

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR BITUMINOUS SURFACING AND CULVERT REPLACEMENT
 LOCATED ON CSAH 26 BETWEEN CSAH 24 (237TH AVE NE) AND CR #15 (DURANT STREET NE)

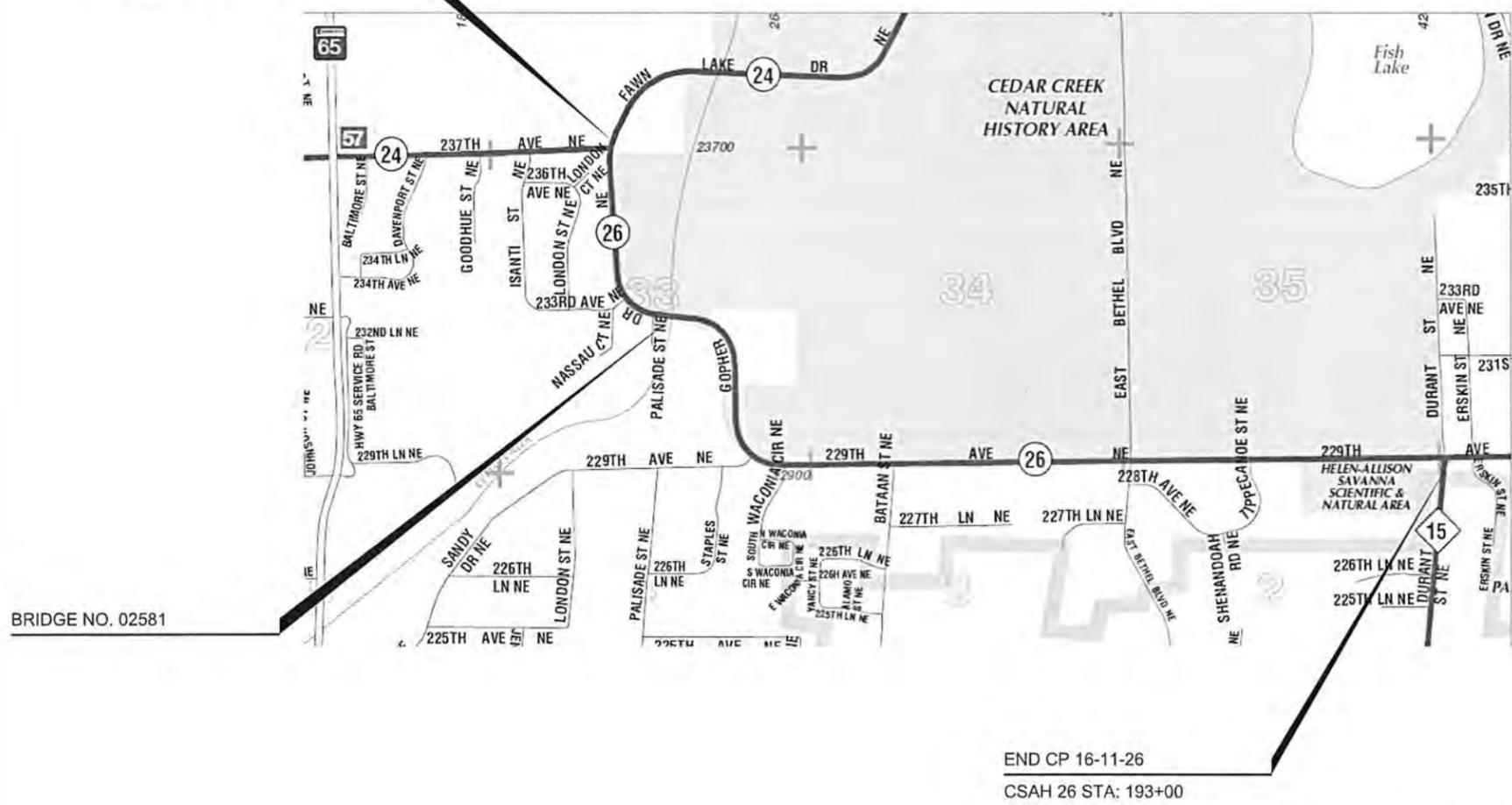
GOVERNING SPECIFICATIONS
 THE 2016 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

THIS PLAN CONTAINS 25 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4-5	DETAILS
6	BRIDGE APPROACH PANEL MISCELLANEOUS DETAILS
7	BRIDGE APPROACH PANEL JOINT DETAILS
8-14	CONSTRUCTION PLAN
15-16	CSAH 26 (Gopher Dr) CULVERT DETOUR
17	PERMANENT MARKING TABULATION
18-24	TEMPORARY SIGNING, PERMANENT SIGING, AND STRIPING
25	TRAFFIC CONTROL QUANTITY

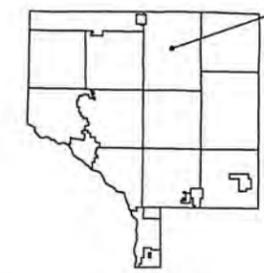
BEGIN CP 16-11-26
 CSAH 26, STA: 10+00



END CP 16-11-26
 CSAH 26 STA: 193+00

PROJECT LOCATION

CSAH #26			
GROSS LENGTH	18300 FEET	3.466 MILES	
EXCEPTIONS-LENGTH	89 FEET	0.016 MILES	
NET LENGTH	18211 FEET	3.45 MILES	
DESIGN SPEED	55 MPH		
CURRENT ADT	1635		



CITY OF EAST BETHEL
 ANOKA COUNTY
 MN/DOT TRANSPORTATION DISTRICT - METRO
 SECTION 33,34,35
 TOWNSHIP 34 NORTH
 RANGE 23 WEST

Approved: 4/11/2016
 ANOKA COUNTY ENGINEER

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\16-01-00\CR_26(CR24-CR15)\Base\PROPOSED\CSAH_26_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: Matthew J. John
 SIGNATURE:
 DATE: 4/6/2016 LICENSE NO. 51639

DRAWN BY: CSO DATE: 2/18/2016
 DESIGN BY: CSO DATE: 2/18/2016
 CHECKED BY: MJJ DATE: 2/26/2016



**ANOKA COUNTY
 HIGHWAY DEPT.**

COUNTY PROJECT 16-11-26

TITLE SHEET
 Sheet 1 of 25 Sheets

STATEMENT OF ESTIMATED QUANTITIES				
ITEM NUMBER	ITEM DESCRIPTION	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2104.501	REMOVE PIPE CULVERTS	10	LN FT	118
2104.501	REMOVE SEALANT MATERIALS	1	LN FT	44
2104.505	REMOVE BITUMINOUS PAVEMENT	12	SQ YD	1774
2104.511	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	12	LN FT	516
2105.522	SELECT GRANULAR BORROW (LV)		CY	9
2123.503	MOTOR GRADER	13	HOUR	10
2211.501	AGGREGATE BASE CLASS 5		TON	249
2215.501	FULL DEPTH RECLAMATION		SY	51231
2215.502	HAUL FULL DEPTH RECLAMATION (LV)	14	CY	145
2221.501	SHOULDER BASE AGGREGATE CLASS 5	2	TON	1208
2232.501	MILL BITUMINOUS SURFACE	3	SQ YD	67
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	2630
2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,B)	7	TON	379
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,E)		TON	12062
2406.531	EXPANSION JOINTS, DESIGN E8H	1	LN FT	44
2501.515	24" CS PIPE APRON		EACH	2
2501.515	36" CS PIPE APRON		EACH	2
2503.511	24" CP PIPE SEWER (SMOOTH)		LN FT	74
2503.511	36" CP PIPE SEWER (SMOOTH)		LN FT	70
2540.602	MAIL BOX SUPPORT	4	EACH	17
2563.601	TRAFFIC CONTROL	9	LUMP SUM	1
2563.601	DETOUR SIGNING	11	LUMP SUM	1
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	8	UDAY	28
2581.501	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	5	LN FT	1464
2582.502	4" SOLID LINE EPOXY	6	LN FT	42960
2582.502	4" BROKEN LINE EPOXY	6	LN FT	2330
2582.502	4" DOUBLE SOLID LINE EPOXY	6	LN FT	6510

CONSTRUCTION NOTES	
1	INCLUDES REMOVAL OF ANY AND ALL MATERIAL/DEBRIS AT WEST EXPANSION JOINT
2	ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND GRAVEL STREET APPROACH.
3	ITEM INCLUDES 2" DEEP MILL AT BEGINNING AND END OF PROJECT
4	MAILBOXES ARE TO BE INSTALLED AT THE EXISTING MAILBOX LOCATION OR AS DIRECTED BY THE LOCAL POSTAL AUTHORITY, CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE LOCAL POSTAL AUTHORITY. MAILBOX REMOVAL AND ALL MATERIALS ARE INCIDENTAL TO INSTALLATION.
5	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.
6	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.
7	CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
8	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT WILL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION AND 7 DAYS PRIOR TO DETOUR; REFERENCE STRIPING PLAN FOR DETAILS.
9	ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO, AND BE INSTALLED IN ACCORDANCE WITH, THE MOST CURRENT REVISION 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	INCLUDES "COW PASS" CULVERT AT STATION 31+35
11	DETOUR ONLY INPLACE DURING CULVERT REMOVAL AND PIPE SEWER INSTALLATION
12	ITEMS TO BE USED AT CULVERT REPLACEMENT LOCATIONS AT ENGINEER'S DISCRETION
13	ITEM USED TO MOVE EXCESS RECLAIM MATERIAL AT THE RECLAIM AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT
14	MATERIAL TO BE USED FOR AND HAULED TO SUPER ELEVATION CORRECTION AREA, EXCESS MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.

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 THICKNESS
2581	REMOVABLE PREFORM PAVEMENT MARKING TAPE 2' AT 50' INTERVALS

NO	DATE	BY	CKD	APPR	REVISION
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NAME: P:\16-01-00\CR_26\CR24-CR15\Baser\PROPOSED\CSAH_26_PLAN.dgn

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**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 16-11-26

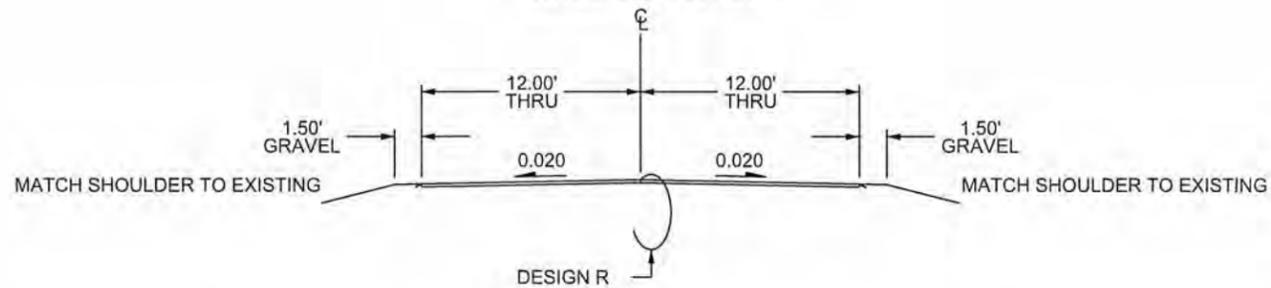
STATEMENT OF ESTIMATED QUANTITIES
 Sheet 2 of 25 Sheets

CS01617

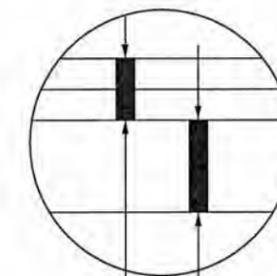
CSAH 26

PROPOSED SECTION

10+00 TO 31+75
40+25 TO 45+32
46+20 TO 193+00



DESIGN R RECLAIM SECTION



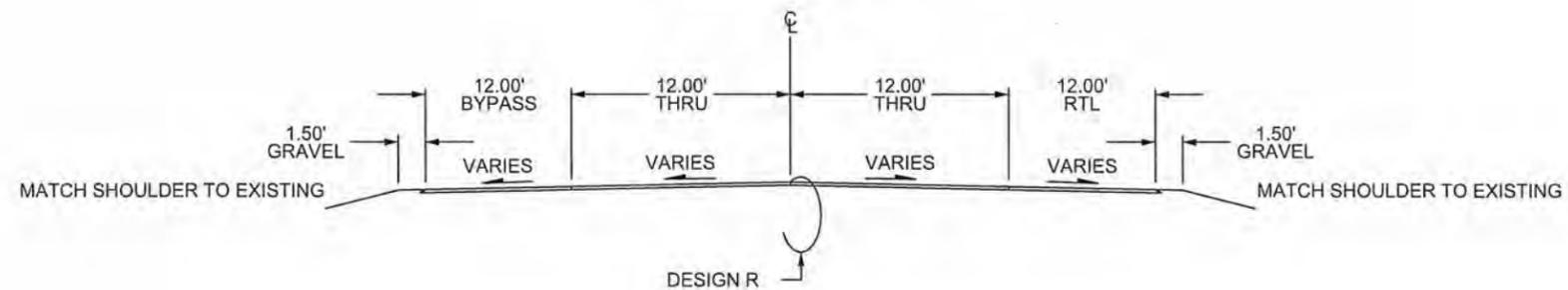
(2) 2.0" BITUMINOUS WEAR(SPWEB440E)

FULL DEPTH RECLAMATION

CSAH 26

PROPOSED SECTION

31+75 TO 40+25



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ANOKA COUNTY
HIGHWAY DEPT.

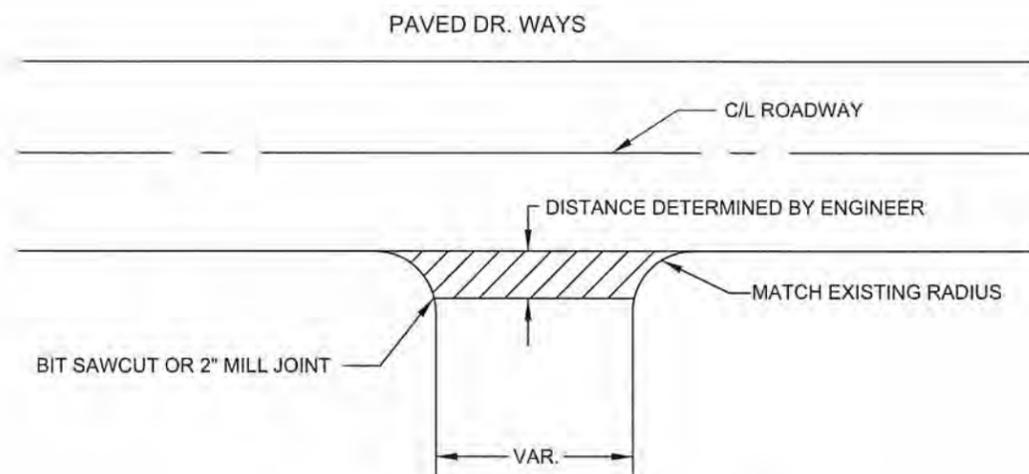
COUNTY PROJECT 16-11-26

TYPICAL SECTIONS
Sheet 3 of 25 Sheets

Kjohnso

DRIVEWAY DETAIL

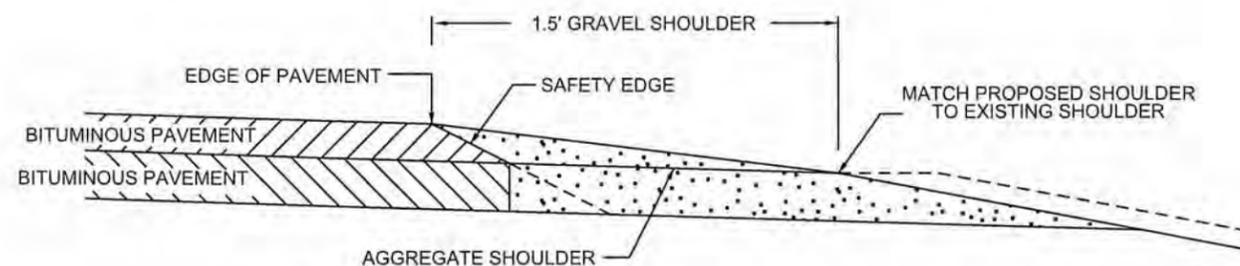
BITUMINOUS DRIVEWAY



DRIVEWAYS BUMPED OUT AND PAVED WITH MAINLINE PAID AS MAINLINE.
 DRIVEWAYS PAVED IN DIFFERENT OPERATION FROM MAIN LINE PAVING PAID AS DRIVEWAY OR STREET APPROACH.

SHOULDER DETAIL

BITUMINOUS SAFETY EDGE GRAVEL SHOULDER

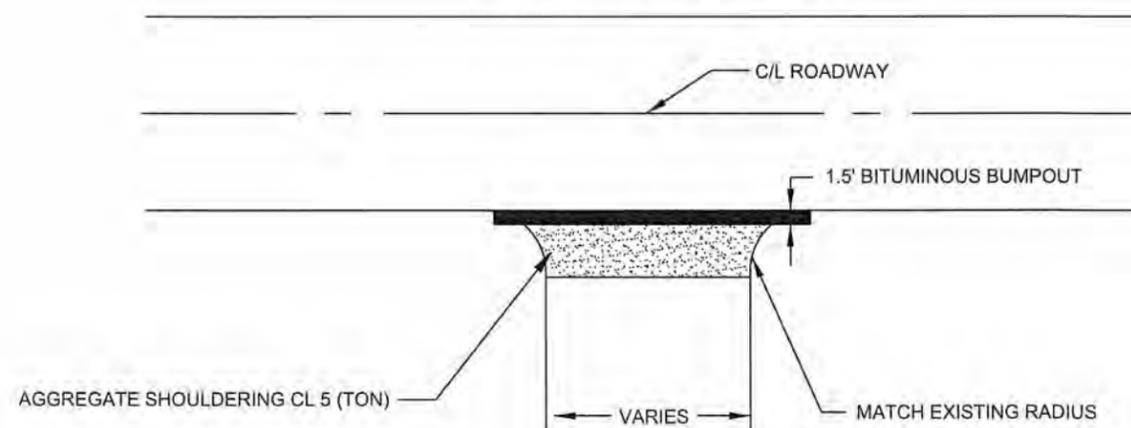


SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

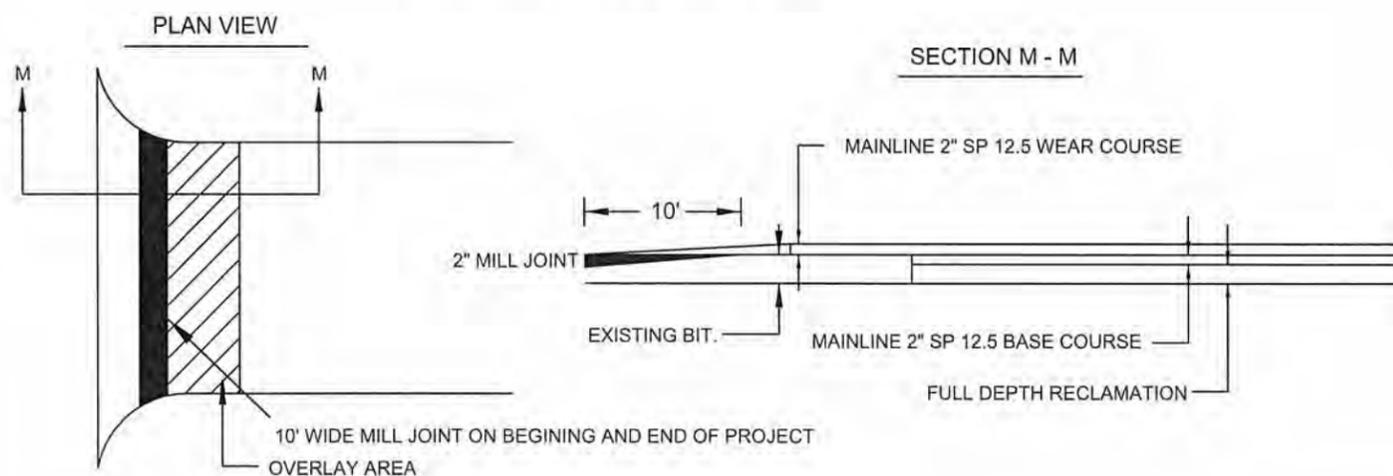
OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5". SEE SPECIAL PROVISIONS.

DRIVEWAY DETAIL

GRAVEL / FIELD ENTRANCE



MAINLINE JOINT DETAIL



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ANOKA COUNTY
HIGHWAY DEPT.

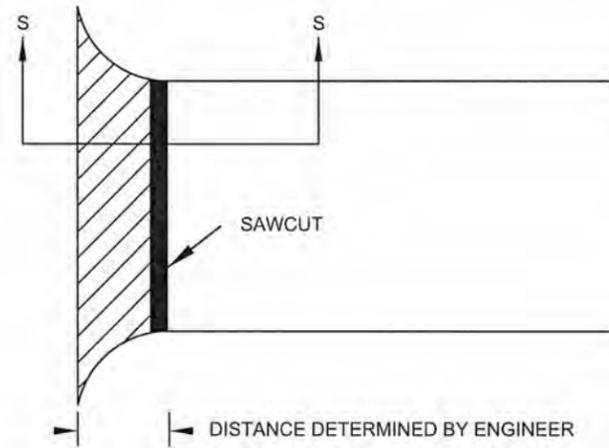
COUNTY PROJECT 16-11-26

DETAILS
Sheet 4 of 25 Sheets

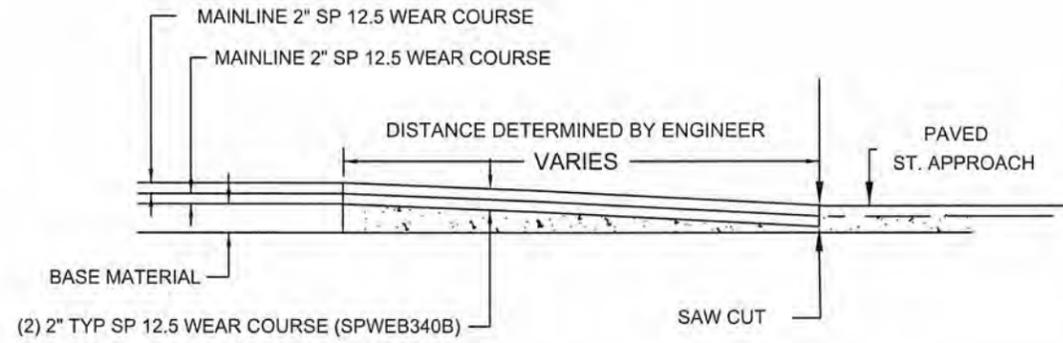
STREET APPROACH DETAIL

BITUMINOUS STREET

PLAN VIEW

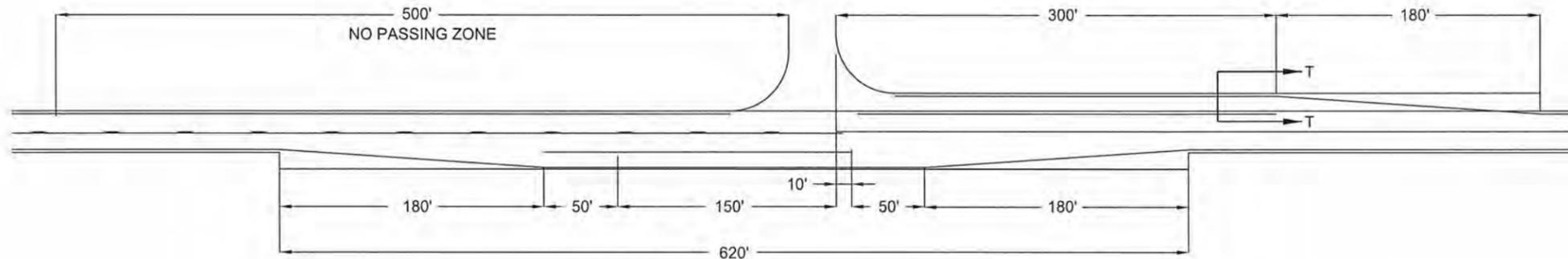


SECTION S - S



RIGHT TURN AND BYPASS LANE

GENERAL LAYOUT
PLAN VIEW



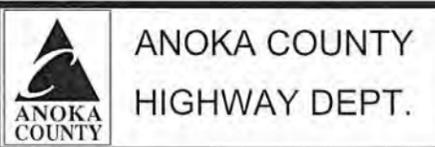
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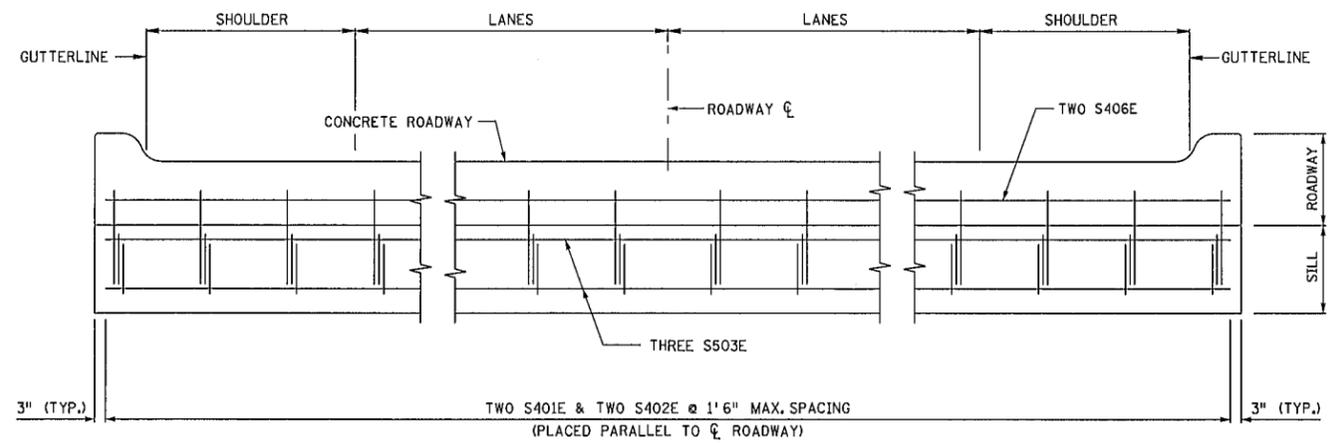
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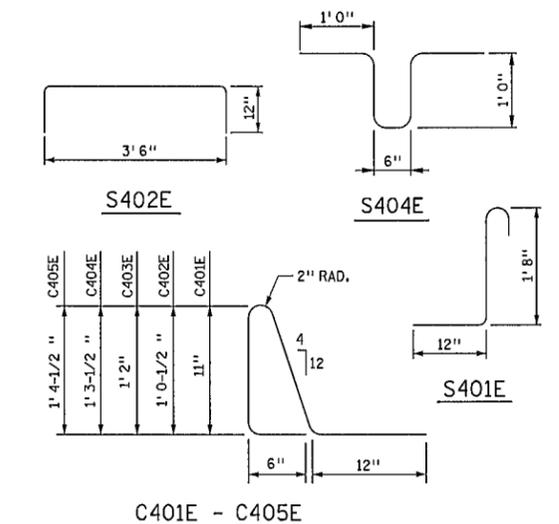


COUNTY PROJECT 16-11-26

DETAILS
Sheet 5 of 25 Sheets



SILL ELEVATION
(REINFORCEMENT IN PAVEMENT NOT SHOWN)

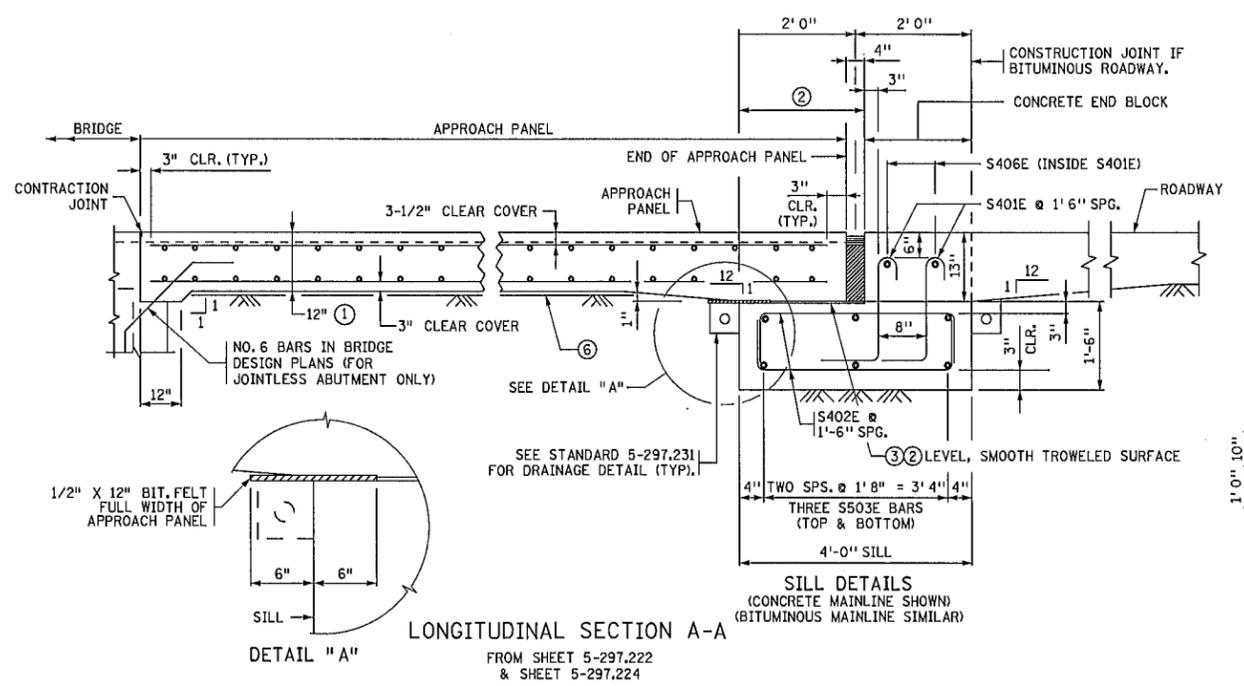


C401E - C405E

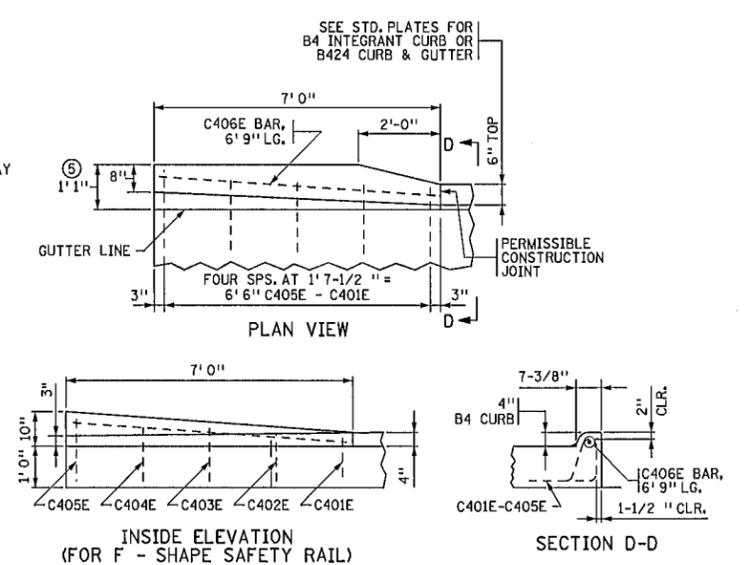
BILL OF REINFORCEMENT FOR CONCRETE SILL				
CONTRACTOR IS REQUIRED TO COMPLETE THE BILL OF REINFORCEMENT TABLE AND PREPARE SHOP DRAWINGS AND SUBMIT THEM TO THE PROJECT ENGINEER AT LEAST 3 WEEKS BEFORE REBAR FABRICATION.				
BAR NO.	LENGTH	SHAPE	LOCATION	
S401E	3' 2"	J	SILL VERTICAL	
S402E	5' 6"	J	SILL TIE	
* S503E	1'	—	SILL HORIZONTAL	
* S404E	4' 6"	J	KEY TIE	
* S405E	1'	—	KEY HORIZONTAL	
* S406E	1'	—	END BLOCK HORIZONTAL	

* MINIMUM REINFORCEMENT LAP LENGTHS ARE AS FOLLOWS:
NO. 4 BAR = 1'-8", NO. 5 BAR = 2'-1".

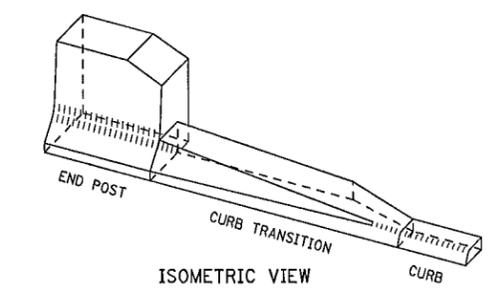
BILL OF REINFORCEMENT FOR CURB TRANSITION				
CONTRACTOR IS REQUIRED TO COMPLETE THE BILL OF REINFORCEMENT TABLE AND PREPARE SHOP DRAWINGS AND SUBMIT THEM TO THE PROJECT ENGINEER AT LEAST 3 WEEKS BEFORE REBAR FABRICATION.				
BAR NO.	LENGTH	SHAPE	LOCATION	
C401E	3' 6"	J	CURB VERTICAL	
C402E	3' 9"	J	CURB VERTICAL	
C403E	4' 0"	J	CURB VERTICAL	
C404E	4' 3"	J	CURB VERTICAL	
C405E	4' 5"	J	CURB VERTICAL	
C406E	6' 9"	—	CURB LONGITUDINAL	



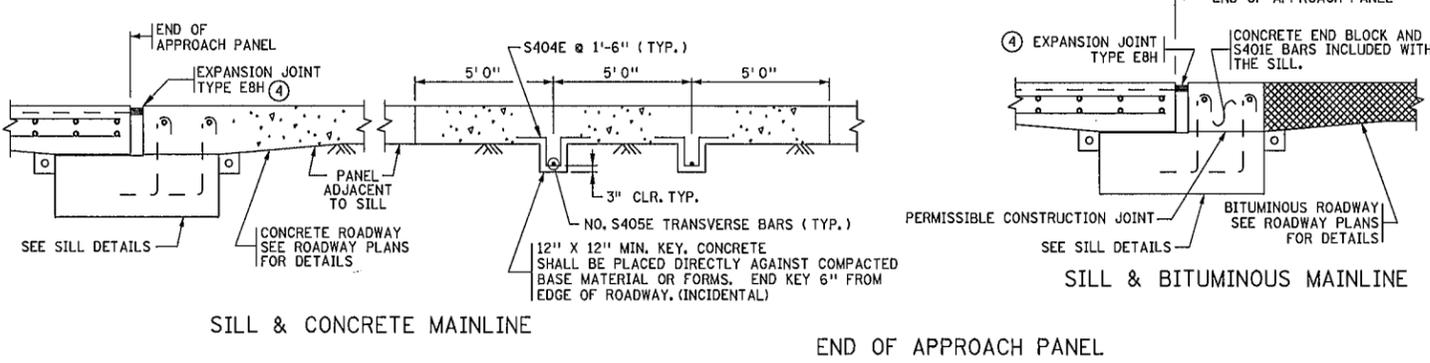
LONGITUDINAL SECTION A-A
FROM SHEET 5-297.222 & SHEET 5-297.224



CURB TRANSITION DETAILS
F-SHAPE SAFETY BARRIER TO B4 CURB WITH W-BEAM GUARDRAIL BARRIER



ISOMETRIC VIEW



SILL & CONCRETE MAINLINE

END OF APPROACH PANEL

SILL & BITUMINOUS MAINLINE

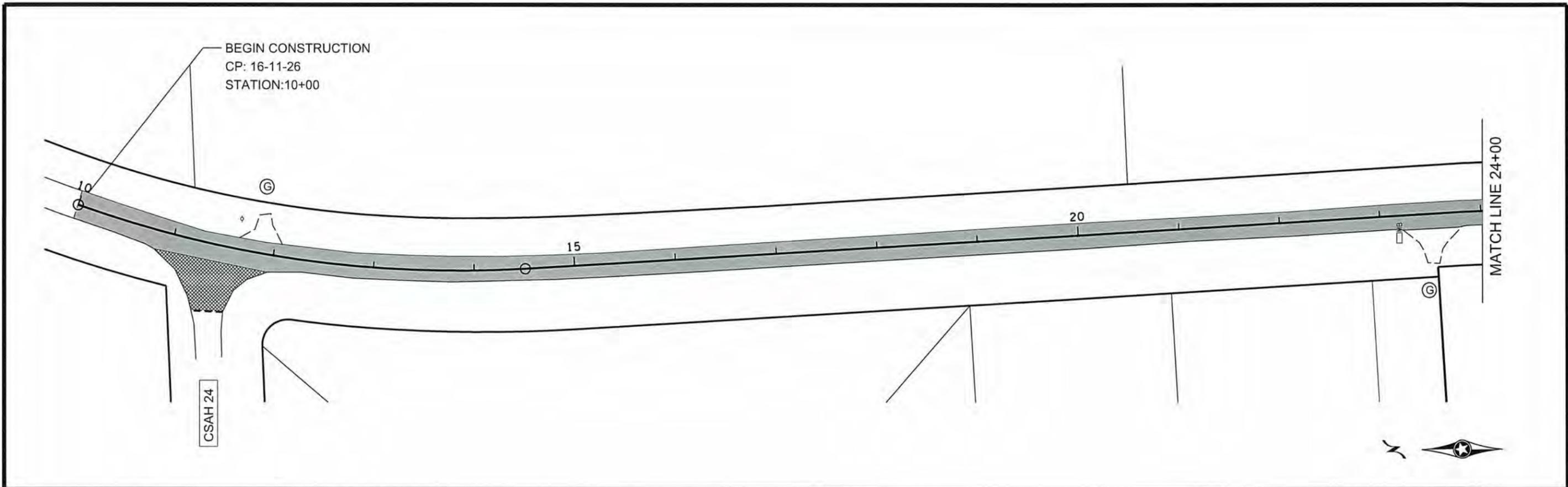
BITUMINOUS MAINLINE WITHOUT SILL
(NON TRUNK HIGHWAY USE ONLY)

- NOTES:**
- AS PER MNDOT 3301, USE EPOXY COATED GRADE 60 REINFORCEMENT BARS.
 - ENSURE THAT SILL DOES NOT INTERFERE WITH GUARDRAIL POST PLACEMENT.
 - APPROACH SLAB THICKNESS IS 12" (12" MONOLITHIC OR 10" SLAB + 2" WEARING COURSE). CHECK BRIDGE PLANS FOR CONCRETE WEARING COURSE, WHICH IS INCLUDED IN BRIDGE PLAN QUANTITIES.
 - PLACE PLASTIC SHEETING (MNDOT 3756) AS APPROVED BY THE ENGINEER TO BREAK BOND, COVER AREA SHOWN IN DETAIL. (SHEETING IS INCLUDED IN THE APPROACH PANEL PAY ITEM).
 - REQUIRED CONSTRUCTION JOINT.
 - SEE STANDARD PLANS 5-297.222 & 5-297.224 FOR TYPE OF EXPANSION JOINT. DETAILS OF EXPANSION JOINT TYPE E8H ARE SHOWN ON STANDARD PLAN 5-297.229.
 - FROM BACK SIDE OF CURB TRANSITION TO GUTTERLINE.
 - IF THE APPROACH PANEL IS TIED TO THE BRIDGE ABUTMENT WITH REINFORCEMENT BARS, PLACE 12 MIL POLYETHYLENE SHEETING (OR 2 LAYERS OF 6 MIL) UNDER THE LIMITS OF THE APPROACH PANEL TO ALLOW THE PANEL TO MOVE LONGITUDINALLY ON THE GRADE. SHEETING IS INCLUDED IN THE APPROACH PANEL PAY ITEM.

STANDARD PLAN SHEET NO. 5-297.227	TITLE: BRIDGE APPROACH PANEL MISCELLANEOUS DETAILS
STANDARD APPROVED: DECEMBER 20, 2011	
STATE PROJ. NO.	(TH) SHEET NO. 4 OF 25 SHEETS

REVISION DATE
3-22-2013

mjohn

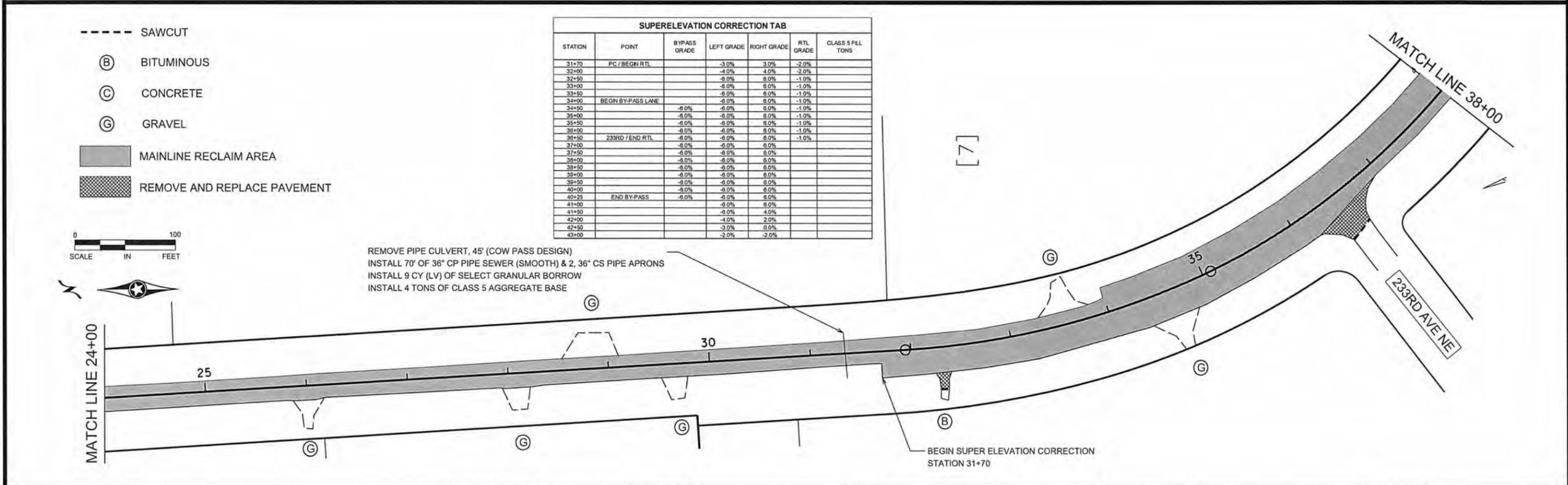


- SAWCUT
- (B) BITUMINOUS
- (C) CONCRETE
- (G) GRAVEL
- MAINLINE RECLAIM AREA
- REMOVE AND REPLACE PAVEMENT



SUPERELEVATION CORRECTION TAB						
STATION	POINT	BYPASS GRADE	LEFT GRADE	RIGHT GRADE	RTL GRADE	CLASS 5 FILL TONS
31+70	PC / BEGIN RTL		-3.0%	3.0%	-2.0%	
32+00			-4.0%	4.0%	-2.0%	
32+50			-6.0%	6.0%	-1.0%	
33+00			-6.0%	6.0%	-1.0%	
33+50			-6.0%	6.0%	-1.0%	
34+00	BEGIN BY-PASS LANE		-6.0%	6.0%	-1.0%	
34+50		-6.0%	-6.0%	6.0%	-1.0%	
35+00		-6.0%	-6.0%	6.0%	-1.0%	
35+50		-6.0%	-6.0%	6.0%	-1.0%	
36+00		-6.0%	-6.0%	6.0%	-1.0%	
36+50	233RD / END RTL	-6.0%	-6.0%	6.0%	-1.0%	
37+00		-6.0%	-6.0%	6.0%		
37+50		-6.0%	-6.0%	6.0%		
38+00		-6.0%	-6.0%	6.0%		
38+50		-6.0%	-6.0%	6.0%		
39+00		-6.0%	-6.0%	6.0%		
39+50		-6.0%	-6.0%	6.0%		
40+00		-6.0%	-6.0%	6.0%		
40+25	END BY-PASS	-6.0%	-6.0%	6.0%		
41+00			-6.0%	6.0%		
41+50			-6.0%	4.0%		
42+00			-4.0%	2.0%		
42+50			-3.0%	0.0%		
43+00			-2.0%	-2.0%		

REMOVE PIPE CULVERT, 45' (COW PASS DESIGN)
 INSTALL 70' OF 36" CP PIPE SEWER (SMOOTH) & 2, 36" CS PIPE APRONS
 INSTALL 9 CY (LV) OF SELECT GRANULAR BORROW
 INSTALL 4 TONS OF CLASS 5 AGGREGATE BASE



NO	DATE	BY	CKD	APPR	REVISION	

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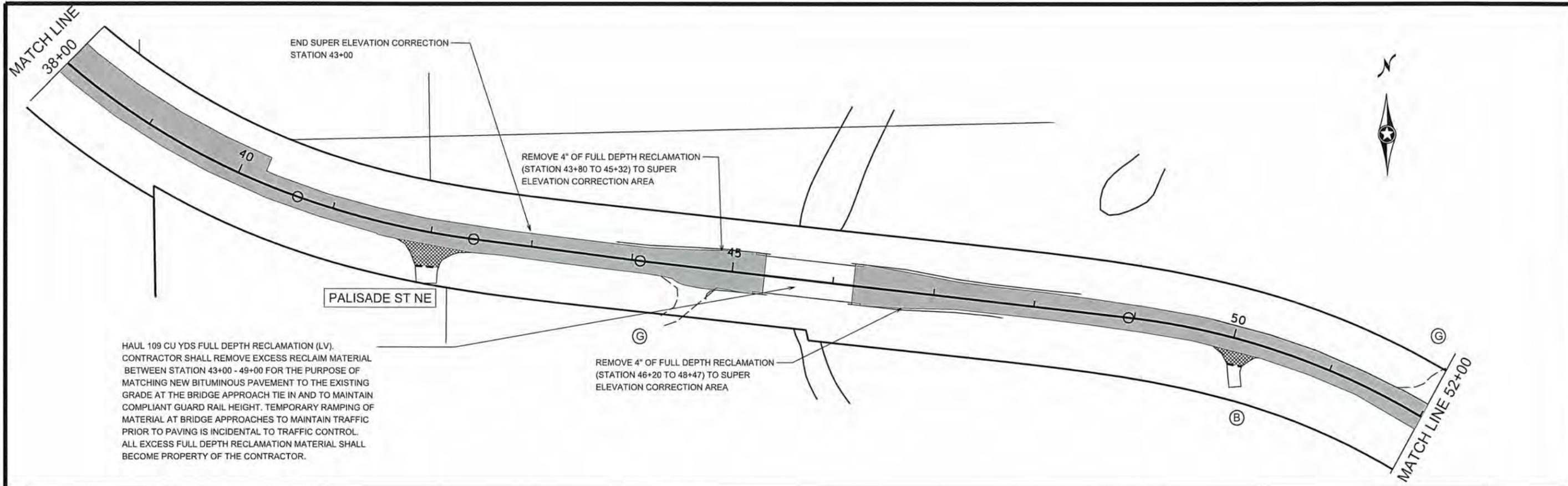
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ANOKA COUNTY HIGHWAY DEPT.

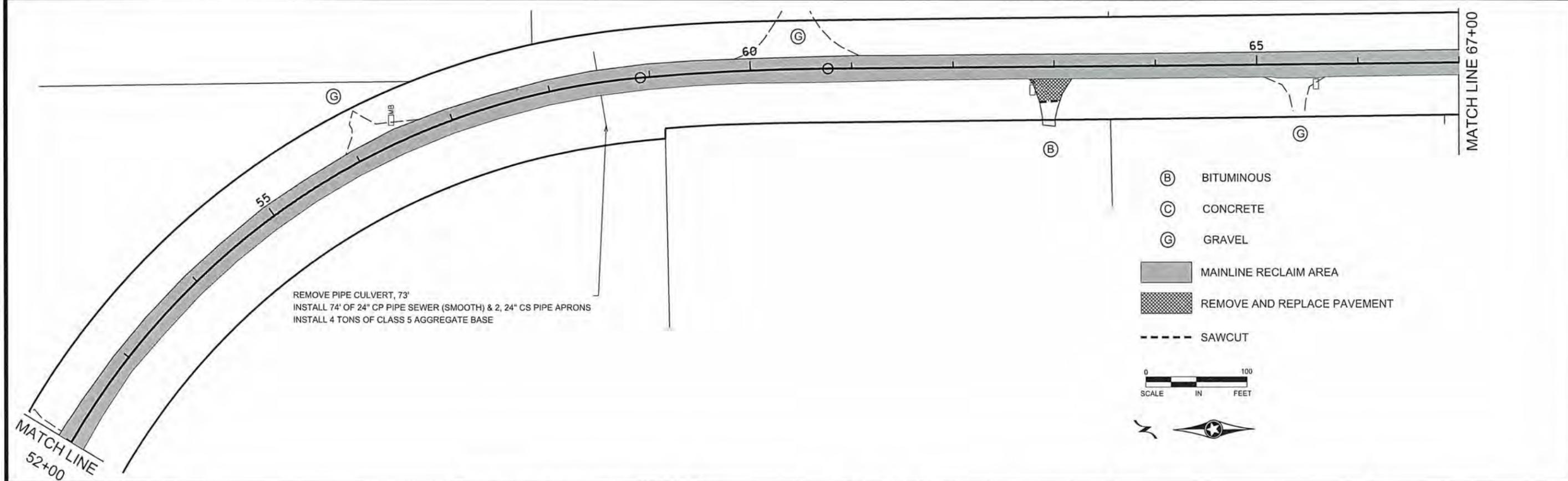
COUNTY PROJECT 16-11-26

CONSTRUCTION PLAN
 STA 10+00 TO 38+00
 Sheet 8 of 25 Sheets

mjohn



HAUL 109 CU YDS FULL DEPTH RECLAMATION (LV). CONTRACTOR SHALL REMOVE EXCESS RECLAIM MATERIAL BETWEEN STATION 43+00 - 49+00 FOR THE PURPOSE OF MATCHING NEW BITUMINOUS PAVEMENT TO THE EXISTING GRADE AT THE BRIDGE APPROACH TIE IN AND TO MAINTAIN COMPLIANT GUARD RAIL HEIGHT. TEMPORARY RAMPING OF MATERIAL AT BRIDGE APPROACHES TO MAINTAIN TRAFFIC PRIOR TO PAVING IS INCIDENTAL TO TRAFFIC CONTROL. ALL EXCESS FULL DEPTH RECLAMATION MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.



REMOVE PIPE CULVERT, 73'
INSTALL 74' OF 24" CP PIPE SEWER (SMOOTH) & 2, 24" CS PIPE APRONS
INSTALL 4 TONS OF CLASS 5 AGGREGATE BASE

- (B) BITUMINOUS
- (C) CONCRETE
- (G) GRAVEL
- MAINLINE RECLAIM AREA
- REMOVE AND REPLACE PAVEMENT
- SAWCUT



NO	DATE	BY	CKD	APPR	REVISION	
	04/09/2016					2:32:19 PM

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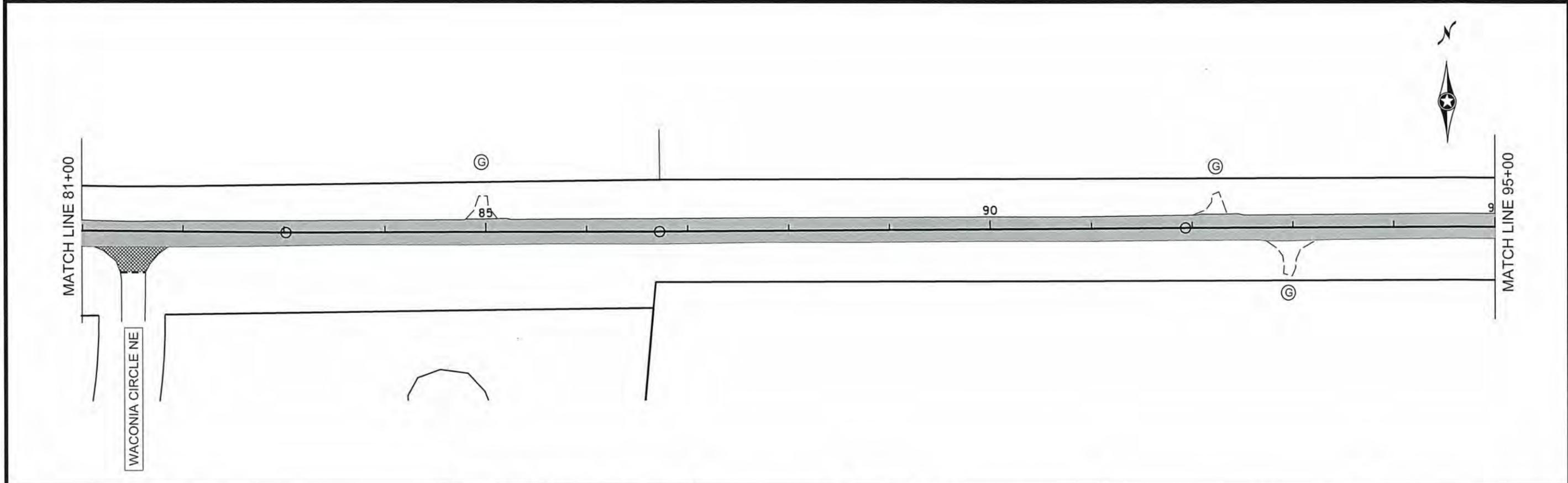
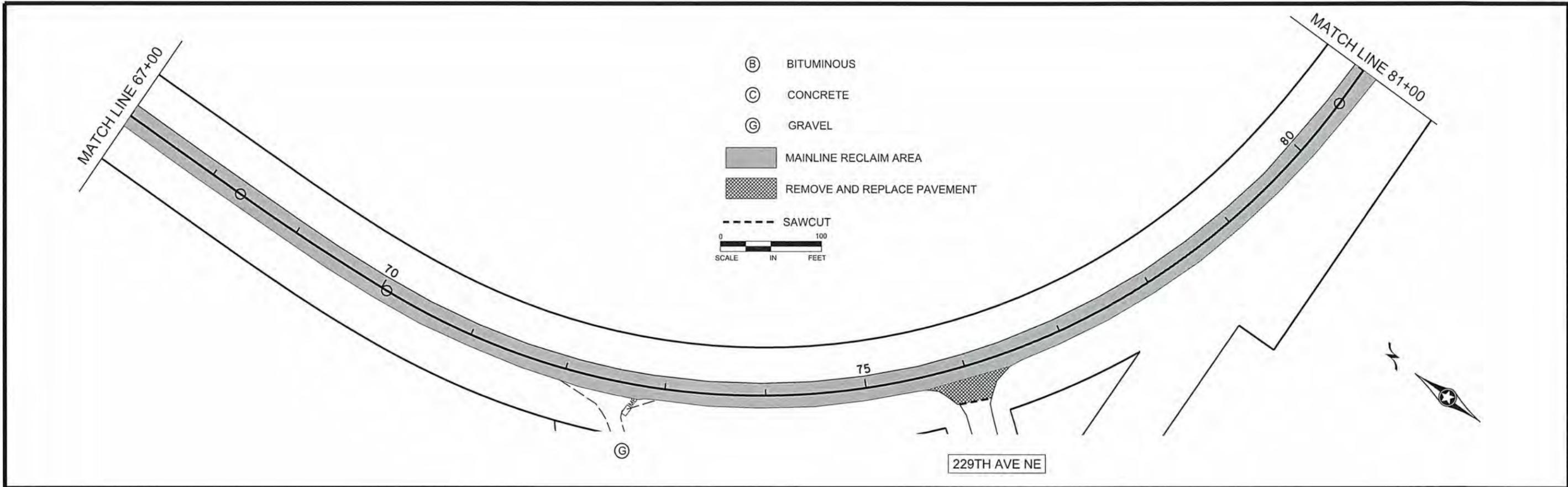
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 DESIGN BY CSO DATE 2/18/2016
 CHECKED BY MJJ DATE 2/29/2016

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 16-11-26

CONSTRUCTION PLAN
 STA 38+00 TO 67+00
 Sheet 9 of 25 Sheets

csosterh



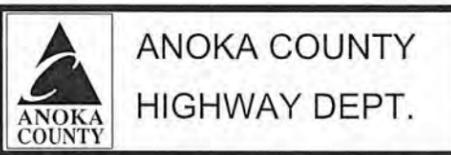
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: Matthew J. John
 SIGNATURE: *Matthew J. John*
 DATE: 4/6/2016 LICENSE NO. 51639

DRAWN BY CSO DATE 2/18/2016
 DESIGN BY CSO DATE 2/18/2016
 CHECKED BY MJJ DATE 2/26/2016



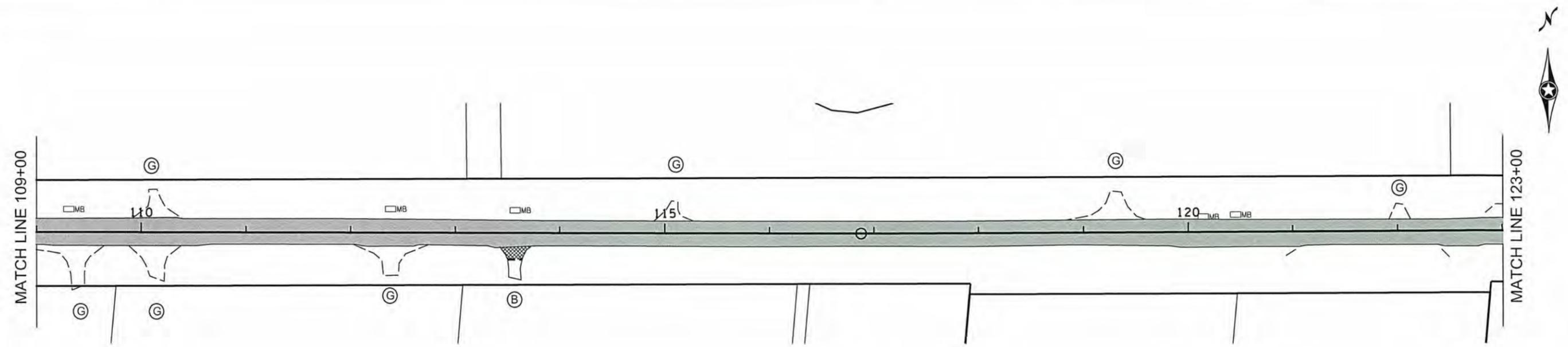
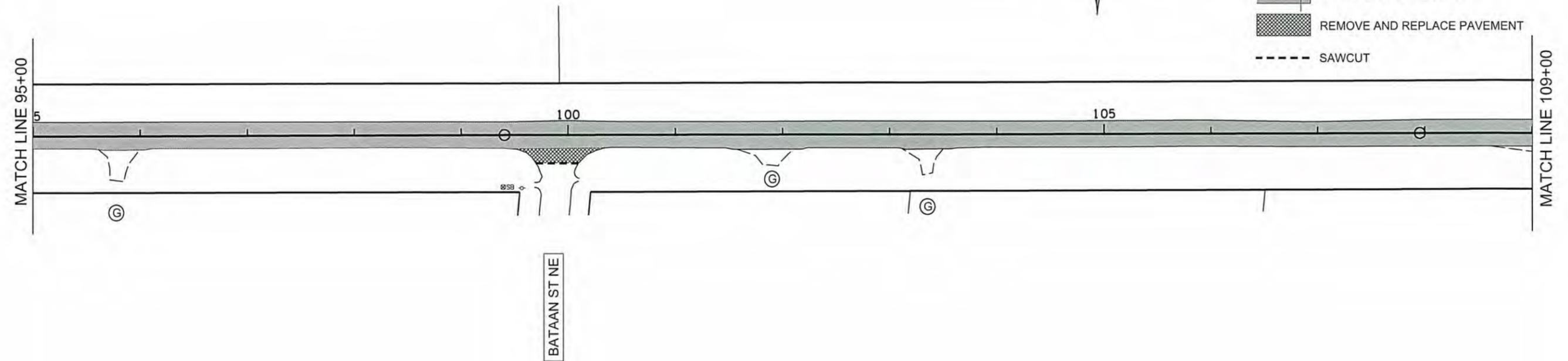
COUNTY PROJECT 16-11-26

CONSTRUCTION PLAN
 STA 67+00 TO 95+00
 Sheet 10 of 25 Sheets

csosterh



- (B) BITUMINOUS
- (C) CONCRETE
- (G) GRAVEL
- MAINLINE RECLAIM AREA
- REMOVE AND REPLACE PAVEMENT
- SAWCUT



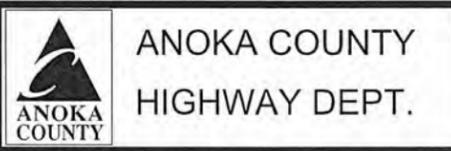
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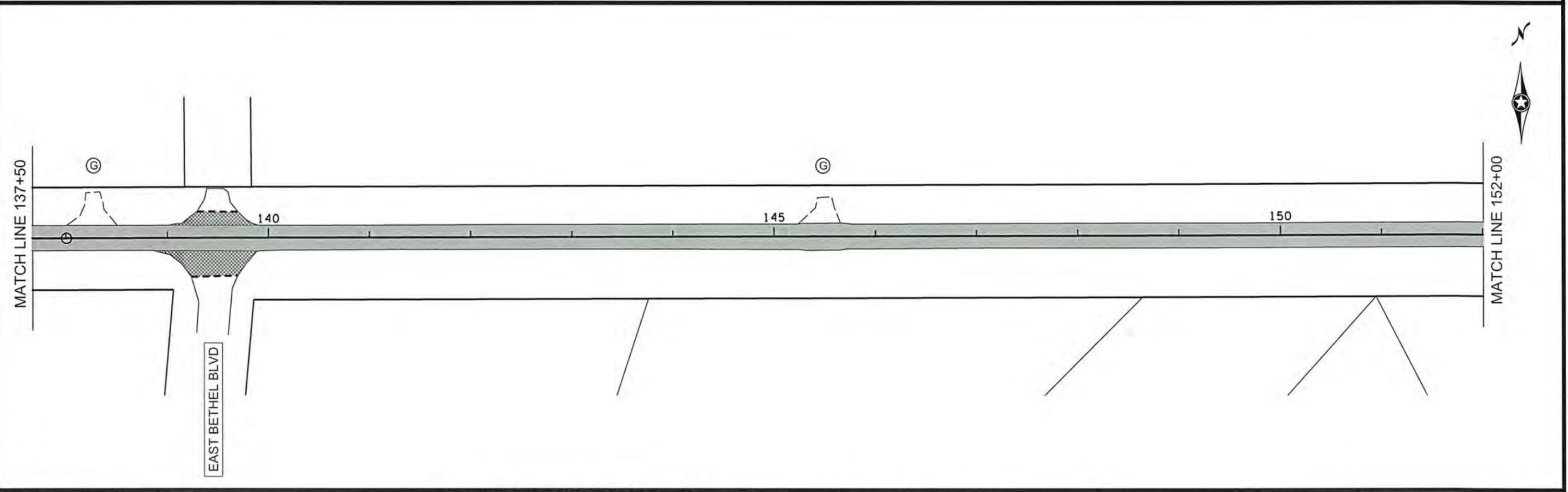
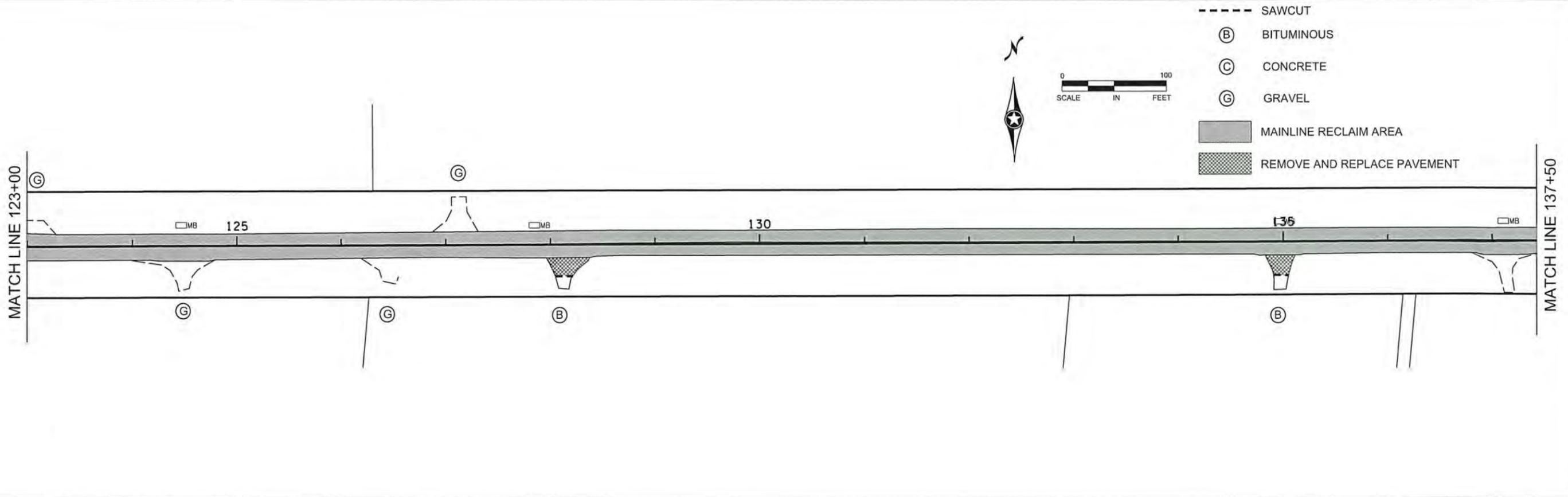
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 DESIGN BY: CSO DATE: 2/18/2016
 CHECKED BY: MJJ DATE: 2/26/2016



ANOKA COUNTY
 HIGHWAY DEPT.
 COUNTY PROJECT 16-11-26

CONSTRUCTION PLAN
 STA 95+00 TO 123+00
 Sheet 11 of 25 Sheets

csos1erh



NO	DATE	BY	CKD	APPR	REVISION	
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NAME: P:\16-01-00\CR_26(CR24-CR15)\Base\PROPOSED\CSAH_26_PLAN.dgn

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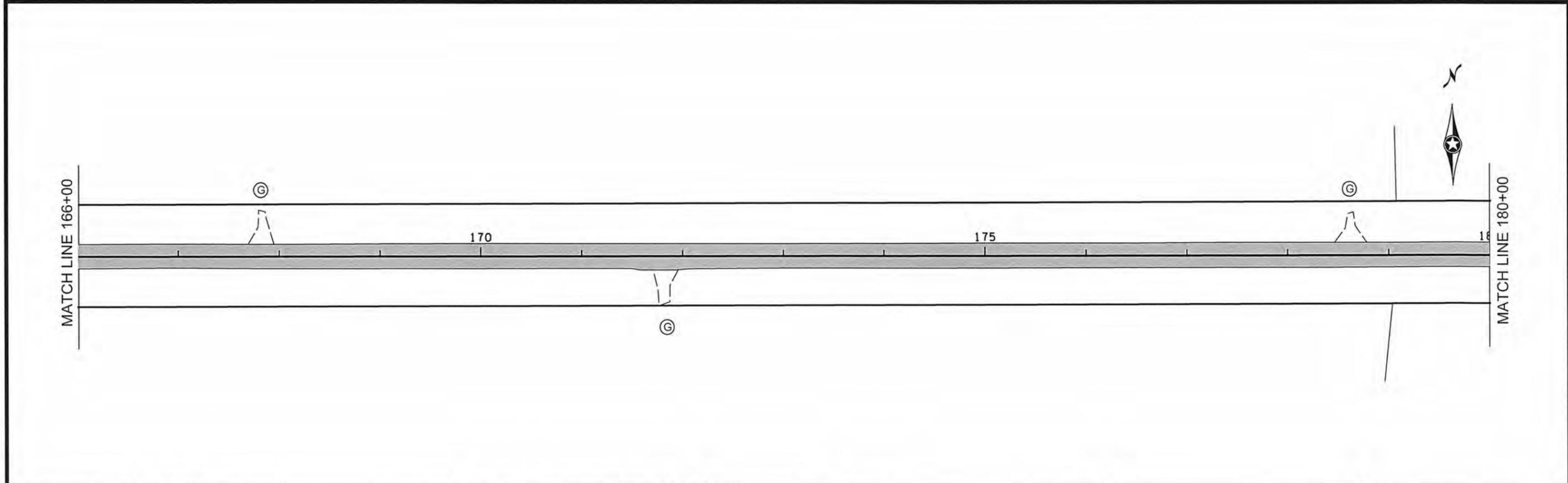
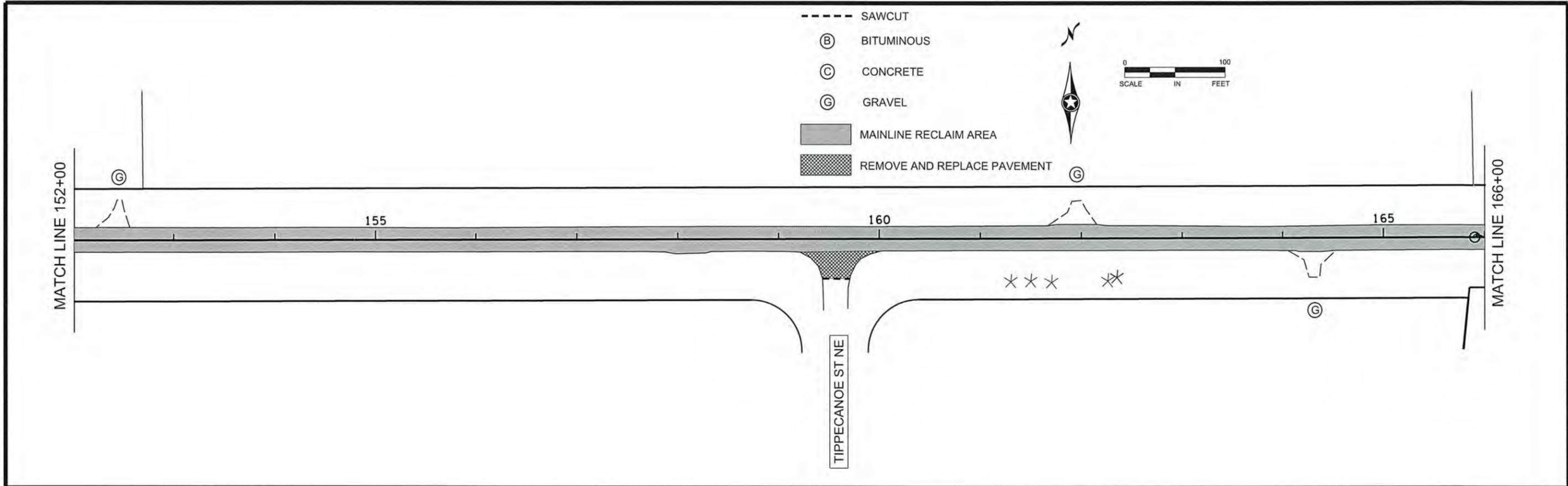
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 DESIGN BY CSO DATE 2/18/2016
 CHECKED BY MJJ DATE 2/26/2016

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 16-11-26

CONSTRUCTION PLAN
 STA 123+00 TO 152+00
 Sheet 12 of 25 Sheets

csosterh



NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
	04/06/2016					12:11:12 PM	

NAME: P:\16-01-00\CR_26(CR24-CR15)\Base\PROPOSED\CSAH_26_PLAN.dgn

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PRINT NAME: Matthew J. John

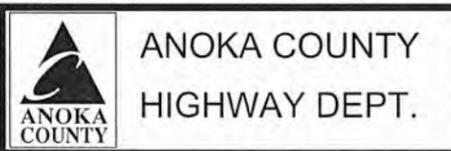
SIGNATURE: *Matthew J. John*

DATE: 4/6/2016 LICENSE NO. 51639

DRAWN BY: CSO DATE: 2/18/2016

DESIGN BY: CSO DATE: 2/18/2016

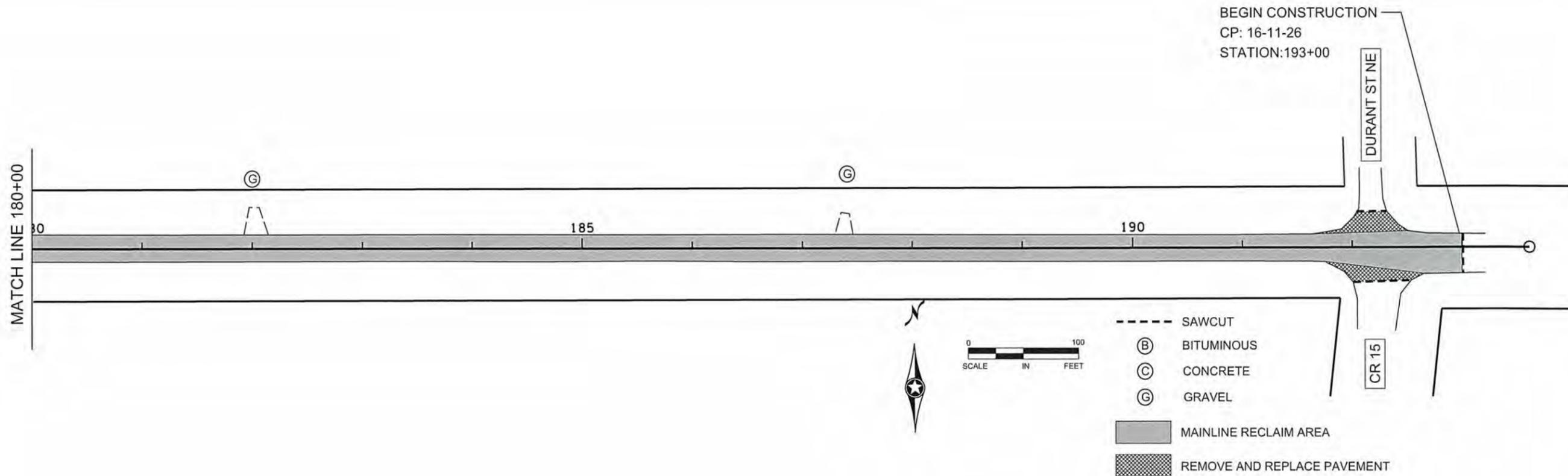
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COUNTY PROJECT 16-11-26

CONSTRUCTION PLAN
STA 152+00 TO 180+00
Sheet 13 of 25 Sheets

csosterh



NO	DATE	BY	CKD	APPR	REVISION	TIME
	04/06/2016					12:11:15 PM

NAME: P:\16-01-00\CR_26(CR24-CR15)\Base\PROPOSED\CSAH_26_PLAN.dgn

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SIGNATURE: *Matthew J. John*

DATE: 4/6/2016 LICENSE NO. 51639

DRAWN BY CSO DATE 2/18/2016

DESIGN BY CSO DATE 2/18/2016

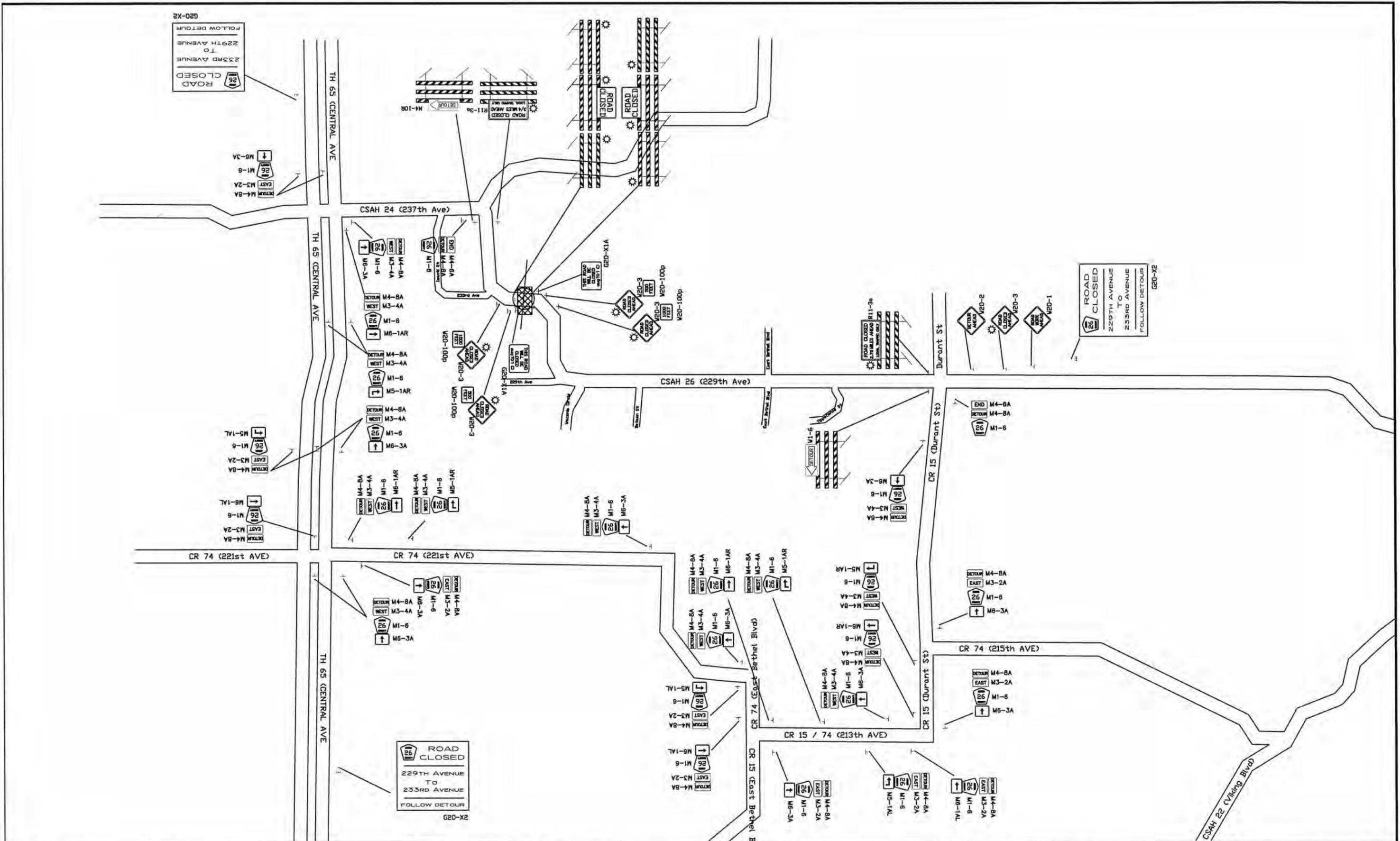
CHECKED BY MJJ DATE 2/26/2016



ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 16-11-26

CONSTRUCTION PLAN
STA 180+00 TO 193+00
Sheet 14 of 25 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:116-01-001CR 26BaseTRAFFICDetour.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: MATTHEW J. JOHN
 SIGNATURE: *Matthew J. John*
 DATE: 4/6/2016 LICENSE NO. 51639

DRAWN BY: RLB DATE: 2/17/16
 DESIGN BY: RLB DATE: 2/17/16
 CHECKED BY: JLR DATE: 2/17/16



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 16-11-26

CSAH 26 (Gopher Dr)
 CULVERT DETOUR

Sheet 15 of 25 Sheets

INSERT	QUANTITY	M. D. T. C. D. CODE	SIZE	INSERT	QUANTITY
	1	TYPE III	8 FOOT		2
	1	TYPE III	8 FOOT		2
	5 2 2	G20-X2	132' x 108'		2
	SEE NOTE ② 1	G20-X2	132' x 108'		1
	SEE NOTE ② 1	G20-X1	60' x 48'		2
	SEE NOTE ② 2	M4-8A	24' x 12'		5
		M3-4A	24' x 12'		4
		M1-6A	24' x 24'		0
			21' x 15'		0
					9
	SEE NOTE ② 1	M4-8A	24' x 12'		0
		M3-2A	24' x 12'		0
		M1-6A	24' x 24'		4
			21' x 15'		3
					6
	SEE NOTE ② 1	M4-6A	24' x 12'		
		M4-8A	24' x 12'		2
		M1-6A	24' x 24'		



G20-X2_132x108; 12.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange; [ROAD] D; [CLOSED] D; [229th Avenue] D; [TO] D; [233rd Avenue] D; [FOLLOW] D; [DETOUR] D;

G20-X2_132x108; 12.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange; [ROAD] D; [CLOSED] D; [233rd Avenue] D; [TO] D; [229th Avenue] D; [FOLLOW] D; [DETOUR] D;

* SIGN TO BE INSTALLED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGING. SIGNS TO BE REMOVED AT TIME OF DETOUR INSTALLATION.

- NOTES:
- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE 'MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MN MUTCD), INCLUDING PART VI, 'FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS'.
 - 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.

NO	DATE	BY	CKD	APPR	REVISION

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 PRINT NAME: MATTHEW J. JOHN
 SIGNATURE: *Matthew J. John*
 DATE: 4/6/2016 LICENSE NO. 51639

DRAWN BY: RLB DATE: 2/17/15
 DESIGN BY: RLB DATE: 2/17/15
 CHECKED BY: JR DATE: 2/17/15

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 16-11-26

CSAH 26 (Gopher Dr) DETOUR QUANTITIES
 Sheet 16 of 25 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.

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 BEADS 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 FILM 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 MARKING QUANTITIES		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - EPOXY PAINT	LIN FT	36200
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	6760
4" BROKEN LINE YELLOW - EPOXY PAINT	LIN FT	2290
4" DOUBLE SOLID LINE YELLOW - EPOXY PAINT	LIN FT	6510
4" BROKEN LINE WHITE - EPOXY PAINT	LIN FT	40

SYMBOLS & MATERIALS LEGEND

■ CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

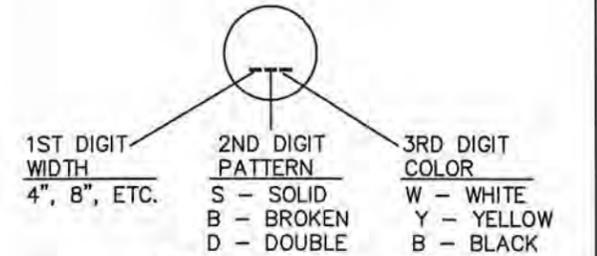
↩ PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

○ CIRCLE - EPOXY □ SQUARE PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



EXAMPLE: (4SW) = 4" SOLID LINE WHITE - EPOXY

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 PRINT NAME: MATTHEW J. JOHN
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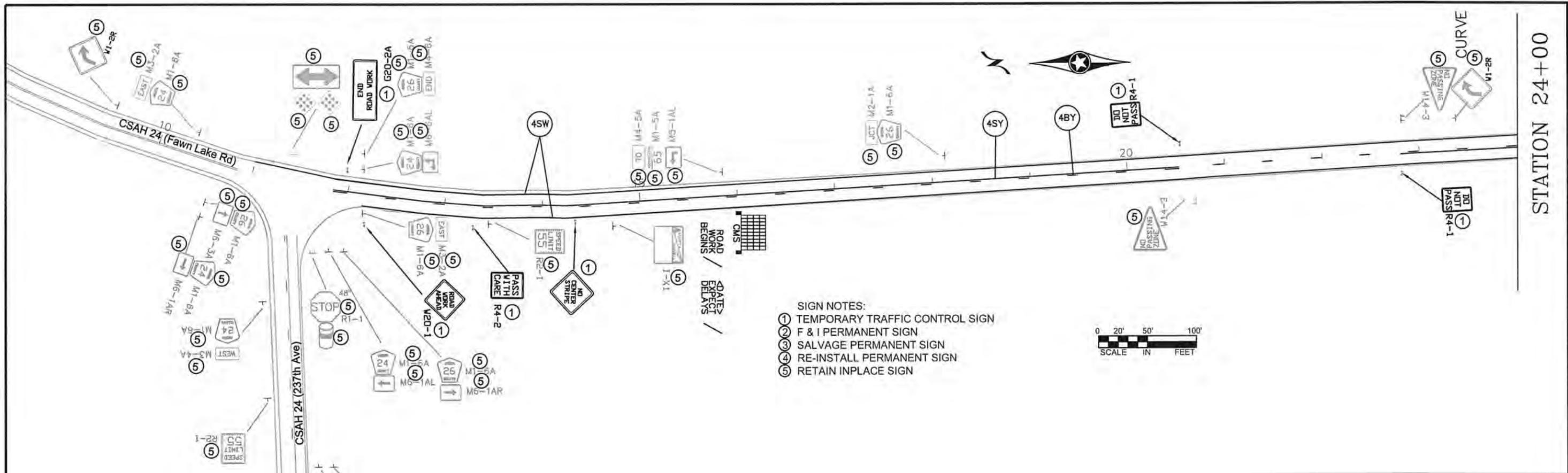
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 CHECKED BY: JR DATE: 2/14/14



ANOKA COUNTY
HIGHWAY DEPT.

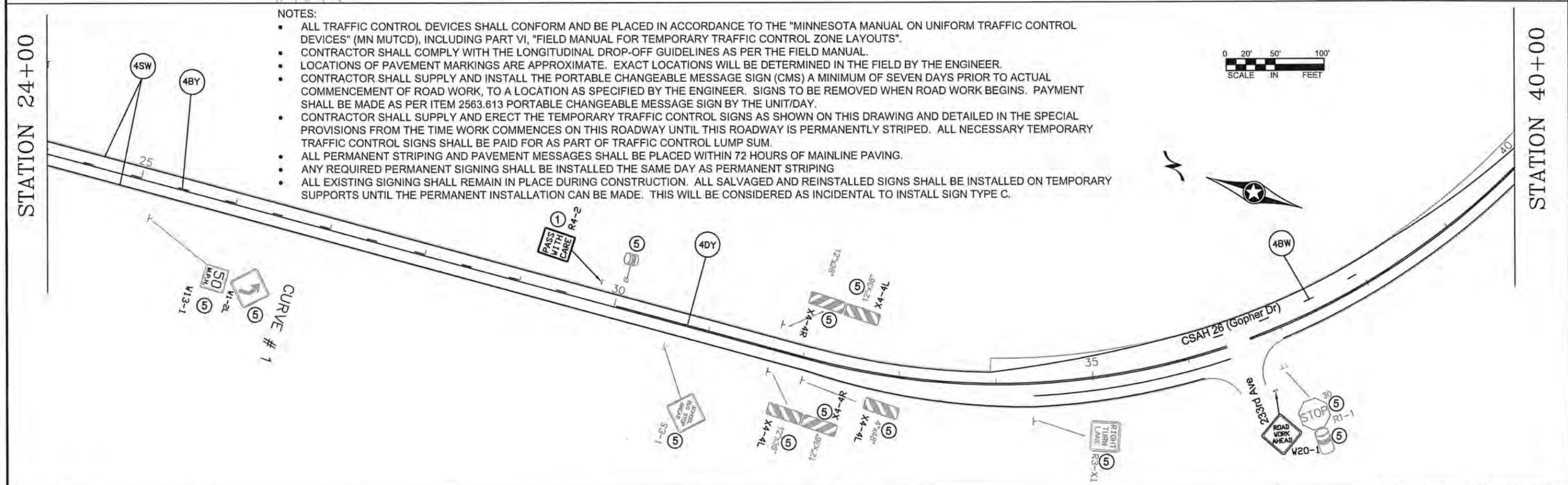
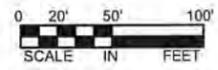
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 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 16-11-26

PERMANENT MARKING
TABULATION
 Sheet 17 of 25 Sheets



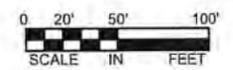
STATION 24+00

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
 - ④ RE-INSTALL PERMANENT SIGN
 - ⑤ RETAIN INPLACE SIGN



STATION 40+00

- NOTES:
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 - CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
 - LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
 - CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
 - ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
 - ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING
 - ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGE AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\16-01-00\CR 26\base\Traffic\Signing_Striping.dwg

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PRINT NAME: MATTHEW J. JOHN

SIGNATURE: *Matthew J. John*

DATE: 4/6/2016 REG. NO. 51639

DRAWN BY: RLB DATE: 1/23/15

DESIGN BY: RLB DATE: 1/23/15

CHECKED BY: JR DATE: 1/30/15

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 16-11-26

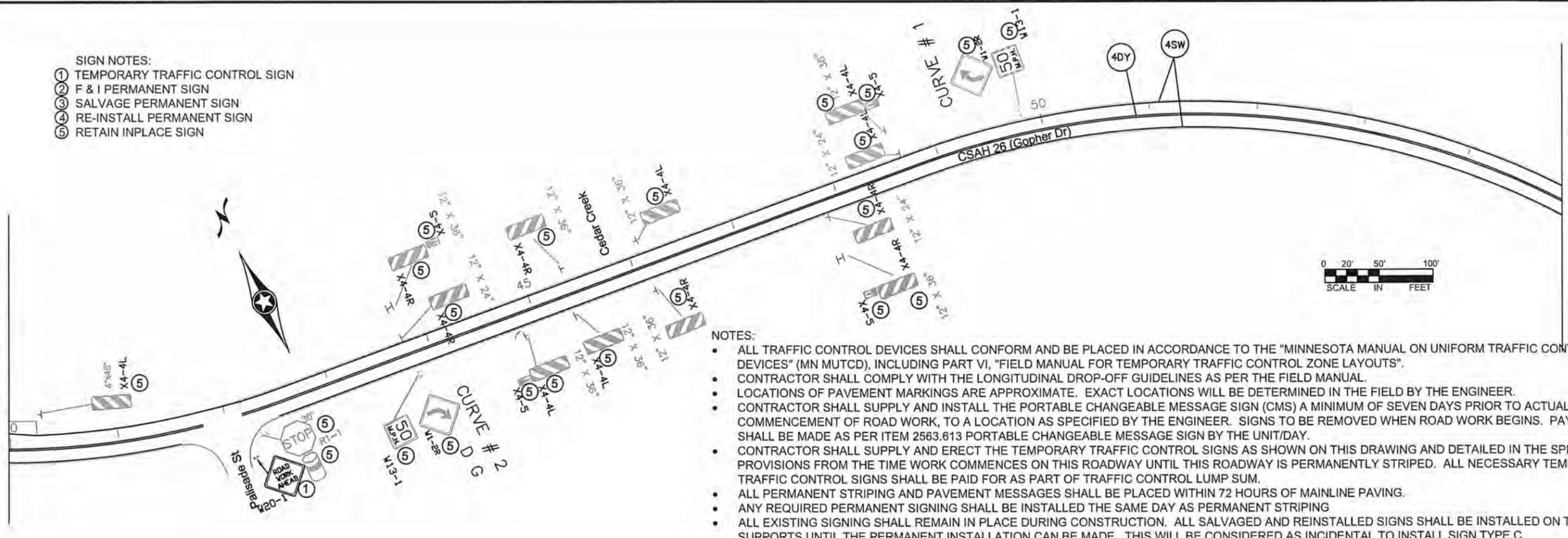
TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING

Sheet 18 of 25 Sheets

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
 - ④ RE-INSTALL PERMANENT SIGN
 - ⑤ RETAIN INPLACE SIGN

STATION 40+00

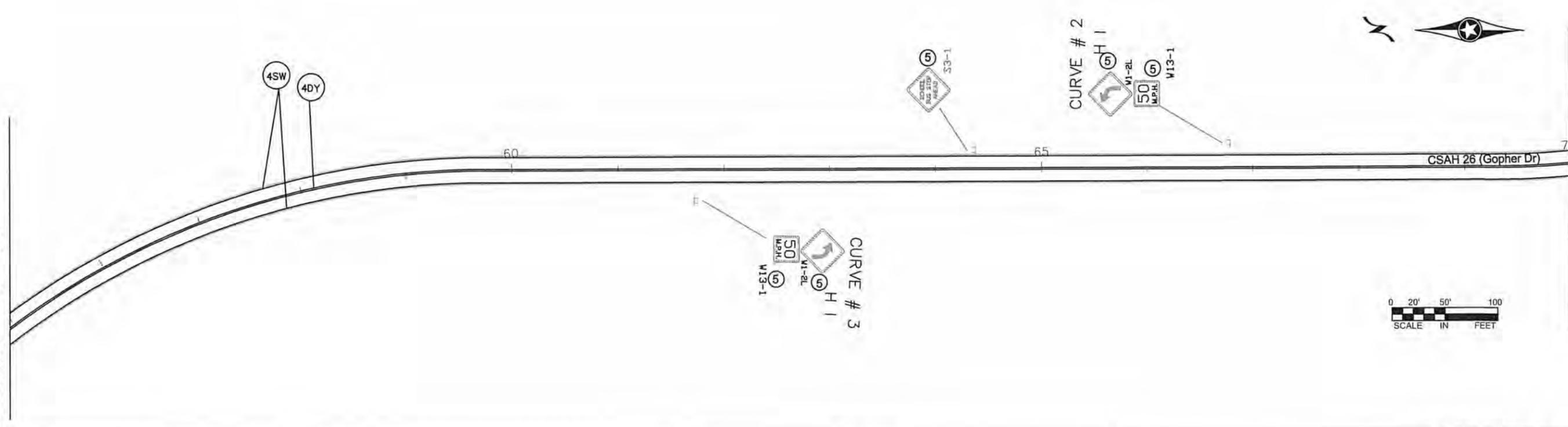
STATION 55+00



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STATION 55+00

STATION 70+00



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\16-01-00\CR 26\base\Traffic\Signing_Striping.dwg

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PRINT NAME: MATTHEW J. JOHN

SIGNATURE: *Matthew J. John*

DATE: 4/6/16 REG. NO. 51639

DRAWN BY: RLB DATE: 1/23/15

DESIGN BY: RLB DATE: 1/23/15

CHECKED BY: JR DATE: 1/30/15

ANOKA COUNTY
HIGHWAY DEPT.

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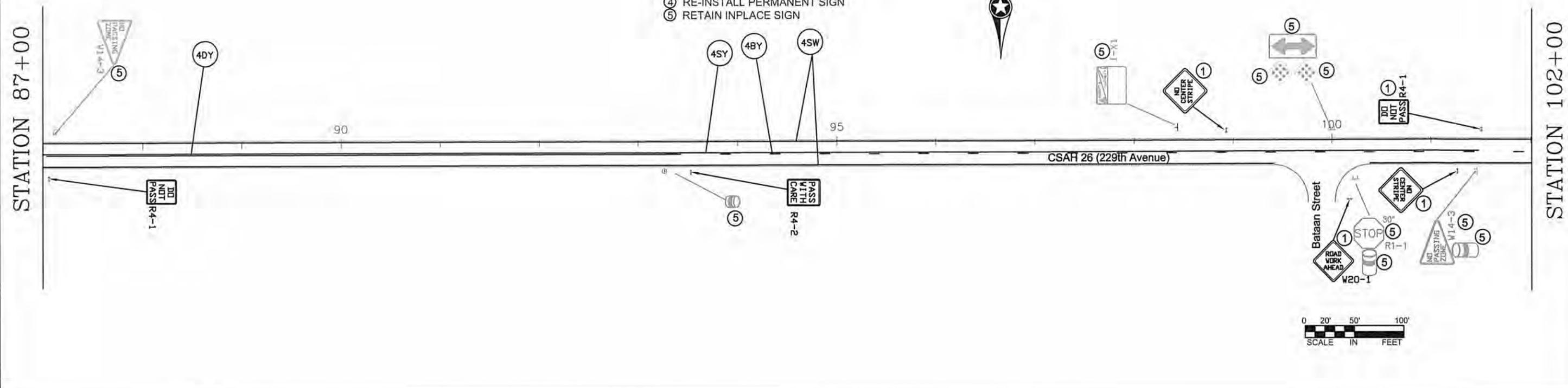
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COUNTY PROJECT NO. 16-11-26

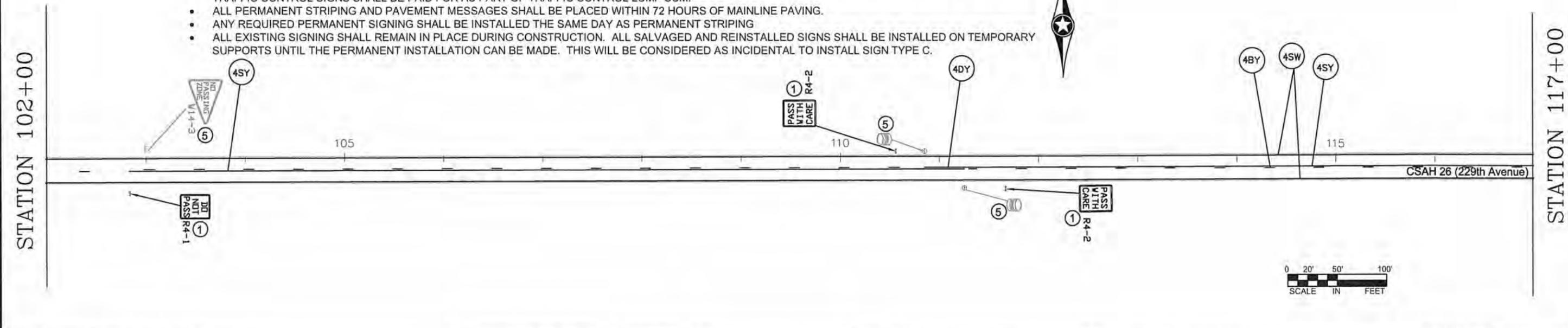
TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING

Sheet 19 of 25 Sheets

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\16-01-00\CR 26\base\Traffic\Signing_Stripling.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: MATTHEW J. JOHN

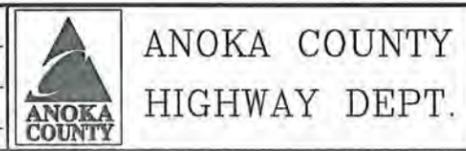
SIGNATURE: *Matthew J. John*

DATE: 4/6/2016 REG. NO. 51639

DRAWN BY: RLB DATE: 1/23/15

DESIGN BY: RLB DATE: 1/23/15

CHECKED BY: JR DATE: 1/30/15



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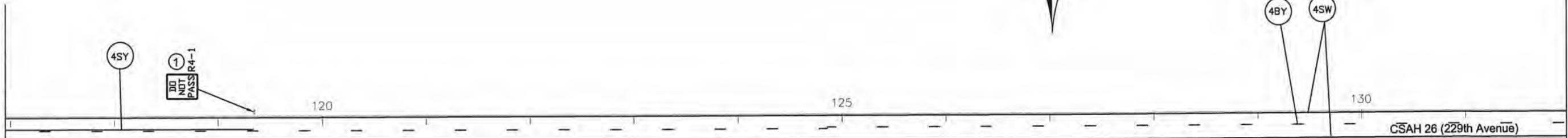
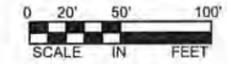
TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING

Sheet 21 of 25 Sheets

STATION 117+00

STATION 132+00

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
 - ④ RE-INSTALL PERMANENT SIGN
 - ⑤ RETAIN INPLACE SIGN

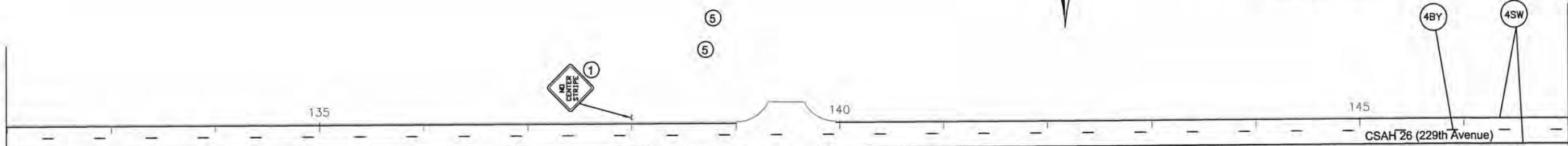
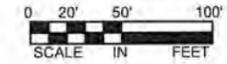


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STATION 132+00

STATION 147+00



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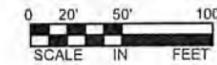


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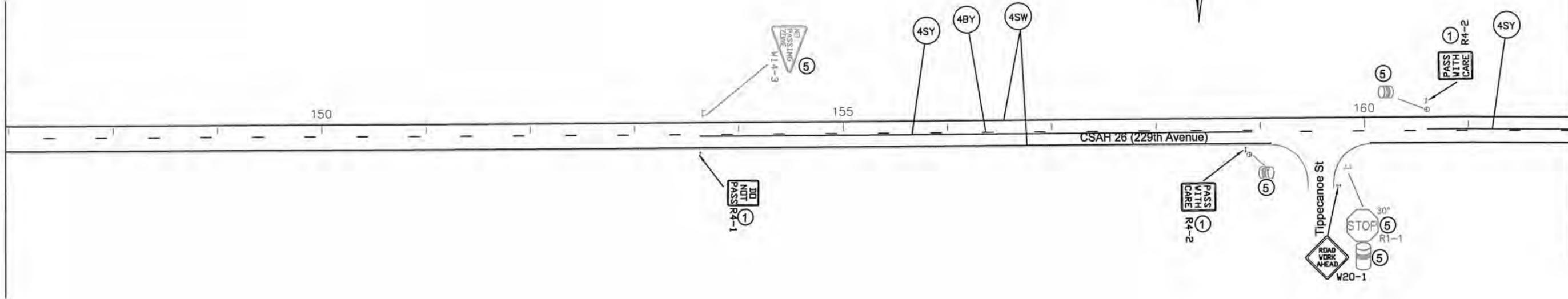
TEMPORARY SIGNING,
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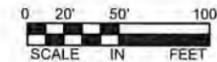
STATION 147+00

STATION 162+00



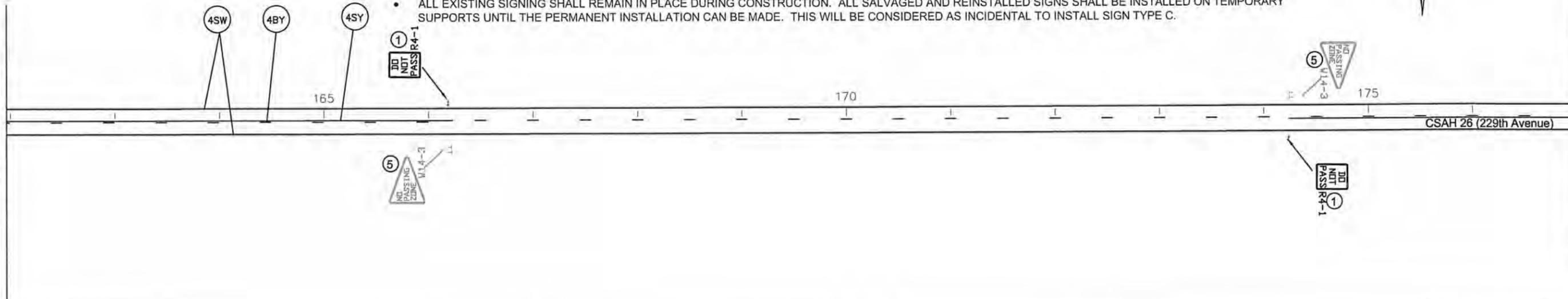
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STATION 162+00

STATION 177+00



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TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING

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TEMPORARY TRAFFIC CONTROL SIGNS						
M.U.T.C.D. CODE	SIZE	PANEL AREA	INSERT	QUANTITY		MOUNTING HEIGHT TO PAVEMENT (Edges)
		FT. ²			No. POST	FT.
W20-1	48" x 48"	16.00		11	2	7.0'
W8-12	48" x 48"	16.00		8	2	7.0'
R4-1	24" x 30"	5.00		10	1	7.0'
R4-2	24" x 30"	5.00		9	1	7.0'
G20-2A	48" x 24"	8.00		2	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		
W8-23	48" x 48"	16.00		AS NEEDED		
W8-11	48" x 48"	16.00		AS NEEDED		
CMS sign to be installed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.				2		

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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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TRAFFIC CONTROL
 QUANTITY
 Sheet 25 of 25 Sheets