

# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

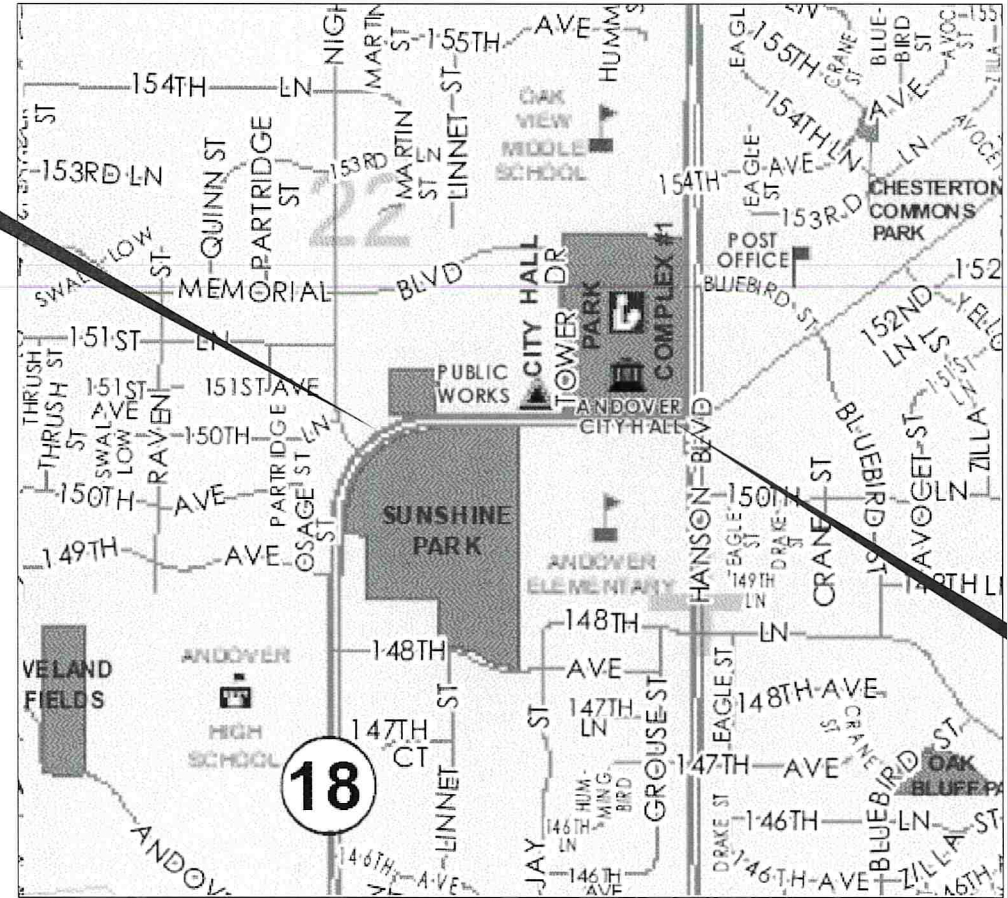
CONSTRUCTION PLAN FOR \_\_\_\_\_ BITUMINOUS OVERLAY AND SHOULDERING

LOCATED ON CR 18 BETWEEN NIGHTINGALE ST. NW AND HANSON BLVD. (CSAH 78)

CR 18 (CROSTOWN BLVD NW)

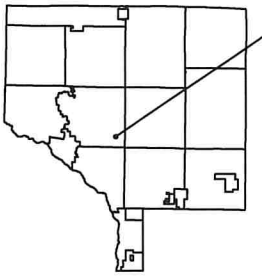
GROSS LENGTH	<u>2038.45</u> FEET	<u>0.386</u> MILES
EXCEPTIONS-LENGTH	<u>0.00</u> FEET	<u>0.000</u> MILES
NET LENGTH	<u>2038.45</u> FEET	<u>0.386</u> MILES

BEGIN CP 21-11-18  
CR 18, STA: 45+00.00



END CP 21-11-18  
CR 18, STA: 65+38.45

### PROJECT LOCATION



DESIGN DESIGNATION ( CR 18 )			
ESAL 20	<u>1,311,202</u>	FUNCTIONAL CLASSIFICATION	<u>A-MINOR EXPANDER</u>
R VALUE	<u>75</u>	NO. OF TRAFFIC LANES	<u>2</u> NO. OF PARKING LANES <u>0</u>
ADT (2024)	<u>11,099</u>	DESIGN SPEED	<u>45</u> MPH
PROJ. ADT (2044)	<u>11,099</u>	STOPPING SIGHT DISTANCE BASED ON:	
PROJ. HCADT (2044)	<u>655</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 _____

CITY OF ANDOVER  
ANOKA COUNTY  
MN/DOT TRANSPORTATION DISTRICT - METRO  
SECTION 22  
TOWNSHIP 32 NORTH  
RANGE 24 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 11 SHEETS

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

Approved 12-19-23  
ANOKA COUNTY ENGINEER

NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	12:12:16 PM

NAME: P:\21-01-00\CR\_18\_(600'No\AndoverBlvd-CSAH78)\Base\Proposed\CR\_18\_TITLE.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: 12-08-2023 LICENSE NO. 26511

DRAWN BY SPH DATE 10/19/2023

DESIGN BY SPH DATE 10/19/2023

CHECKED BY CSO DATE 12/15/2023

ANOKA COUNTY  
HIGHWAY DEPT.

COUNTY PROJECT 21-11-18

TITLE SHEET

Sheet 1 of 11 Sheets

STATEMENT OF ESTIMATED QUANTITIES					
NOTES	ITEM NUMBER	Code	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	00010	MOBILIZATION	LUMP SUM	1
11	2104.502	03320	SALVAGE SIGN TYPE C	EACH	2
	2104.503	00255	REMOVE PIPE CULVERTS	LIN FT	100
10	2106.602	00020	CONSTRUCT TURN LANES	EACH	1
2	2221.509	00080	SHOULDER BASE AGGREGATE CLASS 5	TON	245
1,3	2232.604	00470	MILL BITUMINOUS PAVEMENT (SPECIAL)	SQ YD	517
	2357.506	00010	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	561
	2360.509	23300	TYPE SP 12.5 WEARING COURSE MIXTURE (3;C)	TON	923
12,13	2501.502	23012	12" CS SAFETY APRON AND GRATE DESIGN 3128	EACH	2
13	2501.503	12012	12" CS PIPE CULVERT	LIN FT	100
	2563.601	00001	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1
4,5	2563.601	00010	TRAFFIC CONTROL	LUMP SUM	1
6	2563.613	01100	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20
7	2573.502	00110	STORM DRAIN INLET PROTECTION	EACH	2
	2574.507	00100	COMMON TOPSOIL BORROW	CU YD	222
9	2582.503	30104	4" SOLID LINE MULTI-COMPONENT	LIN FT	6244
9	2582.503	30404	4" DOUBLE SOLID LINE MULTI-COMPONENT	LIN FT	2659
9	2582.503	76124	24" SOLID LINE PREFORM THERMO GROUND IN	LIN FT	229
9	2582.518	04000	PAVEMENT MESSAGE PREFORM THERMOPLASTIC	SQ FT	156

CONSTRUCTION NOTES	
1	REFERENCE DETAILS (PAGE 5-6)
2	ITEM USED FOR SHOULDER MATERIAL ALONG ROADWAY
3	TO BE USED FOR MILLING STREET APPROACHES, BITUMINOUS ALONG MEDIAN AND/OR DETAIL MILLING AREAS AS IDENTIFIED IN THE PLAN.
4	CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL.
5	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.
6	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
7	ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION.
8	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING. CANNOT BE INSTALLED SOONER THAN 48 HOURS.
9	INCLUDES ALL THERMOPLASTIC STOP BARS, GORE AREA HATCHING, CROSSWALKS, LANE DESIGNATION ARROWS, AND PAVEMENT MESSAGES.
10	ITEM USED FOR CONSTRUCTION OF TURN LANE AND BYPASS LANE. ITEMS INCLUDED IN THE TURN & BYPASS LANE BY THE EACH ARE - COMMON EXCAVATION, SELECT GRANULAR BORROW, TOPSOIL, AGG BASE CL-5. SHAPING OF SUBGRADE AND AGGREGATE BASE ARE INCIDENTAL TO CONSTRUCT TURN LANE ITEM. SEE TAB ON PAGE 2.
11	ITEM USED FOR SIGNS IN THE NEW RIGHT TURN LANE AND BYPASS LANE AREAS.
12	APRONS TO BE INSTALLED TO EXISTING CULVERT INVERT DEPTH. FIELD VERIFY DEPTHS.
13	CONTRACTOR TO FIELD VERIFY ALL PIPE AND APRON SIZES

RIGHT TURN LANE TAB						
STREET	STATION RANGE	RTL / BYPASS	COMMON EXCAVATION (CU YDS)	GRANULAR BORROW (CV) (CU YDS)	TOPSOIL BORROW (LV) (CU YDS)	CLASS 5 (TON)
W. PARK ENT.	46+69 - 50+52	RTL	199	138	51	67
<b>TOTALS:</b>			<b>199</b>	<b>138</b>	<b>51</b>	<b>67</b>

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT	
MNDOT STANDARD PLATES	
PLATE NO.	DESCRIPTION
3123J	METAL APRON FOR C.S. PIPE
3124B	METAL APRON CONNECTION
3128H	METAL SAFETY APRON & GRATE (2 SHEETS)
3129A	METAL APRON FOR CORRUGATED POLYETHYLENE PIPE (USE AT ENTRANCES AND DRIVEWAYS)
3146C	ANTI-SEEPAGE DIAPHRAGM (FOR CMP AND CMP-A)
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)

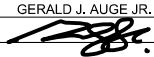
BASIS OF PLANNED QUANTITIES		
2357	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ YD
2211	AGGREGATE BASE CLASS 5	1.8 TONS / CU YD
2360	ALL BITUMINOUS PAVEMENT	115 LBS / SQ YD / IN THICKNESS

NO	DATE	BY	CKD	APPR	REVISION	
	01/17/2024					3:21:41 PM

NAME: P:\21-01-00\CR\_18\_(600'NoAndoverBvd-CSA78)\Base\Proposed\CR\_18\_SEQ.dgn

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CHECKED BY: CSO DATE: 10/26/2023



**ANOKA COUNTY  
HIGHWAY DEPT.**

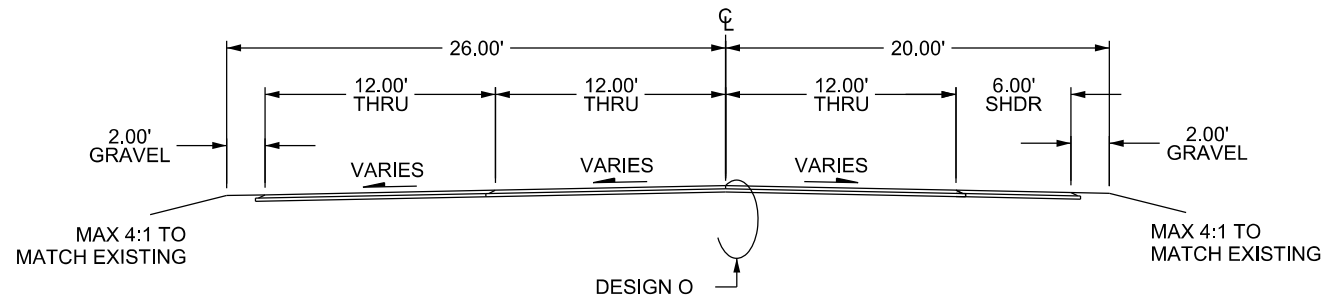
COUNTY PROJECT 21-11-18

STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 11 Sheets

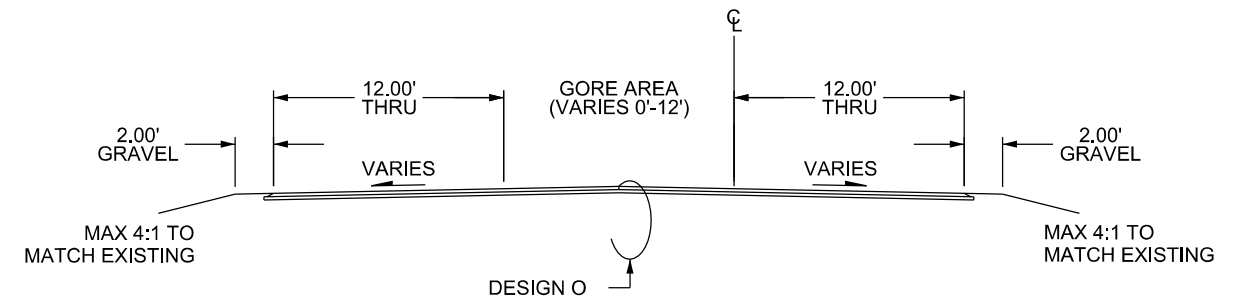
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45+00 - 47+54



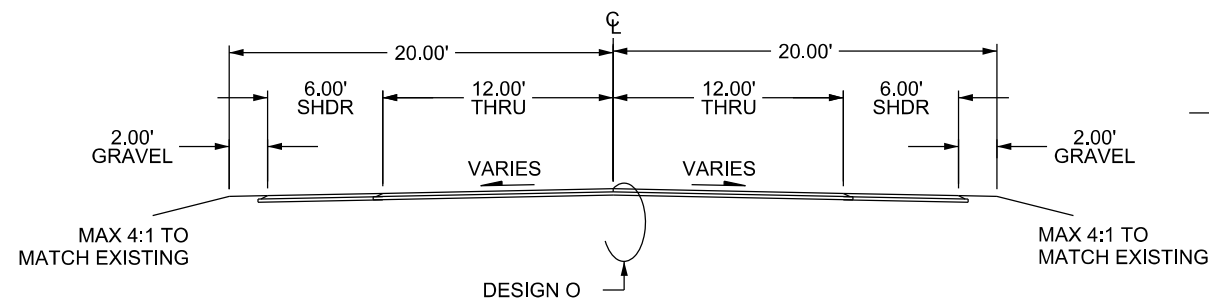
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50+00 - 53+51



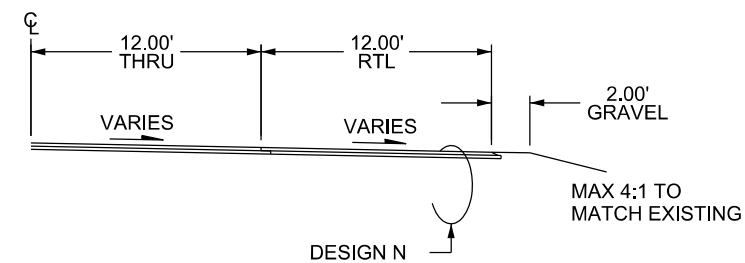
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47+54 - 50+00



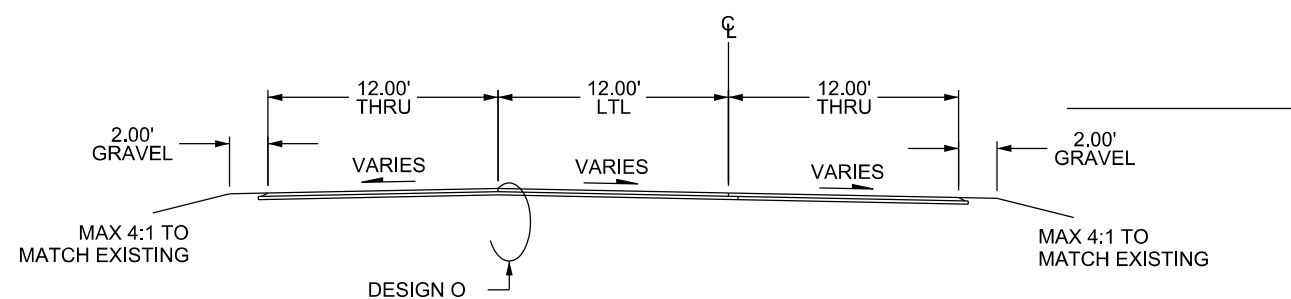
### CONSTRUCT RIGHT TURN LANE

46+69 - 50+52

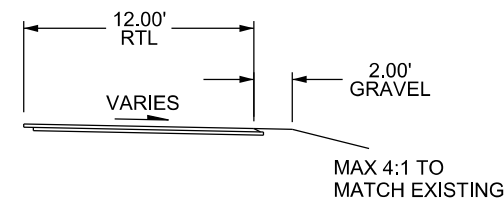


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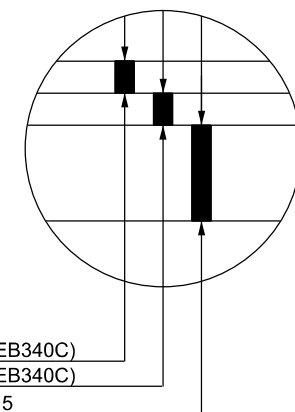
53+51 - 58+26



54+67 - 58+26



### DESIGN N RIGHT TURN LANE



NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	12:12:21 PM
NAME: P:\21-01-00\CR_18_(600'NoIAndoverBlvd-CSA78)\Base\Proposed\CR_18_TYPICALS.dgn							

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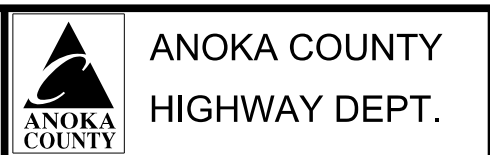
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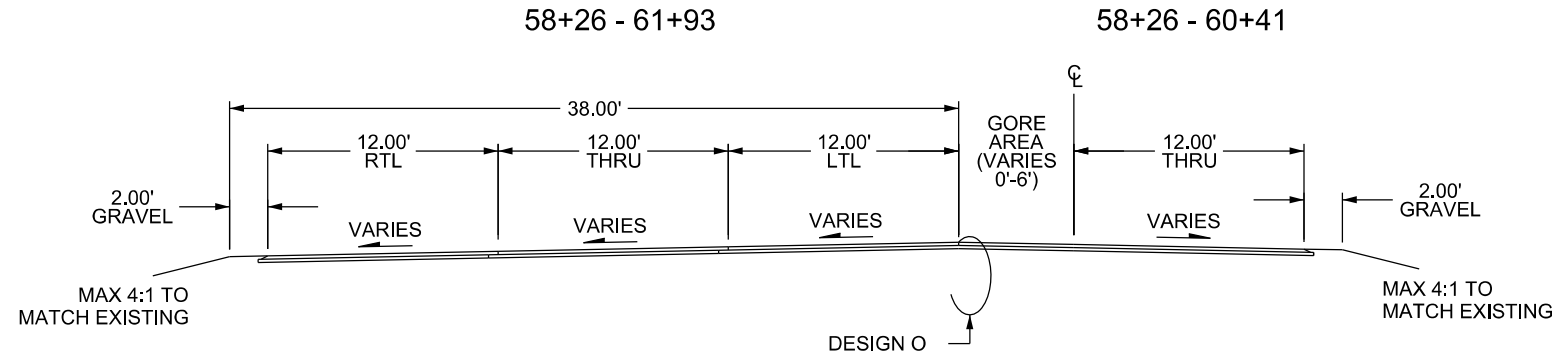


COUNTY PROJECT 21-11-18

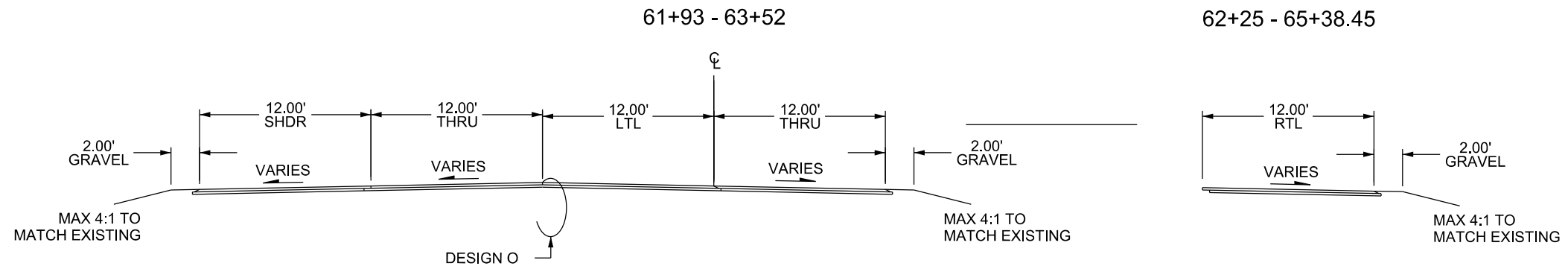
TYPICAL SECTIONS

Sheet 3 of 11 Sheets

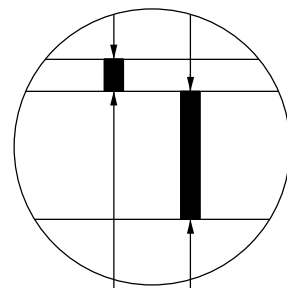
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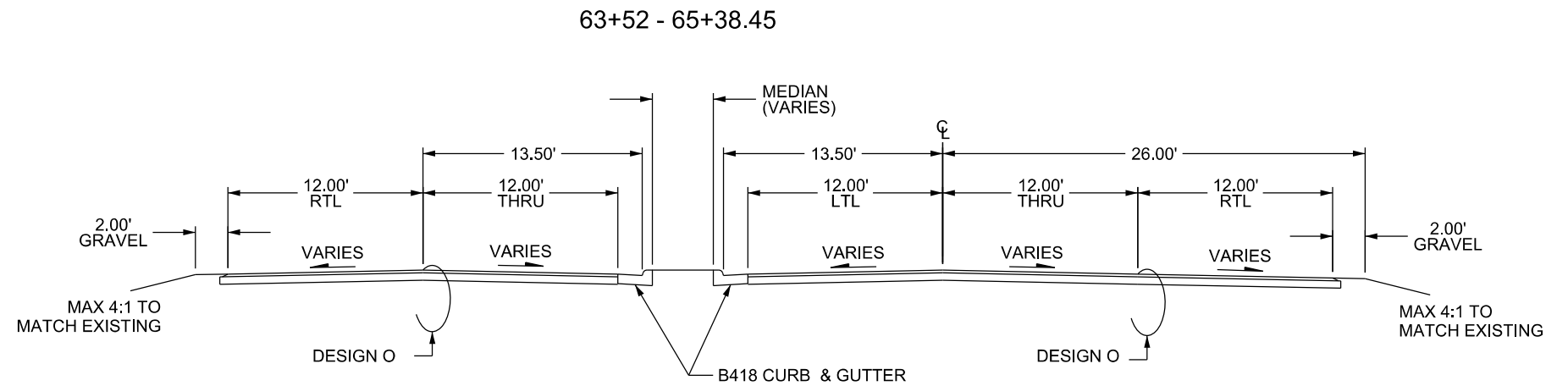


### DESIGN O OVERLAY SECTION



1.5" BITUMINOUS WEAR (SPWEB340C)  
EXISTING BITUMINOUS

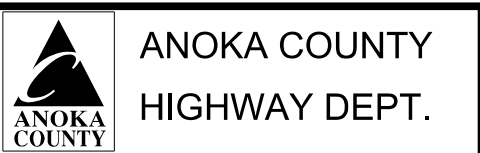
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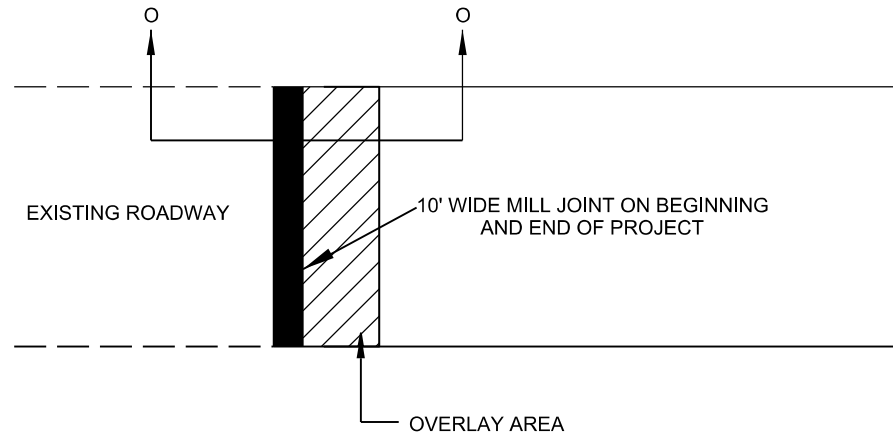


COUNTY PROJECT 21-11-18

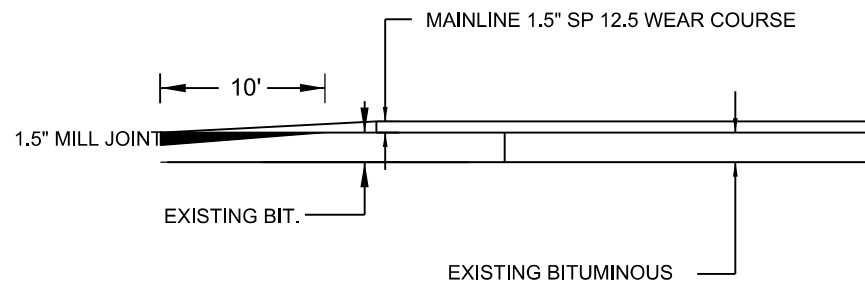
TYPICAL SECTIONS  
 Sheet 4 of 11 Sheets

# MAINLINE JOINT DETAIL (OVERLAY)

PLAN VIEW

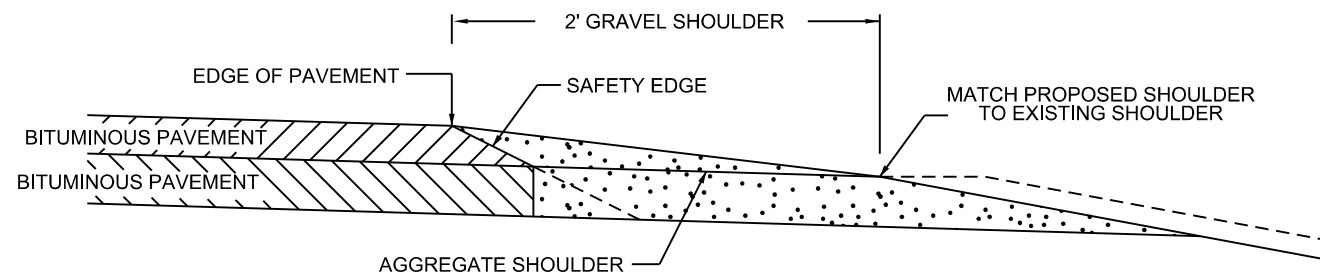


SECTION O - O



## SHOULDER DETAIL

BITUMINOUS SAFETY EDGE  
GRAVEL SHOULDER

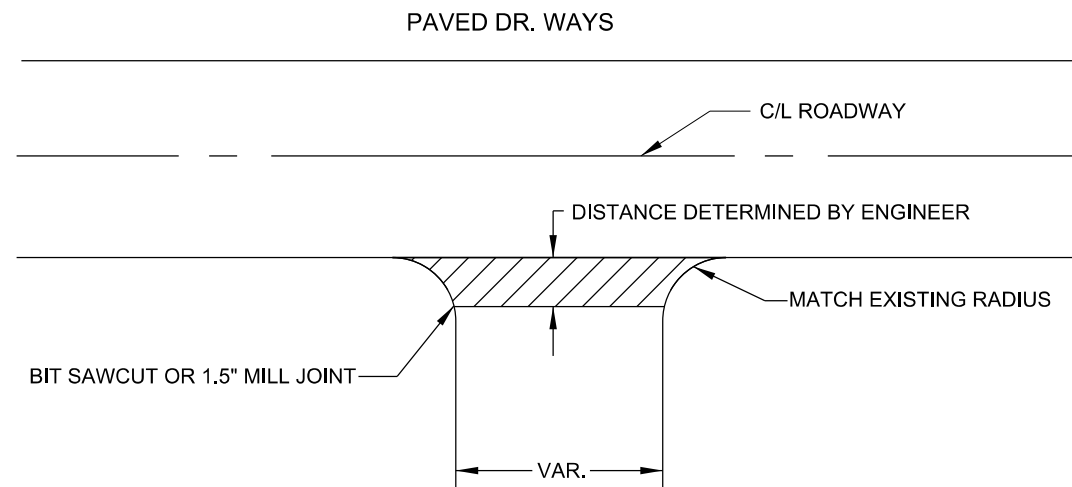


SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

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


## DRIVEWAY DETAIL

BITUMINOUS DRIVEWAY

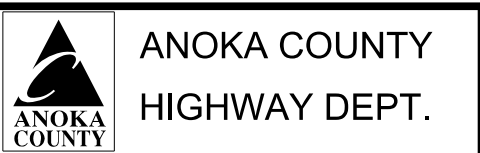


DRIVEWAYS BUMPED OUT AND PAVED WITH MAINLINE PAID AS MAINLINE.  
DRIVEWAYS PAVED IN DIFFERENT OPERATION FROM MAIN LINE PAVING PAID AS DRIVEWAY OR STREET APPROACH.

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NAME: P:\21-01-00\CR_18_(600\NotAndover\Bvd-CSAH78)\Base\Proposed\CR_18_DETAILS.dgn							

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COUNTY PROJECT 21-11-18

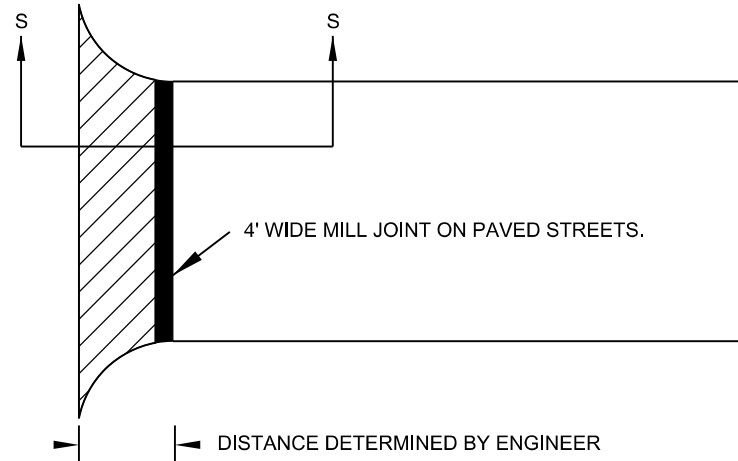
DETAILS  
 Sheet 5 of 11 Sheets

DBKost

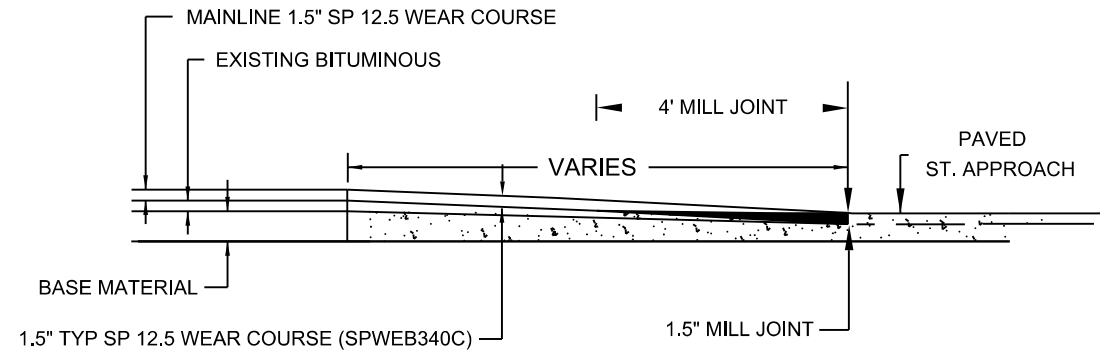
# STREET APPROACH DETAIL (SIMPLE OVERLAY)

## BITUMINOUS STREET

PLAN VIEW



SECTION S - S



NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	12:12:22 PM
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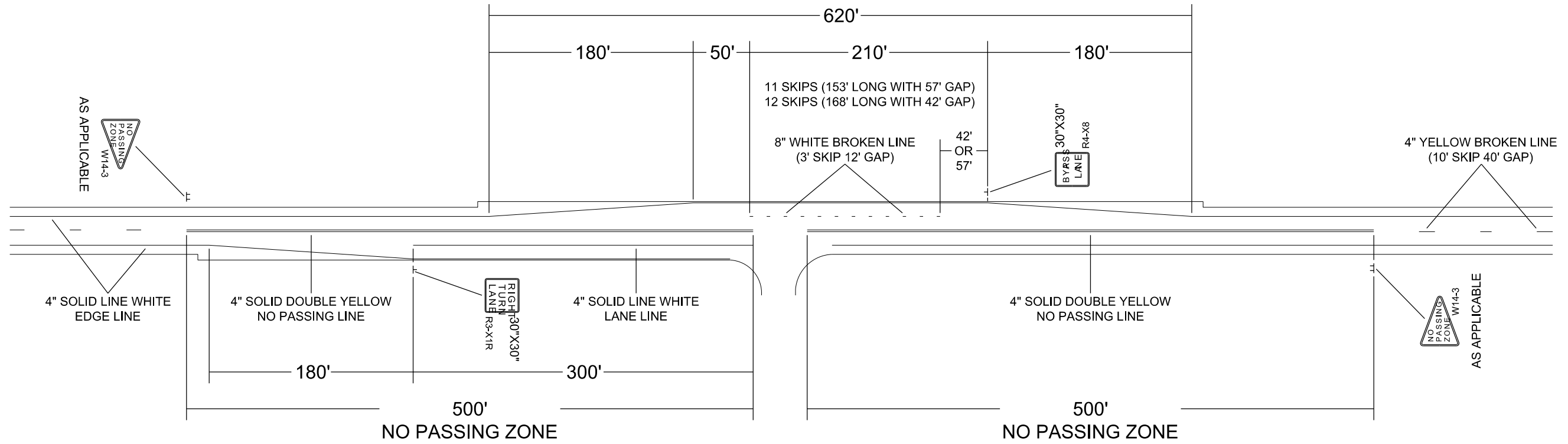
COUNTY PROJECT 21-11-18

DETAILS

Sheet 6 of 11 Sheets

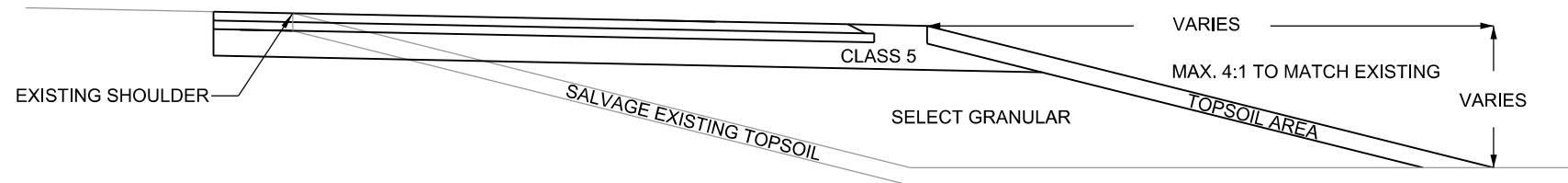
### RIGHT TURN AND BYPASS LANE

#### GENERAL LAYOUT PLAN VIEW



### RIGHT TURN AND BYPASS LANE

#### SECTION T - T



NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	12:12:22 PM
NAME: P:\21-01-00\CR_18_(600'NotAndoverBvd-CSA178)\Base\Proposed\CR_18_DETAILS.dgn							

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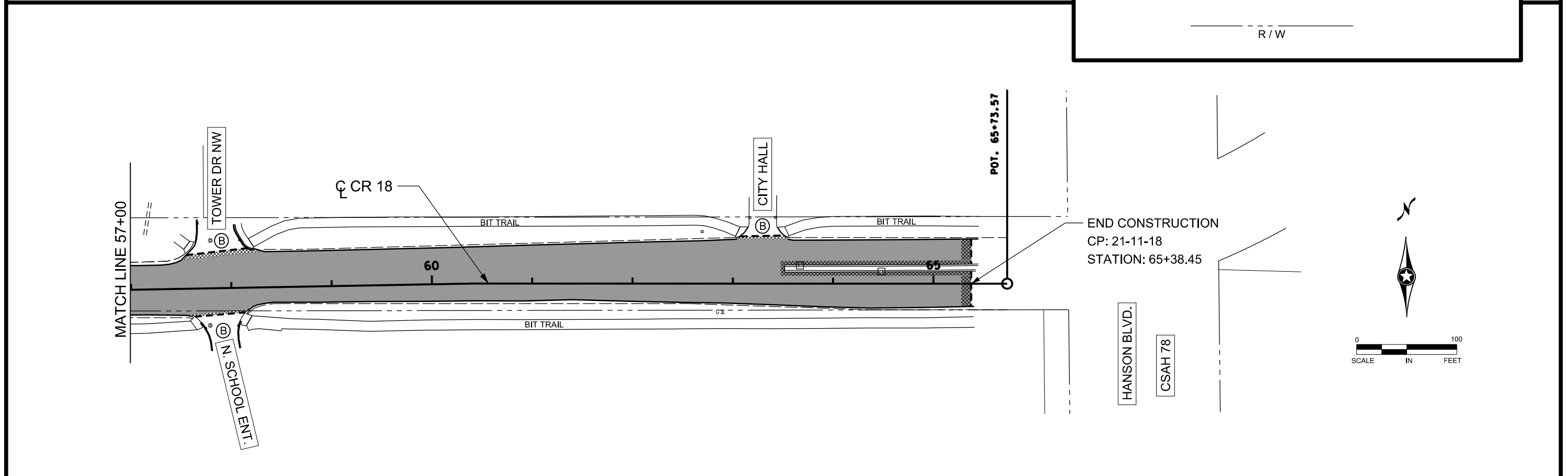
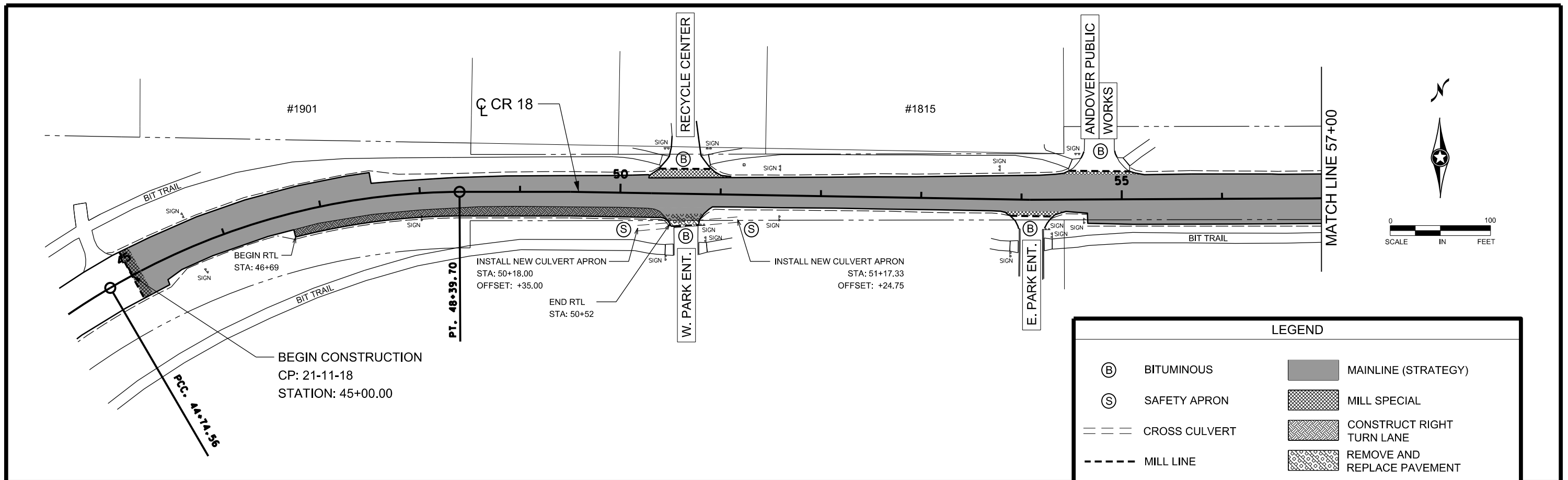
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**ANOKA COUNTY**  
**HIGHWAY DEPT.**

COUNTY PROJECT 21-11-18

DETAILS  
 Sheet 7 of 11 Sheets





NO	DATE	BY	CKD	APPR	REVISION	12/15/2023	12:12:23 PM

NAME: P:\21-01-00\CR\_18\_(600\No\AndoverBld-CAH78)\Base\Proposed\CP.dgn

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COUNTY PROJECT 21-11-18

CONSTRUCTION PLAN  
 STA 45+00.00 TO 65+38.45  
 Sheet 8 of 11 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 AT A MINIMUM RATE OF 25 LBS POUNDS PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.
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.

**PREFORMED THERMOPLASTIC:**



1. 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.

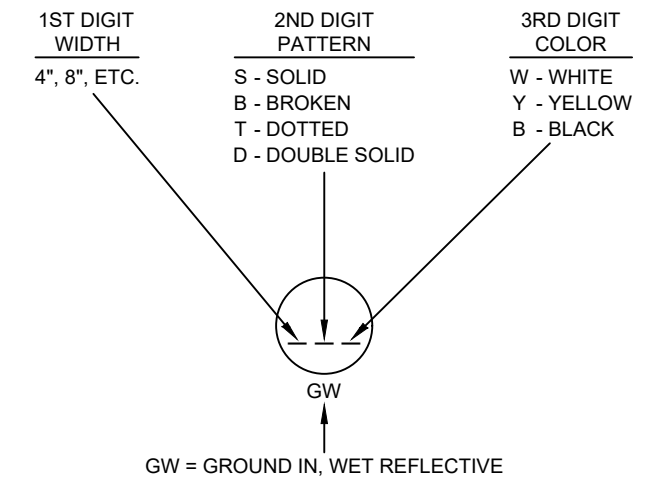
PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - MULTI COMP	LIN FT	5678
4" SOLID LINE YELLOW - MULTI COMP	LIN FT	566
4" SOLID DOUBLE LINE YELLOW - MULTI COMP	LIN FT	2659
24" SOLID LINE YELLOW - PREF THERMOPLASTIC GROUND IN	LIN FT	229
PAVEMENT MESSAGE PREF THERMOPLASTIC (LEFT ARROW)	SQ FT	78
PAVEMENT MESSAGE PREF THERMOPLASTIC (RIGHT ARROW)	SQ FT	78


**PAVEMENT MARKING SYMBOLS & MATERIALS LEGEND**

- BROKEN LINE - 50' CYCLE (10' LINE, 40' GAP)
- ↩ PAVEMENT MESSAGE (LEFT ARROW)

**STRIPING KEY**

-  CIRCLE - MULTI-COMP
-  OCTAGON - PREF THERMO



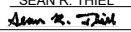
EXAMPLE:  = 4" SOLID LINE WHITE MULTI-COMP

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\21-01-00\CR\_18\_(600'NofAndoverBlvd-CSAH78)\Base\Traffic

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: 

DATE: 1/10/2024 LICENSE NO. 45129

DRAWN BY LJK DATE 11/11/23

DESIGN BY LJK DATE 11/11/23

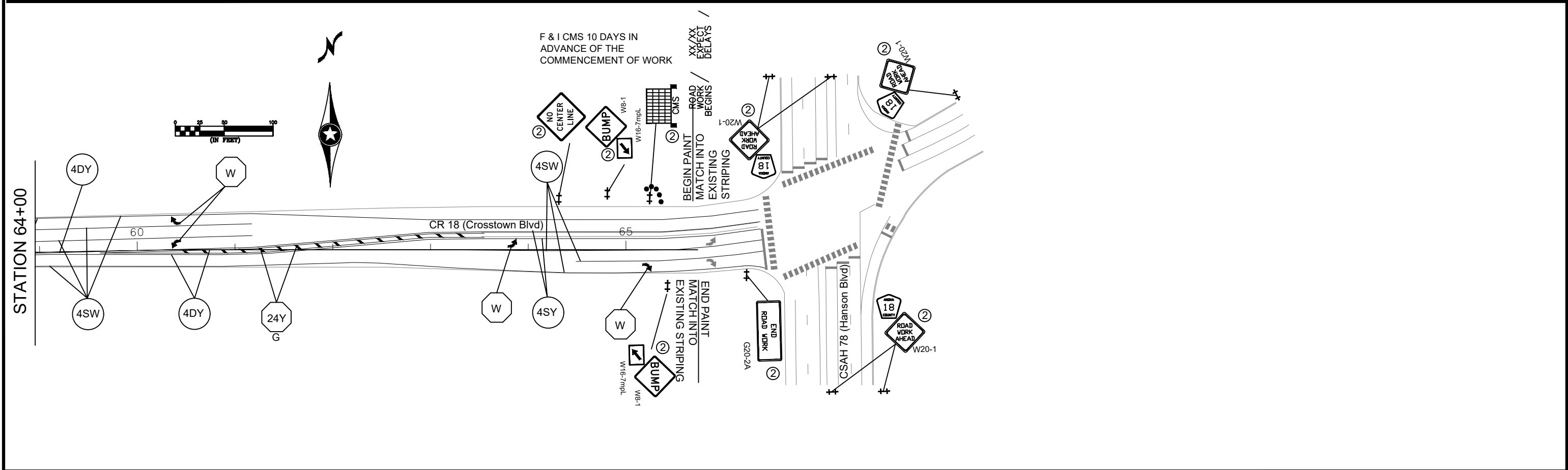
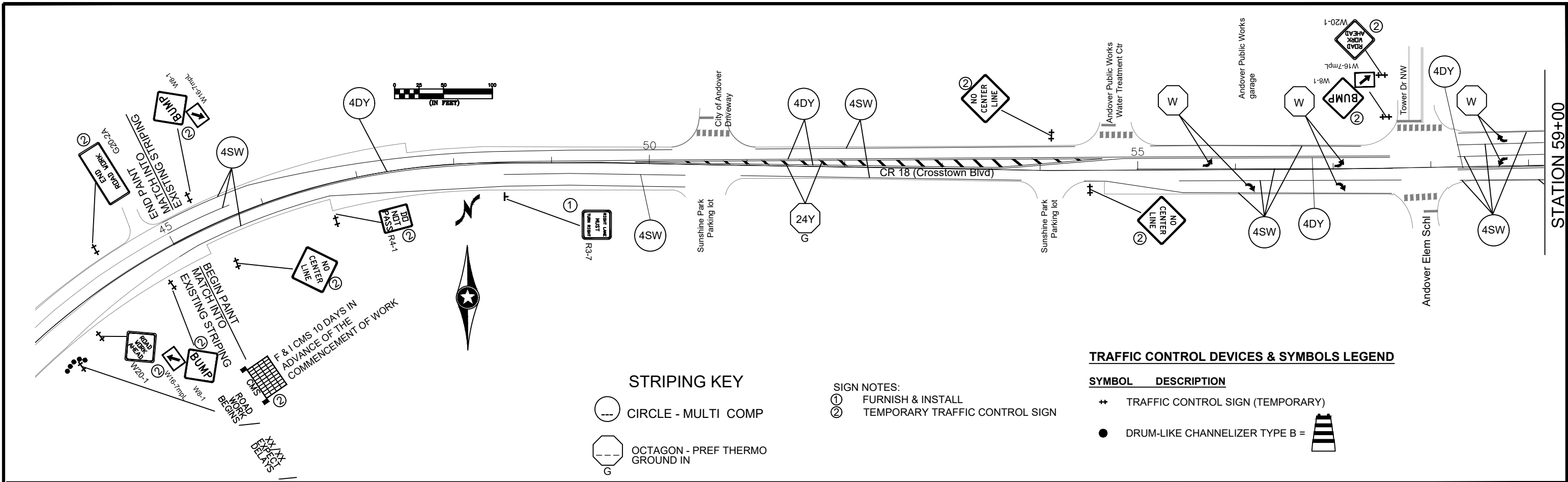
CHECKED BY SRT DATE 11/29/23

 **ANOKA COUNTY  
HIGHWAY DEPT.**

CP 24-12-163

Sheet 9 of 11 Sheets

PERMANENT PAVEMENT  
MARKING PLAN  
NOTES & TABULATIONS



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\21-01-00\CR\_18\_(600'NofAndoverBlvd-CSAH78)\Base\Traffic\Sign & Stripe.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: SEAN R. THIEL  
SIGNATURE: *Sean R. Thiel*  
DATE: 1/10/2024 LICENSE NO. 45129


DRAWN BY: LJK DATE: 12/06/23  
DESIGN BY: LJK DATE: 12/06/23  
CHECKED BY: SRT DATE: 12/08/23










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









CP 21-11-18

TEMPORARY SIGNING AND PERMANENT STRIPING

Sheet 10 of 11 Sheets

TYPE C SIGN PANELS - ANOKA COUNTY CR 103							
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
R3-7	30" x 30"		1	6.25	6.25	1	7.0'
TYPE C SIGN PANEL TOTALS			1		6.25		

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

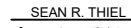
	<	D	A	T	E	>	
	E	X	P	E	C	T	
	D	E	L	A	Y	S	

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.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\21-01-00\CR\_18\_(600'NofAndoverBlvd-CSAH78)\Base\Traffic\Sign & Stripe.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: SEAN R. THIEL  
SIGNATURE:   
DATE: 1/10/2024 LICENSE NO. 45129

DRAWN BY: LJK DATE: 12/06/23  
DESIGN BY: LJK DATE: 12/06/23  
CHECKED BY: SRT DATE: 12/08/23



ANOKA COUNTY  
HIGHWAY DEPT.

CP 21-11-18

TEMPORARY SIGNING  
PERMANENT SIGNING  
& STRIPING QUANTITIES