

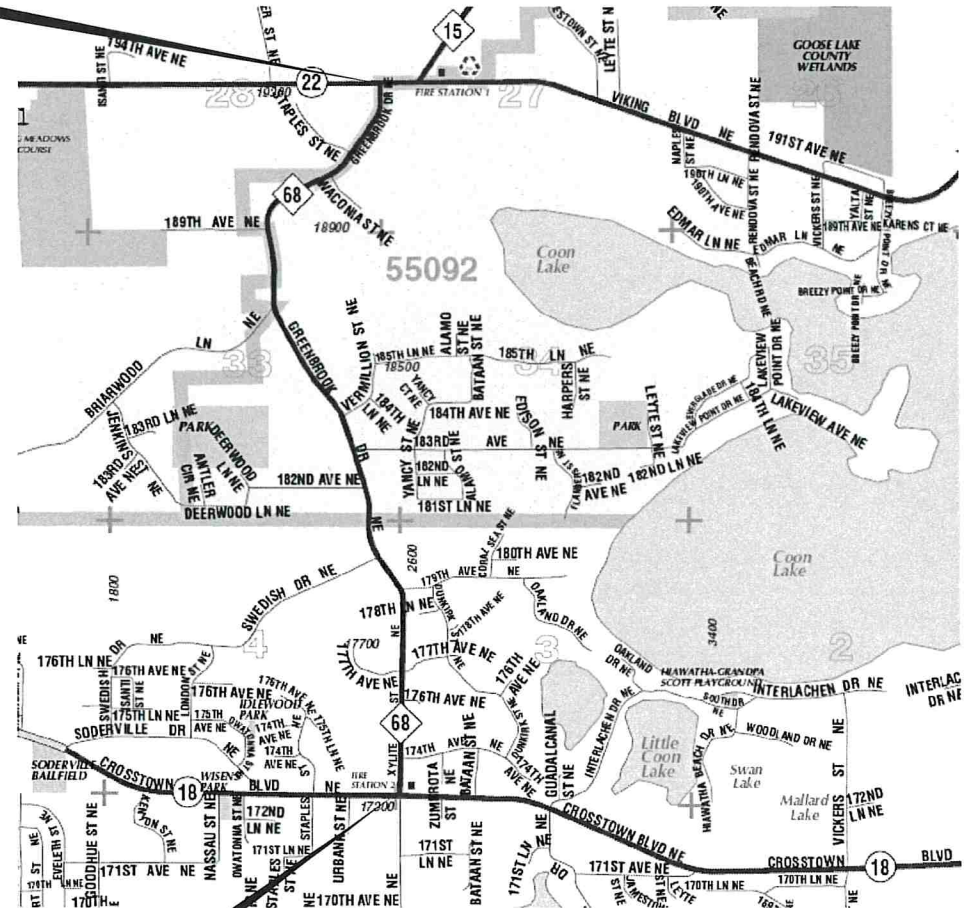
MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR BITUMINOUS RECLAMATION, BITUMINOUS SURFACING

LOCATED ON CR 68 BETWEEN CSAH 18 AND CSAH 22

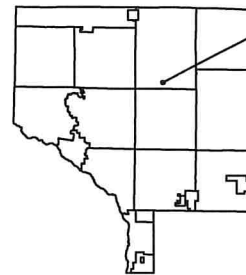
CR 68
 GROSS LENGTH 14,449.00 FEET 2.737 MILES
 EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES
 NET LENGTH 14,449.00 FEET 2.737 MILES

END CP 19-14-68
CR 68 STA: 154+11.00



BEGIN CP 19-14-68
CR 68 STA: 09+62.00

PROJECT LOCATION



CITIES OF HAM LAKE & EAST BETHEL
ANOKA COUNTY
MNDOT TRANSPORTATION DISTRICT - METRO
SECTIONS 3,4,28,33
TOWNSHIP 32, 33 NORTH
RANGE 23 WEST

GOVERNING SPECIFICATIONS
THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

THIS PLAN CONTAINS 27 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4-5	DETAILS
6	TABLATIONS
7-15	CONSTRUCTION PLAN
16-27	SIGNING AND STRIPING PLANS

DESIGN DESIGNATION (CR 68)

ESAL 20 <u>312,484</u>	FUNCTIONAL CLASSIFICATION <u>MAJOR COLLECTOR</u>
R VALUE <u>60</u>	NO. OF TRAFFIC LANES <u>2</u> NO. OF PARKING LANES <u>0</u>
ADT (2018) <u>2939</u>	DESIGN SPEED <u>55</u> MPH
PROJ. ADT (2038) <u>2939</u>	STOPPING SIGHT DISTANCE BASED ON:
PROJ. HCADT (2038) <u>173</u>	HEIGHT OF EYE <u>3.5'</u> HEIGHT OF OBJECT <u>2.0'</u>
SOIL FACTOR <u>N/A</u>	DESIGN SPEED NOT ACHIEVED AT:
<u>10</u> TON DESIGN	STA. <u> </u> TO STA. <u> </u> MPH

Approved 4/25/19
ANOKA COUNTY ENGINEER

NO	DATE	BY	CKD	APPR	REVISION	TIME

NAME: P:\19-01-00\CR_68_(CSAH18-CSAH22)\Base\Proposed\PLAN.dgn

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: JOSEPH J. MACPHERSON
 SIGNATURE:
 DATE: 4-25-19 LICENSE NO. 46732

DRAWN BY DLD DATE 03/12/2019
 DESIGN BY DLD DATE 03/12/2019
 CHECKED BY HG DATE 03/28/2019

**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 19-14-68

TITLE SHEET
Sheet 1 of 27 Sheets

STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
	2104.502	SALVAGE SIGN TYPE C	EACH	1
	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	26
	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	782
1	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	288
	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	995
1	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	26
16	2105.602	CONSTRUCT TURN LANES	EACH	1
2	2123.503	MOTOR GRADER	HOUR	8
	2130.523	WATER	MGAL	331
4	2211.509	AGGREGATE BASE CLASS 5	TON	437
	2215.504	FULL DEPTH RECLAMATION	SQ YD	47555
5	2215.507	HAUL FULL DEPTH RECLAMATION (LV)	CU YD	60
3	2221.509	SHOULDER BASE AGGREGATE CLASS 5	TON	1407
6	2232.504	MILL BITUMINOUS SURFACE (2.0")	SQ YD	194
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	2427
1,7	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3,B)	TON	33
8	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4,C)	TON	229
	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4,C)	TON	11025
1	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	26
13	2540.602	MAIL BOX SUPPORT	EACH	14
9	2563.601	TRAFFIC CONTROL	LUMP SUM	1
10	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20
	2564.502	INSTALL SIGN TYPE C	EACH	1
	2564.518	SIGN PANELS TYPE C	SQ FT	6.25
14	2574.507	COMMON TOPSOIL BORROW (LV)	CU YD	30
15	2575.504	EROSION CONTROL BLANKETS CATEGORY 0	SQ YD	150
11	2581.503	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	LIN FT	576
12	2582.503	4" SOLID LINE MULTI COMP	LIN FT	32545
12	2582.503	4" BROKEN LINE MULTI COMP	LIN FT	840
12	2582.503	4" DBLE SOLID LINE MULTI COMP	LIN FT	9170

BASIS OF PLANNED QUANTITIES

2357	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ YD
2211	AGGREGATE BASE CLASS 5	1.8 TONS / CU YD
2360	ALL BITUMINOUS PAVEMENT	115 LBS / SQ YD / IN
2581	REMOVABLE PREFORM PAVEMENT MARKING TAPE	2' AT 50' INTERVALS
2575	SEED MIXTURE 25-121	61 LBS./ ACRE
2574	FERTILIZER TYPE 1	350 LBS./ ACRE

CONSTRUCTION NOTES

1	CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
2	ITEM USED TO MOVE EXCESS RECLAIM MATERIAL AT THE RECLAIM AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT.
3	ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND GRAVEL STREET APPROACH.
4	ITEM FOR SUPERELEVATION / GRADE CORRECTION. ITEM ALSO INCLUDES 27 TONS FOR BITUMINOUS AND CONCRETE DRIVEWAY BASE.
5	MATERIAL SHALL BE HAULED AND USED FOR PROFILE CORRECTION AREAS. ITEM INCLUDES PLACEMENT, SHAPING, COMPACTION, AND MAINTENANCE OF MATERIAL. EXCESS MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
6	ITEM INCLUDES 2" DEEP MILL AT BEGINNING AND END OF PROJECT, ALL PAVED STREET APPROACHES, AND DRIVEWAYS. SEE DETAILS FOR DIMENSIONS
7	ITEM FOR BITUMINOUS DRIVEWAYS. DRIVEWAYS SHALL BE PAVED AFTER MAINLINE PAVING AND BEFORE FINAL STRIPING.
8	ITEM FOR BITUMINOUS STREET APPROACHES. STREET APPROACHES SHALL BE PAVED AFTER MAINLINE PAVING AND BEFORE FINAL STRIPING.
9	ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO, AND BE INSTALLED IN ACCORDANCE WITH, THE MOST CURRENT VERSION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE, AND STOP HERE ON RED SIGNS SHALL BE INPLACE WHENEVER PAVEMENT MARKINGS ARE NOT PRESENT.
10	2 MESSAGE BOARDS, ONE ON EACH END OF PROJECT, WILL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
11	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE INPLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL PAINT STRIPING.
12	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.
13	MAILBOXES SHALL BE INSTALLED AT THE EXISTING MAILBOX LOCATION OR AS DIRECTED BY THE LOCAL POSTAL AUTHORITY. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE LOCAL POSTAL AUTHORITY. MAILBOX REMOVAL AND ALL MATERIALS NECESSARY FOR INSTALLATION ARE INCIDENTAL TO THIS ITEM.
14	ITEM USED AT ENGINEER'S DISCRETION FOR RESTORATION OF DISTURBED AREAS ALONG DRIVEWAYS, STREET APPROACHES AND BEHIND CURB
15	TYPE 1 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM.
16	THIS ITEM INCLUDES: COMMON EXCAVATION, SELECT GRANULAR BORROW, TOPSOIL, AND AGG BASE CL-5. (SEE PG 14 FOR QUANTITIES) SHAPING OF SUB-GRADE AND AGGREGATE BASE ARE INCIDENTAL TO CONSTRUCT TURN LANE ITEM

MNDOT STANDARD PLATES

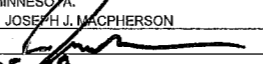
PLATE NUMBER	DESCRIPTION
8000J	CHANNELIZERS (3 SHEETS)
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

NO	DATE	BY	CHKD	APPR	REVISION
	04/19/2019				

NAME: P:\19-01-00\CR_68_(CSAH18-CSAH22)\Base\Proposed\PLAN.dgn

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SIGNATURE: 

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CHECKED BY: HG DATE: 04/19/2019



**ANOKA COUNTY
HIGHWAY DEPT.**

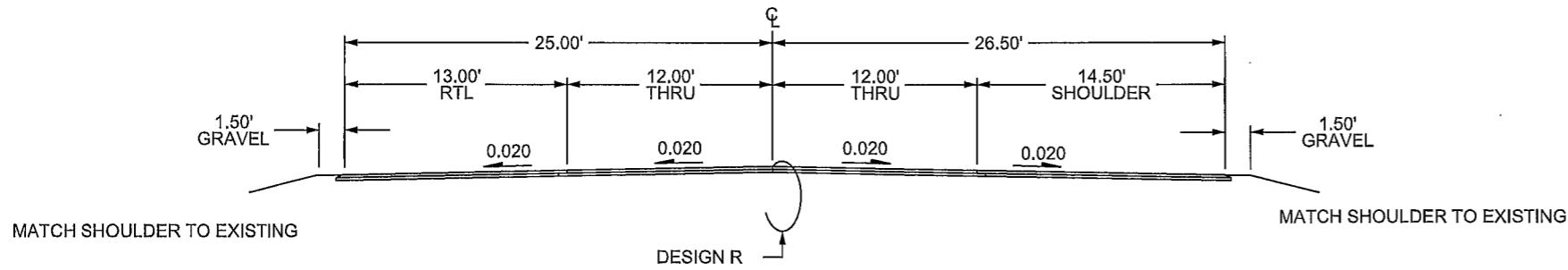
COUNTY PROJECT 19-14-68

STATEMENT OF ESTIMATED QUANTITIES

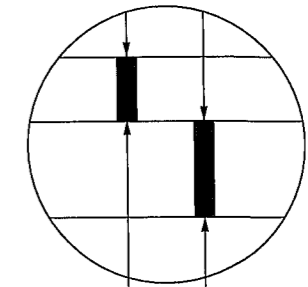
Sheet 2 of 27 Sheets

CR 68 - XYLITE STREET (PROPOSED) SECTION

9+62 - 14+40



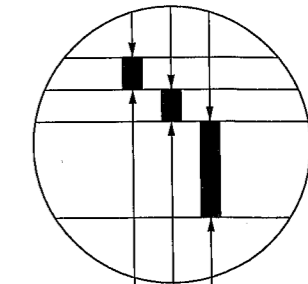
EXISTING SECTION



7" +/- EXISTING BITUMINOUS

SAND

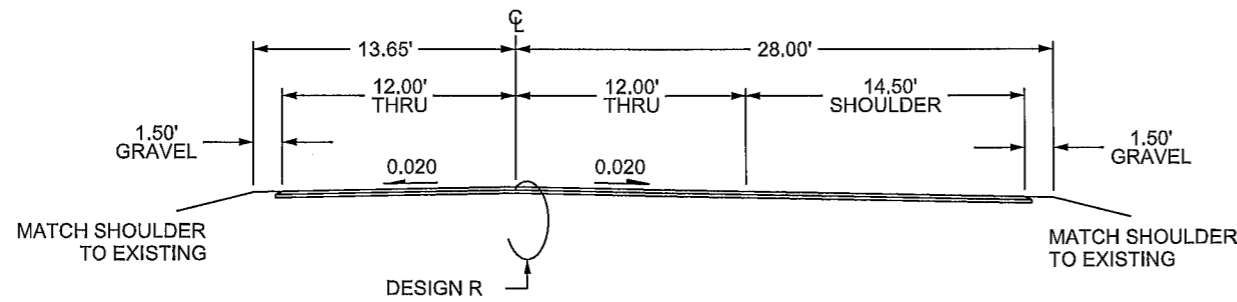
DESIGN R RECLAIM SECTION



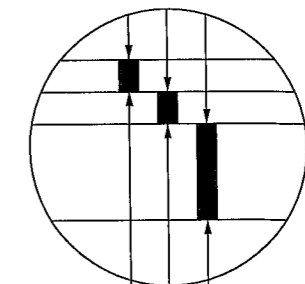
2.0" BITUMINOUS WEAR(SPWEB440C)
2.0" BITUMINOUS WEAR(SPWEB440C)
RECLAIMED BITUMINOUS

CR 68 - XYLITE STREET (PROPOSED) SECTION

14+40 - 16+65



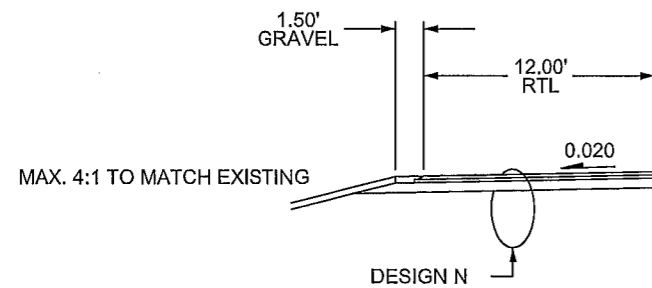
DESIGN N RIGHT TURN & BYPASS LANE



2.0" BITUMINOUS WEAR(SPWEB440C)
2.0" BITUMINOUS WEAR(SPWEB440C)
6" AGGREGATE BASE, CLASS 5

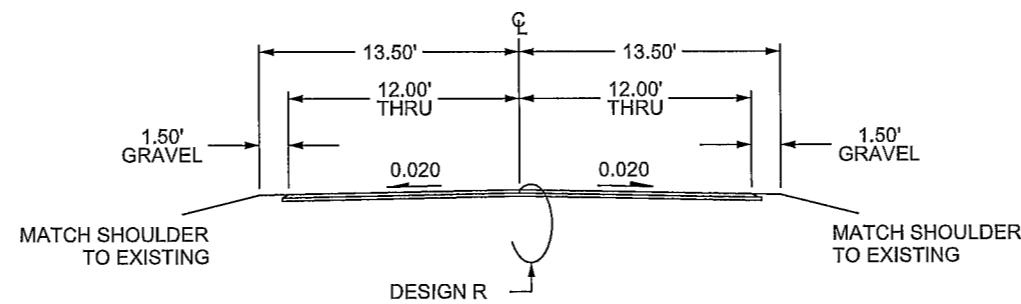
CR 68 - STAPLES STREET (PROPOSED) RTL SECTION

140+25 - 143+70



CR 68 - XYLITE ST. / GREENBROOK DR. (PROPOSED) SECTION

16+65 - 154+11



NO	DATE	BY	CKD	APPR	REVISION	03/28/2019	7:13:59 AM
NAME: P:\19-01-00\CR_68_(CSAH18-CSAH22)\Base\Proposed\PLAN.dgn							

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PRINT NAME: JOSEPH A. MACPHERSON
SIGNATURE: *[Signature]*
DATE: 4-28-19 LICENSE NO. 46732

DRAWN BY: DLD DATE: 03/12/2019
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CHECKED BY: HG DATE: 03/28/2019



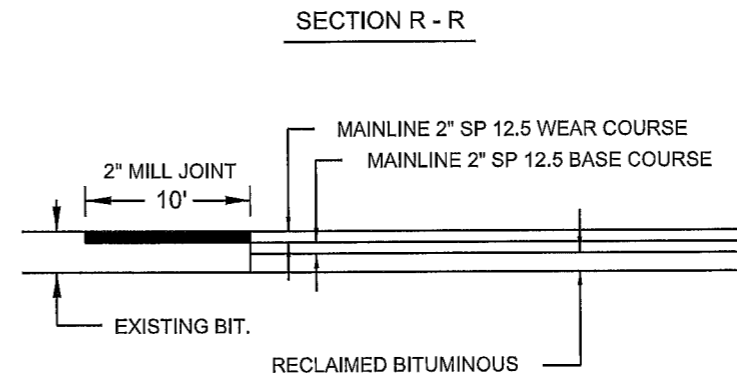
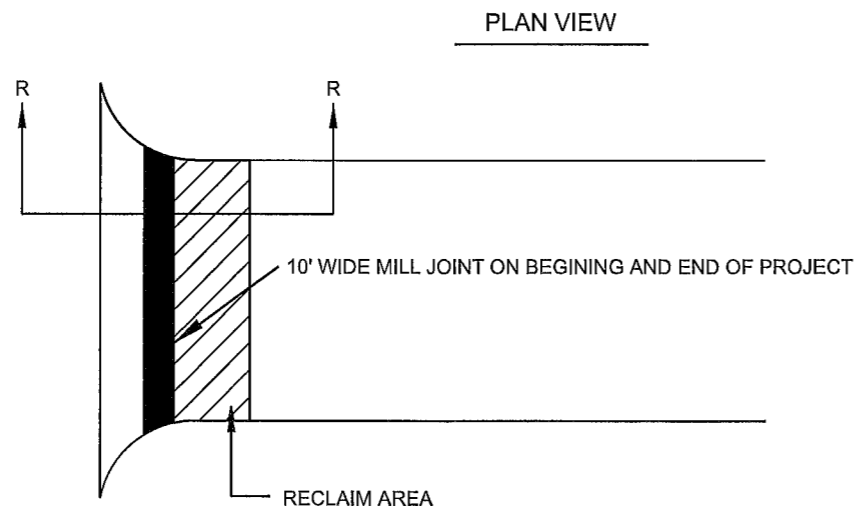
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 19-14-68

TYPICAL SECTIONS
Sheet 3 of 27 Sheets

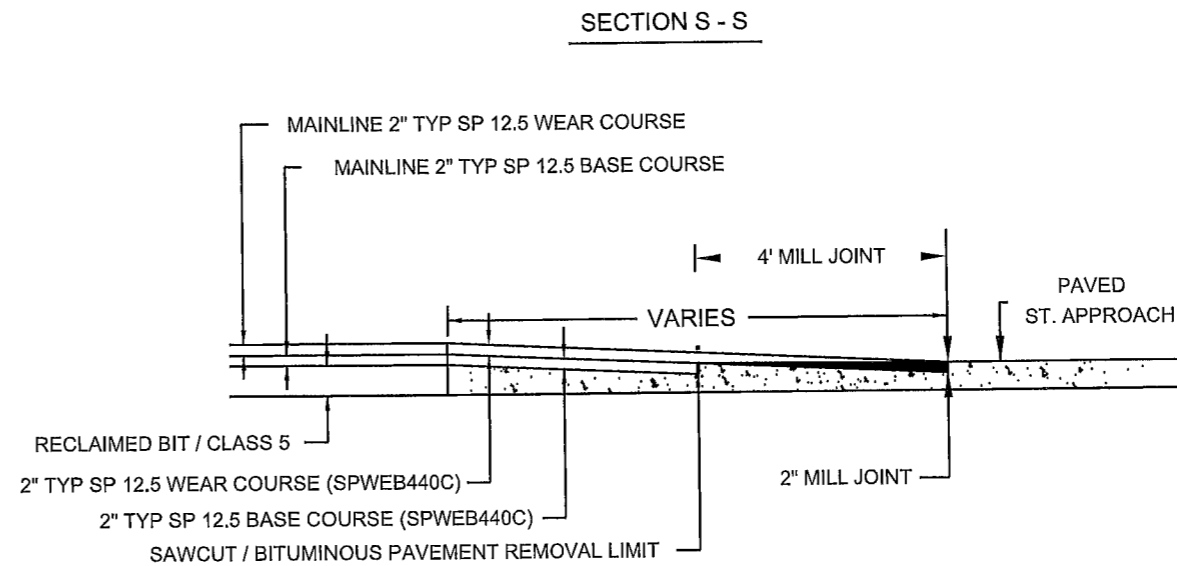
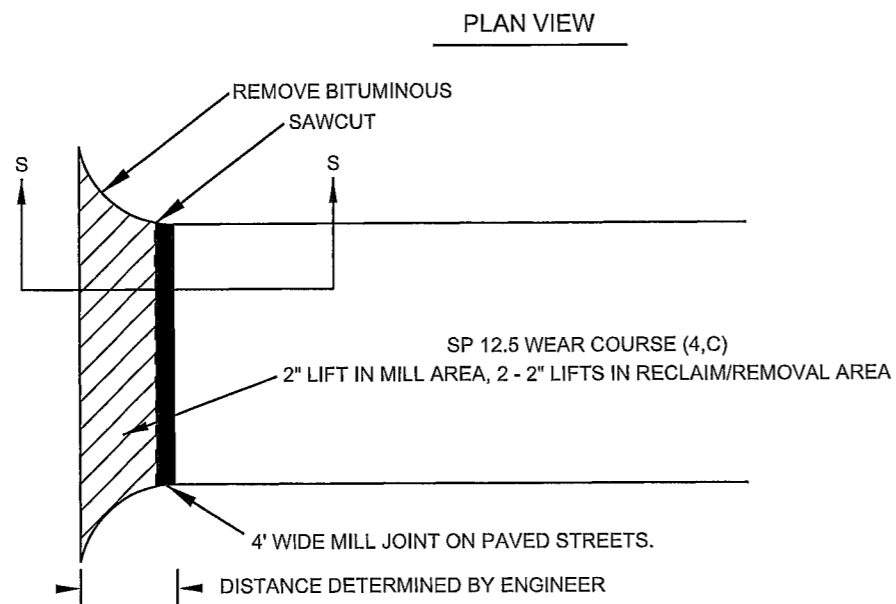
APAnders

MAINLINE JOINT DETAIL (RECLAIM)



STREET APPROACH DETAIL (RECLAIM)

BITUMINOUS STREET



NO	DATE	BY	CKD	APPR	REVISION	TIME

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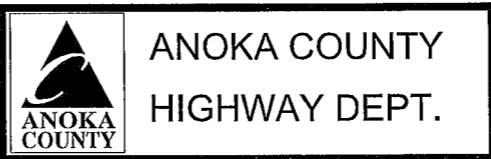
SIGNATURE: *[Signature]*

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CHECKED BY: HG DATE: 03/28/2019

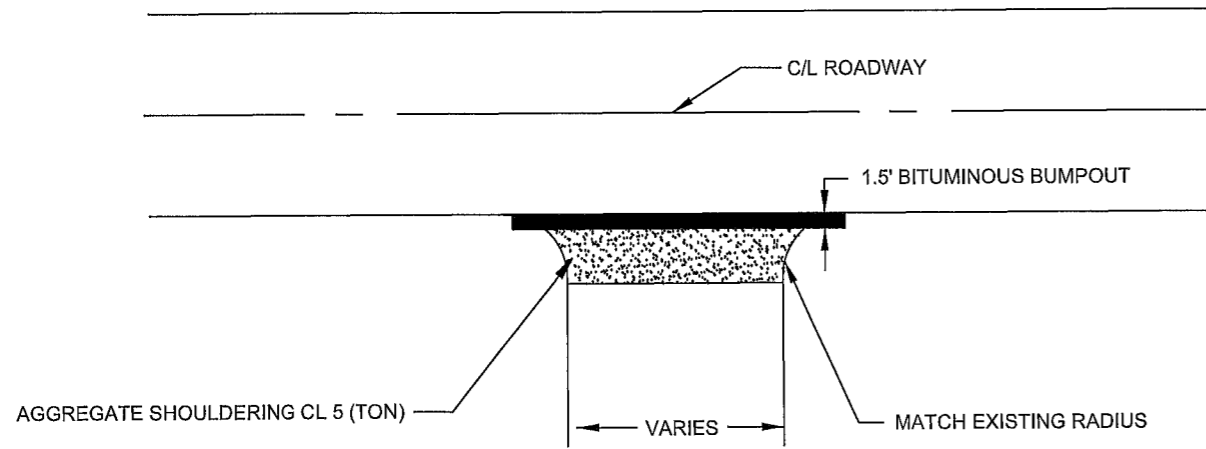


COUNTY PROJECT 19-14-68

DETAILS

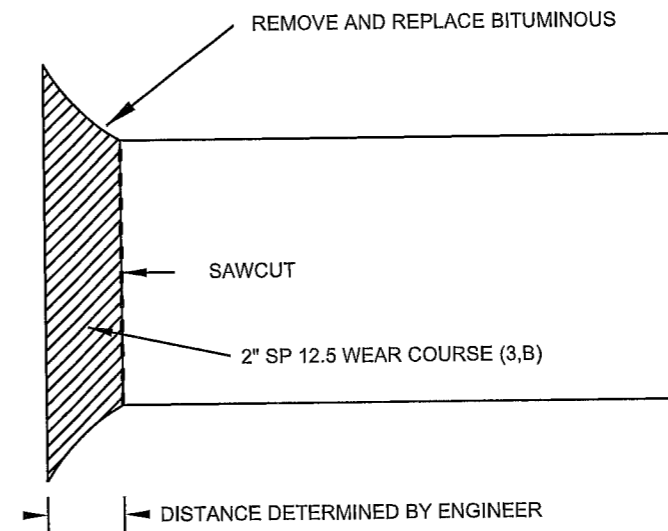
Sheet 4 of 27 Sheets

DRIVEWAY DETAIL GRAVEL / FIELD ENTRANCE

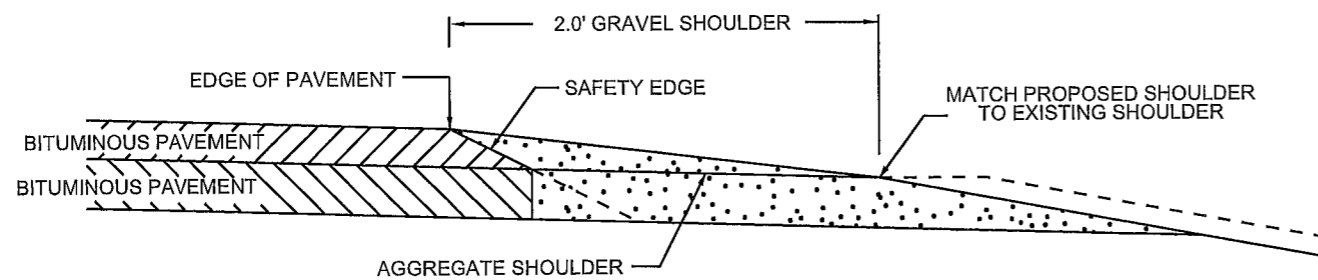


DRIVEWAY DETAIL BITUMINOUS DRIVEWAY

PLAN VIEW



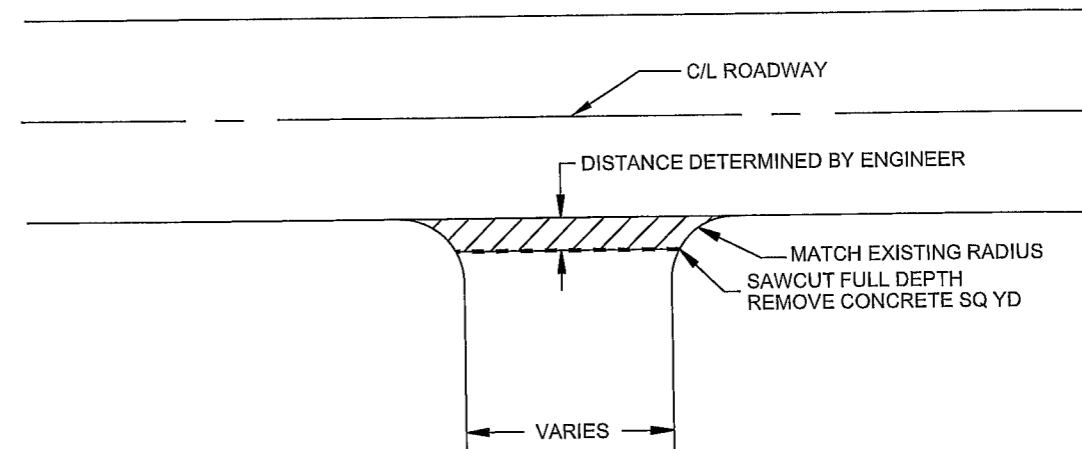
SHOULDER DETAIL BITUMINOUS SAFETY EDGE GRAVEL SHOULDER



SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5". SEE SPECIAL PROVISIONS.

DRIVEWAY DETAIL CONCRETE DRIVEWAY



NO	DATE	BY	CKD	APPR	REVISION	03/28/2019	7:13:59 AM
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**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 19-14-68

DETAILS

Sheet 5 of 27 Sheets

SUPERELEVATION CORRECTION TAB			
STATION	POINT	LEFT GRADE	RIGHT GRADE
42+00		-2.0%	-2.0%
42+50		-2.0%	-2.0%
43+00	BEGIN TRANSITION	-2.0%	-2.0%
43+50		-2.8%	-0.4%
44+00		-3.6%	1.2%
44+50		-4.4%	2.8%
45+00		-5.2%	4.4%
45+50	BEGIN FULL SUPER	-6.0%	6.0%
46+00		-6.0%	6.0%
46+50		-6.0%	6.0%
47+00	END FULL SUPER	-6.0%	6.0%
47+50		-5.2%	4.4%
48+00		-4.4%	2.8%
48+50		-3.6%	1.2%
49+00		-2.8%	-0.4%
49+50	END TRANSITION	-2.0%	-2.0%
50+00		-2.0%	-2.0%
50+50		-2.0%	-2.0%
51+00		-2.0%	-2.0%
51+50	BEGIN TRANSITION	-2.0%	-2.7%
52+00		-1.1%	-3.3%
52+50		-0.2%	-4.0%
53+00		0.7%	-4.7%
53+50		1.6%	-5.3%
54+00	BEGIN FULL SUPER RT	2.4%	-6.0%
54+50		3.3%	-6.0%
55+00		4.2%	-6.0%
55+50		5.1%	-6.0%
56+00	BEGIN FULL SUPER LT	6.0%	-6.0%
56+50		6.0%	-6.0%
57+00		6.0%	-6.0%
57+50		6.0%	-6.0%
58+00		6.0%	-6.0%
58+50		6.0%	-6.0%
59+00		6.0%	-6.0%
59+50		6.0%	-6.0%
60+00	END FULL SUPER RT - LT	6.0%	-6.0%
60+50		-2.0%	-4.4%
61+00		-2.0%	-2.9%
61+50		-2.0%	-1.3%
62+00		-2.0%	0.3%
62+50		-2.0%	1.9%
63+00		-2.0%	3.4%
63+50	BEGIN FULL SUPER	-5.0%	5.0%
64+00		-5.0%	5.0%
64+50		-5.0%	5.0%
65+00	END FULL SUPER	-5.0%	5.0%
65+50		-4.5%	3.8%
66+00		-4.0%	2.7%
66+50		-3.5%	1.5%
67+00		-3.0%	0.3%
67+50		-2.5%	-0.8%
68+00	END TRANSITION	-2.0%	-2.0%
68+50		-2.0%	-2.0%
69+00		-2.0%	-2.0%
69+50		-2.0%	-2.0%
70+00		-2.0%	-2.0%

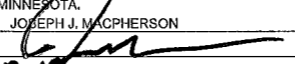
SUPERELEVATION CORRECTION TAB			
STATION	POINT	LEFT GRADE	RIGHT GRADE
76+00		-2.0%	-2.0%
76+50		-2.0%	-2.0%
77+00		-2.0%	-2.0%
77+50		-2.0%	-2.0%
78+00	BEGIN TRANSITION	-2.0%	-2.0%
78+50		-2.5%	-0.5%
79+00		-3.0%	1.0%
79+50		-3.5%	2.5%
80+00	BEGIN FULL SUPER	-4.0%	4.0%
80+50		-4.0%	4.0%
81+00		-4.0%	4.0%
81+50		-4.0%	4.0%
82+00	END FULL SUPER	-4.0%	4.0%
82+50		-3.5%	2.5%
83+00		-3.0%	1.0%
83+50		-2.5%	-0.5%
84+00	END TRANSITION	-2.0%	-2.0%
84+50		-2.0%	-2.0%
85+00		-2.0%	-2.0%
85+50		-2.0%	-2.0%
86+00		-2.0%	-2.0%
86+50		-2.0%	-2.0%
87+00		-2.0%	-2.0%
87+50	BEGIN TRANSITION	-2.0%	-2.0%
88+00		-0.8%	-2.4%
88+50		0.4%	-2.8%
89+00		1.6%	-3.2%
89+50		2.8%	-3.6%
90+00	BEGIN FULL SUPER	4.0%	-4.0%
90+50		4.0%	-4.0%
91+00	END FULL SUPER	4.0%	-4.0%
91+50		3.0%	-3.7%
92+00		2.0%	-3.3%
92+50		1.0%	-3.0%
93+00		0.0%	-2.7%
93+50		-1.0%	-2.3%
94+00	END TRANSITION	-2.0%	-2.0%
94+50		-2.0%	-2.0%
95+00		-2.0%	-2.0%
95+50		-2.0%	-2.0%
96+00		-2.0%	-2.0%

SUPERELEVATION CORRECTION TAB			
STATION	POINT	LEFT GRADE	RIGHT GRADE
100+00	BEGIN TRANS RT	-2.0%	-2.0%
100+50		-2.0%	-3.0%
101+00		-2.0%	-4.0%
101+50	BEGIN TRANS LT	-2.0%	-5.0%
102+00	BEGIN FULL SUPER RT	-0.3%	-6.0%
102+50		1.5%	-6.0%
103+00		3.3%	-6.0%
103+50	BEGIN FULL SUPER LT	5.0%	-6.0%
104+00		5.0%	-6.0%
104+50		5.0%	-6.0%
105+00	END FULL SUPER RT	5.0%	-6.0%
105+50		3.3%	-5.0%
106+00		1.5%	-4.0%
106+50		-0.3%	-3.0%
107+00	END TRANS RT / LT	-2.0%	-2.0%
107+50		-2.0%	-2.0%
108+00		-2.0%	-2.0%
108+50		-2.0%	-2.0%
109+00	BEGIN TRANS RT / LT	-2.0%	-2.0%
109+50		-3.3%	0.0%
110+00		-4.7%	2.0%
110+50	BEGIN FULL SUPER RT	-6.0%	4.0%
111+00		-6.0%	4.0%
111+50		-6.0%	4.0%
112+00	END FULL SUPER RT	-6.0%	4.0%
112+50		-5.0%	2.5%
113+00		-4.0%	1.0%
113+50		-3.0%	-0.5%
114+00	END TRANS RT / LT	-2.0%	-2.0%
114+50		-2.0%	-2.0%
115+00		-2.0%	-2.0%
115+50		-2.0%	-2.0%
116+00	BEGIN TRANS RT	-2.0%	-2.0%
116+50		-2.0%	-2.0%
117+00		-0.4%	-2.8%
117+50		1.2%	-3.6%
118+00		2.8%	-4.4%
118+50		4.4%	-5.2%
119+00	BEGIN FULL SUPER RT/LT	6.0%	-6.0%
119+50		6.0%	-6.0%
120+00		6.0%	-6.0%
120+50		6.0%	-6.0%
121+00		6.0%	-6.0%
121+50		6.0%	-6.0%
122+00		6.0%	-6.0%
122+50		6.0%	-6.0%
123+00		6.0%	-6.0%
123+50		6.0%	-6.0%
124+00	END FULL SUPER LT	6.0%	-6.0%
124+50		4.7%	-6.0%
125+00		3.3%	-6.0%
125+50	END FULL SUPER RT	2.0%	-6.0%
126+00		0.7%	-5.0%
126+50		-0.7%	-4.0%
127+00	END TRANS LT	-2.0%	-3.0%
127+50	END TRANS RT	-2.0%	-2.0%
128+00		-2.0%	-2.0%


SUPERELEVATION CORRECTION TAB			
STATION	POINT	LEFT GRADE	RIGHT GRADE
132+00		-2.0%	-2.0%
132+50	BEGIN TRANS RT	-2.0%	-2.0%
133+00		-2.0%	-0.3%
133+50		-2.0%	1.5%
134+00		-2.0%	3.3%
134+50	BEGIN FULL SUPER RT/LT	-6.0%	5.0%
135+00		-6.0%	5.0%
135+50		-6.0%	5.0%
136+00	END FULL SUPER RT/LT	-6.0%	5.0%
136+50		-5.0%	3.6%
137+00		-4.0%	2.2%
137+50		-3.0%	0.8%
138+00	END TRANS LT	-2.0%	-0.6%
138+50	END TRANS RT	-2.0%	-2.0%
139+00		-2.0%	-2.0%
139+50		-2.0%	-2.0%
140+00		-2.0%	-2.0%
140+50		-2.0%	-2.0%
141+00		-2.0%	-2.0%
141+50		-2.0%	-2.0%
142+00		-2.0%	-2.0%
142+50		-2.0%	-2.0%
143+00		-2.0%	-2.0%
143+50		-2.0%	-2.0%
144+00		-2.0%	-2.0%
144+50		-2.0%	-2.0%
145+00		-2.0%	-2.0%
145+50		-2.0%	-2.0%
146+00		-2.0%	-2.0%
146+50		-2.0%	-2.0%
147+00	BEGIN TRANS RT/LT	-2.0%	-2.0%
147+50		-3.5%	-0.3%
148+00	BEGIN FULL SUPER LT	-5.0%	1.5%
148+50		-5.0%	3.3%
149+00	BEGIN FULL SUPER RT	-5.0%	5.0%
149+50	END FULL SUPER LT	-5.0%	5.0%
150+00	END FULL SUPER RT	-4.3%	5.0%
150+50		-3.5%	2.7%
151+00		-2.8%	0.3%
151+50	END TRANS RT/LT	-2.0%	-2.0%
152+00		-2.0%	-2.0%
152+50		-2.0%	-2.0%

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: JOSEPH J. MACPHERSON
 SIGNATURE: 
 DATE: 7-25-19 LICENSE NO. 46732

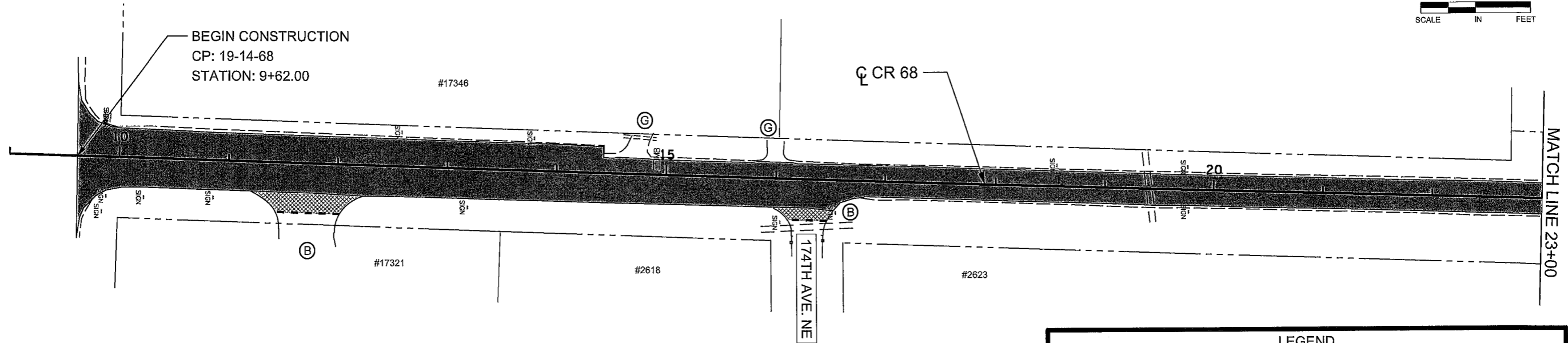
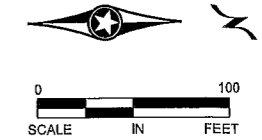
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 DESIGN BY: DLD DATE: 03/12/2019
 CHECKED BY: HG DATE: 03/28/2019



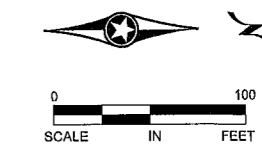
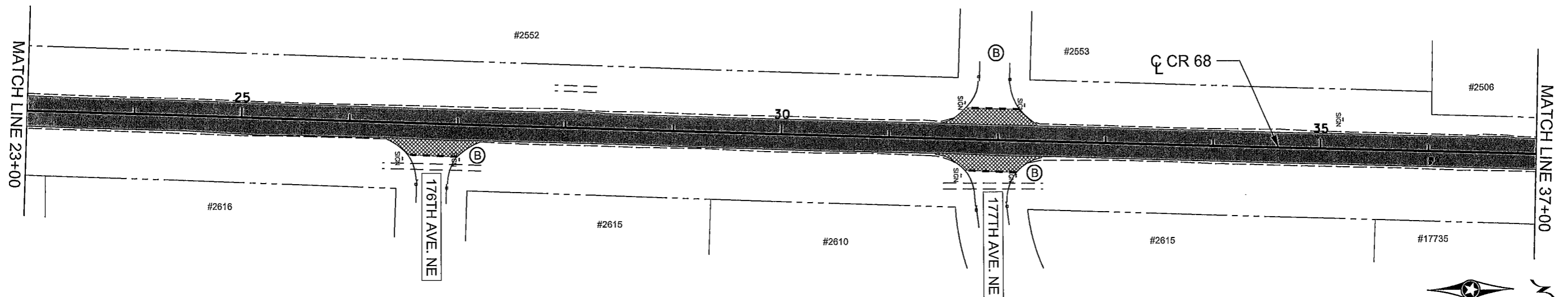
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 19-14-68

TABULATIONS
 Sheet 6 of 27 Sheets



LEGEND			
(B)	BITUMINOUS		MAINLINE (RECLAIM)
(C)	CONCRETE		REMOVE AND REPLACE PAVEMENT
(G)	GRAVEL		CONSTRUCT TURN LANE
◆	CORE LOCATION	- - - -	SAWCUT
==	CROSS CULVERT	— — — —	R/W



NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME

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PRINT NAME: JOSEPH J. MARCHERSON

SIGNATURE:

DATE: 4-25-19 LICENSE NO. 48732

DRAWN BY: DLD DATE: 03/12/2019

DESIGN BY: DLD DATE: 03/12/2019

CHECKED BY: HG DATE: 03/28/2019

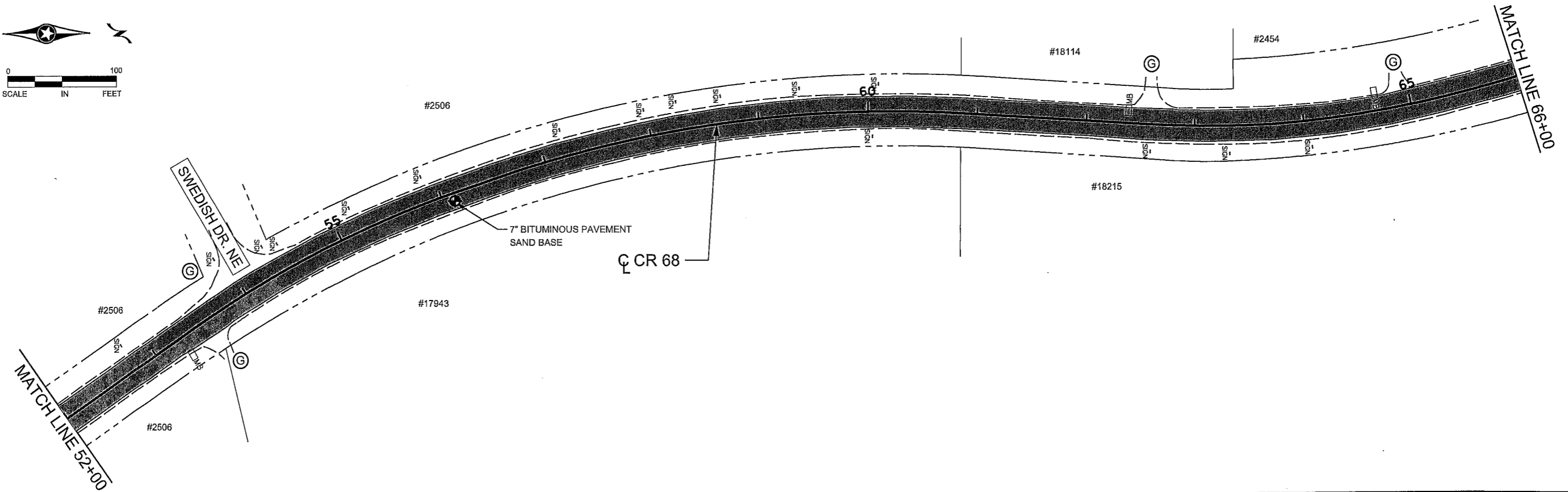
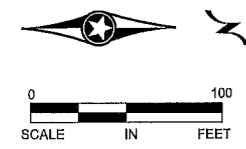
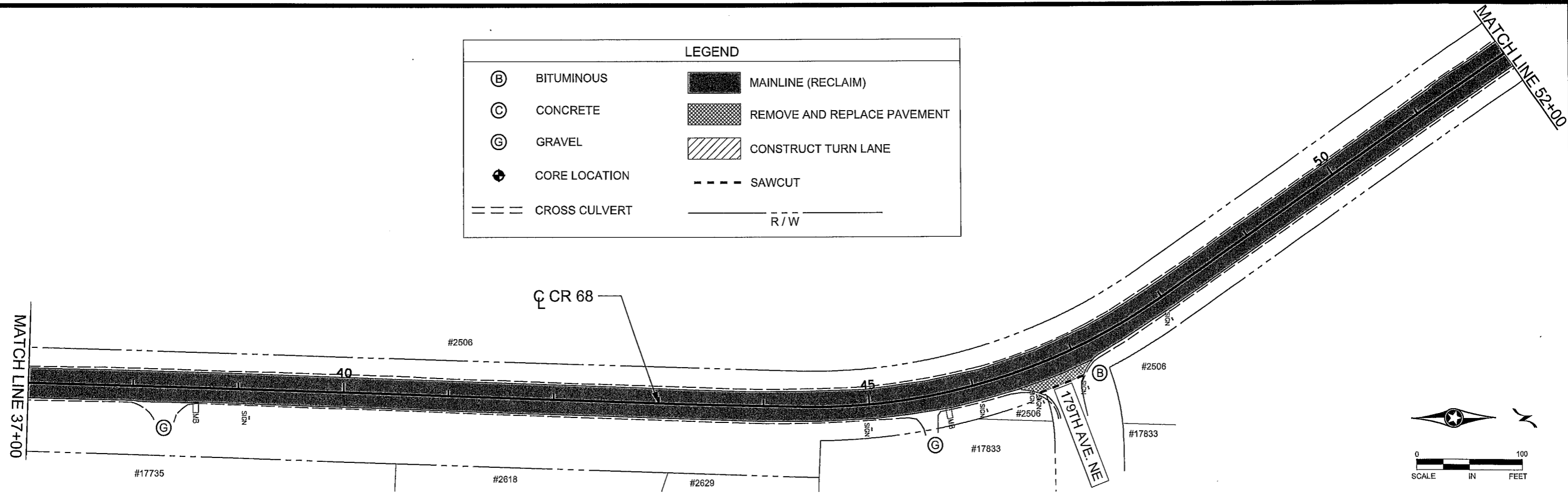
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 19-14-68

CONSTRUCTION PLAN
STA 09+62 TO 37+00
Sheet 7 of 27 Sheets

APAnders

LEGEND			
(B)	BITUMINOUS	[Solid Black Box]	MAINLINE (RECLAIM)
(C)	CONCRETE	[Cross-hatched Box]	REMOVE AND REPLACE PAVEMENT
(G)	GRAVEL	[Diagonal Hatched Box]	CONSTRUCT TURN LANE
⊕	CORE LOCATION	- - - -	SAWCUT
==	CROSS CULVERT	— — — —	R/W



NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME

NAME: P:\19-01-00\CR_68_(CSAH18-CSAH22)\Base\Proposed\PLAN.dgn

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PRINT NAME: JOSEPH J. MACPHERSON


SIGNATURE: *[Signature]*

DATE: 9-8-19 LICENSE NO. 46732

DRAWN BY: DLD DATE: 03/12/2019

DESIGN BY: DLD DATE: 03/12/2019

CHECKED BY: HG DATE: 03/28/2019



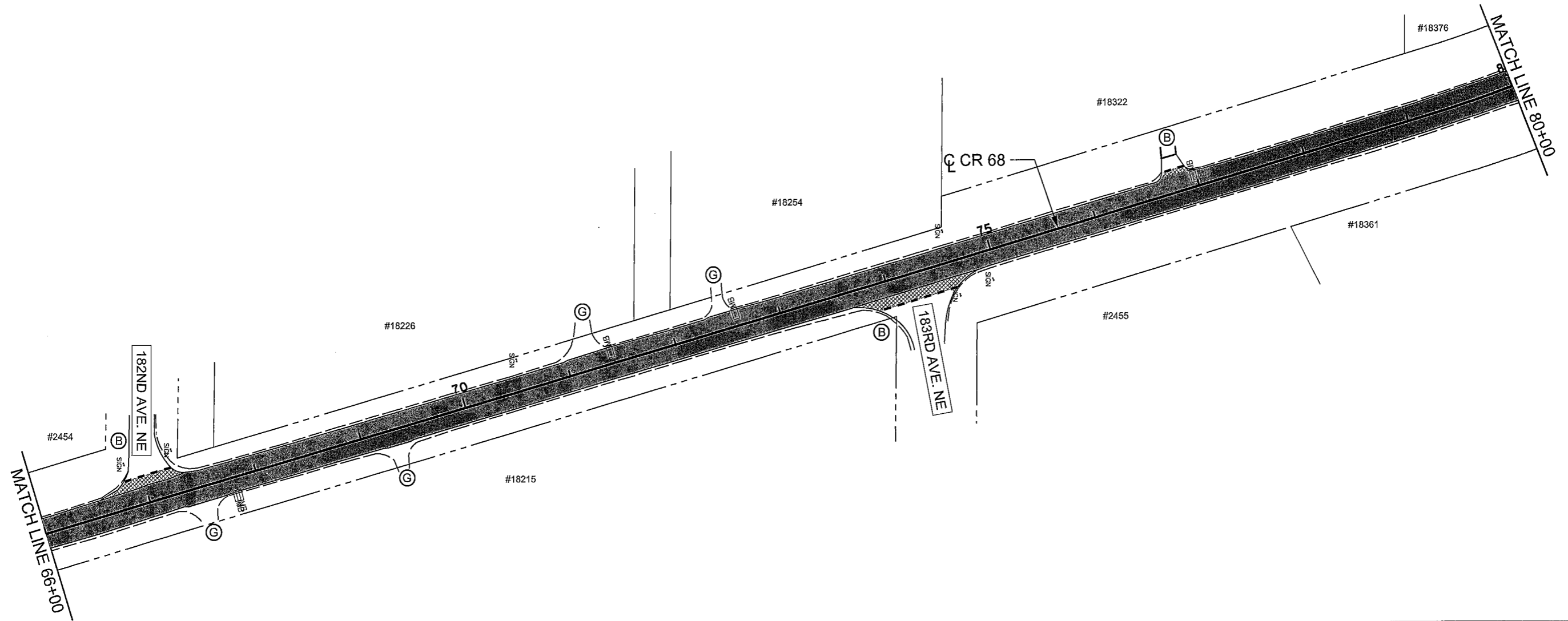
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 19-14-68

CONSTRUCTION PLAN

STA 37+00 TO 66+00

Sheet 8 of 27 Sheets



LEGEND			
(B)	BITUMINOUS		MAINLINE (RECLAIM)
(C)	CONCRETE		REMOVE AND REPLACE PAVEMENT
(G)	GRAVEL		CONSTRUCT TURN LANE
	CORE LOCATION		SAWCUT
	CROSS CULVERT		R/W



NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME

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 PRINT NAME: JOSEPH J. MACPHERSON
 SIGNATURE:
 DATE: 7-28-19 LICENSE NO. 46732

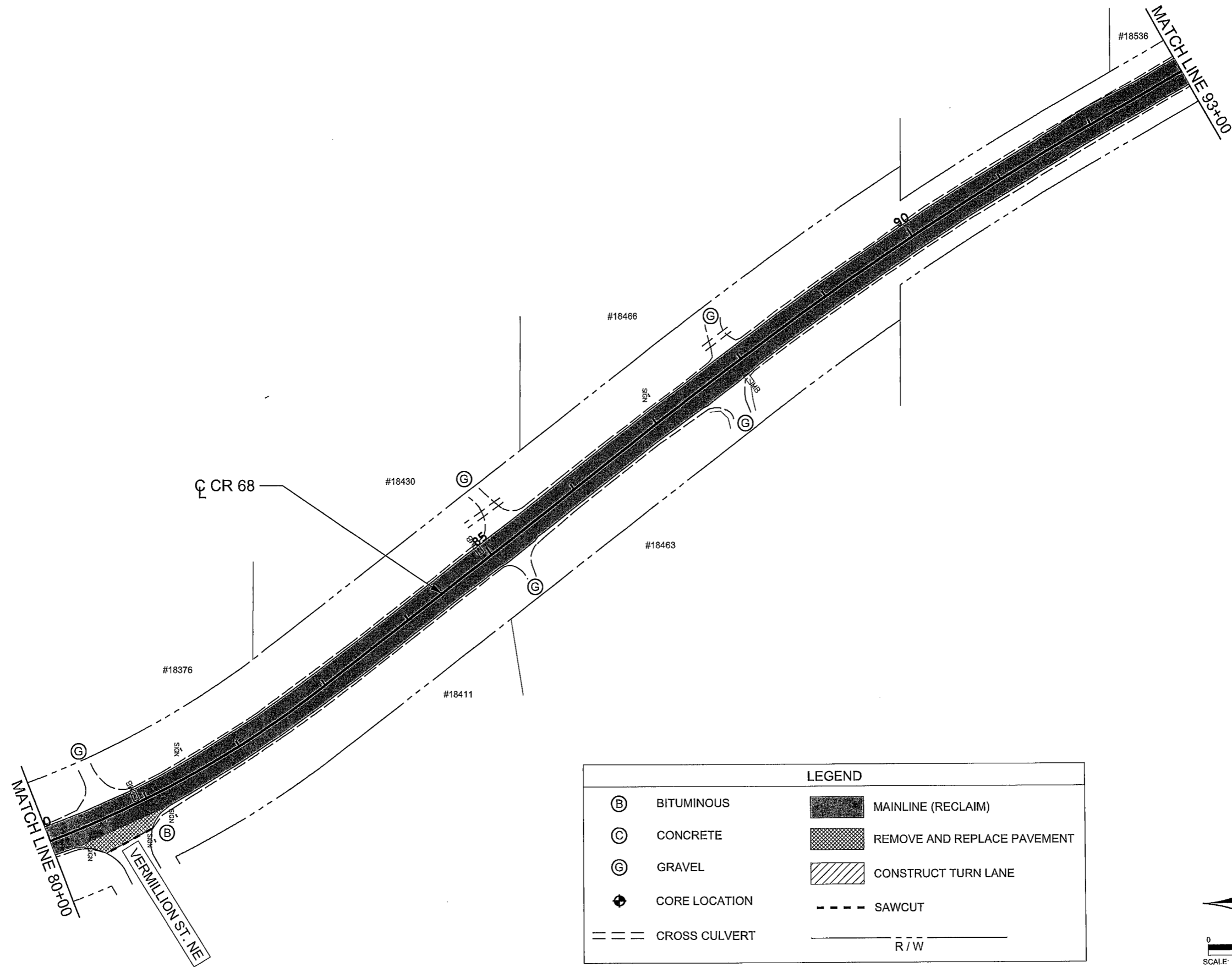
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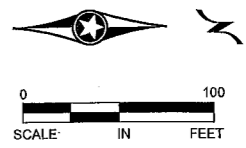
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 19-14-68

CONSTRUCTION PLAN
 STA 66+00 TO 80+00
 Sheet 9 of 27 Sheets



LEGEND			
(B)	BITUMINOUS	[Solid Black Box]	MAINLINE (RECLAIM)
(C)	CONCRETE	[Cross-hatched Box]	REMOVE AND REPLACE PAVEMENT
(G)	GRAVEL	[Diagonal Hatched Box]	CONSTRUCT TURN LANE
(+)	CORE LOCATION	[Dashed Line]	SAWCUT
[Double Dashed Line]	CROSS CULVERT	[Solid Line]	R / W



NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME

NAME: P:\19-01-00\CR_68_(CSAH18-CSAH22)\Base\Proposed\PLAN.dgn

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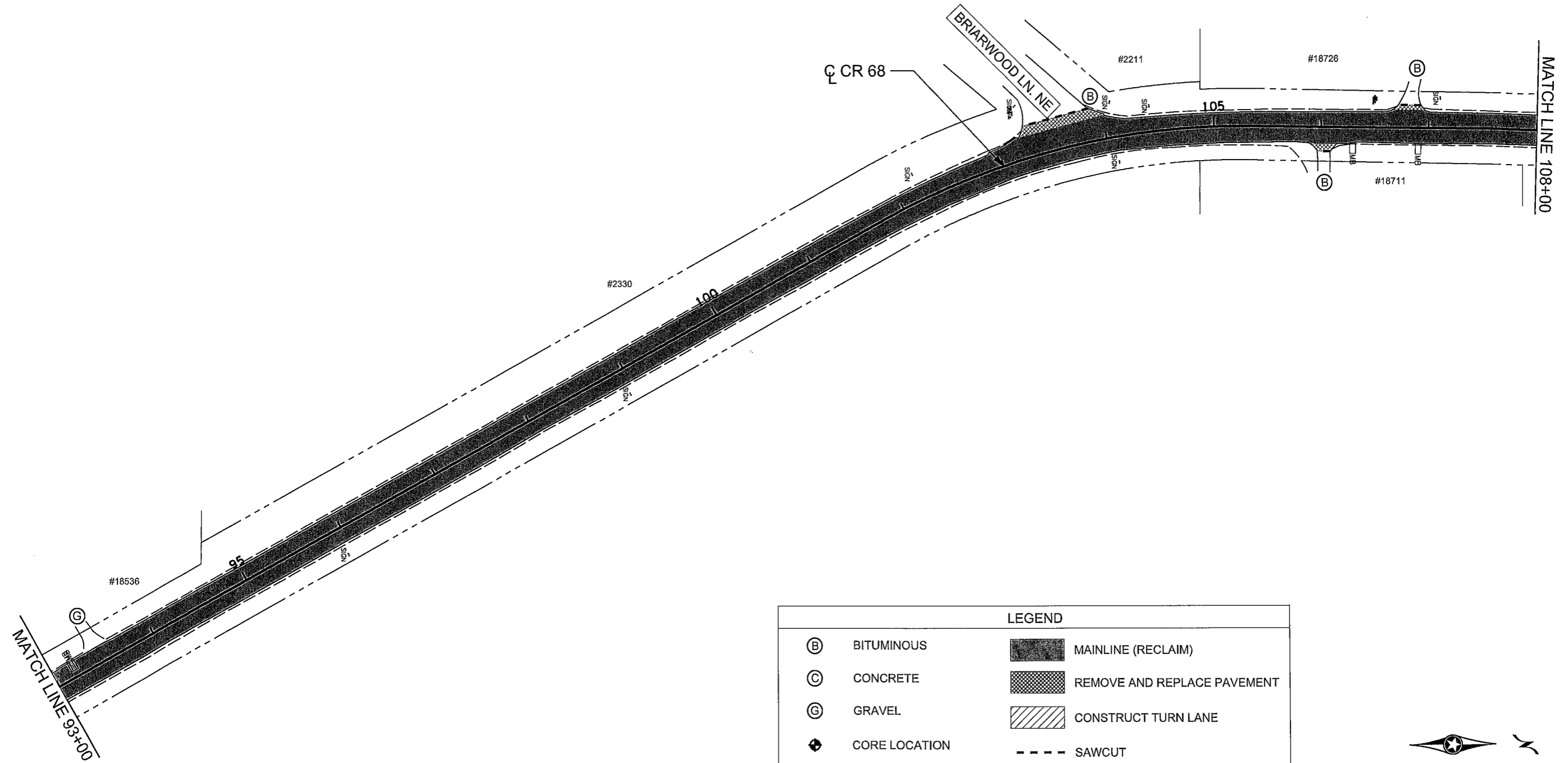
PRINT NAME: JOSEPH J. MCPHERSON
 SIGNATURE: *[Signature]*
 DATE: 4-25-19 LICENSE NO. 46732

DRAWN BY: DLD DATE: 03/12/2019
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 CHECKED BY: HG DATE: 03/28/2019

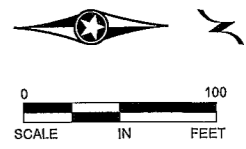
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 19-14-68

CONSTRUCTION PLAN
 STA 80+00 TO 93+00
 Sheet 10 of 27 Sheets



LEGEND			
(B)	BITUMINOUS		MAINLINE (RECLAIM)
(C)	CONCRETE		REMOVE AND REPLACE PAVEMENT
(G)	GRAVEL		CONSTRUCT TURN LANE
	CORE LOCATION	- - - -	SAWCUT
	CROSS CULVERT	— — — —	R / W



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 PRINT NAME: JOSEPH J. MACPHERSON
 SIGNATURE:
 DATE: 4-25-19 LICENSE NO. 48732

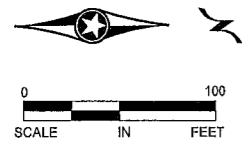
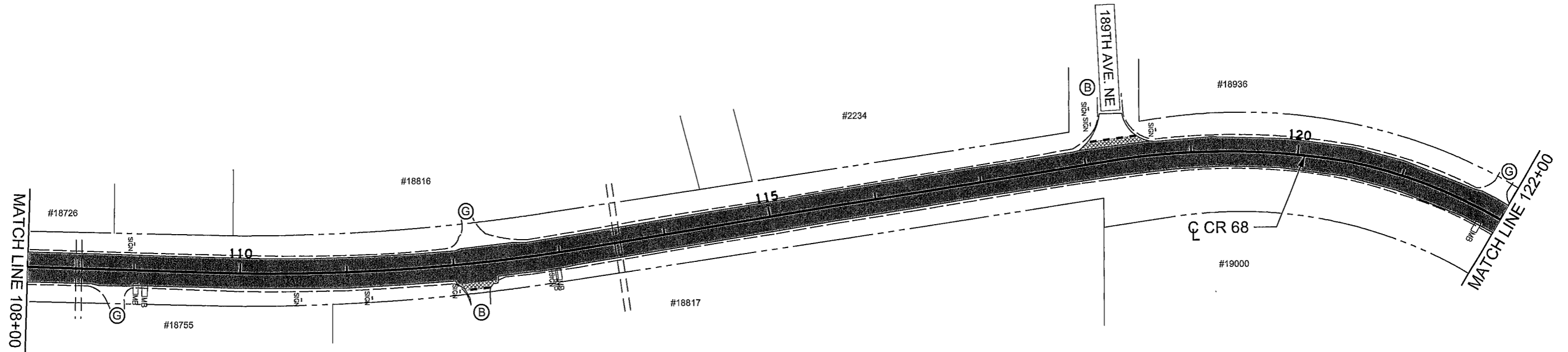
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**ANOKA COUNTY
 HIGHWAY DEPT.**

COUNTY PROJECT 19-14-68

CONSTRUCTION PLAN
 STA 93+00 TO 108+00
 Sheet 11 of 27 Sheets



LEGEND			
(B)	BITUMINOUS	[Solid black box]	MAINLINE (RECLAIM)
(C)	CONCRETE	[Cross-hatched box]	REMOVE AND REPLACE PAVEMENT
(G)	GRAVEL	[Diagonal hatched box]	CONSTRUCT TURN LANE
+	CORE LOCATION	- - - -	SAWCUT
==	CROSS CULVERT	— — — —	R / W

NO	DATE	BY	CHKD	APPR	REVISION	DATE	TIME

NAME: P:\19-01-00\CR_68_(CSA\19-CSA\22)\Base\Proposed\PLAN.dgn

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: JOSEPH J. MCPHERSON

SIGNATURE: *[Signature]*

DATE: 4-25-19 LICENSE NO. 46732

DRAWN BY DLD DATE 03/12/2019

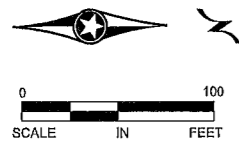
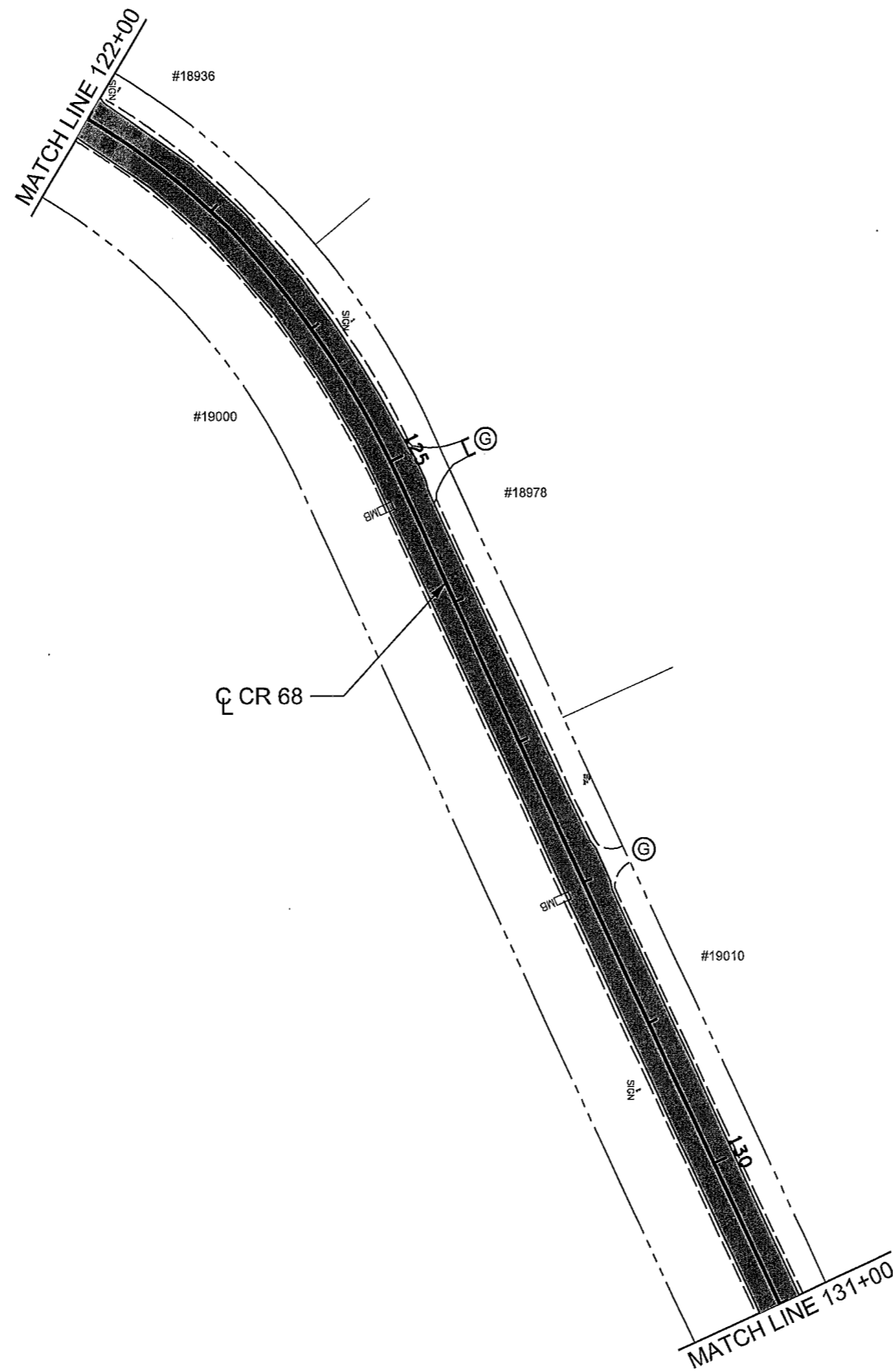
DESIGN BY DLD DATE 03/12/2019

CHECKED BY HG DATE 03/28/2019

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 19-14-68

CONSTRUCTION PLAN
STA 108+00 TO 122+00
Sheet 12 of 27 Sheets



LEGEND			
(B)	BITUMINOUS	[Stippled pattern]	MAINLINE (RECLAIM)
(C)	CONCRETE	[Cross-hatched pattern]	REMOVE AND REPLACE PAVEMENT
(G)	GRAVEL	[Diagonal hatched pattern]	CONSTRUCT TURN LANE
(*)	CORE LOCATION	[Dashed line]	SAWCUT
[Three parallel lines]	CROSS CULVERT	[Solid line]	R/W

NO	DATE	BY	CHKD	APPR	REVISION	DATE	TIME

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: JOSEPH J. MACPHERSON
 SIGNATURE: *[Signature]*
 DATE: 9.25.19 LICENSE NO. 46732

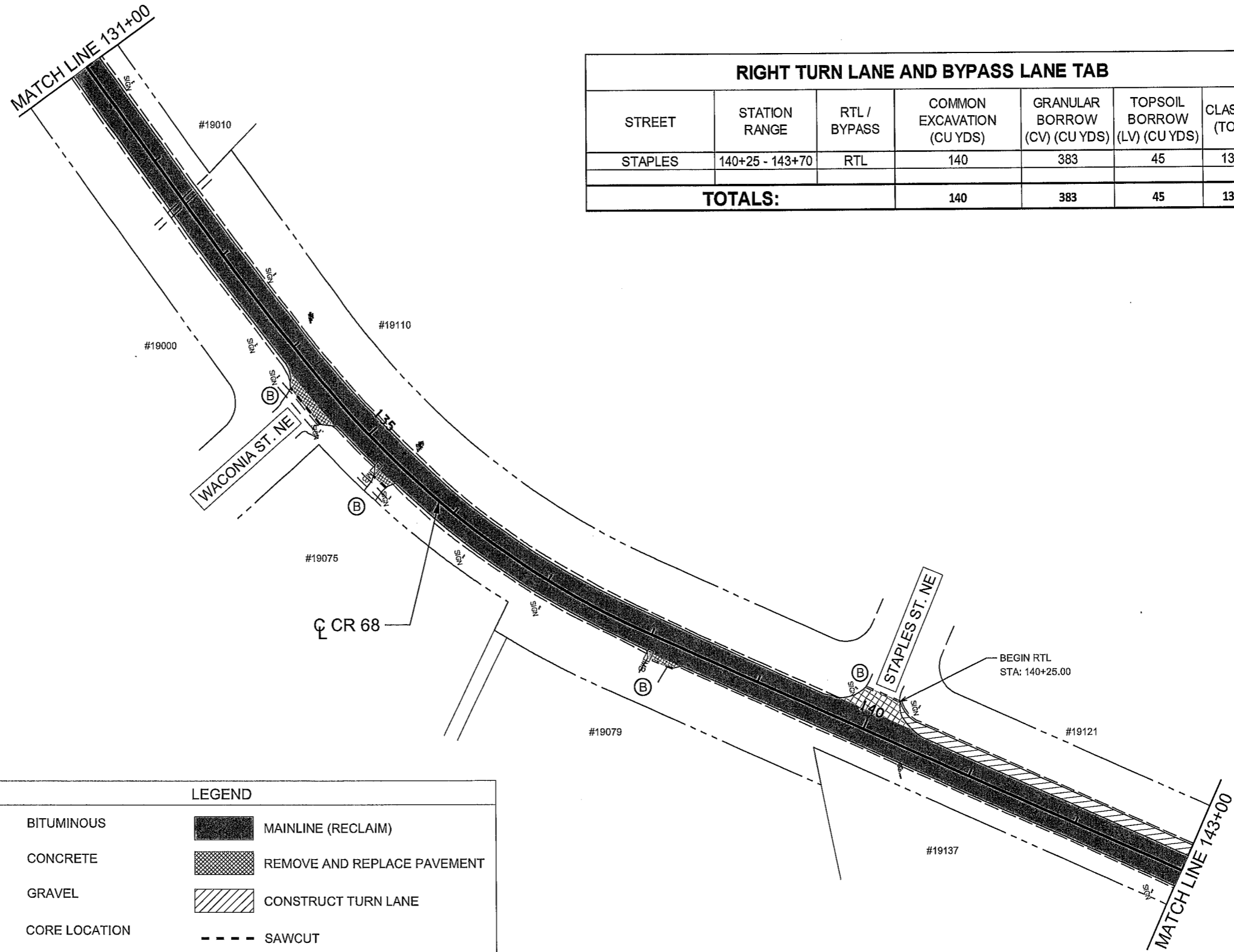
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 CHECKED BY HG DATE 03/28/2019



**ANOKA COUNTY
 HIGHWAY DEPT.**

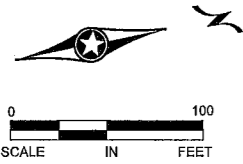
COUNTY PROJECT 19-14-68

CONSTRUCTION PLAN
 STA 122+00 TO 131+00
 Sheet 13 of 27 Sheets



RIGHT TURN LANE AND BYPASS LANE TAB						
STREET	STATION RANGE	RTL / BYPASS	COMMON EXCAVATION (CU YDS)	GRANULAR BORROW (CV) (CU YDS)	TOPSOIL BORROW (LV) (CU YDS)	CLASS 5 (TON)
STAPLES	140+25 - 143+70	RTL	140	383	45	138
TOTALS:			140	383	45	138

LEGEND			
(B)	BITUMINOUS	[Solid Black Box]	MAINLINE (RECLAIM)
(C)	CONCRETE	[Cross-hatched Box]	REMOVE AND REPLACE PAVEMENT
(G)	GRAVEL	[Diagonal Hatched Box]	CONSTRUCT TURN LANE
(+)	CORE LOCATION	[Dashed Line]	SAWCUT
[Double Line]	CROSS CULVERT	[Dashed Line]	R / W



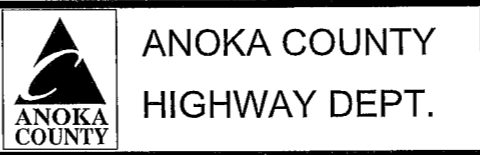
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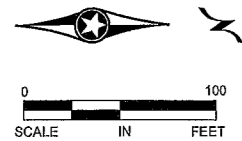
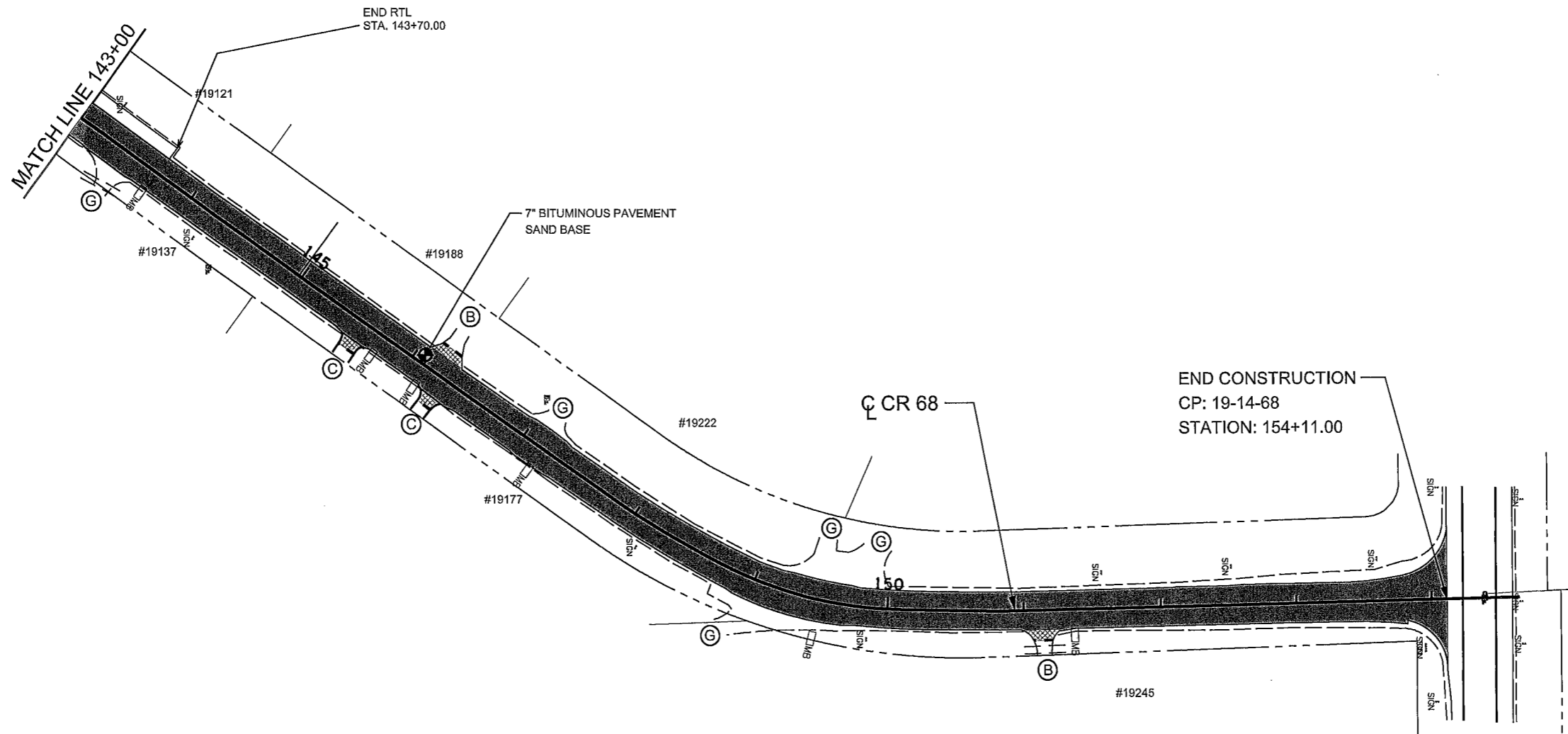
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 SIGNATURE: [Signature]
 DATE: 3-25-19 LICENSE NO. 46732

DRAWN BY: DLD DATE: 03/12/2019
 DESIGN BY: DLD DATE: 03/12/2019
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COUNTY PROJECT 19-14-68

CONSTRUCTION PLAN
 STA 131+00 TO 143+00
 Sheet 14 of 27 Sheets



LEGEND			
(B)	BITUMINOUS		MAINLINE (RECLAIM)
(C)	CONCRETE		REMOVE AND REPLACE PAVEMENT
(G)	GRAVEL		CONSTRUCT TURN LANE
	CORE LOCATION		SAWCUT
	CROSS CULVERT		R / W

NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
	03/28/2019						7:14:11 AM

NAME: P:\19-01-00\CR_68_(CSAH18-CSAH22)\Base\Proposed\PLAN.dgn

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PRINT NAME: JOSEPH J. MCPHERSON

SIGNATURE:

DATE: 4-25-19 LICENSE NO. 46732

DRAWN BY: DLD DATE: 03/12/2019

DESIGN BY: DLD DATE: 03/12/2019

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ANOKA COUNTY HIGHWAY DEPT.

COUNTY PROJECT 19-14-68

CONSTRUCTION PLAN
 STA 143+00 TO 154+11
 Sheet 15 of 27 Sheets

**PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES**

GENERAL INFORMATION:

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

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

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

MULTI COMPONENT (MULTI COMP):

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

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

A MULTI COMP RESIN LINE SHALL BE APPLIED WITH A MINIMUM THICKNESS OF 20 MILS (WET) AND 4" WIDE. GLASS BEANS SHALL BE APPLIED AT A MINIMUM RATE OF 25LBS POUNDS PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

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

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

PREFORMED THERMOPLASTIC:

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

PAINT:

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

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

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

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

PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - MULTI COMP	LIN FT	29905
4" BROKEN LINE YELLOW - MULTI COMP	LIN FT	840
4" SOLID LINE YELLOW - MULTI COMP	LIN FT	2640
4" SOLID DOUBLE LINE YELLOW - MULTI COMP	LIN FT	9170

1 10' STRIPE, 40' GAP

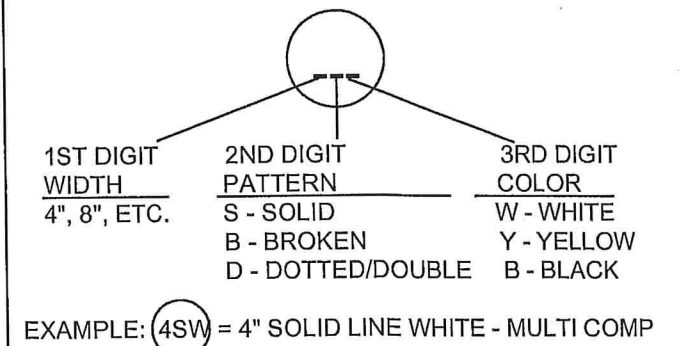
* PAVEMENT MARKING SPECIAL

SYMBOLS & MATERIALS LEGEND

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

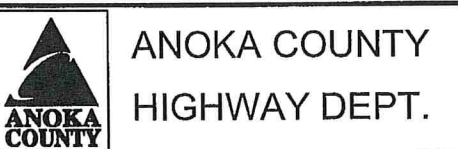
STRIPING KEY

- CIRCLE - MULTI COMP
- SQUARE - POLY PREFORM THERMOPLASTIC
- △ TRIANGLE - PAINT
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



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: DOUGLAS W. FISCHER, P.E.
 SIGNATURE: *[Signature]*
 DATE: 4/25/19 REG. NO. 20235

DRAWN BY: TMV DATE: 02/15/19
 DESIGN BY: DATE:
 CHECKED BY: DATE:

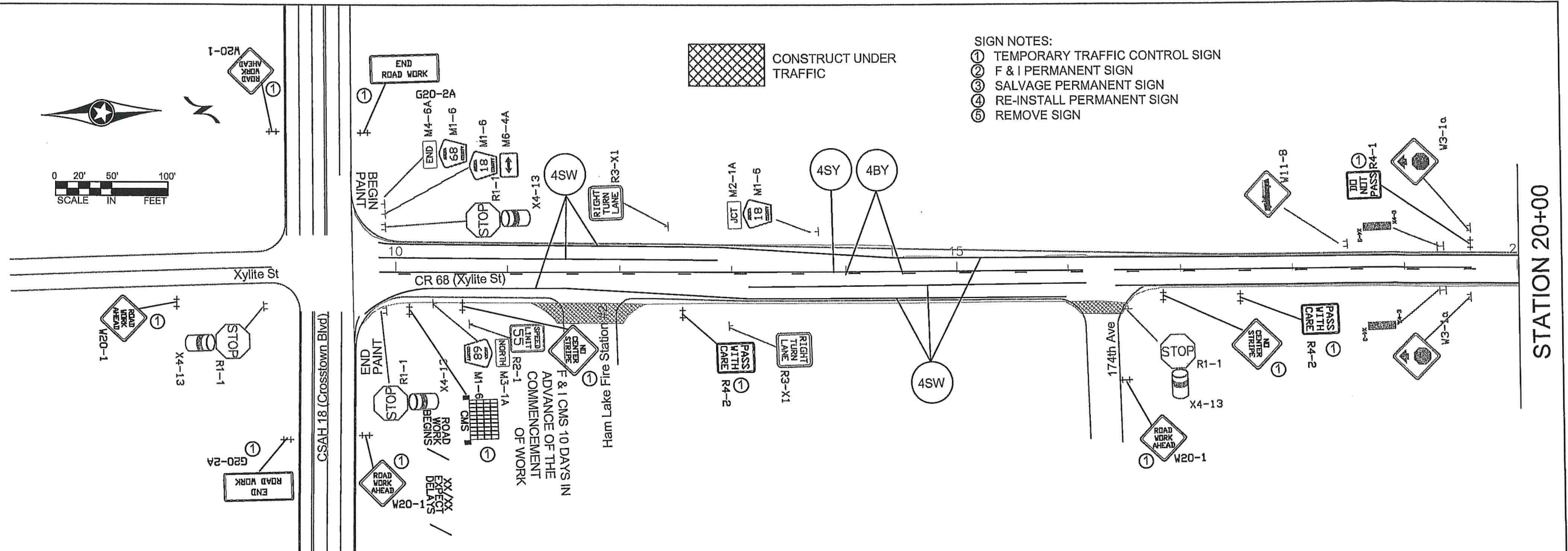


STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 19-14-68

PERMANENT MARKING TABULATION
 Sheet 16 of 27 Sheets

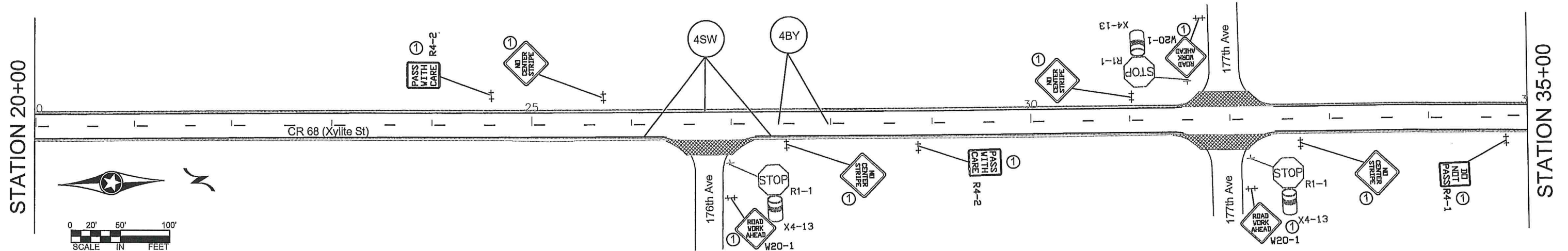
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\19-01-00\CR 08 (CSAH18-CSAH22)\Base\Traffic\Perm Pmnt Mrkg Guide Notes.dwg



- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
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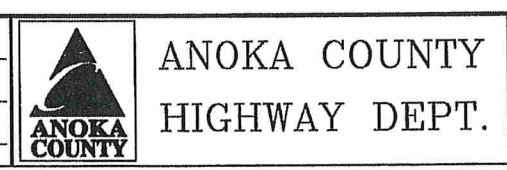


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DRAWN BY: TMV DATE 02/15/19
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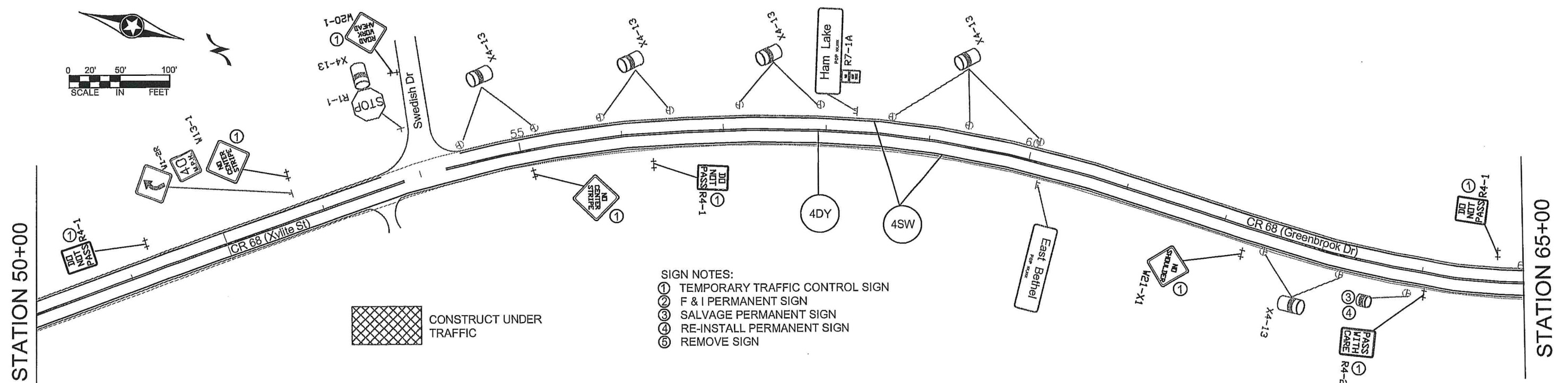
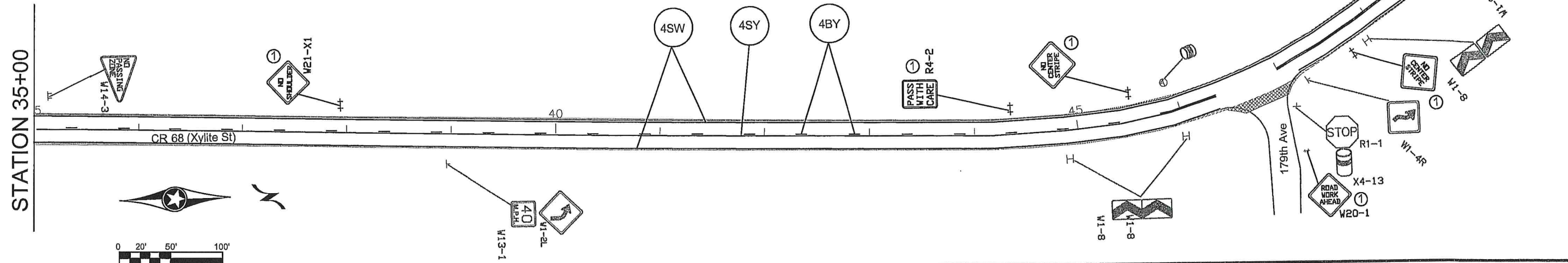
STATE PROJECT NO. _____
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TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING

Sheet 17 of 27 Sheets

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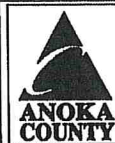


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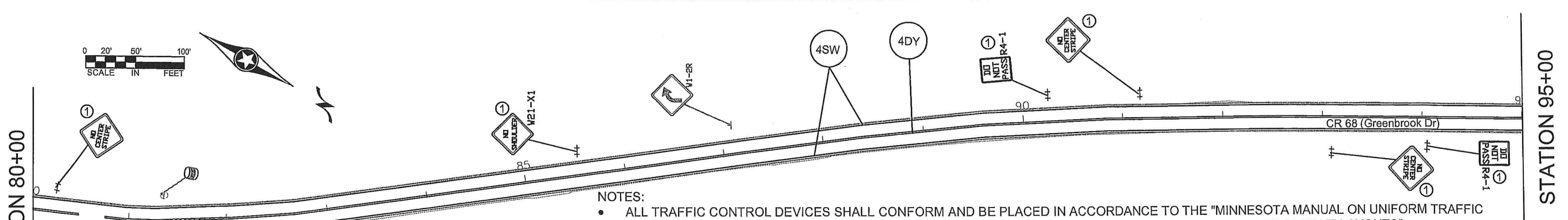
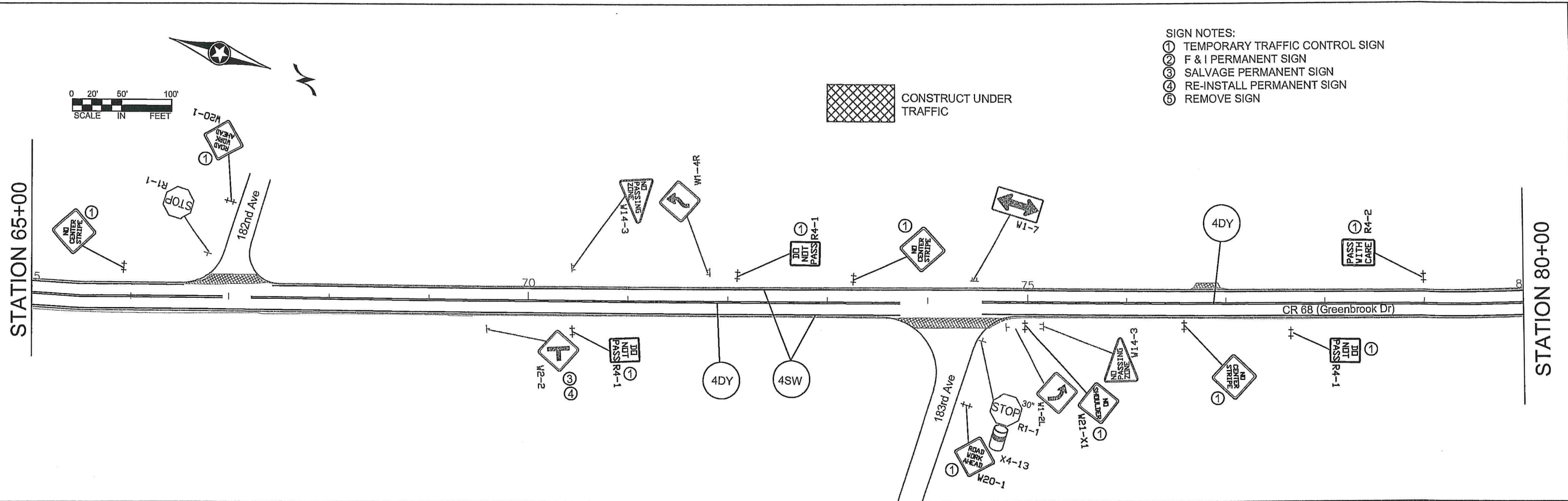
ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
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 COUNTY PROJECT NO. 19-14-68

TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING
 Sheet 18 of 27 Sheets

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 CONSTRUCT UNDER TRAFFIC



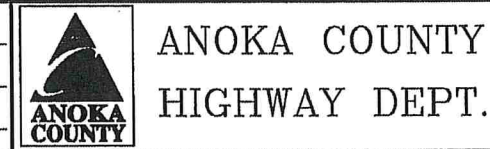
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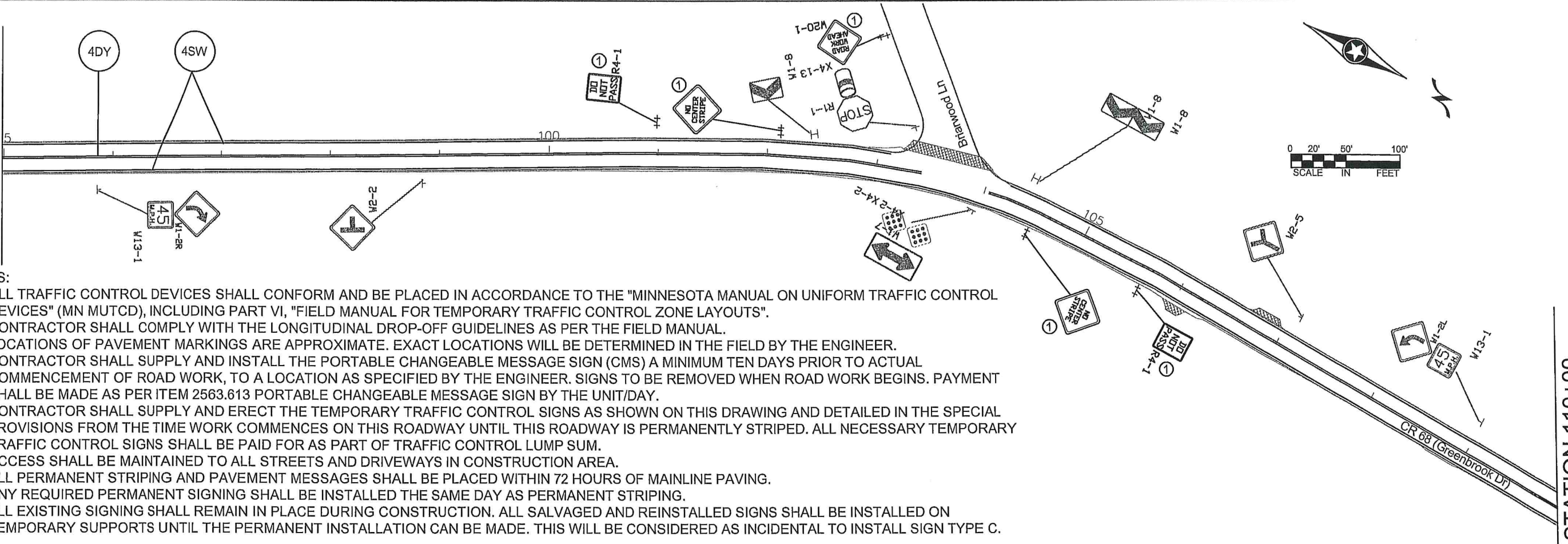
DRAWN BY: TMV DATE: 02/15/19
 DESIGN BY: DATE:
 CHECKED BY: DATE:
 ANOKA COUNTY HIGHWAY DEPT.



STATE PROJECT NO. _____
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 COUNTY PROJECT NO. 19-14-68

TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING
 Sheet 19 of 27 Sheets

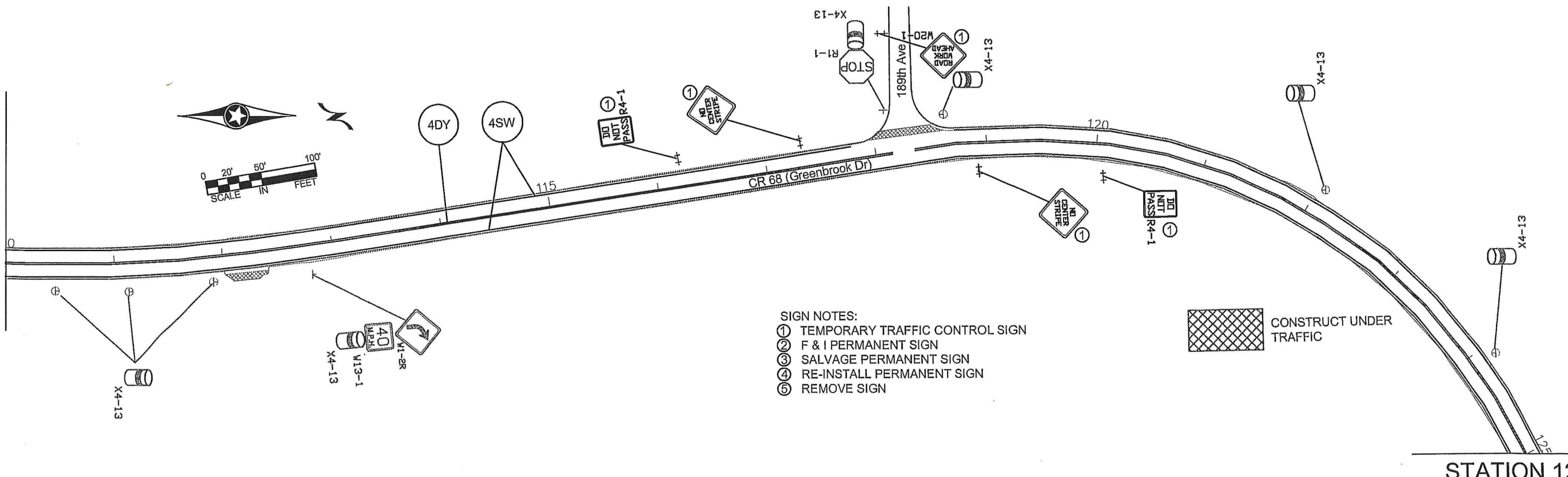
STATION 95+00



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STATION 110+00




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 CONSTRUCT UNDER TRAFFIC

STATION 125+00

NO	DATE	BY	CKD	APPR	REVISION

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 SIGNATURE: 
 DATE: 4/25/19
 LICENSE NO. 20235

DRAWN BY: TMV DATE: 02/15/19
 DESIGN BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____

 ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. _____
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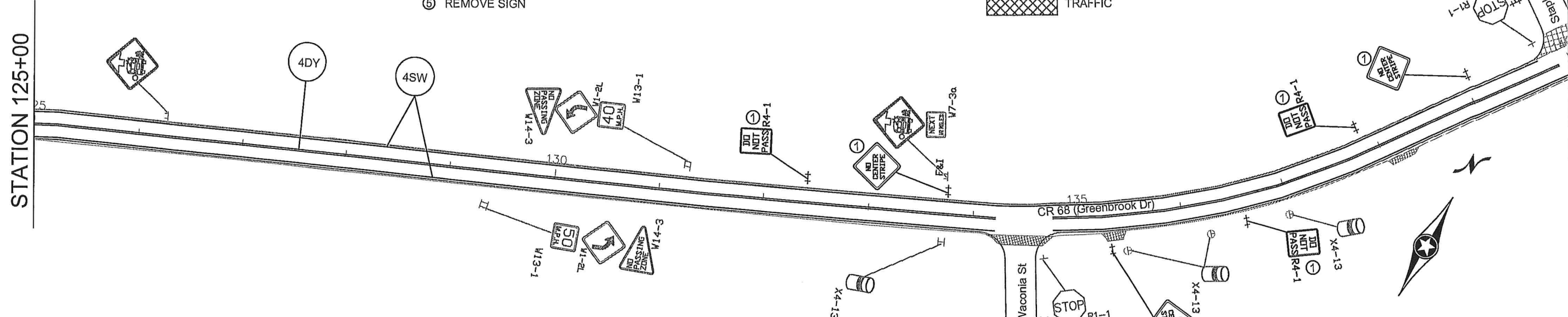
TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING
 Sheet 20 of 27 Sheets

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 CONSTRUCT UNDER TRAFFIC

STATION 125+00

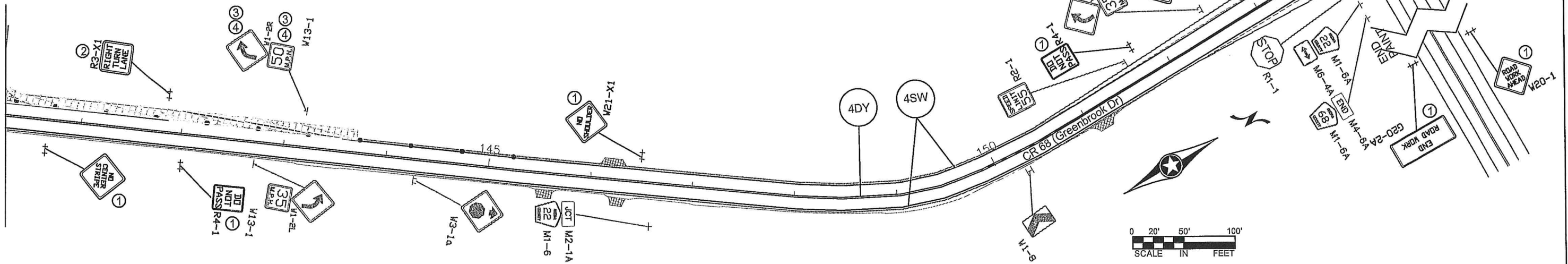
STATION 140+00




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STATION 140+00



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ANOKA COUNTY
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STATE PROJECT NO. _____
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TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING
 Sheet 21 of 27 Sheets

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\19-01-00\CR 68 (CSAH18-CSAH22)\Base\Traffic\Signing & Striping.dwg

TEMPORARY TRAFFIC CONTROL SIGNS						
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY		MOUNTING HEIGHT To pavement edge FT.
					No. POST	
W8-12	48" x 48"	16.00		26	2	7.0'
R4-1	24" x 30"	5.00		21	1	7.0'
R4-2	24" x 30"	5.00		7	1	7.0'
G20-2A	48" x 24"	8.00		4	2	7.0'
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-8	48" x 48"	16.00		AS NEEDED		
W8-9	48" x 48"	16.00		AS NEEDED		
	48" x 48"	16.00		AS NEEDED (ESTIMATED 5)		
W8-11	48" x 48"	16.00		AS NEEDED		
W20-1	48" x 48"	16.00		AS NEEDED (ESTIMATED 18)		
REFLECTORIZED REBOUNDBLE DRUM				AS NEEDED (ESTIMATED 11)		
CMS sign to be installed a minimum of ten days prior to actual commencement of road work. Signs to be removed when road work begins.				2 AT 10 DAYS EA		

EXISTING SIGN PANEL TAB					
STATION	ADDRESS DESCRIPTION (NOTES)	SALVAGE SIGN TYPE C EACH	RE-INSTALL SIGN TYPE C	SIGN NUMBER	SIGN LEGEND
143+25	LT	1	1	W1-2R W13-1	RT CURVE 50 ADVISORY SPD
TOTAL		1	1		

SIGN PANELS TYPE C							
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
R3-X1	30" x 30"		1	6.25	6.25	1	7.0'

REINSTALL SALVAGED SIGN ASSEMBLIES TYPE C				
M.U.T.C.D. CODE	INSERT	QUANTITY	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT To pavement edge
W1-2R		1	1	7.0'
W13-1				

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	

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NAME: P:\18-01-00\CR 88 (CSAH18-CSAH22)\Base\Traffic\Signing & Striping.dwg

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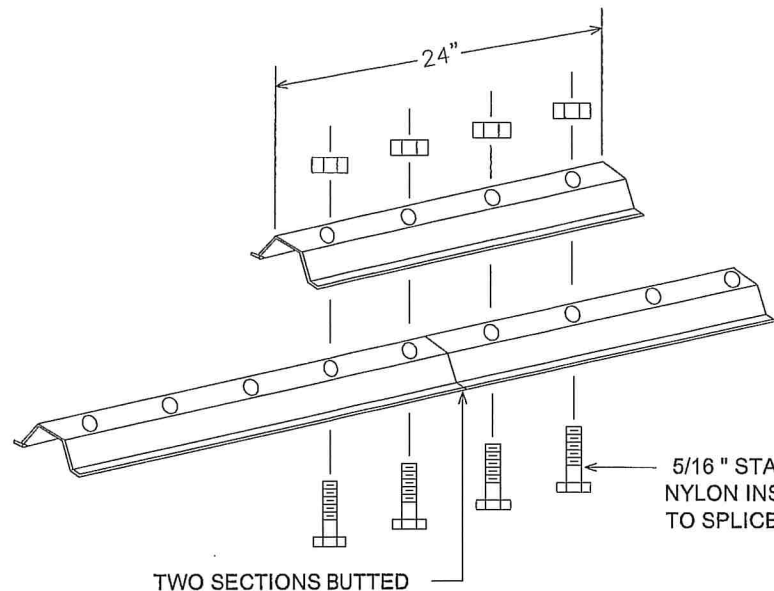
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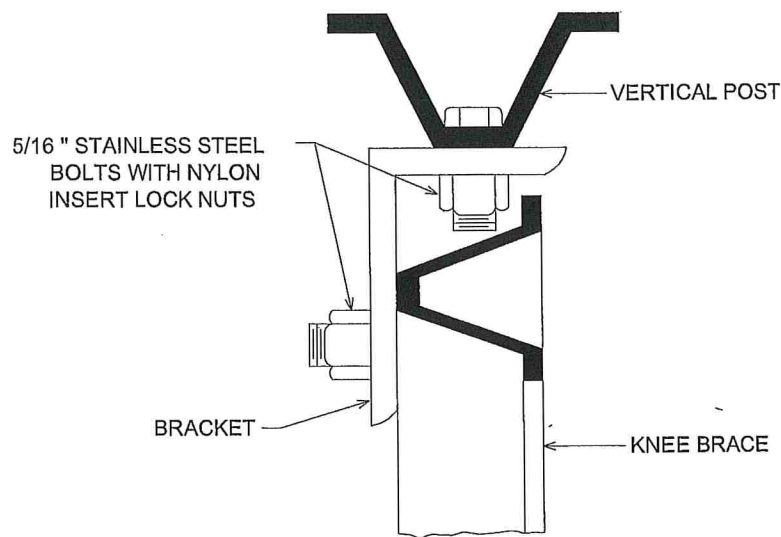
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TEMPORARY SIGNING,
PERMANENT SIGNING &
STRIPING QUANTITIES

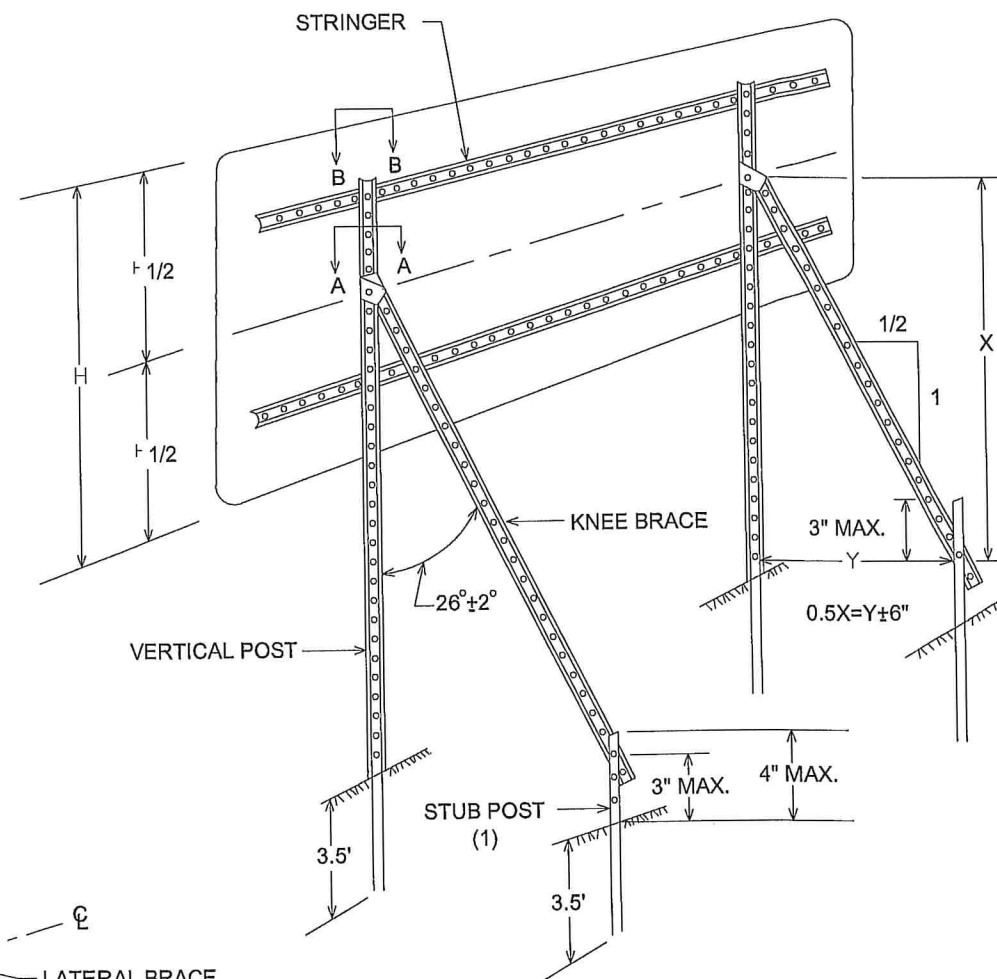
Sheet 22 of 27 Sheets



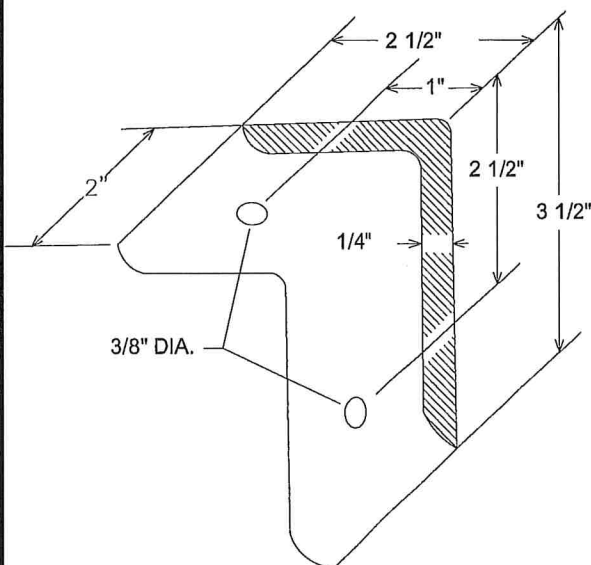
LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

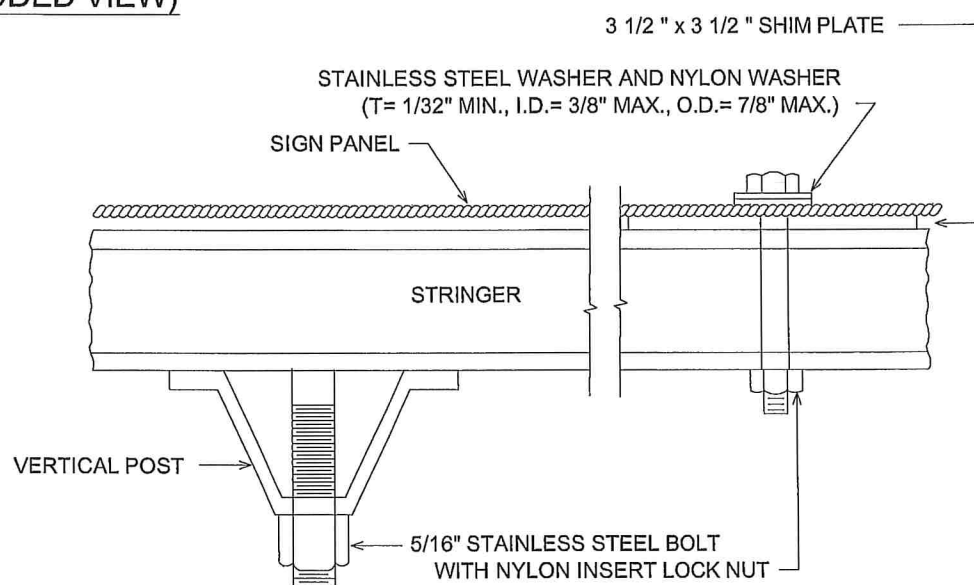


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

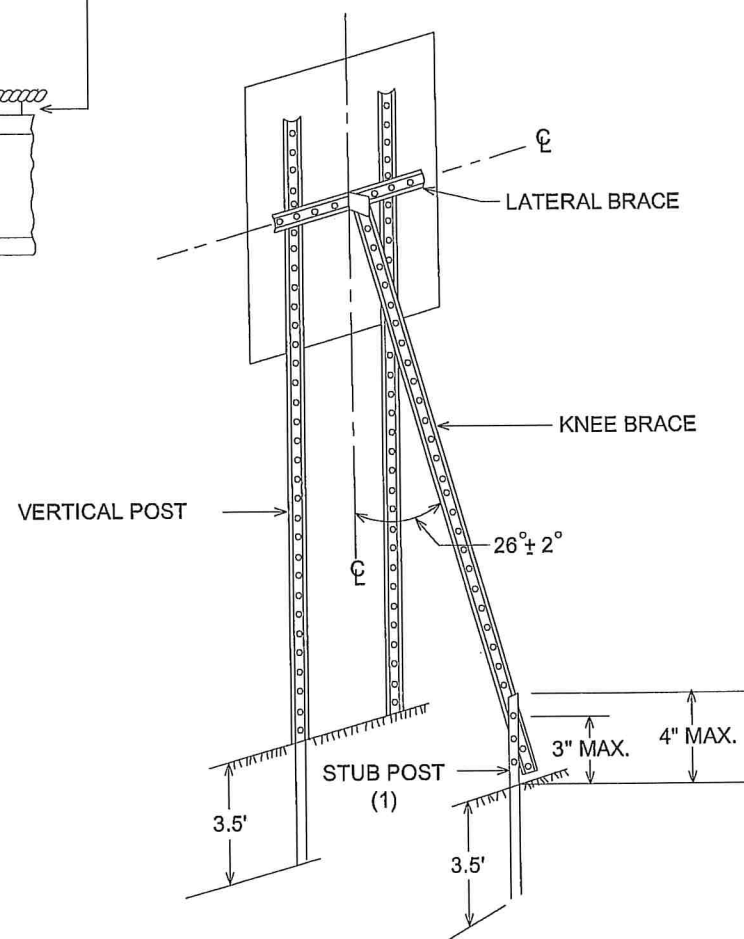


A-FRAME BRACKET

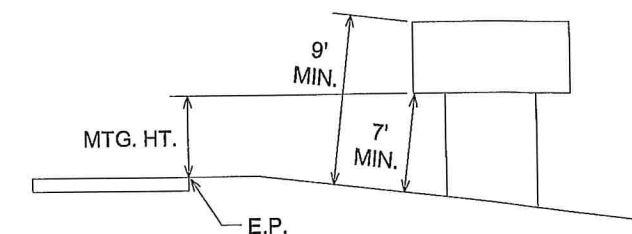
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B



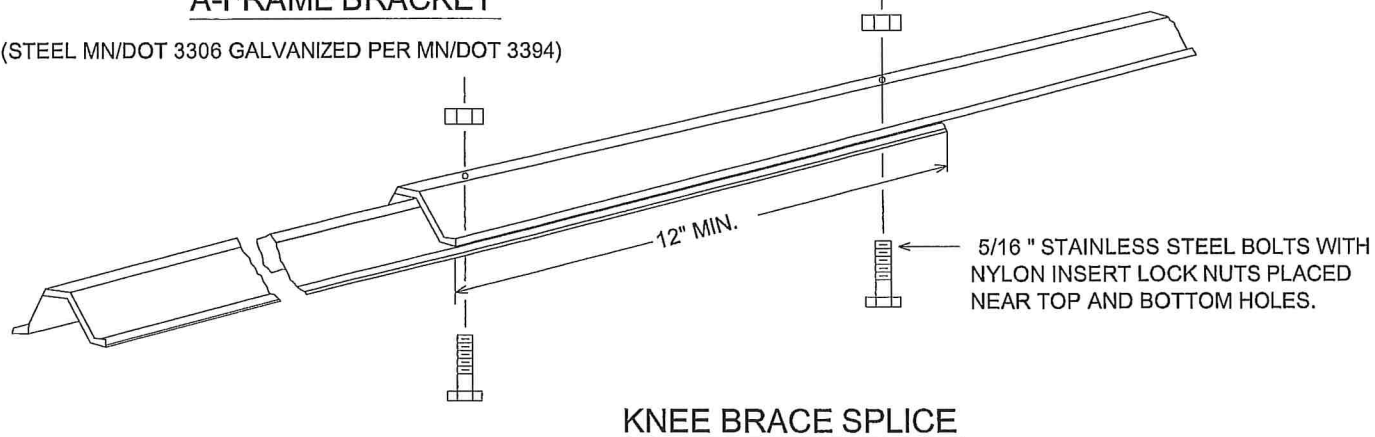
TYPICAL "A-FRAME" INSTALLATION
TYPE "C" SIGNS



TYPICAL MOUNTING

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

TYPE C & D SIGN
STRUCTURAL DETAILS



KNEE BRACE SPLICE

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: DOUGLAS W. FISCHER, P.E.
SIGNATURE: *[Signature]*
DATE: 4/25/19 REG. NO. 20235

DRAWN BY: TMV DATE: 02/21/19
DESIGN BY: DATE: _____
CHECKED BY: DATE: _____



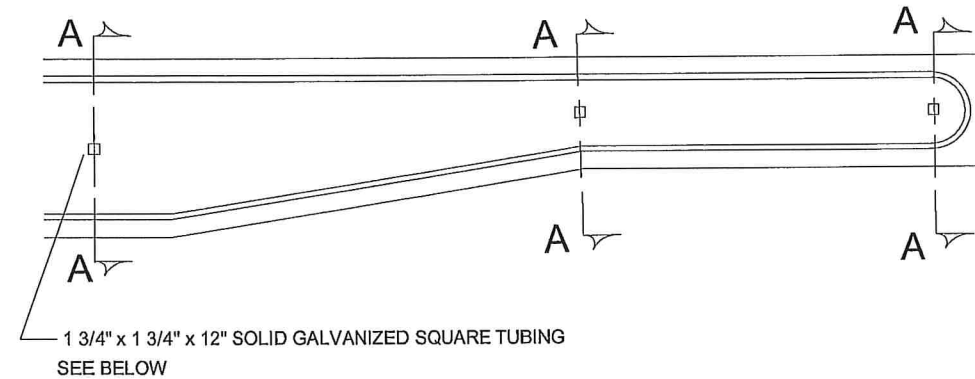
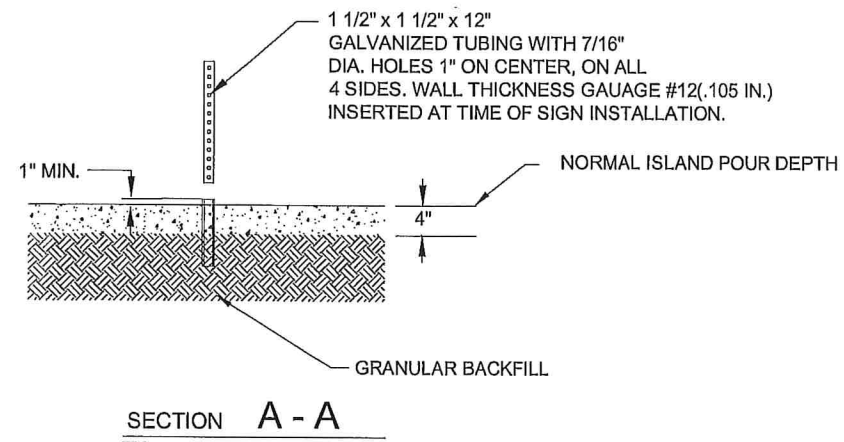
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
STATE AID PROJECT NO. _____
COUNTY PROJECT NO. 19-14-68

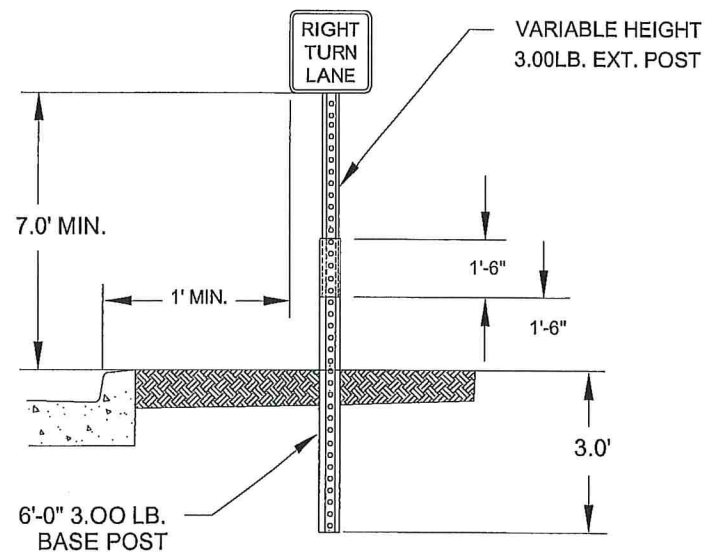
SIGNING & STRIPING
DETAILS

Sheet 23 of 27 Sheets

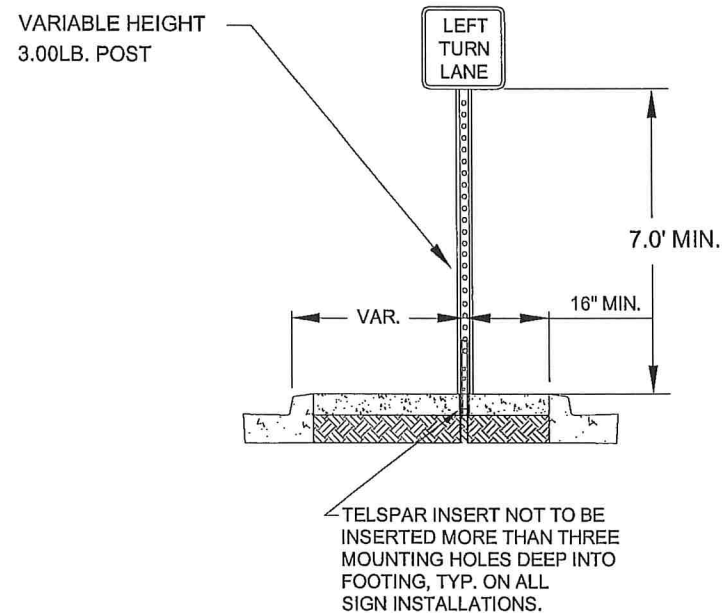
NO DATE BY CKD APPR REVISION
NAME: P:\19-01-00\CR 88 (CSAH18-CSAH22)\Dose\Traffic\Sign & Strip Details.dwg



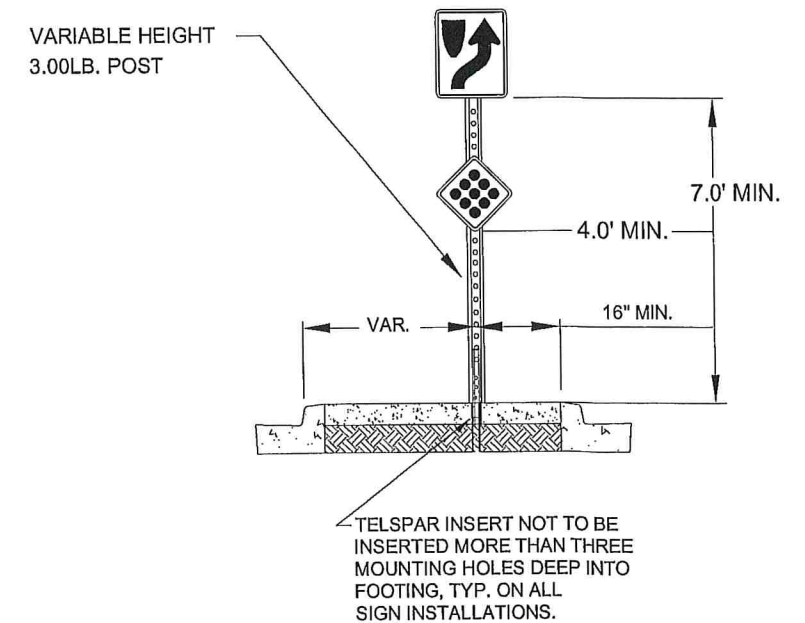
GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
SIGN INSTALLATION TYPICAL
KEEP RIGHT/CLUSTER



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\16-01-00\CR 88 (CSAH18-CSAH22)\Base\Traffic\Sign & Strip Details.dwg

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PRINT NAME: DOUGLAS W. FISCHER, P.E.

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ANOKA COUNTY
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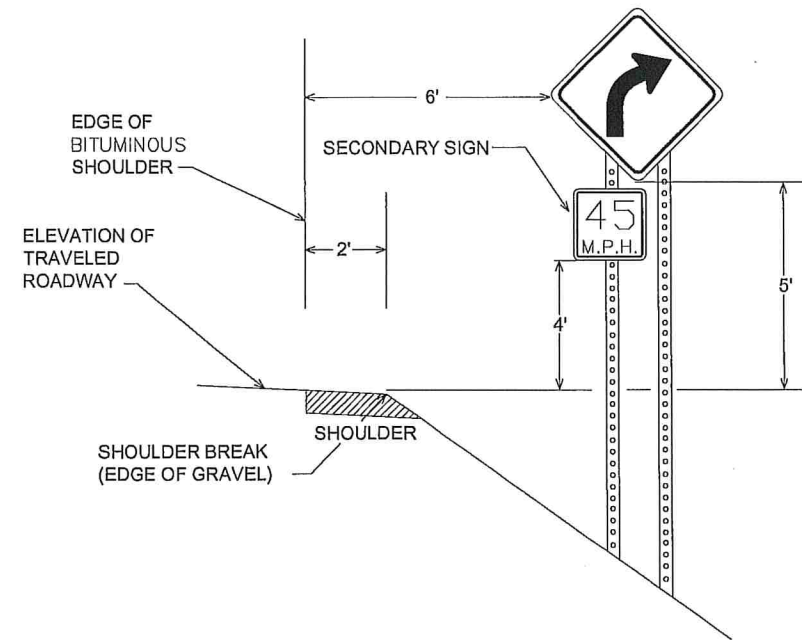
STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 19-14-68

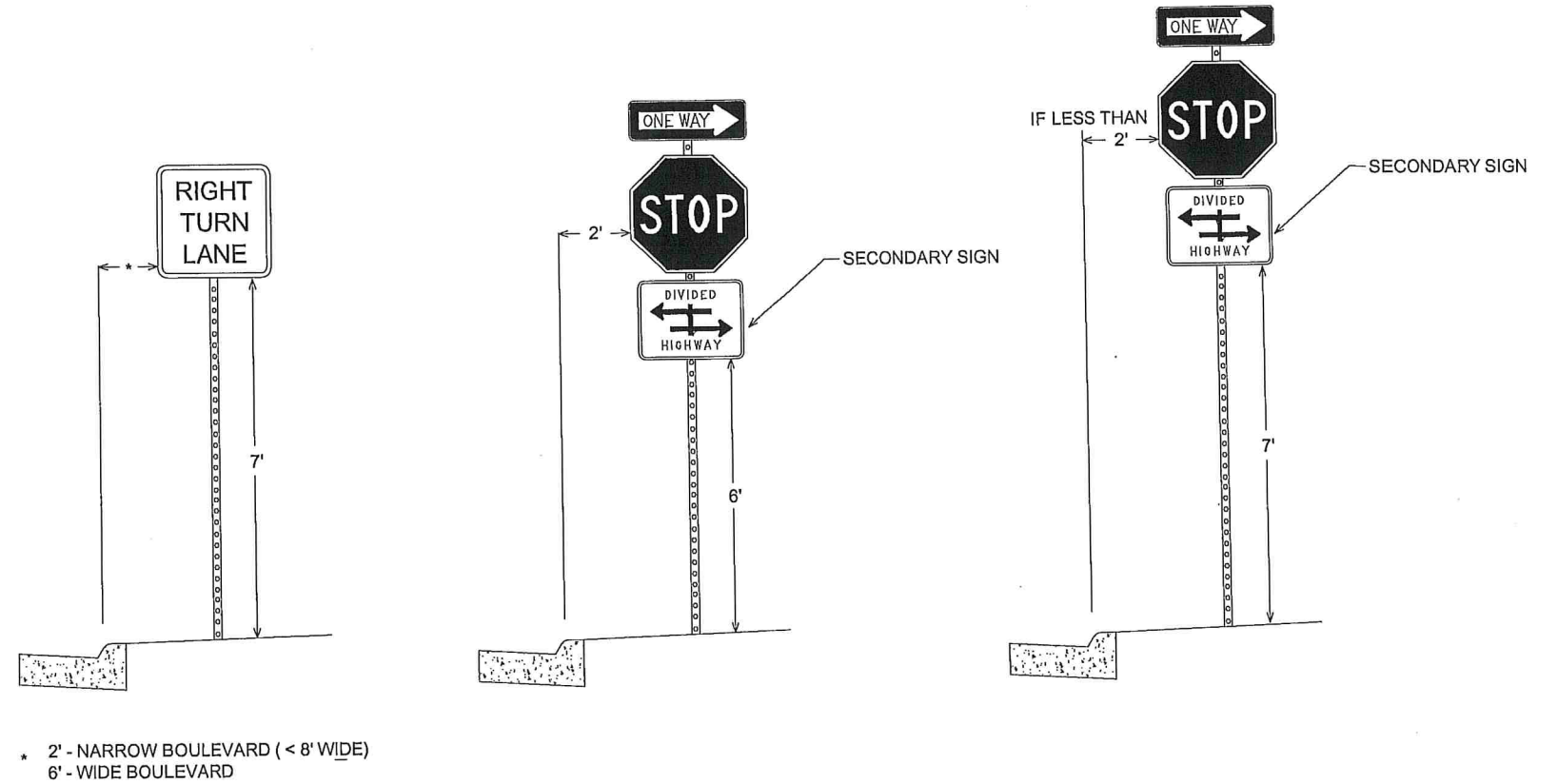
SIGNING & STRIPING
DETAILS

Sheet 24 of 27 Sheets

TYPICAL SIGN PLACEMENT
(RURAL)

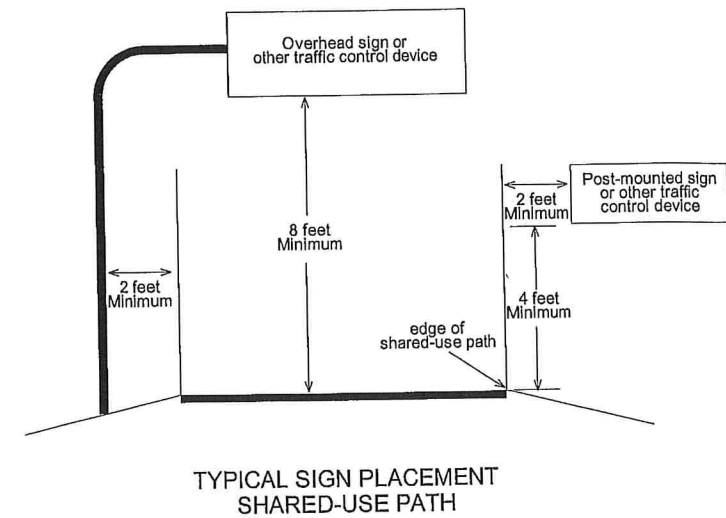


TYPICAL SIGN PLACEMENT
(URBAN)



NOTES:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN A CLEAR DISTANCE OF 2' BETWEEN SIGNS AND BITUMINOUS TRAIL
- 7' SIGN CLEARANCE IF A CLEAR DISTANCE OF 2' BETWEEN SIGNS AND BITUMINOUS TRAIL CANNOT BE MAINTAINED



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: DOUGLAS W. FISCHER, P.E.
 SIGNATURE: *[Signature]*
 DATE: 4/25/19 REG. NO. 20235

DRAWN BY: TMV DATE 02/21/19
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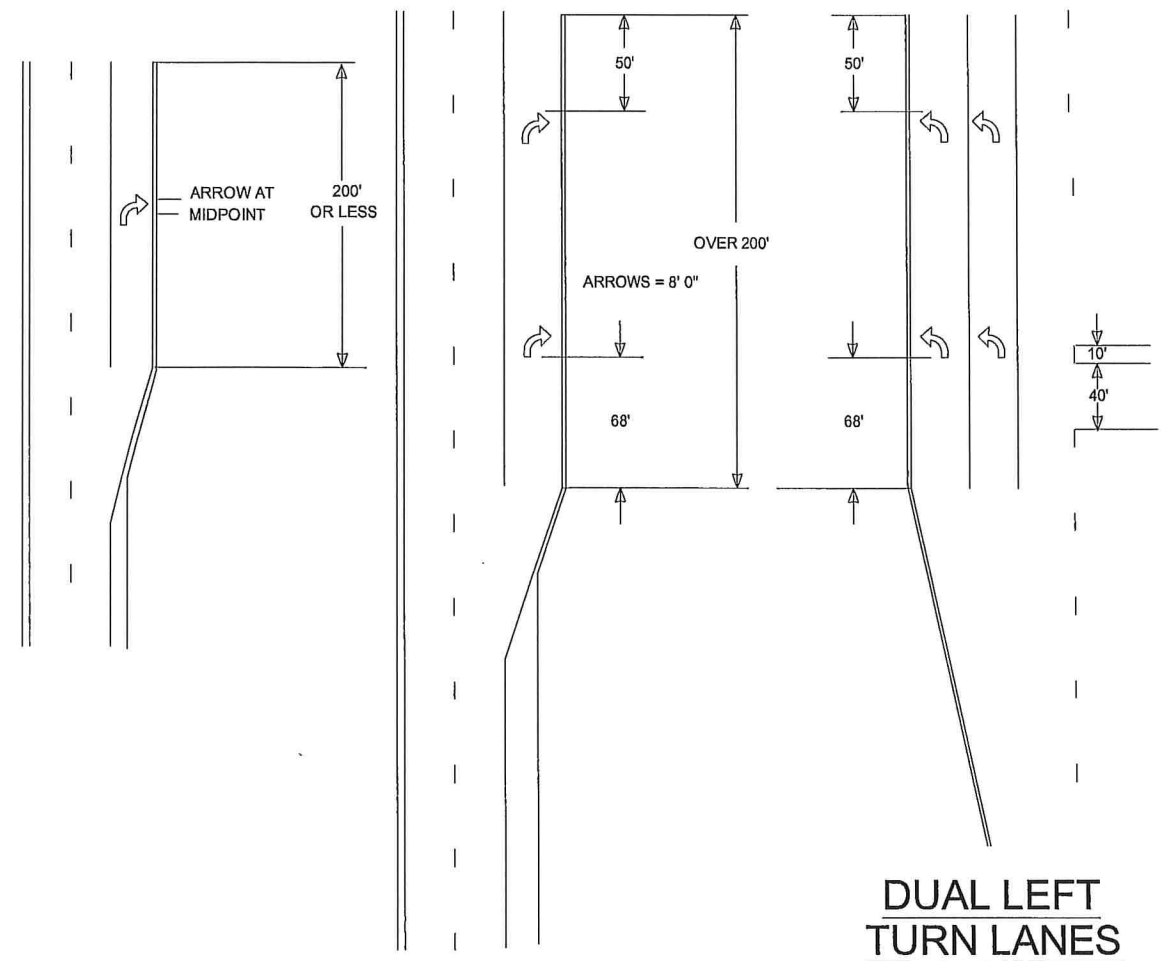


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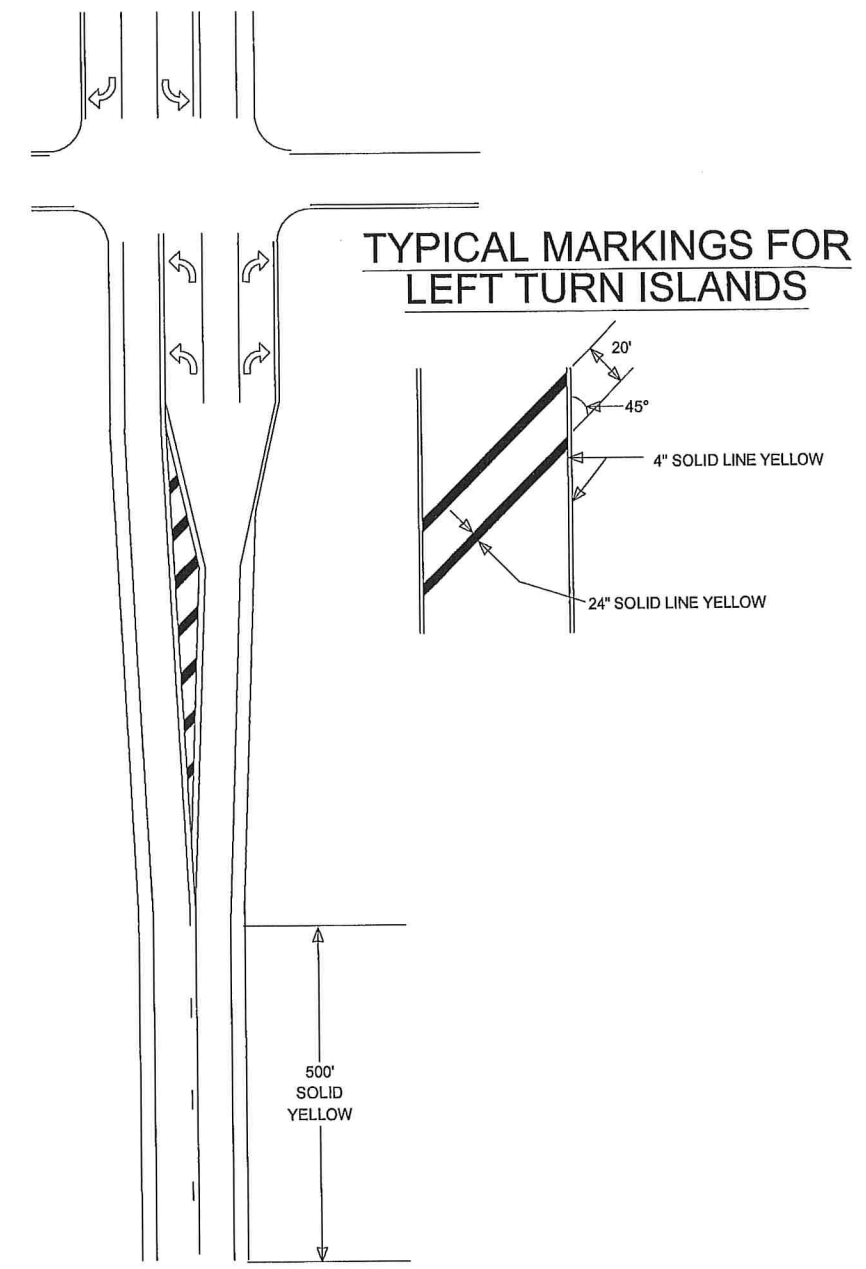
STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 19-14-68

SIGNING & STRIPING
DETAILS

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



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 REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: DOUGLAS W. FISCHER, P.E.

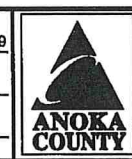
SIGNATURE: *[Signature]*

DATE: 4/25/19 REG. NO. 20235

DRAWN BY: TMV DATE: 02/21/19

DESIGN BY: _____ DATE: _____

CHECKED BY: _____ DATE: _____



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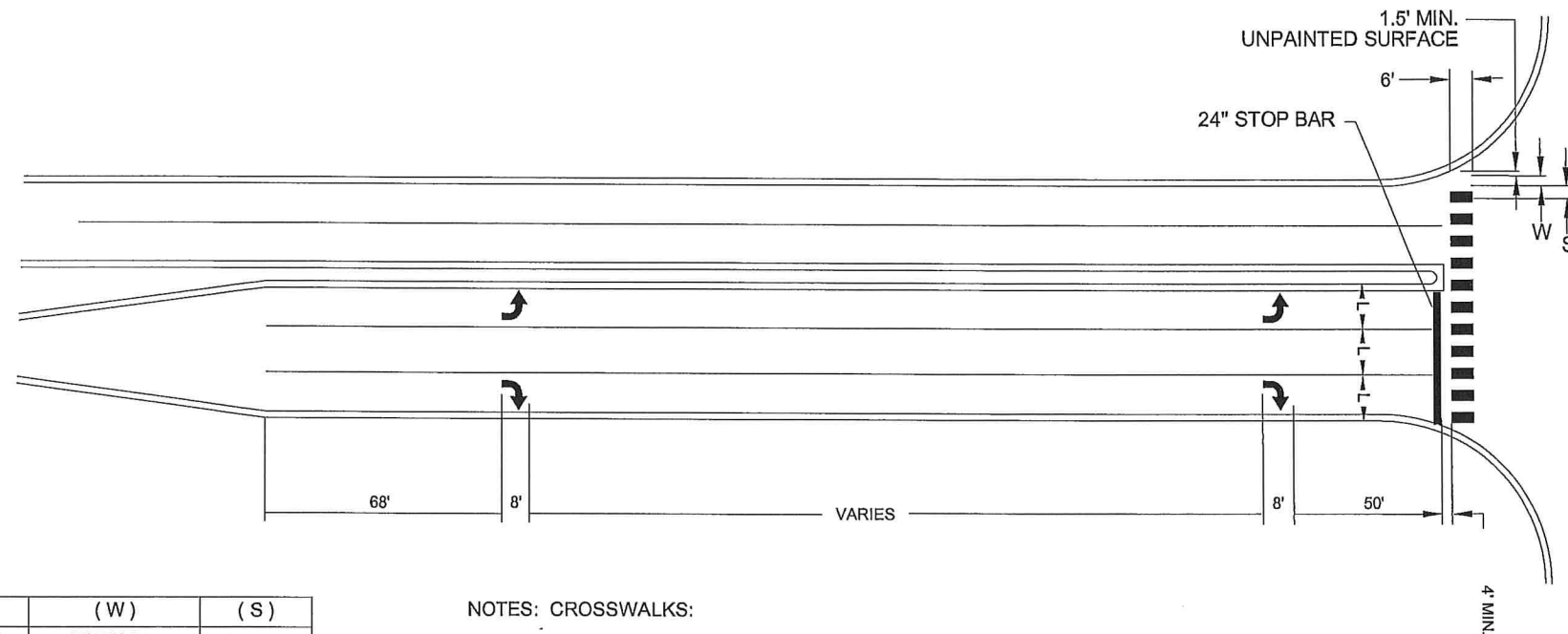
STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 19-14-68

**SIGNING & STRIPING
DETAILS**

Sheet 26 of 27 Sheets

MARKINGS FOR PEDESTRIAN CROSSWALKS



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

NOTES: CROSSWALKS:

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

NO	DATE	BY	CKD	APPR	REVISION

NAME: F:\18-01-00\CR 88 (CSAH18-CSAH22)\Base\Traffic\Sign & Strip Details.dwg

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: DOUGLAS W. FISCHER, P.E.

SIGNATURE: *[Signature]*

DATE: 4/26/19 REG. NO. 20235

DRAWN BY: TMV DATE: 02/21/19

DESIGN BY: DATE: _____

CHECKED BY: DATE: _____



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

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STATE AID PROJECT NO. _____

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SIGNING & STRIPING
DETAILS