

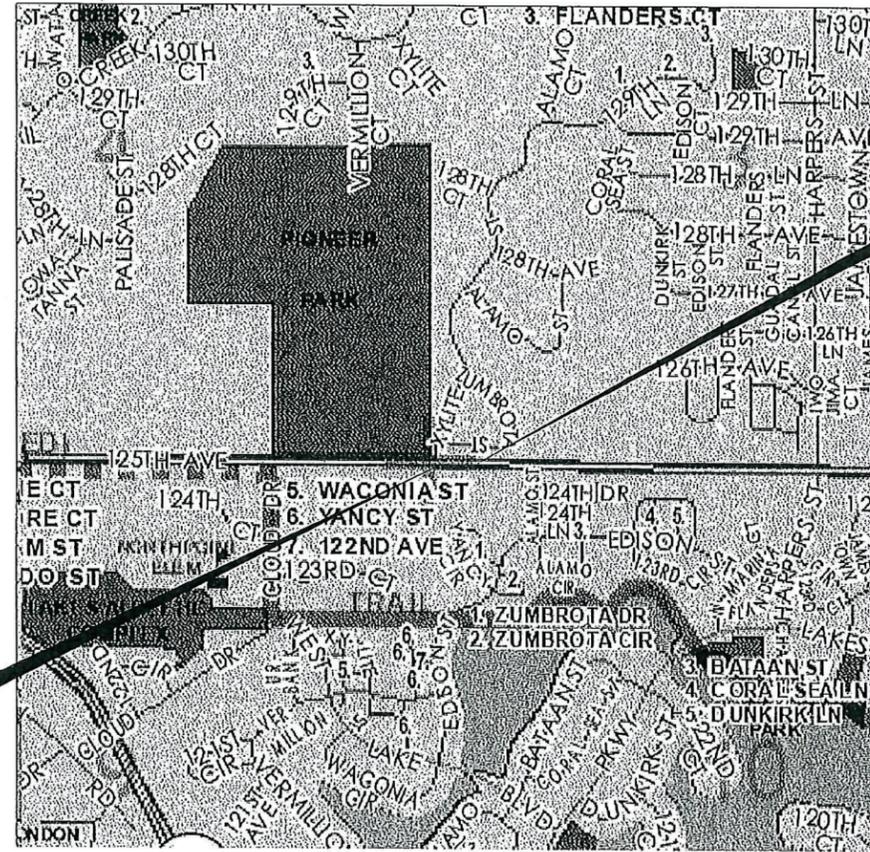
# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

CONSTRUCTION PLAN FOR \_\_\_\_\_ MILL BITUMINOUS AND BITUMINOUS SURFACING \_\_\_\_\_

LOCATED ON CSAH 14 BETWEEN XYLITE STREET AND 500' EAST OF XYLITE STREET

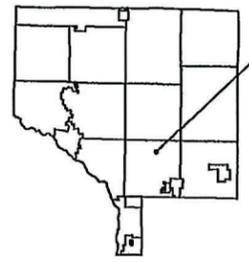
CSAH 14			
GROSS LENGTH	466.00	FEET	0.088
EXCEPTIONS-LENGTH	0.00	FEET	0.000
NET LENGTH	466.00	FEET	0.088



BEGIN CP 25-10-14  
CSAH 14, STA: 10+62.00

END CP 25-10-14  
CSAH 14, STA: 15+28.00

### PROJECT LOCATION



DESIGN DESIGNATION (CSAH 14)			
ESAL 20	1,669,382	FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL
R VALUE	40	NO. OF TRAFFIC LANES	4
ADT (2025)	15701	NO. OF PARKING LANES	0
PROJ. ADT (2045)	15701	DESIGN SPEED	55 MPH
PROJ. HCADT (2045)	926	STOPPING SIGHT DISTANCE BASED ON:	
SOIL FACTOR	N/A	HEIGHT OF EYE	3.5'
		HEIGHT OF OBJECT	2.0'
		DESIGN SPEED NOT ACHIEVED AT:	
		STA. _____ TO STA. _____	MPH _____

CITY OF BLAINE  
ANOKA COUNTY  
MN/DOT TRANSPORTATION DISTRICT - METRO  
SECTIONS 3 & 10  
TOWNSHIP 31 NORTH  
RANGE 23 WEST

#### GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" 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 10 SHEETS

#### INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4	DETAILS
5	CONSTRUCTION PLAN
6	PERMANENT PAVEMENT MARKING NOTES AND TABULATIONS
7	PERMANENT SIGNING & STRIPING, TEMPORARY SIGNING
8	TEMPORARY SIGNING NOTES AND TABULATIONS
9	PERMANENT SIGNING TABULATIONS
10	SIGN INSTALLATION TYPICALS

Approved 2-26-25  
ANOKA COUNTY ENGINEER

Approved 2-27-25  
CITY OF BLAINE ENGINEER

**Dan Erickson** Digitally signed by Dan Erickson  
Date: 2025.03.05 16:39:48 -06'00'  
DISTRICT STATE AID ENGINEER; REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

**Dan Erickson** Digitally signed by Dan Erickson  
Date: 2025.03.05 16:40:06 -06'00'  
FOR STATE AID ENGINEER; APPROVED FOR STATE AID FUNDING

NO	DATE	BY	CKD	APPR	REVISION
	02/19/2025				9:57:47 AM

NAME: P:\25-01-00\CSAH\_14\_(LTL at Church)\Base\Proposed\CSAH 14\_CP.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: Sean R. Fitch, Jr.  
SIGNATURE:   
DATE: 01/30/2025 LICENSE NO. 26511

DRAWN BY SPH DATE 10-24-2024  
DESIGN BY SPH DATE 10-24-2024  
CHECKED BY CSO DATE 10-28-2024



**ANOKA COUNTY  
HIGHWAY DEPT.**

COUNTY PROJECT 002-614-053

TITLE SHEET  
Sheet 1 of 10 Sheets

## STATEMENT OF ESTIMATED QUANTITIES

Notes	Item Number	ITEM DESCRIPTION	Unit	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
	2104.502	REMOVE SIGN TYPE C	EACH	2
1	2232.504	MILL BITUMINOUS SURFACE (1.5")	SQ YD	513
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	26
	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3;F)	TON	44
2	2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1
2	2563.601	TRAFFIC CONTROL	LUMP SUM	1
3	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20
	2564.502	INSTALL SIGN TYPE C	EACH	3
	2564.602	DELINEATOR / MARKER	EACH	1
	2564.618	SIGN TYPE C	SQ FT	23
4	2573.502	STORM DRAIN INLET PROTECTION	EACH	3
5,6	2582.503	4" SOLID LINE MULTI-COMPONENT	LIN FT	816

### CONSTRUCTION NOTES

1		REFERENCE DETAILS (PAGE 4)
2		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.
3		2 MESSAGE BOARDS, ONE ON EACH END OF THE PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
4		ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION.
5		FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING. CANNOT BE INSTALLED SOONER THAN 48 HOURS.
6		ALL PAVEMENT MARKINGS WILL BE TESTED POST INSTALLATION BY ANOKA COUNTY. ANY PAVEMENT MARKINGS THAT DO NOT MEET RETROREFLECTIVITY PER MNDOT SPEC. 2582.3C.3, CONTRACTOR IS RESPONSIBLE FOR REPLACING PAVEMENT MARKINGS AT ENGINEERS REQUEST AT NO COST TO ANOKA COUNTY.

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)

#### BASIS OF PLANNED QUANTITIES

2357		BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ 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
	03/24/2025				9:20:26 AM

NAME: P:\25-01-00\CSAH\_14\_(LTL at Church)\Base\Proposed\CSAH 14\_CP.dgn

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PRINT NAME: GERALD J. AUGER JR.

SIGNATURE:

DATE: 01/30/2025 LICENSE NO. 26511

DRAWN BY SPH DATE 10-24-2024

DESIGN BY SPH DATE 10-24-2024

CHECKED BY CSO DATE 10-28-2024



ANOKA COUNTY  
HIGHWAY DEPT.

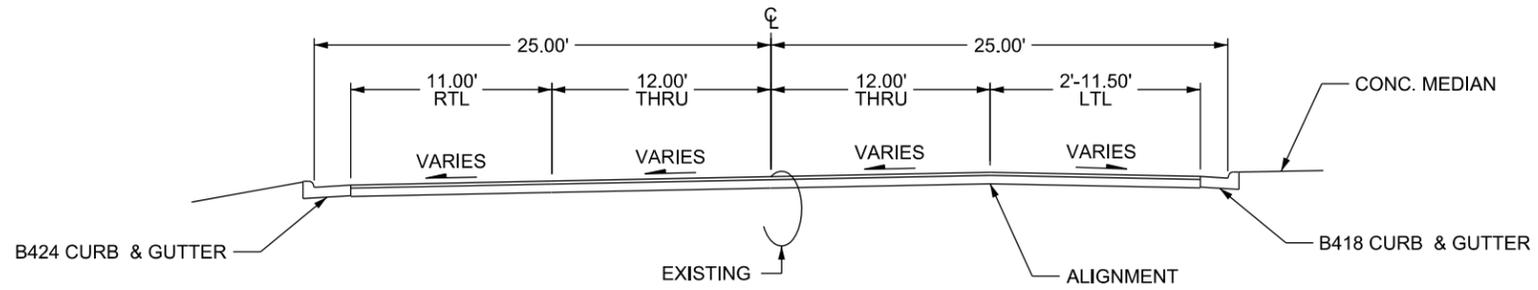
COUNTY PROJECT 002-614-053

STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 10 Sheets

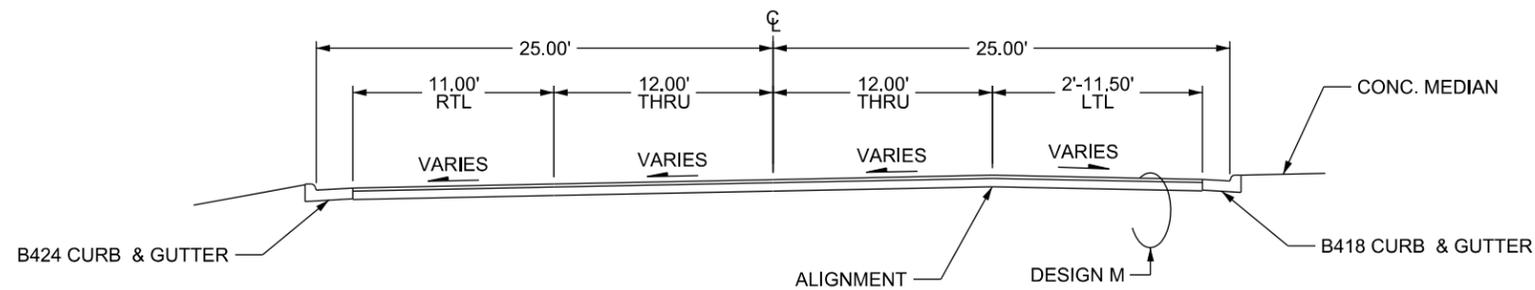
**CSAH 14 - 125TH AVE NE**  
EXISTING SECTION

10+62.00 - 15+28.00

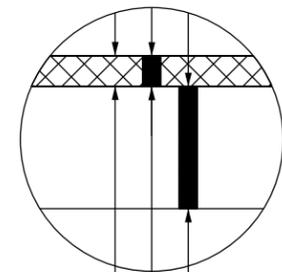


**CSAH 14 - 125TH AVE NE**  
PROPOSED

10+62.00 - 15+28.00



**DESIGN M**  
MILL SECTION



1.5" MILL BITUMINOUS  
1.5" BITUMINOUS WEAR (SPWEA340F)  
REMAINING BITUMINOUS (4.5")

NO	DATE	BY	CKD	APPR	REVISION	
	02/19/2025					9:57:48 AM

NAME: P:\25-01-00\CSAH\_14\_(LTL at Church)\Base\Proposed\CSAH 14\_CP.dgn

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PRINT NAME: GERALD J. AUGER, JR.  
SIGNATURE:   
DATE: 01/30/2025 LICENSE NO. 26511

DRAWN BY SPH DATE 10-24-2024  
DESIGN BY SPH DATE 10-24-2024  
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**ANOKA COUNTY**  
**HIGHWAY DEPT.**

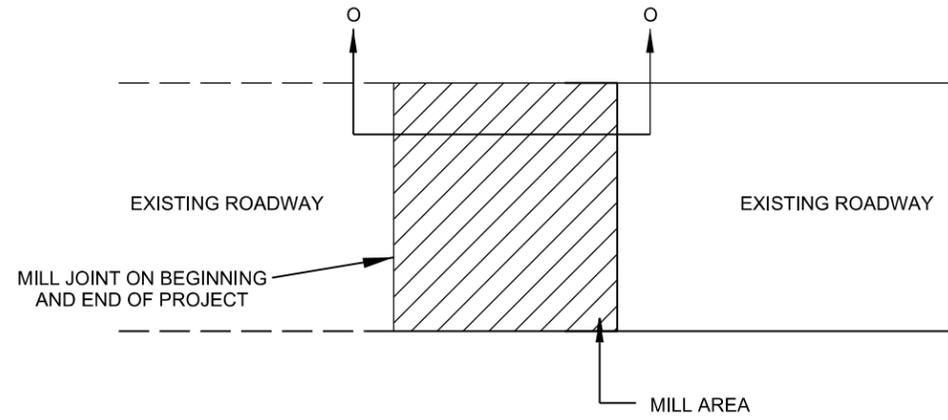
COUNTY PROJECT 002-614-053

TYPICAL SECTIONS

Sheet 3 of 10 Sheets

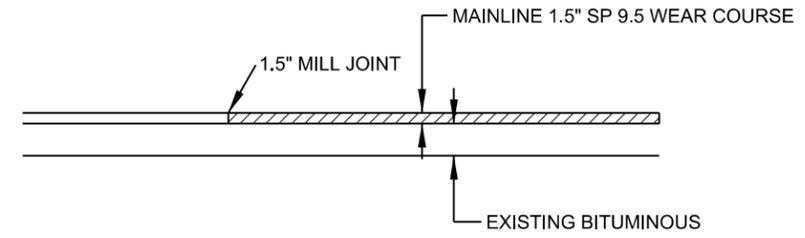
# MAINLINE JOINT DETAIL (MILL)

PLAN VIEW



PLAN VIEW

SECTION O - O



NO	DATE	BY	CKD	APPR	REVISION	
	02/19/2025					9:57:48 AM

NAME: P:\25-01-00\CSAH\_14\_(LTL at Church)\Base\Proposed\CSAH 14\_CP.dgn

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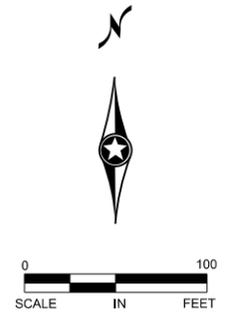
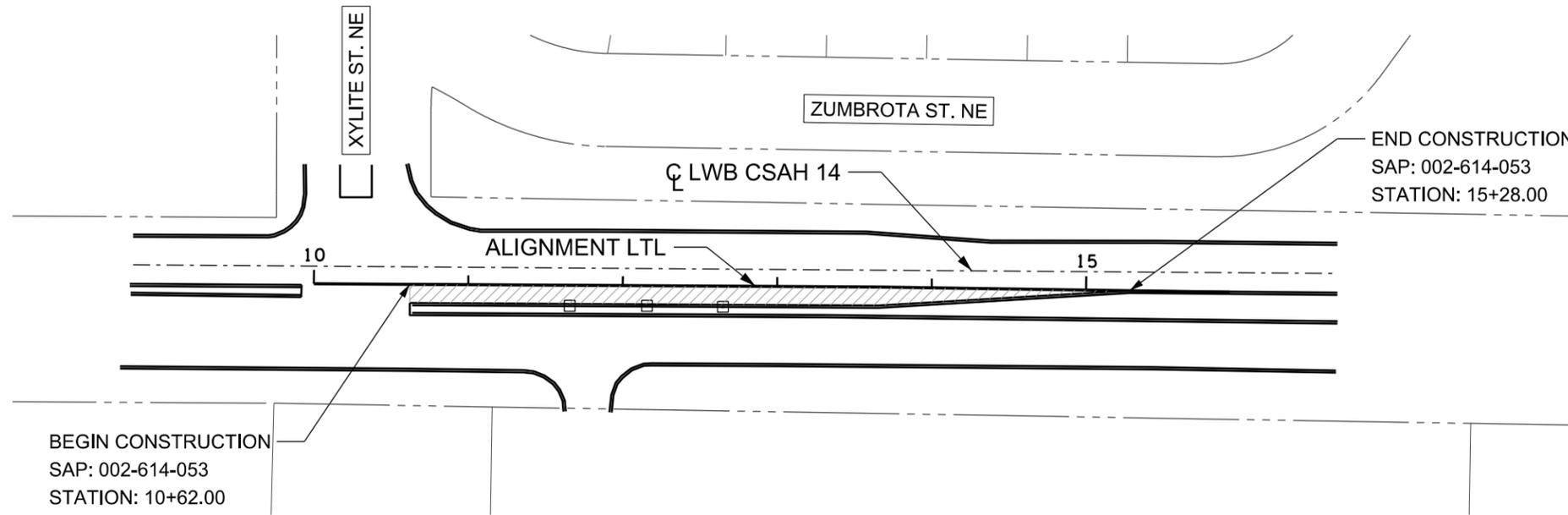


**ANOKA COUNTY  
HIGHWAY DEPT.**

COUNTY PROJECT 002-614-053

DETAILS

Sheet 4 of 10 Sheets



**LEGEND**

MILL AREA

R / W

NO	DATE	BY	CKD	APPR	REVISION	
	02/19/2025					9:57:48 AM

NAME: P:\25-01-00\CSAH\_14\_(LTL at Church)\Base\Proposed\CSAH 14\_CP.dgn

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SIGNATURE:

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**ANOKA COUNTY**  
**HIGHWAY DEPT.**

COUNTY PROJECT 002-614-053

**CONSTRUCTION PLAN**  
STA 10+62.00 TO 15+28.00  
Sheet 5 of 10 Sheets

**PERMANENT PAVEMENT MARKING PLAN  
NOTES & GUIDELINES**

**GENERAL INFORMATION:**

1. 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.
2. 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.
3. 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.
4. PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.
5. 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.

**MULTI-COMPONENT (MULTI-COMP):**

1. 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.
2. 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.
3. A MULTI-COMP LINE SHALL BE APPLIED WITH A MINIMUM THICKNESS OF 20 MILS (WET) AND 4" WIDE . GLASS BEADS SHALL BE APPLIED PER MANUFACTURER'S SPECIFICATIONS.
4. PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR AND PAVEMENT SURFACE TEMPERATURES ARE 40° 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.

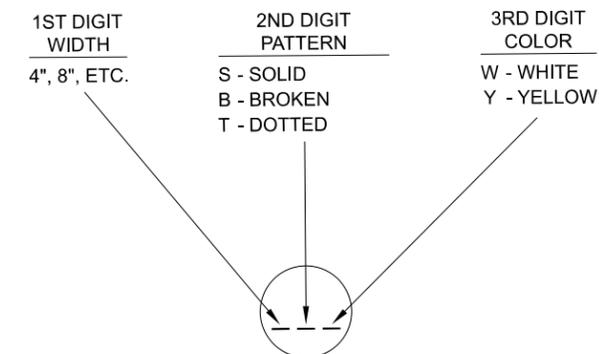
**PERMANENT STRIPING**

PERMANENT PAVEMENT MARKING TABULATION			
ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
		WHITE	YELLOW
4" SOLID LINE MULTI-COMP	LIN FT	300	516

**PAVEMENT MARKING SYMBOLS & MATERIALS LEGEND**

- — BROKEN LINE - 50' CYCLE (10' LINE, 40' GAP)
- ↩ ↪ PAVEMENT MESSAGE - LEFT OR RIGHT ARROW
- CROSSWALK BLOCK

**STRIPING KEY**



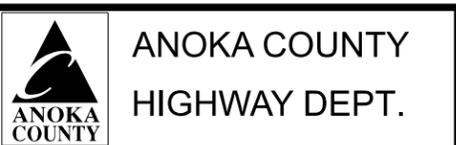
EXAMPLE: (4SW) = 4" SOLID LINE WHITE MULTI-COMP

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH\_14\_(LTL at Church)\Base\Traffic\002-614-053 Signing and Striping.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: SEAN R. THIEL  
 SIGNATURE: *Sean R. Thiel*  
 DATE: 2/13/2025 LICENSE NO. 45129

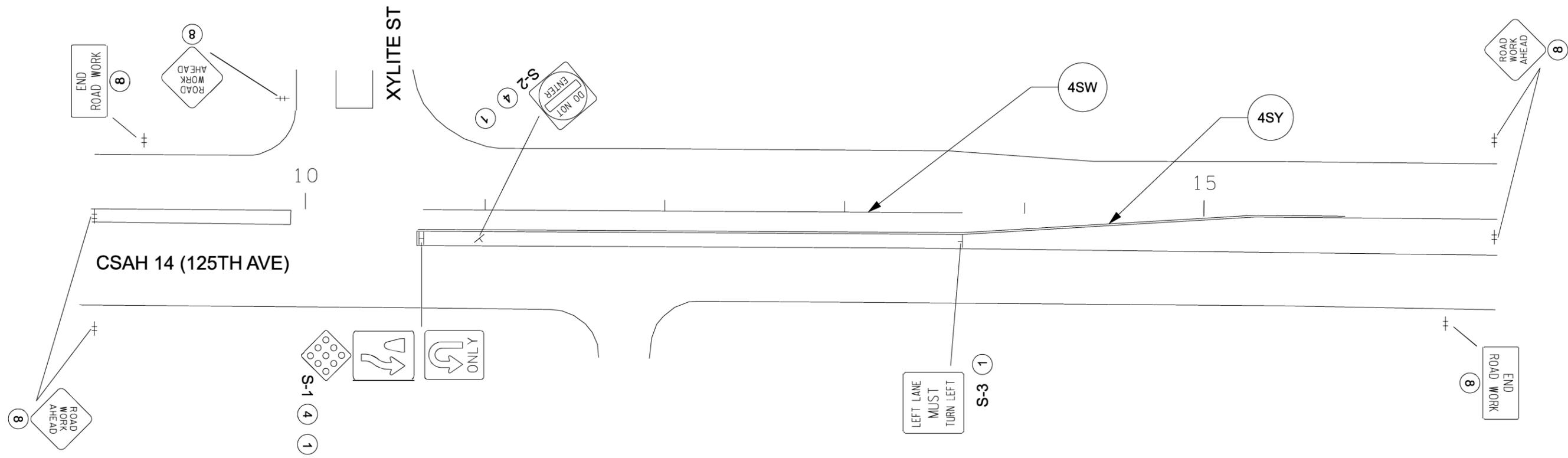
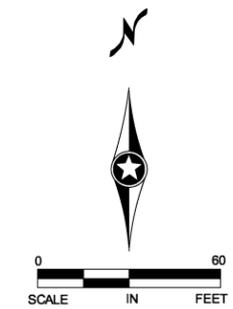
DRAWN BY: ALS DATE: 02/12/25  
 DESIGN BY: ALS DATE: 02/12/25  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



SAP 002-614-053

PERMANENT PAVEMENT  
MARKING NOTES AND  
TABULATIONS

Sheet 6 of 10 Sheets



**NOTE:**

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

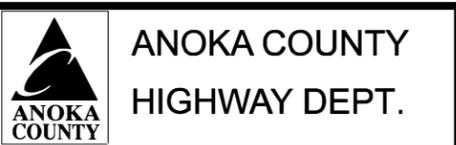
**SIGNING NOTES**

- ① F & I
- ④ REMOVE
- ⑧ TEMPORARY TRAFFIC CONTROL SIGN

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\25-01-00\CSAH_14_(LTL at Church)\Base\Traffic\002-614-053 Signing and Striping.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: SEAN R. THIEL  
 SIGNATURE: *Sean R. Thiel*  
 DATE: 2/13/2025 LICENSE NO. 45129

DRAWN BY ALS DATE 01/08/25  
 DESIGN BY ALS DATE 01/08/25  
 CHECKED BY DATE



SAP 002-614-053

PERMANENT SIGNING & STRIPING, TEMPORARY SIGNING  
 Sheet 7 of 10 Sheets

**TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES**

<b>"W" SERIES</b>				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	W3-4	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-1	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W16-7PL	BLACK ON ORANGE	30" X 18"	AS NEEDED
	W8-8	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-9	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-11	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-12	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W8-23	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W20-1	BLACK ON ORANGE	48" X 48"	AS NEEDED (ESTIMATED 5)
	W20-4	BLACK ON ORANGE	48" X 48"	AS NEEDED
	W20-7	BLACK ON ORANGE	48" X 48"	AS NEEDED

<b>"R" SERIES</b>				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	R4-1	BLACK ON WHITE	24" X 30"	AS NEEDED
	R4-2	BLACK ON WHITE	24" X 30"	AS NEEDED

<b>"G" SERIES</b>				
SIGN	MUTCD CODE	COLOR	SIZE	QUANTITY
	G20-2	BLACK ON ORANGE	48" X 24"	AS NEEDED (ESTIMATED 2)

**NOTES:**

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE MOST CURRENT VERSION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.
- 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 (PCMS) 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 SALVAGED 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.

**SIGNING NOTES**

- ① F & I
- ④ REMOVE
- ⑧ TEMPORARY TRAFFIC CONTROL SIGN

**TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND**

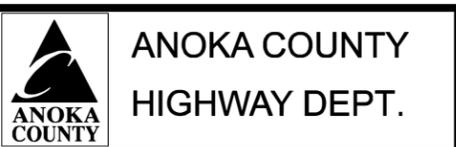
SYMBOL	DESCRIPTION
⊥	TRAFFIC CONTROL SIGN (SINGLE POST)
⊕	TRAFFIC CONTROL SIGN (TEMPORARY)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH\_14\_(LTL at Church)\Base\Traffic\002-614-053 Signing and Striping.dgn

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 PRINT NAME: SEAN R. THIEL  
 SIGNATURE: *Sean R. Thiel*  
 DATE: 2/13/2025 LICENSE NO. 45129

DRAWN BY: ALS DATE: 01/08/25  
 DESIGN BY: ALS DATE: 01/08/25  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



SAP 002-614-053

## SIGN AND DELINEATOR / MARKER

**ST-A**

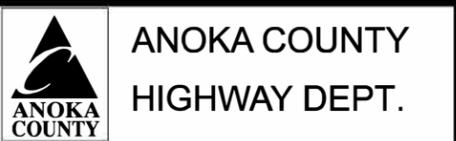
SIGN NUMBER	PANEL					SUPPORT		REMOVE SIGN TYPE C	REMOVE SIGN TYPE C PANEL	SIGN	INSTALL SIGN TYPE C	INSTALL SIGN TYPE C PANEL	DELINEATOR / MARKER
	PANEL CODE	LEGEND	SIZE (W x H)			MOUNTING HEIGHT	TYPE	NUMBER OF POSTS	EACH	SQ FEET	EACH	EACH	EACH
			INCHES			FEET							
(1) S-1	R4-7	KEEP RIGHT	24	x	30	7	S-CONC	1	1	5.00	1		1
	OM1-1	TYPE 1 OBJECT MARKER	18	x	18	4							
	R3-X5	U-TURN ONLY	24	x	30	7				5.00			
S-2	R5-1	DO NOT ENTER	30	x	30	7	S-CONC	1	1	6.25	1		
S-3	R3-7L	LEFT LANE MUST TURN LEFT	30	x	30	7	S-CONC	1		6.25	1		
<b>TOTAL</b>								<b>2</b>	<b>0</b>	<b>23</b>	<b>3</b>	<b>0</b>	<b>1</b>

**NOTES**  
(1) - BACK TO BACK

NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: SEAN R. THIEL  
 SIGNATURE: *Sean R. Thiel*  
 DATE: 2/13/2025 LICENSE NO. 45129

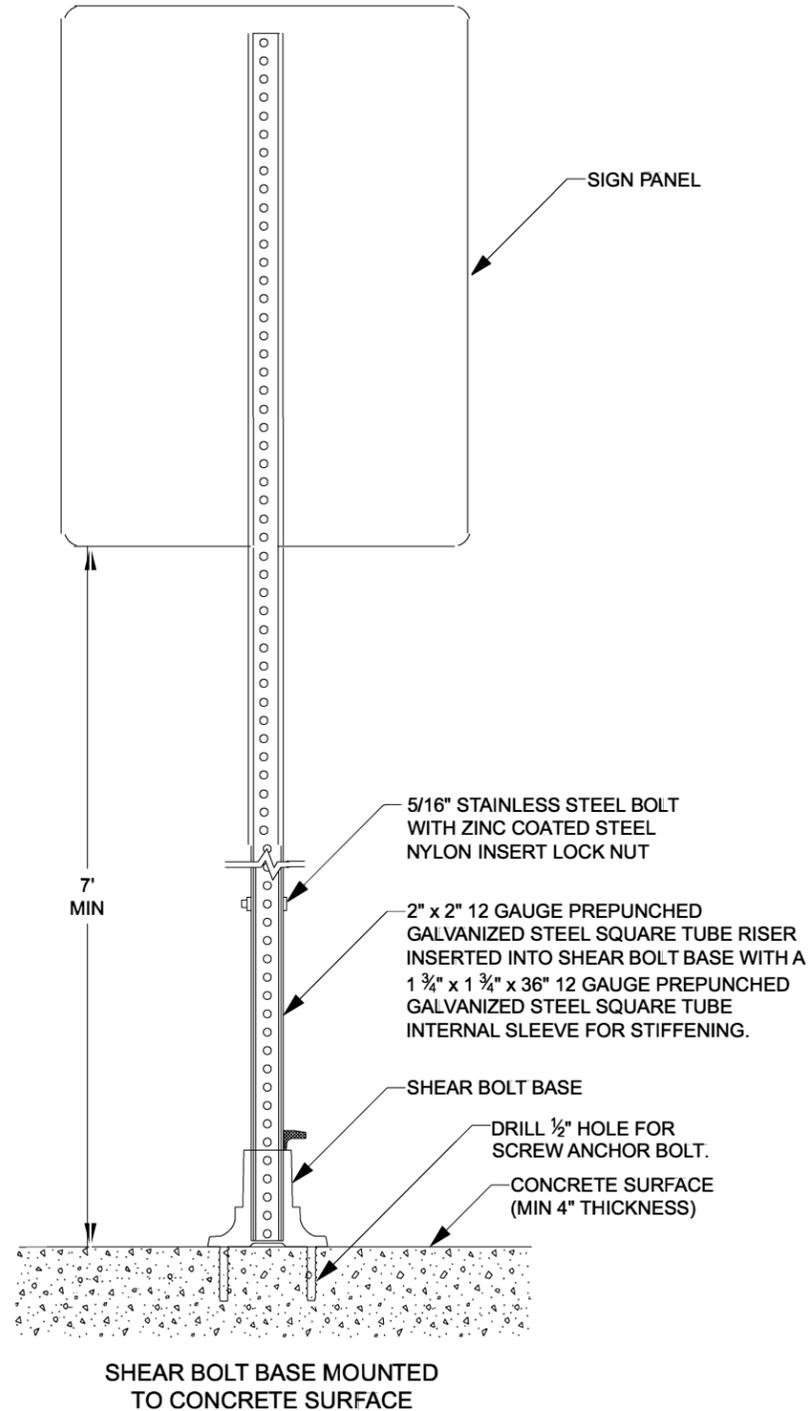
DRAWN BY: ALS DATE: 01/08/25  
 DESIGN BY: ALS DATE: 01/08/25  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



SAP 002-614-053

**SIGN INSTALLATION TYPICALS**

**ISLAND MOUNT  
SQUARE TUBE SHEAR BOLT BASE  
SIGN INSTALLATION TYPICAL**

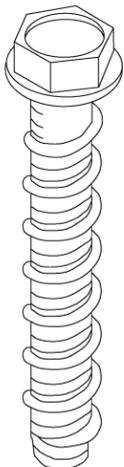


**SIGN NOTES:**

1. TO MEET CRASHWORTHY REQUIREMENTS THE DISTANCE BETWEEN THE BOTTOM OF THE SIGN PANEL AND THE GROUND SURFACE BELOW ANY PORTION OF THE PRIMARY SIGN PANEL MUST BE A MINIMUM OF 7 FEET. SEE TABULATIONS FOR MOUNTING HEIGHT.
2. INSTALLATION OF SHEAR BOLT BASE MUST BE NO EARLIER THAN 3 DAYS AFTER CONCRETE IS PLACED.
3. FOR SHEAR BOLT BASE USE APPROVED PRODUCT FROM MnDOT APPROVED PRODUCTS LIST. PRODUCT MUST BE MODIFIED AS SHOWN.
4. USE ANTI SEIZE ON THE SHEAR BOLT CONNECTIONS.

**INSTALLATION NEAR SHARED-USE PATHWAY (MN MUTCD):**

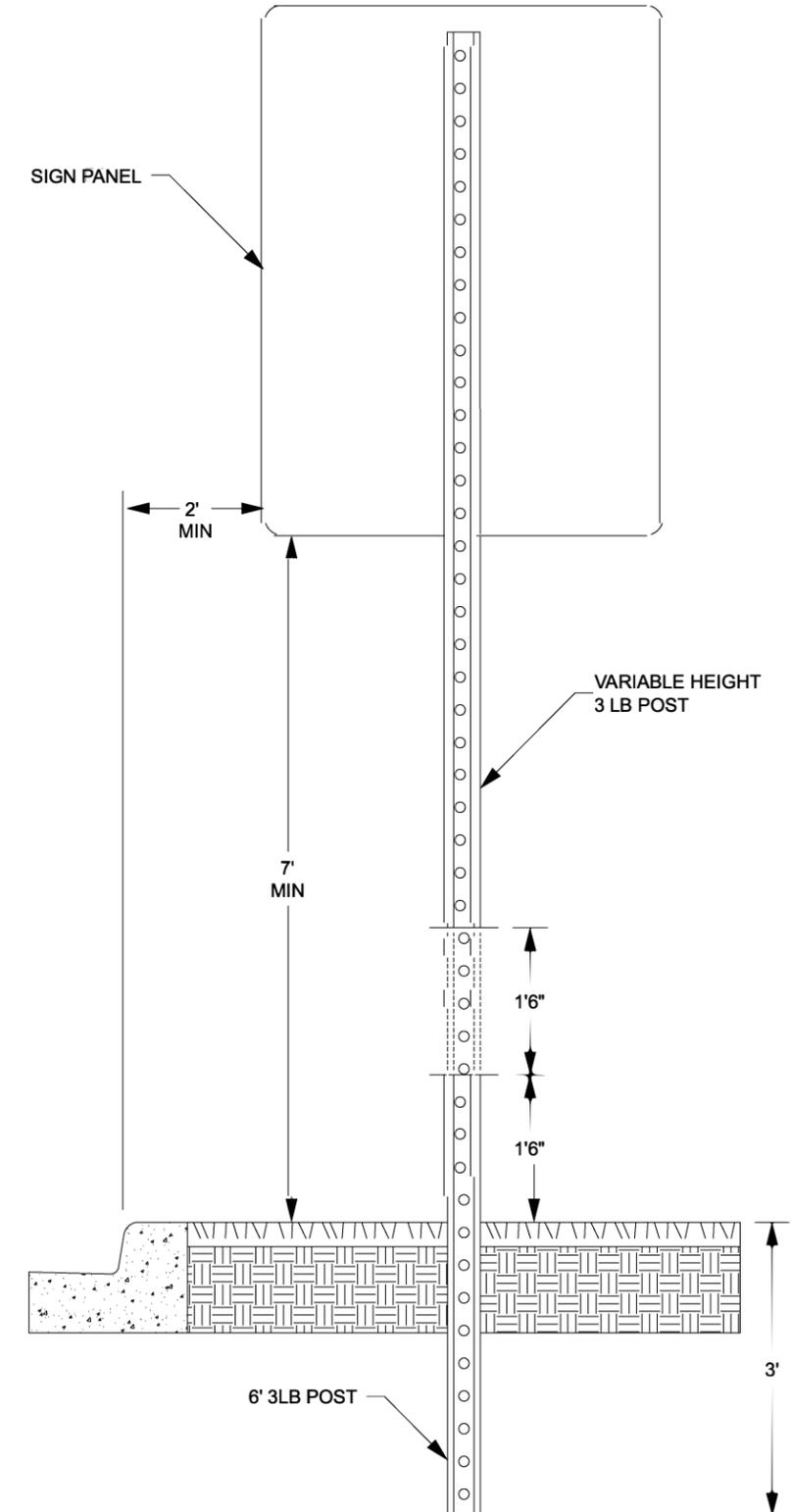
- THE MINIMUM HEIGHT MEASURED VERTICALLY FROM THE SHARED-USE PATHWAY TO THE BOTTOM OF THE SIGN SHALL BE 7 FEET. IF A SECONDARY SIGN IS MOUNTED BELOW THE PRIMARY SIGN AND IS MOUNTED LESS THAN 7 FEET, IT SHALL NOT PROJECT MORE THAN 4 INCHES INTO THE SHARED-USE PATHWAY.



**SCREW ANCHOR BOLT**

5" LONG CARBON STEEL THAT MUST MEET A MINIMUM ALLOWABLE TENSION LOAD OF 2270 PSI.

**GROUND POST MOUNT  
SIGN INSTALLATION TYPICAL**

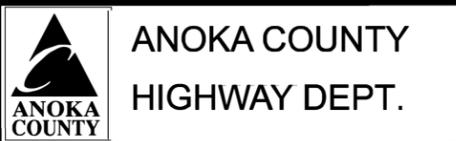


NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\25-01-00\CSAH\_14\_(LTL at Church)\Base\Traffic\002-614-053 Signing and Striping.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: SEAN R. THIEL  
 SIGNATURE: *Sean R. Thiel*  
 DATE: 2/13/2025 LICENSE NO. 45129

DRAWN BY: ALS DATE: 01/08/25  
 DESIGN BY: ALS DATE: 01/08/25  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



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