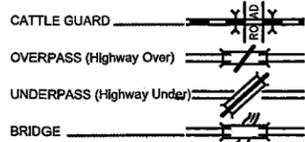
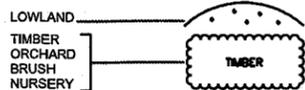


PLAN SYMBOLS

- COUNTY LINE _____
- TOWNSHIP OR RANGE LINE _____
- SECTION LINE _____
- QUARTER LINE _____
- SIXTEENTH LINE _____
- RIGHT OF WAY LINE _____
- SLOPE EASEMENT _____
- EXISTING RIGHT OF WAY _____
- PROPERTY LINE _____
- CORPORATE OR CITY LIMITS _____
- RETAINING WALL _____
- RAILROAD _____
- RAILROAD RIGHT OF WAY _____
- RIVER OR CREEK _____
- DRAINAGE DITCH _____
- CULVERT _____
- DROP INLET _____
- GUARD RAIL _____
- BARBED WIRE FENCE _____
- WOVEN WIRE FENCE _____
- CHAIN LINK FENCE _____
- WOOD FENCE _____
- STONE WALL OR FENCE _____
- HEDGE _____

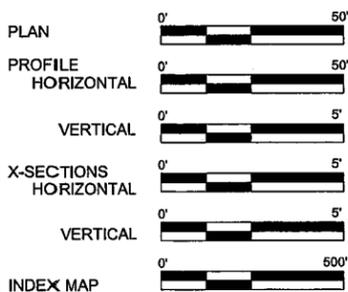


- RAILROAD CROSSING BELL _____
- RAILROAD CROSSING GATE _____
- MANHOLE _____
- CATCH BASIN _____
- FIRE HYDRANT _____
- CAST IRON MONUMENT _____
- IRON PIN _____
- GRAVEL PIT _____
- SAND PIT _____
- BORROW PIT _____
- ROCK QUARRY _____

UTILITY SYMBOLS

- POWER POLE LINE _____
- TELEPHONE OR TELEGRAPH POLE LINE _____
- JOINT TELEPHONE & POWER ON POWER POLES _____
- ON TELEPHONE POLES _____
- ANCHOR _____
- STEEL TOWER _____
- STREET LIGHT _____
- PEDESTAL (Cable Terminal) _____
- GAS MAIN _____
- WATERMAIN _____
- TELEPHONE CABLE IN CONDUIT _____
- ELECTRIC CABLE IN CONDUIT _____
- TELEPHONE MANHOLE _____
- ELECTRIC MANHOLE _____
- BURIED TELEPHONE CABLE _____
- BURIED ELECTRIC CABLE _____
- SEWER (Sanitary or Storm) _____
- SEWER MANHOLE _____

SCALES



MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ BITUMINOUS SURFACING AND TURN LANE

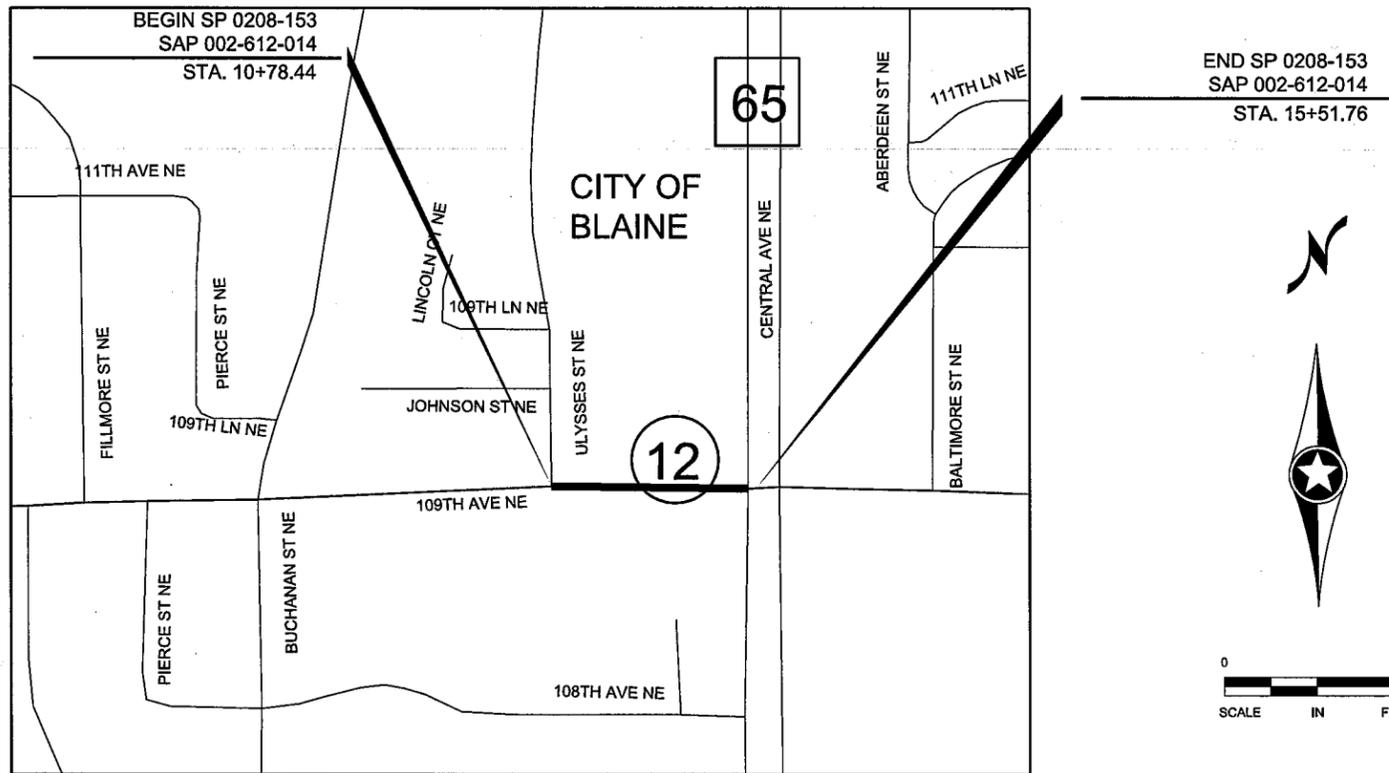
LOCATED ON C.S.A.H. 12 BETWEEN ULYSSES ST NE AND CENTRAL AVE NE (TH 65)

STATE PROJ. NO. 0208-153
T.H 65

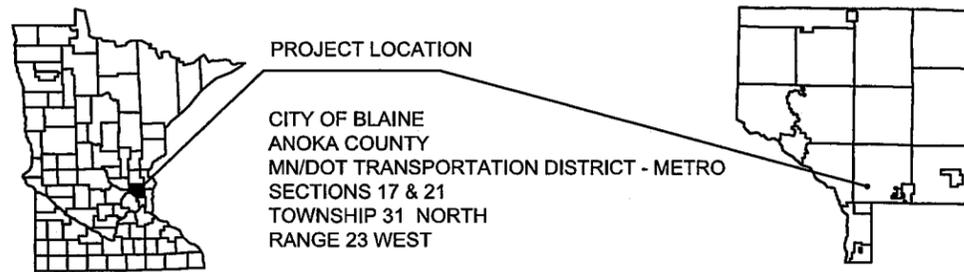
GROSS LENGTH 473.32 FEET 0.090 MILES
 BRIDGES-LENGTH _____ FEET _____ MILES
 EXCEPTIONS-LENGTH _____ FEET _____ MILES
 NET LENGTH 473.32 FEET 0.090 MILES

REF. POINT 013+00.434

AGREEMENT NO. 04852
ANOKA COUNTY
SP 0208-153 (TH 65 = 005)
STATE FUNDS
METRO DISTRICT



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"



DESIGN DESIGNATION	
ESAL 20	2,237,801
R VALUE	60
ADT (2015) =	16,190
Proj. ADT (2035) =	25,904
Proj. HCADT (2035) =	0
Soil Factor	NA
10 TON DESIGN	
Functional Classification <u>MAJOR COLLECTOR</u>	
No. of Traffic Lanes <u>4</u>	No. of Parking Lanes <u>0</u>
Design Speed <u>45</u> MPH	
Based on Stopping Sight Distance	N/A
Height of eye <u>3.5'</u>	Height of object <u>2.0'</u>
Design Speed not achieved at:	
STA. _____ TO STA. _____	MPH _____

MINN. PROJ. NO. _____ STATE FUNDS _____

GOVERNING SPECIFICATIONS

THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THE 2014 EDITION OF THE "MATERIALS LAB SUPPLEMENTAL 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" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3 - 4	STATEMENT OF ESTIMATED QUANTITIES,
5	STANDARD PLATES & BASIS OF QUANTITIES, & INDEX OF TABULATIONS
6 - 8	TABULATION SHEETS
9 - 10	EARTHWORK & CONSTRUCTION NOTES
11 - 16	TYPICAL SECTIONS & STANDARD PLANS
17 - 21	CONSTRUCTION STAGING & TRAFFIC CONTROL PLAN
22	ALIGNMENT TABULATION AND PLAN
23	INPLACE TOPOGRAPHY AND REMOVAL PLAN
24	UTILITY PLAN
25 - 26	CONSTRUCTION PLAN
27 - 28	DRAINAGE PLAN & TABULATIONS
29 - 30	SWPPP NARRATIVE
31 - 35	EROSION CONTROL PLAN AND DETAILS
36 - 43	SIGNING & STRIPING PLAN, TAB, & DETAILS
44 - 50	TRAFFIC SIGNAL PLANS
51 - 56	CROSS SECTIONS

THIS PLAN CONTAINS 56 SHEETS

- APPROVED 4/27/15
ANOKA COUNTY ENGINEER
- APPROVED 04/27/15
CITY OF BLAINE ENGINEER
- RECOMMENDED FOR APPROVAL 5/5/15
METRO DISTRICT TRANSPORTATION ENGINEER
- RECOMMENDED FOR APPROVAL 5/5/15
METRO DISTRICT MATERIALS ENGINEER
- RECOMMENDED FOR APPROVAL 5/5/15
METRO DISTRICT TRAFFIC ENGINEER
- RECOMMENDED FOR APPROVAL 6/25/15
STATE PRE-LETTING ENGINEER
- RECOMMENDED FOR APPROVAL 7/30/15
DIRECTOR, OFFICE OF LAND MANAGEMENT
- APPROVED 7-31-15
STATE DESIGN ENGINEER
- APPROVED 5/5/15
DISTRICT STATE AID ENGINEER; REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY
- APPROVED 5/5/15
STATE AID ENGINEER; APPROVED FOR STATE AID FUNDING

NO	DATE	BY	CKD	APPR	REVISION

NAME: P102-612-14Plan1_Title.dgn 04/10/2015 11:22:48 AM

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: ANDREW WITTER

SIGNATURE:

DATE: 4/27/15 LICENSE NO. 42757

DRAWN BY ZB DATE 04-10-15

DESIGN BY ZB DATE 04-10-15

CHECKED BY GP DATE 04-10-15

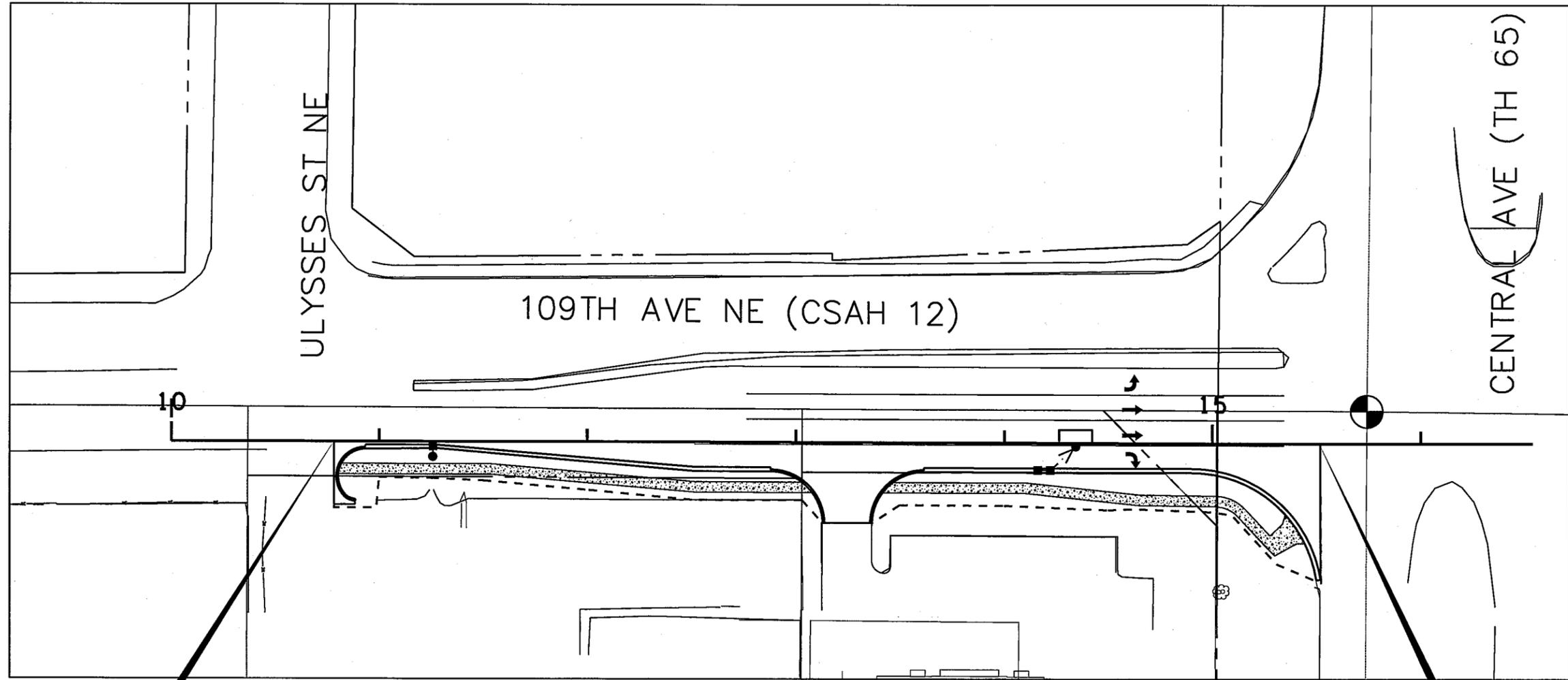
ANOKA COUNTY
HIGHWAY DEPT.

S.P. 0208-153 (TH 65 = 005)
SAP 002-612-014

TITLE SHEET

Sheet 1 of 56 Sheets

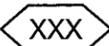
23 25 27



BEGIN SP 0208-153
SAP 002-612-014
STA. 10+78.44

END SP 0208-153
SAP 002-612-014
STA. 15+51.76

LEGEND

-  INPLACE TOPOGRAPHY AND REMOVAL PLAN SHEET NUMBER
-  CONSTRUCTION PLAN SHEET NUMBER
-  STORM DRAINAGE PLAN SHEET NUMBER
-  INPLACE SIGNAL SYSTEM



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-612-14\Plan\0261214_GEN.dgn 04/10/2015 8:49:05 AM

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: ANDREW WITTEK
SIGNATURE: *[Signature]*
DATE: 4/24/15 LICENSE NO. 42757

DRAWN BY: ZB DATE: 04-10-15
DESIGN BY: ZB DATE: 04-10-15
CHECKED BY: GP DATE: 04-10-15



ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
SAP 002-612-014

GENERAL LAYOUT
Sheet 2 of 56 Sheets

TAB / NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED	PARTICIPATING- STATE		NON-PARTICIPATING-LOCAL FUNDS	
					ANOKA COUNTY SP 0208-153 ROADWAY QUANTITIES ESTIMATED	DRAINAGE QUANTITIES ESTIMATED	ANOKA COUNTY SAP 002-612-014 ROADWAY QUANTITIES ESTIMATED	CITY OF BLAINE CITY FUNDS ROADWAY QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1	0.67		0.24	0.09
A	2101.502	CLEARING	TREE	2	2			
A	2101.507	GRUBBING	TREE	4	4			
B	2104.501	REMOVE CURB AND GUTTER	LIN FT	519	519			
B	2104.501	REMOVE BITUMINOUS CURB	LIN FT	36	36			
B	2104.503	REMOVE CONCRETE WALK	SQ FT	2534	2534			
B [2]	2104.505	REMOVE CONCRETE PAVEMENT	SQ YD	88	88			
B [3]	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	276	276			
C	2104.509	REMOVE DRAINAGE STRUCTURE	EACH	2	2			
EE	2104.509	REMOVE HYDRANT	EACH	1				1
EE	2104.509	REMOVE MANHOLE	EACH	1				1
EE	2104.509	REMOVE GATE VALVE	EACH	2				2
B [4]	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	765	765			
M	2104.523	SALVAGE SIGN TYPE C	EACH	3	3			
	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1	1			
I	2105.501	COMMON EXCAVATION	CU YD	477	477			
I	2105.507	SUBGRADE EXCAVATION	CU YD	276	276			
I	2105.522	SELECT GRANULAR BORROW (LV)	CU YD	359	359			
	2105.601	DEWATERING	LUMP SUM	1	1			
	2130.501	WATER	M GALLONS	20	20			
G	2211.503	AGGREGATE BASE (CV) CLASS 5	CU YD	154	154			
B	2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD	1651			1651	
J	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	148	148			
J	2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,F)	TON	406	216		190	
J	2360.505	TYPE SP 12.5 BIT MIXTURE FOR PATCHING	TON	13	13			
P	2503.541	15" RC PIPE SEWER DES 3006 CL V	LIN FT	27		27		
P	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	5		5		
EE	2504.602	ADJUST GATE VALVE & BOX	EACH	2		2		
	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	2				2
FF	2504.602	HYDRANT	EACH	1				1
FF	2504.602	6" GATE VALVE & BOX	EACH	1				1
FF	2504.602	16" BUTTERFLY VALVE AND BOX	EACH	1				1
FF	2504.603	6" WATERMAIN DUCTILE IRON CL 52	LIN FT	20				20
P	2506.501	CONST DRAINAGE STRUCTURE DESIGN H	LIN FT	6.3		6		
P	2506.501	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	3.1		3		
P	2506.501	CONST DRAINAGE STRUCTURE DES 66-4020	LIN FT	6.7		7		
P	2506.516	CASTING ASSEMBLY	EACH	5		5		
H	2506.522	ADJUST FRAME AND RING CASTING	EACH	2	1		1	
K	2521.501	4" CONCRETE WALK	SQ FT	2101			2101	
K [5]	2521.501	6" CONCRETE WALK	SQ FT	178	178			
K	2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	409	409			
K	2531.501	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	124	124			
K [6]	2531.604	8" CONCRETE VALLEY GUTTER	SQ YD	2	2			
K	2531.618	TRUNCATED DOMES	SQ FT	24	24			

SEE PLAN SHEET 4 FOR NOTES

1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-14\Plan\0261214_SEQ.dgn					06/18/2015 8:59:03 AM

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: ANDREW WITTE
 SIGNATURE: *[Signature]*
 DATE: 4/9/15 LICENSE NO. 42757

DRAWN BY: ZB DATE: 06-03-15
 DESIGN BY: ZB DATE: 06-03-15
 CHECKED BY: GP DATE: 06-03-15

ANOKA COUNTY
HIGHWAY DEPT.



SP 0208-153 (TH 65)
 SAP 002-612-014

STATEMENT OF ESTIMATED QUANTITIES
 Sheet 3 of 56 Sheets

TAB / NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED	PARTICIPATING-STATE		NON-PARTICIPATING-LOCAL FUNDS	
					ANOKA COUNTY SP 0208-153 ROADWAY QUANTITIES ESTIMATED	DRAINAGE QUANTITIES ESTIMATED	ANOKA COUNTY SAP 002-612-014 ROADWAY QUANTITIES ESTIMATED	CITY OF BLAINE CITY FUNDS ROADWAY QUANTITIES ESTIMATED
	2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.67		0.24	0.09
L	2563.602	RAISED PAVEMENT MARKER TEMPORARY	EACH	60	60			
	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	7	7			
E	2564.531	SIGN PANELS TYPE C	SQ FT	9	9			
E	2564.537	INSTALL SIGN TYPE C	EACH	3	3			
	2565.601	PAINT SIGNAL SYSTEM	LUMP SUM	1				1
	2565.616	REVISE SIGNAL SYSTEM	SYS	1	1			
Q	2573.502	SILT FENCE, TYPE MS	LIN FT	192	192			
Q	2573.530	STORM DRAIN INLET PROTECTION	EACH	6	6			
Q [1]	2574.508	FERTILIZER TYPE 3	POUND	47	47			
Q	2575.501	SEEDING	ACRE	0.1	0.1			
Q	2575.502	SEED MIXTURE 25-131	POUND	22	22			
Q	2575.505	SODDING TYPE SALT TOLERANT	SQ YD	278	278			
Q	2575.523	EROSION CONTROL BLANKETS CATEGORY 00	SQ YD	124	124			
Q	2575.571	RAPID STABILIZATION METHOD 3	M GALLON	0.6	0.6			
Q	2575.607	LANDSCAPE ROCK	CU YD	9	9			
L	2581.501	REMOVABLE PREFORMED PLASTIC MARKING TAPE	LIN FT	600	600			
L	2581.603	REMOVABLE PREFORMED PLASTIC MASK (BLACK)	LIN FT	120	120			
L	2582.502	4" SOLID LINE WHITE-PAINT	LIN FT	450	450			
O	2582.502	4" SOLID LINE WHITE-EPOXY	LIN FT	1296	1296			
O	2582.502	4" BROKEN LINE WHITE-EPOXY	LIN FT	40	40			
O	2582.502	4" SOLID LINE YELLOW-EPOXY	LIN FT	414	414			
O	2582.618	PAVEMENT MARKING SPECIAL	SQ FT	276	276			

GENERAL NOTES:

- [1] SEE FERTILIZER ANALYSIS ON TABULATION SHEET 7
- [2] CONCRETE PAVEMENT TO BE REMOVED HAS A THICKNES OF 7" AND IS REINFORCED
- [3] ASPHALT PAVEMENT TO BE REMOVED IS ASSUMED TO BE 6" THICK.
- [4] PAID AS SAW-CUT ONLY. NO MILLED EDGES ALLOWED.
- [5] PAY ITEM FOR PEDESTRIAN CURB RAMP. SEE TAB K ON SHEET 7 FOR DETAILS.
- [6] @ STA 10+78 TO 10+93

NO	DATE	BY	CKD	APPR	REVISION
1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS

NAME: P:\02-612-14\Plan\0261214_SEQ.dgn 06/03/2015 12:44:23 PM

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: ANDREW WITTER
SIGNATURE: *Andrew Witter*
DATE: 6/14/15 LICENSE NO. 42757

DRAWN BY ZB DATE 06-03-15
DESIGN BY ZB DATE 06-03-15
CHECKED BY GP DATE #DATEAC3



**ANOKA COUNTY
HIGHWAY DEPT.**

SP 0208-153 (TH 65)
SAP 002-612-014

STATEMENT OF
ESTIMATED QUANTITIES

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

STANDARD PLATES

PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007E	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4010H	CONCRETE SHORT CONE & ADJUSTING RING (SECTIONAL CONCRETE)
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) - CASTING NO. 715 & 716
4129G	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE) - CASTING NO. 802A
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816
4160D	CURB BOX CASTING FOR CATCH BASIN
7035N	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7038A	DETECTABLE WARNING SURFACE
7100H	CONCRETE CURB AND GUTTER (DESIGN B and DESIGN V)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES

SEE SHEET 44 FOR ADDITIONAL STANDARD PLATES

BASIS OF QUANTITIES

SPEC NO	DESCRIPTION	RATE
2360	TYPE SP12.5 WEARING COURSE MIXTURE	115 LBS / SQ YD / IN
2360	TYPE SP12.5 NON-WEARING COURSE MIXTURE	115 LBS / SQ YD / IN
2575	SEED MIXTURE 25-141	220 LBS / ACRE
2575	RAPID STABILIZATION METHOD 3	6000 GAL / ACRE

INDEX OF TABULATION CHARTS

TAB.	DESCRIPTION	SHEET NO.
A	CLEARING AND GRUBBING	6
B	BITUMINOUS AND CONCRETE REMOVALS, SAWING AND MILLING	6
C	EXISTING STORM SEWER AND CULVERT REMOVAL	6
E	SIGN PANELS TYPE C & INSTALL SIGNS	38
F	EARTHWORK SUMMARY	10
G	AGGREGATE SUMMARY	10
H	SANITARY/STORM SEWER ADJUSTMENTS	6
I	EARTHWORK BALANCE	9
J	BITUMINOUS	6
K	CONCRETE	7
L	TEMPORARY PAVEMENT MARKING	21
M	SIGN SALVAGE	36
O	PERMANENT PAVEMENT MARKING	37
P	DRAINAGE TABULATION	23
Q	TURF ESTABLISHMENT AND EROSION CONTROL	7
R	MISCELLANEOUS REMOVALS	7
AA	UTILITY CONTACTS	8
BB	CONNEXUS / GREAT RIVER ENERGY	8
DD	CENTERPOINT ENERGY	8
EE	CITY OF BLAINE EXISTING	8
FF	CITY OF BLAINE PROPOSED	8
GG	MNDOT TRAFFIC SIGNAL	8

DO NOT USE A NUCLEAR GAUGE TO DETERMINE DENSITY OR MOISTURE CONTENT FOR QUALITY ASSURANCE OR VERIFICATION TESTING FOR ANY MATERIAL MEETING MNDOT 2105, 5106, 2112, 2211, 2212, 2215, 2118, 2221, 2331, 2451, 2502, OR 2511. USE OF A NUCLEAR GAUGE FOR QUALITY CONTROL TESTING IS ALLOWED ACCORDING TO THE GRADING & BASE MANUAL

NO	DATE	BY	CKD	APPR	REVISION
1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS

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: ANDREW WITTE
 SIGNATURE: *[Signature]*
 DATE: 06/22/2015 LICENSE NO. 42757

DRAWN BY: ZB DATE: 06-03-15
 DESIGN BY: ZB DATE: 06-03-15
 CHECKED BY: GP DATE: 06-03-15



ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
SAP 002-612-014

STANDARD PLATES
BASIS OF QUANTITIES

CLEARING & GRUBBING SPEC (2101)						A
ALIGNMENT	STATION	OFFSET		CLEARING (TREE)	GRUBBING (TREE)	NOTES
		LEFT	RIGHT			
CSAH 12_SC	12+15.38		33		1	
CSAH 12_SC	12+38.67		32		1	
CSAH 12_SC	12+64.09		32	1	1	
CSAH 12_SC	12+85.45		32	1	1	
PROJECT TOTAL				2	4	

CLEARING & GRUBBING GENERAL NOTES:
 TREES WITHIN THE CONSTRUCTION LIMITS WILL BE DESIGNATED FOR REMOVAL BY THE ENGINEER.
 REMOVAL OF MISCELLANEOUS SHRUBS AND LANDSCAPING SHALL BE CONSIDERED INCIDENTAL

MANHOLE CASTING ADJUSTMENTS								H	
STATION	LOCATION		SANITARY			STORM			NOTES
	ALIGN	OFFSET	EXISTING TOC	PROPOSED TOC	ADJUST EACH	EXISTING TOC	PROPOSED TOC	ADJUST EACH	
C.S.A.H 12									
12+04.79	CSAH 12_SC	30.87 LT	902.83	902.83					NOT DISTURBED
12+53.35	CSAH 12_SC	6.25 RT				902.49	901.80	1	
15+30.07	CSAH 12_SC	30.29 LT	902.15	902.15	1				MILL & OVERLAY
TOTAL					1			1	

REMOVALS, SAWING AND MILLING										B	
ALIGNMENT	STATION	TO	STATION	REMOVE (SPEC. 2104)				SAWING (SPEC. 2104)	MILLING (SPEC. 2232)	NOTES	
				BIT. PAVEMENT	CONC WALK	CONC PAVEMENT	CONC. CURB & GUTTER	BIT. CURB	BIT. PAVEMENT		BIT. SURFACE (2")
				(SQ YD)	(SQ FT)	(SQ YD)	(LIN FT)	(LIN FT)	(LIN FT)		(SQ YD)
CSAH 12_SC	10+78.44	-	15+51.76	217				686	1651	109th Ave	
CSAH 12_SC	10+78.47	-	13+02.92	29				36	55	W Parking Lot.	
CSAH 12_SC	10+89.07	-	12+88.02				199			109th Ave	
CSAH 12_SC	10+89.95	-	13+10.70		1144					S of 109th Ave	
CSAH 12_SC	12+88.02	-	13+12.83				50			E Parking Lot	
CSAH 12_SC	12+95.21	-	13+54.23			88				E Parking Lot	
CSAH 12_SC	13+12.83	-	13+36.83	30				24		E Parking Lot	
CSAH 12_SC	13+36.83	-	13+61.86				51			E Parking Lot	
CSAH 12_SC	13+39.03	-	15+14.68		1390					S of 109th Ave	
CSAH 12_SC	13+61.86	-	15+51.76				219			109th Ave	
PROJECT TOTAL				276	2534	88	519	36	765	1651	

BITUMINOUS SUMMARY						J
ALIGNMENT	STATION TO STATION	BITUMINOUS			NOTES	
		2360 TYPE SP 12.5 WEAR (4,F) (SPWEB440F)	2360 TYPE SP 12.5 BIT PATCHING MIX	2357 BIT. TACK COAT		
		TON	TON	GALLON		
CSAH 12_SC	10+78.44 - 15+34.24	190		83	[1]	
CSAH 12_SC	10+78.44 - 10+98.60		2	1	[3]	
CSAH 12_SC	10+78.44 - 11+80.35		8	2		
CSAH 12_SC	11+80.35 - 15+34.24	216		61	[2]	
CSAH 12_SC	14+26.29 - 14+42.29		3	1	[3]	
PROJECT TOTAL		406	13	148		

BITUMINOUS SUMMARY NOTES:
 [1] QUANTITY FOR 2" MILL & OVERLAY
 [2] QUANTITY FOR FULL RECONSTRUCTION, INCLUDING STRIP MALL ENTRANCE
 [3] QUANTITY FOR 4" PATCHING AT WEST ENTRANCE AND MH 202. SEE SHEET 25 FOR LOCATIONS.

EXISTING STORM SEWER & CULVERT REMOVAL						C
STATION	ALIGNMENT	OFFSET	INPLACE		REMOVALS	NOTES
			STUCTURE	ELEV	STORM STRUCTURE EACH	
11+25.79	CSAH 12_SC	7' RT	MH	897.73	1	
14+34.31	CSAH 12_SC	1.6' RT	CB	898.50	1	
PROJECT TOTAL					2	

1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-14\Plan\0261214_SEQ.dgn					06/03/2015 12:44:34 PM

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: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: 6/16/15 LICENSE NO. 42757

DRAWN BY ZB DATE 06-03-15
 DESIGN BY ZB DATE 06-03-15
 CHECKED BY GP DATE 06-03-15



ANOKA COUNTY
 HIGHWAY DEPT.

SP 0208-153 (TH 65)
 SAP 002-612-014

TABULATIONS

CONCRETE								K	
STATION		ALIGNMENT	OFFSET TO	CONCRETE CURB & GUTTER DESIGN B424	CONCRETE CURB & GUTTER DESIGN B612	8" VALLEY GUTTER	6" CONCRETE WALK (PEDESTRIAN CURB RAMP)	TRUNCATED DOMES	4" CONCRETE WALK
BEGIN	END			LIN FT	LIN FT	SQ YD	SQ FT	SQ FT	SQ FT
10+78.44	10+87.90	CSAH 12 SC	2.8' RT 4.9' RT			2			
10+80.44	10+93.47	CSAH 12 SC	3.7' RT 29.7' RT		46				
10+80.49	13+07.93	CSAH 12 SC	10.6 RT 24' RT						1125
10+93.47	12+88.01	CSAH 12 SC	3.3' RT 29.7' RT	195					
12+88.01	13+12.83	CSAH 12 SC	14' RT 38.4' RT		39				
13+35.83	13+61.74	CSAH 12 SC	12' RT 38.4' RT		39				
13+41.82	15+14.68	CSAH 12 SC	19' RT 32.7' RT						976
13+61.74	15+49.78	CSAH 12 SC	14' RT 65' RT	214			178	24	
PROJECT TOTAL				409	124	2	178	24	2101

TURF ESTABLISHMENT & EROSION CONTROL									Q
LOCATION	SILT FENCE TYPE MACHINE SLICED	SEEDING	SEED MIXTURE 25-131	TYPE SALT TOLERANT SOD	FERTILIZER TYPE 3 (1)	LANDSCAPE ROCK (2)	STORM DRAIN INLET PROTECTION	EROSION CONTROL BLANKETS CAT. 00	RAPID STABILIZATION METHOD 3
STATION TO STATION	LIN FT	ACRE	POUND	SQ YD	POUND	CU YD	EACH	SQ YD	M GALLON
10+81.24 13+12.83						9			0.1
10+82.84 13+01.64		0.1	22		35		3	124	0.2
11+24.95 13+12.09	192								
13+37.59 15+49.00				278	12		3		0.3
TOTAL	192	0.1	22	278	47	9	6	124	0.6

NOTES
(1) FERTILIZER ANALYSIS 22-5-10, APPLICATION RATE 200 POUNDS PER ACRE FOR SOD AREAS
FERTILIZER ANALYSIS 22-5-10, APPLICATION RATE 350 POUNDS PER ACRE FOR SEED AREAS
(2) LANDSCAPE ROCK TO BE PLACED AT A DEPTH OF 3".

MISCELLANEOUS REMOVALS				R
STATION	ALIGNMENT	OFFSET	REMOVE	
		LIN FT	DESCRIPTION	EACH
14+95.93	CSAH 12 SC	30.6' RT	LIGHT POLE	1

NOTES
REMOVALS TO BE DONE BY OTHERS

1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
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NAME: P:\02-612-14\Plan\0261214_SEQ.dgn 06/03/2015 12:44:40 PM					

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PRINT NAME: ANDREW WITTER
SIGNATURE: *[Signature]*
DATE: *6/15/15* LICENSE NO. 42757

DRAWN BY: ZB DATE: 06-03-15
DESIGN BY: ZB DATE: 06-03-15
CHECKED BY: GP DATE: 06-03-15



ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
SAP 002-612-014

TABULATIONS

Sheet 7 of 56 Sheets

UTILITY OWNERS		AA
CITY OF BLAINE	XCEL ENERGY	
GOPHER STATE ONE CALL FIELD UTILITY LOCATE REQUEST	COMCAST CABLE	
CONNEXUS ENERGY	CENTURYLINK	
GREAT RIVER ENERGY	MNDOT	
ZAYO GROUP LLC	CENTERPOINT ENERGY	

GREAT RIVER ENERGY/CONNEXUS ENERGY					BB	
STATION	LOCATION	INPLACE FACILITY	ACTION			UTILITY OWNER
			LEAVE	REMOVE	RELOCATE	
CSAH 12 SC						
10+99	19 RT	POWER POLE	X			GRE
14+73	20 RT	POWER POLE	X			GRE
14+79	22 RT	SPLICE BOX	X			GRE
14+96	31 RT	LIGHT POLE		X		PRIVATE
15+07	74 RT	POWER POLE	X			CONNEXUS

CENTERPOINT ENERGY							DD
STATION	LOCATION	INPLACE FACILITY	ACTION			UTILITY OWNER	
			LEAVE	ADJUST	RELOCATE		
CSAH 12 SC							
10+48 to 12+75	18 RT to 12 RT	GAS LINE			X	CENTERPOINT	
12+75 to 12+82	12 RT to 11 RT	TEE			X	CENTERPOINT	
12+82 to 13+02	11 RT to 78 RT	SERVICE			X	CENTERPOINT	
12+82 to 13+59	11 RT to 12 RT	GAS LINE			X	CENTERPOINT	
13+40 to 13+59	12 RT to 64 RT	SERVICE			X	CENTERPOINT	
13+59 to 15+28	12 RT to 50 RT	GAS LINE			X	CENTERPOINT	
15+28 to 16+54	50 RT to 50 RT	GAS LINE	X			CENTERPOINT	

CENTERPOINT ENERGY, GREAT RIVER ENERGY & CONNEXUS ENERGY UTILITY WORK SHOWN ON THIS PROJECT SHALL BE DONE BY OTHERS UNLESS NOTED.

ALL RELOCATES AND ADJUSTMENTS SUBJECT TO ANOKA COUNTY AND/OR CITY OF BLAINE RIGHT OF WAY

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.

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

THE REMARKS COLUMN IS BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

WORK TO BE DONE BY OTHERS UNLESS OTHERWISE NOTED.

CITY OF BLAINE EXISTING (4)						EE
STATION	LOCATION	INPLACE ITEM	ADJUST GATE VALVE	REMOVE HYDRANT & VALVE	REMOVE MANHOLE	REMARKS
			EACH	EACH	EACH	
12+05	31 LT	SAN MH				LEAVE
13+61	20 RT	WS				ADJUST (1)
14+60	12 RT	HYD & GV		1		(3)
14+82	7 RT	VALVE MH			1	(2)
15+13	20 RT	GV	1			
15+14	3 LT	GV	1			
PROJECT TOTAL			2	1	1	

NOTES:

- (1) WATER SERVICES TO BE ADJUSTED TO FINISHED GRADE (INCIDENTAL)
- (2) MANHOLE STRUCTURE AND 16" GATE GALVE TO BE REMOVED AND PAID FOR SEPARTATELY
- (3) HYDRANT AND GATE VALVE TO BE REMOVED AND PAID FOR SEPARTATELY
- (4) WORK TO BE DONE BY CONTRACTOR

MNDOT TRAFFIC SIGNAL/FIBER (4)						GG
STATION	LOCATION	INPLACE FACILITY	ACTION			UTILITY OWNER
			LEAVE	REMOVE	RELOCATE	
CSAH 12 SC						
13+24	5 RT	HANDHOLE		X		MNDOT
13+24 to 15+15	5 RT to 24 RT	1 1/4" CONDUIT		X		MNDOT
15+07	41 LT	HANDHOLE	X			MNDOT
15+07 to 15+15	41 LT to 24 RT	4" R.S.C.	X			MNDOT
15+13	36 RT	SIGNAL CABINET	X			MNDOT
15+13 to 15+15	36 RT to 24 RT	4" R.S.C.	X			MNDOT
15+15	24 RT	HANDHOLE	X			MNDOT
15+15 to 15+29	24 RT to 55 RT	2" R.S.C.	X			MNDOT
15+28	RUNS NORTH TO SOUTH	RTMC FIBER	X			MNDOT
15+29	55 RT	HANDHOLE	X			MNDOT
15+33	41 RT	PED PUSH BUTTON	X			MNDOT
15+38	49 RT	PED PUSH BUTTON	X			MNDOT
15+38	57 RT	TRAFFIC SIGNAL	X			MNDOT

CITY OF BLAINE PROPOSED (4)						FF
STATION	LOCATION	HYDRANT	6" GATE VALVE & BOX	FURNISH & INSTALL 16" GV & BOX	6" DIP CL 52	REMARKS
		EACH	EACH	EACH	LIN FT	
14+60	21 RT	1				
14+60	1 RT - 21 RT		1		20	
14+82	7 RT			1		
PROJECT TOTAL		1	1	1	20	

1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ANDREW WITTMER
 SIGNATURE: *[Signature]*
 DATE: 6/22/15 LICENSE NO. 42757

DRAWN BY ZB DATE 06-03-15
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 CHECKED BY GP DATE 06-03-15



ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
SAP 002-612-014

TABULATIONS

EARTHWORK BALANCE										I
AVAILABLE EXCAVATION (CU YD)										
COMMON (EV) (1)	477	COMMON	360	(EV) /	1.2	=	300	(CV)	(4)	
		EXISTING TOPSOIL	117	(EV) /	1	=	117	(CV)		
SUBGRADE EXCAVATION	276	SUBGRADE EXCAVATION (3)	276	(EV) /	1.2	=	230	(CV)	(3)	
NEEDED EMBANKMENT (CU YD)										
SUITABLE GRADING	29	(CV)	29	(CV)						
TOPSOIL	43	(CV)	43	(CV)						
SELECT GRANULAR	276	(CV)	X 1.3 =	359	(LV)					
TOPSOIL & SUITABLE GRADING MATERIAL (CU YD)										
		NEEDED		AVAILABLE						
TOPSOIL	43	(CV)	-	117	(CV)	=	74	(CV)	(2)	
SUITABLE GRADING	29	(CV)	-	530	(CV)	=	501	(CV)	(5)	
BORROW (CU YD)										
		NEEDED		AVAILABLE						
SELECT GRANULAR	359	(LV)	-	0	(LV)	=	359	(LV)		

- (1) TOTAL COMMON EXCAVATION FOR PROJECT (INCLUDING TOPSOIL)
- (2) TOPSOIL TO BE DISTRIBUTED WITHIN PROJECT CONSTRUCTION LIMITS AT ENGINEERS DISCRETION
- (3) SUBGRADE EXCAVATION MATERIAL IS ASSUMED TO MEET REQUIREMENTS FOR SUITABLE GRADING MATERIAL AND CAN THEREFORE BE RE-USED AS EMBANKMENT WITHIN THE PROJECT AS SUITABLE GRADING MATERIAL.
- (4) WITH THE EXCEPTION OF TOPSOIL, IT IS ASSUMED THAT COMMON EXCAVATION WILL MEET REQUIREMENTS FOR SUITABLE GRADING
- (5) ANY SUITABLE GRADING MATERIAL NOT UTILIZED ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF OFF SITE IN ACCORDANCE WITH SPEC 2104.

NO	DATE	BY	CKD	APPR	REVISION
1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS

NAME: P:\02-612-14\Plan\0261214_EW.dgn 06/03/2015 12:44:51 PM

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 DATE: 6/16/15 LICENSE NO. 42757

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ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
SAP 002-612-014

EARTHWORK SUMMARY					F
STATION	EXCAVATION TOTALS		EMBANKMENT VOLUMES		
	COMMON	SUBGRADE	TOPSOIL	SUITABLE GRADING	SELECT GRANULAR
	CU YD	CU YD	CU YD	CU YD	CU YD
10+78.44					
11+00.00	9	15	1	1	15
11+24.98	10	5	2	2	5
11+50.00	14	6	2	1	6
12+00.00	43	18	4	3	18
12+50.00	58	26	5	4	26
13+00.00	64	32	4	6	32
13+25.00	27	26	1	2	26
13+50.00	30	26	1	1	26
14+00.00	72	32	5	2	32
14+50.00	62	29	7	2	29
15+00.00	57	30	8	3	30
15+33.56	31	31	3	2	31
PROJECT TOTALS	477	276	43	29	276

AGGREGATE SUMMARY		G
STATION	AGGREGATE	
	AGGREGATE SUBBASE	
	CU YD	
10+78.44		
11+00.00		8
11+24.98		3
11+50.00		3
12+00.00		10
12+50.00		14
13+00.00		18
13+25.00		15
13+50.00		15
14+00.00		18
14+50.00		16
15+00.00		17
15+33.56		17
PROJECT TOTAL		154

NO	DATE	BY	CKD	APPR	REVISION
1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS

NAME: P:\02-612-14\Plan\0261214_EW.dgn 06/03/2015 12:44:58 PM

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PRINT NAME: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: 6/15/15 LICENSE NO. 42757

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 CHECKED BY GP DATE 06-03-15



**ANOKA COUNTY
HIGHWAY DEPT.**

SP 0208-153 (TH 65)
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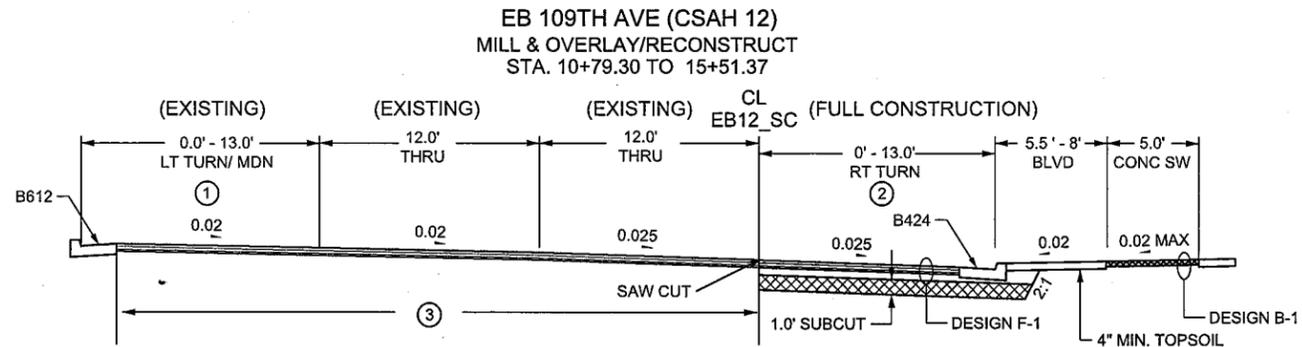
NOTES:

- ① LT TURN TAPERS FROM 0' AT STA 11+73.35 TO 13' AT STA 12+67.63
- ② RT TURN TAPERS FROM 0' AT STA 10+93.10 TO 13' AT STA 12+46.70
- ③ EXISTING PAVEMENT TO HAVE 2.0" MILL & OVERLAY DONE

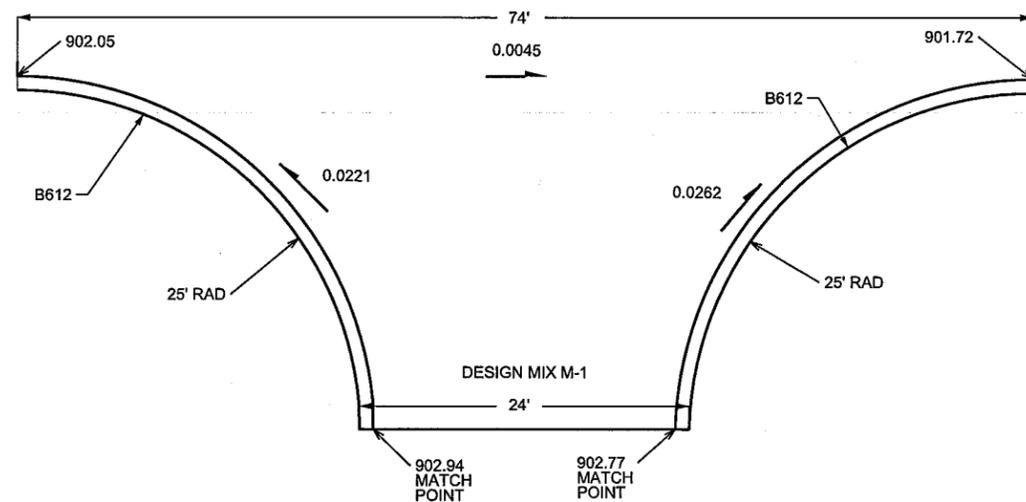
GENERAL NOTES:

- 1) ALL CROSS SLOPES ARE EXPRESSED IN FT/FT.
- 2) ALL STATIONINGS ON CSAH 12 BASED ON SAW CUT ALIGNMENT.
- 3) SEE CONSTRUCTION PLAN ON SHEET 25 AND CHART BELOW FOR TURN LANE LOCATIONS.

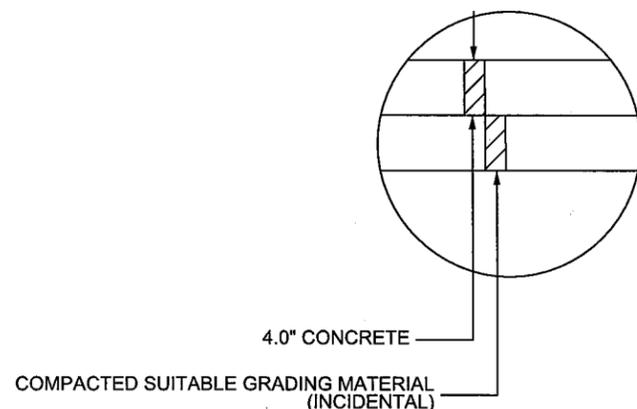
TURN LANE LOCATIONS					
ALIGNMENT	STATION TO STATION	LOCATION	DESCRIPTION	TAPER	
12_SC	11+28	15+51	RT.	RIGHT TURN	1:12
* STATION RANGE INCLUDES TAPER SECTION.					



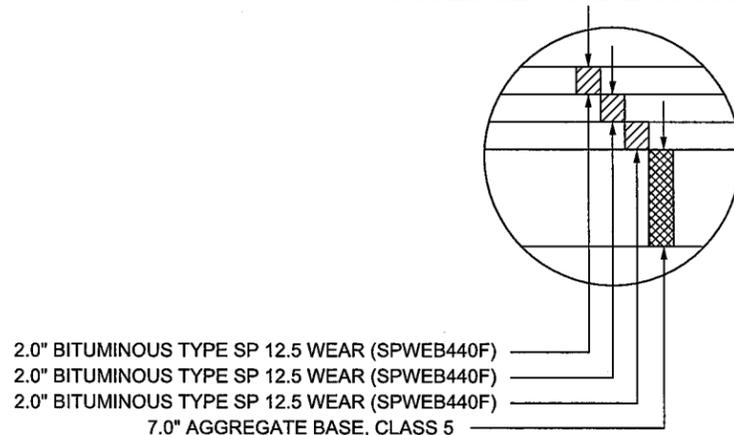
STRIP MALL ENTRANCE
STA. 12+87.85 TO 13+61.74
ELEVATIONS TO EDGE OF MAT



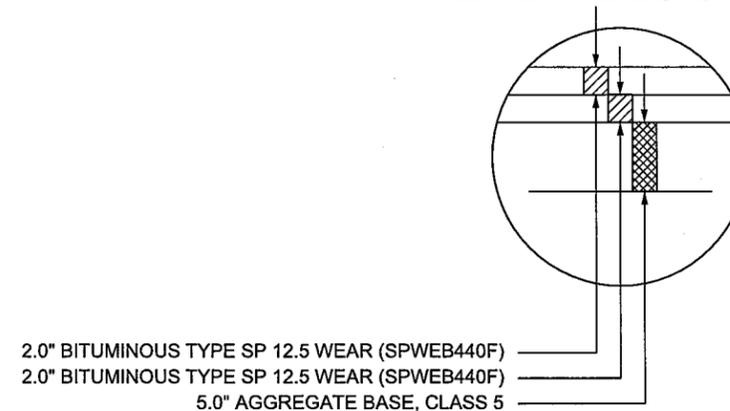
**DESIGN "B-1" SIDEWALK
CONCRETE DESIGN**



**DESIGN "F-1" MAINLINE
PAVEMENT DESIGN**



**DESIGN "M-1" ENTRANCE
PAVEMENT DESIGN**



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 PRINT NAME: ANDREW WITTER
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 DATE: 6/6/15 LICENSE NO. 42757

DRAWN BY: ZB DATE: 06-03-15
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**ANOKA COUNTY
HIGHWAY DEPT.**

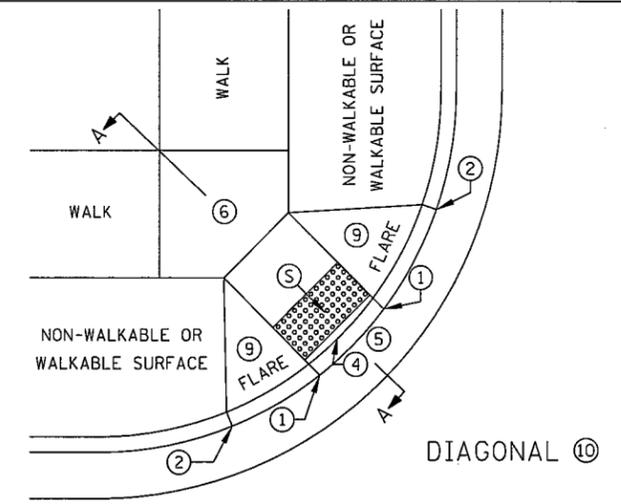
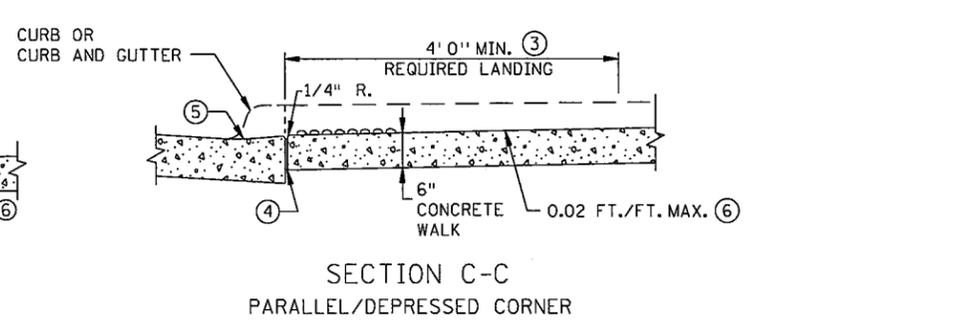
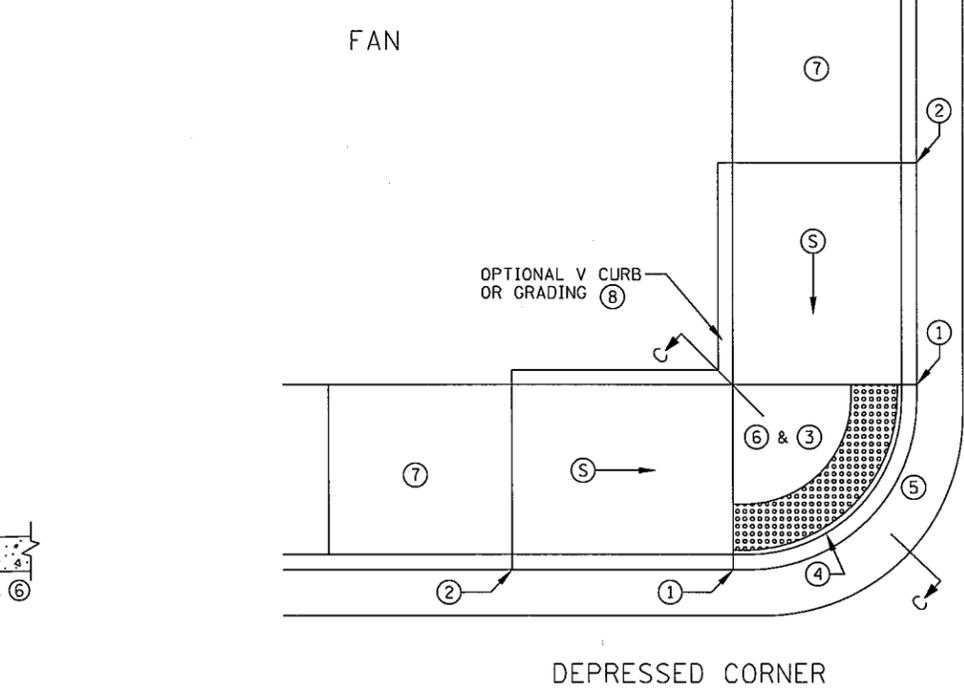
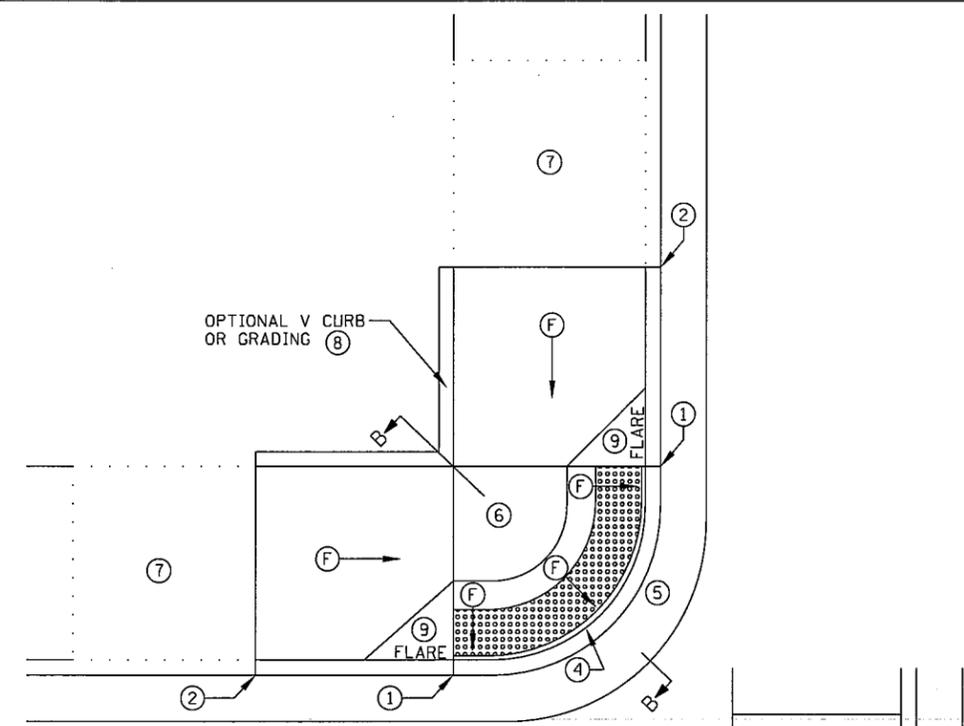
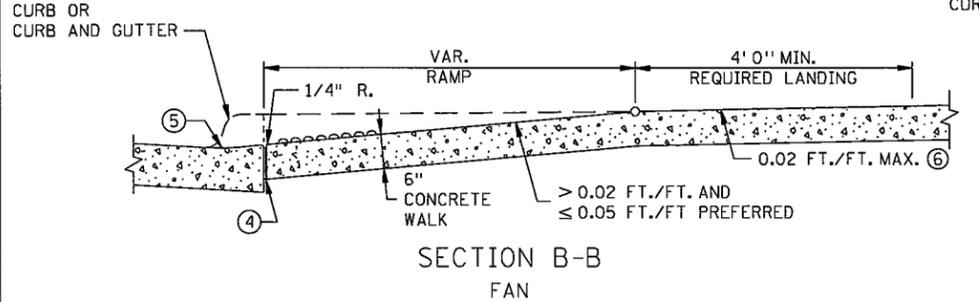
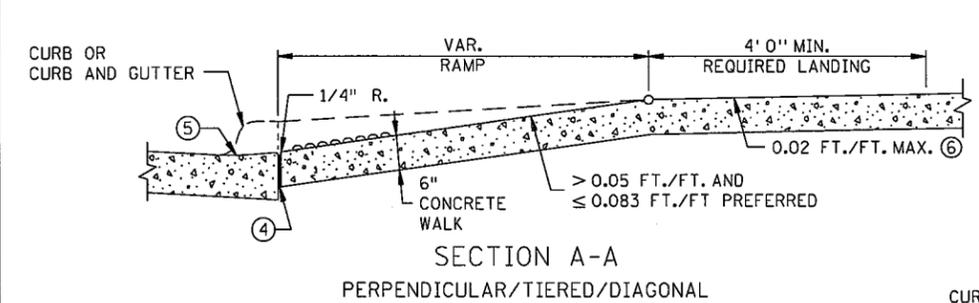
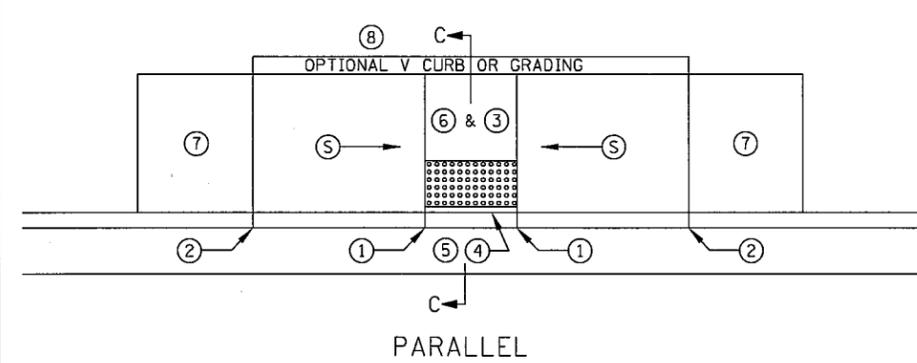
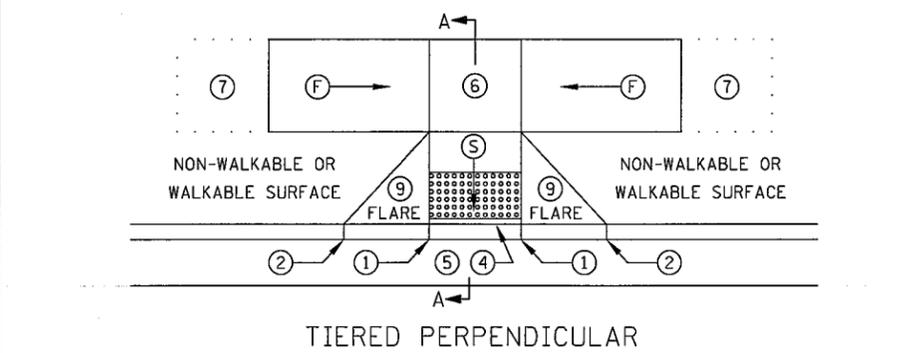
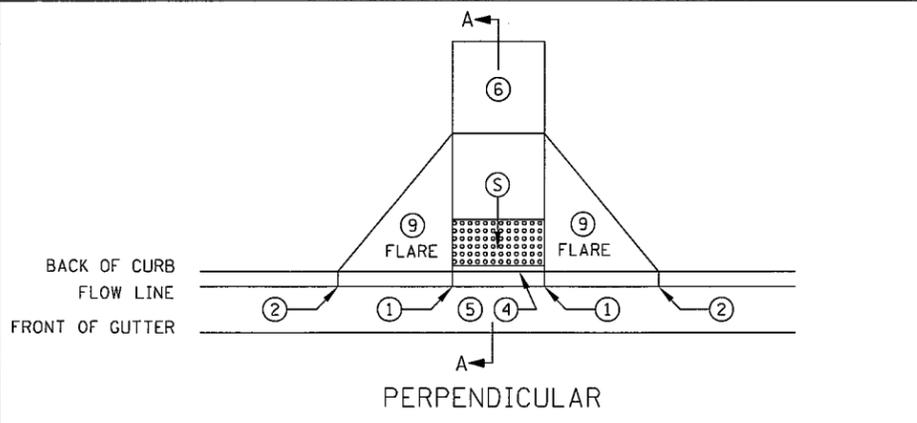
SP 0208-153 (TH 65)
SAP 002-612-014

CSAH 21
PROPOSED TYPICAL SECTIONS

PLOTTED/REVISED:
06/22/2015

USER NAME: ZGBorger
PATH & FILENAME: P:\02-612-14\Plan\Std Plans\5-250.L_spd.dgn

FILE NAME:
s250.L_spd.dgn



- NOTES:
- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
- INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE.
- SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS.
- ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.
- TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 5 WHEN LANDINGS ARE CAST SEPARATELY.
- ALL SLOPES ARE ABSOLUTE, RATHER THAN RELATIVE TO SIDEWALK/ROADWAY GRADES.
- TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINIMUM OF 24" IN THE PATH OF TRAVEL. SHARED USE PATHS SHALL HAVE DETECTABLE WARNING ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD.
- SEE STANDARD PLATE 7038 AND SHEET 4 OF 5 FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
- ① 0" CURB HEIGHT.
 - ② FULL CURB HEIGHT.
 - ③ DETECTABLE WARNINGS MAY BE PART OF 4' X 4' LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
 - ④ 1/2" PREFORMED JOINT FILLER MATERIAL AASHTO M 213. JOINT FILLER SHALL BE PLACED FLUSH WITH THE BACK OF CURB AND ADJACENT SIDEWALK. JOINT SHALL BE FREE OF DEBRIS. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
 - ⑤ SEE PEDESTRIAN ACCESS ROUTE CURB AND GUTTER DETAIL FOR INFORMATION ON CONSTRUCTING CURB AND GUTTER AT CURB OPENINGS. SEE SHEET NO. 3 OF 5.
 - ⑥ 4' BY 4' MIN. LANDING WITH MAX. 2.0% SLOPE IN ALL DIRECTIONS.
 - ⑦ IF LONGITUDINAL SLOPE IS GREATER THAN 5.0%, 4' X 4' MIN. LANDING WITH MAX 2.0% SLOPE IN ALL DIRECTIONS REQUIRED.
 - ⑧ V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. SEE SHEET 5 OF 5.
 - ⑨ SEE SHEET 15 OF 16, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
 - ⑩ DIAGONAL RAMPS SHOULD ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
S	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%
F	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

REVISION:
APPROVED: 8-6-2014
[Signature]
OPERATIONS ENGINEER

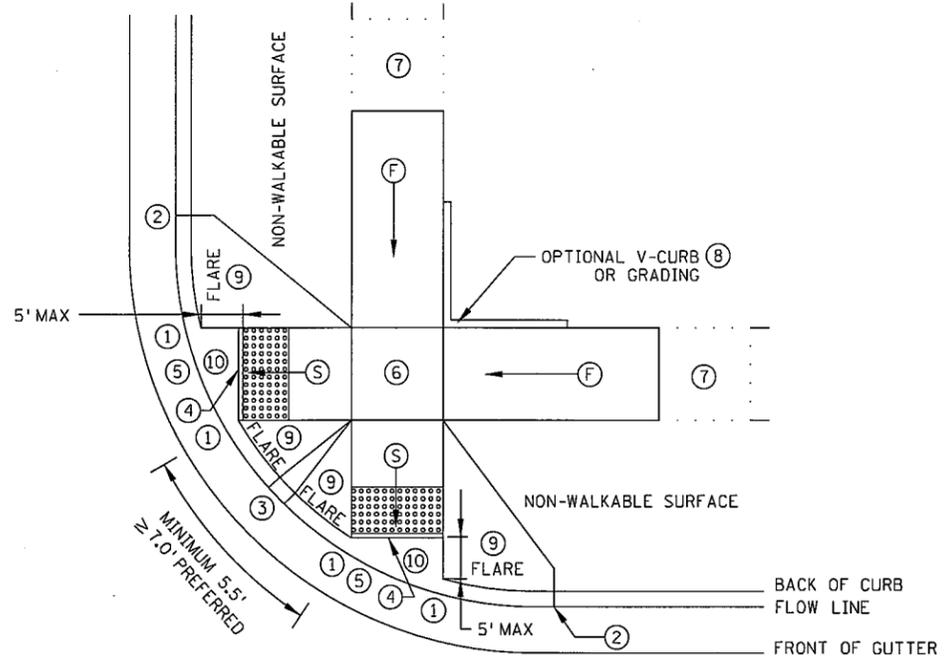
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REVISOR:
APPROVED:
8-6-2014
[Signature]
STATE DESIGN ENGINEER

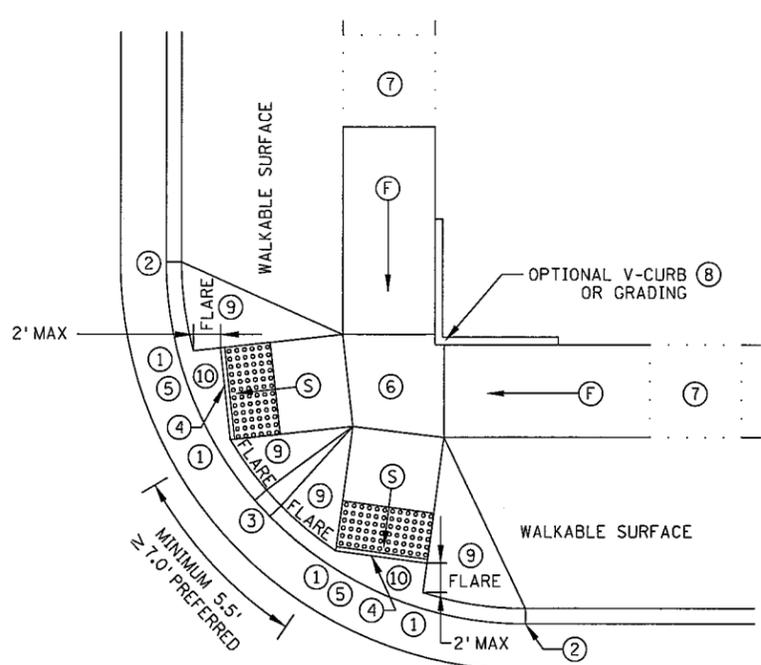
PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 | 12 OF 56

PLOTTED/REVISED:
06/22/2015

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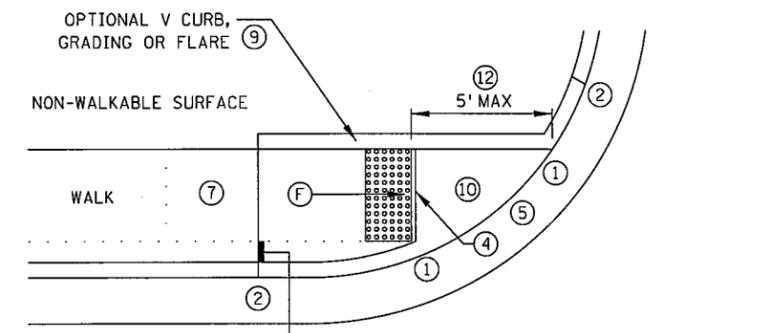


ADJACENT TO NON-WALKABLE SURFACE



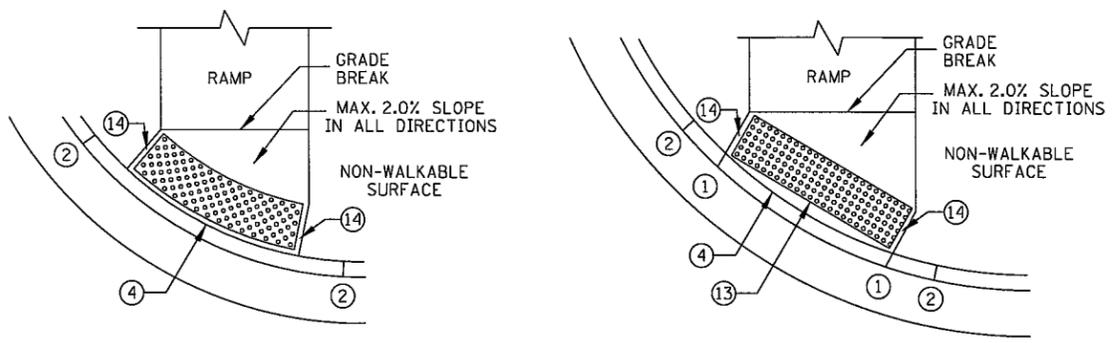
ADJACENT TO WALKABLE SURFACE

COMBINED DIRECTIONAL 15

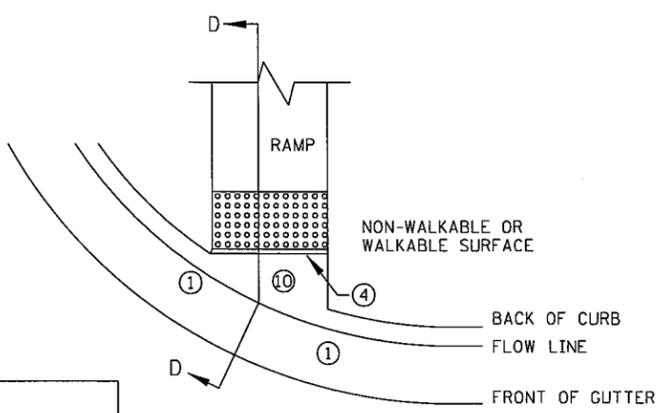


ONE-WAY DIRECTIONAL

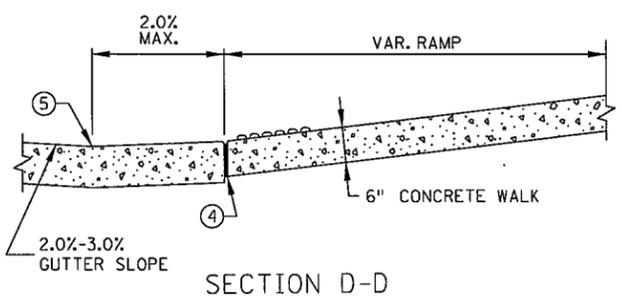
IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.



DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED



CURB FOR DIRECTIONAL RAMPS 11



SECTION D-D

- NOTES:
- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
 - INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE.
 - SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
 - CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS.
 - ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.
 - TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 5 WHEN LANDINGS ARE CAST SEPARATELY.
 - ALL SLOPES ARE ABSOLUTE, RATHER THAN RELATIVE TO SIDEWALK/ROADWAY GRADES.
 - TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
 - 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINIMUM OF 24" IN THE PATH OF TRAVEL. SHARED USE PATHS SHALL HAVE DETECTABLE WARNING ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD.
 - SEE STANDARD PLATE 7038 AND SHEET 4 OF 5 FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

- 1 0" CURB HEIGHT.
- 2 FULL CURB HEIGHT.
- 3 3" MINIMUM CURB HEIGHT, 4" PREFERRED.
- 4 1/2" PREFORMED JOINT FILLER MATERIAL AASHTO M 213. JOINT FILLER SHALL BE PLACED FLUSH WITH THE BACK OF CURB AND ADJACENT SIDEWALK. JOINT SHALL BE FREE OF DEBRIS. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MIN. TO 6" MAX. FROM THE BACK OF CURB.
- 5 SEE PEDESTRIAN ACCESS ROUTE CURB AND GUTTER DETAIL FOR INFORMATION ON CONSTRUCTING CURB AND GUTTER AT CURB OPENINGS. SEE SHEET NO. 3 OF 5.
- 6 4' BY 4' MIN. LANDING WITH MAX. 2.0% SLOPE IN ALL DIRECTIONS.
- 7 IF LONGITUDINAL SLOPE IS GREATER THAN 5.0%, 4' X 4' MIN. LANDING WITH MAX 2.0% SLOPE IN ALL DIRECTIONS REQUIRED.
- 8 V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
- 9 SEE SHEET 4 OF 5, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
- 10 MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
- 11 TO BE USED FOR ALL DIRECTIONAL RAMPS.
- 12 PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
- 13 RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
- 14 WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- 15 FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

REVISION:
APPROVED: 8-6-2014
Michael R. ...
OPERATIONS ENGINEER

SP 0208-153 (TH 65)
SAP 002-612-014



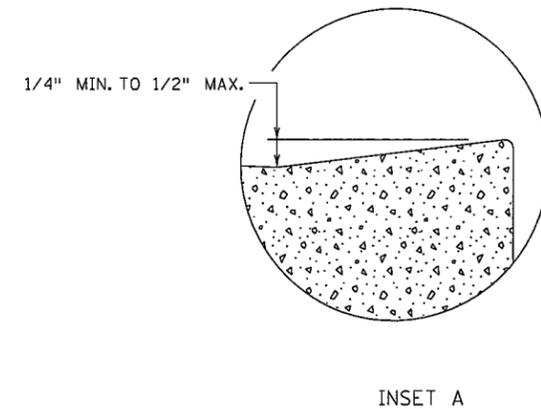
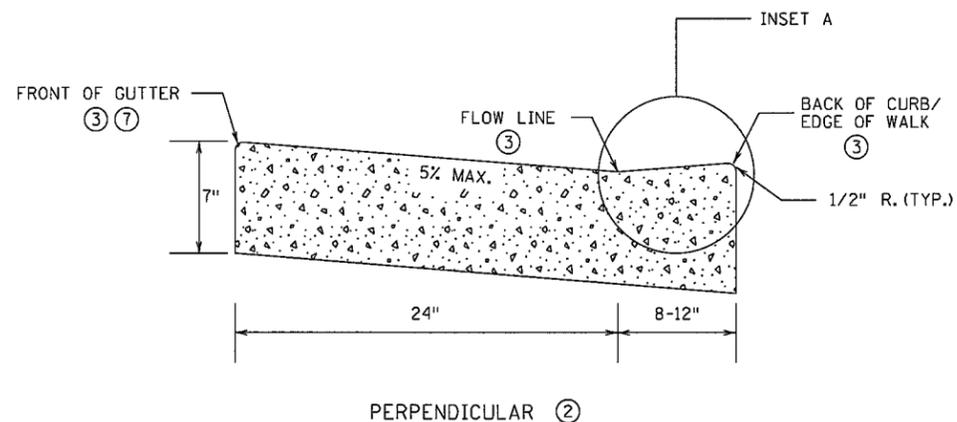
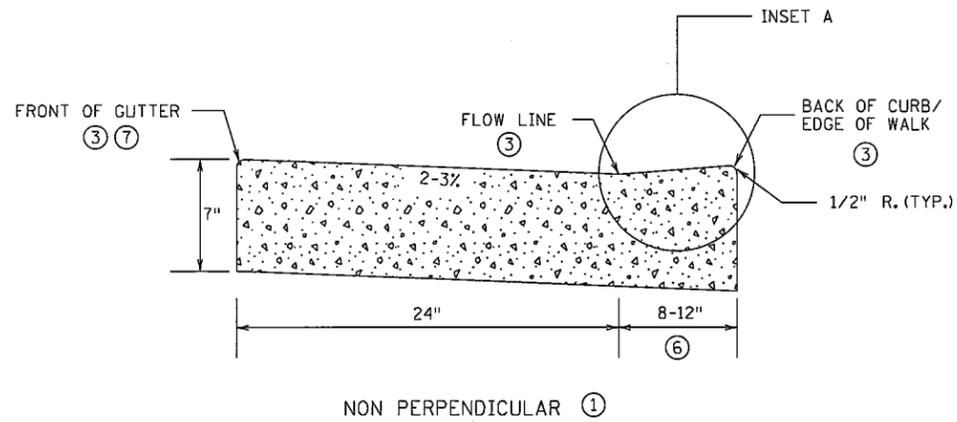
APPROVED:
Christina ...
STATE DESIGN ENGINEER

REVISED:
8-6-2014

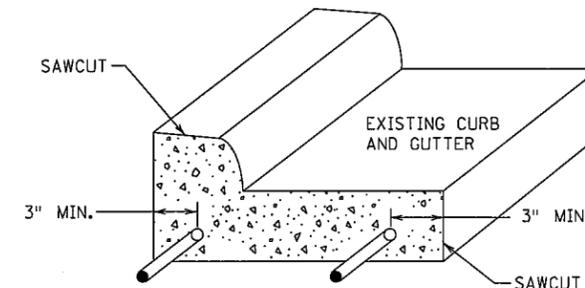
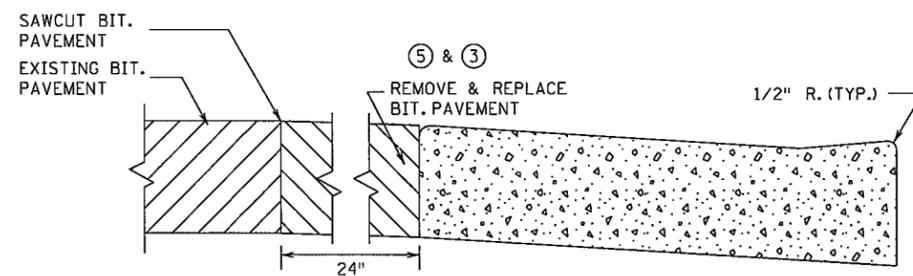
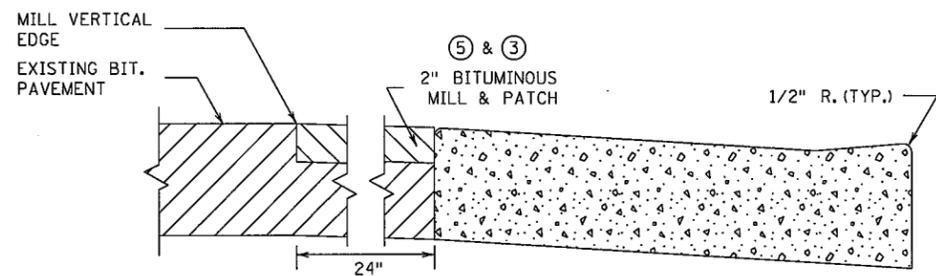
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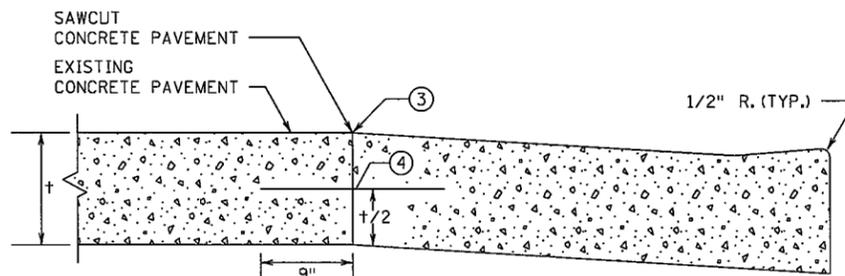
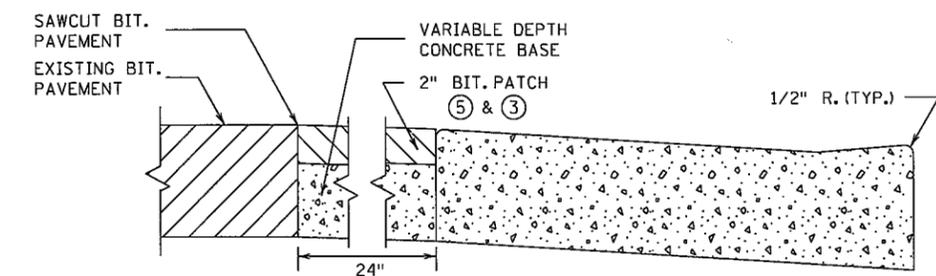
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PEDESTRIAN ACCESS ROUTE
CURB & GUTTER DETAIL



CURB AND GUTTER
REINFORCEMENT (8)
FOR USE ON CURB RAMP RETROFITS



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

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

(1) FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS, DEPRESSED CORNERS, & ONE WAY AND COMBINED DIRECTIONALS.

(2) FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

(3) THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4\".

(4) DRILL AND GROUT NO. 4 EPOXY-COATED 18\"/>

(5) ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

(6) VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS.

(7) TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. PAR GUTTER SHALL NOT BE OVERLAID.

(8) WHERE PLAN SPECIFIES, DRILL AND GROUT 2 - NO. 4 X 12\"/>

REVISION:
APPROVED: 8-6-2014 <i>M. J. [Signature]</i> OPERATIONS ENGINEER

SP 0208-153 (TH 65)
SAP 002-612-014



Christopher [Signature]
STATE DESIGN ENGINEER

REVISED:

APPROVED:

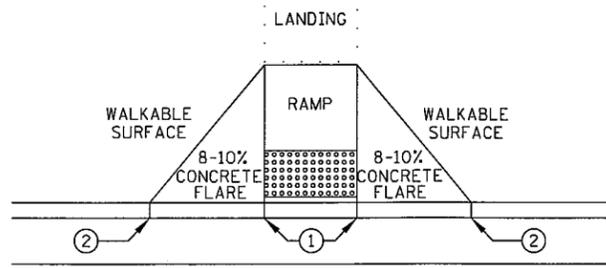
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PEDESTRIAN CURB RAMP DETAILS

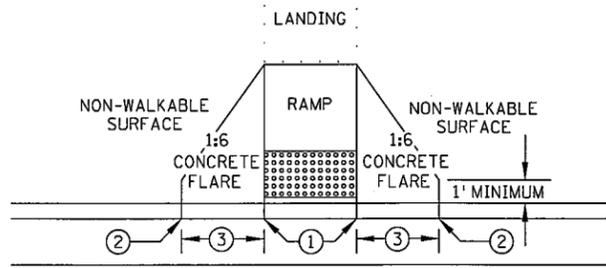
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14 OF 56

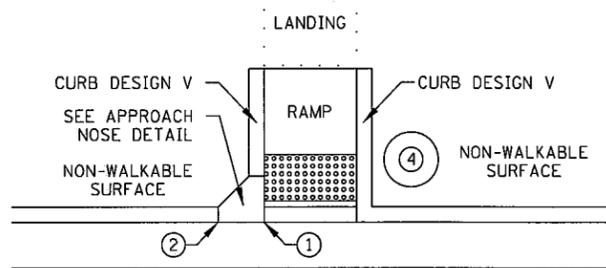
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PAVED FLARES
ADJACENT TO WALKABLE SURFACE

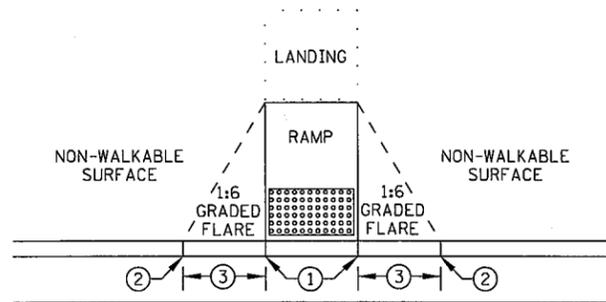


PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE



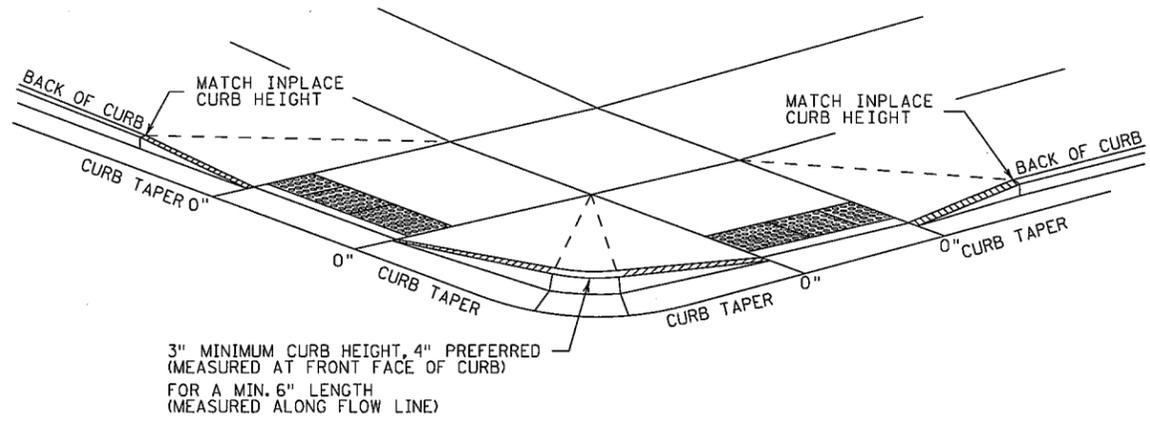
DIRECTION OF TRAFFIC

RETURNED CURB



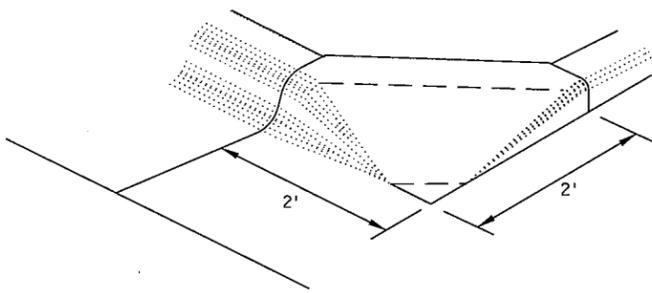
GRADED FLARES

TYPICAL SIDE TREATMENT OPTIONS ⑤



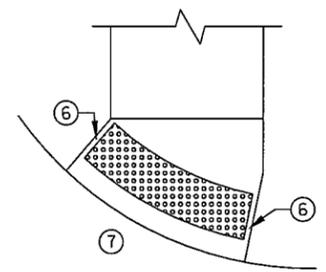
3" MINIMUM CURB HEIGHT, 4" PREFERRED
(MEASURED AT FRONT FACE OF CURB)
FOR A MIN. 6" LENGTH
(MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH
CURB AND GUTTER ⑧

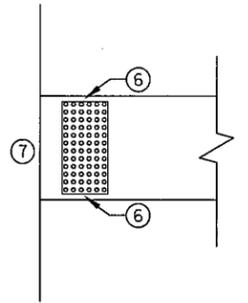


SECTION A-A

APPROACH NOSE DETAIL
FOR DOWNSTREAM SIDE OF TRAFFIC



RADIAL DETECTABLE WARNING



RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING. WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER. CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

- ① 0" CURB HEIGHT.
- ② FULL CURB HEIGHT.
- ③ 2' - 3' FLARE.
- ④ IMMOVABLE OBJECT OR OBSTRUCTION.
- ⑤ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED ON ALL RAMPS AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
- ⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF ROADWAY TO PROVIDE VISUAL CONTRAST.
- ⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

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REVISION:
APPROVED: 8-6-2014
<i>Michael R. ...</i> OPERATIONS ENGINEER

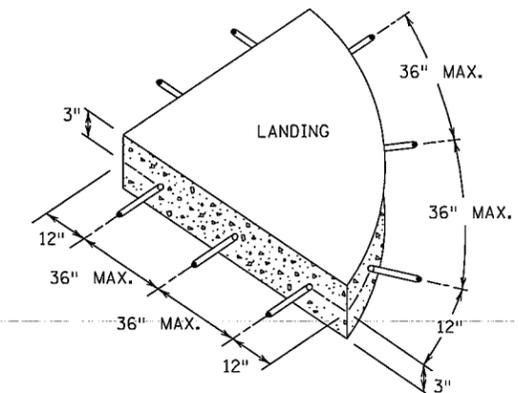
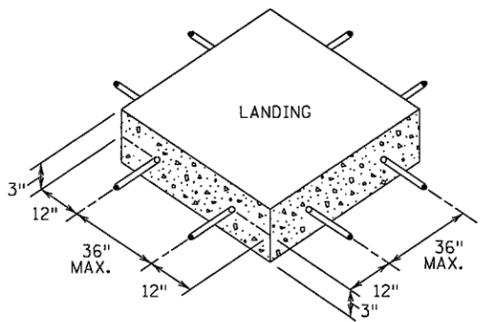
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REVISOR:
Christopher R. ...
STATE DESIGN ENGINEER

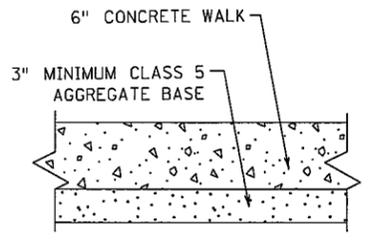
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PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 | 15 OF 56

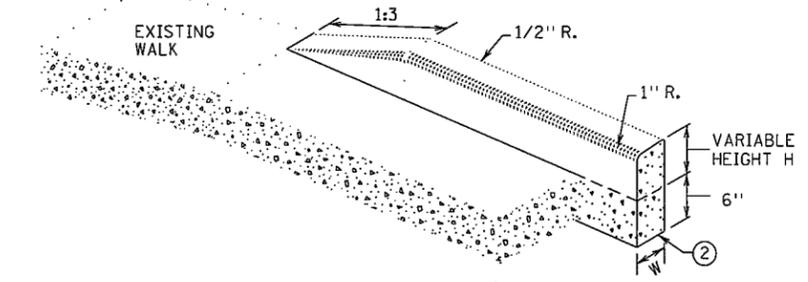
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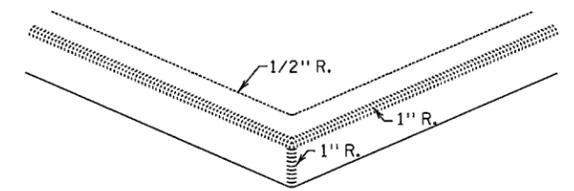
SIDEWALK REINFORCEMENT ⑥ ⑦



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

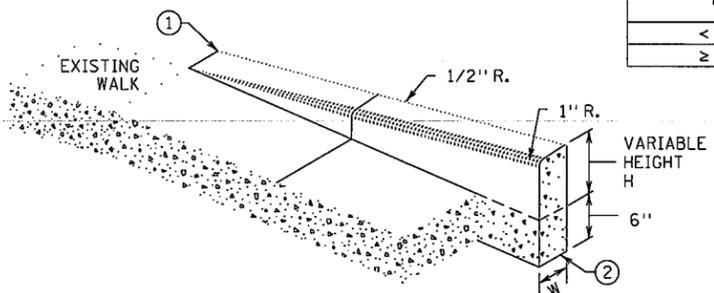


V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

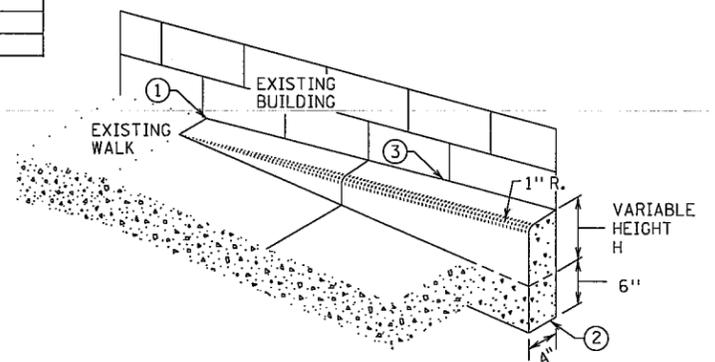


V CURB INTERSECTION

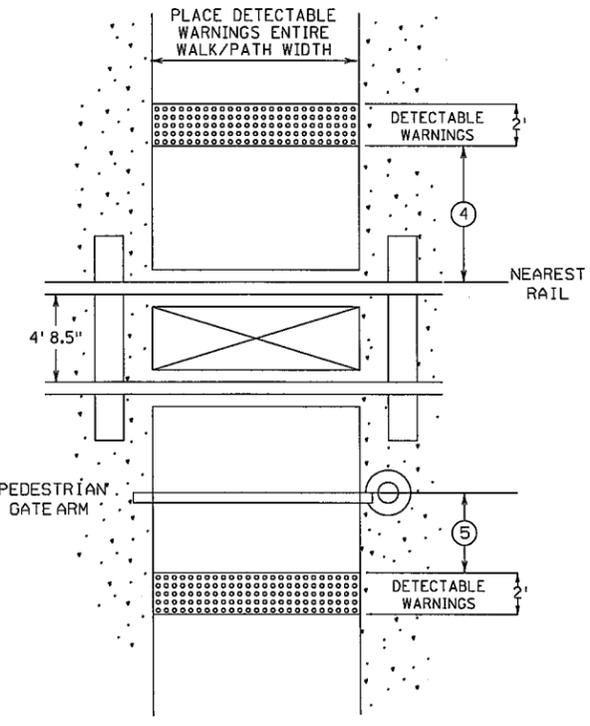
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



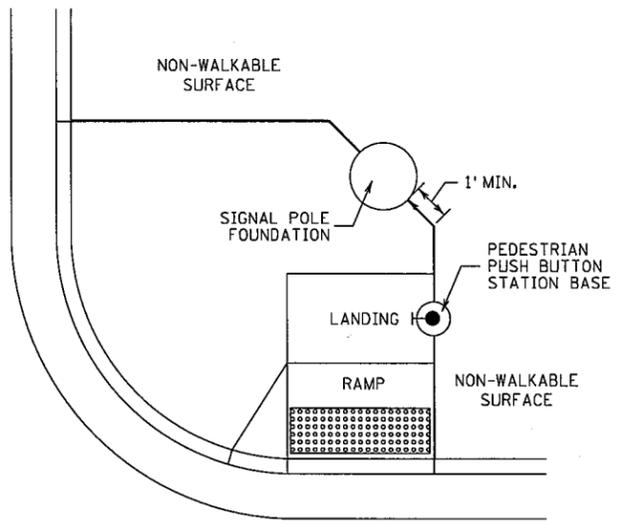
V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



V CURB ADJACENT TO BUILDING
OR BARRIER



RAILROAD CROSSING
PLAN VIEW



CONCRETE WALK EDGES ADJACENT
TO CONCRETE STRUCTURES

NOTES:

- ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.
- WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.
- V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
- V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.
- ① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- ③ EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
- ④ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
- ⑤ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM.
- ⑥ WHEN PLAN SPECIFIES, DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAX. CENTER TO CENTER (EPOXY COATED).
- ⑦ TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET WHEN LANDINGS ARE CAST SEPARATELY.

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APPROVED: 2-9-2015
<i>[Signature]</i> OPERATIONS ENGINEER

SP 0208-153 (TH 65)
SAP 002-612-014



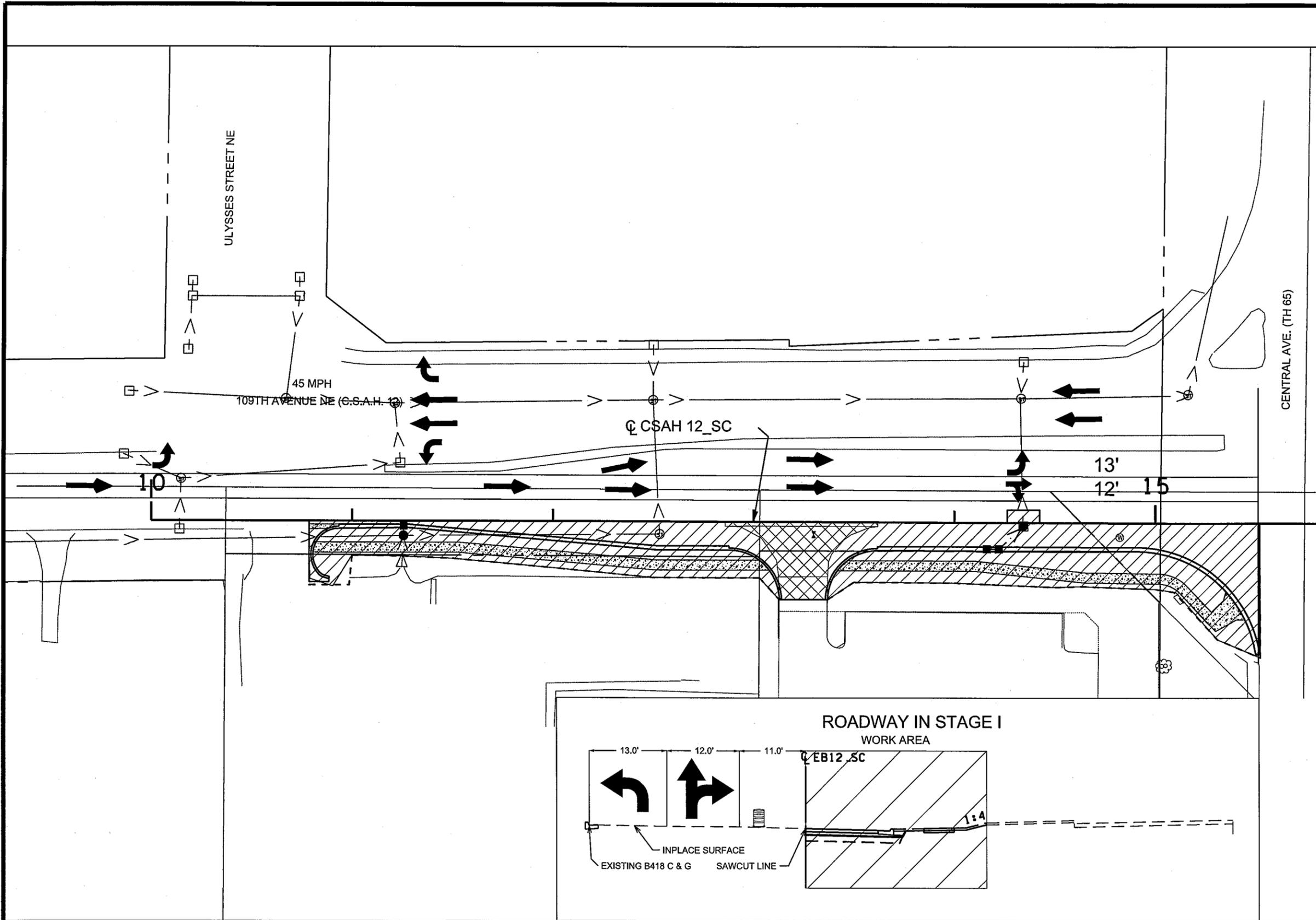
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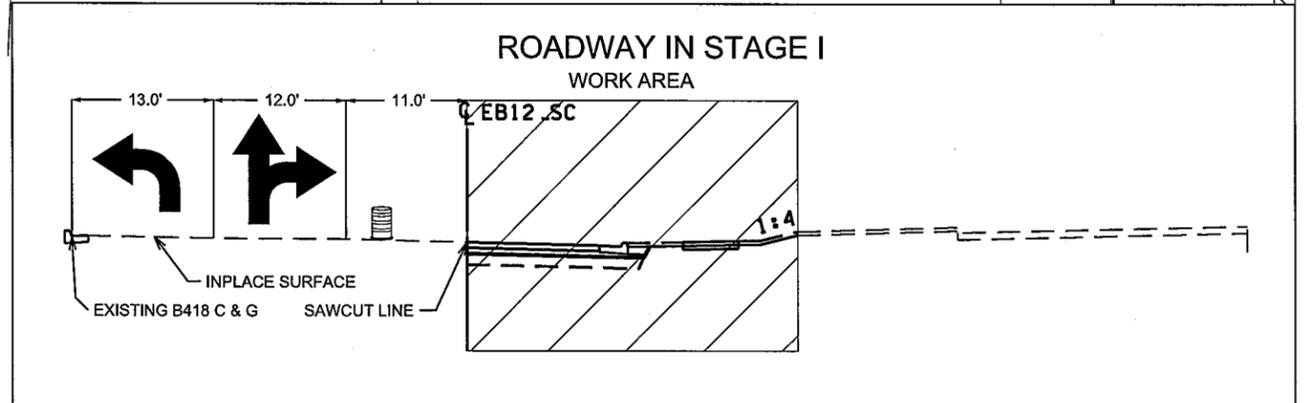
PEDESTRIAN CURB RAMP DETAILS	
STANDARD PLAN 5-297.250	16 OF 56

LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  TRAFFIC SHIFT LANES
-  TRAFFIC FLOW DIRECTION
-  DRAINAGE TO BE COMPLETED DURING CURRENT STAGE
-  INPLACE DRAINAGE PIPES



STAGE 1 CONSTRUCTION NOTES:
 EB CSAH 12 BETWEEN ULYSSES ST AND TH 65. FULL CONSTRUCTION OF RIGHT TURN LANE, CURB & GUTTER, SIDEWALK, VALLEY GUTTER, AND STORM SEWER.
 CONTRACTOR SHALL MAINTAIN PEDESTRIAN TRAFFIC DURING CONSTRUCTION.

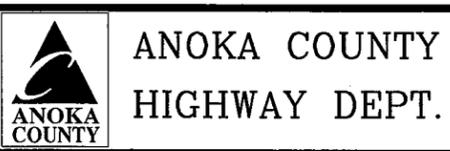


NO	DATE	BY	CKD	APPR	REVISION

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 4/24/15 LICENSE NO. 42757

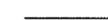
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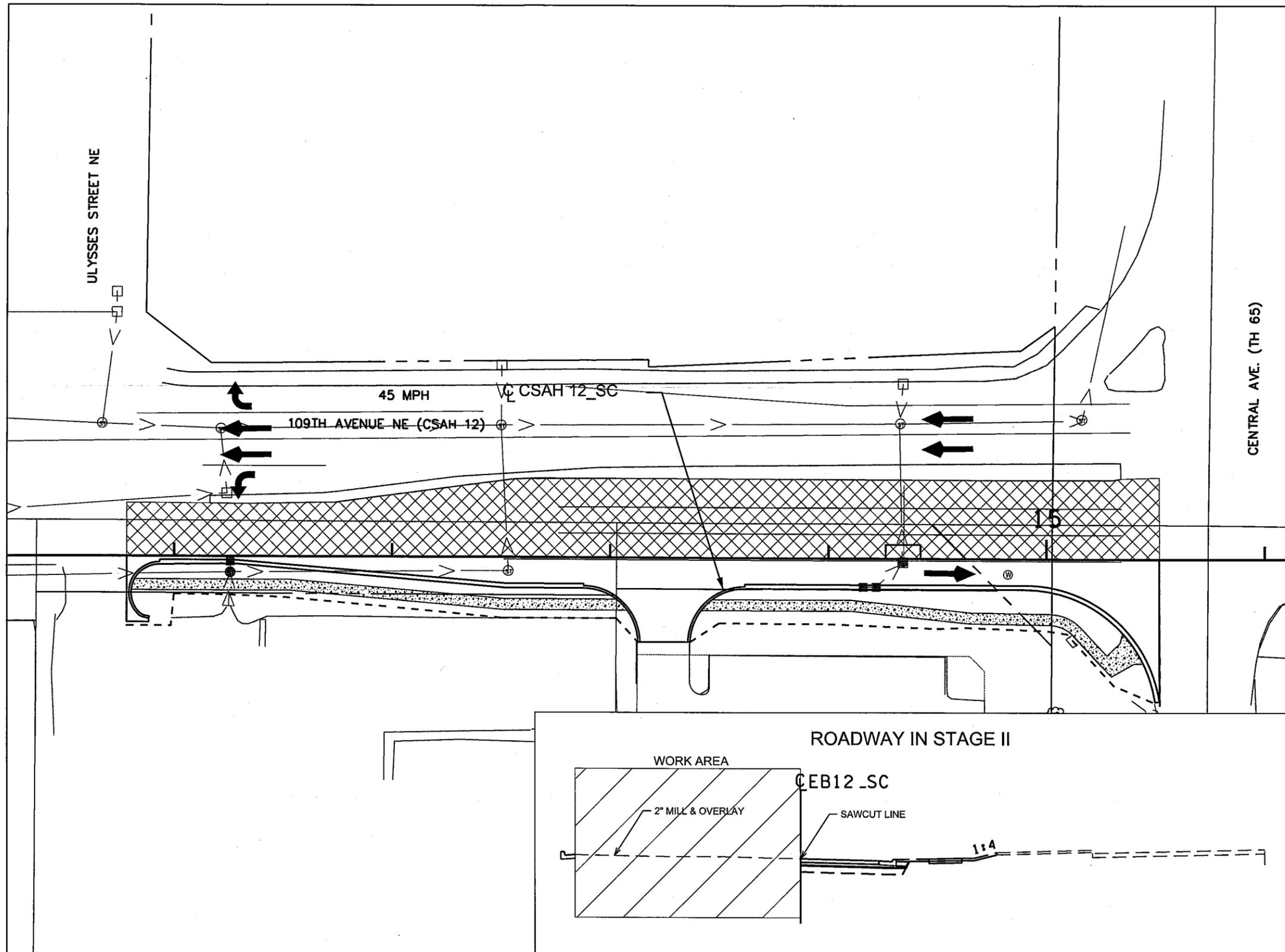
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STAGING PLAN
 STAGE 1
 Sheet 17 of 56 Sheets

LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  TRAFFIC SHIFT LANES
-  TRAFFIC FLOW DIRECTION
-  INPLACE DRAINAGE PIPES

STAGE 2 CONSTRUCTION NOTES:
 EB CSAH 12 BETWEEN ULYSSES ST AND TH 65. 2" MILL & OVERLAY OF EXISTING THRU LANE AND LEFT TURN LANE. WORK TO BE DONE UNDER TRAFFIC.



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: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 4/24/15 LICENSE NO. 42757

DRAWN BY: ZB DATE: 04-10-15
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ANOKA COUNTY
 HIGHWAY DEPT.

SP 0208-153 (TH 65)
 SAP 002-612-014

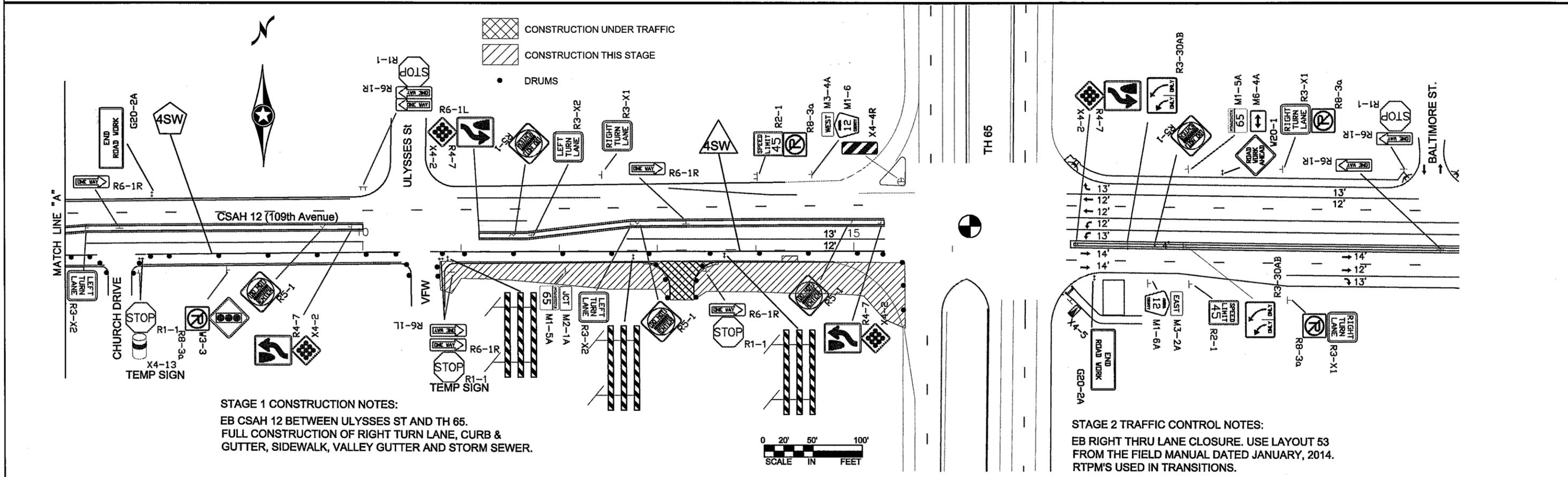
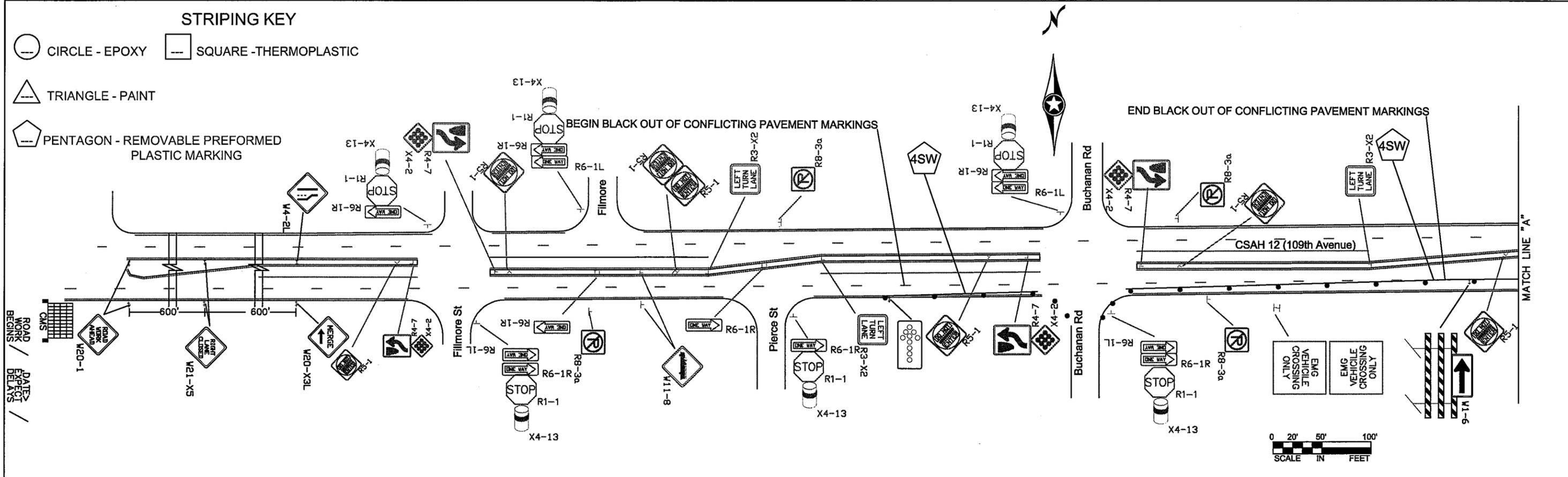
STAGING PLAN
 STAGE 2
 Sheet 18 of 56 Sheets

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STRIPING KEY

- CIRCLE - EPOXY
- SQUARE - THERMOPLASTIC
- TRIANGLE - PAINT
- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



1	02/09/15	RLB	JR	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-14\Base\Traffic\TC STAGE 1.dwg					

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: ANDREW WITTER

SIGNATURE: *[Signature]*

DATE: 6/27/15 LICENSE NO. 42757

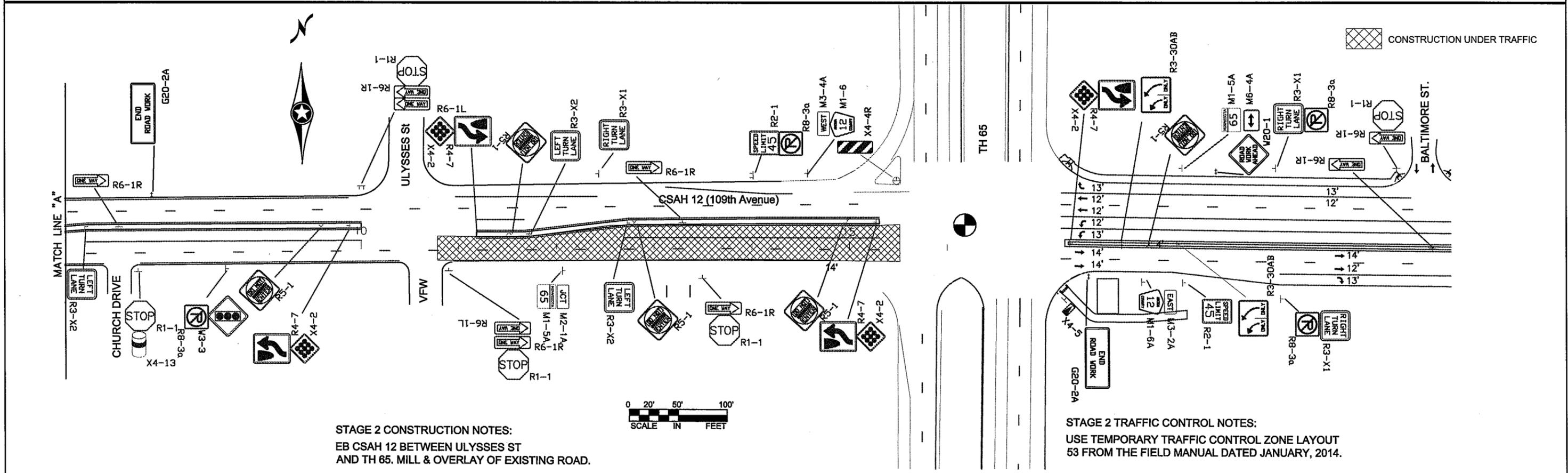
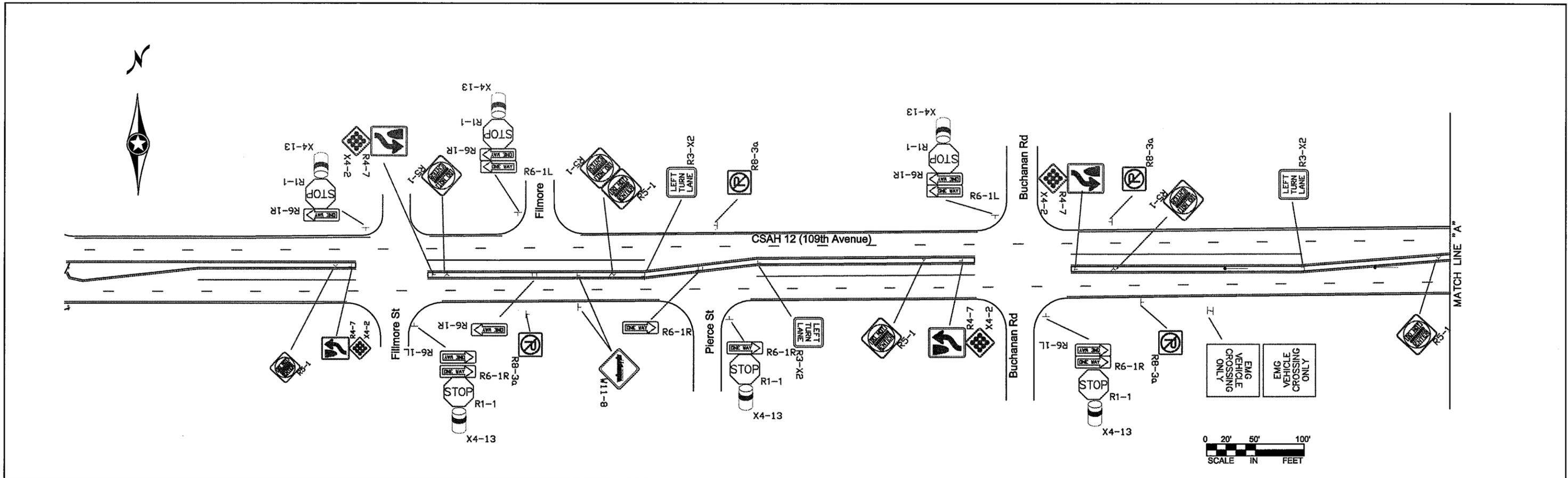
DRAWN BY: RLB DATE: 10/24/14

DESIGN BY: RLB DATE: 10/24/14

CHECKED BY: JR DATE: 10/24/14

ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
SAP 002-612-014



STAGE 2 CONSTRUCTION NOTES:
 EB CSAH 12 BETWEEN ULYSSES ST
 AND TH 65. MILL & OVERLAY OF EXISTING ROAD.

STAGE 2 TRAFFIC CONTROL NOTES:
 USE TEMPORARY TRAFFIC CONTROL ZONE LAYOUT
 53 FROM THE FIELD MANUAL DATED JANUARY, 2014.

1	02/09/15	RLB	JR	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-140\Base\Traffic\TC STAGE 2.dwg					

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: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 6/27/15 LICENSE NO. 42757

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 CHECKED BY: JR DATE: 10/24/14

ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
 SAP 002-612-014

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2
W1-6	48" X 24"		1	AS NEEDED	W20-1	48" x 48"		3	3
TYPE III	8 FOOT		1	AS NEEDED	W20-X3L	48" x 48"		1	AS NEEDED
TYPE III	8 FOOT		1	AS NEEDED	W4-2L	48" x 48"		1	AS NEEDED
REFLECTORIZED REBOUNDBLE DRUM			50	AS NEEDED	W21-X5	48" x 48"		2	AS NEEDED
ARROW BOARD			1	AS NEEDED	G20-2A	48" X 24"		2	2
W8-1A	48" x 48"			AS NEEDED				1	0
W8-1A	48" x 48"			AS NEEDED	CMS sign to be placed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.				
W8-11	48" x 48"			AS NEEDED					

CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

		R	O	A	D		
		W	O	R	K		
		B	E	G	I	N	S

	<	D	A	T	E	>	
	E	X	P	E	C	T	
	D	E	L	A	Y	S	

		U	S	E			
		A	L	T	.		
		R	O	U	T	E	S

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2014.
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.

TEMPORARY PAVEMENT MARKING		L
ITEM	UNIT	TOTAL QUANTITY
RAISED PAVEMENT MARKER TEMPORARY	EACH	60
REMOVABLE PREFORMED PLASTIC MASK TAPE (4" BLACK)	LIN FT	120
REMOVABLE PREFORMED PLASTIC MARKING TAPE (4")	LIN FT	600
4" SOLID LINE WHITE - LATEX PAINT	LIN FT	450

PER MNDOT COMMENTS					
NO	DATE	BY	CKD	APPR	REVISION

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 PRINT NAME: ANDREW WITTER
 SIGNATURE:
 DATE: 10/24/14 LICENSE NO. 42757

DRAWN BY: RLB DATE 10/24/14
 DESIGN BY: RLB DATE 10/24/14
 CHECKED BY: JR DATE 10/24/14



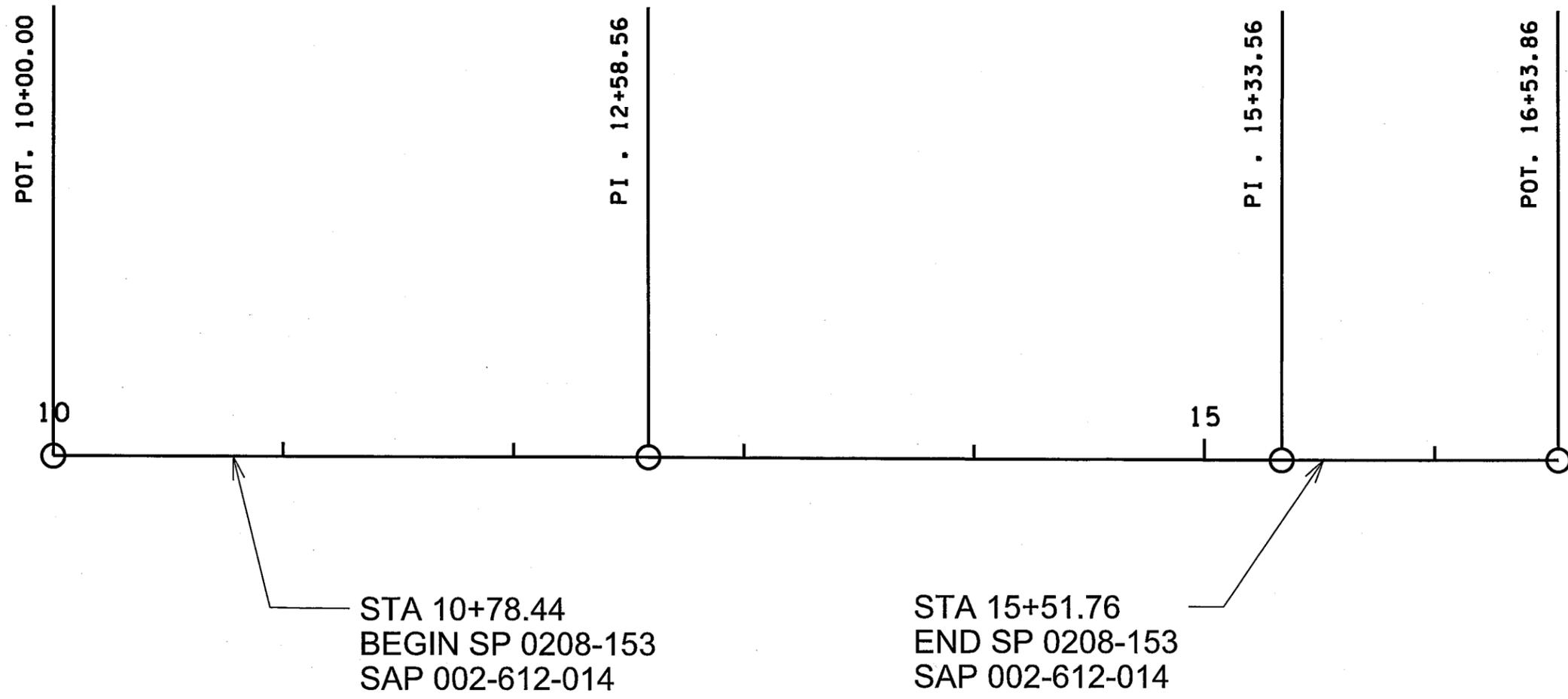
ANOKA COUNTY
 HIGHWAY DEPT.

SP 0208-153 (TH 65)
 SAP 002-612-014

STAGING
 SIGN QUANTITIES

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N		
C.S.A.H. 12_SC											
3000	POT	C.S.A.H. 12_SC	10+00.000						507,532.6452	148,442.1112	
3001	POT	C.S.A.H. 12_SC	12+58.562						507,791.2073	148,442.1112	
3002	POT	C.S.A.H. 12_SC	15+33.562						508,066.2061	148,441.2927	
3003	POT	C.S.A.H. 12_SC	16+53.862						508,186.5058	148,441.2927	



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-612-14\Plan\0261214_AL_1.dgn 04/10/2015 8:50:17 AM

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PRINT NAME: ANDREW WITTER

SIGNATURE: *[Signature]*

DATE: 4/24/15 LICENSE NO. 42757

DRAWN BY ZB DATE 04-10-15

DESIGN BY ZB DATE 04-10-15

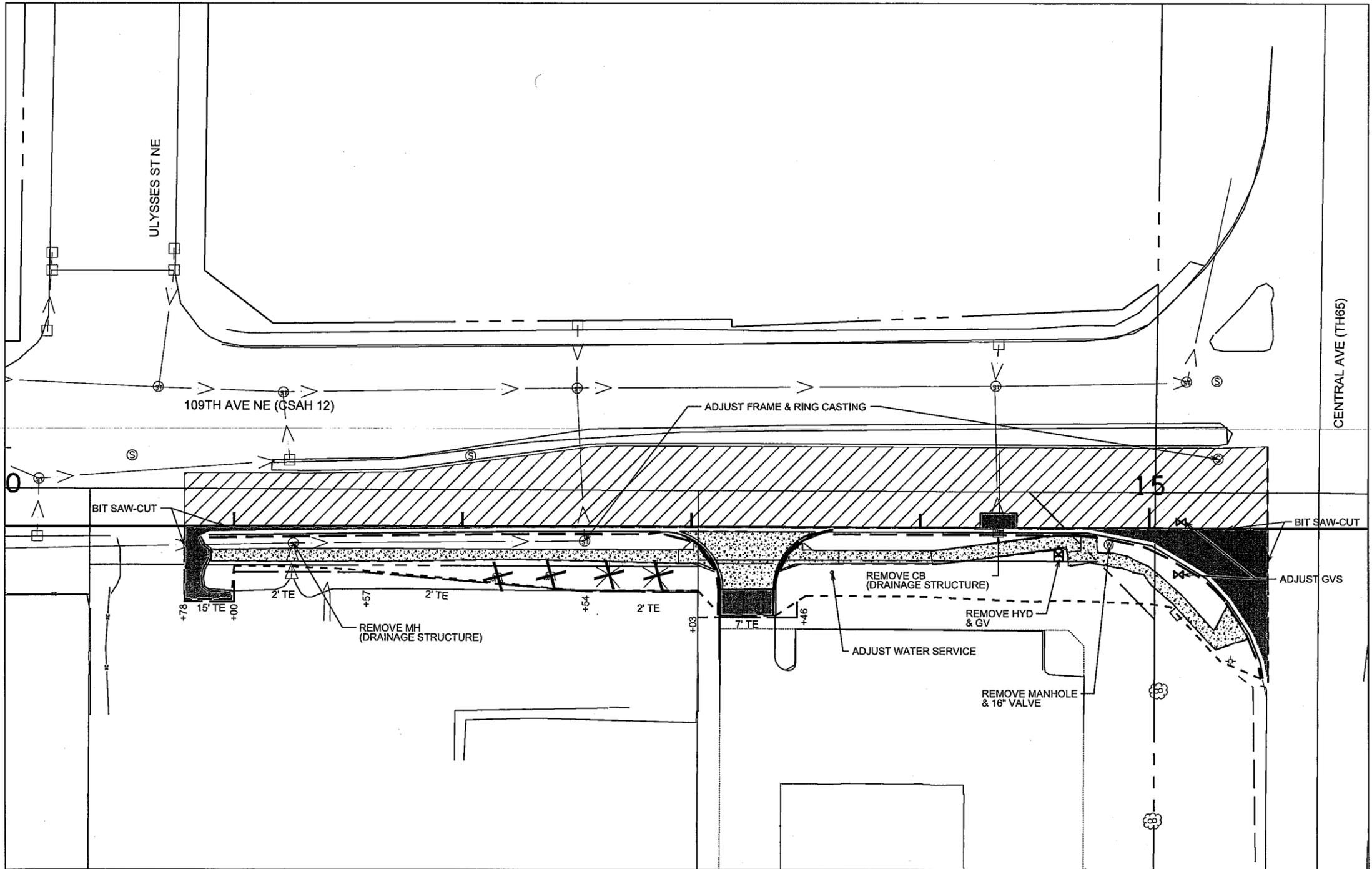
CHECKED BY GP DATE 04-10-15

ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
SAP 002-612-014

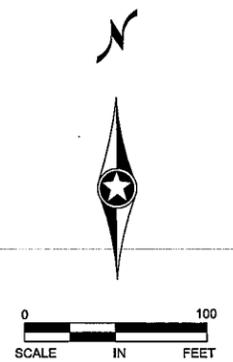
ALIGNMENT TAB
& PLAN

Sheet 22 of 56 Sheets



LEGEND

	REMOVE BITUMINOUS PAVEMENT
	REMOVE CONCRETE
	2.0" MILL AND OVERLAY BIUTMINOUS PAVEMENT
	REMOVE STORM PIPE
	REMOVE CONC CURB AND GUTTER
	REMOVE BITUMINOUS CURB
	TREE/STUMP REMOVAL BY EACH
	SAWING BITUMINOUS PAVEMENT
	CONSTRUCTION LIMIT
	TEMPORARY EASEMENT



REMOVAL NOTES

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING AS DIRECTED AND MARKED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL OTHERWISE PROTECT ALL EXISTING TREES NOT SPECIFICALLY MARKED FOR REMOVAL.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE IN PLACE UTILITY TABULATION FOR MORE INFORMATION.

ALL ROADWAY SIGNS WITHIN THE CONSTRUCTION LIMITS AND CONFLICTING SIGNS SHALL BE SALVAGED BY THE CONTRACTOR. SEE SHEET 36 FOR DETAILS.

1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-14\Plan\0261214_REM_1.dgn					06/03/2015 12:45:30 PM

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PRINT NAME: ANDREW WITTER

SIGNATURE: *[Signature]*

DATE: 6/10/15 LICENSE NO. 42757

DRAWN BY ZB DATE 06-03-15

DESIGN BY ZB DATE 06-03-15

CHECKED BY GP DATE 06-03-15



**ANOKA COUNTY
HIGHWAY DEPT.**

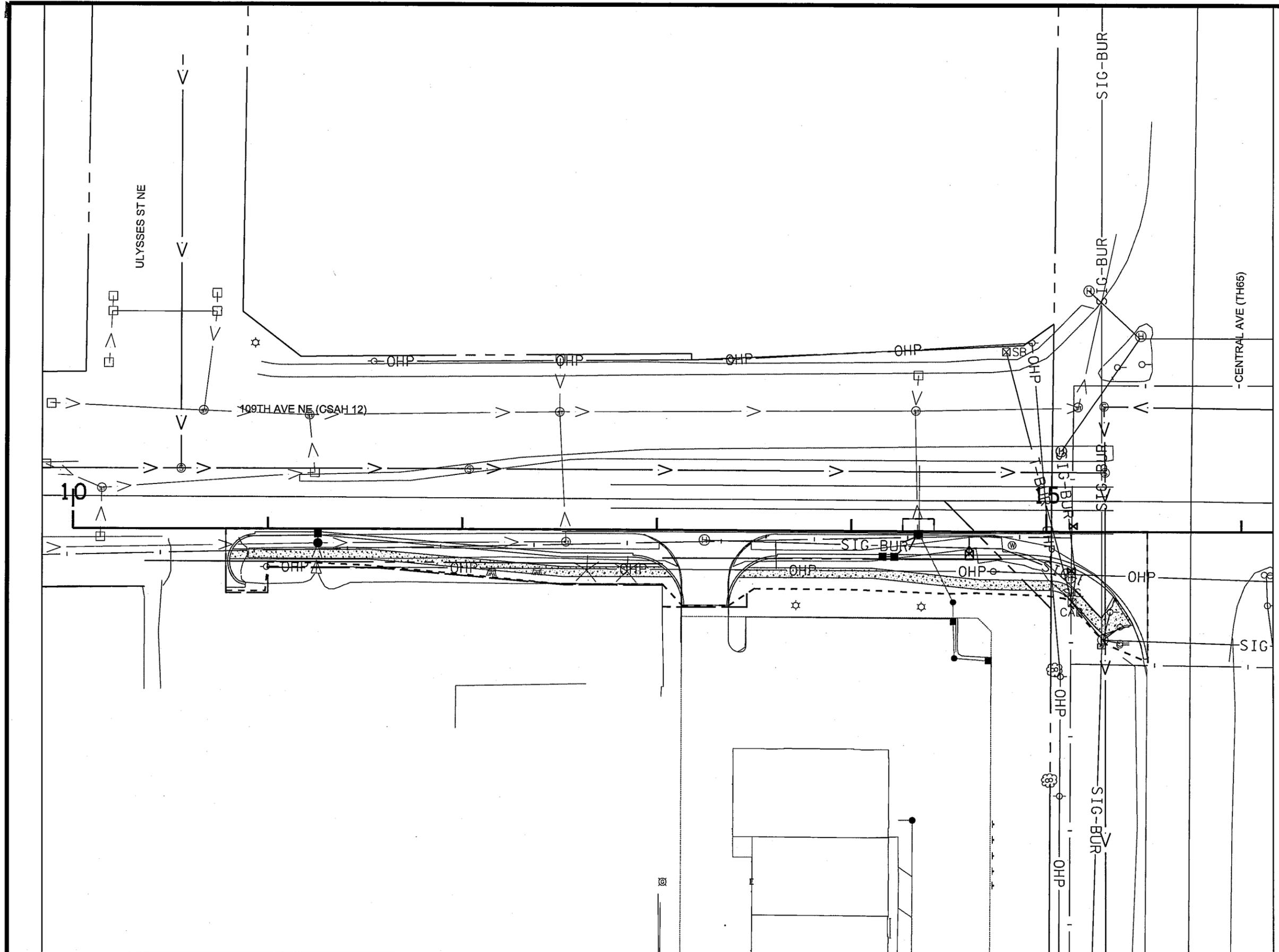
SP 0208-153 (TH 65)
SAP 002-612-014

INPLACE TOPOGRAPHY & REMOVAL PLAN

Sheet 23 of 56 Sheets

LEGEND

- C — CENTERPOINT ENERGY
- TV-BUR — COMCAST CABLE COMMUNICATIONS
- OHU —
- P-BUR — CONNEXUS ENERGY/ GREAT RIVER ENERGY
- T-BUR — CENTURYLINK
- OHU —
- SIG-BUR — TRAFFIC SIGNAL RTMC FIBER LINE
- <— — EXISTING STORM SEWER
- <— — EXISTING SAN SEWER
- — — EXISTING WATER MAIN
- — — PROPOSED STORM DRAIN
- — — EXISTING RW
- — — PROPOSED RW



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-612-14\Plan\0261214_UTL_1.dgn 04/10/2015 8:50:26 AM

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PRINT NAME: ANDREW WITTER

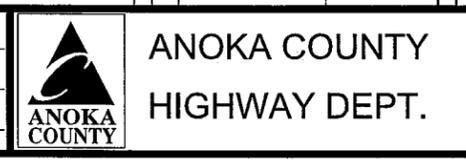
SIGNATURE: *[Signature]*

DATE: 4/24/15 LICENSE NO. 42757

DRAWN BY: ZB DATE: 04-10-15

DESIGN BY: ZB DATE: 04-10-15

CHECKED BY: GP DATE: 04-10-15



SP 0208-153 (TH 65)
SAP 002-612-014

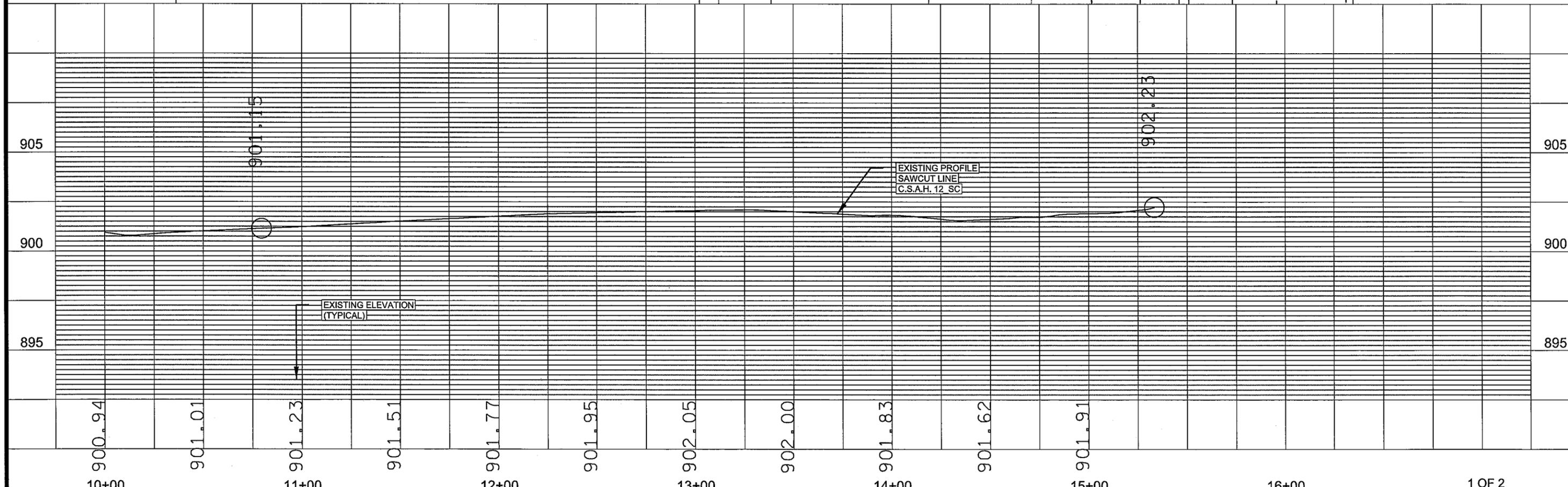
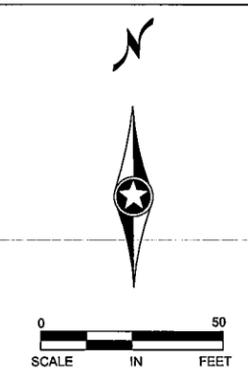
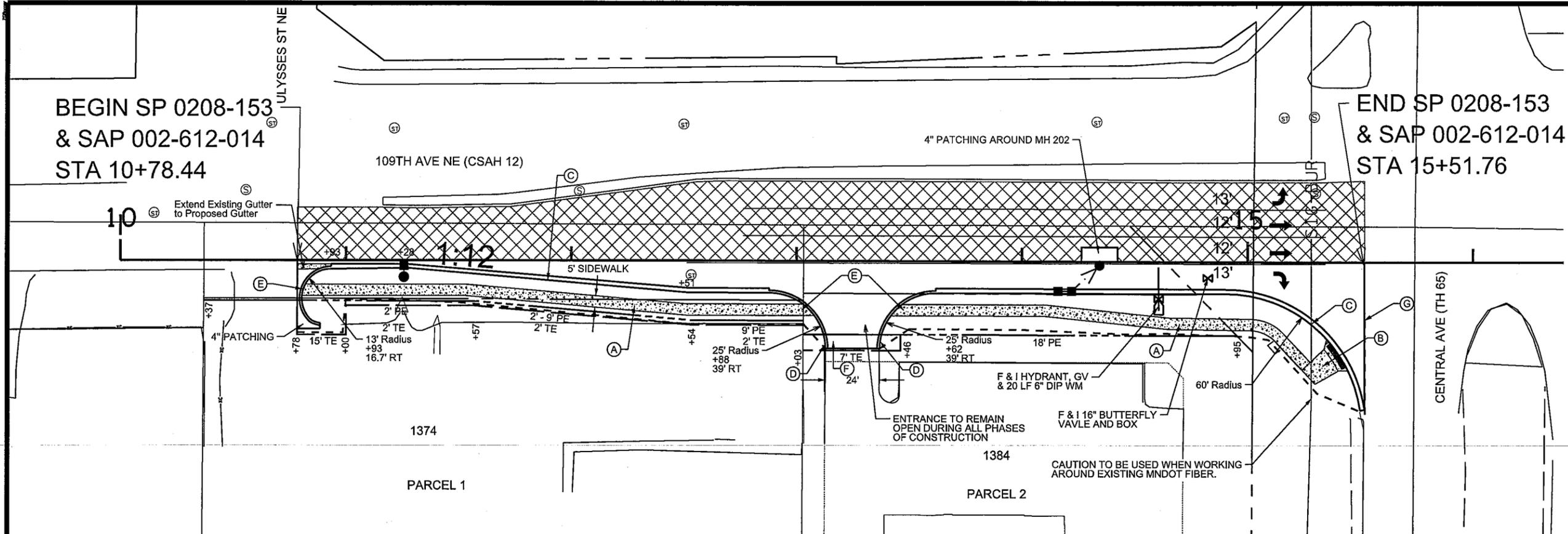
BEGIN SP 0208-153
& SAP 002-612-014
STA 10+78.44

END SP 0208-153
& SAP 002-612-014
STA 15+51.76

CONSTRUCTION NOTES:

- (A) 4" CONC. SIDEWALK
- (B) 6" CONC. (PEDESTRIAN RAMP)
- (C) B424 CURB & GUTTER
- (D) B612 CURB & GUTTER
- (E) DROP CURB
- (F) BITUMINOUS ENTRANCE
- (G) MATCH EXISTING PAVEMENT ELEVATION
-  2" MILL & OVERLAY

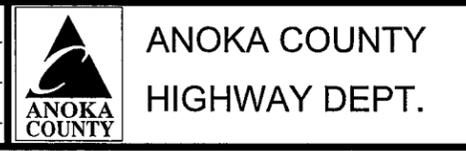
ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.



1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-14\Plan\0261214_PP.dgn					06/03/2015 12:45:34 PM

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: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: 6/6/15 LICENSE NO. 42757

DRAWN BY: ZB DATE: 06-03-15
 DESIGN BY: ZB DATE: 06-03-15
 CHECKED BY: GP DATE: 06-03-15



SP 0208-153 (TH 65)
SAP 002-612-014

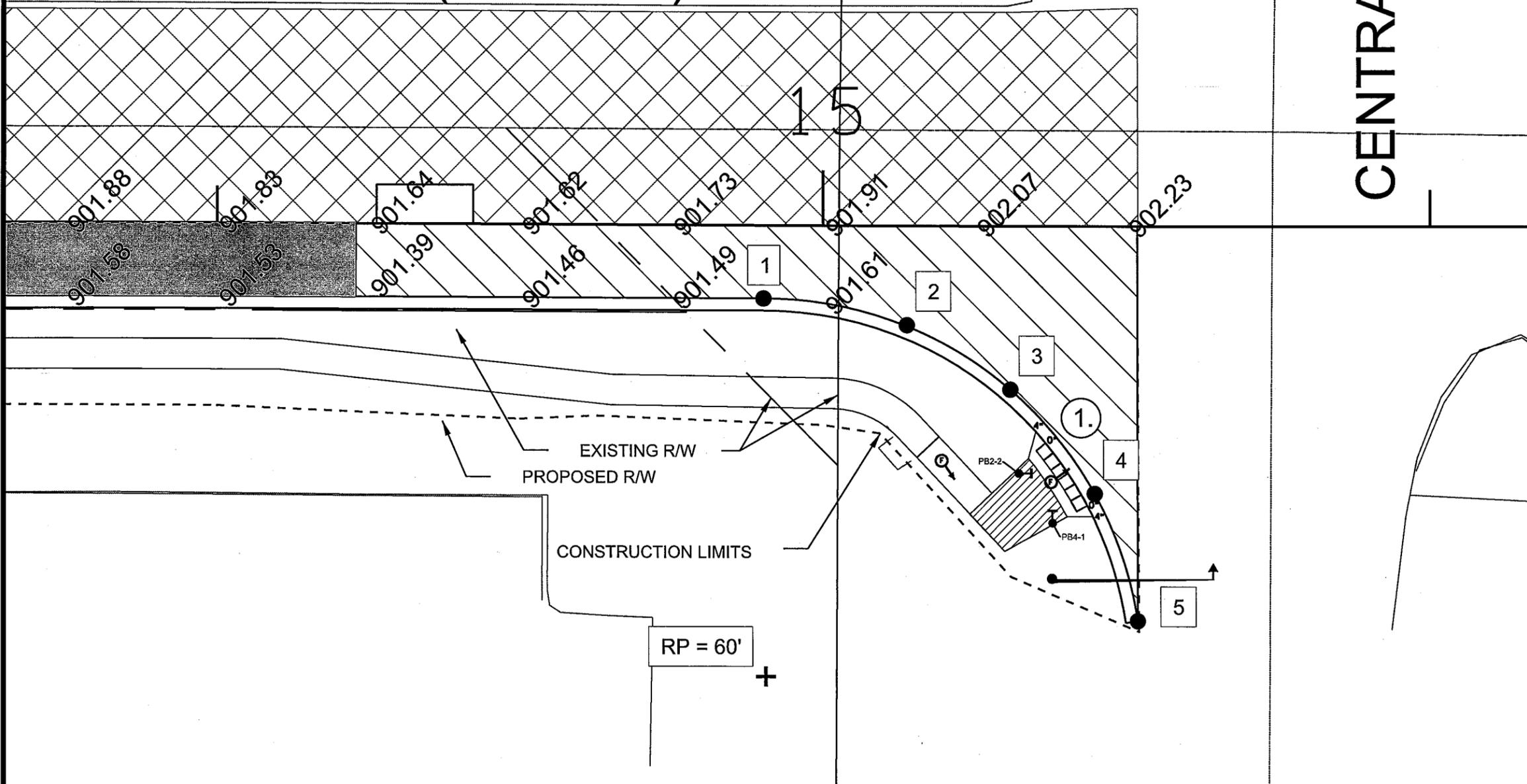
CONSTRUCTION PLAN
Sheet 25 of 56 Sheets

CSAH 12 AT CENTRAL AVE (TH 65)							
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	SLOPE %	FROM - TO	DESCRIPTION
1	CSAH 12_SC	14+90.21	12.00' RT	901.56	0.99%		BEGIN RADIUS
2	CSAH 12_SC	15+13.81	16.28' RT	901.78	0.99%	2 - 1	QUARTER POINT
3	CSAH 12_SC	15+30.90	26.80' RT	902.00	0.99%	3 - 2	MIDPOINT
4	CSAH 12_SC	15+44.71	43.85' RT	902.22	0.99%	4 - 3	QUARTER POINT
5	CSAH 12_SC	15+51.76	64.69' RT	902.44	0.99%	5 - 4	END POINT
RP	CSAH 12_SC	14+90.37	77.94' RT	-			RADIUS POINT

SIGNAL CONTROL POINTS				
POINT NO.	X	Y	DIST. TO FRONT OF LANDING (FT)	DIST. TO BACK OF LANDING (FT)
PB2-2	-	-	2.7	10
PB4-1	-	-	2.6	9

109TH AVE NE (CSAH 12)

CENTRAL AVE (TH 65)



LEGEND

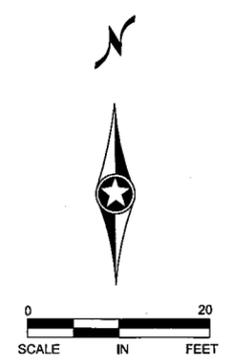
- INPLACE SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION (INPLACE)
- CONTROL POINTS
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- 2.0" MILL & OVERLAY
- 999.99 PROPOSED SPOT ELEVATION
- SLOPE TRANSITION
- 2.5% CROSS SLOPE (TYPICAL)

ELEVATIONS ARE TOP OF FINISHED PAVEMENT

CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED

PEDESTRIAN RAMP TYPE:

- ① FAN



NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\02-612-14\Plan\0261214_IN.dgn 04/10/2015 8:50:31 AM

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PRINT NAME: ANDREW WITTE

SIGNATURE: *Andrew Witte*

DATE: 4/10/15 LICENSE NO. 42757

DRAWN BY: ZB DATE: 04-10-15

DESIGN BY: ZB DATE: 04-10-15

CHECKED BY: GP DATE: 04-10-15

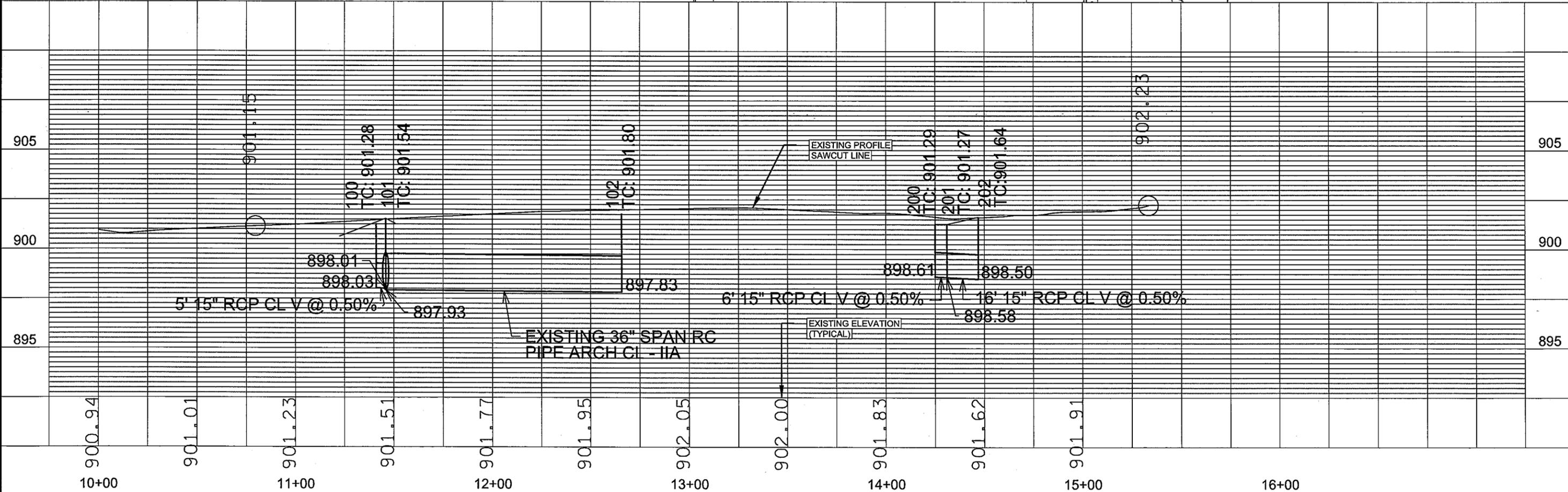
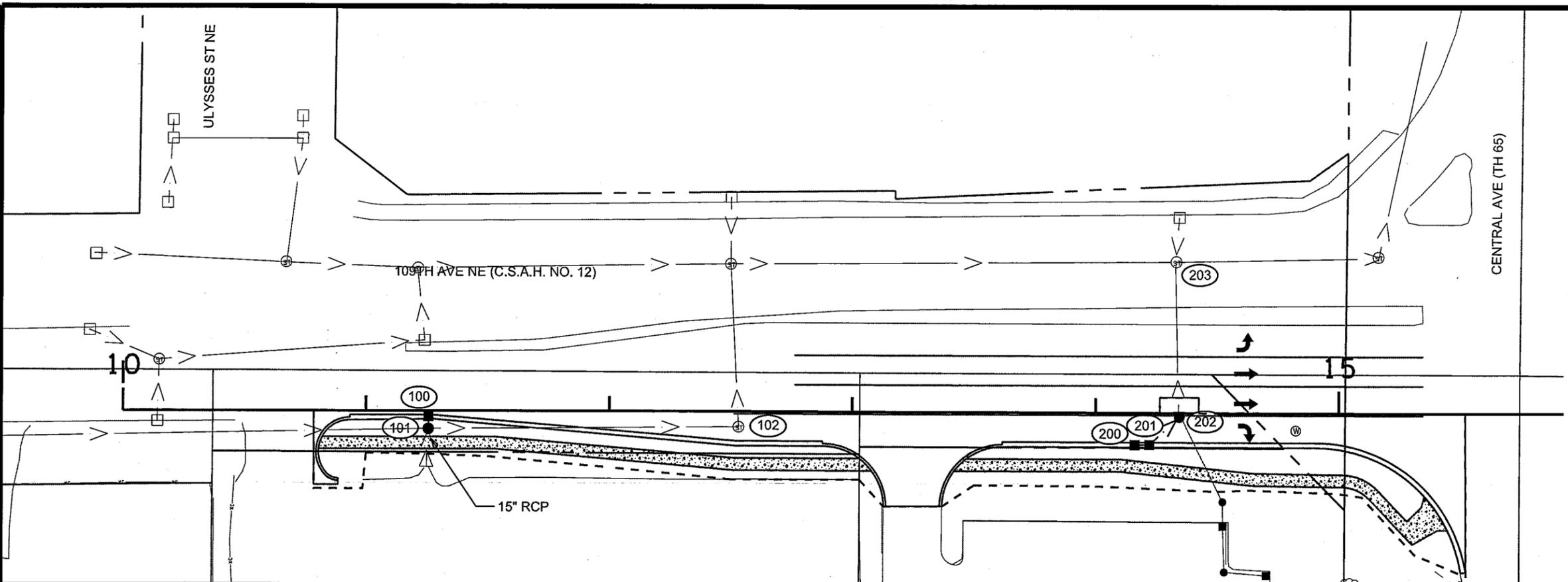
ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
SAP 002-612-014

INTERSECTION DETAILS
CSAH 12 & TH 65

Sheet 26 of 56 Sheets

- LEGEND**
- PROPOSED CATCH BASIN
 - INPLACE CATCH BASIN
 - INPLACE MANHOLE
 - ▽ INPLACE APRON
 - ▲ PROPOSED APRON
 - PROPOSED STORM SEWER
 - - - INPLACE STORM SEWER



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-612-14\Plan\0261214_DR_1.dgn 04/10/2015 8:50:39 AM

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PRINT NAME: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 4/24/15 LICENSE NO. 42757

DRAWN BY: ZB DATE: 04-10-15
 DESIGN BY: ZB DATE: 04-10-15
 CHECKED BY: GP DATE: 04-10-15

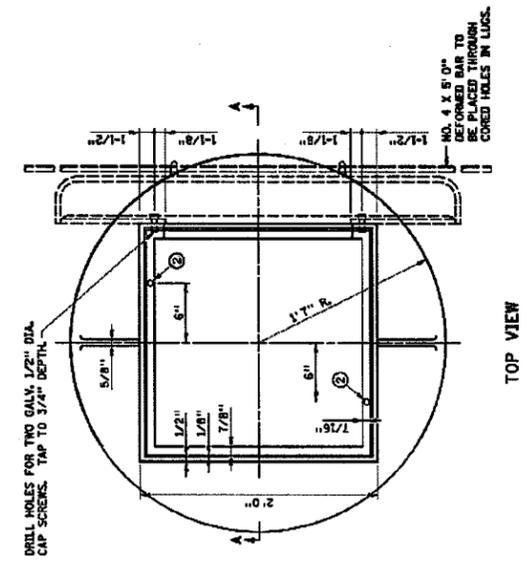


SP 0208-153 (TH 65)
 SAP 002-612-014

DRAINAGE TABULATION															P			
STRUCTURE NO.		CENTER OF CASTING LOCATION			DRAINAGE STRUCTURES									NOTES				
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET (4)	TYPE	DESIGN	PAY HEIGHT			CASTING ASSEMBLY TYPE	STEPS REQ'D	TOP OF CASTING ELEV.	OUTLET ELEV.		DOWN-STREAM INLET ELEV.	SLOPE %	15" RCP CL V LIN FT	CONNECT TO EX STORM EACH
							H LIN FT	48-4020 LIN FT	66-4020 LIN FT									
101	102	CSAH 12_SC	11+25.79	7.25 RT	MH	66-4020			3.56	F	NO	901.54	897.93	897.83	0.08		3	(1)
100	101	CSAH 12_SC	11+25.83	2.35 RT	CB	H	3.20			D	NO	901.28	898.03	898.01	0.50	5		
200	201	CSAH 12_SC	14+16.05	13.00 RT	CB	H	3.08			C	NO	901.29	898.61	898.58	0.51	6		(2)
201	202	CSAH 12_SC	14+22.06	13.00 RT	CB	48-4020		3.09		C	NO	901.27	898.58	898.50	0.50	16		(2)
202	203	CSAH 12_SC	14+34.21	1.60 RT	MH	66-4020			3.09	F	NO	901.64	898.50	898.22	0.50		2	(3)
PROJECT TOTAL							6.30	3.10	6.7	5						27	5	

NOTES

- (1) MANHOLE TO BE CONNECTED TO EXISTING INVERTS TO THE SOUTH, EAST, AND WEST, AS WELL AS THE NEW INVERT TO THE NORTH.
- (2) A 4" LOW RISE CASTING TO BE FURNISHED & INSTALLED. FIELD VERIFY.
- (3) MANHOLE TO BE CONNECTED TO EXISTING INVERTS TO THE NORTH AND SOUTHEAST, AS WELL AS THE NEW INVERT TO THE WEST.
- (4) OFFSET TO CENTER OF CASTING.



CASTING ASSEMBLY TYPE	ASSUMED CASTING HEIGHT [FT]	DESCRIPTION	TYPE	NOTES
C	0.33	24" GRATE WITH CURB BOX	CB	[4]
D	0.75	24" GRATE WITH COVER PLATE/NO CURB BOX	CB	[4]
F	0.56	MANHOLE	MH	[5]

- NOTES:
- [4] MNDOT STD PLATE 4129. USE GRATE 816 MNDOT STD PLATE 4154, THEN MODIFY FRAME AS SHOWN TO LEFT.
 - [5] MNDOT M-4 CASTING ASSEMBLY (MNDOT STD PLATES 4101, 4110)

1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-14\Plan\0261214_DR_2.dgn					06/04/2015 10:18:08 AM

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: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 6/10/15 LICENSE NO. 42757

DRAWN BY: ZB DATE: 06-03-15
 DESIGN BY: ZB DATE: 06-03-15
 CHECKED BY: GP DATE: 06-03-15



ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
SAP 002-612-014

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

PROJECT LOCATION AND GENERAL INFORMATION

SAP 002-612-014 IS LOCATED AT THE INTERSECTION OF CSAH 12 (109TH AVE) AND TH 65(CENTRAL AVE), IN THE CITY OF BLAINE. THE CONSTRUCTION WILL BE ON THE EASTBOUND PORTION OF CSAH 12 APPROXIMATELY 500' WEST OF THE INTERSECTION.

THE PROPOSED PROJECT WILL INCLUDE INSTALLATION OF A RIGHT TURN LANE, CURB & GUTTER, STORM SEWER AND SIDEWALK. THE RECEIVING WATERS WILL DRAIN THROUGH THE STORM WATER SYSTEM, DITCHES, INTO AN UNAMED CREEK, TO SAND CREEK, AND ULTIMATELY INTO COON CREEK.

THIS PROJECT WILL IMPACT 0.355 ACRES OF SOILS AND DOES CREATE POTENTIAL FOR SEDIMENT DISCHARGE FROM THE SITE.

TRAINING REQUIREMENTS

THE CONTRACTOR SHALL ENSURE COMPLIANCE WITH THE TRAINING REQUIRED IN PART 111.A.2 OF THE GENERAL STORM WATER PERMIT FOR CONSTRUCTION ACTIVITY.

THE INDIVIDUALS TRAINED AND THE TRAINING RECEIVED SHALL BE RECORDED IN THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED.

LONG TERM OPERATION AND MAINTENANCE

THE STREETS DIVISION OF CITY CENTERVILLE SHALL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF PERMANENT STORM WATER MANAGEMENT.

RECEIVING SURFACE WATERS, DISCHARGE TO IMPAIRED WATERS & SPECIAL WATERS

THE FOLLOWING TABLE IDENTIFIES ALL SURFACE WATERS WITHIN 1 MILE OF THE PROJECT BOUNDARY, WHICH WILL RECEIVE STORM WATER RUNOFF FROM THE CONSTRUCTION SITE, DURING AND AFTER CONSTRUCTION.

RECEIVING SURFACE WATERS		
NAME OF WATER BODY	SPECIAL WATER	IMPAIRED WATER
SAND CREEK	NO	YES
COON CREEK	NO	YES

STORM WATER FROM A DISCHARGE POINT ON THE PROJECT WHICH FLOWS TO A SURFACE WATER IDENTIFIED AS IMPAIRED AND/OR SPECIAL MUST INCLUDE THE FOLLOWING ADDITIONAL BMP REQUIREMENTS:

- 1) ALL EXPOSED SOILS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
- 2) TEMPORARY SEDIMENT BASINS MUST BE USED FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OR MORE ACRES DISTURBED AT ONE TIME. THIS PROJECT AS DESIGNED DOES NOT HAVE FIVE (5) DISTURBED ACRES DRAINING TO A COMMON LOCATION AND TEMPORARY SEDIMENT BASINS WILL NOT BE REQUIRED.

DISTURBED AREA

TOTAL PROJECT AREA DISTURBED : 0.355 ACRES
 EXISTING IMPERVIOUS AREA : 0.541 ACRES
 PROPOSED IMPERVIOUS AREA : 0.594 ACRES

CONSTRUCTION PHASING

SILT FENCE AND/OR OTHER SUITABLE PERIMETER BMPS AS PROVIDED IN THE PLANS WILL BE INSTALLED PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITY. CONSTRUCTION WILL BE REQUIRED TO BE PHASED SO THAT ALL DOWN GRADIENT SEDIMENT CONTROL MEASURES ARE INSTALLED PRIOR TO OR IN CONJUNCTION WITH ANY SOIL DISTURBING ACTIVITIES.

WHEN TOPSOIL IS DISTURBED, THE TOPSOIL SHALL BE STRIPPED AND STOCKPILED IN SOIL BERMS AT THE TOE OF THE STRIPPED SLOPES ALONG THE PROJECT LIMITS. TEMPORARY VEGETATION WILL BE ESTABLISHED ON THE STOCKPILED TOPSOIL BERMS WITH HYDROMULCH. STOCKPILED TOPSOIL BERMS SHALL NOT BE PLACED IN ANY STORM WATER CONVEYANCES.

AFTER STRIPPING THE TOPSOIL THE EXPOSED SOIL IN SLOPES SHALL BE STABILIZED WITH DISK ANCHORED TYPE 1 MULCH WITHIN 14 DAYS, AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS BEEN TEMPORARILY OR PERMANENTLY CEASED.

TEMPORARY SEDIMENT BASIN

THIS ROAD CONSTRUCTION PROJECT AS DESIGNED DOES NOT MEET ANY OF THE TEMPORARY SEDIMENT BASIN DISTURBED AREA THRESHOLD REQUIREMENTS AND TEMPORARY SEDIMENT BASIN WILL NOT BE REQUIRED.

PERMANENT STORM WATER MANAGEMENT SYSTEM

ALL STORM WATER MUST BE DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION IN RECEIVING WATERS OR ON DOWNSLOPE PROPERTIES, OR INUNDATION IN WETLANDS CAUSING A SIGNIFICANT ADVERSE IMPACT TO THE WETLAND.

THIS ROAD CONSTRUCTION PROJECT HAS AN INCREASE OF THREE ACRES IN IMPERVIOUS AREA.

EROSION PREVENTION PRACTICES

ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. FOR ALL AREAS WHERE DISTURBED SOILS DRAIN TO AN IMPAIRED OR SPECIAL WATERS, THE EXPOSED SOIL MUST BE STABILIZED NO LATER THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA CEASED. SEE THE IMPAIRED & SPECIAL WATERS SECTION OF THIS SWPPP FOR ADDITIONAL BMP REQUIREMENTS FOR DISTURBED AREAS THAT DRAIN TO A SPECIAL OR IMPAIRED WATER.

THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAIN WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER. STABILIZATION OF THE LAST 200 FEET MUST BE COMPLETED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER.

PIPE CULVERT OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER. THIS WILL INCLUDE DRAINAGE DITCHES THAT DRAIN WATER FROM ANY PORTION OF THE CONSTRUCTION SITE.

POLLUTION PREVENTION MEASURES

THE CONTRACTOR SHALL IMPLEMENT THE POLLUTION PREVENTION MANAGEMENT MEASURES AS DIRECTED IN THE NPDES PERMIT PART IV.F AS PERTAINING TO SOLID WASTE, HAZARDOUS MATERIALS, EXTERNAL TRUCK WASHING, AND CONCRETE WASHOUT ONSITE.

THESE MANAGEMENT MEASURE FOR POLLUTION PREVENTION SHALL BE STRICTLY ENFORCED.

PROJECT CONTACTS			
DNR COE	NOT REQUIRED	NOT REQUIRED	
ANOKA COUNTY DESIGN SWPPP PREPARATION	U OF M DESIGN OF SWPPP EXPIRES 2/17	ZAC BORGERDING	763-862-4263
ANOKA COUNTY REPRESENTATIVE	U OF M SITE MANAGEMENT EXPIRES 5/15	BRUCE LUIKART	763-862-4242
EROSION CONTROL SUPERVISOR (CONTRACTOR)			

SEDIMENT CONTROL PRACTICES

TEMPORARY STOCKPILED TOPSOIL BERMS MUST INCLUDE PERIMETER BMPS AS PROVIDED IN THE PLAN AT LOCATIONS WHERE CONSTRUCTION STORM WATER DRAINS FROM THE PROJECT.

IN ORDER TO MAINTAIN SHEET FLOW AND MINIMIZE RILLS AND/OR GULLIES, THERE SHALL BE NO UNBROKEN SLOPE LENGTH OF GREATER THAN 75 FEET FOR SLOPES WITH A GRADE OF 1:3 OR STEEPER.

ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL DISCHARGE TO THE INLET HAVE BEEN STABILIZED.

VEHICLE TRACKING OF SEDIMENT FROM THE CONSTRUCTION SITE MUST BE MINIMIZED. STREET SWEEPING MUST BE USED IF SEDIMENT IS BEING TRACKED OFF THE CONSTRUCTION SITE.

LOCATION OF SWPPP REQUIREMENTS

REQUIREMENT	PLAN		MN/DOT SPECIFICATIO	SPECIAL PROVISION
	TITLE	LOCATION		
NPDES PERMIT COMPLIANCE			1701, 1702, & 1717	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
CERTIFIED PERSONNEL IN EROSION AND SEDIMENT CONTROL SITE MANAGEMENT CHAIN OF RESPONSIBILITY			1506, 1717, & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
PROJECT SCHEDULE / WEEKLY EROSION & SEDIMENT CONTROL SCHEDULE / COMPLETING INSPECTION / MAINTENANCE LOG	STORM WATER POLLUTION PREVENTION PLAN	SHEETS 29 - 30	1717 & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
SWPPP PREPARATION				
SITE MAP / RECEIVING WATERS / DIRECTION OF FLOW	EROSION CONTROL PLAN	SHEET 31	1717	
PROJECT SPECIFIC CONSTRUCTION STAGING	CONSTRUCTION STAGING & TRAFFIC CONTROL	SHEETS 17 - 21	1717	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT) 1806 (DETERMINATION AND EXTENSION OF CONTRACT TIME)
TEMPORARY EROSION AND SEDIMENT CONTROL BMP LOCATIONS, INSTALLATION, TIMING OF INSTALLATION AND TYPE OF BMP	EROSION CONTROL PLAN, TABULATION CHARTS	SHEETS 7, 31	2573 & 2525	2575 (RAPID STABILIZATION SPECIFICATION)
ADDITIONAL TEMPORARY AND OR PERMANENT EROSION AND SEDIMENT CONTROL BMP'S NOT PROVIDED OR SHOWN IN THE PLAN	STORM WATER POLLUTION PREVENTION PLAN	SHEETS 29 - 30	1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT) 2575 (RAPID STABILIZATION SPECIFICATION)
MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES, REMOVAL OF TRACKED SEDIMENT, REMOVAL OF DEVICES			1717 & 2573	1514 (MAINTENANCE DURING CONSTRUCTION) 1717 (LAND AIR & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
DEWATERING			2105.3B, & 2451.3C	DEWATERING MAY ALSO REQUIRE DNR PERMIT. NO DEWATERING IS ANTICIPATED FOR THIS PROJECT 1717 (AIR, LAND & WATER)
FINAL STABILIZATION	TURF ESTABLISHMENT PLAN, TABULATION CHARTS	SHEETS 7, 31	1717, 2573, & 2575	1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
TEMPORARY EROSION AND SEDIMENT CONTROL DETAILS	EROSION CONTROL STANDARD PLAN	SHEET 31	2575	2575 (RAPID STABILIZATION SPECIFICATION)
PERMANENT EROSION CONTROL DETAILS			2575	2575 (CONTROLLING EROSION AND ESTABLISHING VEGETATION)

1	04/09/2009	EM	JO	CK	ADDED HAZARDOUS MATERIAL CONTAINMENT NOTE PER MINDOT REVIEW COMMENTS.
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-14\Plan\0261214_SWPPP.dgn					04/10/2015 8:50:46 AM

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: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 4/24/15 LICENSE NO. 42757

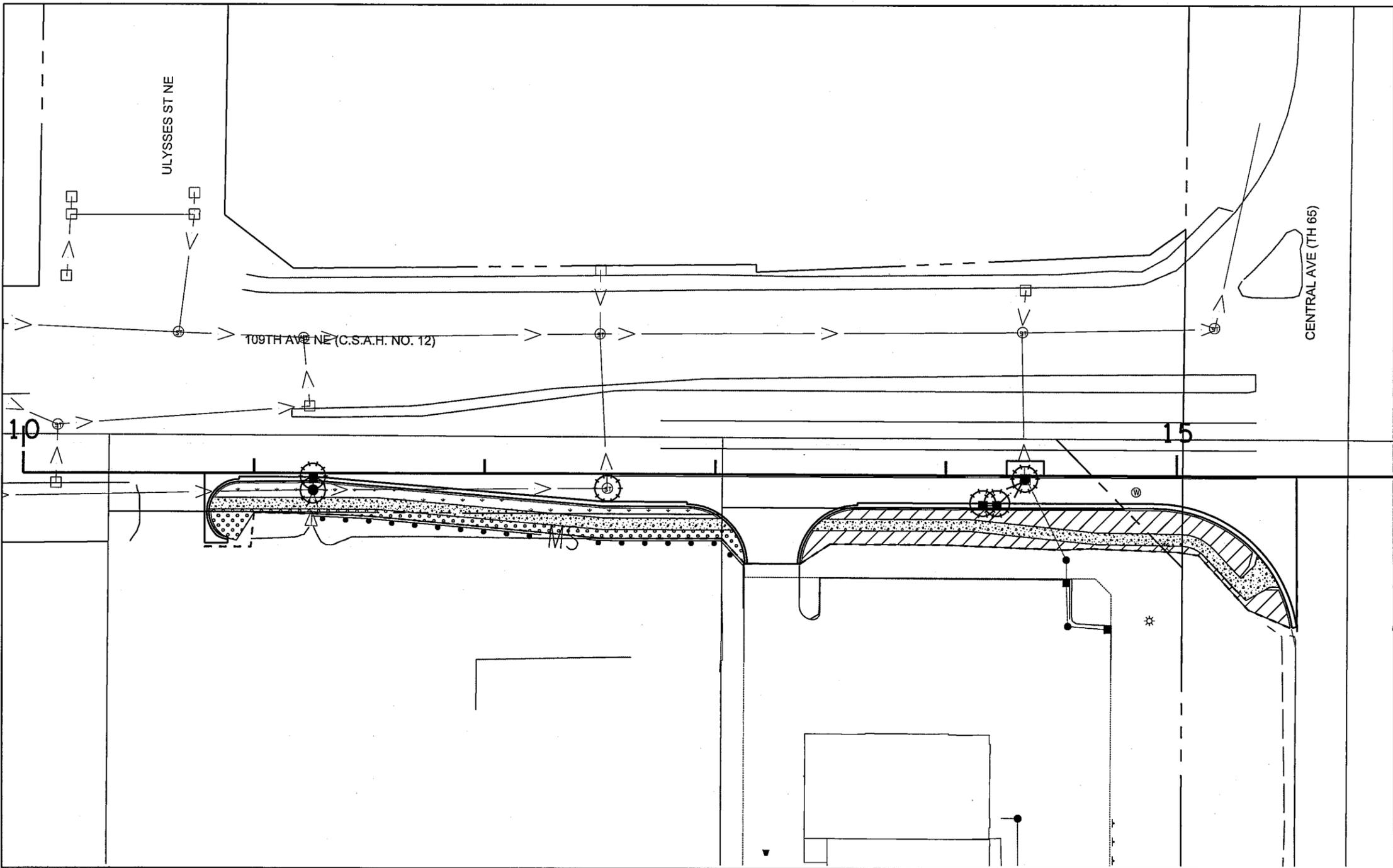
DRAWN BY: ZB DATE: 04-10-15
 DESIGN BY: ZB DATE: 04-10-15
 CHECKED BY: GP DATE: 04-10-15



ANOKA COUNTY
 HIGHWAY DEPT.

SP 0208-153 (TH 65)
 SAP 002-612-014

STORM WATER POLLUTION
 PREVENTION PLAN



LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- ⊙ INPLACE MANHOLE
- ▽ INPLACE APRON
- > PROPOSED STORM SEWER
- <- INPLACE STORM SEWER
- MS- SILT FENCE TYPE MACHINE SLICED
- ⊙ INLET PROTECTION
- ▒ LANDSCAPING ROCK
- ▨ SODDING TYPE SALT RESISTANT
- ▤ SEEDING MIX 25-131 BLANKET CATEGORY 00 RAPID STABILIZATION METHOD 3

- NOTES**
- 1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.
 - 2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.
 - 3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR $\frac{1}{3}$ OF SILT FENCE HEIGHT.
 - 4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.
 - 5.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.
 - 6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-612-14\Plan\0261214_EC.dgn 04/10/2015 8:50:59 AM

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: ANDREW WITTER

SIGNATURE: *Andrew Witter*

DATE: 4/10/15 LICENSE NO. 42757

DRAWN BY ZB DATE 04-10-15

DESIGN BY ZB DATE 04-10-15

CHECKED BY GP DATE 04-10-15



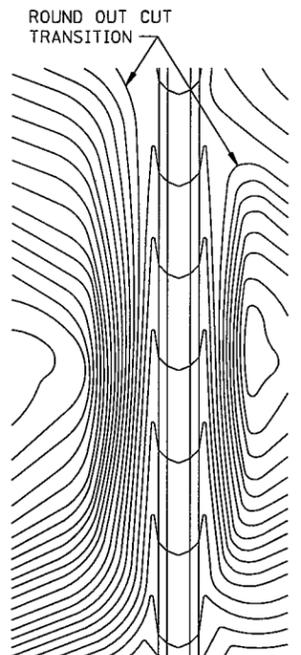
**ANOKA COUNTY
HIGHWAY DEPT.**

SP 0208-153 (TH 65)
SAP 002-612-014

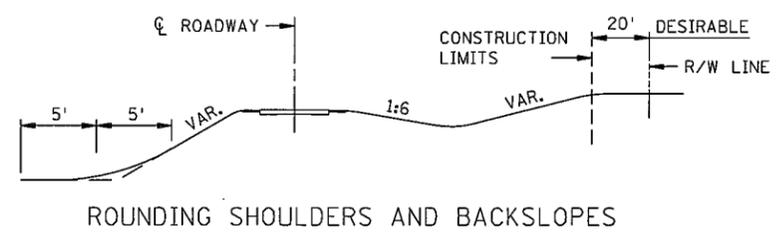
EROSION CONTROL PLAN

Sheet 31 of 56 Sheets

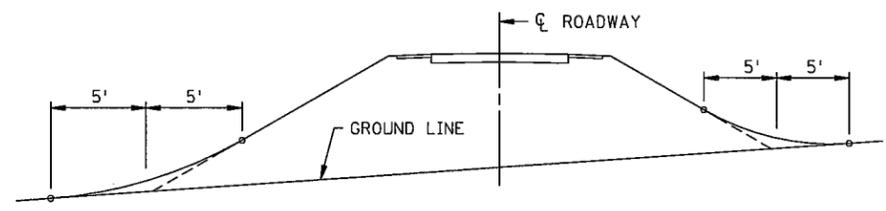
PLOTTED/REVISED:
06/22/2015



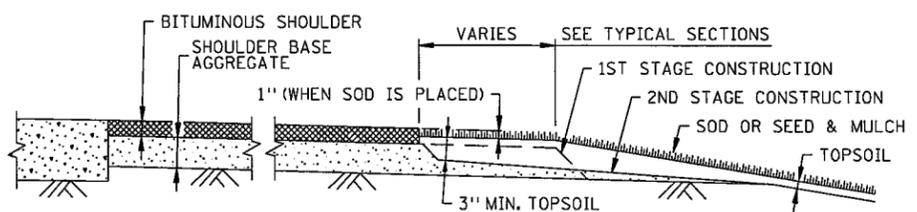
CONTOURING ROAD CUTS



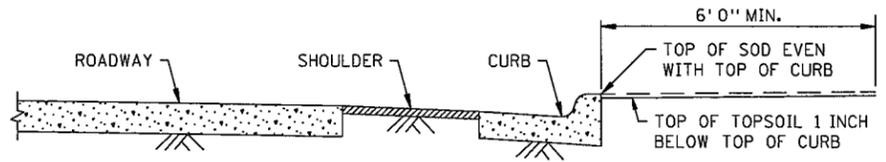
ROUNDING SHOULDERS AND BACKSLOPES



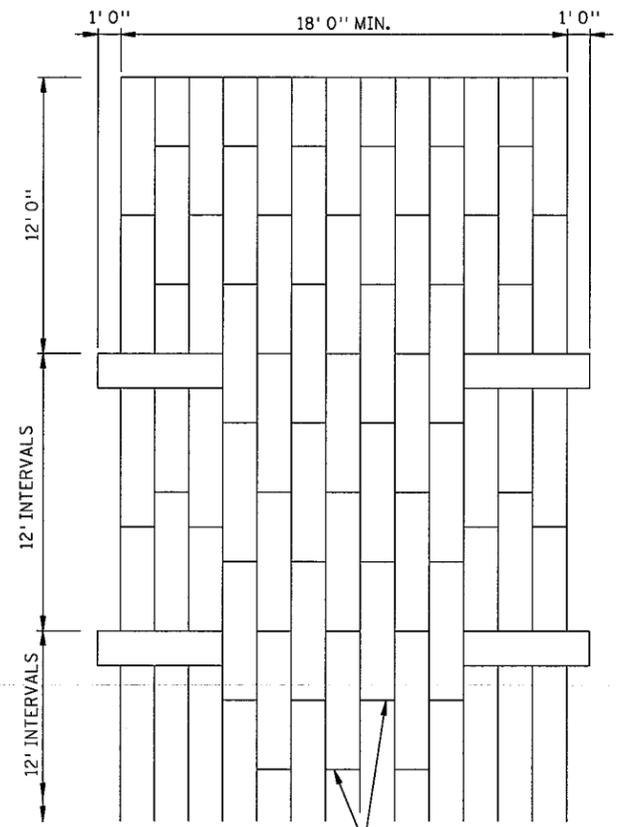
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



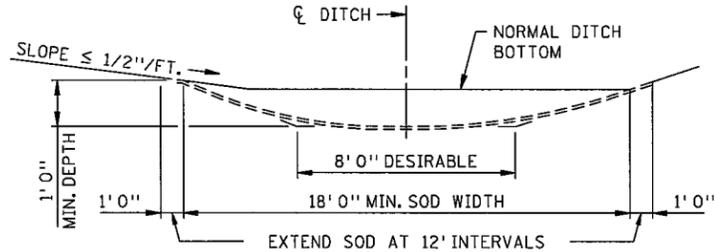
SHAPING AND TOPSOILING INSLOPES



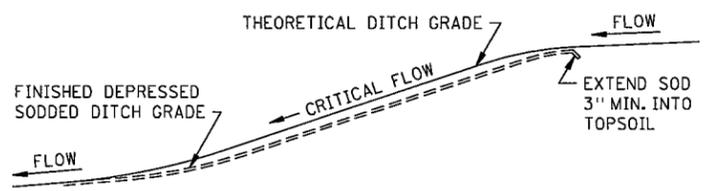
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



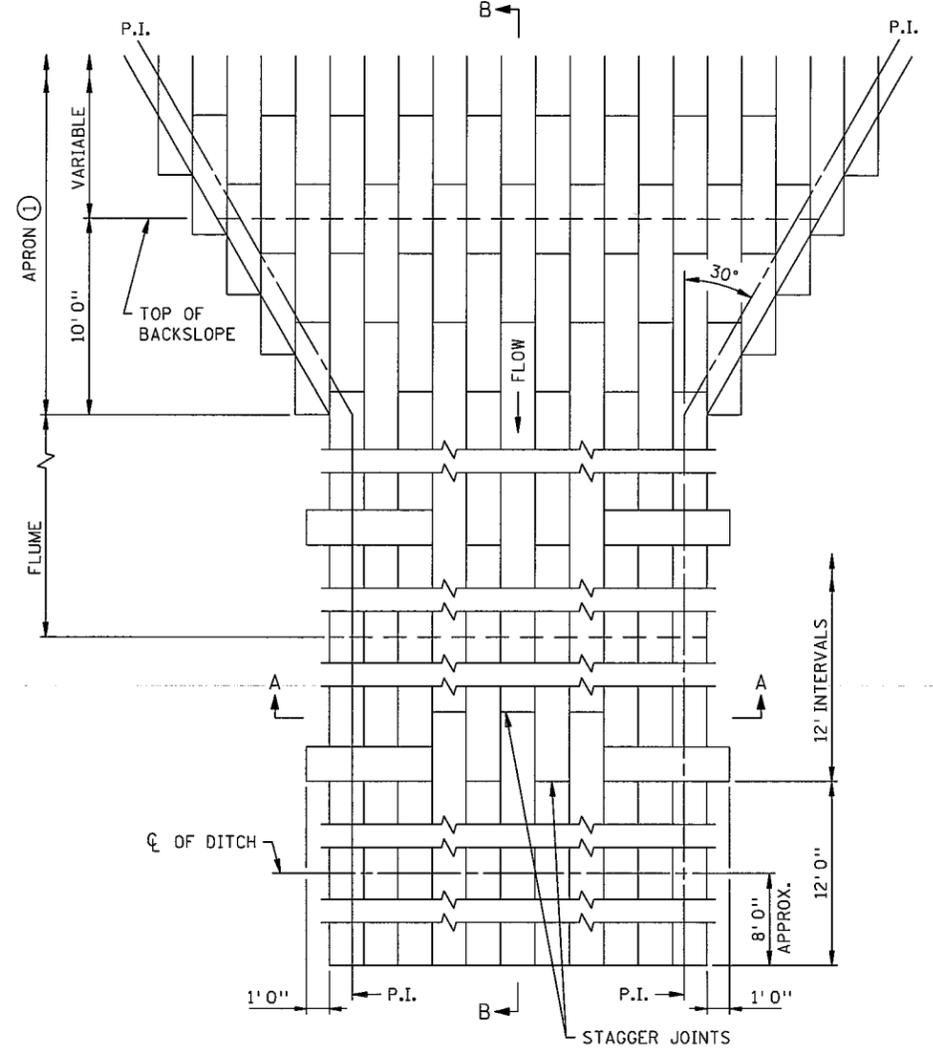
STAGGER JOINTS
PLAN VIEW



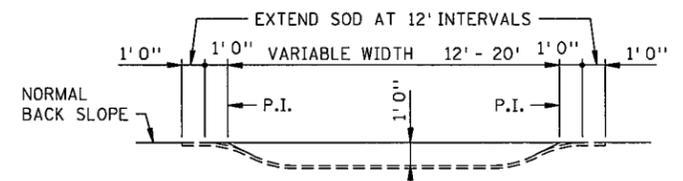
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.),
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



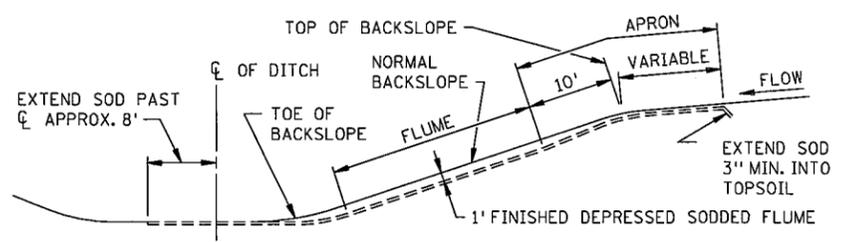
DITCH PROFILE
SODDED DITCH DETAILS



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.

SP 0208-153 (TH 65)
SAP 002-612-014



Christina Ky
STATE DESIGN ENGINEER

REVISED:
APPROVED:
8-6-2014

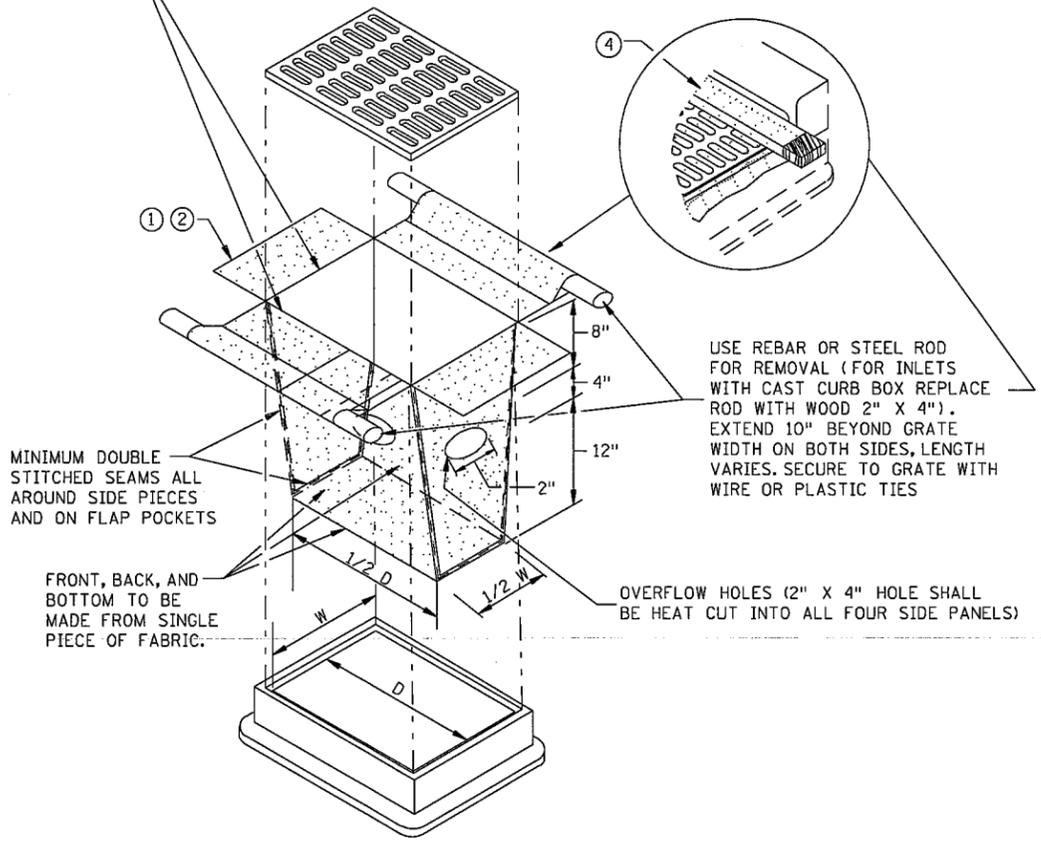
PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES

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FILE NAME: s400.spr\dgn

PLOTTED/REVISED:
06/22/2015

USER NAME: ZGBorger
PATH & FILENAME: P:\02-612-14\PlanStd Planset\s400_sprndgn
FILE NAME: s400_sprndgn

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



MINIMUM DOUBLE
STITCHED SEAMS ALL
AROUND SIDE PIECES
AND ON FLAP POCKETS

FRONT, BACK, AND
BOTTOM TO BE
MADE FROM SINGLE
PIECE OF FABRIC.

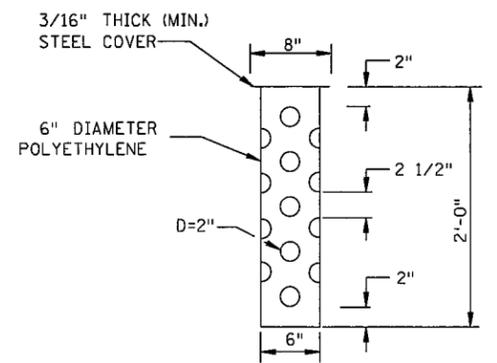
USE REBAR OR STEEL ROD
FOR REMOVAL (FOR INLETS
WITH CAST CURB BOX REPLACE
ROD WITH WOOD 2" X 4").
EXTEND 10" BEYOND GRATE
WIDTH ON BOTH SIDES, LENGTH
VARIES. SECURE TO GRATE WITH
WIRE OR PLASTIC TIES

OVERFLOW HOLES (2" X 4" HOLE SHALL
BE HEAT CUT INTO ALL FOUR SIDE PANELS)

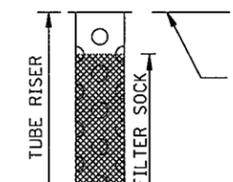
ENDS SECURELY CLOSED TO
PREVENT LOSS OF OPEN GRADED
AGGREGATE FILL. SECURED WITH
50 PSI. ZIP TIE.

BUTT JOINTS

ROCK LOG/COMPOST LOG

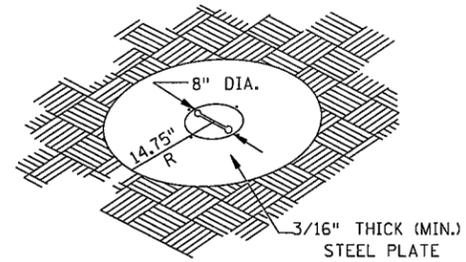


TUBE RISER

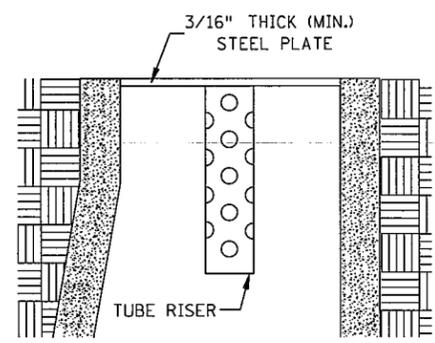


SECTION
(UP POSITION)

ADJUST LEVEL OF FILTER
SOCK TO BE BELOW ROAD
SURFACE ELEV. ⑤



PERSPECTIVE VIEW

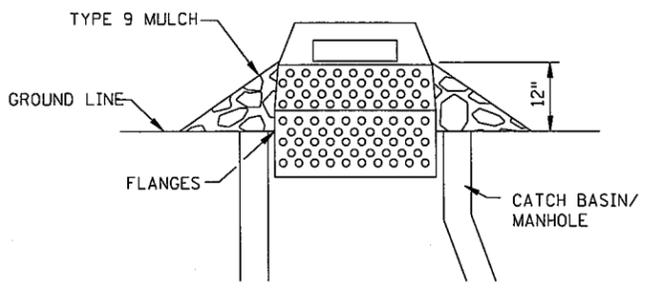


SECTION
(DOWN POSITION)

FILTER BAG INSERT ③

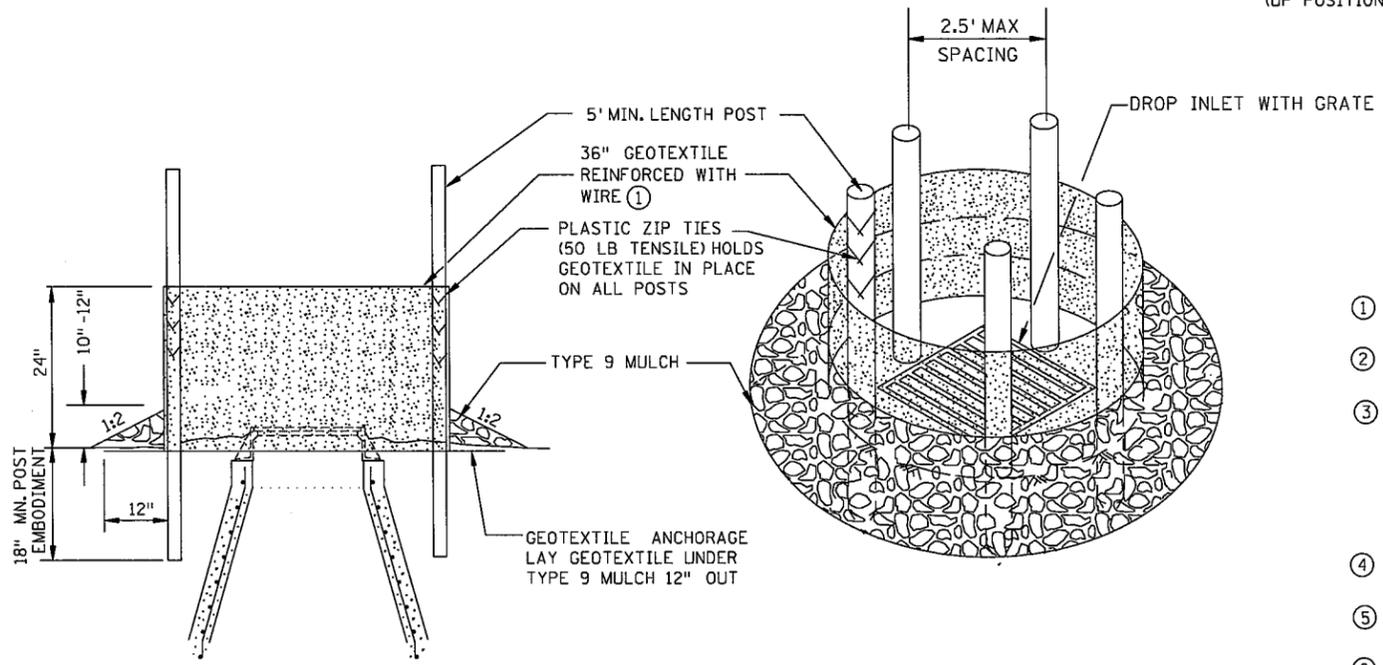
(CAN BE INSTALLED IN ANY INLET TYPE
WITH OR WITHOUT A CURB BOX)

POP-UP HEAD



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

NOTES:

SEE SPECS. 2573, 3137, & 3886.

DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY
THAT WOULD IMPEED TRAFFIC FLOW.

- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:
DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

2 OF 4

REVISION:
APPROVED: 8-6-2014
[Signature]
CHIEF ENVIRONMENTAL OFFICER

SP 0208-153 (TH 65)
SAP 002-612-014

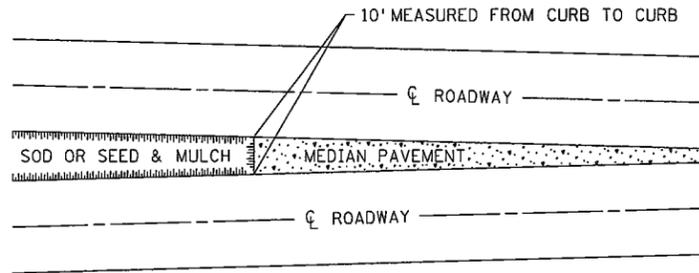


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STATE DESIGN ENGINEER

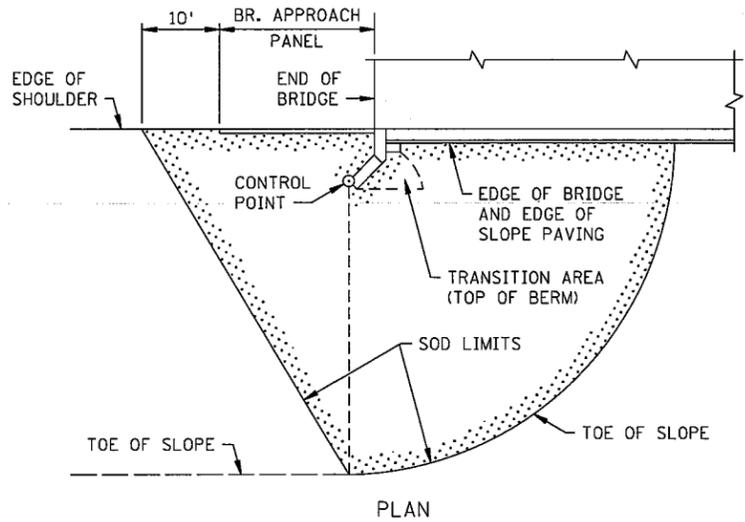
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APPROVED:
8-6-2014

TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION
STANDARD PLAN 5-297.405 33 OF 56

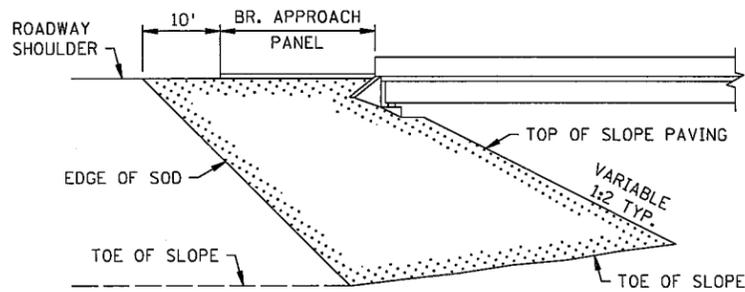
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06/22/2015



SODDING LIMITS AT GORE AREA

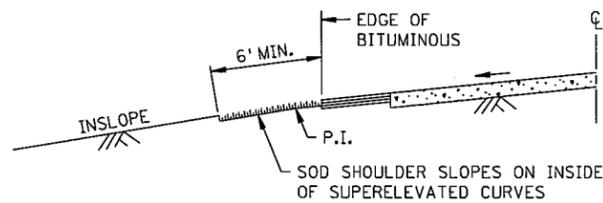


PLAN

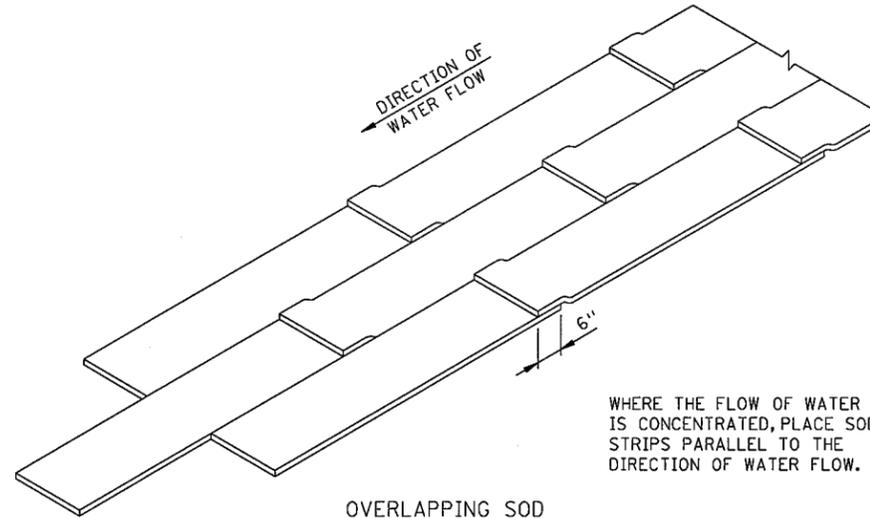


ELEVATION

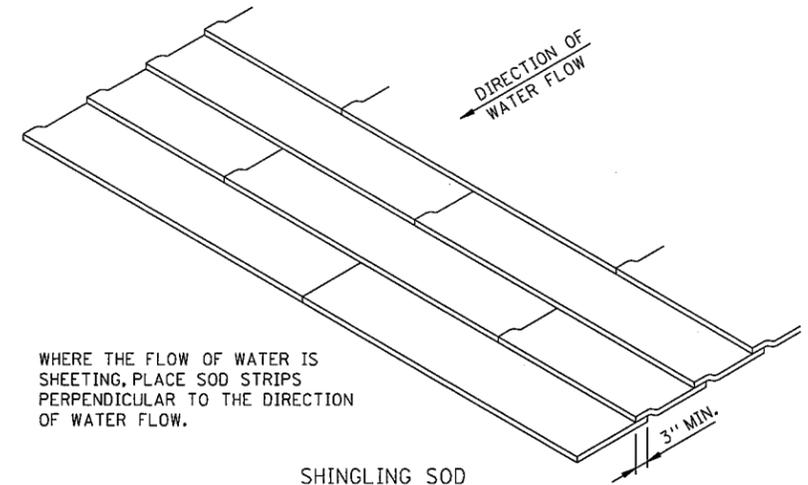
SODDING LIMITS AT BRIDGE APPROACH FILLS



SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

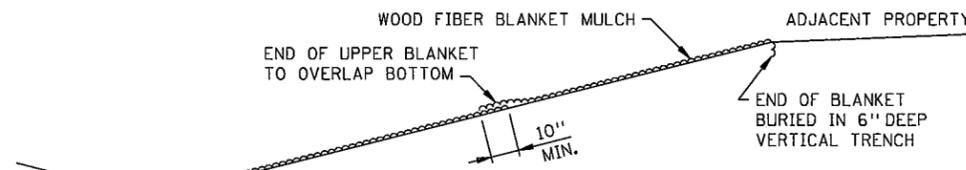


SHINGLING SOD

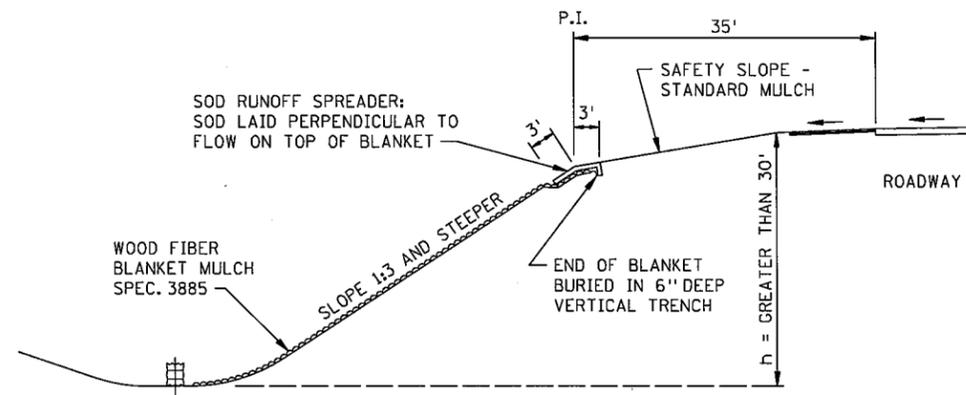
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.

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

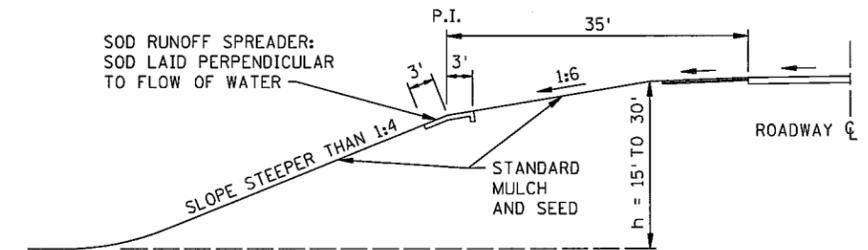
SPECIAL SOD PLACEMENT TECHNIQUES



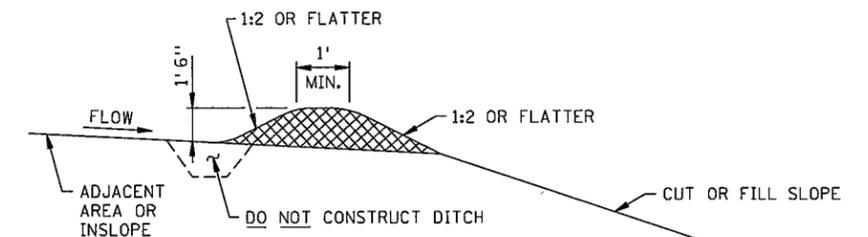
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)



BROKEN-BACK SAFETY FILL SLOPE



PERMANENT SLOPE PROTECTION DIKE

USER NAME: ZGBorger
PATH & FILENAME: P:\02-612-1A\Plan\Std Plans\400_spd.dgn
FILE NAME: 400_spd.dgn

REVISION:
APPROVED: 8-6-2014
Chief Environmental Officer
CHIEF ENVIRONMENTAL OFFICER

SP 0208-153 (TH 65)
SAP 002-612-014



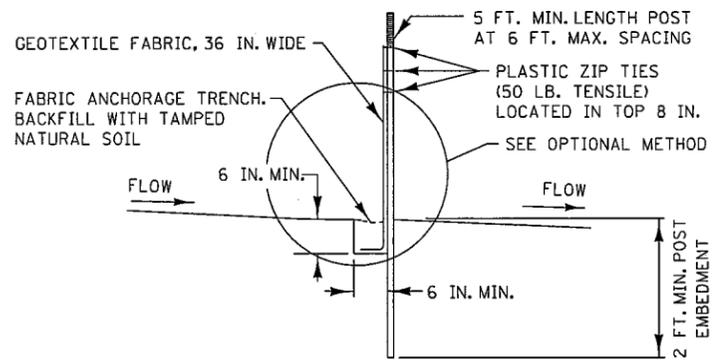
REVISOR:
Christina Ky
STATE DESIGN ENGINEER

APPROVED:
8-6-2014

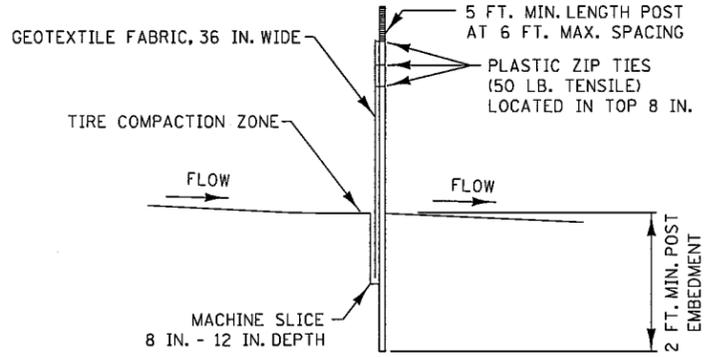
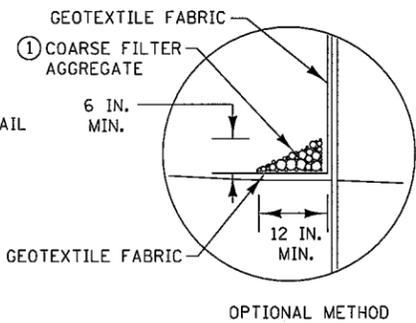
PERMANENT SEDIMENT CONTROL
ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS

STANDARD PLAN 5-297.406 34 OF 56

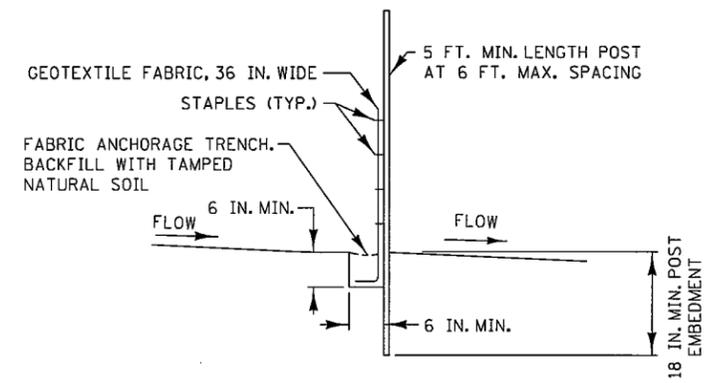
PLOTTED/REVISED:
06/22/2015



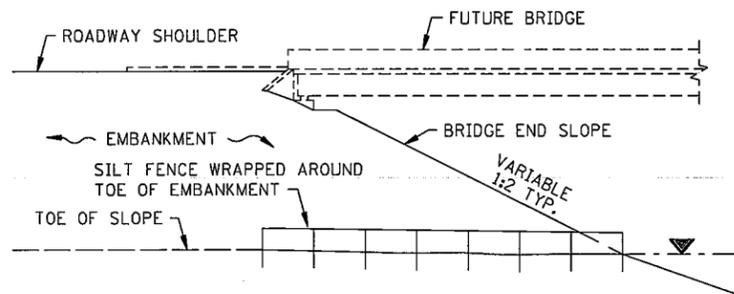
SILT FENCE TYPE HI ②
(HAND INSTALLED)



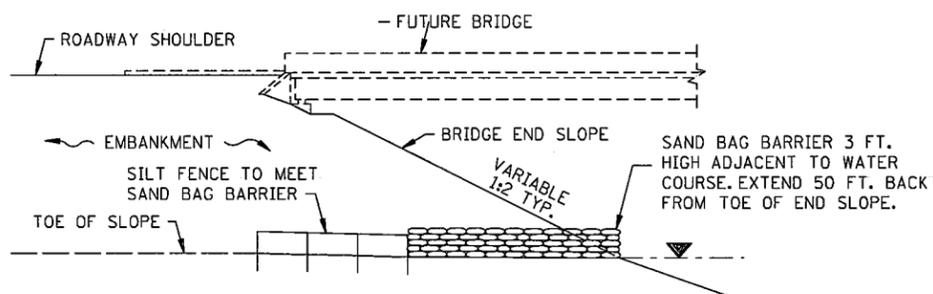
SILT FENCE TYPE MS ②
(MACHINE SLICED)



SILT FENCE TYPE PA ③
(PREASSEMBLED)

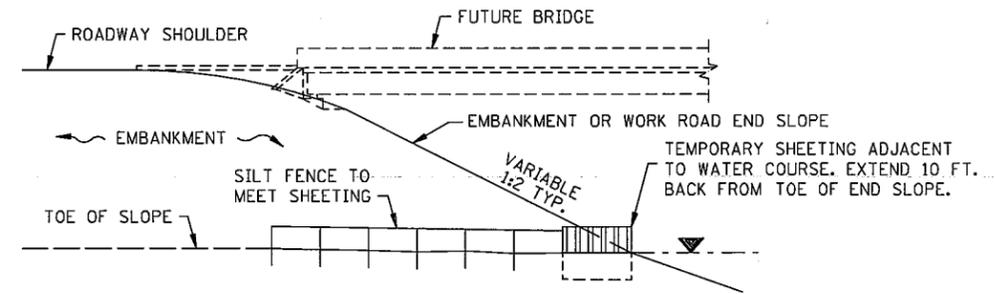


SILT FENCE ONLY ④

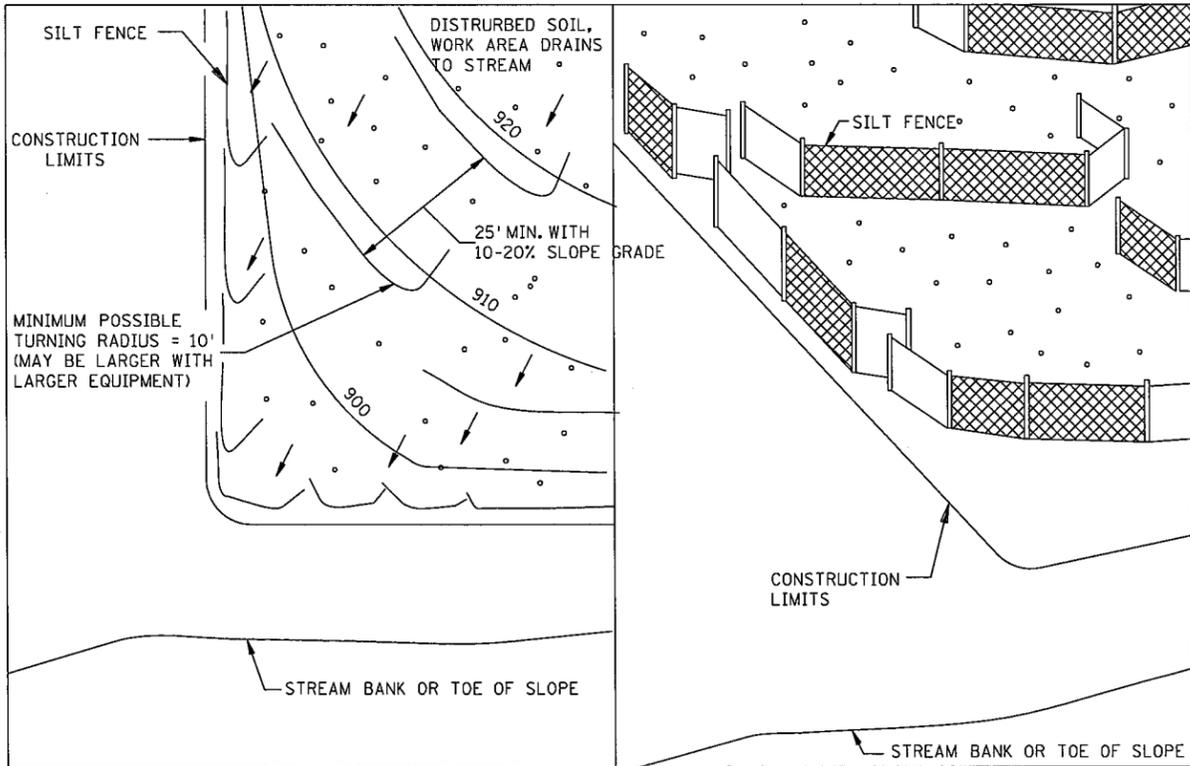


SILT FENCE WITH SAND BAGS ⑤

INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



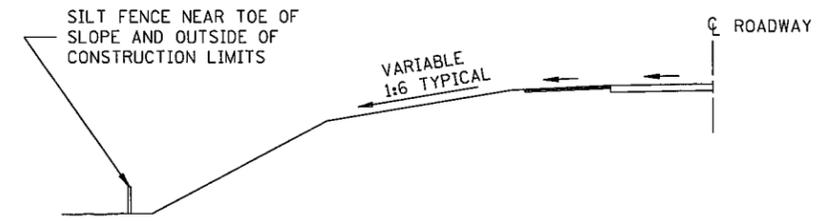
SILT FENCE WITH SHEETING ⑥



PLAN VIEW

J-HOOK INSTALLATION

PERSPECTIVE VIEW



LOCATION AT TOE OF ROADWAY EMBANKMENT

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

USER NAME: ZGBorger
PATH & FILENAME: P:\02-612-1A\PlanStd Planses\400_sprndgn
FILE NAME: s400_sprndgn

REVISION:
APPROVED: 8-6-2014
[Signature]
CHIEF ENVIRONMENTAL OFFICER

SP 0208-153 (TH 65)
SAP 002-612-014



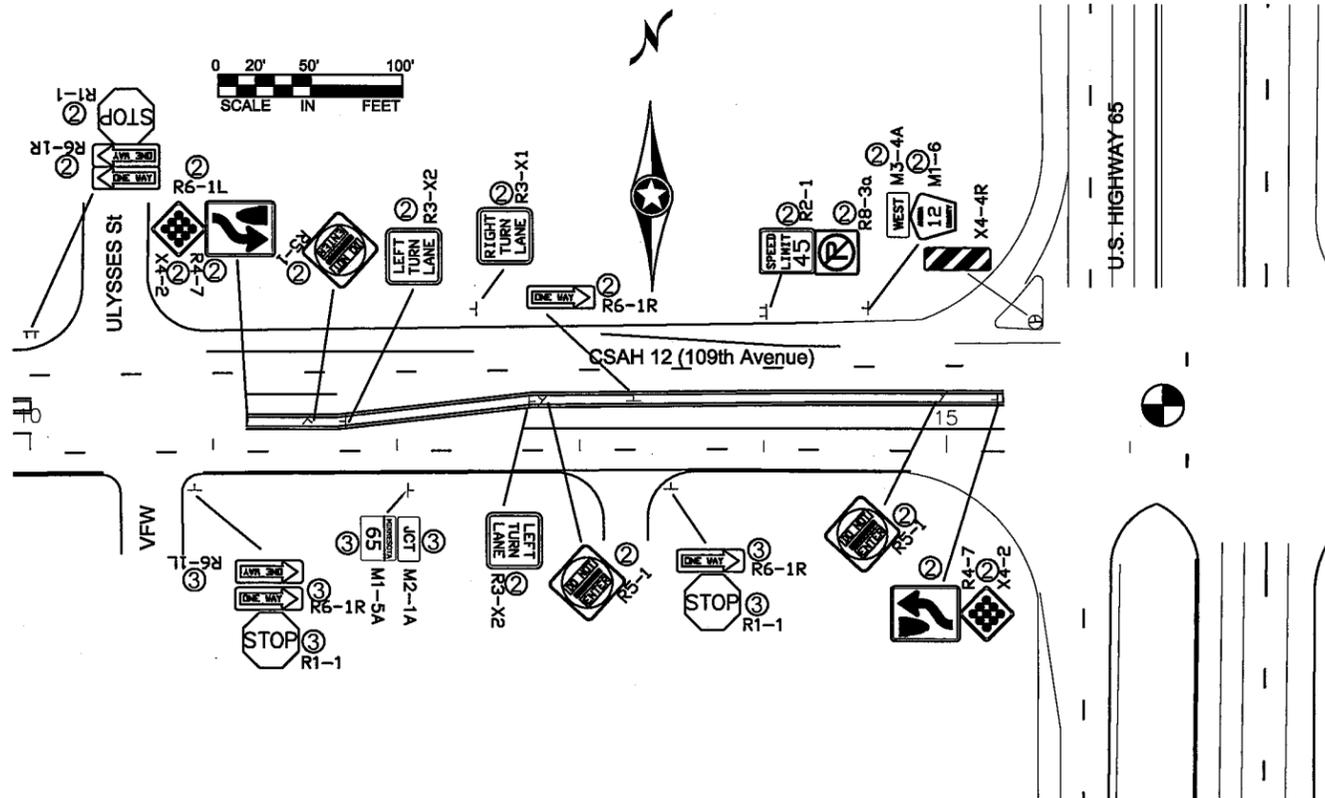
[Signature]
STATE DESIGN ENGINEER

REVISED:
APPROVED:
8-6-2014

TEMPORARY SEDIMENT CONTROL
SILT FENCE
STANDARD PLAN 5-297.405
35 OF 56

SIGN SALVAGE TAB			M	
STATION	ADDRESS/ DESCRIPTION (NOTES)	SALVAGE SIGN TYPE C	SIGN NUMBER	SIGN LEGEND
		EACH		
10+90	RT	1	R6-1L	ONE WAY
			R6-1R	ONE WAY
			R1-1	STOP
12+10	RT	1	M2-1A	JCT
			M1-5A	65
13+50	RT	1	R6-1R	ONE WAY
			R1-1	STOP
TOTAL		3		

NOTES:
 ② RETAIN INPLACE SIGN
 ③ SALVAGE FOR RE-USE ON THIS PROJECT



1	03/31/14	RLB	JR	CAK	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-14\Base\TRAFFIC\EXISTING SIGNING & STRIPING.dwg					

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: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: 10/24/14 LICENSE NO. 42757

DRAWN BY: RLB DATE 10/24/14
 DESIGN BY: RLB DATE 10/24/14
 CHECKED BY: JR DATE 10/24/14



ANOKA COUNTY
 HIGHWAY DEPT.

SP 0208-153 (TH 65)
 SAP 002-612-014

EXISTING SIGNING

PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. ANOKA COUNTY HIGHWAY DEPARTMENT WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS, LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS, ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

EPOXY:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENT AND/OR LAITANCE ON LOW SPEED (SPEED LIMIT 35 MPH OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS. SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEANS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOXY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES FAHRENHEIT OR GREATER.

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

PREFORMED THERMOPLASTIC:

THE PREFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PREFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50 DEGREES FARHENHEIT OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILD OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

PERMANENT PAVEMENT MARKING TABULATION			O
ITEM	UNIT	TOTAL QUANTITY	
(1) 3'X6' CROSSWALK - PREFORMED THERMOPLASTIC	SQ FT	216	
(1) PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	SQ FT	30	
(1) PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	SQ FT	30	
4" SOLID LINE WHITE - EPOXY	LIN FT	1296	
4" SOLID LINE YELLOW - EPOXY	LIN FT	414	
4" BROKEN LINE WHITE - EPOXY	LIN FT	40	

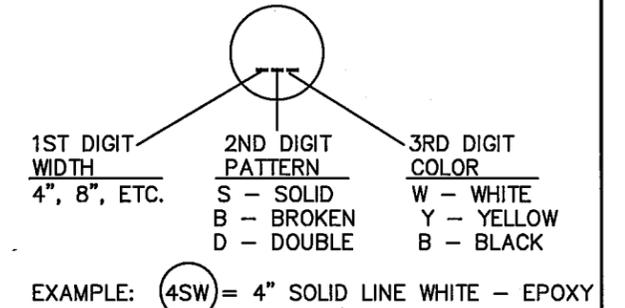
(1) PAID FOR AS PAVEMENT MARKING SPECIAL.

SYMBOLS & MATERIALS LEGEND

- CROSSWALK BLOCK WHITE-POLY PREFORM
- ↩ PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM

STRIPING KEY

- CIRCLE - EPOXY
- △ TRIANGLE - PAINT
- SQUARE THERMOPLASTIC
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



1	02/09/15	RLB	JR	AW
NO	DATE	BY	CKD	APPR
REVISION				

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: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 6/6/13 LICENSE NO. 42757

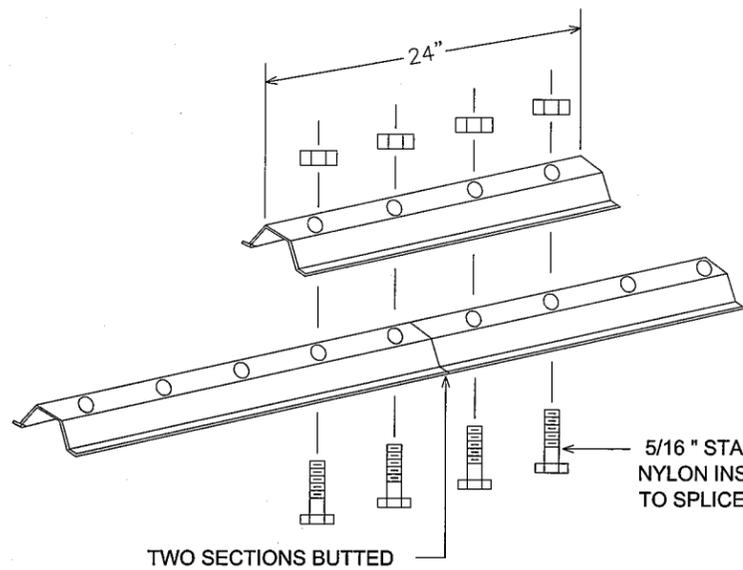
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 DESIGN BY: RLB DATE: 08/08/13
 CHECKED BY: JR DATE: 08/08/13



ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
 SAP 002-612-014

PERMANENT MARKING
 TABULATION
 Sheet 37 of 56 Sheets

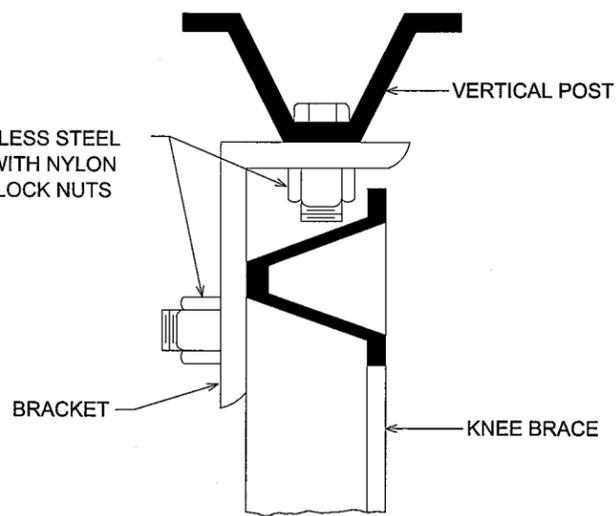


LATERAL BRACE OR STRINGER
SPlice DETAIL (EXPLODED VIEW)

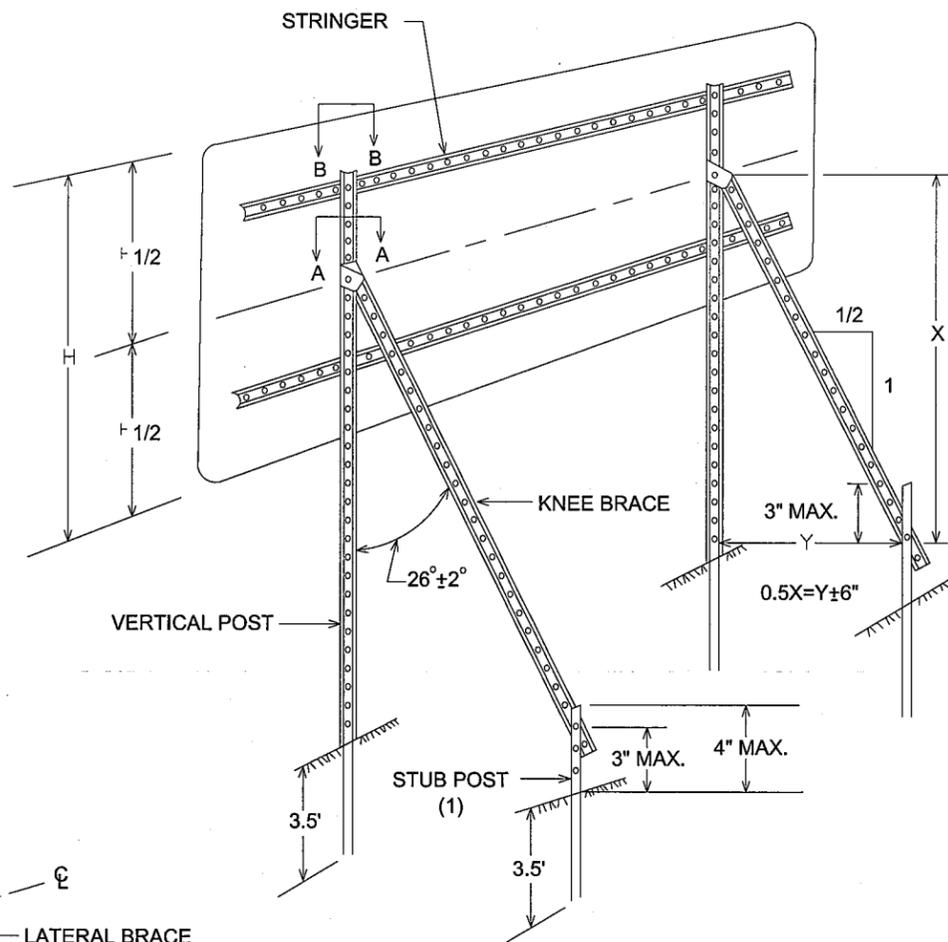
5/16" STAINLESS STEEL
BOLTS WITH NYLON
INSERT LOCK NUTS

5/16" STAINLESS STEEL BOLTS WITH
NYLON INSERT LOCK NUTS AS CLOSE
TO SPLICE & OUTSIDE HOLES.

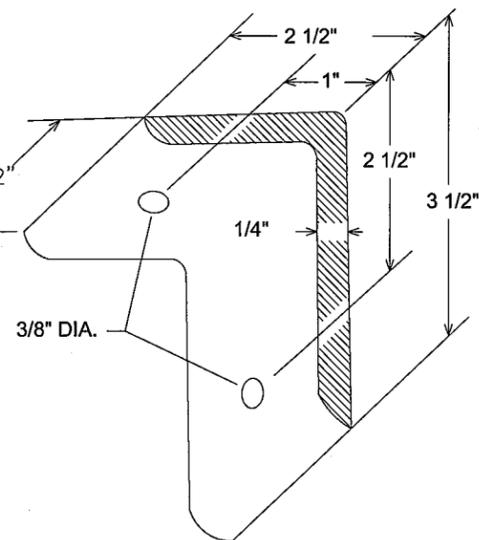
TWO SECTIONS BUTTED



SECTION A-A

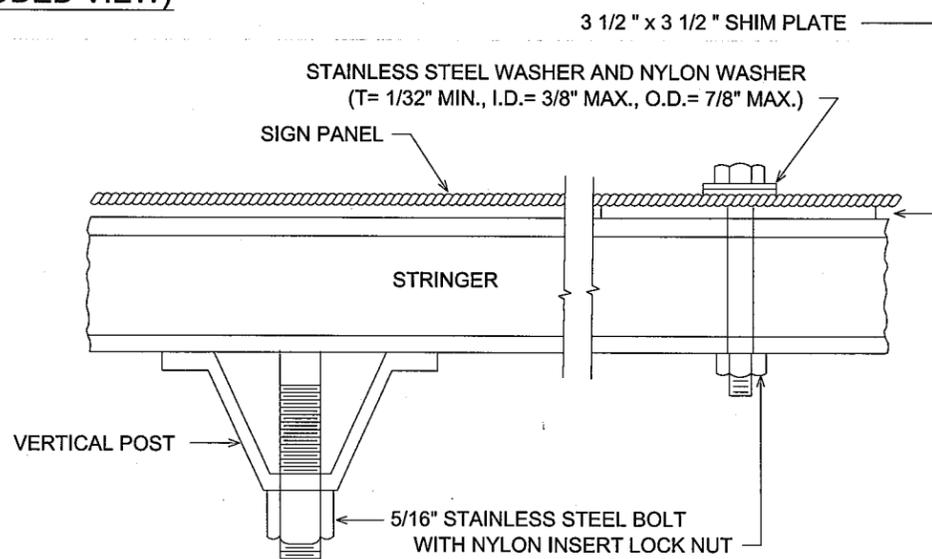


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

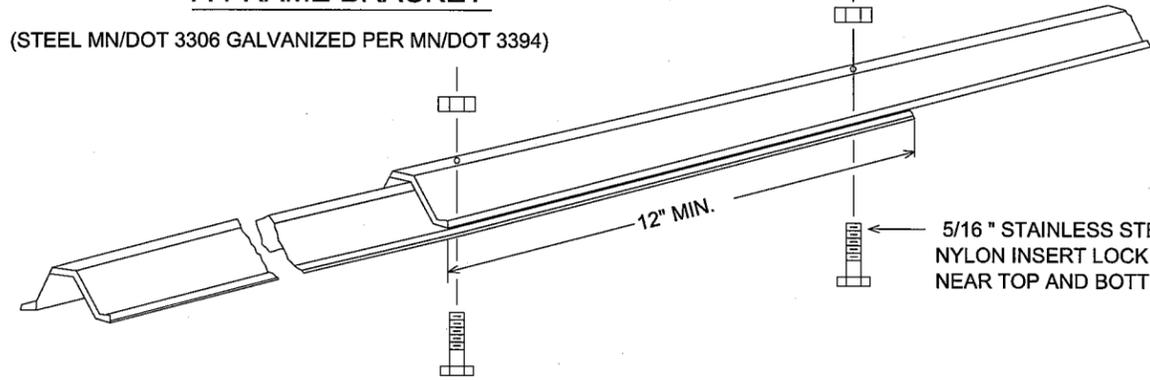


A-FRAME BRACKET

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

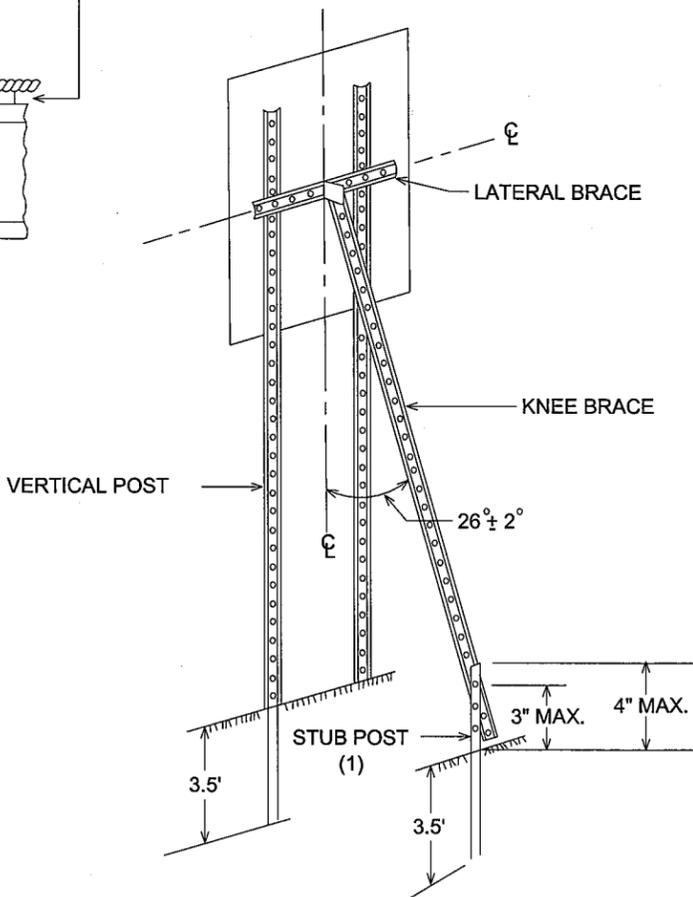


SECTION B-B

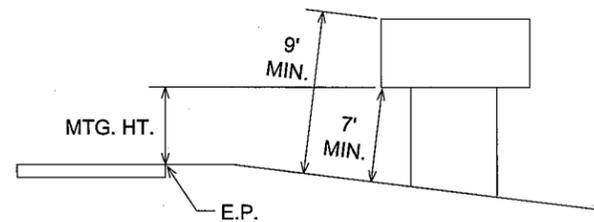


KNEE BRACE SPLICE

5/16" STAINLESS STEEL BOLTS WITH
NYLON INSERT LOCK NUTS PLACED
NEAR TOP AND BOTTOM HOLES.



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



TYPICAL MOUNTING

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

TYPE C & D SIGN
STRUCTURAL DETAILS

NO	DATE	BY	CHKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME
OR UNDER MY DIRECT SUPERVISION AND THAT I AM A
DULY REGISTERED PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: ANDREW WITTER
SIGNATURE: *Andrew Witter*
DATE: 4/24/15 REG. NO. 42757

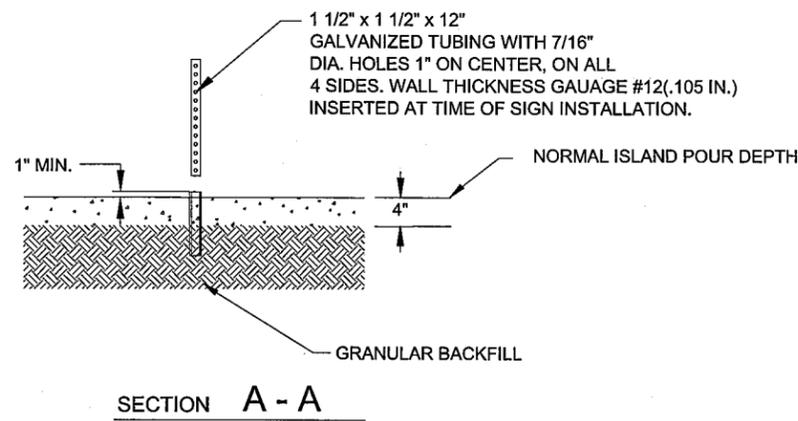
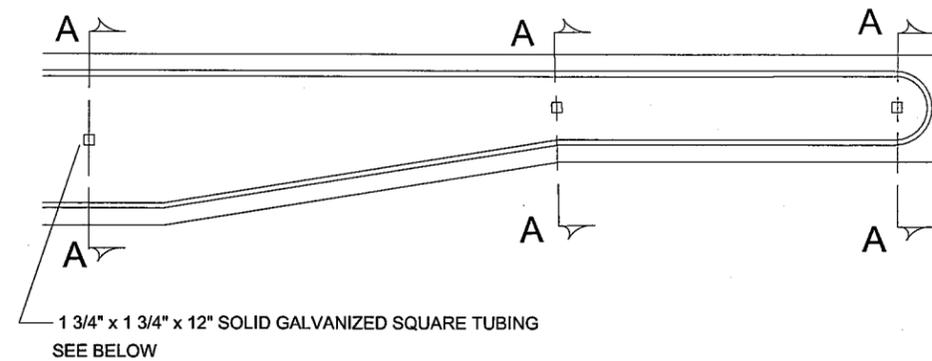
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CHECKED BY: JR DATE: 2/6/14



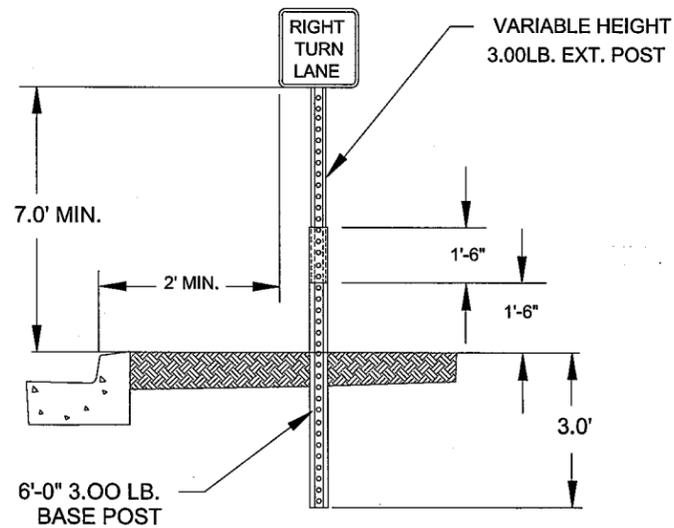
ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
SAP 002-612-014

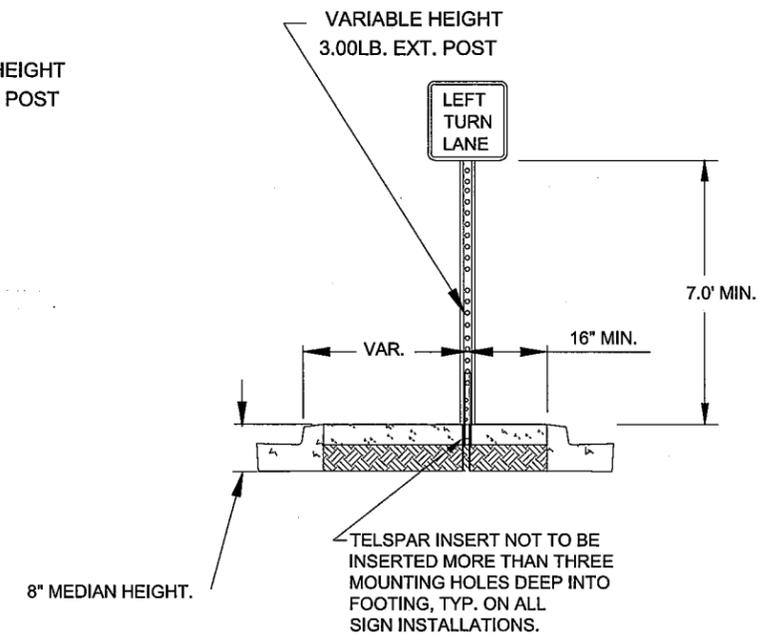
SIGNING & STRIPING
DETAILS



GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: ANDREW WITTER

SIGNATURE: *[Signature]*

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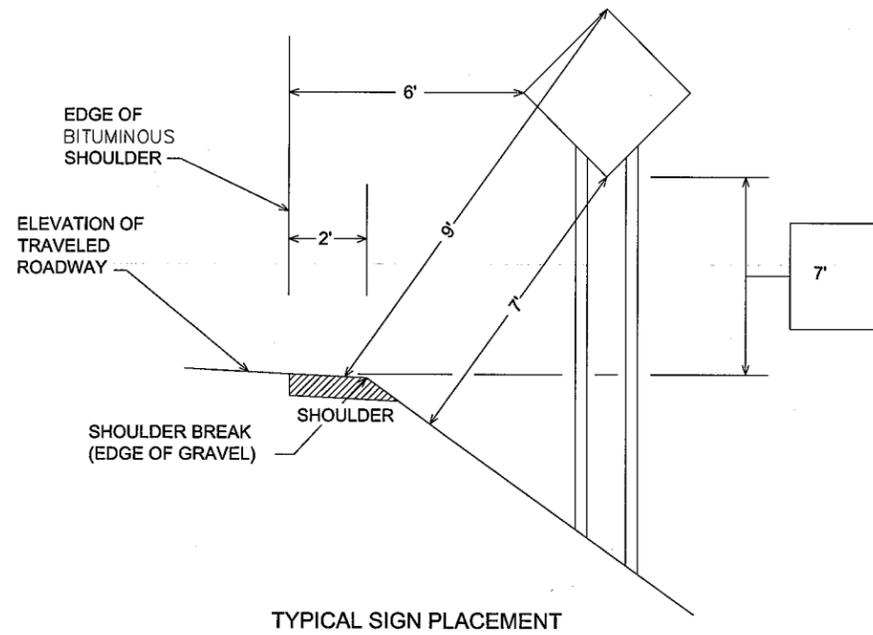


ANOKA COUNTY
HIGHWAY DEPT.

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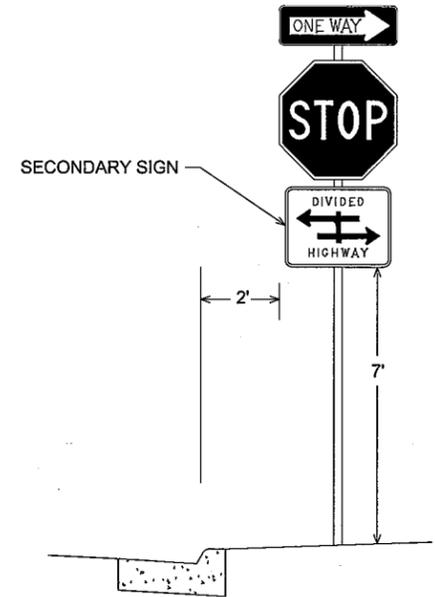
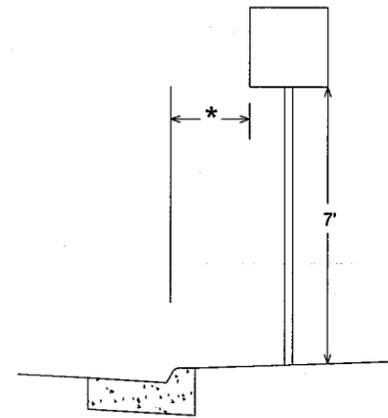
SIGNING & STRIPING
DETAILS

RURAL



URBAN

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



NOTE:

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

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-612-14\Base\Traffic\Sign&Stripe_Details

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

PRINT NAME: ANDREW WITTER

SIGNATURE: *Andrew Witter*

DATE: 2/24/14 REG. NO. 42757

DRAWN BY: RLB DATE: 2/6/14

DESIGN BY: RLB DATE: 2/6/14

CHECKED BY: JR DATE: 2/6/14

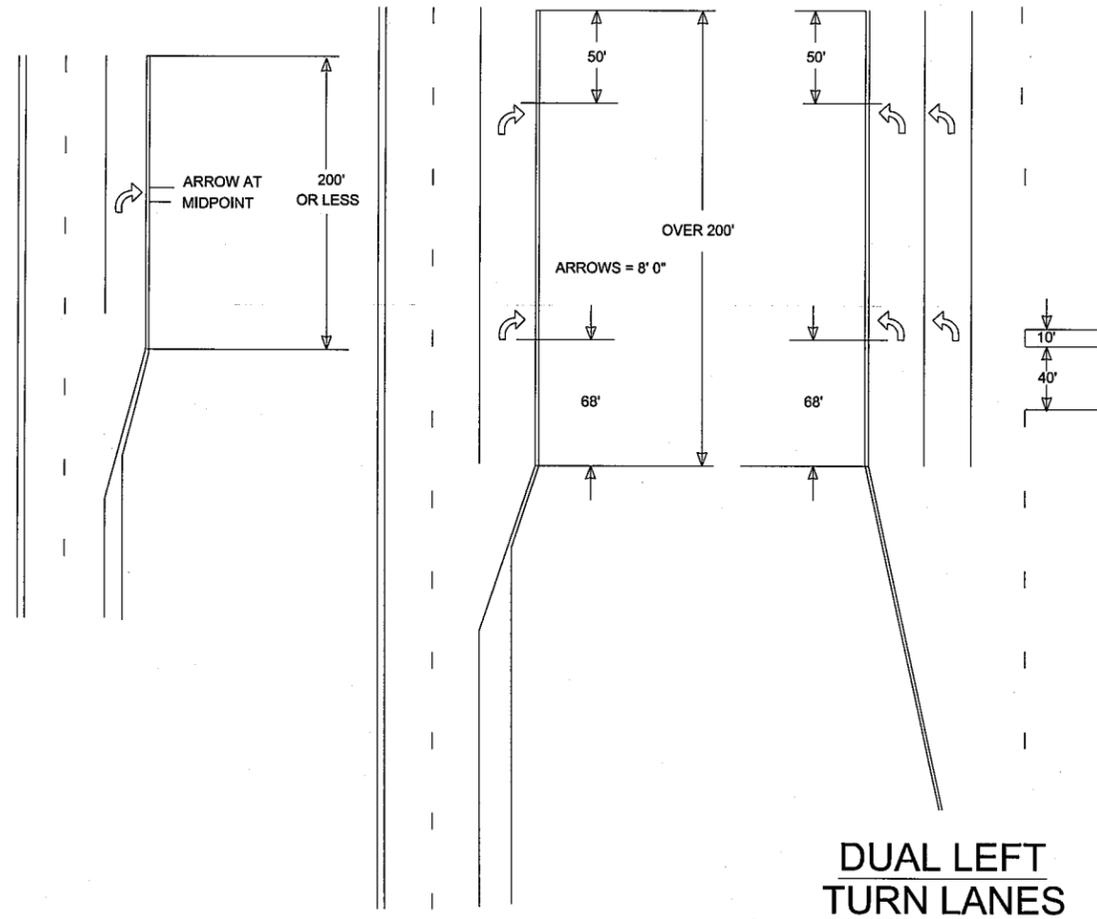


ANOKA COUNTY
HIGHWAY DEPT.

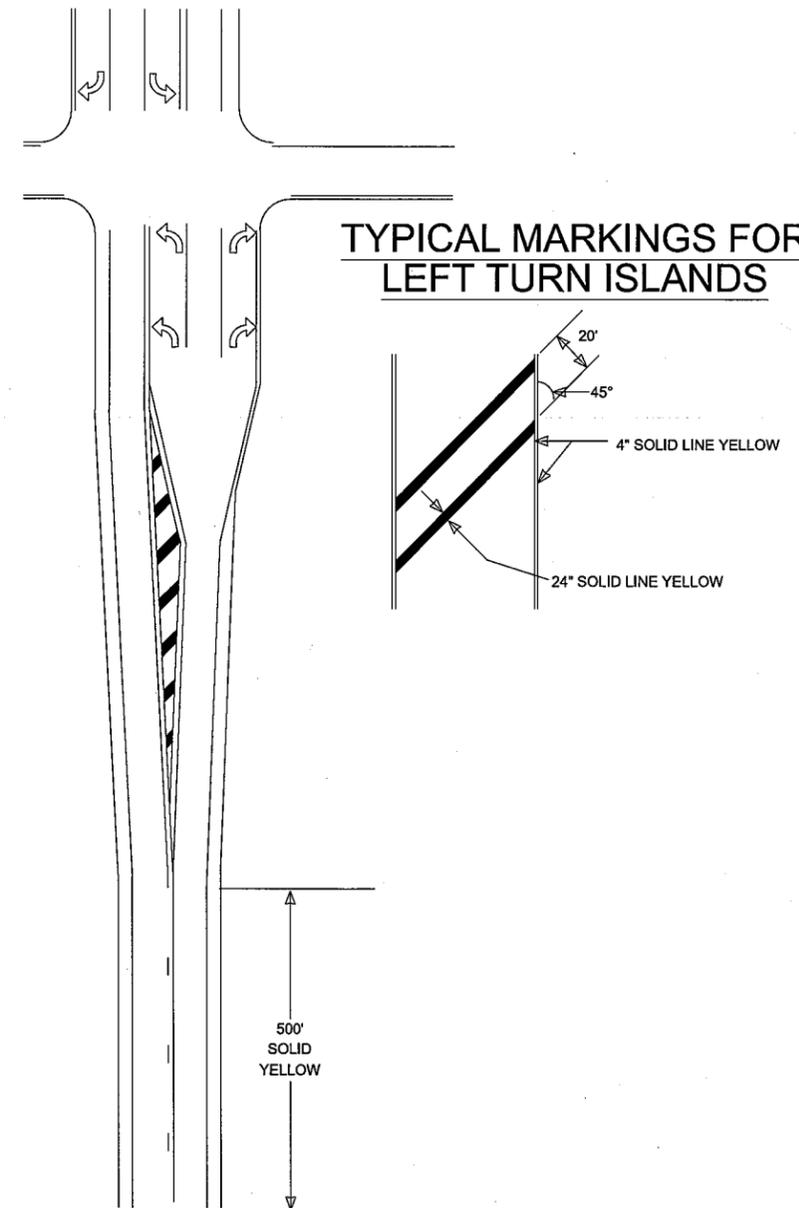
SP 0208-153 (TH 65)
SAP 002-612-014

SIGNING & STRIPING
DETAILS

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-612-14\Base\Traffic\Sign&Stripe_Details

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

PRINT NAME: **ANDREW WITTER**

SIGNATURE: *[Signature]*

DATE: **4/24/15** REG. NO. **42757**

DRAWN BY: **RLB** DATE: **2/6/14**

DESIGN BY: **RLB** DATE: **2/6/14**

CHECKED BY: **JR** DATE: **2/6/14**

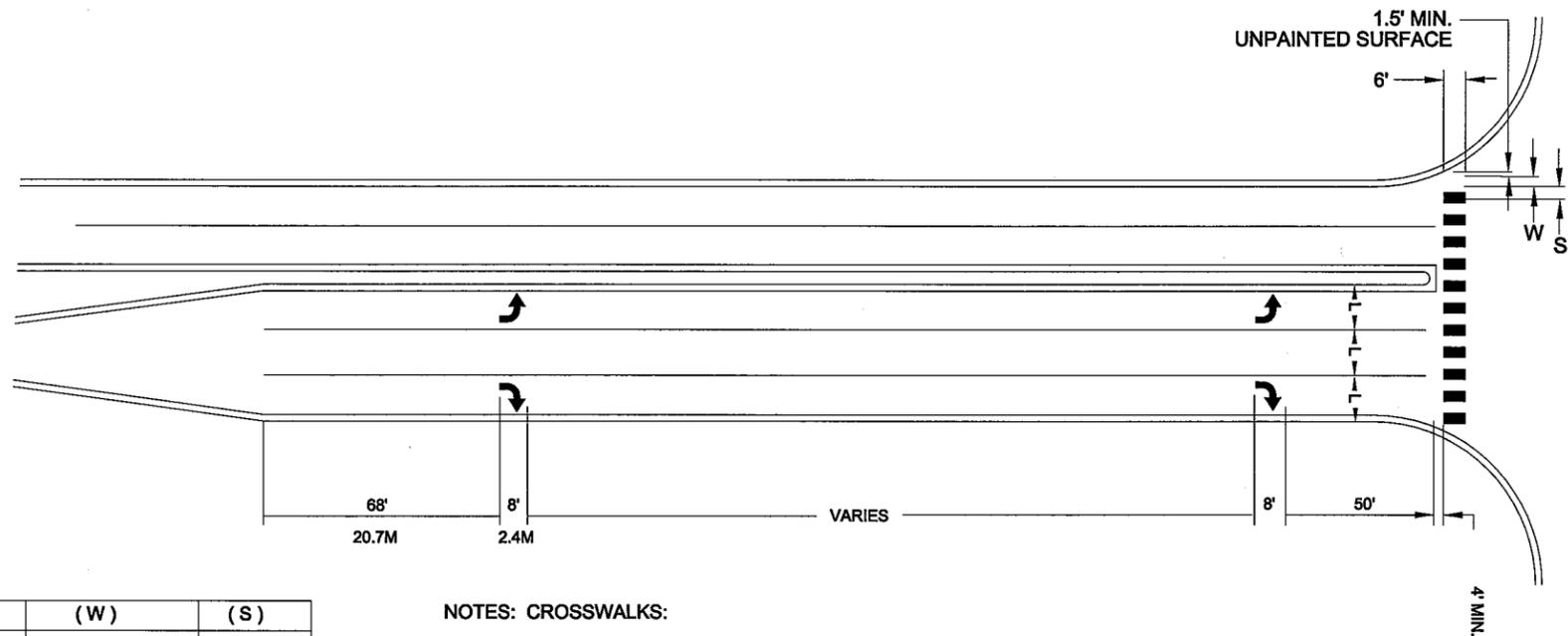


**ANOKA COUNTY
HIGHWAY DEPT.**

SP 0208-153 (TH 65)
SAP 002-612-014

**SIGNING & STRIPING
DETAILS**

MARKINGS FOR PEDESTRIAN CROSSWALKS



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

NOTES: CROSSWALKS:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMP ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES, EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3mm) INSIDE LANE.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 6/22/14 REG. NO. 42757

DRAWN BY: RLB DATE: 2/6/14
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 CHECKED BY: JR DATE: 2/6/14



**ANOKA COUNTY
HIGHWAY DEPT.**

SP 0208-153 (TH 65)
 SAP 002-612-014

**SIGNING & STRIPING
DETAILS**

ABBREVIATIONS

AWF	ADVANCED WARNING FLASHER
APS	ACCESSIBLE PEDESTRIAN SIGNAL
BL	BLUE
BL/BLK	BLUE WITH BLACK TRACER
BLK	BLACK
BLK/R	BLACK WITH RED TRACER
BLK/WH	BLACK WITH WHITE TRACER
CDT	COUNTDOWN TIMER
CH. SW.	CHECK SWITCH
CLR	CLEAR
D2-1 (e.g.)	DETECTOR (PHASE 2, NO. 1)
DBL	DOUBLE
DWK	DON'T WALK
EQ.G	EQUIPMENT GROUND
EVP	EMERGENCY VEHICLE PRE-EMPTION
F&I	FURNISH AND INSTALL
FL	FLASH/FLASHING
G	GREEN
G/BLK	GREEN WITH BLACK TRACER
GLTA	GREEN LEFT TURN ARROW
GRN	GREEN
GR. RD.	GROUND ROD
GRTA	GREEN RIGHT TURN ARROW
GTHA	GREEN THRU ARROW
HH	HANDHOLE
HPS	HIGH PRESSURE SODIUM
IMC	INTERMEDIATE METAL CONDUIT
INP	INPLACE
INS. GR.	INSULATED GROUND
JB	JUNCTION BOX
LED	LIGHT EMITTING DIODE
LHT	LIGHT
LUM	LUMINAIRE
NEU	NEUTRAL
NMC	NONMETALLIC CONDUIT
O	ORANGE
O/BLK	ORANGE WITH BLACK TRACER
P1-1 (e.g.)	PEDESTRIAN INDICATION (PHASE 1, NO. 1)
PB	PUSH BUTTON
PB2-1 (e.g.)	PUSH BUTTON (PHASE 2, NO. 1)
PEC	PHOTOELECTRIC CELL
PED	PEDESTRIAN
R	RED
R&S	REMOVE AND SALVAGE
R/BLK	RED WITH BLACK TRACER
RLTA	RED LEFT TURN ARROW
RSC	RIGID STEEL CONDUIT
S & I	SALVAGE AND INSTALL
SOP	SOURCE OF POWER
SPR	SPARE
ST LHT	STREET LIGHT
STA	STATION
SW	SWITCH
SWD	SWITCHED
TDW	TELEPHONE DROP WIRE
WH	WHITE
WH/BLK	WHITE WITH BLACK TRACER
WH/R	WHITE WITH RED TRACER
WLK	WALK
YEL	YELLOW
YLTA	YELLOW LEFT TURN ARROW
YRTA	YELLOW RIGHT TURN ARROW

SYMBOLS

	EQ. G CONNECTION
	EVP DETECTOR W/LIGHT
	LUMINAIRE NO.
	SIGNAL BASE NO.
	SIGNAL FACE NO./FLASHER FACE NO.
	SPLICE
	VIDEO DETECTION
	MICROWAVE DETECTION
	SONIC DETECTION

FOR PLANS AND UTILITIES SYMBOLS
SEE TECHNICAL MANUAL

STANDARD PLATES - SIGNAL SYSTEMS

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

PLATE NO.	DESCRIPTION
8000	STANDARD BARRICADES
8123 G	POLE & MAST ARM-LUMINAIRES & TRAFFIC LIGHTS ASSEMBLY (2 SHEETS)
8132 B	PREFORMED RIGID PVC CONDUIT LOOP DETECTOR (3 SHEETS)

STANDARD PLATES APPLICABLE TO THIS PROJECT

TABULATION OF SIGNAL QUANTITIES

ITEM NO	ITEM	UNIT	TOTAL ESTIMATED QUANTITY
2565	PAINT SIGNAL SYSTEM	LUMP SUM	1
2565	REVISE SIGNAL SYSTEM	SYSTEM	1

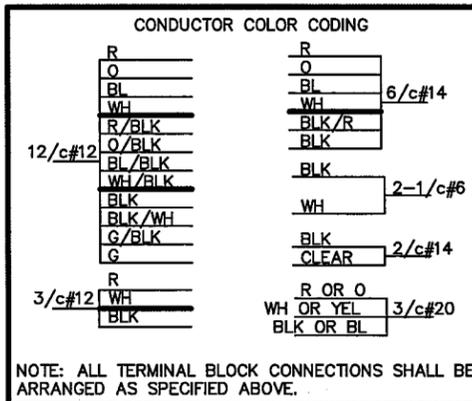
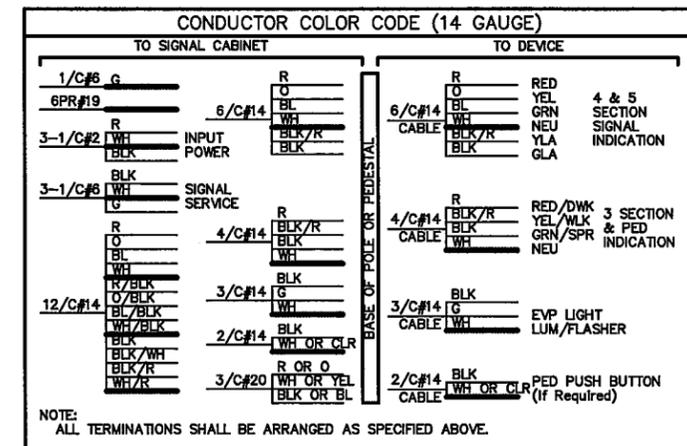
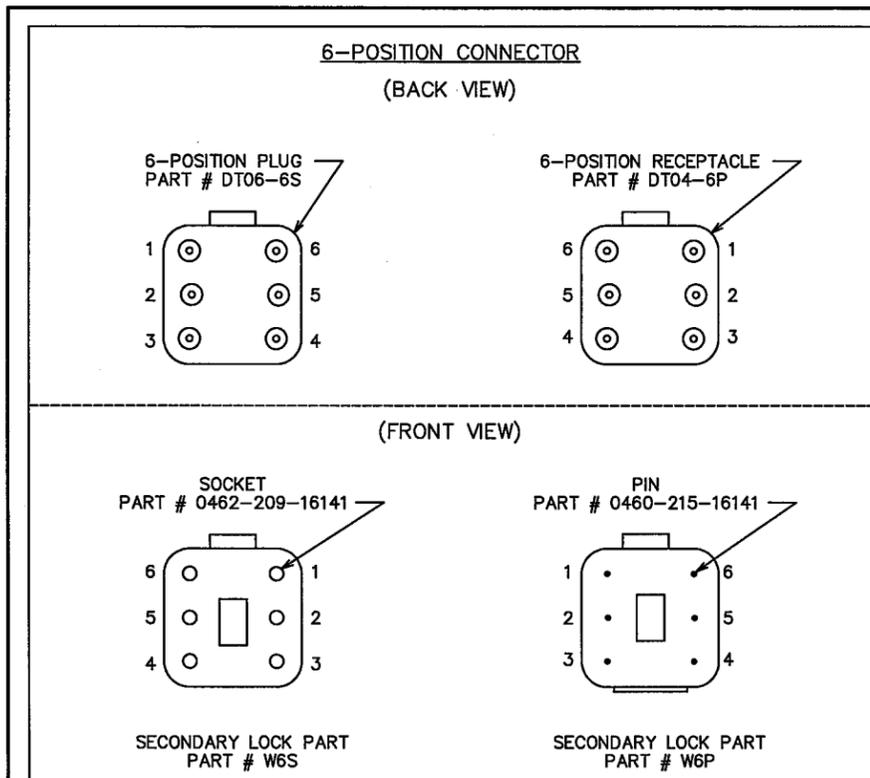
POLE BASE CONNECTOR DETAILS FOR NEW 14 AWG CABLE INSTALLATIONS

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 or BLK/R (6/C)	5	BLK/R	YLA or FYLA
BL/BLK or BLK (6/C)	6	BLK	GLA

WIRE COLOR CODE KEY

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



NOTES:

- 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 PLACED 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.

System ID = 21172
TE # = 6301
Meter Address = SW QUAD TH 65/CSAH 12

WIRE SPECIFICATION CHART

Type	Name	Specification Number
1/C#2	Power Conductors	3815.2B.1
1/C#6	Power Conductors	3815.2B.1
1/C#6 INS.GR.	Grounding Conductors	3815.2B.5
2/C#14	Loop Detector Lead-In Cable	3815.2C.4
3/C#14	Signal Control Cable	3815.2C.3
4/C#14	Signal Control Cable	3815.2C.3
6/C#14	Signal Control Cable	3815.2C.3
12/C#14	Signal Control Cable	3815.2C.3
6PR#19	Telephone Cables Outdoor	3815.2C.6.b
3/C#20	EVP Detector Cable	3815.2C.5

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE
1	JMG	05/28

REVISED PER STATE COMMENTS

REVISIONS

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

John M. Gray
Name: John M. Gray, PE
Date: January 29, 2015
Lic. No. 22457

SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY
BLAINE, MN

REVISE SIGNAL SYSTEM
DETAILS AND STANDARD PLATES
TH 65 AT CSAH 12 (109TH AVE NE)

FILE NO.
ANOKC 130242
SIGNAL SHEET
1 OF 7

S.P. 0208-153
S.A.P. 002-612-014

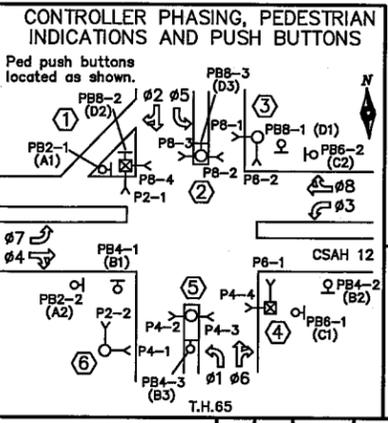
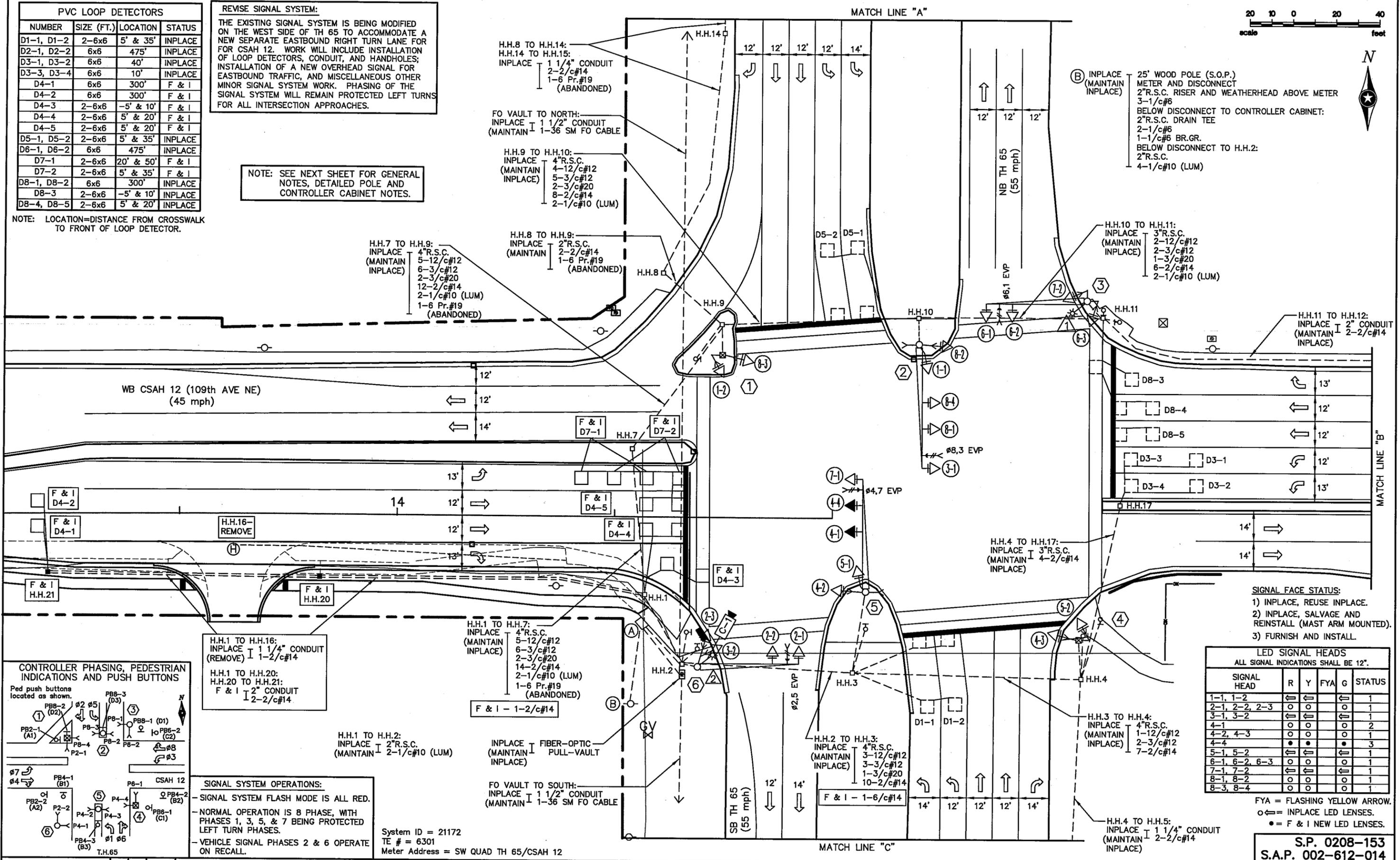
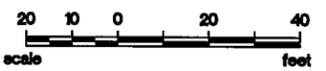
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56

PVC LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	STATUS
D1-1, D1-2	2-6x6	5' & 35'	INPLACE
D2-1, D2-2	6x6	475'	INPLACE
D3-1, D3-2	6x6	40'	INPLACE
D3-3, D3-4	6x6	10'	INPLACE
D4-1	6x6	300'	F & I
D4-2	6x6	300'	F & I
D4-3	2-6x6	-5' & 10'	F & I
D4-4	2-6x6	5' & 20'	F & I
D4-5	2-6x6	5' & 20'	F & I
D5-1, D5-2	2-6x6	5' & 35'	INPLACE
D6-1, D6-2	6x6	475'	INPLACE
D7-1	2-6x6	20' & 50'	F & I
D7-2	2-6x6	5' & 35'	F & I
D8-1, D8-2	6x6	300'	INPLACE
D8-3	2-6x6	-5' & 10'	INPLACE
D8-4, D8-5	2-6x6	5' & 20'	INPLACE

REVISE SIGNAL SYSTEM:
 THE EXISTING SIGNAL SYSTEM IS BEING MODIFIED ON THE WEST SIDE OF TH 65 TO ACCOMMODATE A NEW SEPARATE EASTBOUND RIGHT TURN LANE FOR CSAH 12. WORK WILL INCLUDE INSTALLATION OF LOOP DETECTORS, CONDUIT, AND HANDHOLES; INSTALLATION OF A NEW OVERHEAD SIGNAL FOR EASTBOUND TRAFFIC, AND MISCELLANEOUS OTHER MINOR SIGNAL SYSTEM WORK. PHASING OF THE SIGNAL SYSTEM WILL REMAIN PROTECTED LEFT TURNS FOR ALL INTERSECTION APPROACHES.

NOTE: SEE NEXT SHEET FOR GENERAL NOTES, DETAILED POLE AND CONTROLLER CABINET NOTES.

NOTE: LOCATION=DISTANCE FROM CROSSWALK TO FRONT OF LOOP DETECTOR.



H.H.1 TO H.H.16:
 INPLACE 1 1/4" CONDUIT (REMOVE) 1-2/c#14
 H.H.1 TO H.H.20:
 F & I 2" CONDUIT 2-2/c#14

H.H.1 TO H.H.7:
 INPLACE 4" R.S.C. 5-12/c#12 6-3/c#12 2-3/c#20 14-2/c#14 2-1/c#10 (LUM) 1-6 Pr.#19 (ABANDONED)
 INPLACE FIBER-OPTIC PULL-VAULT
 INPLACE 1 1/2" CONDUIT (MAINTAIN) 1-36 SM FO CABLE

SIGNAL SYSTEM OPERATIONS:
 - SIGNAL SYSTEM FLASH MODE IS ALL RED.
 - NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5, & 7 BEING PROTECTED LEFT TURN PHASES.
 - VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

System ID = 21172
 TE # = 6301
 Meter Address = SW QUAD TH 65/CSAH 12

- SIGNAL FACE STATUS:**
 1) INPLACE, REUSE INPLACE.
 2) INPLACE, SALVAGE AND REINSTALL (MAST ARM MOUNTED).
 3) FURNISH AND INSTALL.

LED SIGNAL HEADS					
ALL SIGNAL INDICATIONS SHALL BE 12".					
SIGNAL HEAD	R	Y	FYA	G	STATUS
1-1, 1-2	o	o	o	o	1
2-1, 2-2, 2-3	o	o	o	o	1
3-1, 3-2	o	o	o	o	1
4-1	o	o	o	o	2
4-2, 4-3	o	o	o	o	1
4-4	o	o	o	o	3
5-1, 5-2	o	o	o	o	1
6-1, 6-2, 6-3	o	o	o	o	1
7-1, 7-2	o	o	o	o	1
8-1, 8-2	o	o	o	o	1
8-3, 8-4	o	o	o	o	1

FYA = FLASHING YELLOW.
 o = INPLACE LED LENSES.
 o = F & I NEW LED LENSES.

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

DESIGN TEAM	NO.	BY	DATE	REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 Date: January 29, 2015
 Name: John M. Gray, PE
 Lic. No.: 22457

SEH
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY
 BLAINE, MN

REVISE SIGNAL SYSTEM
 INTERSECTION LAYOUT
 TH 65 AT CSAH 12 (109TH AVE NE)

FILE NO.
 ANOKC 130242
 SIGNAL SHEET
 2 OF 7
 45
 56

S.P. 0208-153
 S.A.P. 002-612-014

NOTES:

- 1) LOCATION OF HANDHOLES AND LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY ENGINEER AND MNDOT METRO TRAFFIC OFFICE PERSONNEL.
- 2) EACH NEW SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
- 3) NEW LOOP DETECTORS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND MNDOT STANDARD PLATE NO. 8132.
- 4) ALL HANDHOLES ARE INPLACE (PVC HANDHOLES WITH METAL FRAMES AND COVERS) AND SHALL BE REUSED AND MAINTAINED INPLACE EXCEPT AS FOLLOWS: NEW HANDHOLES 20 AND 21 SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR, INPLACE HANDHOLE 16 SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR, AND INPLACE HANDHOLE 1 SHALL BE ADJUSTED BY CONTRACTOR TO FINISHED SURROUNDING GRADE. SEE SPECIAL PROVISIONS (INCIDENTAL).
- 5) SEE SPECIAL PROVISIONS REGARDING REMOVAL, SALVAGING AND INSTALLATION OF INPLACE SIGNAL EQUIPMENT.
- 6) INPLACE ITEMS TO BE REUSED INPLACE AS PART OF THE REVISE SIGNAL SYSTEM SHALL BE PROTECTED AND MAINTAINED INPLACE. SEE SPECIAL PROVISIONS.
- 7) CONTRACTOR SHALL MAINTAIN OPERATION OF THE INPLACE SIGNAL SYSTEM, EXCEPT AS APPROVED BY ENGINEER.
- 8) F & I = MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PART OF REVISE SIGNAL SYSTEM.
S & I = MATERIALS TO BE SALVAGED AND INSTALLED BY THE CONTRACTOR AS PART OF REVISE SIGNAL SYSTEM.
- 9) CONTRACTOR SHALL REUSE AND MAINTAIN INPLACE ALL COUNTDOWN TIMER PEDESTRIAN SIGNAL HEADS, APS PUSH BUTTONS AND PUSH BUTTON STATIONS, ALL OVERHEAD SIGNS, ALL EVP SYSTEM COMPONENTS, AND ALL FIBER-OPTIC INTERCONNECT COMPONENTS.
- 10) ALL INPLACE VEHICLE SIGNAL INDICATIONS ARE LED. NEW VEHICLE SIGNAL INDICATIONS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL ALSO BE LED. SEE SPECIAL PROVISIONS.
- 11) CONTRACTOR SHALL COORDINATE ALL WORK IN CONTROLLER CABINET WITH MNDOT METRO DISTRICT TRAFFIC OFFICE PERSONNEL.
- 12) CONTRACTOR SHALL REPAINT ENTIRE SIGNAL SYSTEM. SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES.

① INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION PEDESTAL POLE AND BASE
TYPE 2C
1-APS PUSH BUTTON & SIGN (LT ARROW) (PB8-2) EXTENDED INTO H.H.9:
3"R.S.C.
1-12/c#12
3-3/c#12
1-2/c#14

② INPLACE (MAINTAIN INPLACE) A100 POLE FOUNDATION
TYPE A100-A-55
3-ONE WAY SIGNALS-OVERHEAD (0', 18' AND 30' FROM END OF MAST ARM)
TYPE 10A-POLE MOUNTED AT 0 DEG
TYPE 30A-POLE MOUNTED AT 90 DEG
TYPE 10B-POLE MOUNTED AT 270 DEG
1-APS PUSH BUTTON & SIGN (DBL ARROW) (PB8-3)
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR & CONFIRMATION LIGHT (#8,3) EXTENDED INTO H.H.10:
3"R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20

③ INPLACE (MAINTAIN INPLACE) A100 POLE FOUNDATION
TYPE A100-A-45-D40-9 (DAVIT AT 315 DEG.)
A100 SWING AWAY HINGES
LUMINAIRE-250 W HPS W/PEC & CHECK SWITCH
2-ONE WAY SIGNALS-OVERHEAD (0' & 12' FROM END OF MAST ARM)
2-TYPE 10B-POLE MOUNTED AT 90 DEG & 180 DEG
2-R6-1 SIGN PANELS-POLE MOUNTED 0 DEG & 180 DEG
2-TYPE D SIGN PANELS-OVERHEAD
ONE WAY EVP DETECTOR & CONFIRMATION LIGHT (#6,1) EXTENDED INTO H.H.11:
3"R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
1-2/c#14
2-1/c#10 (LUM)

④ INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION PEDESTAL POLE AND BASE
TYPE 2C
EXTENDED INTO H.H.4:
3"R.S.C.
1-12/c#12
2-3/c#12
1-2/c#14

⑤ INPLACE (MAINTAIN INPLACE) A100 POLE FOUNDATION
TYPE A100-A-50
1-ONE WAY SIGNAL-OVERHEAD AT 0' (7-1)
TYPE 10A-POLE MOUNTED AT 0 DEG
TYPE 30A-POLE MOUNTED AT 90 DEG
TYPE 10B-POLE MOUNTED AT 270 DEG
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR & CONFIRMATION LIGHT (#4,7) EXTENDED INTO H.H.3:
3"R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20

⑥ INPLACE (MAINTAIN INPLACE) A100 POLE FOUNDATION
TYPE A100-A-45-X6-350/CAM 400 EXTENSION (DAVIT AT 350 DEG.)
A100 SWING AWAY HINGES
LUMINAIRE-250 W HPS W/PEC & CHECK SWITCH
2-ONE WAY SIGNALS-OVERHEAD (0' & 12' FROM END OF MAST ARM)
TYPE 20C-POLE MOUNTED AT 270 DEG
2-R6-1 SIGN PANELS-POLE MOUNTED 0 DEG & 180 DEG
2-TYPE D SIGN PANELS-OVERHEAD
ONE WAY EVP DETECTOR & CONFIRMATION LIGHT (#2,5)
1-VIDEO CAMERA WITH MOUNT (C-1) EXTENDED INTO H.H.2:
3"R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
1-2/c#14
2-1/c#10 (LUM)
1-7/16" GROUNDING BRAID TO GR.ROD IN H.H.2
1-3/c#14 (CAMERA POWER)
1-COM CABLE (CAMERA)
1-COAXIAL CABLE (CAMERA)

INPLACE (S & I) 1-ONE WAY SIGNAL-OVERHEAD (4-1)-RELOCATE FROM 22' TO 25' FROM END OF MAST ARM
F & I 1-ONE WAY SIGNAL-OVERHEAD AT 13' (4-4) STRAP-ON MID-MAST ARM MOUNTS AT 13' AND 25' FROM END OF MAST ARM (FOR 4-4, 4-1) CAP OPEN MAST ARM HUB AT 22'
1-6/c#14

Ⓐ INPLACE (MAINTAIN INPLACE) CABINET FOUNDATION CONTROLLER AND CABINET
1"R.S.C. WITH DRAIN TEE INTO TELEPHONE BOX WITH T.D.W.
CONTROLLER CABINET TO TMS PULL VAULT:
1 1/2" CONDUIT INSIDE EXISTING 2"R.S.C.
1-6 SM FIBER-OPTIC PIGTAIL
CONTROLLER CABINET TO H.H.1:
4"R.S.C.
5-12/c#12
6-3/c#12
2-3/c#20
16-2/c#14
1-6 Pr.#19 (ABANDONED)

INPLACE - 1-2/c#14 (REMOVE)
F & I - 3-2/c#14

INPLACE (MAINTAIN INPLACE) CONTROLLER CABINET TO H.H.2:
4"R.S.C.
5-12/c#12
5-3/c#12
2-3/c#20
11-2/c#14
1-3/c#14 (CAMERA POWER)
1-COM CABLE (CAMERA)
1-COAXIAL CABLE (CAMERA)

F & I - 1-6/c#14

INPLACE (MAINTAIN INPLACE) APS PUSH BUTTON STATION (PB2-1)
1-APS PUSH BUTTON & SIGN (LT ARROW) EXTENDED INTO H.H.9:
1 1/4" CONDUIT
1-2/c#14

INPLACE (MAINTAIN INPLACE) APS PUSH BUTTON STATION (PB4-2)
1-APS PUSH BUTTON & SIGN (LT ARROW) EXTENDED INTO H.H.4:
1 1/4" CONDUIT
1-2/c#14

INPLACE (MAINTAIN INPLACE) APS PUSH BUTTON STATION (PB2-2)
1-APS PUSH BUTTON & SIGN (RT ARROW) EXTENDED INTO H.H.2:
1 1/4" CONDUIT
1-2/c#14

INPLACE (MAINTAIN INPLACE) APS PUSH BUTTON STATION (PB4-3)
1-APS PUSH BUTTON & SIGN (DBL ARROW) EXTENDED INTO H.H.3:
1 1/4" CONDUIT
1-2/c#14

INPLACE (MAINTAIN INPLACE) APS PUSH BUTTON STATION (PB4-1)
1-APS PUSH BUTTON & SIGN (LT ARROW) EXTENDED INTO H.H.2:
1 1/4" CONDUIT
1-2/c#14

INPLACE (MAINTAIN INPLACE) APS PUSH BUTTON STATION (PB6-1)
1-APS PUSH BUTTON & SIGN (RT ARROW) EXTENDED INTO H.H.4:
1 1/4" CONDUIT
1-2/c#14

INPLACE (MAINTAIN INPLACE) APS PUSH BUTTON STATION (PB6-2)
1-APS PUSH BUTTON & SIGN (RT ARROW) EXTENDED INTO H.H.11:
1 1/4" CONDUIT
1-2/c#14

INPLACE (MAINTAIN INPLACE) APS PUSH BUTTON STATION (PB8-1)
1-APS PUSH BUTTON & SIGN (LT ARROW) EXTENDED INTO H.H.11:
1 1/4" CONDUIT
1-2/c#14

System ID = 21172
TE # = 6301
Meter Address = SW QUAD TH 65/CSAH 12

S.P. 0208-153
S.A.P. 002-612-014

DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

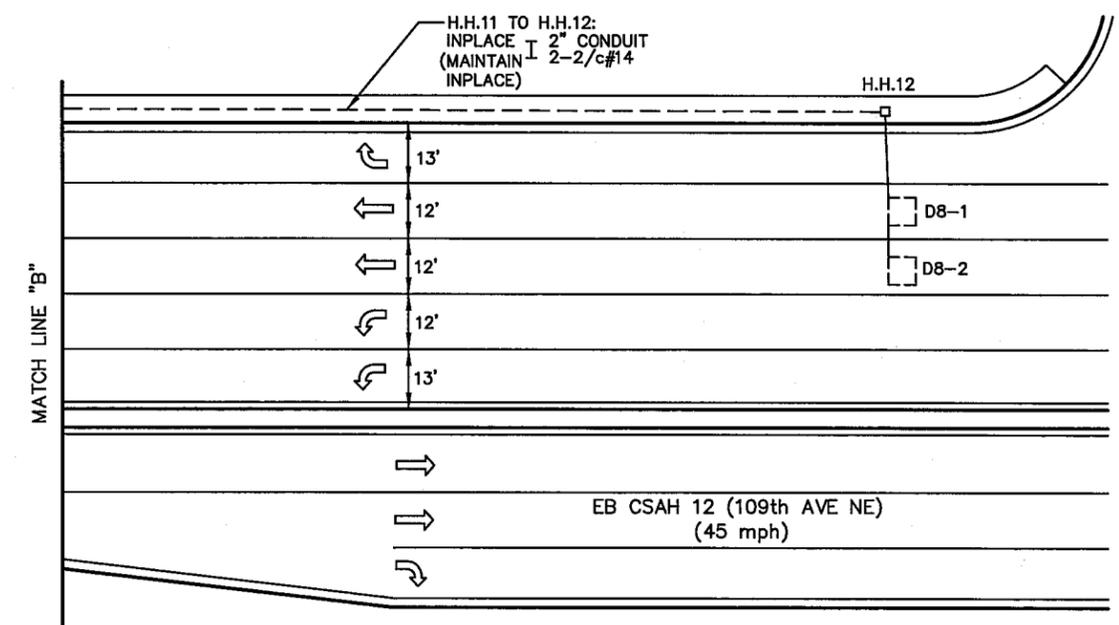
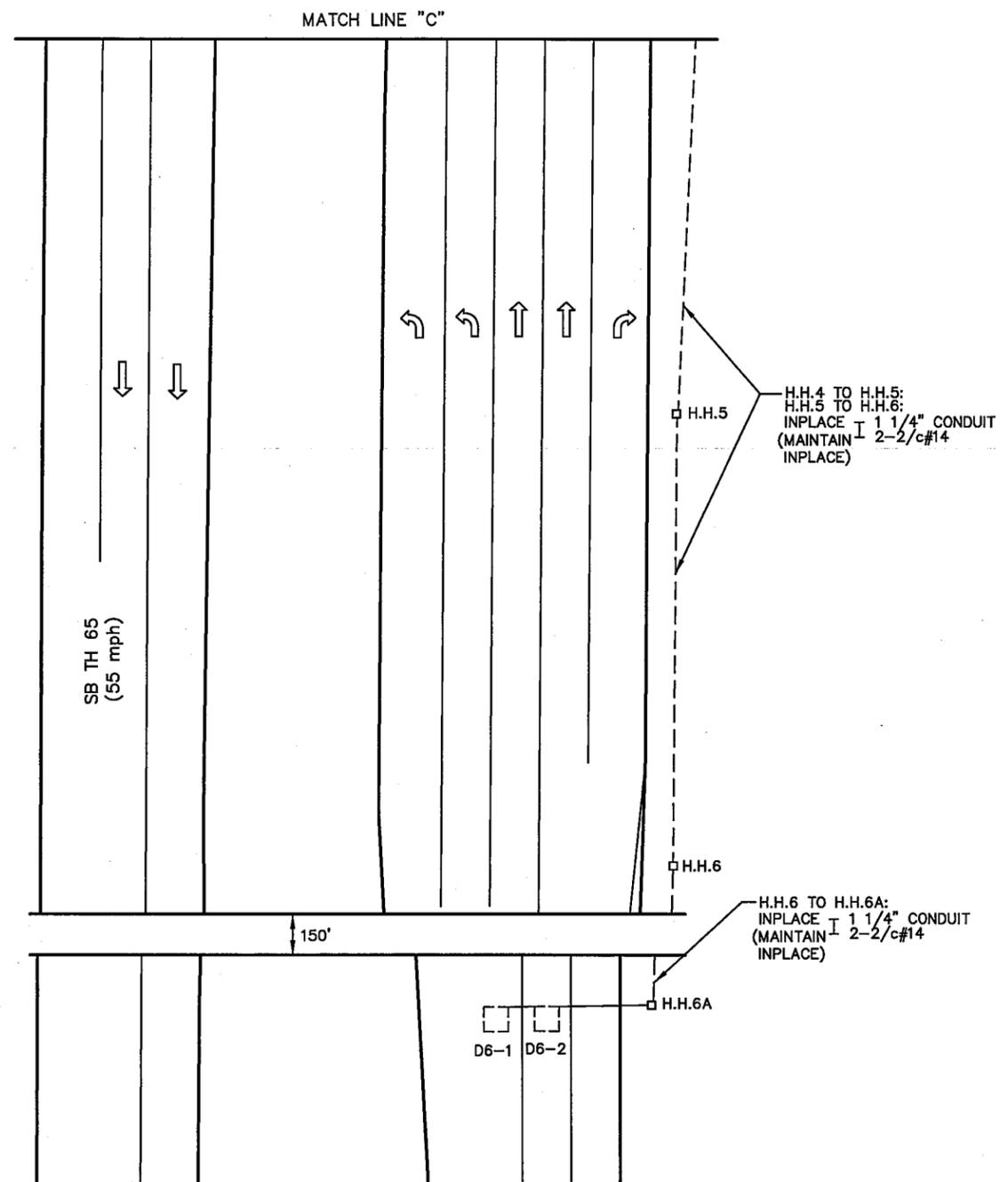
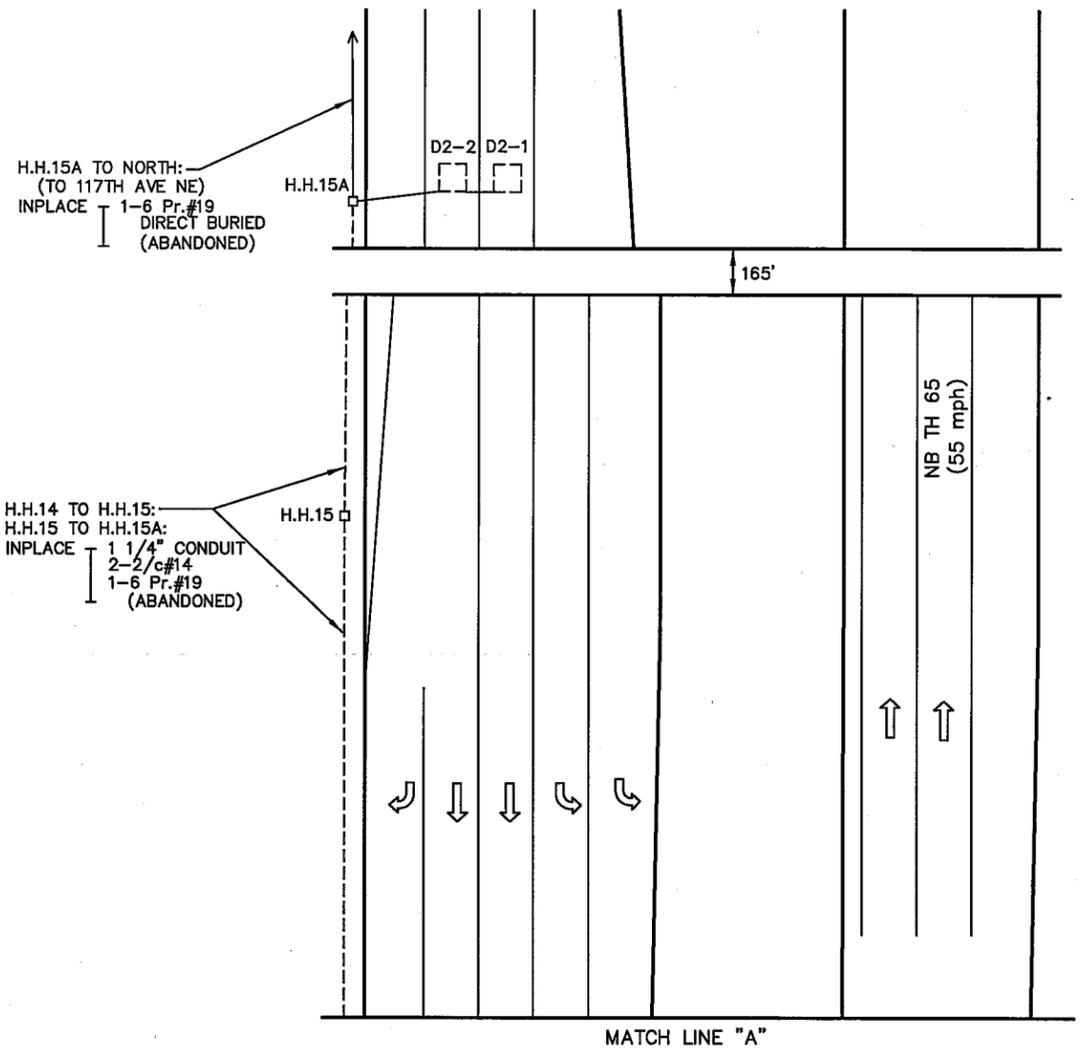
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Date: January 29, 2015
Name: John M. Gray, PE
Lic. No. 22457

SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY
BLAINE, MN

REVISE SIGNAL SYSTEM
INTERSECTION LAYOUT
TH 65 AT CSAH 12 (109TH AVE NE)

FILE NO. ANOKC 130242	46
SIGNAL SHEET 3 OF 7	56



BALTIMORE ST NE

System ID = 21172
 TE # = 6301
 Meter Address = SW QUAD TH 65/CSAH 12

DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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

John M. Gray
 Name: John M. Gray, PE
 Lic. No. 22457
 Date: January 29, 2015

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 ST. PAUL, MN 55110

ANOKA COUNTY
 BLAINE, MN

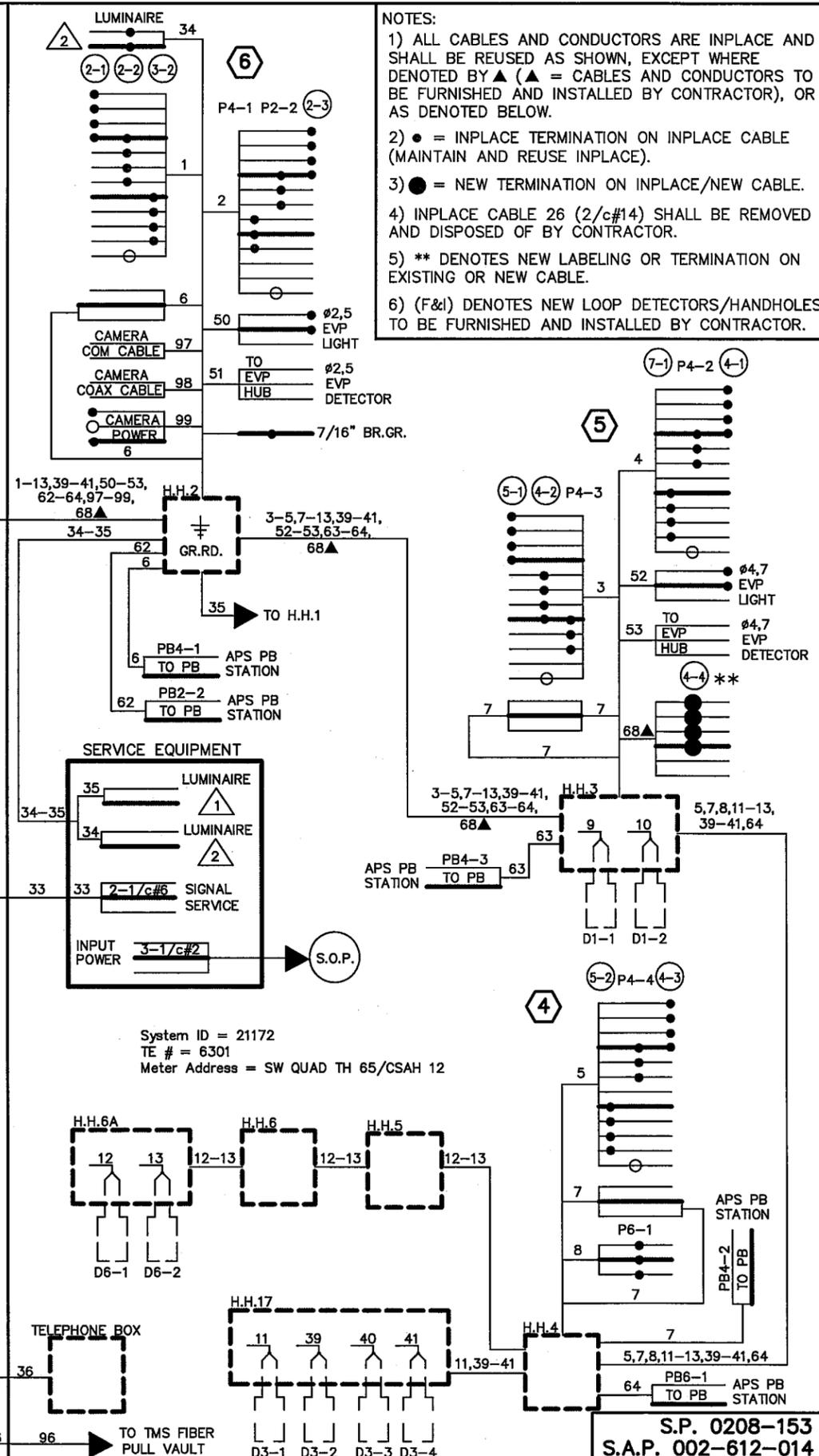
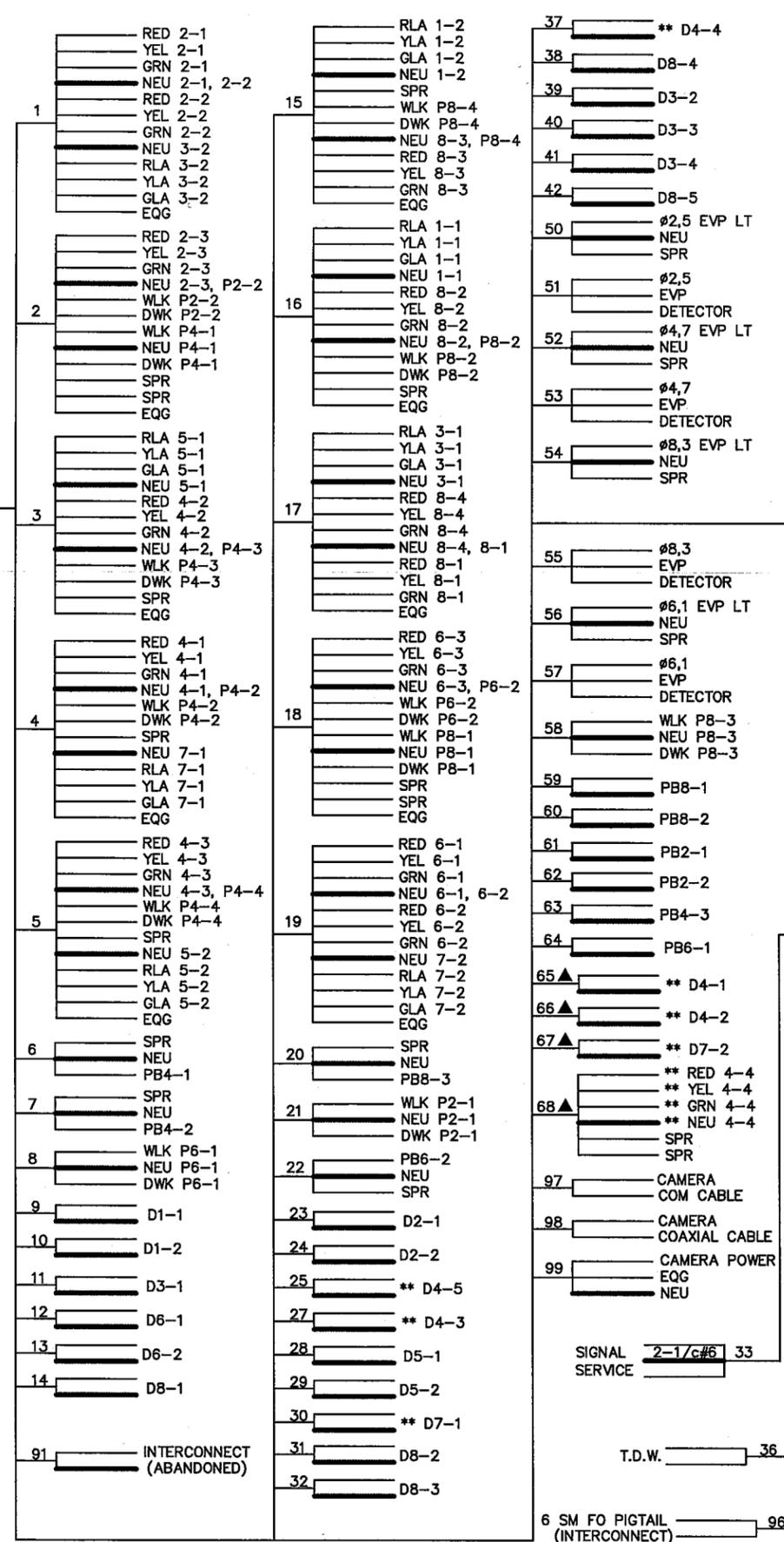
REVISE SIGNAL SYSTEM
INTERSECTION LAYOUT
 TH 65 AT CSAH 12 (109TH AVE NE)

S.P. 0208-153
 S.A.P. 002-612-014

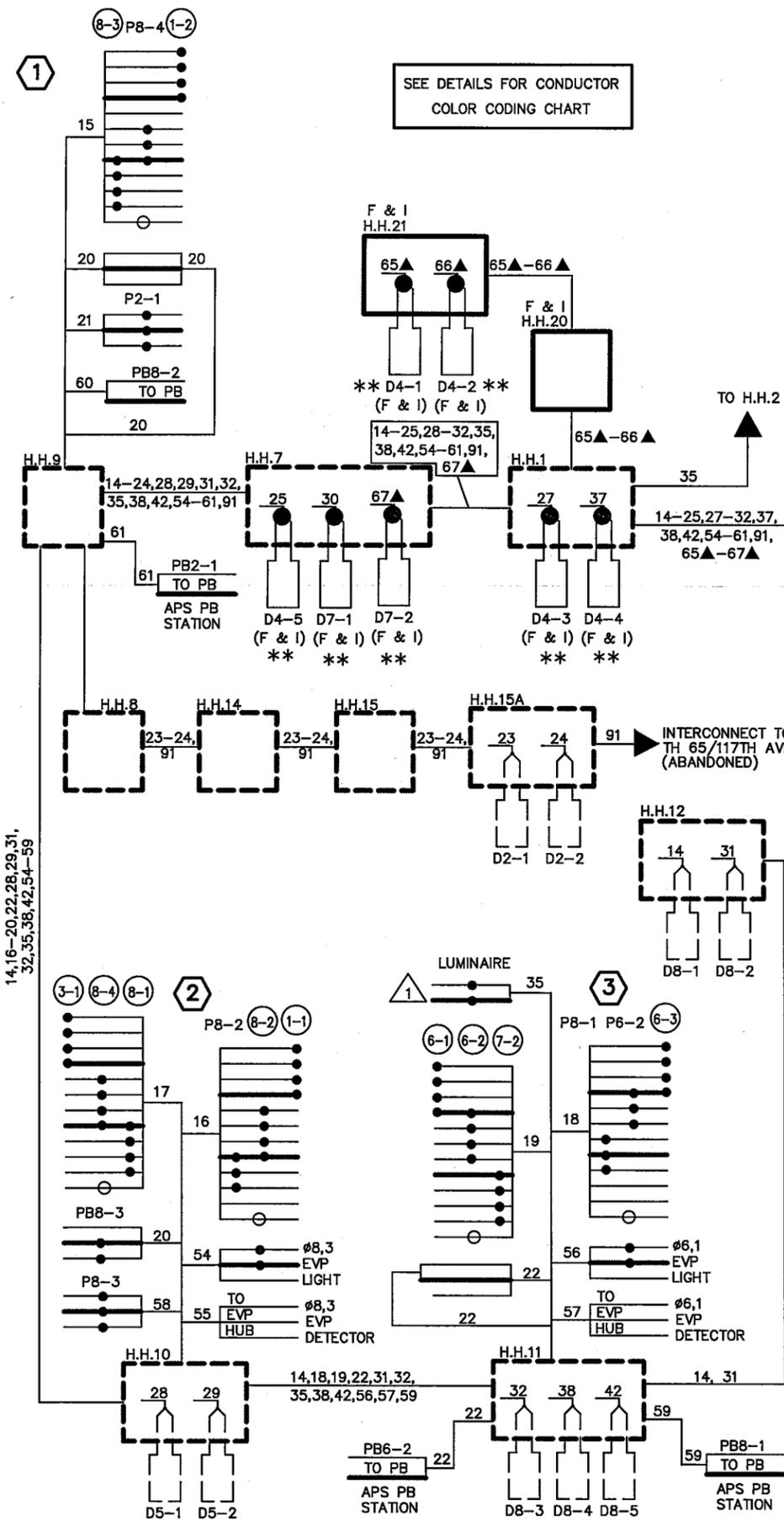
FILE NO. ANOKC 130242
 SIGNAL SHEET 4 OF 7

47
 56

CONTROLLER CABINET



- NOTES:
- 1) ALL CABLES AND CONDUCTORS ARE IN PLACE AND SHALL BE REUSED AS SHOWN, EXCEPT WHERE DENOTED BY ▲ (▲ = CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR), OR AS DENOTED BELOW.
 - 2) ● = IN PLACE TERMINATION ON IN PLACE CABLE (MAINTAIN AND REUSE IN PLACE).
 - 3) ● = NEW TERMINATION ON IN PLACE/NEW CABLE.
 - 4) IN PLACE CABLE 26 (2/c#14) SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR.
 - 5) ** DENOTES NEW LABELING OR TERMINATION ON EXISTING OR NEW CABLE.
 - 6) (F&I) DENOTES NEW LOOP DETECTORS/HANDHOLES TO BE FURNISHED AND INSTALLED BY CONTRACTOR.



DRAWN BY: JMG	DESIGNER: JMG	CHECKED BY: JMG
DESIGN TEAM		
NO.	BY	DATE
REVISIONS		

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

John M. Gray, PE
 Lic. No. 22457
 Date: January 29, 2015

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ANOKA COUNTY
 BLAINE, MN

REVISE SIGNAL SYSTEM
 FIELD WIRING DIAGRAM
 TH 65 AT CSAH 12 (109TH AVE NE)

FILE NO. ANOKC 130242
 SIGNAL SHEET 5 OF 7
 48
 56

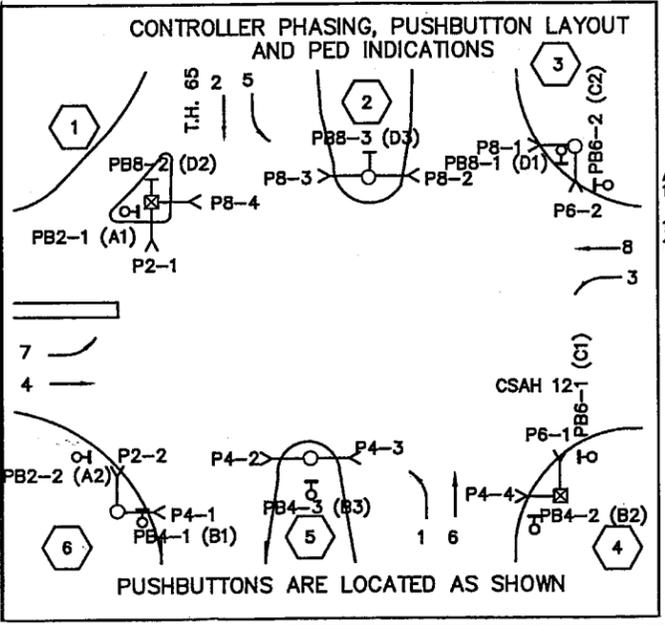
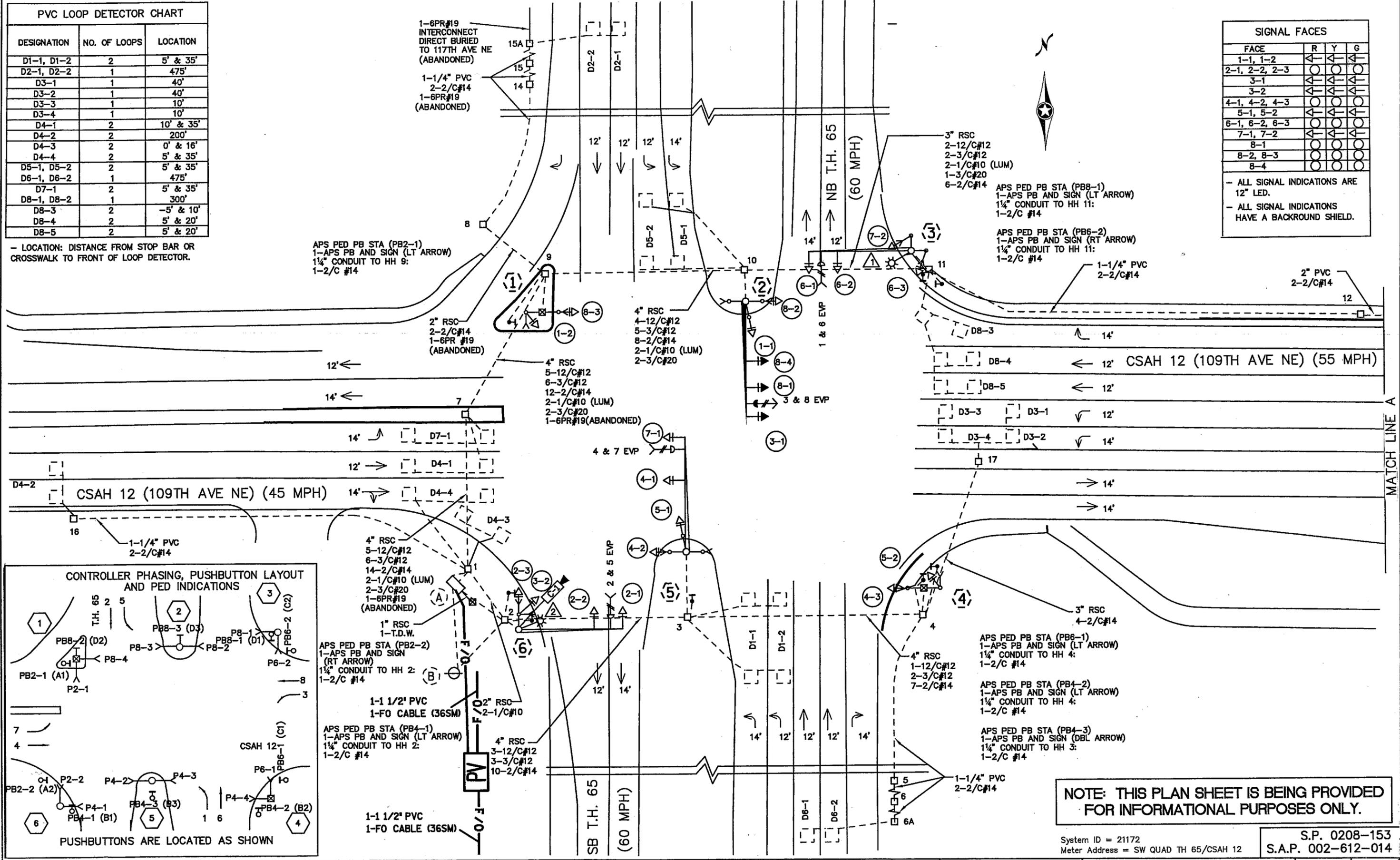
S.P. 0208-153
 S.A.P. 002-612-014

PVC LOOP DETECTOR CHART		
DESIGNATION	NO. OF LOOPS	LOCATION
D1-1, D1-2	2	5' & 35'
D2-1, D2-2	1	475'
D3-1	1	40'
D3-2	1	40'
D3-3	1	10'
D3-4	1	10'
D4-1	2	10' & 35'
D4-2	2	200'
D4-3	2	0' & 16'
D4-4	2	5' & 35'
D5-1, D5-2	2	5' & 35'
D6-1, D6-2	1	475'
D7-1	2	5' & 35'
D8-1, D8-2	1	300'
D8-3	2	-5' & 10'
D8-4	2	5' & 20'
D8-5	2	5' & 20'

- LOCATION: DISTANCE FROM STOP BAR OR CROSSWALK TO FRONT OF LOOP DETECTOR.

SIGNAL FACES			
FACE	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2, 2-3	○	○	○
3-1	←	←	←
3-2	←	←	←
4-1, 4-2, 4-3	○	○	○
5-1, 5-2	←	←	←
6-1, 6-2, 6-3	○	○	○
7-1, 7-2	←	←	←
8-1	○	○	○
8-2, 8-3	○	○	○
8-4	○	○	○

- ALL SIGNAL INDICATIONS ARE 12" LED.
- ALL SIGNAL INDICATIONS HAVE A BACKGROUND SHIELD.



NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

System ID = 21172
Meter Address = SW QUAD TH 65/CSAH 12

S.P. 0208-153
S.A.P. 002-612-014

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

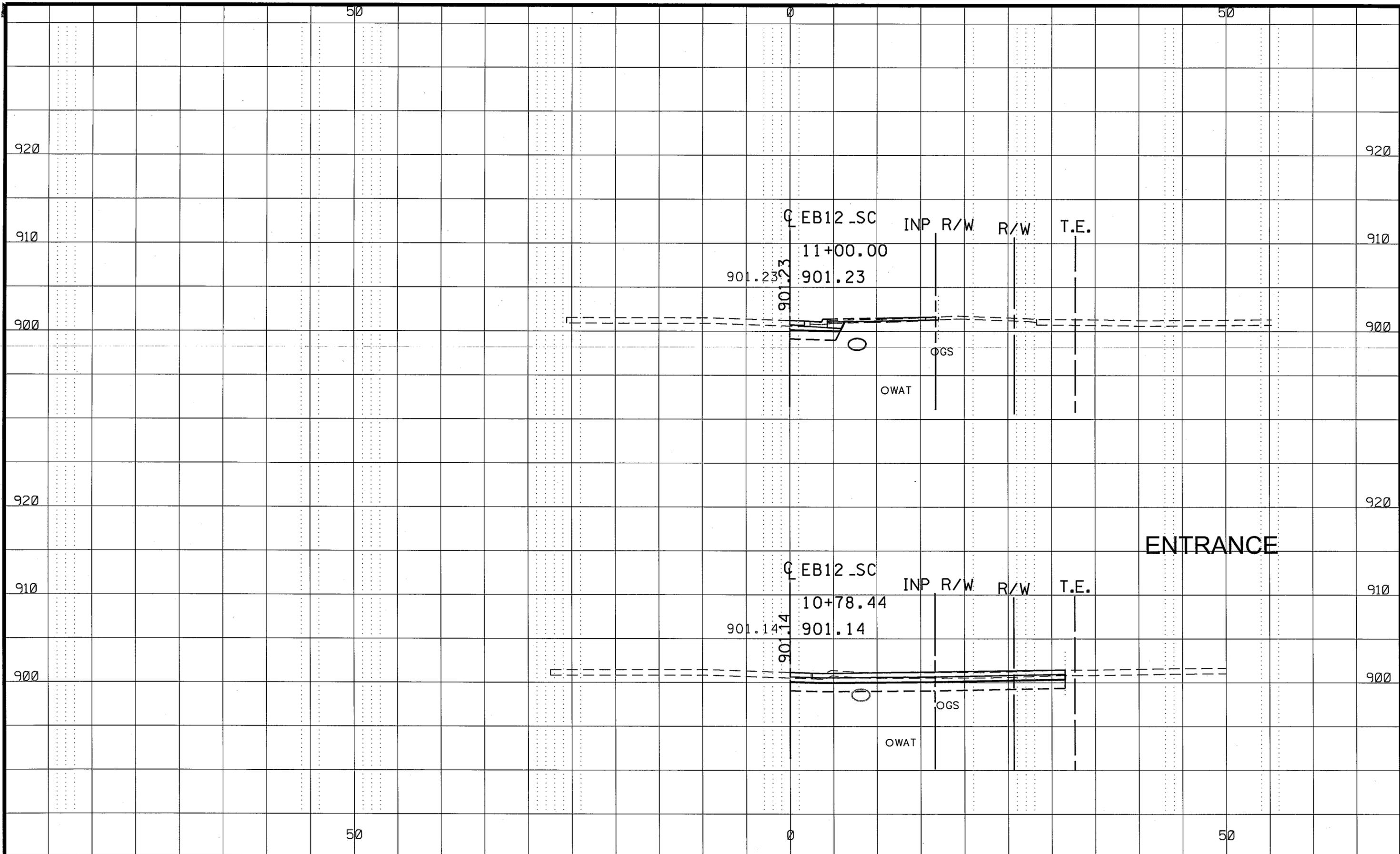
NO.	BY	DATE	REVISIONS

SEH
PHONE: (651) 490-2000
3835 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY
BLAINE, MN

INPLACE SIGNAL SYSTEM
"FOR INFORMATION ONLY"
TH 65 AT CSAH 12 (109TH AVE NE)

FILE NO. ANOKC 130242
SIGNAL SHEET 6 OF 7
49
56

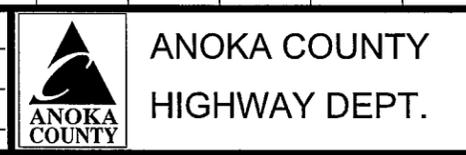


ENTRANCE

1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-14\Plan\0261214_XS.dgn					06/03/2015 12:46:11 PM

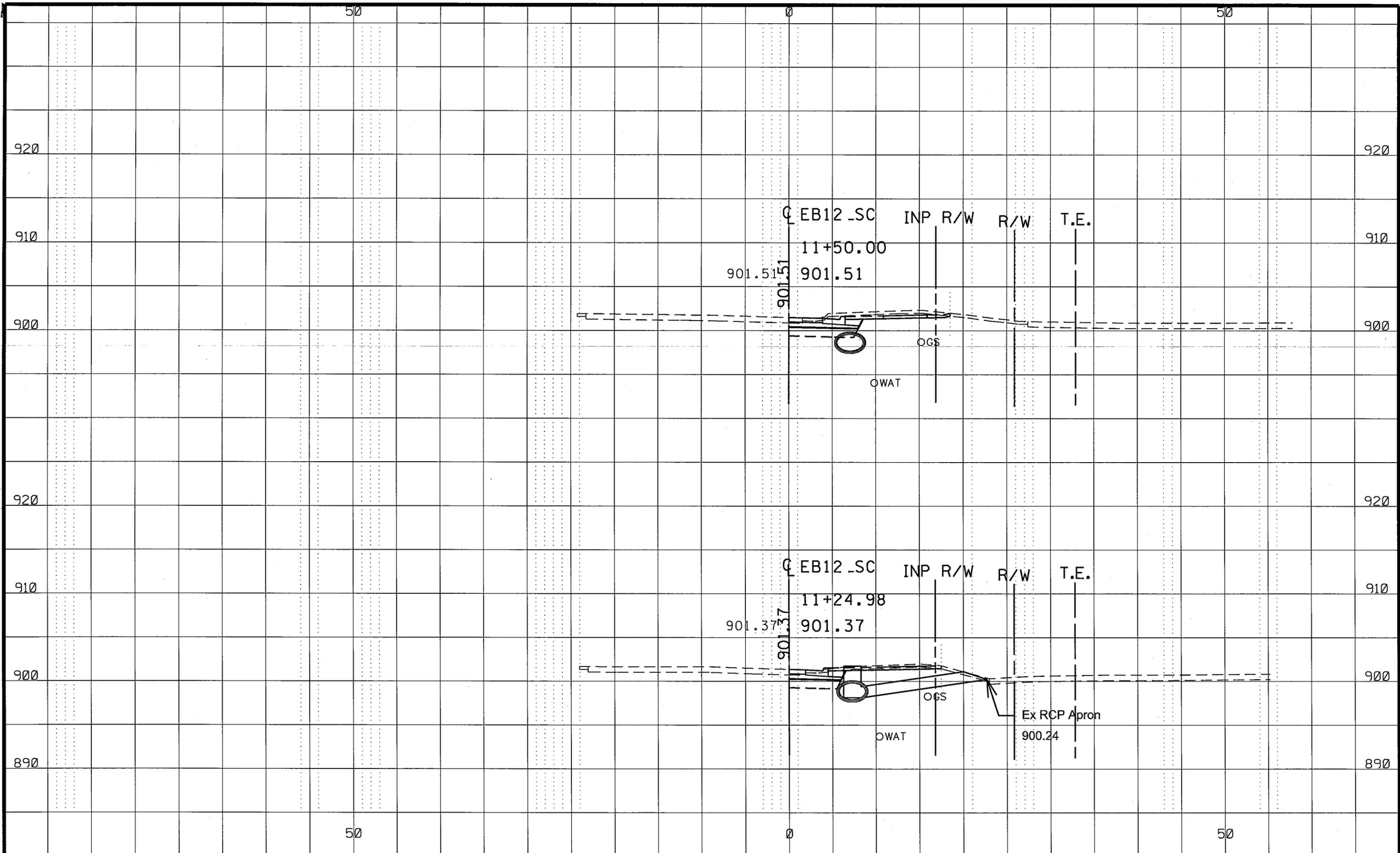
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: *6/16/15* LICENSE NO. 42757

DRAWN BY ZB DATE 06-03-15
 DESIGN BY ZB DATE 06-03-15
 CHECKED BY GP DATE 06-03-15



SP 0208-153 (TH 65)
 SAP 002-612-014

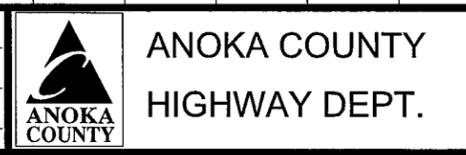
CROSS SECTIONS
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 Sheet 51 of 56 Sheets



1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
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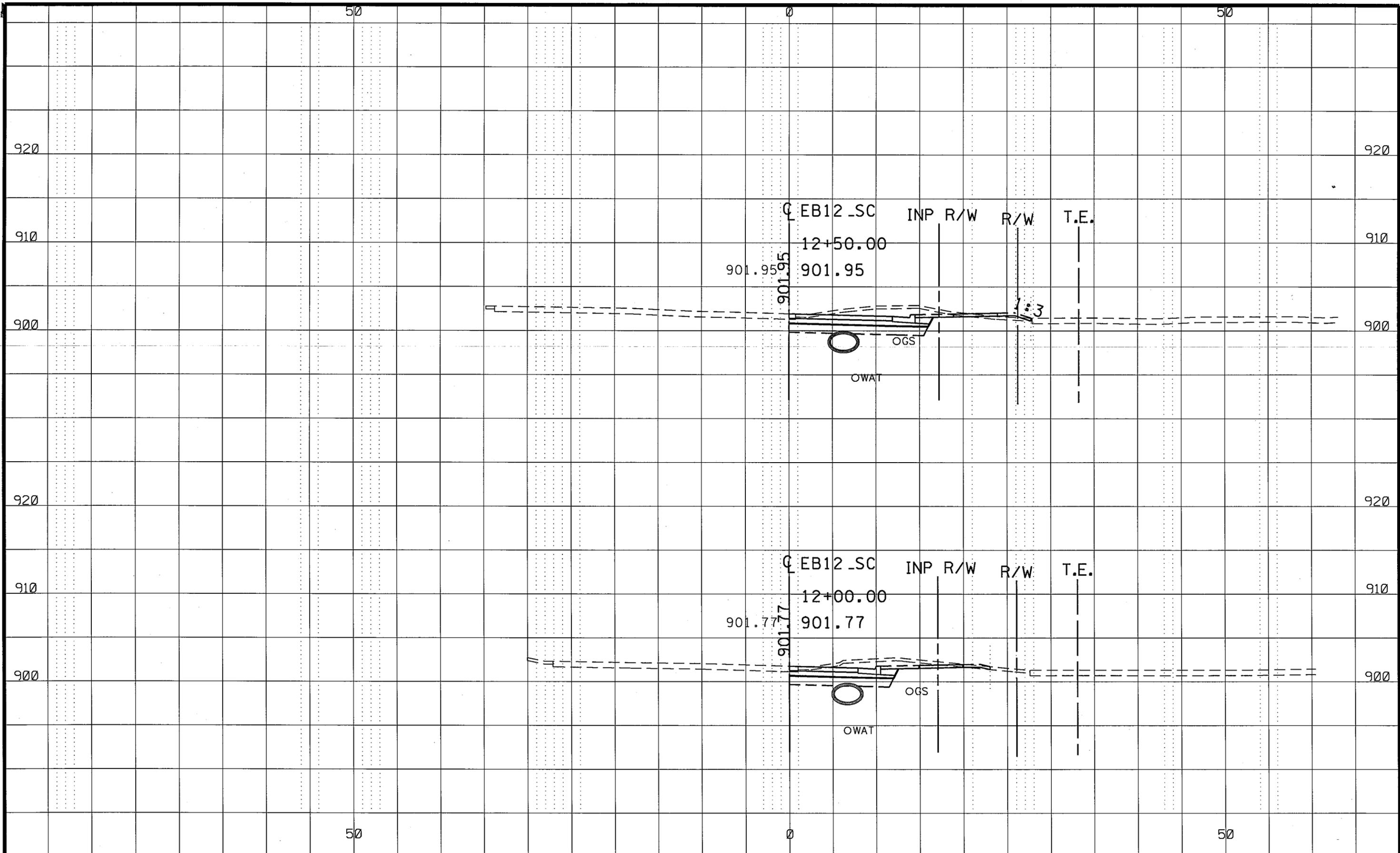
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 6/15/15 LICENSE NO. 42757

DRAWN BY: ZB DATE: 06-03-15
 DESIGN BY: ZB DATE: 06-03-15
 CHECKED BY: GP DATE: 06-03-15



SP 0208-153 (TH 65)
 SAP 002-612-014

CROSS SECTIONS
 STA 11+24.98 TO 11+50.00
 Sheet 52 of 56 Sheets



1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-14\Plan\0261214_XS.dgn					06/03/2015 12:46:12 PM

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: ANDREW WITTER

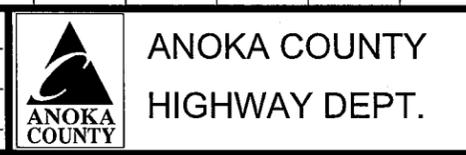
SIGNATURE: *Andrew Witter*

DATE: 6/15/15 LICENSE NO. 42757

DRAWN BY ZB DATE 06-03-15

DESIGN BY ZB DATE 06-03-15

CHECKED BY GP DATE 06-03-15

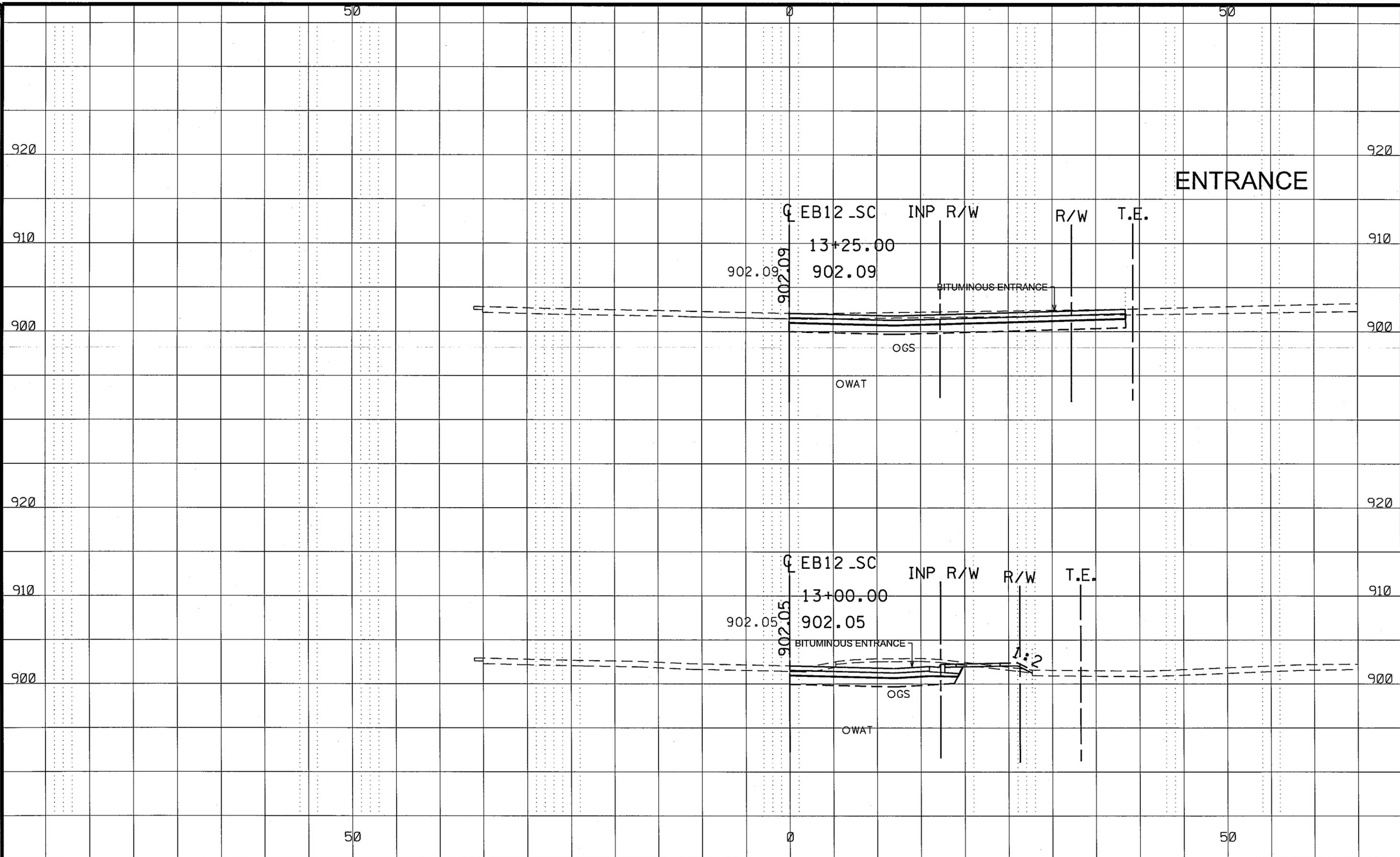


SP 0208-153 (TH 65)
SAP 002-612-014

CROSS SECTIONS

STA 12+00.00 TO 12+50.00

Sheet 53 of 56 Sheets



ENTRANCE

EB12_SC INP R/W R/W T.E.

13+25.00
902.09 902.09

BITUMINOUS ENTRANCE

OGS

OWAT

EB12_SC INP R/W R/W T.E.

13+00.00
902.05 902.05

BITUMINOUS ENTRANCE

OGS

OWAT

1:2

1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:02-612-14\Plan0261214_XS.dgn					06/03/2015 12:46:12 PM

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 PRINT NAME: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: *[Signature]* LICENSE NO. 42757

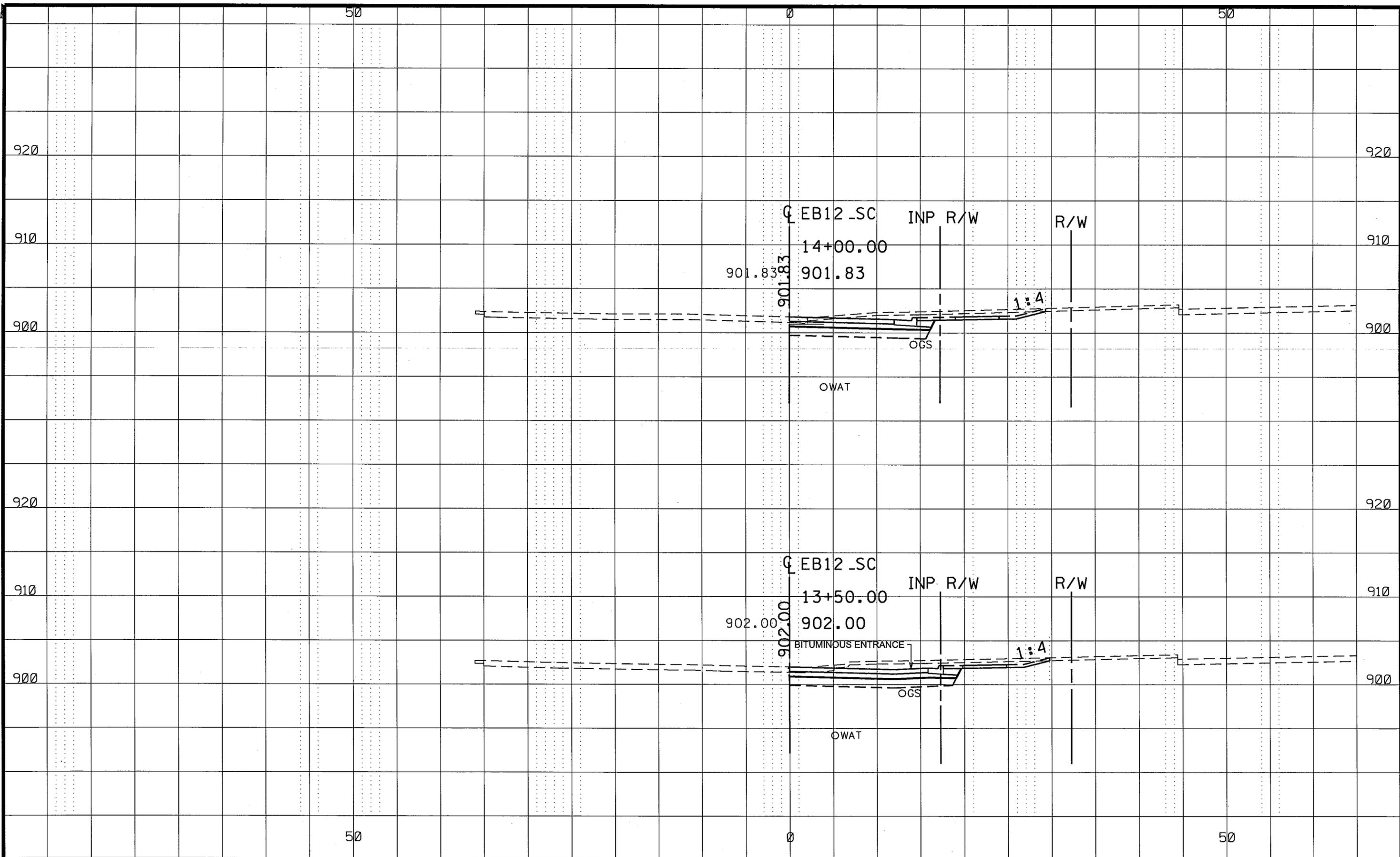
DRAWN BY ZB DATE 06-03-15
 DESIGN BY ZB DATE 06-03-15
 CHECKED BY GP DATE 06-03-15



ANOKA COUNTY
HIGHWAY DEPT.

SP 0208-153 (TH 65)
SAP 002-612-014

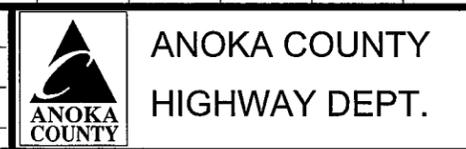
CROSS SECTIONS
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 Sheet 54 of 56 Sheets



1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
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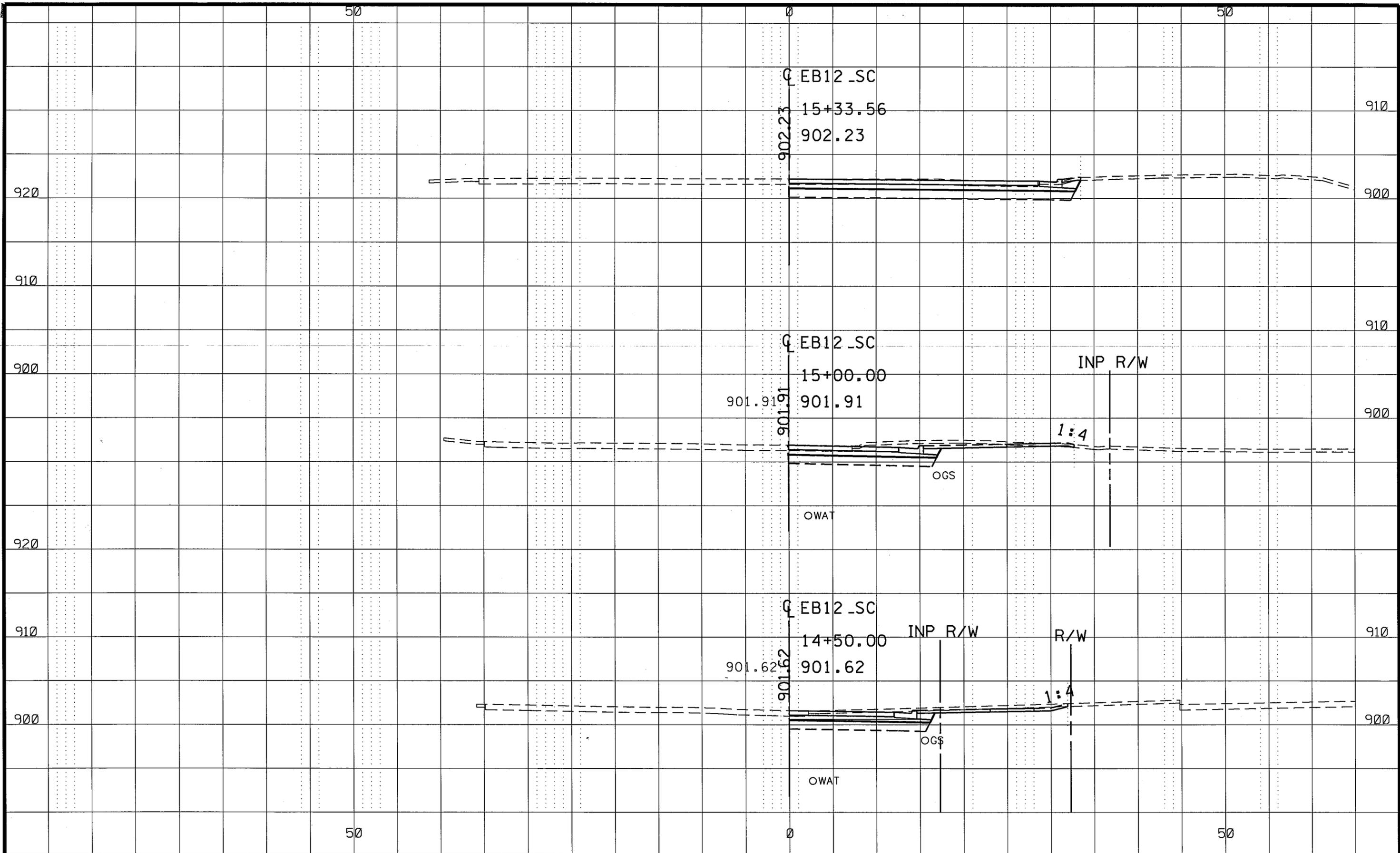
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: 6/16/15 LICENSE NO. 42757

DRAWN BY ZB DATE 06-03-15
 DESIGN BY ZB DATE 06-03-15
 CHECKED BY GP DATE 06-03-15



SP 0208-153 (TH 65)
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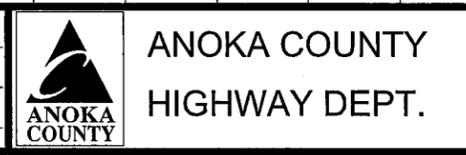
CROSS SECTIONS
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 Sheet 55 of 56 Sheets



1	5-29-15	ZB	GP	AW	PER MNDOT COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-612-14\Plan\0261214_XS.dgn 06/03/2015 12:46:13 PM					

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: ANDREW WITTER
 SIGNATURE: *Andrew Witter*
 DATE: *6/3/15* LICENSE NO. 42757

DRAWN BY: ZB DATE: 06-03-15
 DESIGN BY: ZB DATE: 06-03-15
 CHECKED BY: GP DATE: 06-03-15



SP 0208-153 (TH 65)
 SAP 002-612-014

CROSS SECTIONS
 STA 14+50.00 TO 15+00.00
 Sheet 56 of 56 Sheets