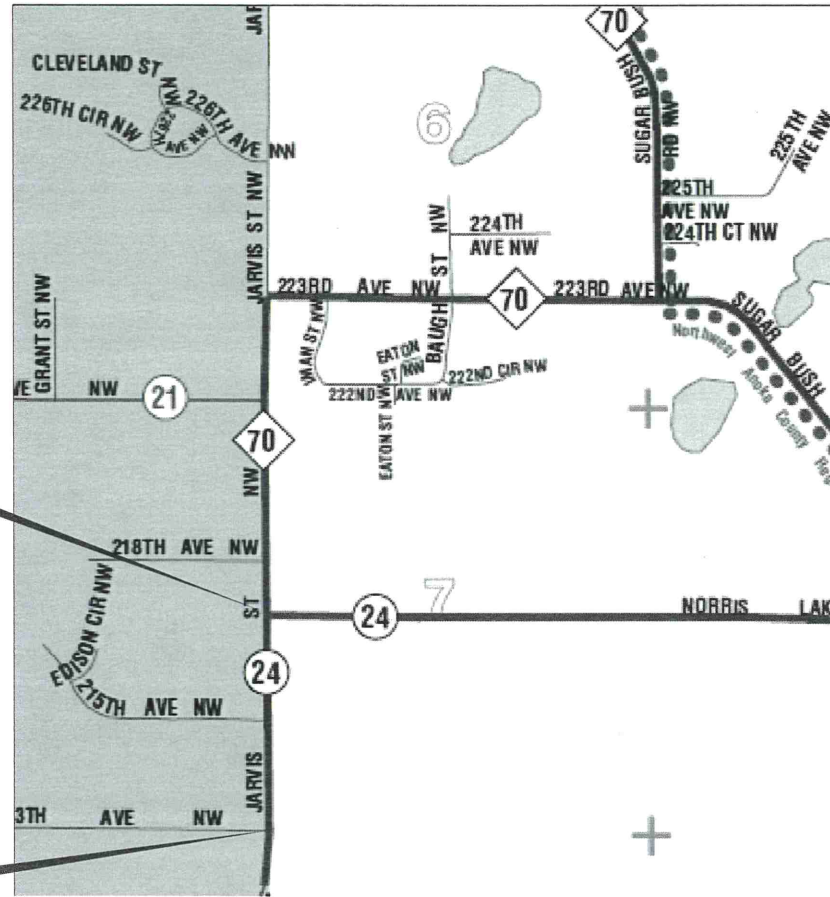


MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ BITUMINOUS SURFACING AND BITUMINOUS RECLAMATION
LOCATED ON CSAH 24 BETWEEN 213TH AVE NW AND NORRIS LAKE RD NW

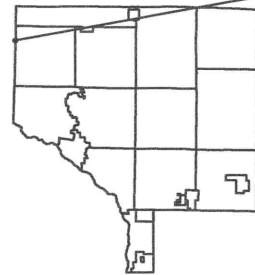
CSAH 24
GROSS LENGTH 2665.31 FEET 0.505 MILES
EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES
NET LENGTH 2665.31 FEET 0.505 MILES



END SAP 002-624-031
CSAH 24, STA: 40+70.81

BEGIN SAP 002-624-031
CSAH 24, STA: 14+05.50

PROJECT LOCATION



GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THE "SUPPLEMENTAL SPECIFICATIONS" DATED SEPTEMBER 2022 SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

THIS PLAN CONTAINS 12 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4-5	DETAILS
6	CONSTRUCTION PLAN
7-12	SIGNING AND STRIPING PLANS

Approved [Signature] 1-10, 2023
ANOKA COUNTY ENGINEER

Approved [Signature] 2-1, 2023
CITY OF NOWTHEN ENGINEER

[Signature] For _____ DATE 2/13/23
DISTRICT STATE AID ENGINEER; REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

[Signature] For _____ DATE 2/13/23
STATE AID ENGINEER; APPROVED FOR STATE AID FUNDING

CITY OF NOWTHEN
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 7
TOWNSHIP 33 NORTH
RANGE 25 WEST

DESIGN DESIGNATION (CSAH 24)

ESAL 20 <u>348,740</u>	FUNCTIONAL CLASSIFICATION <u>MAJOR COLLECTOR</u>
R VALUE <u>70</u>	NO. OF TRAFFIC LANES <u>2</u> NO. OF PARKING LANES <u>0</u>
ADT (2023) <u>2,952</u>	DESIGN SPEED <u>55</u> MPH
PROJ. ADT (2043) <u>2,952</u>	STOPPING SIGHT DISTANCE BASED ON:
PROJ. HCADT (2043) <u>174</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. _____ TO STA. _____ MPH _____

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: GERALD J AUGER JR.
SIGNATURE: [Signature]
DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY SPH DATE 08/04/2022
DESIGN BY SPH DATE 08/04/2022
CHECKED BY CSO DATE 01/10/2023



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-624-031

TITLE SHEET

Sheet 1 of 12 Sheets

NO	DATE	BY	CKD	APPR	REVISION	

NAME: P:\23-01-00\CSAH_24_(CO. LINE-NORRIS RD)\Base\Proposed\PROPOSED-2D.dgn

STATEMENT OF ESTIMATED QUANTITIES

Notes	Item Number	ITEM DESCRIPTION	Unit	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
1	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	102
2,3	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	17
2,3	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	365
4	2123.510	MOTOR GRADER	HOUR	8
	2130.523	WATER	M GALLON	51
5	2211.509	AGGREGATE BASE CLASS 5	TON	5
	2215.504	FULL DEPTH RECLAMATION	SQ YD	7313
6	2215.507	HAUL FULL DEPTH RECLAMATION (LV)	CU YD	43
7	2221.509	SHOULDER BASE AGGREGATE CLASS 5	TON	301
8	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3;B)	TON	2
9	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4;C)	TON	83
	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4;C)	TON	1771
10	2540.602	MAIL BOX SUPPORT	EACH	8
	2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1
11,12	2563.601	TRAFFIC CONTROL	LUMP SUM	1
13	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20
	2574.507	COMMON TOPSOIL BORROW	CU YD	296
14	2575.508	HYDRAULIC REINFORCED FIBER MATRIX	POUND	346
15	2581.503	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	LIN FT	213
16	2582.503	4" SOLID LINE MULTI-COMPONENT GROUND IN	LIN FT	6920
16	2582.503	4" BROKEN LINE MULTI-COMPONENT GROUND IN	LIN FT	400
16	2582.503	4" DOUBLE SOLID LINE MULTI-COMPONENT GROUND IN	LIN FT	600

CONSTRUCTION NOTES

1	REFERENCE DETAILS (PAGE 4)
2	REFERENCE DETAILS (PAGE 4-5) FOR REMOVAL DETAILS
3	ITEM FOR BITUMINOUS DRIVEWAYS AND STREET APPROACHES. CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
4	ITEM USED TO MOVE EXCESS RECLAIM MATERIAL AT THE RECLAIM AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT
5	INCLUDES GRAVEL BASE FOR BITUMINOUS DRIVEWAYS.
6	ITEM USED TO HAUL EXCESS RECLAIM FROM TIE-IN POINTS AND REUSED ON SITE.
7	ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND GRAVEL STREET APPROACH.
8	ITEM FOR BITUMINOUS DRIVEWAYS. DRIVEWAYS SHALL BE PAVED AFTER MAINLINE AND BEFORE FINAL STRIPING.
9	STREET APPROACHES SHALL BE PAVED AFTER MAINLINE, AND BEFORE FINAL STRIPING
10	MAILBOXES ARE TO BE INSTALLED AT THE EXISTING MAILBOX LOCATION OR AS DIRECTED BY THE LOCAL POSTAL AUTHORITY, CONTRACTOR IS RESPONSIBLE FOR CONTACTING. MAILBOX REMOVAL AND ALL MATERIALS ARE INCIDENTAL TO INSTALLATION.
11	CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL.
12	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 PERMANENT PAVEMENT MARKINGS ARE NOT PRESENT.
13	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
14	TYPE 3 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES.
15	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON MILLED SURFACE AND EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE INPLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL STRIPING.
16	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING. CANNOT BE INSTALLED SOONER THAN 48 HOURS.

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

MNDOT STANDARD PLATES	
PLATE NO.	DESCRIPTION
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
9350B	MAILBOX SUPPORT - SWING-AWAY TYPE

BITUMINOUS STREET SUMMARY

LOCATION	BITUMINOUS	NOTES
	2360 TYPE SP 12.5 WEAR (4,F)	
	TON	
215TH AVE	16	[1]
NORRIS LAKE RD	68	[1]
PROJECT TOTAL	83	

BITUMINOUS SUMMARY NOTES:

[1] QUANTITY ESTIMATED FOR 2 LIFTS

BASIS OF PLANNED QUANTITIES

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
2575	HYDRAULIC REINFORCED FIBER MATRIX	3900 LBS./ ACRE

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: GERALD J AUGER JR.

SIGNATURE:

DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY: SPH DATE: 08/04/2022

DESIGN BY: SPH DATE: 08/04/2022

CHECKED BY: CSO DATE: 03/14/2023



**ANOKA COUNTY
HIGHWAY DEPT.**

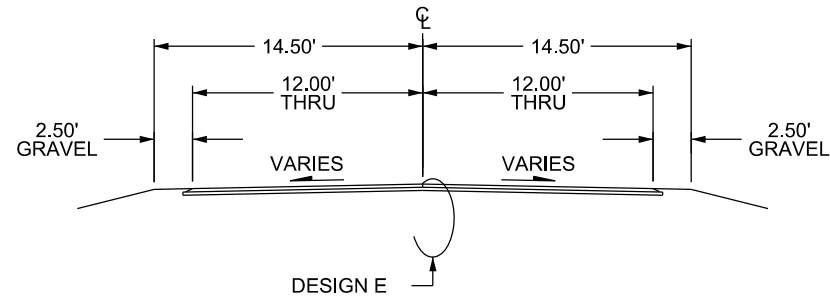
STATE AID PROJECT 002-624-031

STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 12 Sheets

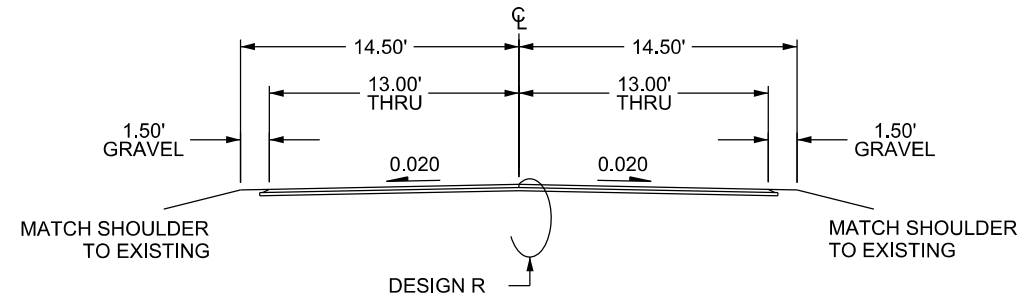
CSAH 24 - JARVIS ST.
EXISTING SECTION

14+05.50 - 40+70.81

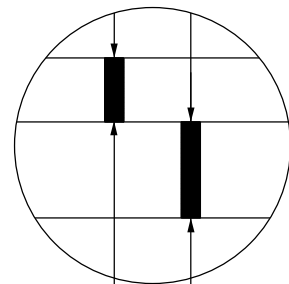


CSAH 24 - JARVIS ST.
PROPOSED SECTION

14+05.50 - 40+70.81



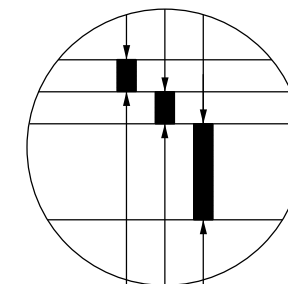
DESIGN E
EXISTING SECTION



4.0" EXISTING BITUMINOUS

EXISTING CLASS 5 BASE

DESIGN R
RECLAIM SECTION



2.0" BITUMINOUS WEAR(SPWEB440C)

2.0" BITUMINOUS WEAR(SPWEB440C)

RECLAIMED BITUMINOUS

NO	DATE	BY	CHKD	APPR	REVISION	01/10/2023	11:03:06 AM
NAME: P:\23-01-00\CSAH_24_(CO. LINE-NORRIS RD)\Base\Proposed\PROPOSED-2D.dgn							

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 PRINT NAME: GERALD J AUGER JR.
 SIGNATURE: *[Signature]*
 DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY SPH DATE 08/04/2022
 DESIGN BY SPH DATE 08/04/2022
 CHECKED BY CSO DATE 01/10/2023



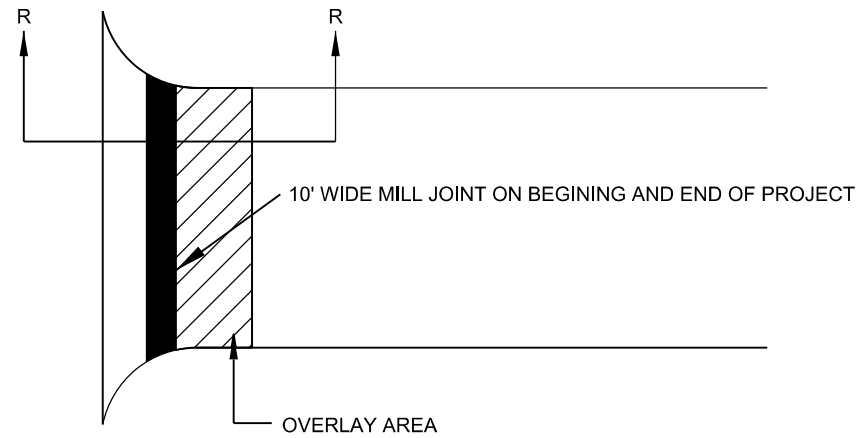
ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-624-031

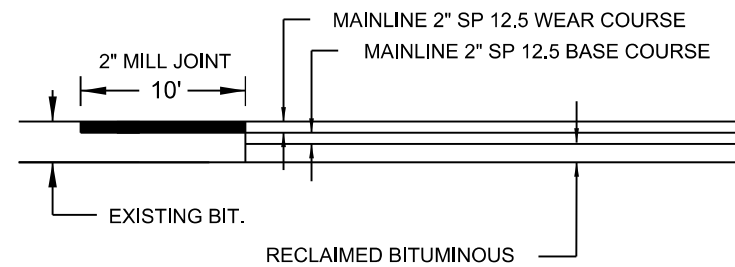
TYPICAL SECTIONS
 Sheet 3 of 12 Sheets

MAINLINE JOINT DETAIL (RECLAIM)

PLAN VIEW



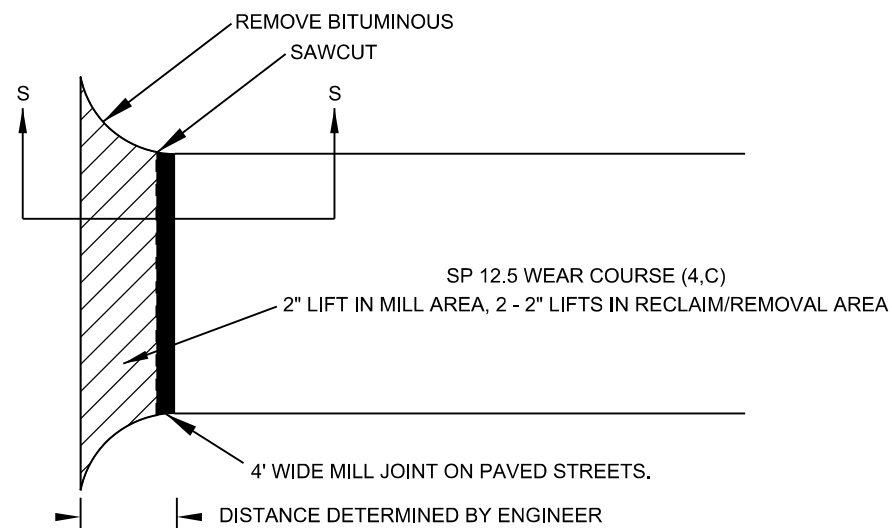
SECTION R - R



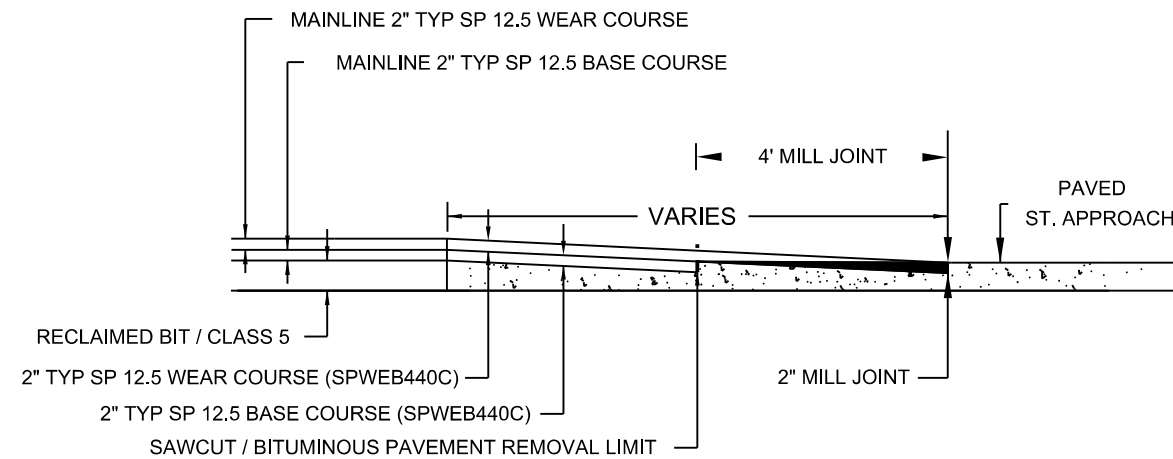
STREET APPROACH DETAIL (RECLAIM)

BITUMINOUS STREET

PLAN VIEW



SECTION S - S



NO	DATE	BY	CKD	APPR	REVISION	01/10/2023	11:03:06 AM
NAME: P:\23-01-00\CSAH_24_(CO. LINE-NORRIS RD)\Base\Proposed\PROPOSED-2D.dgn							

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PRINT NAME: GERALD J AUGER JR.

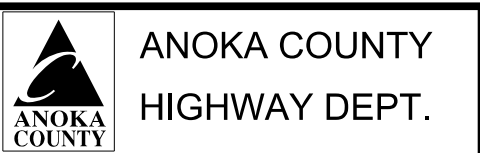
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DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY SPH DATE 08/04/2022

DESIGN BY SPH DATE 08/04/2022

CHECKED BY CSO DATE 01/10/2023

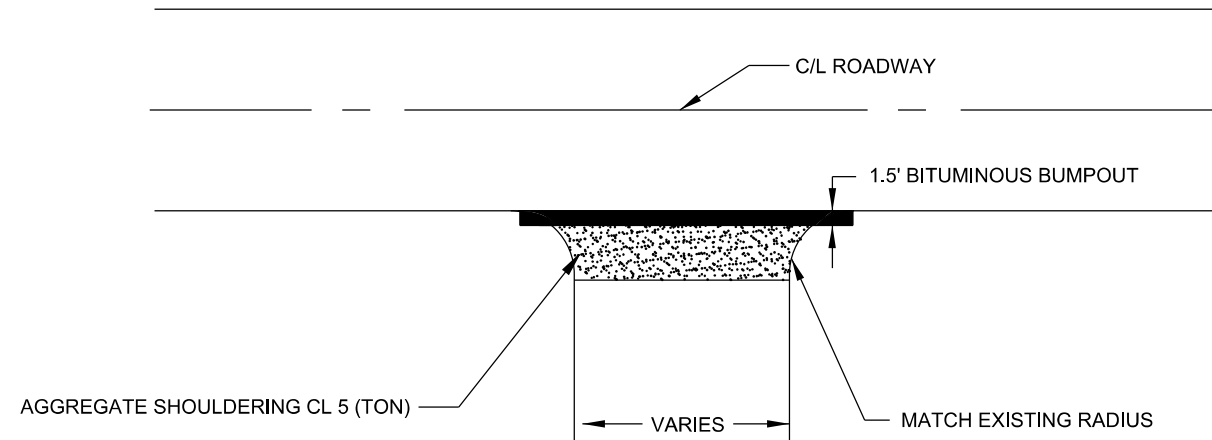


STATE AID PROJECT 002-624-031

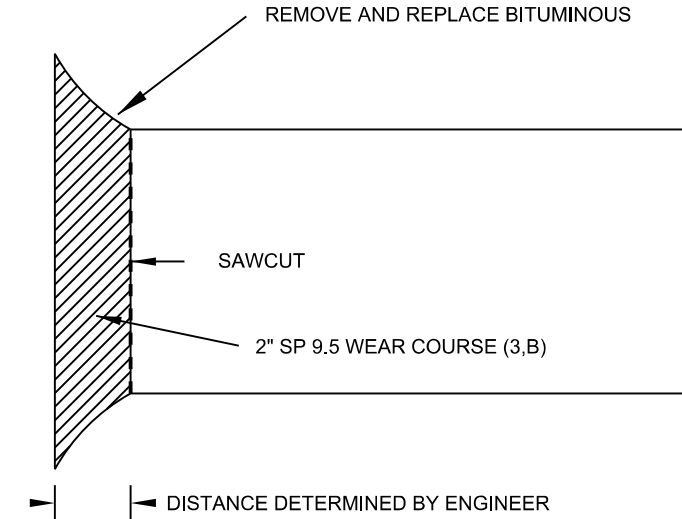
DETAILS

Sheet 4 of 12 Sheets

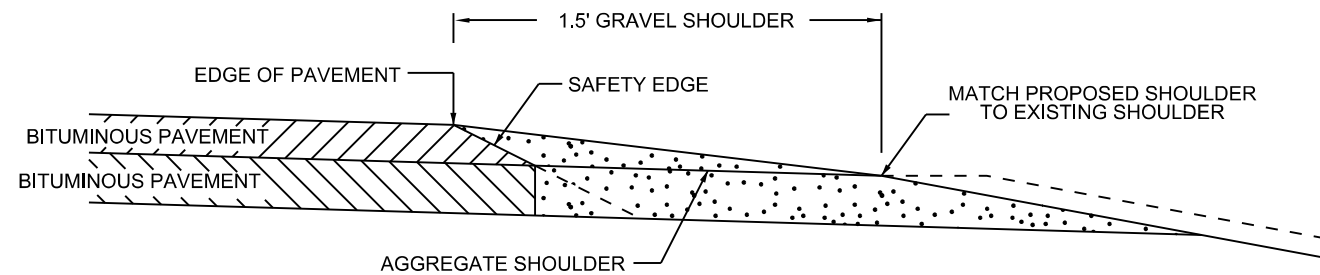
DRIVEWAY DETAIL
GRAVEL / FIELD ENTRANCE



RECLAIM AREA - DRIVEWAY DETAIL
BITUMINOUS
PLAN VIEW



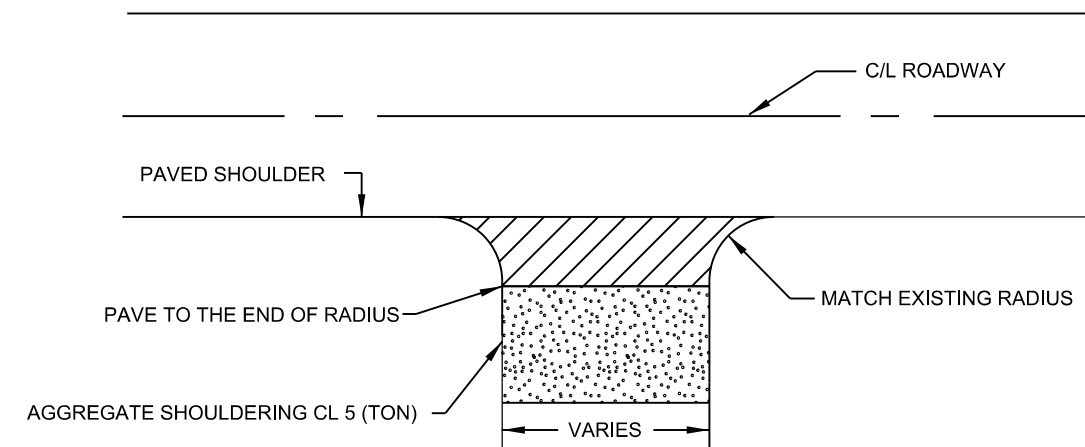
SHOULDER DETAIL
BITUMINOUS SAFETY EDGE
GRAVEL SHOULDER



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.

STREET APPROACH DETAIL
UNPAVED STREET



UNPAVED STREET APPROACHES, PAVED SEPRATE FROM MAINLINE

NO	DATE	BY	CKD	APPR	REVISION	
					01/10/2023	11:03:06 AM
NAME: P:\23-01-00\CSAH_24_(CO. LINE-NORRIS RD)\Base\Proposed\PROPOSED-2D.dgn						

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PRINT NAME: GERALD J AUGER JR.

SIGNATURE: *[Signature]*

DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY: SPH DATE: 08/04/2022

DESIGN BY: SPH DATE: 08/04/2022

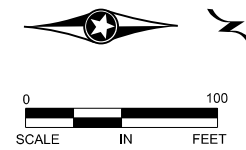
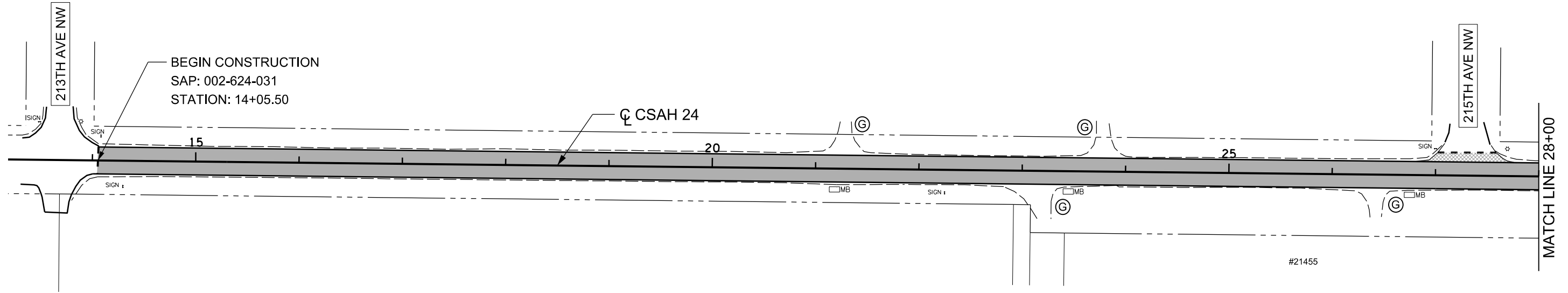
CHECKED BY: CSO DATE: 01/10/2023


**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-624-031

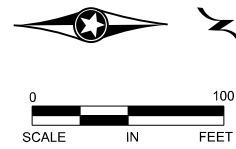
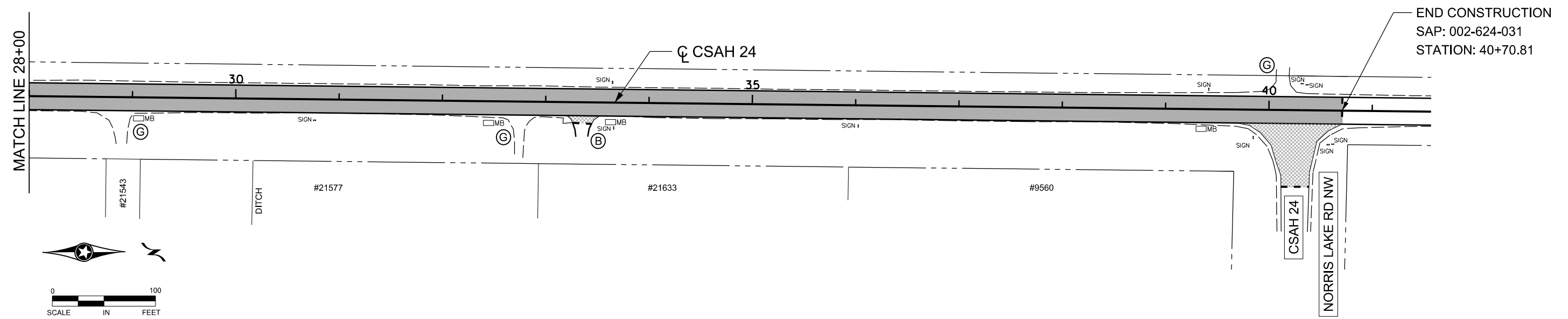
DETAILS

Sheet 5 of 12 Sheets



LEGEND

(B)	BITUMINOUS	---	CROSS CULVERT
(G)	GRAVEL	[Solid Grey Box]	MAINLINE (RECLAIM)
+	CORE LOCATION	[Hatched Box]	REMOVE AND REPLACE
---	SAWCUT	---	R / W



NO	DATE	BY	CKD	APPR	REVISION	
	01/10/2023					11:03:06 AM

NAME: P:\23-01-00\CSAH_24_(CO. LINE-NORRIS RD)\Base\Proposed\PROPOSED-2D.dgn

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PRINT NAME: GERALD J AUGER JR.

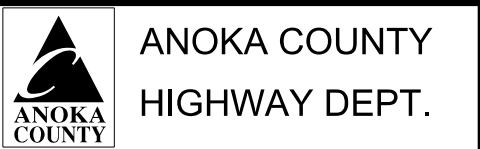
SIGNATURE: *[Signature]*

DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY: SPH DATE: 08/04/2022

DESIGN BY: SPH DATE: 08/04/2022

CHECKED BY: CSO DATE: 01/10/2023



STATE AID PROJECT 002-624-031

CONSTRUCTION PLAN
STA 14+05.50 TO 40+70.81
Sheet 6 of 12 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 BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI COMP LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

A MULTI COMP LINE SHALL BE APPLIED WITH A MINIMUM THICKNESS OF 20 MILS (WET) AND 4" WIDE . GLASS BEADS 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	NOTES
4" SOLID LINE MULTICOMP GROUND IN(WHITE)	LIN FT	5170	
4" SOLID LINE MULTICOMP GROUND IN (YELLOW)	LIN FT	1750	
4" BROKEN LINE MULTICOMP GROUND IN (YELLOW)	LIN FT	400	1
4" SOLID DBL LINE MULTICOMP GROUND IN (YELLOW)	LIN FT	600	

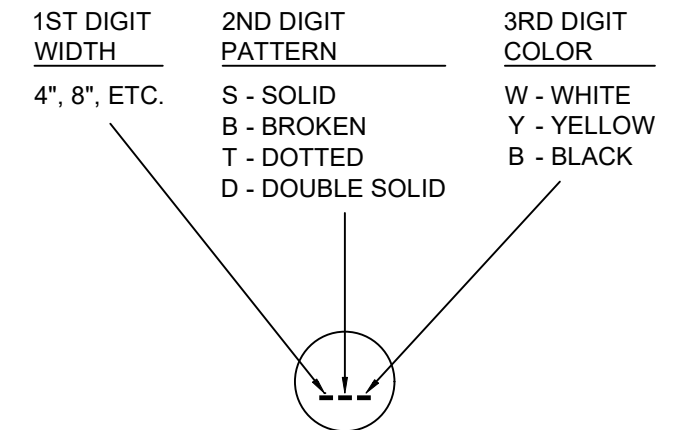
1 10' STRIPE, 40' GAP

SYMBOLS & MATERIALS LEGEND


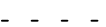
-  CROSSWALK BLOCK WHITE - POLY PREFORM
-  PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM

STRIPING KEY

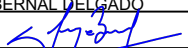
-  CIRCLE - MULTI COMP GROUND IN
-  TRIANGLE - PAINT
-  SQUARE - POLY PREFORM THERMOPLASTIC
-  PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



EXAMPLE: (4SW) = SOLID LINE WHITE - MULTI COMP

-  - - - - - BROKEN LINE - 50' CYCLE (10' LINE, 40' GAP)
-  DOTTED LINE - 15' CYCLE (3' LINE, 12' GAP) UNLESS SHOWN OTHERWISE IN THE PLAN

1	02/27/23	TMV	JRB	02/28/23	
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_24 (Co.Line-Norris Rd)\Base\Traffic\Perm Pvmt Mrkg Guide Notes 2021.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: JORGE R. BERNAL DELGADO DATE: 02-28-23
 SIGNATURE:  LICENSE NO. 57216

DRAWN BY TMV DATE 09/27/22
 DESIGN BY TMV DATE 09/27/22
 CHECKED BY JRB DATE 10/25/22



**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-624-031

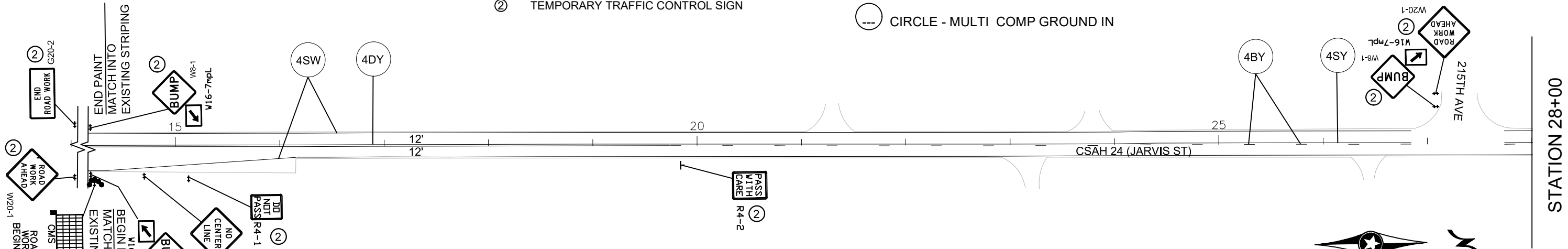
PERMANENT PAVEMENT MARKING PLAN DETAILS

SHEET 7A OF 12 SHEETS

SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

STRIPING KEY

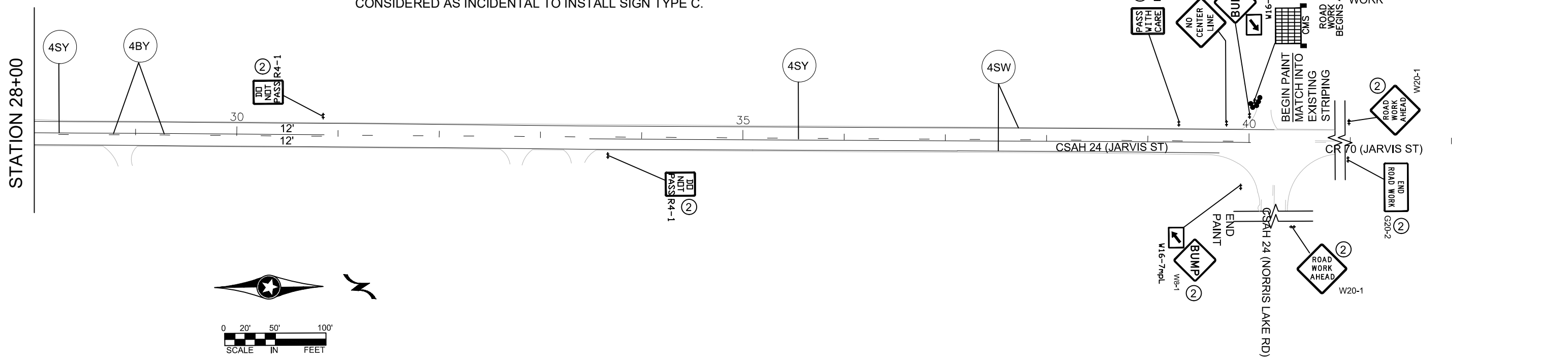
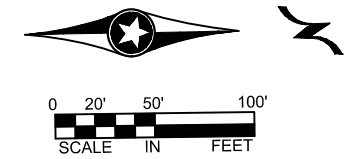
○ CIRCLE - MULTI COMP GROUND IN



NOTES:

- 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".
- 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 PLACE THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM TEN 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.
- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA.
- 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. ANY SIGNS TO BE REMOVED AND REINSTALLED, SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.

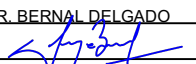
F & I CMS 10 DAYS IN ADVANCE OF THE COMMENCEMENT OF WORK



1	02/27/23	TMV	JRB	02/28/23	
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_24_(Co.Line-Norris Rd)\Base\Traffic\Temp Sign Perm S&S.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.

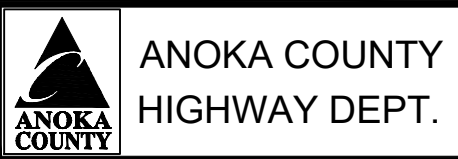
PRINT NAME: JORGE R. BERNAL DELGADO DATE: 02-28-23

SIGNATURE:  LICENSE NO. 57216

DRAWN BY TMV DATE 09/26/22

DESIGN BY TMV DATE 09/26/22

CHECKED BY JRB DATE 10/25/22



SAP 002-624-031

TEMPORARY SIGNING & PERMANENT STRIPING

SHEET 8A OF 12 SHEETS

TEMPORARY TRAFFIC CONTROL SIGNS			
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W8-12	48" x 48"		2
R4-1	24" x 30"		3
R4-2	24" x 30"		2
G20-2	36" x 18"		2
W8-1	48" x 48"		5
W16-7P	30" x 18"		5
W3-4	48" x 48"		AS NEEDED
W8-1	48" x 48"		AS NEEDED
W8-8	48" x 48"		AS NEEDED
W8-9	48" x 48"		AS NEEDED
W8-11	48" x 48"		AS NEEDED
W8-23	48" x 48"		AS NEEDED

TEMPORARY TRAFFIC CONTROL SIGNS			
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W20-1	48" x 48"		AS NEEDED (ESTIMATED 7)
W20-4	48" x 48"		AS NEEDED
W20-7	48" x 48"		AS NEEDED (ESTIMATED 2)
REFLECTORIZED REBOUNDABLE DRUM			AS NEEDED (ESTIMATED 10)
CMS sign to be placed 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

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	

CMS SIGN TO BE PLACED A MINIMUM OF TEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\23-01-00\CSAH_24_(Co.Line-Norris Rd)\Base\Traffic\Temp Sign Perm S&S.dwg

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PRINT NAME: JORGE R. BERNAL DELGADO DATE: 12-1-22

SIGNATURE:

LICENSE NO. 57216

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DESIGN BY TMV DATE 09/26/22

CHECKED BY JRB DATE 10/25/22

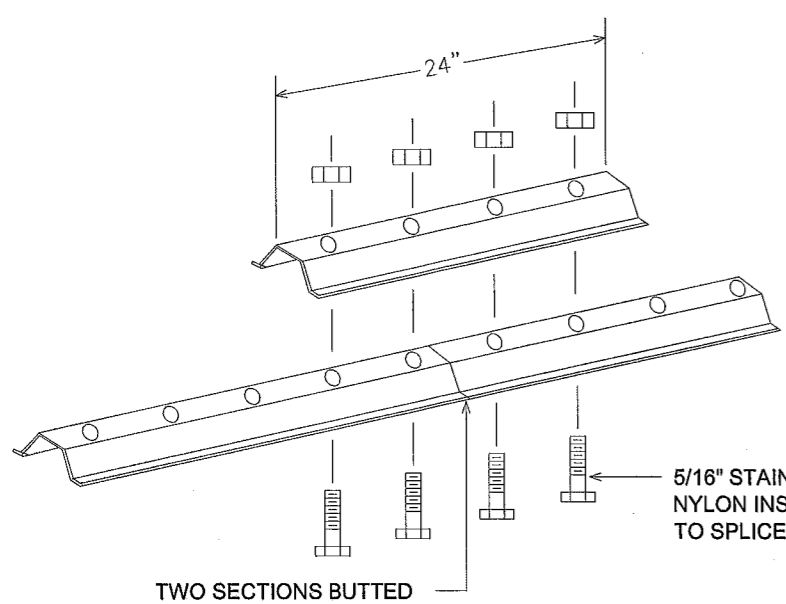


ANOKA COUNTY
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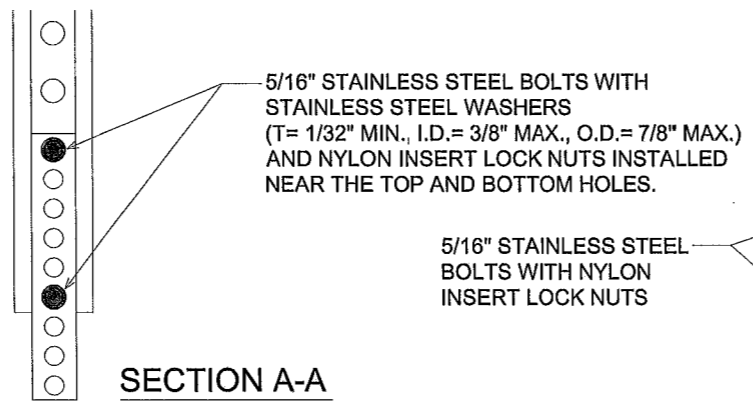
SAP 002-624-031

TEMPORARY
SIGNING QUANTITIES

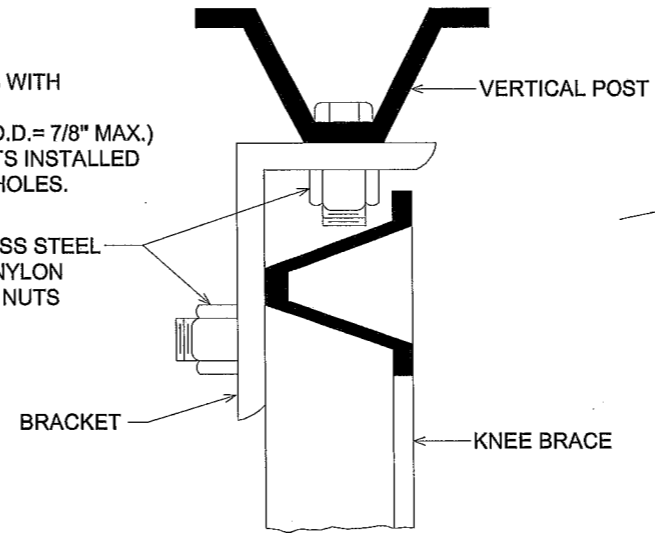
SHEET 9 OF 12 SHEETS



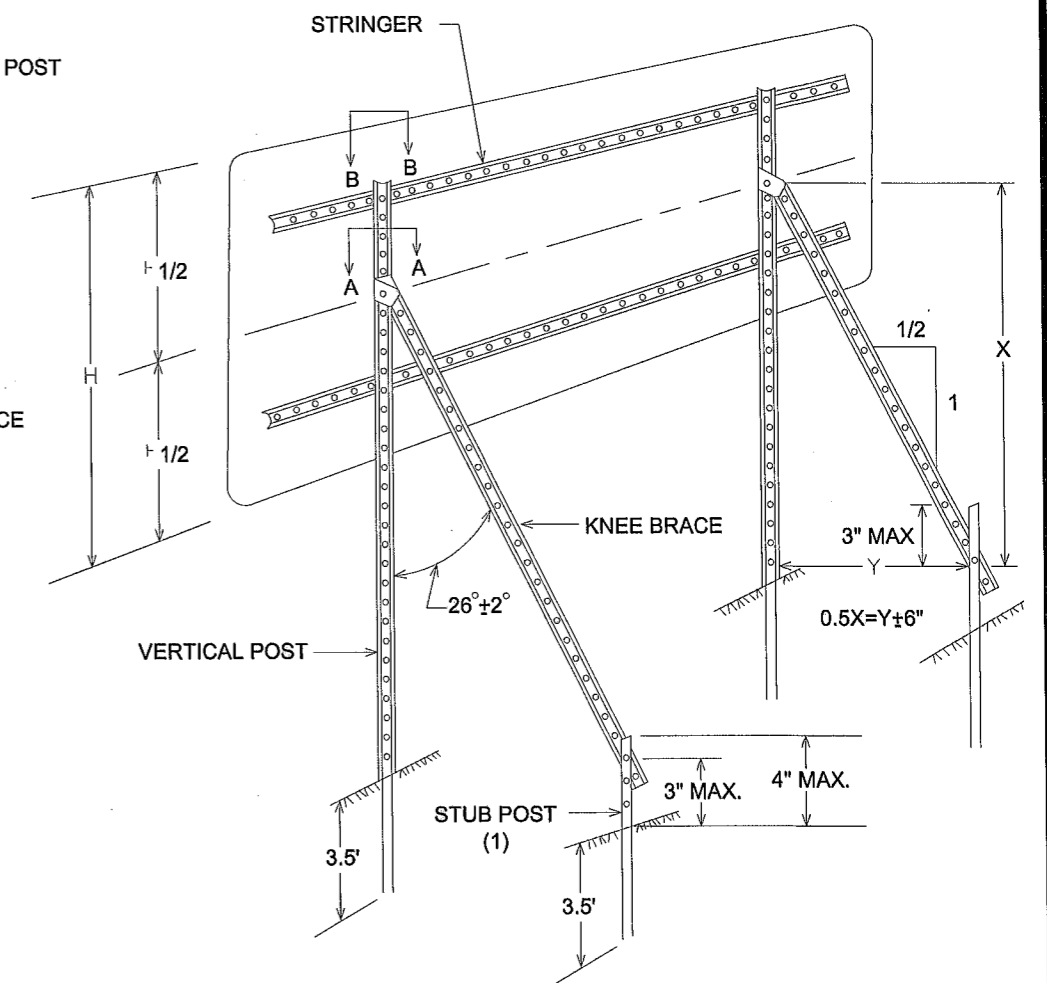
**LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)**



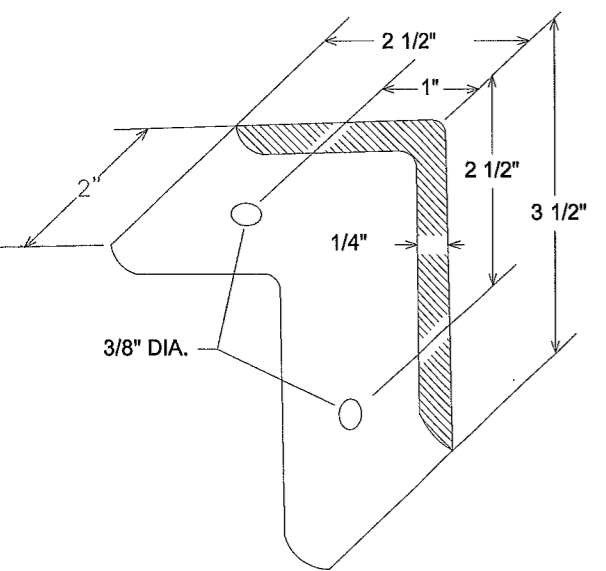
SECTION A-A



BRACKET
KNEE BRACE

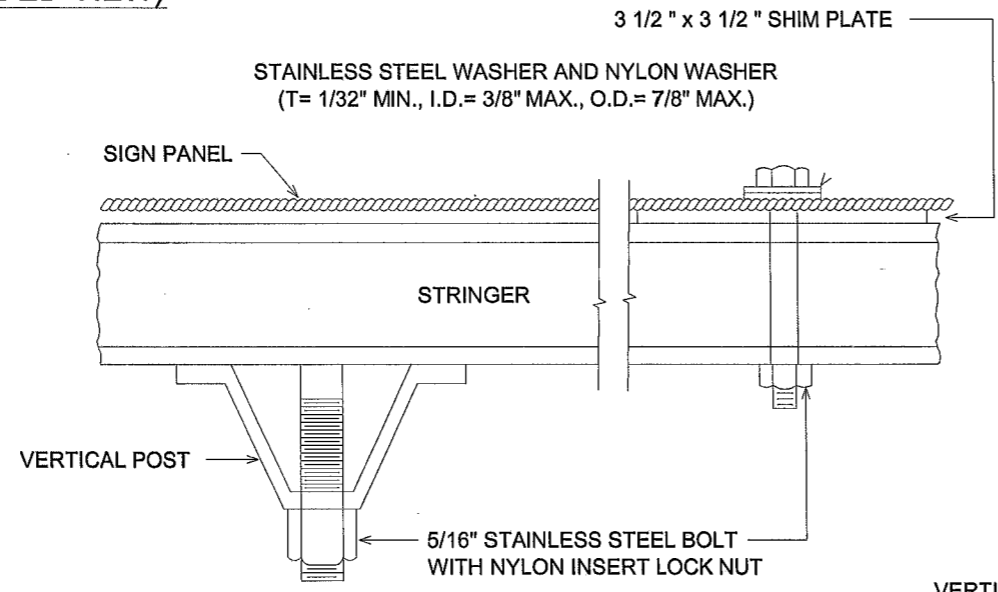


**TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS**

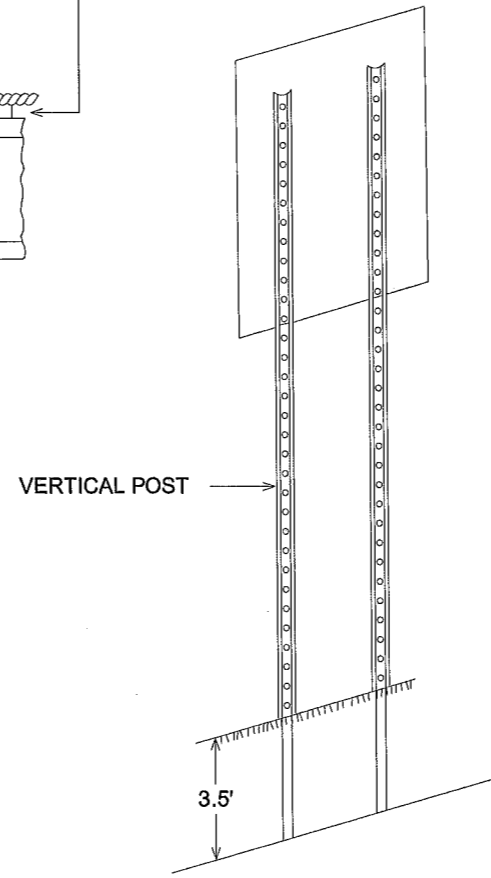


A-FRAME BRACKET

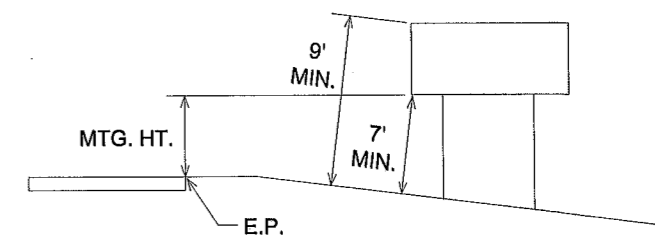
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B



**TYPICAL INSTALLATION 36" AND LARGER
TYPE "C" SIGNS**



TYPICAL MOUNTING

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

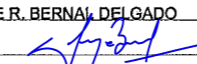
**TYPE C & D SIGN
STRUCTURAL DETAILS**

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\23-01-00\CSAH_24_(Co.Line-Norris Rd)\Base\Traffic\Sign&Stripe Details.2022.dwg

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**ANOKA COUNTY
HIGHWAY DEPT.**

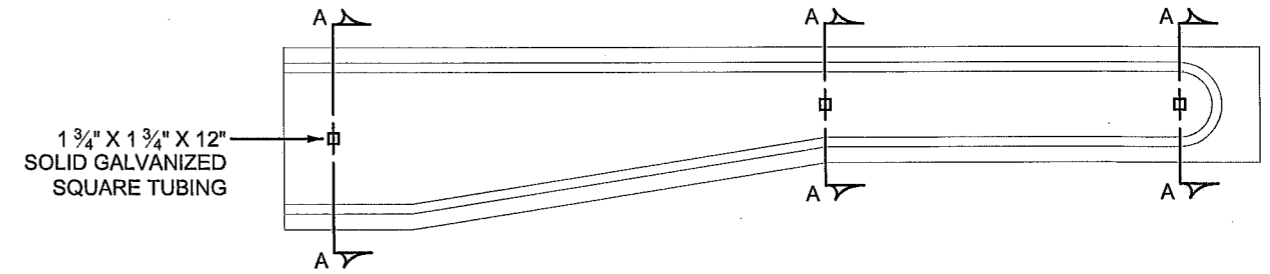
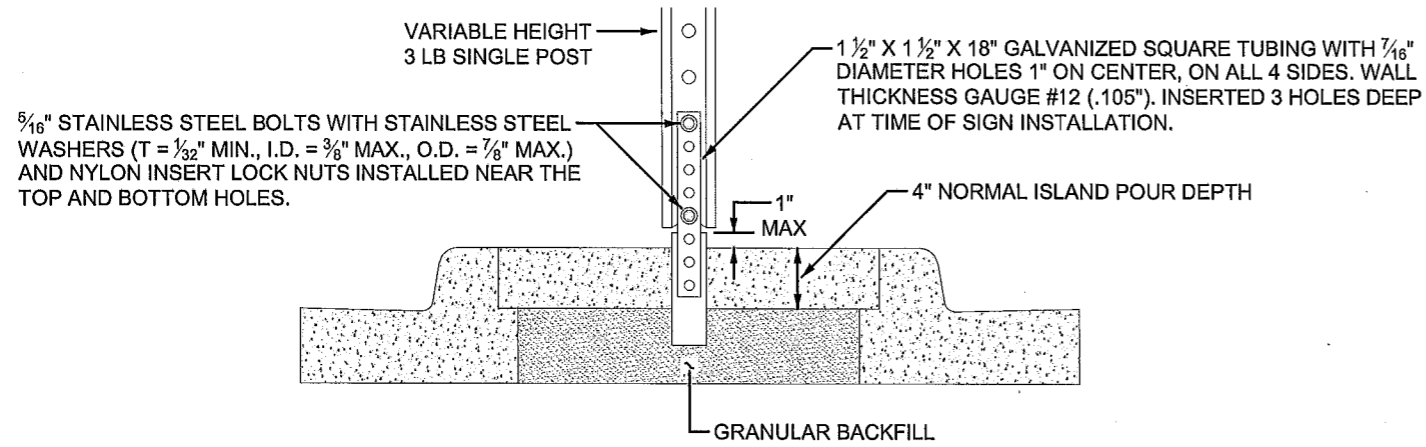
SAP 002-624-031

**SIGNING & STRIPING
DETAILS**

SHEET 10 OF 12 SHEETS

SIGN INSTALLATION TYPICALS

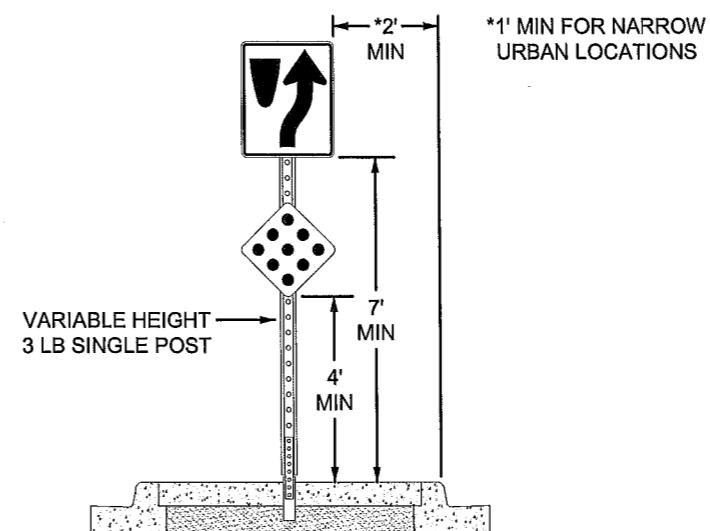
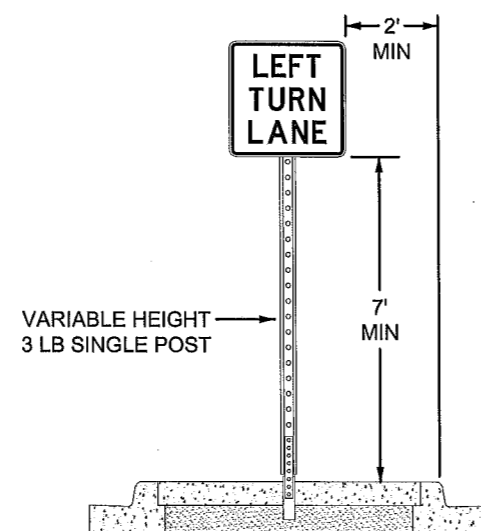
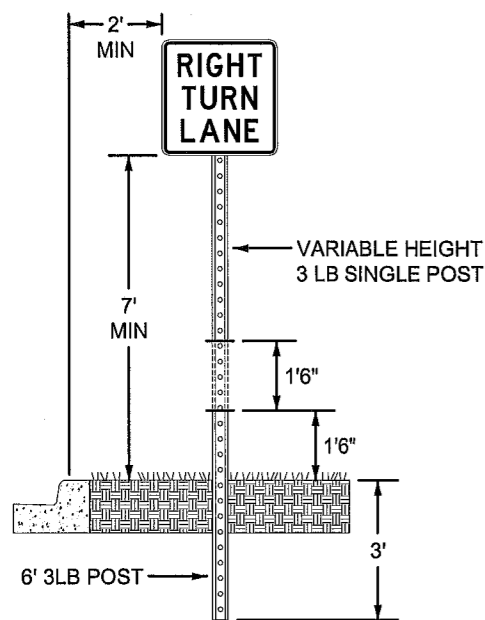
SECTION A - A



GROUND POST MOUNT SIGN
INSTALLATION TYPICAL

ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL

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



NOTES:

- TELSPAR INSERT NOT TO BE INSERTED MORE THAN 3 MOUNTING HOLES DEEP INTO BASE. TYPICAL ON ALL SIGN INSTALLATIONS.

INSTALLATION NEAR SHARED-USE PATHWAY (MN MUTCD):

- THE MINIMUM HEIGHT MEASURED VERTICALLY FROM THE SHARED-USE PATHWAY TO THE BOTTOM OF THE SIGN SHALL BE 7 FEET. IF A SECONDARY SIGN IS MOUNTED BELOW THE PRIMARY SIGN AND IS MOUNTED LESS THAN 7 FEET, IT SHALL NOT PROJECT MORE THAN 4 INCHES INTO THE SHARED-USE PATHWAY.

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:23-01-00\CSAH_24_(Co.Line-Norris Rd)\Base\Traffic\Sign&Stripe Details.2022.dwg					

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PRINT NAME: JORGE R. BERNAL DELGADO DATE: 12-1-22
SIGNATURE: [Signature] LICENSE NO. 57216

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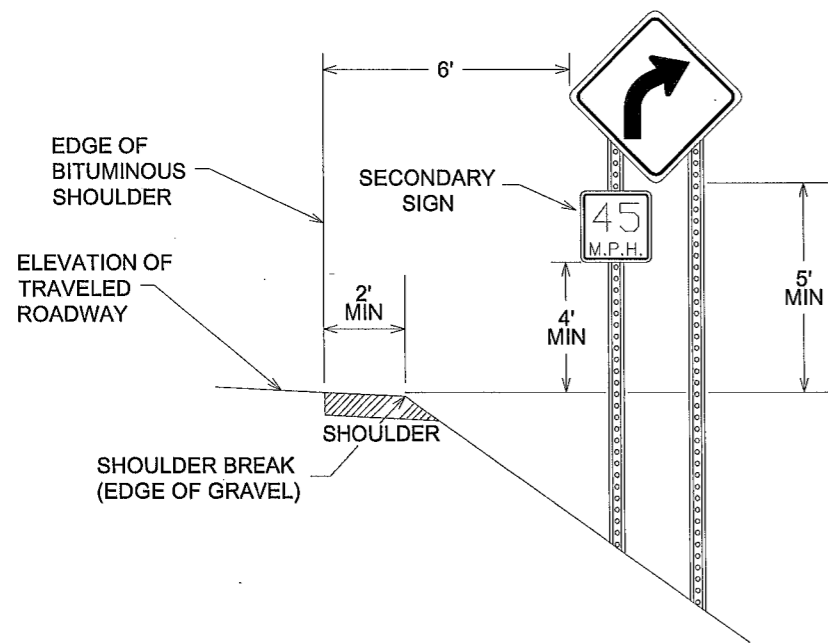


ANOKA COUNTY
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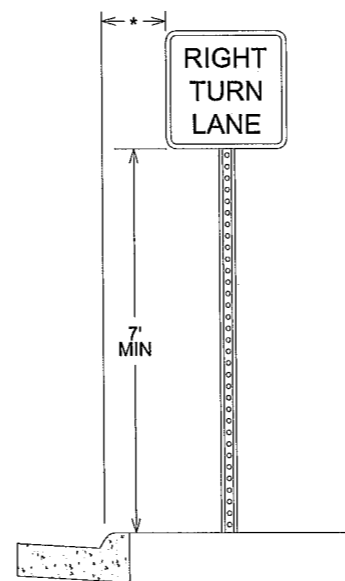
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SIGNING & STRIPING
DETAILS

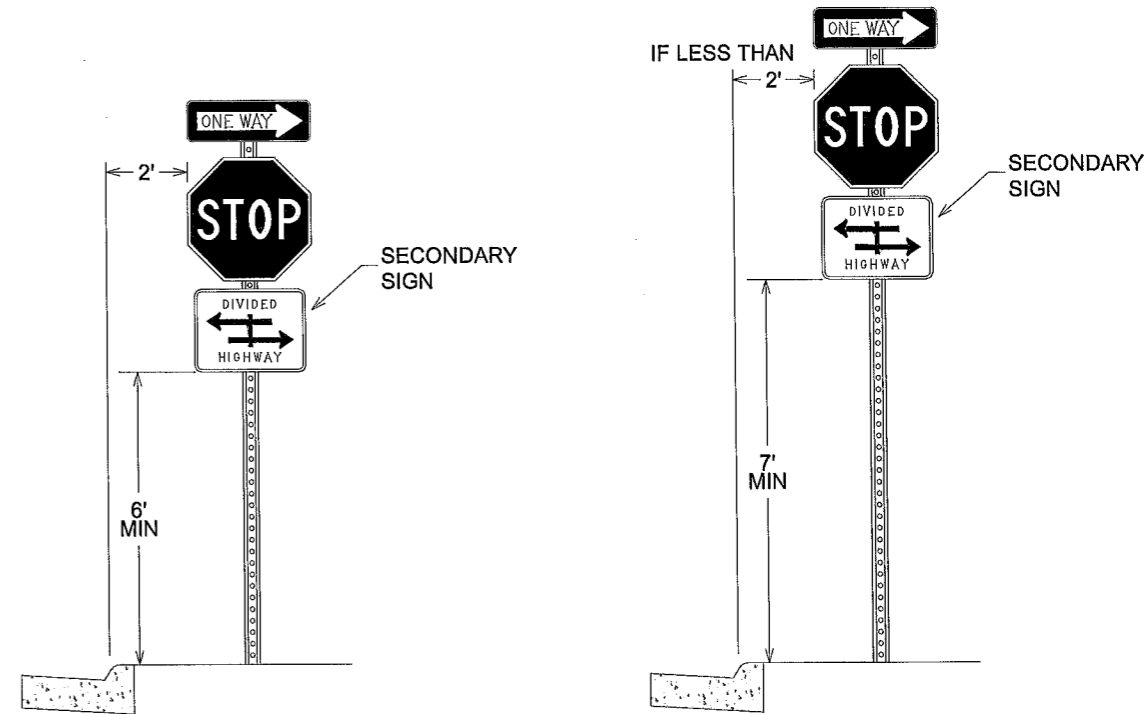
TYPICAL SIGN PLACEMENT
(RURAL)



TYPICAL SIGN PLACEMENT
(URBAN)



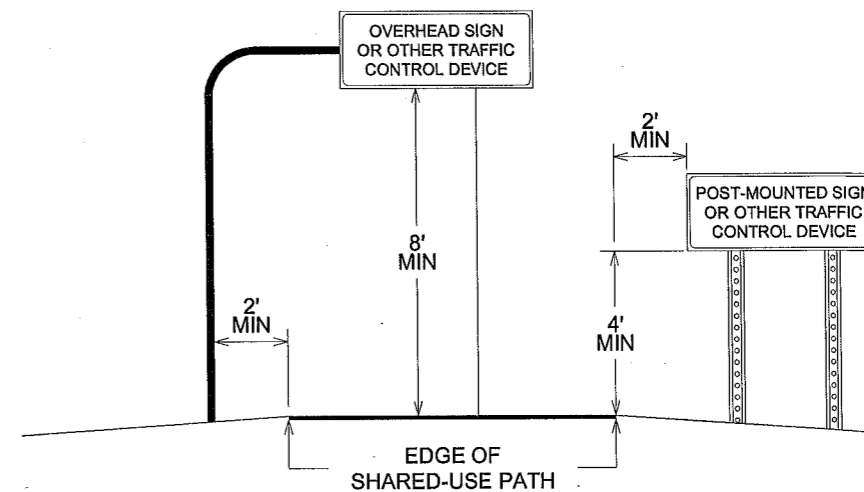
*2' - NARROW BOULEVARD (≤ 8' WIDE)
6' - WIDE BOULEVARD



NOTES:

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

TYPICAL SIGN PLACEMENT
SHARED-USE PATH



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\23-01-00\CSAH_24 (Co.Line-Norris Rd)\Base\Traffic\Sign&Stripe Details.2022.dwg

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PRINT NAME: JORGE R. BERNAL DELGADO DATE: 12-1-22
SIGNATURE: *[Signature]* LICENSE NO. 5721B

DRAWN BY TMV DATE 09/27/22
DESIGN BY TMV DATE 09/27/22
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ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-624-031

SIGNING & STRIPING
DETAILS

SHEET 12 OF 12 SHEETS