

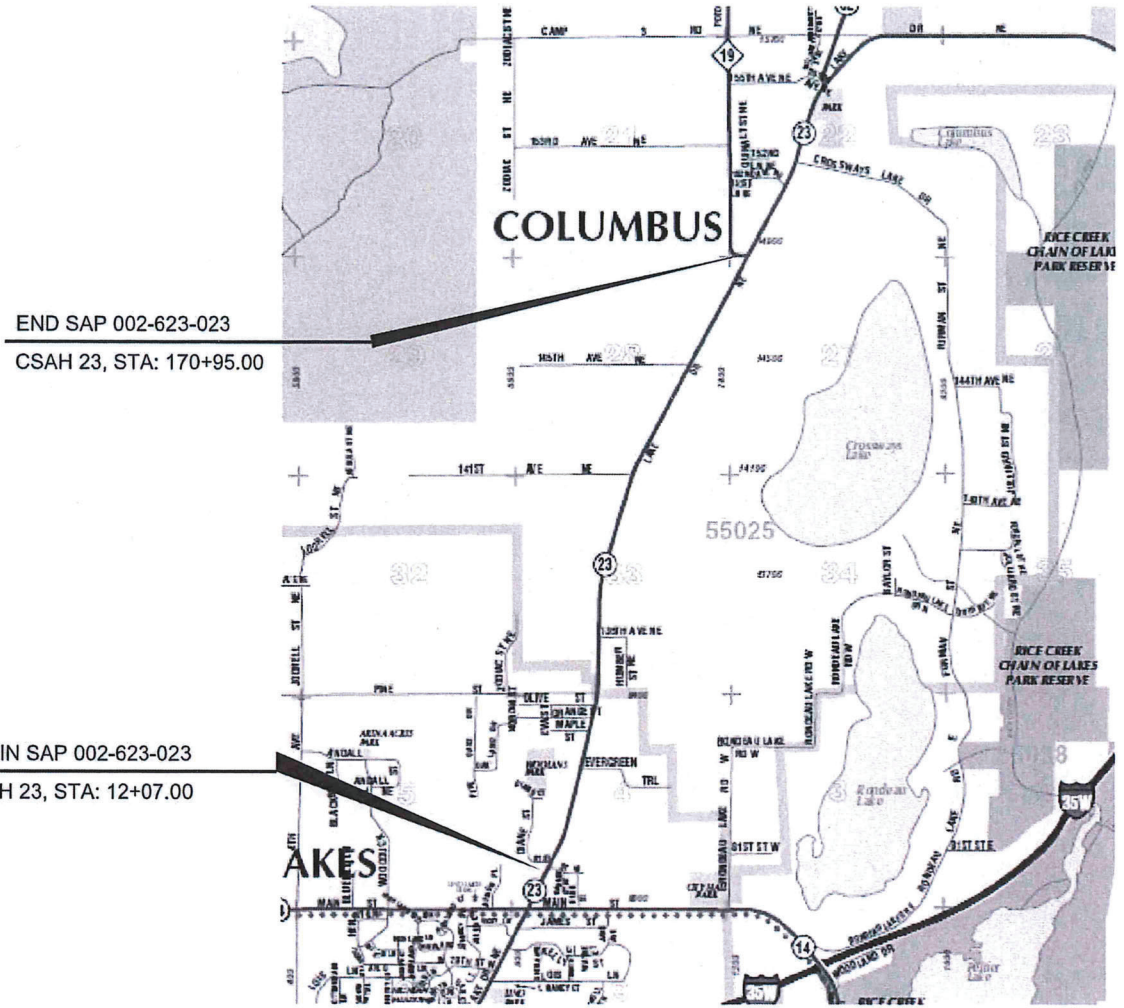
MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR MILL BITUMINOUS, BITUMINOUS SURFACING, AND CURB & GUTTER

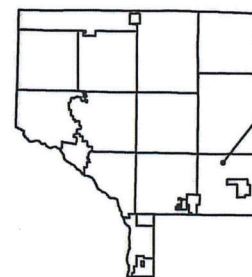
LOCATED ON CSAH 23 BETWEEN 81ST STREET AND CR 19

CSAH 23

GROSS LENGTH	<u>15,888.00</u> FEET	<u>3.009</u> MILES
EXCEPTIONS-LENGTH	<u>0.00</u> FEET	<u>0.000</u> MILES
NET LENGTH	<u>15,888.00</u> FEET	<u>3.009</u> MILES



PROJECT LOCATION



CITY OF LINO LAKES & COLUMBUS
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 4, 5, 22, 27, 32, 33
TOWNSHIP 32 NORTH
RANGE 22 WEST

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 28 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3 - 5	TYPICAL SECTIONS
6 - 7	DETAILS
8 - 13	CONSTRUCTION PLAN
14-20	TEMPORARY SIGNING
21-28	SIGNING AND STRIPING DETAILS

Approved *[Signature]* 2-15-23
ANOKA COUNTY ENGINEER

Approved *[Signature]* 2/15/2023
CITY OF LINO LAKES ENGINEER

Approved Kevin F. Bittner 20
Digitally signed by Kevin F. Bittner
Date: 2023.02.16 09:08:39-06'00'
CITY OF COLUMBUS ENGINEER

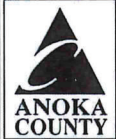
Dan Erickson 20
Digitally signed by Dan Erickson
Date: 2023.02.16 10:11:40 -06'00'
DISTRICT STATE AID ENGINEER: REVIEWED FOR
COMPLIANCE WITH STATE AID RULES/POLICY

Dan Erickson 20
Digitally signed by Dan Erickson
Date: 2023.02.16 10:12:12 -06'00'
for STATE AID ENGINEER:
APPROVED FOR STATE AID FUNDING

DESIGN DESIGNATION (CSAH 23)			
ESAL 20	<u>1,196,255</u>	FUNCTIONAL CLASSIFICATION	<u>MINOR ARTERIAL</u>
R VALUE	<u>75</u>	NO. OF TRAFFIC LANES	<u>2</u> NO. OF PARKING LANES <u>0</u>
ADT (2023)	<u>10,126</u>	DESIGN SPEED	<u>50</u> MPH
PROJ. ADT (2043)	<u>10,126</u>	STOPPING SIGHT DISTANCE BASED ON:	
PROJ. HCADT (2043)	<u>597</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 MAR DATE 02/08/2021
DESIGN BY MAR DATE 02/08/2021
CHECKED BY CO DATE 02/14/2023



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-623-023

TITLE SHEET
Sheet 1 of 28 Sheets

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	360
1	2104.503	REMOVE BITUMINOUS CURB	LIN FT	351
1	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	78
2	2211.509	AGGREGATE BASE CLASS 5	TON	22
3	2221.509	SHOULDER BASE AGGREGATE CLASS 5	TON	1639
5	2232.504	MILL BITUMINOUS SURFACE (1.0")	SQ YD	13968
1,4	2232.604	MILL BITUMINOUS PAVEMENT (SPECIAL)	SQ YD	456
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	4039
6	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (4;C)	TON	3482
7	2360.509	TYPE SP 12.5 BITUMINOUS MIXTURE FOR PATCHING	TON	27
	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4;C)	TON	6554
	2531.503	CONCRETE CURB AND GUTTER DESIGN B618	LIN FT	351
8	2540.602	MAIL BOX SUPPORT	EACH	1
	2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1
9,10	2563.601	TRAFFIC CONTROL	LUMP SUM	1
11	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20
	2574.507	COMMON TOPSOIL BORROW	CU YD	92
12	2575.508	HYDRAULIC REINFORCED FIBER MATRIX	POUND	1281
13	2581.503	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	LIN FT	639
14	2582.503	4" SOLID LINE MULTI-COMPONENT GROUND IN	LIN FT	40592
14	2582.503	4" BROKEN LINE MULTI-COMPONENT GROUND IN	LIN FT	3200
14	2582.503	8" DOTTED LINE MULTI-COMPONENT GROUND IN	LIN FT	36
14	2582.503	4" DOUBLE SOLID LINE MULTI-COMPONENT GROUND IN	LIN FT	1550
14	2582.503	24" SOLID LINE PREFORM THERMO GROUND IN	LIN FT	194
14	2582.518	PAVEMENT MESSAGE PREFORM THERMOPLASTIC GROUND IN	SQ FT	62
14	2582.518	CROSSWALK MULTI-COMPONENT GROUND IN	SQ FT	144

CONSTRUCTION NOTES

1		REFERENCE DETAILS (PAGE 6) FOR REMOVAL DETAILS
2		ITEM TO BE USED AS BASE FOR DRIVEWAY BASES AND CURB PATCHES.
3		ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND GRAVEL STREET APPROACH.
4		TO BE USED FOR BUTT MILLING STREET APPROACHES AND DRIVEWAYS.
5		ITEM FOR EDGE MILLING FROM LANE LINE TO CENTER LINE THE WIDTH OF THE MILL. MILL 1.0" AT LANE LINE AND 0.0" TOWARDS CENTERLINE THE WIDTH OF THE MILL.
6		ITEM TO BE USED FOR PAVING BITUMINOUS SHOULDERS AND BUMP OUTS FOR DRIVEWAY AND STREET APPROACHES. SEE BITUMINOUS STREET SUMMARY.
7		ITEM INCLUDES BITUMINOUS PATCHING AROUND NEW CURB AND ANY POTHOLES.
8		MAILBOXES ARE TO BE FIELD VERIFIED FOR ALLOWABLE HEIGHT BY ENGINEER AND REPLACED BY CONTRACTOR AS DIRECTED. MAILBOXES WILL 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.
9		CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL.
10		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.
11		2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
12		TYPE 3 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES.
13		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.
14		FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING. CANNOT BE INSTALLED SOONER THAN 48 HOURS.

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
2575		SEED MIXTURE 25-121	61 LBS./ ACRE
2574		FERTILIZER TYPE 3	350 LBS./ ACRE
2575		HYDRAULIC REINFORCED FIBER MATRIX	3900 LBS./ ACRE

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

MNDOT STANDARD PLATES

PLATE NO.	DESCRIPTION
7100H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
9350B	MAILBOX SUPPORT - SWING-AWAY TYPE

BITUMINOUS STREET SUMMARY

LOCATION	BITUMINOUS	
	2360 TYPE SP 12.5 WEAR (4,C)	NOTES
	TON	
81st Street	1	[1]
Diane Street	1	[1]
Evergreen Trail	1	[1]
Maple Street	1	[1]
Orange Street	1	[1]
Pine Street	1	[1]
135th Avenue NE	1	[1]
141st Avenue NE	1	[1]
145th Avenue NE	1	[1]
Potomac Street NE	1	[1]
PROJECT TOTAL	10	

BITUMINOUS SUMMARY NOTES:


[1] QUANTITY ESTIMATED FOR 1 LIFTS

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Proposed\CSAH_23_SEQ.dgn

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PRINT NAME: GERALD J AUGER JR.

SIGNATURE: 

DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY: MAR DATE: 02/08/2021

DESIGN BY: MAR DATE: 02/08/2021

CHECKED BY: CO DATE: 03/20/2023



**ANOKA COUNTY
HIGHWAY DEPT.**

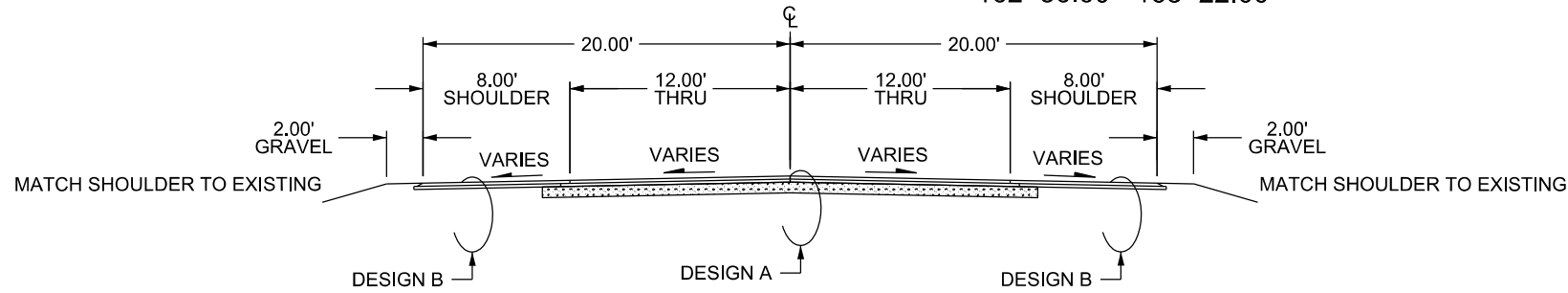
STATE AID PROJECT 002-623-023

STATEMENT OF ESTIMATED QUANTITIES

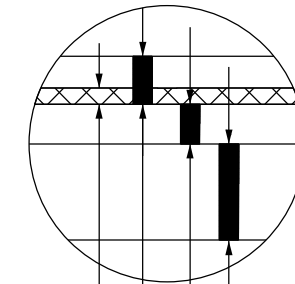
Sheet 2 of 28 Sheets

CSAH 23 - Lake Drive
EXISTING / PROPOSED SECTION

7+75.00 - 13+55.00	38+30.00 - 47+35.00	103+52.00 - 110+57.00
20+30.00 - 25+59.00	53+53.00 - 56+63.00	115+48.00 - 135+96.00
27+20.00 - 36+00.00	74+66.00 - 99+44.00	148+65.00 - 161+60.00
		162+56.00 - 168+22.00



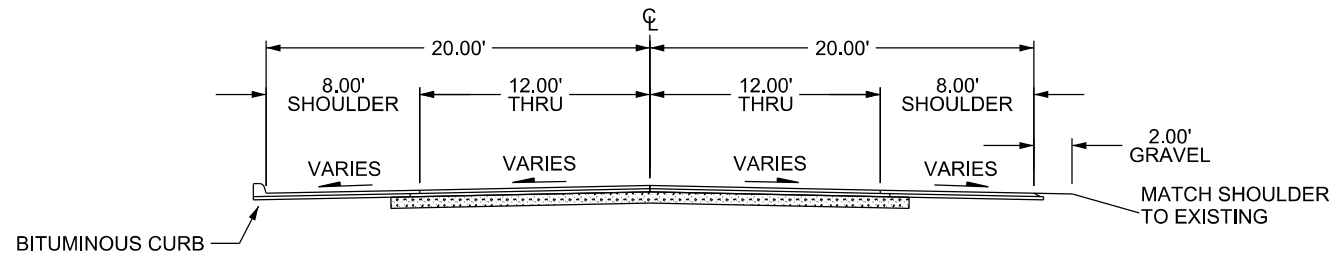
DESIGN A
MILL SECTION



1.0" MILL BITUMINOUS (EDGE MILL)
2.5" BITUMINOUS WEAR (SPWEB440C)
REMAINING BITUMINOUS
INPLACE CONCRETE PAVEMENT

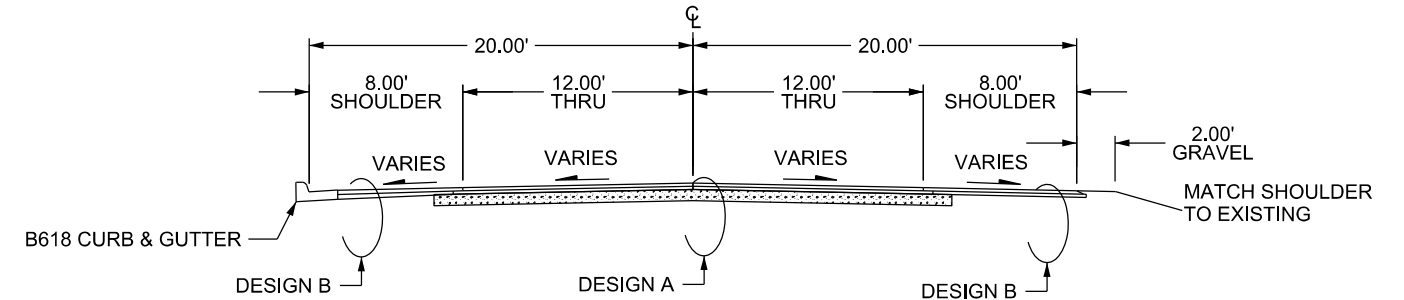
CSAH 23 - Lake Drive
EXISTING SECTION

25+59.00 - 27+20.00 161+60.00 - 162+56.00



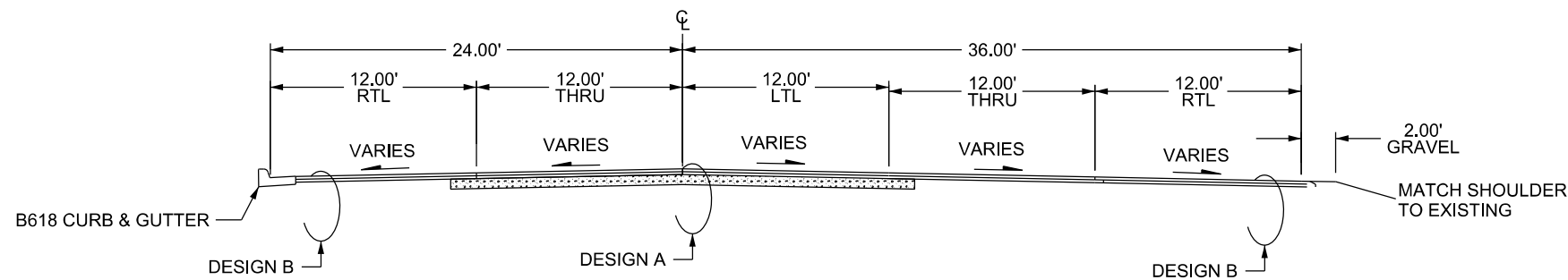
CSAH 23 - Lake Drive
PROPOSED SECTION

25+59.00 - 27+20.00 161+60.00 - 162+56.00

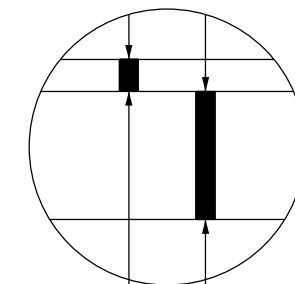


CSAH 23 - Lake Drive
EXISTING / PROPOSED SECTION

1+72.00 - 7+75.00




DESIGN B
OVERLAY/SHOULDER SECTION



1.5" BITUMINOUS WEAR (SPWEA440C)
EXISTING BITUMINOUS

NO	DATE	BY	CHKD	APPR	REVISION	TIME
	03/06/2023					9:30:09 AM

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Proposed\CSAH_23_TYPICALS.dgn

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ANOKA COUNTY
HIGHWAY DEPT.

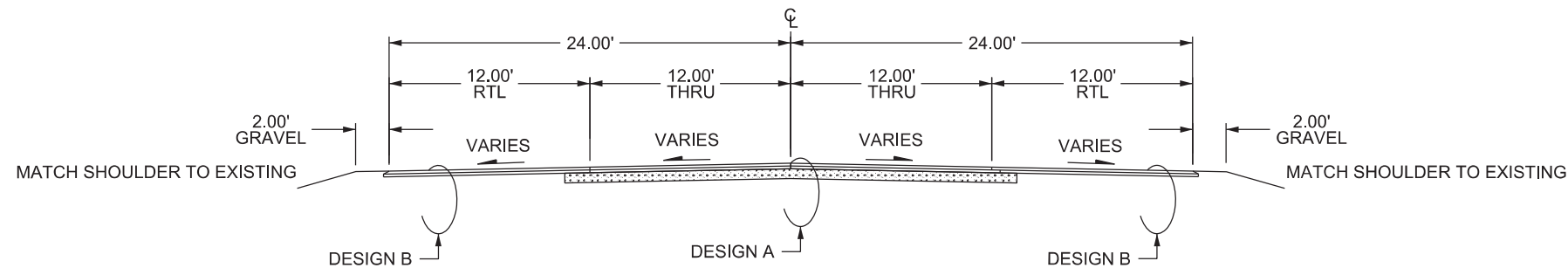
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TYPICAL SECTIONS

Sheet 3 of 28 Sheets

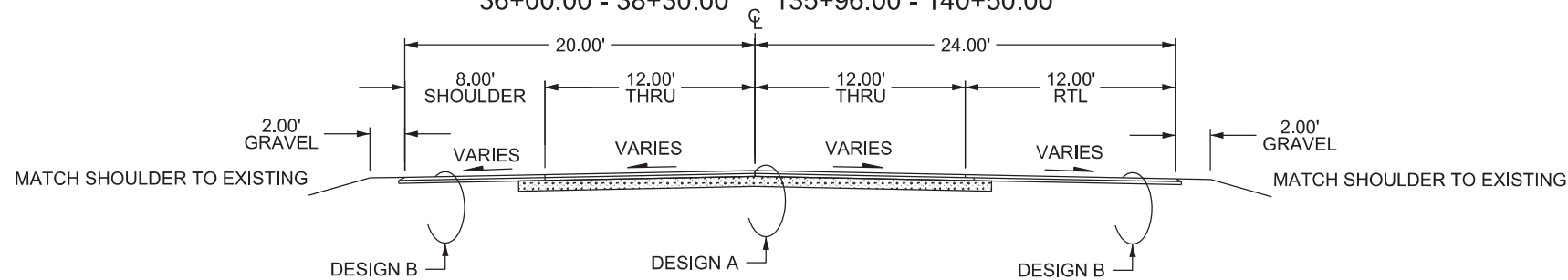
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13+55.00 - 17+72.00 56+63.00 - 58+42.00



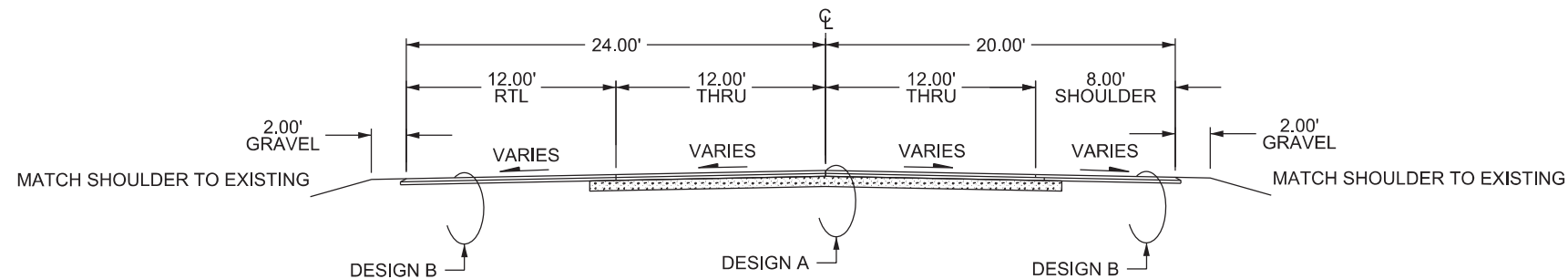
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17+72.00 - 20+30.00 58+42.00 - 60+75.00
36+00.00 - 38+30.00 135+96.00 - 140+50.00

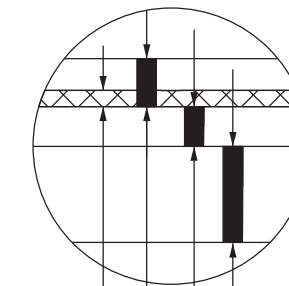


CSAH 23 - Lake Drive EXISTING / PROPOSED SECTION

47+35.00 - 53+53.00 110+57.00 - 115+48.00
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99+44.00 - 103+52.00

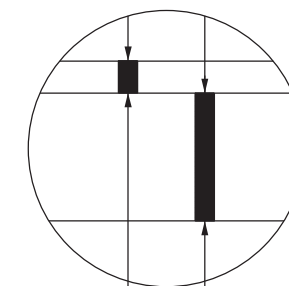


DESIGN A MILL SECTION



1.0" MILL BITUMINOUS (EDGE MILL)
2.5" BITUMINOUS WEAR (SPWEB440C)
REMAINING BITUMINOUS
INPLACE CONCRETE PAVEMENT

DESIGN B OVERLAY/SHOULDER SECTION



1.5" BITUMINOUS WEAR (SPWEA440C)
EXISTING BITUMINOUS

NO	DATE	BY	CKD	APPR	REVISION	
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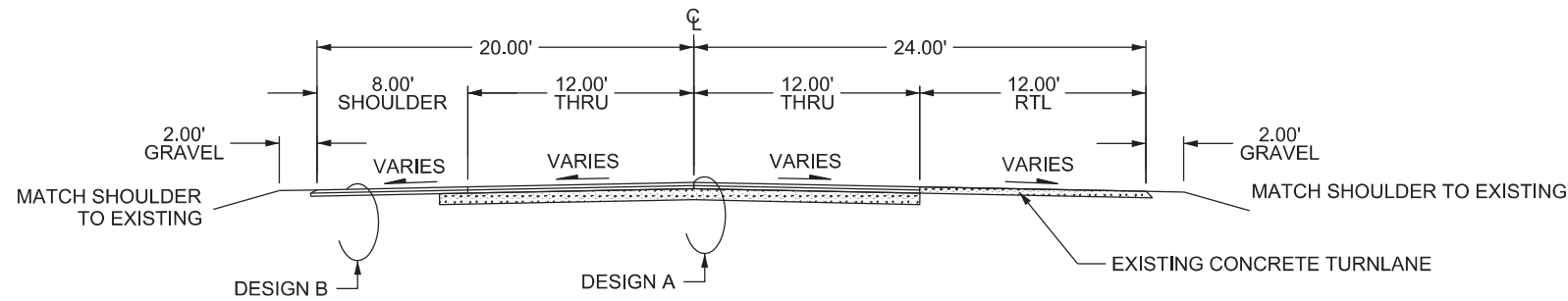
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CHECKED BY: CO DATE: 02/14/2023

ANOKA COUNTY
HIGHWAY DEPT.

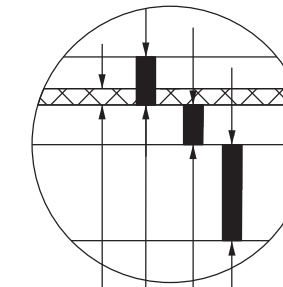
STATE AID PROJECT 002-623-023

CSAH 23 - Lake Drive
EXISTING / PROPOSED SECTION

143+62.00 - 146+91.00



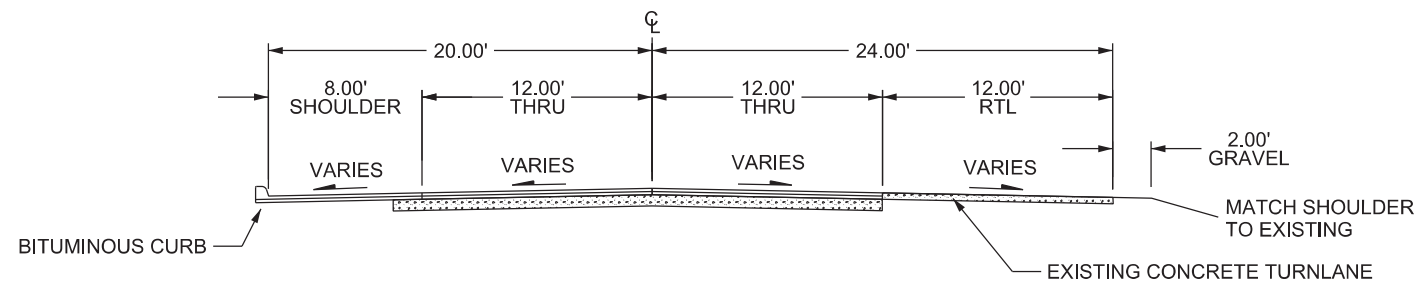
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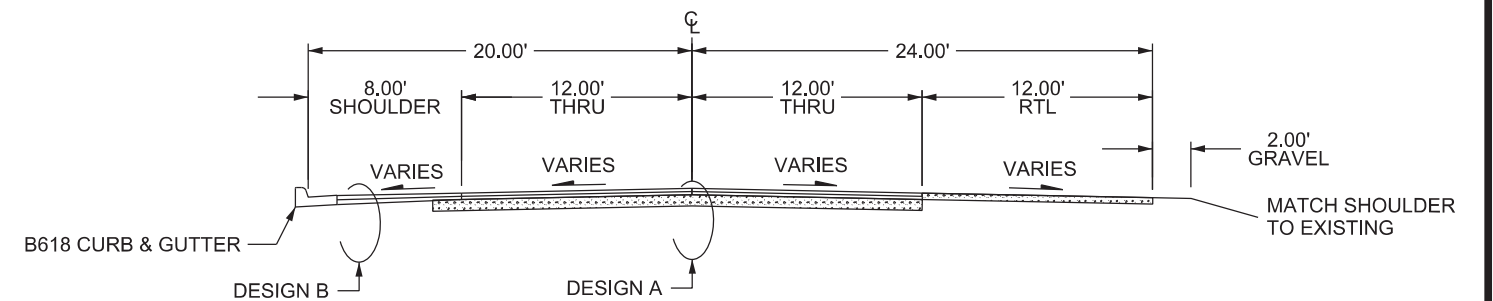
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EXISTING SECTION

146+91.00 - 148+65.00



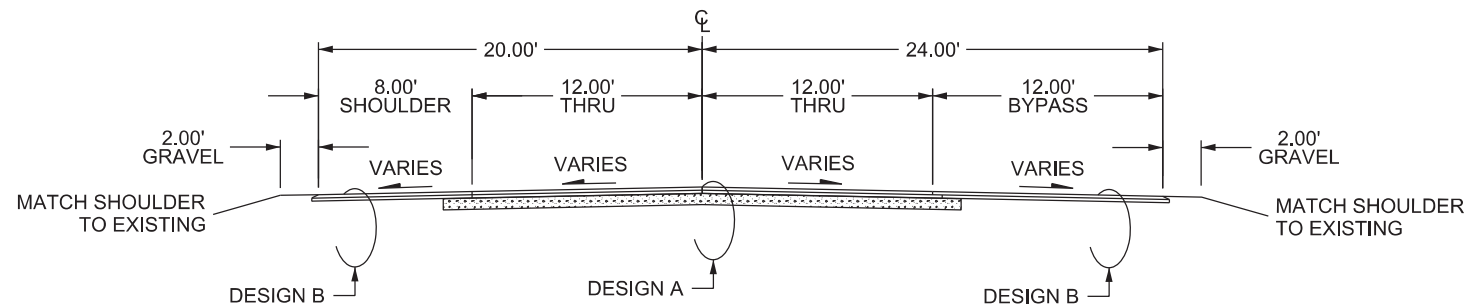
CSAH 23 - Lake Drive
PROPOSED SECTION

146+91.00 - 148+65.00

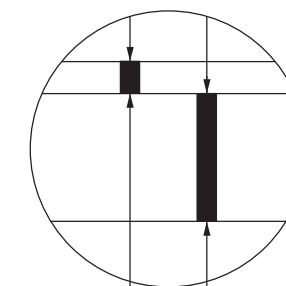


CSAH 23 - Lake Drive
EXISTING / PROPOSED SECTION

168+22.00 - 171+90.00




DESIGN B
OVERLAY/SHOULDER SECTION



1.5" BITUMINOUS WEAR(SPWEA440C)
EXISTING BITUMINOUS

NO	DATE	BY	CKD	APPR	REVISION	TIME
	02/14/2023					6:40:32 AM

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Proposed\CSAH_23_TYPICALS.dgn

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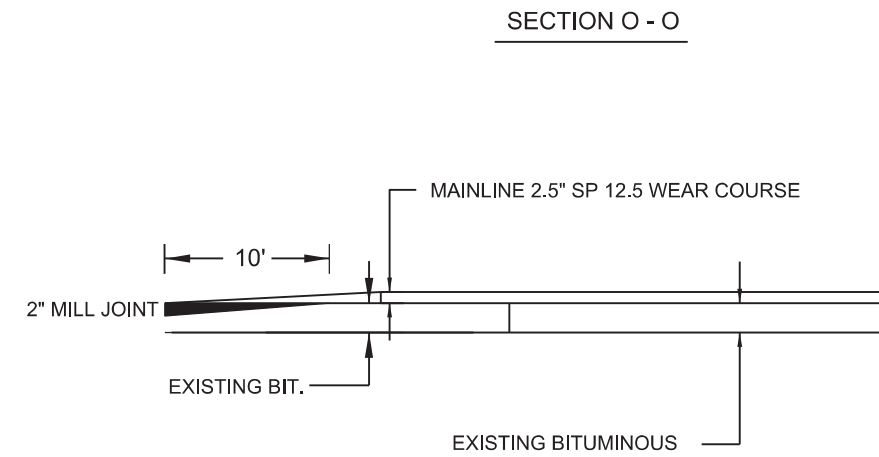
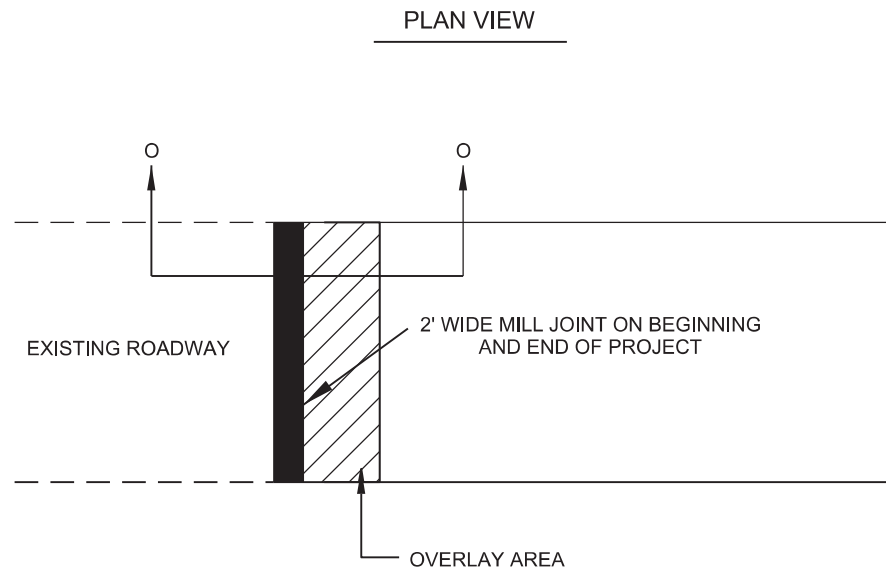
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STATE AID PROJECT 002-623-023

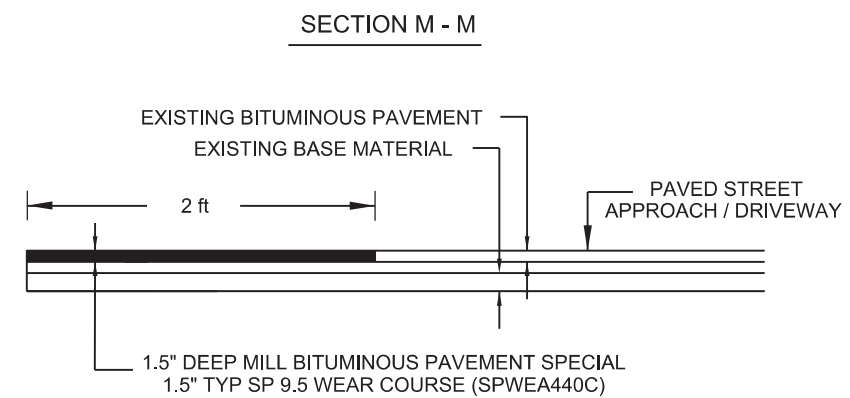
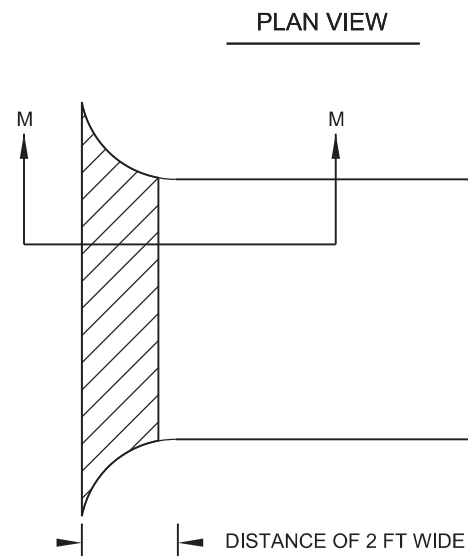
TYPICAL SECTIONS
Sheet 5 of 28 Sheets

MAINLINE JOINT DETAIL (OVERLAY)



STREET APPROACH & DRIVEWAY DETAIL (MILL & OVERLAY)

BITUMINOUS STREET



NO	DATE	BY	CKD	APPR	REVISION	TIME

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Proposed\CSAH_23_DETAILS.dgn

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ANOKA COUNTY

HIGHWAY DEPT.

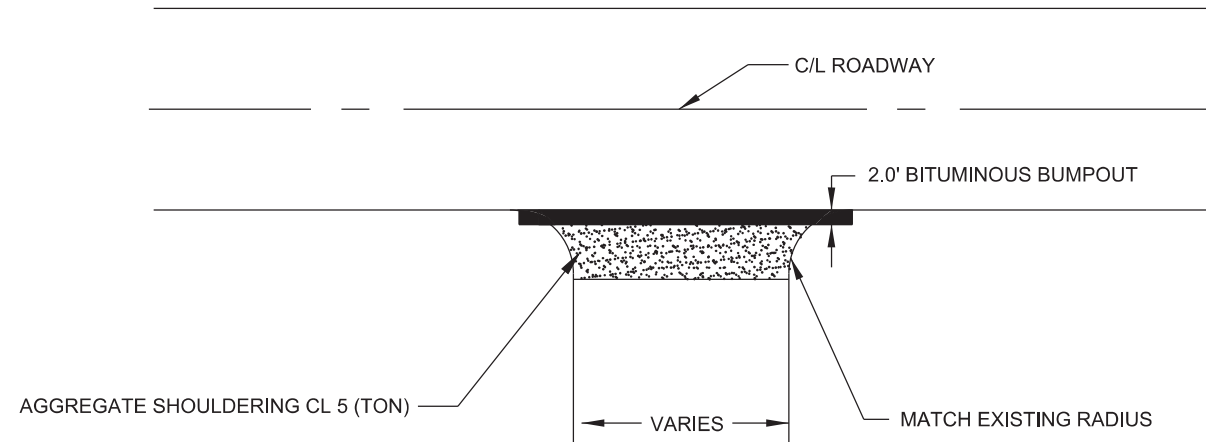
STATE AID PROJECT 002-623-023

DETAILS

Sheet 6 of 28 Sheets

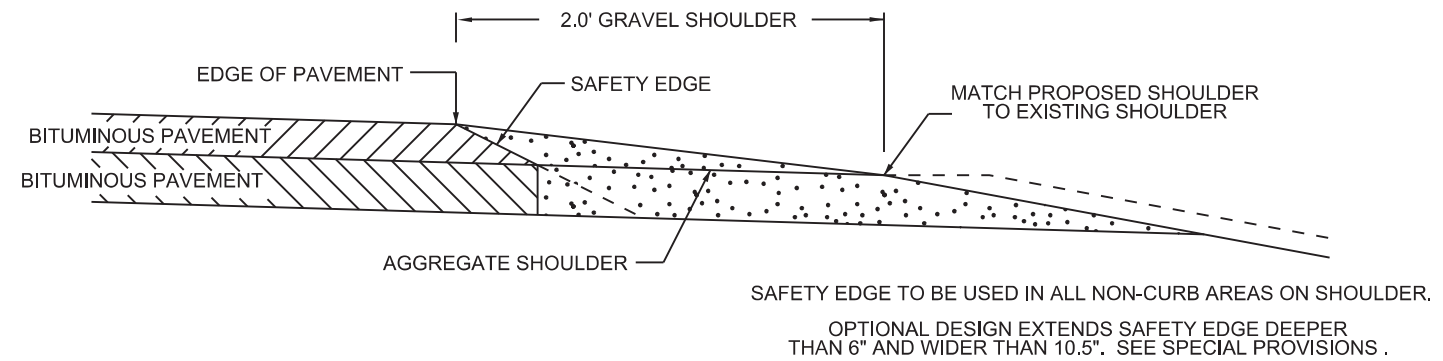
DRIVEWAY DETAIL

GRAVEL / FIELD ENTRANCE



SHOULDER DETAIL

BITUMINOUS SAFETY EDGE GRAVEL SHOULDER



NO	DATE	BY	CKD	APPR	REVISION	

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Proposed\CSAH_23_DETAILS.dgn

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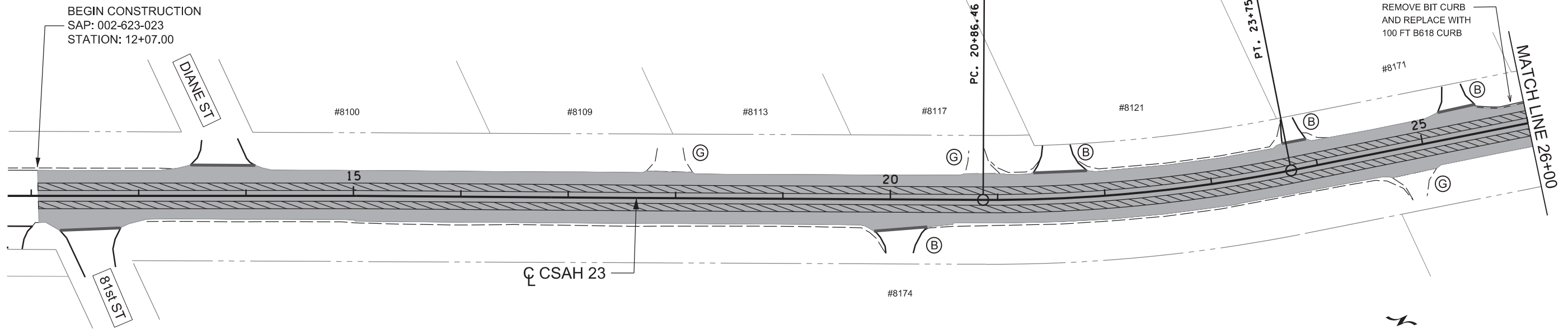


**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-623-023

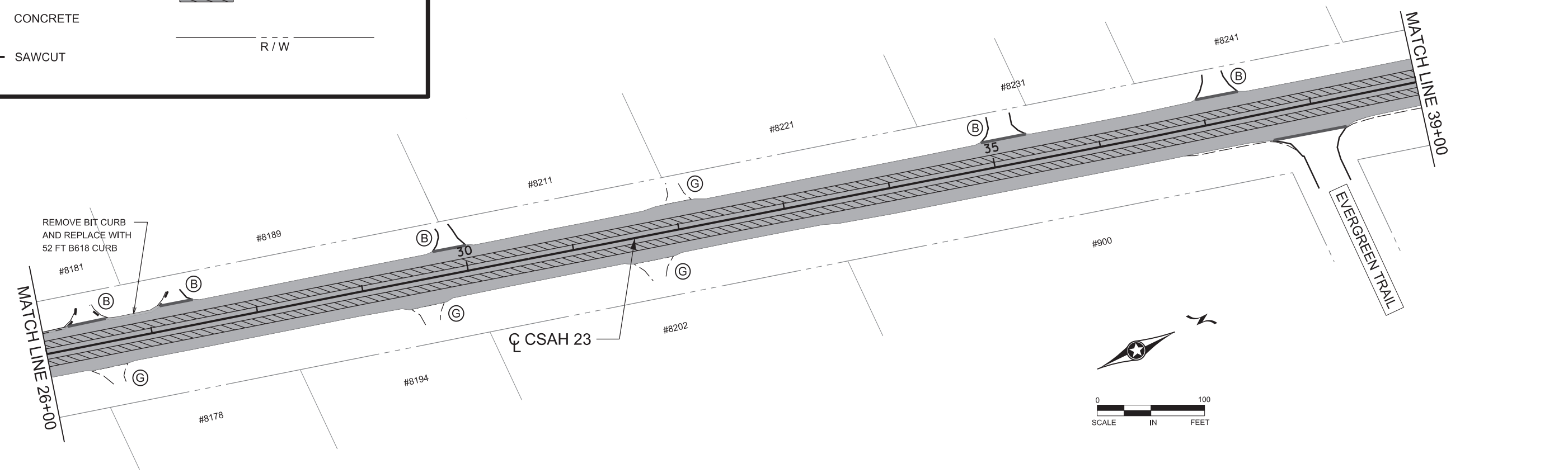
DETAILS

Sheet 7 of 28 Sheets



LEGEND

(B)	BITUMINOUS	—	MILL SPECIAL BITUMINOUS BUMP OUT
(G)	GRAVEL	▨	MAINLINE EDGE MILL AREA
(C)	CONCRETE	---	R / W
---	SAWCUT		



NO	DATE	BY	CKD	APPR	REVISION		
	02/14/2023					6:40:34 AM	

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Proposed\CSAH_23_CP1.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.

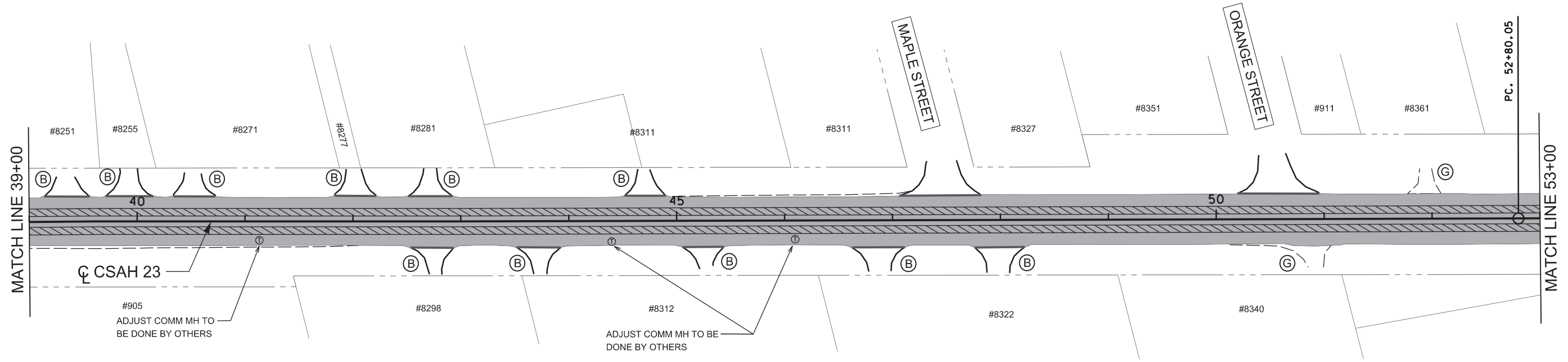
PRINT NAME: GERALD J AUGER JR.
 SIGNATURE: *[Signature]*
 DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY: MAR DATE: 02/08/2021
 DESIGN BY: MAR DATE: 02/08/2021
 CHECKED BY: CO DATE: 02/14/2023

ANOKA COUNTY
HIGHWAY DEPT.

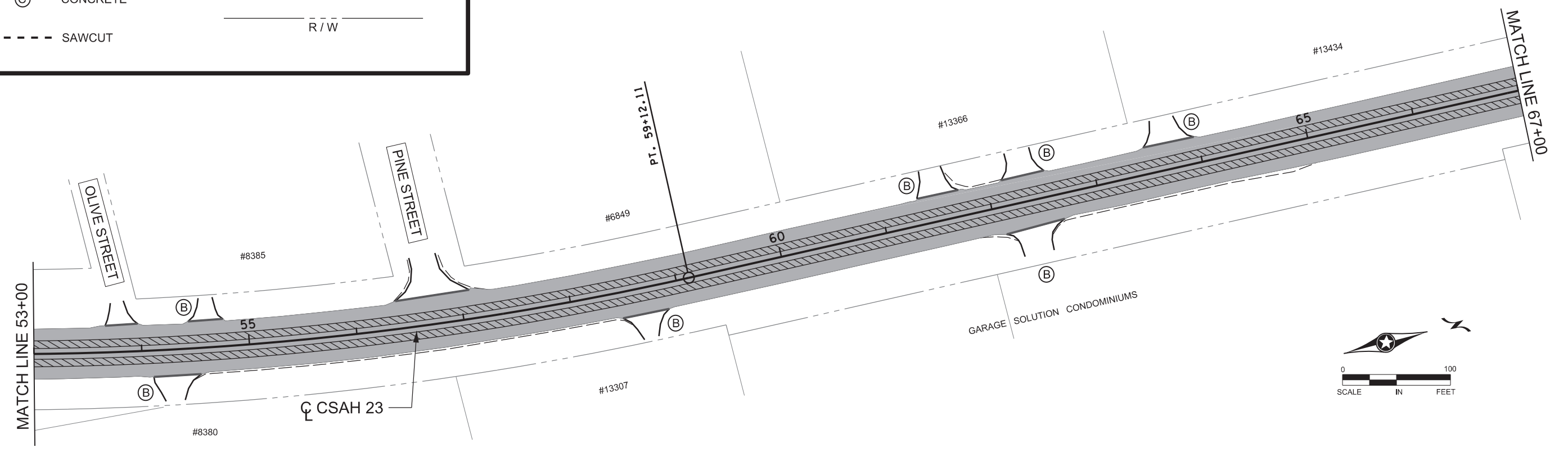
STATE AID PROJECT 002-623-023

CONSTRUCTION PLAN
 STA 12+07 TO 39+00
 Sheet 8 of 28 Sheets



LEGEND

(B)	BITUMINOUS	———	MILL SPECIAL BITUMINOUS BUMPOUT
(G)	GRAVEL	▨▨▨▨	MAINLINE EDGE MILL AREA
(C)	CONCRETE	———	R / W
- - - -	SAWCUT		



NO	DATE	BY	CKD	APPR	REVISION	
	02/14/2023					6:40:35 AM

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Proposed\CSAH_23_CP2.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: GERALD J AUGER JR.

SIGNATURE: *[Signature]*

DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY: MAR DATE: 02/08/2021

DESIGN BY: MAR DATE: 02/08/2021

CHECKED BY: CO DATE: 02/14/2023

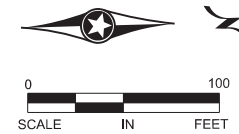
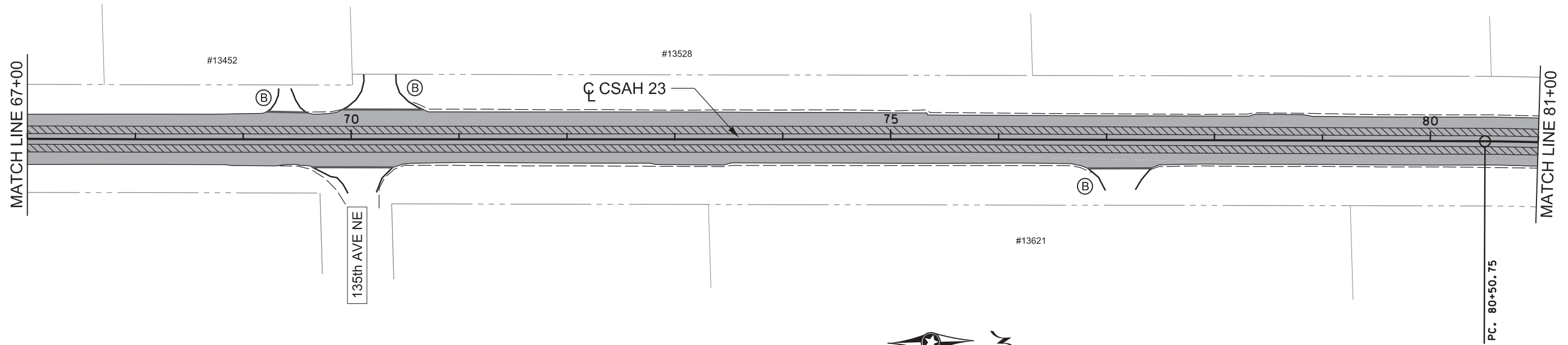
**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-623-023

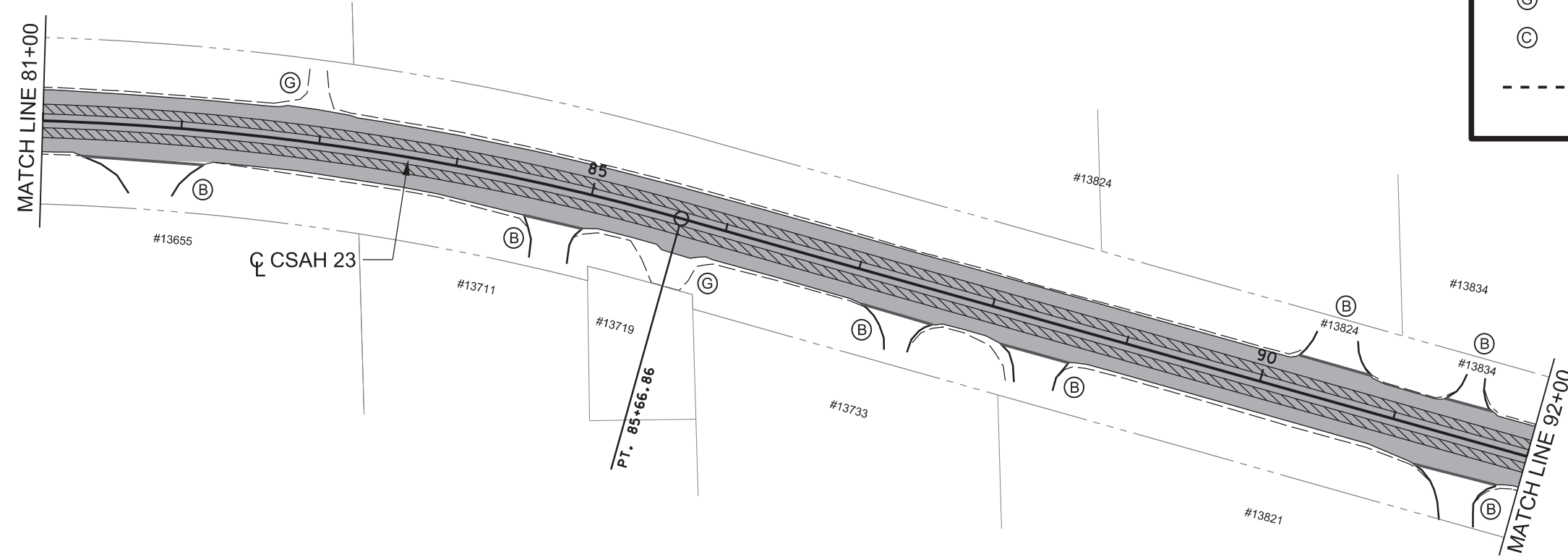
CONSTRUCTION PLAN

STA 39+00 TO 67+00

Sheet 9 of 28 Sheets



LEGEND			
(B)	BITUMINOUS	—	MILL SPECIAL BITUMINOUS BUMPOUT
(G)	GRAVEL		MAINLINE EDGE MILL AREA
(C)	CONCRETE	---	R / W
---	SAWCUT		



NO	DATE	BY	CKD	APPR	REVISION	
	02/14/2023					6:40:35 AM

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Proposed\CSAH_23_CP3.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: GERALD J AUGER JR.
 SIGNATURE:
 DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY: MAR DATE: 02/08/2021
 DESIGN BY: MAR DATE: 02/08/2021
 CHECKED BY: CO DATE: 02/14/2023

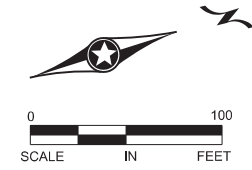
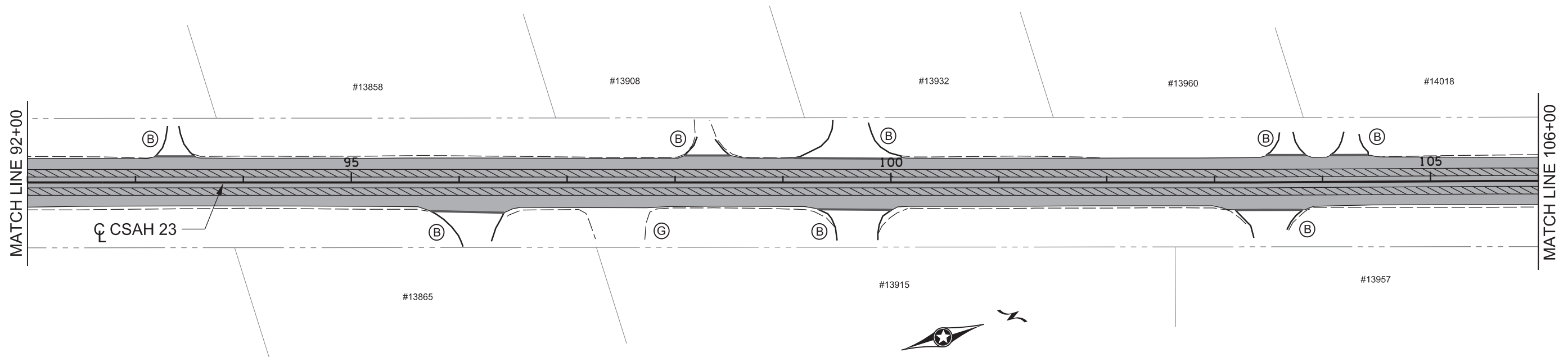
ANOKA COUNTY
 HIGHWAY DEPT.

STATE AID PROJECT 002-623-023

CONSTRUCTION PLAN
 STA 67+00 TO 92+00
 Sheet 10 of 28 Sheets

MATCH LINE 92+00

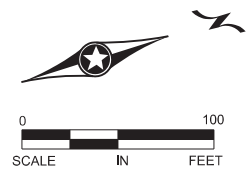
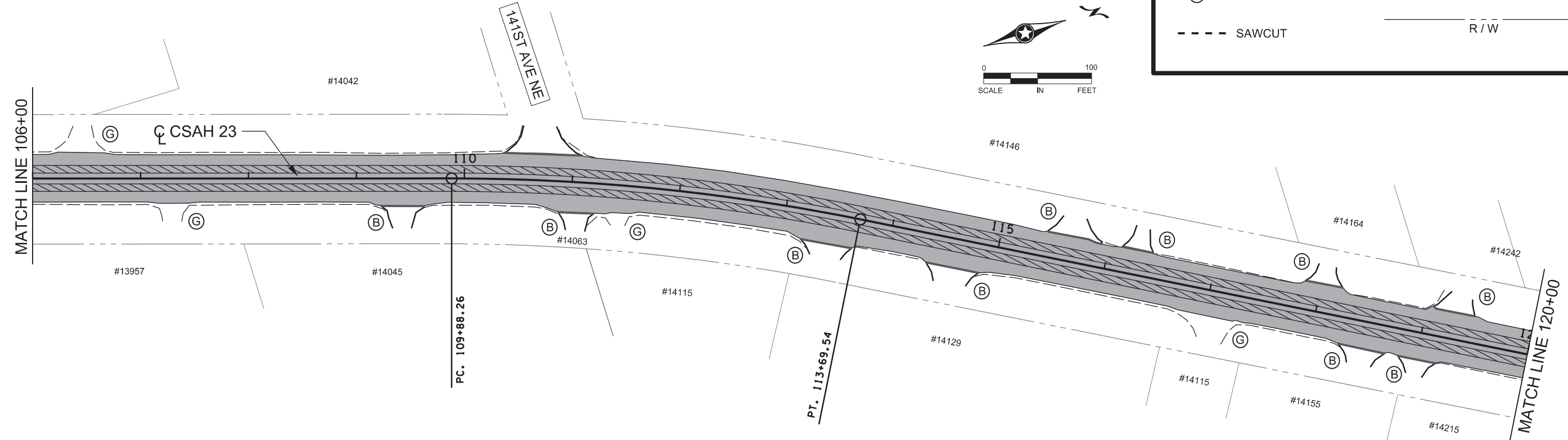
MATCH LINE 106+00



LEGEND			
(B)	BITUMINOUS	—	MILL SPECIAL BITUMINOUS BUMPOUT
(G)	GRAVEL	▨	MAINLINE EDGE MILL AREA
(C)	CONCRETE	---	R/W
---	SAWCUT		

MATCH LINE 106+00

MATCH LINE 120+00



NO	DATE	BY	CKD	APPR	REVISION	
	02/14/2023					6:40:36 AM

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Proposed\CSAH_23_CP4.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: GERALD J AUGER JR.

SIGNATURE: *[Signature]*

DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY: MAR DATE: 02/08/2021

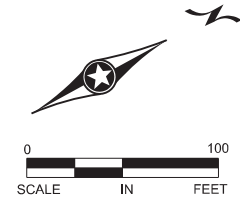
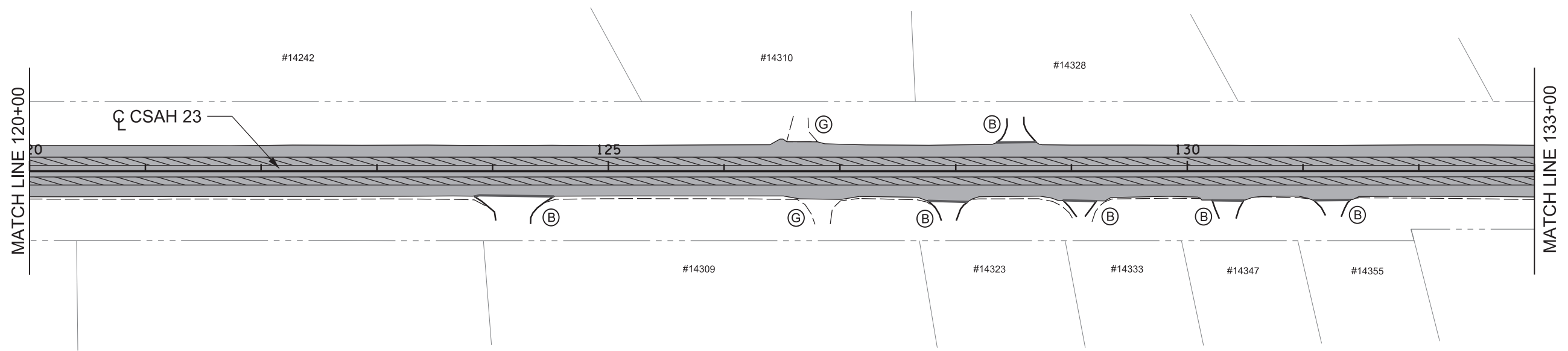
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CHECKED BY: CO DATE: 02/14/2023

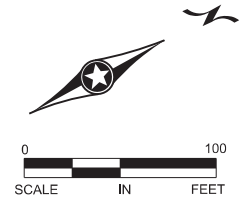
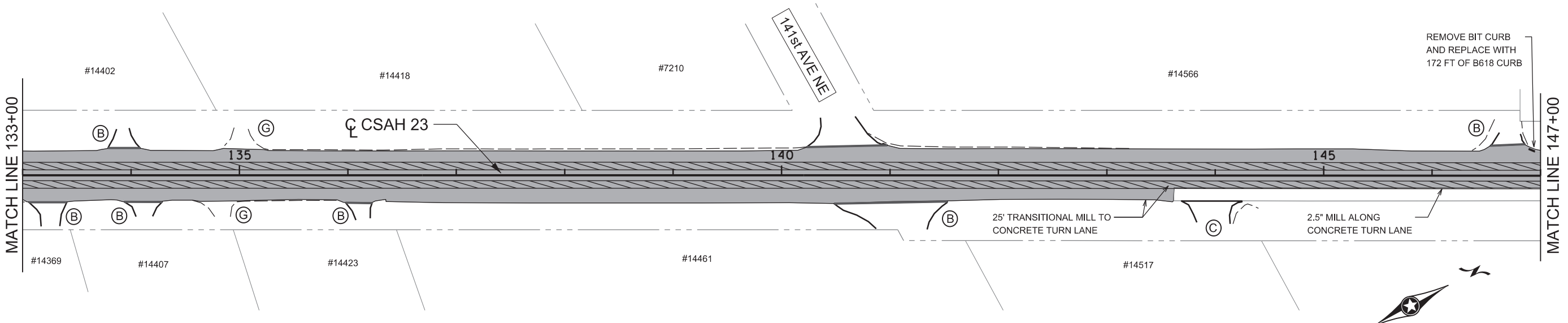
ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-623-023

CONSTRUCTION PLAN
STA 92+00 TO 120+00
Sheet 11 of 28 Sheets



LEGEND			
(B)	BITUMINOUS		MILL SPECIAL BITUMINOUS BUMPOUT
(G)	GRAVEL		MAINLINE EDGE MILL AREA
(C)	CONCRETE		R / W
- - -	SAWCUT		



NO	DATE	BY	CKD	APPR	REVISION	
	02/14/2023					6:40:37 AM

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Proposed\CSAH_23_CP5.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: GERALD J AUGER JR.

SIGNATURE:

DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY: MAR DATE: 02/08/2021

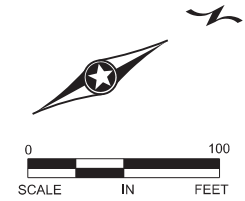
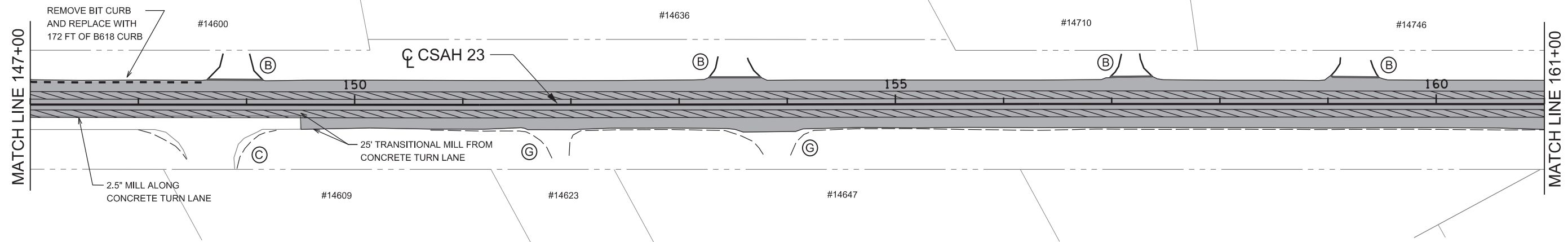
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CHECKED BY: CO DATE: 02/14/2023

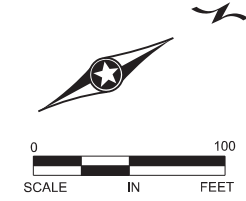
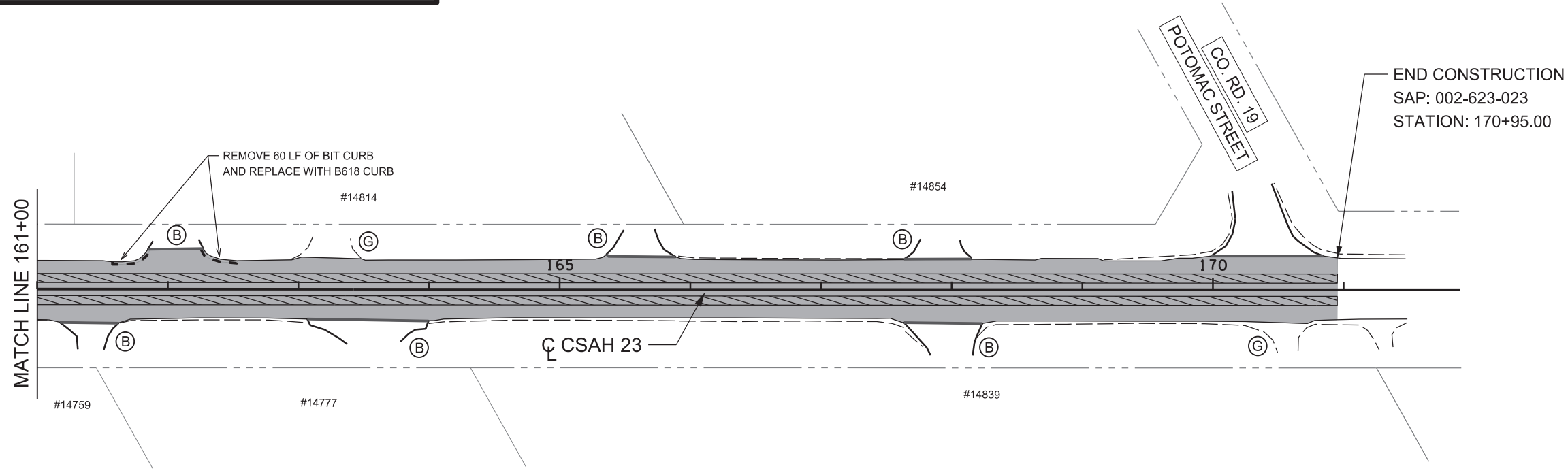
**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-623-023

CONSTRUCTION PLAN
STA 120+00 TO 147+00
Sheet 12 of 28 Sheets



LEGEND			
(B)	BITUMINOUS	—	MILL SPECIAL BITUMINOUS BUMPOUT
(G)	GRAVEL		MAINLINE EDGE MILL AREA
(C)	CONCRETE	—	R / W
- - -	SAWCUT		



NO	DATE	BY	CKD	APPR	REVISION	
	02/14/2023					6:40:37 AM

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Proposed\CSAH_23_CP6.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: GERALD J AUGER JR.
 SIGNATURE:

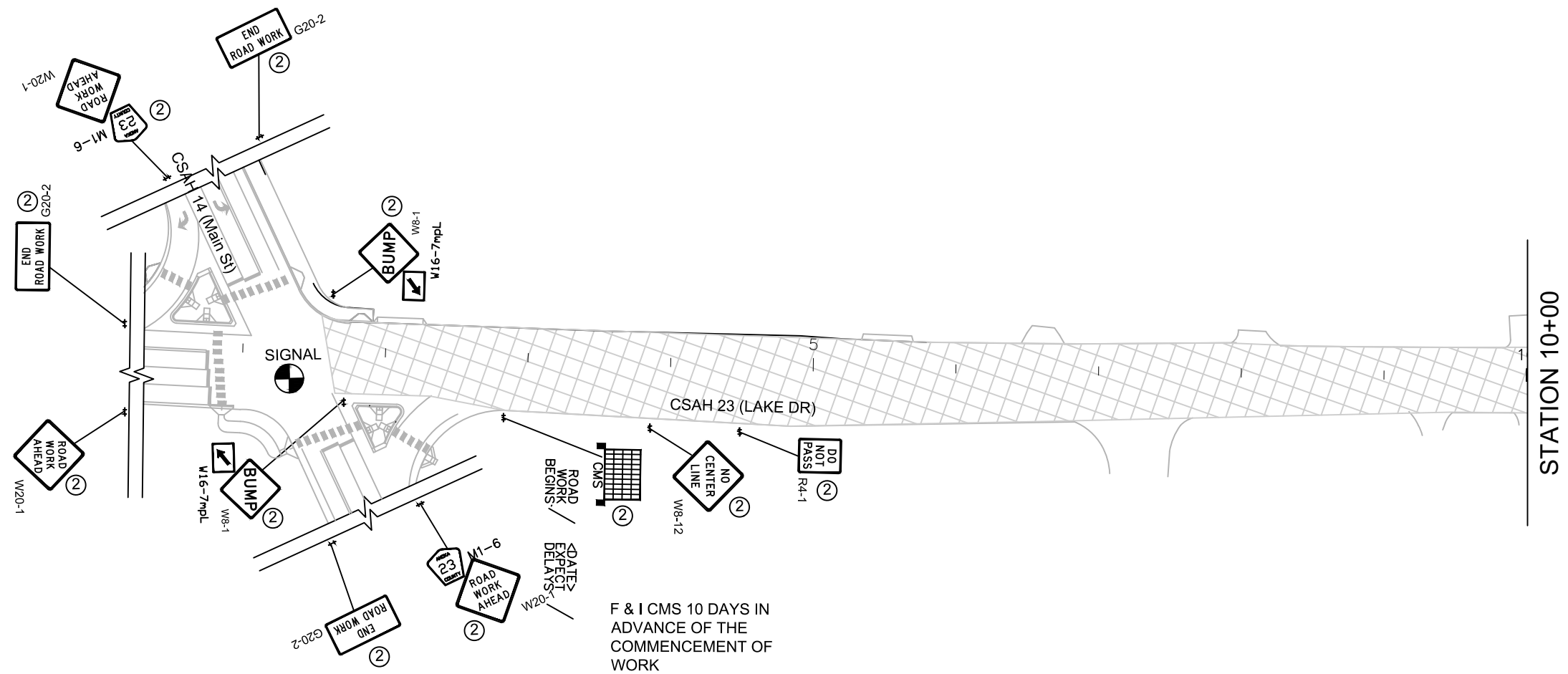
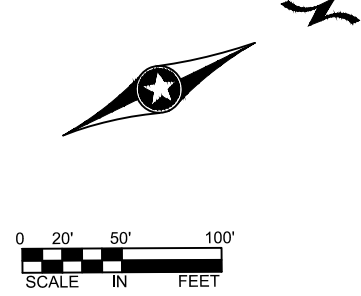
DATE: 12-06-2022 LICENSE NO. 26511

DRAWN BY: MAR DATE: 02/08/2021
 DESIGN BY: MAR DATE: 02/08/2021
 CHECKED BY: CO DATE: 02/14/2023

**ANOKA COUNTY
HIGHWAY DEPT.**

STATE AID PROJECT 002-623-023

CONSTRUCTION PLAN
 STA 147+00 TO 170+95
 Sheet 13 of 28 Sheets



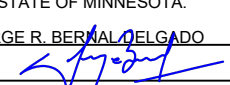
SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

- NOTES (TYP):
- 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".
 - DAYTIME LANE CLOSURES FOR CONSTRUCTION DURING THIS STAGE 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.
 - 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.

1	03/08/23	TMV	JRB	03/09/23	
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Temporary Signing.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: 03/09/23

SIGNATURE:  LICENSE NO. 57216

DRAWN BY TMV DATE 03/08/23

DESIGN BY TMV DATE 03/08/23

CHECKED BY JRB DATE 03/09/23

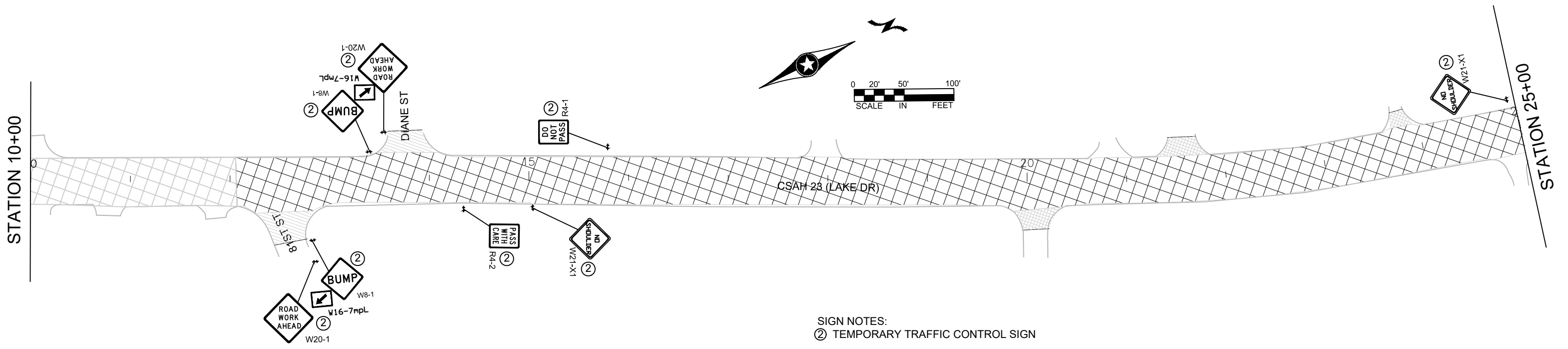


ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-623-023

TEMPORARY SIGNING

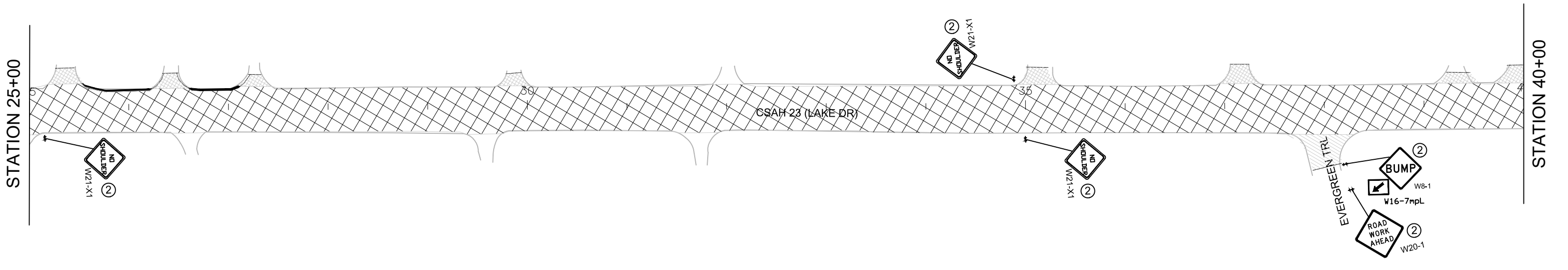
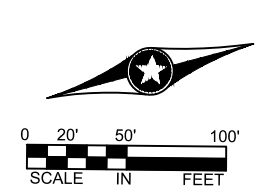
SHEET 14AA OF 28 SHEETS



SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

NOTES (TYP):

- 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".
- DAYTIME LANE CLOSURES FOR CONSTRUCTION DURING THIS STAGE 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.
- 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.



1	03/08/23	TMV	JRB	03/09/23	
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Temporary Signing.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: 03/09/23

SIGNATURE: [Signature] LICENSE NO. 57216

DRAWN BY TMV DATE 03/08/23

DESIGN BY TMV DATE 03/08/23

CHECKED BY JRB DATE 03/09/23



ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-623-023

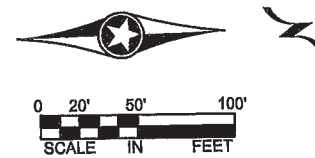
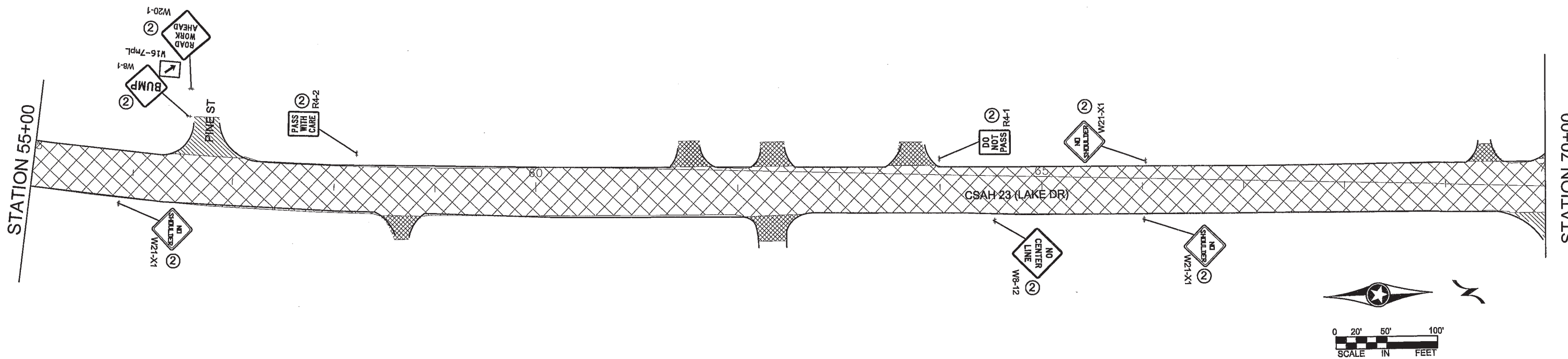
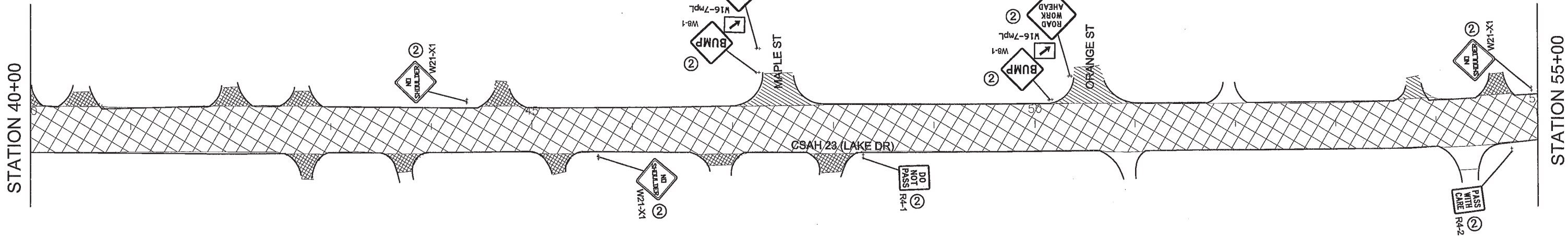
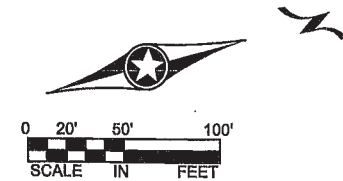
TEMPORARY SIGNING

SHEET 14A OF 28 SHEETS

SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

STRIPING KEY

○ CIRCLE - MULTI COMP
 □ SQUARE - POLY PREFORM



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: JORGE R. BERNAL DELGADO DATE: 11-30-22
 SIGNATURE: *[Signature]* LICENSE NO. 57216

DRAWN BY TMV DATE 10/24/22
 DESIGN BY TMV DATE 10/24/22
 CHECKED BY JRB DATE XX/XX/XX



**ANOKA COUNTY
 HIGHWAY DEPT.**

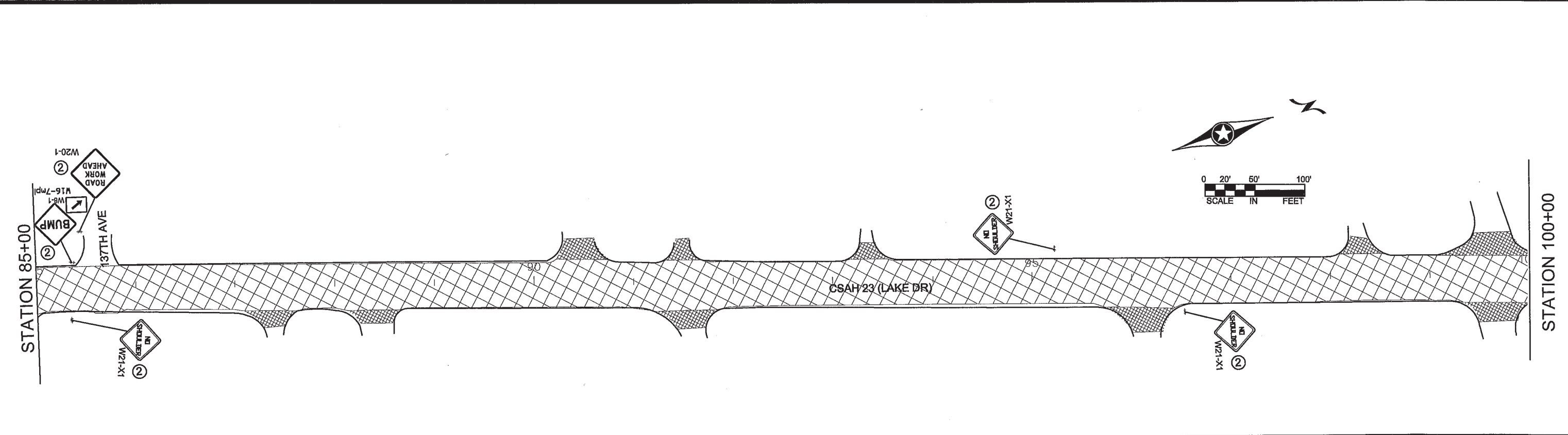
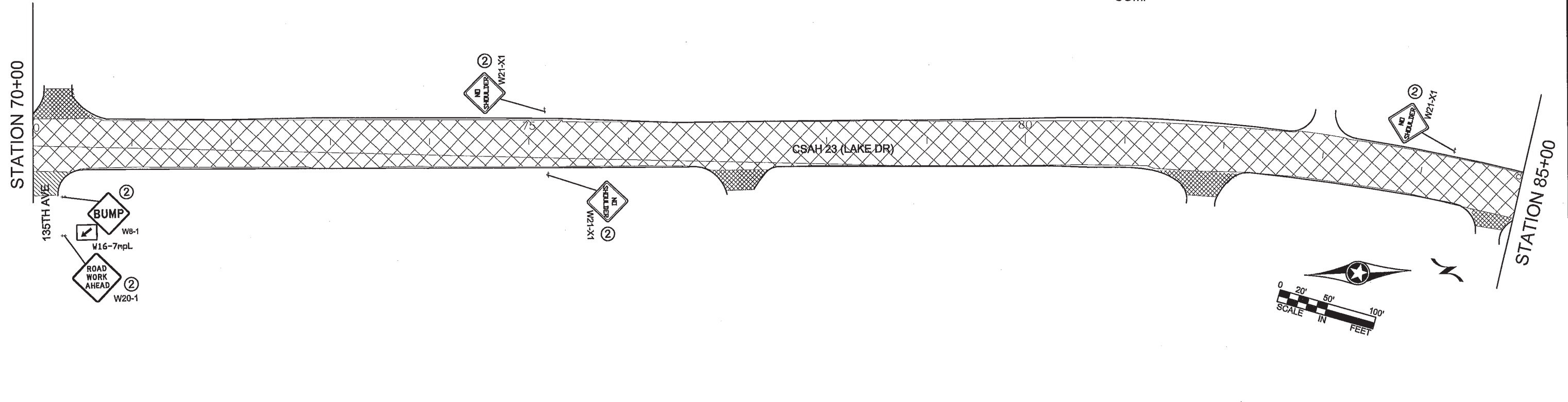
SAP 002-623-023

TEMPORARY SIGNING
 SHEET 15 OF 28 SHEETS

SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

STRIPING KEY

○ CIRCLE - MULTI COMP
 □ SQUARE - POLY PREFORM



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Temporary Signing.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: 11-30-22

SIGNATURE: *[Signature]* LICENSE NO. 57218

DRAWN BY TMV DATE 10/24/22

DESIGN BY TMV DATE 10/24/22

CHECKED BY JRB DATE XX/XX/XX



ANOKA COUNTY
 HIGHWAY DEPT.

SAP 002-623-023

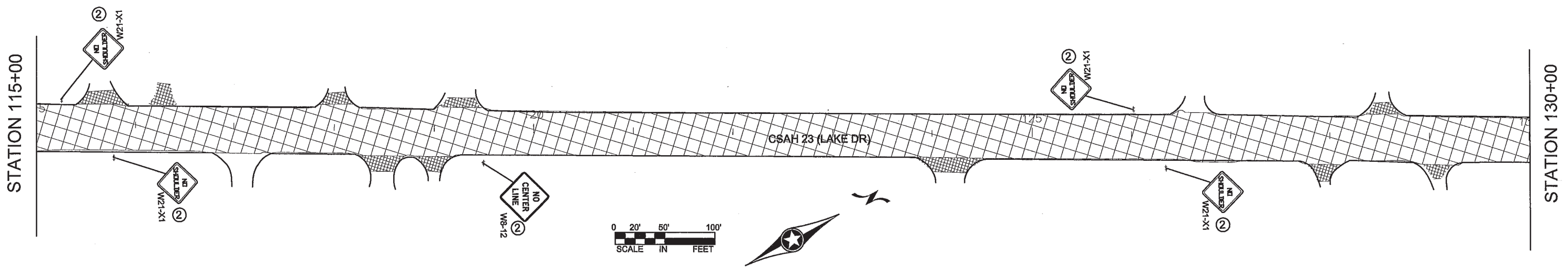
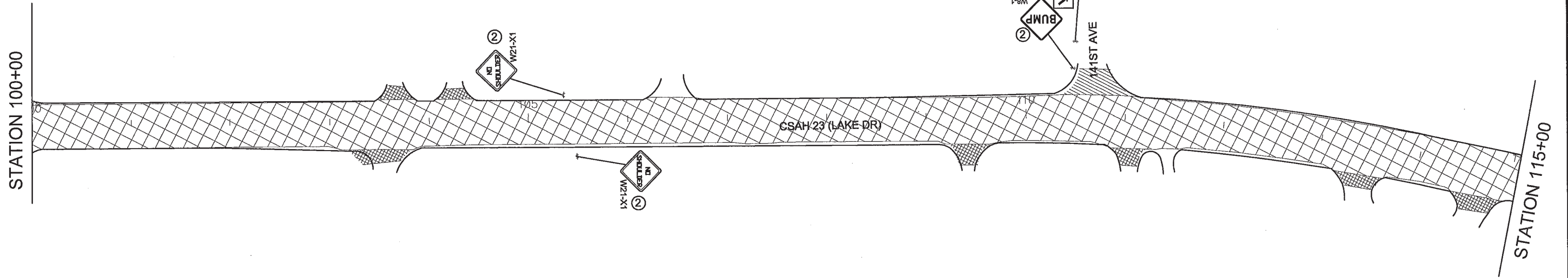
TEMPORARY SIGNING

SHEET 16 OF 28 SHEETS

SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

STRIPING KEY

○ CIRCLE - MULTI COMP
 □ SQUARE - POLY PREFORM



NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Temporary Signing & Permanent Striping.dwg					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: JORGE R. BERNAL DELGADO DATE: 11-30-22
 SIGNATURE: [Signature] LICENSE NO. 57216

DRAWN BY TMV DATE 10/24/22
 DESIGN BY TMV DATE 10/24/22
 CHECKED BY SRT DATE XX/XX/XX



**ANOKA COUNTY
 HIGHWAY DEPT.**

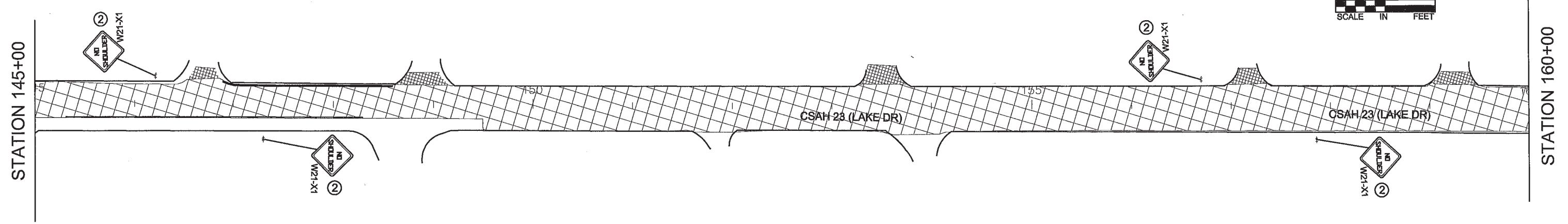
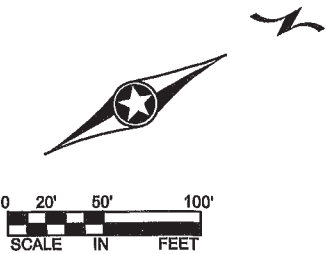
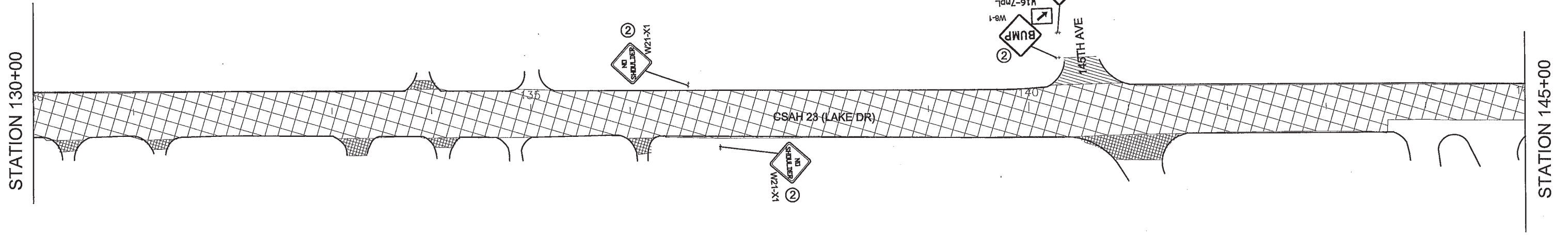
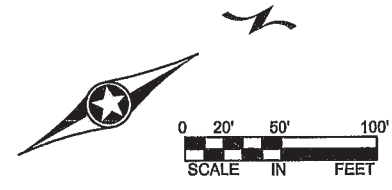
SAP 002-623-023

TEMPORARY SIGNING
 SHEET 17 OF 28 SHEETS

SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

STRIPING KEY

○ CIRCLE - MULTI COMP
 □ SQUARE - POLY PREFORM



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: JORGE R. BERNAL DELGADO DATE: 11-30-22
 SIGNATURE: [Signature] LICENSE NO. 57216

DRAWN BY TMV DATE 10/24/22
 DESIGN BY TMV DATE 10/24/22
 CHECKED BY JRB DATE XX/XX/XX

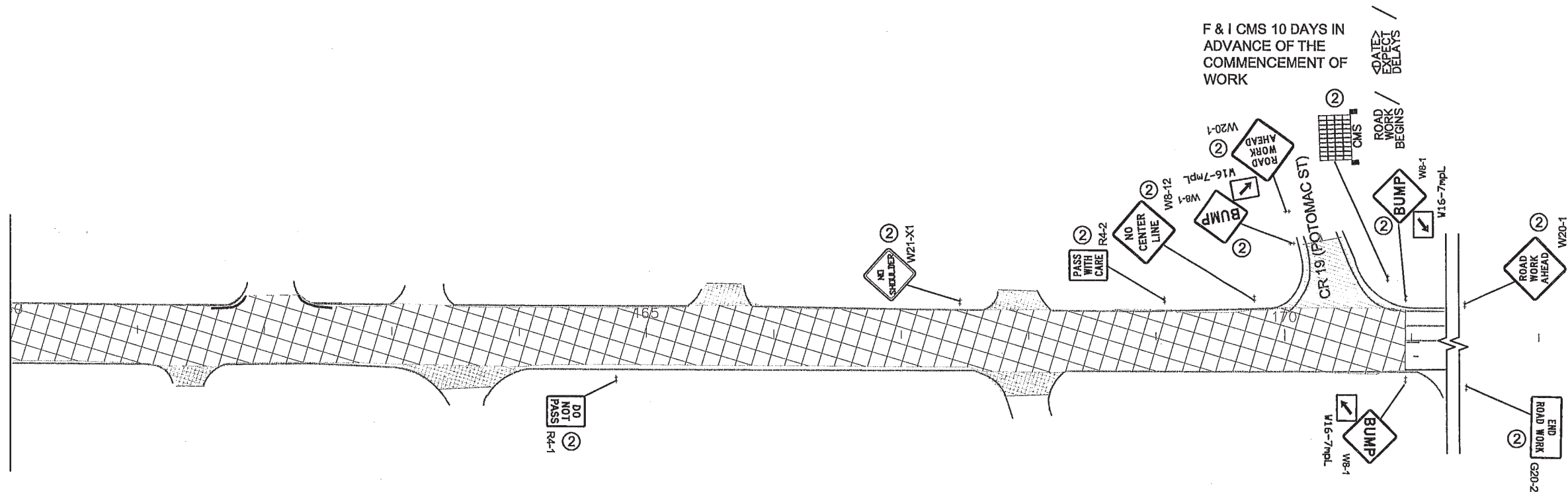


**ANOKA COUNTY
 HIGHWAY DEPT.**

SAP 002-623-023

TEMPORARY SIGNING
 SHEET 18 OF 28 SHEETS

STATION 160+00



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

DATE OF DELAYS

SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

STRIPING KEY

○ CIRCLE - MULTI COMP □ SQUARE - POLY PREFORM

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Temporary Signing.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: 11-30-22

SIGNATURE: [Signature] LICENSE NO. 57216

DRAWN BY TMV DATE 10/24/22

DESIGN BY TMV DATE 10/24/22

CHECKED BY JRB DATE XX/XX/XX




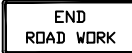
















ANOKA COUNTY
 HIGHWAY DEPT.

SAP 002-623-023

TEMPORARY SIGNING

SHEET 19 OF 28 SHEETS

TEMPORARY TRAFFIC CONTROL SIGNS			
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W8-12	48" x 48"		4
R4-1	24" x 30"		5
R4-2	24" x 30"		4
G20-2	36" x 18"		4
W8-1	48" x 48"		15
W16-7P	48" x 48"		15
M1-6M	24" x 24"		2
W20-1	48" x 48"		AS NEEDED (ESTIMATED 15)
W8-23	48" x 48"		AS NEEDED (ESTIMATED 30)
W8-8	48" x 48"		AS NEEDED

TEMPORARY TRAFFIC CONTROL SIGNS			
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W8-9	48" x 48"		AS NEEDED
W8-11	48" x 48"		AS NEEDED
W8-1	48" x 48"		AS NEEDED
W3-4	48" x 48"		AS NEEDED
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

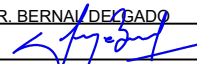
CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

		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.

1	03/08/23	TMV	JRB	03/09/23	
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Temporary Signing.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: 03/09/23
 SIGNATURE:  LICENSE NO. 57216

DRAWN BY TMV DATE 03/08/23
 DESIGN BY TMV DATE 03/08/23
 CHECKED BY JRB DATE 03/09/23



ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-623-023

TEMPORARY SIGNING QUANTITIES
 SHEET 20 OF 28 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	38298	
4" SOLID LINE MULTICOMP GROUND IN (YELLOW)	LIN FT	2294	
4" BROKEN LINE MULTICOMP GROUND IN (YELLOW)	LIN FT	3200	1
8" DOTTED LINE MULTICOMP GROUND IN (WHITE)	LIN FT	36	2
4" SOLID DBL LINE MULTICOMP GROUND IN (YELLOW)	LIN FT	1550	
24" SOLID LINE PREFORMED THERMOPLASTIC GROUND IN (WHITE)	LIN FT	38	
24" SOLID LINE PREFORMED THERMOPLASTIC GROUND IN (YELLOW)	LIN FT	156	
3'X6' ZEBRA CROSSWALK PREFORMED THERMOPLASTIC GROUND IN (WHITE)	SQ FT	144	
PAVEMENT MESSAGE PREFORMED THERMOPLASTIC GROUND IN (LEFT ARROW)	SQ FT	31	
PAVEMENT MESSAGE PREFORMED THERMOPLASTIC GROUND IN (RIGHT ARROW)	SQ FT	31	

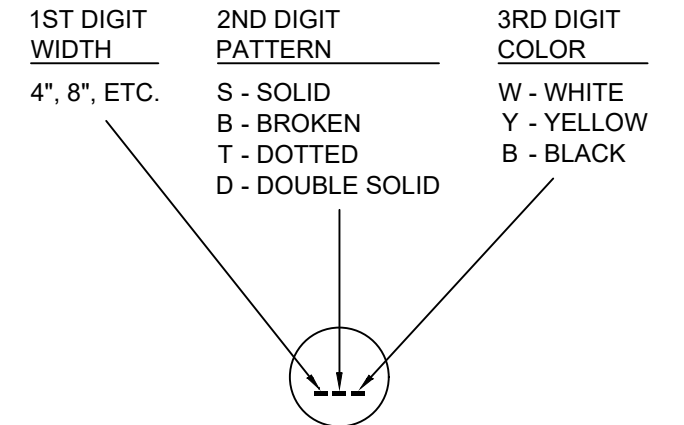
1 - 10' SKIP, 40' GAP
2 - 3' SKIP, 12' GAP

SYMBOLS & MATERIALS LEGEND

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

STRIPING KEY

- CIRCLE - MULTI COMP
- △ 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	02/26/23	TMV	JRB	03/09/23	
2	03/15/23	TMV	JRB	03/15/23	CORRECTION OF QUANTITY 8" DOTTED LINE MULTICOMP GROUND IN
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Perm Mrkg Guide.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: 03/15/23
SIGNATURE: *[Signature]* LICENSE NO. 57216

DRAWN BY: TMV DATE: 03/15/23
DESIGN BY: TMV DATE: 03/15/23
CHECKED BY: JRB DATE: 03/15/23

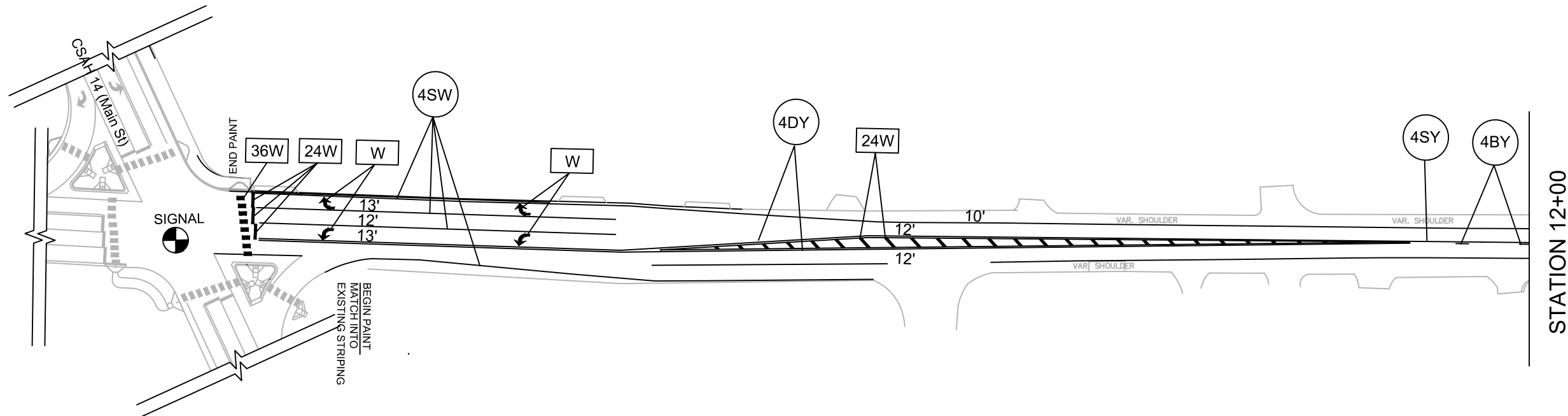


**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-623-023

PERMANENT PAVEMENT MARKING PLAN DETAILS

SHEET 21A OF 28 SHEETS



STRIPING KEY

○ --- CIRCLE - MULTI COMP GROUND IN

□ --- SQUARE - POLY PREFORM GROUND IN

NOTES (TYP):

- 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.

1	02/27/23	TMV	JRB	03/09/23	
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Permanent Striping.dwg					

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PRINT NAME: JORGE R. BERNAL DELGADO DATE: 03/09/23
 SIGNATURE: [Signature] LICENSE NO. 57216

DRAWN BY TMV DATE 02/27/23
 DESIGN BY TMV DATE 02/27/23
 CHECKED BY JRB DATE 03/09/23

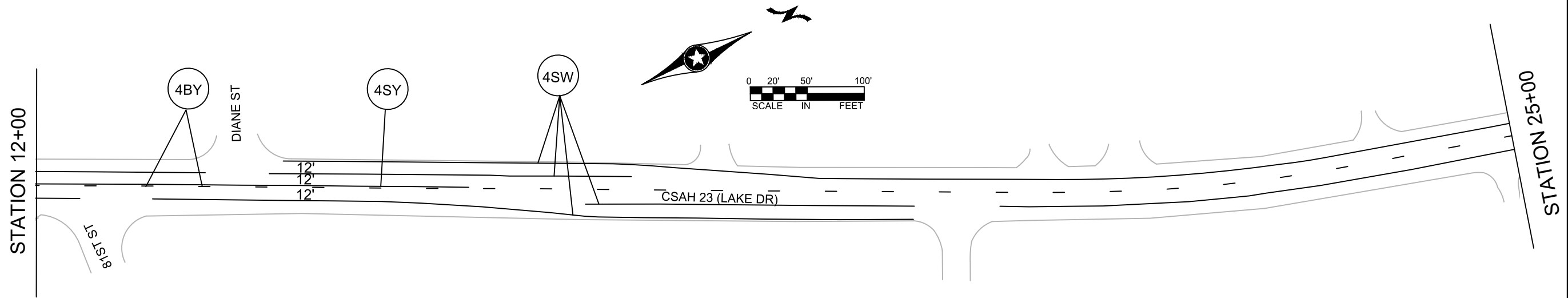


ANOKA COUNTY
HIGHWAY DEPT.



SAP 002-623-023

PERMANENT STRIPING

SHEET 22A OF 28 SHEETS

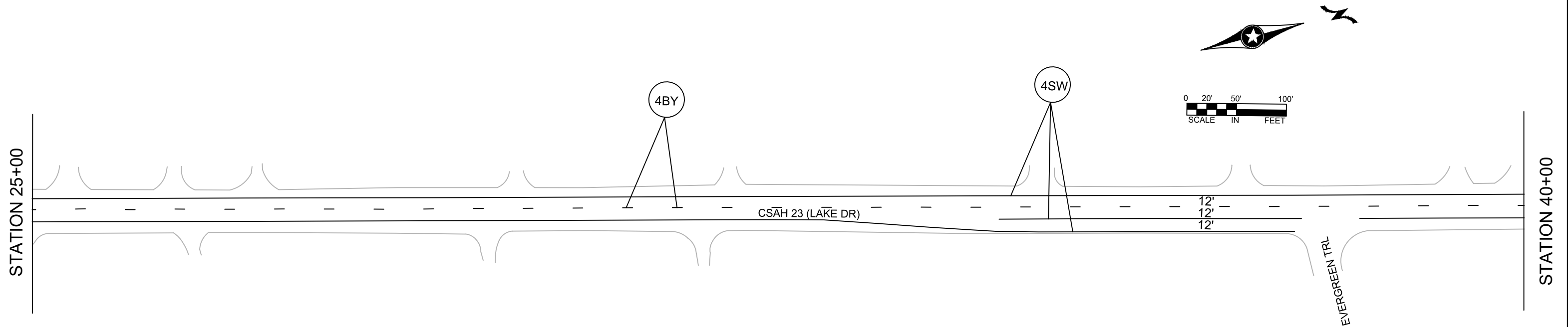


STRIPING KEY

-  CIRCLE - MULTI COMP GROUND IN
-  SQUARE - POLY PREFORM GROUND IN

NOTES (TYP):

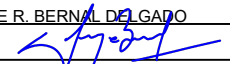
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING.
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.



1	02/27/23	TMV	JRB	03/09/23	
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Permanent Striping.dwg					

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PRINT NAME: JORGE R. BERNAL DELGADO DATE: 03/09/23

SIGNATURE:  LICENSE NO. 57216

DRAWN BY TMV DATE 02/27/23

DESIGN BY TMV DATE 02/27/23

CHECKED BY JRB DATE 03/09/23

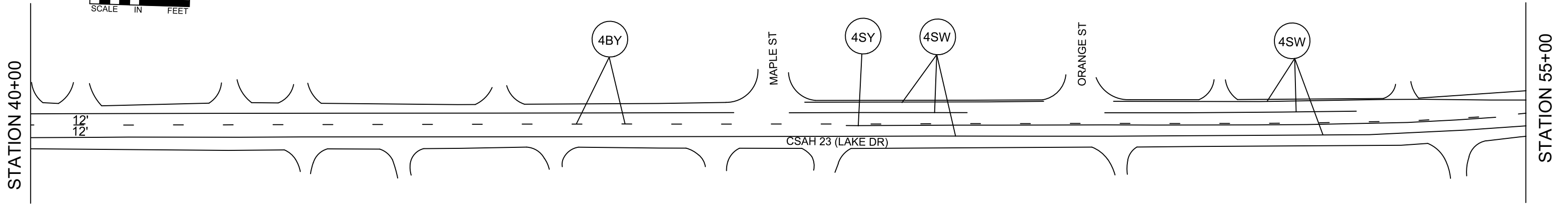


ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-623-023

PERMANENT STRIPING

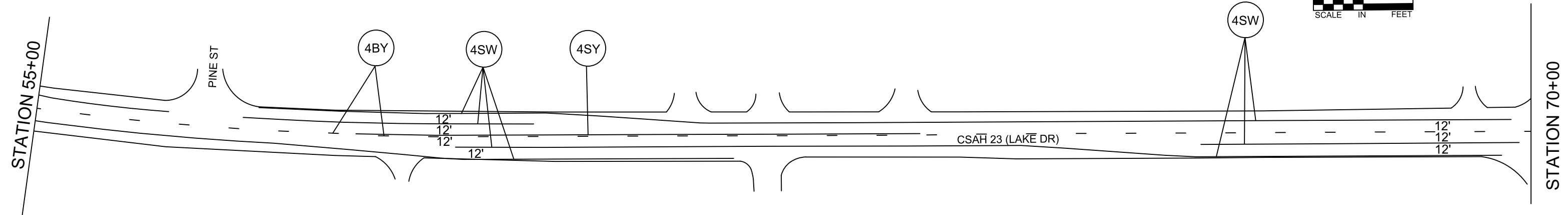
SHEET 22A OF 28 SHEETS



STRIPING KEY

CIRCLE - MULTI COMP GROUND IN

SQUARE - POLY PREFORM GROUND IN



1	02/27/23	TMV	JRB	03/09/23	
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Permanent Striping.dwg					

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PRINT NAME: JORGE R. BERNAL DELGADO DATE: 03/09/23
 SIGNATURE: LICENSE NO. 57216

DRAWN BY TMV DATE 02/27/23
 DESIGN BY TMV DATE 02/27/23
 CHECKED BY JRB DATE 03/09/23

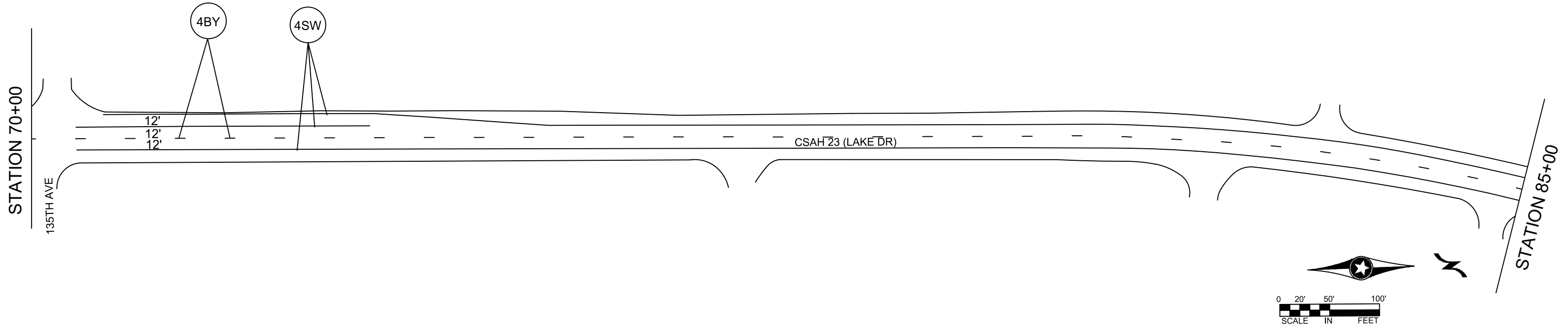


**ANOKA COUNTY
HIGHWAY DEPT.**



SAP 002-623-023

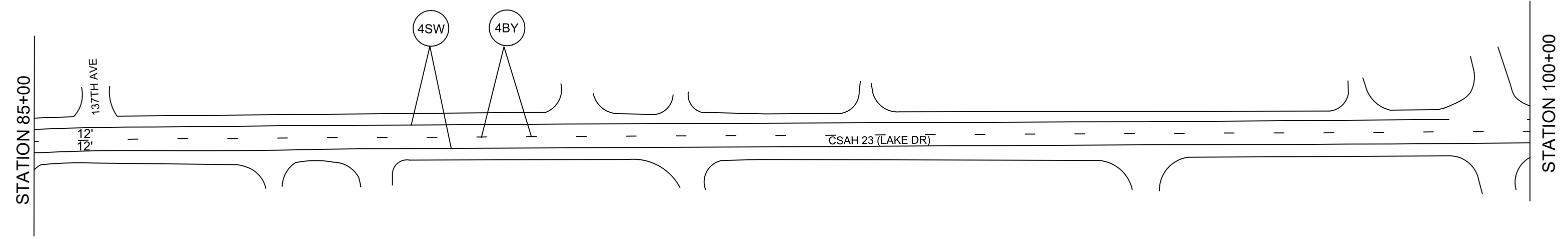
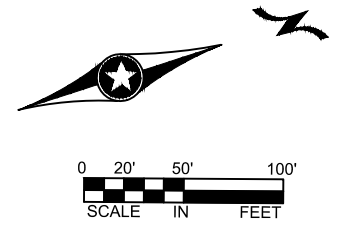
PERMANENT STRIPING

SHEET 23A OF 28 SHEETS



STRIPING KEY

-  CIRCLE - MULTI COMP GROUND IN
-  SQUARE - POLY PREFORM GROUND IN

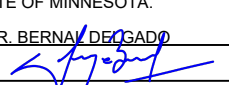


1	02/27/23	TMV	JRB	03/09/23	
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Permanent Striping.dwg

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PRINT NAME: JORGE R. BERNAL DE GADGO DATE: 03/09/23

SIGNATURE:  LICENSE NO. 57216

DRAWN BY TMV DATE 02/27/23

DESIGN BY TMV DATE 02/27/23

CHECKED BY JRB DATE 03/09/23

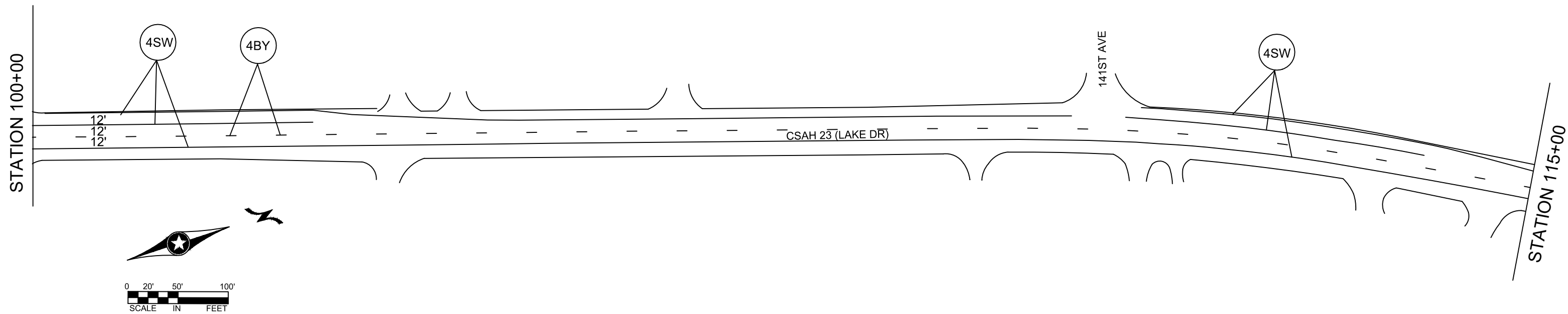


ANOKA COUNTY
HIGHWAY DEPT.



SAP 002-623-023

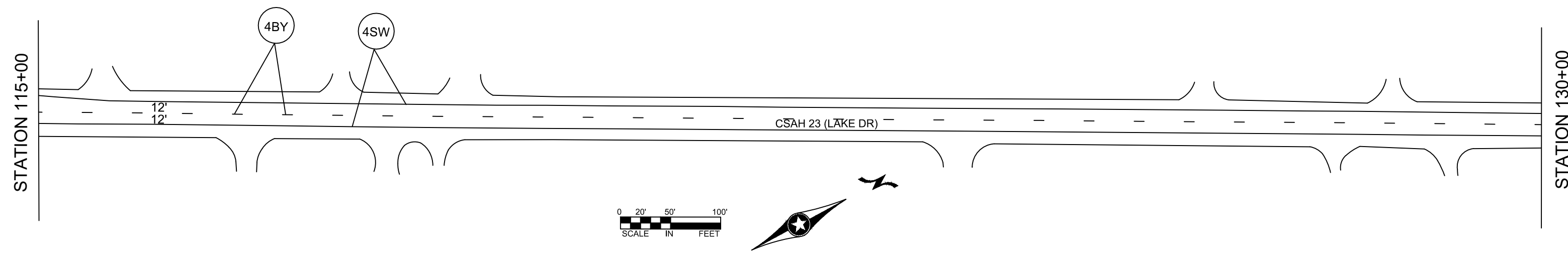
PERMANENT STRIPING

SHEET 24A OF 28 SHEETS



STRIPING KEY

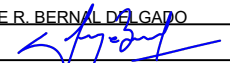
-  CIRCLE - MULTI COMP GROUND IN
-  SQUARE - POLY PREFORM GROUND IN



1	02/27/23	TMV	JRB	03/09/23	
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Permanent Striping.dwg					

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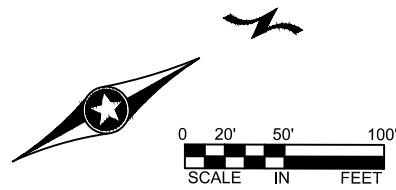


ANOKA COUNTY
HIGHWAY DEPT.

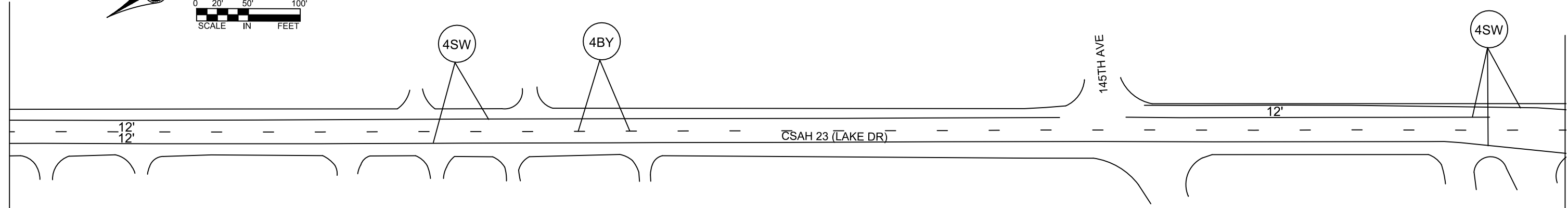
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PERMANENT STRIPING

SHEET 25A OF 28 SHEETS



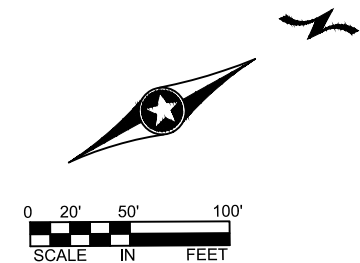
STATION 130+00



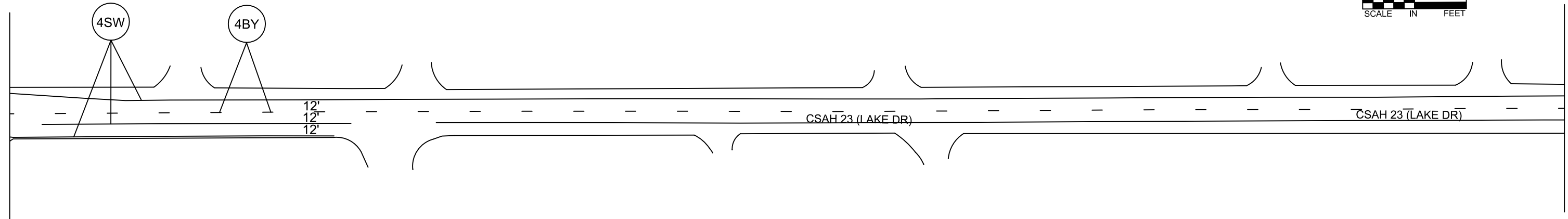
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STRIPING KEY

- CIRCLE - MULTI COMP GROUND IN
- SQUARE - POLY PREFORM GROUND IN



STATION 145+00



STATION 160+00

1	02/27/23	TMV	JRB	03/09/23	
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Permanent Striping.dwg					

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DRAWN BY TMV DATE 02/27/23

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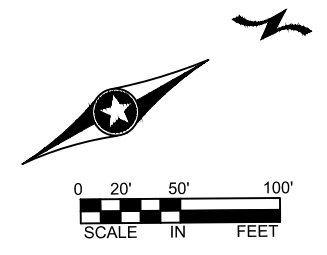
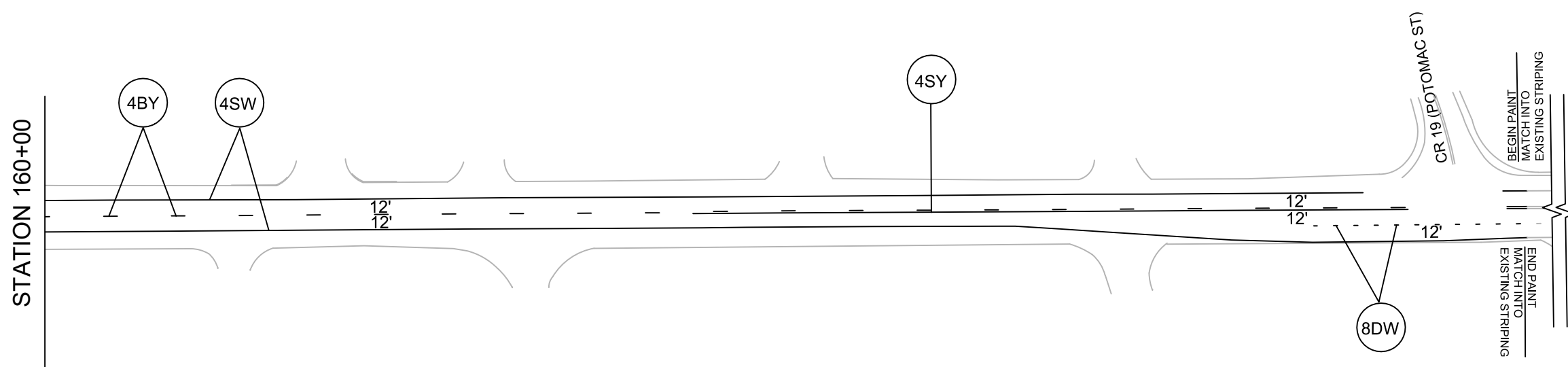


ANOKA COUNTY
HIGHWAY DEPT.



SAP 002-623-023

PERMANENT STRIPING

SHEET 26A OF 28 SHEETS



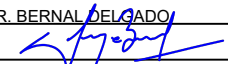
STRIPING KEY

-  CIRCLE - MULTI COMP GROUND IN
-  SQUARE - POLY PREFORM GROUND IN

1	02/27/23	TMV	JRB	03/09/23	
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Permanent Striping.dwg					

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PRINT NAME: JORGE R. BERNAL DELGADO DATE: 03/09/23

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ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-623-023

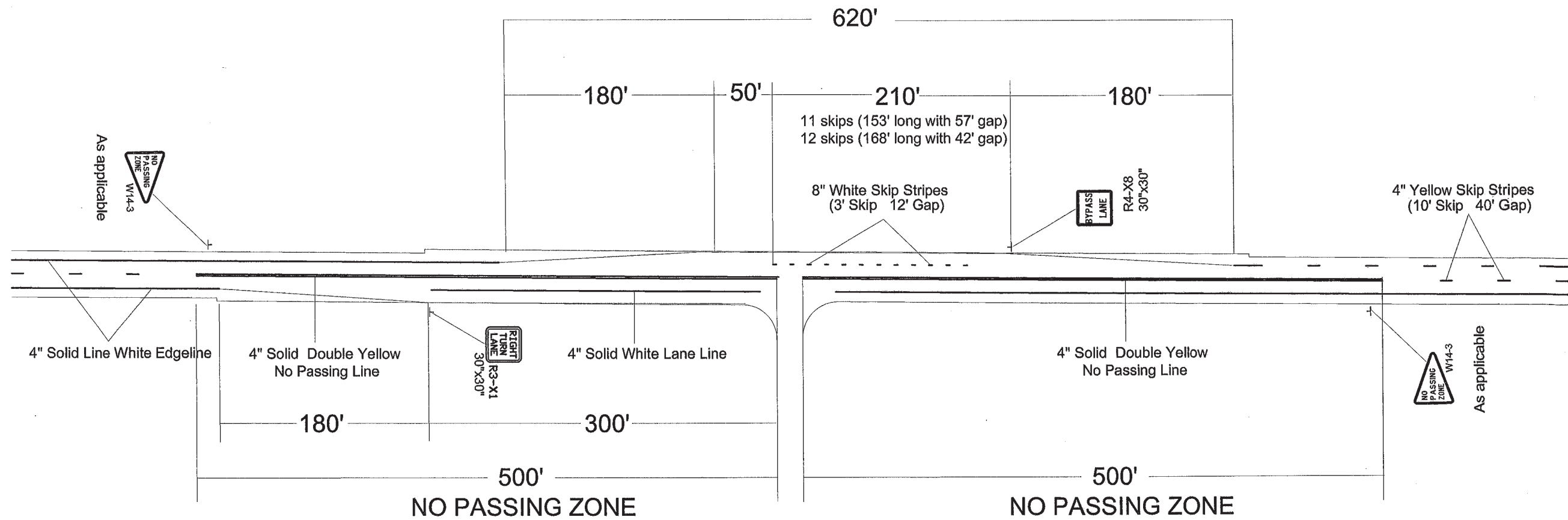
PERMANENT STRIPING

SHEET 27A OF 28 SHEETS

A.C.H.D.

BY-PASS TYPICAL

REVISED 10.8.18

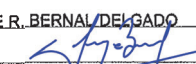


NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\23-01-00\CSAH_23_(81st-CR19)\Base\Traffic\Sign&Stripe Details.2022.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: 11-30-22

SIGNATURE:  LICENSE NO. 57216

DRAWN BY TMV DATE 10/25/22

DESIGN BY TMV DATE 10/25/22

CHECKED BY JRB DATE XX/XX/22



**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-623-023

SIGNING & STRIPING
DETAILS

SHEET 28 OF 28 SHEETS