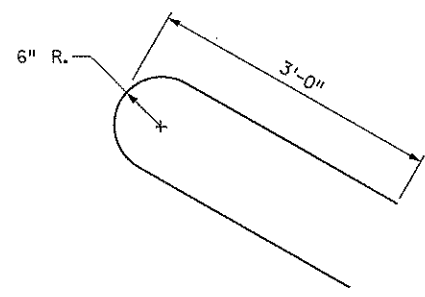
GALVANIZE AFTER FABRICATION PER Mn/DOT SPEC. 3394
ESTIMATED WEIGHT = 22 LBS



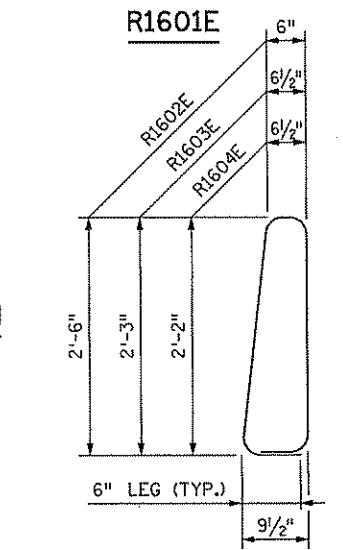
SECTION G-G



SECTION H-H



R2205E



R1602E, R1603E & R1604E

BILL OF REINFORCEMENT FOR TYPE MOD. F (TL-4) CONCRETE BARRIER				
BAR	NO.	LENGTH	SHAPE	LOCATION
R1601E	332	5'-5"		BARRIER DOWEL
R1602E	328	6'-7"		BARRIER VERTICAL
R1603E	2	6'-1"		BARRIER VERTICAL
R1604E	2	5'-11"		BARRIER VERTICAL
R2205E	2	6'-6"		BARRIER VERTICAL
R1306E	20	59'-1"		BARRIER LONGIT.
R1307E	4	19'-6"		BARRIER LONGIT.
R1308E	28	19'-8"		BARRIER LONGIT.
R1309E	20	18'-2"		BARRIER LONGIT.
R1310E	4	18'-0"		BARRIER LONGIT.
R1311E	4	19'-4"		BARRIER LONGIT.

GENERAL NOTES

- LENGTH OF "TYPE F (TL-4) RAILING CONCRETE 3Y46" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE BARRIER.
- CONCRETE BARRIER = 502 LBS./FT. (0.124 CU. YDS./FT.)
- FINISH ALL EDGES OF BARRIER WITH 1/2" CHAMFER, EXCEPT WHERE OTHERWISE NOTED.
- SEE BRIDGE DECK DETAIL SHEET FOR JOINT SPACING.
- GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, Mn/DOT SPEC. 3306.
- GUARDRAIL CONNECTION, CORK, AND NAME PLATE TO BE CONSIDERED INCIDENTAL TO "TYPE F (TL-4) RAILING CONCRETE 3Y46".
- QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.
- ① PLACE BAR ON TOP OF BOTTOM REINFORCEMENT MAT.

REVISED: 05-26-2006
APPROVED: DECEMBER 18, 2003
David L. Heger
STATE BRIDGE ENGINEER

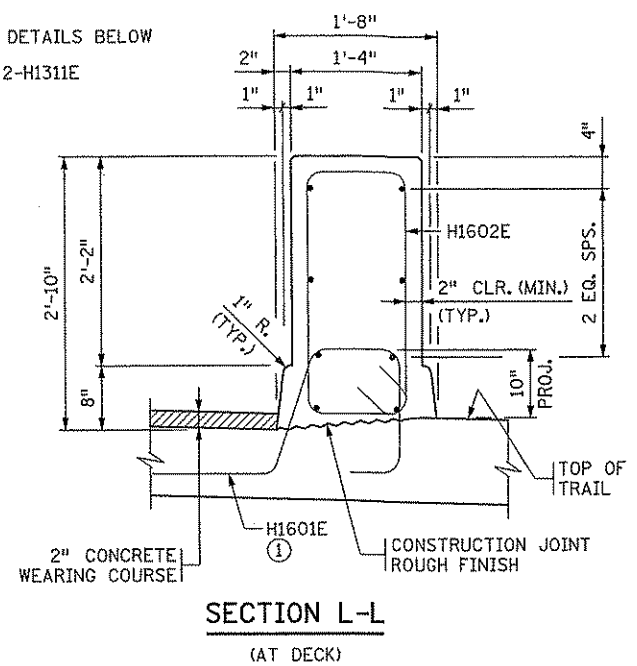
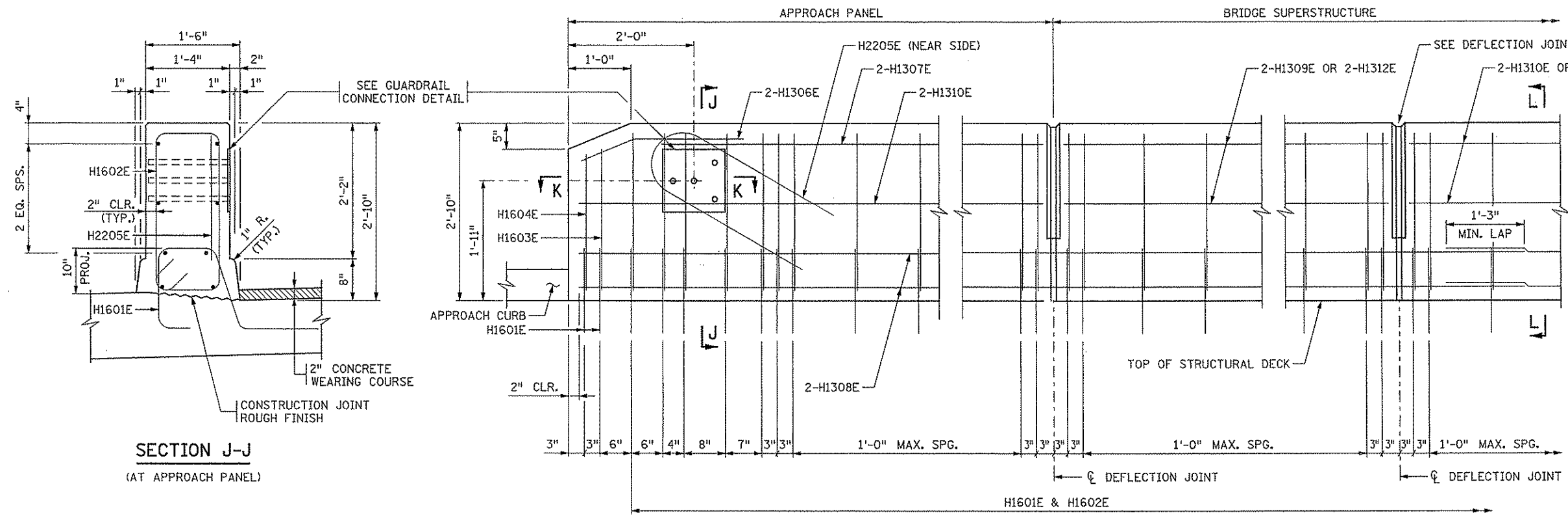
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Pr Int Name: KEVIN L. SWEHLA
Kevin L. Swehla
Date: 4/15/09 License #: 42791

STATE PROJ. NO.
02-614-28
BRIDGE NO.
02812
DRAWN BY
J. HOFFMAN
DESIGNED BY
D. ROTHSTEIN
CHECKED BY
K. SWEHLA
COMM. NO. 6509



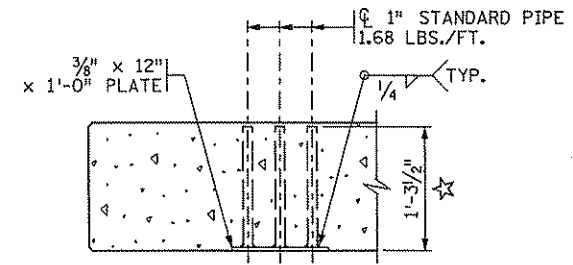
MODIFIED
ANOKA COUNTY
CSAH 14 OVER I-35E
CONCRETE BARRIER DETAILS
SHEET
B31
OF
B49

6:53:55 AM 4/9/2009 T:\br\proj\brs\6509\br\final\plan\6509_ral05.dgn

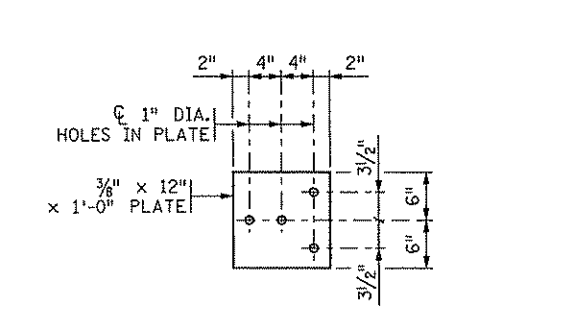


DEFLECTION JOINT
INSIDE REINFORCEMENT ELEVATION OF TYPE P-4 CONCRETE BARRIER
 (CONCRETE WEARING COURSE NOT SHOWN)

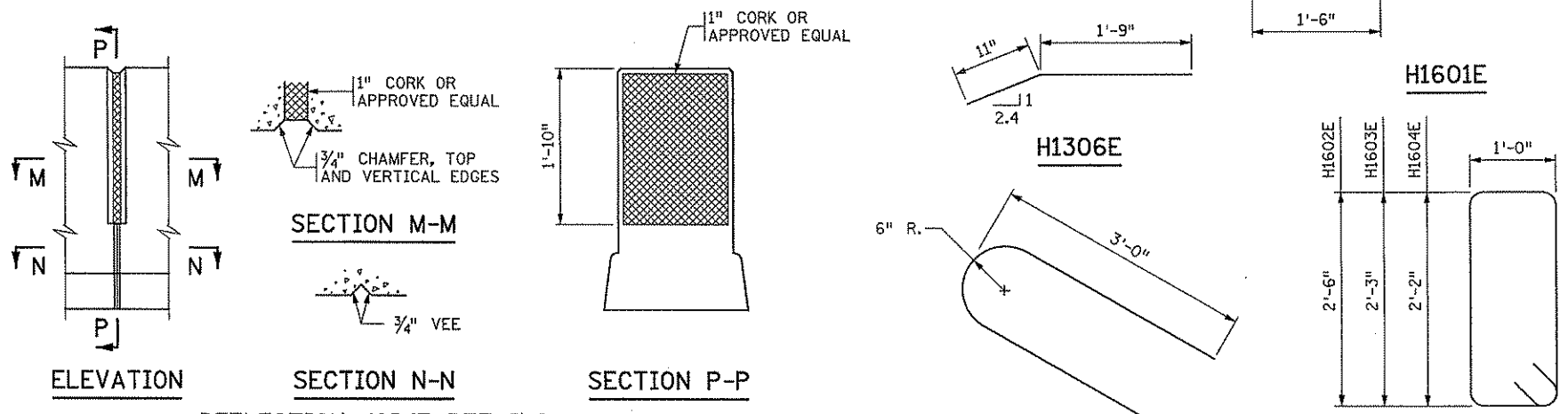
BILL OF REINFORCEMENT FOR TYPE P-4 CONCRETE BARRIER				
BAR	NO.	LENGTH	SHAPE	LOCATION
H1601E	332	5'-11"		BARRIER VERTICAL
H1602E	328	7'-11"		BARRIER VERTICAL
H1603E	2	7'-5"		BARRIER VERTICAL
H1604E	2	7'-3"		BARRIER VERTICAL
H2205E	2	6'-7"		BARRIER END
H1306E	4	2'-8"		BARRIER END LONGIT.
H1307E	4	18'-6"		BARRIER LONGITUDINAL
H1308E	20	59'-1"		BARRIER LONGITUDINAL
H1309E	4	19'-6"		BARRIER LONGITUDINAL
H1310E	28	19'-8"		BARRIER LONGITUDINAL
H1311E	20	18'-2"		BARRIER LONGITUDINAL
H1312E	4	18'-0"		BARRIER LONGITUDINAL



SECTION K-K
 (REINFORCEMENT NOT SHOWN)
 ☆ DIMENSIONS INCLUDE 3/8" PLATE



GUARDRAIL CONNECTION DETAIL
 GALVANIZE AFTER FABRICATION PER Mn/DOT SPEC. 3394
 ESTIMATED WEIGHT = 22 LBS



DEFLECTION JOINT DETAILS
 ESTIMATED QUANTITY OF CORK PER JOINT = 2.15 SQ. FT.

- GENERAL NOTES**
- LENGTH OF "TYPE P-4 (TL-4) RAILING CONCRETE 3Y46" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE BARRIER.
 - CONCRETE BARRIER = 579 LBS./FT. (0.143 CU. YDS./FT.)
 - FINISH ALL EDGES OF BARRIER WITH 1/2" CHAMFER, EXCEPT WHERE OTHERWISE NOTED.
 - SEE BRIDGE DECK DETAIL SHEET FOR JOINT SPACING.
 - GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, Mn/DOT SPEC. 3306.
 - GALVANIZE STRUCTURAL STEEL PER Mn/DOT SPEC. 3394 AFTER FABRICATION.
 - GUARDRAIL CONNECTION, CORK, AND NAME PLATE TO BE CONSIDERED INCIDENTAL TO "TYPE P-4 (TL-4) RAILING CONCRETE 3Y46".
 - QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.
 - ① PLACE BAR ON TOP OF BOTTOM REINFORCEMENT MAT.

REVISED: 08-10-2006
 APPROVED: JULY 25, 2005
David A. Peterson
 STATE BRIDGE ENGINEER

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.
 Pr Int Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License #: 42791

STATE PROJ. NO.
 02-614-28
 BRIDGE NO.
 02812
 DRAWN BY
 J. HOFFMAN
 DESIGNED BY
 D. ROTHSTEIN
 CHECKED BY
 K. SWEHLA
 COMM. NO. 6509

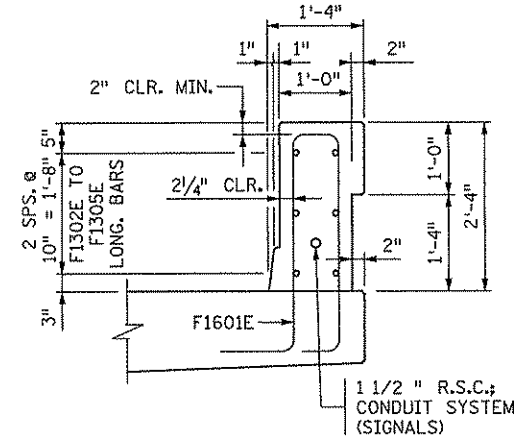
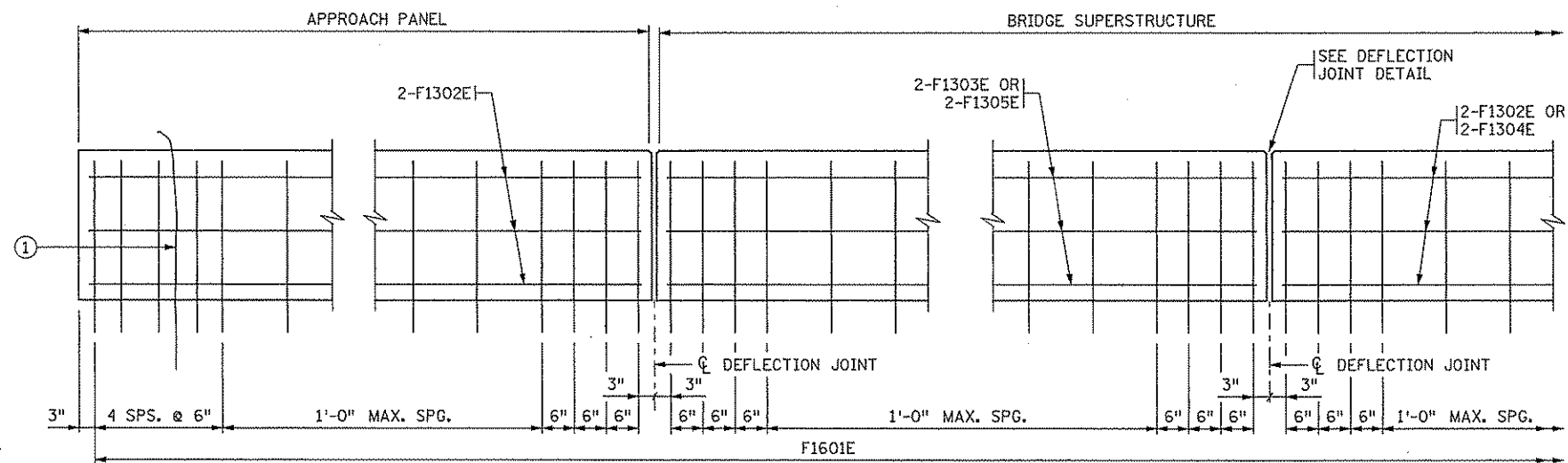


ANOKA COUNTY
 CSAH 14 OVER I-35E
 CONCRETE BARRIER DETAILS

MODIFIED
 FIG. 5-397.173

SHEET
 B32
 OF
 B49

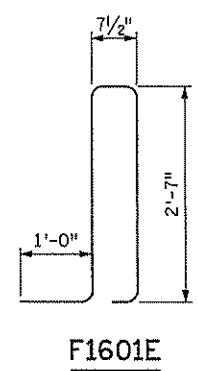
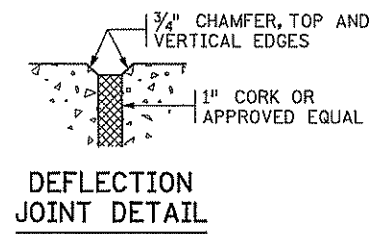
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INSIDE REINFORCEMENT ELEVATION OF TYPE MOD. P-1 (TL-2) CONCRETE PARAPET

ORNAMENTAL METAL RAILING TYPE SPECIAL 1 NOT SHOWN, SEE DETAIL SHEETS

TYPICAL SECTION THROUGH PARAPET
(SECTION AT DECK SHOWN, SECTION AT APPROACH PANEL SIMILAR)



BILL OF REINFORCEMENT FOR TYPE MOD. P-1 CONCRETE PARAPET				
BAR NO.	NO.	LENGTH	SHAPE	LOCATION
F1601E	350	7'-3"	U	PARAPET BASE VERTICAL
F1302E	48	19'-8"	—	PARAPET BASE LONGITUDINAL
F1303E	6	19'-6"	—	PARAPET BASE LONGITUDINAL
F1304E	30	18'-2"	—	PARAPET BASE LONGITUDINAL
F1305E	6	18'-0"	—	PARAPET BASE LONGITUDINAL

GENERAL NOTES

- LENGTH OF "TYPE P-1 RAILING CONCRETE 3Y46" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE PARAPET.
- CONCRETE PARAPET = 375 LBS./FT. (0.093 CU. YDS./FT.)
- FINISH ALL EDGES OF PARAPET WITH 1/2" CHAMFER EXCEPT WHERE OTHERWISE NOTED.
- SEE BRIDGE DECK DETAIL SHEET FOR JOINT SPACING.
- QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.
- ① GROUNDWIRE FOR ORNAMENTAL METAL RAILING (TYPE SPECIAL), METAL RAILING NOT SHOWN, SEE ORNAMENTAL METAL RAILING DETAILS. RAILING SHALL BE GROUNDED WITH COPPER WIRE AT EACH APPROACH PANEL. ATTACH WIRE TO ABUTMENT PILE IN FOOTING OR 5/8" DIAMETER COPPER ROD PER SPEC. 2557.3.E.

6:54:02 AM 4/15/09 P:\br\Incl\plan\6509_ral106.dgn

REVISED:
APPROVED: DECEMBER 18, 2003
David A. Bergeson
STATE BRIDGE ENGINEER

MODIFIED
FIG. 5-397.119

NO.	DATE	BY	CHKD	APPR	REVISION

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Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
Date: 4/15/09 License: 42791

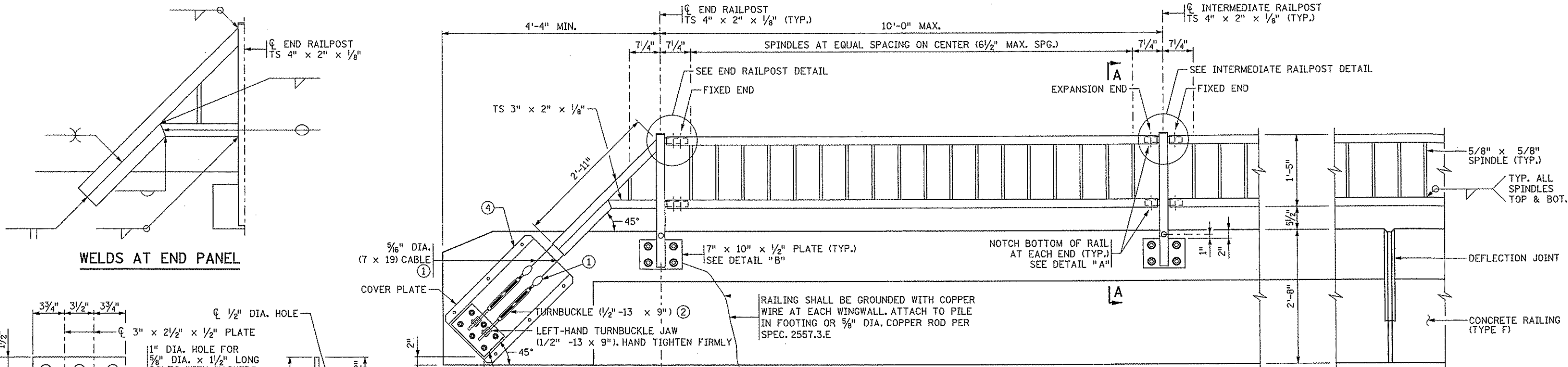
STATE PROJ. NO.
02-614-28
BRIDGE NO.
02812

DRAWN BY J. HOFFMAN
DESIGNED BY D. ROTHSTEIN
CHECKED BY K. SWEHLA
COMM. NO. 6509



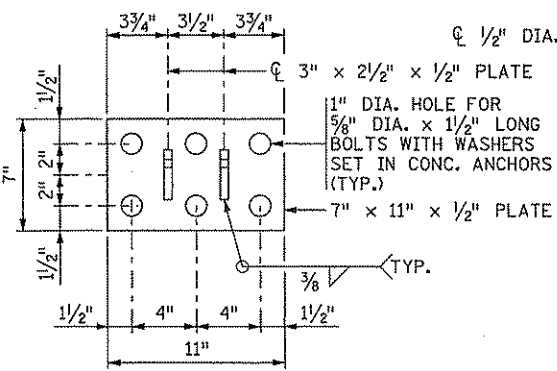
ANOKA COUNTY
CSAH 14 OVER I-35E
CONCRETE PARAPET DETAILS

SHEET
B33
OF
B49

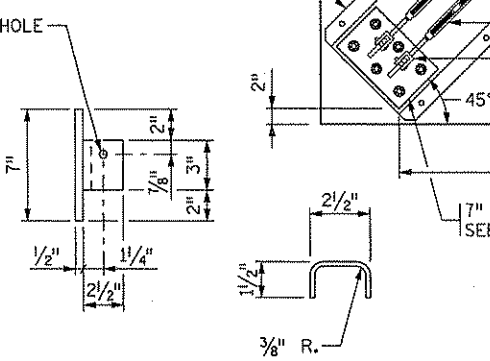


WELDS AT END PANEL

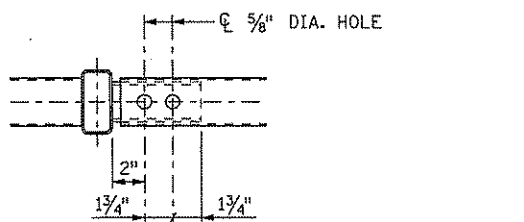
OUTSIDE ELEVATION OF RAILING



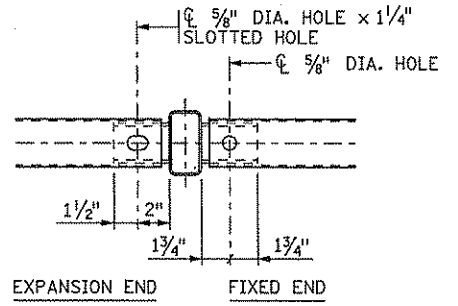
CABLE ANCHOR PLATE DETAIL



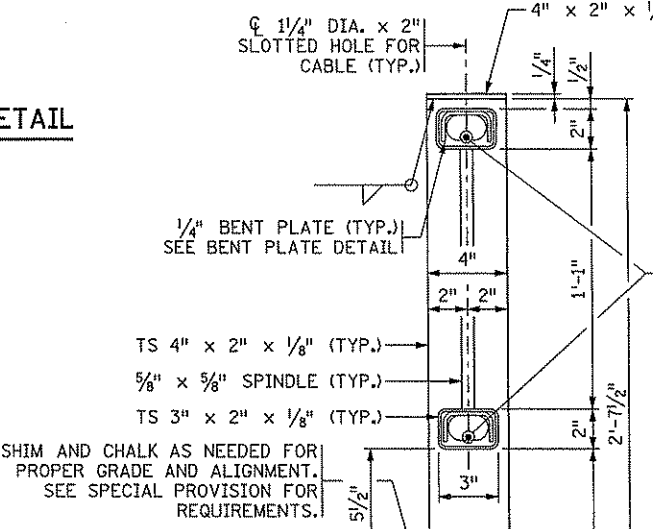
BENT PLATE DETAIL



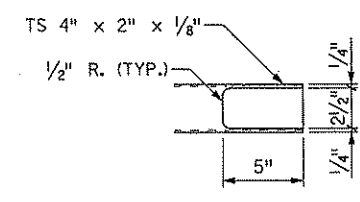
END RAILPOST DETAIL



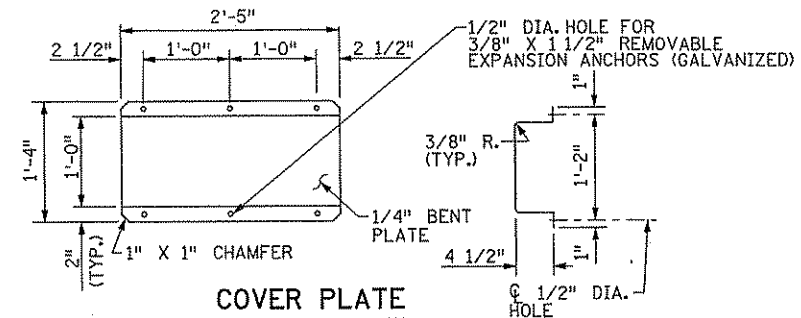
INTERMEDIATE RAILPOST DETAIL



SECTION A-A



DETAIL "A"
(BOTTOM OF TUBE)



COVER PLATE

GENERAL NOTES

- SEE BRIDGE DECK DETAIL SHEET FOR RAILPOST SPACING.
- LENGTH OF "STRUCTURAL TUBE RAILING (DESIGN T-2)" FOR PAYMENT SHALL BE MEASURED BETWEEN THE OUTSIDE FACES OF THE CONCRETE RAIL.
- ALL STRUCTURAL STEEL TUBING IN THE RAIL SHALL BE A500, GRADE B.
- ALL STRUCTURAL STEEL MATERIAL SHALL COMPLY WITH Mn/DOT SPEC. 3306.
- RAILPOSTS AND SPINDLES SHALL BE NORMAL TO GRADE.
- VENT HOLES SHALL BE DRILLED IN THE RAIL TUBES AS NECESSARY TO FACILITATE GALVANIZING.
- GALVANIZE THREADED RODS, BOLTS, NUTS AND WASHERS PER Mn/DOT SPEC. 3392.
- GALVANIZE ALL OTHER STRUCTURAL STEEL PER Mn/DOT SPEC. 3394 AFTER FABRICATION.
- ALL RAILING MEMBERS SHALL BE STRAIGHT AFTER FABRICATION AND GALVANIZING TO WITHIN 1/8" IN 10 FT. BY MECHANICAL MEANS WITHOUT DAMAGE TO THE ZINC COATING.
- ALL STRUCTURAL STEEL AND EXPOSED BOLTS, NUTS AND WASHERS ARE TO BE PAINTED AFTER GALVANIZING IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
- ① CABLE WEDGE END FITTING FORGED SERIES -- STUD SOCKET ASSEMBLY. UNC 1/2" x 9" THREAD FOR 5/16" DIA. (7 x 19) CABLE. MAY BE HELPFUL TO USE SPECIAL ASSEMBLY KIT TOOLS.
- ② IF ONLY ONE TURNBUCKLE IS USED PER CABLE, LOCATE ONE OF THESE SHOWN AT OTHER END OF WALL.
- ③ MINIMUM ULTIMATE PULLOUT STRENGTH OF 20,000 LBS. EACH.
- ④ COVER PLATE SHALL BE GALVANIZED PER Mn/DOT SPEC 3394 AND PAINTED TO MATCH THE CONCRETE SURFACE TREATMENT IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

FIG. 5-397.158

REVISED:
APPROVED: OCTOBER 29, 2004
Kevin L. Swehla
STATE BRIDGE ENGINEER

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Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
Date: 4/15/09 License: 42791

STATE PROJ. NO.
02-614-28
BRIDGE NO.
02812
DRAWN BY
J. HOFFMAN
DESIGNED BY
D. ROTHSTEIN
CHECKED BY
K. SWEHLA
COMM. NO. 6509

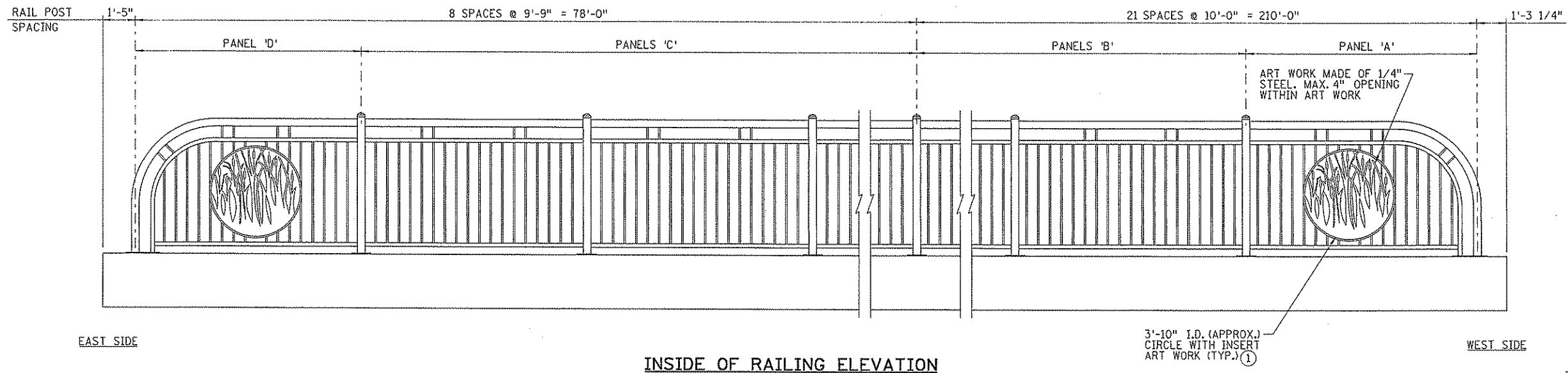


ANOKA COUNTY
CSAH 14 OVER I-35E
STRUCTURAL TUBE RAILING DETAILS
(DESIGN T-2)

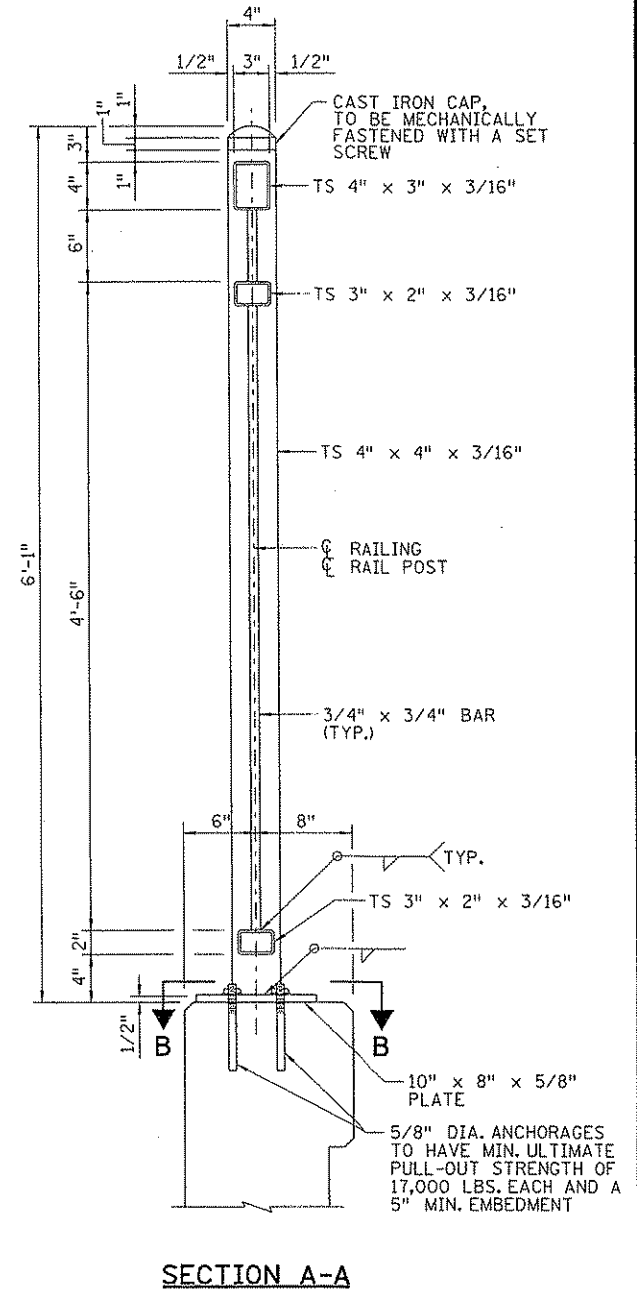
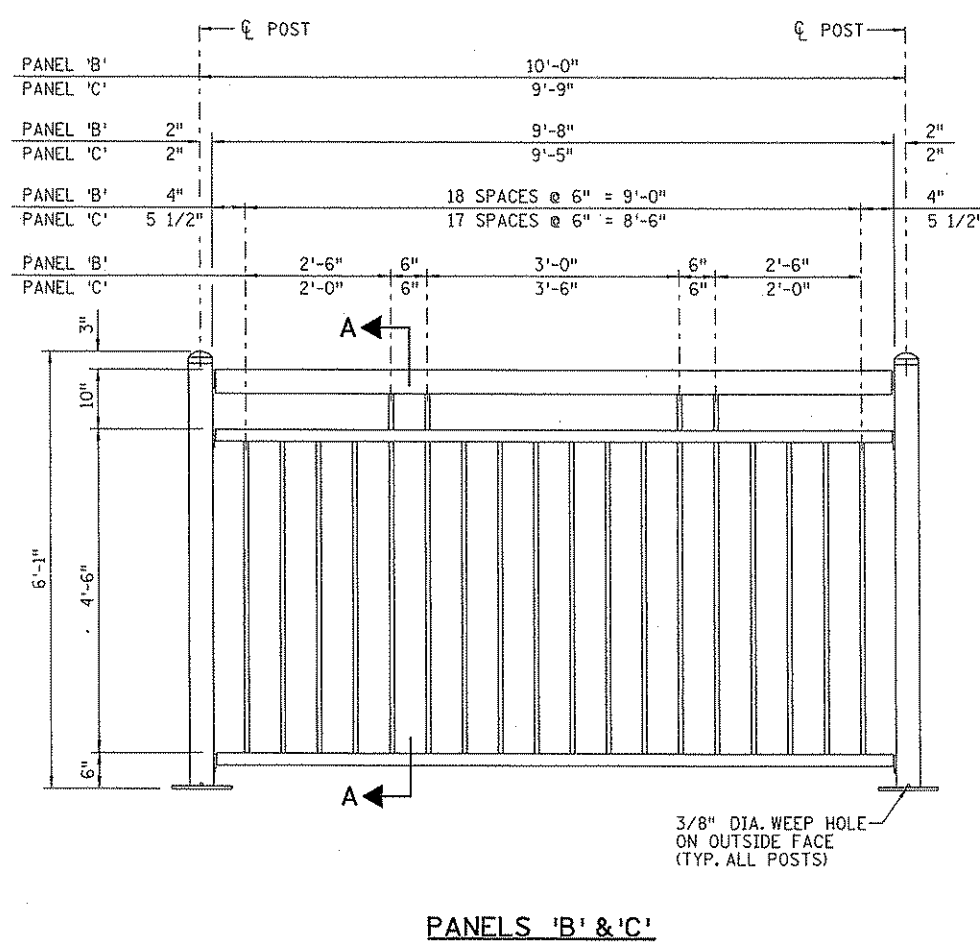
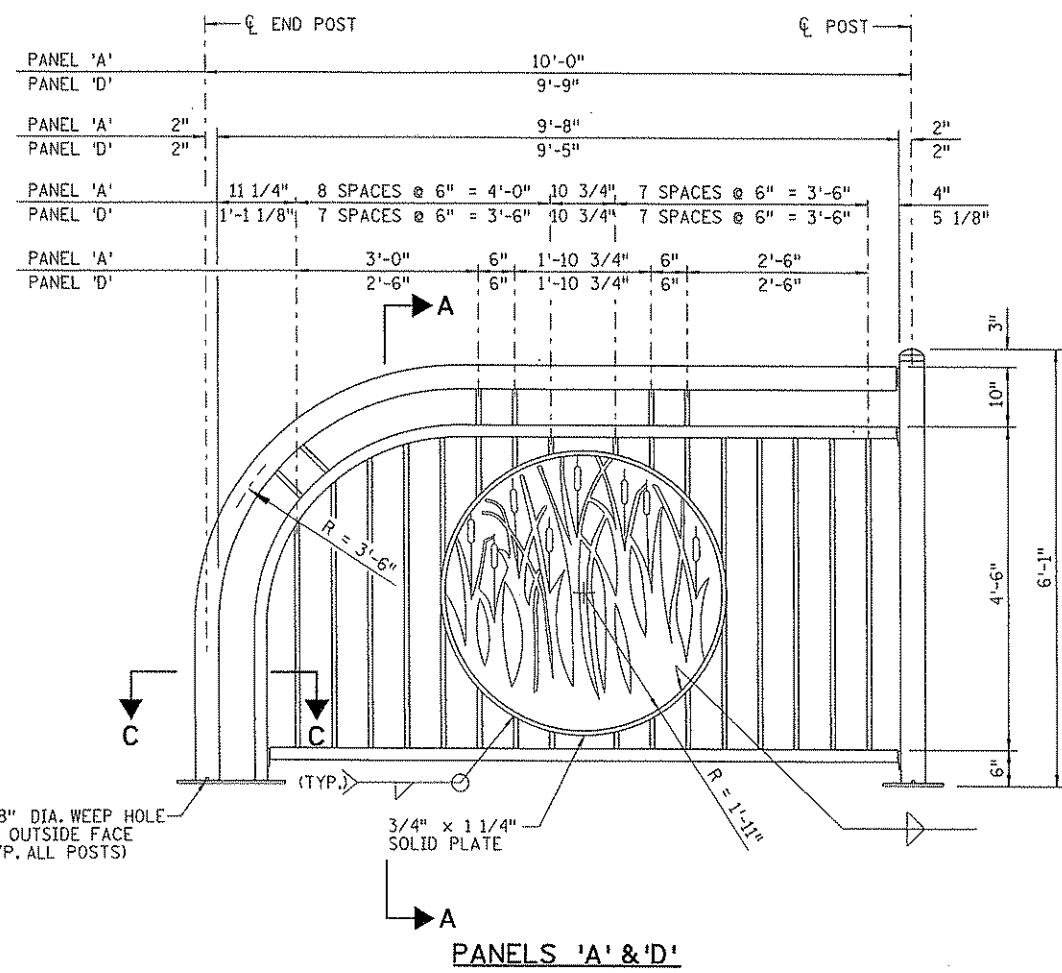
SHEET
B34
OF
B49

6/5/03 AM 4/9/2009 ... \br\Final\plan\6509_r-103.dgn

NO	DATE	BY	CKD	APPR	REVISION



NOTES:
 ① TO MATCH ART WORK ON BRIDGE NO. 02817, LAKE DR. OVER I-35W.



6:48:52 AM
 1/27/2009
 H:\projects\6509\plan\plan\6509_rail01.dgn

NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: KEVIN L. SWEHLA

Kevin L. Swehla

Date: 4/15/09 License #: 42791

STATE PROJ. NO.
02-614-28

BRIDGE NO.
02812

COMM. NO. 6509

DRAWN BY
J. HOFFMAN

DESIGNED BY
D. ROTHSTEIN

CHECKED BY
K. SWEHLA

SRF CONSULTING GROUP, INC.

ANOKA COUNTY

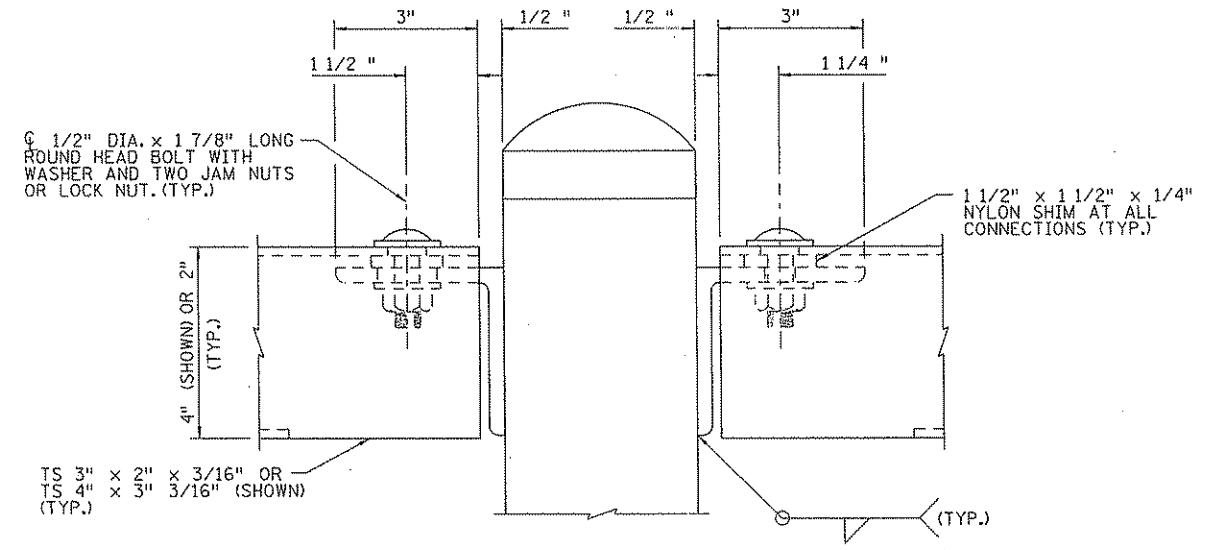
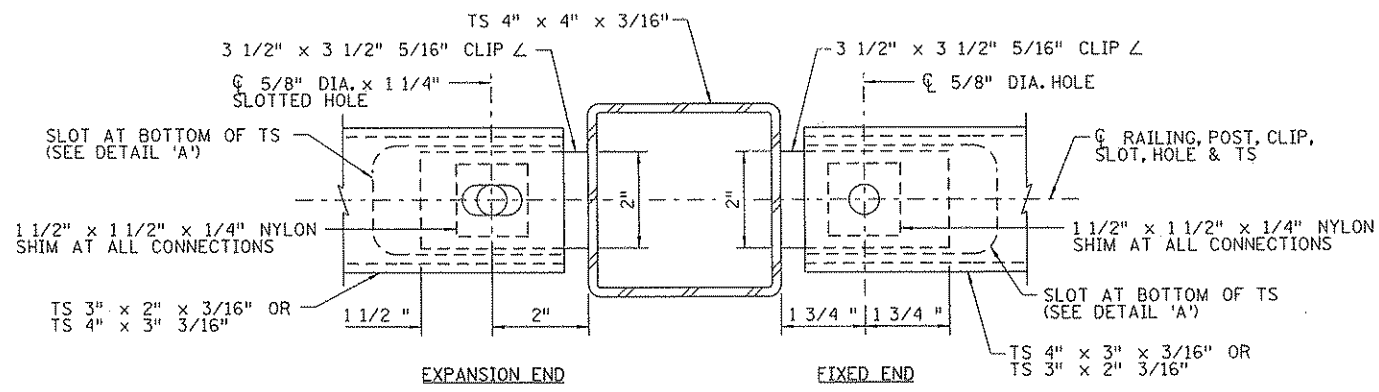
CSAH 14 OVER I-35E

ORNAMENTAL METAL RAILING

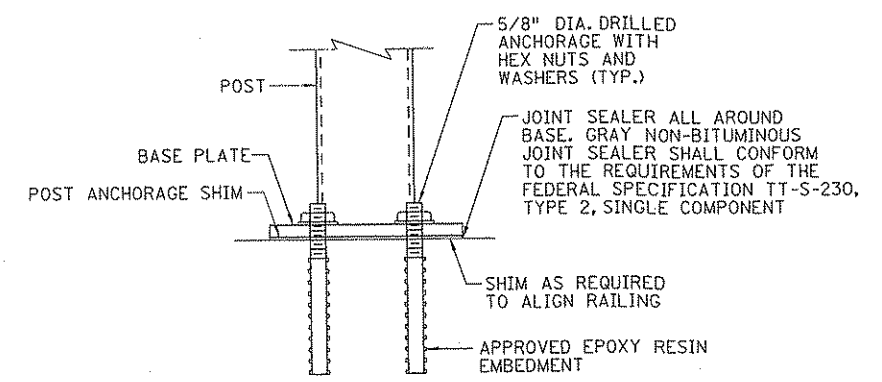
TYPE SPECIAL 1

(SHEET 1 OF 2)

SHEET
B35
OF
B49

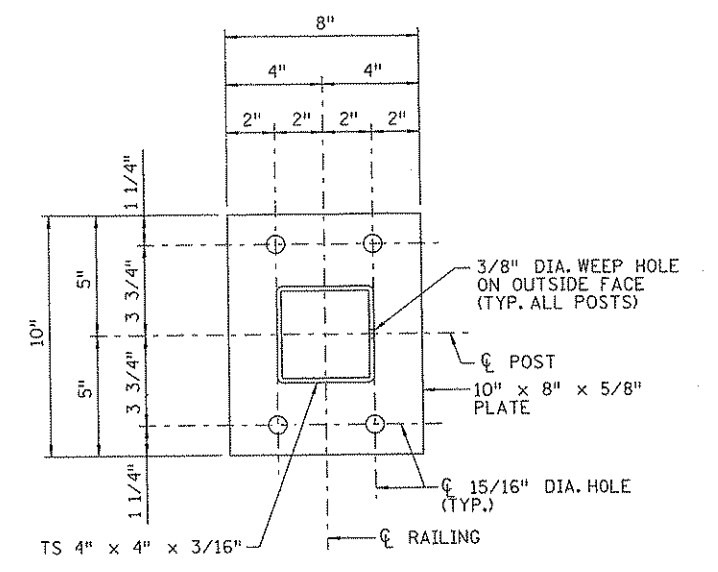
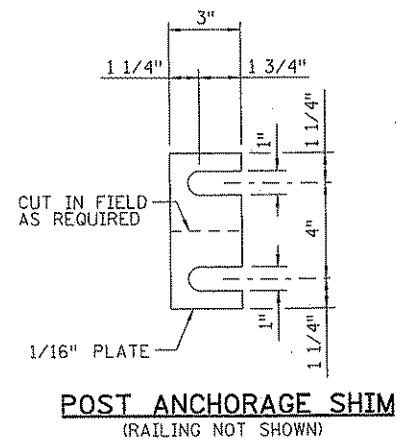


HORIZONTAL RAIL CONNECTION DETAIL
(TOP RAIL CONNECTION SHOWN, ALL RAIL CONNECTIONS ARE SIMILAR)



RAILPOST ANCHORAGE

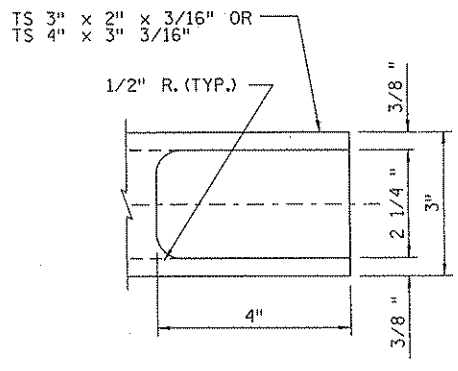
ANCHORAGES TO HAVE MIN. ULTIMATE PULLOUT STRENGTH OF 17,000 LBS. EACH AND A 5" MIN. EMBEDMENT



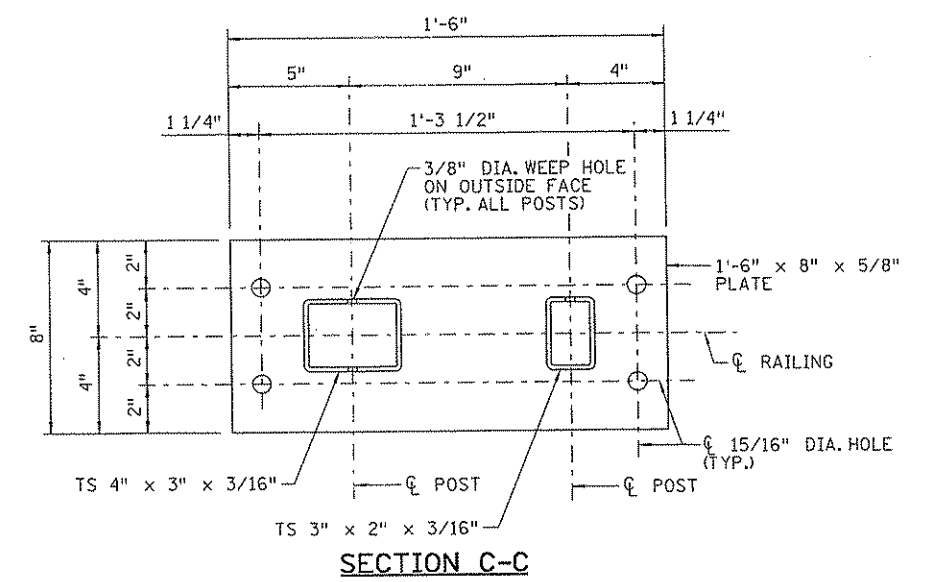
SECTION B-B

GENERAL NOTES:

- LENGTH OF "ORNAMENTAL METAL RAILING TYPE SPECIAL 1" FOR PAYMENT SHALL BE MEASURED BETWEEN THE C OF END POST.
- ALL STRUCTURAL STEEL TUBING IN THE RAIL SHALL BE PER 3361 TYPE A.
- MATERIAL FOR CLOSURE ANGLES AND BASE PLATES SHALL CONFORM TO MN/DOT SPEC. 3306.
- FOR RAILING POST ANCHORAGE TYPE A SEE MN/DOT SPEC. 3385 AND SPECIAL PROVISIONS.
- RAIL POSTS AND PICKETS SHALL BE NORMAL TO GRADE.
- FOR RAIL COATING SEE SPECIAL PROVISIONS.
- THE RAILING, BASE PLATES AND PROTRUDING PORTIONS OF ANCHOR RODS, BOLTS, NUTS AND WASHERS SHALL BE PAINTED AFTER GALVANIZING IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
- RAILING SHALL BE GROUNDED WITH COPPER WIRE AT EACH APPROACH PANEL. ATTACH WIRE TO ABUTMENT PILE IN FOOTING OR 5/8" DIAMETER COPPER ROD PER SPEC. 2557.3.E.
- THE CONNECTION AT ONE END OF EACH PANEL SHALL ALLOW FOR EXPANSION.
- GALVANIZE THREADED RODS, BOLTS, NUTS AND WASHERS PER MN/DOT SPEC. 3392.
- GALVANIZE ALL RAILING MEMBERS PER MN/DOT SPEC. 3394 AFTER FABRICATION.
- ALL RAILING MEMBERS SHALL BE FLAT AFTER FABRICATION AND GALVANIZING TO WITHIN 1/8" IN 10 FT. VERTICAL AND HORIZONTALLY BY MECHANICAL MEANS WITHOUT DAMAGE TO THE ZINC COATING.



DETAIL 'A'



SECTION C-C

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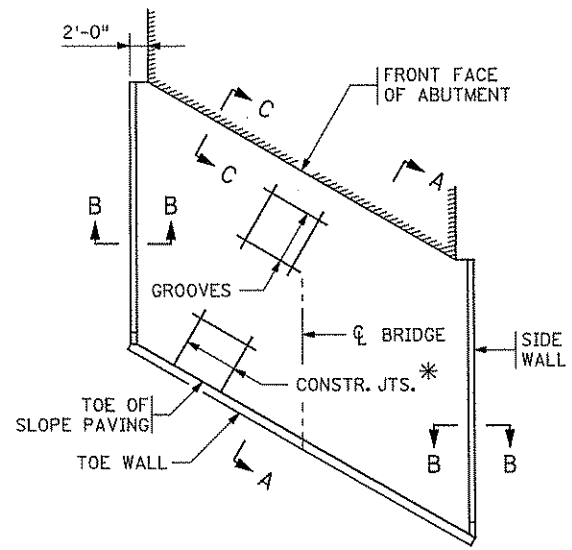
NO	DATE	BY	CHKD	APPR	REVISION

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: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License #: 42791

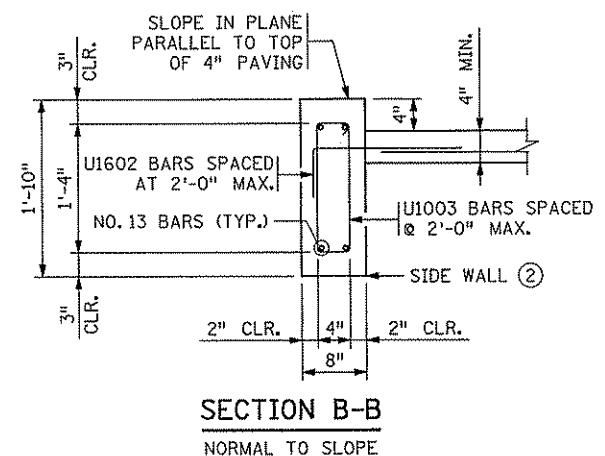
STATE PROJ. NO. 02-614-28	DRAWN BY J. HOFFMAN
BRIDGE NO. 02812	DESIGNED BY D. ROTHSTEIN
	CHECKED BY K. SWEHLA
	COMM. NO. 6509



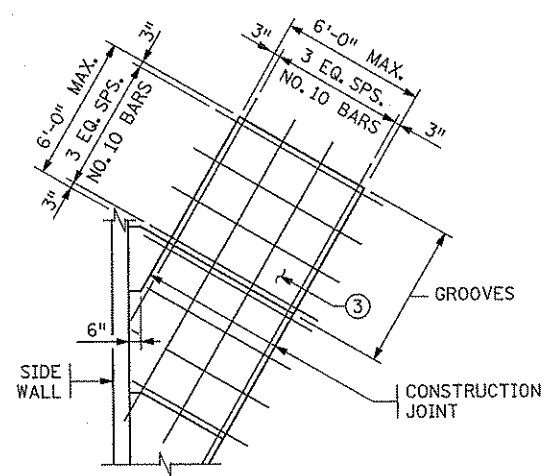
ANOKA COUNTY	SHEET
CSAH 14 OVER I-35E	B36
ORNAMENTAL METAL RAILING	OF
TYPE SPECIAL 1	B49
(SHEET 2 OF 2)	



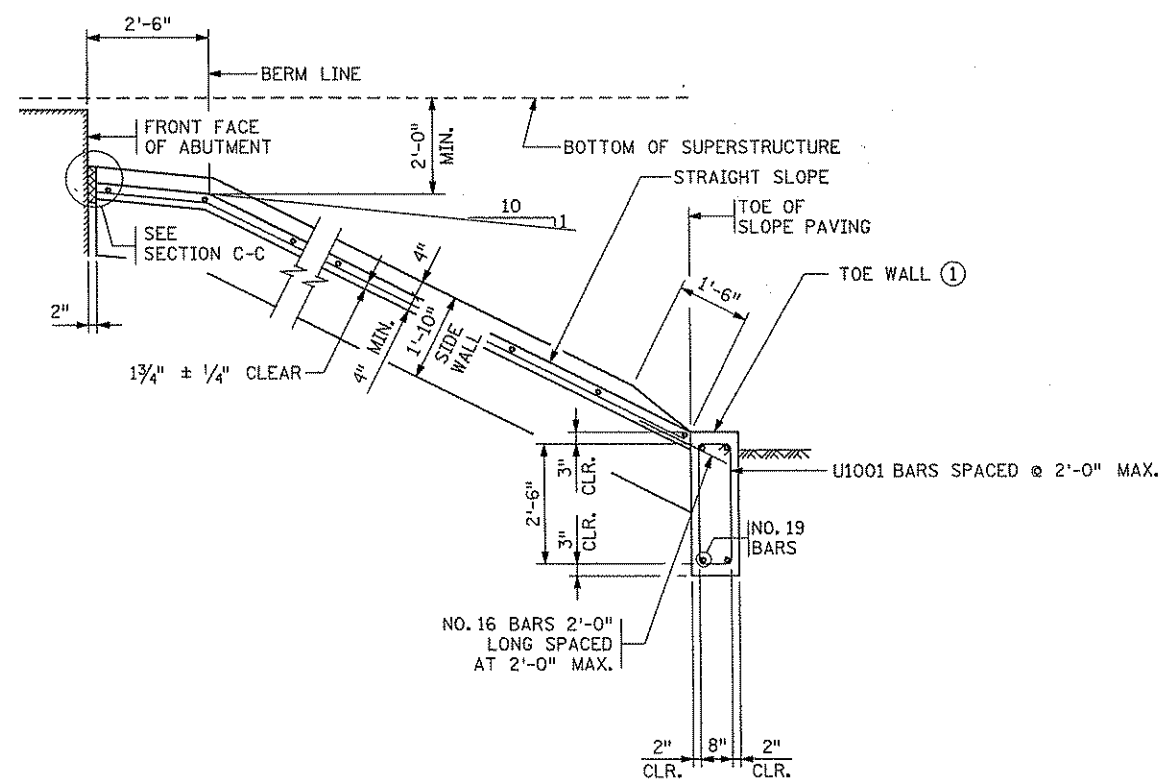
LAYOUT FOR SLOPES AT HIGH ABUTMENTS



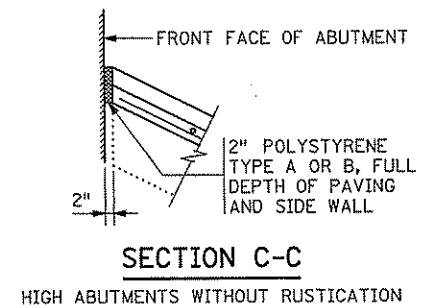
SECTION B-B
NORMAL TO SLOPE



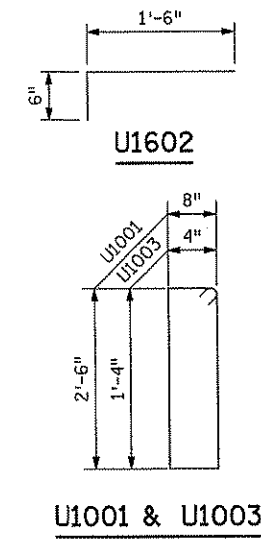
PAVING DETAIL



SECTION A-A
1:2 SLOPE SHOWN



SECTION C-C
HIGH ABUTMENTS WITHOUT RUSTICATION



CONCRETE & REINFORCEMENT UNIT QUANTITIES

- ① 0.111 CU. YD. OF CONCRETE/LIN. FT.
8.37 LBS. OF REINFORCEMENT/LIN. FT.
- ② 0.046 CU. YD. OF CONCRETE/LIN. FT.
4.46 LBS. OF REINFORCEMENT/LIN. FT.
- ③ 0.111 CU. YD. OF CONCRETE/SQ. YD.
4.50 LBS. OF REINFORCEMENT/SQ. YD.

GENERAL NOTE

SLOPES ARE EXPRESSED AS A RATIO OF VERTICAL DISTANCE: HORIZONTAL DISTANCE.

REVISION:
APPROVED: SEPTEMBER 26, 2003
David L. Bergman
STATE BRIDGE ENGINEER

MODIFIED
FIG. 5-397.301

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.
Pr Inf Name: KEVIN L. SWEHLA
Kevin L. Swehla
Date: 4/15/09 License: 42791

STATE PROJ. NO.
02-614-28
BRIDGE NO.
02812
DRAWN BY
J. HOFFMAN
DESIGNED BY
D. ROTHSTEIN
CHECKED BY
K. SWEHLA
COMM. NO. 6509

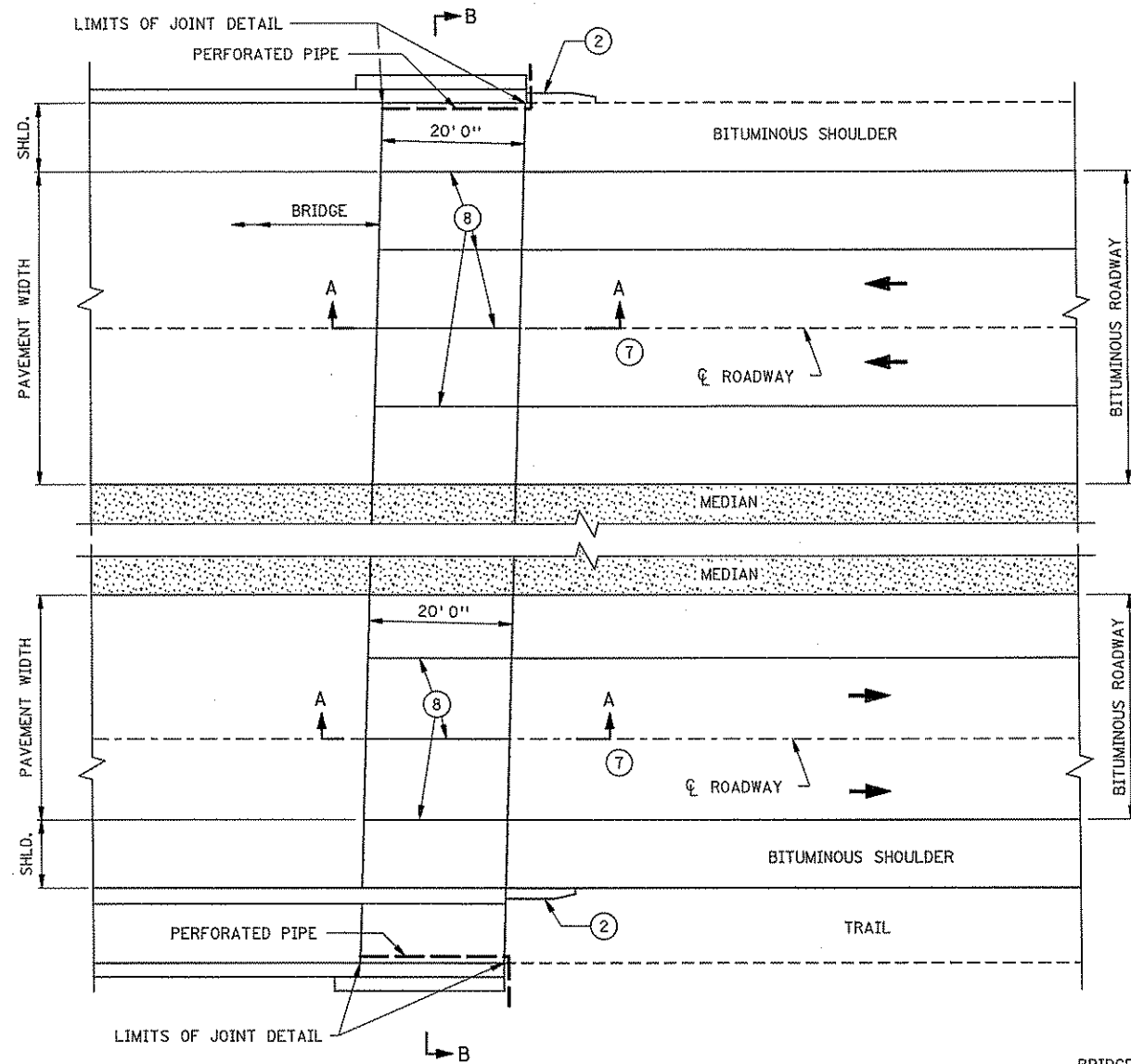


ANOKA COUNTY
CSAH 14 OVER I-35E
CONCRETE SLOPE PAVING UNDER BRIDGE

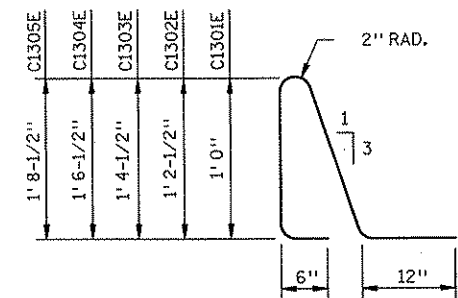
SHEET
B37
OF
B49

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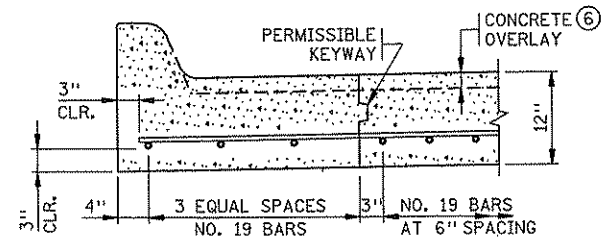
NO	DATE	BY	CHKD	APPR	REVISION



EAST APPROACH PANEL PLAN
(EAST APPROACH PANEL SHOWN, WEST APPROACH PANEL SIMILAR)

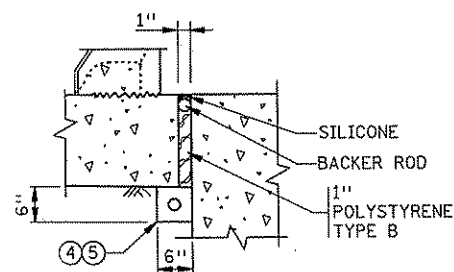


C1301E - C1305E ①

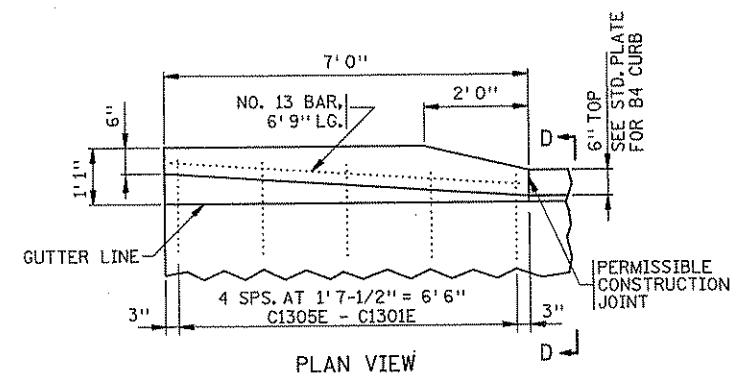


CURB DETAIL ①

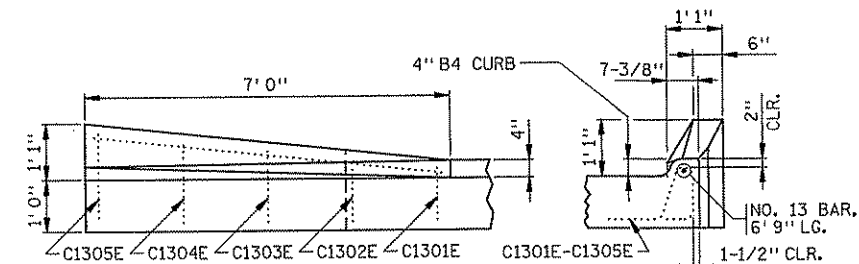
(B4 INTEGRANT CURB OR B624 MODIFIED CURB AND GUTTER)



JOINT DETAIL
(AT PARALLEL WINGWALLS)



PLAN VIEW



INSIDE ELEVATION

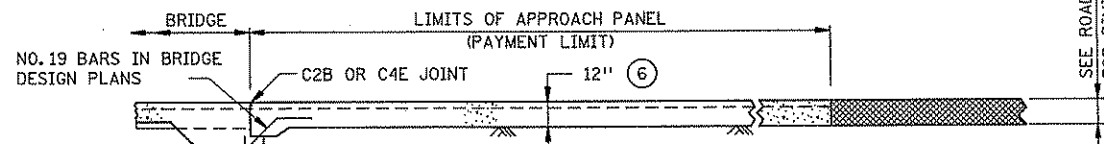
SECTION D-D

CURB TRANSITION DETAILS ①

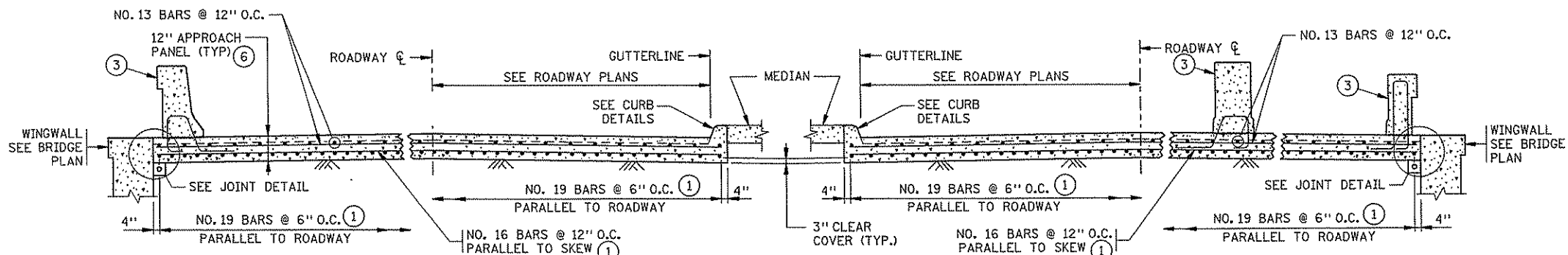
NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

- ① ALL REINFORCEMENT IN APPROACH PANEL, SILL AND CURB SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.
- ② TRANSITION FACE OF 4" CURB INTO PROFILE OF BRIDGE RAILING. SEE CURB TRANSITION DETAILS.
- ③ SEE CONCRETE RAILING DETAILS FOR BAR SIZE AND LOCATION. (BARS NOT SHOWN FOR CLARITY)
- ④ 2" NOMINAL DIA. THERMOPLASTIC PIPE, AS PER ASTM D1785M, SCHEDULE 40. SLOPE PIPE TO DITCH. FURNISHING AND INSTALLING DRAIN SYSTEM SHALL BE INCIDENTAL, WITH NO DIRECT PAYMENT. WRAP PERFORATED PIPE WITH GEOTEXTILE AS PER SPEC. 3733. 1/8" PER 12" MINIMUM SLOPE.
- ⑤ BACKFILL WITH FINE AGGREGATE, SPEC. 3149, MODIFIED TO 0-3% PASSING A NO. 200 SIEVE.
- ⑥ APPROACH SLAB THICKNESS SHOWN INCLUDES ANY CONCRETE OVERLAY THAT MAY BE REQUIRED. CHECK BRIDGE PLANS FOR OVERLAYS. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.
- ⑦ SEE BRIDGE SURVEY FOR BRIDGE APPROACH ROADWAY INFORMATION.
- ⑧ L2KT OR L1T LONGITUDINAL JOINT IS REQUIRED. SEE STANDARD PAVEMENT JOINT SHEET FOR DETAILS.



SECTION A-A
(MAIN REINFORCEMENT NOT SHOWN)



SECTION B-B
(SEE ROADWAY PLAN VIEW)

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: KEVIN L. SWEHLA
 Date: 4/15/09 License #: 42791

STATE PROJ. NO.
02-614-28
 BRIDGE NO.
02812

DRAWN BY
J. HOFFMAN
 DESIGNED BY
D. ROTHSTEIN
 CHECKED BY
K. SWEHLA
 COMM. NO. 6509

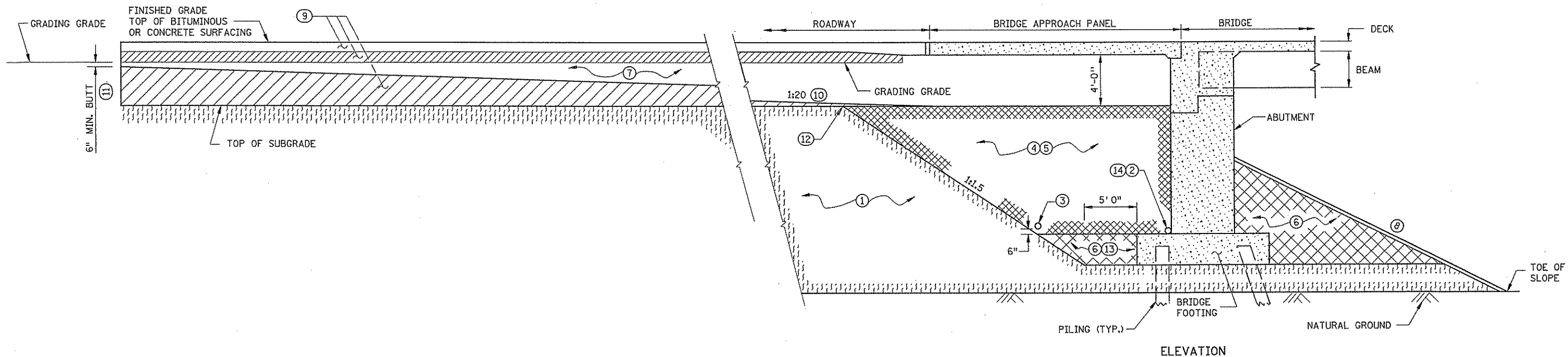


ANOKA COUNTY		SHEET B38 OF B49
CSAH 14 OVER I-35E BRIDGE APPROACH PANEL		
BITUMINOUS MAINLINE - JOINTLESS ABUTMENT		

MODIFIED
STANDARD SHEET NO. 5-297.231
STANDARD APPROVED: MAY 7, 2002

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NO.	DATE	BY	CHKD	APPR	REVISION



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

NOTES:

- ① NATURAL GROUND OR SUITABLE GRADING MATERIAL.
- ② SUBSURFACE PIPE DRAIN. SEE BRIDGE PLAN FOR STANDARD DETAIL B910 FOR DETAILS.
- ③ SUBSURFACE PIPE DRAIN. SEE GRADING PLAN FOR DETAILS. FURNISH AND INSTALL IF SHOWN IN GRADING PLAN.
- ④ SELECT GRANULAR MATERIAL MODIFIED 10% SHALL COMPLY WITH SPEC. 3149.2B2, MODIFIED TO 10% OR LESS PASSING THE NUMBER 200 SIEVE.
- ⑤ QUANTITY OF SELECT GRANULAR MATERIAL MODIFIED 10% IS BASED ON DIMENSIONS SHOWN AND PAYMENT IS BASED ON THIS QUANTITY. SEE GRADING PLAN FOR QUANTITY. Mn/DOT SPEC. 1903 SHALL NOT APPLY IF THE CONTRACTOR CHOOSES TO INCREASE DIMENSIONS IN ORDER TO FACILITATE CONSTRUCTION OPERATIONS AND ANY QUANTITY INCREASES SHALL BE CONSIDERED INCIDENTAL.
- ⑥ SUITABLE GRADING MATERIAL.
- ⑦ BACKFILL MATERIAL SHALL COMPLY WITH SPEC. 3149.2B2 (SELECT GRANULAR BORROW).
- ⑧ SEE BRIDGE PLANS FOR SLOPE AND SLOPE PROTECTION.
- ⑨ SEE GRADING PLANS FOR TYPE OF MATERIAL.
- ⑩ START 1:20 TAPER AT END OF APPROACH PANEL. 1:20 VARIES WHEN APPROACH PANEL IS SKEWED.
- ⑪ GRADING TO BE SQUARED OFF ON SKEWED BRIDGES.
- ⑫ TOP OF 1:1.5 SLOPE (FORMS A LINE PARALLEL TO END OF BRIDGE).
- ⑬ MATERIAL SHALL HAVE SUITABLE MOISTURE CONTENT DURING PLACEMENT AND SHALL BE COMPACTED PER SPEC. 2105. SELECT GRANULAR MATERIAL MODIFIED 10% MAY BE USED IN LIEU OF SUITABLE GRADING MATERIAL.
- ⑭ FURNISH AND INSTALL AT TOP OF BRIDGE FOOTING IF BRIDGE DETAIL B910 IS INCLUDED ON BRIDGE PLAN.

11:09:57 AM 4/30/2009 ... \br\final\plan\6509_app02.dgn

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: **KEVIN L. SWEHLA**
Kevin L Swehla
 Date: **4/15/09** License #: **42791**

STATE PROJ. NO.
02-614-28

BRIDGE NO.
02812

DRAWN BY
J. HOFFMAN

DESIGNED BY
D. ROTHSTEIN

CHECKED BY
K. SWEHLA

COMM. NO. 6509



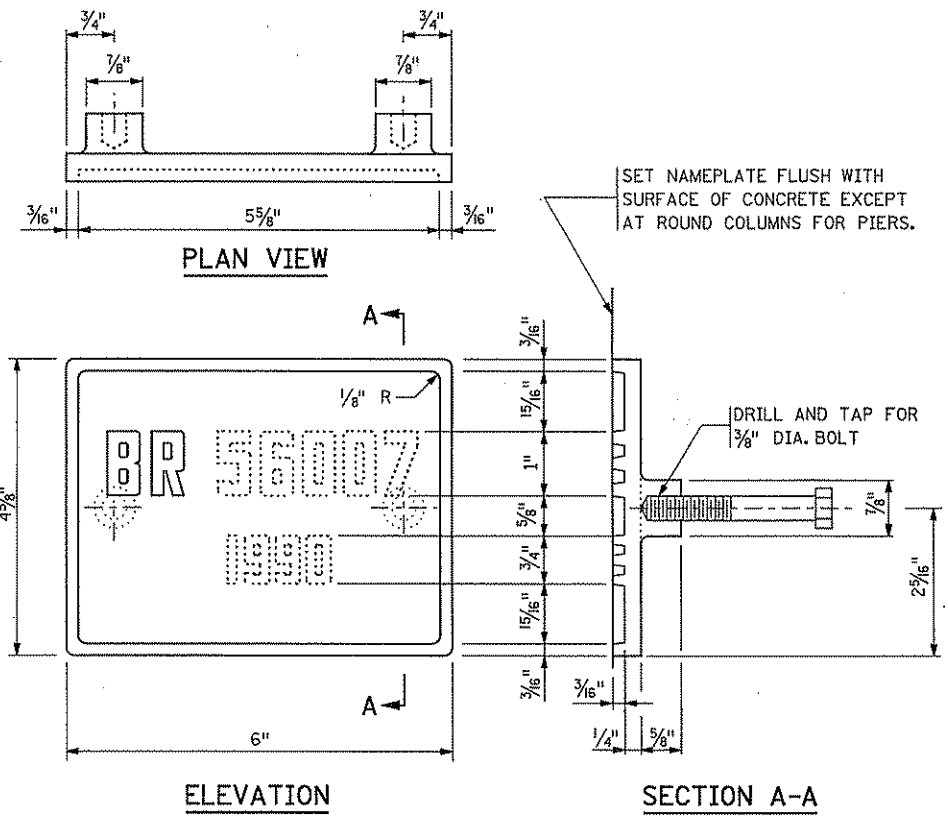
ANOKA COUNTY
 CSAH 14 OVER I-35E
 BRIDGE APPROACH TREATMENT

SHEET
B39
OF
B49

MODIFIED

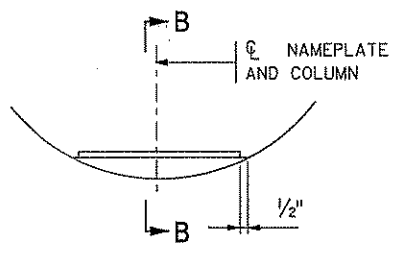
STANDARD SHEET NO.
5-297.233

STANDARD APPROVED:
APRIL 11, 2008



THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION. DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

BRIDGE 02812
YEAR 2009



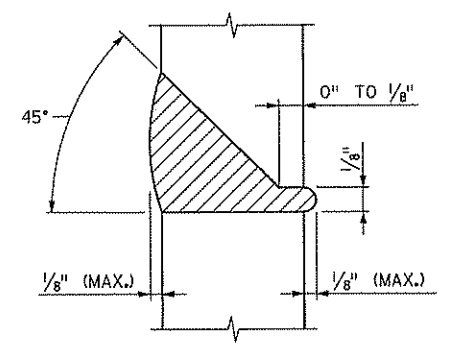
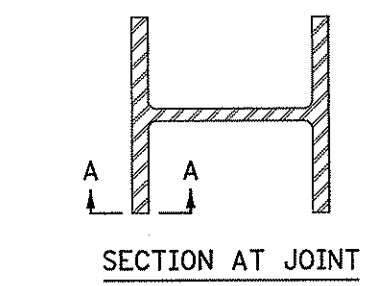
NAMEPLATE PLACEMENT
(ROUND CONCRETE PIER COLUMNS)



NUMBERS FOR NAMEPLATE

NOTES:

- NO SHOP DRAWING REQUIRED.
- MATERIAL SHALL COMPLY WITH Mn/DOT SPEC. 3327.
- LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.
- DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3" IN 12".
- HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.
- TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.
- FURNISH 2 STEEL BOLTS 3/8" DIA. x 3" LONG WITH EACH PLATE.
- ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH LETTERS AND NUMBERS.



SECTION A-A
100% BUTT WELDED PILE SPLICE

NOTES:

- CELLULOSIC TYPE ELECTRODES E-6010 OR E-6011 SHALL BE USED FOR 100% BUTT WELDED SPLICES.
- ELECTRODES WHICH HAVE BECOME WET, SOILED OR DAMAGED SHALL NOT BE USED.
- WELDING SHALL NOT BE DONE WHEN THE AMBIENT TEMPERATURE IS LOWER THAN 0° F. OR WHEN THE PILE IS WET OR EXPOSED TO FALLING RAIN OR SNOW. WHEN THE PILE METAL TEMPERATURE IS BELOW 32° F., THE PILE METAL IN THE AREA OF THE WELD SHALL BE HEATED TO A MINIMUM TEMPERATURE OF 70° F. AND MAINTAINED AT THIS TEMPERATURE DURING WELDING.

APPROVED: NOVEMBER 22, 2002

Daniel J. Hanson
STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE NAMEPLATE
(FOR NEW BRIDGES)

REVISION DETAIL NO.

B101

APPROVED: NOVEMBER 22, 2002

Daniel J. Hanson
STATE BRIDGE ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

PILE SPLICE
(STEEL H BEARING PILES 10" TO 14")

REVISION DETAIL NO.

B202

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: KEVIN L. SWEHLA
Kevin L. Swehla
Date: 4/15/09 License #: 42791

STATE PROJ. NO.
02-614-28
BRIDGE NO.
02812

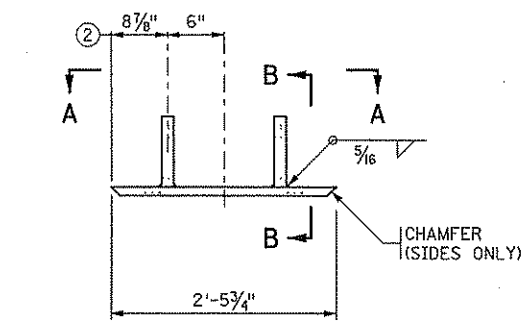
DRAWN BY
J. HOFFMAN
DESIGNED BY
D. ROTHSTEIN
CHECKED BY
K. SWEHLA
COMM. NO. 6509



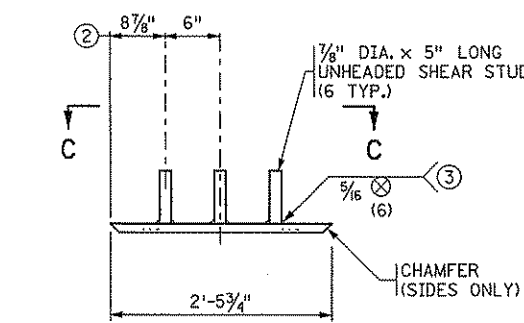
ANOKA COUNTY
CSAH 14 OVER I-35E
DETAILS
(SHEET 1 OF 5)

SHEET
B40
OF
B49

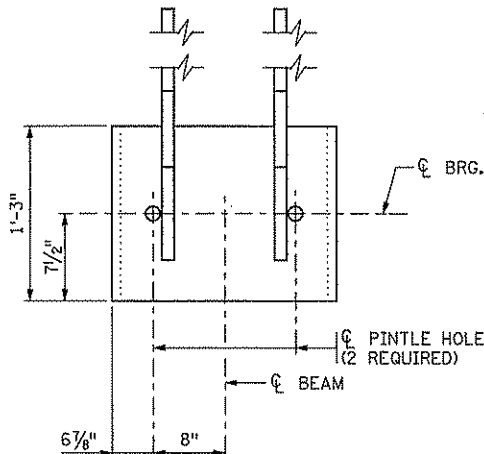
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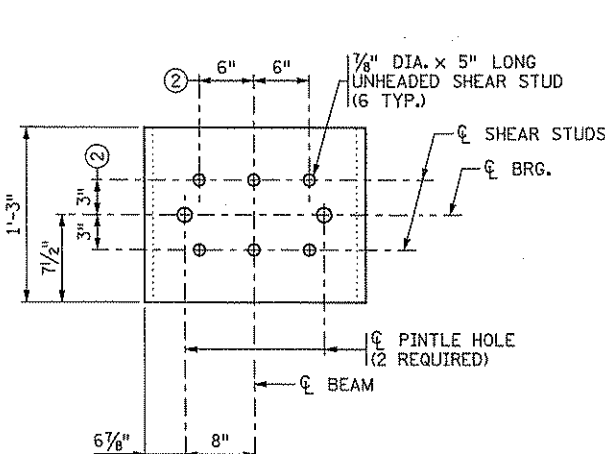
FRONT ELEVATION - OPTION 1



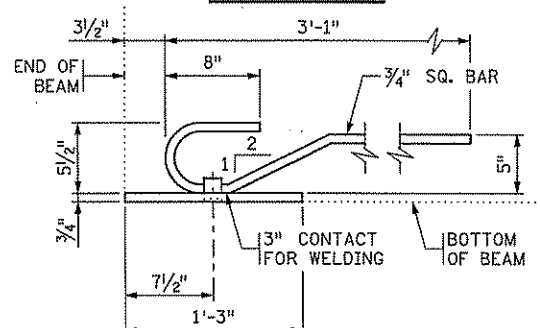
FRONT ELEVATION - OPTION 2



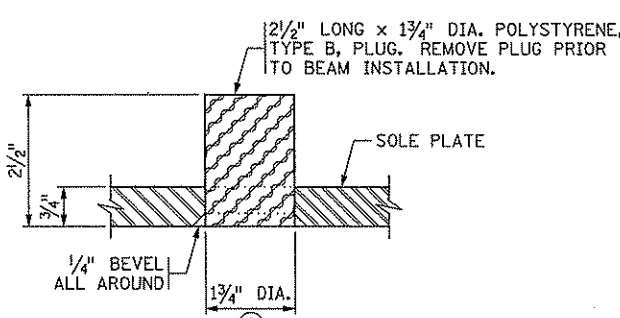
SECTION A-A



SECTION C-C

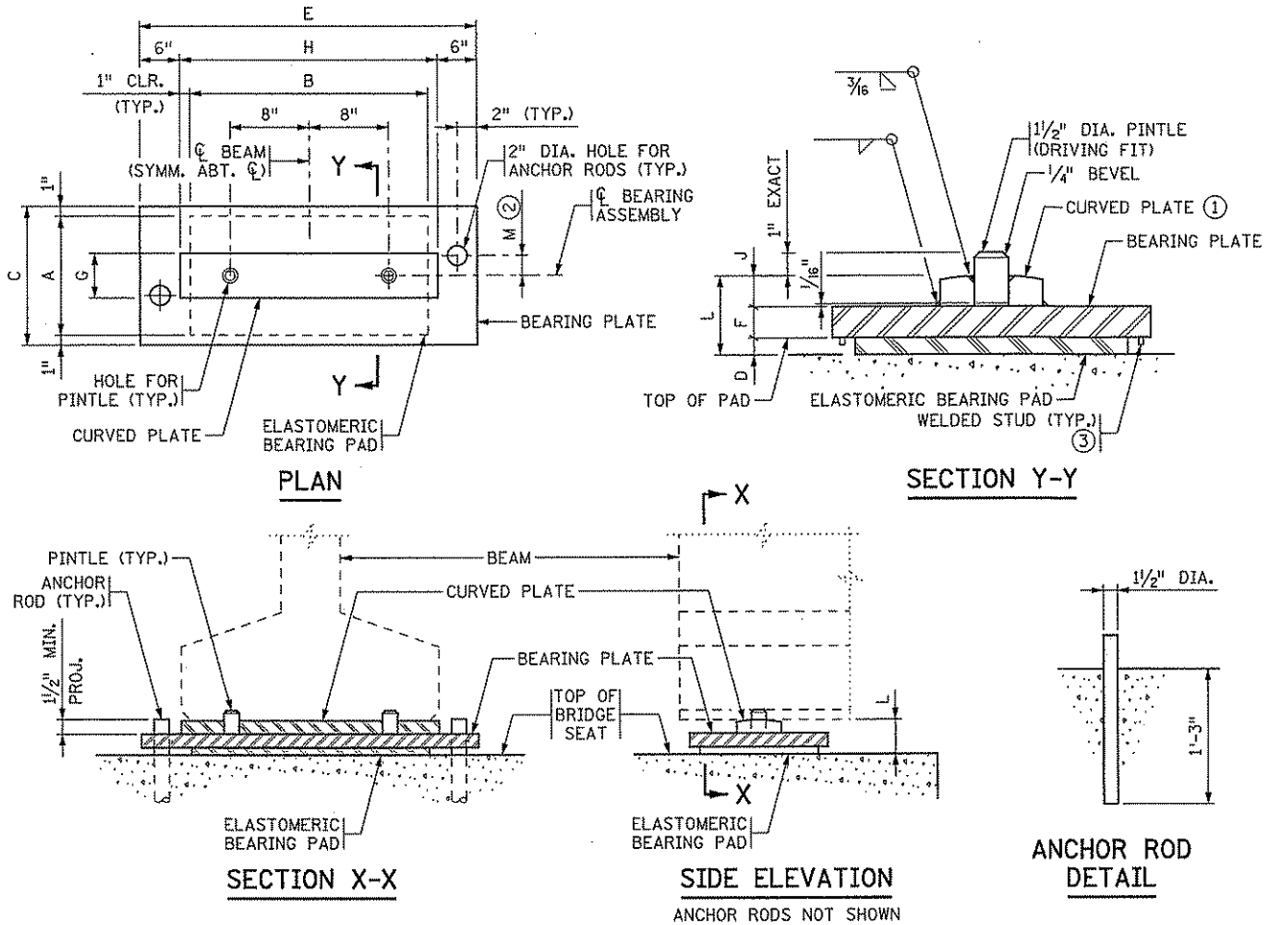


SECTION B-B



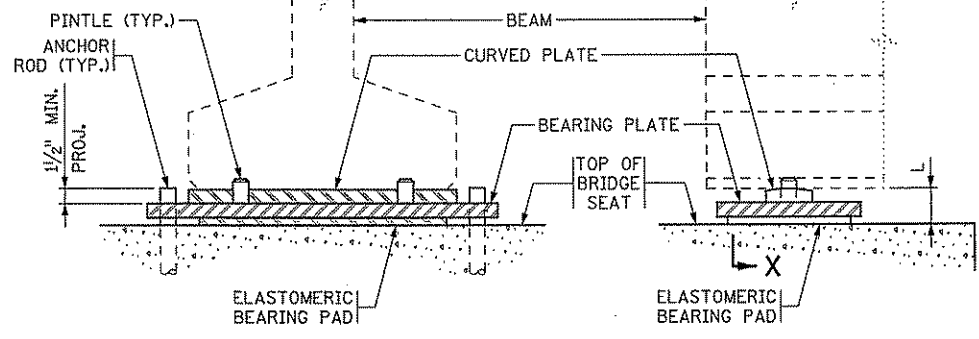
PINTLE HOLE DETAIL

NOTES:
 MATERIAL TO BE STRUCTURAL STEEL PER Mn/DOT SPEC. 3306.
 WELDED STUDS TO BE WELDABLE CARBON STEEL PER Mn/DOT SPEC. 3391.2D.
 SOLE PLATE FOR BEARING ASSEMBLY TO BE GALVANIZED PER Mn/DOT SPEC. 3394 AFTER FABRICATION.
 PINTLE HOLES SHALL BE FREE OF ZINC BUILD UP FROM GALVANIZING.
 SOLE PLATES ARE INCIDENTAL TO PRESTRESSED CONCRETE BEAMS.
 ① FOR 1/2" DIA. PINTLES.
 ② THESE DIMENSIONS MAY BE MODIFIED TO CLEAR PRESTRESSED STRANDS. HOWEVER, CHANGES MUST BE APPROVED BY THE ENGINEER.
 ③ THE REQUIREMENTS FOR WELDING STUDS SHALL COMPLY WITH AASHTO/AWS D1.5.



PLAN

SECTION Y-Y



SECTION X-X

SIDE ELEVATION

ANCHOR ROD DETAIL

ASSEMBLY TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE			SHAPE FACTOR	BEARING PLATE SIZE			CURVED PLATE SIZE			ANCHOR ROD OFFSET	ASSY. HEIGHT	CURVED PLATE	
			A	B	D		C	E	F	G	H	J				
			TABLE													
F-1	PIER	MNG3	12"	24"	1/2"	8.0	14"	38"	1 1/2"	4 1/2"	26"	1 1/4"	+/- ②	1/2"	3 1/4"	16"

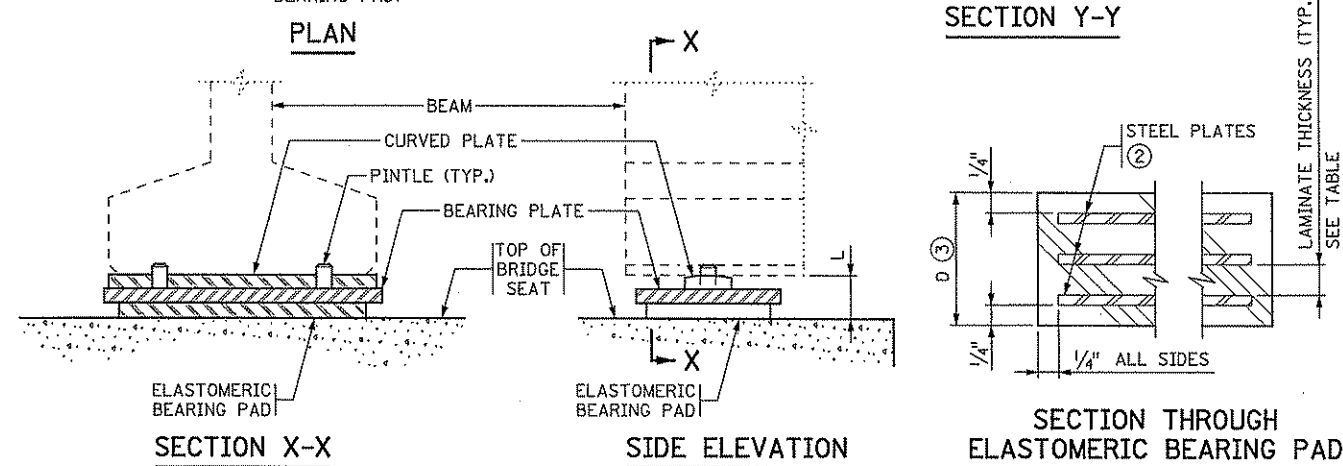
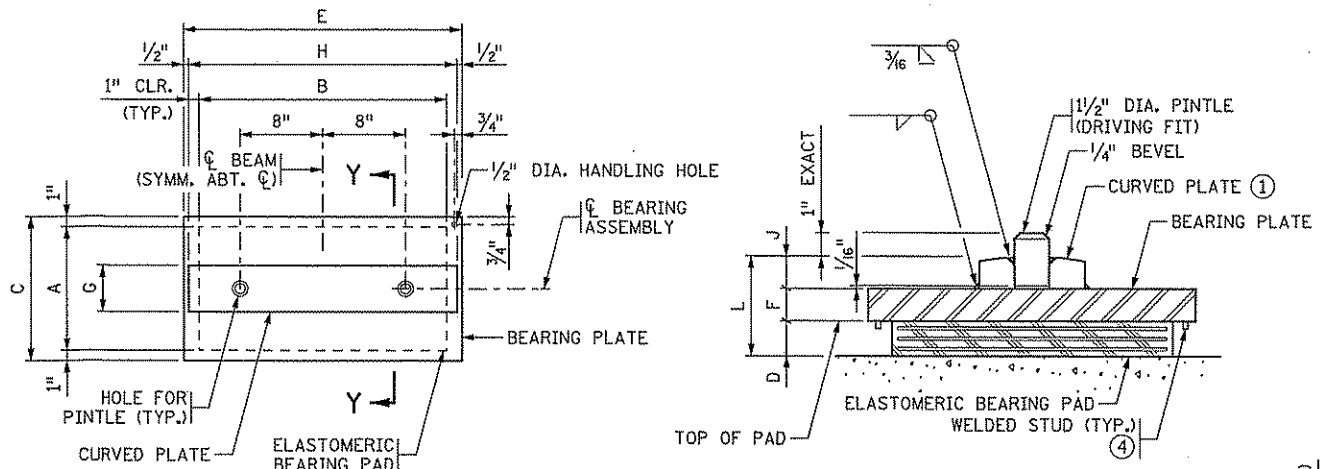
NOTES:
 ELASTOMERIC MATERIALS AND PAD CONSTRUCTION SHALL COMPLY WITH Mn/DOT SPEC. 3741.
 ALL STEEL PLATES SHALL COMPLY WITH Mn/DOT SPEC. 3306.
 ANCHOR RODS SHALL COMPLY WITH Mn/DOT SPEC. 3306. GALVANIZE PER Mn/DOT SPEC. 3394.
 PINTLES SHALL COMPLY WITH Mn/DOT SPEC. 3309.
 GALVANIZE STRUCTURAL STEEL BEARING ASSEMBLY AFTER FABRICATION PER Mn/DOT SPEC. 3394, EXCEPT AS NOTED.
 PAYMENT FOR BEARING ASSEMBLY SHALL INCLUDE ALL MATERIAL ON THIS DETAIL.

① THE MIN. RADIUS SHALL BE 16" UNLESS OTHERWISE SPECIFIED IN THE TABLE. THE MAX. RADIUS SHALL BE 24". FINISH TO 250 MICRO. THE FINISHED THICKNESS OF THE PLATE MAY BE 1/16" LESS THAN SHOWN.
 ② "+" DENOTES OFFSET AS SHOWN. "-" DENOTES OFFSET OPPOSITE OF SHOWN.
 ③ 5/16" DIA. x 3/8" KNOCK-OFF WELD STUDS INSTALLED ON BEARING PLATE AROUND PERIMETER OF BEARING PAD. CENTERLINE STUD TO EDGE OF PAD DIMENSION = 1/2", MAX. STUD SPACING = 4", AND MAX. SPACING TO PAD CORNER = 2".

DESIGN DATA:
 MAXIMUM HORIZONTAL LOAD IS TO KIPS FOR 1/2" PINTLES.

APPROVED: OCTOBER 26, 2005 <i>Daniel J. Morgan</i> STATE BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION SOLE PLATE (PRESTRESSED CONCRETE BEAMS) (FOR BEARINGS WITH PINTLES)	REVISED 06-14-2006 10-28-2008	DETAIL NO. B303	APPROVED: OCTOBER 26, 2005 <i>Daniel J. Morgan</i> STATE BRIDGE ENGINEER	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION CURVED PLATE BEARING ASSEMBLY (PRESTRESSED CONCRETE BEAMS) (FIXED)	REVISED 08-10-2006 10-28-2008	DETAIL NO. B310	ANOKA COUNTY CSAH 14 OVER I-35E DETAILS (SHEET 2 OF 5)	SHEET B41 OF B49
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. Pr Int Name: KEVIN L. SWEHLA <i>Kevin L. Swehla</i> Date: 4/15/09 License # 42791				STATE PROJ. NO. 02-614-28	DRAWN BY J. HOFFMAN	SRF CONSULTING GROUP, INC.			
BRIDGE NO. 02812				DESIGNED BY D. ROTHSTEIN					
Date: 4/15/09 License # 42791				COMM. NO. 6509					

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ASSEMBLY TYPE	LOCATION	BEAM SIZE	BEARING PAD SIZE			STEEL PLATES		LAMINATES		SHAPE FACTOR	BEARING PLATE SIZE			CURVED PLATE SIZE			ASSY. HEIGHT	CURVED PLATE
			A	B	D	NO.	THICK.	NO.	THICK.		C	E	F	G	H	J		
E-1	W. & E. ABUT.	MN63	12"	24"	2 1/2"	4	1/8"	3	1/2"	8.0	14"	27"	1 1/2"	4 1/2"	26"	1 1/4"	5 1/4"	16"
E-2	PIER	MN63	12"	24"	1 1/2"	-	-	-	-	8.0	14"	27"	1 1/2"	4 1/2"	26"	1 1/4"	3 1/4"	16"

NOTES:

ELASTOMERIC MATERIALS AND PAD CONSTRUCTION SHALL COMPLY WITH Mn/DOT SPEC. 3741.
 ALL STEEL PLATES SHALL COMPLY WITH Mn/DOT SPEC. 3306.
 PINTLES SHALL COMPLY WITH Mn/DOT SPEC. 3309.
 GALVANIZE STRUCTURAL STEEL BEARING ASSEMBLY AFTER FABRICATION PER Mn/DOT SPEC. 3394, EXCEPT AS NOTED.
 PAYMENT FOR BEARING ASSEMBLY SHALL INCLUDE ALL MATERIAL ON THIS DETAIL.

- 1 THE MIN. RADIUS SHALL BE 16" UNLESS OTHERWISE SPECIFIED IN THE TABLE. THE MAX. RADIUS SHALL BE 24". FINISH TO 250 MICRO. THE FINISHED THICKNESS OF THE PLATE MAY BE 1/16" LESS THAN SHOWN.
- 2 DO NOT GALVANIZE THESE PLATES.
- 3 THE TOTAL THICKNESS SHOWN INCLUDES THE STEEL PLATES.
- 4 5/16" DIA. x 3/8" KNOCK-OFF WELD STUDS INSTALLED ON BEARING PLATE AROUND PERIMETER OF BEARING PAD. CENTERLINE STUD TO EDGE OF PAD DIMENSION = 1/2", MAX. STUD SPACING = 4", AND MAX. SPACING TO PAD CORNER = 2".

DESIGN DATA:

MAXIMUM HORIZONTAL LOAD IS 70 KIPS FOR 1 1/2" PINTLES.

APPROVED: OCTOBER 26, 2005

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
CURVED PLATE BEARING ASSEMBLY
 (PRESTRESSED CONCRETE BEAMS)
 (EXPANSION)

REVISED
 08-10-2006
 10-28-2008

DETAIL NO.
B311

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.
 Pr Int Name: **KEVIN L. SWEHLA**
Kevin L. Swehla
 Date: **9/15/09** License # **42791**

STATE PROJ. NO.
 02-614-28
 BRIDGE NO.
 02812

APPROVED: OCTOBER 26, 2005

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
STEEL INTERMEDIATE DIAPHRAGM
 (FOR 36M - 54M, MN45 - MN63 PRESTRESSED CONCRETE BEAMS)

REVISED
 06-14-2006

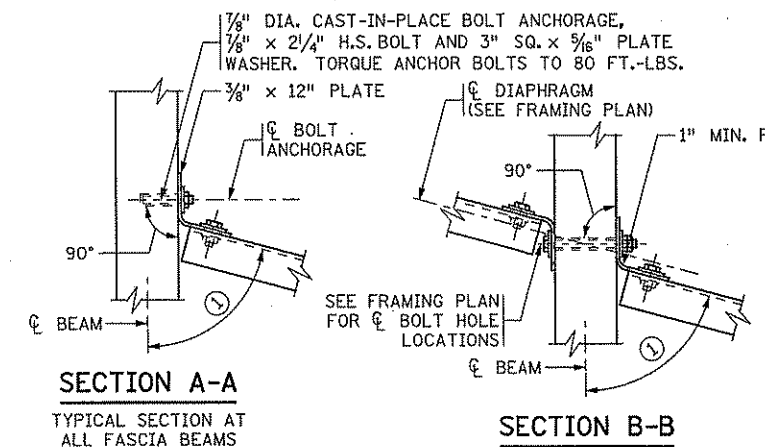
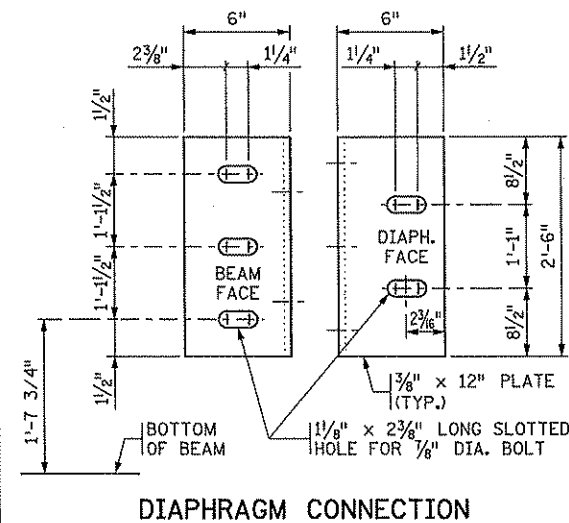
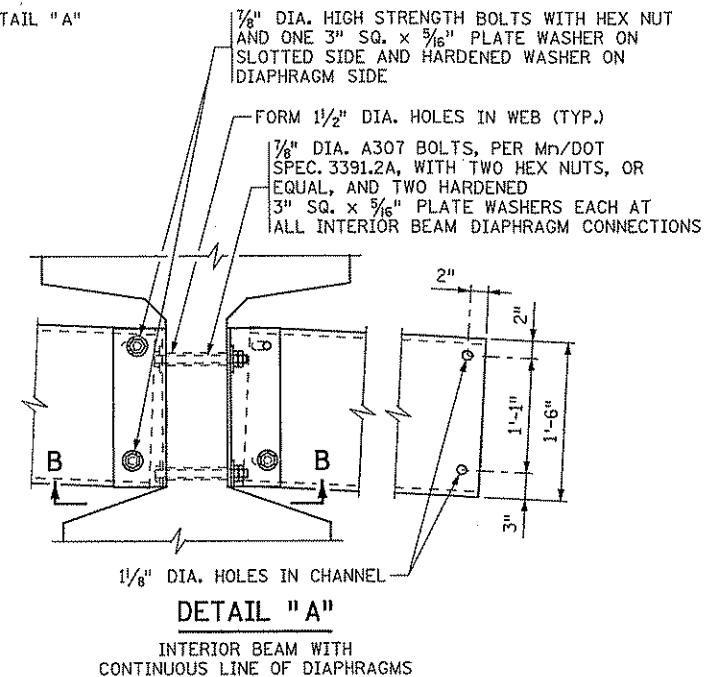
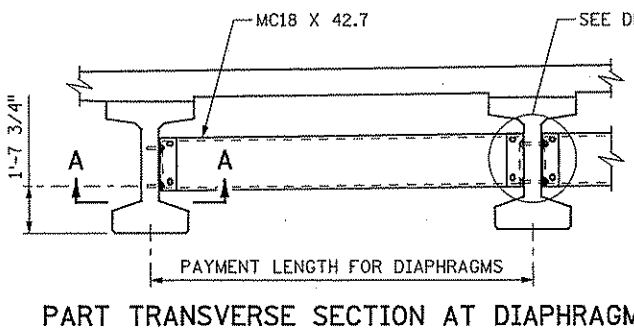
DETAIL NO.
B403

DRAWN BY
J. HOFFMAN
 DESIGNED BY
D. ROTHSTEIN
 CHECKED BY
K. SWEHLA
 COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
DETAILS
 (SHEET 3 OF 5)

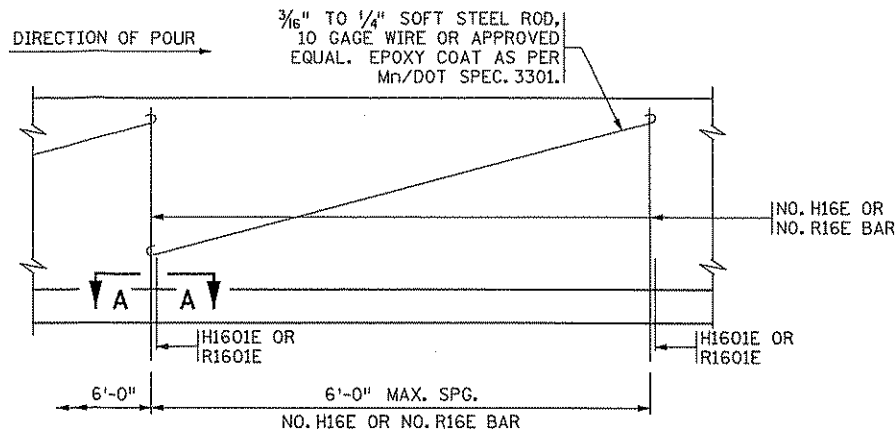
SHEET
 B42
 OF
 B49



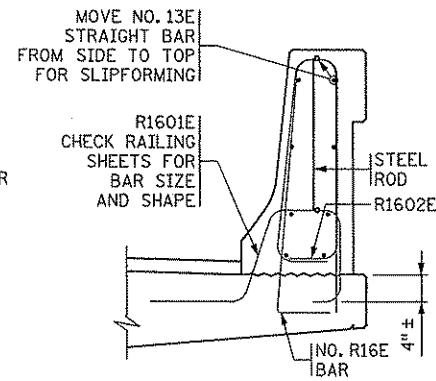
NOTES:

- ALL STEEL SHALL CONFORM TO Mn/DOT SPEC. 3306.
 INSTALLATION SHALL CONFORM TO Mn/DOT SPEC. 2405.3M.
 THE LEG OF THE 12" PLATE SHALL BE SHOP BENT TO CONFORM TO THE DIAPHRAGM. A 3/8" x 6" x 6" ANGLE MAY BE USED FOR DIAPHRAGMS PERPENDICULAR TO BEAMS.
 ALL STRUCTURAL STEEL SHOWN ON THIS DETAIL, INCLUDING BOLTS AND WASHERS, SHALL BE INCLUDED IN UNIT PRICE BID FOR DIAPHRAGMS FOR PRESTRESSED BEAMS.
 BENT PLATES MAY BE USED IN PLACE OF CHANNELS. THE BENT PLATES MUST BE THE SAME HEIGHT AS THE CHANNELS THEY REPLACE, BE 1/16" IN THICKNESS, AND HAVE LEGS 5" LONG.
 ① SEE FRAMING PLAN FOR ANGLE.

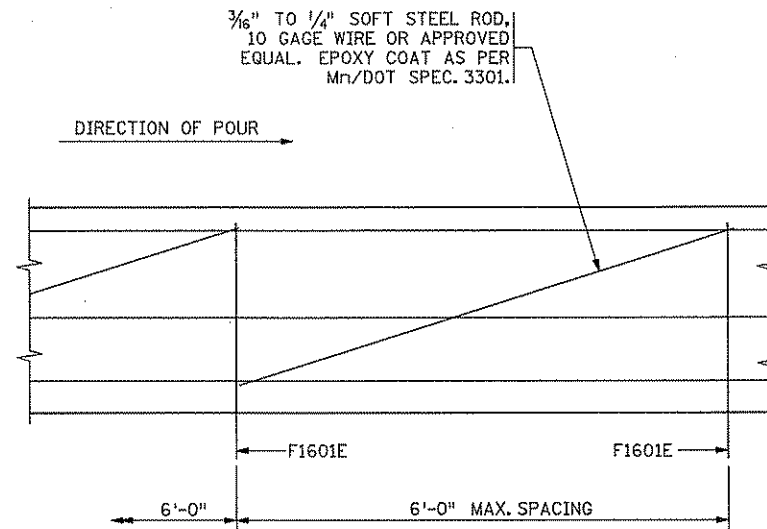
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 11/17/2009
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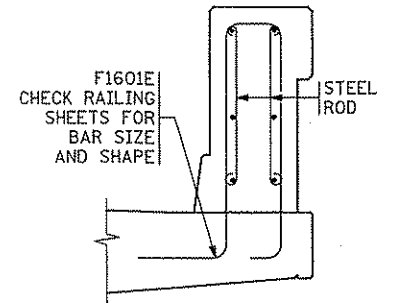
INSIDE ELEVATION OF RAILING



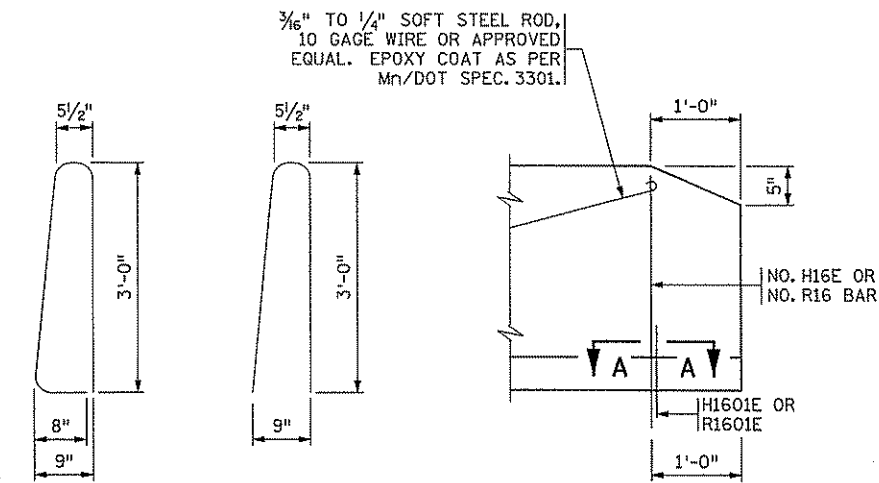
TYPE F RAILING SECTION



INSIDE ELEVATION OF RAILING



RAILING SECTION
FENCE NOT SHOWN

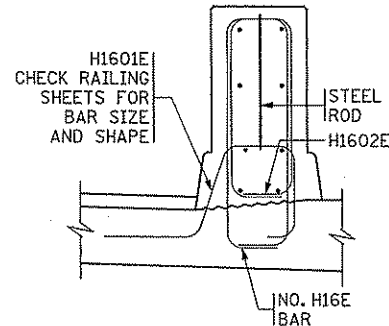


NO. R16E BAR NO. R16E BAR

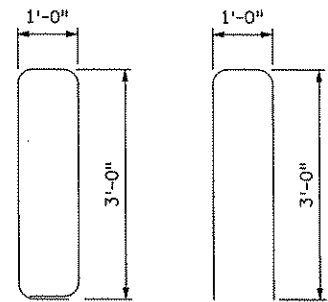
DRILLED IN ALTERNATE

INSIDE ELEVATION OF RAILING

AT END OF WINGWALL



TYPE P-4 RAILING SECTION



NO. H16E BAR NO. H16E BAR

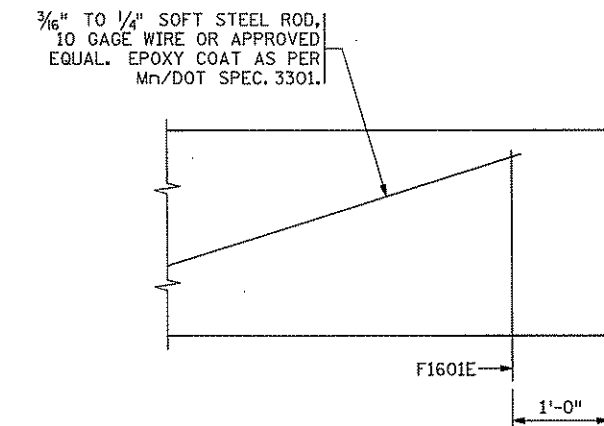
DRILLED IN ALTERNATE

NOTES:

CONTRACTOR WILL TOOL V-GROOVE AT DEFLECTION JOINTS AT TIME RAIL IS CAST AND SHALL EXTEND V-GROOVE AROUND ENTIRE PERIMETER OF RAIL.

FORM RAIL FOR A MINIMUM OF 2' ON EACH SIDE OF EXPANSION DEVICES, LIGHT STANDARDS AND DECK DRAIN BOX OUTS.

PAY QUANTITIES WILL NOT BE ADJUSTED AS A RESULT OF SELECTING THIS ALTERNATE.



INSIDE ELEVATION OF RAILING

AT END OF WINGWALL

NOTES:

CONTRACTOR WILL TOOL V-GROOVE AT DEFLECTION JOINTS AT TIME RAIL IS CAST AND SHALL EXTEND V-GROOVE AROUND ENTIRE PERIMETER OF RAIL.

FOR ADDITIONAL DIMENSIONS, DETAILS, REINFORCEMENT AND NOTES SEE RAILING SHEET.

PAY QUANTITIES WILL NOT BE ADJUSTED AS A RESULT OF SELECTING THIS ALTERNATE.

APPROVED: NOVEMBER 22, 2002

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

REVISION DETAIL NO.

CONCRETE RAILING (TYPE F & TYPE P-4)
(SLIPFORM ALTERNATE)

B830

APPROVED: NOVEMBER 22, 2002

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

REVISION DETAIL NO.

CONCRETE RAILING (TYPE P-1)
(SLIPFORM ALTERNATE)

B831

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: KEVIN L. SWEHLA
Kevin L. Swehla
Date: 9/15/09 License #: 42791

STATE PROJ. NO.
02-614-28

BRIDGE NO.
02812

DRAWN BY
J. HOFFMAN
DESIGNED BY
D. ROTHSTEIN
CHECKED BY
K. SWEHLA
COMM. NO. 6509

SRF CONSULTING
GROUP, INC.

ANOKA COUNTY
CSAH 14 OVER I-35E
DETAILS
(SHEET 4 OF 5)

SHEET
B43
OF
B49

6/5/4/14 AM
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NO	DATE	BY	CKD	APPR	REVISION

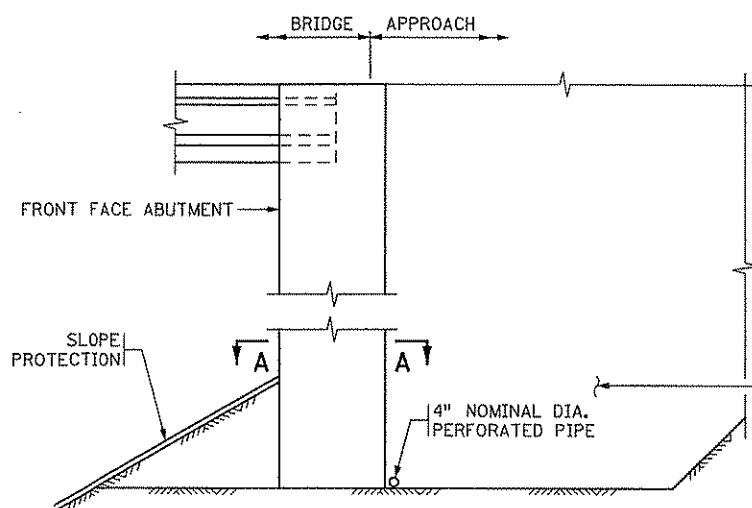
SUMMARY OF QUANTITIES FOR DRAINAGE SYSTEM

4" DIA. PERFORATED PIPE	325 LIN. FT.
4" DIA. NON-PERFORATED PIPE	50 LIN. FT.
45° ELBOW	2 EACH
90° ELBOW	2 EACH
4" DIA. END CAP	4 EACH
4" DIA. TEE	2 EACH
PRECAST CONCRETE HEADWALL	2 EACH
PIPE SLEEVE	2 EACH

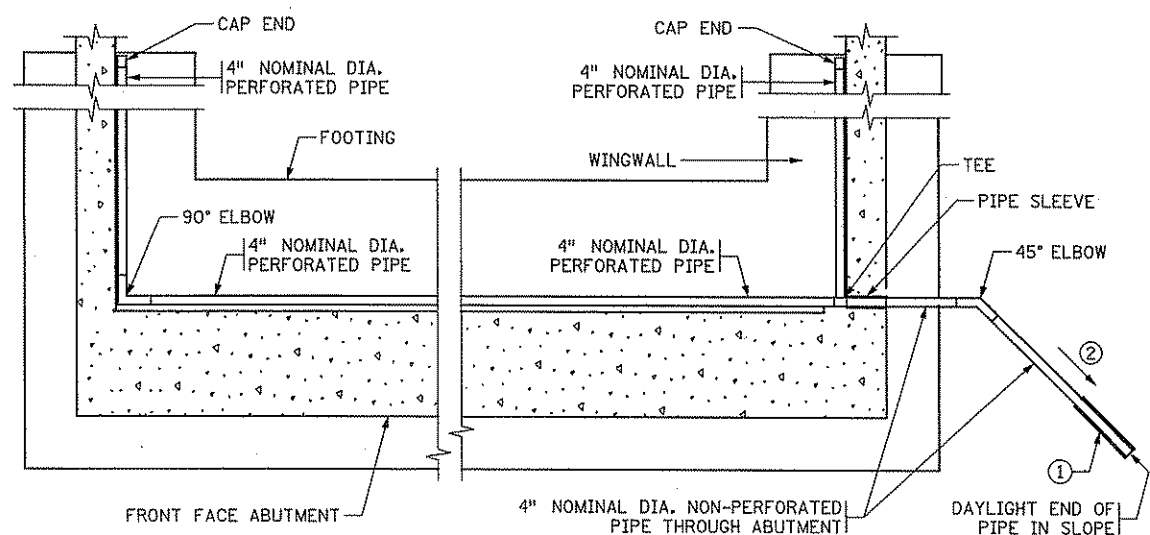
THE SUMMARY OF QUANTITIES FOR DRAINAGE SYSTEM IS AS SHOWN ABOVE. ANY ADDITIONAL MINOR ITEMS OR SLIGHT CHANGES OF QUANTITIES REQUIRED SHALL BE FURNISHED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION.

PAYMENT WILL BE INCLUDED IN THE SINGLE LUMP SUM PRICE FOR ITEM 2502.502 "DRAINAGE SYSTEM TYPE (B910)".

MATERIAL SHALL COMPLY WITH Mn/DOT SPEC. 3149.2B SELECT GRANULAR BORROW, MODIFIED SO THAT NO MORE THAN 10% PASSES A NO. 200 SIEVE. (UNDER GRADING PORTION OF CONTRACT)



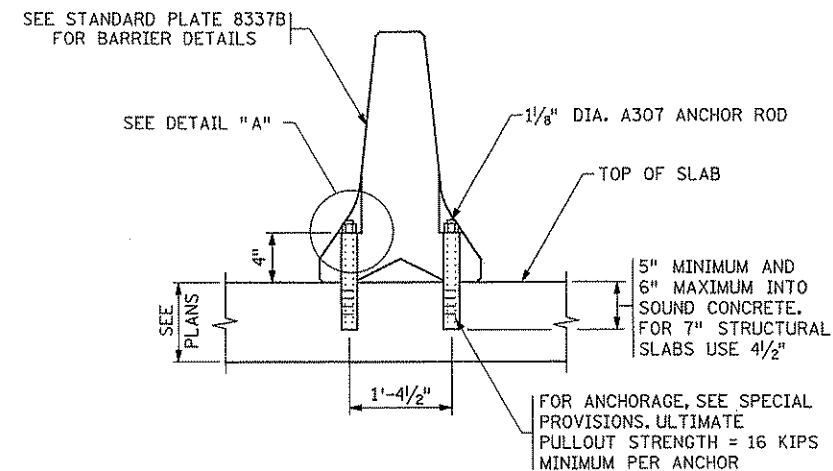
SECTION THROUGH ABUTMENT



SECTION A-A

NOTES:

- ALL PIPE SHALL BE AS PER Mn/DOT SPEC. 3245.
- WRAP PERFORATED PIPE WITH GEOTEXTILE AS PER Mn/DOT SPEC. 3733, TYPE 1. ATTACH TO PIPE AS PER Mn/DOT SPEC. 2502.
- ① PRECAST CONCRETE HEADWALL WITH RODENT SCREEN. SEE STANDARD PLATE 3131 FOR DETAILS.
- ② 1/8" PER FT. MINIMUM SLOPE.



ANCHORAGE DETAILS
REINFORCEMENT NOT SHOWN

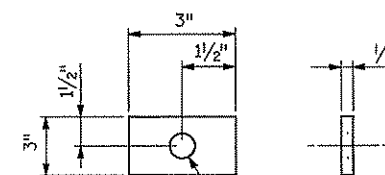
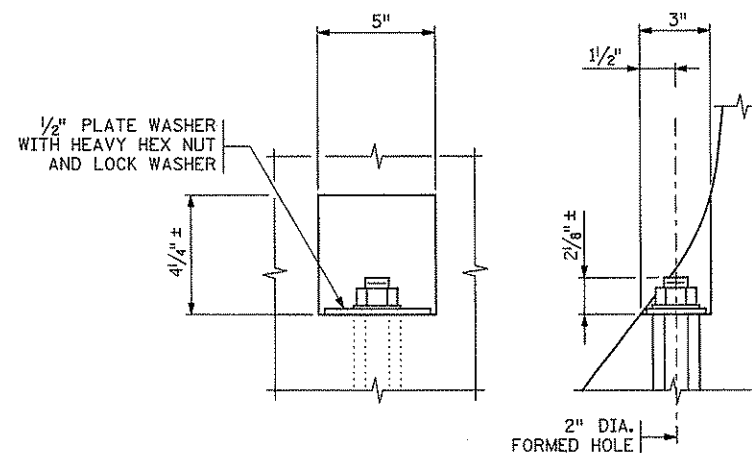


PLATE WASHER



SIDE VIEW

DETAIL \"A\"

NOTES:

- ALL EXPOSED HARDWARE IS TO BE GALVANIZED AS PER Mn/DOT SPEC. 3392.
- ALL STRUCTURAL STEEL IS TO BE Mn/DOT SPEC. 3306 UNLESS OTHERWISE NOTED.
- COST OF ANCHORAGES IS INCIDENTAL TO THE COST OF PLACING THE PORTABLE PRECAST BARRIER.
- FILL ANCHORAGE HOLES WITH AN APPROVED EPOXY GROUT AFTER THE PORTABLE BARRIERS ARE REMOVED.

APPROVED: NOVEMBER 22, 2002

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

REVISED
04-20-2004
08-25-2006

DETAIL NO.

B910

DRAINAGE SYSTEM
(FOR HIGH ABUTMENTS)

David L. Morgan
STATE BRIDGE ENGINEER

APPROVED: NOVEMBER 22, 2002

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

REVISED
07-29-2003

DETAIL NO.
MODIFIED

B920

PORTABLE PRECAST BARRIER ANCHORAGE
(TEMPORARY USAGE IN LIMITED BARRIER DISPLACEMENT AREAS)

David L. Morgan
STATE BRIDGE ENGINEER

STATE PROJ. NO.

02-614-28

BRIDGE NO.

02812

DRAWN BY
J. HOFFMAN
DESIGNED BY
D. ROTHSTEIN
CHECKED BY
K. SWEHLA
COMM. NO. 6509

SRF CONSULTING
GROUP, INC.

ANOKA COUNTY

CSAH 14 OVER I-35E

DETAILS

(SHEET 5 OF 5)

SHEET

B44

OF

B49

6/54/15 AM 4/8/2009 h:\proj\ecrs\6509\br\Final\plan\6509_det01.dgn

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

Print Name: KEVIN L. SWEHLA

Kevin L. Swehla
Date: 9/15/09 License #: 42791

NO	DATE	BY	CKD	APPR	REVISION

CONCRETE WEARING COURSE

LOW SLUMP
OTHER TYPE OR MANUFACTURER

EXPANSION JOINTS

JOINT MANUFACTURER
MANUFACTURER'S IDENTIFICATION
GLAND MANUFACTURER
SIZE OF GLAND
MANUFACTURER'S IDENTIFICATION

ELASTOMERIC BEARING PADS

PAD MANUFACTURER
NAME AND ADDRESS (CITY, STATE)

SPECIAL SURFACE FINISH

SYSTEM: COLOR:

FINISHING ROADWAY FACES OF BARRIER RAILING

TYPE: COLOR:

ANTI-GRAFFITI COATING

MANUFACTURER
PRODUCT NAME: LOCATION:

PAINT SYSTEM

Mn/DOT SPECIFICATION NUMBER 2478 OR 2479 OR OTHER
MANUFACTURER NAME AND ADDRESS (CITY, STATE)
PRIME COAT Mn/DOT MATERIAL SPECIFICATION NUMBER
INTERMEDIATE COAT Mn/DOT MATERIAL SPECIFICATION NUMBER
FINISH COAT Mn/DOT MATERIAL SPECIFICATION NUMBER COLOR

PLAN QUALITY

RATE 1 (AGREE), 2 (NEUTRAL), OR 3 (DISAGREE, PLEASE COMMENT BELOW)
DIMENSIONING AND DETAILING ADEQUATELY DESCRIBED REQUIRED CONSTRUCTION.
BAR LISTS AND QUANTITIES WERE TYPICALLY COMPLETE AND FREE OF ERRORS.
SCALE OF DRAWINGS AND OVERALL LEGIBILITY OF LINES AND TEXT WAS GOOD.
(SB) SPECIAL PROVISIONS ADEQUATELY DESCRIBED SPECIAL WORK AND PAYMENT.
COMMENTS:
NUMBER OF BRIDGE SUPPLEMENTAL AGREEMENTS: COST: \$
LIST SIGNIFICANT ERRORS OR OMISSIONS IN PLAN DETAILS OR PAY QUANTITIES IN THE SPACE PROVIDED AT RIGHT.

OTHER ITEMS 1

1 UTILITIES ADDED DURING CONSTRUCTION AND SPECIALTY ITEMS.
FINAL QUANTITIES ENTERED ON SCHEDULE OF QUANTITIES: YES NO

SUMMARY OF SIGNIFICANT AS-BUILT CHANGES

Summary of significant as-built changes section with multiple lines for text entry.

THE AS-BUILT INFORMATION WAS ADDED TO THE PLAN BY:

INSPECTOR(S) SIGNATURE DATE
CHECKED BY: PROJECT ENGINEER/SUPERVISOR SIGNATURE DATE

AT THE TIME OF THE FINAL, THIS COMPLETED AS-BUILT BRIDGE DATA SHEET MUST BE SUBMITTED TO THE BRIDGE OFFICE - ATTN: REGIONAL CONSTRUCTION ENGINEER (MS610).

AS-BUILT DETAILS (AS NEEDED)

REVISION: 10-28-2008
APPROVED: SEPTEMBER 26, 2003
State Bridge Engineer signature

Table with columns: NO, DATE, BY, CKD, APPR, REVISION

STATE PROJ. NO. 02-614-28
BRIDGE NO. 02812
DRAWN BY J. HOFFMAN
DESIGNED BY D. ROTHSTEIN
CHECKED BY K. SWEHLA
COMM. NO. 6509



ANOKA COUNTY
CSAH 14 OVER I-35E
AS-BUILT BRIDGE DATA

FIG. 5-397.900

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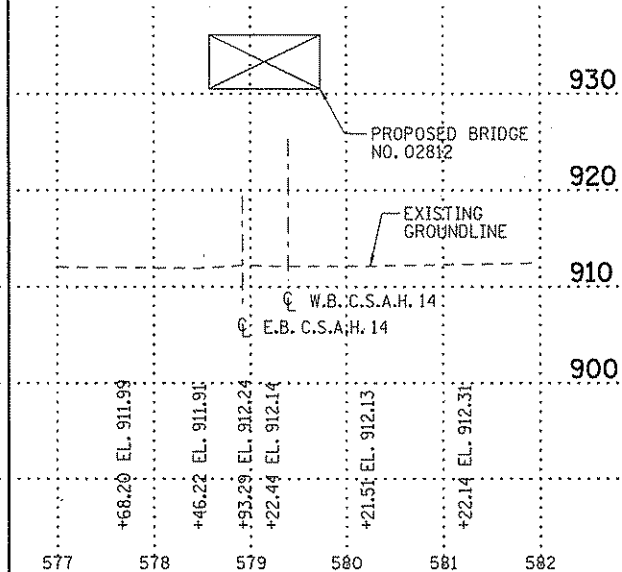
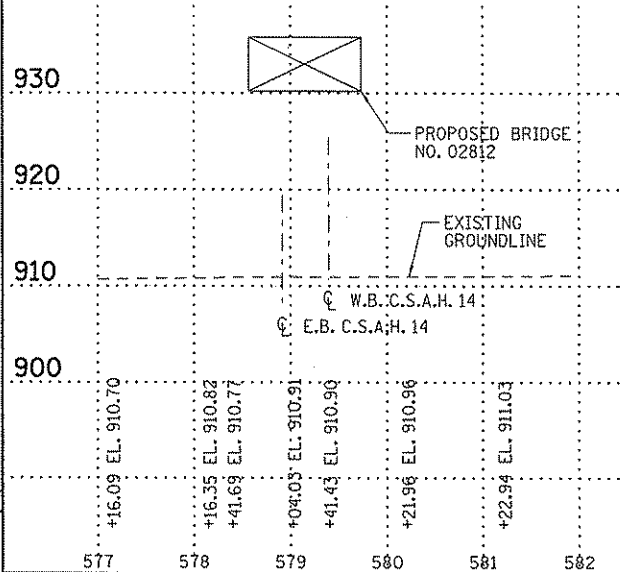
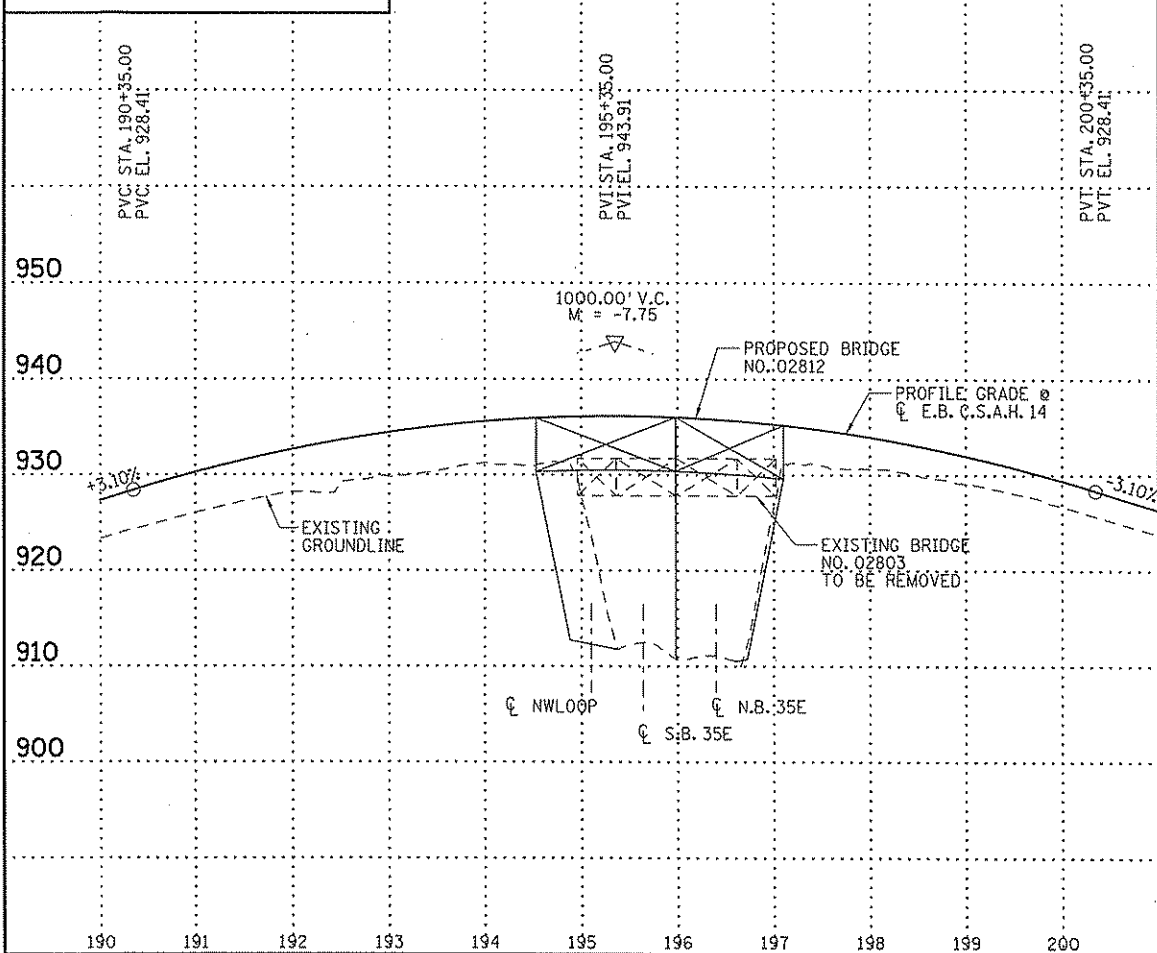
CONTRACTED PROFILE
 SCALE : 0 50' 100' 0 5' 10'
 HORIZONTAL VERTICAL

PROFILE GRADE @ C E.B. CSAH 14

PROFILE GRADE @ C N.B. I-35E

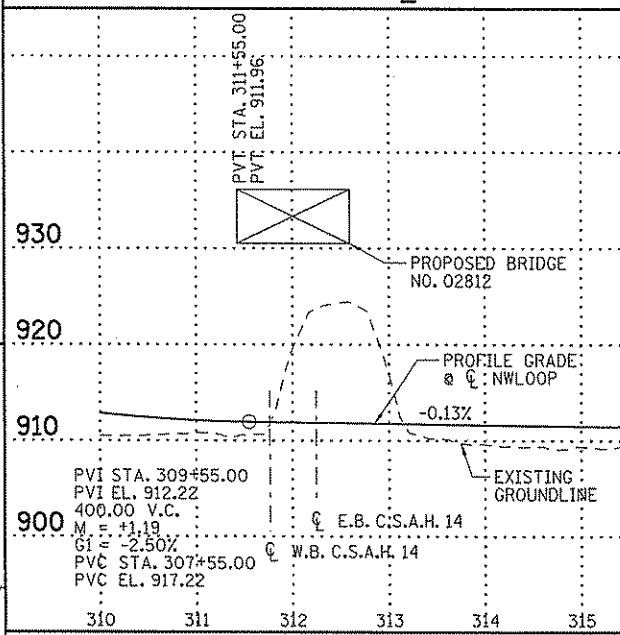
PROFILE GRADE @ C S.B. I-35E

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE



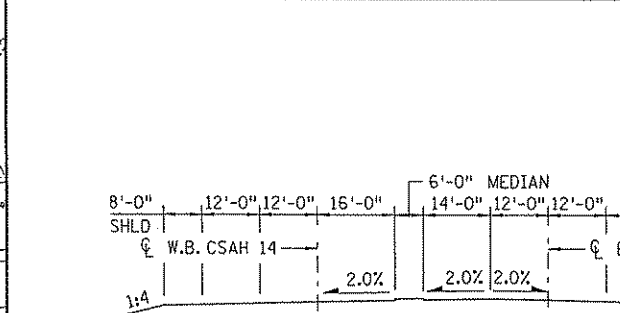
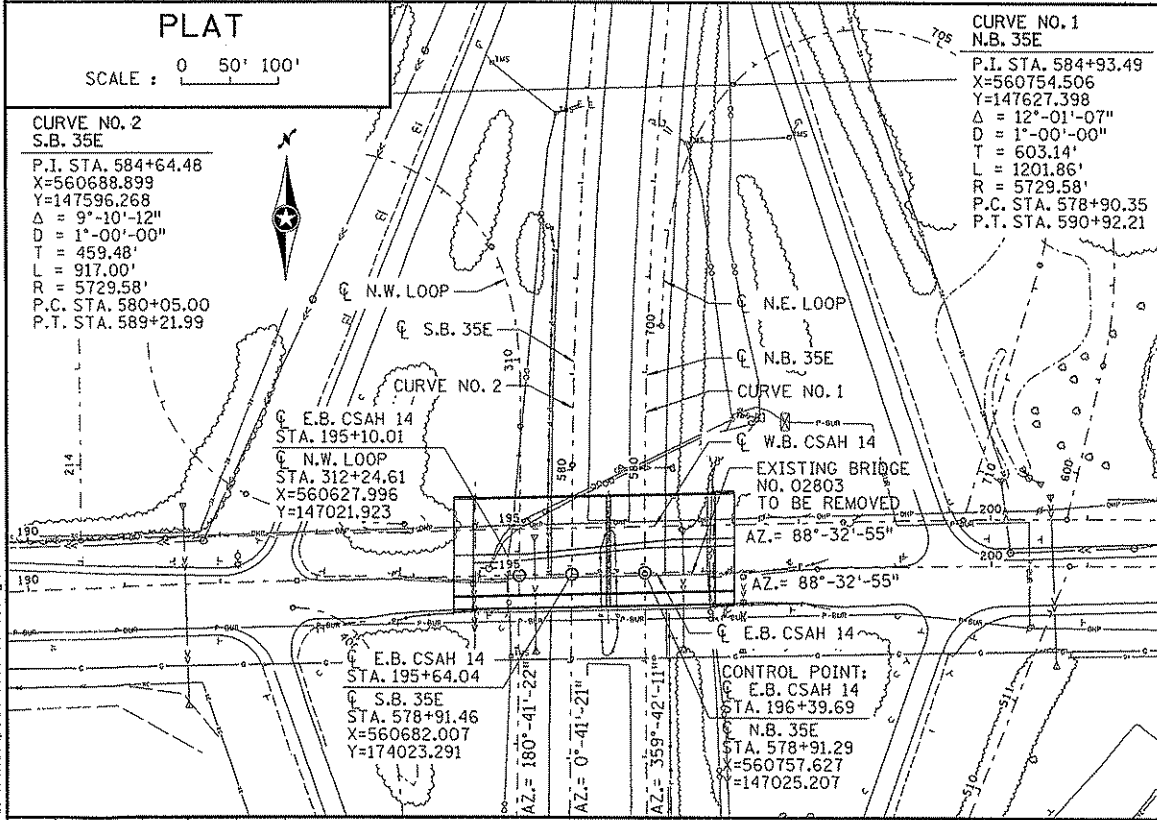
- SPECIAL FEATURES: WATERFALLS, DAMS, FLOODS, ICE, DEBRIS, SLIDING BANKS, RECREATIONAL BOATING.
- OTHER BRIDGES OR CULVERTS OVER THE SAME STREAM (PARTICULARLY STRUCTURES WHICH CARRY HIGH WATER WITHOUT OVERFLOW OF ROADWAY); GIVEN LOCATION, TYPE, LENGTH, HEIGHT ABOVE HIGH WATER, CROSS-SECTIONAL AREA ETC.
- APPARENT HIGHWATER ELEVATION OBTAINED FROM:
- OTHER DATA: APPROX. VELOCITY OF WATER AT TIME OF SURVEY.

PROFILE GRADE @ C NWLOOP

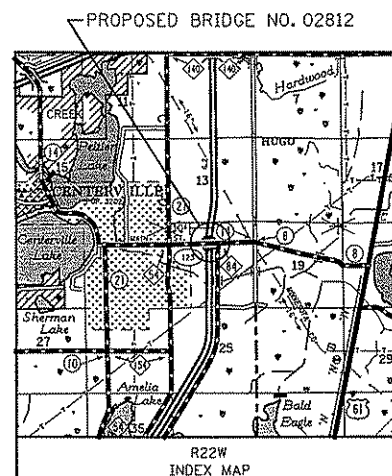


HYDRAULIC ENGINEERS RECOMMENDATION
DATE

STREAM OR DITCH DESIGNATION
 DRAINAGE AREA
 MAX. FLOOD ON RECORD
 MAXIMUM OBSERVED HIGHWATER ELEVATION
 DESIGN FLOOD (YR. FREQ.) C.F.S.
 DESIGN STAGE ELEVATION
 DESIGN MEAN VELOCITY THROUGH STRUCTURE F.P.S.
 TOTAL STAGE INCREASE FT.
 LOW MEMBER AT OR ABOVE ELEVATION
 FLOWLINE ELEVATION SKEW ANGLE
 WATERWAY AREA REQUIRED BELOW ELEVATION SQ.FT.
 AT RIGHT ANGLES TO CHANNEL
 BASIC FLOOD (100 YR. FREQ.) C.F.S.
 STAGE ELEVATION FT.
 TOTAL STAGE INCREASE FT.
 MEAN VELOCITY THROUGH STRUCTURE F.P.S.
 ESTIMATED DEPTH OF PIER SCOUR FT.
 SCOUR CODE =



TYPICAL APPROACH SECTION



BRIDGE SURVEY SHEETS MADE FROM :
 SURVEY DATA RECEIVED FROM ANOKA COUNTY

BENCH MARK ELEVATION 932.07 (NAVDBB)
 LOCATION DISK ON NE WINGWALL ON EXISTING CSAH 14 OVER I-35E BRIDGE
 2nd BENCH MARK ELEVATION
 LOCATION



BRIDGE SURVEY
 AT MILE POINT ON (I.H. C.S.A.H., C.R., etc.)
 PROPOSED BRIDGE LOCATED 3.81 MILES S. OF I-35 SPLIT
 SEC. 24 TWP. T31N R. 22W
 CITY LIND LAKES COUNTY ANOKA

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: KEVIN L. SWEHLA
 Date: 4/15/09 License #: 42791

STATE PROJ. NO. 02-614-28
 BRIDGE NO. 02812

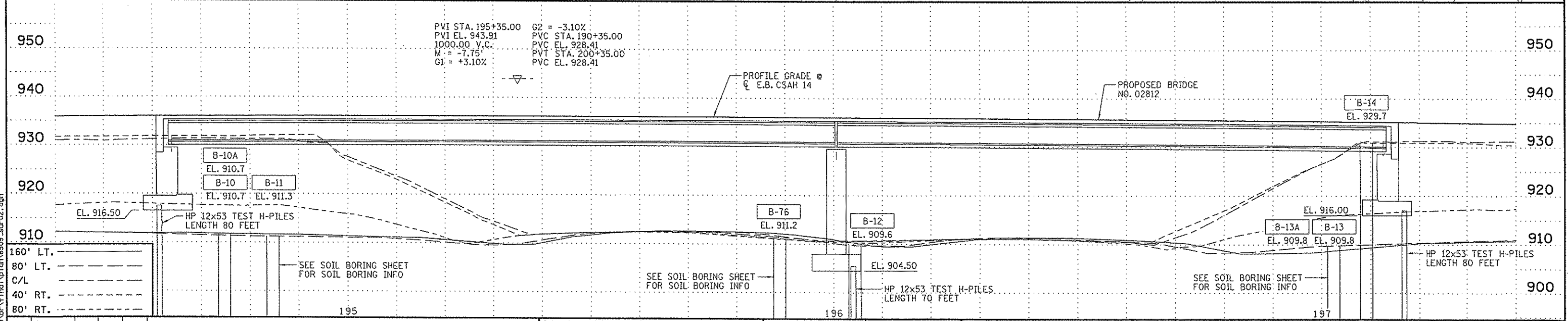
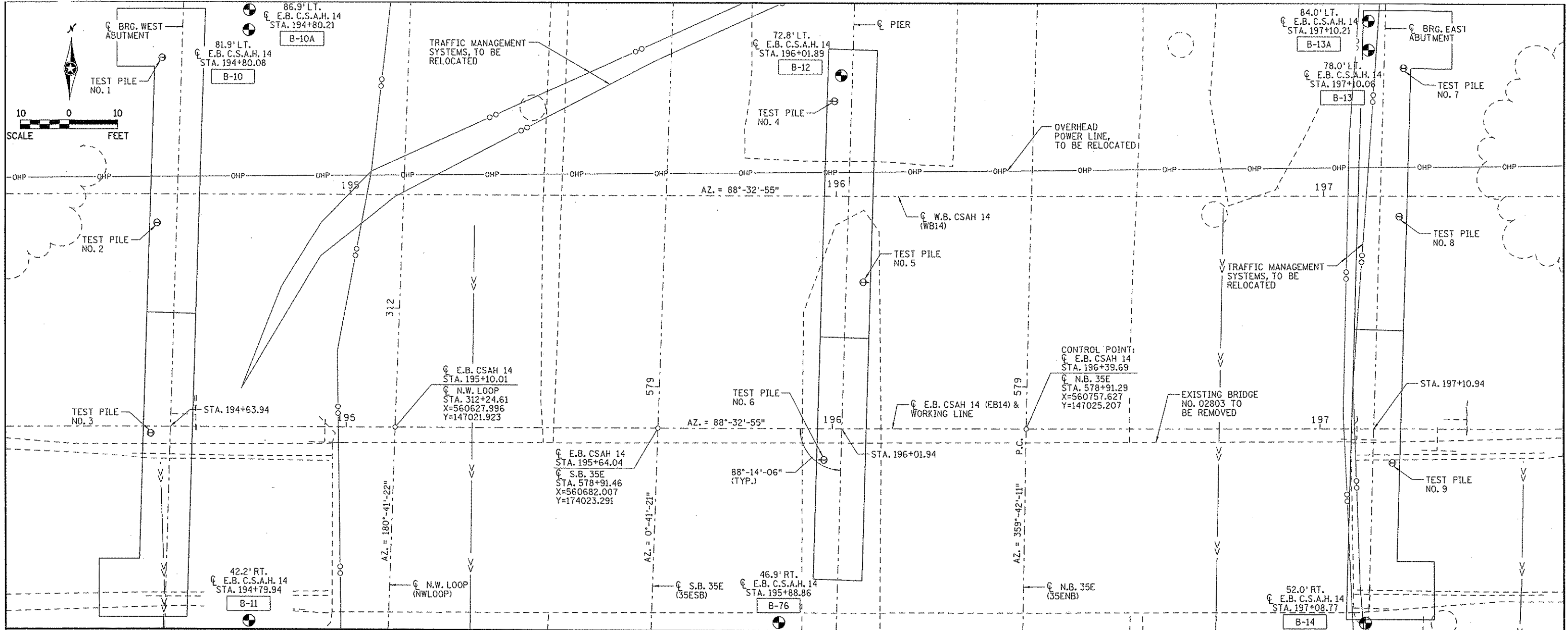
DRAWN BY E. JOHNSON
 DESIGNED BY D. ROTHSTEIN
 CHECKED BY K. SWEHLA
 COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
 BRIDGE SURVEY

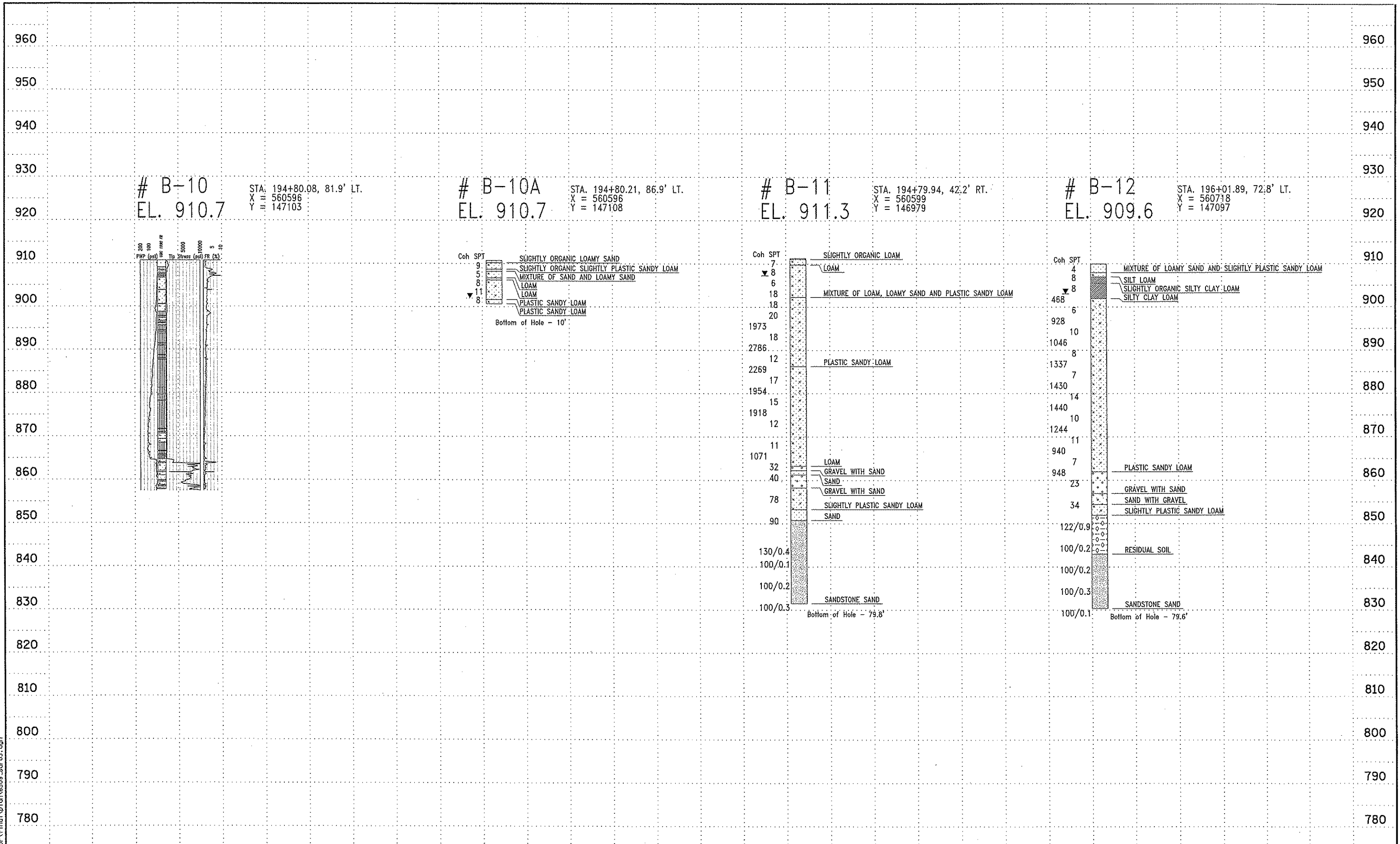
SHEET B46 OF B49

7:16:08 AM 4/29/2009



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: KEVIN L. SWEHLA <i>Kevin L. Swehla</i> Date: 4/15/09 License #: 42791				STATE PROJ. NO. 02-614-28	DRAWN BY E. JOHNSON DESIGNED BY D. ROTHSTEIN CHECKED BY K. SWEHLA COMM. NO. 6509	ANOKA COUNTY CSAH 14 OVER I-35E BRIDGE SURVEY PLAN & PROFILE	SHEET B47 OF B49
REVISION NO. DATE BY CKD APPR				BRIDGE NO. 02812	SRF CONSULTING GROUP, INC.		

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4:54:01 AM
 4/15/09
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NO	DATE	BY	CHKD	APPR	REVISION

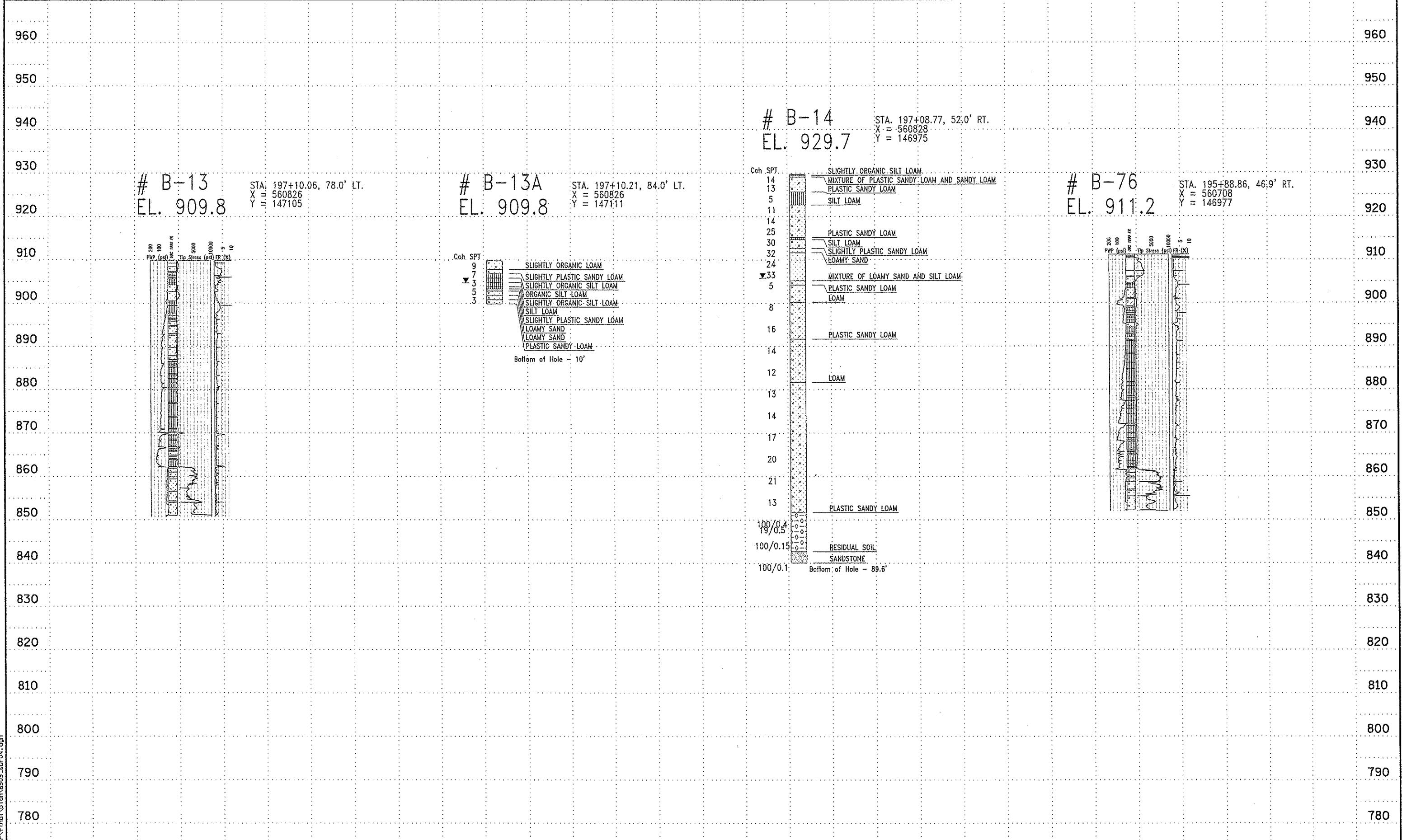
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Print Name: KEVIN L. SWEHLA
Kevin L. Swehla
 Date: 4/15/09 License # 42791

STATE PROJ. NO.
 02-614-28
 BRIDGE NO.
 02812
 COMM. NO. 6509

DRAWN BY
 E. JOHNSON
 DESIGNED BY
 D. ROTHSTEIN
 CHECKED BY
 K. SWEHLA
SRF CONSULTING GROUP, INC.

ANOKA COUNTY
 CSAH 14 OVER I-35E
 SOIL BORINGS
 (SHEET 1 OF 2)

SHEET
 B48
 OF
 B49



B-13
 STA. 197+10.06, 78.0' LT.
 X = 560826
 Y = 147105
 EL. 909.8

B-13A
 STA. 197+10.21, 84.0' LT.
 X = 560826
 Y = 147111
 EL. 909.8

B-14
 STA. 197+08.77, 52.0' RT.
 X = 560828
 Y = 146975
 EL. 929.7

B-76
 STA. 195+88.86, 46.9' RT.
 X = 560708
 Y = 146977
 EL. 911.2

Coh. SPT
 9
 7
 5
 3

Slightly Organic Loam
 Slightly Plastic Sandy Loam
 Slightly Organic Silt Loam
 Organic Silt Loam
 Slightly Organic-Silt Loam
 Silt Loam
 Slightly Plastic Sandy Loam
 Loamy Sand
 Loamy Sand
 Plastic Sandy Loam

Bottom of Hole - 10'

Coh. SPT
 14
 13
 5
 11
 14
 25
 30
 32
 24
 33
 5
 8
 16
 14
 12
 13
 14
 17
 20
 21
 13

Slightly Organic Silt Loam
 Mixture of Plastic Sandy Loam and Sandy Loam
 Plastic Sandy Loam
 Silt Loam
 Plastic Sandy Loam
 Slightly Plastic Sandy Loam
 Loamy Sand
 Mixture of Loamy Sand and Silt Loam
 Plastic Sandy Loam
 Loam
 Plastic Sandy Loam
 Loam
 Plastic Sandy Loam
 Residual Soil
 Sandstone

Bottom of Hole - 89.6'

6:57:56 AM
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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: KEVIN L. SWEHLA
Kevin L Swehla
 Date: 4/15/09 License # 42791

STATE PROJ. NO.
 02-614-28

BRIDGE NO.
 02812

DRAWN BY
 E. JOHNSON

DESIGNED BY
 D. ROTHSTEIN

CHECKED BY
 K. SWEHLA

COMM. NO. 6509



ANOKA COUNTY
 CSAH 14 OVER I-35E
 SOIL BORINGS
 (SHEET 2 OF 2)

SHEET
 B49
 OF
 B49