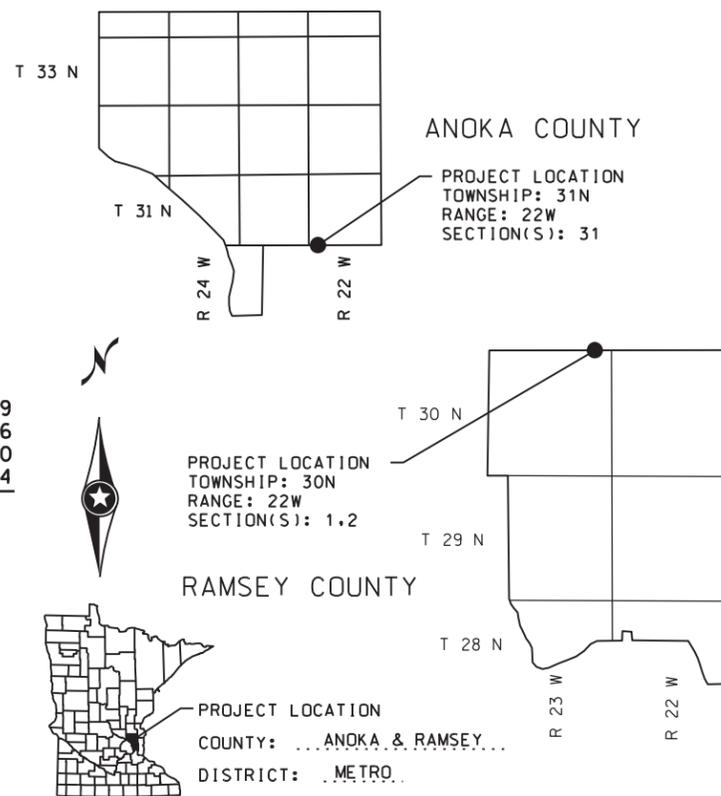
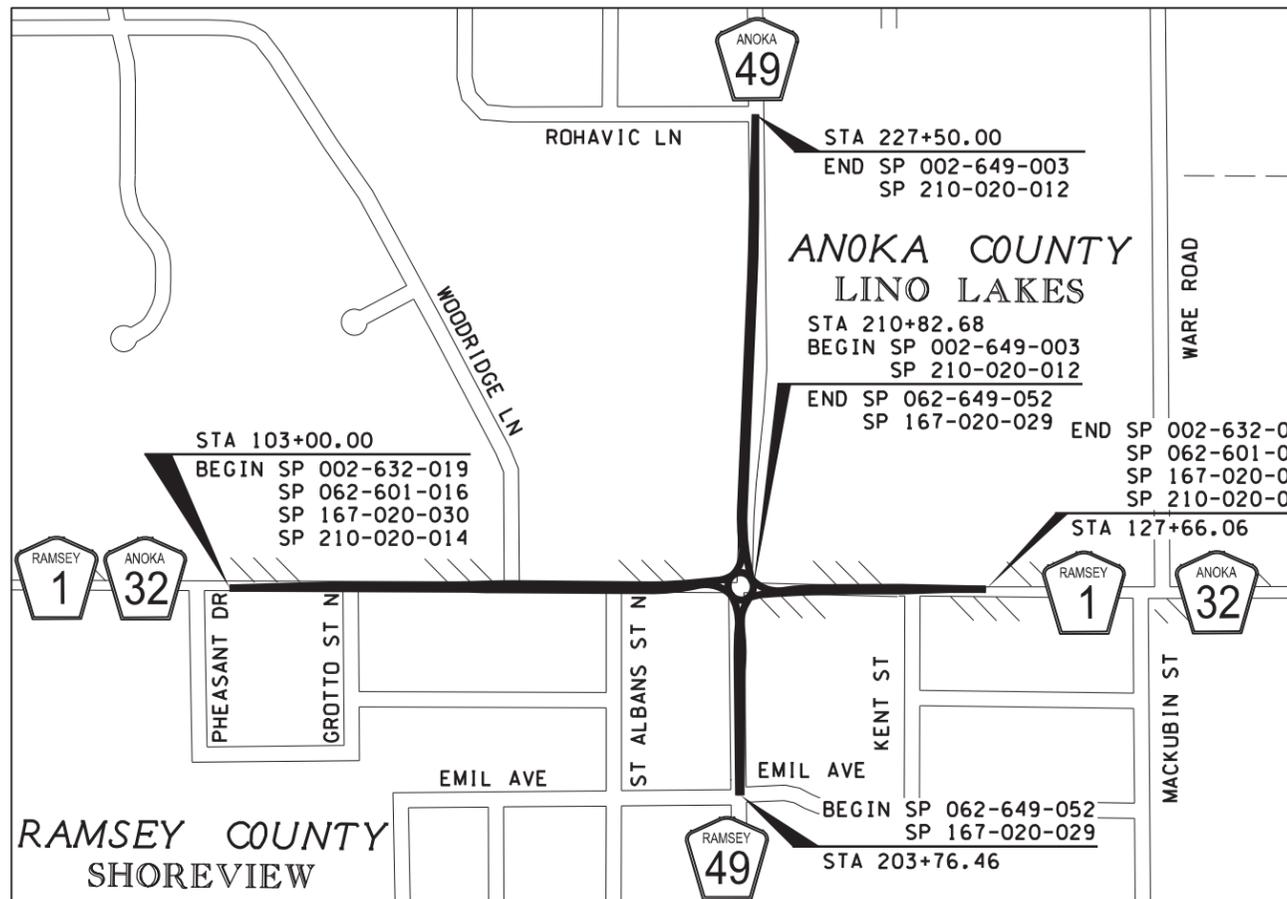


MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY | RAMSEY COUNTY

CONSTRUCTION PLAN FOR ROUNDABOUT, GRADING, CONCRETE AND BITUMINOUS SURFACING, DRAINAGE, LIGHTING, AND ADA IMPROVEMENTS

SP 002-632-019 ET AL LOCATED ON CSAH 32 (COUNTY RD J) FROM 330' WEST OF GROTTO ST N TO 250' EAST OF KENT ST
 SP 002-649-003 ET AL LOCATED ON CSAH 49 (HODGSON RD) FROM EMIL AVE TO 100' NORTH OF ROHAVIC LN



MINN. PROJECT NO.: STBG-PRO 0224(141)
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 EDITION OF THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3 - 6	STATEMENT OF ESTIMATED QUANTITIES
7 - 10	QUANTITY TABULATIONS
11	EARTHWORK TABULATION
12	SOILS AND CONSTRUCTION NOTES / MnDOT STANDARD PLATES
13 - 15	CITY STANDARD PLATES
16 - 23	TYPICAL SECTIONS
24 - 25	MISCELLANEOUS DETAILS
26 - 46	STANDARD PLANS
47 - 63	CONSTRUCTION STAGING & TRAFFIC CONTROL
64 - 68	ALIGNMENT PLAN & TABULATIONS
69 - 75	INPLACE TOPOGRAPHY & UTILITIES
76 - 78	REMOVAL PLAN
79 - 81	SIGN REMOVAL PLAN
82	BUILDING REMOVAL PLAN
83 - 92	CONSTRUCTION PLAN & PROFILES
93 - 98	PAVING PLAN
99	CONCRETE PAVEMENT JOINT PLAN
100 - 102	ROUNDABOUT INTERSECTION DETAILS
103 - 113	INTERSECTION DETAILS
114 - 119	PEDESTRIAN RAMP DETAILS
120 - 127	DRIVEWAY DETAILS
128 - 136	DRAINAGE PLAN
137	DRAINAGE DETAILS
138	GRADING PLAN
139 - 147	SIGNING PLAN
148 - 153	PAVEMENT MARKING PLAN
154 - 155	LIGHTING PLAN
156 - 158	STORM WATER POLLUTION PREVENTION PLAN
159 - 162	TURF ESTABLISHMENT & EROSION CONTROL PLAN
X1 - X33	CROSS SECTIONS

THIS PLAN CONTAINS 195 SHEETS.

ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.



DESIGN ENGINEER: 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.

PRINTED NAME: ANDREW J. PLOWMAN, PE
 LICENSE NO. 44200

Andrew Plowman

APPROVED: ANOKA COUNTY ENGINEER

Joseph MacPherson

APPROVED: RAMSEY COUNTY ENGINEER

Estochen, Bradley M

APPROVED: LINO LAKES CITY ENGINEER

Diane Hanke

APPROVED: SHOREVIEW CITY ENGINEER

Thomas Westlund

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AND FEDERAL AID RULES/POLICY

Lucas Lortie

STATE AID ENGINEER: APPROVED FOR STATE AND FEDERAL AID FUNDING

Lucas Lortie

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

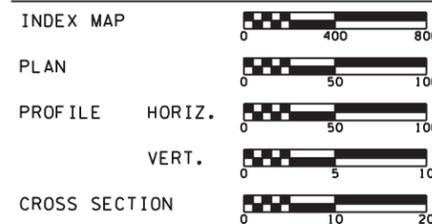
TRAIL DESIGN DESIGNATION:
 DESIGN SPEED (MPH) 20
 BASED ON 4.5 FT HEIGHT OF EYE
 0.0 FT HEIGHT OF OBJECT
 DESIGN SPEED NOT ACHIEVED AT: ROUNDABOUT

DESIGN DESIGNATION

GROSS LENGTH	2373.54' = 0.450 MILES	2466.06' = 0.467 MILES
BRIDGES-LENGTH	NA	NA
EXCEPTIONS-LENGTH	NA	NA
NET LENGTH	2373.54' = 0.450 MILES	2466.06' = 0.467 MILES
NOTE: LENGTH BASED ON NORTHBOUND AND SOUTHBOUND ALIGNMENTS.		
R VALUE	30	30
ADT (Current Year) 2023	10,300	10,700
ADT (Future Year) 2043	12,900	13,300
D (DIRECTIONAL DISTR.)	50/50	50/50
HEAVY COMMERCIAL	4.36%	4.39%
ESALS	1,493,000	1,555,000
DESIGN SPEED	45 MPH	35 MPH
BASED ON SIGHT DISTANCE	STOPPING	STOPPING
HEIGHT OF EYE / HEIGHT OF OBJECT	3.5' / 2.0'	3.5' / 2.0'
FUNCTIONAL CLASS	MINOR ARTERIAL	MINOR ARTERIAL
NO. OF TRAFFIC LANES	2 - 12'	2 - 12'
NO. OF PARKING LANES	0	0
SHOULDER WIDTH	4'-6"	4'-6"
TON DESIGN	10	10
DESIGN SPEED NOT ACHIEVED AT	ROUNDABOUT	ROUNDABOUT

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI-ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES."

SCALES



I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THE PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

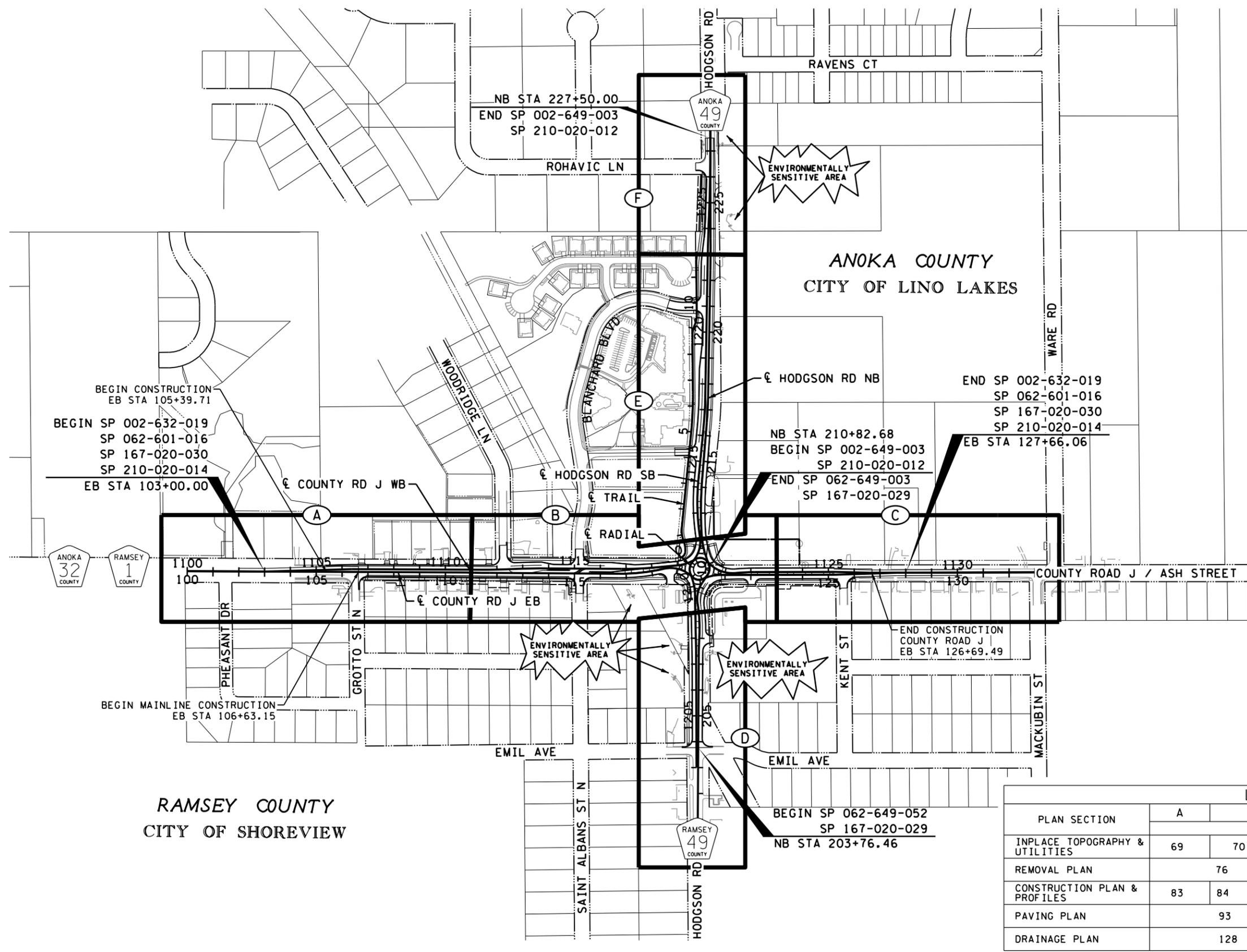
PRINTED NAME: _____
 LICENSE NO. _____

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014
 SHEET NO. 1 OF 162 SHEETS

PLOTTED/REVISED: 1/12/2024 12:47:52 PM

PLOTTED/REVISED: 2/1/2024 9:41:30 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\CadPlan\9054-000_g01.dgn



BEGIN CONSTRUCTION
EB STA 105+39.71
BEGIN SP 002-632-019
SP 062-601-016
SP 167-020-030
SP 210-020-014
EB STA 103+00.00

BEGIN MAINLINE CONSTRUCTION
EB STA 106+63.15

NB STA 227+50.00
END SP 002-649-003
SP 210-020-012

NB STA 210+82.68
BEGIN SP 002-649-003
SP 210-020-012
END SP 062-649-003
SP 167-020-029

END SP 002-632-019
SP 062-601-016
SP 167-020-030
SP 210-020-014
EB STA 127+66.06

END CONSTRUCTION
COUNTY ROAD J
EB STA 126+69.49

BEGIN SP 062-649-052
SP 167-020-029
NB STA 203+76.46

RAMSEY COUNTY
CITY OF SHOREVIEW

ANOKA COUNTY
CITY OF LINO LAKES

PLAN SECTION	LEGEND					
	A	B	C	D	E	F
INPLACE TOPOGRAPHY & UTILITIES	69	70 73	71	72	74	75
REMOVAL PLAN		76		77		78
CONSTRUCTION PLAN & PROFILES	83	84 87 92	85	86	88	89
PAVING PLAN		93		94		95
DRAINAGE PLAN		128		129		130

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
Plan By: AJP
Checked By: AJP
Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
DATE: 2/1/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

ANOKA & RAMSEY COUNTY, MN

GENERAL LAYOUT
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
2
OF
162
SHEETS

PLOTTED/REVISED: 2/22/2024 5:08:16 PM

STATEMENT OF ESTIMATED QUANTITIES

TAB ID	SHEET NO.	ITEM	DESCRIPTION	NOTES	UNIT	PROJECT TOTAL	FEDERAL PARTICIPATING									STORM SEWER PROTECT (15) (A)
							ANOKA COUNTY		RAMSEY COUNTY		SHOREVIEW		LIND LAKES		ESTIMATED QUANTITY	
							SP 002-632-019	SP 002-649-003	SP 062-601-016	SP 062-649-052	SP 167-020-029	SP 167-020-030	SP 210-020-012	SP 210-020-014		
ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY								
		2021.501	MOBILIZATION		LUMP SUM	1.00	0.16	0.18	0.18	0.14	0.01	0.01	0.11	0.05	0.16	
		2031.502	FIELD OFFICE		EACH	1.00	0.16	0.18	0.18	0.14	0.01	0.01	0.11	0.05	0.16	
A	7	2101.505	GRUBBING	(1)	ACRE	0.2	0.2									
A	7	2101.524	GRUBBING	(1)	EACH	39	15	15	9							
G1 & M	47 & 148	2102.503	PAVEMENT MARKING REMOVAL	(14)	LIN FT	15756	4299	3799	3959	3699						
		2105.501	BUILDING REMOVAL		LUMP SUM	1	1									
A	7	2104.502	REMOVE PIPE APRON		EACH	4		1		3						
A	7	2104.502	REMOVE UNDERGROUND TANK	(16)	EACH	1		0.34		0.33		0.33				
A	7	2104.502	REMOVE LIGHTING UNIT		EACH	3		1	1							
A	7	2104.502	REMOVE DRAINAGE STRUCTURE		EACH	9	3	3	3							
H	139 - 141	2104.502	REMOVE SIGN		EACH	26	5	4	9	8						
I	141	2104.502	REMOVE SIGN TYPE SPECIAL		EACH	1		1								
		2104.502	REMOVE SIGNAL SYSTEM	(12)	EACH	1	0.25		0.25	0.25		0.25				
E	10R	2104.502	REMOVE MAIL BOX SUPPORT		EACH	5	1	2	2							
H	139 - 141	2104.502	SALVAGE SIGN		EACH	9	2	1	3	3						
I	141	2104.502	SALVAGE SIGN TYPE SPECIAL		EACH	6		3	3							
E	10R	2104.502	SALVAGE MAIL BOX SUPPORT	(2)	EACH	14	5	1	8							
A	7	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	127	85		42							
A	7	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)		LIN FT	959	277	142	342	198						
A	7	2104.503	REMOVE SEWER PIPE (STORM)		LIN FT	526	254		69	203						
A	7	2104.503	REMOVE CURB & GUTTER		LIN FT	3613	1487	158	1404	564						
A	7	2104.503	REMOVE FENCE		LIN FT	62	62									
A	7	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT		SQ YD	356	201		146	9						
A	7	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		SQ YD	619	261	203	143	12						
A	7	2104.504	REMOVE BITUMINOUS PAVEMENT		SQ YD	21921	5565	7468	5566	3322						
A	7	2104.518	REMOVE BITUMINOUS WALK		SQ FT	14045	258	329	6297	7161						
A	7	2104.518	REMOVE CONCRETE WALK		SQ FT	1067	136	136	362	433						
E	10R	2104.602	SALVAGE MAIL BOX		EACH	14	5	3	6							
G	11	2106.507	EXCAVATION - COMMON	(P)	CU YD	12527	2423	6157	2423	1524						
G	11	2106.507	EXCAVATION - SUBGRADE	(P)	CU YD	10098	2285	4118	2285	1410						
L	138	2106.507	EXCAVATION - CHANNEL AND POND	(P)	CU YD	2666									2666	
G	11	2106.507	SELECT GRANULAR EMBANKMENT (CV)	(P)	CU YD	10250	2285	4209	2285	1471						
G	11	2106.507	COMMON EMBANKMENT (CV)	(P)	CU YD	3989	662	1264	662	1401						
		2106.601	DEWATERING		LUMP SUM	1	0.16	0.18	0.18	0.14	0.01	0.01	0.11	0.05	0.16	
		2106.601	CONTAMINATED DEWATERING		LUMP SUM	1		0.34		0.33			0.33			
		2106.607	STOCKPILE CONTAMINATED SOIL		CU YD	705		235		235			235			
L	138	2106.609	HAUL & DISPOSE OF CONTAMINATED MATERIAL		TON	1269		423		423			423			
B	8	2118.507	AGGREGATE SURFACING (CV) CLASS 2		CU YD	41	10	31								
D	9	2118.507	AGGREGATE SURFACING (CV) CLASS 2 (DRIVEWAY)		CU YD	6	6									
		2123.510	DOZER		HOUR	40	10	10	10	10						

NOTES: (A) 23% SP 002-632-019, 22% SP 002-649-003, 23% SP 062-601-016, 22% SP 062-649-052, 2% SP 167-020-029, 3% SP 167-020-030, 2% SP 210-020-012, 3% SP 210-020-014

- (1) NO TREES SHALL BE CLEARED OR GRUBBED WITHOUT THE ENGINEERS APPROVAL
- (2) CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF TEMPORARY MAIL SERVICE AND FINAL MAIL BOX PLACEMENT
- (3) TO BE USED FOR MINOR DITCH CLEANING AND/OR AS DIRECTED BY THE ENGINEER
- (4) TO BE USED FOR SURFACE CLEANING AND/OR AS DIRECTED BY THE ENGINEER
- (5) TO BE USED FOR DUST CONTROL AND/OR AS DIRECTED BY THE ENGINEER
- (6) SEE TYPICAL SECTIONS FOR DETAILS.
- (7) TO BE USED IN PEDESTRIAN RAMPS AND LANDINGS PER MN/DOT STANDARD PLAN 5-297.250
- (8) TO BE USED FOR BITUMINOUS TRAILS
- (9) INCLUDES QUANTITY FOR CONCRETE WALKS, MEDIANS, AND BOULEVARDS
- (10) SEE DETAIL IN TYPICAL SECTIONS
- (11) SEE TABULATION FOR COLOR
- (12) SALVAGE DETECTION CAMERAS AND SUPPORTING HARDWARE AND APS SYSTEM, DELIVER TO RAMSEY COUNTY. DELIVERY AND COORDINATION THEREOF SHALL BE INCIDENTAL.
- (13) TO BE USED UNDER DRIVEWAYS
- (14) TO BE USED OUTSIDE OF THE CONSTRUCTION LIMITS IN LANE TRANSITION AREAS TO OBLITERATE CONFLICTING PAVEMENT MARKINGS AND AS REQUIRED BY CONSTRUCTION STAGING.
- (15) ITEMS FOR STORMWATER CONTROL
- (16) UNDERGROUND TANKS LOCATED AT BUILDING REMOVAL SITE AS DESCRIBED IN THE PRE-DEMO INSPECTION REPORT
- (P) PLAN QUANTITY

TABULATION INDEX		
TAB	SHEET	TABULATION
A	7	REMOVAL
B	7	BITUMINOUS & AGGREGATE
C	8	CONCRETE
D	9	DRIVEWAY
E	9	MAILBOX SCHEDULE
F	10R	EROSION CONTROL & TURF ESTABLISHMENT
G	11	EARTHWORK
G1	47	STAGING AND TRAFFIC CONTROL TABULATION
H	139	SIGN AND DELINEATOR / MARKER
I	141	SIGN TYPE SPECIAL
J	136	DRAINAGE STRUCTURE
K	136	STORM SEWER
L	138	POND
M	148	PAVEMENT MARKING
N	155R	LIGHTING

WSB PATH & FILENAME: Projects\Minnesota\09054-000\09054-000.asx\more

NO.	DATE	BY	CHK	REVISIONS
1	2024/02/22	AJF	AJP	UPDATE REMOVE UNDERGROUND TANK NOTE.

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/22/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

STATEMENT OF ESTIMATED QUANTITIES
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
3R
 OF
162
 SHEETS

WSB PATH & FILENAME: Projects\Minnesota\090504-000\090504-000_ast\more

PLOTTED/REVISED: 2/22/2024 5:08:16 PM

STATEMENT OF ESTIMATED QUANTITIES

Main table with columns: TAB ID, SHEET NO., ITEM, DESCRIPTION, NOTES, UNIT, PROJECT TOTAL, ANDOKA COUNTY, RAMSEY COUNTY, SHOREVIEW, LIND LAKES, STORM SEWER PROTECT (A). Rows include items like STREET SWEEPER, WATER, AGGREGATE BASE, CONCRETE PAVEMENT, etc.

NOTES: (1) 23% SP 002-632-019, 22% SP 002-649-003, 23% SP 062-601-016, 22% SP 062-649-052, 2% SP 167-020-029, 3% SP 167-020-030, 2% SP 210-020-012, 3% SP 210-020-014

- (1) NO TREES SHALL BE CLEARED OR GRUBBED WITHOUT THE ENGINEERS APPROVAL
(2) CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF TEMPORARY MAIL SERVICE AND FINAL MAIL BOX PLACEMENT
(3) TO BE USED FOR MINOR DITCH CLEANING AND/OR AS DIRECTED BY THE ENGINEER
(4) TO BE USED FOR SURFACE CLEANING AND/OR AS DIRECTED BY THE ENGINEER
(5) TO BE USED FOR DUST CONTROL AND/OR AS DIRECTED BY THE ENGINEER
(6) SEE TYPICAL SECTIONS FOR DETAILS.
(7) TO BE USED IN PEDESTRIAN RAMPS AND LANDINGS PER MN/DOT STANDARD PLAN 5-297.250
(8) TO BE USED FOR BITUMINOUS TRAILS
(9) INCLUDES QUANTITY FOR CONCRETE WALKS, MEDIANS, AND BOULEVARDS
(10) SEE DETAIL IN TYPICAL SECTIONS
(11) SEE TABULATION FOR COLOR
(12) SALVAGE DETECTION CAMERAS AND SUPPORTING HARDWARE AND APS SYSTEM, DELIVER TO RAMSEY COUNTY. DELIVERY AND COORDINATION THEREOF SHALL BE INCIDENTAL.
(13) TO BE USED UNDER DRIVEWAYS
(14) TO BE USED OUTSIDE OF THE CONSTRUCTION LIMITS IN LANE TRANSITION AREAS TO OBLITERATE CONFLICTING PAVEMENT MARKINGS AND AS REQUIRED BY CONSTRUCTION STAGING.
(15) ITEMS FOR STORMWATER CONTROL
(16) UNDERGROUND TANKS LOCATED AT BUILDING REMOVAL SITE AS DESCRIBED IN THE PRE-DEMO INSPECTION REPORT
(P) PLAN QUANTITY

TABULATION INDEX table with columns: TAB, SHEET, TABULATION. Rows include A 7 REMOVAL, B 7 BITUMINOUS & AGGREGATE, C 8 CONCRETE, D 9 DRIVEWAY, E 9 MAILBOX SCHEDULE, F 10R EROSION CONTROL & TURF ESTABLISHMENT, G 11 EARTHWORK, G1 47 STAGING AND TRAFFIC CONTROL TABULATION, H 139 SIGN AND DELINEATOR / MARKER, I 141 SIGN TYPE SPECIAL, J 136 DRAINAGE STRUCTURE, K 136 STORM SEWER, L 138 POND, M 148 PAVEMENT MARKING, N 155R LIGHTING

Revisions table with columns: NO., DATE, BY, CHK, REVISIONS. Row: 2024/02/22, AJF, AJP, UPDATE REMOVE UNDERGROUND TANK QUANTITY AND ADD NOTE.

Design By: AJP, Checked By: AJP, Approved By: AJP. I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: ANDREW J. FLOWMAN, DATE: 2/22/2024, LICENSE #: 44200



CSAH 49 at Ramsey County CSAH 1 / Anoka County CSAH 32 Intersection Improvements

ANOKA & RAMSEY COUNTY, MN STATEMENT OF ESTIMATED QUANTITIES SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET 4R OF 162 SHEETS

PLOTTED/REVISED: 2/22/2024 5:08:17 PM

STATEMENT OF ESTIMATED QUANTITIES

Table with columns: TAB ID, SHEET NO., ITEM, DESCRIPTION, NOTES, UNIT, PROJECT TOTAL, ANDOKA COUNTY, RAMSEY COUNTY, SHOREVIEW, LIND LAKES, STORM SEWER PROTECT (A). Rows include items like ROLLED EROSION PREVENTION, SEEDING, SEED MIXTURE, and PAVEMENT MARKING TAPE.

NOTES:

- (A) 23% SP 002-632-019, 22% SP 002-649-003, 23% SP 062-601-016, 22% SP 062-649-052, 2% SP 167-020-029, 3% SP 167-020-030, 2% SP 210-020-012, 3% SP 210-020-014
(1) NO TREES SHALL BE CLEARED OR GRUBBED WITHOUT THE ENGINEERS APPROVAL
(2) CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF TEMPORARY MAIL SERVICE AND FINAL MAIL BOX PLACEMENT
(3) TO BE USED FOR MINOR DITCH CLEANING AND/OR AS DIRECTED BY THE ENGINEER
(4) TO BE USED FOR SURFACE CLEANING AND/OR AS DIRECTED BY THE ENGINEER
(5) TO BE USED FOR DUST CONTROL AND/OR AS DIRECTED BY THE ENGINEER
(6) SEE TYPICAL SECTIONS FOR DETAILS.
(7) TO BE USED IN PEDESTRIAN RAMPS AND LANDINGS PER MN/DOT STANDARD PLAN 5-297.250
(8) TO BE USED FOR BITUMINOUS TRAILS
(9) INCLUDES QUANTITY FOR CONCRETE WALKS, MEDIANS, AND BOULEVARDS
(10) SEE DETAIL IN TYPICAL SECTIONS
(11) SEE TABULATION FOR COLOR
(12) SALVAGE DETECTION CAMERAS AND SUPPORTING HARDWARE AND APS SYSTEM, DELIVER TO RAMSEY COUNTY. DELIVERY AND COORDINATION THEREOF SHALL BE INCIDENTAL.
(13) TO BE USED UNDER DRIVEWAYS
(14) TO BE USED OUTSIDE OF THE CONSTRUCTION LIMITS IN LANE TRANSITION AREAS TO OBLITERATE CONFLICTING PAVEMENT MARKINGS AND AS REQUIRED BY CONSTRUCTION STAGING.
(15) ITEMS FOR STORMWATER CONTROL.
(16) UNDERGROUND TANKS LOCATED AT BUILDING REMOVAL SITE AS DESCRIBED IN THE PRE-DEMO INSPECTION REPORT
(P) PLAN QUANTITY

TABULATION INDEX table with columns: TAB, SHEET, TABULATION. Rows include A-7 REMOVAL, B-7 BITUMINOUS & AGGREGATE, C-8 CONCRETE, D-9 DRIVEWAY, E-9 MAILBOX SCHEDULE, F-10R EROSION CONTROL & TURF ESTABLISHMENT, G-11 EARTHWORK, G1-47 STAGING AND TRAFFIC CONTROL TABULATION, H-139 SIGN AND DELINEATOR / MARKER, I-141 SIGN TYPE SPECIAL, J-136 DRAINAGE STRUCTURE, K-136 STORM SEWER, L-138 POND, M-148 PAVEMENT MARKING, N-155R LIGHTING.

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\09054-000_est\mnote

Table with columns: NO., DATE, BY, CHK, REVISIONS. Rows show revision history for seed mixture updates and underground tank quantity changes.

Design By: AJP, Checked By: AJP, Approved By: AJP. Includes a signature and date (2/22/2024) and license number (44200).

Logos for WSB and Ramsey County. Text: CSAH 49 at Ramsey County CSAH 1 / Anoka County CSAH 32 Intersection Improvements.

ANOKA & RAMSEY COUNTY, MN STATEMENT OF ESTIMATED QUANTITIES SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET 6R OF 162 SHEETS

PLOTTED/REVISED: 2/1/2024 10:39:32 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\054-000.tbl.dgn

REMOVAL TABULATION														A	
LOCATION	GRUBBING			ADJUST						REMOVE					
				VALVE BOX		FRAME AND RING CASTING		PIPE APRON	DRAINAGE STRUCTURE		LIGHTING UNIT		SEWER PIPE (STORM)		FENCE
	EACH		ACRE	EACH		EACH		EACH	EACH		LIN FT		LIN FT	LIN FT	
	(A)	(B)	(A)	(A)	(B)	(A)	(B)	(B)	(A)	(B)	(A)	(B)	(A)	(A)	(B)
COUNTY RD J															
STA 103+00.00 TO STA 118+00															
STA 122+00 TO STA 128+04.29															
ROUNDAABOUT															
STA 10+00.00 TO STA 12+72.47 (1)															
CSAH 49 (HODGSON RD)															
STA 203+76.46 TO STA 209+00															
STA 212+00 TO STA 226+24.76															
PROJECT SUBTOTAL															
PROJECT TOTAL															
TOTAL SP 002-632-019															
TOTAL SP 002-649-003															
TOTAL SP 062-601-016															
TOTAL SP 062-649-052															
TOTAL SP 167-020-029															
TOTAL SP 167-020-030															
TOTAL SP 210-020-012															
TOTAL SP 210-020-014															

- NOTES:
- REMOVAL OF MISCELLANEOUS SHRUBS SHALL BE INCIDENTAL.
 - SAWING OF EXISTING BITUMINOUS TRAIL AND CONCRETE CURB & GUTTER IS INCIDENTAL

REMOVAL TABULATION											A			
LOCATION	REMOVE										SAWING BIT PAVEMENT (FULL DEPTH) (1)		SAWING CONCRETE PAVEMENT (FULL DEPTH) (1)	
	CONCRETE WALK		CONCRETE DRIVEWAY PAVEMENT		BITUMINOUS WALK		BITUMINOUS DRIVEWAY PAVEMENT		BITUMINOUS PAVEMENT (1)		LIN FT		LIN FT	
	SQ FT		SQ YD		SQ FT		SQ YD		SQ YD		LIN FT		LIN FT	
	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)
COUNTY RD J														
STA 103+00.00 TO STA 118+00														
STA 122+00 TO STA 128+04.29														
ROUNDAABOUT														
STA 10+00.00 TO STA 12+72.47 (1)														
CSAH 49 (HODGSON RD)														
STA 203+76.46 TO STA 209+00														
STA 212+00 TO STA 226+24.76														
PROJECT SUBTOTAL														
PROJECT TOTAL														
TOTAL SP 002-632-019														
TOTAL SP 002-649-003														
TOTAL SP 062-601-016														
TOTAL SP 062-649-052														
TOTAL SP 167-020-029														
TOTAL SP 167-020-030														
TOTAL SP 210-020-012														
TOTAL SP 210-020-014														

- NOTES:
- REMOVAL OF MISCELLANEOUS SHRUBS SHALL BE INCIDENTAL.
 - SAWING OF EXISTING BITUMINOUS TRAIL AND CONCRETE CURB & GUTTER IS INCIDENTAL

GENERAL NOTES

- (1) INCLUDES STA 118+00 TO 122+00 AND STA 209+00 TO STA 212+00

FUNDING GROUP

- (A) 100% ANOKA COUNTY
- (B) 100% RAMSEY COUNTY
- (C) 100% LINO LAKES
- (D) 50% ANOKA COUNTY, 50% LINO LAKES
- (E) 50% RAMSEY COUNTY, 50% SHOREVIEW
- (F) 25% RAMSEY COUNTY, 75% SHOREVIEW

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

QUANTITY TABULATIONS

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
7
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:41:34 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\09054-000.tbl.dgn

BITUMINOUS & AGGREGATE TABULATION																			B
LOCATION	AGGREGATE SURFACING (CV) CLASS 2	AGGREGATE BASE (CV) CLASS 5 (2)						BITUMINOUS MATERIAL FOR TACK COAT			TYPE SP 9.5 WEARING COURSE MIXTURE (2,B)			TYPE SP 12.5 NON-WEAR COURSE MIXTURE (3,B)			TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)		
		CU YD						GALLON			TON			TON			TON		
		(A)	(B)	(C)	(D)	(E)	(F)	(A)	(B)	(C)	(B)	(C)	(E)	(A)	(B)	(C)	(A)	(B)	(C)
COUNTY RD J																			
STA 103+00.00 TO STA 118+00	5	507	543	241	44	65	285	273	90	31	59	76	322	308	101	644	616	202	
STA 122+00 TO STA 128+04.29	5	299	219		18		82	103		39			93	116		185	232		
ROUNDABOUT																			
STA 10+00.00 TO STA 12+72.47(1)		416	306	112	8	10	40	101	4	18	16	10	45	114	5	89	228	9	
CSAH 49 (HODGSON RD)																			
STA 203+76.46 TO STA 209+00			483			11	24	232		73	12		262			524			
STA 212+00 TO STA 226+24.76	31	1038		871	28		372		423		117		420		478	840		956	
SUBTOTAL	41	2260	1551	1224	98	86	779	709	517	161	192	98	880	800	584	1758	1600	1167	
PROJECT TOTAL	41			5273			2005			451			2264			4525			
TOTAL SP 002-632-019	10			1047			387						438			874			
TOTAL SP 002-649-003	31			1262			392						442			884			
TOTAL SP 062-601-016				956			427			119			481			962			
TOTAL SP 062-649-052				651			282			91			319			638			
TOTAL SP 167-020-029				29						8									
TOTAL SP 167-020-030				55						41									
TOTAL SP 210-020-012				943			425			125			480			960			
TOTAL SP 210-020-014				330			92			67			104			207			

NOTES:
 (2) INCLUDES AGGREGATE UNDER BITUMINOUS PAVEMENT, TRAIL, CURB & GUTTER, AND CONCRETE WALK.

BASIS OF QUANTITIES:
 - BITUMINOUS DENSITY: 113 LB/SY/IN
 - TACK COAT BETWEEN BITUMINOUS LIFTS: 0.05 GAL/SY

CONCRETE TABULATION																								C		
LOCATION	CONCRETE PAVEMENT 7.0"			CONCRETE PAVEMENT 7.0" SPECIAL 1 (3)			CONCRETE PAVEMENT 7.0" SPECIAL 2 (8)			DRILL & GROUT REINF BAR (EPOXY COATED)				4" CONCRETE WALK			4" CONCRETE WALK SPECIAL 1 (8)			4" CONCRETE WALK SPECIAL 3 (9)			6" CONCRETE WALK			
	SQ YD			SQ YD			SQ YD			EACH				SQ FT			SQ FT			SQ FT						
	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(E)	(C)	(B)	(C)	(E)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(E)	(C)
COUNTY RD J																										
STA 103+00.00 TO STA 118+00										9	100	22		256	1836	266	266	328	656	656	194					
STA 122+00 TO STA 128+04.29										19						374	374		760	760						
ROUNDABOUT																										
STA 10+00.00 TO STA 12+72.47(1)	454	454	454	107	107	107	142	142	142	6	82		54	1133	1396	224	600	854		294		166	1307	54	739	
CSAH 49 (HODGSON RD)																										
STA 203+76.46 TO STA 209+00										8							748			988			202	126		
STA 212+00 TO STA 226+24.76												46		2402			984			2168					867	
SUBTOTAL	454	454	454	107	107	107	142	142	142	6	118	100	122	1133	4054	1836	864	1988	2166	1416	2698	2362	166	1943	564	1952
PROJECT TOTAL	1362			321			426			346				5018			6476			4625						
TOTAL SP 002-632-019	227			54			71			3							752			1416			83			
TOTAL SP 002-649-003	227			53			71			3							112						83			
TOTAL SP 062-601-016	227			54			71			119			1485			940			1563			1293				
TOTAL SP 062-649-052	227			53			71			49			566			1048			1135			932				
TOTAL SP 167-020-029																						76				
TOTAL SP 167-020-030										50			918									206				
TOTAL SP 210-020-012	227			53			71			73			3100			1411			2168			1236				
TOTAL SP 210-020-014	227			54			71			49			954			755			194			716				

NOTES:
 (3) CONCRETE COLOR SHALL BE INTEGRAL BROWN (FS 10129), STAMPED BUTTERFIELD FIELDSTONE OR APPROVED EQUAL
 (8) CONCRETE COLOR SHALL BE INTEGRAL BROWN (FS 10129), BROOM FINISHED
 (9) CONCRETE COLOR SHALL BE INTEGRAL TAN (FS 26405), BROOM FINISHED

GENERAL NOTES
 (1) INCLUDES STA 118+00 TO 122+00 AND STA 209+00 TO STA 212+00

FUNDING GROUP
 (A) 100% ANOKA COUNTY
 (B) 100% RAMSEY COUNTY
 (C) 100% LINO LAKES
 (D) 50% ANOKA COUNTY, 50% LINO LAKES
 (E) 50% RAMSEY COUNTY, 50% SHOREVIEW
 (F) 25% RAMSEY COUNTY, 75% SHOREVIEW

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

QUANTITY TABULATIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
8
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:41:35 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\CadPlan\054-000_tub.dgn

CONCRETE TABULATION																						C	
LOCATION	CONCRETE CURB & GUTTER DESIGN																						
	B418 (MOD)			B424					B618	B624				R418			D424	SURMOUNTABLE CURB & GUTTER (4)		TRUNCATED DOMES			
	LIN FT			LIN FT					LIN FT	LIN FT				LIN FT			LIN FT	LIN FT		SQ FT			
	(A)	(B)	(C)	(A)	(B)	(D)	(F)	(C)	(C)	(B)	(D)	(F)	(C)	(A)	(B)	(C)	(B)	(B)	(D)	(A)	(B)	(E)	(C)
COUNTY RD J																							
STA 103+00.00 TO STA 118+00	66	166	501						33	1266	1001		479				67	53	80		32	76	68
STA 122+00 TO STA 128+04.29	336	336								21	444	527								68			
ROUNDABOUT																							
STA 10+00.00 TO STA 12+72.47(1)	428	542		58	118	16	62	68		116	139	120	115	86	86	86				32	128		96
CSAH 49 (HODGSON RD)																							
STA 203+76.46 TO STA 209+00		347			572		580														16		
STA 212+00 TO STA 226+24.76	865				678		1297	273															88
SUBTOTAL	1695	1391	501	58	690	694	642	1365	306	1403	1584	647	594	86	86	86	67	53	80	32	244	76	252
PROJECT TOTAL	3587			3449					306	4228				258			67	133		604			
TOTAL SP 002-632-019	616			33						758				44				40		16			
TOTAL SP 002-649-003	1079			372						34				43						16			
TOTAL SP 062-601-016	773			66						1491				44			67	53		202			
TOTAL SP 062-649-052	618			784						73				43						80			
TOTAL SP 167-020-029				458						45													
TOTAL SP 167-020-030				24						441										38			
TOTAL SP 210-020-012				1674					273	91				43						136			
TOTAL SP 210-020-014	501			38					33	1295				44				40		116			

NOTES:
(4) SEE SHEET 17 FOR DETAILS.

DRIVEWAY TABULATION										D
ALIGNMENT	STA	LT/RT	HOUSE NO.	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)		6" CONCRETE DRIVEWAY PAVEMENT (5)		AGGREGATE SURFACING (CV) CLASS 2 (6)	AGGREGATE BASE (CV) CLASS 5	
				TON		SQ YD		CU YD	CU YD	
				(A)	(B)	(A)	(B)	(A)	(A)	(B)
COUNTY RD J WB	1106+76	LT	185			43			5	
COUNTY RD J WB	1107+75	LT	205			32			4	
COUNTY RD J WB	1108+08	LT	215			8		2	1	
COUNTY RD J WB	1108+81	LT	215			7		2	1	
COUNTY RD J WB	1109+33	LT	215			7		2	1	
COUNTY RD J WB	1110+02	LT	225	6					6	
COUNTY RD J WB	1110+69	LT	245			49			6	
COUNTY RD J EB	108+33	RT	726				40			5
COUNTY RD J EB	109+09	RT	720		3		9			4
COUNTY RD J EB	109+90	RT	714		2		8			3
COUNTY RD J EB	110+72	RT	706		3		8			4
COUNTY RD J EB	111+44	RT	700				23			3
COUNTY RD J EB	112+26	RT	692		4		9			5
COUNTY RD J EB	113+06	RT	684		3		8			4
COUNTY RD J EB	113+91	RT	676		4		10			5
ST ALBANS ST SW QUAD	3300+67	RT	668				31			4
HODGSON RD NB	231+15	RT	6020			91			11	
HODGSON RD NB	220+15	RT	6064	7					7	
HODGSON RD NB	222+35	RT	6074	19					18	
HODGSON RD NB	225+66	RT	6110	6					6	
SUBTOTAL				38	19	237	146	6	66	37
PROJECT TOTAL				57		383		6	103	
TOTAL SP 002-632-019				6		146		6	24	
TOTAL SP 002-649-003				32		91			42	
TOTAL SP 062-601-016				19		146			37	
TOTAL SP 062-649-052										
TOTAL SP 167-020-029										
TOTAL SP 167-020-030										
TOTAL SP 210-020-012										
TOTAL SP 210-020-014										

NOTES:
(5) HIGH EARLY, INCIDENTAL
(6) 6" DEPTH FOR AGGREGATE SURFACING ON DRIVEWAYS.

BASIS OF QUANTITIES:
- BITUMINOUS DENSITY: 113 LB/SYIN

GENERAL NOTES

① INCLUDES STA 118+00 TO 122+00 AND STA 209+00 TO STA 212+00

FUNDING GROUP

(A) 100% ANOKA COUNTY
(B) 100% RAMSEY COUNTY
(C) 100% LINO LAKES
(D) 50% ANOKA COUNTY, 50% LINO LAKES
(E) 50% RAMSEY COUNTY, 50% SHOREVIEW
(F) 25% RAMSEY COUNTY, 75% SHOREVIEW

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

PLOTTED/REVISED: 2/19/2024 12:04 PM

MAILBOX REPLACEMENT SCHEDULE											E		
HOUSE NUMBER	STREET	EXISTING SIDE OF ROAD	PROPOSED SIDE OF ROAD	MAILBOX					SUPPORT				
				NON CONFORMING	SALVAGE EXISTING	SALVAGE AND RETURN TO OWNER	FURNISH & INSTALL NEW	INSTALL OLD	NON CONFORMING	SALVAGE AND RETURN TO OWNER	DISPOSE OF EXISTING	F&I NEW PER MNDOT STD PLATE 9350B	F&I NEW VERTICAL BREAKAWAY SUPPORT (7)
185	COUNTY RD J	LT	LT		X			X	X	X		X	
205	COUNTY RD J	LT	LT		X			X	X	X		X	
215	COUNTY RD J	LT	LT		X			X	X	X		X	
225	COUNTY RD J	LT	LT	X		X	X		X	X		X	
245	COUNTY RD J	LT	LT		X			X			X	X	
255	COUNTY RD J	LT	LT		X			X	X	X		X	
726	COUNTY RD J	RT	RT		X			X	X	X			X
720	COUNTY RD J	RT	RT	X		X	X		X	X			X
714	COUNTY RD J	RT	RT		X			X			X		X
706	COUNTY RD J	RT	RT	X		X	X		X	X			X
700	COUNTY RD J	RT	RT		X			X			X		X
692	COUNTY RD J	RT	RT		X			X	X	X			X
684	COUNTY RD J	RT	RT	X		X	X		X	X			X
676	COUNTY RD J	RT	RT		X			X	X	X			X
668	COUNTY RD J	RT	RT		X			X	X	X			X
564	COUNTY RD J	RT	RT	X		X	X		X	X		X	
6020	HODGSON RD	RT	RT		X			X	X	X		X	
6074	HODGSON RD	RT	RT		X			X			X	X	
6110	HODGSON RD	RT	RT		X			X			X	X	

ITEM NO.	DESCRIPTION	FUNDING GROUP			TOTAL
		SP 002-632-019	SP 002-649-003	SP 062-601-016	
2104.502	REMOVE MAIL BOX SUPPORT	1	2	2	5
2104.502	SALVAGE MAIL BOX SUPPORT	5	1	8	14
2104.602	SALVAGE MAIL BOX	5	3	6	14
2540.602	INSTALL MAIL BOX	5	3	6	14
2540.602	MAIL BOX	1		4	5
2540.602	MAIL BOX SUPPORT	6	3	1	10
2541.602	MAIL BOX SUPPORT (VERTICAL BREAKAWAY)			9	9

NOTES:

- SALVAGE AND REINSTALL CONFORMING MAILBOX SUPPORTS PER SCHEDULE. SALVAGE AND REINSTALL NEWSPAPER BOXES AS NECESSARY TO RESTORE TO PRECONSTRUCTION CONDITIONS.
- MAILBOX SUPPORTS AND MAILBOXES REMOVED SHALL BE OFFERED TO THE HOMEOWNER. IF THE HOMEOWNER DOES NOT DESIRE TO KEEP NON-CONFORMING SUPPORT AND MAILBOX THE CONTRACTOR SHALL DISPOSE OF IT OFF SITE. IF THE HOMEOWNER DESIRES TO HAVE THE EXISTING MAILBOX INSTALLED ON THE NEW SUPPORT, THE CONTRACTOR SHALL INSTALL IT ACCORDINGLY. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO SUPPORT INSTALLATION.
- SALVAGE NEWSPAPER BOXES/TUBES AND REINSTALL PER MNDOT STD PLATE 3650B AND PER SPECIFICATIONS.
- THE CONTRACTOR SHALL INSTALL TEMPORARY MAILBOX BANKS AT LOCATIONS DESIGNATED BY THE POST MASTER TO FACILITATE CONSTRUCTION OPERATIONS, INCIDENTAL.
- (7) VERTICAL BREAKAWAY SUPPORT SHALL BE PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\054-000.tbl

EROSION CONTROL & TURF ESTABLISHMENT TABULATION																			F							
LOCATION	ROLLED EROSION PREVENTION CATEGORY 20		SEEDING		SOIL BED PREPARATION		SEED MIXTURE					FERTILIZER TYPE 3		FERTILIZER TYPE 4	SILT FENCE, TYPE MS		SEDIMENT CONTROL LOG TYPE COMPOST		STORM DRAIN INLET PROTECTION		CULVERT END CONTROLS					
	SQ YD		ACRE		ACRE		25-131		22-111		25-121		25-151		SPECIAL	POUND		POUND	LIN FT		LIN FT		EACH		EACH	
	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	
COUNTY RD J																										
STA 103+00.00 TO STA 118+00.00	3966	1943	0.8	0.4	0.8	0.4	27	11	12	6			33	18		274	135			1160			6	6		
STA 122+00.00 TO STA 128+04.29	4086	1059	0.5	0.3	0.5	0.3	54	22	8	4				1	12	172	74	111		512			2	1		
ROUNDABOUT																										
STA 10+00.00 TO STA 12+72.47(1)	3746	1511	0.6	0.3	0.6	0.3	56	28	9	5	2	2			7	193	105	66		386	82	82	8	5	1	
CSAH 49 (HODGSON RD)																										
STA 203+76.46 TO STA 209+00.00		3485		0.7		0.7		5		11							241			1140						2
STA 212+00.00 TO STA 226+24.76	13262		2.7		2.7		192		40		22		11			916				648	126		12			
SUBTOTAL	25060	7998	4.6	1.7	4.6	1.7	329	66	69	26	24	2	44	58	19	1555	555	177	648	3198	208	82	28	20	1	2
PROJECT TOTAL	33058		6.3		6.3		395	95	26		102		19		19	2110	177		3846		290		48		3	
TOTAL SP 002-632-019	9925		1.6		1.6		109	25	1		33		16		16	543	144			41		12			1	
TOTAL SP 002-649-003	15135		3.0		3.0		220	44	23		11		3		3	1012	33		648		167		16			
TOTAL SP 062-601-016	3758		0.9		0.9		47	13	1		19					262			1865		41		10			
TOTAL SP 062-649-052	4240		0.8		0.8		19	13	1		39					293			1333		41		10			2
TOTAL SP 167-020-029																										
TOTAL SP 167-020-030																										
TOTAL SP 210-020-012																										
TOTAL SP 210-020-014																										

GENERAL NOTES:
- SEE SHEET 159R FOR BASIS OF QUANTITIES.

FUNDING GROUP

- (A) 100% ANOKA COUNTY
- (B) 100% RAMSEY COUNTY
- (C) 100% LINO LAKES
- (D) 50% ANOKA COUNTY, 50% LINO LAKES
- (E) 50% RAMSEY COUNTY, 50% SHOREVIEW
- (F) 25% RAMSEY COUNTY, 75% SHOREVIEW

GENERAL NOTES

- ① INCLUDES STA 118+00 TO 122+00 AND STA 209+00 TO STA 212+00

NO.	DATE	BY	CHK	REVISIONS
1	2024/02/19	AJF	AJP	UPDATED SEED MIXTURE

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/19/2024 LICENSE #: 44200






**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

QUANTITY TABULATIONS

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **10R** OF **162** SHEETS

PLOTTED/REVISED: 2/1/2024 9:41:36 AM

WSB PATH & FILENAME: Projects\Mnstate\09054-000\Cad\Plan\09054-000.tbl.dgn

EARTHWORK TABULATION				G		
STA.	-	STA.	EXCAVATION COMMON CU YD (EV)	EXCAVATION SUBGRADE CU YD (EV)	COMMON EMBANKMENT CU YD (CV)	SELECT GRANULAR EMBANKMENT CU YD (CV)
COUNTY RD J						
106+75	-	107+00	45	59	12	59
107+00	-	107+50	84	118	24	118
107+50	-	107+73	41	54	8	54
107+73	-	108+00	50	64	10	64
108+00	-	108+07	13	16	3	16
108+07	-	108+32	56	59	6	59
108+32	-	108+50	41	42	7	42
108+50	-	108+80	61	71	14	71
108+80	-	109+00	41	47	7	47
109+00	-	109+10	21	24	2	24
109+10	-	109+33	42	54	9	54
109+33	-	109+50	28	40	8	40
109+50	-	109+88	60	89	15	89
109+88	-	110+00	19	28	5	28
110+00	-	110+50	77	118	24	118
110+50	-	110+72	30	52	9	52
110+72	-	111+00	38	66	13	66
111+00	-	111+45	58	108	22	108
111+45	-	111+50	6	12	2	12
111+50	-	111+69	29	46	7	46
111+69	-	112+00	43	76	16	76
112+00	-	112+20	23	49	15	49
112+20	-	112+50	42	74	34	74
112+50	-	113+00	73	125	57	125
113+00	-	113+08	12	20	7	20
113+08	-	113+50	64	109	42	109
113+50	-	113+90	66	105	39	105
113+90	-	114+50	107	158	52	158
114+50	-	115+00	86	119	45	119
115+00	-	115+17	35	36	11	36
115+17	-	115+50	96	87	20	87
115+50	-	116+00	169	152	39	152
116+00	-	116+50	159	147	38	147
116+50	-	117+00	142	135	43	135
117+00	-	117+50	155	114	49	114
117+50	-	118+00	181	104	46	104
118+00	-	118+50	221	105	32	105
118+50	-	118+70	95	43	7	43
118+70	-	119+00	128	66	6	66
119+00	-	121+00	693	447	133	447
121+00	-	121+50	158	108	40	108
121+50	-	122+00	177	103	13	103
122+00	-	122+50	175	103	16	103
122+50	-	123+00	146	103	30	103
123+00	-	123+50	123	103	38	103
123+50	-	124+00	111	103	41	103
124+00	-	124+50	107	103	42	103
124+50	-	125+00	105	103	45	103
125+00	-	125+50	109	105	48	105
125+50	-	125+60	23	21	9	21
125+60	-	126+00	85	80	32	80
126+00	-	126+50	97	97	32	97
COUNTY RD J TOTAL						
50% SP 002-632-012			4846	4570	1324	4570
50% SP 062-601-016						

EARTHWORK TABULATION				G		
STA.	-	STA.	EXCAVATION COMMON CU YD (EV)	EXCAVATION SUBGRADE CU YD (EV)	COMMON EMBANKMENT CU YD (CV)	SELECT GRANULAR EMBANKMENT CU YD (CV)
HODGSON RD						
204+00	-	204+50	85	101	106	101
204+50	-	205+00	84	103	127	103
205+00	-	205+50	90	105	76	105
205+50	-	206+00	114	104	73	104
206+00	-	206+50	135	103	89	103
206+50	-	207+00	132	103	94	103
207+00	-	207+50	117	102	115	103
207+50	-	208+00	96	103	77	103
208+00	-	208+50	89	99	90	112
208+50	-	209+00	81	99	148	121
209+00	-	209+26	37	55	81	63
209+26	-	209+50	41	56	72	61
SP 062-649-052 SUBTOTAL			1101	1133	1148	1182
ROUNDABOUT			846	554	506	578
50% SP 002-649-003						
50% SP 062-649-052			846	554	506	578
SUBTOTAL						
212+00	-	212+50	270	104	53	104
212+50	-	213+00	314	105	50	105
213+00	-	213+15	102	31	12	31
213+15	-	213+50	234	72	26	72
213+50	-	214+00	300	103	38	103
214+00	-	214+50	267	103	36	103
214+50	-	215+00	200	103	36	103
215+00	-	215+30	96	62	16	62
215+30	-	215+50	61	48	7	48
215+50	-	216+00	159	133	24	133
216+00	-	216+50	199	138	33	138
216+50	-	217+00	206	148	38	150
217+00	-	217+50	183	146	37	150
217+50	-	218+00	169	146	37	150
218+00	-	218+50	171	148	38	149
218+50	-	219+00	198	143	42	144
219+00	-	219+50	226	133	48	133
219+50	-	220+00	264	127	53	127
220+00	-	220+50	281	126	49	126
220+50	-	221+00	289	126	33	126
221+00	-	221+50	289	138	31	138
221+50	-	222+00	248	150	36	150
222+00	-	222+35	143	108	16	108
222+35	-	222+50	50	48	3	48
222+50	-	223+00	114	151	13	153
223+00	-	223+50	73	135	18	138
223+50	-	224+00	68	120	24	128
224+00	-	224+50	67	110	29	128
224+50	-	225+00	70	110	26	123
225+00	-	225+50	72	112	23	113
225+50	-	225+70	35	45	8	46
225+70	-	226+00	56	65	13	67
226+00	-	226+50	97	99	18	109
226+50	-	227+00	92	101	19	109
227+00	-	227+50	71	104	28	105
SP 002-649-003 SUBTOTAL			5734	3841	1011	3920
HODGSON RD TOTAL			7681	5528	2665	5680
PROJECT TOTAL			12527	10098	3989	10250

FUNDING GROUP	EXCAVATION COMMON	EXCAVATION SUBGRADE	COMMON EMBANKMENT	SELECT GRANULAR EMBANKMENT
SUBTOTAL SP 002-632-019	2423	2285	662	2285
SUBTOTAL SP 002-649-003	6157	4118	1264	4209
SUBTOTAL SP 062-601-016	2423	2285	662	2285
SUBTOTAL SP 062-649-052	1524	1410	1401	1471

- FUNDING GROUP**
- (A) 100% ANOKA COUNTY
 - (B) 100% RAMSEY COUNTY
 - (C) 100% LINO LAKES
 - (D) 50% ANOKA COUNTY, 50% LINO LAKES
 - (E) 50% RAMSEY COUNTY, 50% SHOREVIEW
 - (F) 25% RAMSEY COUNTY, 75% SHOREVIEW

- NOTES**
- THE EXCAVATION - COMMON QUANTITY INCLUDES TOPSOIL STRIPPING.
 - EXISTING PAVEMENT DEPTHS ARE ASSUMED TO BE APPROXIMATELY AS FOLLOWS:
COUNTY RD J - 6"
HODGSON RD - 6"
PAVEMENT REMOVAL HAS BEEN SUBTRACTED FROM THE COMMON EXCAVATION AND/OR SUBGRADE EXCAVATION QUANTITIES.
 - TOPSOIL IS INCLUDED IN COMMON EMBANKMENT.
 - PLACING, HAULING, AND DISPOSING OF EXCAVATED MATERIALS IS CONSIDERED INCIDENTAL.
 - ALL STOCKPILE AREAS SHALL BE APPROVED BY THE ENGINEER.
 - SOILS NOT USED ON THE PROJECT SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE OF THE RIGHT OF WAY. NO DIRECT COMPENSATION WILL BE PAID FOR THE PREPARATION OF AN ACCEPTABLE DISPOSAL PLAN OR FOR OFF-PROJECT DISPOSAL OF MATERIALS. DISPOSAL SITES SHALL BE LEFT IN A WELL GRADED CONDITION WITH ALL SOLID WASTES AND BOULDERS ADEQUATELY COVERED.
 - UNLESS DIRECTED OTHERWISE BY THE PROJECT ENGINEER, ANY MATERIAL THAT IS FOUND TO BE UNNECESSARY FOR THE CONSTRUCTION OF THE ROADWAY EMBANKMENT AND DISPOSAL OF THE SAME BECOMES NECESSARY, ON OR OFF THE PROJECT, THE DISPOSAL AND ALL RELATED ITEMS WILL BE CONSIDERED INCIDENTAL.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

SOILS AND CONSTRUCTION NOTES

1. TOP OF THE GRADING GRADE IS DEFINED AS THE BOTTOM OF THE PROPOSED CLASS 5 AGGREGATE BASE.
2. TEST ROLLING OF THE SUBGRADE WILL BE REQUIRED AS SPECIFIED BY 2111.2 (INCIDENTAL).
3. WHERE CONNECTING TO IN-PLACE ROADWAYS AT THE TERMINI OF PROPOSED NEW CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE IN-PLACE SURFACING, THEN AT A 1(V):20(H) TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
4. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF PRIVATE UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF PRIVATE UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR WILL CALL GOPHER STATE ONE CALL A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION.
5. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE AS DEPICTED ON THE CROSS SECTIONS. THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.
6. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER (INCIDENTAL).
7. OBTAIN COMPACTION OF THE GRADING AND AGGREGATE PORTIONS OF CONSTRUCTION IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD" REQUIREMENTS AS INDICATED IN 2211.
8. NO EXTRA PAYMENT WILL BE MADE FOR MOVING, PLACING, OR TEMPORARY STOCKPILING OF EXCAVATION AND/OR EMBANKMENT MATERIAL.
9. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND MAY BE RECYCLED OR DISPOSED OF OFF THE RIGHT OF WAY.
10. PROVIDE A UNIFORM TACK COAT AS DOCUMENTED IN THE MOST CURRENT SPEC. 2357 - BITUMINOUS TACK COAT REQUIREMENTS
11. PIPE SEWERS CONNECTING MANHOLES AND CATCH BASINS SHALL BE IN ACCORDANCE WITH SPEC. 2503. BEDDING AND BACKFILL SHALL CONSIST OF UNIFORM COMMON EMBANKMENT MATCHING ADJACENT SOILS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
12. TEMPORARY EROSION CONTROL - TEMPORARY EROSION CONTROL DEVICES AND THEIR SUGGESTED LOCATIONS HAVE BEEN SHOWN IN THE PLANS ALONG WITH PAY ITEMS FOR THEIR USE. THIS DOES NOT HOWEVER RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITIES TO CONDUCT THEIR CONSTRUCTION IN A MANNER THAT WILL CONTROL EROSION. RESPONSIBILITY FOR CONTROLLING EROSION AND MAINTENANCE OF EROSION CONTROL AS SET IN MNDOT SPECIFICATIONS 1717, 1803, 2101, 2106, 2573, 2575, AND IS AMENDED BY THE SPECIAL PROVISIONS.
13. 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.
14. EXCESS GRANULAR MATERIAL MUST BE DEEMED EXCESS BY THE ENGINEER BEFORE REMOVAL FROM THE PROJECT.
15. NO OVER-EXCAVATION WILL BE ALLOWED ON THIS PROJECT.
16. OBTAIN COMPACTION ON ALL BITUMINOUS PORTIONS OF CONSTRUCTION IN ACCORDANCE WITH THE "MAXIMUM DENSITY METHOD" REQUIREMENTS.
17. BITUMINOUS MATERIAL MUST BE REMOVED FROM THE PROJECT AND CANNOT BE USED AS EMBANKMENT.

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT	
MNDOT STANDARD PLATES	
PLATE NO.	DESCRIPTION
1070N	SUPPLEMENTAL PAVEMENT REINFORCEMENT
1103L	TYPICAL DOWEL BAR ASSEMBLY (2 SHEETS)
3000M	REINFORCED CONCRETE PIPE (6 SHEETS)
3006H	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007F	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133D	RIPRAP AT RCP OUTLETS
3145G	CONCRETE PIPE OR PRECAST BOX CULVERT TIES
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4026B	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4108F	ADJUSTING RINGS FOR CATCH BASINS AND MANHOLES
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) - CASTING NO. 715 AND 716
4143E	STOOL GRATE & CONCRETE FRAME (MEDIAN DRAINS) - CASTING NO. 731
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816
4160D	CURB BOX CASTING FOR CATCH BASIN - CASTING NO. 823A AND 833A
4180J	MANHOLE OR CATCH BASIN STEP
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
7102K	CONCRETE CURB AND GUTTER (DESIGN D, DESIGN S, AND DESIGN R)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7113A	CONCRETE APPROACH NOSE DETAIL
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)
8106D	EQUIPMENT PAD B (3 SHEETS)
8127E	LIGHT FOUNDATION - DESIGN E PRECAST/CAST-IN-PLACE (40 FT. POLE OR LESS) (2 SHEETS)
8129A	SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING)
8150C	INSTALLATION OF CULVERT MARKERS
9350C	MAILBOX SUPPORT - SWING-AWAY TYPE (3 SHEETS)

PLOTTED/REVISED: 2/1/2024 9:41:39 AM

WSB PATH & FILENAME: Projects\Minnesota\09\054-000\Cad\Plan\054-000.dwg

NO.	DATE	BY	CHK	REVISIONS

Design By:	AJP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: <u>ANDREW J. FLOWMAN</u> DATE: <u>2/1/2024</u> LICENSE # <u>44200</u>
Plan By:	AJF	
Checked By:	AJP	
Approved By:	AJP	

ANOKA COUNTY

RAMSEY COUNTY

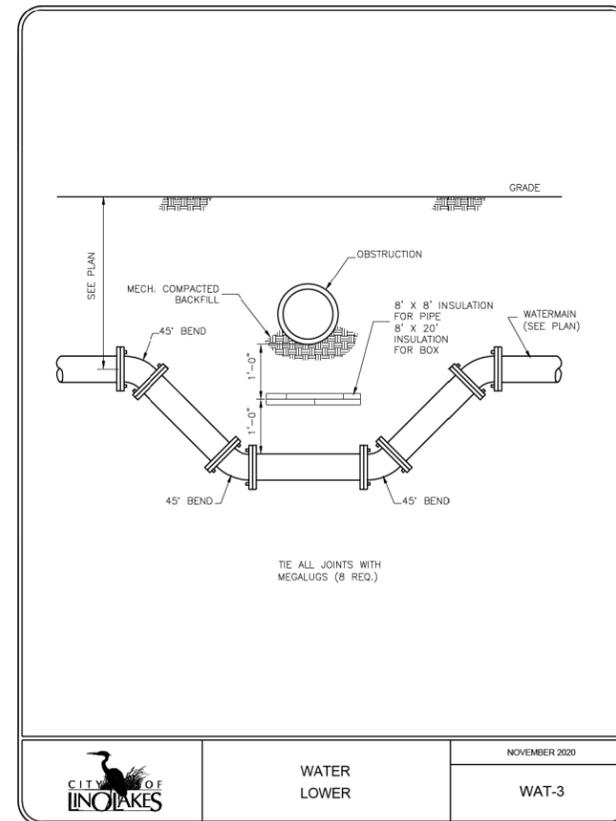
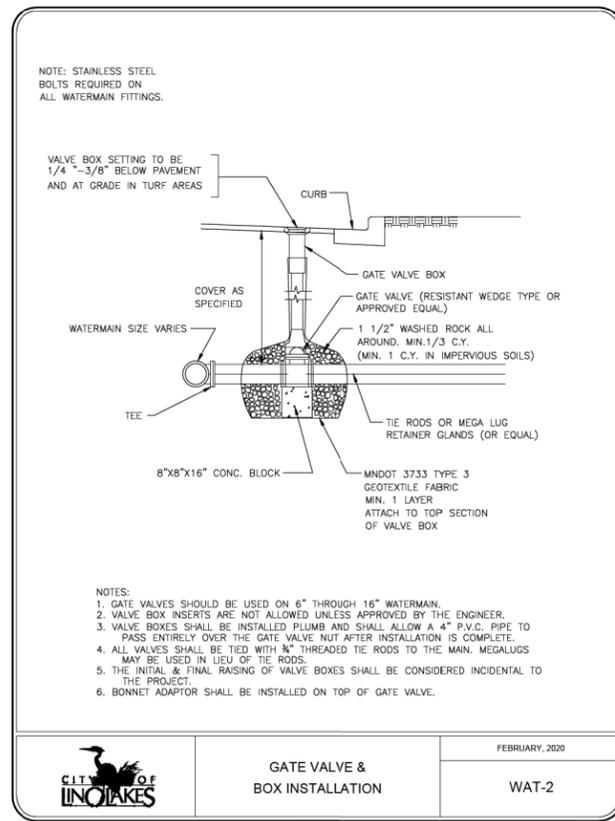
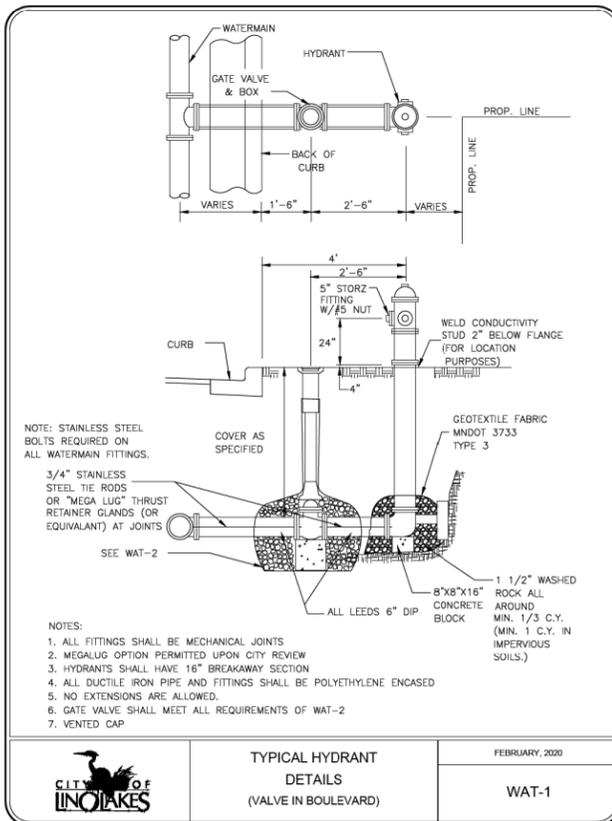
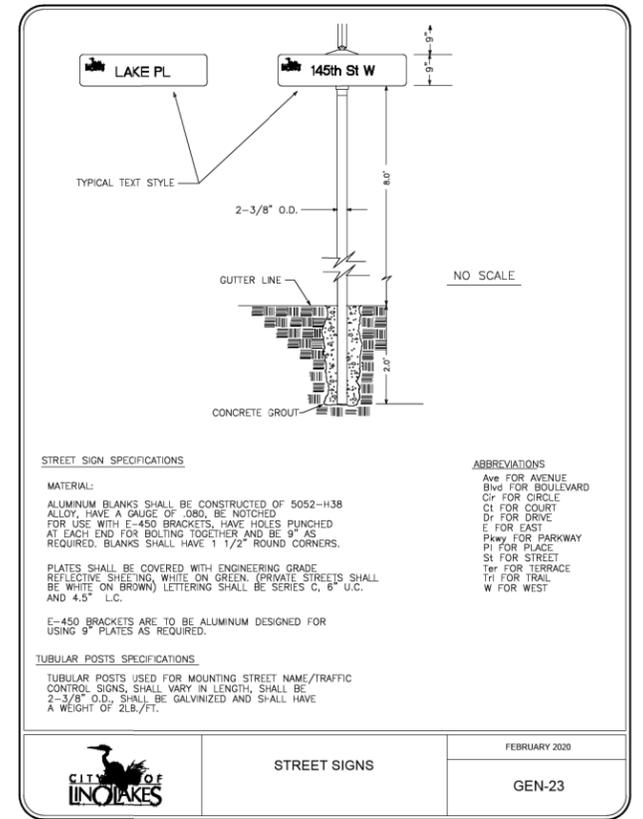
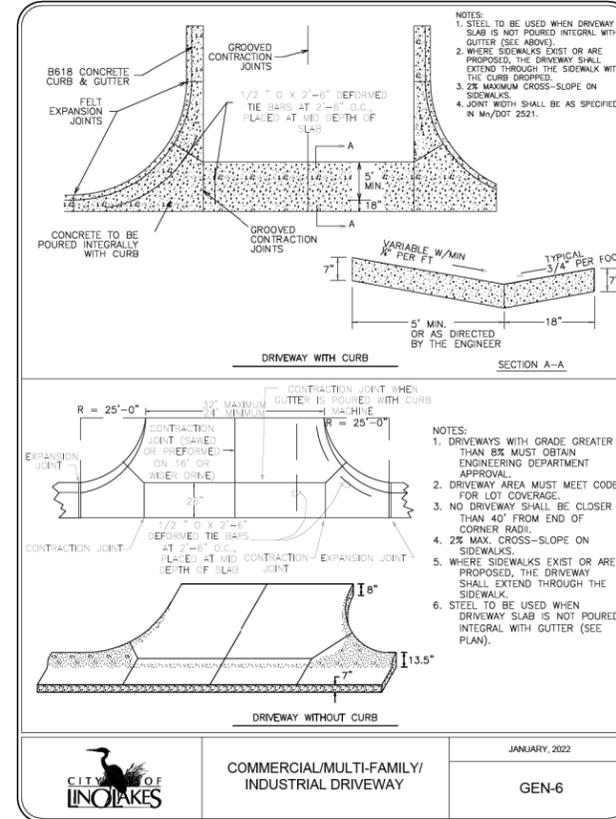
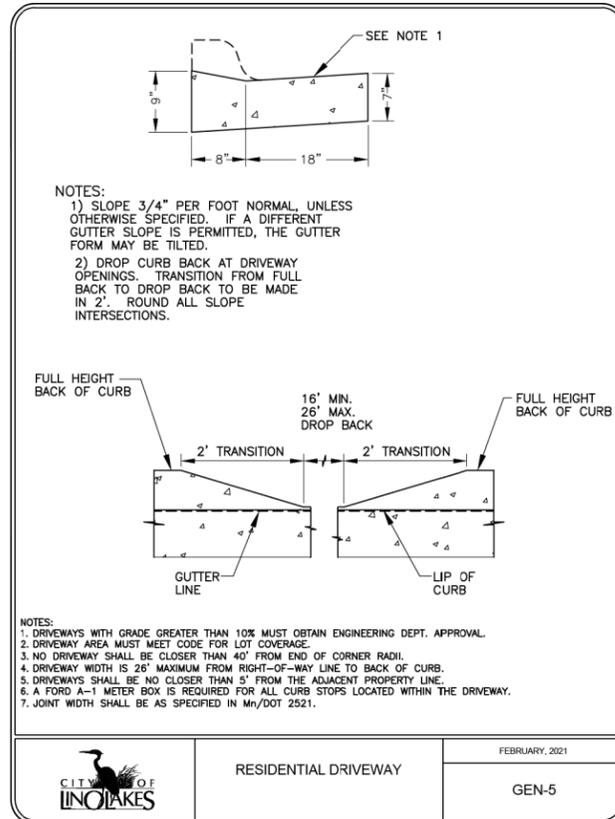
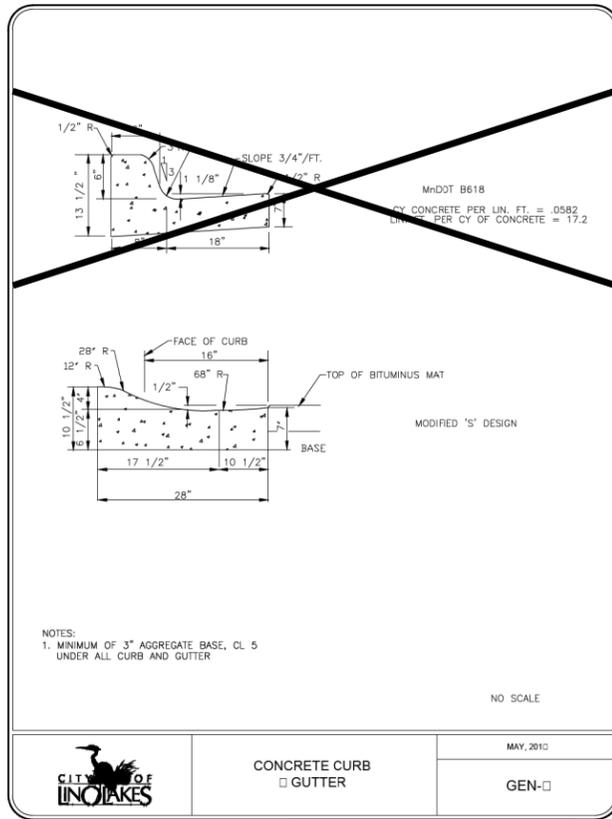
**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

**SOILS AND CONSTRUCTION NOTES
MnDOT STANDARD PLATES**

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
12
OF
162
SHEETS



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

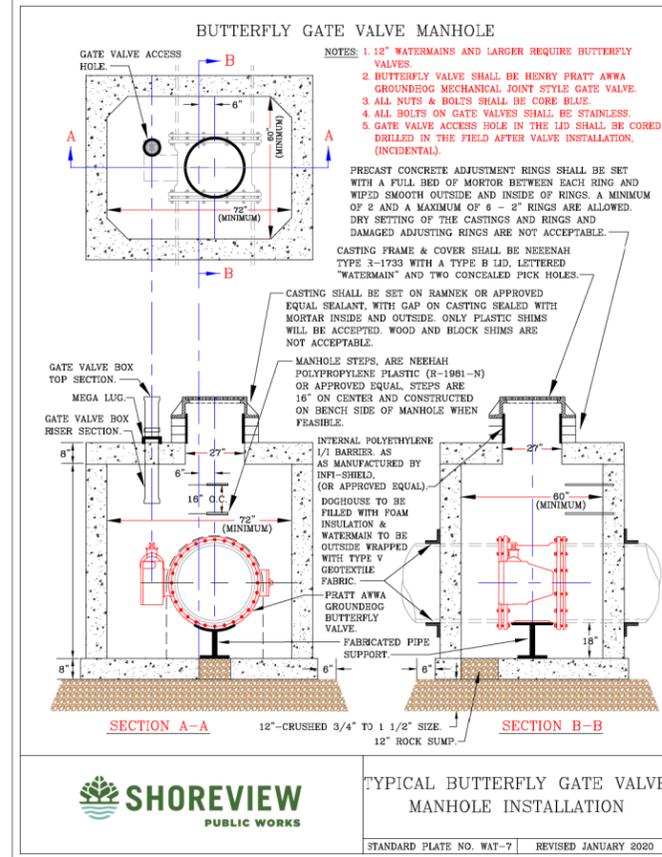
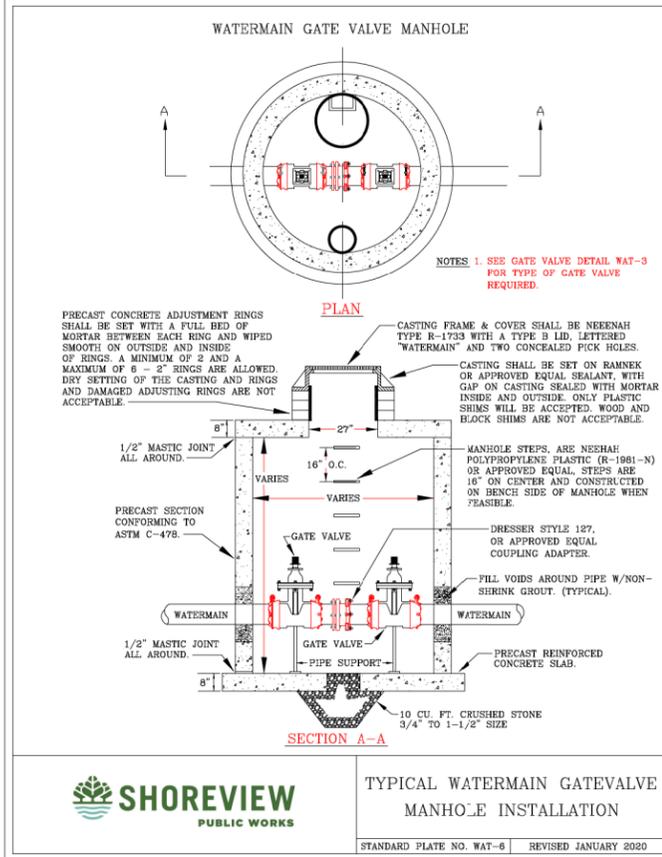
PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

CITY OF LINO LAKES
STANDARD PLATES
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **13** OF **162** SHEETS



NO.	DATE	BY	CHK	REVISIONS

Design By:	AJP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Plan By:	AJF	
Checked By:	AJP	
Approved By:	AJP	

PRINT NAME: **ANDREW J. FLOWMAN**

DATE: **2/1/2024** LICENSE #: **44200**



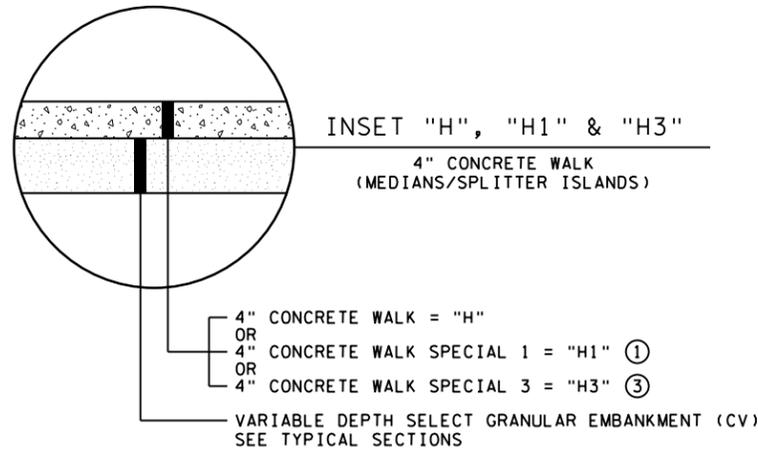
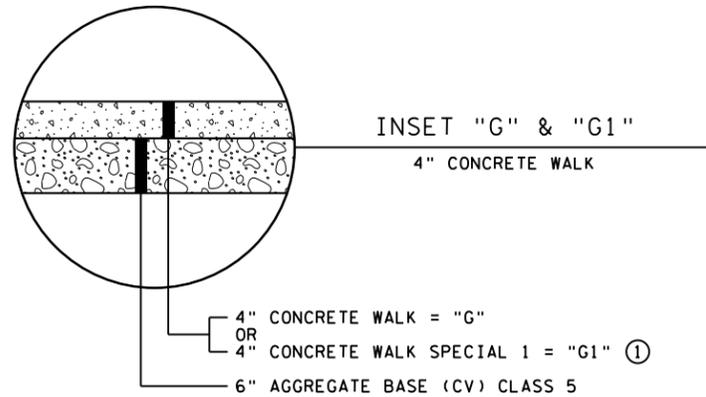
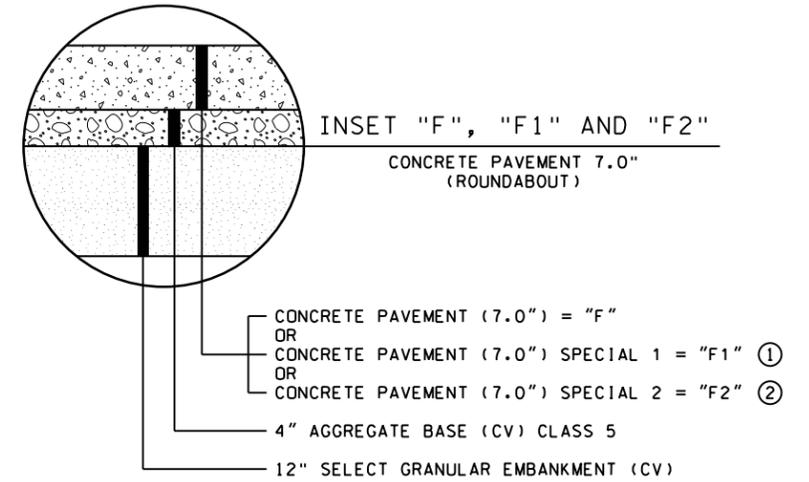
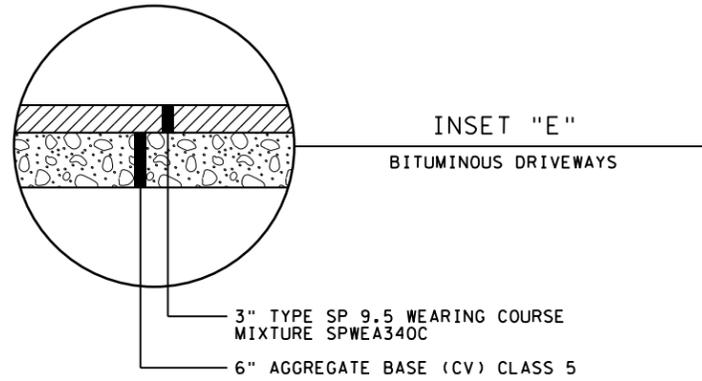
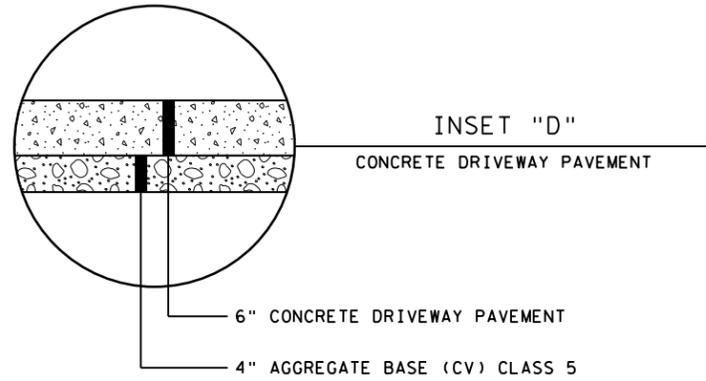
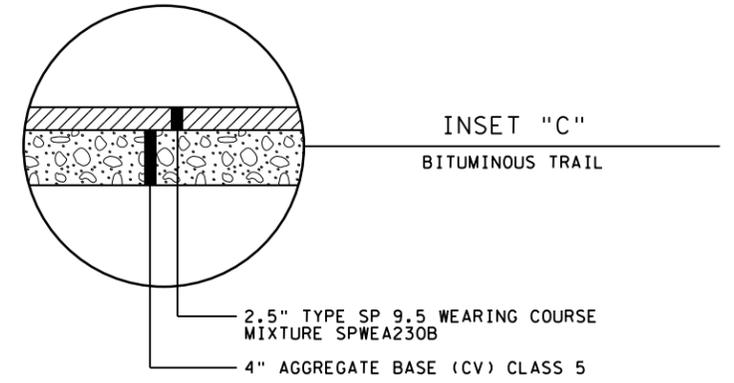
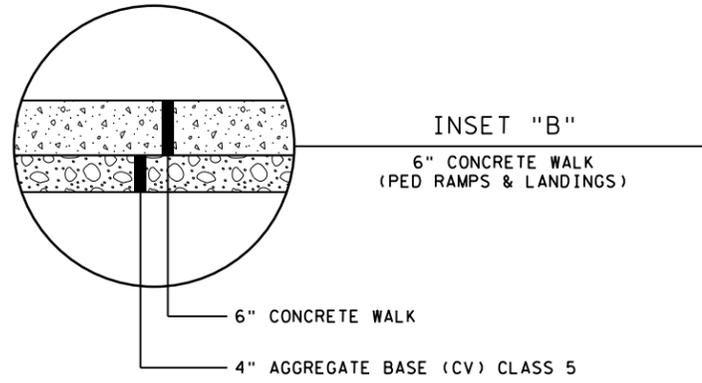
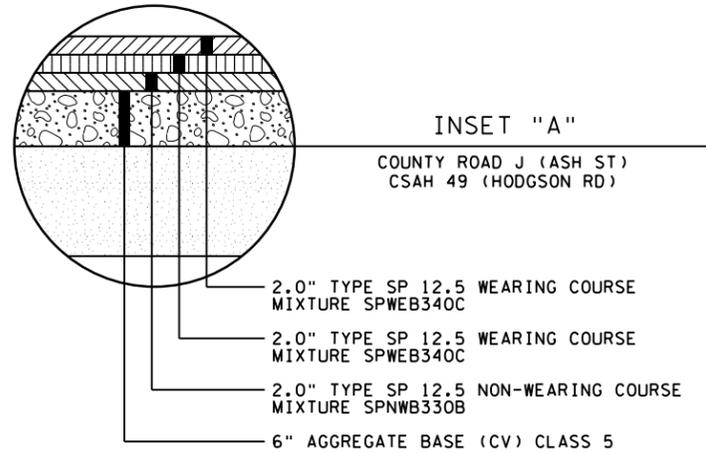
**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

CITY OF SHOREVIEW
STANDARD PLATES

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
15
OF
162
SHEETS



- NOTES:**
- ① CONCRETE COLOR SHALL BE INTEGRAL BROWN (FS 10129), STAMPED BUTTERFIELD FIELDSTONE OR APPROVED EQUAL
 - ② CONCRETE COLOR SHALL BE INTEGRAL BROWN (FS 10129), BROOM FINISHED
 - ③ CONCRETE COLOR SHALL BE INTEGRAL TAN (FS 26405), BROOM FINISHED

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
Plan By: AJF
Checked By: AJP
Approved By: AJP

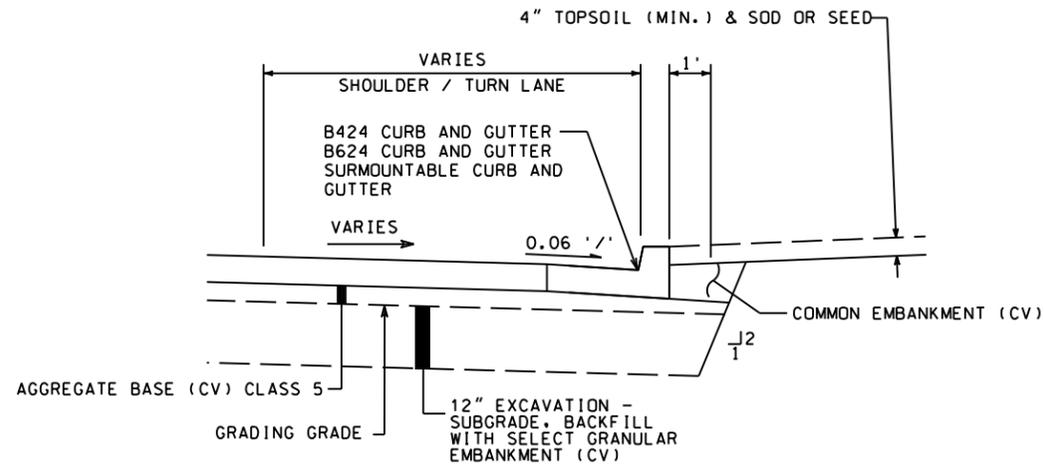
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: **ANDREW J. FLOWMAN**
DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

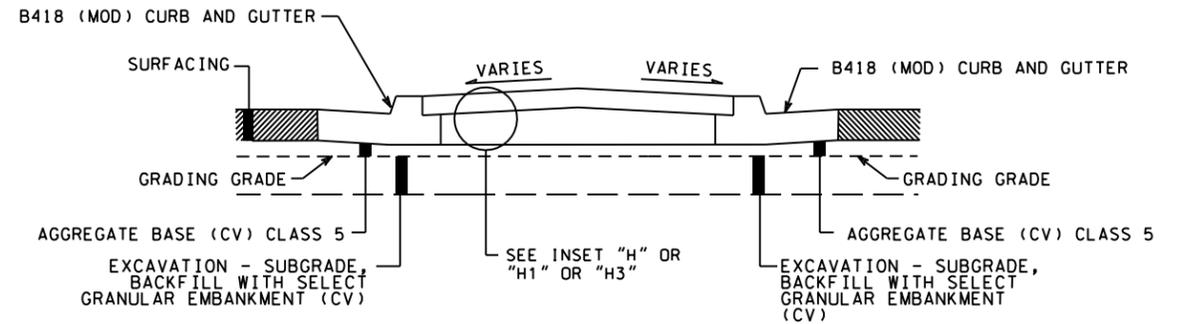
ANOKA & RAMSEY COUNTY, MN

INSETS
TYPICAL SECTIONS
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014



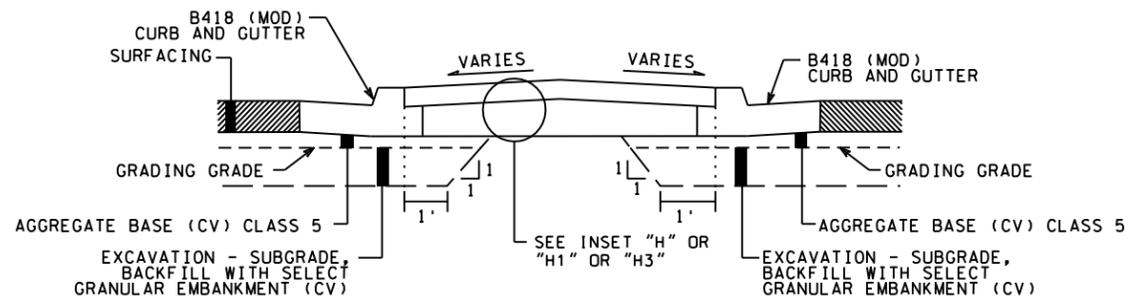
DETAIL A

CONCRETE CURB & GUTTER -
COUNTY RD J AND CSAH 49



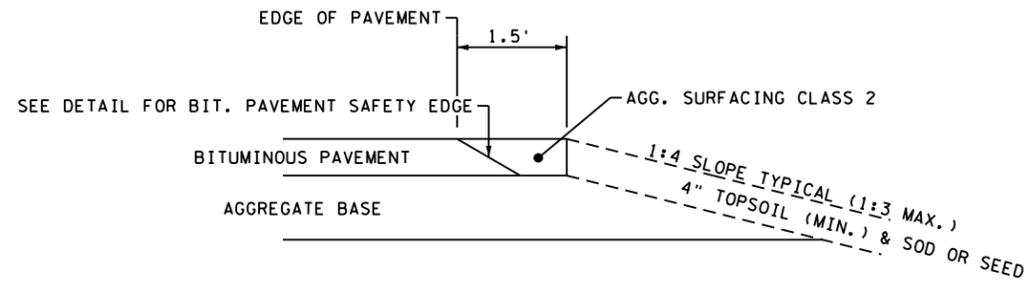
DETAIL B

CONCRETE MEDIAN LESS THAN 8' (FACE TO FACE)



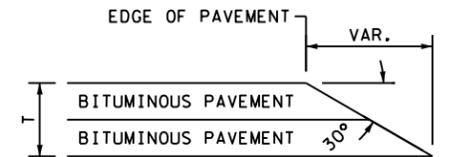
DETAIL B

CONCRETE MEDIAN GREATER THAN 8' (FACE TO FACE)



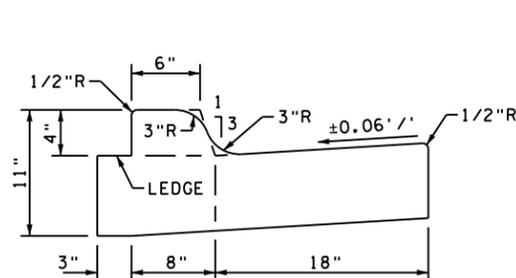
DETAIL C

RURAL AGGREGATE SHOULDER



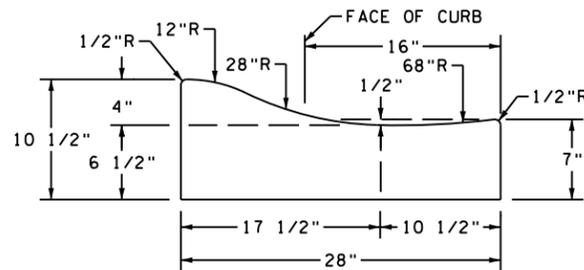
BITUMINOUS PAVEMENT SAFETY EDGE

FOR T < 6"



B418 MODIFIED CURB & GUTTER

(NO VARIANCES ALLOWED)



SURMOUNTABLE CURB & GUTTER

(NOT TO SCALE)

PAID AS SURMOUNTABLE CURB & GUTTER BY THE LIN FT THIS DETAIL SHALL BE MODIFIED IN THE FIELD TO MATCH THE EXISTING SURMOUNTABLE CURB & GUTTER AS NEEDED AND APPROVED BY THE ENGINEER

NOTES:

- UNLESS OTHERWISE SPECIFIED, THE SUBGRADE CROSS SLOPE WILL BE THE SAME AS THE FINISHED SLOPE.
- ALL UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE ROADWAY.
- ALL EDGE DIMENSIONS ARE FACE TO FACE OF CURB OR TO THE EDGE OF THE PAVEMENT UNLESS OTHERWISE SPECIFIED.
- COMMON TOPSOIL SHALL BE INCLUDED IN THE COMMON EMBANKMENT (CV).
- ALL EMBANKMENT MATERIAL SHALL BE APPROVED BY THE ENGINEER. ALL CONCRETE AND BITUMINOUS REMOVAL MUST BE DISPOSED OF OFF-SITE. REMOVAL AND DISPOSAL OF EXCESS MATERIAL SHALL BE INCIDENTAL.
- 2' CLEAR ZONE SHALL BE PROVIDED ON EACH SIDE OF THE TRAIL.
- SEE CONCRETE PAVEMENT JOINT PLAN FOR LOCATION OF 4" CONCRETE WALK SPECIAL AND CONCRETE PAVEMENT 7.0" SPECIAL.

PAID AS CONCRETE CURB & GUTTER DESIGN B418 (MOD) BY THE LIN FT TO BE USED WHEN CONCRETE WALK IS TIGHT TO BACK OF CURB

NO.	DATE	BY	CHK	REVISIONS

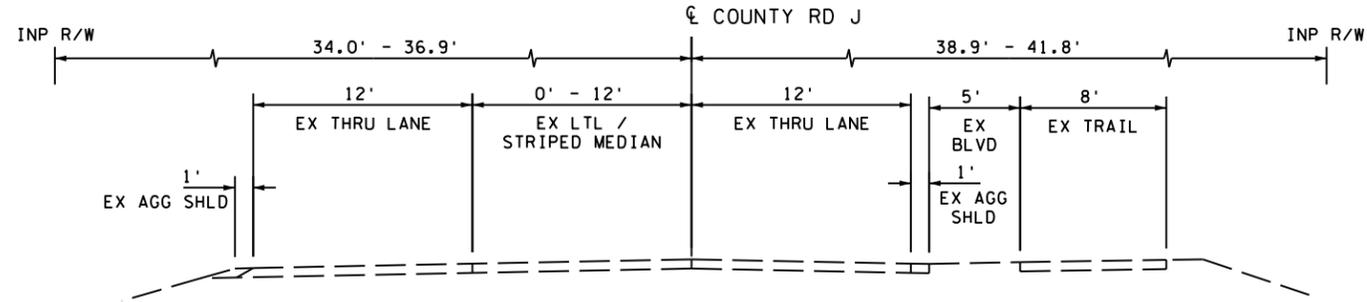
Design By:	AJP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Plan By:	AJP	
Checked By:	AJP	
Approved By:	AJP	

PRINT NAME: **ANDREW J. FLOWMAN**
DATE: 2/1/2024 LICENSE #: 44200



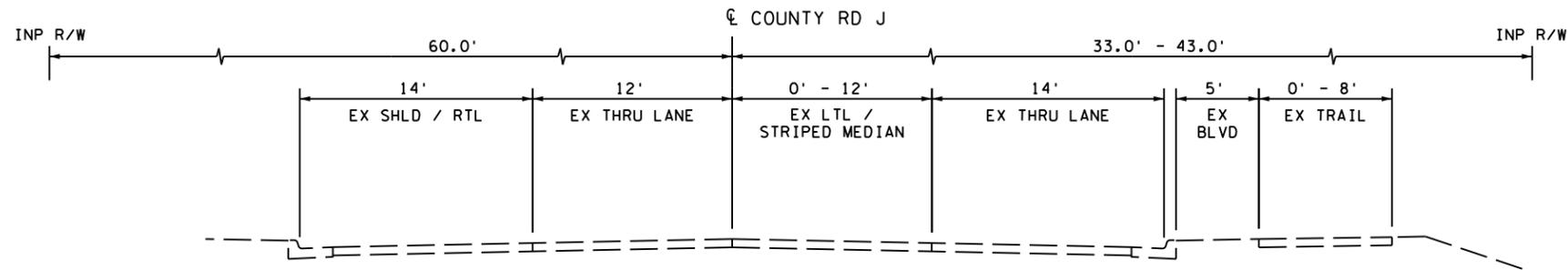
**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
DETAILS / NOTES
TYPICAL SECTIONS
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014



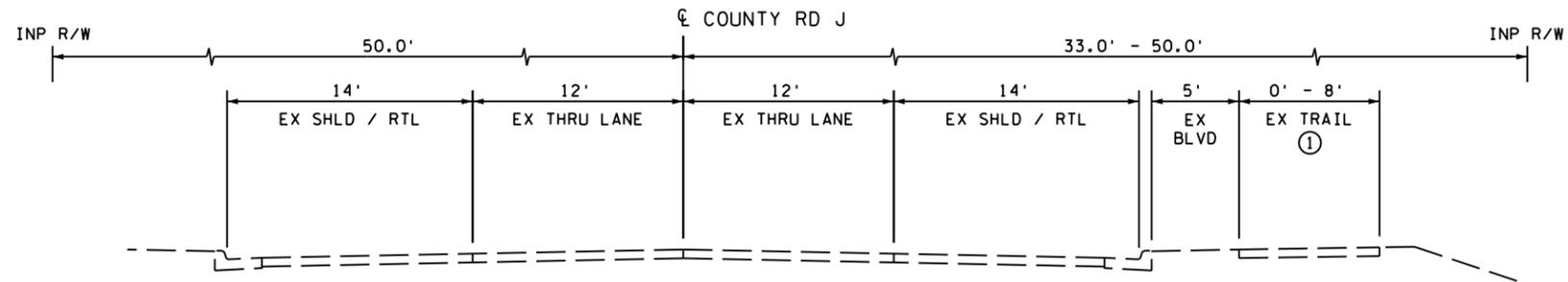
EXISTING TYPICAL SECTION 3 - COUNTY RD J (ASH ST)

STA 120+48 TO STA 125+25



EXISTING TYPICAL SECTION 2 - COUNTY RD J (ASH ST)

STA 112+00 TO STA 120+48



EXISTING TYPICAL SECTION 1 - COUNTY RD J (ASH ST)

STA 105+40 TO STA 112+00

NOTES:

① NO TRAIL FROM STA 106+50 TO 115+15.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

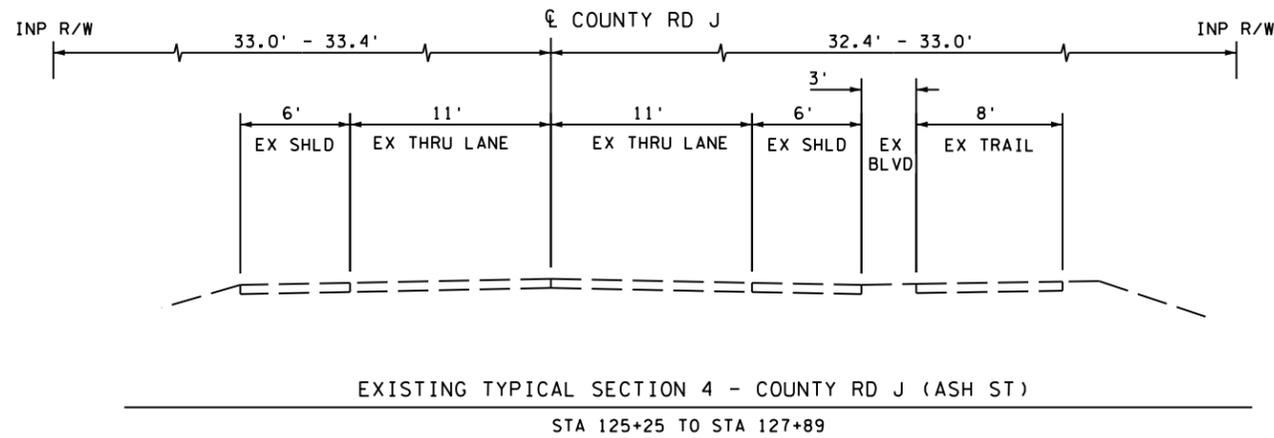
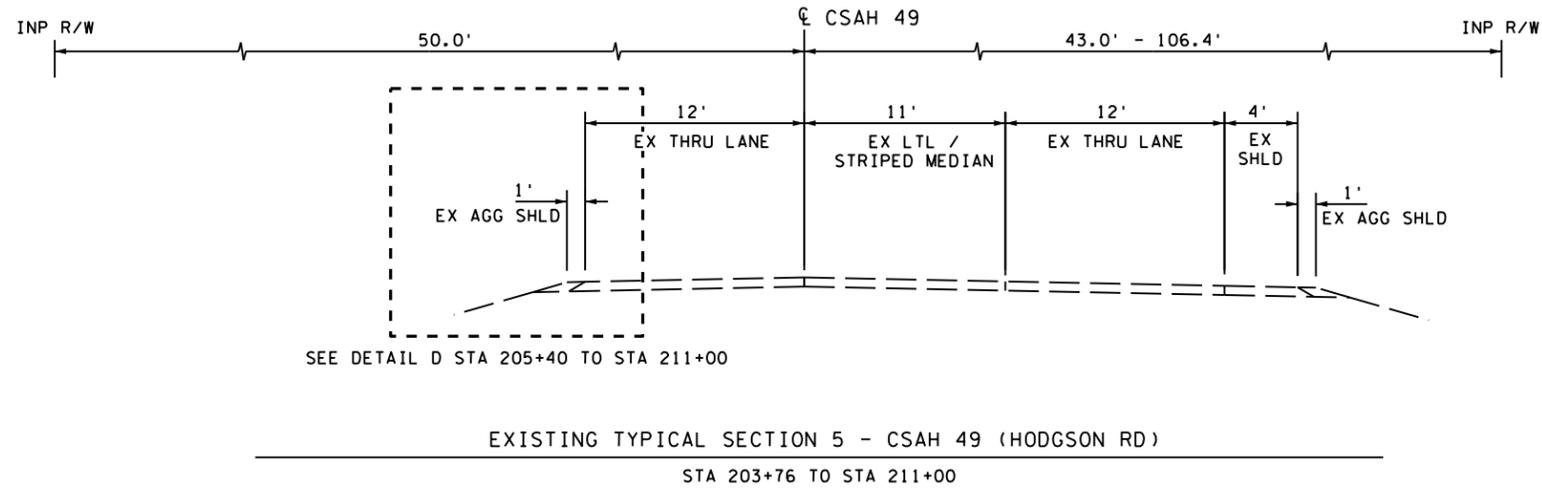
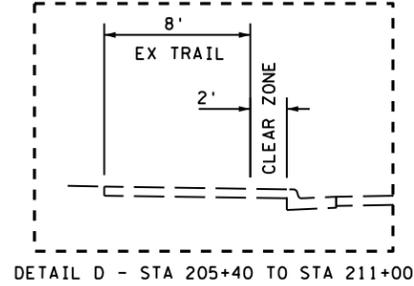
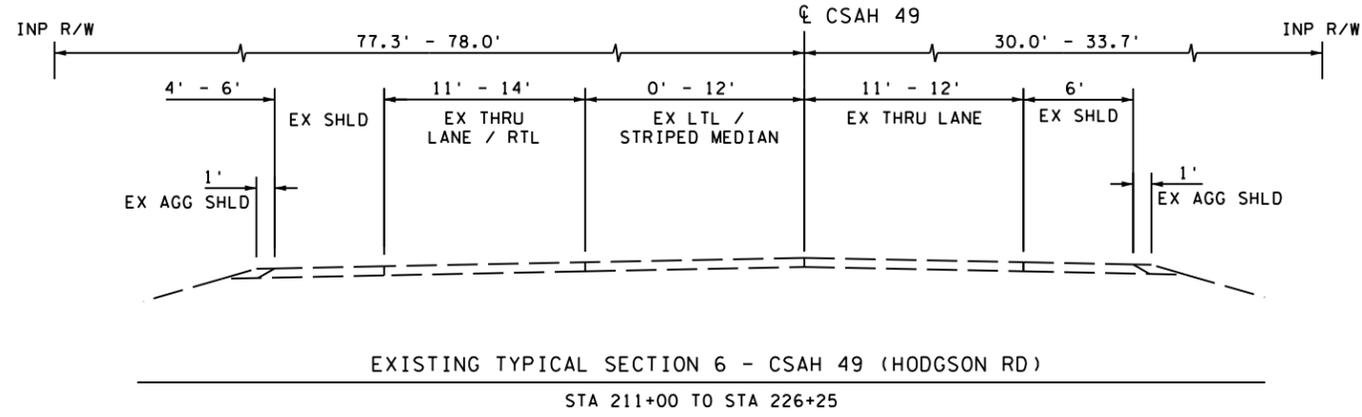
PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

EXISTING
TYPICAL SECTIONS

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014



NO.	DATE	BY	CHK	REVISIONS

Design By:	AJP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: <u>ANDREW J. FLOWMAN</u> DATE: <u>2/1/2024</u> LICENSE # <u>44200</u>
Plan By:	AJF	
Checked By:	AJP	
Approved By:	AJP	

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

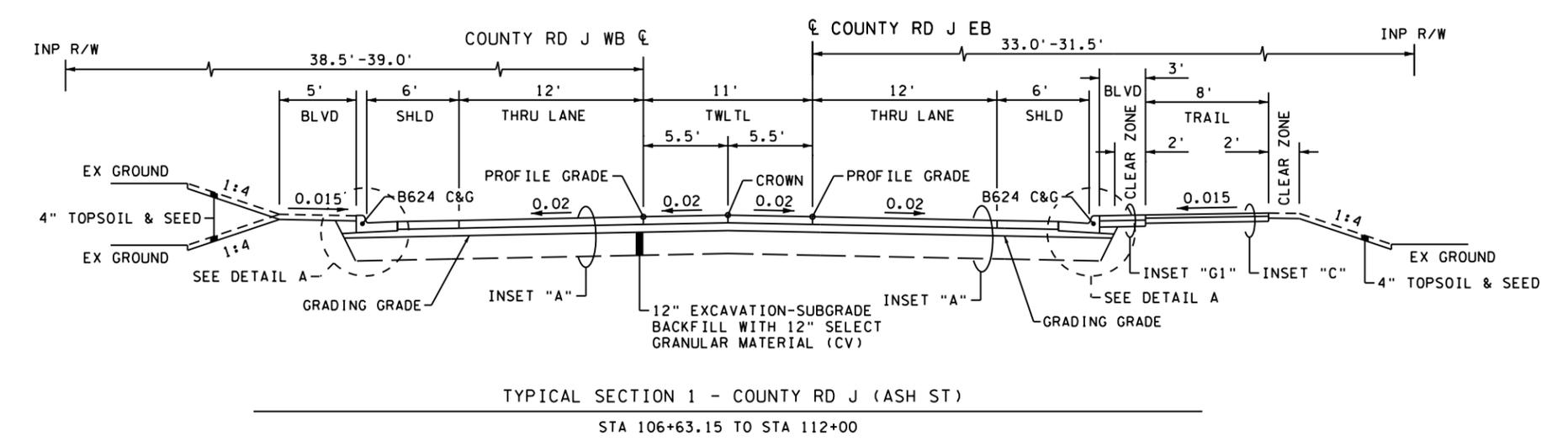
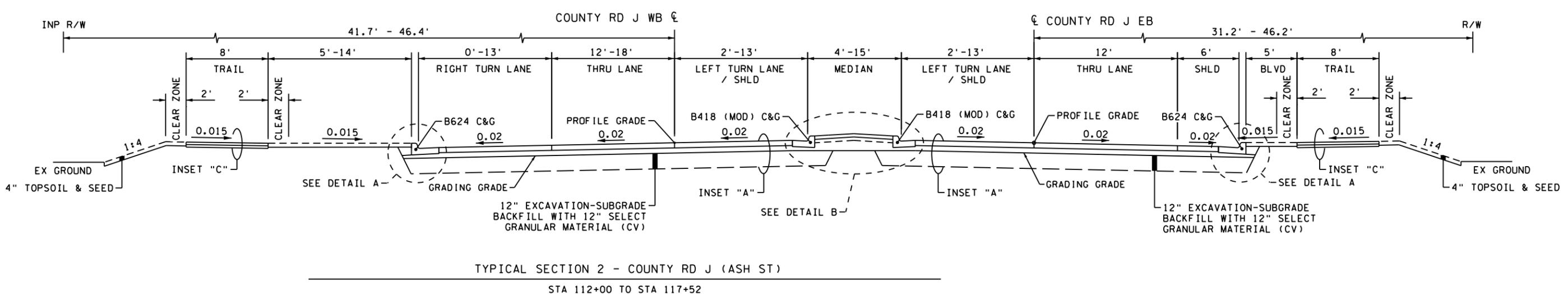
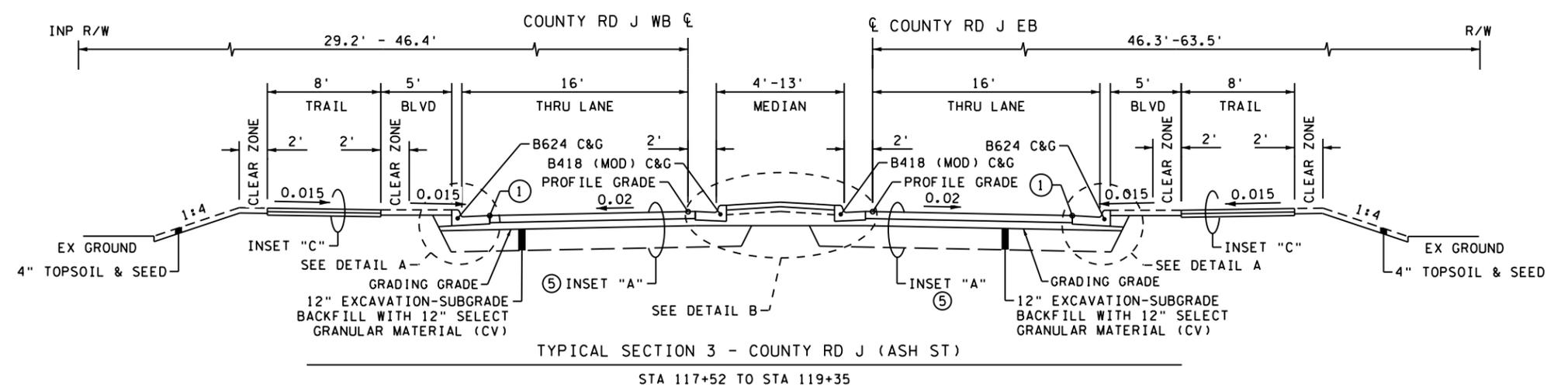
ANOKA & RAMSEY COUNTY, MN

EXISTING
TYPICAL SECTIONS

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

PLOTTED/REVISED: 2/1/2024 9:42:03 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\9054-000_1s01.dgn



- NOTES:**
- ① QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS.
 - ⑤ INSET "F" FROM EB STA 119+05 TO EB STA 120+86
- GENERAL NOTES:**
- ALL SLOPES IN FOOT PER FOOT UNLESS OTHERWISE NOTED.
 - PREPARATION OF THE EXISTING SUBGRADE SHALL BE IN ACCORDANCE WITH MNDOT SPECIFICATIONS AND SHALL BE INCIDENTAL.
 - SEE SHEET 16 FOR INSETS AND SHEET 17 FOR DETAILS.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200

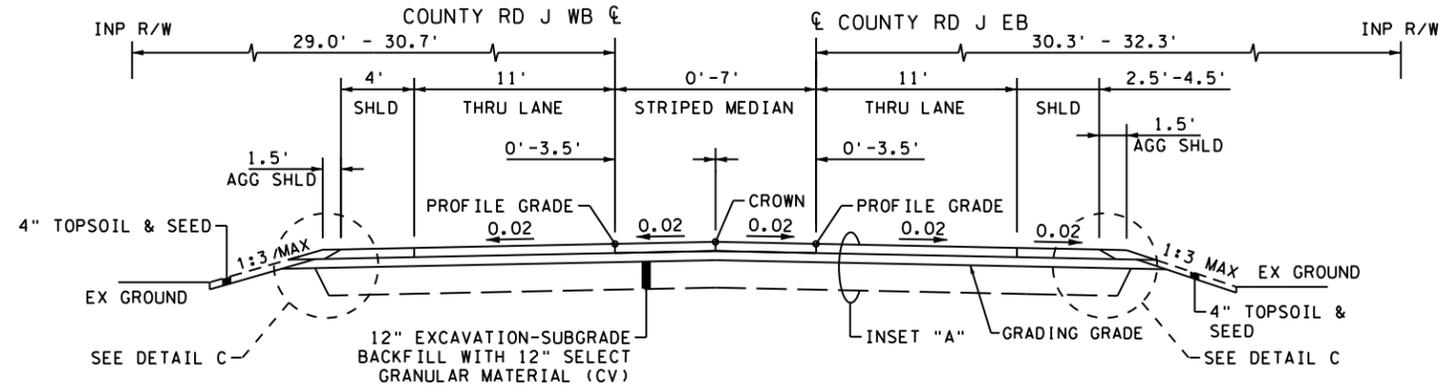


**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

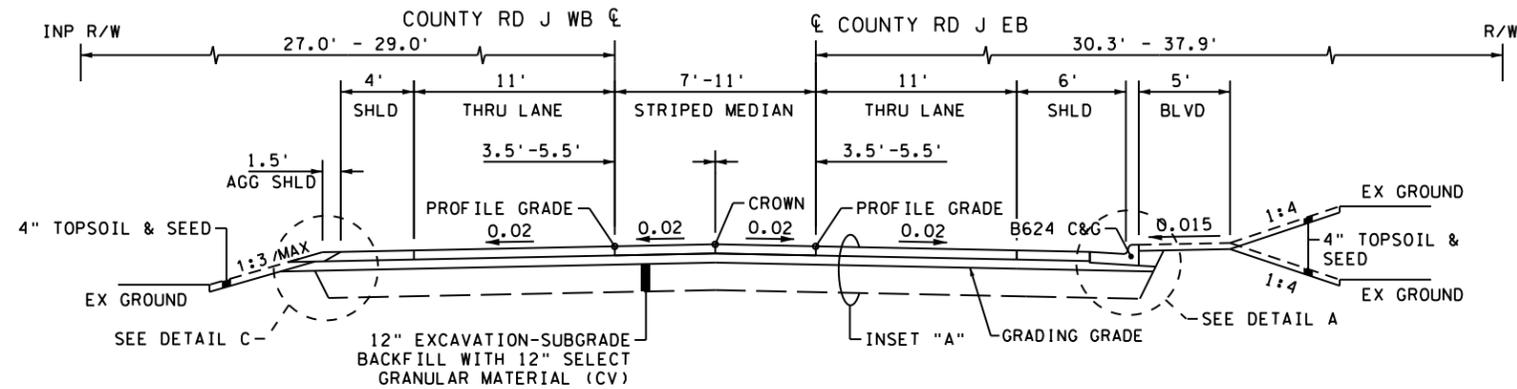
ANOKA & RAMSEY COUNTY, MN

TYPICAL SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

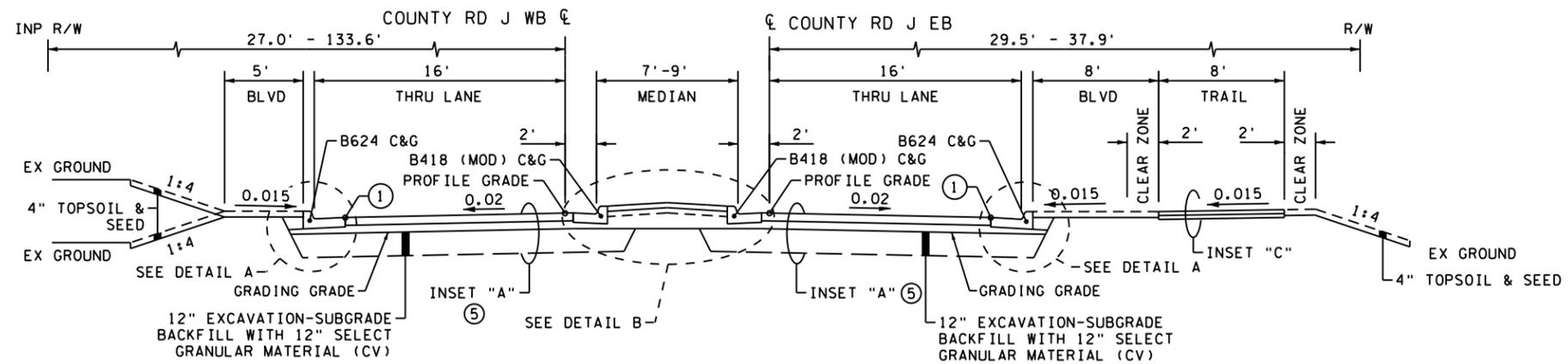
SHEET **20**
 OF **162**
 SHEETS



TYPICAL SECTION 6 - COUNTY RD J (ASH ST)
STA 125+98 TO STA 126+69.49



TYPICAL SECTION 5 - COUNTY RD J (ASH ST)
STA 125+21 TO STA 125+98



TYPICAL SECTION 4 - COUNTY RD J (ASH ST)
STA 120+48 TO STA 125+21

NOTES:

- ① QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS.
- ⑤ INSET "F" FROM EB STA 119+05 TO EB STA 120+86

GENERAL NOTES:

- ALL SLOPES IN FOOT PER FOOT UNLESS OTHERWISE NOTED.
- PREPARATION OF THE EXISTING SUBGRADE SHALL BE IN ACCORDANCE WITH MNDOT SPECIFICATIONS AND SHALL BE INCIDENTAL.
- SEE SHEET 16 FOR INSETS AND SHEET 17 FOR DETAILS.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

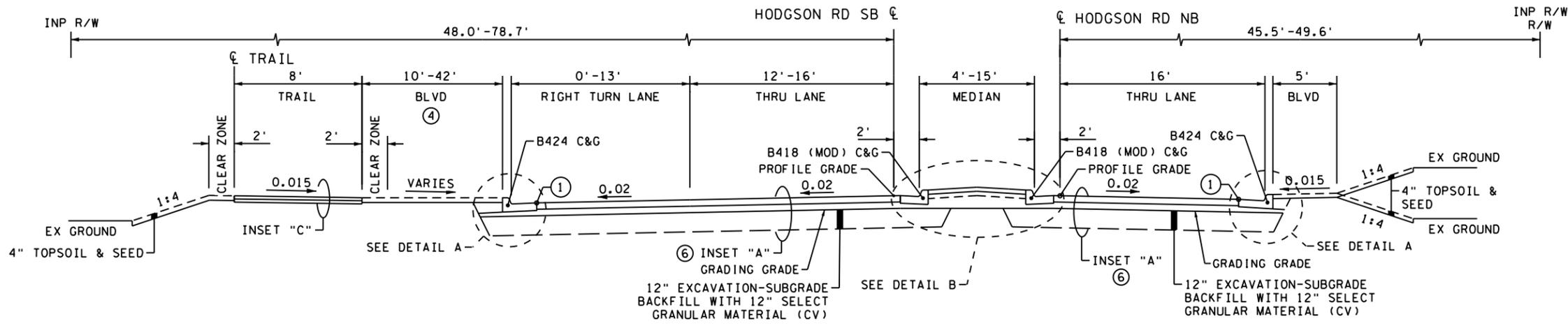
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200

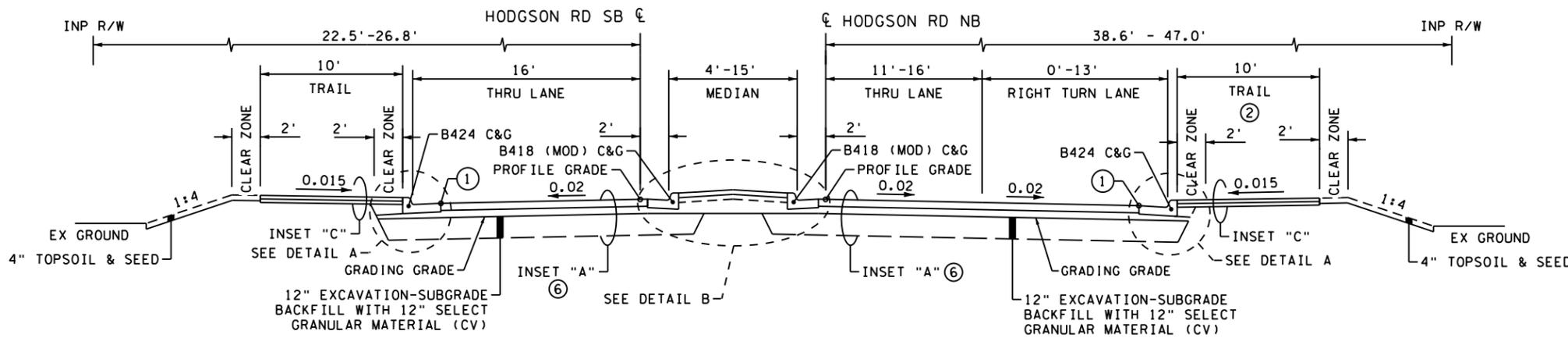
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

PLOTTED/REVISED: 2/1/2024 9:42:05 AM

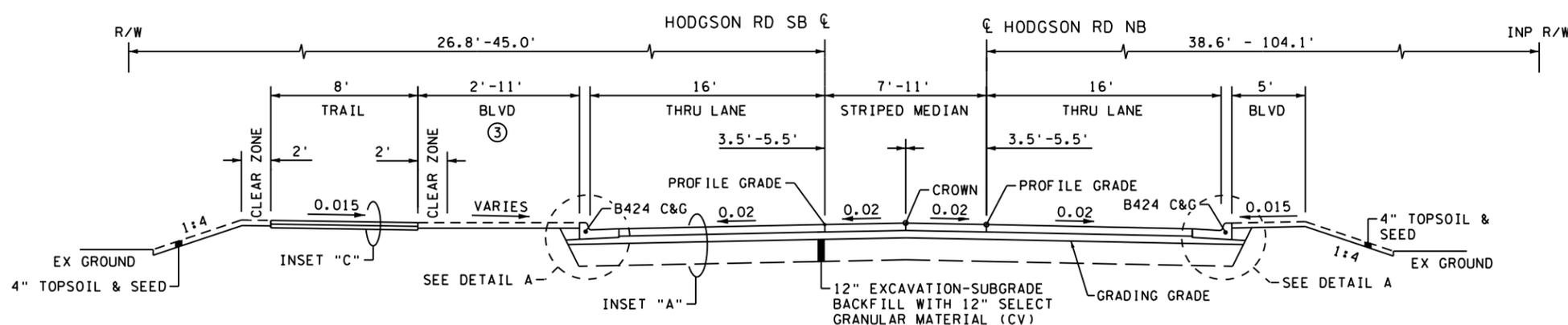
WSB PATH & FILENAME: Projects\Mnstate\019054-000\CadPlan\19054-000_1s01.dgn



TYPICAL SECTION 9 - CSAH 49 (HODGSON RD)
STA 211+37 TO STA 216+11



TYPICAL SECTION 8 - CSAH 49 (HODGSON RD)
STA 207+29 TO STA 210+14



TYPICAL SECTION 7 - CSAH 49 (HODGSON RD)
STA 203+76 TO STA 207+29

- NOTES:**
- ① QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS.
 - ② TRAIL BEGINS NB STA 208+15
 - ③ 2' BLVD IS PAVED WITH INSET "C"
 - ④ SEE CROSS SECTIONS FOR ADDITIONAL GRADING DETAILS
 - ⑥ INSET "F" FROM NB STA 209+80 TO NB STA 211+75

- GENERAL NOTES:**
- ALL SLOPES IN FOOT PER FOOT UNLESS OTHERWISE NOTED.
 - PREPARATION OF THE EXISTING SUBGRADE SHALL BE IN ACCORDANCE WITH MNDOT SPECIFICATIONS AND SHALL BE INCIDENTAL.
 - SEE SHEET 16 FOR INSETS AND SHEET 17 FOR DETAILS.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200



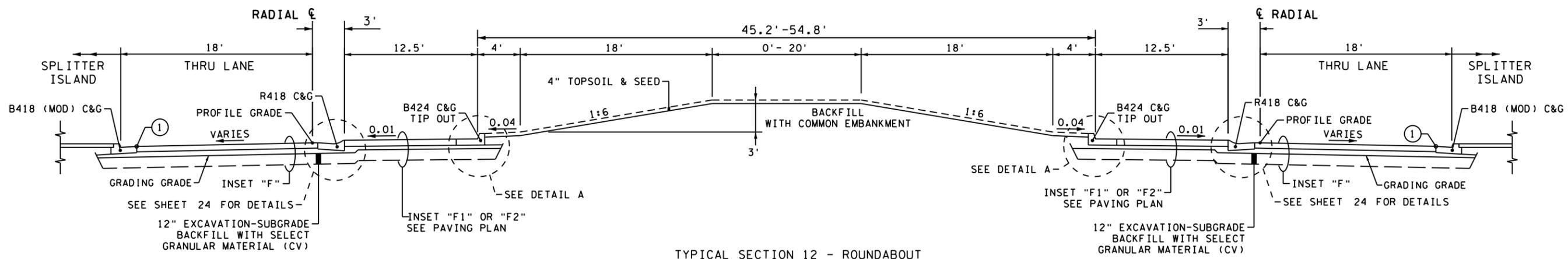
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

TYPICAL SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

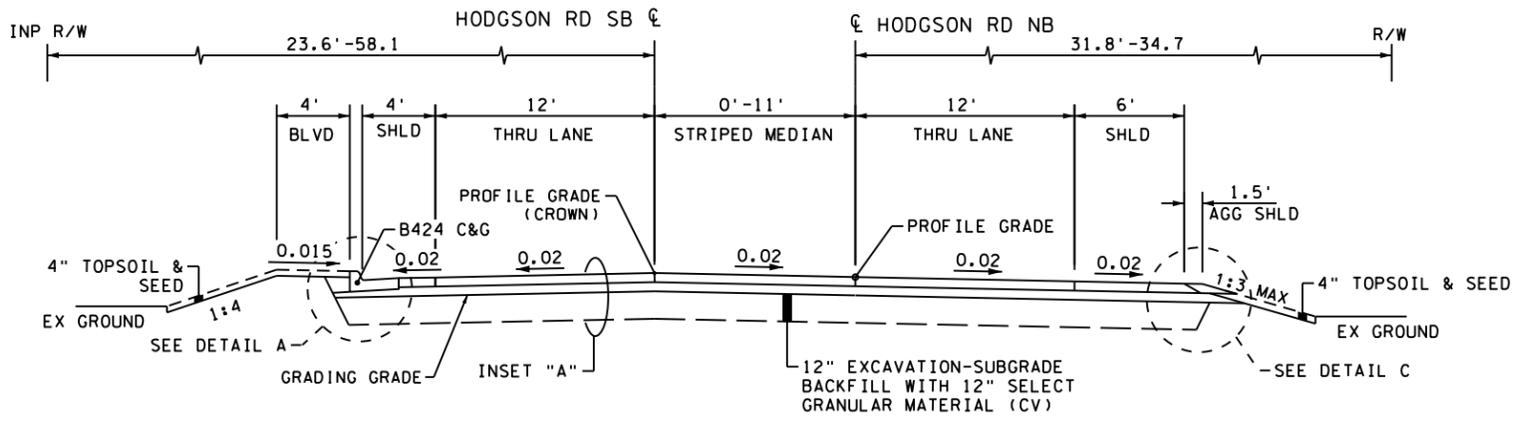
SHEET
22
 OF
162
 SHEETS

PLOTTED/REVISED: 2/11/2024 9:42:06 AM



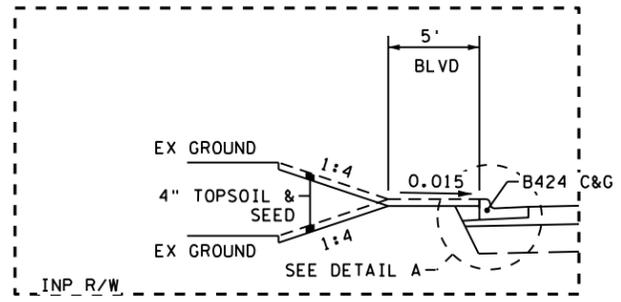
TYPICAL SECTION 12 - ROUNDABOUT

COUNTY RD J (ASH ST) EB STA 118+92 TO STA 121+09
 CSAH 49 (HODGSON RD) NB STA 209+64 TO STA 211+73
 RADIAL STA 10+00 TO STA 12+72

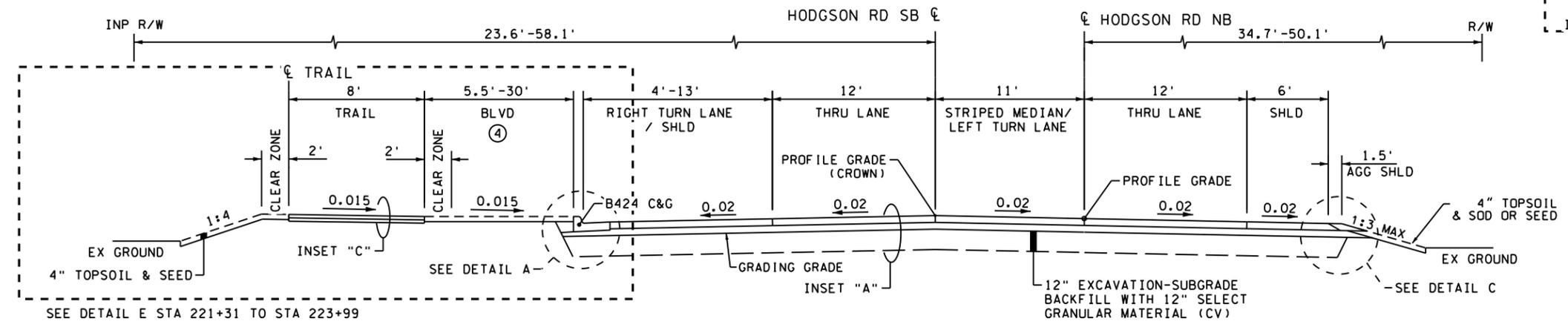


TYPICAL SECTION 11 - CSAH 49 (HODGSON RD)

STA 223+99 TO STA 227+50.00



DETAIL E - STA 221+31 TO STA 223+99



TYPICAL SECTION 10 - CSAH 49 (HODGSON RD)

STA 216+11 TO STA 223+99

- NOTES:**
- ① QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS.
 - ④ SEE CROSS SECTIONS FOR ADDITIONAL GRADING DETAILS
- GENERAL NOTES:**
- ALL SLOPES IN FOOT PER FOOT UNLESS OTHERWISE NOTED.
 - PREPARATION OF THE EXISTING SUBGRADE SHALL BE IN ACCORDANCE WITH MNDOT SPECIFICATIONS AND SHALL BE INCIDENTAL.
 - SEE SHEET 16 FOR INSETS AND SHEET 17 FOR DETAILS.

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\9054-000_160.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/11/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

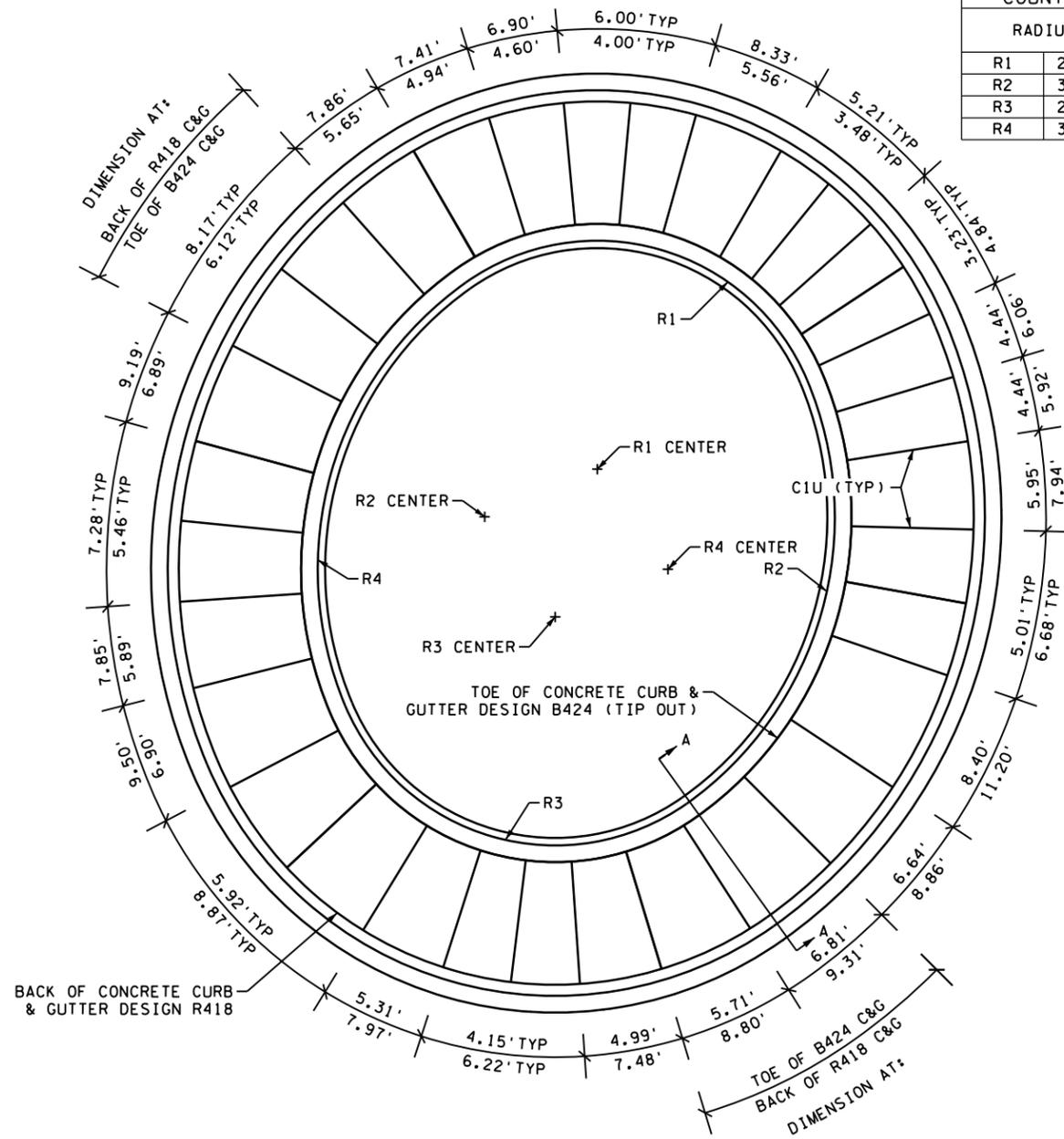
TYPICAL SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
23
 OF
162
 SHEETS

COUNTY RD J & HODGSON RD ROUNDABOUT

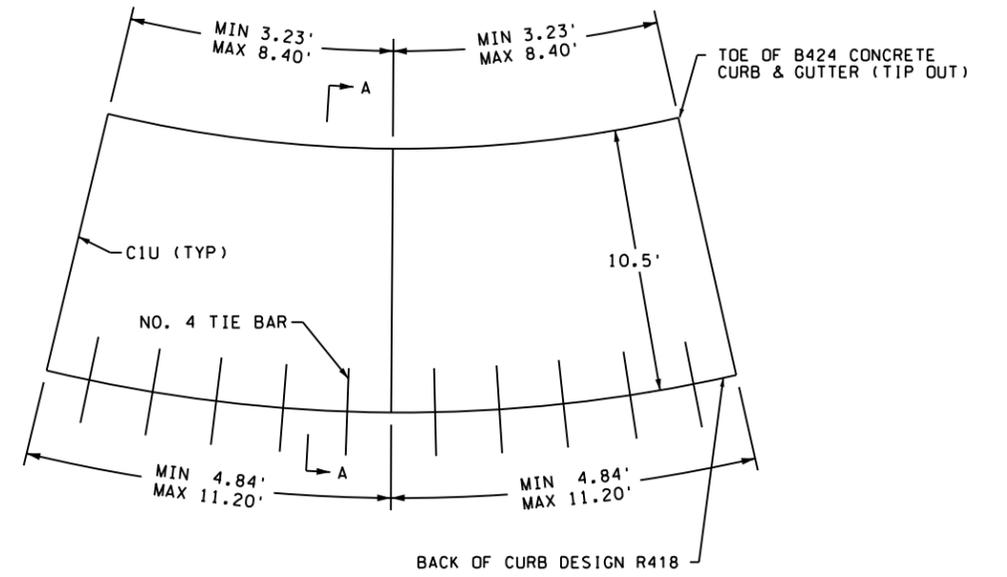
NOT TO SCALE

COUNTY RD J & CSAH 49 ROUNDABOUT			
RADIUS	CENTER		
	X	Y	
R1	20.5'	535947.48	132451.05
R2	31.5'	535937.34	132446.77
R3	20.5'	535943.69	132437.78
R4	31.5'	535953.83	132442.06



PLAN VIEW JOINT LAYOUT

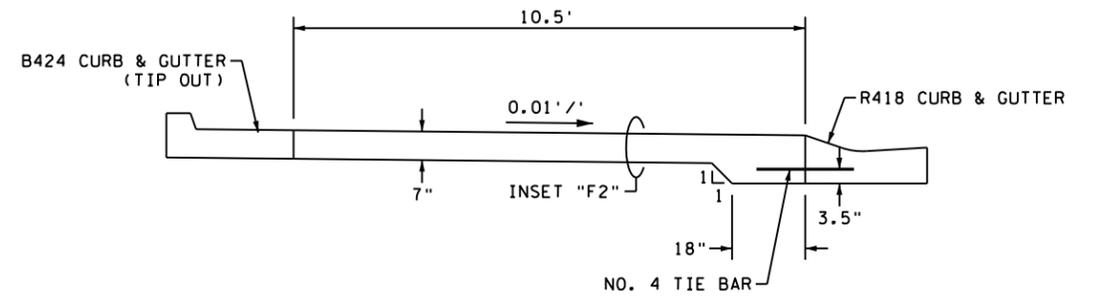
NOT TO SCALE



NOTE: CIU JOINT SHOULD EXTEND THROUGH CURB AND GUTTER

CONCRETE PANEL REINFORCEMENT

NOT TO SCALE



SECTION A-A

NOT TO SCALE

GENERAL NOTES:

1. SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CURB AND GUTTER DETAILS
2. ALL REINFORCING BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301 AND SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31 OR M-53
3. TIE BARS: USE NO. 4 BARS, 2' LONG AT 3' SPACING
4. REINFORCEMENT BARS ARE CONSIDERED INCIDENTAL WITHIN THE TRUCK APRON.
5. ADDITIONAL CONCRETE PAVEMENT DEPTH, ADJACENT TO CONCRETE CURB DESIGN R418, IS INCIDENTAL.
6. LOCATION AND SPACING OF JOINTS MAY BE MODIFIED BY THE CONTRACTOR, AS APPROVED BY THE ENGINEER.

PLOTTED/REVISED: 2/11/2024 9:42:10 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_mcd1.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/11/2024 LICENSE #: 44200

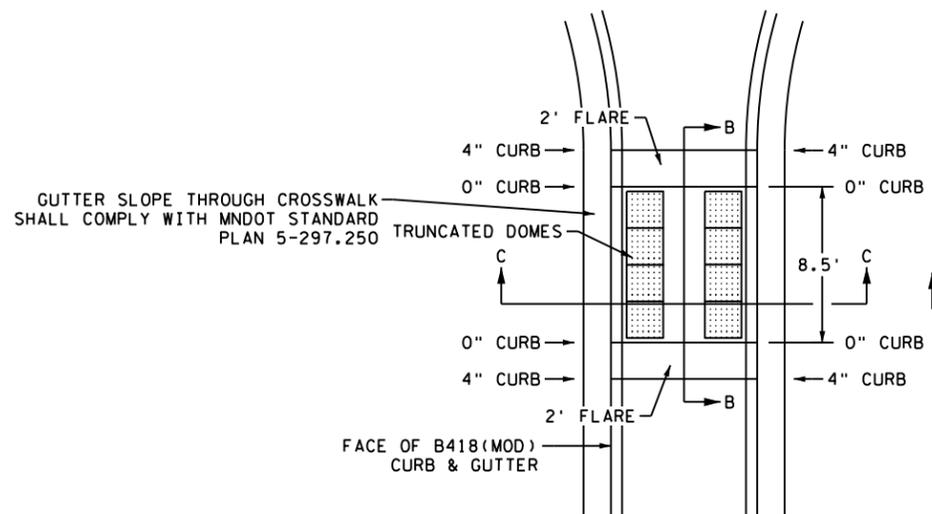


**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

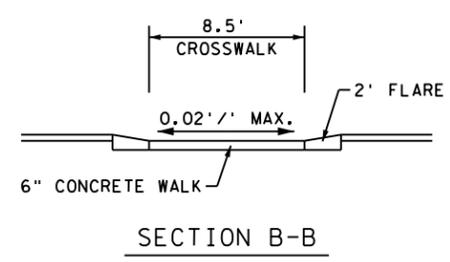
TRUCK APRON DETAILS
MISCELLANEOUS DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
24
 OF
162
 SHEETS

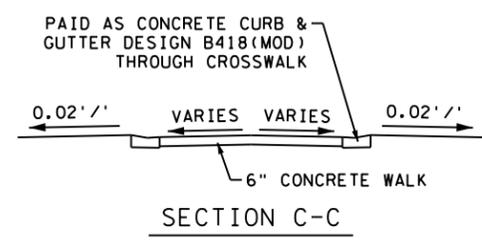


GUTTER SLOPE THROUGH CROSSWALK SHALL COMPLY WITH MNDOT STANDARD PLAN 5-297.250

FACE OF B418(MOD) CURB & GUTTER



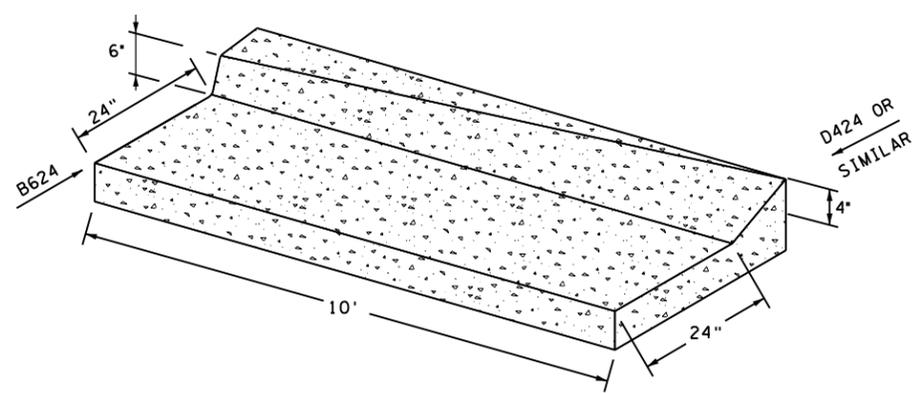
SECTION B-B



SECTION C-C

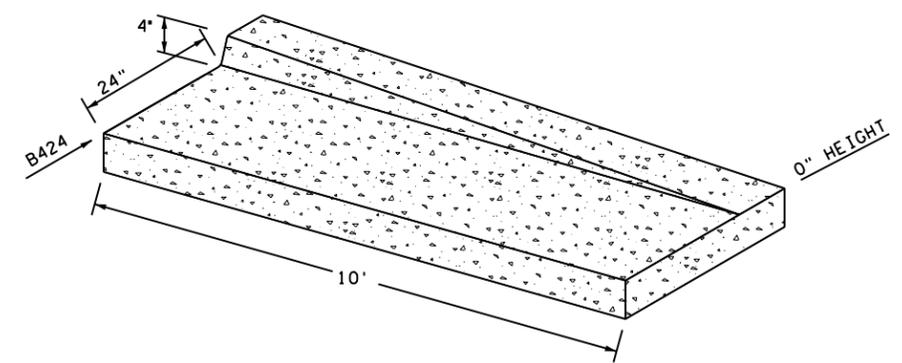
- NOTES:
- CROSSING TO BE PAID FOR AS 6" CONCRETE WALK.
 - TRUNCATED DOMES SHALL BE PLACED AT EACH SIDE OF THE CROSSWALK, PAID FOR AS SQ. FT. OF TRUNCATED DOMES.
 - FLARES TO BE PAID FOR AS 6" CONCRETE WALK.

DEPRESSED MEDIAN CURB AT CROSSWALK DETAIL
NOT TO SCALE



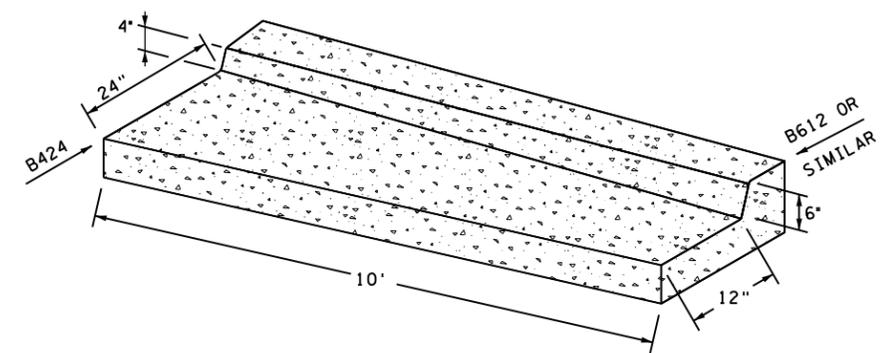
FOR OTHER DIMENSIONS SEE STANDARD PLATE NO. 7100 & 7102
PAYMENT SHALL BE MADE AS CONCRETE CURB & GUTTER DESIGN B624 BY THE LINEAR FOOT

B624 TO D424 CURB & GUTTER TRANSITION
NOT TO SCALE



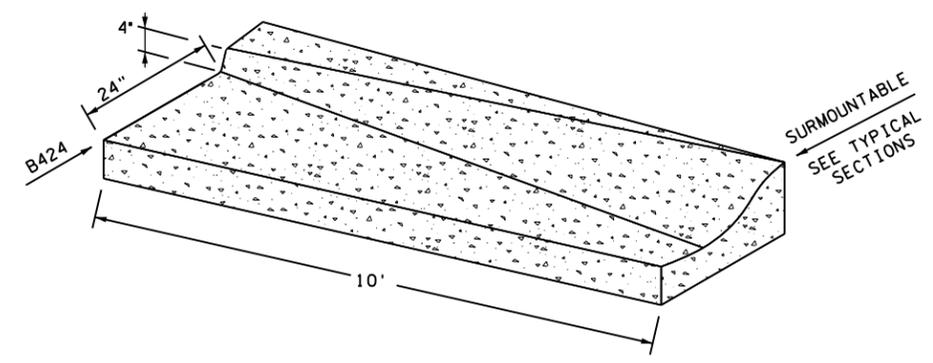
FOR OTHER DIMENSIONS SEE STANDARD PLATE NO. 7100
TO BE USED AT CURB AND GUTTER TERMINI
PAYMENT SHALL BE MADE AS CONCRETE CURB & GUTTER DESIGN B424 BY THE LINEAR FOOT

B424 TO 0" HEIGHT CURB & GUTTER TRANSITION
NOT TO SCALE



FOR OTHER DIMENSIONS SEE STANDARD PLATE NO. 7100
PAYMENT SHALL BE MADE AS CONCRETE CURB & GUTTER DESIGN B424 BY THE LINEAR FOOT

B424 TO B612 CURB & GUTTER TRANSITION
NOT TO SCALE



FOR OTHER DIMENSIONS SEE STANDARD PLATE NO. 7100
PAYMENT SHALL BE MADE AS CONCRETE CURB & GUTTER DESIGN B424 BY THE LINEAR FOOT

B424 TO SURMOUNTABLE CURB & GUTTER TRANSITION
NOT TO SCALE

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

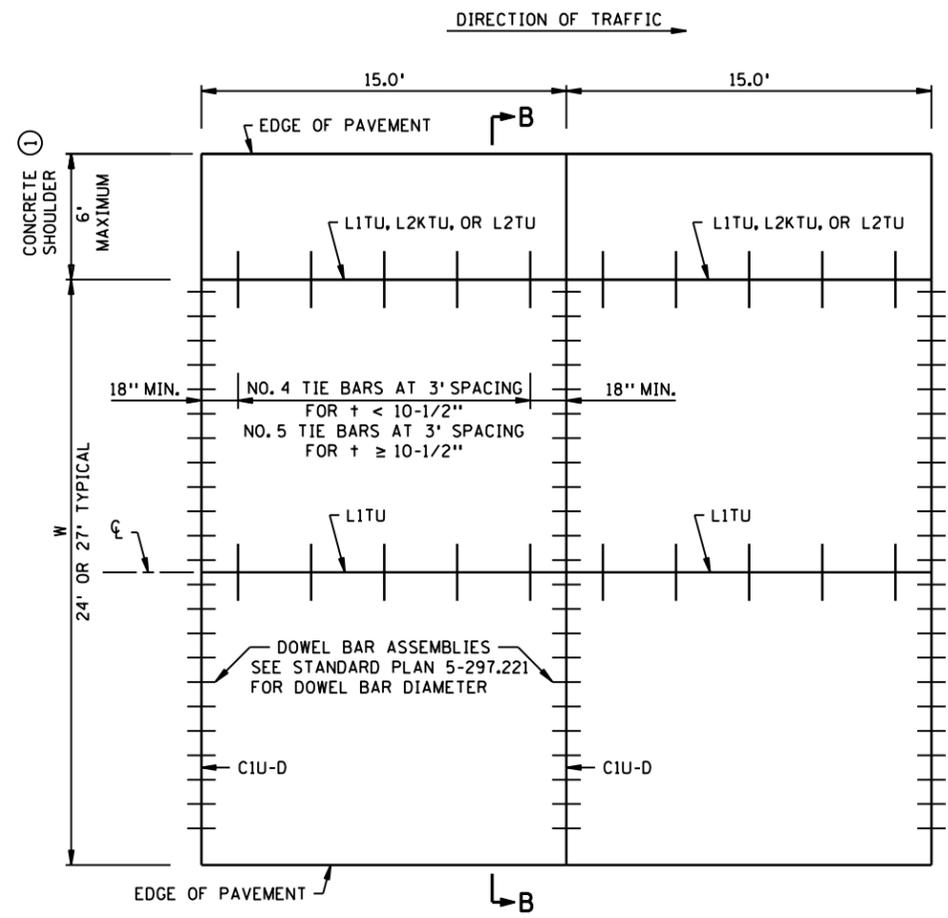
ANOKA & RAMSEY COUNTY, MN

MISCELLANEOUS DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

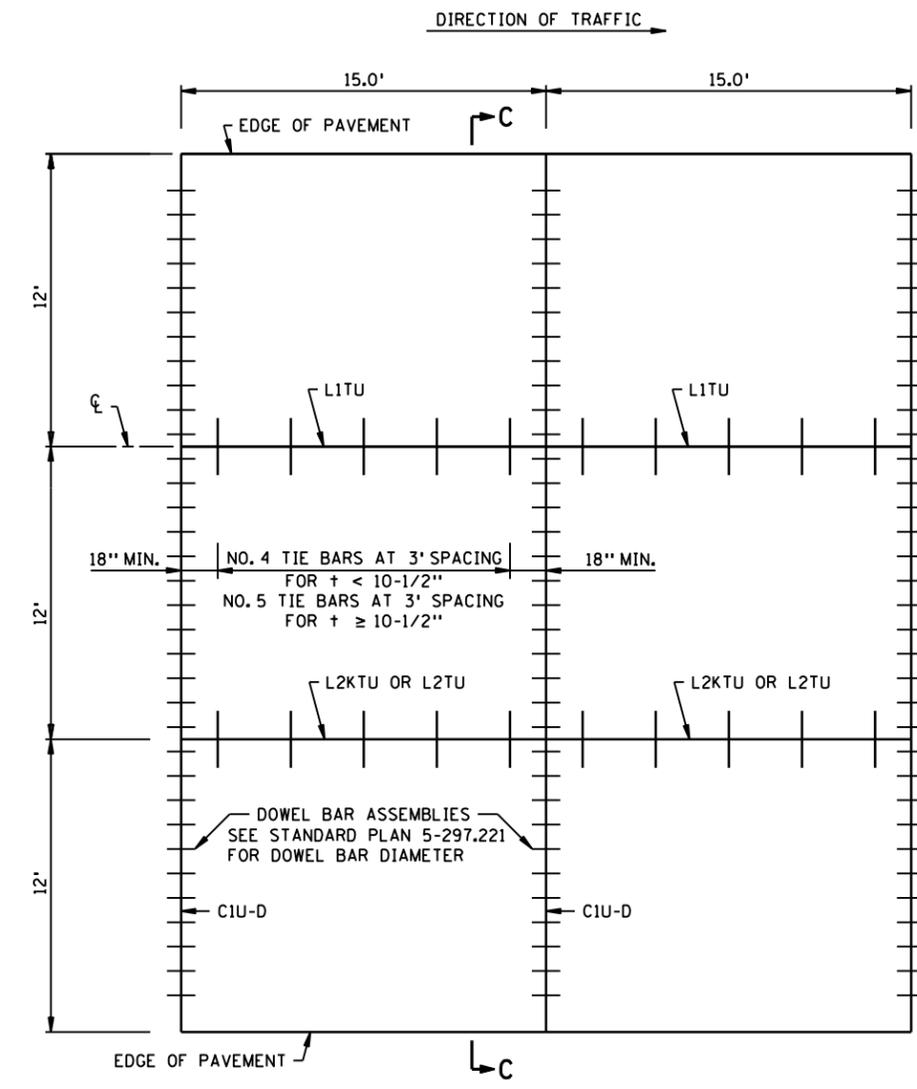
SHEET
 25
 OF
 162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:42:14 AM

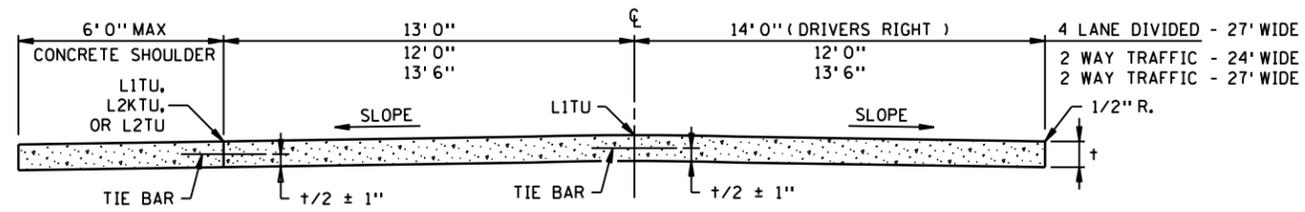
WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_std\in_200.dgn



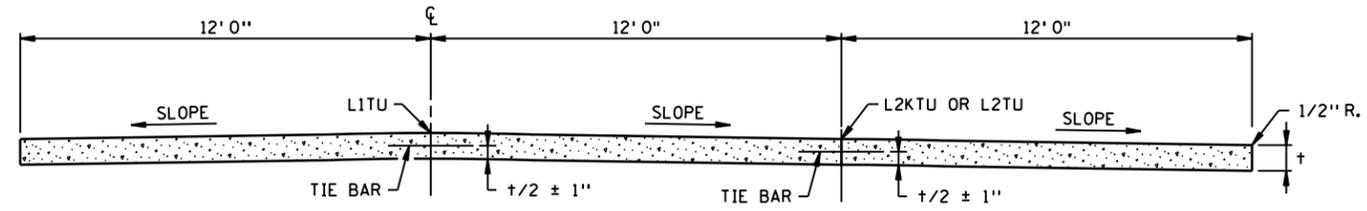
MAINLINE PAVEMENT WITH INSIDE CONCRETE SHOULDER
DOWELED



MAINLINE PAVEMENT URBAN
DOWELED



SECTION B-B



SECTION C-C

GENERAL NOTES:

- SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES AND PAVEMENT THICKNESS, t .
- DOWEL BAR ASSEMBLIES, WHEN REQUIRED, SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.
- ALL REINFORCING BARS SHALL BE EPOXY COATED AND COMPLY WITH SPEC. 3301.
- FOR SUPPLEMENTAL PAVEMENT REINFORCEMENT, SEE STANDARD PLATE 1070.

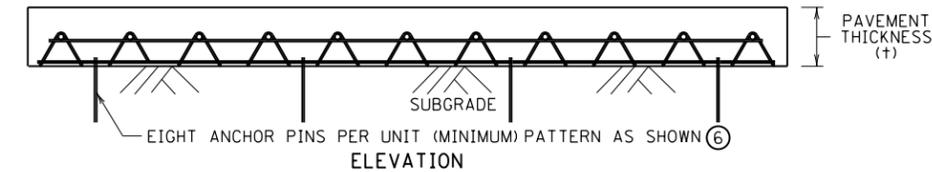
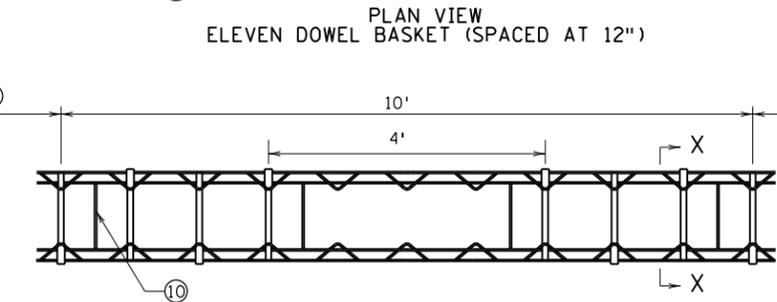
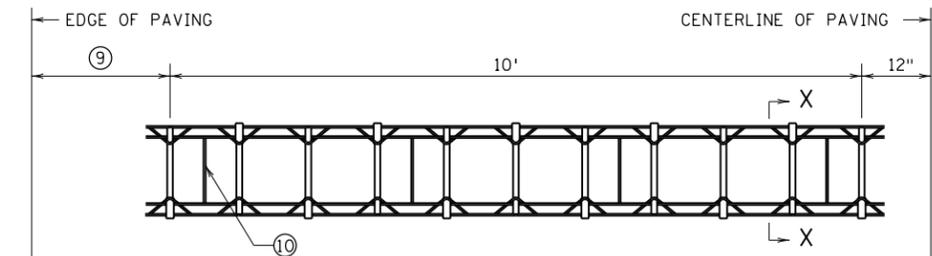
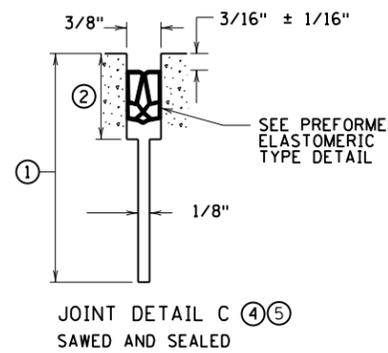
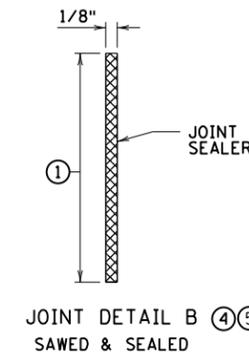
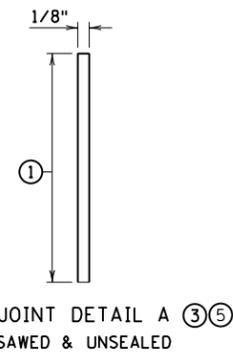
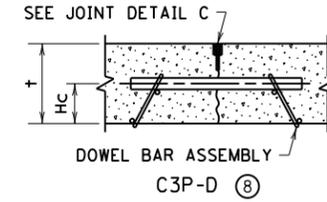
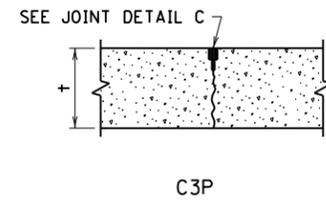
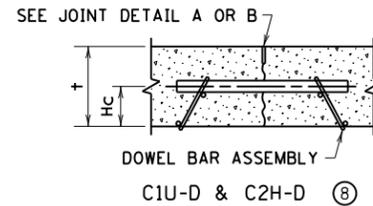
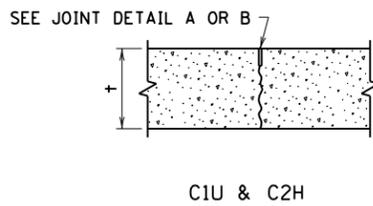
① CONTACT THE CONCRETE ENGINEER TO DISCUSS WHETHER TIE BARS AND SAWED JOINTS ARE NEEDED BASED ON CONCRETE SHOULDER WIDTH AND DEPTH.

REVISION:
APPROVED: FEBRUARY 16, 2016
[Signature]
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

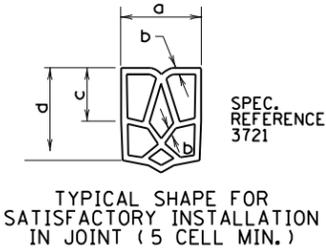
	STANDARD PLAN 5-297.217	2 OF 2	CONCRETE MAINLINE PAVEMENT 15.0 FT. PANEL LENGTH URBAN OR CONCRETE SHOULDERS
		APPROVED: 2-16-2016 REVISED:	
DEPARTMENT OF TRANSPORTATION	STATE DESIGN ENGINEER	SHEET 26 OF 162 SHEETS	

PLOTTED/REVISED: 2/1/2024 9:42:14 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_std\plan_200.dgn



REQUIRED DIMENSIONS ②	
JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	1 1/16"
a	0.69" + 0.13" - 0.05"
b	0.08" ± 0.02"
c	0.25" MIN.
d	0.63" MIN.

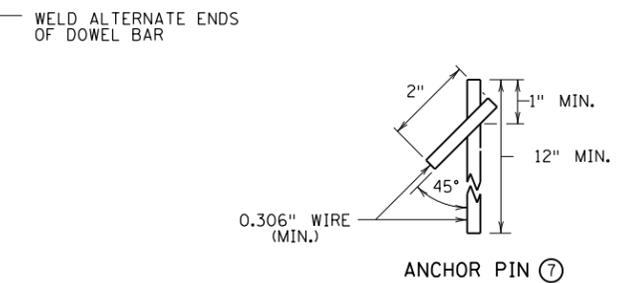
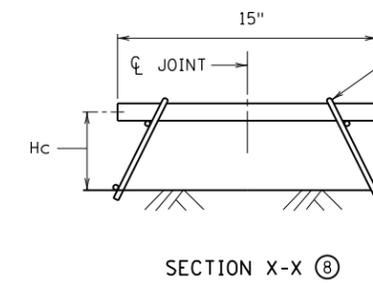


PREFORMED ELASTOMERIC TYPE DETAIL ②

CONTRACTION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE				
JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
C1U	C1U-D	A	UNSEALED	1/8"
C2H	C2H-D	B	3725	1/8"
C3P	C3P-D	C	3721	3/8"

LEGEND	EXAMPLE
C = CONTRACTION JOINT	— C2H-D
NO. = JOINT REFERENCE	
U = UNSEALED	
H = HOT POURED	
P = PREFORMED	
-D = DOWEL BARS	

DOWEL BAR TABLE		
† PAVEMENT THICKNESS (IN.)	DOWEL BAR DIAMETER (IN.)	Hc HEIGHT TO CENTER OF DOWEL BAR (IN.)
7 - 7 1/2	1	3
8 - 10	1 1/4	4
≥ 10 1/2	1 1/2	5



NOTES:

- SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.
- FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE/RAMP PAVEMENT.
- SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
- ① JOINT DEPTH AND TOLERANCE: +/3 ± 1/4".
- ② JOINT DEPTH 1/4" MORE THAN THE PREFORMED SEALER WHEN COMPRESSED TO FIT THE JOINT DESIGN WIDTH. "a" DIMENSION APPLIES AT ANY POINT THROUGHOUT "c" DEPTH, SHARP CORNERS NOT PERMITTED. PROVIDE CORNERS WITH SUITABLE FILLET.
- ③ CLEAN JOINT FACES WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
- ④ CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING, WHEN SEALING IS REQUIRED.
- ⑤ JOINT WIDTH TOLERANCE IS +1/16" TO -1/32".
- ⑥ EVENLY SPACE A MINIMUM OF (8) ANCHOR PINS (4 PER SIDE) PER DOWEL ASSEMBLY. PROVIDE QUALITY CONTROL PLAN FOR ANCHORING THE DOWEL BAR ASSEMBLIES TO THE ENGINEER FOR ACCEPTANCE PER SPEC. 2301.
- ⑦ ANCHOR PIN REQUIREMENTS FOR CONCRETE PAVEMENT ON GRADE CONSTRUCTION. FOR CONCRETE OVERLAYS, ANCHOR PIN REQUIREMENT AS APPROVED BY THE ENGINEER.
- ⑧ TOLERANCES:
 - PLACE DOWEL BARS PARALLEL TO THE SUBSTRATE SURFACE ±1/8" IN 15".
 - PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT ±1/4" IN 15".
 - SAW CONTRACTION JOINTS PERPENDICULAR TO THE CENTERLINE OF THE PAVEMENT AND CENTERED ON THE DOWEL BAR ±3".
 - HEIGHT (Hc) TO CENTER OF DOWEL BAR ± 1/2".
- ⑨ DISTANCE TO EDGE OF PAVEMENT FROM OUTSIDE DOWEL:
 - 3' 0" FOR 14' 0" LANE.
 - 2' 6" FOR 13' 6" LANE.
 - 2' 0" FOR 13' 0" LANE.
 - 1' 0" FOR 12' 0" LANE.
- ⑩ CONTRACTOR OPTION TO CUT AND BEND SPACER WIRES AFTER STAKING.

LEAD EXPERT OFFICE

GLENN ENGSTROM
DIRECTOR
OFFICE OF MATERIALS
AND ROAD RESEARCH



STANDARD PLAN 5-297.221 1 OF 4

APPROVED: 10-03-2022
REVISED:

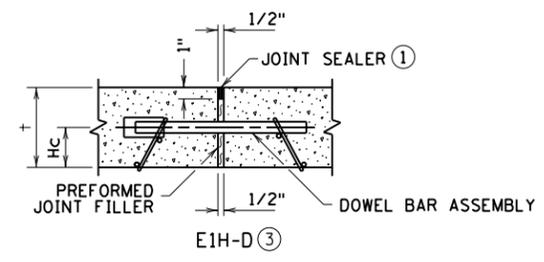
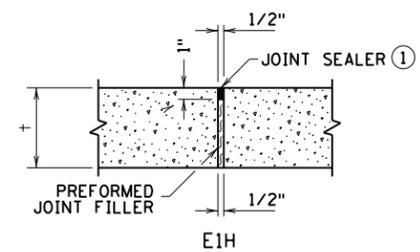
THOMAS STYBICKI
STATE DESIGN ENGINEER

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

PAVEMENT JOINTS
CONTRACTION (DESIGN C)

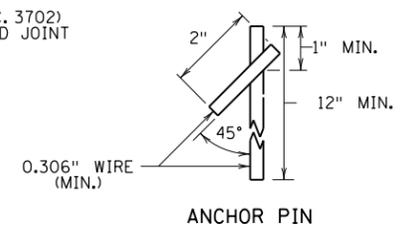
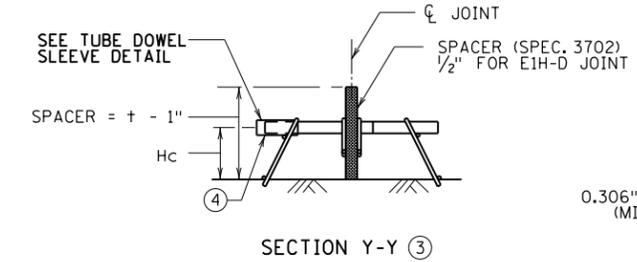
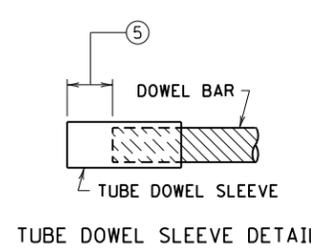
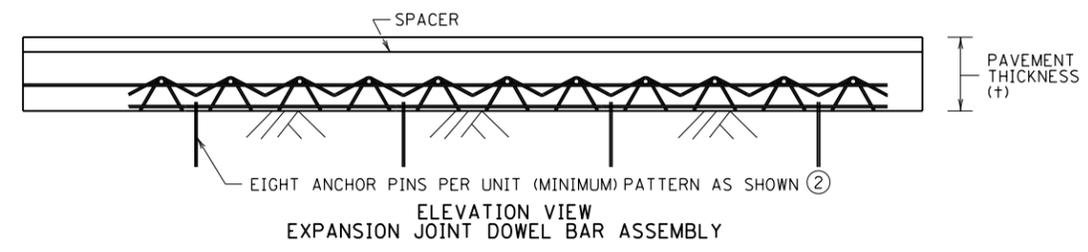
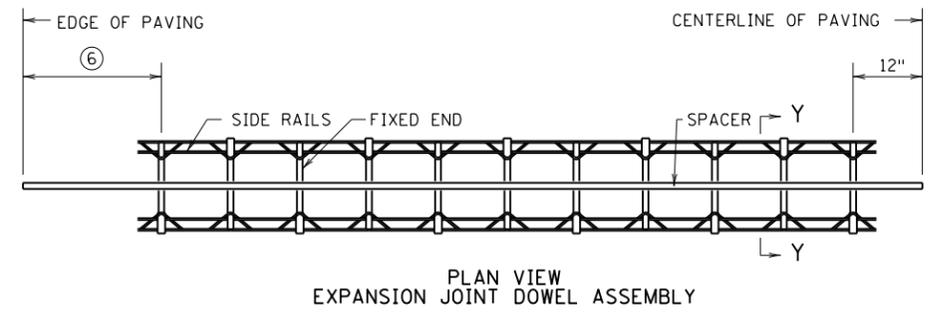
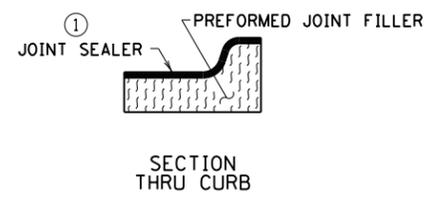
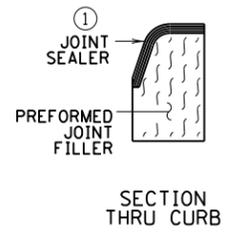
PLOTTED/REVISED: 2/1/2024 9:42:14 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_std\in_200.dgn



EXPANSION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE				
JOINT REFERENCE		PREFORMED JOINT FILLER SPEC.	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
E1H	E1H-D	3702	3725	1/2"

LEGEND	EXAMPLE
E = EXPANSION JOINT	E1H-D
NO. = JOINT REFERENCE	
H = HOT POURED	
-D = DOWEL BARS	



DOWEL BAR TABLE		
† PAVEMENT THICKNESS (IN.)	DOWEL BAR DIAMETER (IN.)	Hc HEIGHT TO CENTER OF DOWEL BAR (IN.)
7 - 7 1/2	1	3
8 - 10	1 1/4	4
≥ 10 1/2	1 1/2	5

NOTES:

- WHEN USING THE EXPANSION JOINT DOWEL ASSEMBLY, CONTACT THE CONCRETE OFFICE.
- SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.
- PROVIDE PREFORMED JOINT FILLER MATERIAL IN ACCORDANCE WITH SPEC. 3702.
- FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ① JOINT SEALER SPEC. 3725. CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING. TOP OF SEALER FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE.
- ② EVENLY SPACE A MINIMUM OF (8) ANCHOR PINS (4 PER SIDE) PER DOWEL ASSEMBLY. PROVIDE QUALITY CONTROL PLAN FOR ANCHORING THE DOWEL BAR ASSEMBLIES TO THE ENGINEER FOR ACCEPTANCE PER SPEC. 2301.
- ③ TOLERANCES:
 - PLACE DOWEL BARS PARALLEL TO THE SUBSTRATE SURFACE ± 1/8" IN 15".
 - PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT ± 1/4" IN 15"
 - HEIGHT (hc) TO CENTER OF DOWEL BAR ± 1/2".
- ④ PLACE METAL INSTALLATION SHIELDS FOR EXPANSION JOINTS PARALLEL TO THE PAVEMENT SURFACE AND THE PAVEMENT CENTERLINE WITHIN A TOLERANCE OF 1/4" WITHIN THE LENGTH OF BAR.
- ⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE IS 1" MINIMUM.
- ⑥ DISTANCE TO EDGE OF PAVEMENT FROM OUTSIDE DOWEL:
 - 3' 0" FOR 14' 0" LANE.
 - 2' 6" FOR 13' 6" LANE.
 - 2' 0" FOR 13' 0" LANE.
 - 1' 0" FOR 12' 0" LANE.

LEAD EXPERT OFFICE

GLENN ENGSTROM
DIRECTOR
OFFICE OF MATERIALS
AND ROAD RESEARCH



STANDARD PLAN 5-297.221 2 OF 4

APPROVED: 10-03-2022
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

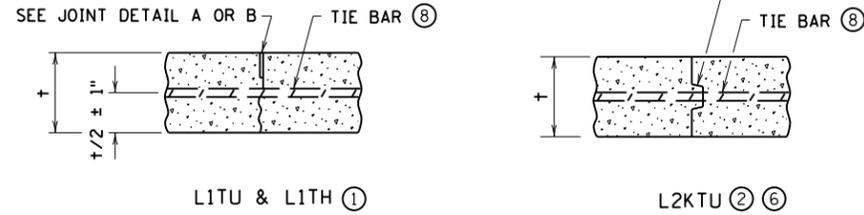
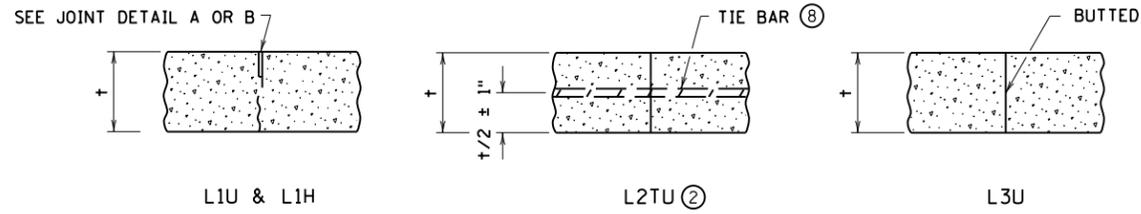
PAVEMENT JOINTS
EXPANSION (DESIGN E)

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET 28 OF 162 SHEETS

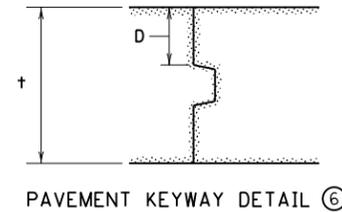
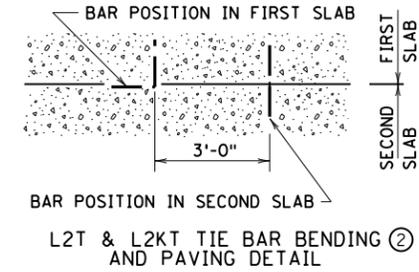
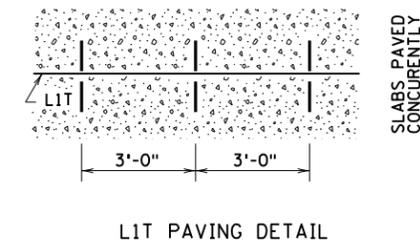
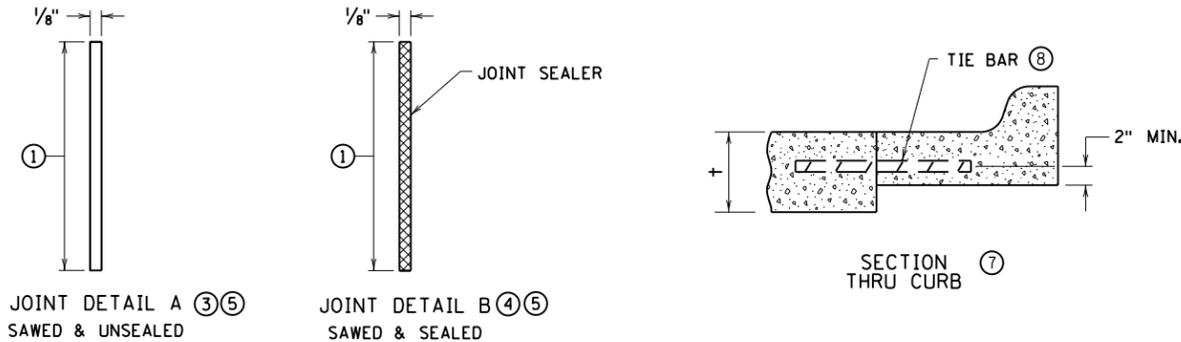
PLOTTED/REVISED: 2/1/2024 9:42:05 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_std\plan_200.dgn



LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE					
JOINT REFERENCE			JOINT DETAIL	JOINT SEALER SPEC	JOINT WIDTH
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS			
L1U	L1TU		A	UNSEALED	1/8"
L1H	L1TH		B	3725	1/8"
	L2TU	L2KTU	NONE	UNSEALED	
L3U			NONE	UNSEALED	

LEGEND		EXAMPLE
L = LONGITUDINAL JOINT		L2KTU
NO. = JOINT REFERENCE		
1 = PAVED CONSTRUCTION JOINT		
2 = TIED CONSTRUCTION JOINT		
3 = BUTTED CONSTRUCTION JOINT		
K = KEYWAY		
T = TIE BARS		
U = UNSEALED		
H = HOT POURED		



† PAVEMENT THICKNESS	D (MIN. DEPTH)
< 7"	2-1/2"
7" TO 7-1/2"	3"
8" TO 9-1/2"	4"
≥ 10"	5"

† PAVEMENT THICKNESS	D (MIN. DEPTH)
< 10"	NO KEYWAY
≥ 10"	5"

NOTES:

- ① PROVIDE EPOXY-COATED TIE BARS COMPLYING WITH SPEC. 3301.
- ② FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ③ SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.
- ④ SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
- ⑤ LONGITUDINAL JOINTS SAWED WIDER THAN 1/8", CONTACT THE CONCRETE UNIT FOR SEALING RECOMMENDATIONS.
- ⑥ JOINT DEPTH AND TOLERANCE: $t/3 \pm 1/4"$.
- ⑦ BEND TIE BARS 90 DEGREES WHEN INSERTED IN THE L2 JOINTS, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.
- ⑧ CLEAN JOINT FACES WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
- ⑨ CLEAN AND DRY JOINT FACES BY SANDBLASTING AND AIR BLASTING, WHEN SEALING IS REQUIRED.
- ⑩ JOINT WIDTH TOLERANCE IS $+1/16"$ TO $-1/32"$.
- ⑪ CONTRACTOR'S OPTION TO USE KEYWAY WHEN:
 - PLACING FIXED FORM CONSTRUCTION.
 - PLACING SLIPFORM CONSTRUCTION WHEN $t \ge 10"$.
- ⑫ USE OF KEYWAY FOR ANY OTHER APPLICATION REQUIRES APPROVAL BY THE ENGINEER. OTHER KEYWAY SHAPES MAY BE USED WITH THE APPROVAL OF THE CONCRETE ENGINEER.
- ⑬ WHEN CURB AND GUTTER IS NOT CONSTRUCTED AT THE SAME DEPTH AS ADJACENT CONCRETE, PLACE TIE BAR MINIMUM OF 2" ABOVE THE CURB AND GUTTER GRADE.
- ⑭ PROVIDE NO. 4 TIE BAR, 30" LONG, SPACED AT 3' ON CENTER.

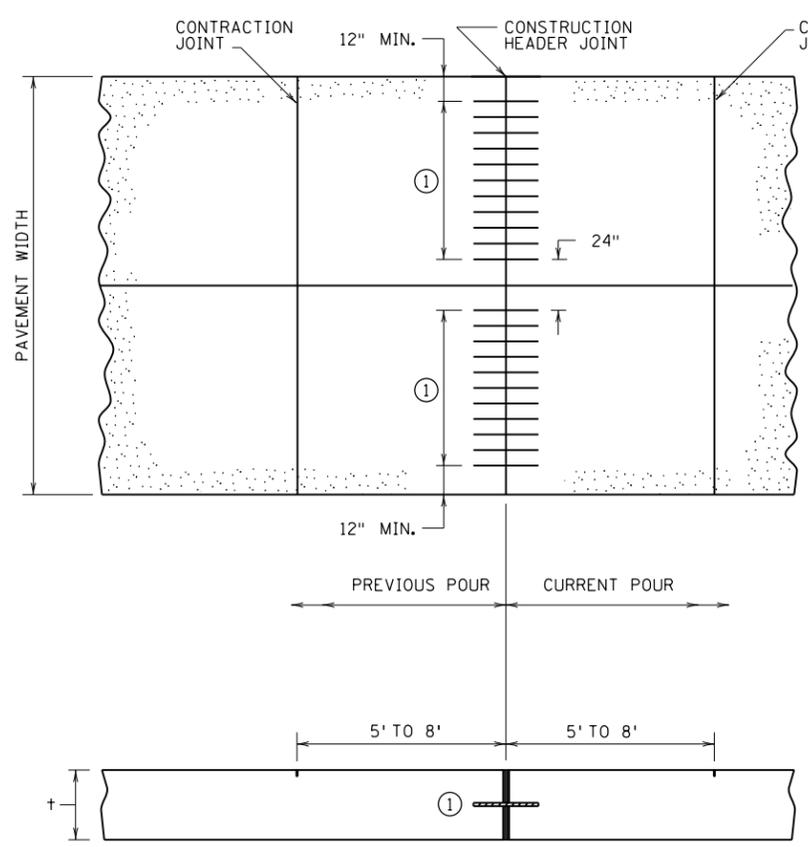
LEAD EXPERT OFFICE
 GLENN ENGSTROM
 DIRECTOR
 OFFICE OF MATERIALS
 AND ROAD RESEARCH

MINNESOTA DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.221 3 OF 4
 APPROVED: 10-03-2022
 REVISED:
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

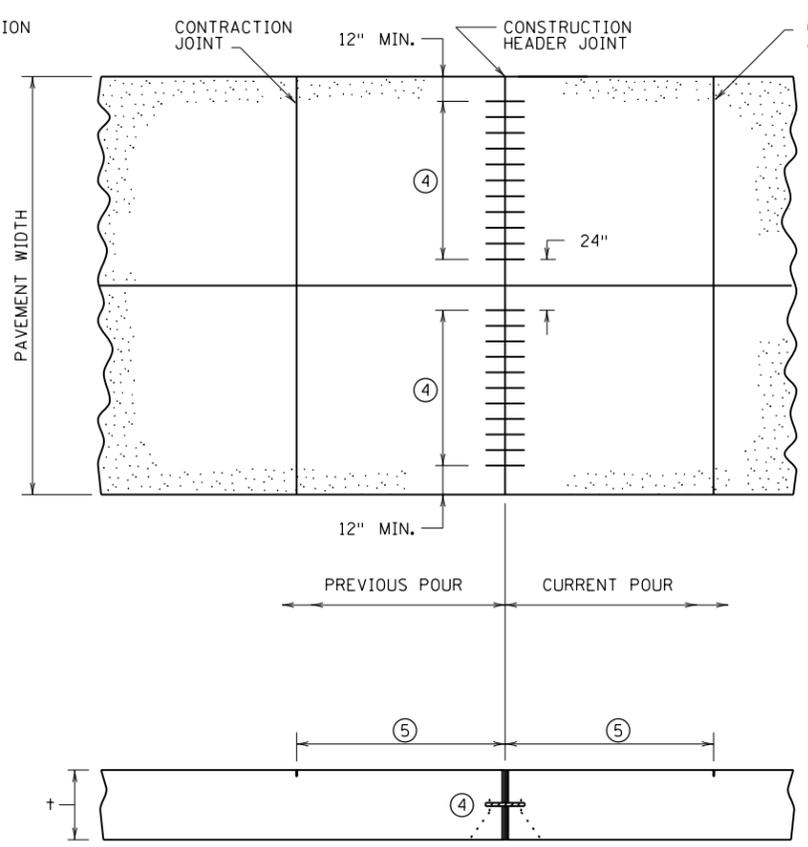
PAVEMENT JOINTS
 LONGITUDINAL (DESIGN L)
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014
 SHEET 29 OF 162 SHEETS

PLOTTED/REVISED: 2/1/2024 9:42:16 AM

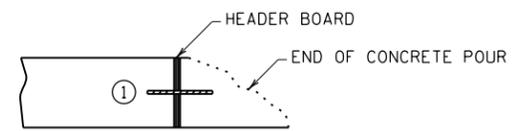
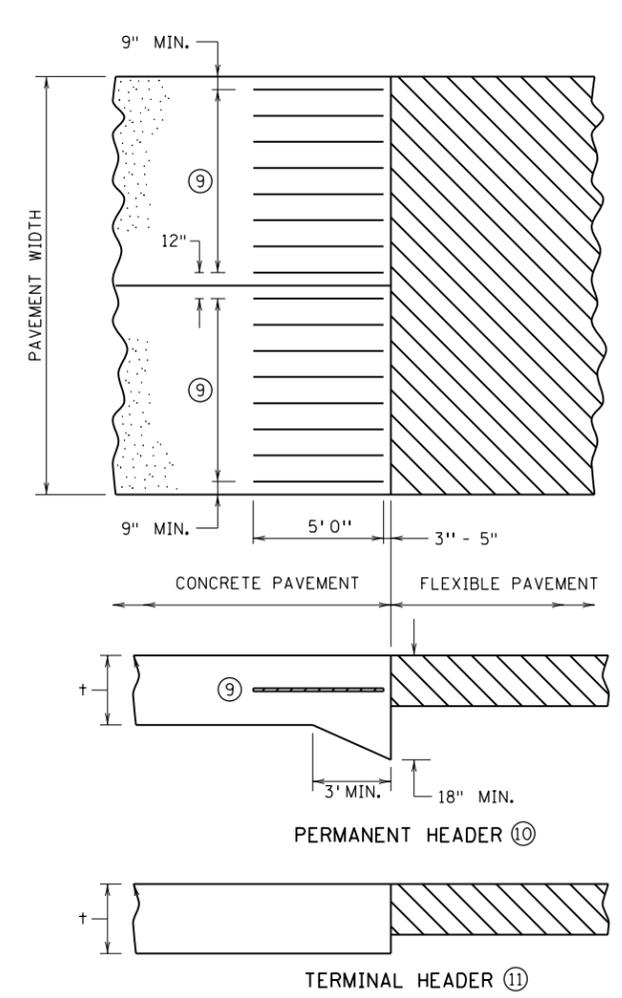
WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_std\plan_200.dgn



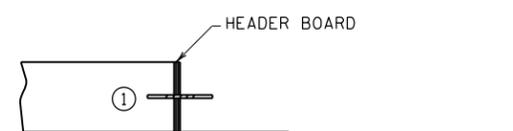
REINFORCEMENT BAR CONSTRUCTION HEADERS



DOWEL BAR CONSTRUCTION HEADERS



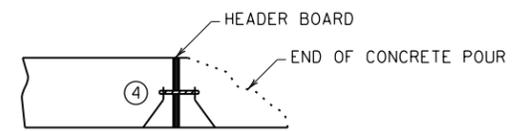
SLIPFORM PLACED REINFORCEMENT BAR HEADER (2)



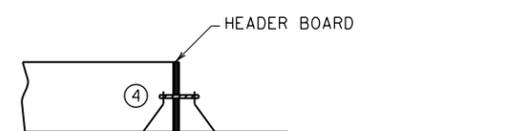
FIXED FORM PLACED REINFORCEMENT BAR HEADER (3)



DRILL AND GROUT REINFORCEMENT BAR HEADER



SLIPFORM PLACED DOWEL BAR HEADER (6)



FIXED FORM PLACED DOWEL BAR HEADER (7)



DRILL AND GROUT DOWEL BAR HEADER

NOTES:

- PROVIDE EPOXY-COATED REINFORCEMENT BARS IN ACCORDANCE WITH SPEC. 3301.
- (1) PROVIDE NO. 4 REINFORCEMENT BARS, 30" LONG, SPREAD 12" ON CENTER AT DEPTH OF $T/2 \pm 1"$.
- (2) PAVE PAST THE HEADER LOCATION, REMOVE END OF CONCRETE POUR, SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION AND SLOTTED OR DRILLED FOR REINFORCEMENT BARS. INSERT THE REINFORCEMENT BARS AND FINISH THE CONCRETE BEHIND THE BOARD.
- (3) SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION AND SLOTTED OR DRILLED FOR REINFORCEMENT BARS. PLACE THE CONCRETE BEHIND THE BOARD AND INSERT THE REINFORCEMENT BARS. CONSOLIDATE AND FINISH THE CONCRETE BEHIND THE HEADER BOARD.
- (4) PROVIDE DOWEL BARS IN ACCORDANCE WITH SPEC. 3302 AND THE CONTRACT.
- (5) DISTANCE EQUAL TO OR LESS THAN THE DESIGNED CONTRACTION JOINT SPACING IN ACCORDANCE WITH THE CONTRACT.
- (6) PLACE DOWEL BAR BASKET AT DESIRED HEADER LOCATION, SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION ABOVE AND BELOW THE DOWELS. PAVE PAST THE HEADER LOCATION AND FINISH CONCRETE BEHIND THE HEADER BOARD. THOROUGHLY REMOVE ALL CONCRETE FROM THE EXPOSED DOWELS.
- (7) PLACE DOWEL BAR BASKET AT DESIRED HEADER LOCATION, SET HEADER BOARD SHAPED TO PAVEMENT CROSS SECTION ABOVE AND BELOW THE DOWELS. PLACE, CONSOLIDATE AND FINISH THE CONCRETE BEHIND THE HEADER BOARD.
- (8) DRILL AND GROUT 18" LONG DOWEL OR REINFORCEMENT BARS SPACED AT 12" ON CENTER AT A DEPTH OF $T/2 \pm 1"$. DRILL THE HOLE $1/8"$ GREATER THAN THE NOMINAL OUTSIDE DIAMETER OF THE BAR BEING PLACED TO A DEPTH OF 9". INJECT A MNDOT-APPROVED EPOXY OR NON-SHRINK GROUT IN THE BACK OF THE DRILL HOLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - FOR DOWEL BAR HEADERS, USE DOWEL BARS HAVING A DIAMETER IN ACCORDANCE WITH SPEC. 3302 AND THE CONTRACT.
 - FOR REINFORCEMENT BAR HEADERS, USE NO. 4 REINFORCEMENT BARS.
- (9) PROVIDE NO. 7 REINFORCEMENT BARS, 5' LONG, SPACED 18" ON CENTER AT DEPTH OF $T/2 \pm 1"$.
- (10) USE PERMANENT HEADER WHEN LONG SECTIONS OF CONCRETE (400' OR GREATER) ABUT BITUMINOUS. CONTACT THE CONCRETE UNIT WHEN FUTURE CONCRETE IS BEING CONSTRUCTED ADJACENT TO AN EXISTING PERMANENT HEADER.
- (11) USE TERMINAL HEADER WHEN SHORT SECTIONS OF CONCRETE (LESS THAN 400' ABUT BITUMINOUS (ON SIDE STREETS, FOR EXAMPLE)).

LEAD EXPERT OFFICE

GLENN ENGSTROM
DIRECTOR
OFFICE OF MATERIALS
AND ROAD RESEARCH



STANDARD PLAN 5-297.221 4 OF 4

THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 10-03-2022
REVISED:

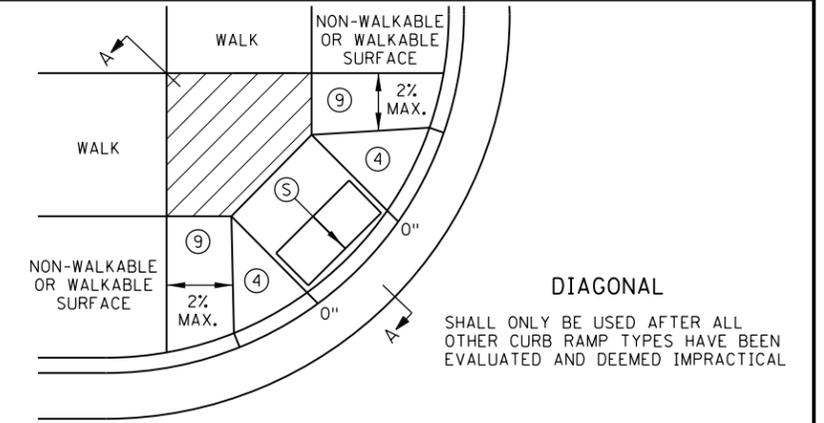
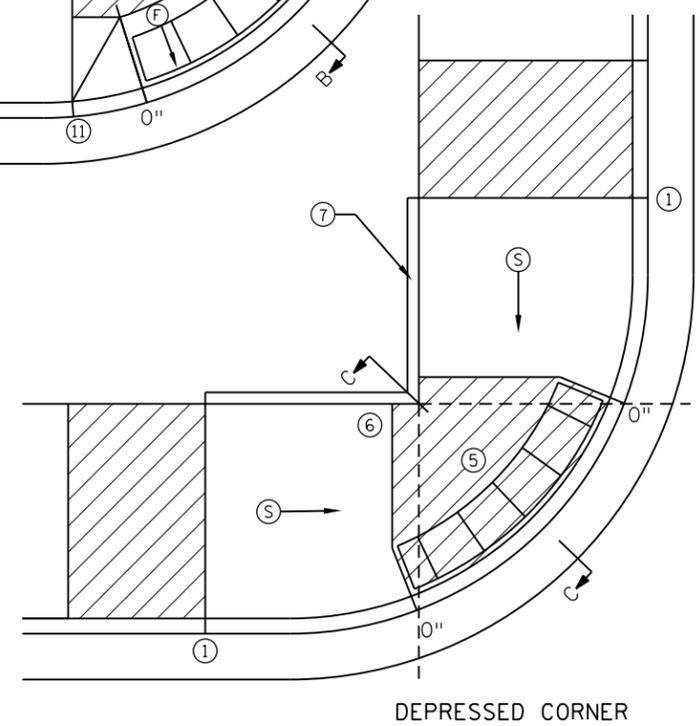
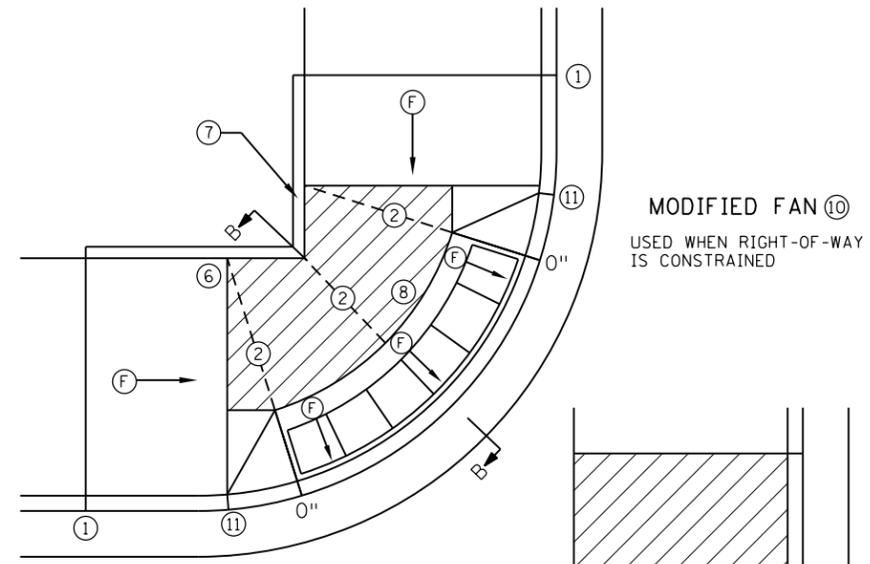
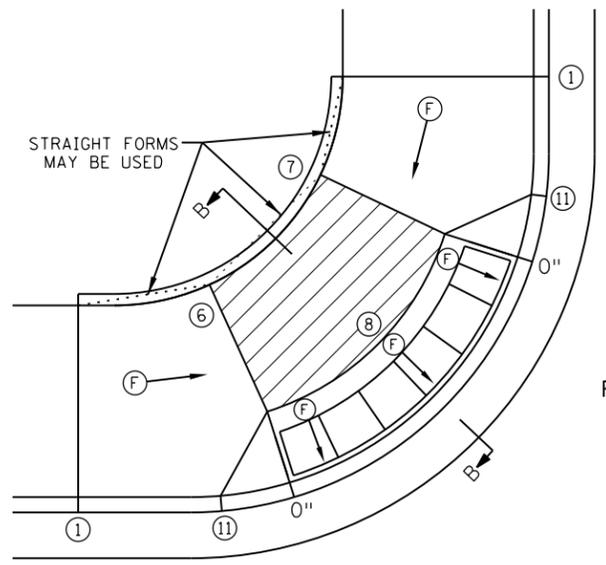
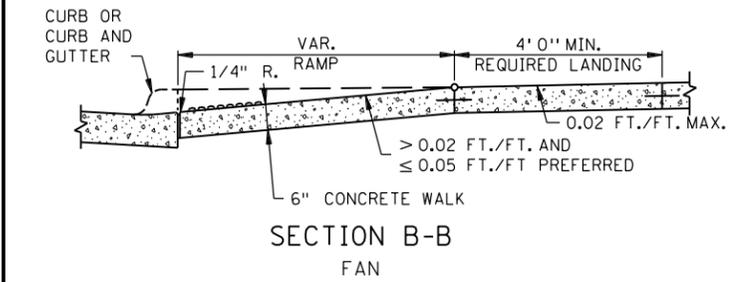
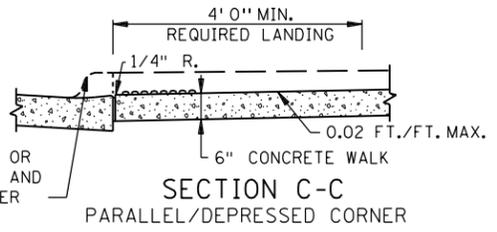
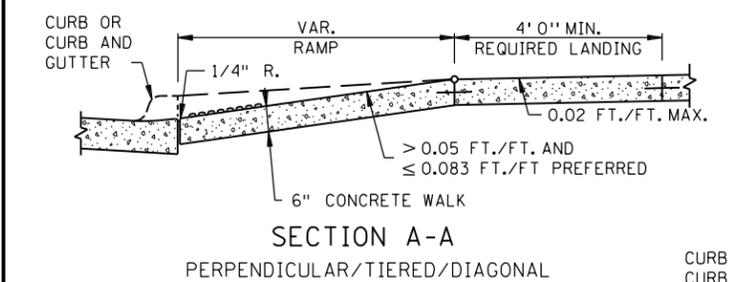
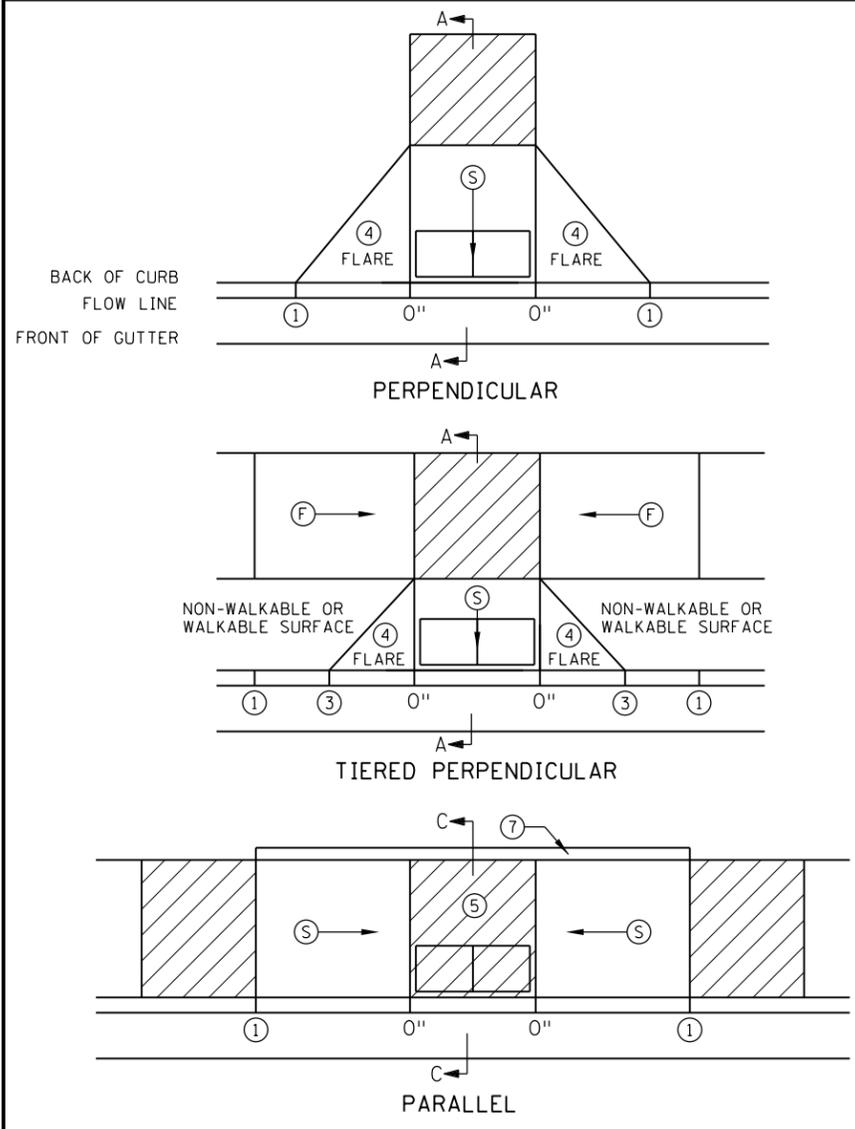
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

PAVEMENT JOINTS
CONSTRUCTION AND TERMINAL HEADERS

SHEET 30 OF 162 SHEETS

PLOTTED/REVISED: 2/1/2024 9:42:16 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_std\in_200.dgn



NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.
 - INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
 - SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.
 - CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
 - ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL, THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH, EXCEPT AS STATED IN (6) BELOW.
 - TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.
 - WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE. MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.
 - ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
 - 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
 - WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
 - RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
- (1) MATCH FULL HEIGHT CURB.
 - (2) 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
 - (3) 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
 - (4) SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
 - (5) DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
 - (6) THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK, THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
 - (7) WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
 - (8) A 7' MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.
 - (9) PAVE FULL WALK WIDTH.
 - (10) "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.
 - (11) INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
(Hatched Box)	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X"	CURB HEIGHT

REVISION:
APPROVED: 11-04-2021
Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

m MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 **1 OF 6**

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

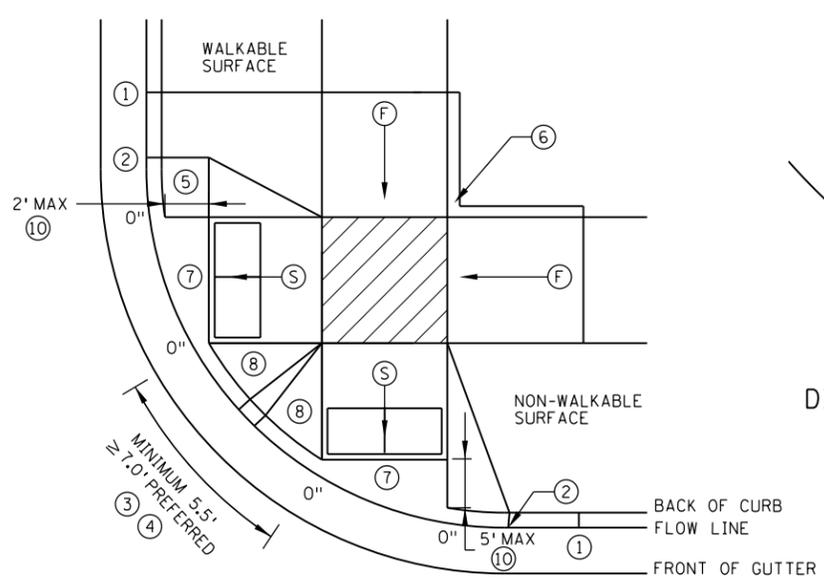
APPROVED: 11-04-2021
REVISED:

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

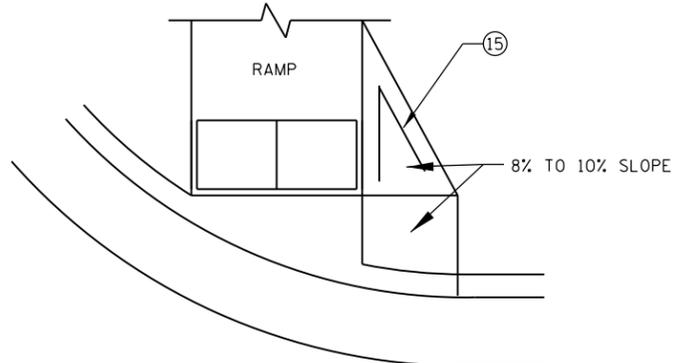
PEDESTRIAN CURB RAMP DETAILS

PLOTTED/REVISED: 2/1/2024 9:42:17 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\CadPlan\9054-000_std\plan_200.dgn

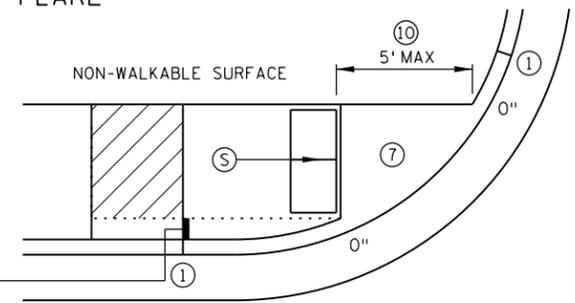


COMBINED DIRECTIONAL

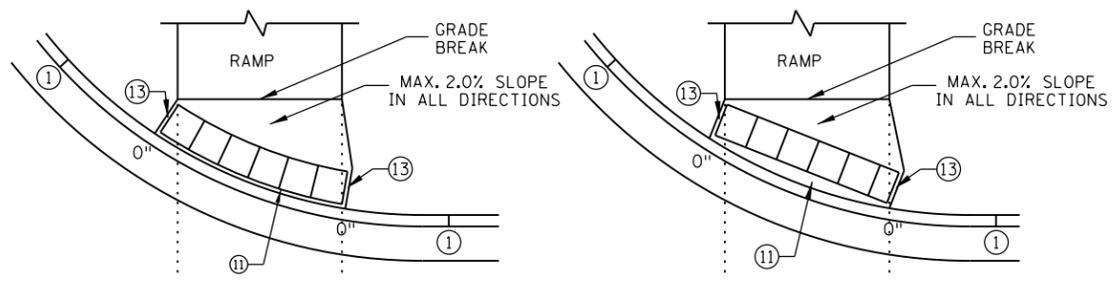


DIRECTIONAL RAMP WALKABLE FLARE

IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.

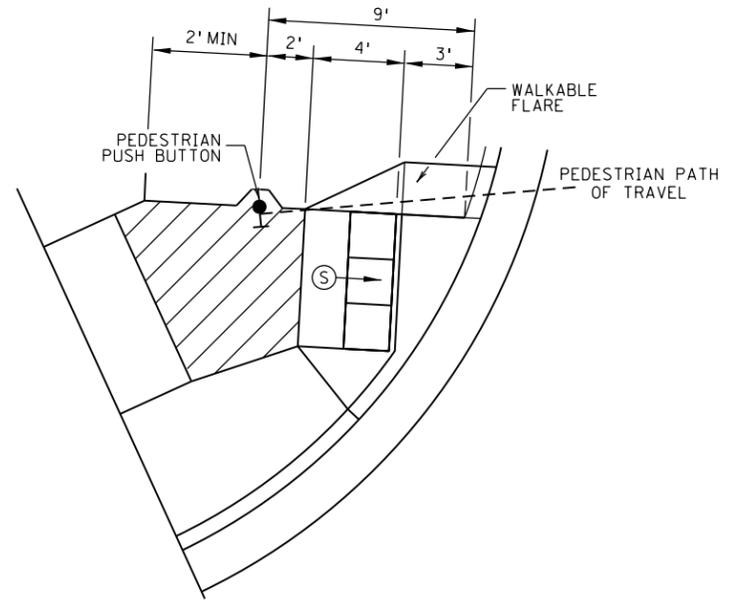


STANDARD ONE-WAY DIRECTIONAL ⑨



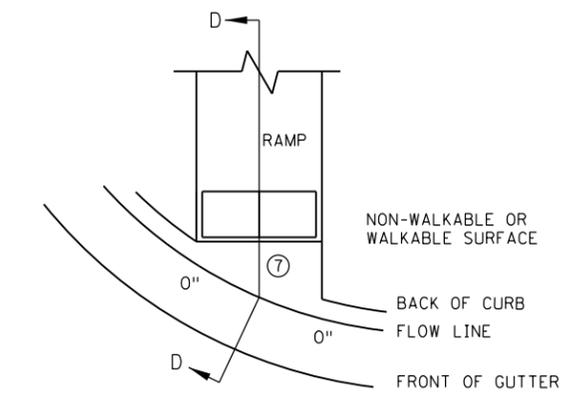
DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

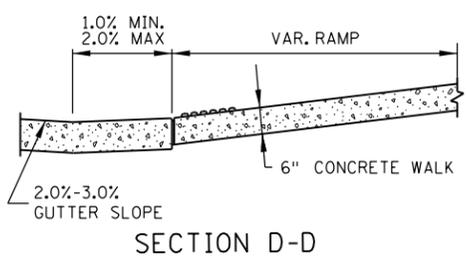


SEMI-DIRECTIONAL RAMP ③④⑨

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB
 PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)



CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D

NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
- INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
- SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
- ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.
- TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).
- TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
- ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
- WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
- RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

- ① MATCH FULL CURB HEIGHT.
- ② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.
- ③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
- ④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
- ⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHALL BE USED. SEE THE DETAIL ON THIS SHEET.
- ⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
- ⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
- ⑧ 8% TO 10% WALKABLE FLARE.
- ⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
- ⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- ⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
- ⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
- ⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.
- ⑮ PLACE 2 NO. 4 BARS 4 INCHES FROM SIDE OF FORMS WITH A MINIMUM 2 INCHES OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
[Hatched Box]	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X"	CURB HEIGHT

REVISION:

APPROVED: 11-04-2021

Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

m MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 2 OF 6

APPROVED: 11-04-2021
REVISED:

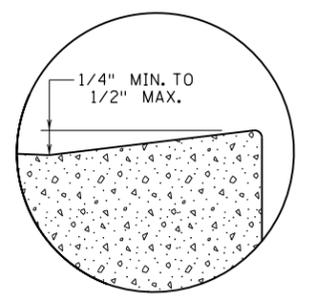
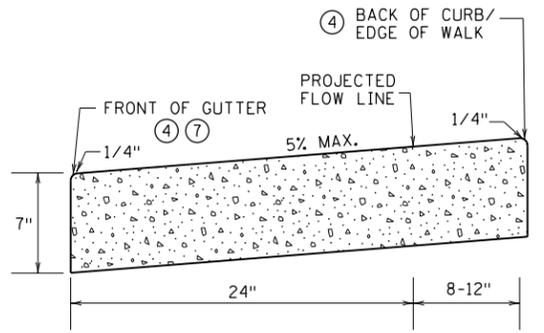
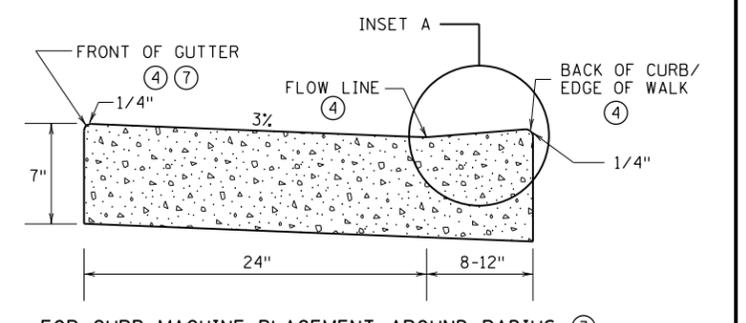
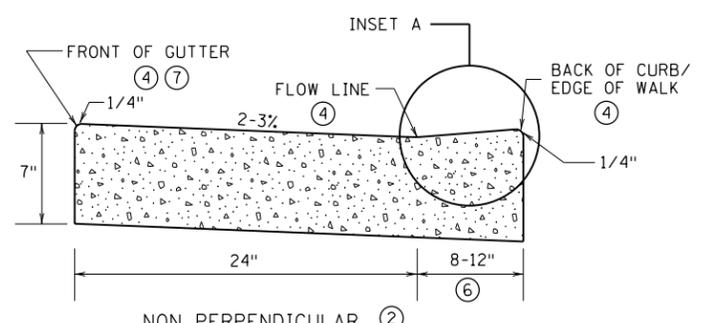
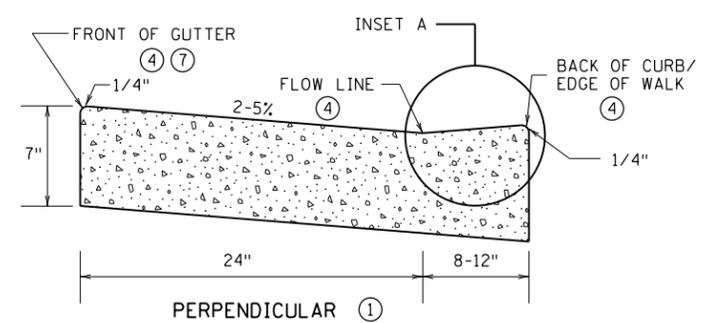
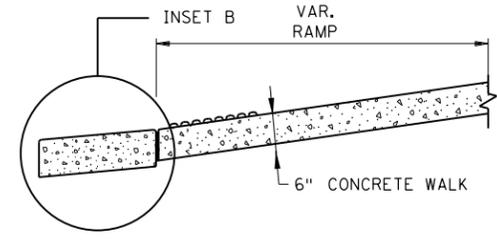
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

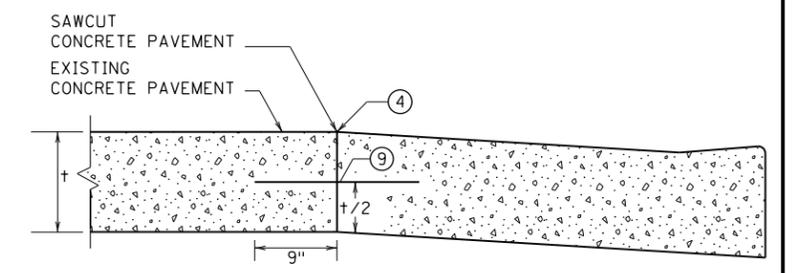
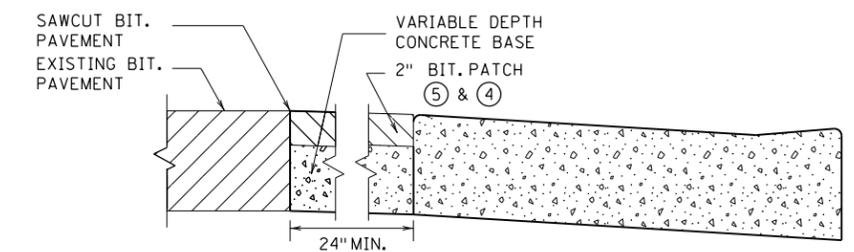
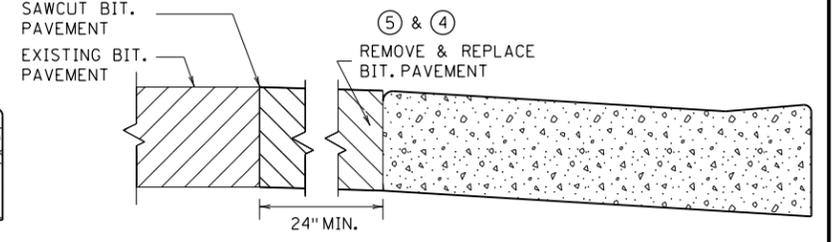
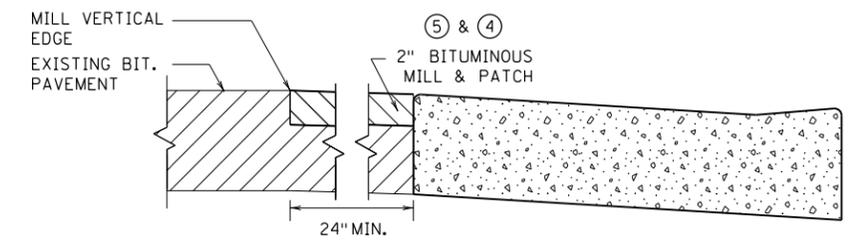
PEDESTRIAN CURB RAMP DETAILS

PLOTTED/REVISED: 2/1/2024 9:42:38 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\CadPlan\09054-000_std\in_200.dgn

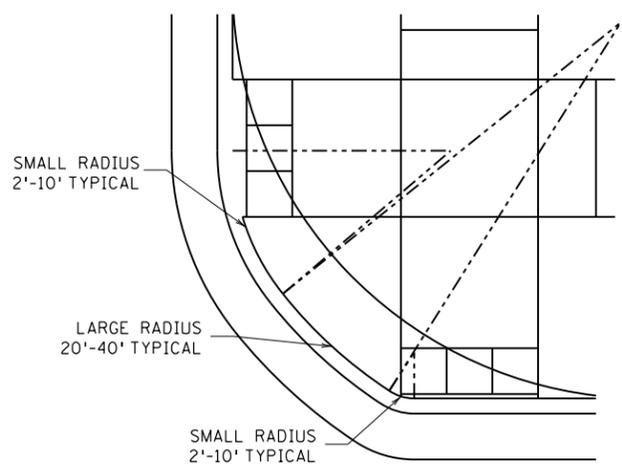
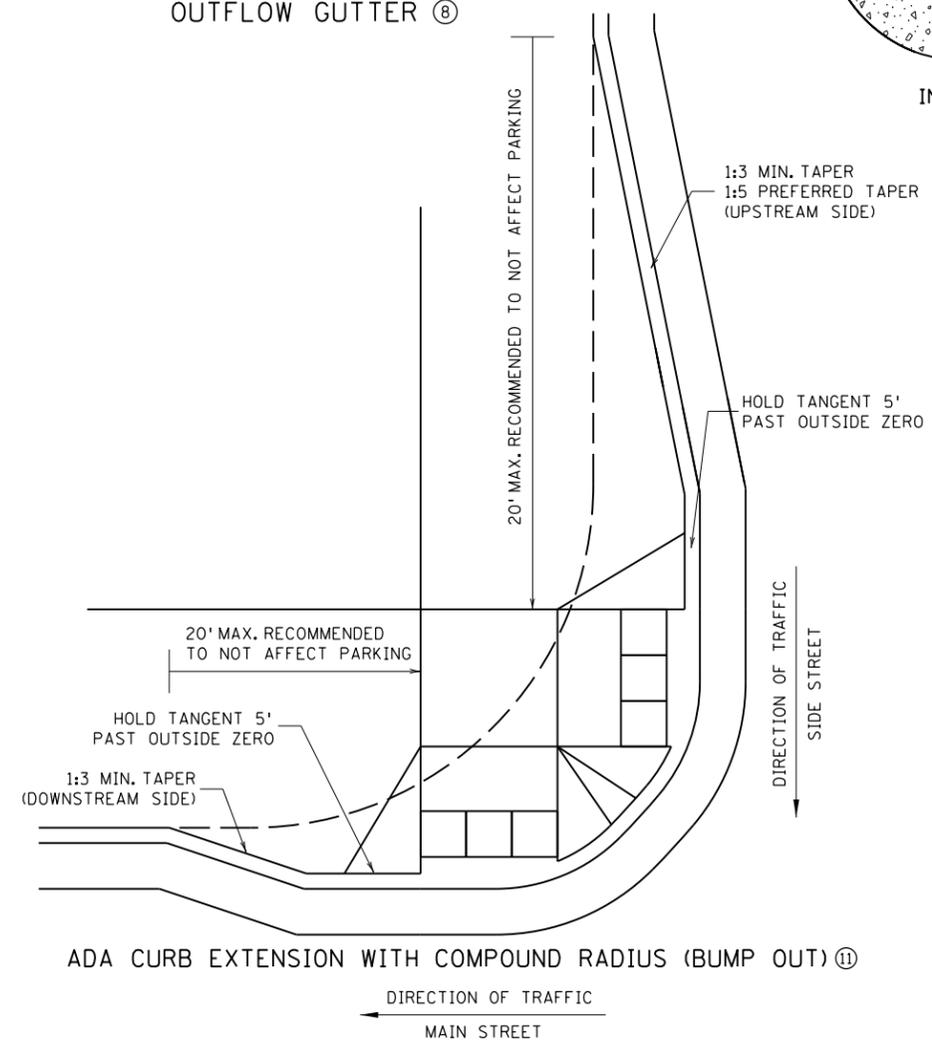


PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



ONLY ALLOWED PER ENGINEER'S APPROVAL

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER FOR USE ON CURB RAMP RETROFITS



COMBINED DIRECTIONAL (COMPOUND RADIUS)

- NOTES:**
- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM. NO PONDING SHALL BE PRESENT IN THE PAR.
 - ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
 - ① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
 - ② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
 - ③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
 - ④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
 - ⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
 - ⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
 - ⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
 - ⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
 - ⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.
 - ⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
 - ⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

REVISION:
 APPROVED: 11-04-2021
 Jeff J. Perkins
 OPERATIONS DIVISION

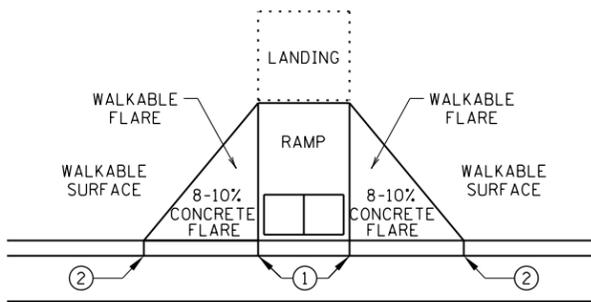
m MINNESOTA
 DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.250 3 OF 6
 APPROVED: 11-04-2021
 REVISED:
 Thomas Styrbicki
 STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

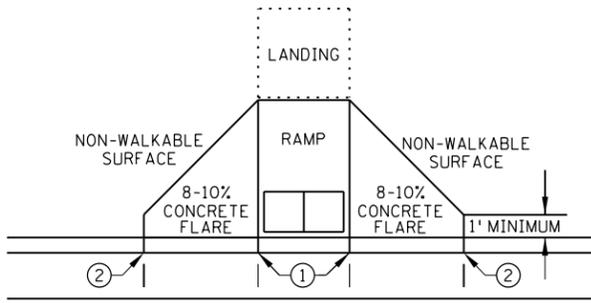
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

PLOTTED/REVISED: 2/1/2024 9:42:38 AM

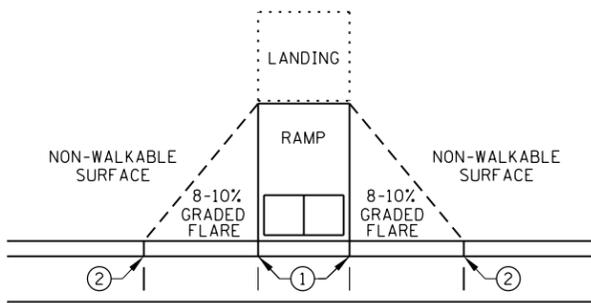
WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_std\in_200.dwg



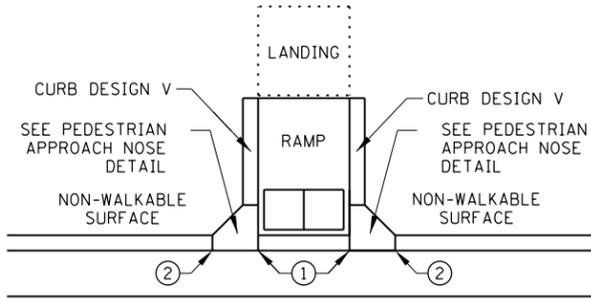
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

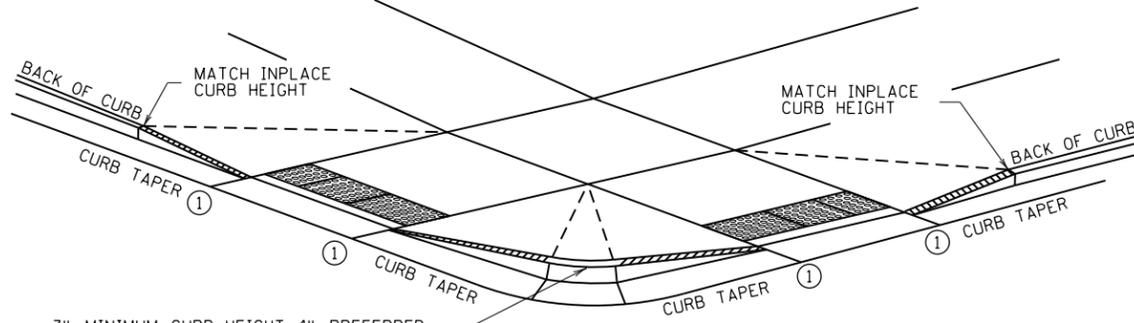


GRADED FLARES



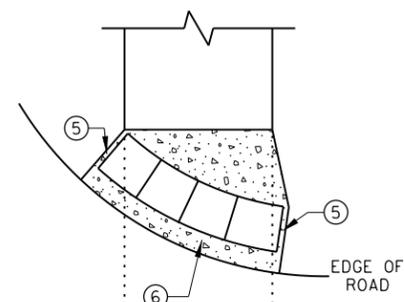
RETURNED CURB ④

TYPICAL SIDE TREATMENT OPTIONS ③ ⑩

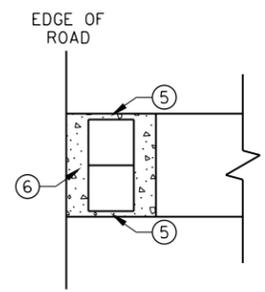


3" MINIMUM CURB HEIGHT, 4" PREFERRED
(MEASURED AT FRONT FACE OF CURB)
FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH CURB AND GUTTER ⑦

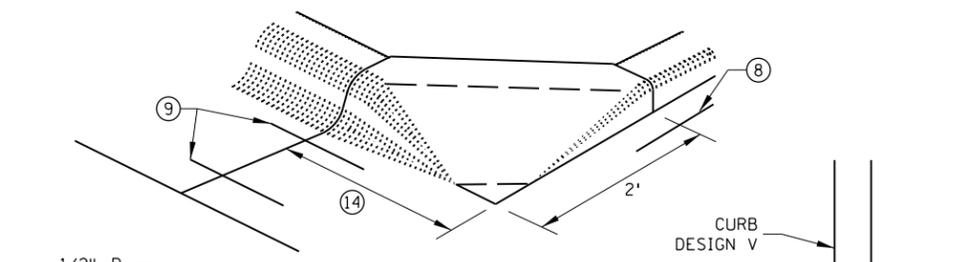


RADIAL DETECTABLE WARNING

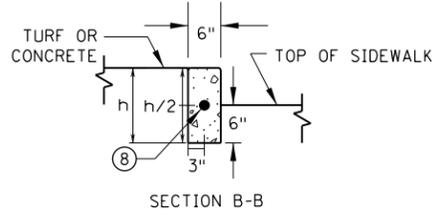


RECTANGULAR DETECTABLE WARNING

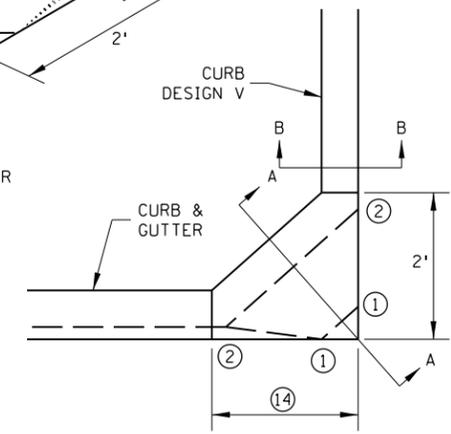
DETECTABLE EDGE WITHOUT CURB AND GUTTER



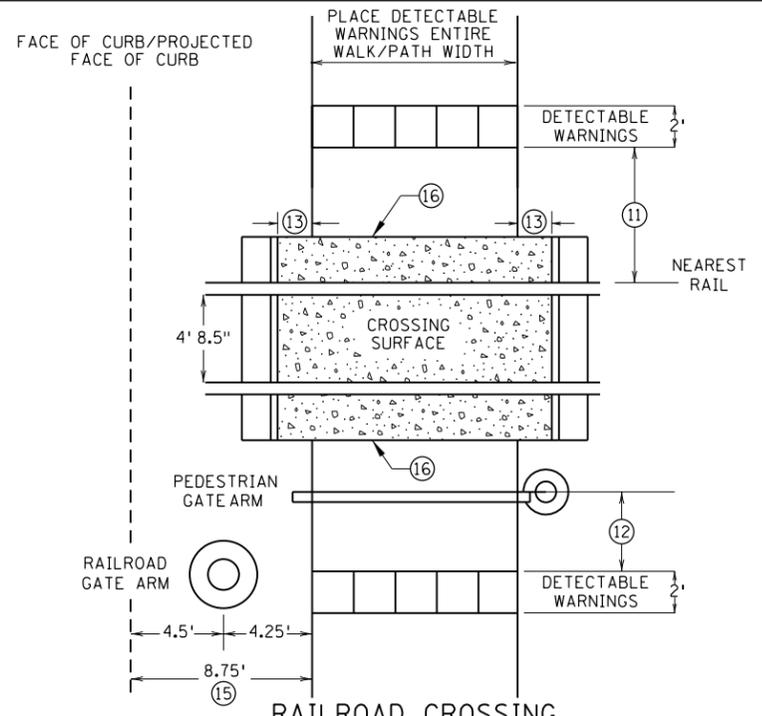
SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH NOSE DETAIL
(FOR RETURNED CURB SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

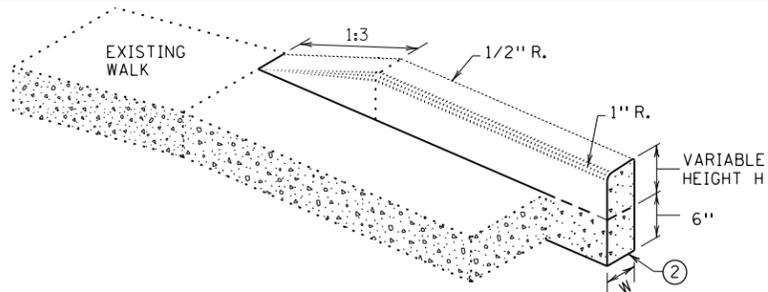
- INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.
- SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
- A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMP'S FROM THE BACK OF CURB.
- ① 0" CURB HEIGHT. SEE INSET A ON SHEET 3 OF 6.
- ② FULL CURB HEIGHT.
- ③ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
- ④ TYPICALLY USED FOR MEDIANS AND ISLANDS.
- ⑤ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑥ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.
- ⑦ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS, AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
- ⑧ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.
- ⑨ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.
- ⑩ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6" LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE. CONSTRUCT THESE TAPERS AT 0"-3" AT 8-10%, THEN LESS THAN 5% FROM 3" CURB TO FULL CURB HEIGHT.
- ⑪ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
- ⑫ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑪.
- ⑬ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
- ⑭ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
- ⑮ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.
- ⑯ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

REVISION:
APPROVED: 11-04-2021
Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

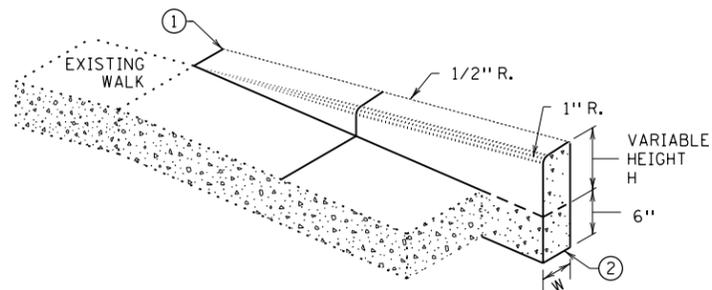
m MINNESOTA
DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.250 4 OF 6
APPROVED: 11-04-2021
REVISED:
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

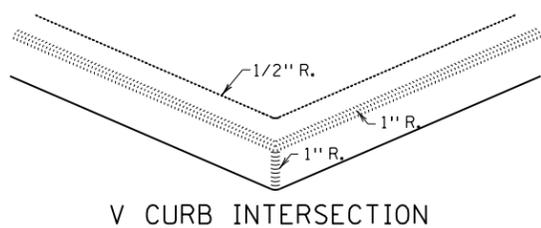
PEDESTRIAN CURB RAMP DETAILS



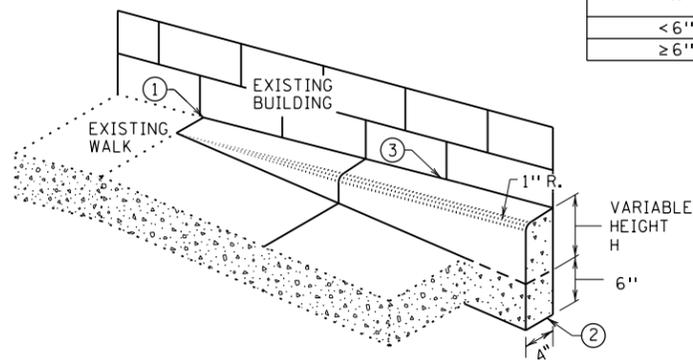
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

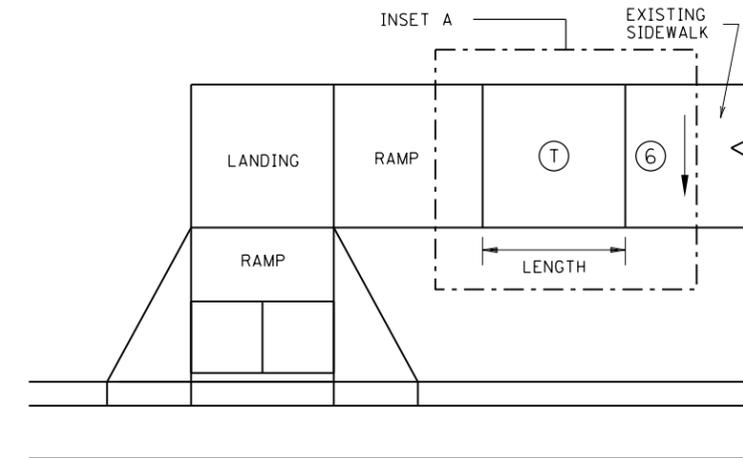


V CURB INTERSECTION

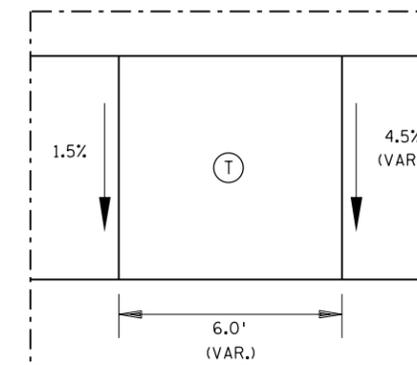


V CURB ADJACENT TO BUILDING
OR BARRIER

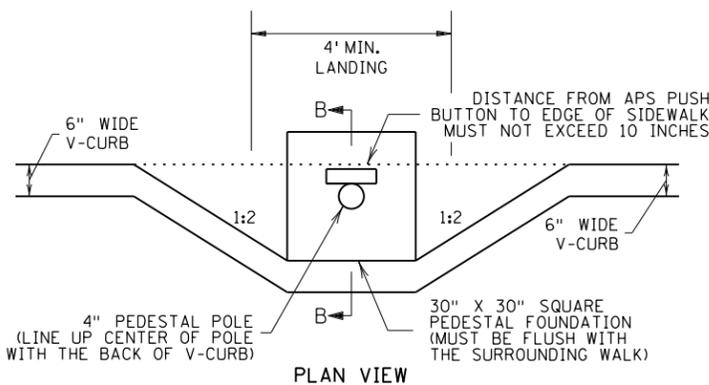
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



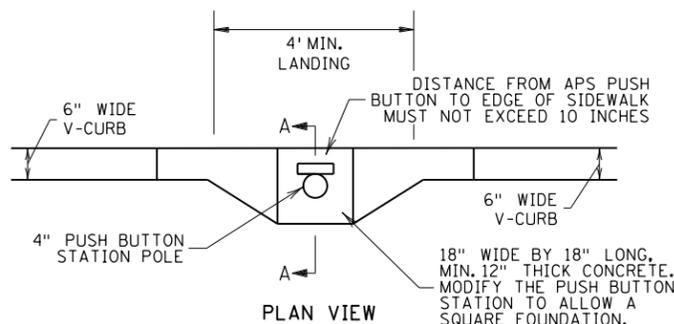
TRANSITION PANEL ④ ⑤



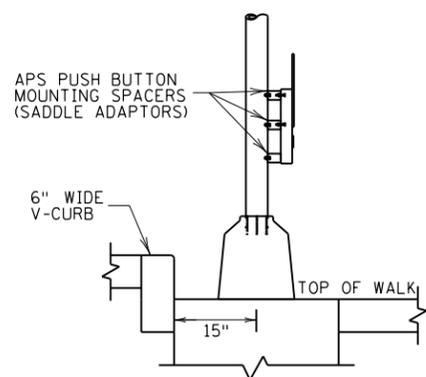
INSET A



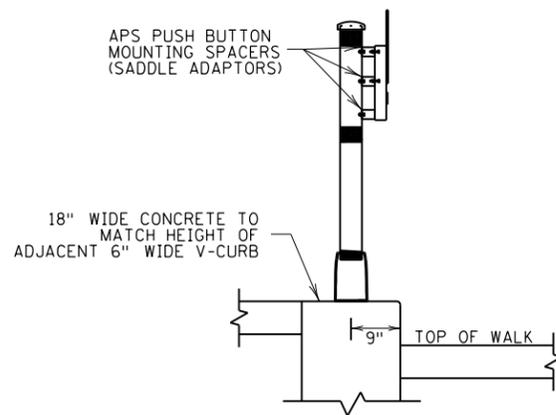
PLAN VIEW



PLAN VIEW



SECTION B-B
SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A
PUSH BUTTON STATION (V-CURB)

NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

- ① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- ③ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
- ④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
- ⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
- ⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

Ⓢ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

▨ LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.

Ⓣ TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

REVISION:
APPROVED: 11-04-2021
<i>Jeff J. Perkins</i> JEFFREY PERKINS OPERATIONS DIVISION



STANDARD PLAN 5-297.250 5 OF 6

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

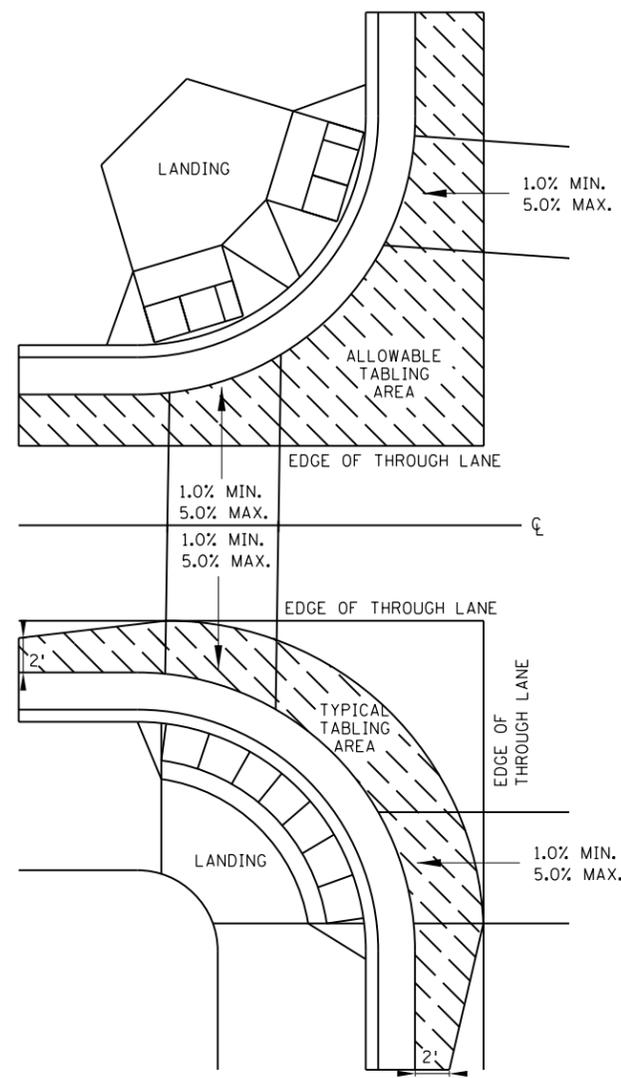
APPROVED: 11-04-2021
REVISED:

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

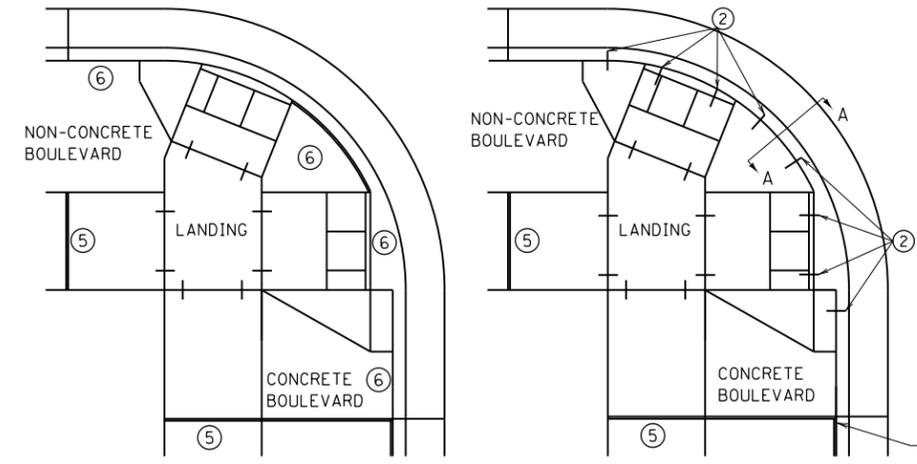
PEDESTRIAN CURB RAMP DETAILS

9/4/2019 AM
2/1/2024
PLOTTED/REVISED:

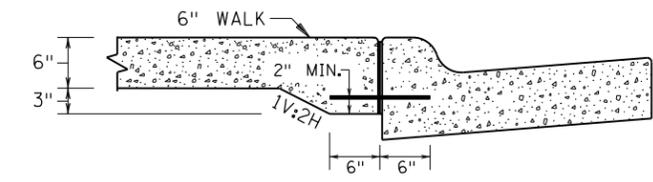
WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\09054-000_std\plan_200.dgn



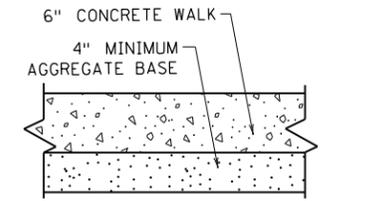
CURB LINE AND ROAD CROSSING ADJUSTMENTS



EXPANSION MATERIAL PLACEMENT FOR CONCRETE ROADWAYS
CURB LINE REINFORCEMENT (4) PLACEMENT ON BITUMINOUS ROADWAYS



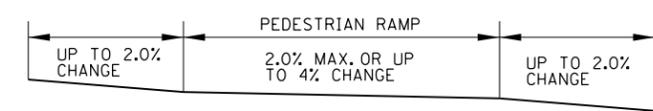
SECTION VIEW A-A
THICKENED SECTION THROUGH CURB RAMP FLARES



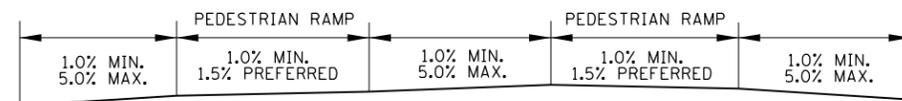
TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER



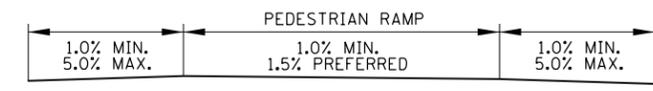
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



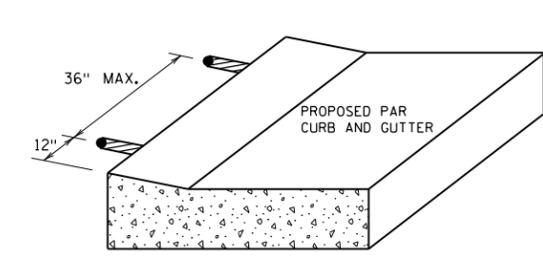
FLOW LINE PROFILE "TABLE" - FAN



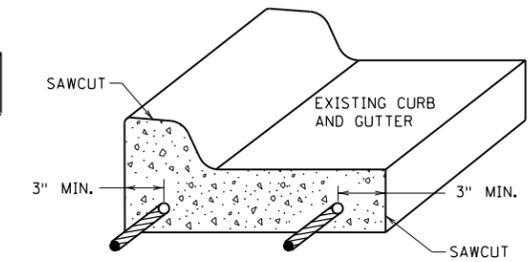
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



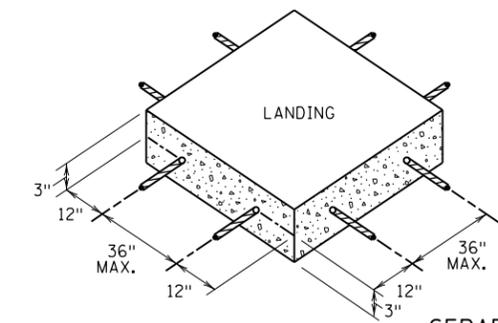
FLOW LINE PROFILE RAISE - FAN



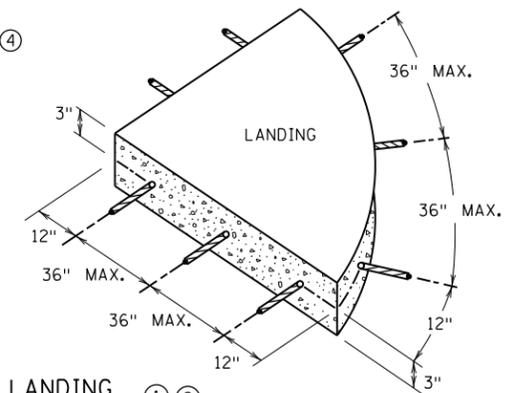
CURB RAMP REINFORCEMENT DETAILS (2) (4)



CURB AND GUTTER REINFORCEMENT (3)



SEPARATE LANDING POUR REINFORCEMENT (1) (2)



GENERAL NOTES:

- "TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.
- RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.
- MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
 - 1.0% MIN. CROSS-SLOPE OF THE ROAD
 - 5.0% MAX. CROSS-SLOPE OF THE ROAD
 - "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
 - UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP
- STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.
- RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
 - 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
 - 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
 - 5.0% RECOMMENDED MAX. FLOW LINE
 - LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

- TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
- DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) AT 36" MAXIMUM CENTER TO CENTER MINIMUM 12" SPACING FROM CONSTRUCTION JOINTS. BARS TO BE ADJUSTED TO MATCH RAMP GRADE. BARS TO BE PAID BY EACH.
- DRILL AND GROUT 2 - NO. 4 X 12" LONG (6" EMBEDDED) REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS. BARS TO BE PAID BY EACH.
- THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.
- CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.
- USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

REVISION:

APPROVED: 11-04-2021

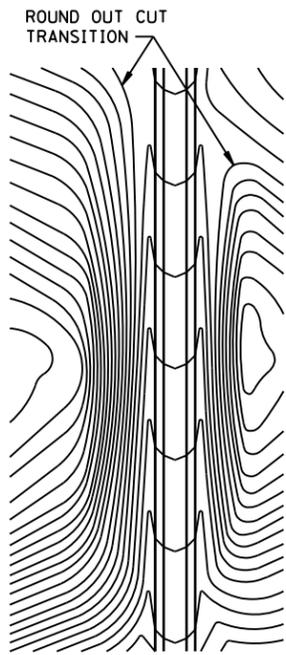
Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION

<p>MINNESOTA DEPARTMENT OF TRANSPORTATION</p>	<p>STANDARD PLAN 5-297.250</p> <p>6 OF 6</p>	<p>PEDESTRIAN CURB RAMP DETAILS</p>
	<p>APPROVED: 11-04-2021</p> <p>REVISED:</p> <p><i>Tom Styrbicki</i> THOMAS STYRBICKI STATE DESIGN ENGINEER</p>	

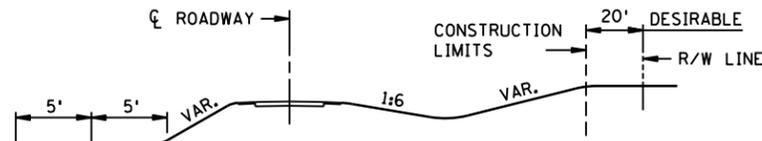
SHEET 36 OF 162 SHEETS

PLOTTED/REVISED: 2/1/2024 9:42:22 AM

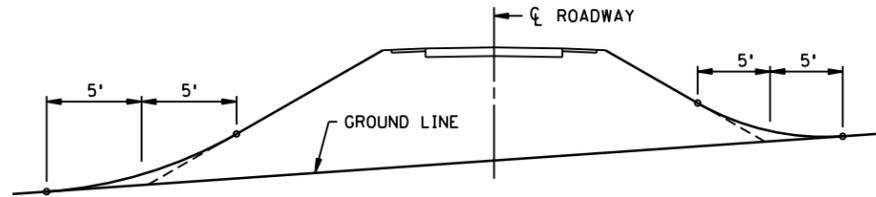
WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_std\in_400.dgn



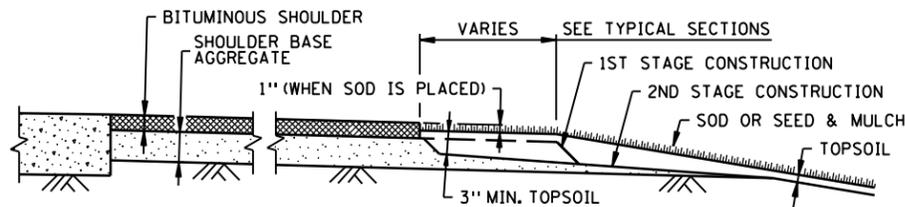
CONTOURING ROAD CUTS



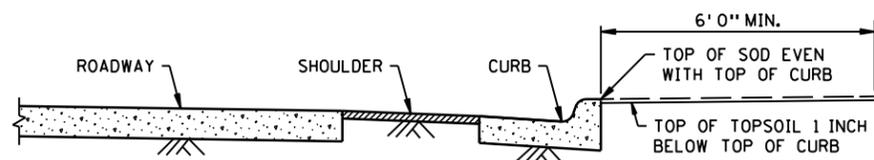
ROUNDING SHOULDERS AND BACKSLOPES



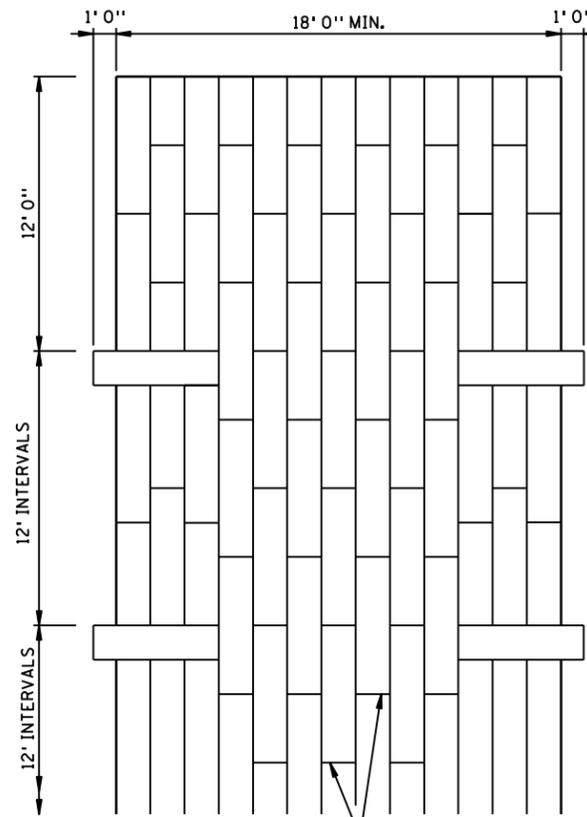
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



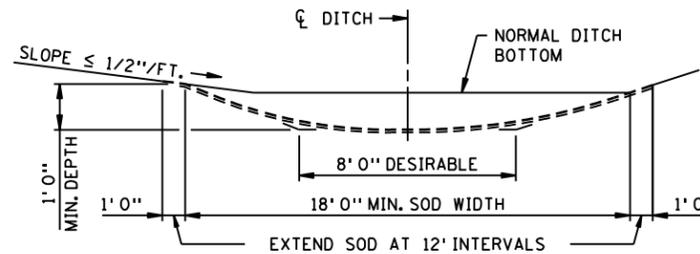
SHAPING AND TOPSOILING INSLOPES



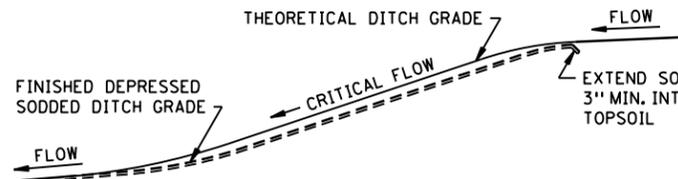
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



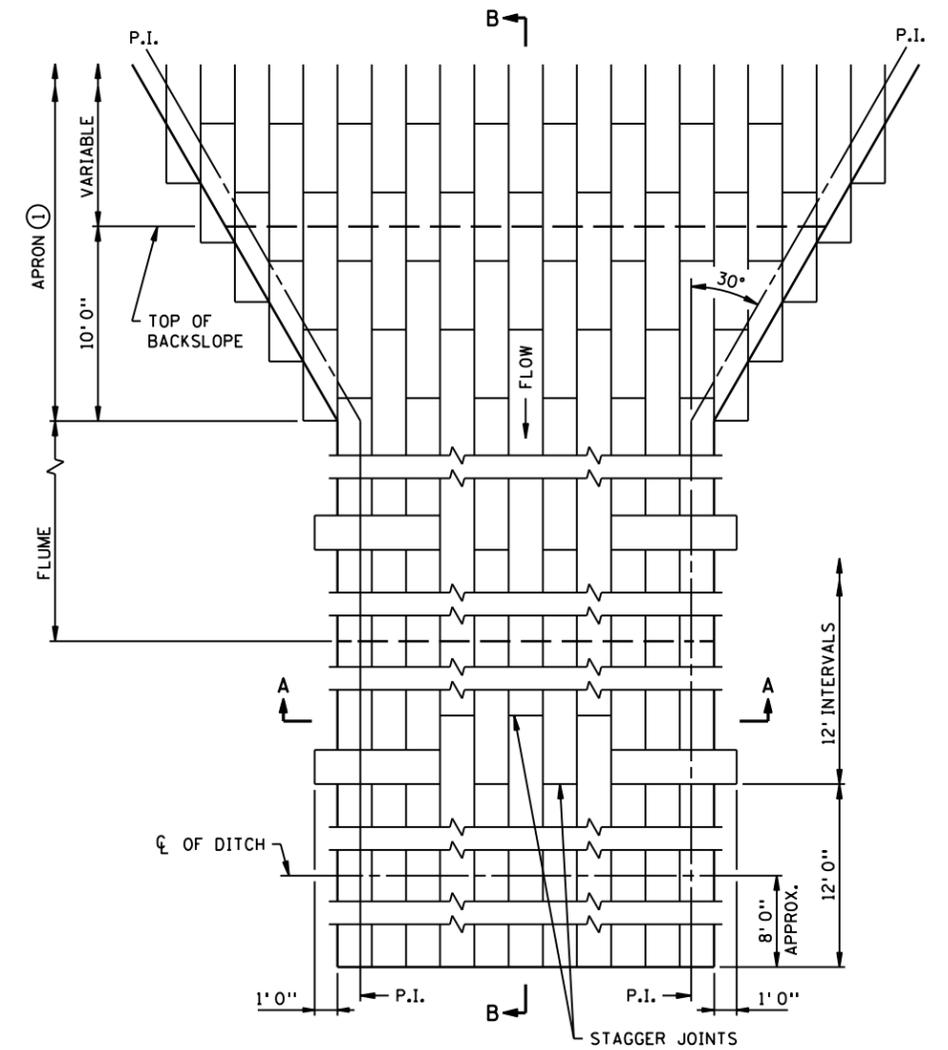
PLAN VIEW



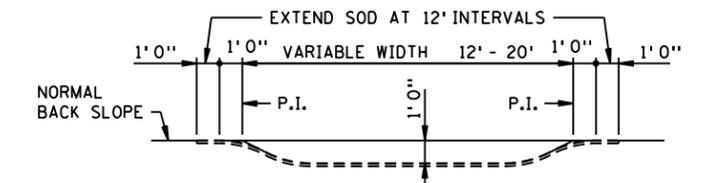
SODDED DITCH CROSS SECTION WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



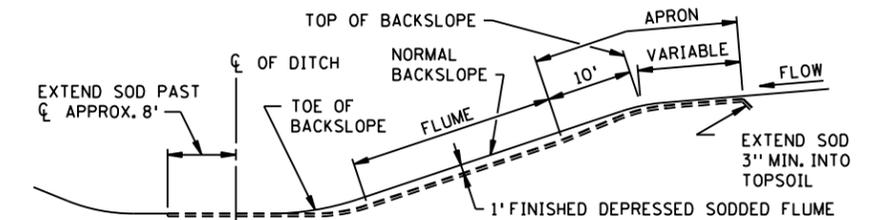
DITCH PROFILE SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B SODDED FLUME DETAILS

NOTES:
 SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
 ① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

REVISION:
 APPROVED: 2-28-2017
Prof. Elve
 CHIEF ENVIRONMENTAL OFFICER

m
 MINNESOTA
 DEPARTMENT OF TRANSPORTATION

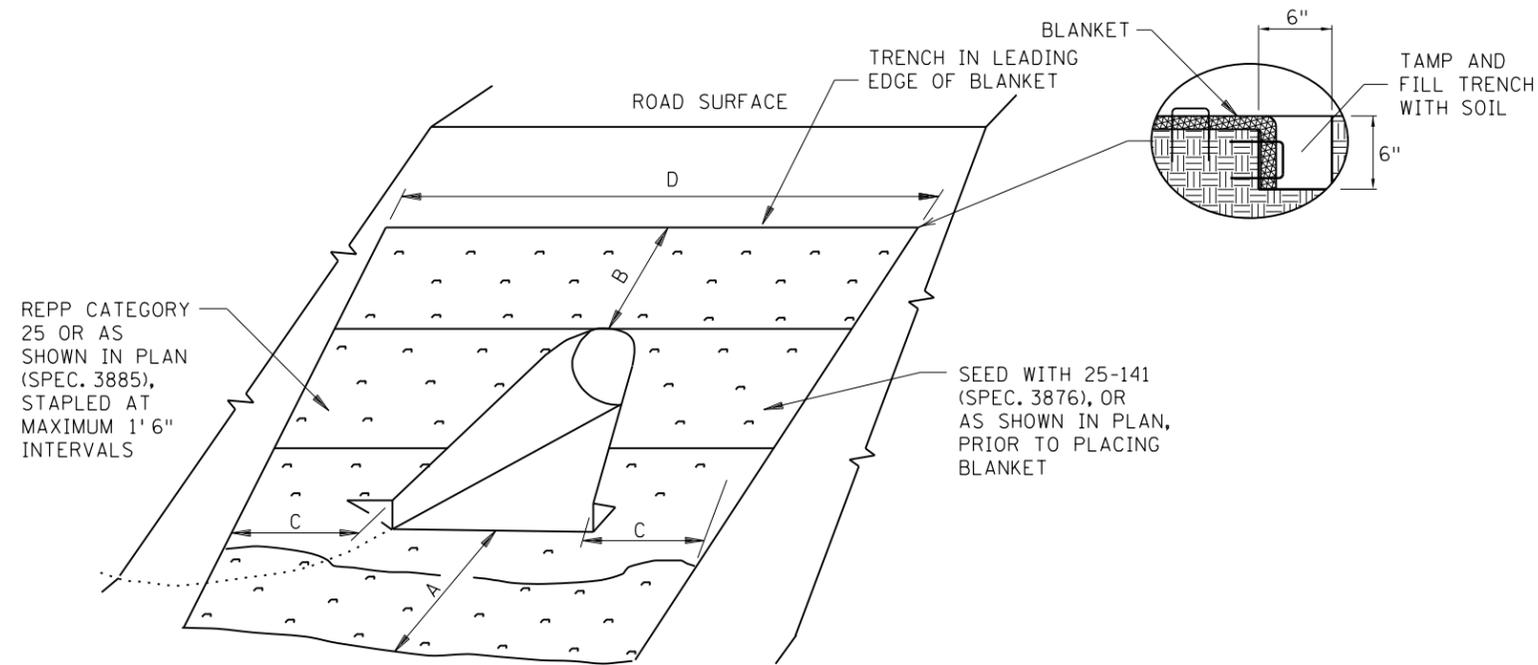
STANDARD PLAN 5-297.404 1 OF 3
 APPROVED: 2-28-2017
 REVISED:
Rom S...
 STATE DESIGN ENGINEER

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

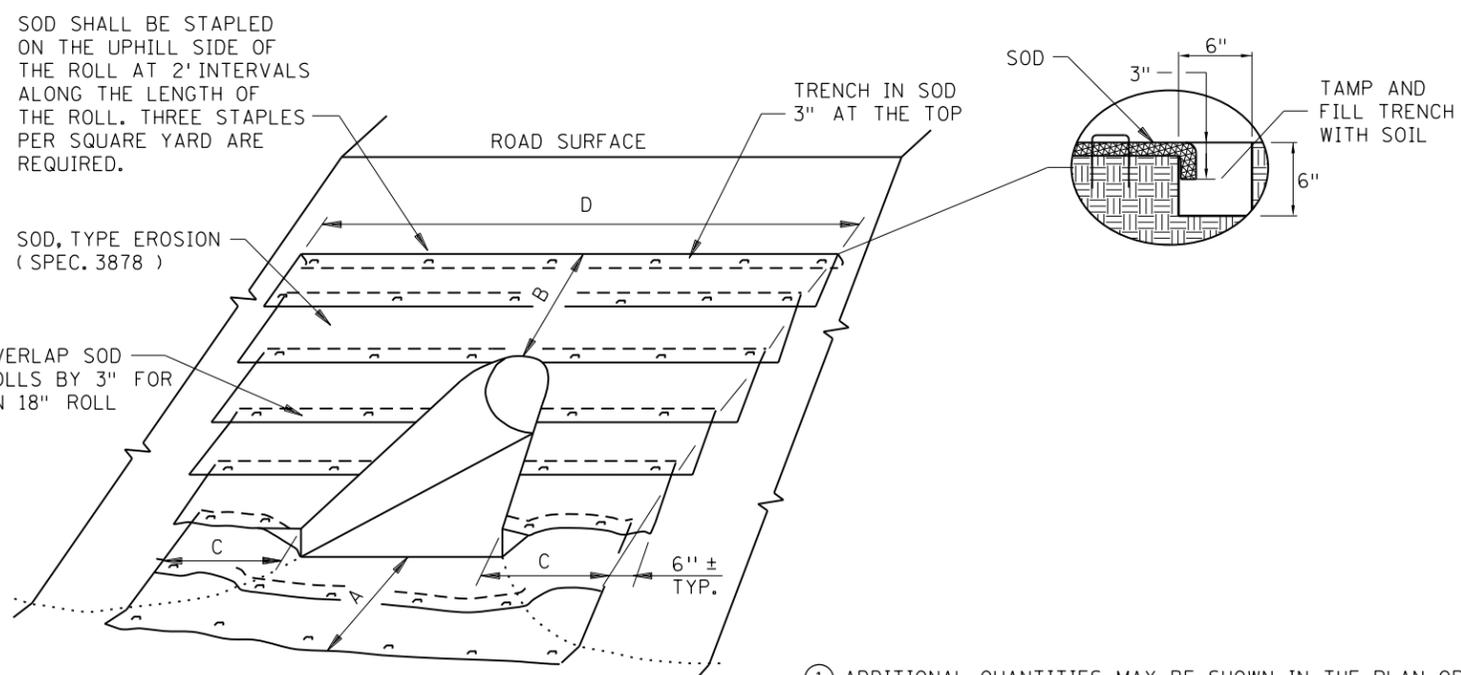
PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES

SHEET 37 OF 162 SHEETS

PLOTTED/REVISED: 2/1/2024 9:42:22 AM



ROLLED EROSION PREVENTION PRODUCT (BLANKET) & SEED DETAIL



SODDING DETAIL

CULVERT DIAMETER ②	SOD OR REPP (SQ. YDS.)						"A"	"B"	"C"	"D"
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	9	9	8	8	N/A	N/A	3'	1.5'	3'	13'
18"	13	12	12	14	16	N/A	3'	3'	3'	16'
21"	14	14	14	16	18	14	3'	3'	3'	17'
24"	16	15	16	19	21	17	3'	3'	3'	18'
27"	N/A	20	N/A	N/A	N/A	N/A	3'	4.5'	3'	20'
30"	23	22	25	30	32	N/A	3'	4.5'	3'	22'
36"	34	34	39	48	51	37	4.5'	4.5'	4.5'	27'
42"	43	40	51	64	N/A	N/A	4.5'	6'	4.5'	30'
48"	54	50	66	82	N/A	N/A	4.5'	7.5'	4.5'	34'
54"	65	58	81	102	N/A	N/A	4.5'	9'	4.5'	37'
60"	69	59	91	115	N/A	N/A	4.5'	9'	4.5'	39'
66"	69	63	N/A	N/A	N/A	N/A	4.5'	9'	4.5'	39'
72"	78	72	99	122	N/A	N/A	4.5'	10.5'	4.5'	41'

CULVERT DIAMETER ②	SOD OR REPP (SQ. YDS.)						"A"	"B"	"C"	"D"
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	10	10	9	10	N/A	N/A	4.5'	1.5'	3'	13'
18"	13	13	12	14	15	N/A	6'	1.5'	3'	14'
21"	16	14	16	18	19	15	6'	1.5'	3'	15'
24"	18	18	18	21	22	18	7.5'	1.5'	3'	16'
27"	N/A	19	N/A	N/A	N/A	N/A	7.5'	1.5'	3'	17'
30"	23	23	24	28	29	N/A	9'	1.5'	3'	18'
36"	36	35	38	47	48	37	10.5'	1.5'	4.5'	23'
42"	43	40	47	58	N/A	N/A	12'	1.5'	4.5'	25'
48"	50	46	57	70	N/A	N/A	13.5'	1.5'	4.5'	27'
54"	57	50	67	84	N/A	N/A	15'	1.5'	4.5'	29'
60"	74	63	90	113	N/A	N/A	16.5'	1.5'	6'	33'
66"	75	67	N/A	N/A	N/A	N/A	16.5'	1.5'	6'	33'
72"	77	70	92	114	N/A	N/A	16.5'	1.5'	6'	34'

NOTES:

REPP = ROLLED EROSION PREVENTION PRODUCT.

AREA SHOWN IN SQUARE YARDS IS FOR ONE CULVERT END.

QUANTITIES ARE CALCULATED TO INCLUDE SOD REQUIRED TO PROVIDE A 3" OVERLAP ON ALL 18" WIDE ROLLS. THIS ALLOWS FOR SHRINKAGE OF THE SOD.

FOR PIPE ARCHES USE EQUIVALENT PIPE DIAMETER TO APPROXIMATE AREA.

FOR CORRUGATED POLYETHYLENE PIPE METAL APRON (PLATE 3129), USE THE METAL APRON COLUMN (PLATE 3123).

AREAS AND DIMENSIONS ARE APPROXIMATE AND ARE BASED ON APRON SIDE SLOPES OF NO STEEPER THAN 1:2, UNLESS INDICATED AS FOR SAFETY APRONS.

CARE SHOULD BE TAKEN IN SELECTING SOD TO STABILIZE THE APRON. RIP-RAP SHOULD BE USED FOR FLOW VELOCITIES GREATER THAN 6 FPS.

- ① ADDITIONAL QUANTITIES MAY BE SHOWN IN THE PLAN OR REQUIRED BY THE ENGINEER.
- ② FOR ARCH PIPE USE CLOSEST CIRCULAR PIPE DIAMETER AND APRON SLOPE. DIAMETERS LARGER THAN 72" REQUIRE SPECIAL DESIGNS.

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_std\in_400.dgn

REVISION:
APPROVED: JANUARY 8, 2020
Marni Karnowski
MARNI KARNOWSKI
CHIEF ENVIRONMENTAL OFFICER

m MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.404 2 OF 3

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 1-8-2020
REVISED:

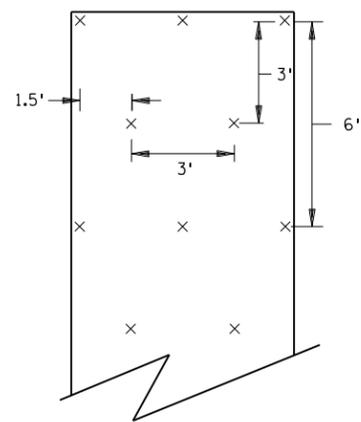
PERMANENT EROSION CONTROL
TURF ESTABLISHMENT DETAIL AT CULVERT ENDS

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

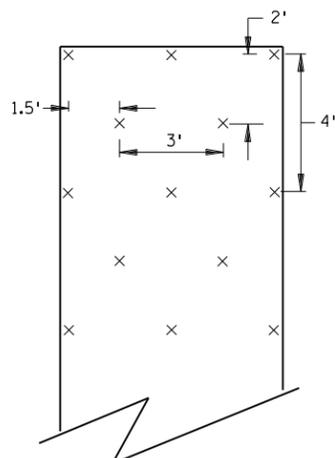
SHEET 38 OF 162 SHEETS

PLOTTED/REVISED: 2/1/2024 9:42:23 AM

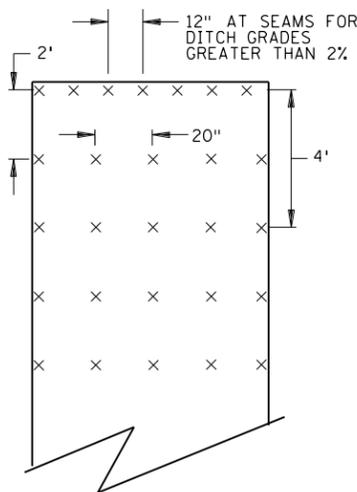
WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_std\in_400.dgn



SLOPES FLATTER THAN 1:2
120 STAPLES PER 100 SQ YD

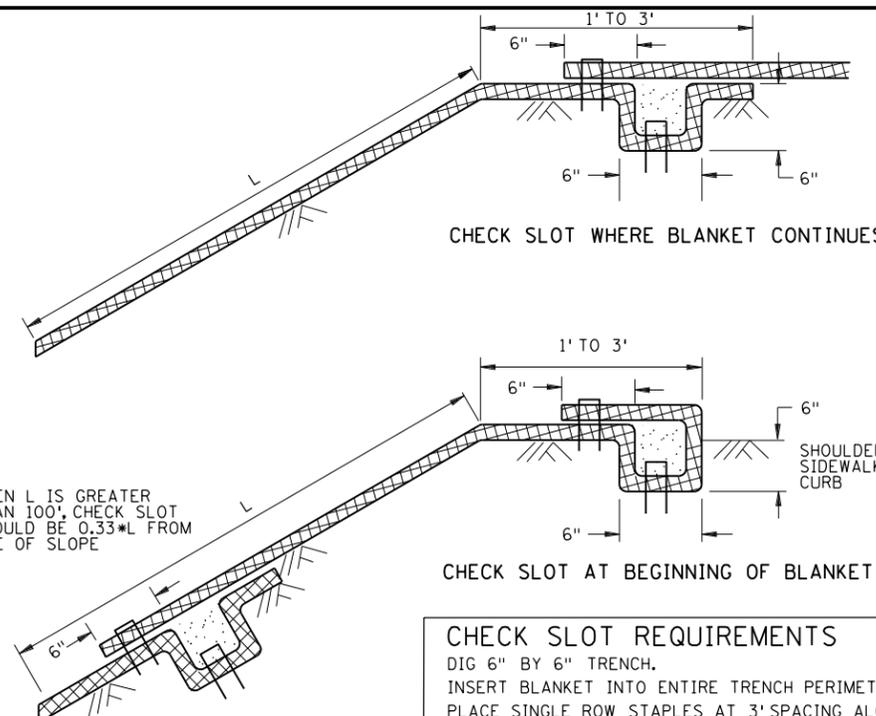


SLOPES 1:2 TO 1:1
170 STAPLES PER 100 SQ YD



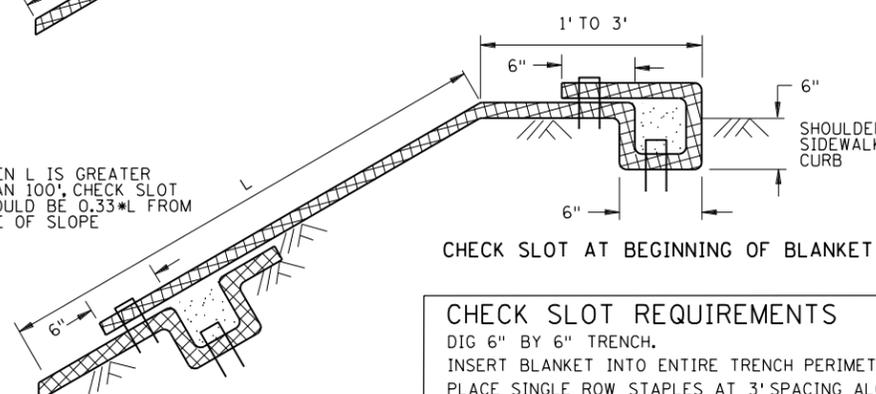
CHANNEL AND DITCH APPLICATIONS
350 STAPLES PER 100 SQ YD

BLANKET STAPLE PATTERN



CHECK SLOT WHERE BLANKET CONTINUES

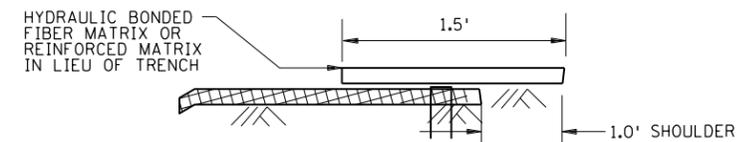
WHEN L IS GREATER THAN 100', CHECK SLOT SHOULD BE 0.33*L FROM TOE OF SLOPE



CHECK SLOT AT BEGINNING OF BLANKET

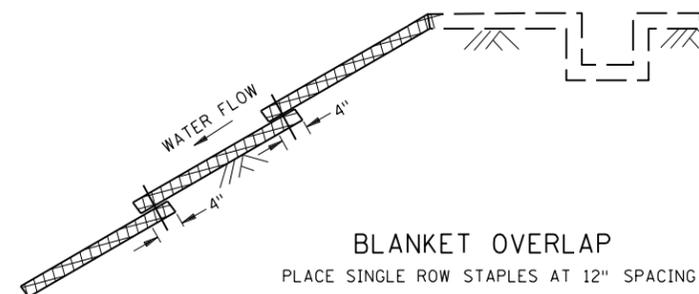
CHECK SLOT REQUIREMENTS

DIG 6" BY 6" TRENCH.
INSERT BLANKET INTO ENTIRE TRENCH PERIMETER.
PLACE SINGLE ROW STAPLES AT 3' SPACING ALONG THE BOTTOM OF THE TRENCH.
BACKFILL TRENCH WITH SOIL AND TAMP.
PLACE SINGLE ROW STAPLES AT 3' SPACING ON OVERLAP.



CHECK SLOT ALTERNATIVE
PLACE SINGLE ROW STAPLES AT 12" SPACING

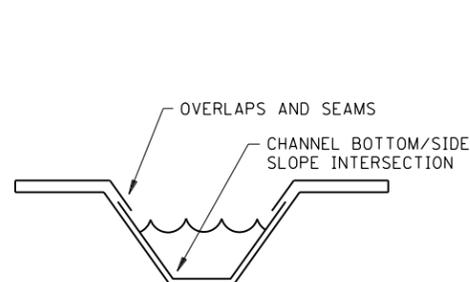
CHECK SLOT DETAILS



BLANKET OVERLAP
PLACE SINGLE ROW STAPLES AT 12" SPACING

GENERAL BLANKET INSTALLATION REQUIREMENTS

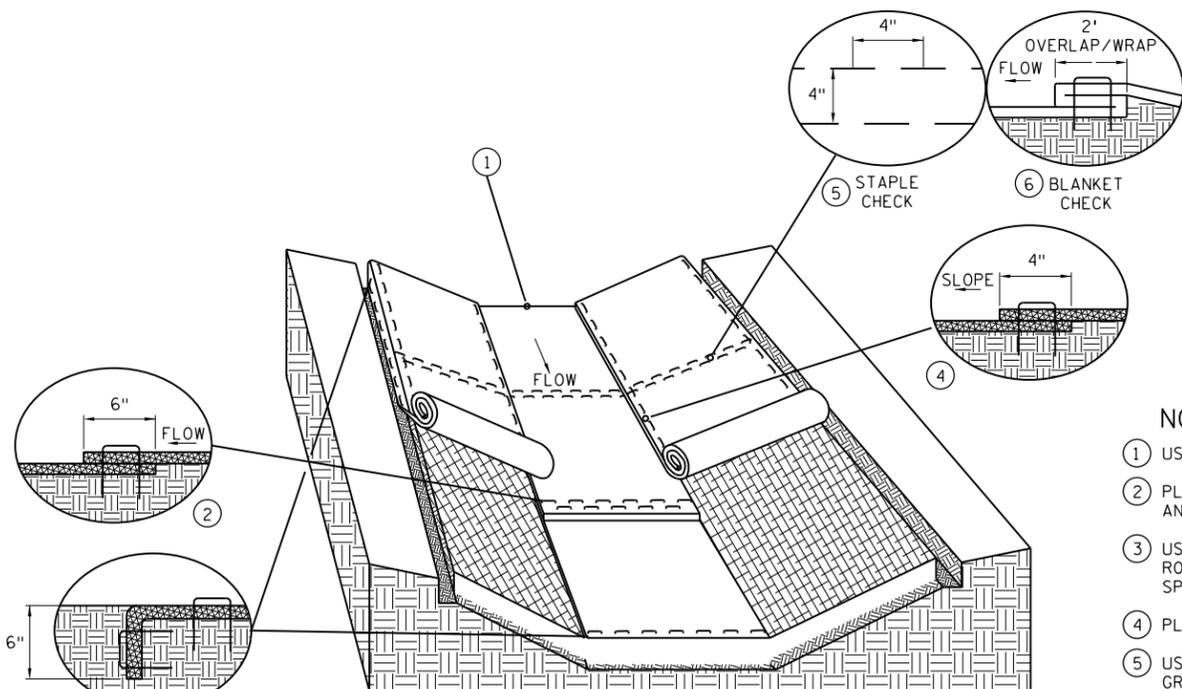
REPP = ROLLED EROSION PREVENTION PRODUCT.
PREPARE SOIL AS PER SPECIFICATION 2574.
LAY PARALLEL OR PERPENDICULAR TO THE DIRECTION OF WATER FLOW.
OVERLAP ADJACENT STRIP EDGES A MINIMUM OF 4".
OVERLAP BLANKET 6" (MINIMUM) AT EACH END. OVERLAP BOTTOM END OF UPPER BLANKET OVER TOP END OF LOWER BLANKET. STAPLE ALONG OVERLAP EVERY 1.5'.
THE UPPERMOST BLANKET OF ALL SLOPE APPLICATIONS MUST START IN A CHECK SLOT. IF SLOPE LENGTH (L) IS 100' OR GREATER, INSERT BLANKET INTO A CHECK SLOT 1/3 FROM THE BOTTOM OF THE SLOPE.



DITCH BLANKET CRITICAL POINTS 7

NOTES:

- 1 USE CHECK SLOT DETAIL (NO ALTERNATES).
- 2 PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER.
- 3 USE 6" X 6" TRENCH TO PLACE BLANKET. PLACE SINGLE ROW OF STAPLES ON TOP AND TRENCH SIDES AT 12" SPACING. BACKFILL TRENCH WITH SOIL AND TAMP.
- 4 PLACE SINGLE ROW OF STAPLES AT 12" SPACING.
- 5 USE STAPLE CHECK FOR CHANNEL SLOPES LESS THAN 2.5%. GRADE AT 100' INTERVALS. PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND AT 4" SPACING.
- 6 USE BLANKET CHECKS FOR THE FOLLOWING SLOPES:
2.5%-3% 100' INTERVALS
3%-5% 50' INTERVALS
5%-7% 25' INTERVALS
- 7 CRITICAL POINTS SHALL BE SECURED WITH PROPER STAPLE PATTERNS.



DITCH BLANKET STAPLE DETAIL

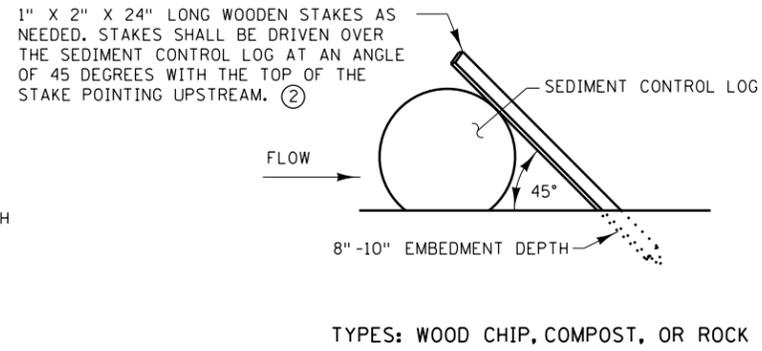
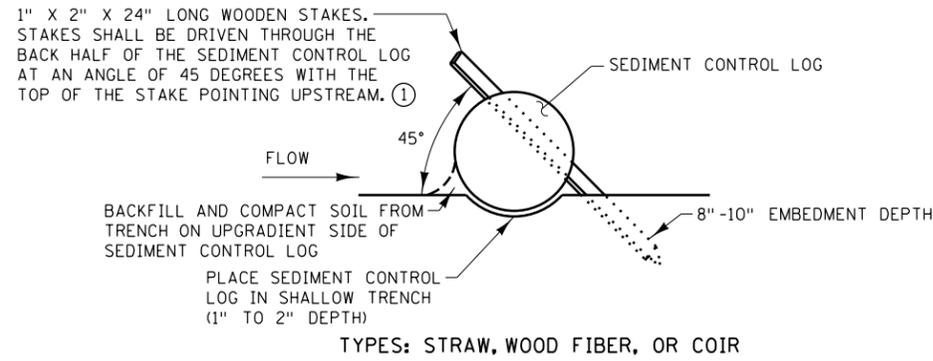
REVISION:
APPROVED: JANUARY 8, 2020
Marni Karnowski
MARNI KARNOWSKI
CHIEF ENVIRONMENTAL OFFICER

m
MINNESOTA
DEPARTMENT
OF
TRANSPORTATION

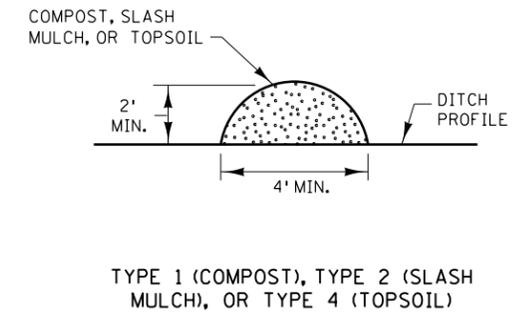
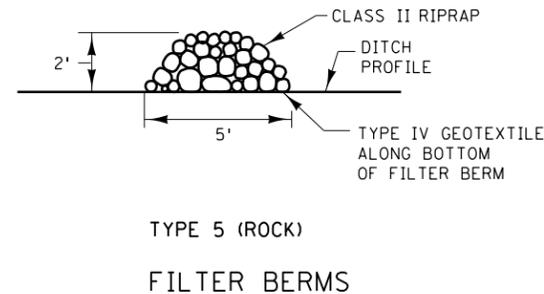
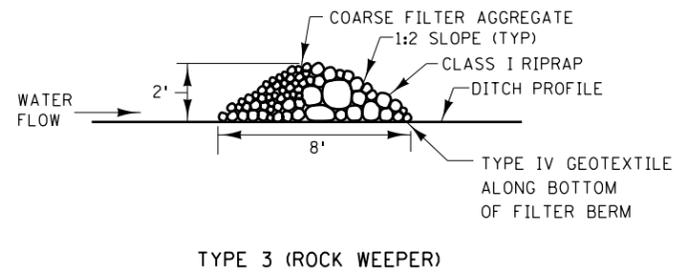
STANDARD PLAN 5-297.404 3 OF 3
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER
APPROVED: 1-8-2020
REVISED:

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

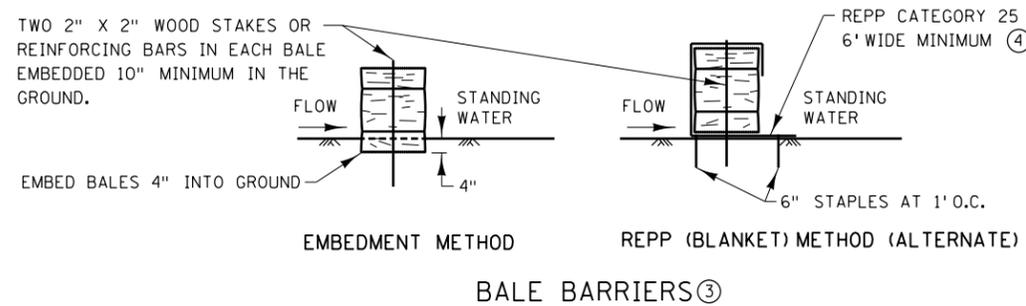
PERMANENT EROSION CONTROL
REPP (BLANKET) STAPLE PATTERN FOR SLOPES



SEDIMENT CONTROL LOGS



FILTER BERMS



NOTES:

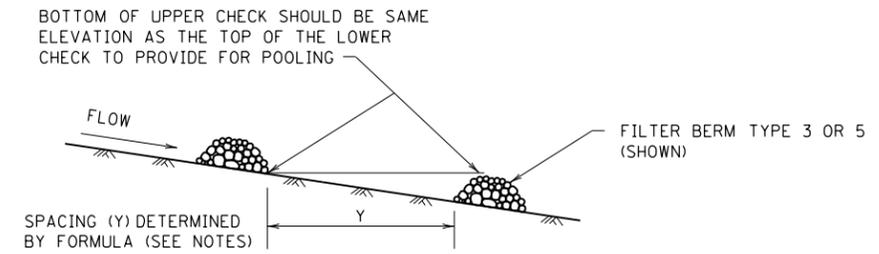
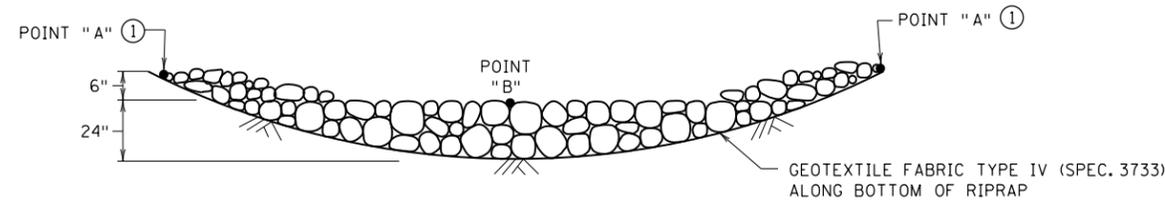
- REPP = ROLLED EROSION PREVENTION PRODUCT.
- SEE SPECS. 2573, 3149, 3874, 3882, 3885, 3886, AND 3897.
- ① SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1' FOR DITCH CHECKS OR 2' FOR OTHER APPLICATIONS.
- ② PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.
- ③ TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6" MAXIMUM DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14" X 18" X 36" LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.
- ④ INSTEAD OF TRENCHING, PLACE BALE ON THE REPP (BLANKET) AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

REVISION:
APPROVED: JANUARY 8, 2020
<i>Marni Karnowski</i>
MARNI KARNOWSKI CHIEF ENVIRONMENTAL OFFICER



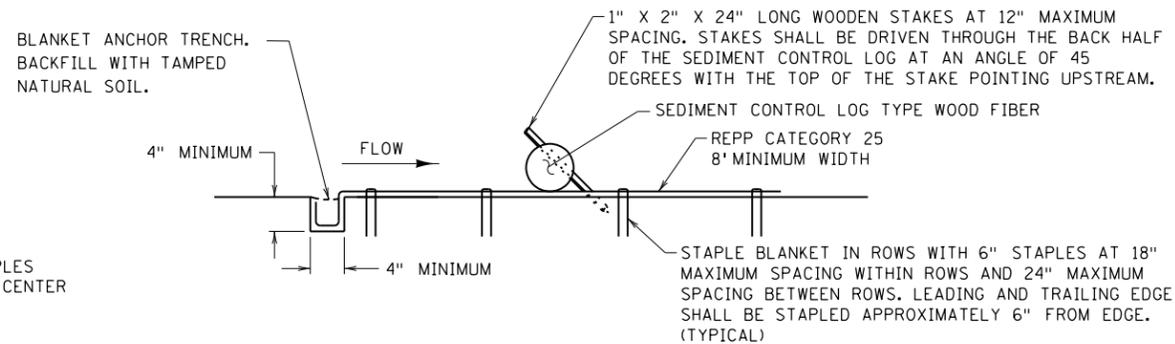
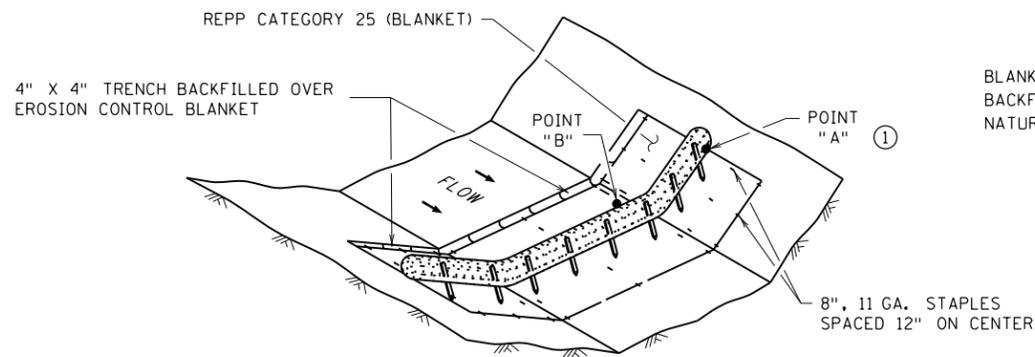
STANDARD PLAN 5-297.405	2 OF 8
<i>Tom Styrbicki</i>	APPROVED: 1-8-2020
THOMAS STYRBICKI STATE DESIGN ENGINEER	REVISED:

TEMPORARY SEDIMENT CONTROL
FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014
SHEET 40 OF 162 SHEETS

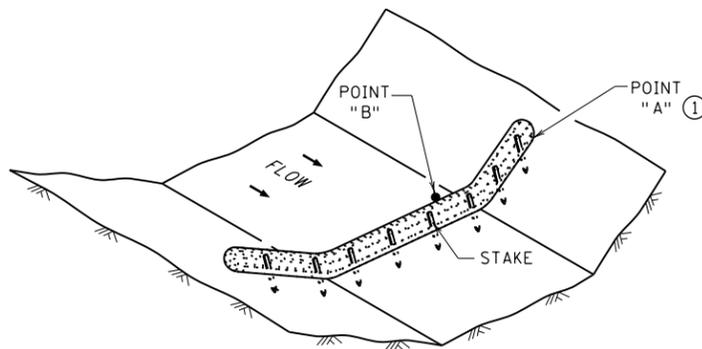


ROCK DITCH CHECKS
FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ③
FOR USE ON ROUGH-GRADED AREAS
ONLY FOR USE OUTSIDE CLEAR ZONE ②

DITCH CHECK SPACING
FOR ALL FILTER BERM TYPES



SEDIMENT CONTROL LOG TYPE REPP (BLANKET) SYSTEM ④



SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST ⑤
FOR USE ON ROUGH GRADED AREAS

NOTES:

REPP = ROLLED EROSION PREVENTION PRODUCT.

SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.

FOR DITCH CHECKS, PLACE SEDIMENT CONTROL LOG PERPENDICULAR TO FLOW AND IN A CRESCENT SHAPE WITH THE ENDS FACING UPSTREAM.

APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:

$$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT.)}}{\% \text{ CHANNEL SLOPE}} \times 100$$

① POINT "A" MUST BE A MINIMUM OF 6" HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

② ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

③ DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC.

④ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC.

⑤ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC.

REVISION:
APPROVED: JANUARY 8, 2020
<i>Marni Karnowski</i>
MARNI KARNOWSKI
CHIEF ENVIRONMENTAL OFFICER



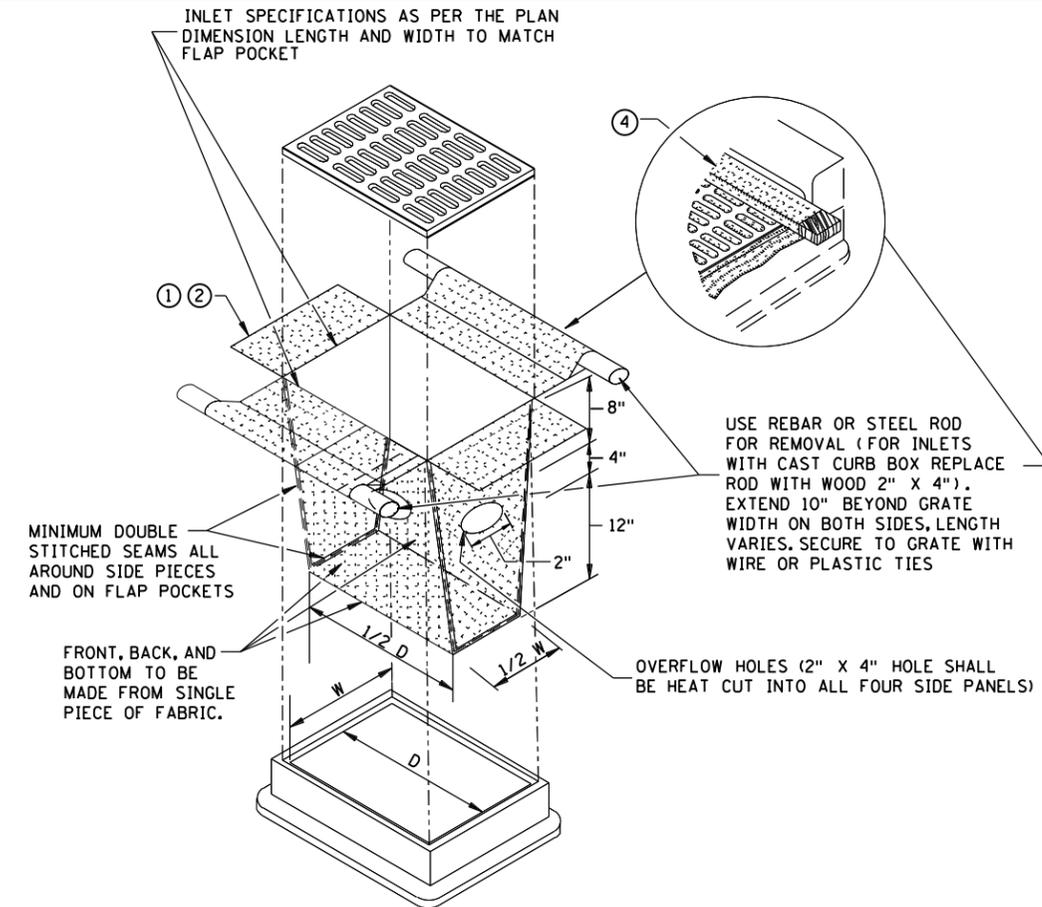
STANDARD PLAN 5-297.405 3 OF 8

Thomas Styrbicki
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

APPROVED: 1-8-2020
 REVISED:

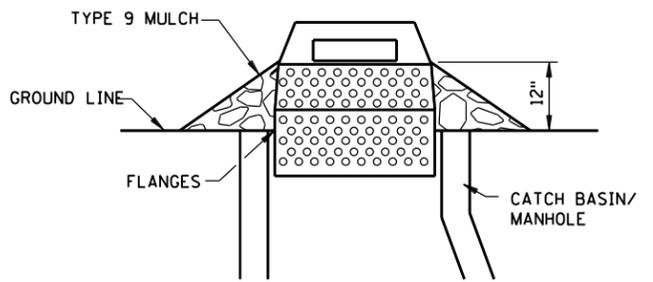
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

TEMPORARY SEDIMENT CONTROL
DITCH CHECK



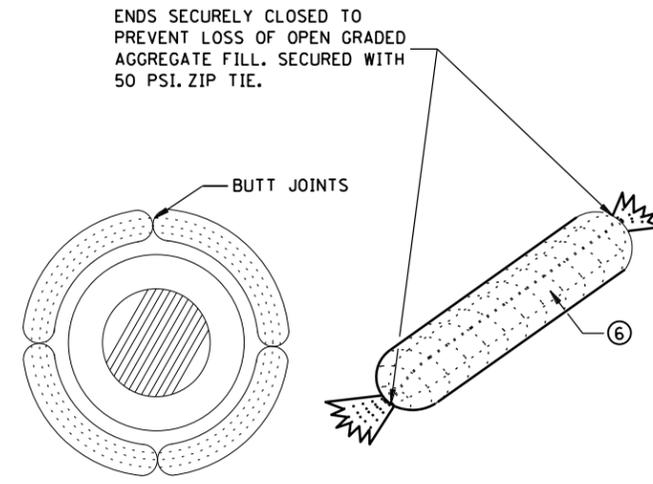
FILTER BAG INSERT ③

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)

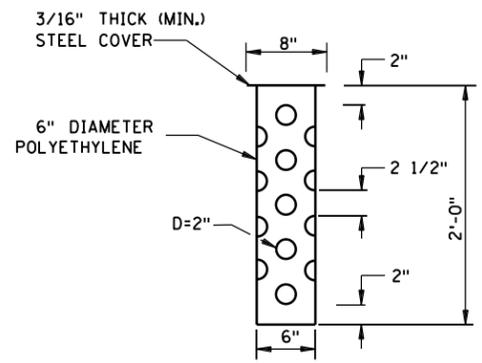


SEDIMENT CONTROL INLET HAT

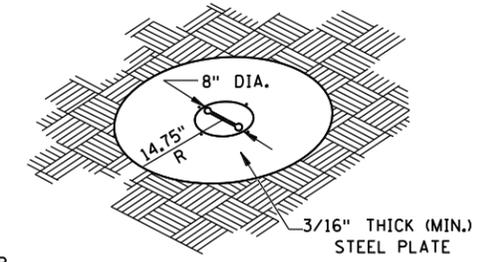
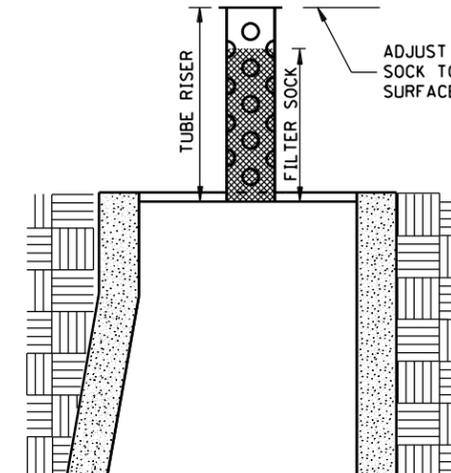
NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



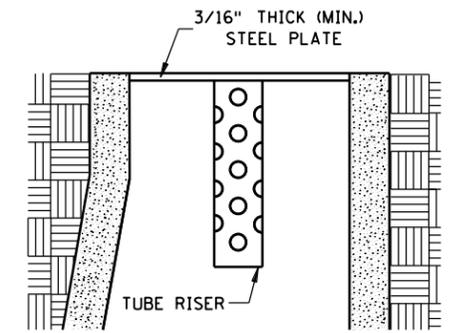
ROCK LOG/COMPOST LOG



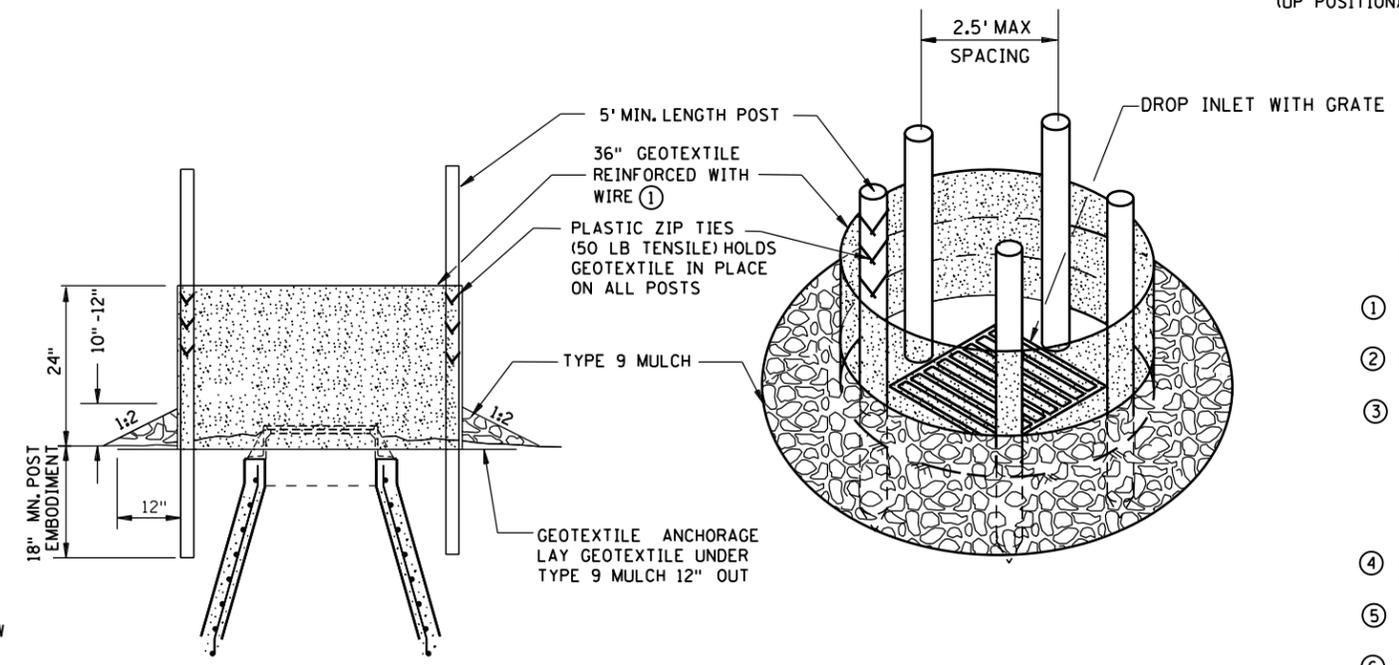
TUBE RISER



PERSPECTIVE VIEW



POP-UP HEAD



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

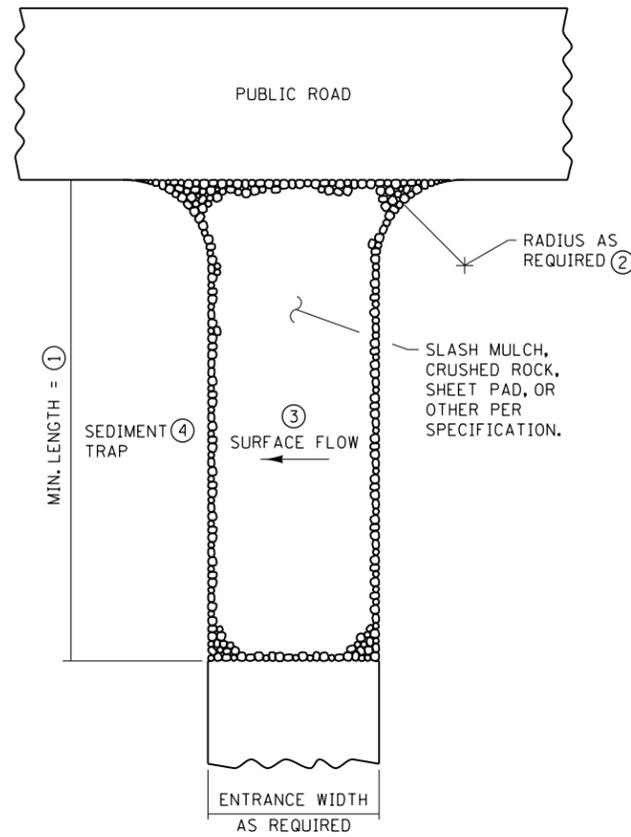
NOTES:

- SEE SPECS. 2573, 3137, & 3886.
- DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEDE TRAFFIC FLOW.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:
DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

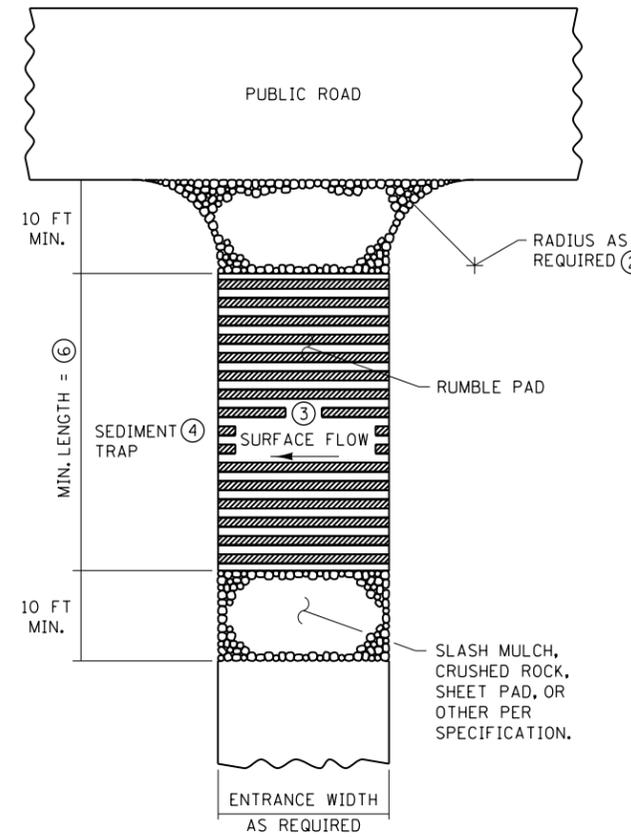
REVISION:
APPROVED: 2-28-2017
<i>[Signature]</i> CHIEF ENVIRONMENTAL OFFICER

	STANDARD PLAN 5-297.405	4 OF 8
	APPROVED: 2-28-2017 REVISED:	
DEPARTMENT OF TRANSPORTATION		STATE DESIGN ENGINEER
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014		

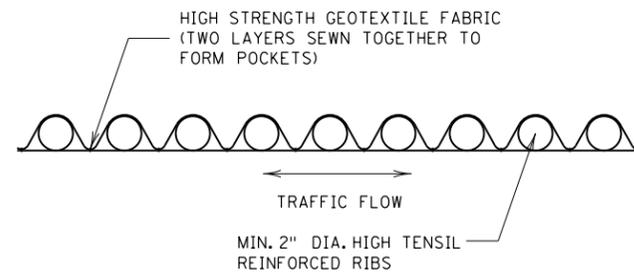
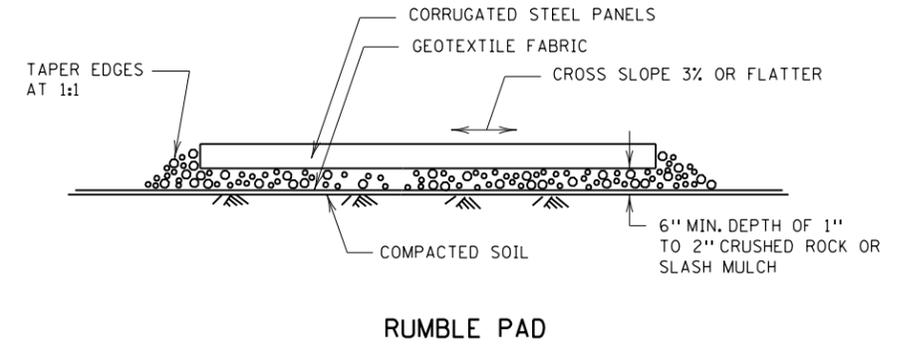
**TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION**



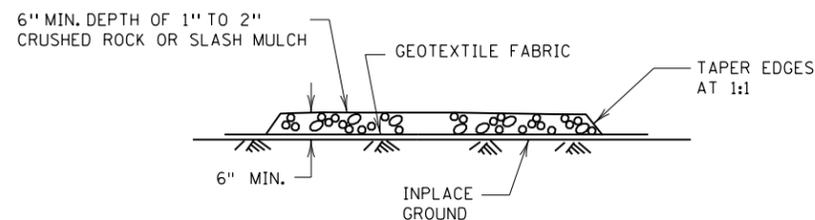
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

- ① MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.
- ② PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
- ③ IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.
- ④ IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.
- ⑤ IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.
- ⑥ MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.
- ⑦ MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

REVISION:
APPROVED: 2-28-2017
[Signature]
CHIEF ENVIRONMENTAL OFFICER



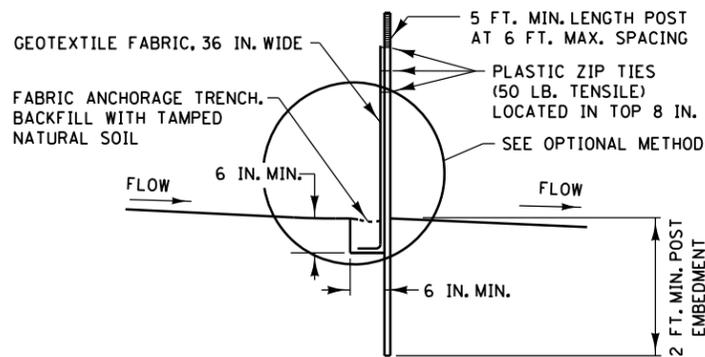
STANDARD PLAN 5-297.405 5 OF 8
APPROVED: 2-28-2017
REVISED:
[Signature]
STATE DESIGN ENGINEER

**TEMPORARY SEDIMENT CONTROL
STABILIZED CONSTRUCTION EXIT**

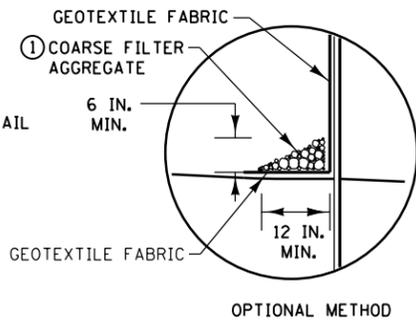
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

PLOTTED/REVISED: 2/1/2024 9:42:26 AM

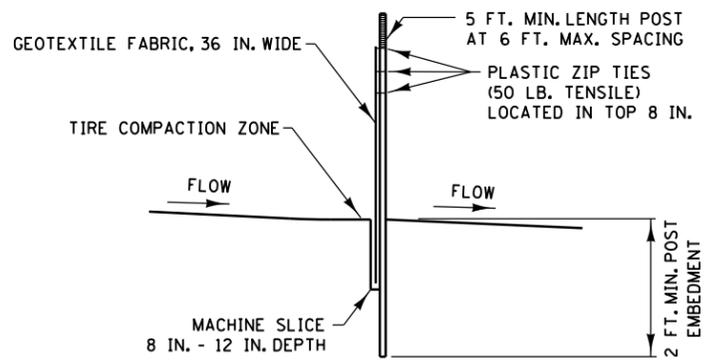
WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_std\in_400.dgn



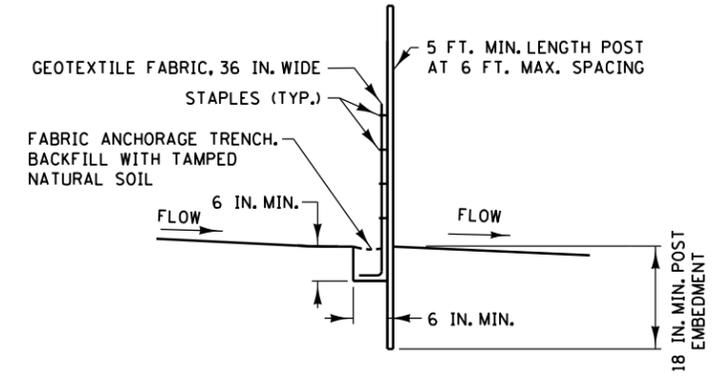
**SILT FENCE TYPE HI ②
(HAND INSTALLED)**



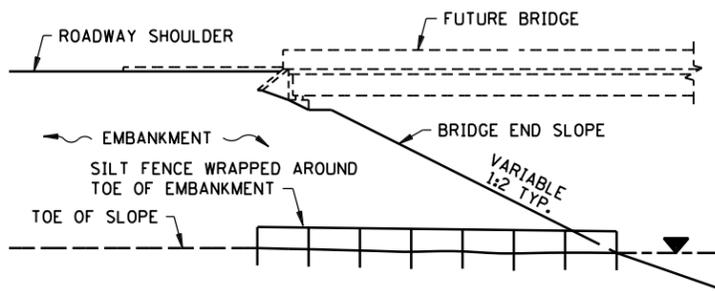
OPTIONAL METHOD



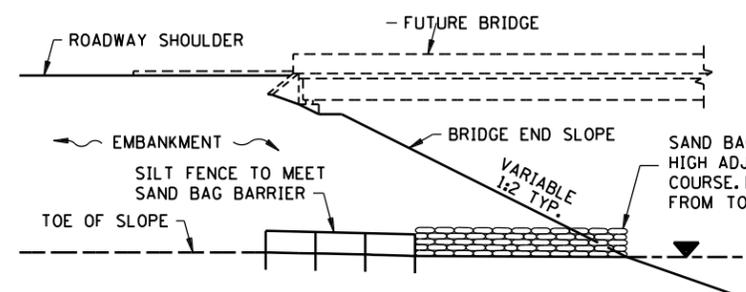
**SILT FENCE TYPE MS ②
(MACHINE SLICED)**



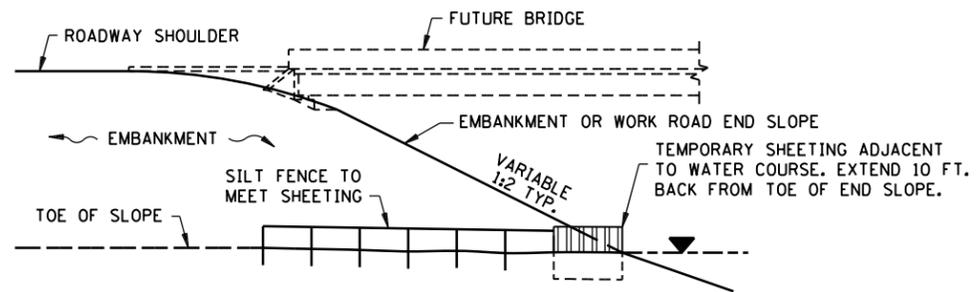
**SILT FENCE TYPE PA ③
(PREASSEMBLED)**



SILT FENCE ONLY ④

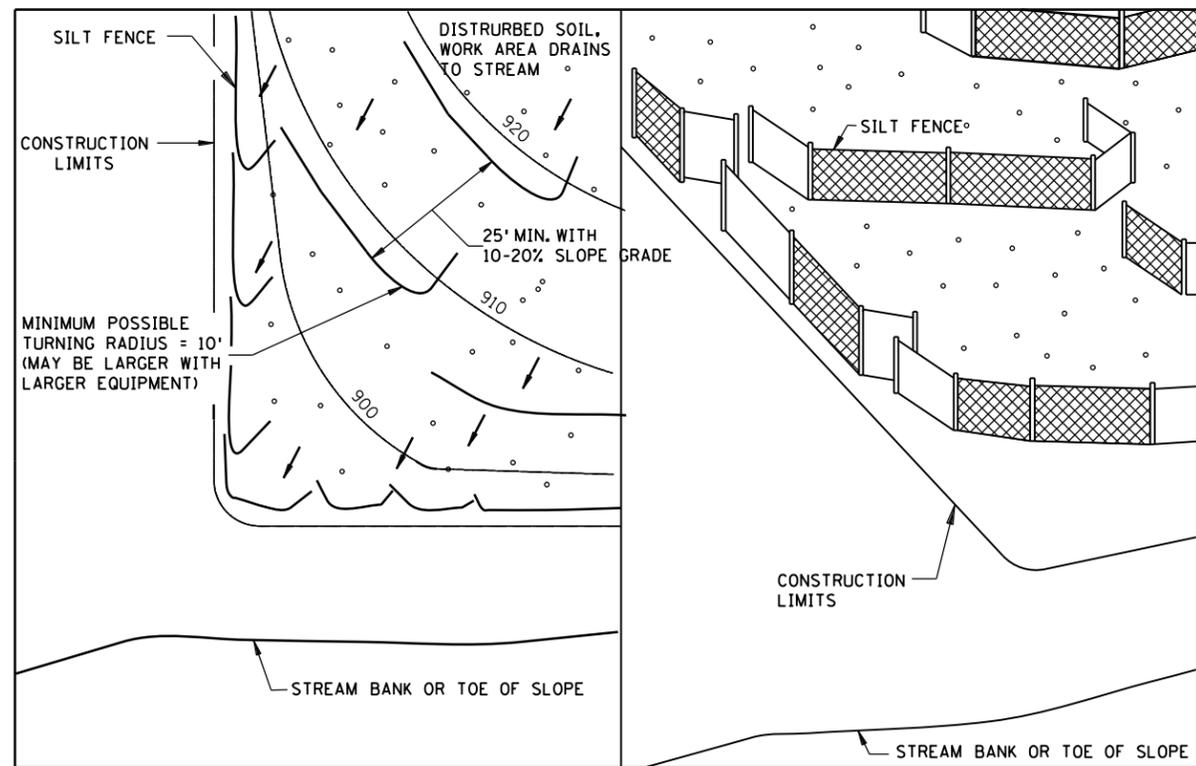


SILT FENCE WITH SAND BAGS ⑤



SILT FENCE WITH SHEETING ⑥

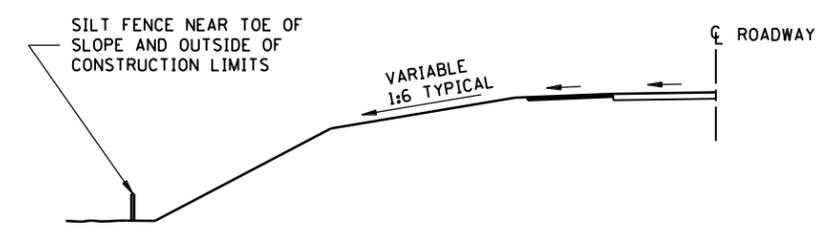
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:

- SEE SPECS. 2573, 3149 & 3886.
- ① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.
- ② TO PROTECT AREAS FROM SHEET FLOW, MAXIMUM CONTRIBUTING AREA: 1 ACRE.
- ③ TO PROTECT AREAS FROM SHEET FLOW, MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.
- ④ WATER COURSE FLOW VELOCITY: STANDING. CONTRIBUTING SLOPE AREA: 1.1/2 ACRE.
- ⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC. CONTRIBUTING SLOPE AREA: 1 ACRE.
- ⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC. CONTRIBUTING SLOPE AREA: 3 ACRES.

REVISION:
APPROVED: 2-28-2017
[Signature]
CHIEF ENVIRONMENTAL OFFICER



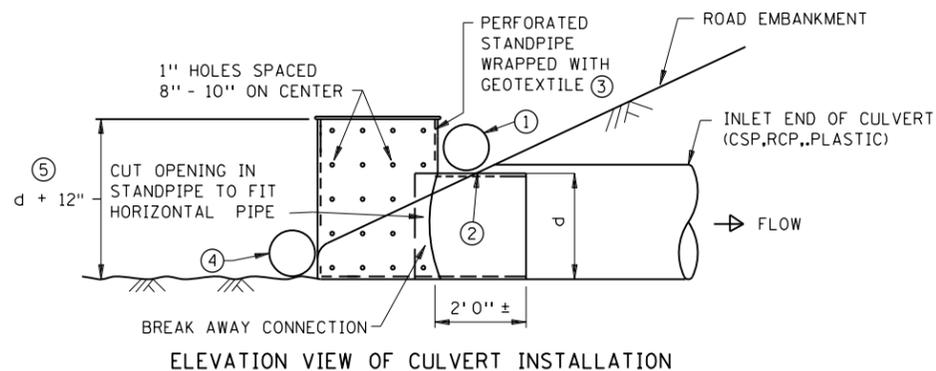
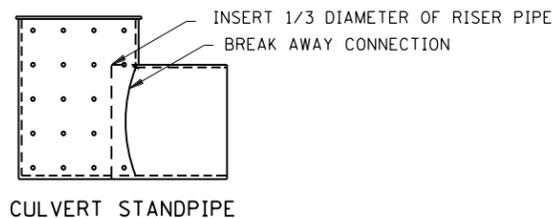
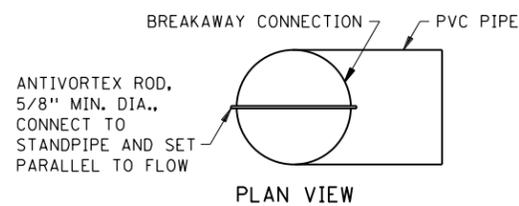
STANDARD PLAN 5-297.405 6 OF 8
APPROVED: 2-28-2017
REVISED:
[Signature]
STATE DESIGN ENGINEER

**TEMPORARY SEDIMENT CONTROL
SILT FENCE**

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

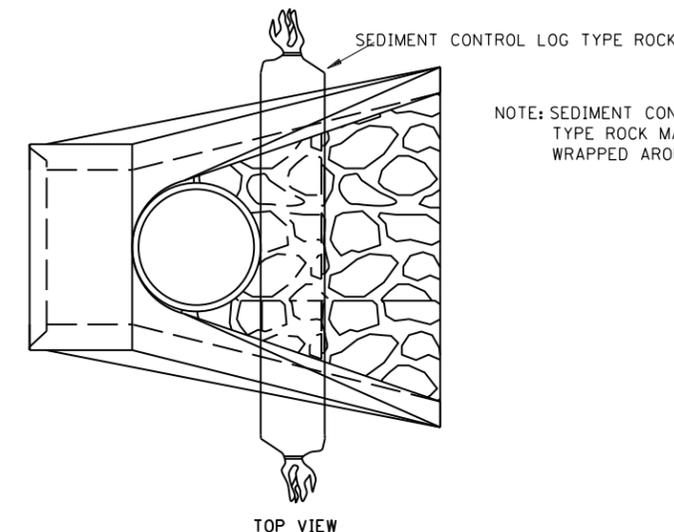
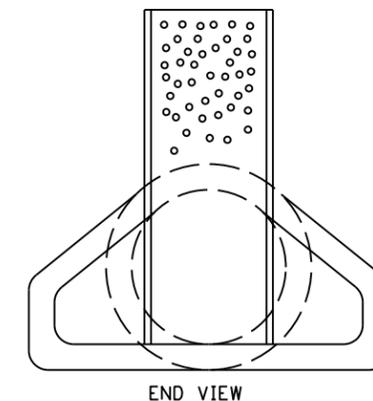
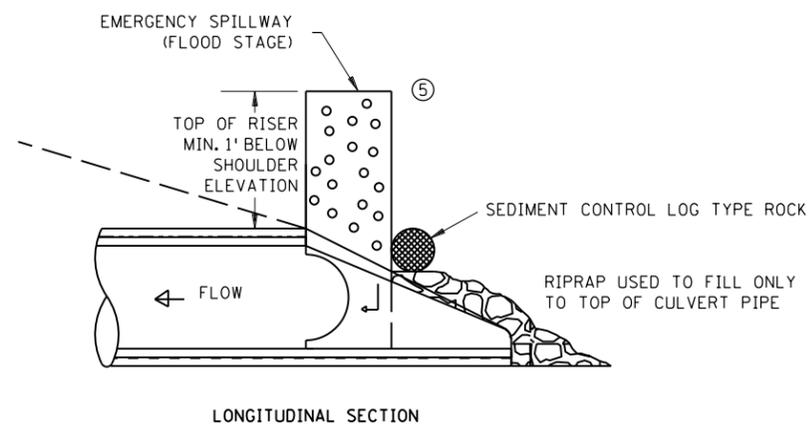
PLOTTED/REVISED: 2/1/2024 9:42:26 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_std\in_400.dgn



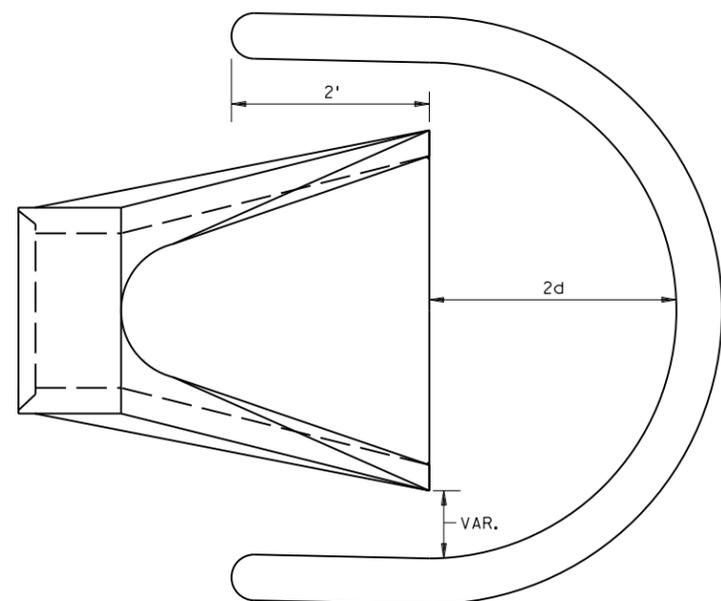
CULVERT STANDPIPE INSERT (D-RISER)

d = CULVERT SIZE: 12" - 36"



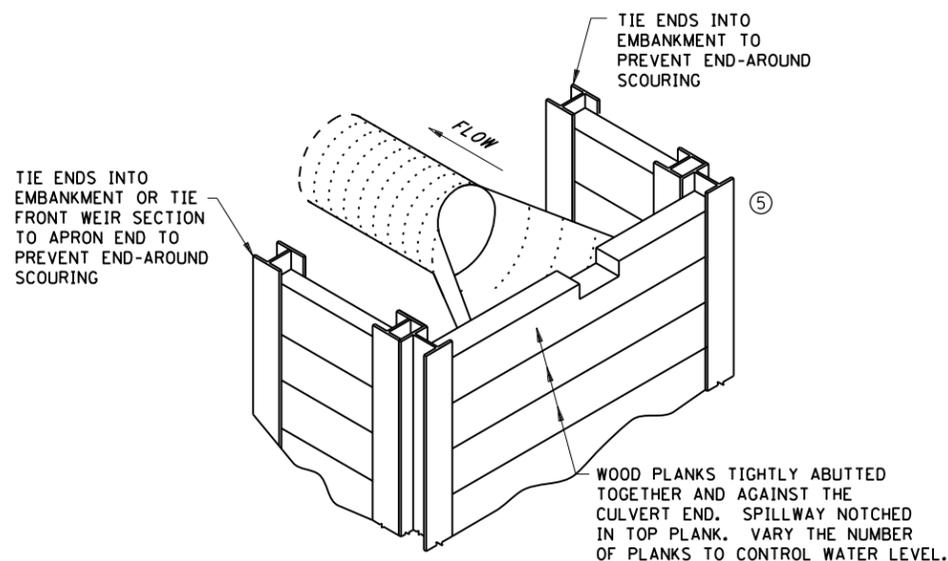
CULVERT STANDPIPE INSERT (D-RISER)

NOTE: SEDIMENT CONTROL LOG TYPE ROCK MAY BE WRAPPED AROUND RISER



SEDIMENT CONTROL LOG WEIR (COMPOST, WOOD CHIP, OR ROCK)

d = CULVERT SIZE: 12" - 36"



WOOD PLANK WEIR

NOTES:

- SEE SPECS. 2573, 3891 & 3893.
- FOR USE WHEN TEMPORARY PONDING IS NEEDED IN DITCH SECTIONS FOR SEDIMENT CONTROL.
- MANUFACTURED ALTERNATIVES LISTED ON MnDOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED AT NO ADDITIONAL COST.
- ① ROCK LOG OR SANDBAG TO HOLD STANDPIPE AND ACT AS A SEAL BETWEEN RISER PIPE AND CULVERT.
- ② PLACE CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO CSP OR RCP CULVERT.
- ③ ALL GEOTEXTILE USED FOR CULVERT PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.
- ④ ROCK LOG OR RIP RAP TO HOLD STANDPIPE AND ACT AS A FILTER BETWEEN RISER PIPE AND CULVERT.
- ⑤ HEIGHT OVERFLOW NOT TO CAUSE FLOODING OF ROAD OR ADJACENT PROPERTIES.

REVISION:

APPROVED: 2-28-2017

[Signature]
CHIEF ENVIRONMENTAL OFFICER



STANDARD PLAN 5-297.405

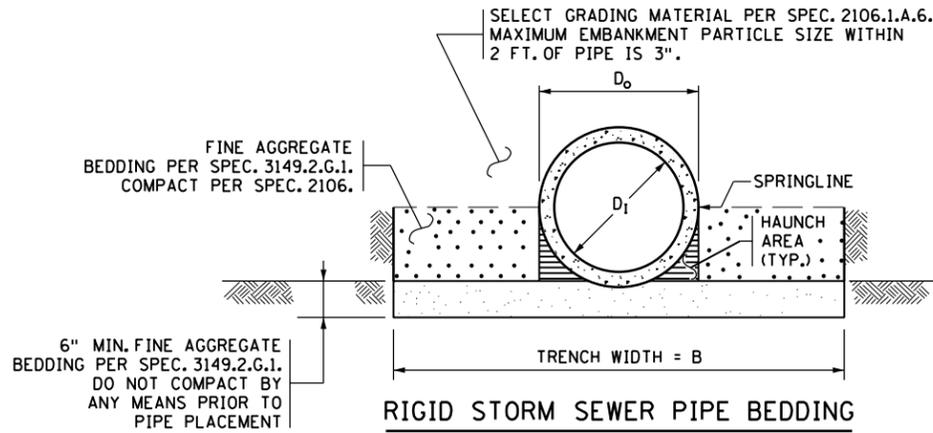
8 OF 8

APPROVED: 2-28-2017
REVISED:

[Signature]
STATE DESIGN ENGINEER

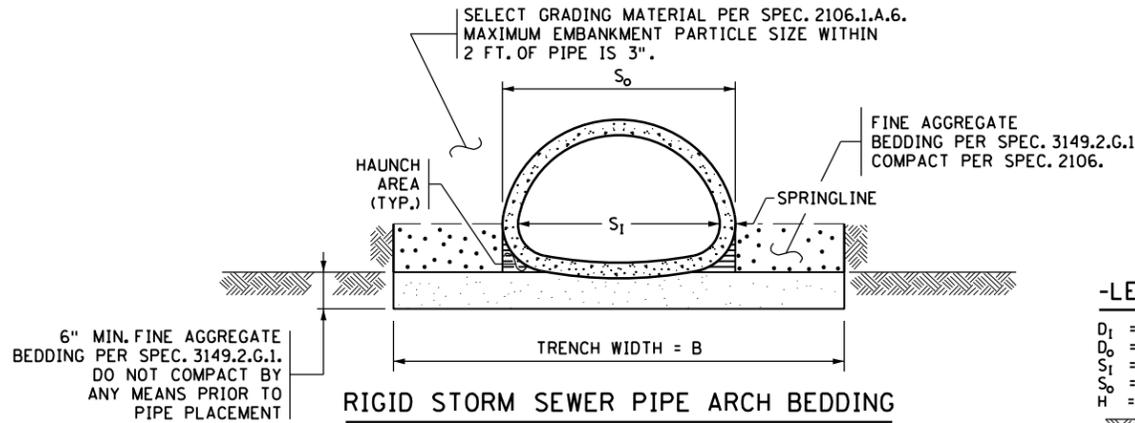
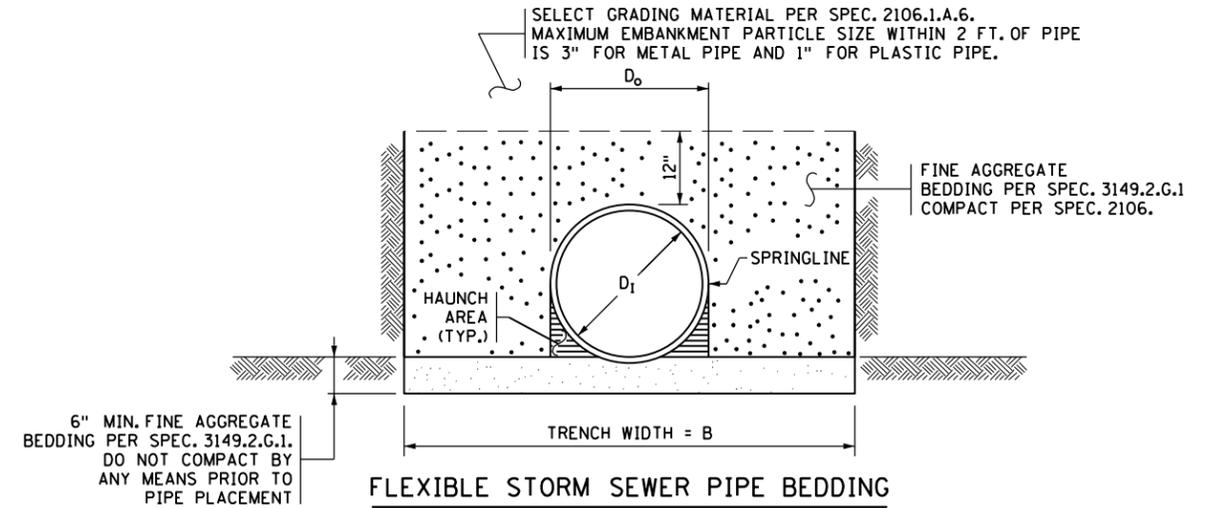
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

**TEMPORARY SEDIMENT CONTROL
CULVERT END CONTROLS**



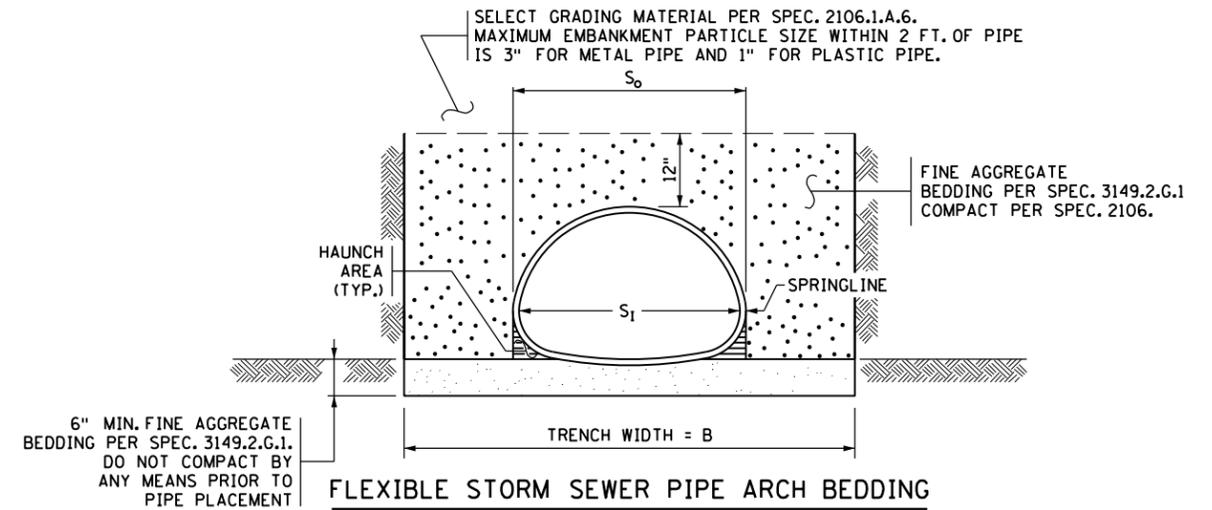
TRENCH BASE WIDTH ①②	
PIPE DIA. D_1 OR S_1	TRENCH WIDTH B
< 42"	$D_0 + 24"$
42" TO 54"	$1.5 \times D_0$
> 54"	$D_0 + 36"$

PLASTIC PIPE WITH $H > 10$ FT. ①②	
PIPE DIA.	TRENCH WIDTH (FEET)
12"	5'-2"
15"	5'-6"
18"	5'-9"
24"	6'-6"
30"	8'-0"
36"	9'-6"
42"	11'-0"
48"	12'-6"



-LEGEND-

- D_1 = INSIDE DIAMETER OF ROUND PIPE (INCHES).
- D_0 = OUTSIDE DIAMETER OF ROUND PIPE (INCHES).
- S_1 = INSIDE SPAN OF PIPE-ARCH (INCHES).
- S_0 = OUTSIDE SPAN OF PIPE-ARCH (INCHES).
- H = FILL COVER HEIGHT OVER PIPE (FEET).
- = UNDISTURBED SOIL
- = COMPACTED BEDDING
- = LOOSE BEDDING, COMPACTED AFTER PIPE PLACEMENT



CONSTRUCTION SEQUENCE

1. LOOSELY PLACE 6" OF FINE AGGREGATE BEDDING MATERIAL TO GRADE. DO NOT COMPACT PRIOR TO PIPE PLACEMENT.
2. FOR PIPES WITH BELL, REMOVE MATERIAL IN BELL AREA PRIOR TO PLACEMENT.
3. FURNISH AND INSTALL PIPE TO GRADE.
4. AFTER PLACEMENT OF THE PIPE, PLACE ADDITIONAL FINE AGGREGATE BEDDING AND COMPACT THE FULL LENGTH ON BOTH SIDES OF THE PIPE UNDERNEATH THE HAUNCH AREA BY FIRST SHOVEL SLICING (MANUALLY SHOVE THE BLADE END OF SHOVEL AT AN ANGLE DOWN THE ENTIRE LENGTH OF HAUNCH UNDER THE PIPE). THEN COMPACT THE HAUNCH AT AN ANGLE USING A POWERED MECHANICAL OR PNEUMATIC DEVICE (I.E. POLE TAMPER, JUMPING JACK, OR SIMILAR).
5. COMPACT THE REMAINING MATERIAL OUTSIDE THE HAUNCH AREA TO THE REQUIREMENTS OF SPEC. 2106 ENSURING THAT THE ENTIRE LENGTH OF PIPE IS SUPPORTED UNIFORMLY BY BEDDING.
6. PLACE AND COMPACT BACKFILL EVENLY AND SIMULTANEOUSLY IN 6" LIFTS ON EACH SIDE OF THE PIPE UP TO THE SPRINGLINE FOR RIGID PIPE AND 12" ABOVE THE TOP OF THE PIPE FOR FLEXIBLE PIPE WHEN COMPACTED.
7. COMPLETE REMAINING BACKFILL.

NOTES

- EXCAVATE & CONSTRUCT ALL TRENCHES AND SLOPES PER OSHA REQUIREMENTS.
- PIPE SIZE IS BASED ON THE NOMINAL INSIDE DIAMETER OR SPAN.
- PROTECT ALL PIPE DURING CONSTRUCTION PER SPEC. 2503.
- WHEN RIPRAP IS REQUIRED AT THE APRON END, SEE STANDARD PLATE OR PLAN FOR RIPRAP INSTALLATION AND QUANTITIES. FOR APRONS WITHOUT RIPRAP PLACE 6" MIN. FINE AGGREGATE BEDDING UNDER APRONS. USE A TRENCH WIDTH EQUAL TO THE PIPE TRENCH WIDTH.
- FINE AGGREGATE BEDDING INCLUDING THE COST OF EXCAVATION, PLACEMENT AND COMPACTION IS INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT STORM SEWER PAY ITEM.
- EXCAVATION AND BACKFILL WITH SELECT GRADING MATERIAL ARE NOT TABULATED SEPARATELY BUT ARE INCLUDED IN THE CONTRACT UNIT PRICE OF THE RELEVANT STORM SEWER PAY ITEM.
- RIGID PIPE INCLUDES CONCRETE. FLEXIBLE PIPE INCLUDES METAL, AND PLASTIC MATERIALS SUCH AS CORRUGATED POLYPROPYLENE (PP), CORRUGATED POLYETHYLENE (CP) AND POLYVINYL CHLORIDE (PVC).
- ① MODIFY TRENCH WIDTH & SLOPE AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS.
- ② USE PLASTIC PIPE TABLE FOR TRENCH WIDTHS WHEN FILL HEIGHT IS GREATER THAN 10 FT.

REVISION:
 APPROVED: JANUARY 18, 2019

 STATE BRIDGE ENGINEER



STANDARD PLAN 5-297.442

1 OF 1

STATE DESIGN ENGINEER

APPROVED: 01-18-2019
 REVISED:

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

STANDARD STORM SEWER BEDDING
 FOR RIGID AND FLEXIBLE PIPE

94229 AM PLOTTED/REVISED: 2/1/2024

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\054-000_100_111e.dgn

NOTES & GUIDELINES

GENERAL INFORMATION:

1. ALL DISTANCES ARE APPROXIMATE.
2. ACCESS SHALL BE MAINTAINED TO ALL RESIDENTS AND BUSINESSES AT ALL TIMES.

SIGNING:

1. ALL TEMPORARY SIGNS ARE REQUIRED TO BE CRASHWORTHY PER THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE 2016 (MASH-2016). TEMPORARY SIGN STRUCTURES THAT ARE CRASHWORTHY UNDER THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM REPORT 350 (NCHRP-350) MAY BE USED PROVIDED THE DEVICES WERE ACQUIRED BY THE CONTRACTOR PRIOR TO DECEMBER 31ST, 2019. THE MINNESOTA TYPE "C" AND "D" BRACED LEG U-CHANNEL (KNEE BRACE) SIGN SUPPORT IS NOT ALLOWED.
2. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING UNTIL THE FINAL SIGNING IS PLACED.
3. WHEN MULTIPLE GROUND MOUNTED SIGN STRUCTURES ARE PLACED ADJACENT TO EACH OTHER THERE SHOULD BE NO MORE THAN 2 POSTS WITHIN 84" OF EACH OTHER. WHEN THIS SPACING CAN NOT BE MAINTAINED, THEN SIGN STRUCTURES SHALL BE OFFSET, AND STAGGERED WITH A MINIMUM OF 4' BETWEEN SIGN STRUCTURES BOTH Laterally and Longitudinally. EXAMPLE SHOWS DETOUR SIGNAGE, BUT THIS REQUIREMENT APPLIES TO ALL SIGNAGE.
4. WHEN A SIGN OR BARRICADE IS ORIENTED SUCH THAT VISIBILITY TO ROAD USERS INCLUDING BIKES AND PEDESTRIANS IS REDUCED ENOUGH TO CAUSE A HAZARD, DELINEATE THE SIGN/BARRICADE WITH APPROPRIATE DEVICES.
5. TEMPORARY SIGNS SHALL BE PLACED SUCH THAT OBSTACLES DO NOT BLOCK THEM FROM BEING VIEWED BY APPROACHING ROAD USERS. OBSTACLES MAY INCLUDE, BUT ARE NOT LIMITED TO, LIGHT POLES, TREES, SIGNS, AND BUILDINGS.
6. TEMPORARY SIGNS SHALL BE PLACED AND ORIENTED APPROXIMATELY AS SHOWN IN THE PLAN, AT RIGHT ANGLES TO DIRECTION OF AND FACING THE TRAFFIC THEY ARE INTENDED TO SERVE, UNLESS OTHERWISE SPECIFIED.
7. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "MINNESOTA TEMPORARY TRAFFIC CONTROL FIELD MANUAL" PAGES (6K-oj) THRU (6K-di) UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
8. AFTER REMOVAL OF SIGN AND/OR SIGN BASE, BACK FILL, COMPACT, AND LEVEL SOIL TO MATCH SURROUNDING SOIL.

PAVEMENT MARKING:

1. MASK ANY CONFLICTING PAVEMENT MARKINGS AS SHOWN IN THE PLAN OR APPROVED BY THE ENGINEER.
2. PAVEMENT MARKINGS IN TRANSITION AREAS SHALL INCLUDE TEMPORARY RAISED PAVEMENT MARKINGS (TRPM).
3. SEE 2582 IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.
4. TEMPORARY PAVEMENT MARKINGS PLACED ON PAVEMENT TO REMAIN AFTER CONSTRUCTION SHALL BE REMOVABLE PREFORMED PAVEMENT MARKING TAPE.

CONSTRUCTION INFORMATION SIGNING:

1. THE CONTRACTOR SHALL USE CONSTRUCTION INFORMATION SIGNING AS SHOWN IN THE PLAN WHICH ARE TO BE USED AS FOLLOWS:
 PLACE THE G20-X1 ADVANCE CLOSURE NOTICE SIGN(S) 10 DAYS PRIOR TO THE PLANNED CLOSURE DATE.
 PLACE G20-X2 ADVANCE NOTICE SIGNS 10 DAYS PRIOR TO THE WORK STARTING DATE. ONCE WORK BEGINS, COVER THE START DATE LEGEND WITH SUGGESTED PLAQUE CONTAINED IN THIS PLAN. IF NO ALTERNATE MESSAGE IS SHOWN IN THE PLAN OR APPROVED BY THE ENGINEER, DISPLAY THE CORRECT ESTIMATED FINISH DATE, MONTH, OR SEASON.
 PLACE PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) ADVANCE CONSTRUCTION AND CLOSURE SIGNS TEN (10) DAYS PRIOR TO CONSTRUCTION
 IF CONSTRUCTION INFORMATION SIGNING IS NO LONGER VISIBLE TO THE MOTORING PUBLIC ONCE WORK BEGINS, MOVE SAID SIGNING TO A SITE IN ADVANCE OF THE WORK ZONE OR CLOSURE AS SHOWN IN THE PLAN OR APPROVED BY THE ENGINEER.

UPDATED 12/20/2021

NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

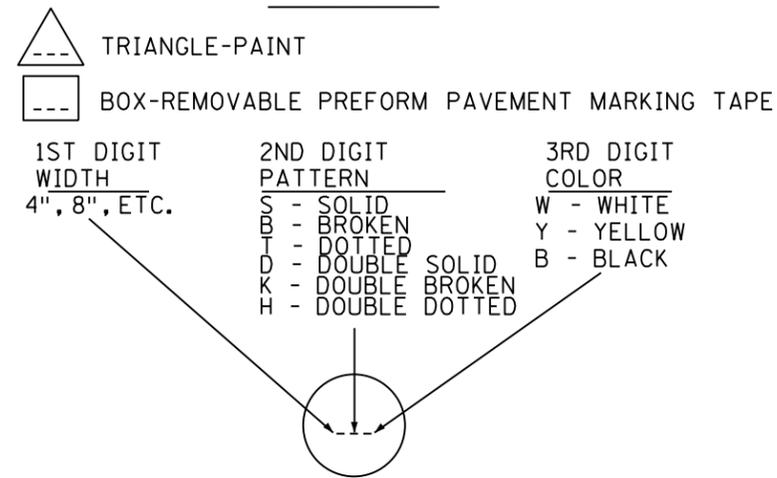
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488

PAVEMENT MARKING SYMBOLS AND MATERIALS LEGEND

————— SOLID LINE PAVEMENT MARKING

STRIPING KEY



1ST DIGIT WIDTH 4", 8", ETC.	2ND DIGIT PATTERN	3RD DIGIT COLOR
	S - SOLID	W - WHITE
	B - BROKEN	Y - YELLOW
	T - DOTTED	B - BLACK
	D - DOUBLE SOLID	
	K - DOUBLE BROKEN	
	H - DOUBLE DOTTED	

EXAMPLE: 4SW = 4" SOLID LINE WHITE PAINT

INDEX

SHEET NO.	TRAFFIC CONTROL DESCRIPTIONS
47	TEMPORARY TRAFFIC CONTROL TITLE SHEET
48 - 49	SIGN TABULATION
50	SIGN DETAILS
51	ANOKA COUNTY HIGHWAY DEPARTMENT SIGN DETAILS
52	ANOKA COUNTY HIGHWAY DEPARTMENT SIGN PLACEMENT
53	ANOKA COUNTY HIGHWAY DEPARTMENT TEMPORARY SIGN COVERING
54	TRAFFIC DETOURS
55 - 57	STAGE 1
58 - 60	STAGE 2
61 - 63	STAGE 3

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

	AREA CLOSED TO TRAFFIC / WORK AREA		TRAFFIC CONTROL SIGN
	CONSTRUCTION UNDER FLAGGING		TYPE III BARRICADE =
			PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
			TYPE A FLASHING WARNING LIGHT

STAGING AND TRAFFIC CONTROL TABULATION

PAY ITEM	UNIT	STAGE 1	STAGE 2	STAGE 3	PROJECT TOTAL	G1
4" SOLID LINE PAINT	LIN FT YELLOW	3312	1688		9390	
	LIN FT WHITE	3184	714	492		
PAVEMENT MARKING REMOVAL	LIN FT	7854	6204	738	14796	
4" REMOVABLE PREFORM PAVEMENT MARKING TAPE	LIN FT YELLOW	717	940		3094	
	LIN FT WHITE	641	796			

NOTE: FUNDING TO BE 25% SP 002-632-012, 25% SP 002-649-003, 25% SP 062-601-016, 25% 062-649-052



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

TITLE SHEET

CONSTRUCTION STAGING & TRAFFIC CONTROL

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **47** OF **162** SHEETS

"M" SERIES					
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST
 	M4-8	BLACK ON ORANGE	24 x 12	24 x 57	1
	M3-1	BLACK ON WHITE	24 x 12		
	M3-3	BLACK ON WHITE	24 x 12		
	SPECIAL SIGN Ⓟ	BLACK ON ORANGE	18 x 18		
 	M5-1	BLACK ON WHITE	21 x 15	24 x 57	1
	M6-1				
	M6-3				
 	M4-8	BLACK ON ORANGE	24 x 12	24 x 57	1
	M3-4	WHITE ON BLUE	24 x 12		
	SPECIAL SIGN Ⓟ	BLACK ON ORANGE	18 x 18		
	M5-1	BLACK ON WHITE	21 x 15		
M6-1					
M6-3					
 	M4-8a	BLACK ON ORANGE	24 x 18	24 x 48	1
	M3-1	BLACK ON WHITE	24 x 12		
	M3-3				
	SPECIAL SIGN Ⓟ	BLACK ON ORANGE	18 x 18		

"W" SERIES					
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST
 	M3-1	BLACK ON WHITE	24 x 12	36 x 66	1
	M3-3				
	SPECIAL SIGN Ⓟ	BLACK ON ORANGE	18 x 18		
	W20-2	BLACK ON ORANGE	36 x 36	36 x 60	1
	W20-3	BLACK ON ORANGE	36 x 36		
 	W20-1	BLACK ON ORANGE	36 x 36	36 x 60	1
	W16-2P	BLACK ON ORANGE	30 x 24		
 	W16-3P	BLACK ON ORANGE	30 x 24	36 x 60	1
	W20-X17	BLACK ON ORANGE	36 x 36		
 	W16-2P	BLACK ON ORANGE	30 x 24	36 x 60	1
	W1-4	BLACK ON ORANGE	36 x 36		
 	W13-1P	BLACK ON ORANGE	24 x 24	36 x 60	1
	W1-5	BLACK ON ORANGE	36 x 36		
 	W13-1P	BLACK ON ORANGE	24 x 24	36 x 36	1 Ⓜ
	W20-1	BLACK ON ORANGE	36 x 36		
 	W20-2	BLACK ON ORANGE	36 x 36	36 x 36	1 Ⓜ

SPECIFIC NOTES:

- Ⓜ MAY USE 2" SQUARE TUBE POST WITH FIN BASE.
- Ⓟ SEE SPECIAL SIGN DETAILS SHEET FOR SIGN DETAILS.

GENERAL NOTES:

1. SIGN STRUCTURE TABULATIONS INDICATE SQUARE TUBE GROUND MOUNTED SIGN STRUCTURES THAT ARE MASH-16 COMPLIANT.
2. USE PRODUCTS FROM THE BASES FOR SQUARE TUBE SIGN STRUCTURES APPROVED/QUALIFIED PRODUCTS LIST FOR THE INDICATED SQUARE TUBE RISER POST SIZE. PLACE PER THE MANUFACTURER'S SPECIFICATIONS.
3. ALUMINUM STRINGERS SHALL BE USED FOR SIGNS 36 INCHES AND WIDER. SEE MANUFACTURER'S SPECIFICATIONS FOR SQUARE TUBE MOUNTING DETAILS. STRINGERS ON SINGLE POST ASSEMBLIES ARE REQUIRED TO BE AT LEAST 9 INCHES IN FROM THE EDGE OF THE SIGN.
4. UNLESS OTHERWISE INDICATED, USE 2-1/2 INCH RISER POSTS FOR GROUND MOUNTED SIGN STRUCTURES.

NO.	DATE	BY	CHK	REVISIONS

Design By:	GHP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Plan By:	GHP	
Checked By:	MJS	
Approved By:	MJS	
PRINT NAME:	MICHAEL J. SHOMION, PE	
	<i>Michael Shomion</i>	
DATE:	2/1/2024	LICENSE # 50488

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

SIGN TABULATION

CONSTRUCTION STAGING & TRAFFIC CONTROL

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

"R" SERIES					
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST
	R3-1L	BLACK ON WHITE	36 x 12	36 x 60	1
	R3-1	WHITE ON RED	24 x 24		
	R3-1	BLACK AND RED ON WHITE	24 x 24		
	R3-1	WHITE ON RED	36 x 36	36 x 60	1
	R3-1	BLACK AND RED ON WHITE	24 x 24		
	R3-1	WHITE ON RED	36 x 36	36 x 72	1
	R3-5R	BLACK ON WHITE	30 x 36		
	R3-1	BLACK AND RED ON WHITE	24 x 24	24 x 24	1 Ⓐ
	R4-7	BLACK ON WHITE	24 x 24	24 x 24	1 Ⓐ
	R3-5 (L/R)	BLACK ON WHITE	30 x 36	30 x 36	1 Ⓐ
	R4-7	RED ON WHITE	30 x 30	30 x 30	1 Ⓐ
	R6-1 (R/L)	BLACK ON WHITE	36 x 12	36 x 12	1 Ⓐ

"G" SERIES						
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)	ASSEMBLY (IN. X IN.) (WxH)	NUMBER OF POST	SPACING OF POSTS
	G20-X2	BLACK ON ORANGE	96 x 84	96 x 84	2	
	G20-2	BLACK ON WHITE	36 x 18	36 x 18	1 Ⓐ	

BARRICADE MOUNTED SIGNS			
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)
	R11-2M	BLACK ON WHITE	48 x 30
	R11-4	BLACK ON WHITE	60 x 30
	W1-6	BLACK ON ORANGE	60 x 30
	R11-4	BLACK ON WHITE	60 x 30
	R11-4	BLACK ON WHITE	30 x 18
	R4-7	RED ON WHITE	30 x 30
	SPECIAL SIGN Ⓑ	BLACK ON ORANGE	36 x 24

SPECIFIC NOTES:

- Ⓐ MAY USE 2" SQUARE TUBE POST WITH FIN BASE.
- Ⓑ SEE SPECIAL SIGN DETAILS SHEET FOR SIGN DETAILS.

GENERAL NOTES:

1. SIGN STRUCTURE TABULATIONS INDICATE SQUARE TUBE GROUND MOUNTED SIGN STRUCTURES THAT ARE MASH-16 COMPLIANT.
2. USE PRODUCTS FROM THE BASES FOR SQUARE TUBE SIGN STRUCTURES APPROVED/QUALIFIED PRODUCTS LIST FOR THE INDICATED SQUARE TUBE RISER POST SIZE. PLACE PER THE MANUFACTURER'S SPECIFICATIONS.
3. ALUMINUM STRINGERS SHALL BE USED FOR SIGNS 36 INCHES AND WIDER. SEE MANUFACTURER'S SPECIFICATIONS FOR SQUARE TUBE MOUNTING DETAILS. STRINGERS ON SINGLE POST ASSEMBLIES ARE REQUIRED TO BE AT LEAST 9 INCHES IN FROM THE EDGE OF THE SIGN.
4. UNLESS OTHERWISE INDICATED, USE 2-1/2 INCH RISER POSTS FOR GROUND MOUNTED SIGN STRUCTURES.

NO.	DATE	BY	CHK	REVISIONS

Design By:	GHP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Plan By:	GHP	
Checked By:	MJS	
Approved By:	MJS	

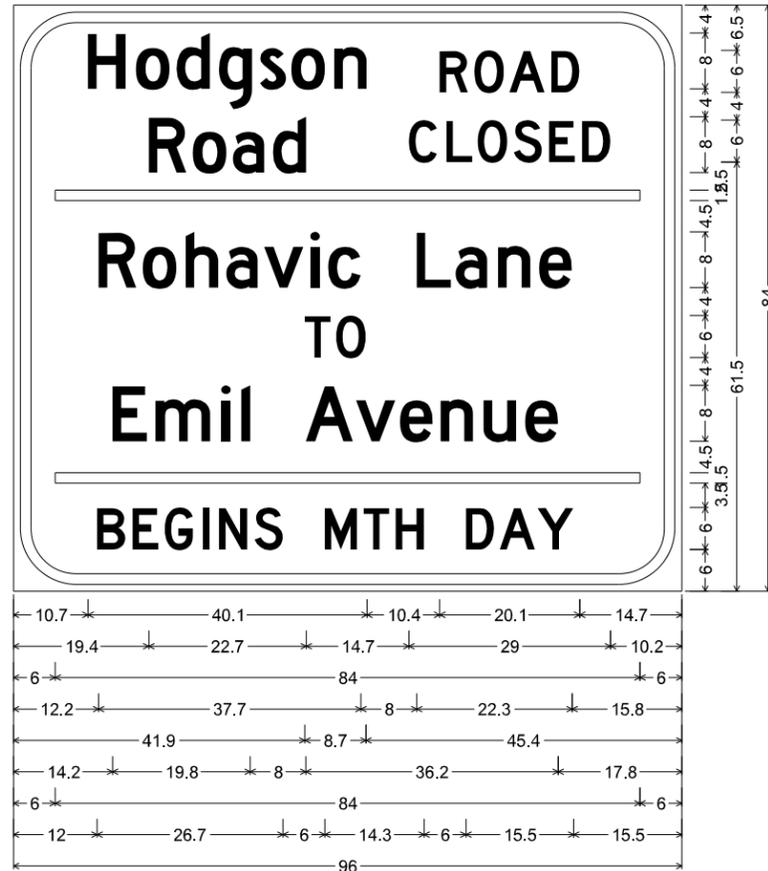
PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488



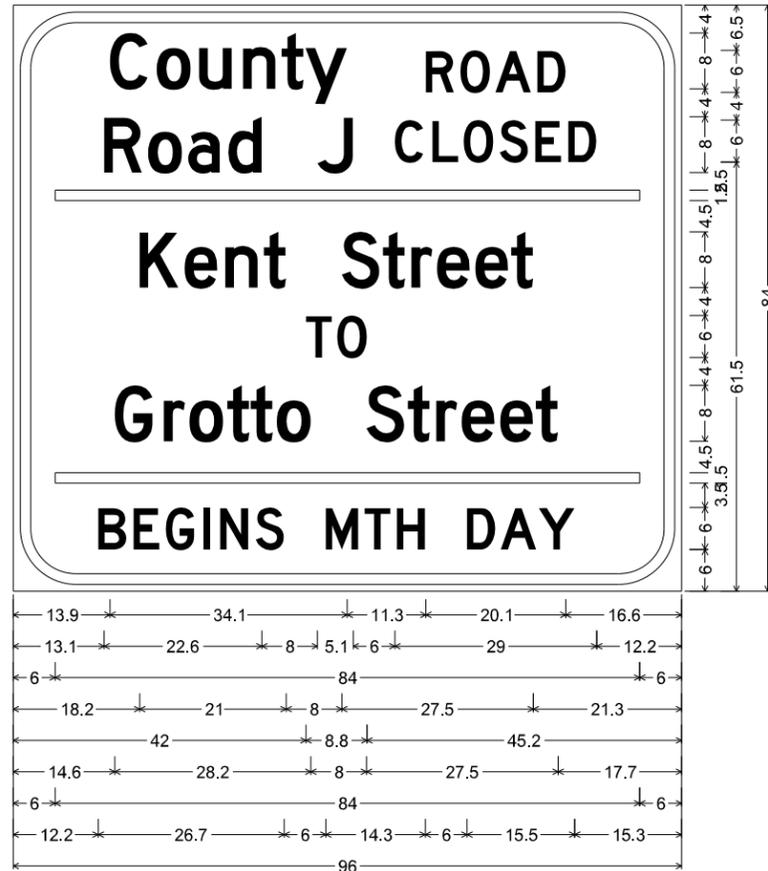
CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

ANOKA & RAMSEY COUNTY, MN
 SIGN TABULATION
CONSTRUCTION STAGING & TRAFFIC CONTROL
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

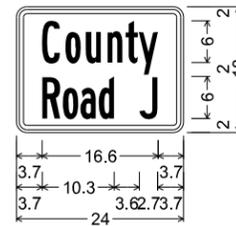
SHEET
49
 OF
162
 SHEETS



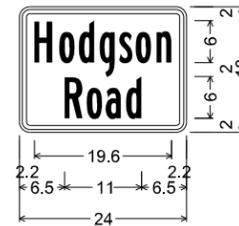
HODGSON ROAD ROAD CLOSED ROHAVIC LANE TO EMIL AVENUE;
 9.0" Radius, 1.5" Border, 1.0" Indent, Black on, Orange;
 "Hodgson", D 2K; "Road", D 2K; "ROAD", D 2K; "CLOSED", D 2K;
 "Rohavic Lane", D 2K; "TO", D 2K; "Emil Avenue", D 2K;
 "BEGINS", D 2K; "MTH DAY", D 2K;



COUNTY ROAD J ROAD CLOSED KENT STREET TO GROTTTO STREET;
 9.0" Radius, 1.5" Border, 1.0" Indent, Black on, Orange;
 "County", D 2K; "Road J", D 2K; "ROAD", D 2K; "CLOSED", D 2K;
 "Kent Street", D 2K; "TO", D 2K; "Grotto Street", D 2K; "BEGINS", D 2K;
 "MTH DAY", D 2K;



1.5" Radius, 0.6" Border, 0.4" Indent, Black on, Orange;
 "County", B 2K;
 "Road J", B 2K 60% spacing;



1.5" Radius, 0.6" Border, 0.4" Indent, Black on, Orange;
 "Hodgson", B 2K;
 "Road", B 2K;



No border, Black on, Orange;
 "FOLLOW DETOUR", D 2K;



OPEN TO LOCAL BUSINESS;
 "OPEN TO", E 2K;
 "LOCAL", E 2K;
 "BUSINESS", E 2K;

ALL DIMENSIONS ARE IN INCHES

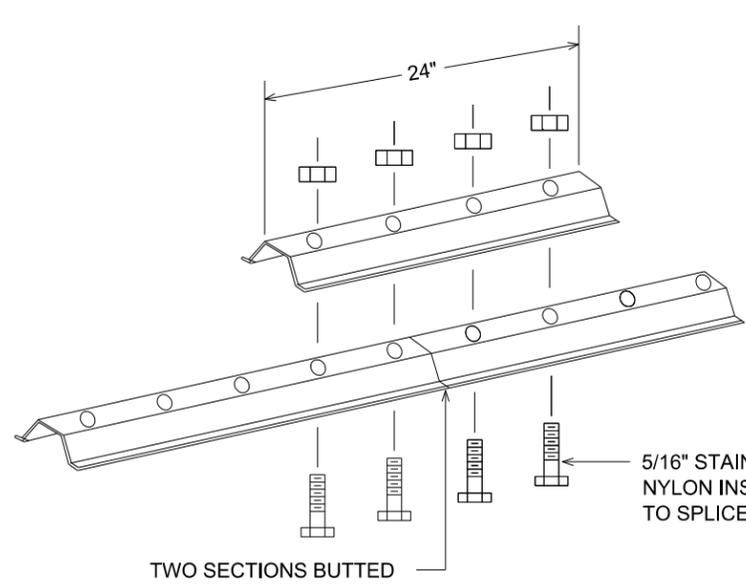
NO.	DATE	BY	CHK	REVISIONS

Design By:	GHP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: MICHAEL J. SHOMION, PE <i>Michael Shomion</i> DATE: 2/1/2024 LICENSE #: 50488
Plan By:	GHP	
Checked By:	MJS	
Approved By:	MJS	

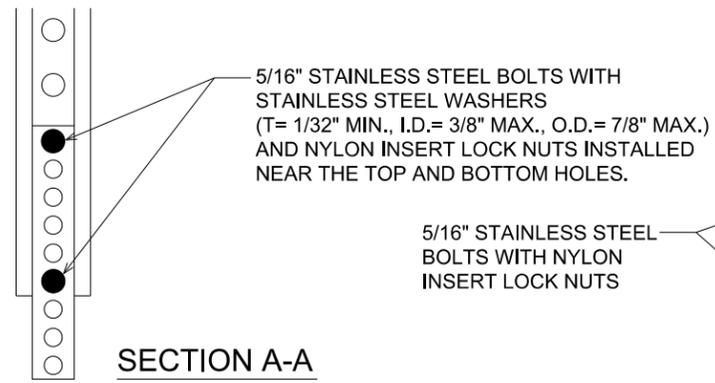
			CSAH 49 at Ramsey County CSAH 1 / Anoka County CSAH 32 Intersection Improvements	ANOKA & RAMSEY COUNTY, MN SIGN DETAILS CONSTRUCTION STAGING & TRAFFIC CONTROL SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014	SHEET 50 OF 162 SHEETS
--	--	--	---	--	--

PLOTTED/REVISED: 2/1/2024 9:42:38 AM

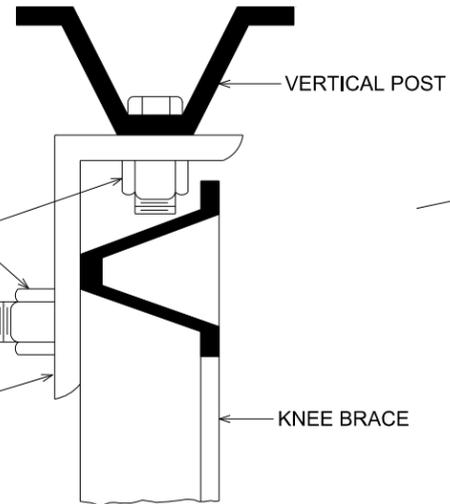
WSB PATH & FILENAME: Projects\Minnesota\0919054-000\Cad\Plan\9054-000_tcd_sign_struct.dgn



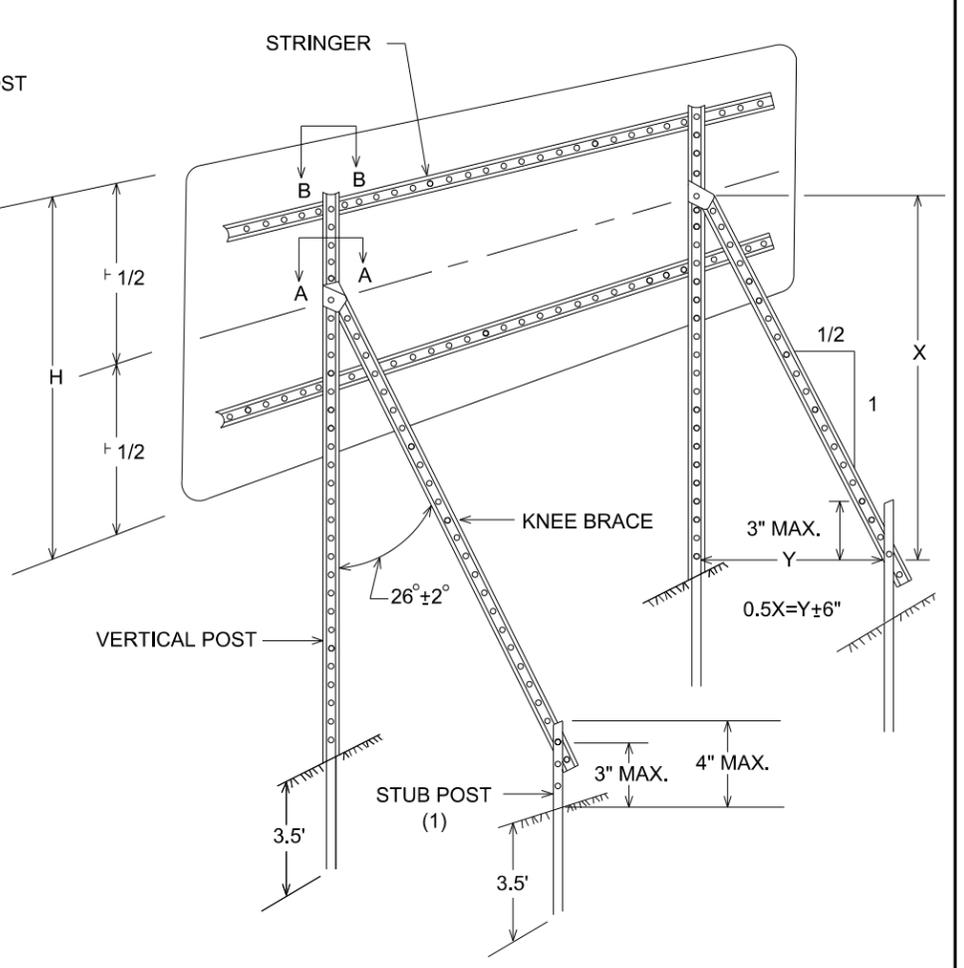
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



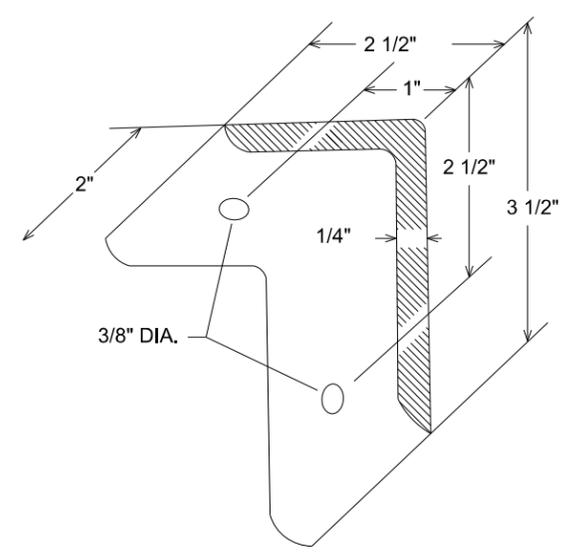
SECTION A-A



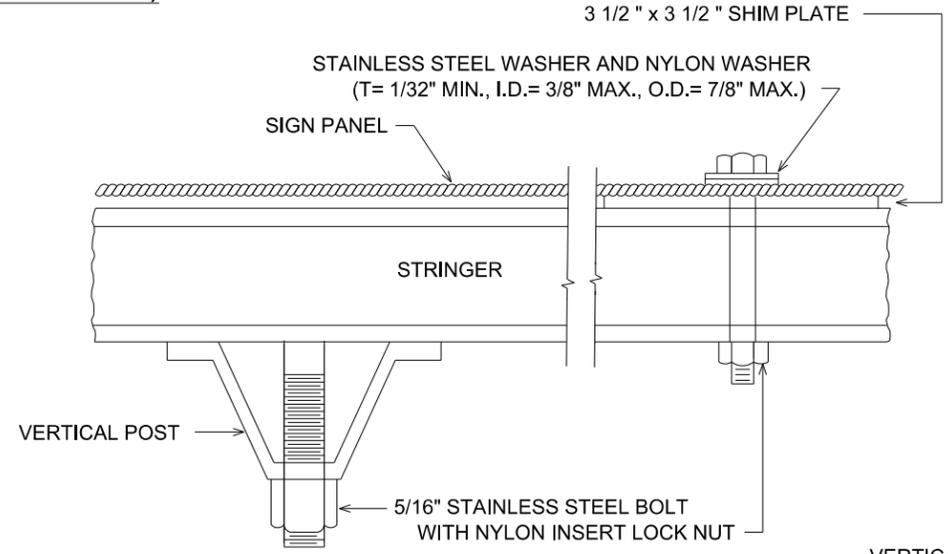
BRACKET KNEE BRACE



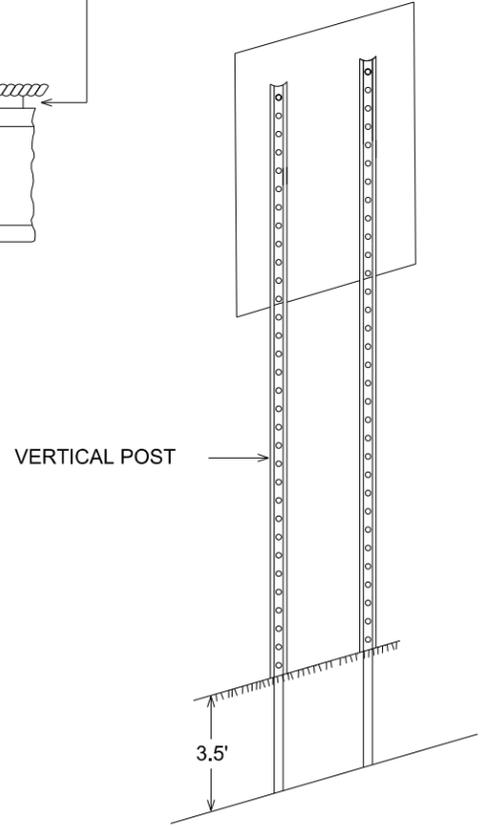
TYPICAL "A-FRAME" INSTALLATION TYPE "D" SIGNS



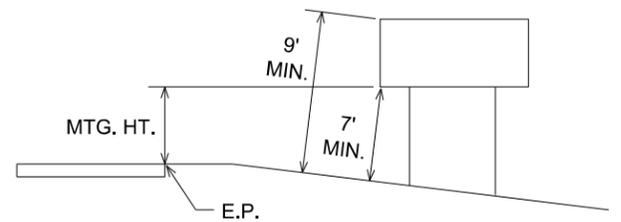
A-FRAME BRACKET (STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B



TYPICAL INSTALLATION 36" AND LARGER TYPE "C" SIGNS



TYPICAL MOUNTING

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

TYPE C & D SIGN STRUCTURAL DETAILS

ANOKA COUNTY HIGHWAY DEPARTMENT SIGN DETAILS

NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

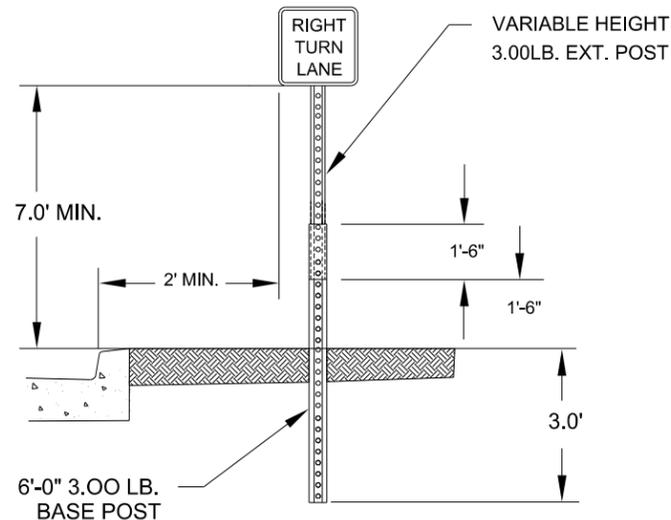
ANOKA & RAMSEY COUNTY, MN
 DETAILS
 CONSTRUCTION STAGING & TRAFFIC CONTROL
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET 51 OF 162 SHEETS

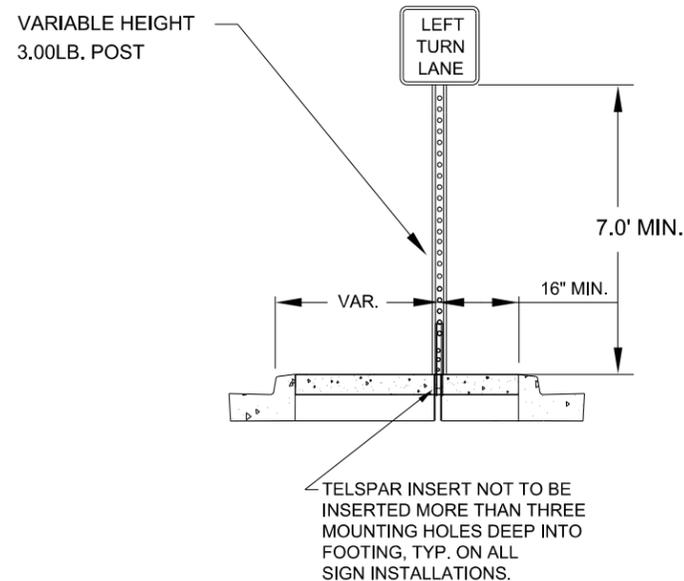
PLOTTED/REVISED: 2/1/2024 9:42:40 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_tce_sign_placement.dgn

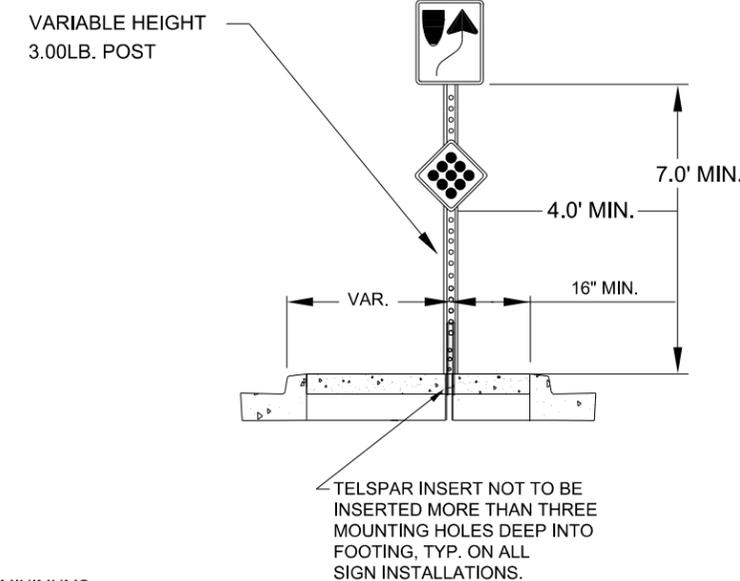
GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



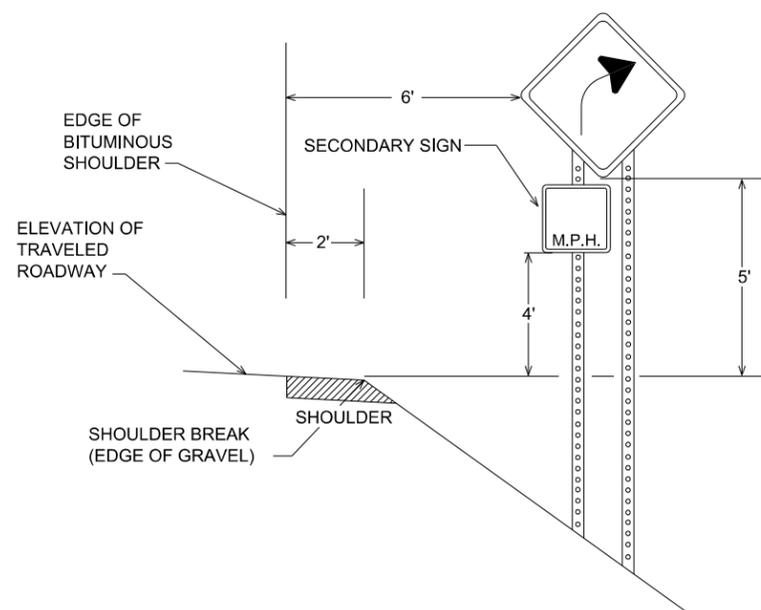
ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL
KEEP RIGHT/CLUSTER



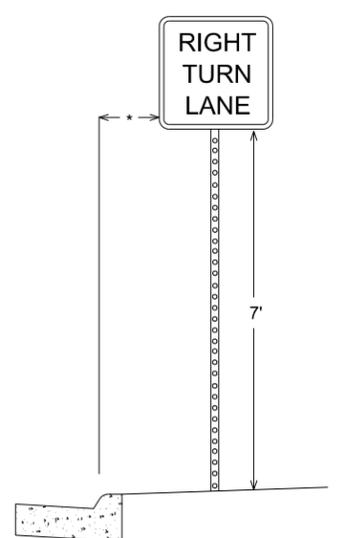
NOTES:

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

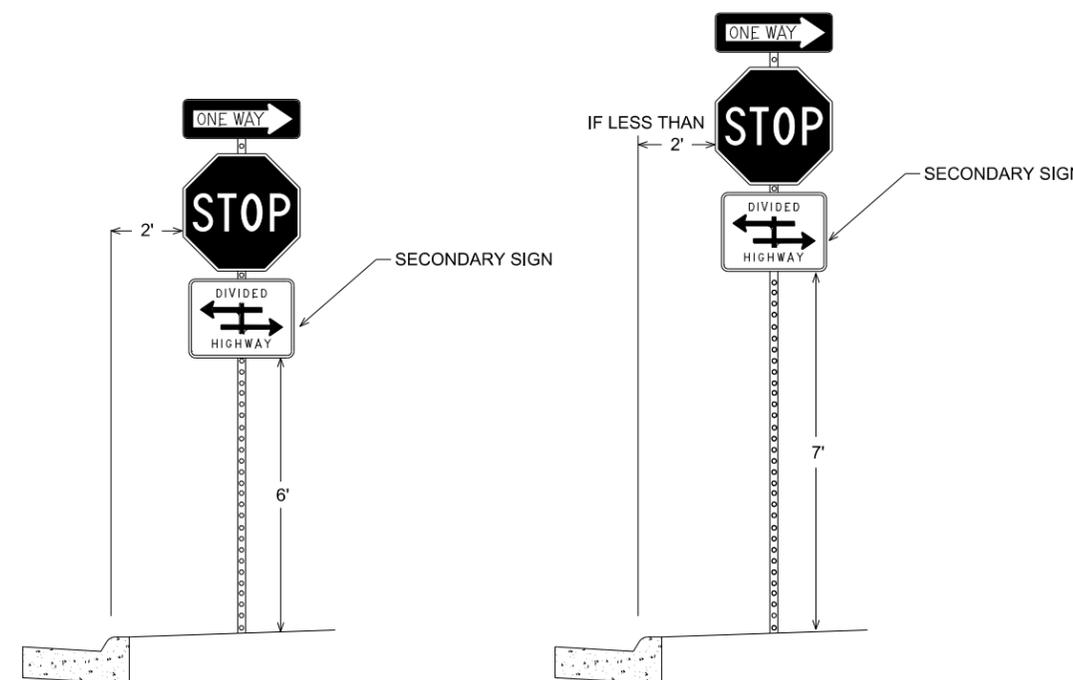
TYPICAL SIGN PLACEMENT
(RURAL)



TYPICAL SIGN PLACEMENT
(URBAN)



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



ANOKA COUNTY HIGHWAY DEPARTMENT SIGN PLACEMENT

NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

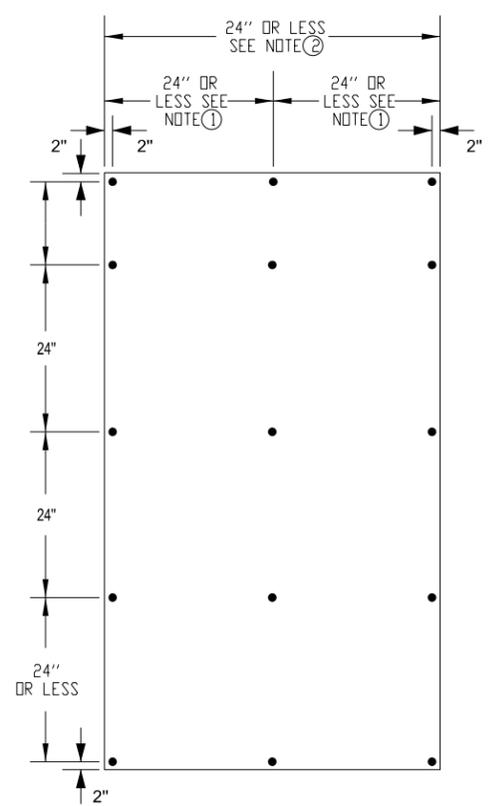
ANOKA & RAMSEY COUNTY, MN

DETAILS

CONSTRUCTION STAGING & TRAFFIC CONTROL

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
52
OF
162
SHEETS



OVERLAY ASSEMBLY STEPS FOR COVERING COMPLETE OR PORTION OF EXTRUDED SIGN PANEL:

- 1) DRILL 1/4" HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH THE HOLE SPACING ON THE DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 24" APART.
- 2) ATTACH PLASTIC SPACER(S) (1/4" MIN THICKNESS, 3/8" I.D. AND 7/8" O.D.) WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
- 3) POSITION THE FIRST OVERLAY PANEL'S BOTTOM EDGE FLUSH WITH THE BOTTOM OF THE INPLACE EXTRUDED SIGN PANEL AND THE OVERLAY PANEL'S LOWER LEFT EDGE FLUSH WITH THE LOWER LEFT EDGE OF THE BOTTOM INPLACE EXTRUDED PANEL SECTION.
- 4) DRILL ALL OF THE OUTSIDE HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH THE OVERLAY PANEL WITH SHEET METAL SCREWS.
- 5) DRILL THE INNER HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH WITH SHEET METAL SCREWS AS SPECIFIED IN STEP 4 ABOVE.
- 6) ABUT THE NEXT OVERLAY PANEL TO THE FIRST ATTACHED OVERLAY PANEL AND PERFORM THE SAME WORK AS SPECIFIED IN STEPS 4 AND 5 ABOVE.
- 7) PLACE EACH ADDITIONAL OVERLAY PANEL AS SPECIFIED IN STEP 6 ABOVE.

NOTES FOR COVERING COMPLETE OR PORTION OF EXTRUDED SIGN PANEL:

- ① THE CENTER SHEET METAL SCREWS SHALL BE SPACED AT 1/2 OF THE PANELS WIDTH.
- ② IF THE SHEET ALUMINUM PANEL IS GREATER THAN 48" WIDE, THE SHEET METAL SCREWS SPACING SHALL BE NO GREATER THAN 24". IF THE SHEET ALUMINUM PANEL IS LESS THAN 24" WIDE, THERE SHALL BE NO INNER HOLES.
- ③ VERTICAL SPACING FOR THE MOUNTING HOLES IS 50% OF THE PANEL HEIGHT. IF THE PANEL IS LESS THAN 24" HIGH, THERE SHALL BE NO INNER HOLES.
- ④ HORIZONTAL SPACING FOR MOUNTING HOLES SHALL NOT BE LESS THAN 15" NOR MORE THAN 24".

GENERAL NOTES:

SIGN PANEL OVERLAYS SHALL BE MADE OF A RIGID MATERIAL. (SHEET ALUMINUM, PLYWOOD, CORRUGATED PLASTIC, OR OTHER MATERIAL AS APPROVED BY THE ENGINEER), THE INSTALLATION SHALL ALLOW ADEQUATE AIR FLOW BETWEEN THE OVERLAY PANEL AND THE INPLACE SIGN PANEL BY PROVIDING A MINIMUM SPACING OF 1/4" (1" MAXIMUM).

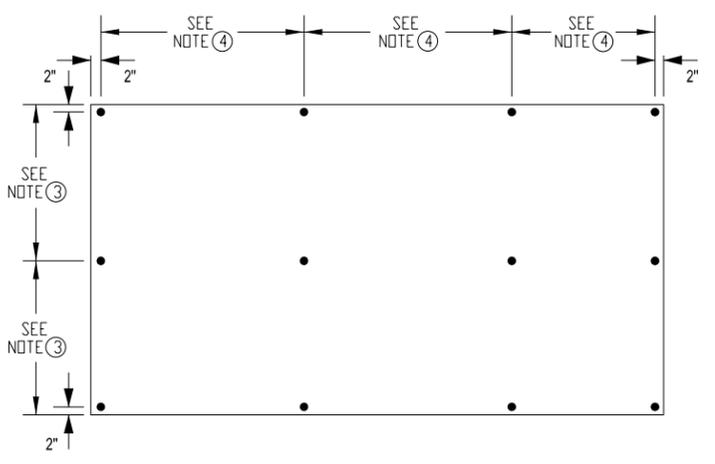
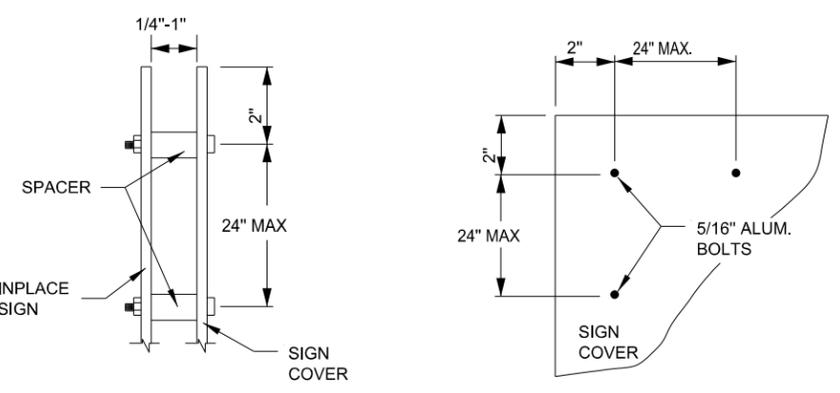
IF SHEET METAL SCREWS ARE USED WITH CORRUGATED PLASTIC, FENDER WASHERS SHALL BE PLACED BETWEEN SCREWS AND PANEL OVERLAY.

SPACERS SHALL BE A MATERIAL THAT WILL NOT HARM THE SIGN SHEETING FACE (SUCH AS PLASTIC OR RUBBER).

ALL COVERING MATERIAL, MOUNTING HARDWARE AND FASTENERS SHALL BE REMOVED WHEN PANEL OVERLAY IS REMOVED.

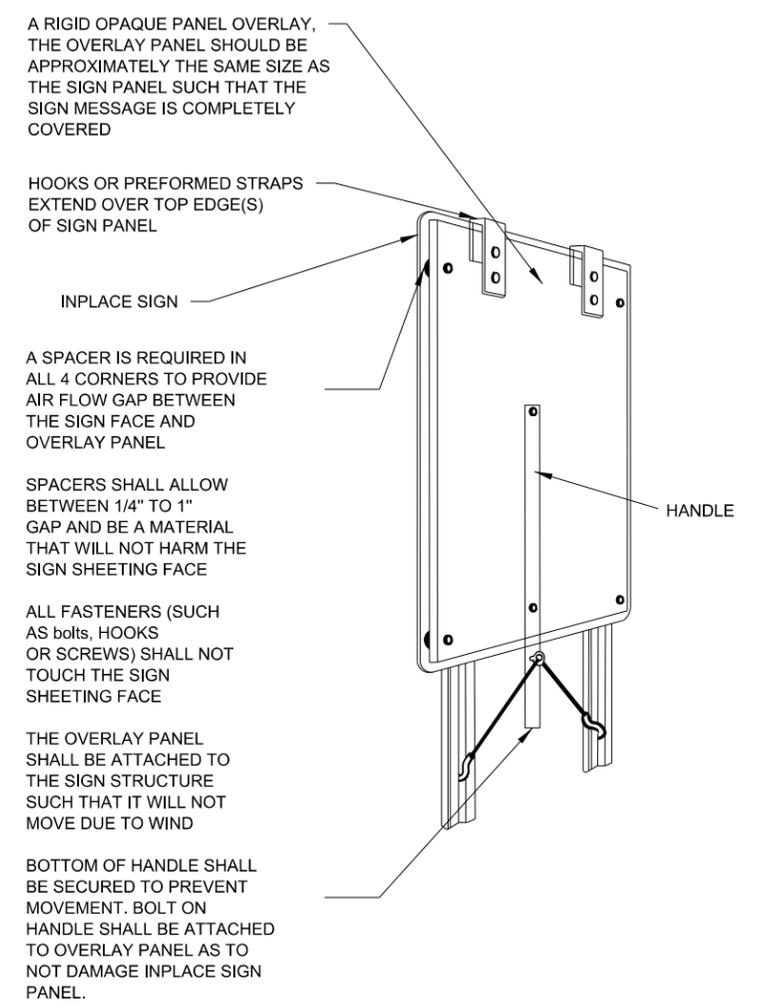
SIGN PANEL OVERLAYS USED TO COVER ALL OR PART OF A SIGN SHALL BE THE SAME COLOR AS THE BACKGROUND COLOR OF THE SIGN TO BE COVERED AND SHALL COVER ALL OF THE SIGN OR MESSAGE TO BE COVERED UNLESS SHOWN OTHERWISE IN THE PLAN.

TAPE SHALL NOT BE APPLIED TO THE SIGN SHEETING SURFACE. PRE-MASK OR APPLICATION TAPE SHALL BE REMOVED PRIOR TO EXPOSURE TO SUNLIGHT.



ACHD REFERENCE DATE: 01/26/2018

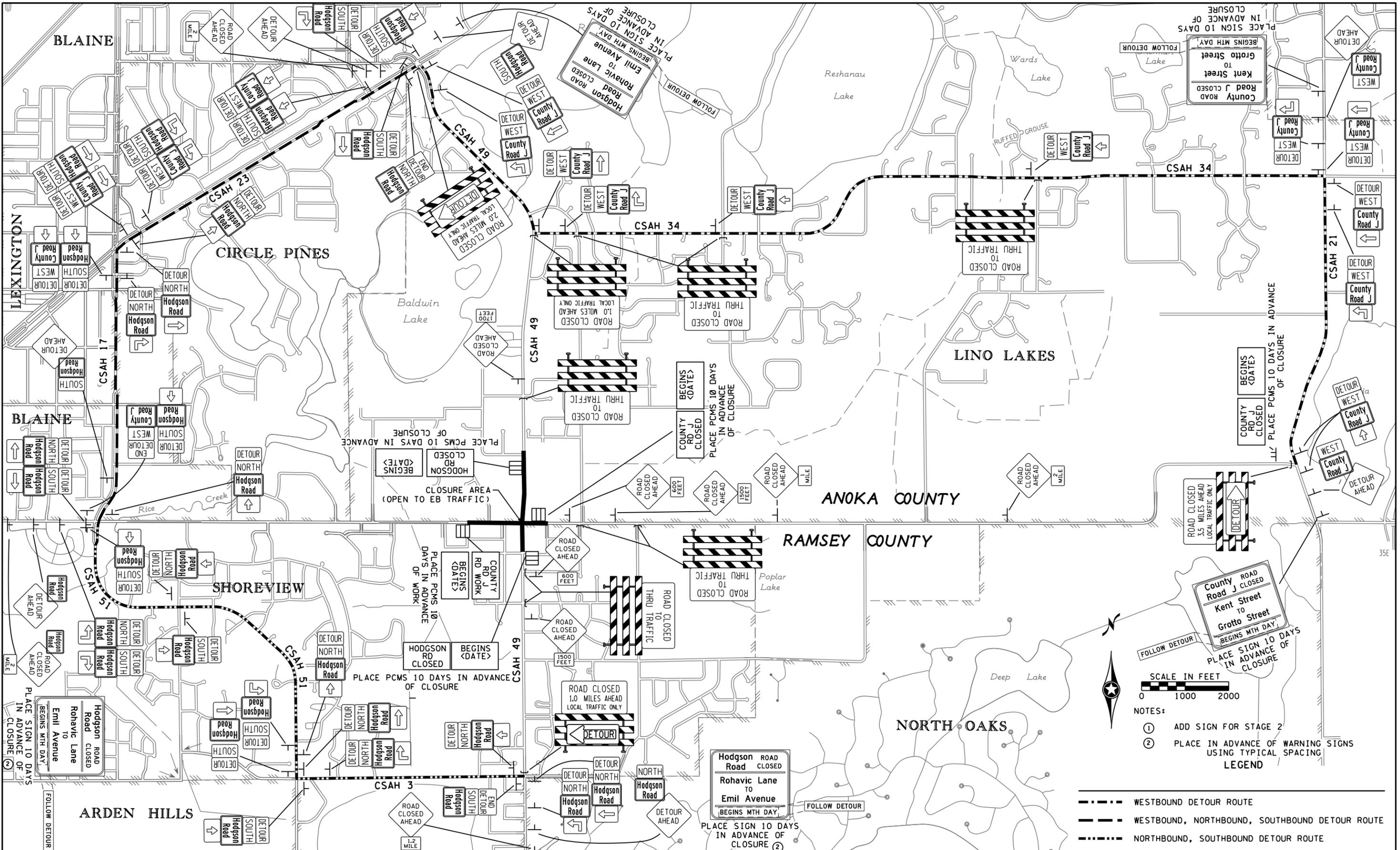
OVERLAY ASSEMBLY COVERING TYPE C OR D SIGN PANEL:



NO.	DATE	BY	CHK	REVISIONS

Design By:	GHP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: MICHAEL J. SHOMION, PE <i>Michael Shomion</i> DATE: 2/1/2024 LICENSE #: 50488
Plan By:	GHP	
Checked By:	MJS	
Approved By:	MJS	

			CSAH 49 at Ramsey County CSAH 1 / Anoka County CSAH 32 Intersection Improvements	ANOKA & RAMSEY COUNTY, MN DETAILS CONSTRUCTION STAGING & TRAFFIC CONTROL <small>SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014</small>	SHEET 53 OF 162 SHEETS
--	--	--	---	---	--



SCALE IN FEET
 0 1000 2000

NOTES:

- ① ADD SIGN FOR STAGE 2
- ② PLACE IN ADVANCE OF WARNING SIGNS USING TYPICAL SPACING

LEGEND

- WESTBOUND DETOUR ROUTE
- - - WESTBOUND, NORTHBOUND, SOUTHBOUND DETOUR ROUTE
- NORTHBOUND, SOUTHBOUND DETOUR ROUTE

NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488

wsb

ANOKA COUNTY

RAMSEY COUNTY

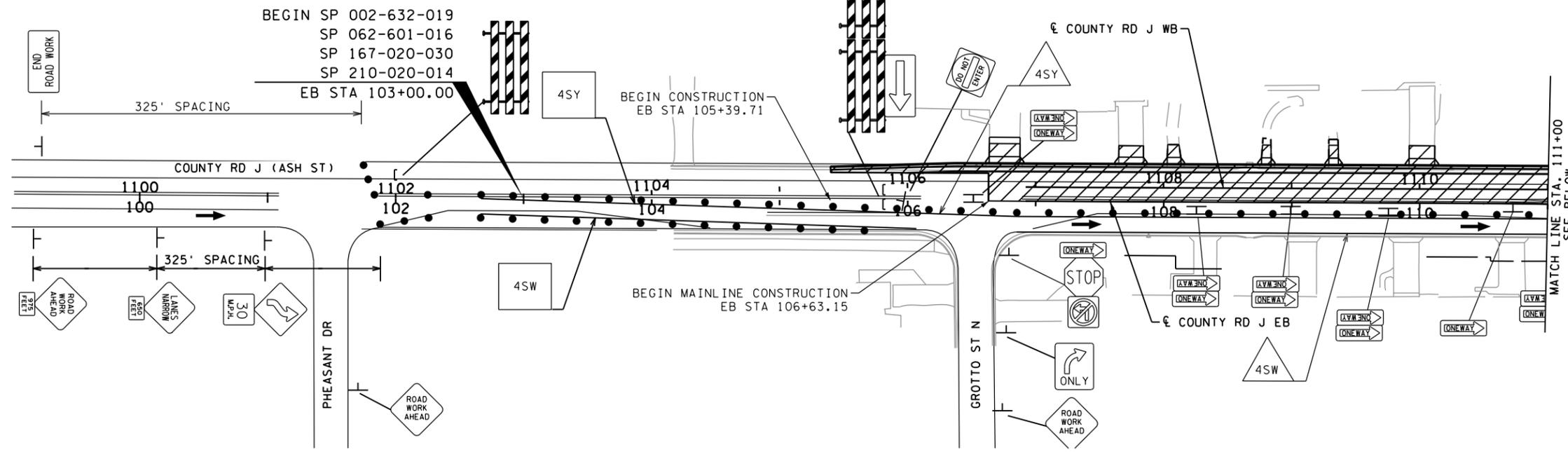
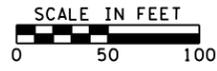
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

TRAFFIC DETOURS
CONSTRUCTION STAGING & TRAFFIC CONTROL
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **54** OF **162** SHEETS

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



LEGEND

- TRAFFIC DIRECTION
- [Hatched Area] AREA CLOSED TO TRAFFIC / WORK AREA
- [Symbol] CONSTRUCTION UNDER TRAFFIC

NARRATIVE: STAGE 1

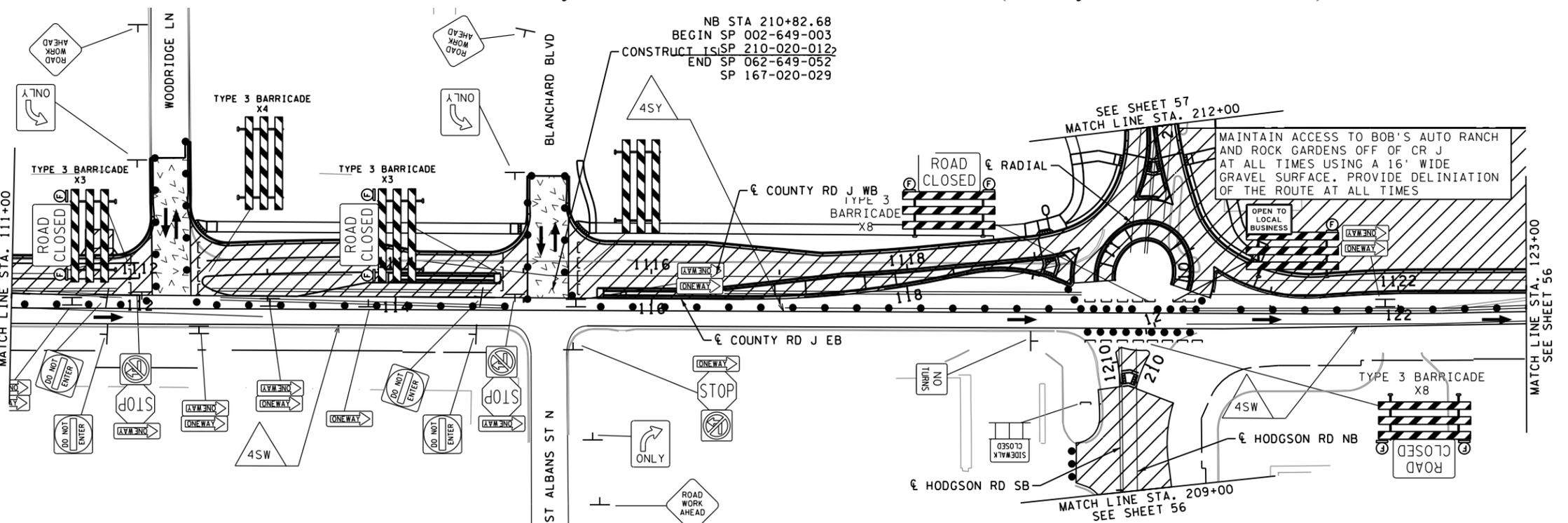
CONSTRUCTION:

- CONSTRUCT STORMWATER BMPS
- CONSTRUCT WB COUNTY ROAD J
- CONSTRUCT HODGSON ROAD

TRAFFIC:

- HODGSON ROAD CLOSED TO TRAFFIC
- COUNTY ROAD J WB CLOSED TO TRAFFIC
- ACCESS TO RESIDENTS AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



PLOTTED/REVISED: 2/1/2024 9:42:55 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\CadPlan\19054-000_1.cpl.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

STAGE 1

CONSTRUCTION STAGING & TRAFFIC CONTROL

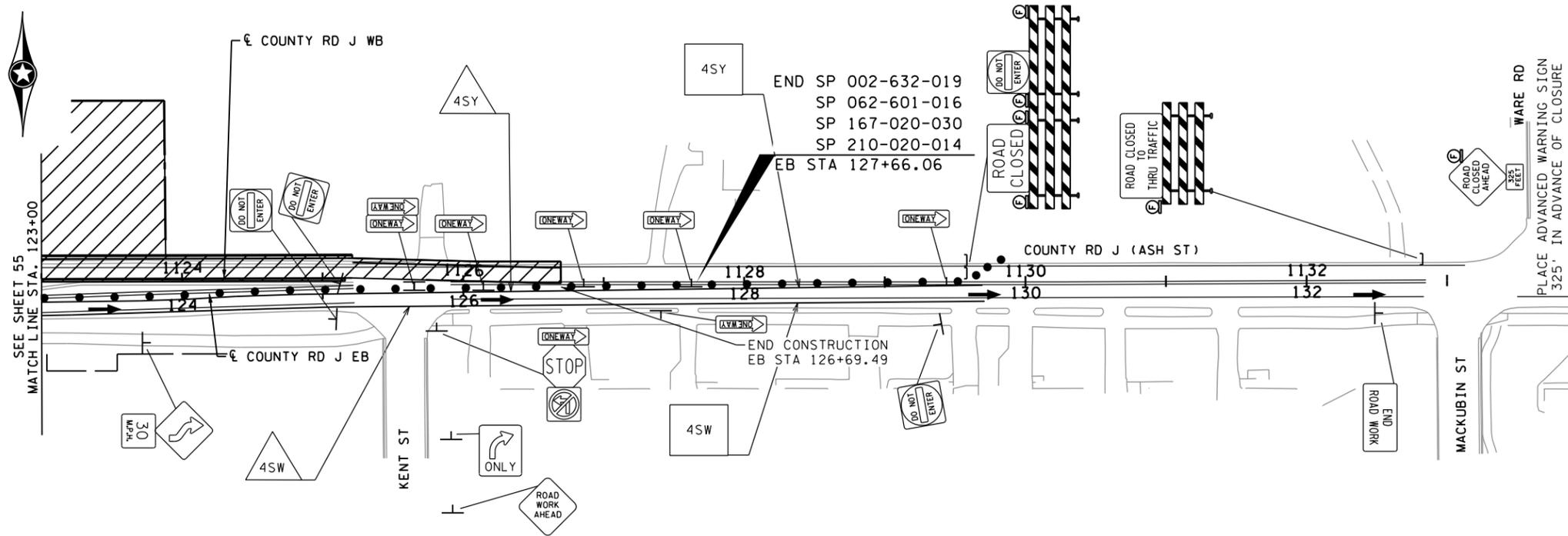
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **55** OF **162** SHEETS

PLOTTED/REVISED: 2/1/2024 9:43:04 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1c102.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



LEGEND

- TRAFFIC DIRECTION
- [Hatched Box] AREA CLOSED TO TRAFFIC / WORK AREA
- [Box with 'u' and 'v'] CONSTRUCTION UNDER TRAFFIC

NARRATIVE: STAGE 1

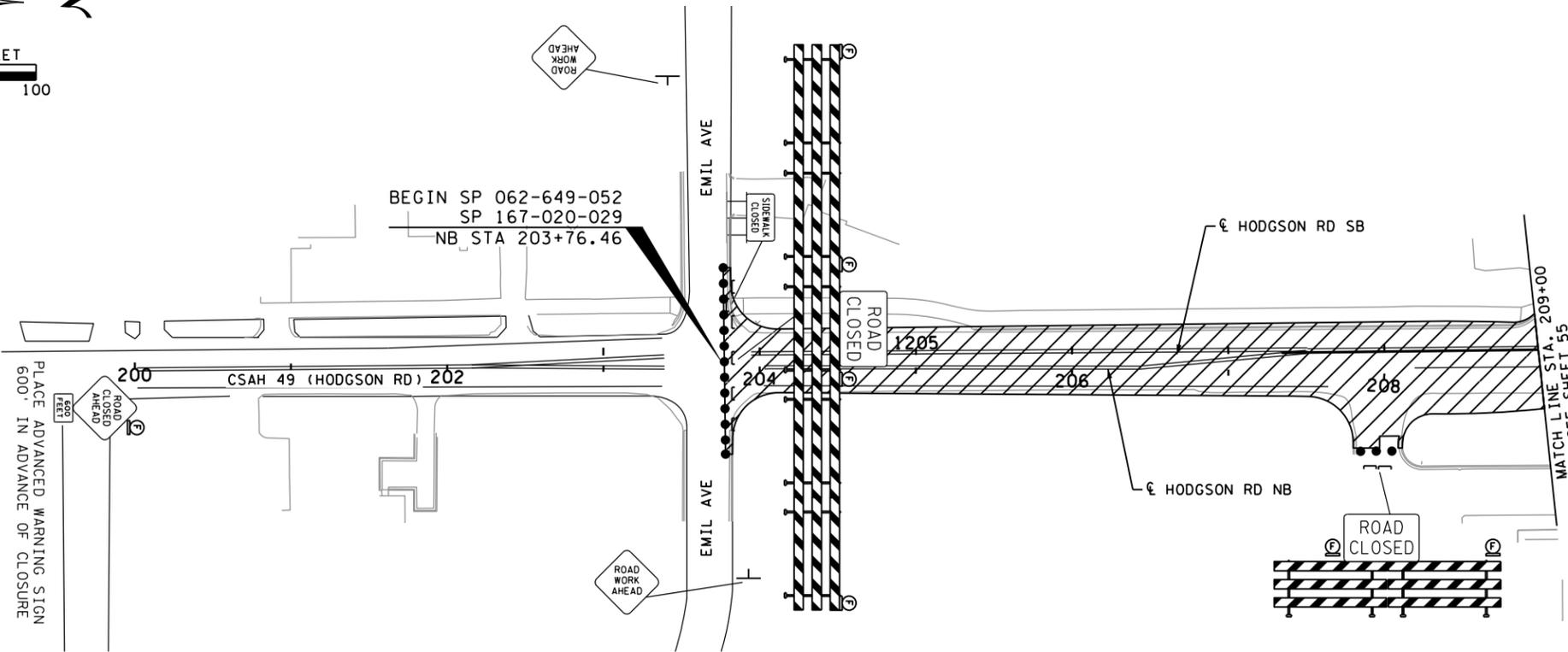
CONSTRUCTION:

- CONSTRUCT STORMWATER BMPS
- CONSTRUCT WB COUNTY ROAD J
- CONSTRUCT HODGSON ROAD

TRAFFIC:

- HODGSON ROAD CLOSED TO TRAFFIC
- COUNTY ROAD J WB CLOSED TO TRAFFIC
- ACCESS TO RESIDENTS AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

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

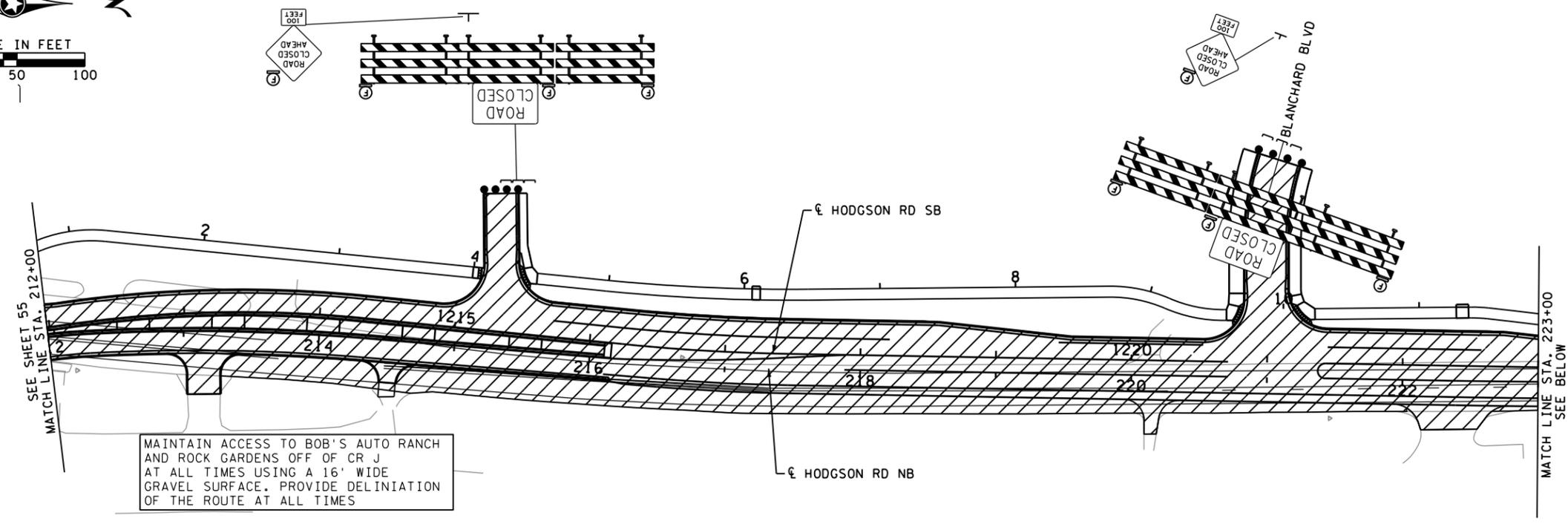
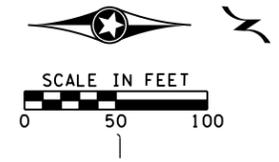
PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

PLOTTED/REVISED: 2/1/2024 9:43:13 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1c103.dgn

CSAH 49 (Hodgson Road)



MAINTAIN ACCESS TO BOB'S AUTO RANCH AND ROCK GARDENS OFF OF CR J AT ALL TIMES USING A 16' WIDE GRAVEL SURFACE. PROVIDE DELINEATION OF THE ROUTE AT ALL TIMES

LEGEND

- TRAFFIC DIRECTION
- [Hatched Area] AREA CLOSED TO TRAFFIC / WORK AREA
- [Box with 'L' and 'V'] CONSTRUCTION UNDER TRAFFIC

NARRATIVE: STAGE 1

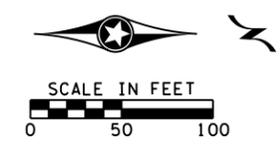
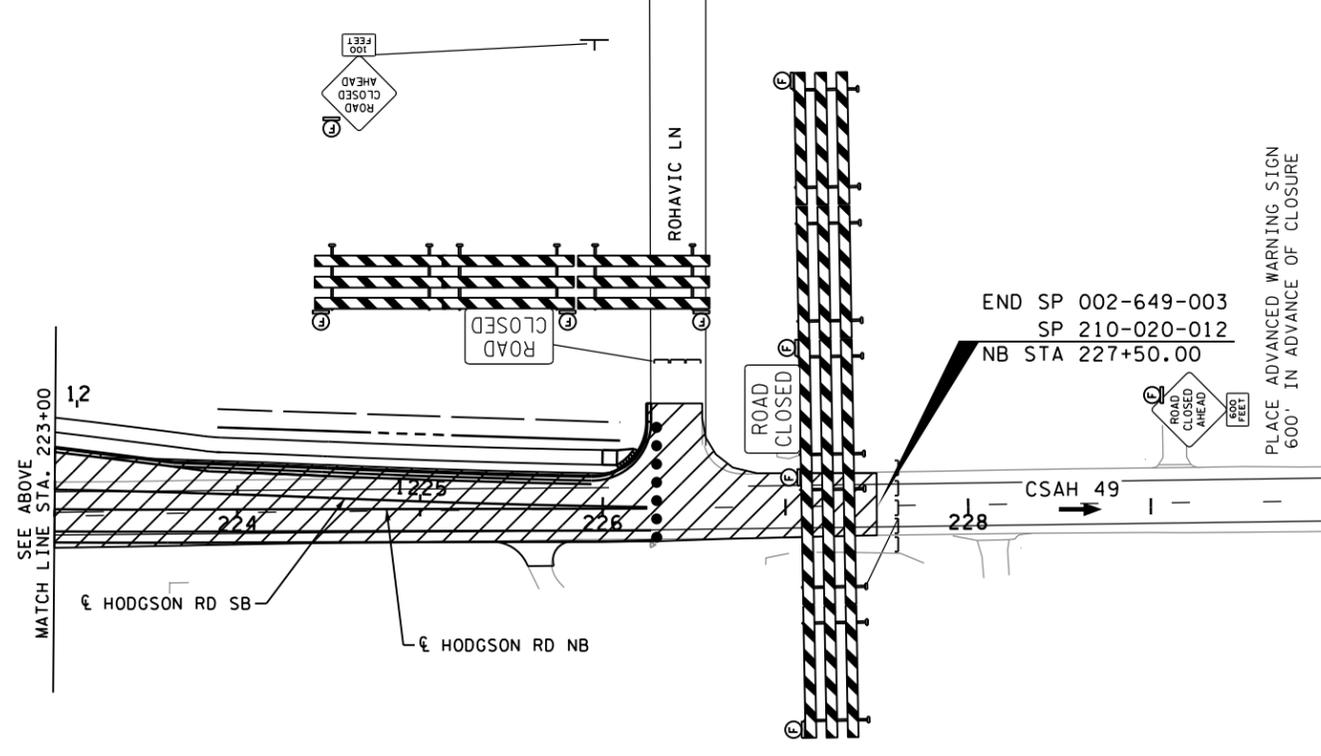
CONSTRUCTION:

- CONSTRUCT STORMWATER BMPS
- CONSTRUCT WB COUNTY ROAD J
- CONSTRUCT HODGSON ROAD

TRAFFIC:

- HODGSON ROAD CLOSED TO TRAFFIC
- COUNTY ROAD J WB CLOSED TO TRAFFIC
- ACCESS TO RESIDENTS AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

STAGE 1

CONSTRUCTION STAGING & TRAFFIC CONTROL

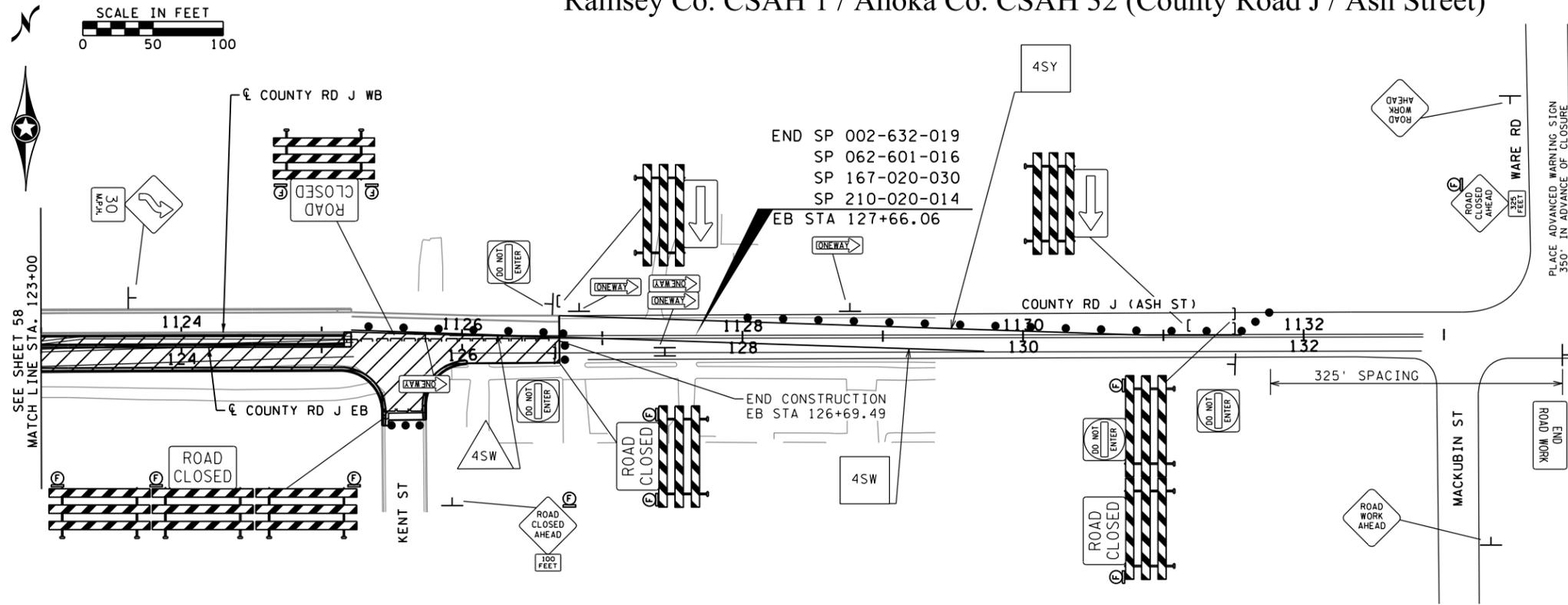
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET 57 OF 162 SHEETS

PLOTTED/REVISED: 2/1/2024 9:43:31 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1c202.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



SCALE IN FEET
0 50 100

SEE SHEET 58
MATCH LINE STA. 123+00

PLACE ADVANCED WARNING SIGN
350' IN ADVANCE OF CLOSURE

LEGEND

- TRAFFIC DIRECTION
- [Hatched Area] AREA CLOSED TO TRAFFIC / WORK AREA
- [Symbol] CONSTRUCTION UNDER TRAFFIC

NARRATIVE: STAGE 2

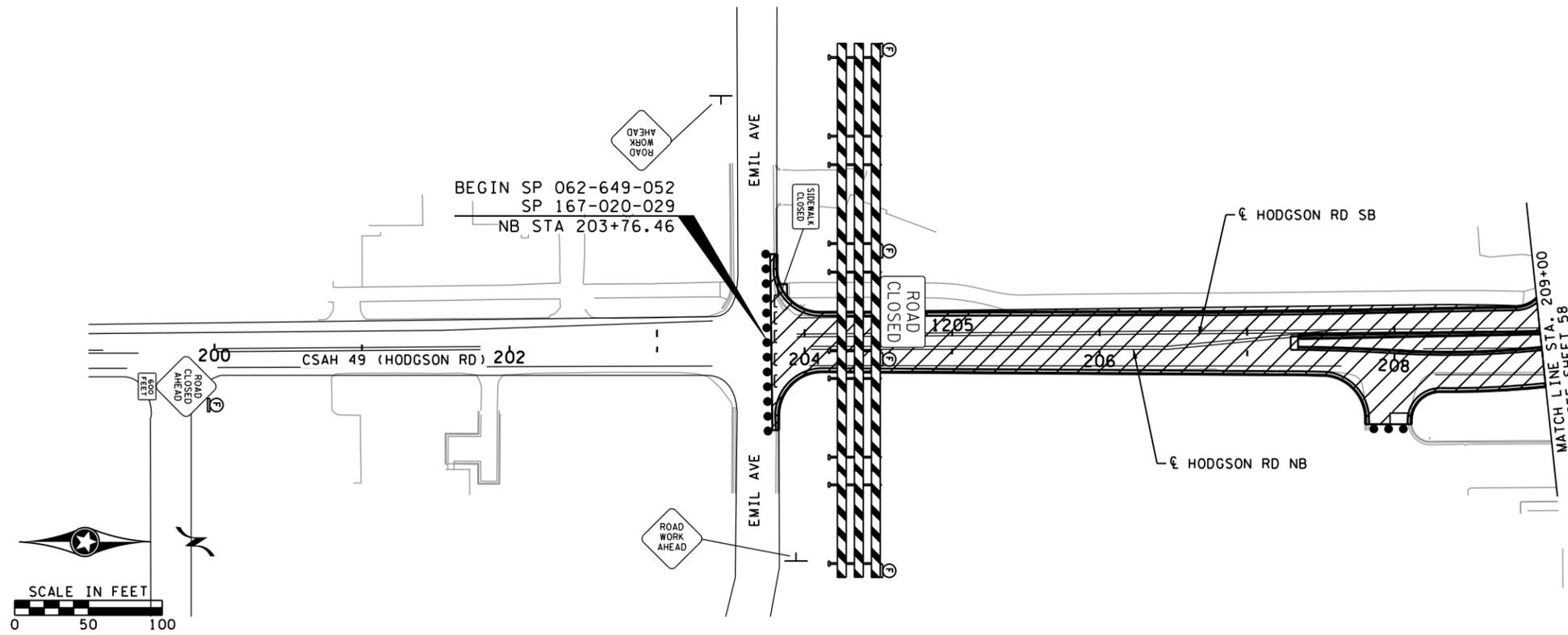
CONSTRUCTION:

- CONSTRUCT EB COUNTY ROAD J
- CONSTRUCT HODGSON ROAD

TRAFFIC:

- HODGSON ROAD CLOSED TO TRAFFIC
- COUNTY ROAD J EB CLOSED TO TRAFFIC
- ACCESS TO RESIDENTS AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES

CSAH 49 (Hodgson Road)



SCALE IN FEET
0 50 100

MATCH LINE STA. 209+00
SEE SHEET 58

NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

STAGE 2

CONSTRUCTION STAGING & TRAFFIC CONTROL

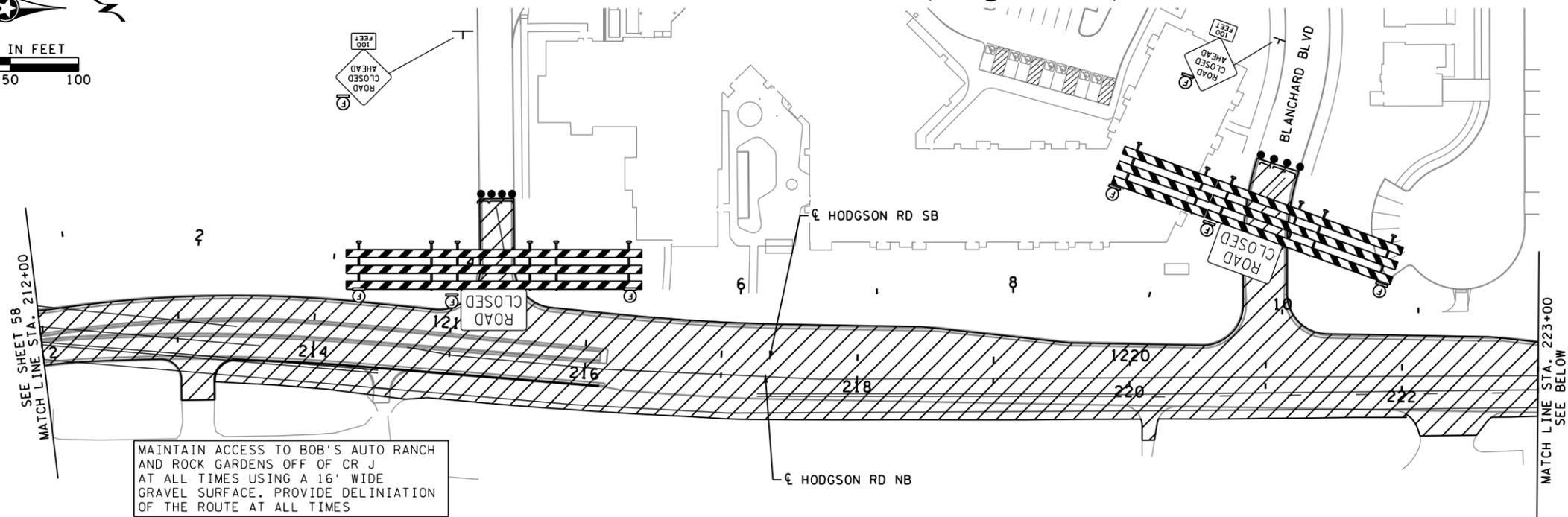
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
59
OF
162
SHEETS

PLOTTED/REVISED: 2/1/2024 9:43:40 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1c203.dgn

CSAH 49 (Hodgson Road)



MAINTAIN ACCESS TO BOB'S AUTO RANCH AND ROCK GARDENS OFF OF CR J AT ALL TIMES USING A 16' WIDE GRAVEL SURFACE. PROVIDE DELINEATION OF THE ROUTE AT ALL TIMES

LEGEND

- TRAFFIC DIRECTION
- [Hatched Area] AREA CLOSED TO TRAFFIC / WORK AREA
- [Sign Icon] CONSTRUCTION UNDER TRAFFIC

NARRATIVE: STAGE 2

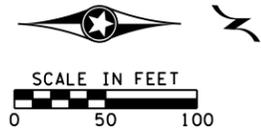
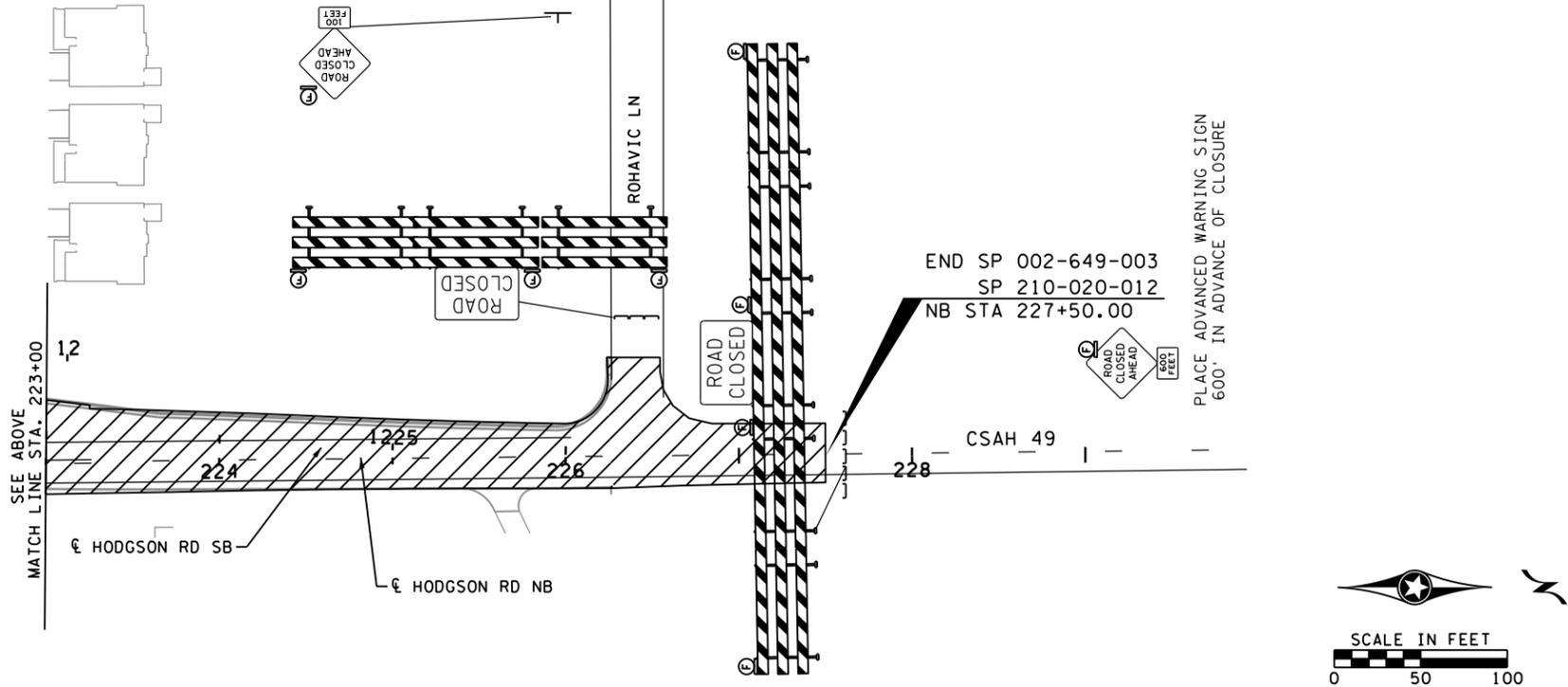
CONSTRUCTION:

- CONSTRUCT EB COUNTY ROAD J
- CONSTRUCT HODGSON ROAD

TRAFFIC:

- HODGSON ROAD CLOSED TO TRAFFIC
- COUNTY ROAD J EB CLOSED TO TRAFFIC
- ACCESS TO RESIDENTS AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

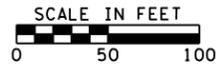
STAGE 2

CONSTRUCTION STAGING & TRAFFIC CONTROL

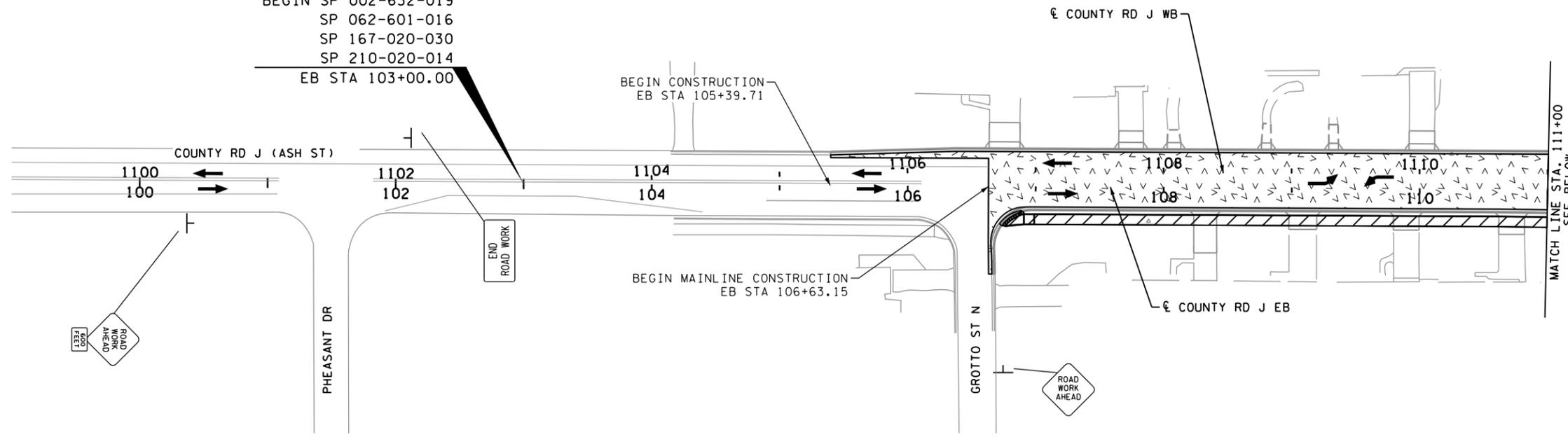
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
60
 OF
162
 SHEETS

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



BEGIN SP 002-632-019
 SP 062-601-016
 SP 167-020-030
 SP 210-020-014
 EB STA 103+00.00



LEGEND

- TRAFFIC DIRECTION
- AREA CLOSED TO TRAFFIC / WORK AREA
- CONSTRUCTION UNDER TRAFFIC

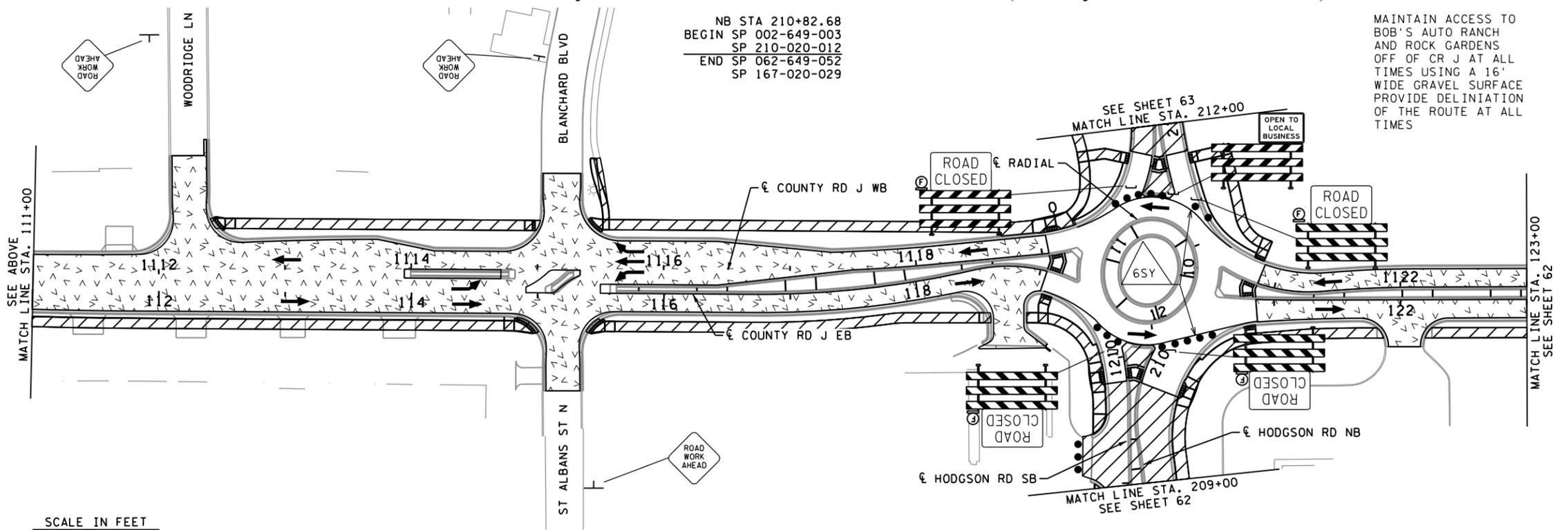
NARRATIVE: STAGE 3

- CONSTRUCTION:**
- CONSTRUCT HODGSON ROAD
 - CONSTRUCT PEDESTRIAN FACILITIES
 - HAND PLACE REMAINING CURB & GUTTER
 - UPON COMPLETION OF ALL OTHER CONSTRUCTION, PAVE FINAL WEAR COURSE LIFT
- TRAFFIC:**
- HODGSON ROAD CLOSED TO TRAFFIC
 - FINAL WEAR COURSE LIFT ON COUNTY ROAD J AND PAVED UNDER TRAFFIC
 - ACCESS TO RESIDENTS AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

NB STA 210+82.68
 BEGIN SP 002-649-003
 SP 210-020-012
 END SP 062-649-052
 SP 167-020-029

MAINTAIN ACCESS TO BOB'S AUTO RANCH AND ROCK GARDENS OFF OF CR J AT ALL TIMES USING A 16' WIDE GRAVEL SURFACE PROVIDE DELINEATION OF THE ROUTE AT ALL TIMES



PLOTTED/REVISED: 2/1/2024 9:43:48 AM
 WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1c301.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

STAGE 3

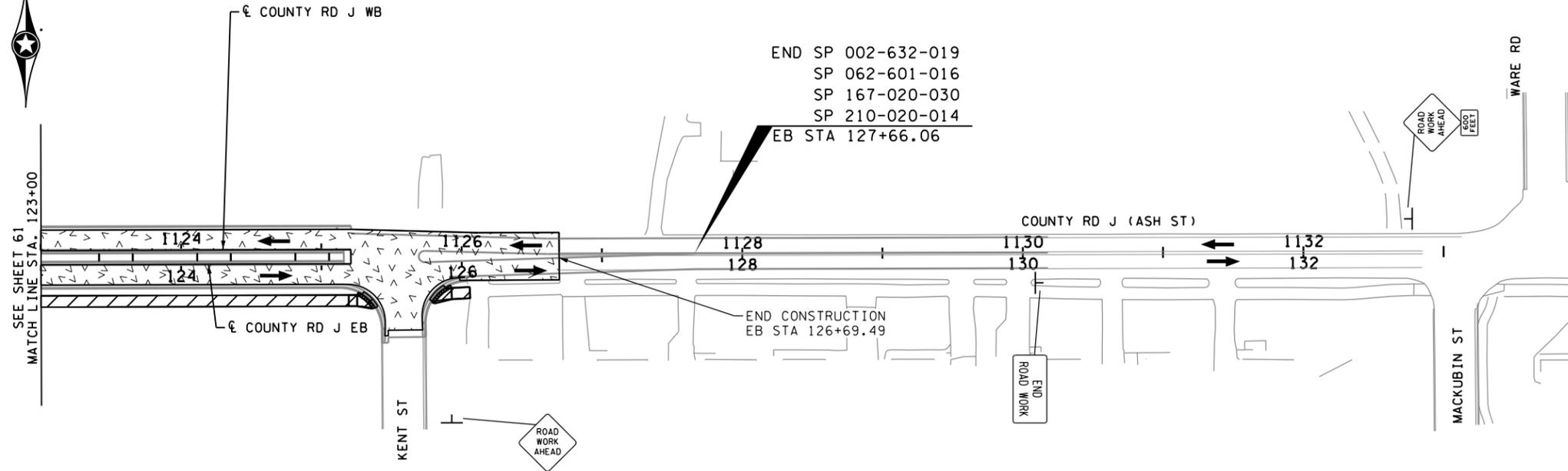
CONSTRUCTION STAGING & TRAFFIC CONTROL
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
61
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:43:56 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1c302.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



LEGEND

- TRAFFIC DIRECTION
- AREA CLOSED TO TRAFFIC / WORK AREA
- CONSTRUCTION UNDER TRAFFIC

NARRATIVE: STAGE 3

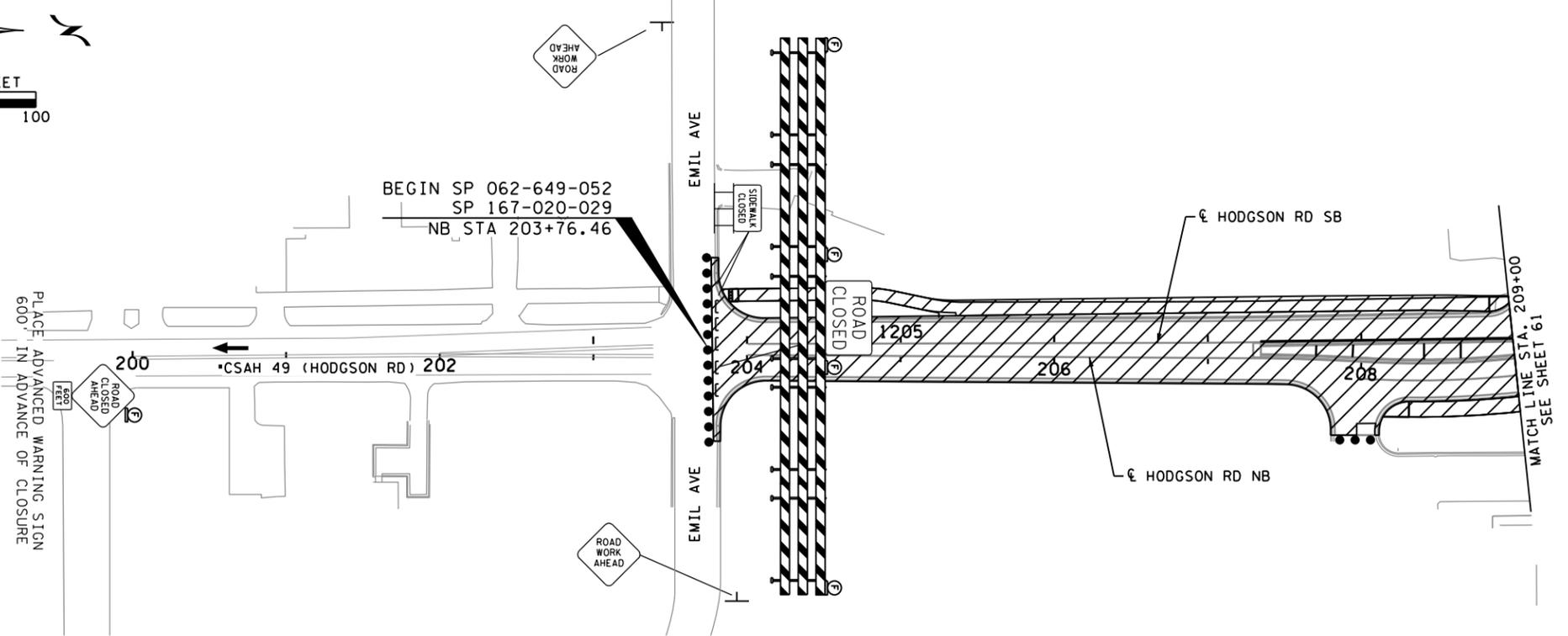
CONSTRUCTION:

- CONSTRUCT HODGSON ROAD
- CONSTRUCT PEDESTRIAN FACILITIES
- HAND PLACE REMAINING CURB & GUTTER
- UPON COMPLETION OF ALL OTHER CONSTRUCTION, PAVE FINAL WEAR COURSE LIFT

TRAFFIC:

- HODGSON ROAD CLOSED TO TRAFFIC
- FINAL WEAR COURSE LIFT ON COUNTY ROAD J AND PAVED UNDER TRAFFIC
- ACCESS TO RESIDENTS AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

STAGE 3

CONSTRUCTION STAGING & TRAFFIC CONTROL

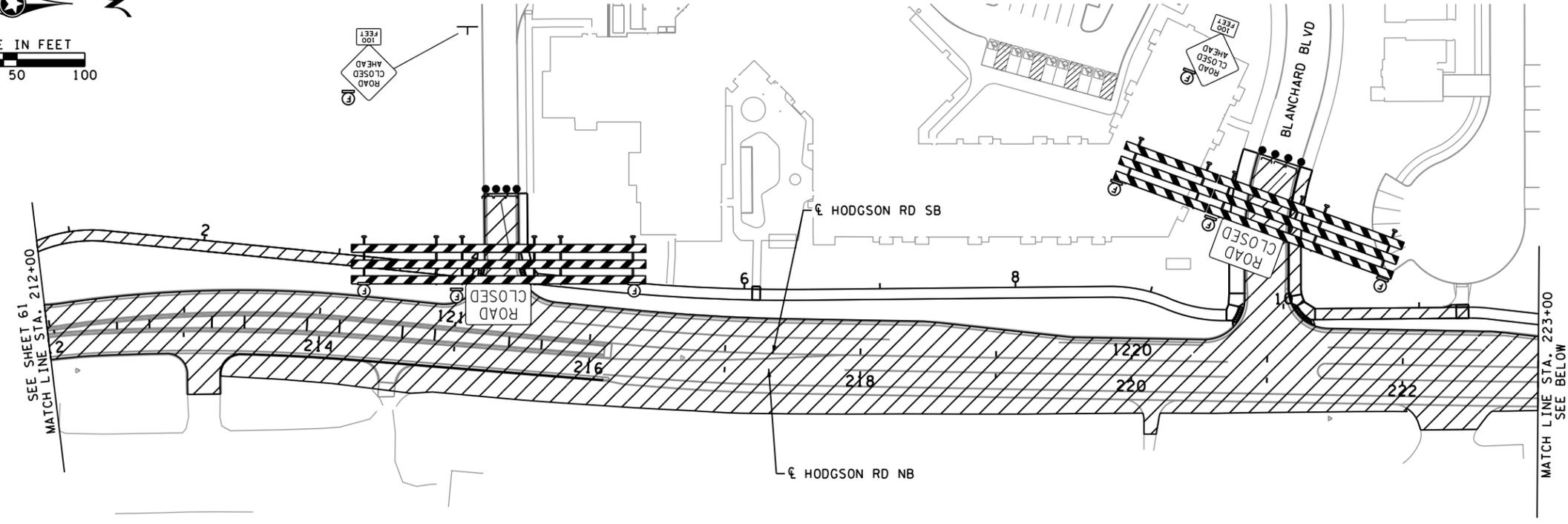
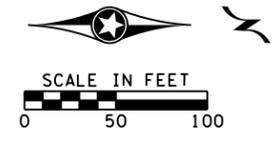
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
62
 OF
162
 SHEETS

9:44:04 AM
2/1/2024
PLOTTED/REVISED:

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1c303.dgn

CSAH 49 (Hodgson Road)



LEGEND

- TRAFFIC DIRECTION
- [Hatched Box] AREA CLOSED TO TRAFFIC / WORK AREA
- [Box with 'L' and 'V'] CONSTRUCTION UNDER TRAFFIC

NARRATIVE: STAGE 3

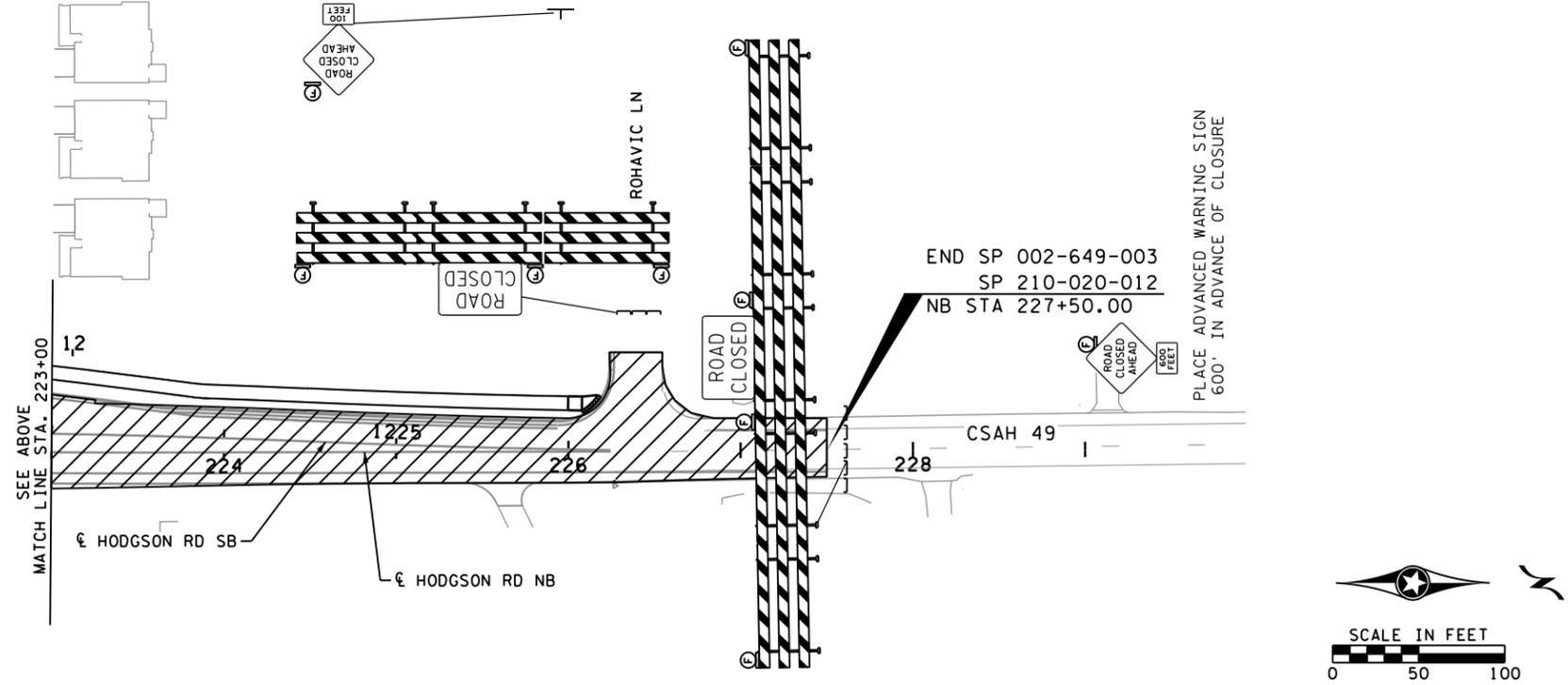
CONSTRUCTION:

- CONSTRUCT HODGSON ROAD
- CONSTRUCT PEDESTRIAN FACILITIES
- HAND PLACE REMAINING CURB & GUTTER
- UPON COMPLETION OF ALL OTHER CONSTRUCTION, PAVE FINAL WEAR COURSE LIFT

TRAFFIC:

- HODGSON ROAD CLOSED TO TRAFFIC
- FINAL WEAR COURSE LIFT ON COUNTY ROAD J AND PAVED UNDER TRAFFIC
- ACCESS TO RESIDENTS AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: GHP
 Plan By: GHP
 Checked By: MJS
 Approved By: MJS

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

PRINT NAME: MICHAEL J. SHOMION, PE
Michael Shomion
 DATE: 2/1/2024 LICENSE #: 50488

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

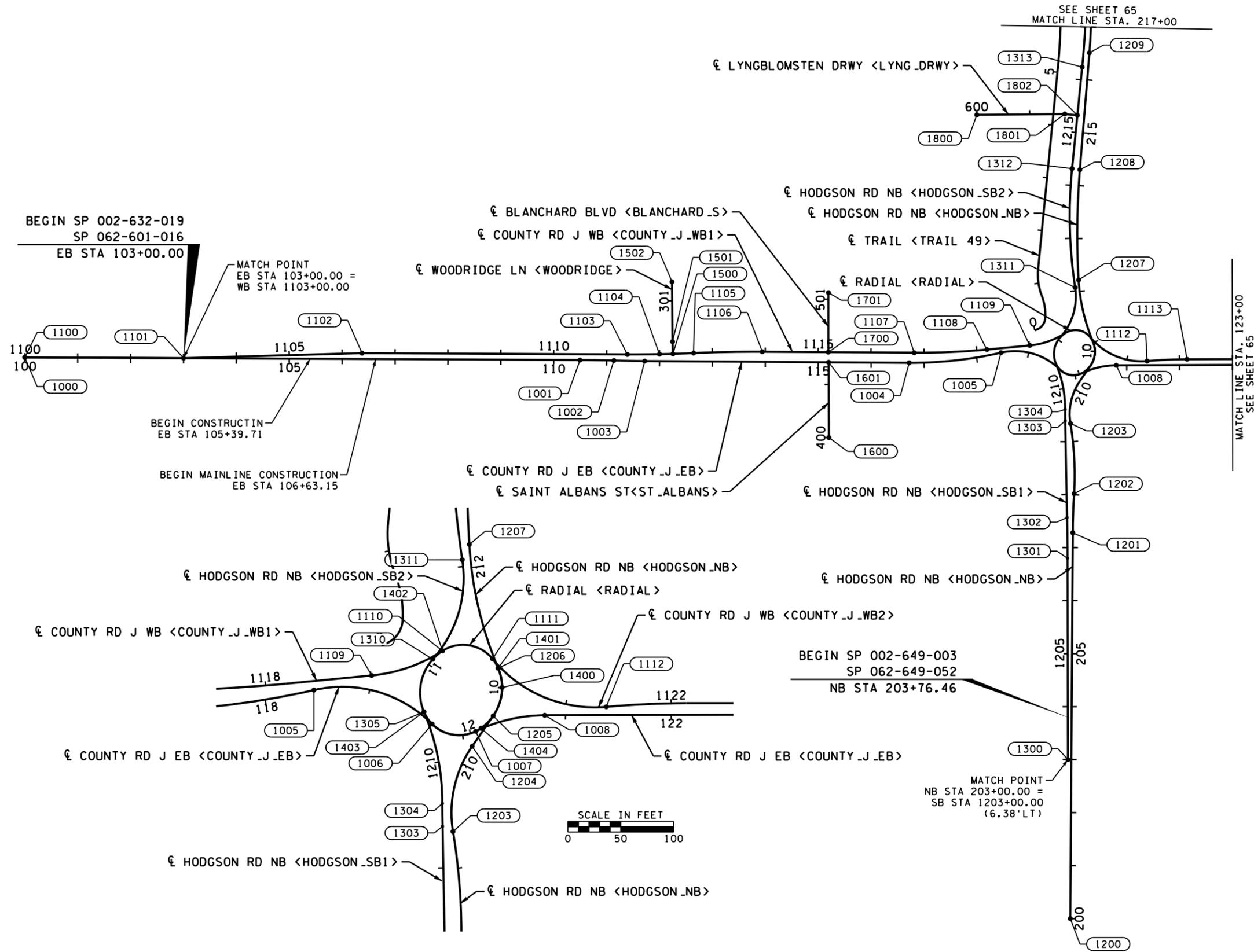
ANOKA & RAMSEY COUNTY, MN

STAGE 3
CONSTRUCTION STAGING & TRAFFIC CONTROL
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **63** OF **162** SHEETS

9:44:10 AM
2/1/2024
PLOTTED/REVISED:

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000.dwg



HORIZONTAL CONTROL FOR THIS PLAN IS ANOKA COUNTY COORDINATE SYSTEM, NAD 83 (2011 ADJUSTMENT)
ELEVATIONS FOR THIS PLAN ARE BASED ON NAVD 88 DATUM

LEGEND
XXXX POINT NUMBER (DETAILS FOUND ON ALIGNMENT TABULATION SHEETS)

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
Plan By: AJF
Checked By: AJP
Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
DATE: 2/1/2024 LICENSE #: 44200

ANOKA COUNTY

RAMSEY COUNTY

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

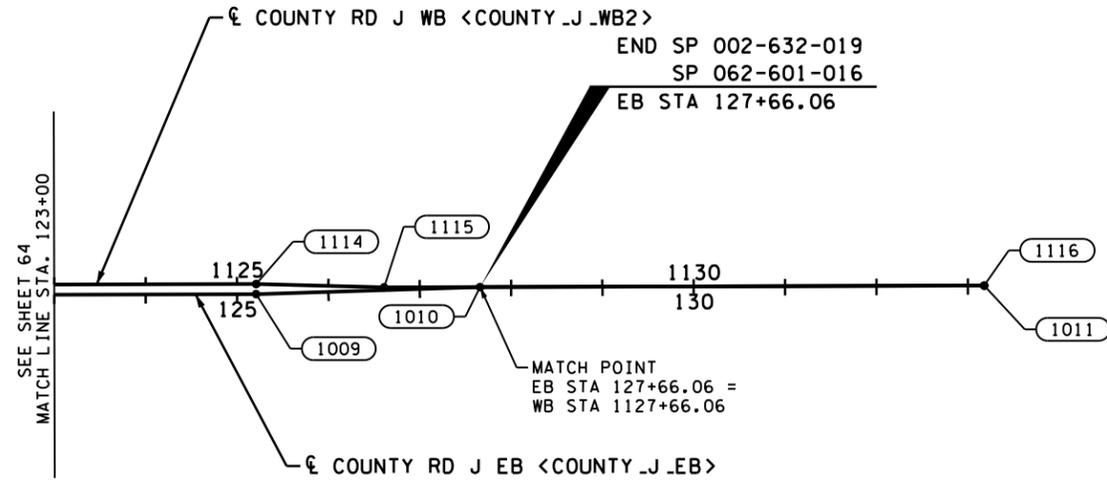
ANOKA & RAMSEY COUNTY, MN

ALIGNMENT PLAN & TABULATION

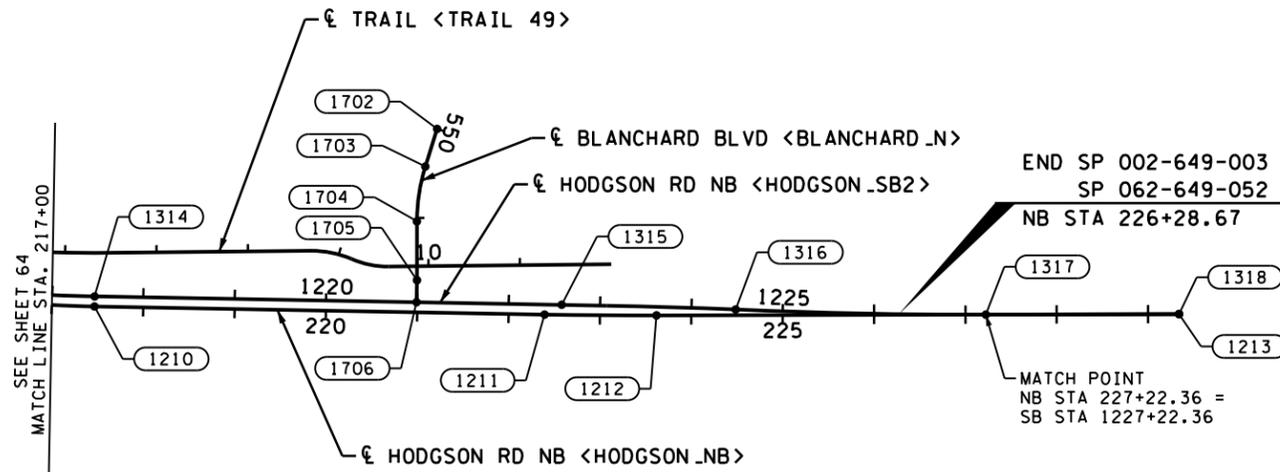
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
64
OF
162
SHEETS

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



CSAH 49 (Hodgson Road)



HORIZONTAL CONTROL FOR THIS PLAN IS ANOKA COUNTY COORDINATE SYSTEM, NAD 83 (2011 ADJUSTMENT)

ELEVATIONS FOR THIS PLAN ARE BASED ON NAVD 88 DATUM

LEGEND

XXXX POINT NUMBER (DETAILS FOUND ON ALIGNMENT TABULATION SHEETS)

PLOTTED/REVISED: 2/1/2024 9:44:02 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\9054-000.dwg

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200

ANOKA COUNTY

RAMSEY COUNTY

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

ALIGNMENT PLAN & TABULATION

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
65
OF
162
SHEETS

PLOTTED/REVISED: 2/1/2024 9:44:18 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\9054-000_0102.dgn

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	COORDINATES					BEARING		
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH		X	Y
COUNTY ROAD J EASTBOUND <COUNTY_J_EB>										
1000	POT	100+00.00						533,961.074	132,435.494	
1001	PC	110+49.622						535,010.684	132,430.518	S 89° 43' 42.1" E
	PI	110+81.642	1° 13' 22.9" RT	1° 54' 35.5"	3,000.000'	32.020'	64.038'	535,042.704	132,430.366	PI
	CC							534,996.461	129,430.552	
1002	PRC	111+13.660						535,074.713	132,429.531	S 88° 30' 19.1" E
	PRC	111+13.660						535,074.713	132,429.531	S 88° 30' 19.1" E
	PI	111+42.840	1° 06' 52.4" LT	1° 54' 35.5"	3,000.000'	29.180'	58.358'	535,103.883	132,428.770	PI
	CC							535,152.966	135,428.510	
1003	PT	111+72.018						535,133.062	132,428.576	S 89° 37' 11.5" E
1004	PC	116+72.099						535,633.133	132,425.258	S 89° 37' 11.5" E
	PI	117+59.891	13° 21' 10.1" LT	7° 38' 22.0"	750.000'	87.792'	174.788'	535,720.922	132,424.676	PI
	CC							535,638.109	133,175.242	
1005	PRC	118+46.887						535,806.473	132,444.384	N 77° 01' 38.4" E
	PRC	118+46.887						535,806.473	132,444.384	N 77° 01' 38.4" E
	PI	119+13.346	57° 57' 27.0" RT	47° 44' 47.3"	120.000'	66.459'	121.386'	535,871.236	132,459.303	PI
	CC							535,833.412	132,327.447	
1006	PRC	119+68.273						535,918.242	132,412.322	S 45° 00' 54.6" E
	PRC	119+68.273						535,918.242	132,412.322	S 45° 00' 54.6" E
	PI	119+93.924	70° 56' 32.0" LT	159° 09' 17.8"	36.000'	25.651'	44.574'	535,936.385	132,394.189	PI
	CC							535,943.691	132,437.785	
1007	PRC	120+12.848						535,959.448	132,405.416	N 64° 02' 33.3" E
	PRC	120+12.848						535,959.448	132,405.416	N 64° 02' 33.3" E
	PI	120+47.194	25° 47' 37.9" RT	38° 11' 49.9"	150.000'	34.346'	67.528'	535,990.330	132,420.450	PI
	CC							536,025.104	132,270.548	
1008	PT	120+80.376						536,024.676	132,420.548	N 89° 50' 11.3" E
1009	POT	125+20.96						536,465.256	132,421.805	
1010	POT	127+66.06						536,710.235	132,429.505	
1011	POT	133+17.95						537,262.125	132,431.080	

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	COORDINATES					BEARING		
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH		X	Y
COUNTY ROAD J WESTBOUND <COUNTY_J_WB1>										
1100	POT	1100+00.00						533,961.074	132,435.494	
1101	POT	1103+00.00						534,261.070	132,434.072	
1102	POT	1106+37.58						534,598.523	132,443.472	
1103	PC	1111+39.290						535,100.224	132,441.094	S 89° 43' 42.1" E
	PI	1111+69.657	1° 23' 30.7" LT	2° 17' 30.6"	2,500.000'	30.367'	60.731'	535,130.590	132,440.950	PI
	CC							535,112.077	134,941.066	
1104	PCC	1112+00.021						535,160.952	132,441.543	N 88° 52' 47.3" E
	PCC	1112+00.021						535,160.952	132,441.543	N 88° 52' 47.3" E
	PI	1112+32.288	1° 28' 44.2" LT	2° 17' 30.6"	2,500.000'	32.267'	64.531'	535,193.213	132,442.174	PI
	CC							535,112.077	134,941.066	
1105	PRC	1112+64.552						535,225.447	132,443.637	N 87° 24' 03.1" E
	PRC	1112+64.552						535,225.447	132,443.637	N 87° 24' 03.1" E
	PI	1113+29.565	2° 58' 45.4" RT	2° 17' 30.6"	2,500.000'	65.012'	129.996'	535,290.392	132,446.586	PI
	CC							535,338.817	129,946.209	
1106	PT	1113+94.548						535,355.404	132,446.154	S 89° 37' 11.5" E
1107	PC	1116+81.759						535,642.609	132,444.249	S 89° 37' 11.5" E
	PI	1117+50.582	5° 50' 12.3" LT	4° 14' 38.9"	1,350.000'	68.822'	137.525'	535,711.429	132,443.792	PI
	CC							535,651.565	133,794.219	
1108	PT	1118+19.285						535,779.940	132,450.337	N 84° 32' 36.2" E
1109	PC	1119+00.710						535,860.996	132,458.079	N 84° 32' 36.2" E
	PI	1119+37.191	27° 20' 19.7" LT	38° 11' 49.9"	150.000'	36.481'	71.573'	535,897.312	132,461.549	PI
	CC							535,846.732	132,607.400	
1110	PT	1119+72.283						535,927.978	132,481.308	N 57° 12' 16.5" E
COUNTY ROAD J WESTBOUND <COUNTY_J_WB2>										
1111	PC	1120+17.130						535,975.326	132,473.859	S 39° 19' 22.2" E
	PI	1120+83.109	55° 39' 10.7" LT	45° 50' 11.8"	125.000'	65.979'	121.416'	536,017.137	132,422.819	PI
	CC							536,072.025	132,553.070	
1112	PRC	1121+38.546						536,082.867	132,428.541	N 85° 01' 27.1" E
	PRC	1121+38.546						536,082.867	132,428.541	N 85° 01' 27.1" E
	PI	1121+76.364	4° 48' 44.1" RT	6° 21' 58.3"	900.000'	37.818'	75.591'	536,120.542	132,431.821	PI
	CC							536,160.928	131,531.933	
1113	PT	1122+14.137						536,158.359	132,431.929	N 89° 50' 11.3" E
1114	POT	1125+21.00						536,465.224	132,432.805	
1115	POT	1126+61.06						536,605.235	132,429.205	
1116	POT	1133+17.95						537,262.125	132,431.080	

NOTES:
<XXXX> INDICATES GEOPAK ALIGNMENT NAMES.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200





**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

TABULATION
ALIGNMENT PLAN & TABULATION
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
66
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:44:20 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\9054-000_0102.dgn

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	COORDINATES					BEARING		
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH		X	Y
HODGSON ROAD NORTHBOUND <HODGSON_NB>										
1200	POT	200+00.00						535,937.755	131,376.609	
1201	PC	207+27.974						535,942.409	132,104.568	N 0° 21' 58.7" E
	PI	207+64.864	3° 01' 07.7" RT	4° 05' 33.2"	1,400.000'	36.890'	73.763'	535,942.645	132,141.458	PI
	CC							537,342.381	132,095.618	
1202	PRC	208+01.737						535,944.823	132,178.284	N 3° 23' 06.4" E
	PRC	208+01.737						535,944.823	132,178.284	N 3° 23' 06.4" E
	PI	208+68.513	12° 42' 03.8" LT	9° 32' 57.5"	600.000'	66.776'	133.005'	535,948.766	132,244.943	PI
	CC							535,345.870	132,213.712	
1203	PRC	209+34.742						535,937.957	132,310.839	N 9° 18' 57.3" W
	PRC	209+34.742						535,937.957	132,310.839	N 9° 18' 57.3" W
	PI	209+79.217	44° 01' 42.4" RT	52° 05' 13.5"	110.000'	44.475'	84.529'	535,930.757	132,354.727	PI
	CC							536,046.506	132,328.645	
1204	PT	210+19.271						535,956.084	132,391.286	N 34° 42' 45.1" E
1205	PC	210+54.206						535,975.978	132,420.004	N 34° 42' 45.1" E
	PI	210+80.104	57° 42' 37.4" LT	121° 54' 21.3"	47.000'	25.897'	47.340'	535,990.726	132,441.292	PI
	CC							535,937.343	132,446.768	
1206	PRC	211+01.546						535,980.608	132,465.131	N 22° 59' 52.4" W
	PRC	211+01.546						535,980.608	132,465.131	N 22° 59' 52.4" W
	PI	211+62.297	19° 41' 37.6" RT	16° 22' 12.8"	350.000'	60.750'	120.302'	535,956.873	132,521.053	PI
	CC							536,302.789	132,601.875	
1207	PCC	212+21.849						535,953.371	132,581.702	N 3° 18' 14.8" W
	PCC	212+21.849						535,953.371	132,581.702	N 3° 18' 14.8" W
	PI	213+26.110	7° 57' 07.9" RT	3° 49' 11.0"	1,500.000'	104.261'	208.188'	535,947.362	132,685.791	PI
	CC							537,450.878	132,668.156	
1208	PT	214+30.037						535,955.811	132,789.709	N 4° 38' 53.1" E
1209	PC	216+51.372						535,973.747	133,010.316	N 4° 38' 53.1" E
	PI	216+98.997	3° 37' 25.6" LT	3° 48' 20.8"	1,505.500'	47.625'	95.218'	535,977.606	133,057.785	PI
	CC							534,473.198	133,132.315	
1210	PT	217+46.590						535,978.458	133,105.402	N 1° 01' 27.5" E
1211	PC	222+39.350						535,987.266	133,598.083	N 1° 01' 27.5" E
	PI	223+00.598	1° 10' 10.9" LT	0° 57' 17.7"	6,000.000'	61.248'	122.491'	535,988.361	133,659.321	PI
	CC							529,988.225	133,705.342	
1212	PT	223+61.841						535,988.206	133,720.569	N 0° 08' 43.4" W
1213	POT	229+33.85						535,986.754	134,292.575	

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	COORDINATES					BEARING		
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH		X	Y
HODGSON ROAD SOUTHBOUND <HODGSON_SB1>										
1300	POT	1203+00.000						535,933.2885	131,676.5926	
1301	PC	1206+80.004						535,932.4228	132,056.5954	N 0° 07' 49.90" W
	PI	1207+18.387	0° 58' 38.64" LT	1° 16' 23.66"	4,500.000'	38.383'	76.765'	535,932.3354	132,094.9786	PI
	CC							531,432.4345	132,046.3438	
1302	PT	1207+56.769						535,931.5932	132,133.3547	N 1° 06' 28.54" W
1303	PC	1209+39.227						535,928.0652	132,315.7791	N 1° 06' 28.54" W
	PI	1209+50.019	1° 18' 06.29" RT	6° 01' 52.08"	950.000'	10.792'	21.584'	535,927.8565	132,326.5695	PI
	CC							536,877.8876	132,334.1481	
1304	PRC	1209+60.811						535,927.8930	132,337.3618	N 0° 11' 37.76" E
	PI	1210+05.786	23° 06' 28.62" LT	26° 02' 36.73"	220.000'	44.975'	88.728'	535,928.0452	132,382.3369	PI
	CC							535,707.8943	132,338.1060	
1305	PT	1210+49.539						535,910.5340	132,423.7632	N 22° 54' 50.87" W
HODGSON ROAD SOUTHBOUND <HODGSON_SB2>										
1310	PC	1211+05.249						535,918.7871	132,473.3890	N 41° 47' 55.26" E
	PI	1211+59.384	50° 24' 58.84" LT	49° 49' 20.70"	115.000'	54.135'	101.192'	535,954.8688	132,513.7461	PI
	CC							535,833.0556	132,550.0382	
1311	PRC	1212+06.441						535,946.7573	132,567.2698	N 8° 37' 03.58" W
	PI	1213+19.625	14° 20' 08.84" RT	6° 21' 58.31"	900.000'	113.184'	225.186'	535,929.7977	132,679.1761	PI
	CC							536,836.5965	132,702.1259	
1312	PT	1214+31.627						535,941.0748	132,791.7971	N 5° 43' 05.27" E
1313	PC	1216+24.199						535,960.2617	132,983.4112	N 5° 43' 05.27" E
	PI	1216+85.450	4° 41' 37.76" LT	3° 50' 01.59"	1,494.500'	61.251'	122.433'	535,966.3644	133,044.3574	PI
	CC							534,473.1982	133,132.3151	
1314	PT	1217+46.633						535,967.4593	133,105.5985	N 1° 01' 27.51" E
1315	PC	1223+07.613						535,977.4878	133,666.4892	N 1° 01' 27.51" E
	PI	1223+78.998	1° 25' 39.04" RT	0° 59' 59.73"	5,730.000'	71.385'	142.762'	535,978.7639	133,737.8623	PI
	CC							541,706.5721	133,564.0563	
1316	PRC	1224+50.375						535,981.8176	133,809.1816	N 2° 27' 06.55" E
	PI	1225+86.388	2° 35' 49.99" LT	0° 57' 17.75"	6,000.000'	136.013'	271.980'	535,987.6362	133,945.0704	PI
	CC							529,987.3106	134,065.8572	
1317	PT	1227+22.355						535,987.2910	134,081.0834	N 0° 08' 43.44" W
1318	POT	1229+33.847						535,986.7543	134,292.5747	

NOTES:
 <XXXX> INDICATES GEOPAK ALIGNMENT NAMES.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

ANOKA & RAMSEY COUNTY, MN
 TABULATION
ALIGNMENT PLAN & TABULATION
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
67
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:44:22 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\9054-000_0102.dgn

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	DELTA					COORDINATES		BEARING
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
RADIAL <RADIAL>										
	POT	8+00.00						535,984.343	132,246.768	
1400	PC	10+00.000						535,984.343	132,446.768	Due North
	PI	10+09.514	22° 53' 14.5" LT	121° 54' 21.3"	47.000'	9.514'	18.775'	535,984.343	132,456.282	PI
	CC							535,937.343	132,446.768	
1401	PCC	10+18.775						535,980.643	132,465.047	N 22° 53' 14.5" W
	PCC	10+18.775						535,980.643	132,465.047	N 22° 53' 14.5" W
	PI	10+63.516	102° 21' 29.6" LT	159° 09' 17.8"	36.000'	44.742'	64.314'	535,963.242	132,506.267	PI
	CC							535,947.477	132,451.046	
1402	PCC	10+83.088						535,926.702	132,480.447	S 54° 45' 15.9" W
	PCC	10+83.088						535,926.702	132,480.447	S 54° 45' 15.9" W
	PI	11+20.905	77° 38' 30.4" LT	121° 54' 21.3"	47.000'	37.817'	63.690'	535,895.818	132,458.623	PI
	CC							535,953.825	132,442.063	
1403	PCC	11+46.778						535,910.525	132,423.783	S 22° 53' 14.5" E
	PCC	11+46.778						535,910.525	132,423.783	S 22° 53' 14.5" E
	PI	11+91.520	102° 21' 29.6" LT	159° 09' 17.8"	36.000'	44.742'	64.314'	535,927.926	132,382.564	PI
	CC							535,943.691	132,437.785	
1404	PCC	12+11.092						535,964.466	132,408.384	N 54° 45' 15.9" E
	PCC	12+11.092						535,964.466	132,408.384	N 54° 45' 15.9" E
	PI	12+35.430	54° 45' 15.9" LT	121° 54' 21.3"	47.000'	24.339'	44.915'	535,984.343	132,422.429	PI
	CC							535,937.343	132,446.768	
1400	PT	12+56.007						535,984.343	132,446.768	Due North
	POT	14+56.01						535,984.343	132,646.768	
WOODRIDGE LANE <WOODRIDGE>										
1500	POT	300+00.00						535,186.360	132,442.169	
1501	POT	300+23.00						535,185.677	132,465.159	
1502	POT	301+35.89						535,184.657	132,578.045	
SAINT ALBANS STREET N <ST_ALBANS>										
1600	POT	400+00.00						535,481.316	132,284.216	
1601	POT	401+42.06						535,480.699	132,426.270	
BLANCHARD BLVD <BLANCHARD_S>										
1700	POT	500+00.00						535,480.092	132,445.327	
1701	POT	501+12.41						535,480.334	132,557.739	
BLANCHARD BLVD <BLANCHARD_N>										
1702	POT	550+00.00						535,784.497	133,480.456	
1703	PC	550+43.037						535,825.558	133,467.564	S 72° 34' 10.5" E
	PI	550+73.696	17° 25' 49.5" LT	28° 38' 52.4"	200.000'	30.659'	60.844'	535,854.809	133,458.381	PI
	CC							535,885.467	133,658.381	
1704	PT	551+03.881						535,885.467	133,458.381	Due East
1705	POT	551+68.18						535,949.763	133,458.381	
1706	POT	551+92.18						535,973.759	133,457.952	

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	DELTA					COORDINATES		BEARING
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
LYNGBLOMSTEN DRIVEWAY <LYNG_DRWY>										
1800	POT	600+00.00						535,760.911	132,893.127	
1801	POT	601+66.36						535,927.267	132,894.781	
1802	POT	601+90.36						535,951.147	132,892.390	
CSAH 49 TRAIL <TRAIL_49>										
	PC	0+00.000						535,870.348	132,486.955	N 78° 31' 04.7" E
	PI	0+19.182	74° 59' 44.4" LT	229° 10' 59.2"	25.000'	19.182'	32.723'	535,889.146	132,490.774	PI
	CC							535,865.371	132,511.455	
	PCC	0+32.723						535,890.324	132,509.919	N 3° 31' 20.3" E
	PCC	0+32.723						535,890.324	132,509.919	N 3° 31' 20.3" E
	PI	0+54.811	24° 54' 40.3" LT	57° 17' 44.8"	100.000'	22.088'	43.478'	535,891.681	132,531.966	PI
	CC							535,790.513	132,516.063	
	PRC	0+76.201						535,883.626	132,552.533	N 21° 23' 20.0" W
	PRC	0+76.201						535,883.626	132,552.533	N 21° 23' 20.0" W
	PI	1+02.173	27° 02' 37.7" RT	53° 03' 05.9"	108.000'	25.972'	50.976'	535,874.154	132,576.716	PI
	CC							535,984.187	132,591.920	
	PT	1+27.178						535,876.713	132,602.562	N 5° 39' 17.8" E
	PC	4+98.512						535,913.303	132,972.089	N 5° 39' 17.8" E
	PI	5+72.840	6° 13' 28.3" LT	4° 11' 28.9"	1,367.000'	74.327'	148.509'	535,920.627	133,046.055	PI
	CC							534,552.956	133,106.789	
	PT	6+47.021						535,919.888	133,120.378	N 0° 34' 10.5" W
	PC	8+69.303						535,917.679	133,342.650	N 0° 34' 10.5" W
	PI	8+92.271	24° 00' 42.5" RT	53° 03' 05.9"	108.000'	22.968'	45.261'	535,917.450	133,365.616	PI
	CC							536,025.673	133,343.723	
	PRC	9+14.564						535,926.587	133,386.688	N 23° 26' 32.0" E
	PRC	9+14.564						535,926.587	133,386.688	N 23° 26' 32.0" E
	PI	9+35.831	24° 00' 42.5" LT	57° 17' 44.8"	100.000'	21.266'	41.909'	535,935.048	133,406.199	PI
	CC							535,834.841	133,426.471	
	PT	9+56.473						535,934.836	133,427.465	N 0° 34' 10.5" W
	POT	12+00.00						535,932.415	133,670.980	

NOTES:
<XXXX> INDICATES GEOPAK ALIGNMENT NAMES.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200





**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

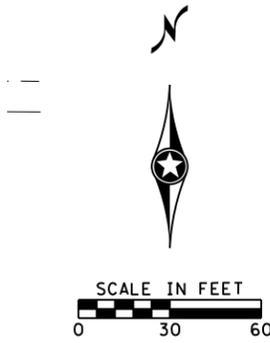
TABULATION
ALIGNMENT PLAN & TABULATION
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
68
 OF
162
 SHEETS

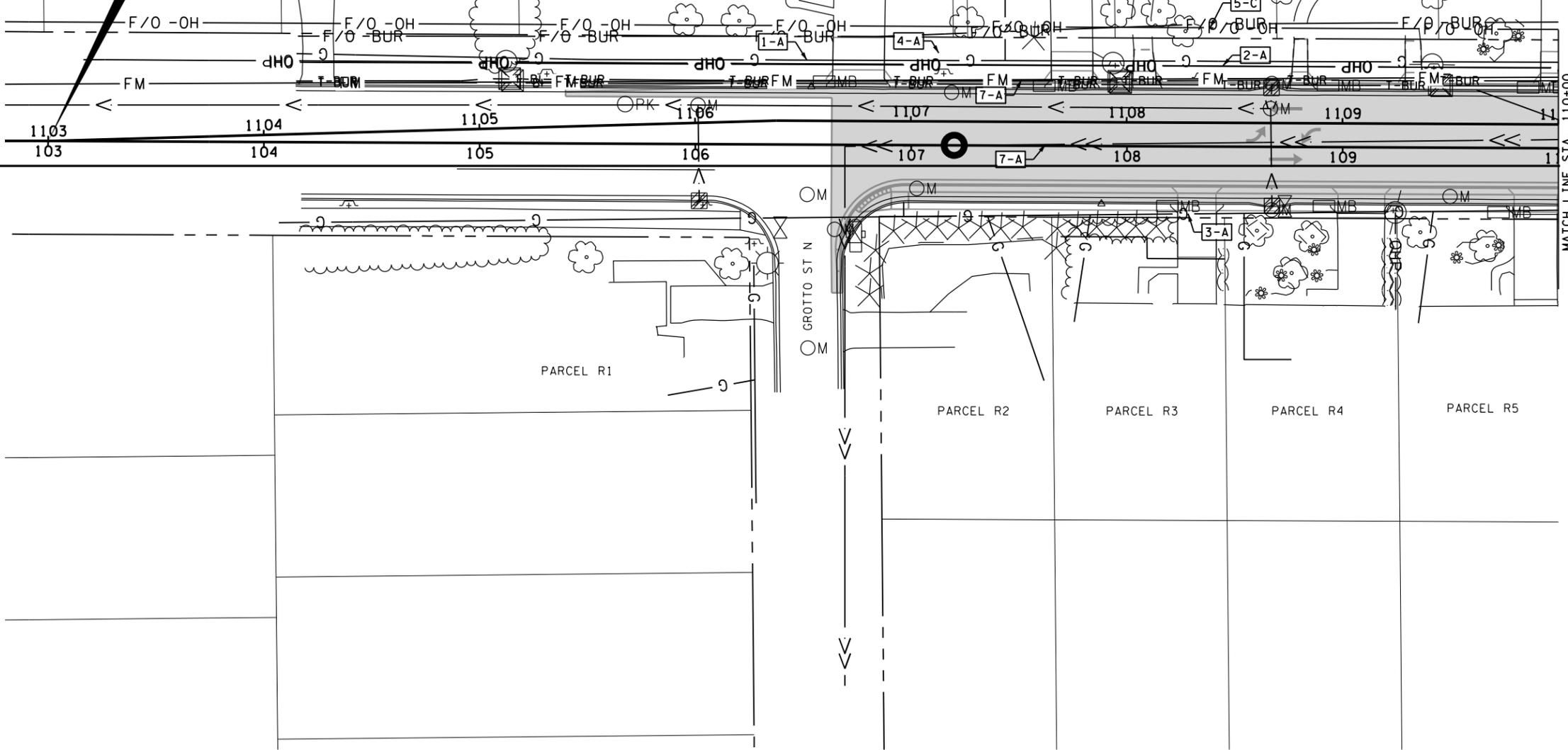
Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

PLOTTED/REVISED: 2/1/2024 9:44:31 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1.dgn



BEGIN SP 002-632-019
 SP 062-601-016
 SP 167-020-030
 SP 210-020-014
 EB STA 103+00.00



LEGEND

- T-BUR BURIED TELEPHONE LINE
- TV-BUR BURIED TELEVISION LINE
- OHU OVERHEAD UTILITY LINE
- F/O-BUR BURIED FIBER OPTIC LINE
- F/O-OH OVERHEAD FIBER OPTIC LINE
- P-BUR BURIED POWER LINE
- P UTILITY IN CONDUIT
- OHP OVERHEAD POWER LINE
- SIG-BUR BURIED SIGNAL LINE
- G BURIED GAS MAIN/SERVICE
- SSS SANITARY SEWER LINE
- SSS STORM SEWER LINE
- FM FORCE MAIN
- WM WATER MAIN

- UTILITY PEDESTAL
- HANDHOLE
- POWER/UTILITY POLE
- LIGHT POLE
- CABINET
- MANHOLE
- CATCH BASIN
- CONCRETE APRON
- HYDRANT
- VALVE (WATER)
- VEGETATION
- INPLACE STRUCTURE
- EXISTING GUARD RAIL
- EXISTING WATER EDGE
- BOLLARD
- RETAINING WALL
- NOISE WALL
- EXISTING FENCE

- CONSTRUCTION LIMITS AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

- EXISTING ROADWAY BIT TO BE REMOVED
- UTILITY CONFLICT AREA (OWNER-IMPACT)

OWNERSHIP:
 (1) CENTERPOINT ENERGY MINNESOTA GAS
 (2) XCEL ENERGY (POWER)
 (3) XCEL ENERGY (GAS)
 (4) LUMEN TECHNOLOGIES
 (5) ZAYO GROUP LLC.
 (6) COMCAST CABLE LLC.
 (7) METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES

IMPACTS NOTES ON PLAN SHEET:
 (A) LEAVE AS IS, (B) ADJUST,
 (C) RELOCATE, (D) REMOVE

UTILITY CONFLICTS ARE DENOTED IN EXCAVATION AREAS ONLY

- ### GENERAL NOTES
1. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-22.
 2. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
 3. ALL UTILITIES LOCATED WITHIN THE CONCRETE PAVEMENT AREAS IDENTIFIED ON SHEET 93 ARE IDENTIFIED TO BE IN CONFLICT AND REQUIRE RELOCATION.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200

ANOKA COUNTY

RAMSEY COUNTY

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

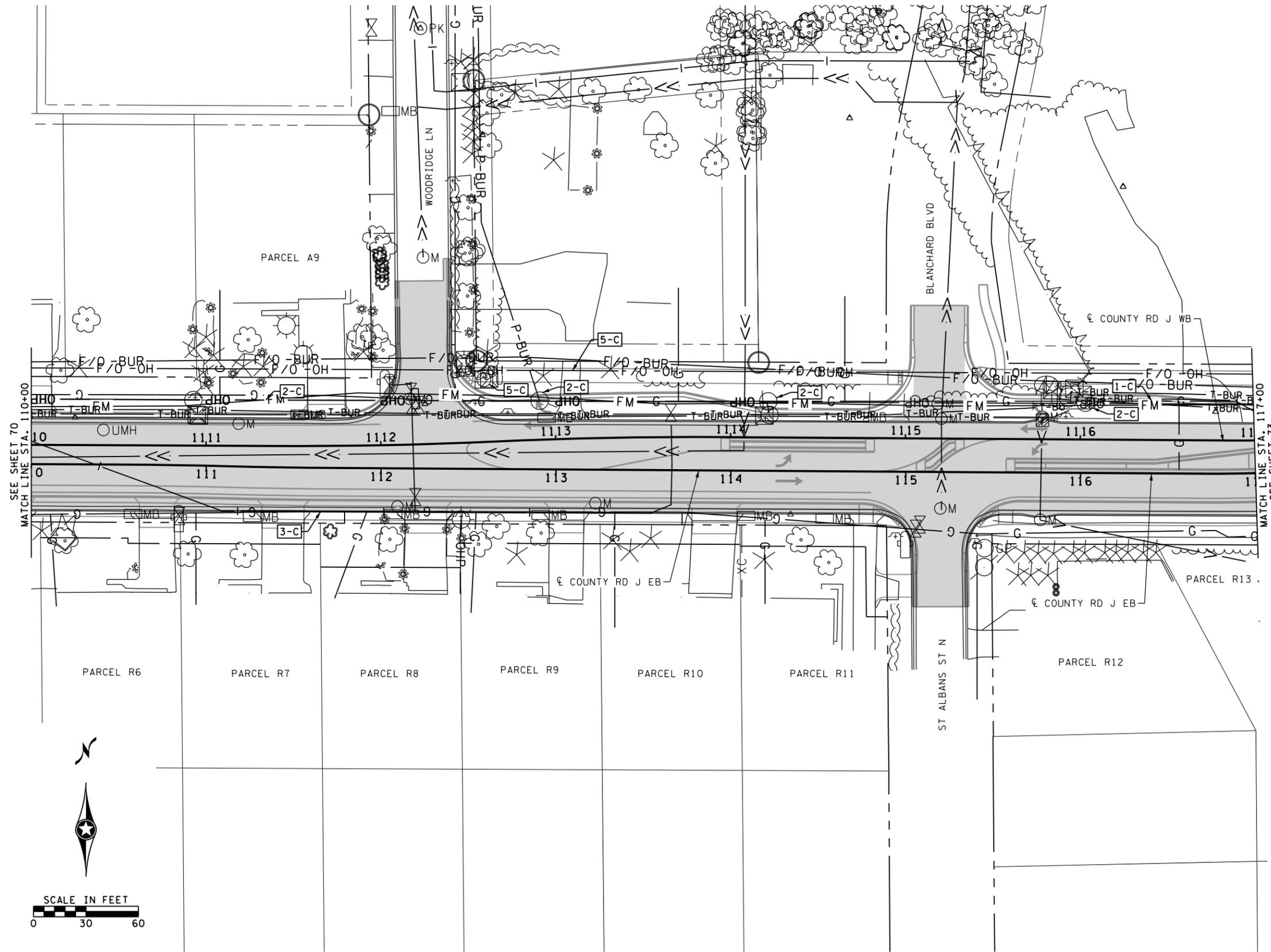
EB STA 103+00 TO EB STA 110+00

INPLACE TOPOGRAPHY & UTILITY PLAN

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **69**
 OF **162**
 SHEETS

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



SEE SHEET 70
MATCH LINE STA. 110+00

MATCH LINE STA. 117+00
SEE SHEET 73

LEGEND

- T-BUR — BURIED TELEPHONE LINE
 - TV-BUR — BURIED TELEVISION LINE
 - OHU — OVERHEAD UTILITY LINE
 - F/O -BUR — BURIED FIBER OPTIC LINE
 - F/O -OH — OVERHEAD FIBER OPTIC LINE
 - P-BUR — BURIED POWER LINE
 - P — UTILITY IN CONDUIT
 - OHP — OVERHEAD POWER LINE
 - SIG-BUR — BURIED SIGNAL LINE
 - G — BURIED GAS MAIN/SERVICE
 - V — SANITARY SEWER LINE
 - V — STORM SEWER LINE
 - FM — FORCE MAIN
 - W — WATER MAIN
-
- ☐ UTILITY PEDESTAL
 - HANDHOLE
 - ⊙ POWER/UTILITY POLE
 - ⊙ LIGHT POLE
 - ⊙ CABINET
 - ⊙ VALVE (GAS)
 - ⊙ MANHOLE
 - ⊙ CATCH BASIN
 - ⊙ CONCRETE APRON
 - ⊙ HYDRANT
 - ⊙ VALVE (WATER)
 - ⊙ VEGETATION
 - ⊙ INPLACE STRUCTURE
 - ⊙ EXISTING GUARD RAIL
 - ⊙ EXISTING WATER EDGE
 - ⊙ BOLLARD
 - ⊙ RETAINING WALL
 - ⊙ NOISE WALL
 - ⊙ -XC- EXISTING FENCE
-
- - - CONSTRUCTION LIMITS
 - - - AREA OF ENVIRONMENTAL SENSITIVITY
 - - - INPLACE RIGHT-OF-WAY
 - - - PROPOSED RIGHT-OF-WAY
 - - - TEMPORARY EASEMENT
 - - - PERMANENT EASEMENT

- EXISTING ROADWAY BIT TO BE REMOVED
 - ⊙-A UTILITY CONFLICT AREA (OWNER-IMPACT)
- OWNERSHIP:**
- (1) CENTERPOINT ENERGY MINNESOTA GAS
 - (2) XCEL ENERGY (POWER)
 - (3) XCEL ENERGY (GAS)
 - (4) LUMEN TECHNOLOGIES
 - (5) ZAYO GROUP LLC.
 - (6) COMCAST CABLE LLC.
 - (7) METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES

IMPACTS NOTES ON PLAN SHEET:
 (A) LEAVE AS IS, (B) ADJUST, (C) RELOCATE, (D) REMOVE

UTILITY CONFLICTS ARE DENOTED IN EXCAVATION AREAS ONLY

GENERAL NOTES

1. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-22.
2. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
3. ALL UTILITIES LOCATED WITHIN THE CONCRETE PAVEMENT AREAS IDENTIFIED ON SHEET 93 ARE IDENTIFIED TO BE IN CONFLICT AND REQUIRE RELOCATION.



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 EB STA 110+00 TO STA 117+00
INPLACE TOPOGRAPHY & UTILITY PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **70**
 OF **162**
 SHEETS

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

LEGEND

- T-BUR — BURIED TELEPHONE LINE
- TV-BUR — BURIED TELEVISION LINE
- OHU — OVERHEAD UTILITY LINE
- F/O -BUR — BURIED FIBER OPTIC LINE
- F/O -OH — OVERHEAD FIBER OPTIC LINE
- P-BUR — BURIED POWER LINE
- P — UTILITY IN CONDUIT
- OHP — OVERHEAD POWER LINE
- SIG-BUR — BURIED SIGNAL LINE
- G — BURIED GAS MAIN/SERVICE
- S — SANITARY SEWER LINE
- V — STORM SEWER LINE
- FM — FORCE MAIN
- I — WATER MAIN

- ☐ UTILITY PEDESTAL
- ⊙ HANDHOLE
- ⊙ POWER/UTILITY POLE
- ⊙ LIGHT POLE
- ☐ CABINET
- ⊙ VALVE (GAS)
- ⊙ MANHOLE
- ☐ CATCH BASIN
- ☐ CONCRETE APRON
- ⊙ HYDRANT
- ⊙ VALVE (WATER)
- ⊙ VEGETATION
- ⊙ INPLACE STRUCTURE
- EXISTING GUARD RAIL
- EXISTING WATER EDGE
- ⊙ BOLLARD
- RETAINING WALL
- NOISE WALL
- XC — EXISTING FENCE

- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

- █ EXISTING ROADWAY BIT TO BE REMOVED
- ☐ L-A UTILITY CONFLICT AREA (OWNER-IMPACT)

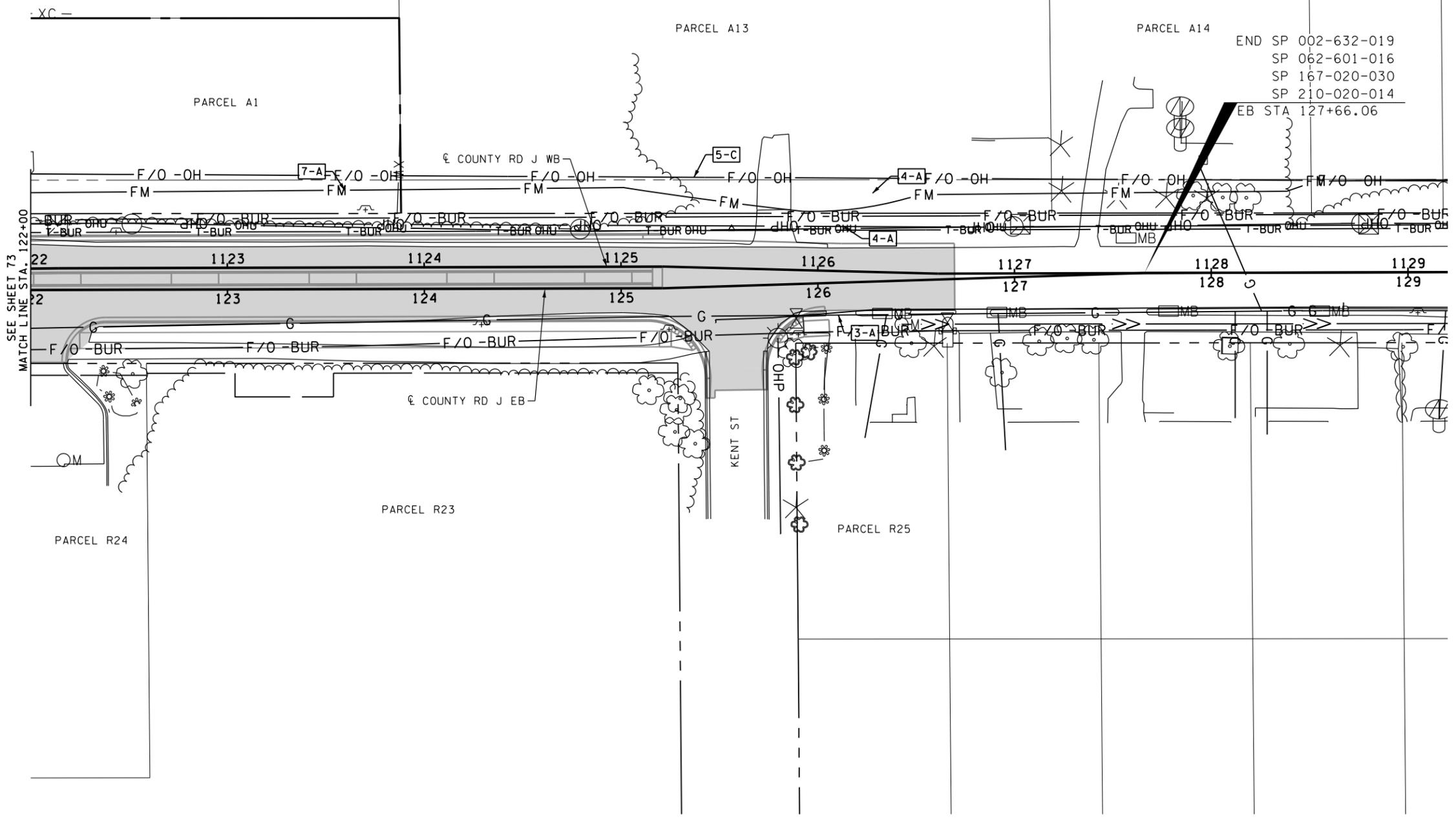
- OWNERSHIP:**
- (1) CENTERPOINT ENERGY MINNESOTA GAS
 - (2) XCEL ENERGY (POWER)
 - (3) XCEL ENERGY (GAS)
 - (4) LUMEN TECHNOLOGIES
 - (5) ZAYO GROUP LLC.
 - (6) COMCAST CABLE LLC.
 - (7) METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES

- IMPACTS NOTES ON PLAN SHEET:**
- (A) LEAVE AS IS, (B) ADJUST, (C) RELOCATE, (D) REMOVE

UTILITY CONFLICTS ARE DENOTED IN EXCAVATION AREAS ONLY

GENERAL NOTES

1. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-22.
2. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
3. ALL UTILITIES LOCATED WITHIN THE CONCRETE PAVEMENT AREAS IDENTIFIED ON SHEET 93 ARE IDENTIFIED TO BE IN CONFLICT AND REQUIRE RELOCATION.



PLOTTED/REVISED: 2/1/2024 9:44:47 AM
 WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_1103.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

EB STA 122+00 TO EB STA 127+66.06

INPLACE TOPOGRAPHY & UTILITY PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
71
 OF
162
 SHEETS

CSAH 49 (Hodgson Road)

LEGEND

- T-BUR — BURIED TELEPHONE LINE
- TV-BUR — BURIED TELEVISION LINE
- OHU — OVERHEAD UTILITY LINE
- F/O -BUR — BURIED FIBER OPTIC LINE
- F/O -OH — OVERHEAD FIBER OPTIC LINE
- P-BUR — BURIED POWER LINE
- P — UTILITY IN CONDUIT
- OHP — OVERHEAD POWER LINE
- SIG-BUR — BURIED SIGNAL LINE
- G — BURIED GAS MAIN/SERVICE
- S — SANITARY SEWER LINE
- V — STORM SEWER LINE
- FM — FORCE MAIN
- WM — WATER MAIN

- ☐ UTILITY PEDESTAL
- ⊙ HANDHOLE
- ⊙ POWER/UTILITY POLE
- ⊙ LIGHT POLE
- ☐ CABINET
- ⊙ VALVE (GAS)
- ⊙ MANHOLE
- ☐ CATCH BASIN
- ☐ CONCRETE APRON
- ⊙ HYDRANT
- ⊙ VALVE (WATER)
- ⊙ VEGETATION
- ⊙ INPLACE STRUCTURE
- ⊙ EXISTING GUARD RAIL
- ⊙ EXISTING WATER EDGE
- ⊙ BOLLARD
- ⊙ RETAINING WALL
- ⊙ NOISE WALL
- XC — EXISTING FENCE

- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

- █ EXISTING ROADWAY BIT TO BE REMOVED
- ⊙ UTILITY CONFLICT AREA (OWNER-IMPACT)

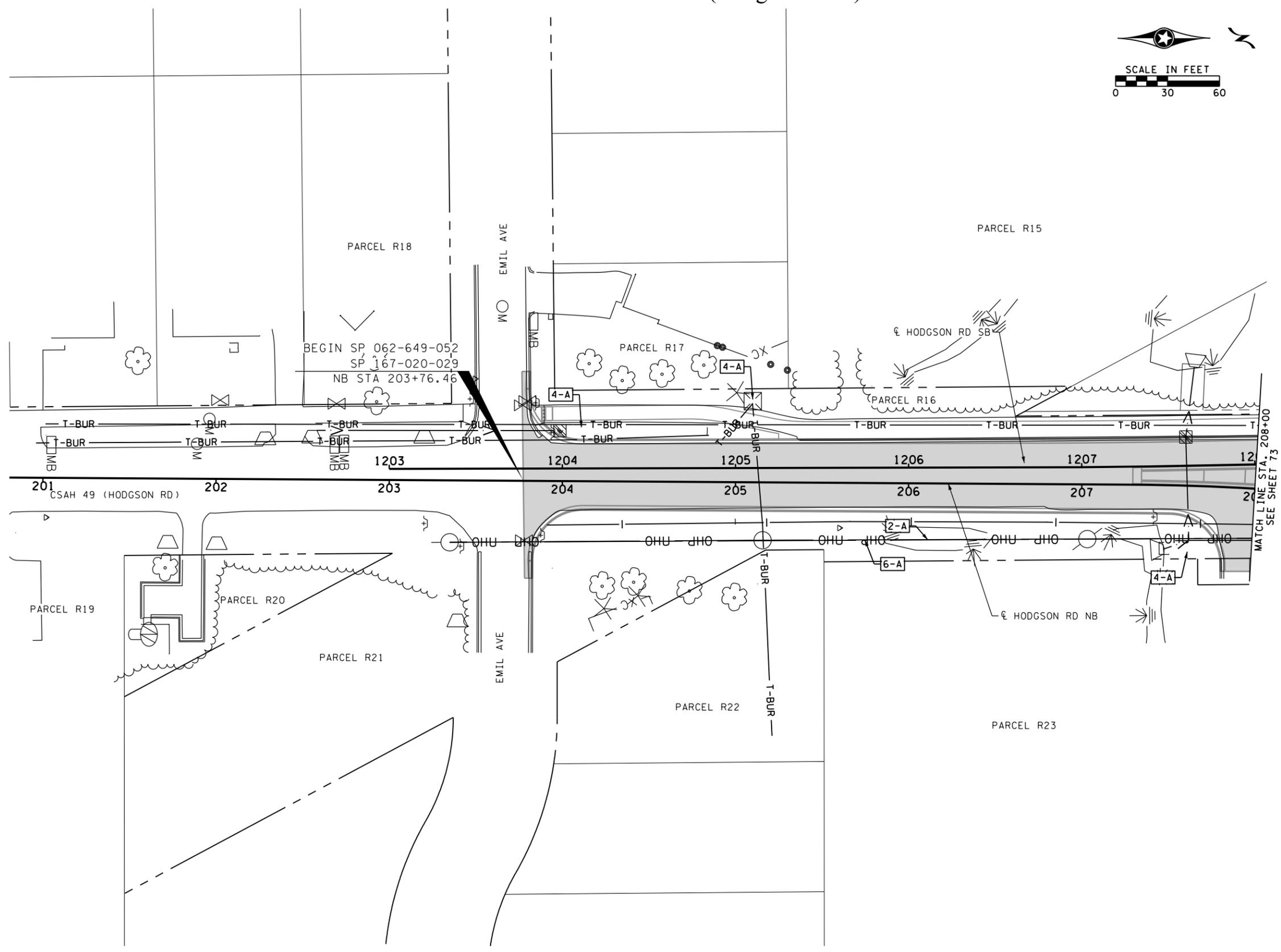
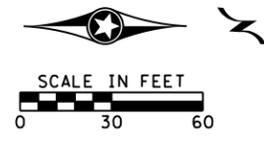
- OWNERSHIP:**
- (1) CENTERPOINT ENERGY MINNESOTA GAS
 - (2) XCEL ENERGY (POWER)
 - (3) XCEL ENERGY (GAS)
 - (4) LUMEN TECHNOLOGIES
 - (5) ZAYO GROUP LLC.
 - (6) COMCAST CABLE LLC.
 - (7) METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES

- IMPACTS NOTES ON PLAN SHEET:**
- (A) LEAVE AS IS, (B) ADJUST, (C) RELOCATE, (D) REMOVE

UTILITY CONFLICTS ARE DENOTED IN EXCAVATION AREAS ONLY

GENERAL NOTES

1. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-22.
2. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
3. ALL UTILITIES LOCATED WITHIN THE CONCRETE PAVEMENT AREAS IDENTIFIED ON SHEET 93 ARE IDENTIFIED TO BE IN CONFLICT AND REQUIRE RELOCATION.



PLOTTED/REVISED: 2/1/2024 9:44:54 AM
 WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_1104.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

ANOKA & RAMSEY COUNTY, MN
 NB STA 203+76.46 TO NB STA 208+00
INPLACE TOPOGRAPHY & UTILITY PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
72
 OF
162
 SHEETS

CSAH 49 (Hodgson Road)

LEGEND

- T-BUR - BURIED TELEPHONE LINE
- TV-BUR - BURIED TELEVISION LINE
- OHU - OVERHEAD UTILITY LINE
- F/O - BUR - BURIED FIBER OPTIC LINE
- F/O - OH - OVERHEAD FIBER OPTIC LINE
- P-BUR - BURIED POWER LINE
- P - UTILITY IN CONDUIT
- OHP - OVERHEAD POWER LINE
- SIG-BUR - BURIED SIGNAL LINE
- G - BURIED GAS MAIN/SERVICE
- V - SANITARY SEWER LINE
- V - STORM SEWER LINE
- FM - FORCE MAIN
- WM - WATER MAIN

- ☐ - UTILITY PEDESTAL
- - HANDHOLE
- ⊙ - POWER/UTILITY POLE
- ⊙ - LIGHT POLE
- ⊙ - CABINET
- ⊙ - VALVE (GAS)
- ⊙ - MANHOLE
- ⊙ - CATCH BASIN
- ⊙ - CONCRETE APRON
- ⊙ - HYDRANT
- ⊙ - VALVE (WATER)
- ⊙ - VEGETATION
- ⊙ - INPLACE STRUCTURE
- ⊙ - EXISTING GUARD RAIL
- ⊙ - EXISTING WATER EDGE
- ⊙ - BOLLARD
- ⊙ - RETAINING WALL
- ⊙ - NOISE WALL
- XC- - EXISTING FENCE

- - - - CONSTRUCTION LIMITS
- - - - AREA OF ENVIRONMENTAL SENSITIVITY
- - - - INPLACE RIGHT-OF-WAY
- - - - PROPOSED RIGHT-OF-WAY
- - - - TEMPORARY EASEMENT
- - - - PERMANENT EASEMENT

- █ - EXISTING ROADWAY BIT TO BE REMOVED
- ⊙ - UTILITY CONFLICT AREA (OWNER-IMPACT)

- OWNERSHIP:**
- (1) CENTERPOINT ENERGY MINNESOTA GAS
 - (2) XCEL ENERGY (POWER)
 - (3) XCEL ENERGY (GAS)
 - (4) LUMEN TECHNOLOGIES
 - (5) ZAYO GROUP LLC.
 - (6) COMCAST CABLE LLC.
 - (7) METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES

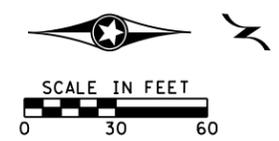
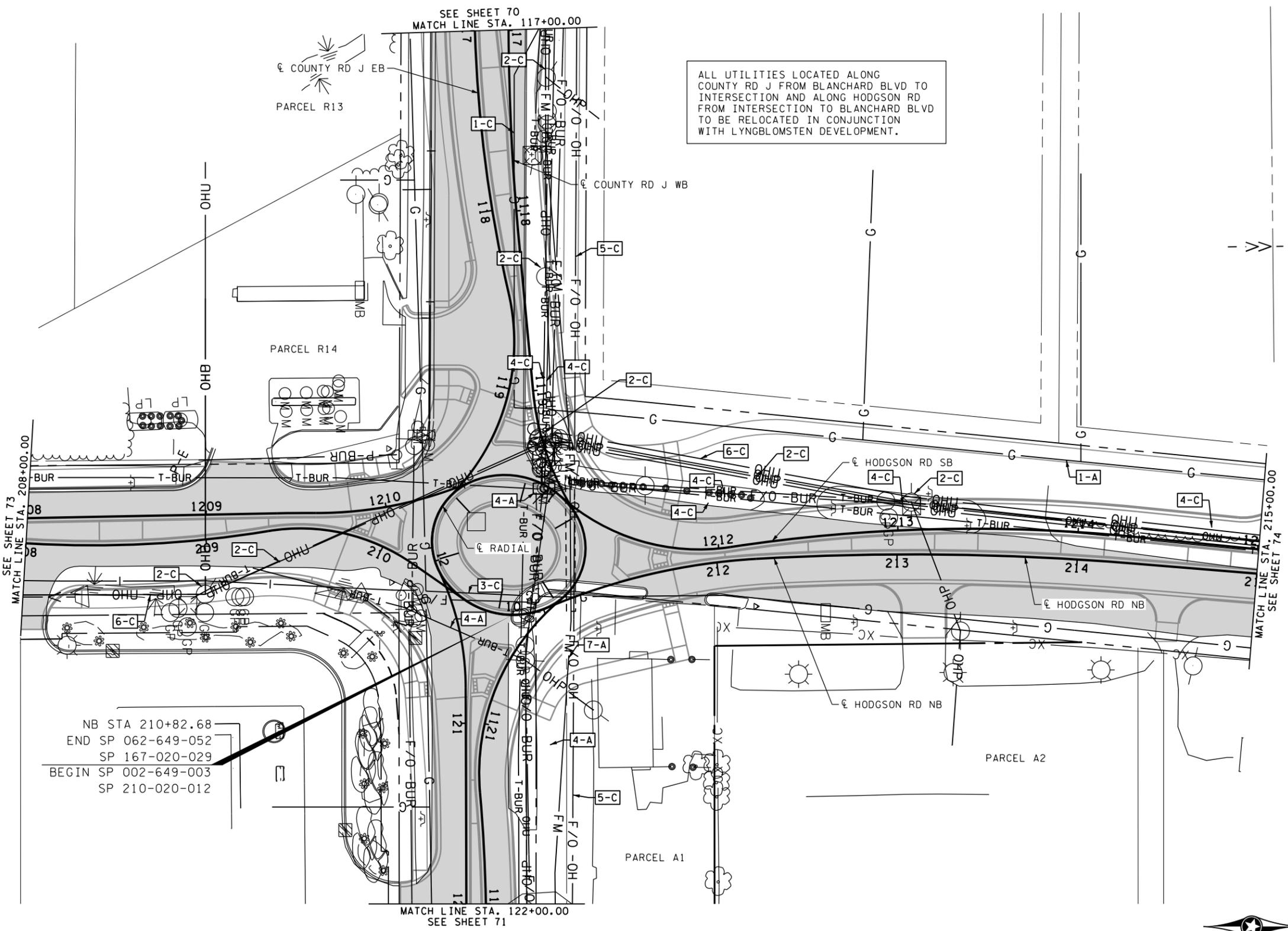
- IMPACTS NOTES ON PLAN SHEET:**
- (A) LEAVE AS IS, (B) ADJUST, (C) RELOCATE, (D) REMOVE

UTILITY CONFLICTS ARE DENOTED IN EXCAVATION AREAS ONLY

GENERAL NOTES

1. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-22.
2. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
3. ALL UTILITIES LOCATED WITHIN THE CONCRETE PAVEMENT AREAS IDENTIFIED ON SHEET 93 ARE IDENTIFIED TO BE IN CONFLICT AND REQUIRE RELOCATION.

ALL UTILITIES LOCATED ALONG COUNTY RD J FROM BLANCHARD BLVD TO INTERSECTION AND ALONG HODGSON RD FROM INTERSECTION TO BLANCHARD BLVD TO BE RELOCATED IN CONJUNCTION WITH LYNGBLOMSTEN DEVELOPMENT.



PLOTTED/REVISED: 2/1/2024 9:45:02 AM
 WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\9054-000_1.u05.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

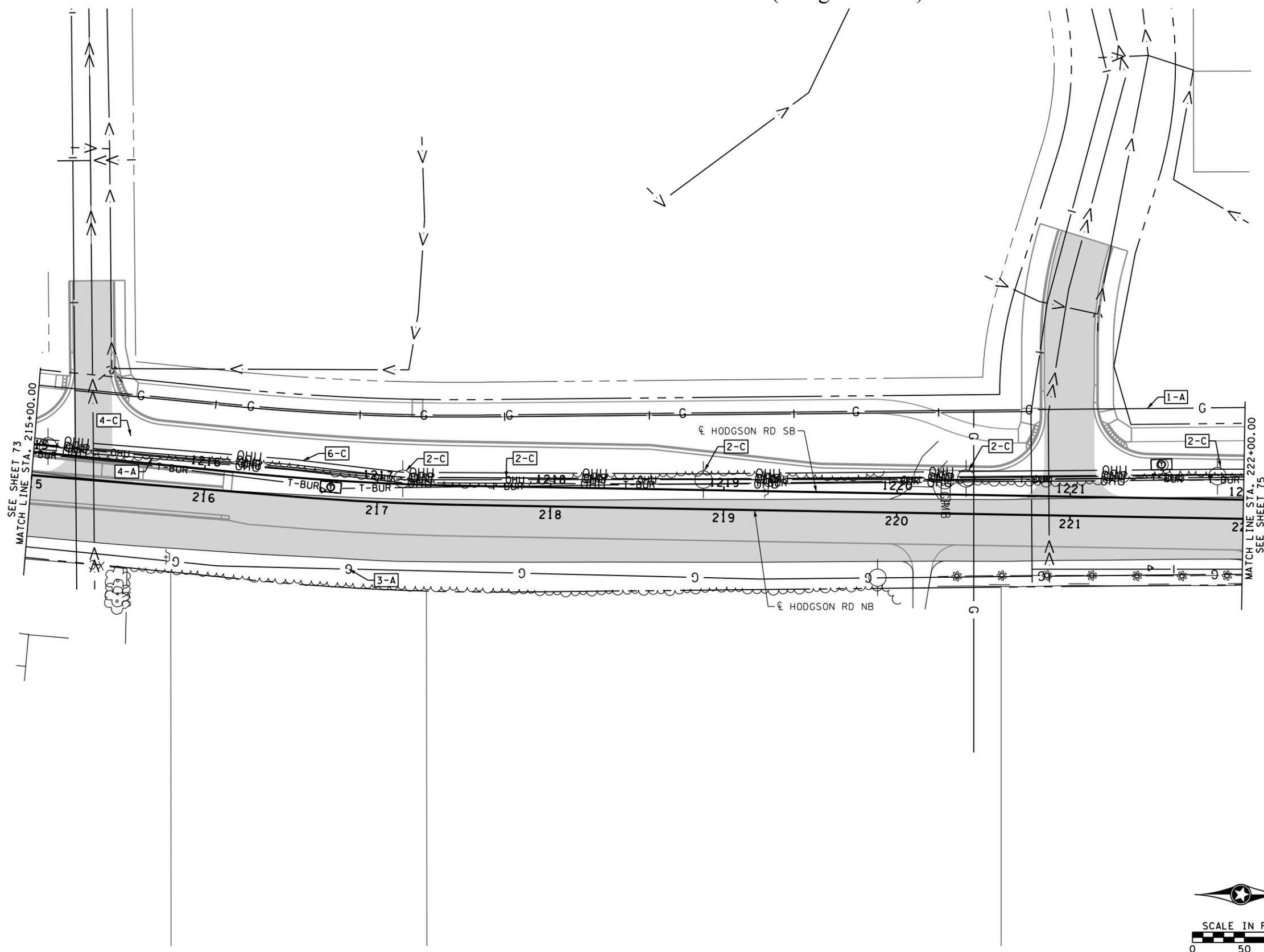
ANOKA & RAMSEY COUNTY, MN
 EB STA 117+00 TO EB STA 122+00 AND NB STA 208+00 TO NB STA 214+00
INPLACE TOPOGRAPHY & UTILITY PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
73
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:45:10 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1106.dgn

CSAH 49 (Hodgson Road)



LEGEND

- T-BUR — BURIED TELEPHONE LINE
 - TV-BUR — BURIED TELEVISION LINE
 - OHU — OVERHEAD UTILITY LINE
 - F/O -BUR — BURIED FIBER OPTIC LINE
 - F/O -OH — OVERHEAD FIBER OPTIC LINE
 - P-BUR — BURIED POWER LINE
 - P — UTILITY IN CONDUIT
 - OHP — OVERHEAD POWER LINE
 - SIG-BUR — BURIED SIGNAL LINE
 - G — BURIED GAS MAIN/SERVICE
 - S — SANITARY SEWER LINE
 - V — STORM SEWER LINE
 - FM — FORCE MAIN
 - WM — WATER MAIN
-
- ☐ UTILITY PEDESTAL
 - ⊙ HANDHOLE
 - ⊙ POWER/UTILITY POLE
 - ⊙ LIGHT POLE
 - ☐ CABINET
 - ⊙ VALVE (GAS)
 - ⊙ MANHOLE
 - ☐ CATCH BASIN
 - ☐ CONCRETE APRON
 - ⊙ HYDRANT
 - ⊙ VALVE (WATER)
 - ⊙ VEGETATION
 - ⊙ INPLACE STRUCTURE
 - EXISTING GUARD RAIL
 - EXISTING WATER EDGE
 - ⊙ BOLLARD
 - RETAINING WALL
 - NOISE WALL
 - XC — EXISTING FENCE
-
- - - CONSTRUCTION LIMITS
 - - - AREA OF ENVIRONMENTAL SENSITIVITY
 - - - INPLACE RIGHT-OF-WAY
 - - - PROPOSED RIGHT-OF-WAY
 - - - TEMPORARY EASEMENT
 - - - PERMANENT EASEMENT

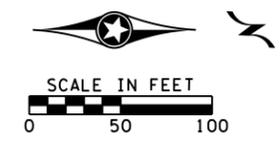
- █ EXISTING ROADWAY BIT TO BE REMOVED
 - ☐ 1-A UTILITY CONFLICT AREA (OWNER-IMPACT)
- OWNERSHIP:**
- (1) CENTERPOINT ENERGY MINNESOTA GAS
 - (2) XCEL ENERGY (POWER)
 - (3) XCEL ENERGY (GAS)
 - (4) LUMEN TECHNOLOGIES
 - (5) ZAYO GROUP LLC.
 - (6) COMCAST CABLE LLC.
 - (7) METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES

IMPACTS NOTES ON PLAN SHEET:
 (A) LEAVE AS IS, (B) ADJUST, (C) RELOCATE, (D) REMOVE

UTILITY CONFLICTS ARE DENOTED IN EXCAVATION AREAS ONLY

GENERAL NOTES

1. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-22.
2. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
3. ALL UTILITIES LOCATED WITHIN THE CONCRETE PAVEMENT AREAS IDENTIFIED ON SHEET 93 ARE IDENTIFIED TO BE IN CONFLICT AND REQUIRE RELOCATION.



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

NB STA 215+00 TO NB STA 222+00

INPLACE TOPOGRAPHY & UTILITY PLAN

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **74** OF **162** SHEETS

CSAH 49 (Hodgson Road)

LEGEND

- T-BUR — BURIED TELEPHONE LINE
 - TV-BUR — BURIED TELEVISION LINE
 - OHU — OVERHEAD UTILITY LINE
 - F/O -BUR — BURIED FIBER OPTIC LINE
 - F/O -OH — OVERHEAD FIBER OPTIC LINE
 - P-BUR — BURIED POWER LINE
 - P — UTILITY IN CONDUIT
 - OHP — OVERHEAD POWER LINE
 - SIG-BUR — BURIED SIGNAL LINE
 - G — BURIED GAS MAIN/SERVICE
 - V — SANITARY SEWER LINE
 - V — STORM SEWER LINE
 - — FORCE MAIN
 - — WATER MAIN
-
- ☐ — UTILITY PEDESTAL
 - ⊙ — HANDHOLE
 - ⊙ — POWER/UTILITY POLE
 - ⊙ — LIGHT POLE
 - ⊙ — CABINET
 - ⊙ — VALVE (GAS)
 - ⊙ — MANHOLE
 - ⊙ — CATCH BASIN
 - ⊙ — CONCRETE APRON
 - ⊙ — HYDRANT
 - ⊙ — VALVE (WATER)
 - ⊙ — VEGETATION
 - ⊙ — INPLACE STRUCTURE
 - — EXISTING GUARD RAIL
 - — EXISTING WATER EDGE
 - — BOLLARD
 - — RETAINING WALL
 - — NOISE WALL
 - XC- — EXISTING FENCE

- - - - CONSTRUCTION LIMITS
- - - - AREA OF ENVIRONMENTAL SENSITIVITY
- - - - INPLACE RIGHT-OF-WAY
- - - - PROPOSED RIGHT-OF-WAY
- - - - TEMPORARY EASEMENT
- - - - PERMANENT EASEMENT

- █ EXISTING ROADWAY BIT TO BE REMOVED
- ⊙-A UTILITY CONFLICT AREA (OWNER-IMPACT)

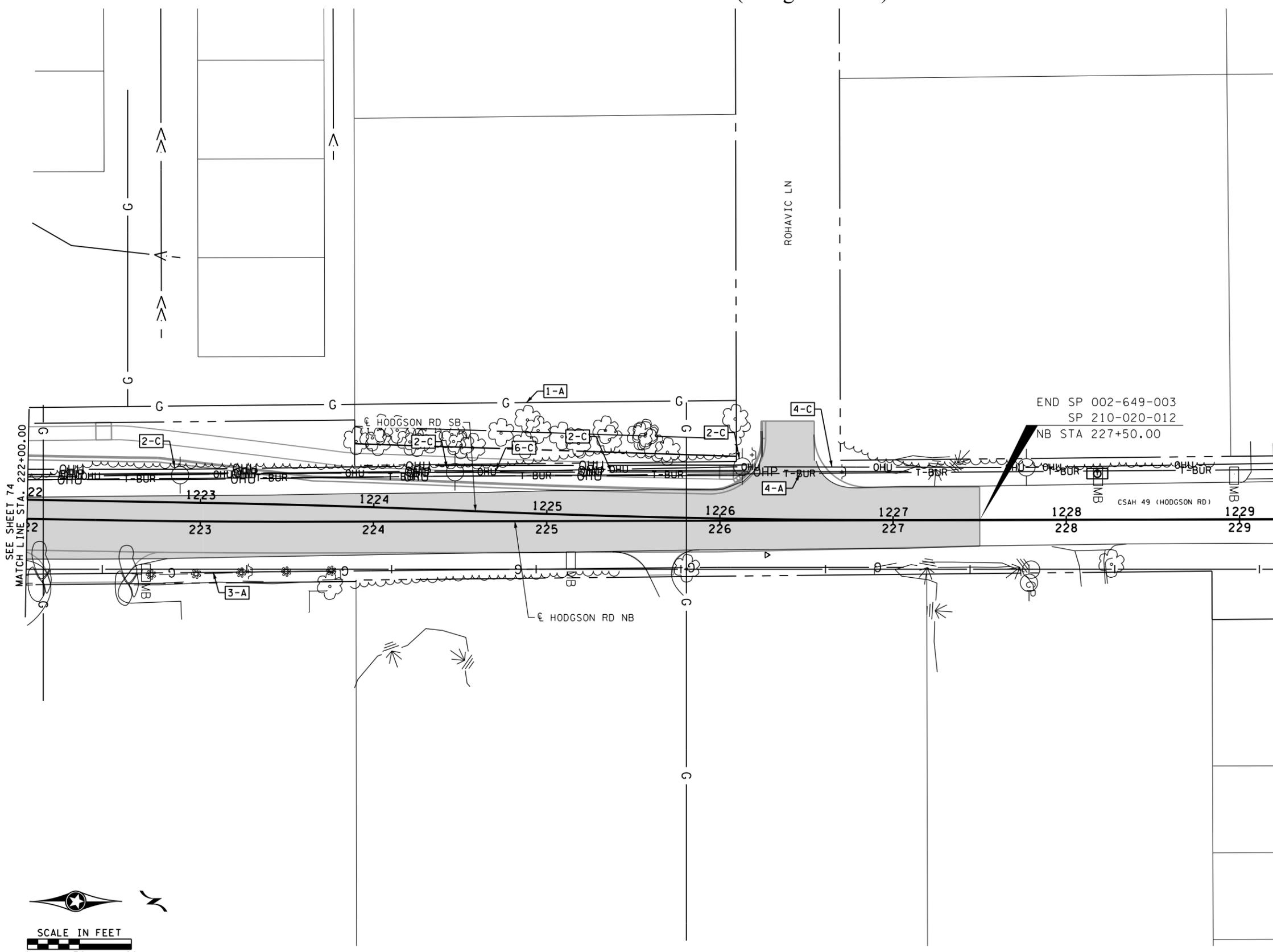
OWNERSHIP:
 (1) CENTERPOINT ENERGY MINNESOTA GAS
 (2) XCEL ENERGY (POWER)
 (3) XCEL ENERGY (GAS)
 (4) LUMEN TECHNOLOGIES
 (5) ZAYO GROUP LLC.
 (6) COMCAST CABLE LLC.
 (7) METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES

IMPACTS NOTES ON PLAN SHEET:
 (A) LEAVE AS IS, (B) ADJUST, (C) RELOCATE, (D) REMOVE

UTILITY CONFLICTS ARE DENOTED IN EXCAVATION AREAS ONLY

GENERAL NOTES

1. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-22.
2. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
3. ALL UTILITIES LOCATED WITHIN THE CONCRETE PAVEMENT AREAS IDENTIFIED ON SHEET 93 ARE IDENTIFIED TO BE IN CONFLICT AND REQUIRE RELOCATION.



PLOTTED/REVISED: 2/1/2024 9:45:18 AM
 WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_1107.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 NB STA 222+00 TO NB STA 227+50
INPLACE TOPOGRAPHY & UTILITY PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
75
 OF
162
 SHEETS

WB PATH & FILENAME: Projects\Minnesota\019054-000\CSAH\Plan\19054-000_enu.dgn

PLOTTED/REVISED: 2/1/2024 10:44:35 AM

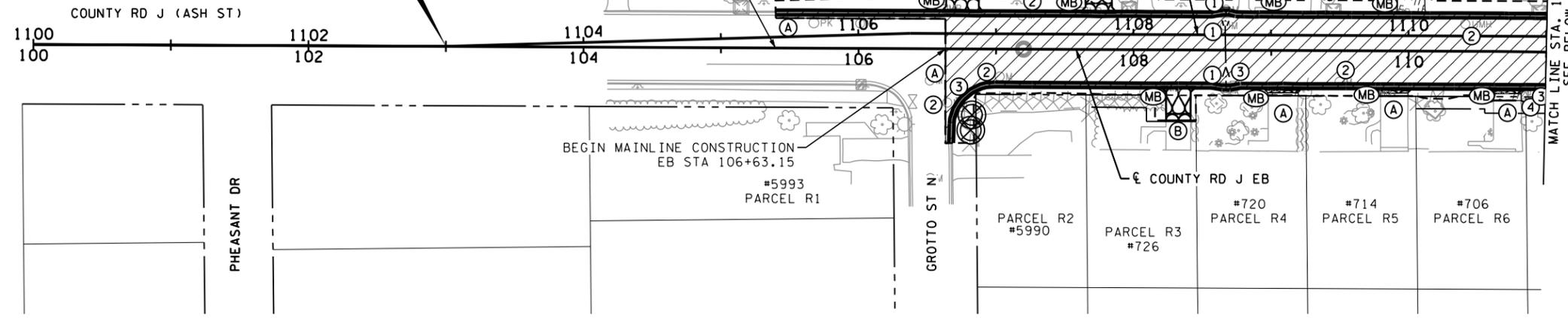
Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



BEGIN SP 002-632-019
SP 062-601-016
SP 167-020-030
SP 210-020-014
EB STA 103+00.00

BEGIN CONSTRUCTION
EB STA 105+39.71

BEGIN MAINLINE CONSTRUCTION
EB STA 106+63.15

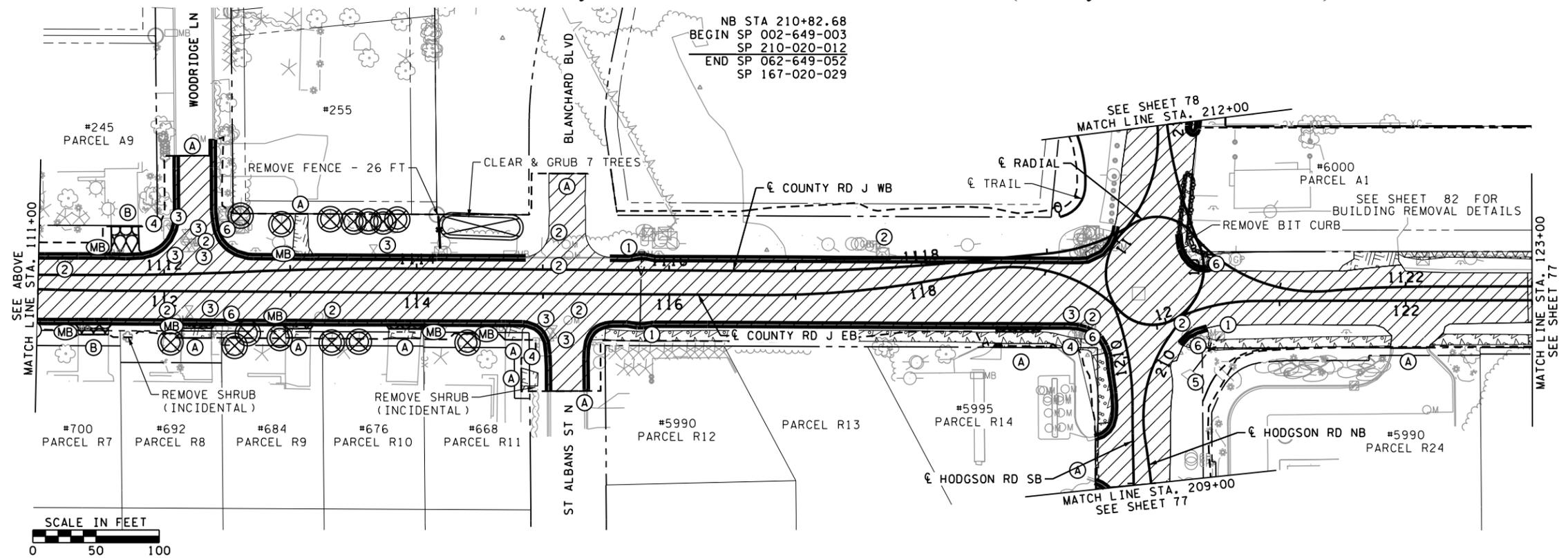


LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE WALK
- REMOVE CONCRETE DRIVEWAY PAVEMENT
- GRUB TREE (ACRE)
- GRUB TREE (EACH)
- MAILBOX SUPPORT. SEE TAB D ON SHEET 8 FOR DETAILS.
- SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
- REMOVE DRAINAGE STRUCTURE
- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- ADJUST HYDRANT
- REMOVE PIPE APRON
- REMOVE LIGHTING UNIT
- REMOVE FENCE
- REMOVE CURB & GUTTER
- REMOVE PIPE CULVERT
- REMOVE SEWER PIPE (STORM)
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- INPLACE EASEMENT
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

NB STA 210+82.68
BEGIN SP 002-649-003
SP 210-020-012
END SP 062-649-052
SP 167-020-029



- #### GENERAL NOTES
1. ALL REMOVAL ITEMS SHALL BE DISPOSED OF OFF THE PROJECT SITE IN ACCORDANCE WITH THE SPECIFICATIONS. (INCIDENTAL)
 2. REMOVAL OF ALL AGGREGATE SURFACING REGARDLESS OF THICKNESS SHALL BE INCLUDED IN EXCAVATION-COMMON.
 3. THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF C1/ASCE 38-02.
 4. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
 5. SAWCUTTING FOR CONCRETE CURB & GUTTER, CONCRETE WALK, AND BITUMINOUS WALK SHALL BE INCIDENTAL.
 6. INPLACE BITUMINOUS PAVEMENT THICKNESS 6"-6.5". NO ADDITIONAL PAYMENT FOR EXTRA THICKNESS.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

ANOKA & RAMSEY COUNTY, MN

EB STA 103+00 TO EB STA 123+00

REMOVAL PLAN

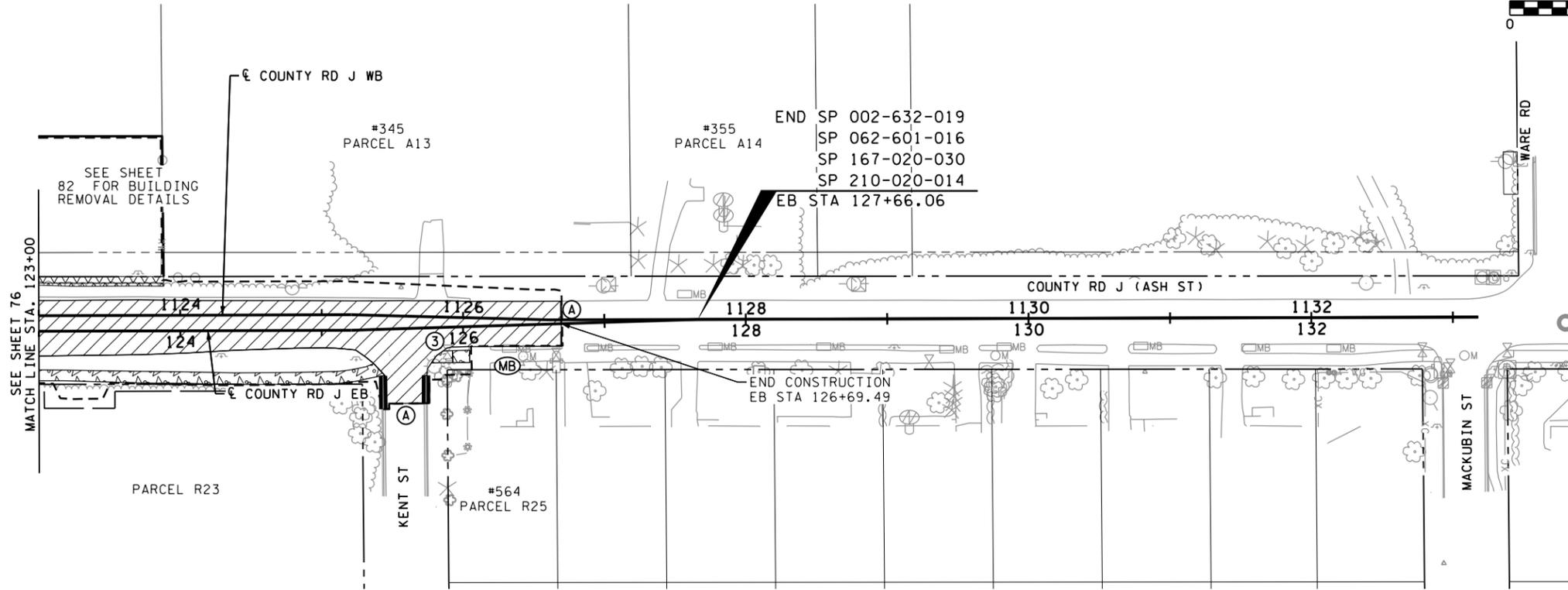
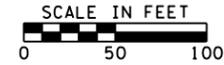
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
76
OF
162
SHEETS

PLOTTED/REVISED: 2/1/2024 10:40:12 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_emr02.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



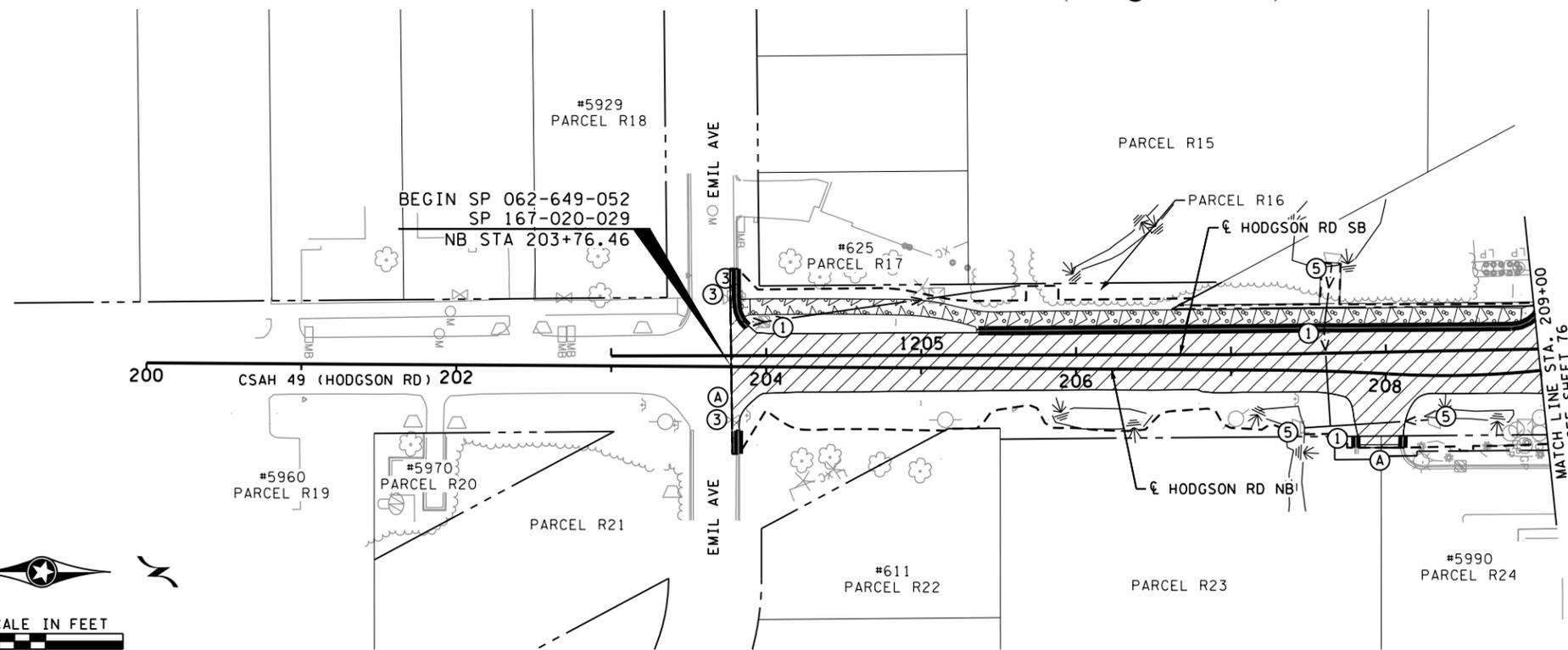
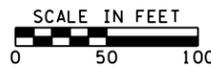
LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE WALK
- REMOVE CONCRETE DRIVEWAY PAVEMENT
- GRUB TREE (ACRE)
- GRUB TREE (EACH)
- MAILBOX SUPPORT. SEE TAB D ON SHEET 8 FOR DETAILS.
- SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
- REMOVE DRAINAGE STRUCTURE
- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- ADJUST HYDRANT
- REMOVE PIPE APRON
- REMOVE LIGHTING UNIT
- REMOVE FENCE
- REMOVE CURB & GUTTER
- REMOVE PIPE CULVERT
- REMOVE SEWER PIPE (STORM)
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- INPLACE EASEMENT
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

GENERAL NOTES

1. ALL REMOVAL ITEMS SHALL BE DISPOSED OF OFF THE PROJECT SITE IN ACCORDANCE WITH THE SPECIFICATIONS. (INCIDENTAL)
2. REMOVAL OF ALL AGGREGATE SURFACING REGARDLESS OF THICKNESS SHALL BE INCLUDED IN EXCAVATION-COMMON.
3. THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-02.
4. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
5. SAWCUTTING FOR CONCRETE CURB & GUTTER, CONCRETE WALK, AND BITUMINOUS WALK SHALL BE INCIDENTAL.
6. INPLACE BITUMINOUS PAVEMENT THICKNESS 6"-6.5". NO ADDITIONAL PAYMENT FOR EXTRA THICKNESS.

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

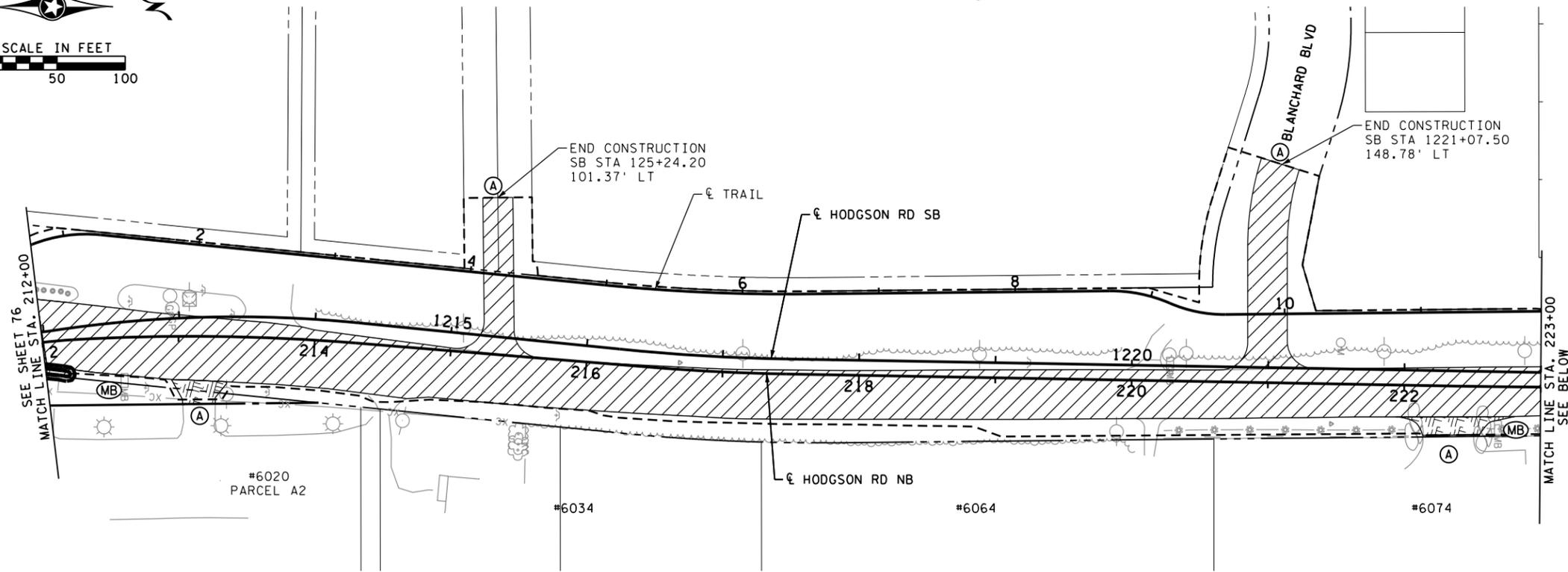
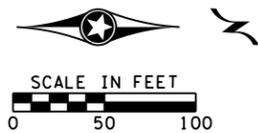
ANOKA & RAMSEY COUNTY, MN
 EB STA 123+00 TO EB STA 127+66.06, NB STA 203+76.46 TO NB STA 209+00
REMOVAL PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
77
 OF
162
 SHEETS

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_emo3.dgn

PLOTTED/REVISED: 2/1/2024 10:40:24 AM

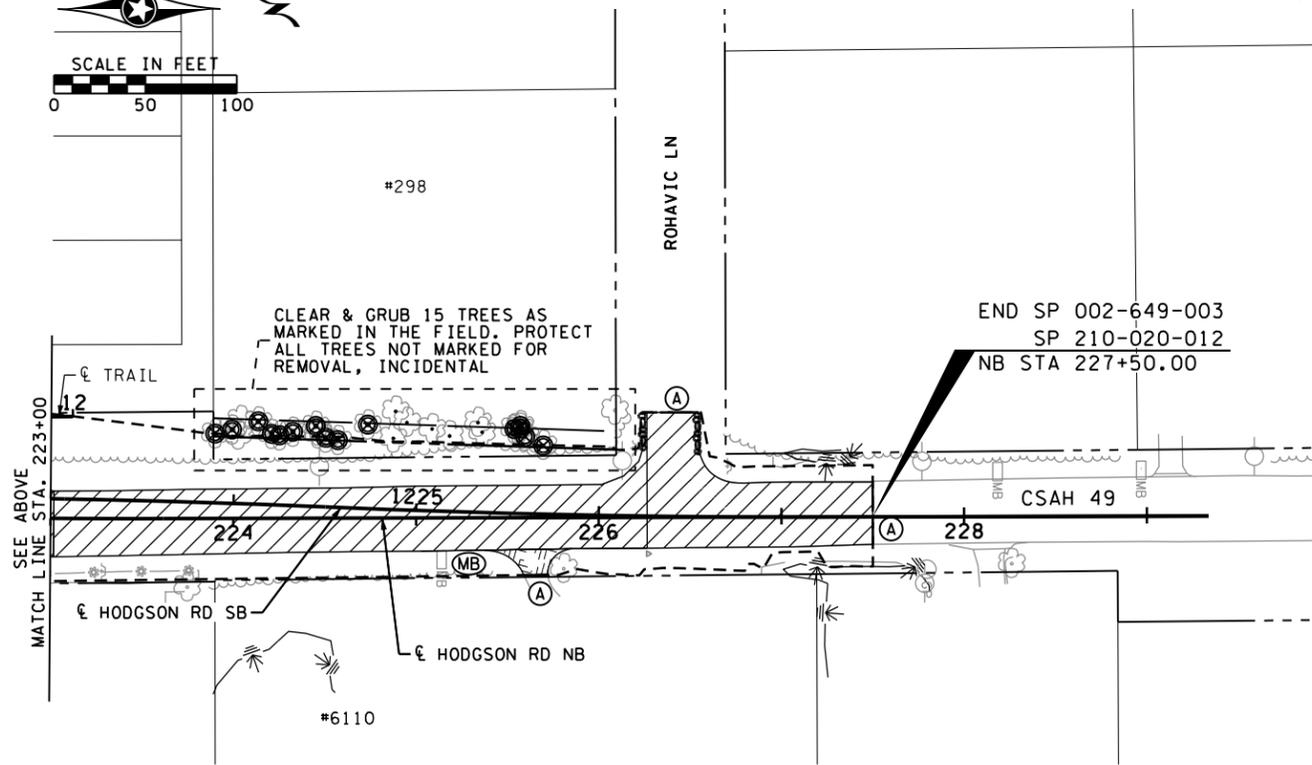
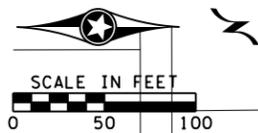
CSAH 49 (Hodgson Road)



LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE WALK
- REMOVE CONCRETE DRIVEWAY PAVEMENT
- GRUB TREE (ACRE)
- GRUB TREE (EACH)
- MAILBOX SUPPORT. SEE TAB D ON SHEET 8 FOR DETAILS.
- SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
- REMOVE DRAINAGE STRUCTURE
- ADJUST FRAME AND RING CASTING
- ADJUST VALVE BOX
- ADJUST HYDRANT
- REMOVE PIPE APRON
- REMOVE LIGHTING UNIT
- REMOVE FENCE
- REMOVE CURB & GUTTER
- REMOVE PIPE CULVERT
- REMOVE SEWER PIPE (STORM)
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- INPLACE EASEMENT
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

CSAH 49 (Hodgson Road)



GENERAL NOTES

1. ALL REMOVAL ITEMS SHALL BE DISPOSED OF OFF THE PROJECT SITE IN ACCORDANCE WITH THE SPECIFICATIONS. (INCIDENTAL)
2. REMOVAL OF ALL AGGREGATE SURFACING REGARDLESS OF THICKNESS SHALL BE INCLUDED IN EXCAVATION-COMMON.
3. THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-02.
4. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).
5. SAWCUTTING FOR CONCRETE CURB & GUTTER, CONCRETE WALK, AND BITUMINOUS WALK SHALL BE INCIDENTAL.
6. INPLACE BITUMINOUS PAVEMENT THICKNESS 6"-6.5". NO ADDITIONAL PAYMENT FOR EXTRA THICKNESS.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 NB STA 212+00 TO NB STA 227+50
REMOVAL PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
78
 OF
162
 SHEETS

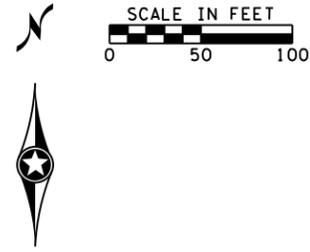
WSB PATH & FILENAME: Projects\Minnesota\09054-000\RoadPlan\9054-000_sprrem01.dgn

PLOTTED/REVISED: 2/23/2024 8:55:4 AM

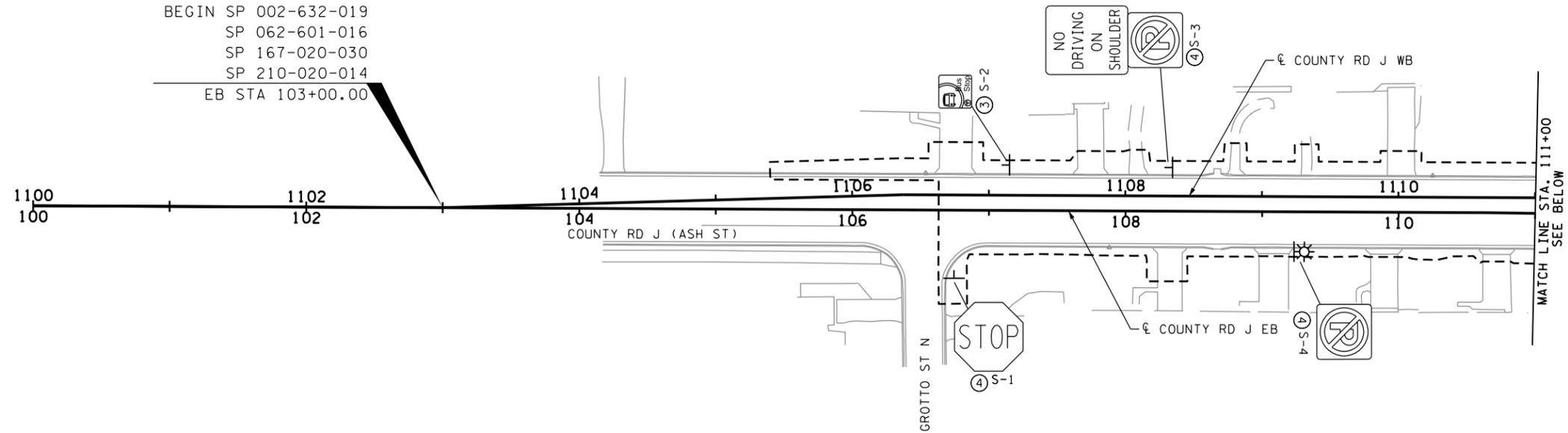
Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

LEGEND

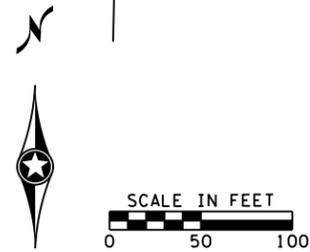
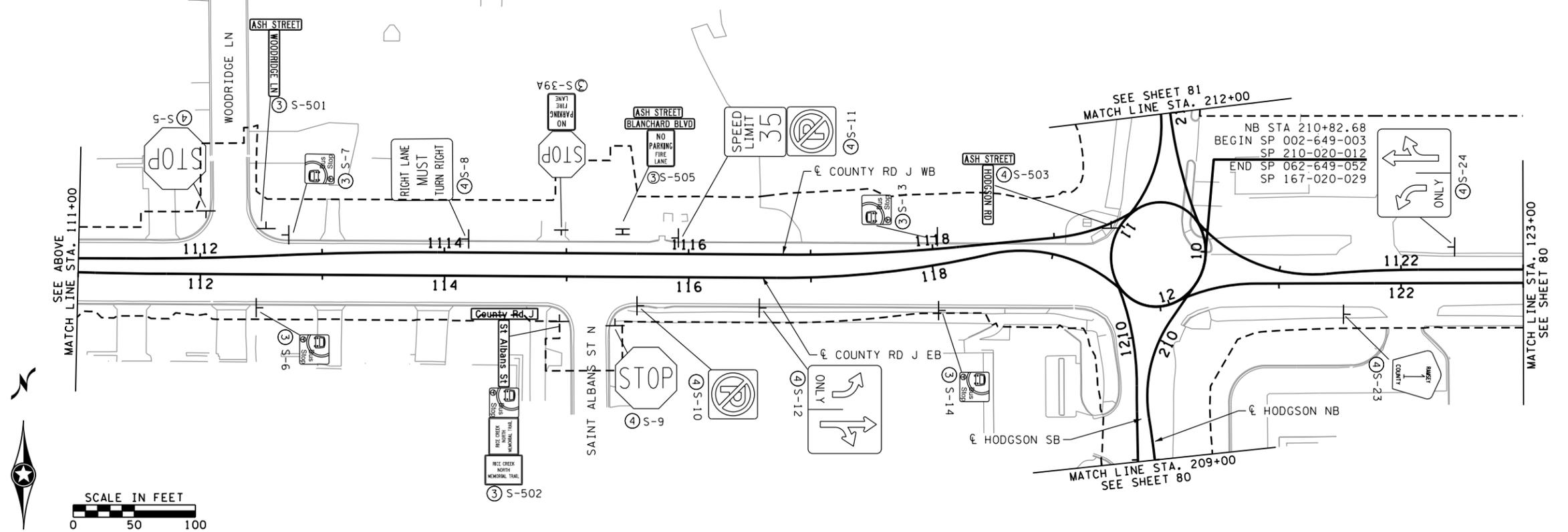
- ② INPLACE TO REMAIN
- ③ SALVAGE
- ④ REMOVE



BEGIN SP 002-632-019
 SP 062-601-016
 SP 167-020-030
 SP 210-020-014
 EB STA 103+00.00



Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/23/2024 LICENSE #: 40945

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

EB STA 103+00 TO EB STA 123+00

SIGN REMOVAL

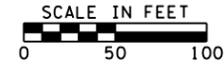
SP 002-632-019, SP 062-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **79**
 OF **162**
 SHEETS

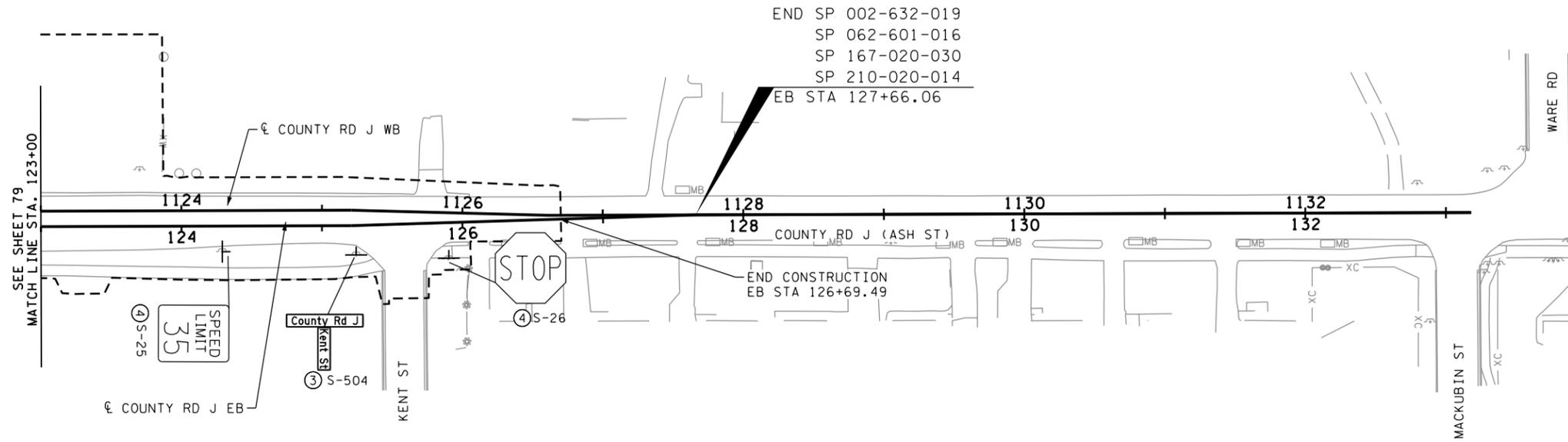
PLOTTED/REVISED: 2/1/2024 9:46:00 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_spreem02.dgn

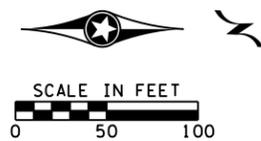
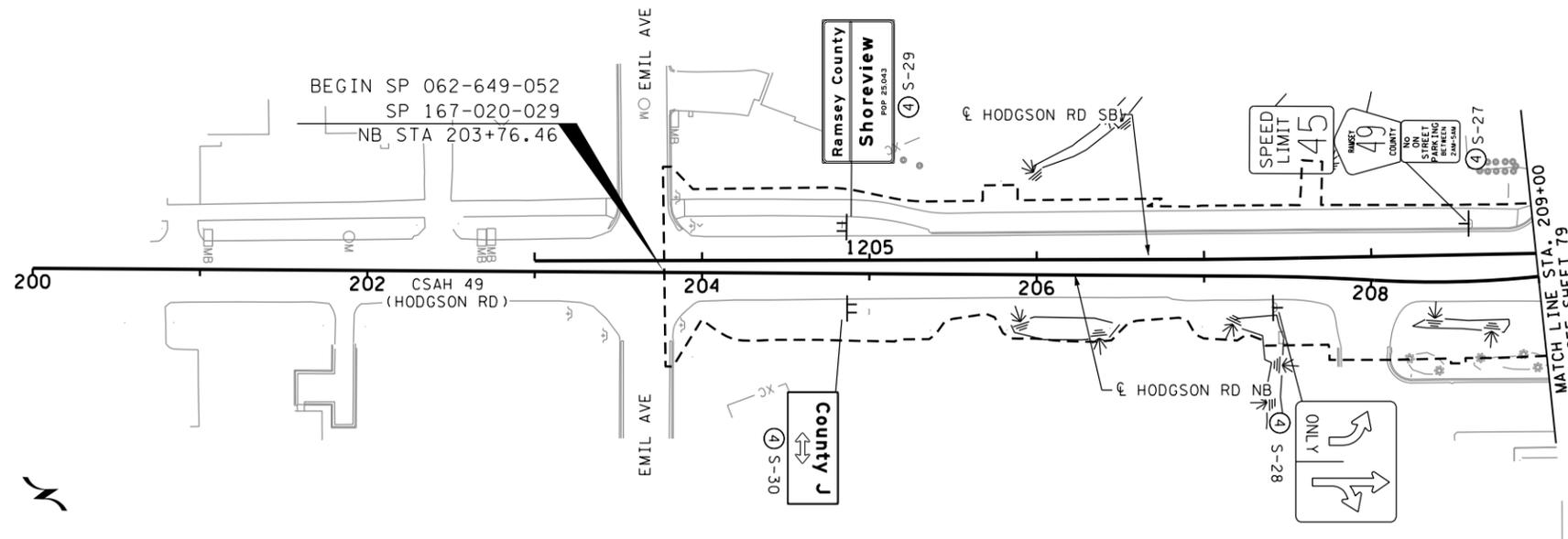
Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



LEGEND	
②	INPLACE TO REMAIN
③	SALVAGE
④	REMOVE



CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

EB STA 123+00 TO EB STA 127+66.06, NB STA 203+76.46 TO NB STA 209+00

SIGN REMOVAL

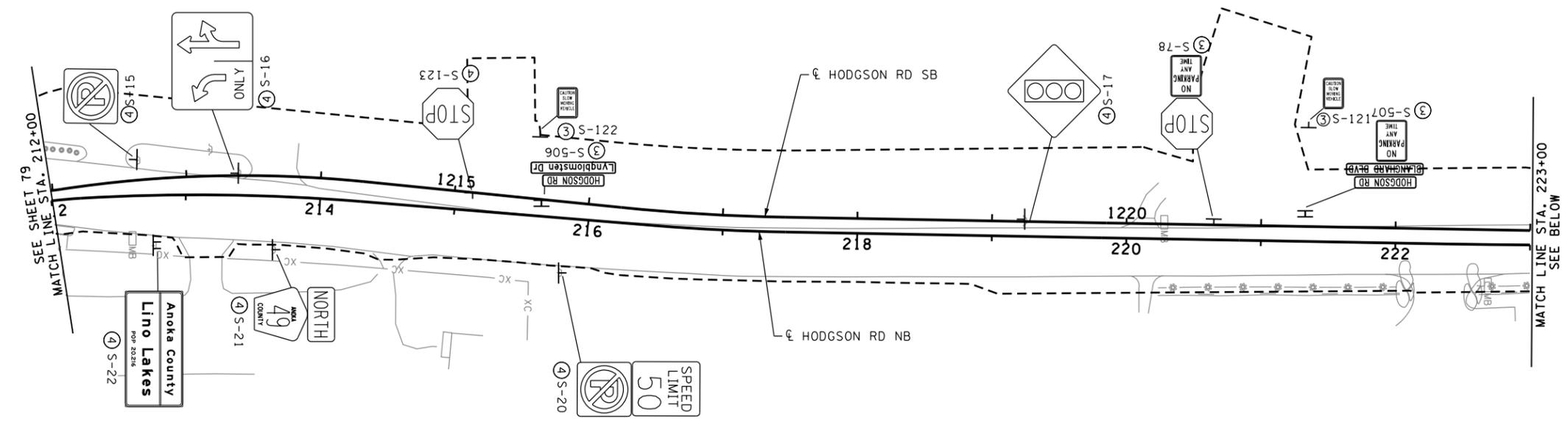
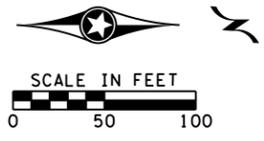
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **80**
 OF **162**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:46:18 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_sprrem03.dgn

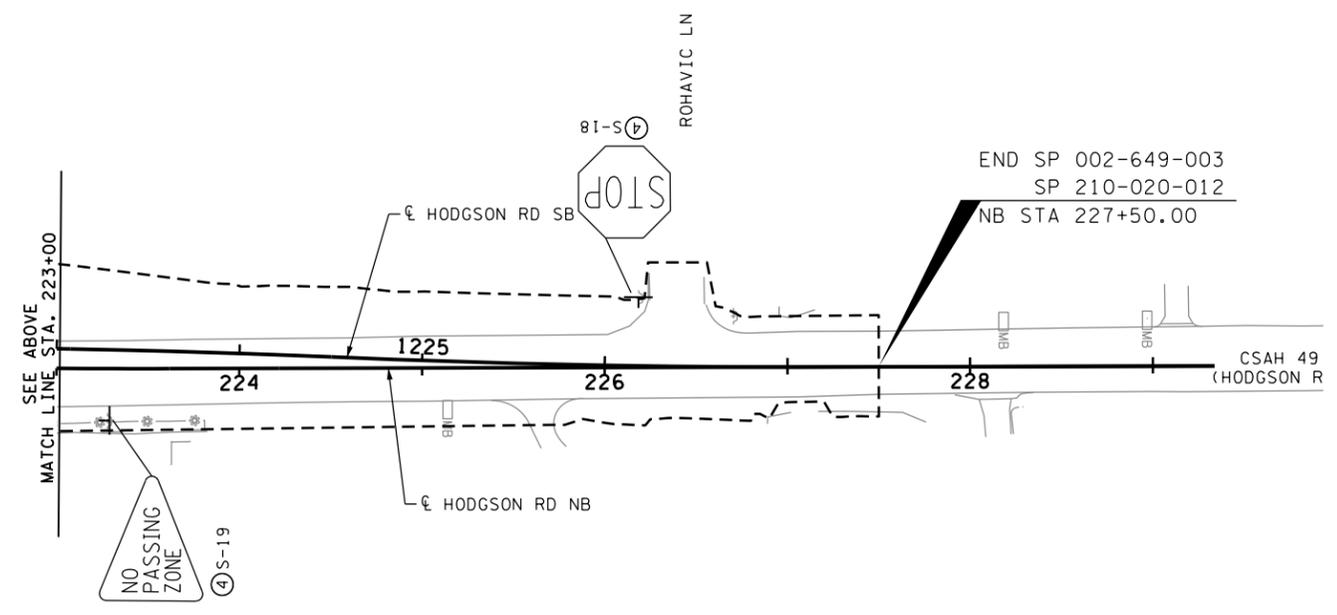
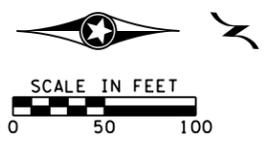
CSAH 49 (Hodgson Road)



LEGEND

②	INPLACE TO REMAIN
③	SALVAGE
④	REMOVE

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

NB STA 212+00 TO NB STA 227+50

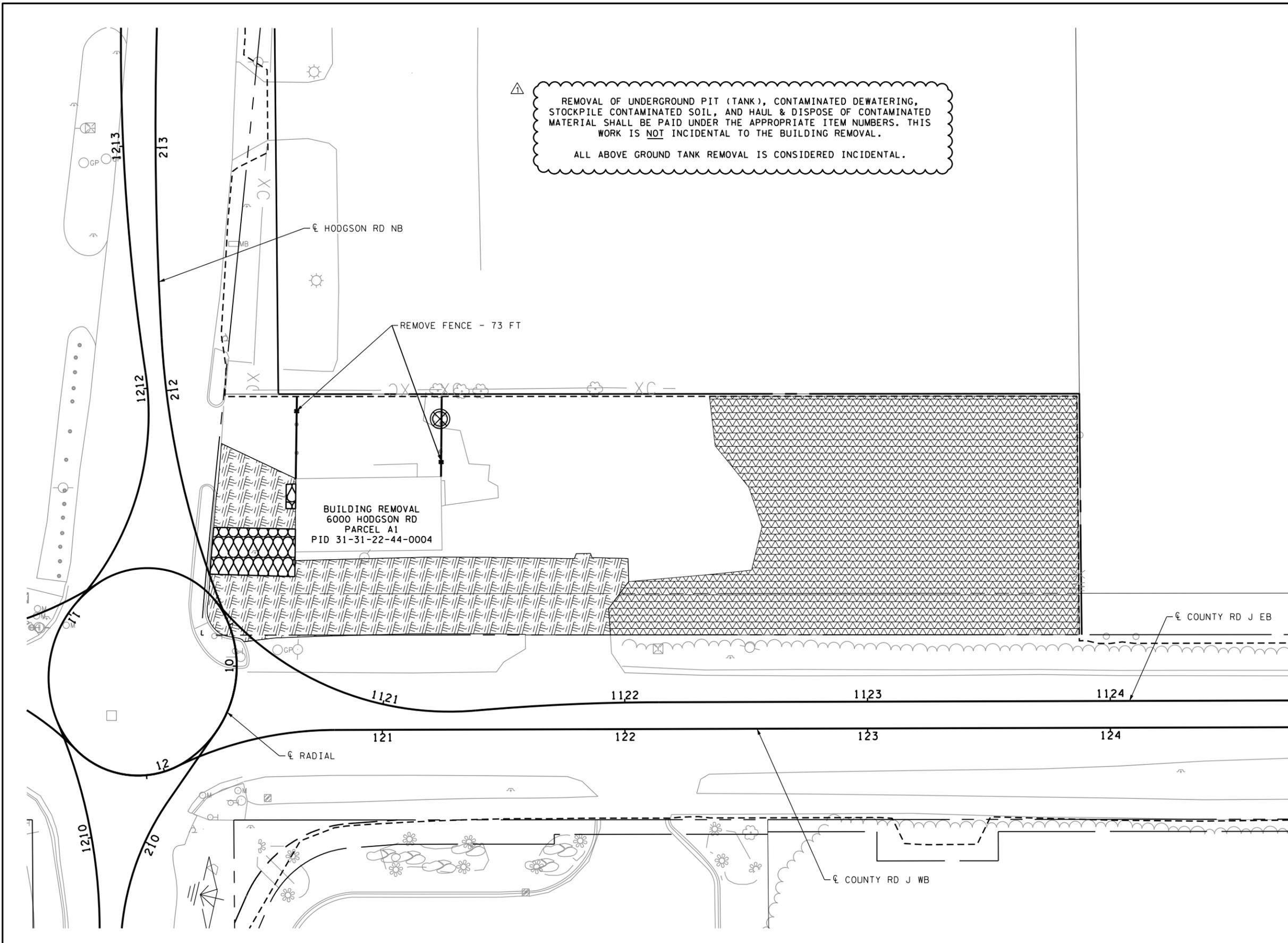
SIGN REMOVAL

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **81** OF **162** SHEETS

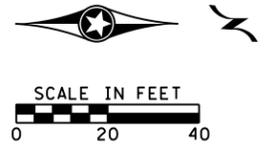
PLOTTED/REVISED: 2/22/2024 5:09:03 PM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\CAD\Plan\19054-000_BldgRem.dwg



REMOVAL OF UNDERGROUND PIT (TANK), CONTAMINATED DEWATERING, STOCKPILE CONTAMINATED SOIL, AND HAUL & DISPOSE OF CONTAMINATED MATERIAL SHALL BE PAID UNDER THE APPROPRIATE ITEM NUMBERS. THIS WORK IS **NOT** INCIDENTAL TO THE BUILDING REMOVAL.

ALL ABOVE GROUND TANK REMOVAL IS CONSIDERED INCIDENTAL.



LEGEND

- REMOVE BITUMINOUS DRIVEWAY PAVEMENT
- REMOVE CONCRETE DRIVEWAY PAVEMENT
- GRUB TREE (ACRE)
- GRUB TREE (EACH)
- REMOVE FENCE
- REMOVE SEWER PIPE (STORM)
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- INPLACE EASEMENT
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

GENERAL NOTES

1. ANY MISCELLANEOUS DEBRIS FOUND ON THE PROPERTY MUST BE DISPOSED OF OFF SITE (INCIDENTAL).
2. CONTRACTOR MUST COORDINATE ALL UTILITY REMOVALS WITH APPROPRIATE UTILITIES.
3. SEE SPECIAL PROVISIONS FOR LEGALLY REQUIRED INSPECTIONS & NOTIFICATIONS.
4. FILL, TO REPLACE BUILDING & FOUNDATION, SHALL MEET GRANULAR SPEC. 3149.2 AND COMPACTED TO 95% DENSITY (INCIDENTAL).
5. ANY ITEMS MARKED ON THIS SHEET ARE INCIDENTAL TO BUILDING REMOVAL.
6. ALL ITEMS TO BE REMOVED ARE CONSIDERED INCIDENTAL.
7. REMOVAL OF DRIVEWAY & OTHER PAVEMENT ITEMS IS NOT COUNTED IN THE TABULATED QUANTITIES. THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO THE BUILDING REMOVAL.
8. LOCATION OF SERVICE LINES IS CONSIDERED APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD.

NO.	DATE	BY	CHK	REVISIONS
1	2024/02/22	AJF	AJP	REMOVAL CLARIFICATIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/22/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

ANOKA & RAMSEY COUNTY, MN

BUILDING REMOVAL PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
82R
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:46:39 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\RoadPlan\9054-000_cpl.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

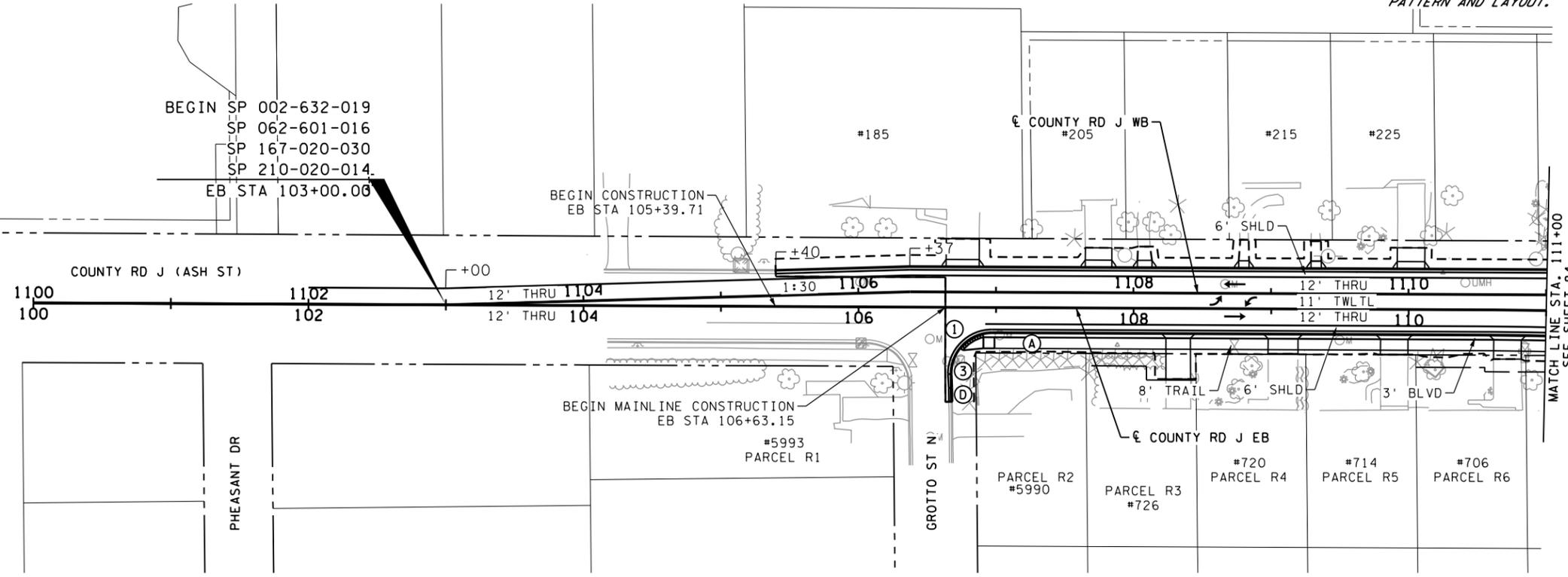
SEE MEDIAN DETAILS IN PAVING PLAN FOR MEDIAN CONCRETE PATTERN AND LAYOUT.

LEGEND

- ➔ TRAFFIC DIRECTION
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
- ③ CURB TRANSITION, SEE MISCELLANEOUS DETAILS
- Ⓐ 2.5" BITUMINOUS WALK
- Ⓑ 4" CONCRETE WALK
- Ⓒ CURB & GUTTER DES. R418
- Ⓓ SURMOUNTABLE CURB & GUTTER
- Ⓔ CURB & GUTTER DESIGN B612
- Ⓕ CURB & GUTTER DESIGN B424
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

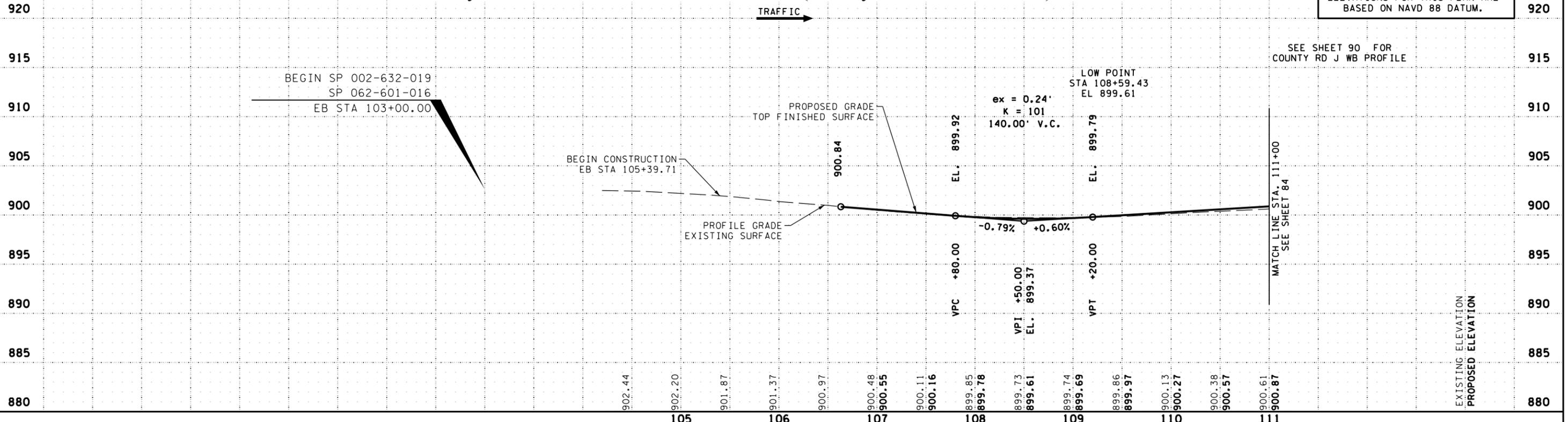
GENERAL NOTES

1. ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
2. ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB.
3. SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
4. SEE ALIGNMENT PLAN FOR CURVE DATA.
5. SEE SHEET 100 - 101 FOR ROUNDABOUT INTERSECTION DETAILS.
6. CURB & GUTTER DES. B624 USED FOR OUTSIDE LANES, DES. B418(MOD) USED FOR MEDIANS, UNLESS NOTED OTHERWISE.



Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street) EB Profile

VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE
BASED ON NAVD 88 DATUM.



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

EB STA 103+00.00 TO EB STA 111+00

CONSTRUCTION PLAN & PROFILE

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
83
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:46:48 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\RoadPlan\9054-000_gp02.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

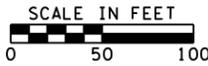
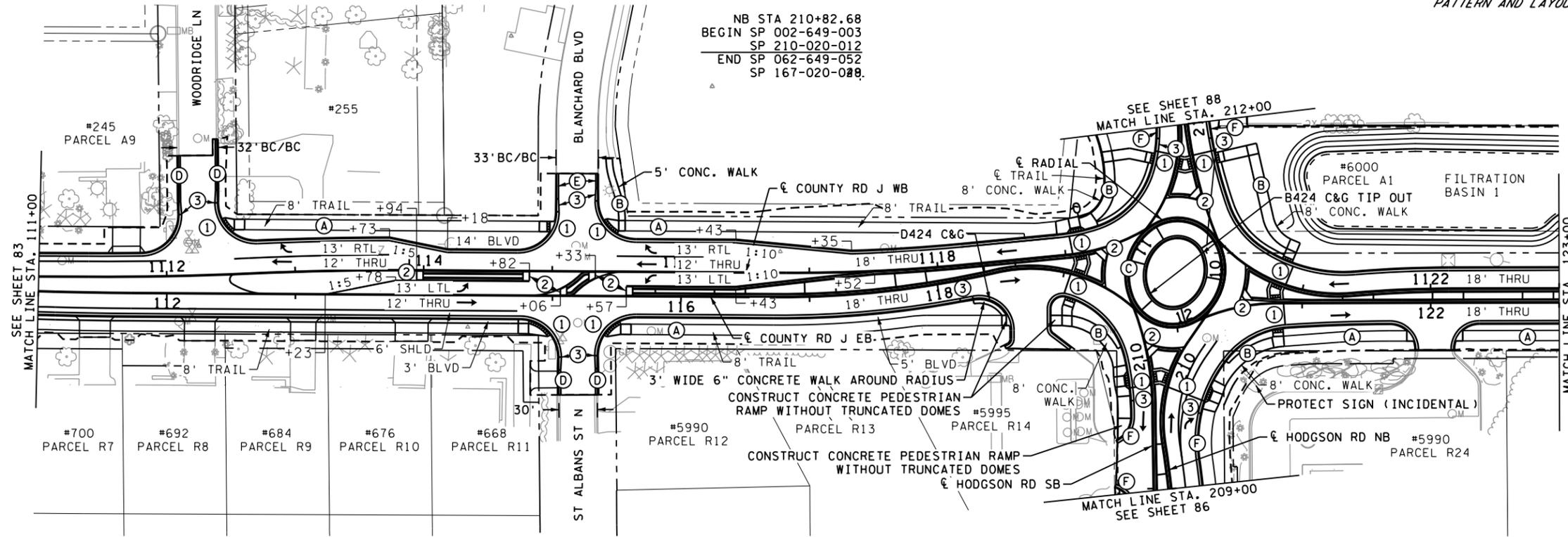
SEE MEDIAN DETAILS IN PAVING PLAN FOR MEDIAN CONCRETE PATTERN AND LAYOUT.

LEGEND

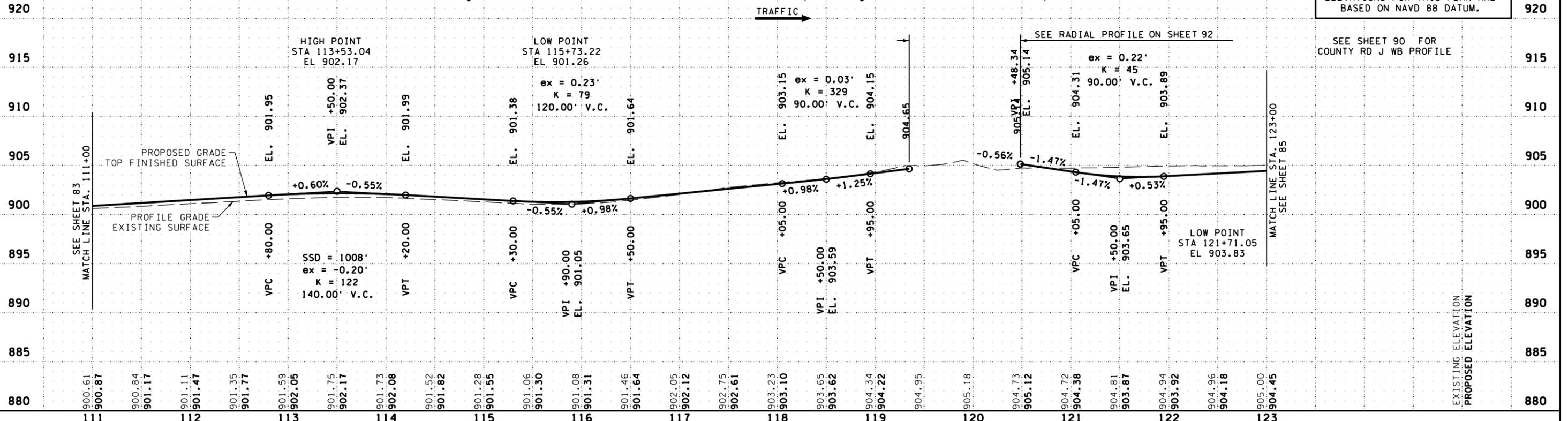
- ➔ TRAFFIC DIRECTION
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
- ③ CURB TRANSITION, SEE MISCELLANEOUS DETAILS
- (A) 2.5" BITUMINOUS WALK
- (B) 4" CONCRETE WALK
- (C) CURB & GUTTER DES. R418
- (D) SURMOUNTABLE CURB & GUTTER
- (E) CURB & GUTTER DESIGN B612
- (F) CURB & GUTTER DESIGN B424
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

GENERAL NOTES

1. ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
2. ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB.
3. SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
4. SEE ALIGNMENT PLAN FOR CURVE DATA.
5. SEE SHEET 100 - 101 FOR ROUNDABOUT INTERSECTION DETAILS.
6. CURB & GUTTER DES. B624 USED FOR OUTSIDE LANES, DES. B418(MOD) USED FOR MEDIANS, UNLESS NOTED OTHERWISE.



Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street) EB Profile



VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE BASED ON NAVD 88 DATUM.

SEE SHEET 90 FOR COUNTY RD J WB PROFILE

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

ANOKA & RAMSEY COUNTY, MN
 EB STA 111+00 TO EB STA 123+00
CONSTRUCTION PLAN & PROFILE
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

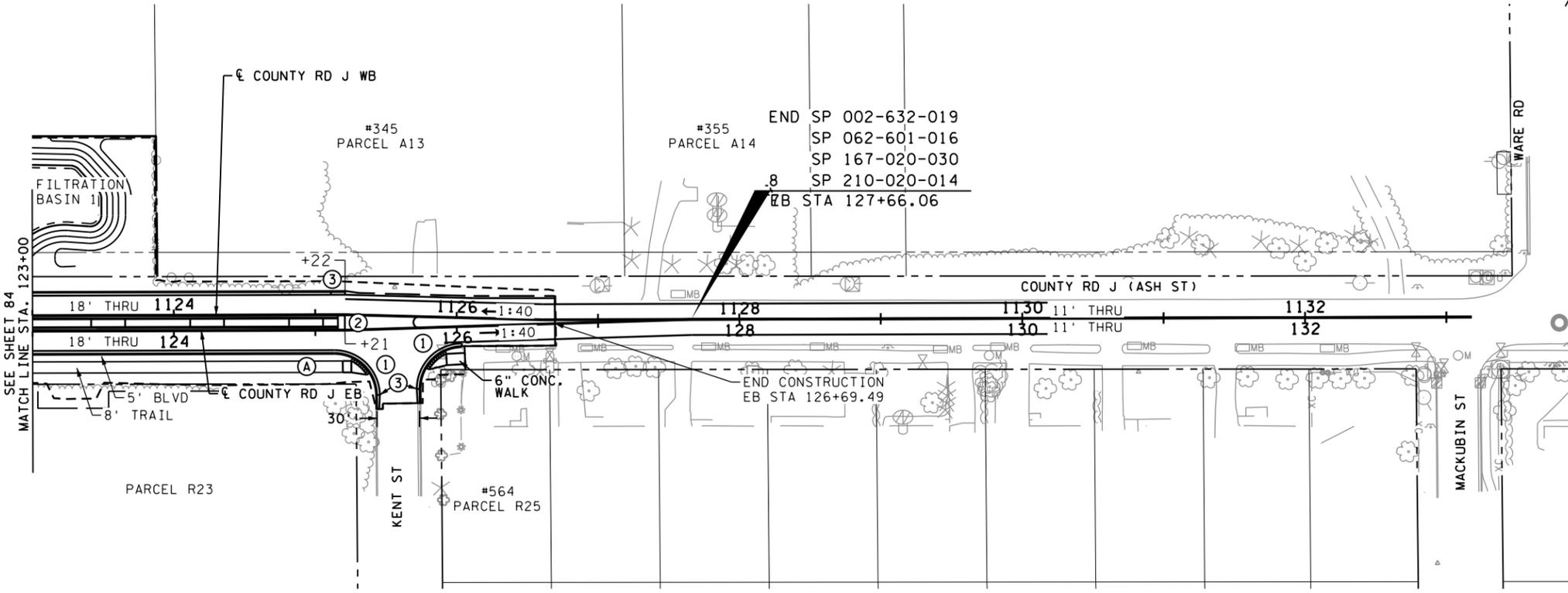
SHEET
84
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:46:57 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\RoadPlan\9054-000_cp03.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

SEE MEDIAN DETAILS IN PAVING PLAN FOR MEDIAN CONCRETE PATTERN AND LAYOUT.



LEGEND

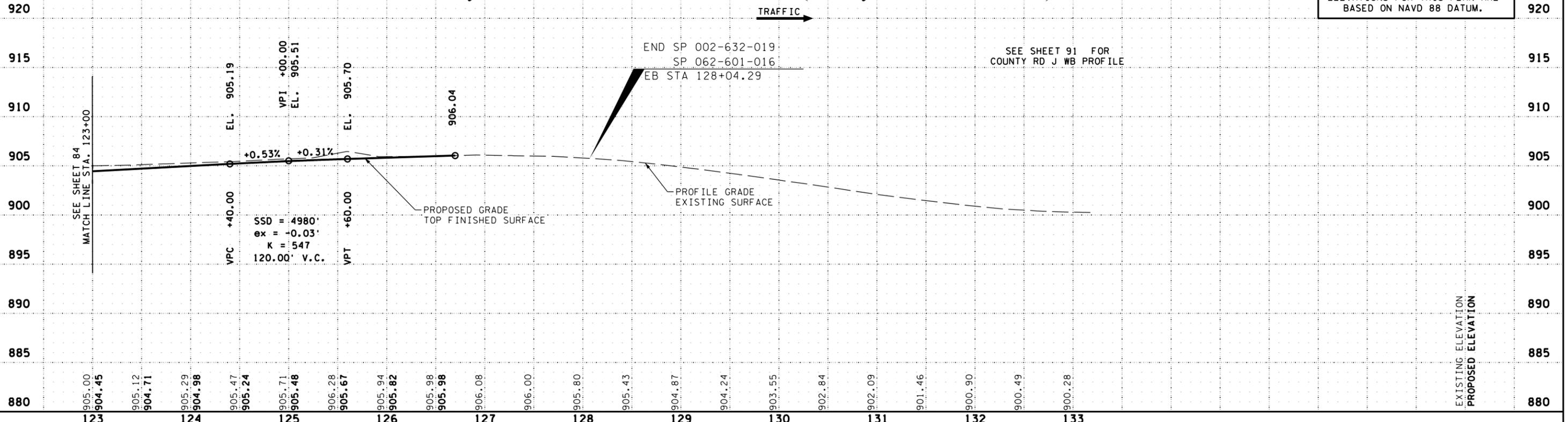
- ➔ TRAFFIC DIRECTION
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
- ③ CURB TRANSITION, SEE MISCELLANEOUS DETAILS
- (A) 2.5" BITUMINOUS WALK
- (B) 4" CONCRETE WALK
- (C) CURB & GUTTER DES. R418
- (D) SURMOUNTABLE CURB & GUTTER
- (E) CURB & GUTTER DESIGN B612
- (F) CURB & GUTTER DESIGN B424

GENERAL NOTES

1. ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
2. ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB.
3. SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
4. SEE ALIGNMENT PLAN FOR CURVE DATA.
5. SEE SHEET 100 - 101 FOR ROUNDABOUT INTERSECTION DETAILS.
6. CURB & GUTTER DES. B624 USED FOR OUTSIDE LANES, DES. B418(MOD) USED FOR MEDIANS, UNLESS NOTED OTHERWISE.



Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street) EB Profile



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 EB STA 123+00 TO EB STA 127+66.06
CONSTRUCTION PLAN & PROFILE
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **85**
 OF **162**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:47:05 AM

CSAH 49 (Hodgson Road)

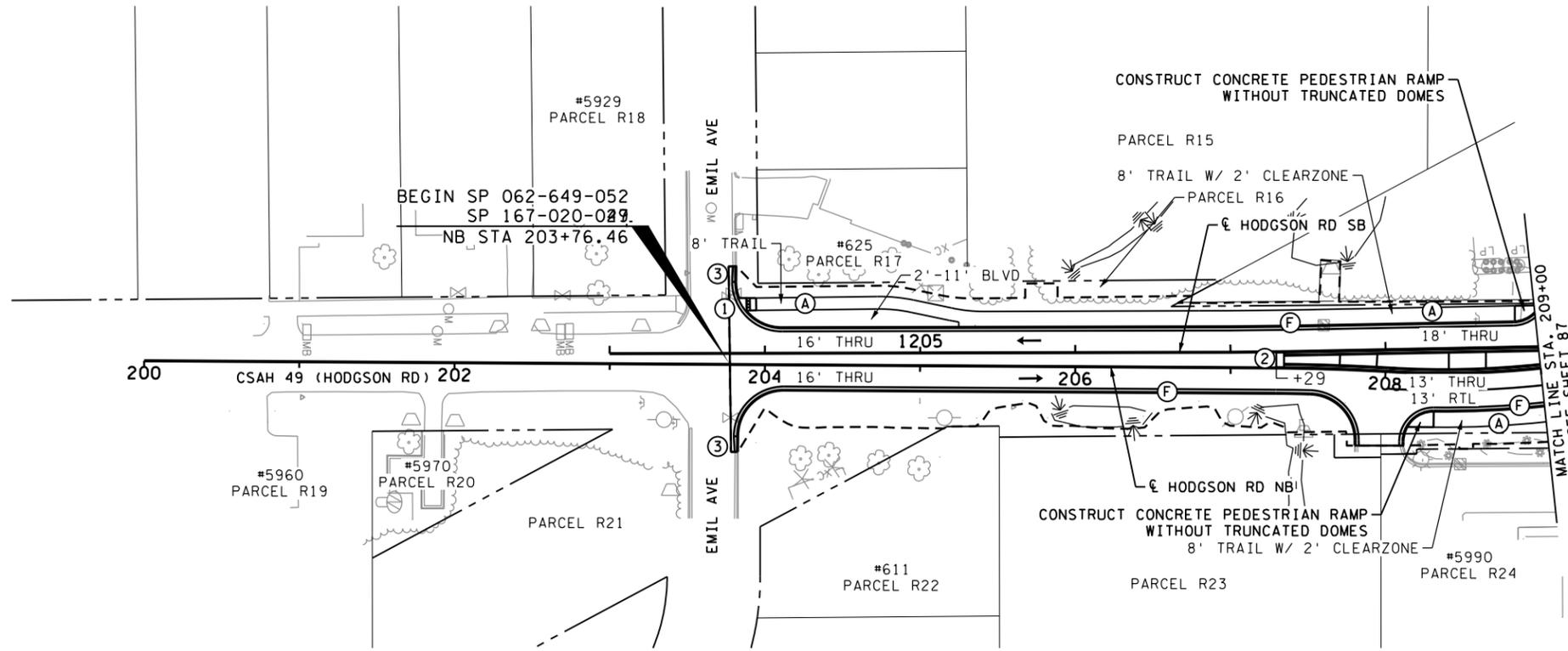
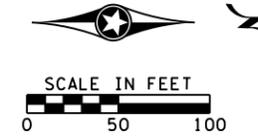
SEE MEDIAN DETAILS IN PAVING PLAN FOR MEDIAN CONCRETE PATTERN AND LAYOUT.

LEGEND

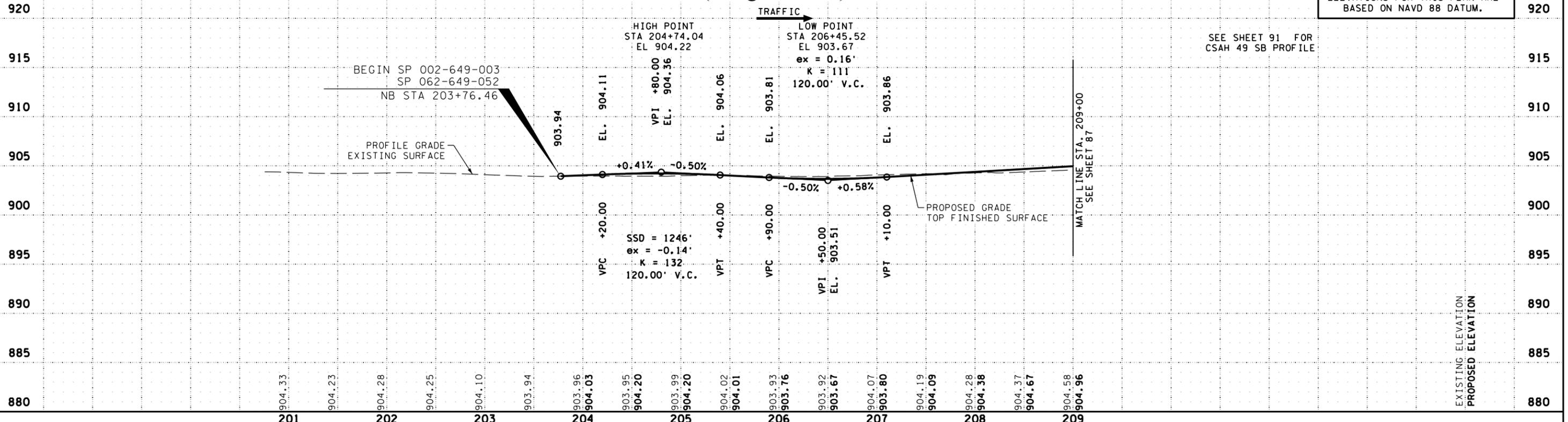
- ➔ TRAFFIC DIRECTION
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
- ③ CURB TRANSITION, SEE MISCELLANEOUS DETAILS
- (A) 2.5" BITUMINOUS WALK
- (B) 4" CONCRETE WALK
- (C) CURB & GUTTER DES. R418
- (D) SURMOUNTABLE CURB & GUTTER
- (E) CURB & GUTTER DESIGN B612
- (F) CURB & GUTTER DESIGN B424
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

GENERAL NOTES

1. ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
2. ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB.
3. SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
4. SEE ALIGNMENT PLAN FOR CURVE DATA.
5. SEE SHEET 100 - 101 FOR ROUNDABOUT INTERSECTION DETAILS.
6. CURB & GUTTER DES. B624 USED FOR OUTSIDE LANES, DES. B418(MOD) USED FOR MEDIANS, UNLESS NOTED OTHERWISE.



CSAH 49 (Hodgson Road) NB Profile



VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE
BASED ON NAVD 88 DATUM.

SEE SHEET 91 FOR
CSAH 49 SB PROFILE

EXISTING ELEVATION
PROPOSED ELEVATION

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_cp04.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE # 44200



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

ANOKA & RAMSEY COUNTY, MN

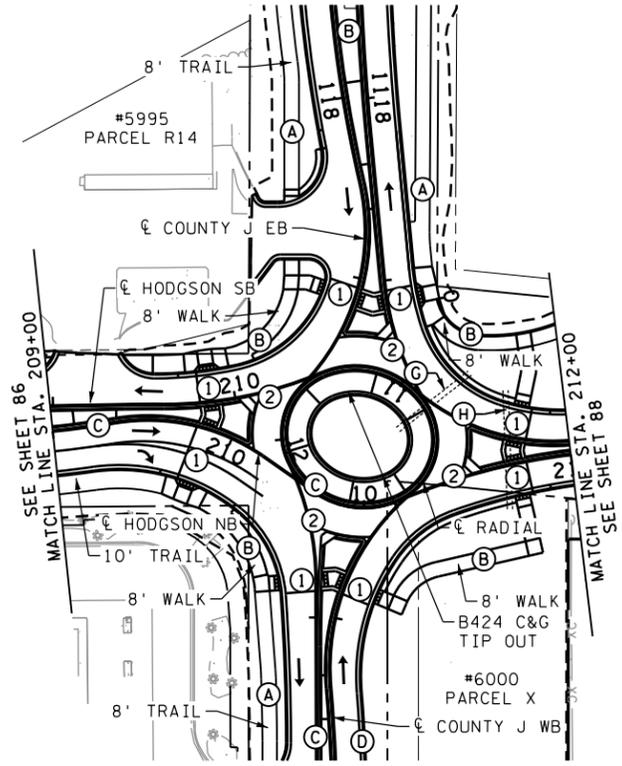
NB STA 203+76.46 TO NB STA 209+00
CONSTRUCTION PLAN & PROFILE
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
86
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:47:13 AM

CSAH 49 (Hodgson Road)

SEE MEDIAN DETAILS IN PAVING PLAN FOR MEDIAN CONCRETE PATTERN AND LAYOUT.



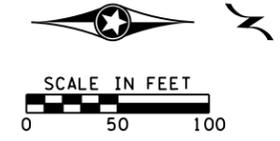
- Ⓒ 4" NON-METALLIC CONDUIT - 50 LF
- Ⓓ 4" NON-METALLIC CONDUIT - 65 LF

LEGEND

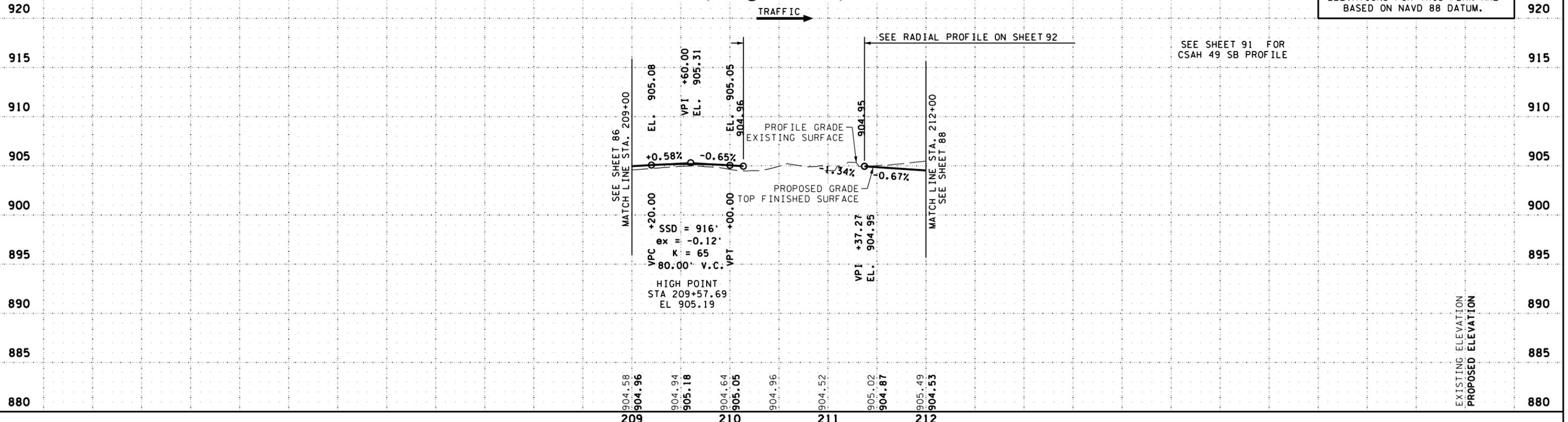
- ➔ TRAFFIC DIRECTION
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
- ③ CURB TRANSITION, SEE MISCELLANEOUS DETAILS
- Ⓐ 2.5" BITUMINOUS WALK
- Ⓑ 4" CONCRETE WALK
- Ⓒ CURB & GUTTER DES. R418
- Ⓓ SURMOUNTABLE CURB & GUTTER
- Ⓔ CURB & GUTTER DESIGN B612
- Ⓕ CURB & GUTTER DESIGN B424
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

GENERAL NOTES

1. ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
2. ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB.
3. SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
4. SEE ALIGNMENT PLAN FOR CURVE DATA.
5. SEE SHEET 100 - 101 FOR ROUNDABOUT INTERSECTION DETAILS.
6. CURB & GUTTER DES. B624 USED FOR OUTSIDE LANES, DES. B418(MOD) USED FOR MEDIANS, UNLESS NOTED OTHERWISE.



CSAH 49 (Hodgson Road) NB Profile



VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE BASED ON NAVD 88 DATUM.

EXISTING ELEVATION
PROPOSED ELEVATION

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_cp05.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

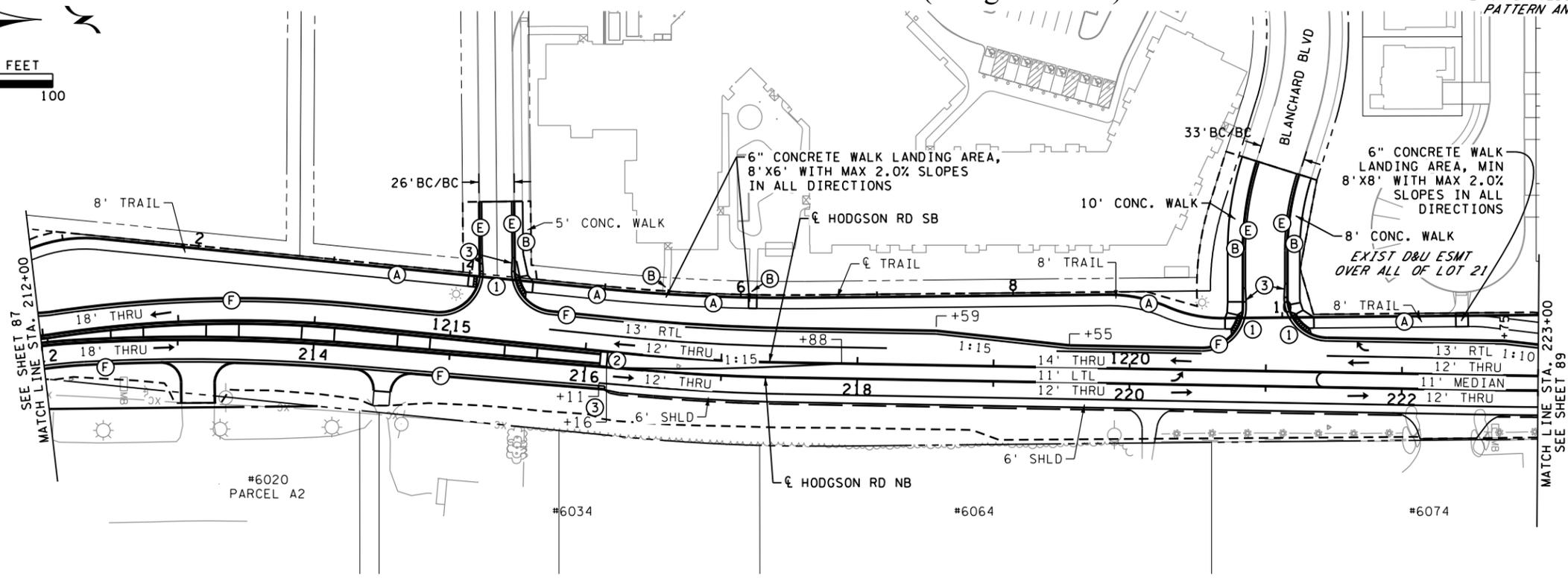
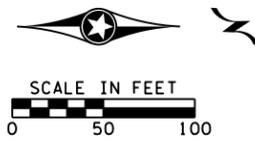
ANOKA & RAMSEY COUNTY, MN
 NB STA 209+00 TO NB STA 212+00
CONSTRUCTION PLAN & PROFILE
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
87
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:47:17 AM

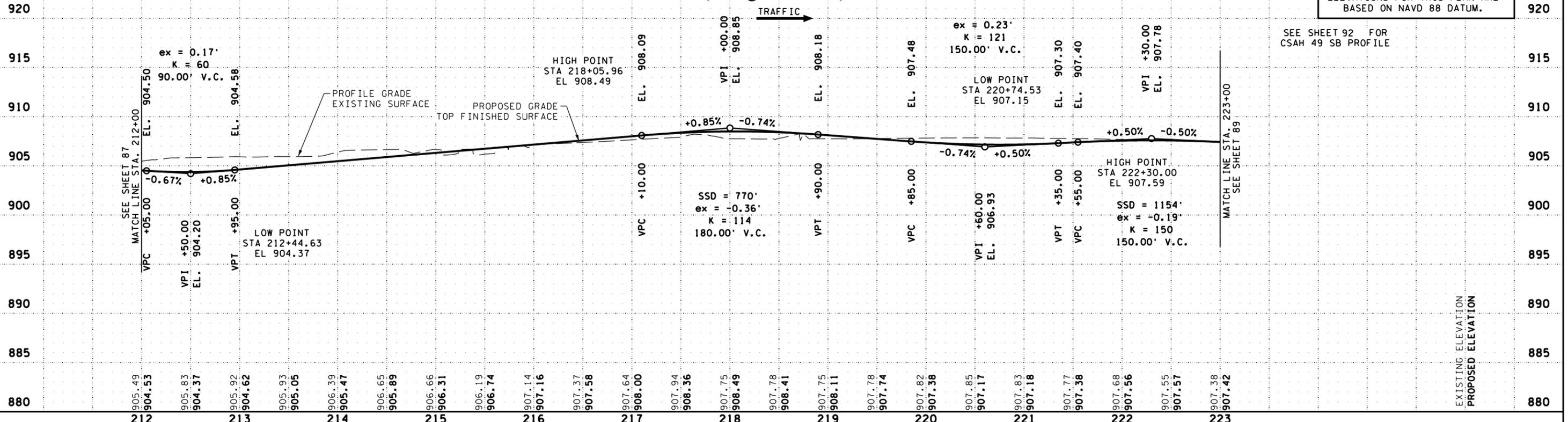
CSAH 49 (Hodgson Road)

SEE MEDIAN DETAILS IN PAVING PLAN FOR MEDIAN CONCRETE PATTERN AND LAYOUT.



- ### LEGEND
- ➔ TRAFFIC DIRECTION
 - ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
 - ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
 - ③ CURB TRANSITION, SEE MISCELLANEOUS DETAILS
 - (A) 2.5" BITUMINOUS WALK
 - (B) 4" CONCRETE WALK
 - (C) CURB & GUTTER DES. R418
 - (D) SURMOUNTABLE CURB & GUTTER
 - (E) CURB & GUTTER DESIGN B612
 - (F) CURB & GUTTER DESIGN B424
-
- ### GENERAL NOTES
- ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
 - ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB.
 - SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
 - SEE ALIGNMENT PLAN FOR CURVE DATA.
 - SEE SHEET 100 - 101 FOR ROUNDABOUT INTERSECTION DETAILS.
 - CURB & GUTTER DES. B624 USED FOR OUTSIDE LANES, DES. B418(MOD) USED FOR MEDIANS, UNLESS NOTED OTHERWISE.

CSAH 49 (Hodgson Road) NB Profile



VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE BASED ON NAVD 88 DATUM.

SEE SHEET 92 FOR CSAH 49 SB PROFILE

WSB PATH & FILENAME: Projects\Minnesota\09054-000\CardPlan\09054-000_cp06.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

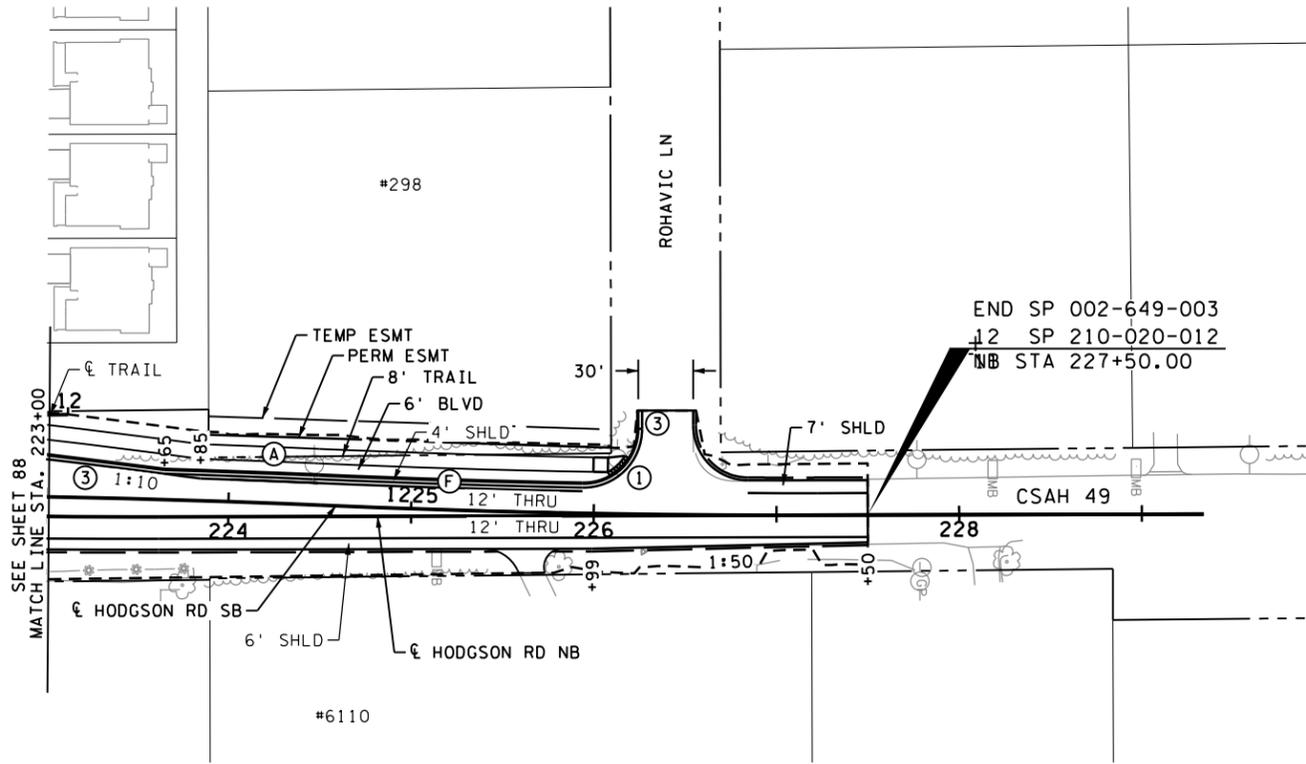
ANOKA & RAMSEY COUNTY, MN
 NB STA 212+00 TO NB STA 223+00
CONSTRUCTION PLAN & PROFILE
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **88**
 OF **162**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:47:21 AM

CSAH 49 (Hodgson Road)

SEE MEDIAN DETAILS IN PAVING PLAN FOR MEDIAN CONCRETE PATTERN AND LAYOUT.

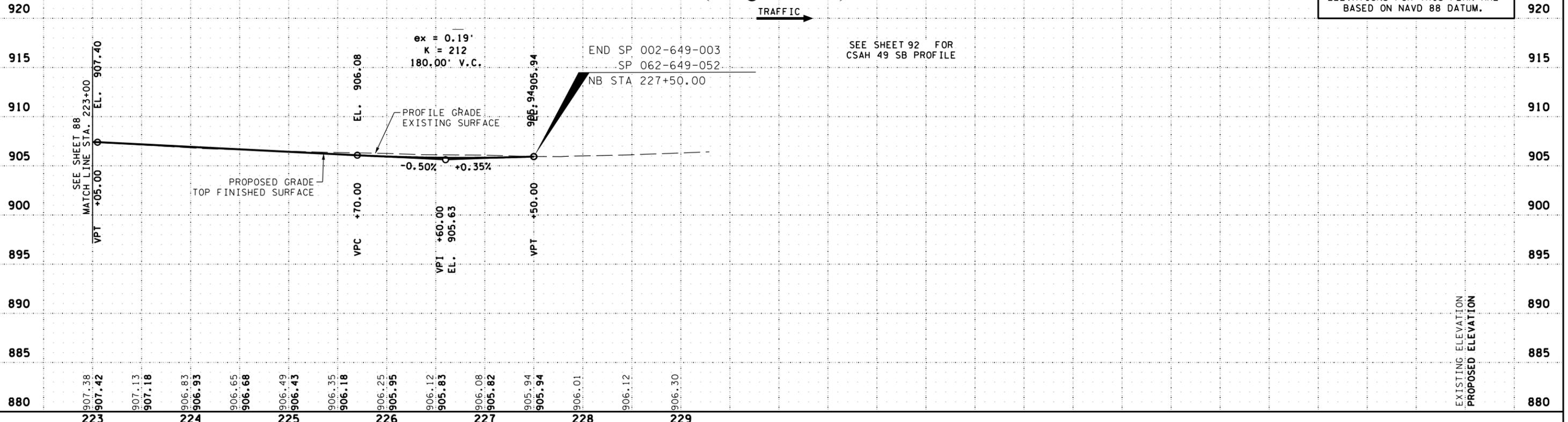


LEGEND	
→	TRAFFIC DIRECTION
①	CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
②	CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
③	CURB TRANSITION, SEE MISCELLANEOUS DETAILS
Ⓐ	2.5" BITUMINOUS WALK
Ⓑ	4" CONCRETE WALK
Ⓒ	CURB & GUTTER DES. R418
Ⓓ	SURMOUNTABLE CURB & GUTTER
Ⓔ	CURB & GUTTER DESIGN B612
Ⓕ	CURB & GUTTER DESIGN B424
---	CONSTRUCTION LIMITS
⬇	AREA OF ENVIRONMENTAL SENSITIVITY
---	INPLACE RIGHT-OF-WAY
---	PROPOSED RIGHT-OF-WAY
---	TEMPORARY EASEMENT
---	PERMANENT EASEMENT

- GENERAL NOTES**
- ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
 - ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB.
 - SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
 - SEE ALIGNMENT PLAN FOR CURVE DATA.
 - SEE SHEET 100 - 101 FOR ROUNDABOUT INTERSECTION DETAILS.
 - CURB & GUTTER DES. B624 USED FOR OUTSIDE LANES, DES. B418(MOD) USED FOR MEDIANS, UNLESS NOTED OTHERWISE.



CSAH 49 (Hodgson Road) NB Profile



VERTICAL CONTROL	
ELEVATIONS FOR THIS PLAN ARE BASED ON NAVD 88 DATUM.	920
	915
	910
	905
	900
	895
	890
	885
	880

WSB PATH & FILENAME: Projects\Minnesota\09054-000\09054-000-000.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: **AJP**
 Plan By: **AJP**
 Checked By: **AJP**
 Approved By: **AJP**

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: **2/1/2024** LICENSE #: **44200**



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

NB STA 233+00 TO NB STA 227+50.00

CONSTRUCTION PLAN & PROFILE

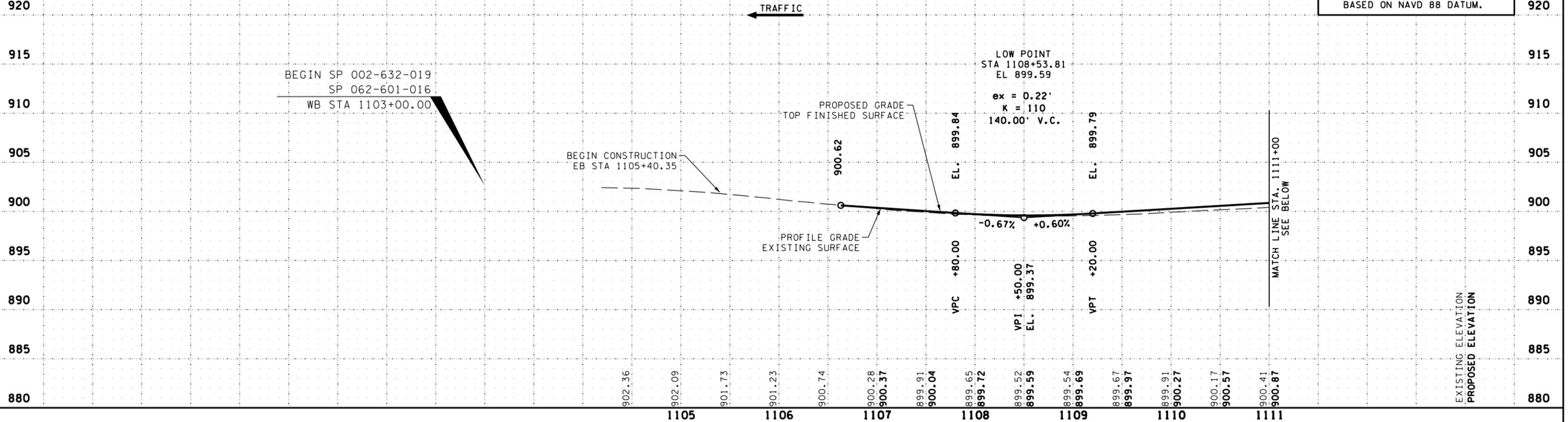
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **89**
 OF **162**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:47:22 AM

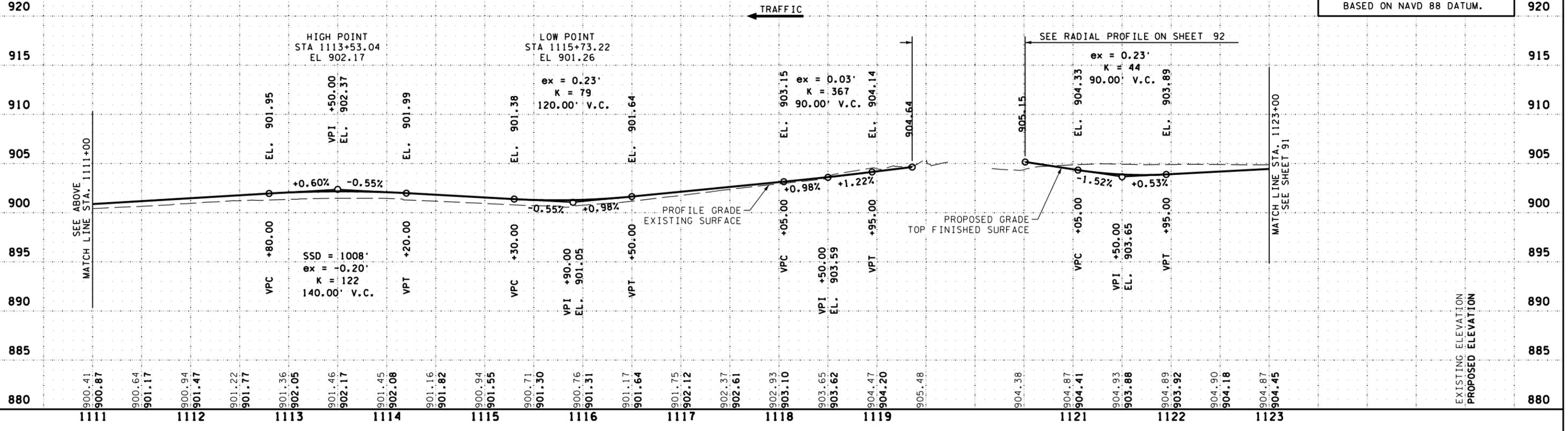
Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street) WB Profile

VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE
BASED ON NAVD 88 DATUM.



Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street) WB Profile

VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE
BASED ON NAVD 88 DATUM.



WSB PATH & FILENAME: Projects\Minnesota\019054-000\RoadPlan\19054-000_gp08.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
Plan By: AJP
Checked By: AJP
Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**

DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

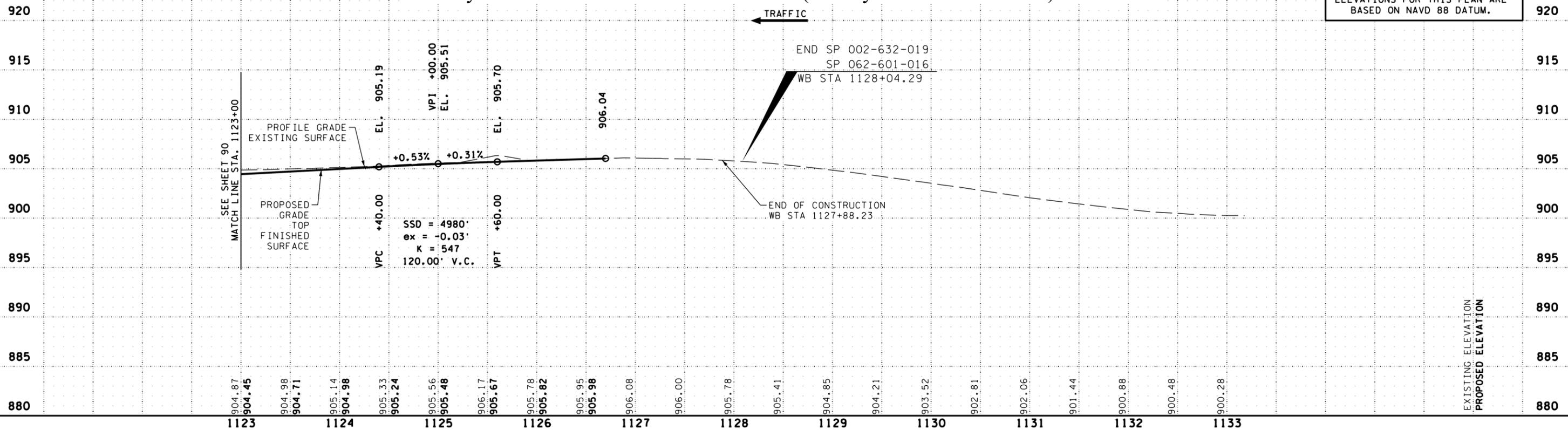
ANOKA & RAMSEY COUNTY, MN

CONSTRUCTION PLAN & PROFILE
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
90
OF
162
SHEETS

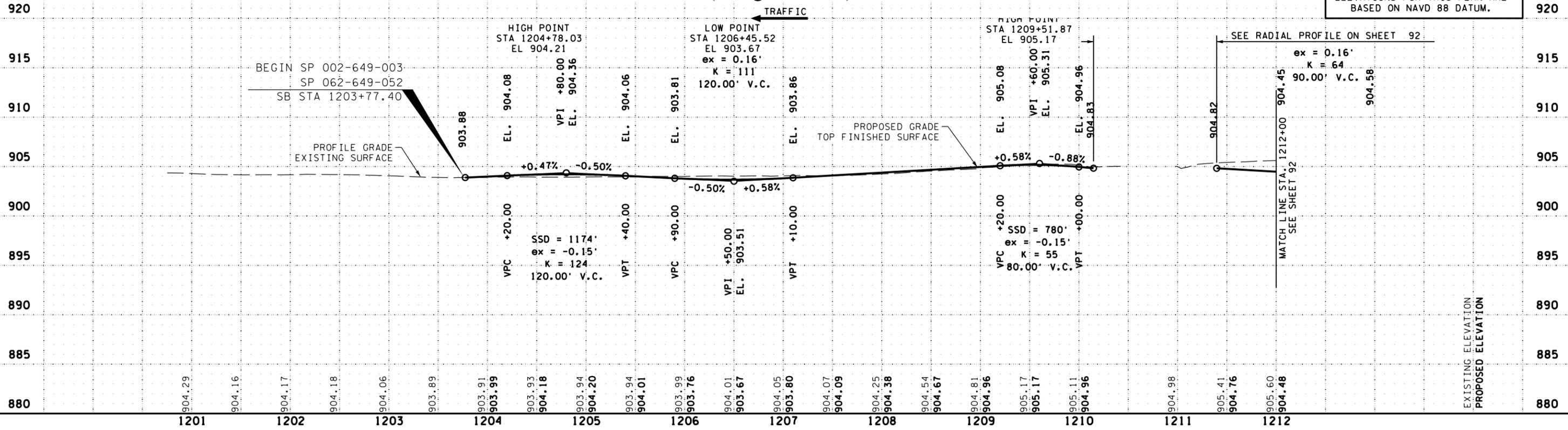
Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street) WB Profile

VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE
BASED ON NAVD 88 DATUM.



CSAH 49 (Hodgson Road) SB Profile

VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE
BASED ON NAVD 88 DATUM.



PLOTTED/REVISED: 2/1/2024 9:47:24 AM
 WSB PATH & FILENAME: Projects\Minnesota\019054-000\RoadPlan\19054-000_g09.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200

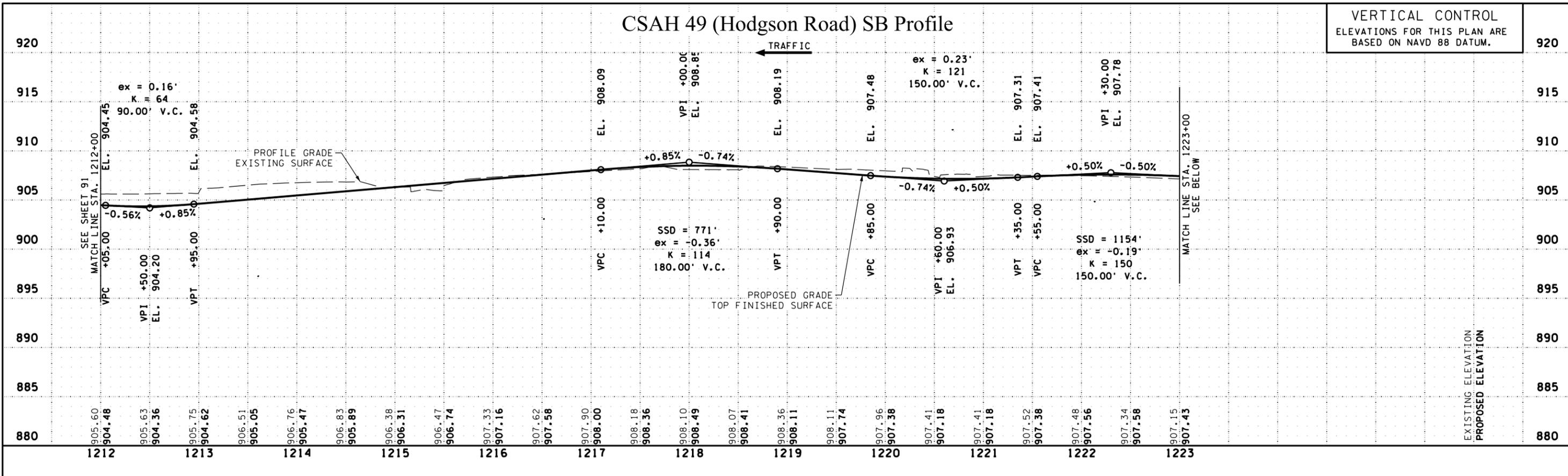


**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

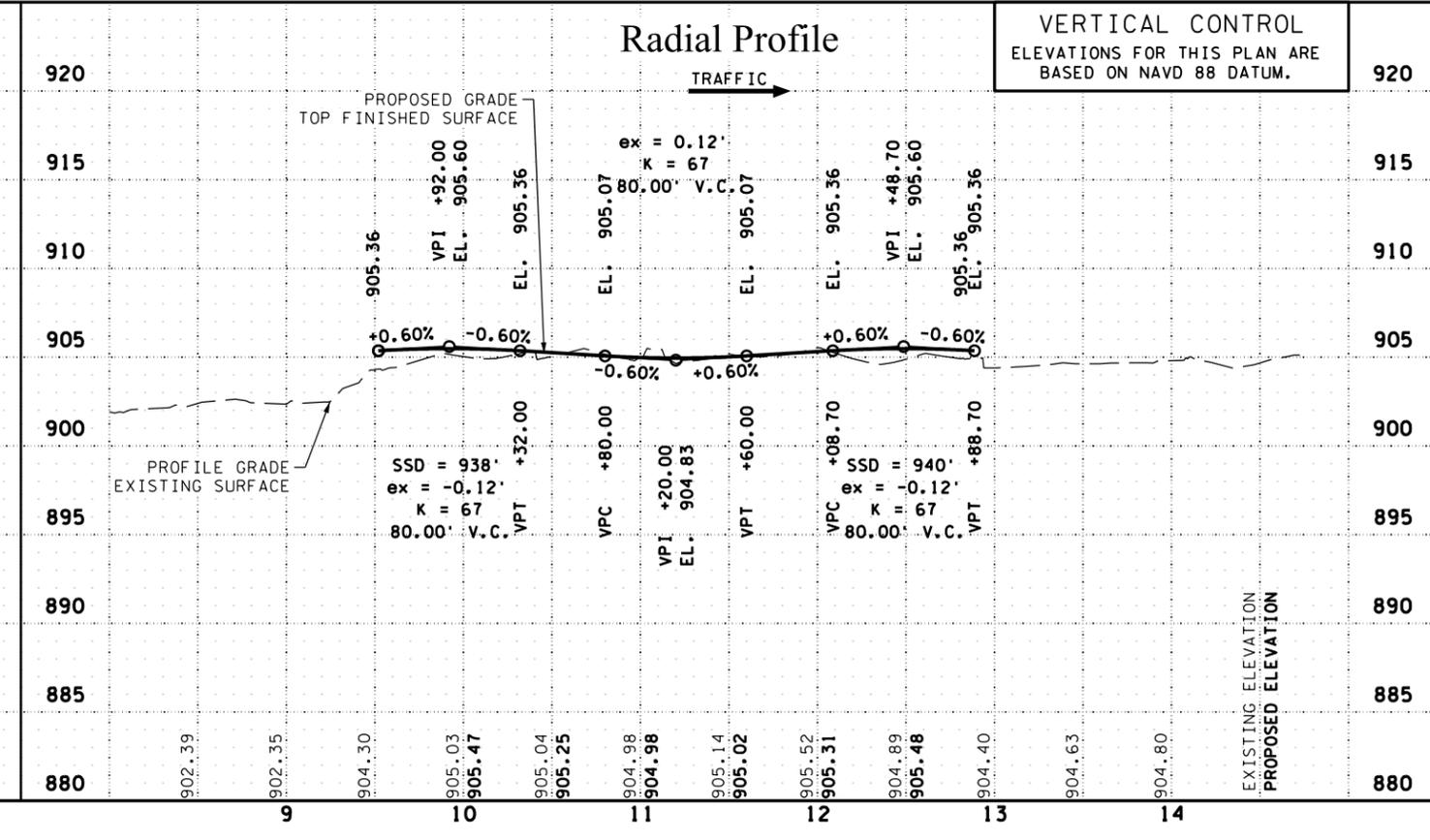
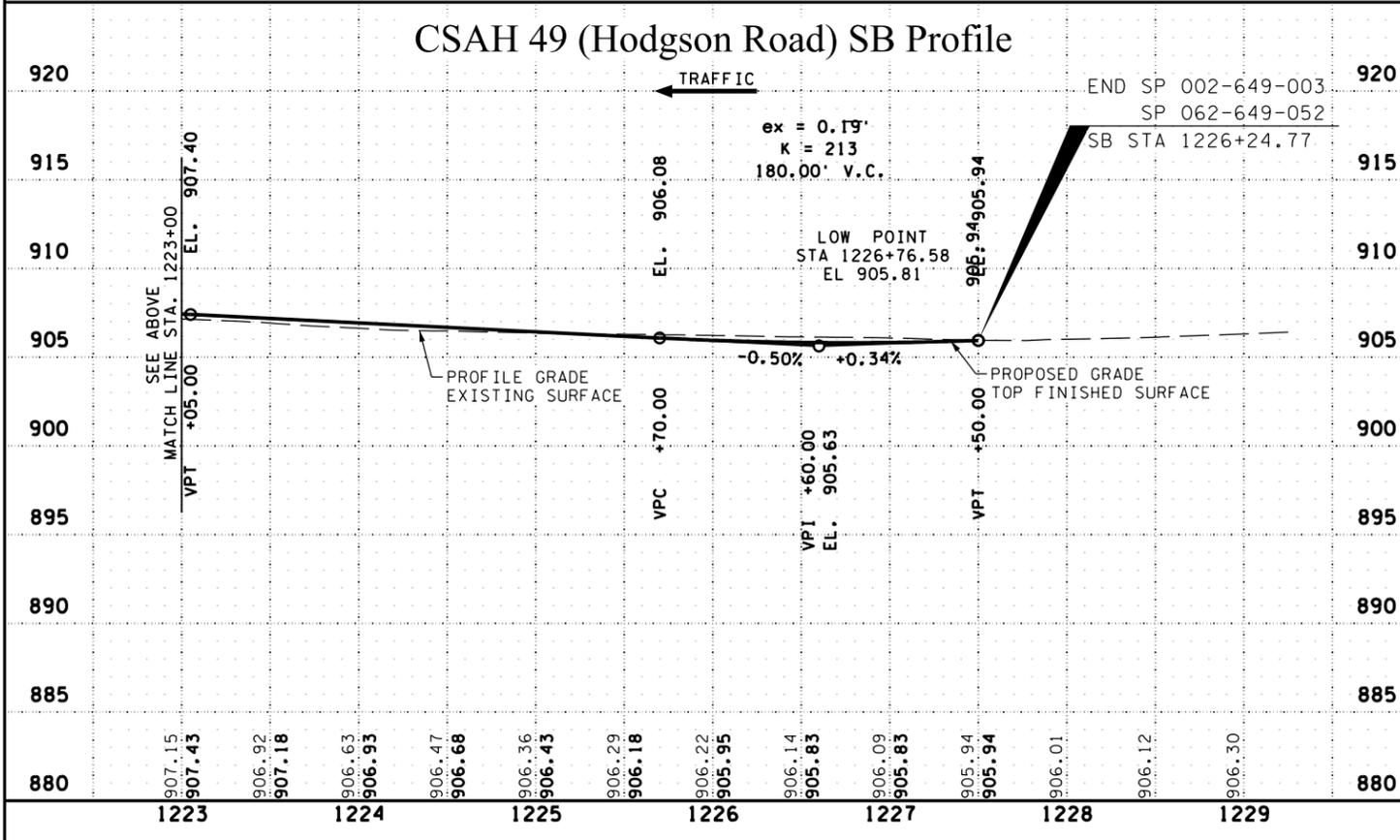
ANOKA & RAMSEY COUNTY, MN
CONSTRUCTION PLAN & PROFILE
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
91
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:47:25 AM



WSB PATH & FILENAME: Projects\Minnesota\019054-000\019054-000_01.dwg



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

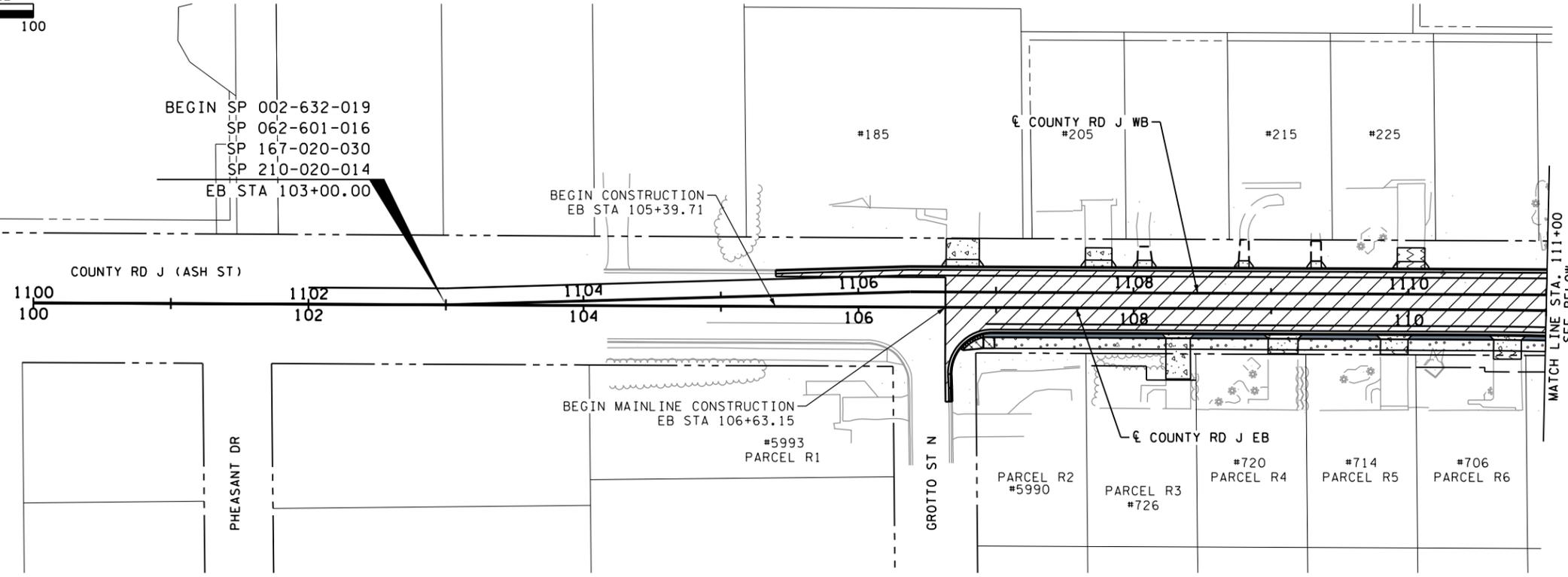
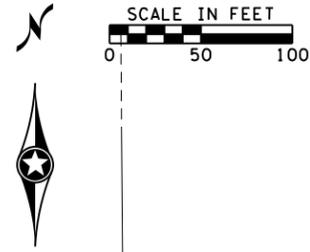
CONSTRUCTION PLAN & PROFILE
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
92
OF
162
SHEETS

947:29 AM
2/1/2024
PLOTTED/REVISED:

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\9054-000_dk01.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



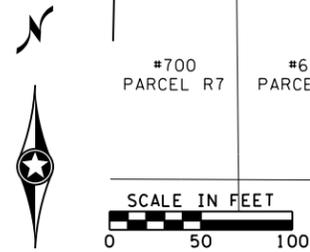
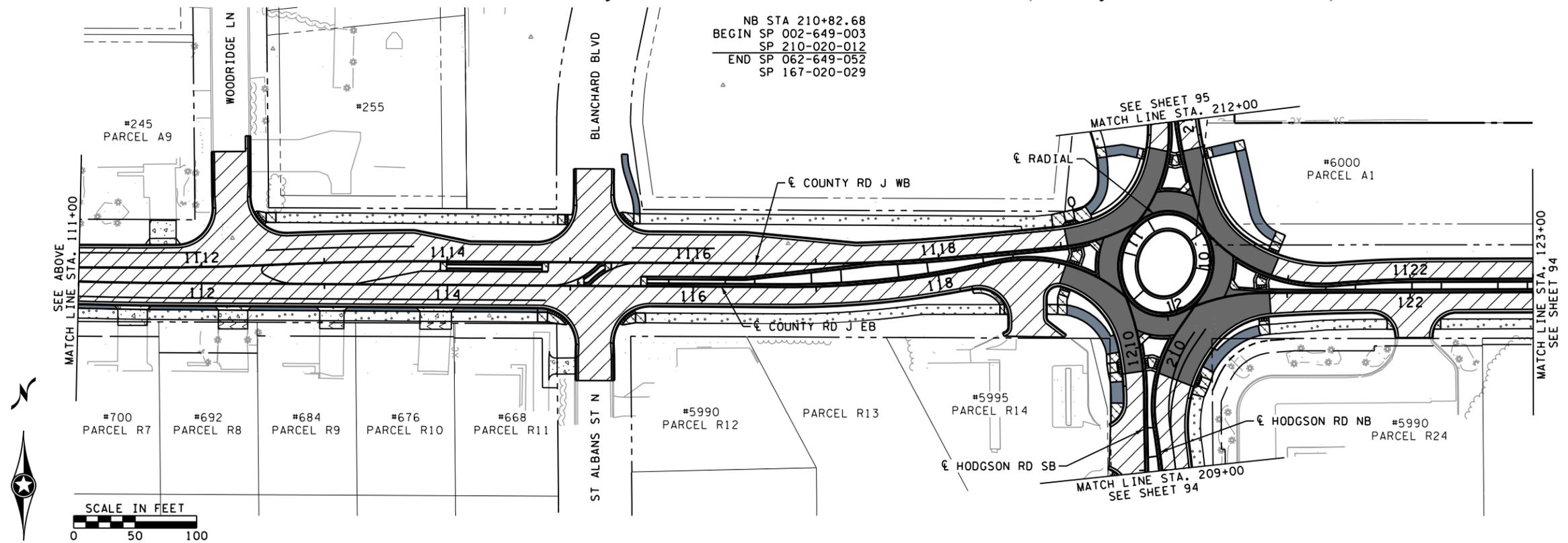
LEGEND

- INSET "A" - 6" BITUMINOUS PAVEMENT
- INSET "B" - 6" CONCRETE WALK
- INSET "C" - 2.5" BITUMINOUS TRAIL
- INSET "D" - 6" CONCRETE DRIVEWAY PAVEMENT
- INSET "E" - 3" BITUMINOUS DRIVEWAY PAVEMENT
- INSET "F" - CONCRETE PAVEMENT (7.0")
- INSET "G" - 4" CONCRETE WALK
- INSET "H" - 4" CONCRETE WALK (MEDIANS)

NOTES

- SEE MEDIAN DETAILS IN PAVING PLAN FOR MEDIAN AND TRUCK APRON CONCRETE PATTERN AND LAYOUT.

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 EB STA 103+00 TO EB STA 123+00
PAVING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **93**
 OF **162**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:47:32 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_dk02.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

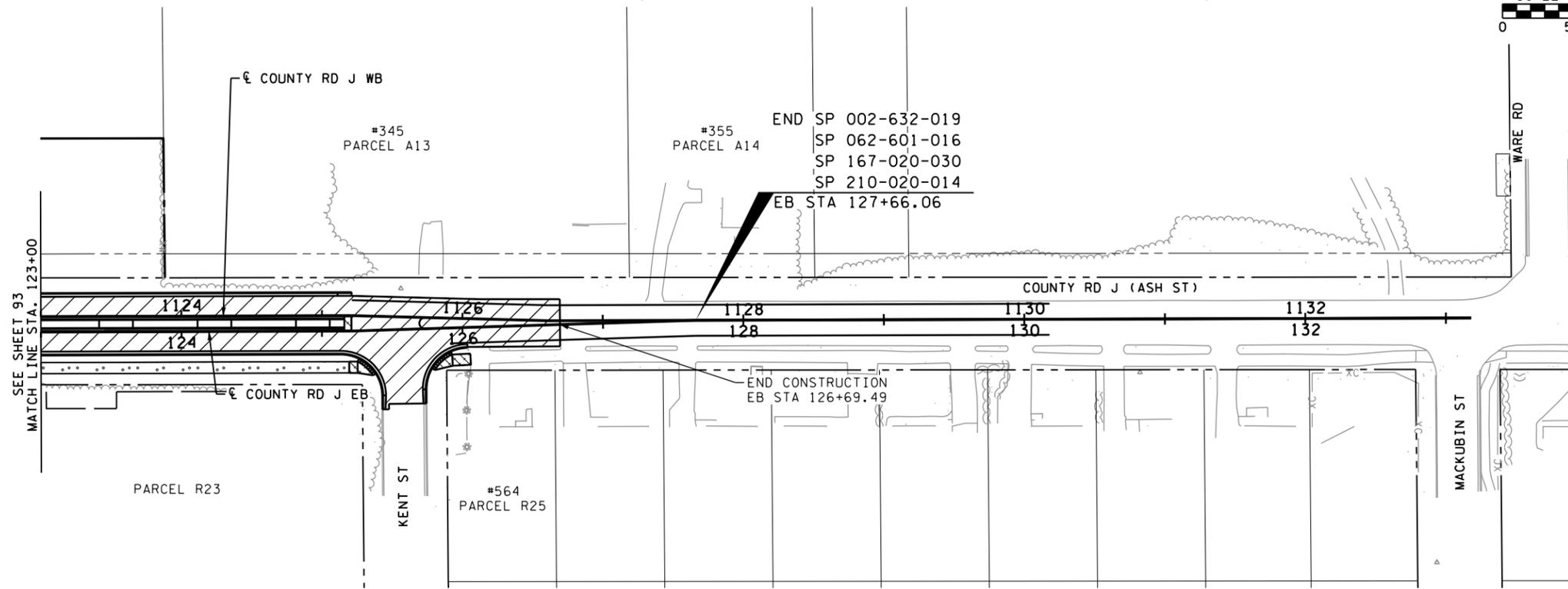


LEGEND

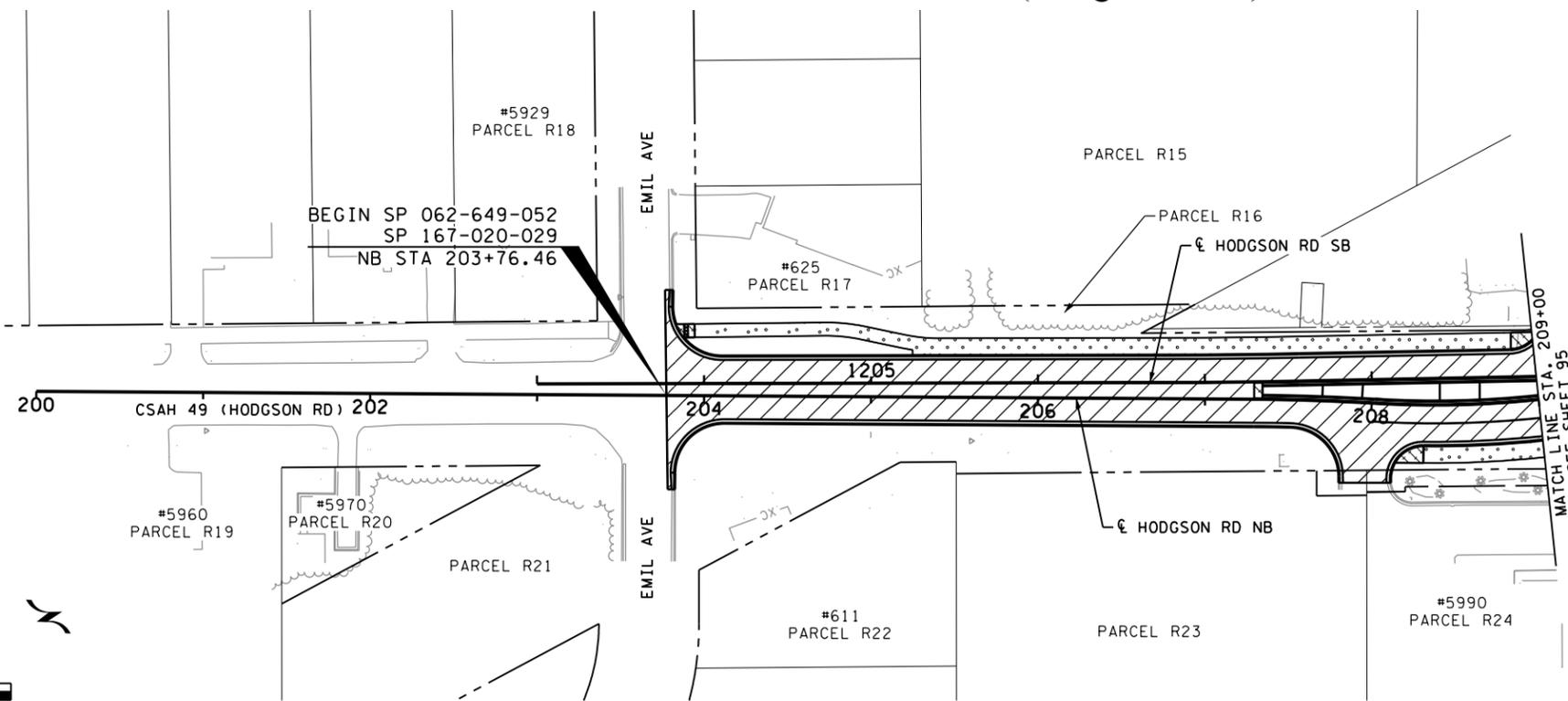
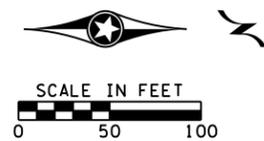
- INSET "A" - 6" BITUMINOUS PAVEMENT
- INSET "B" - 6" CONCRETE WALK
- INSET "C" - 2.5" BITUMINOUS TRAIL
- INSET "D" - 6" CONCRETE DRIVEWAY PAVEMENT
- INSET "E" - 3" BITUMINOUS DRIVEWAY PAVEMENT
- INSET "F" - CONCRETE PAVEMENT (7.0")
- INSET "G" - 4" CONCRETE WALK
- INSET "H" - 4" CONCRETE WALK (MEDIANS)

NOTES

- SEE MEDIAN DETAILS IN PAVING PLAN FOR MEDIAN AND TRUCK APRON CONCRETE PATTERN AND LAYOUT.



CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 EB STA 123+00 TO EB STA 127+66.06, NB STA 203+76.46 TO NB STA 209+00

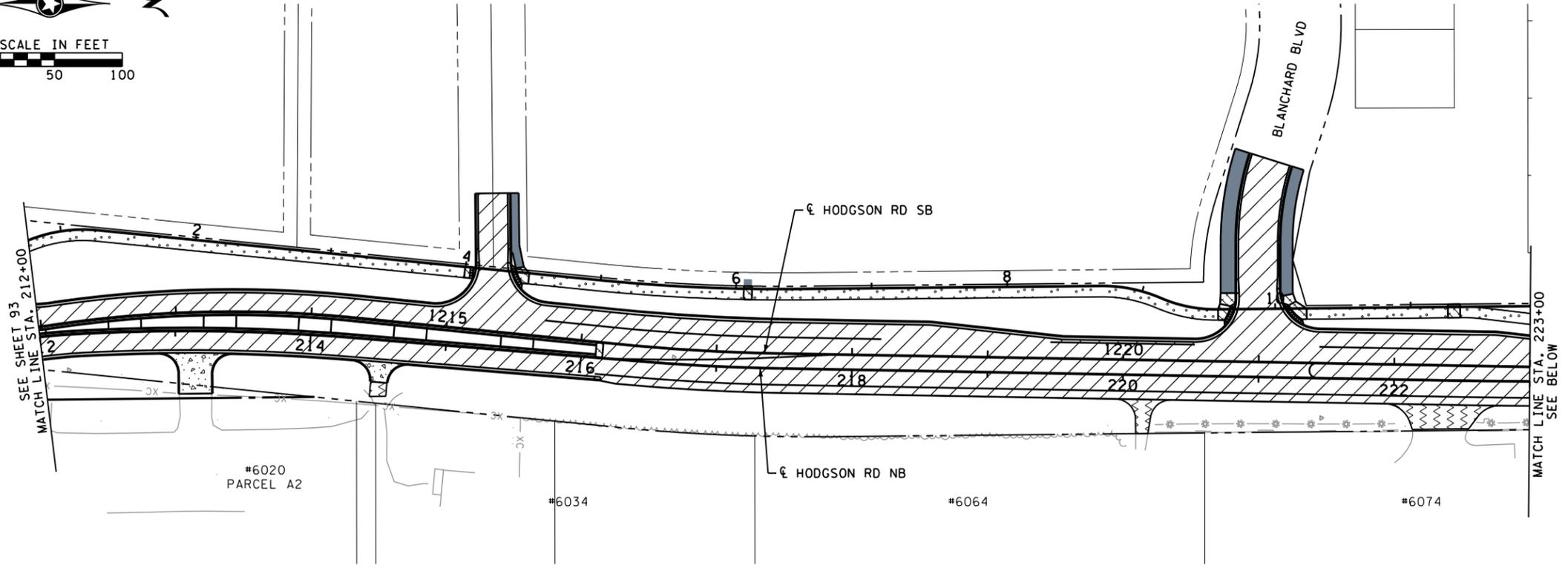
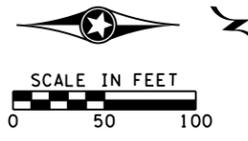
PAVING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **94**
 OF **162**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:47:36 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_dk03.dgn

CSAH 49 (Hodgson Road)

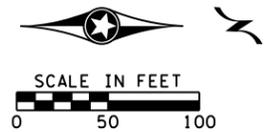
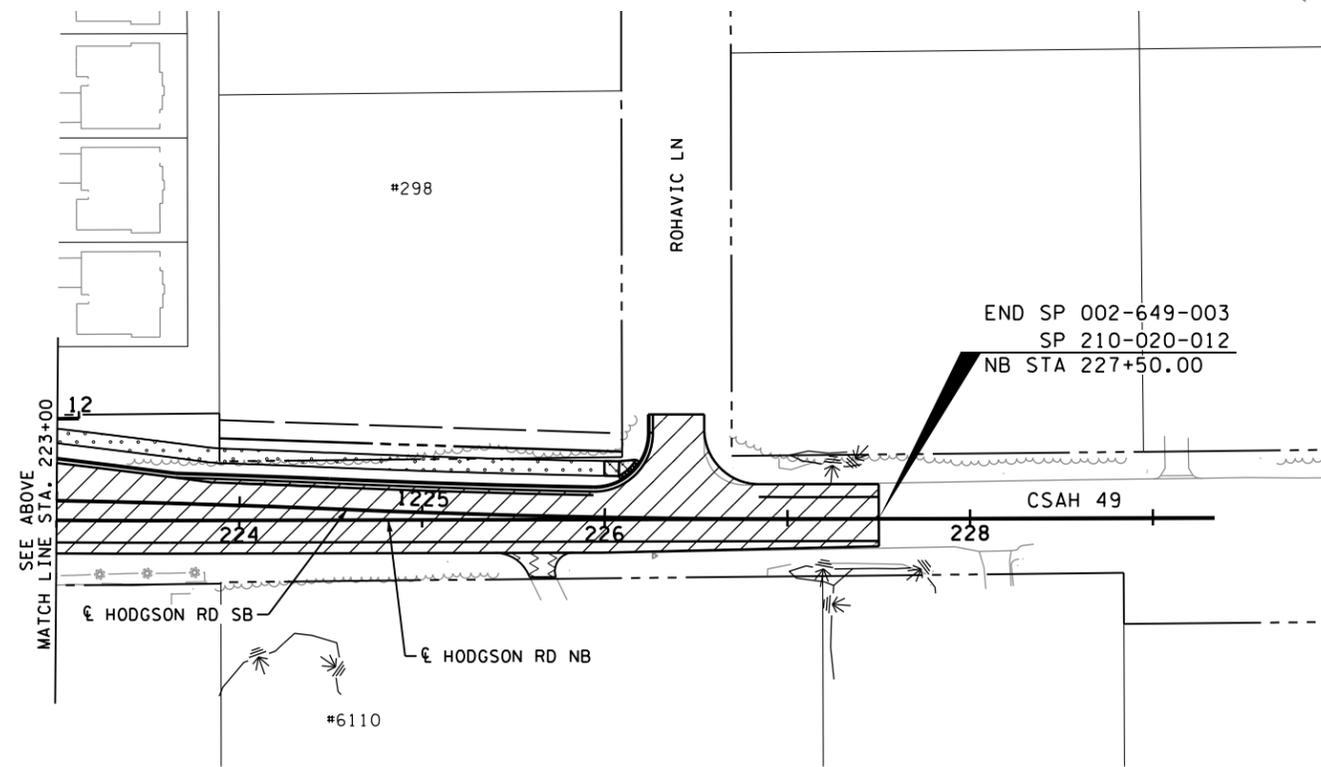


LEGEND	
	INSET "A" - 6" BITUMINOUS PAVEMENT
	INSET "B" - 6" CONCRETE WALK
	INSET "C" - 2.5" BITUMINOUS TRAIL
	INSET "D" - 6" CONCRETE DRIVEWAY PAVEMENT
	INSET "E" - 3" BITUMINOUS DRIVEWAY PAVEMENT
	INSET "F" - CONCRETE PAVEMENT (7.0")
	INSET "G" - 4" CONCRETE WALK
	INSET "H" - 4" CONCRETE WALK (MEDIANS)

NOTES

- SEE MEDIAN DETAILS IN PAVING PLAN FOR MEDIAN AND TRUCK APRON CONCRETE PATTERN AND LAYOUT.

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

NB STA 212+00 TO NB STA 227+50.00

PAVING PLAN

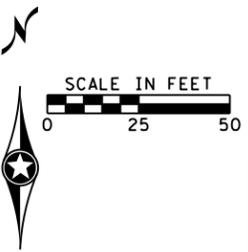
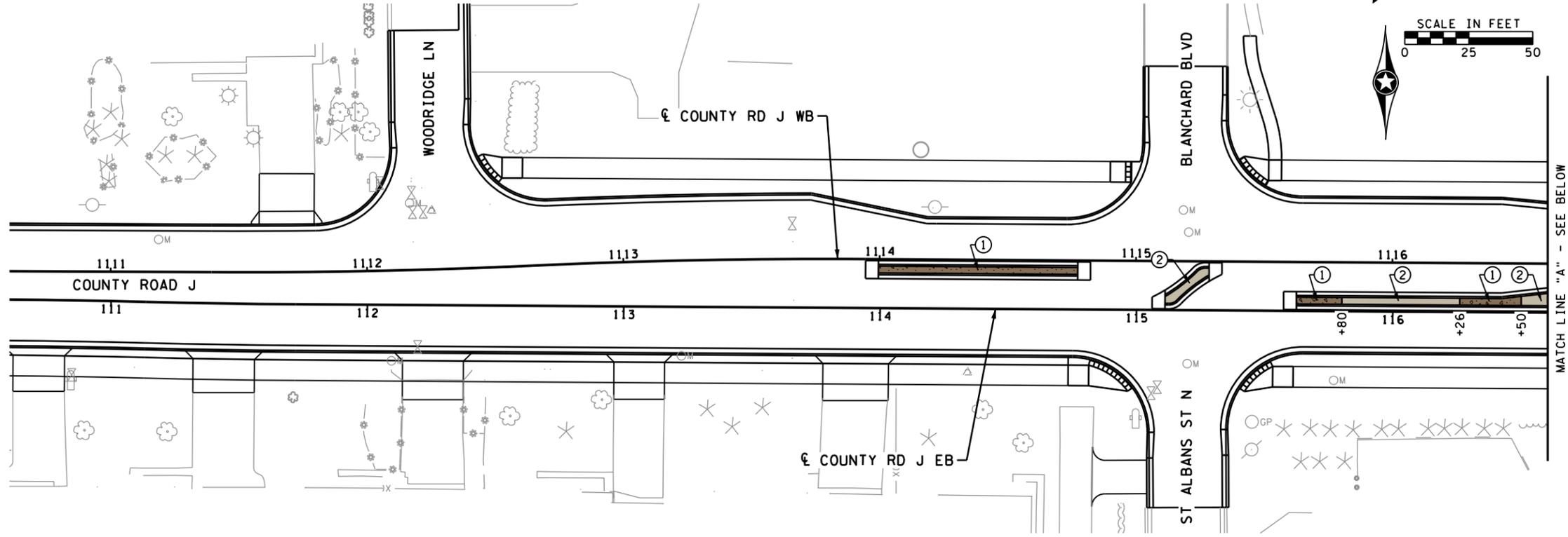
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **95** OF **162** SHEETS

PLOTTED/REVISED: 2/1/2024 9:47:38 AM

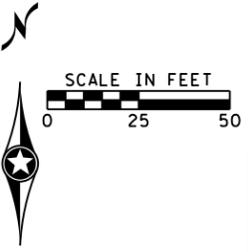
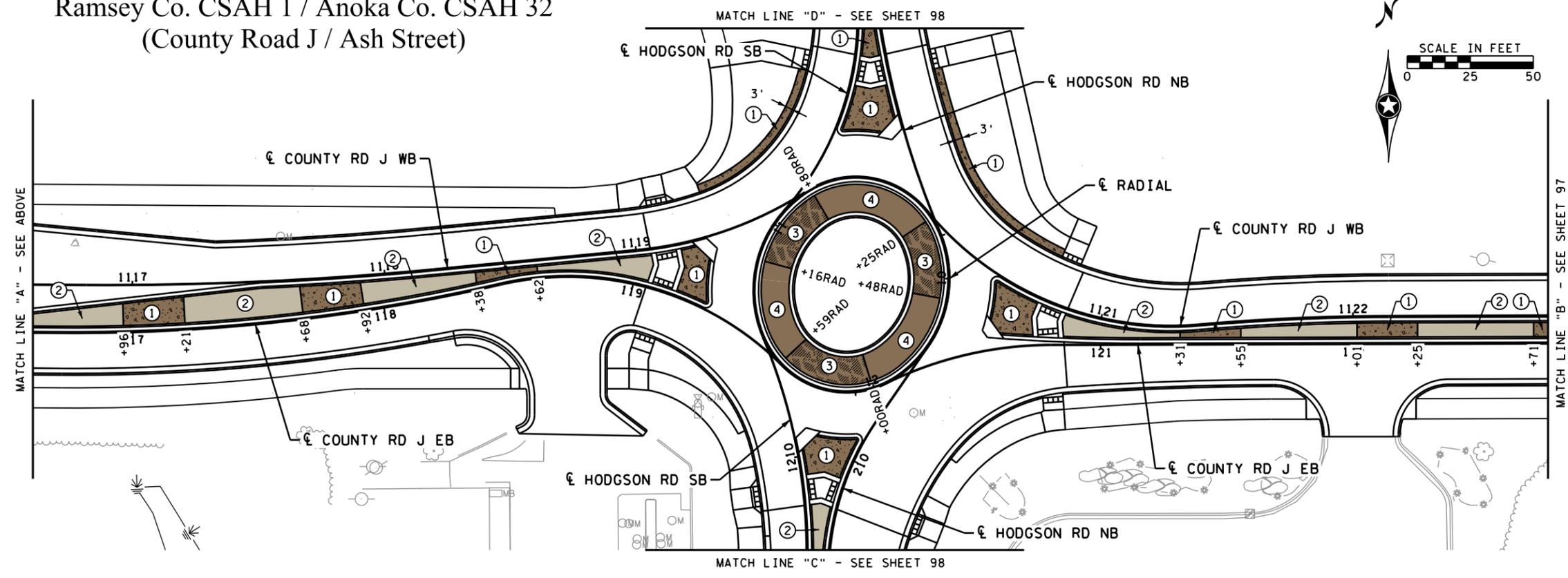
WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_dk04_mediandgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



LEGEND	
①	4" CONCRETE WALK SPECIAL 1 (BROWN, STAMPED)
②	4" CONCRETE WALK SPECIAL 3 (TAN, BROOM FINISH)
③	CONCRETE PAVEMENT (7.0") SPECIAL 1 (BROWN, STAMPED)
④	CONCRETE PAVEMENT (7.0") SPECIAL 2 (BROWN, BROOM FINISH)

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

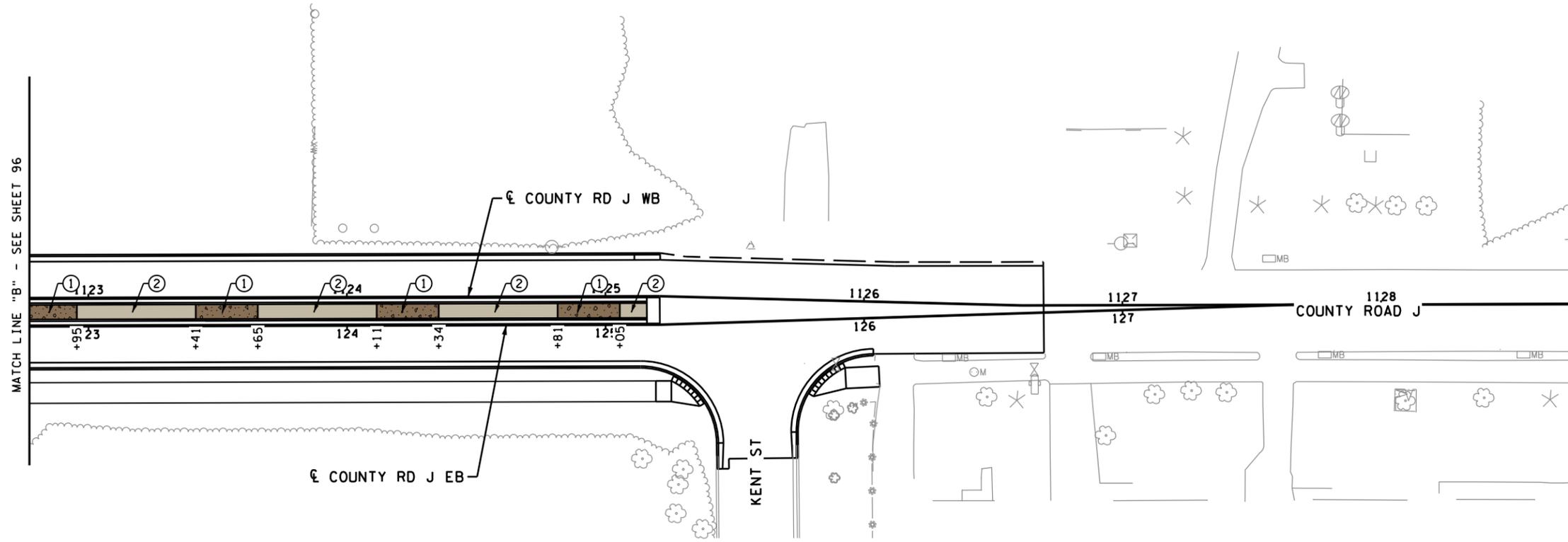
MEDIAN DETAILS
PAVING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **96**
 OF **162**
 SHEETS

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

LEGEND

- ① 4" CONCRETE WALK SPECIAL 1 (BROWN, STAMPED)
- ② 4" CONCRETE WALK SPECIAL 3 (TAN, BROOM FINISH)
- ③ CONCRETE PAVEMENT (7.0") SPECIAL 1 (BROWN, STAMPED)
- ④ CONCRETE PAVEMENT (7.0") SPECIAL 2 (BROWN, BROOM FINISH)



PLOTTED/REVISED: 2/1/2024 9:47:41 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_mdn.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP

Plan By: AJF

Checked By: AJP

Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**

DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

MEDIAN DETAILS
PAVING PLAN

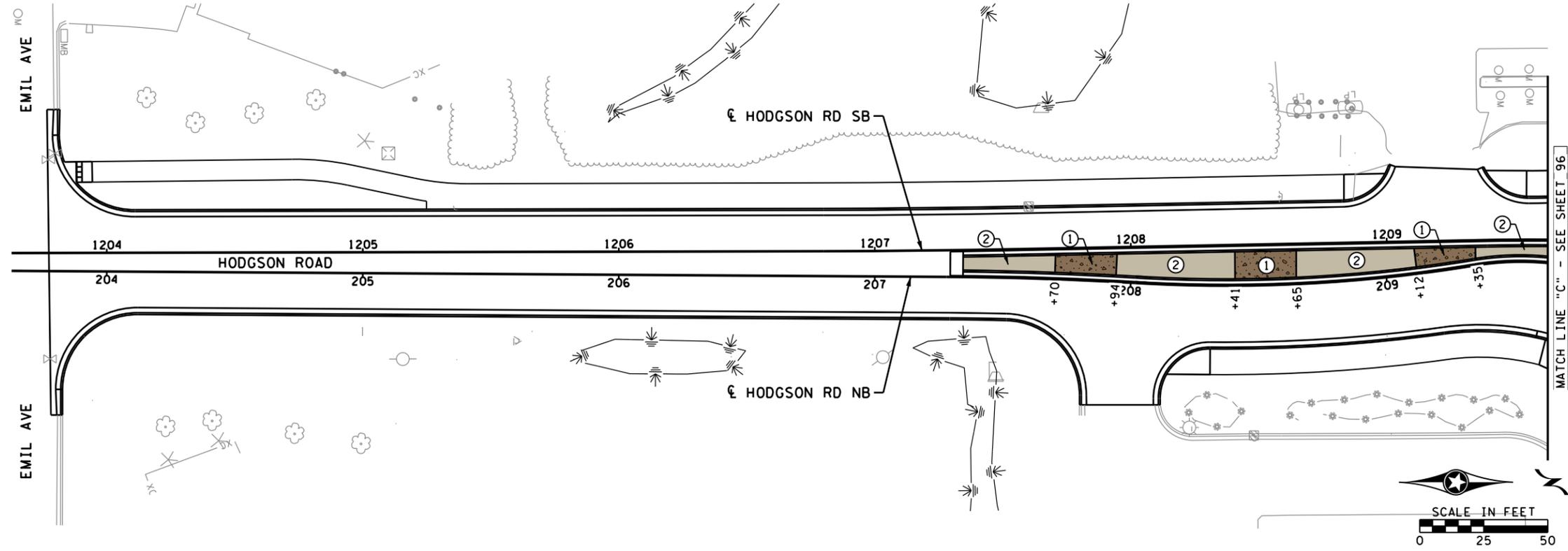
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
97
OF
162
SHEETS

PLOTTED/REVISED: 2/1/2024 9:47:44 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_dk06_mediandgn

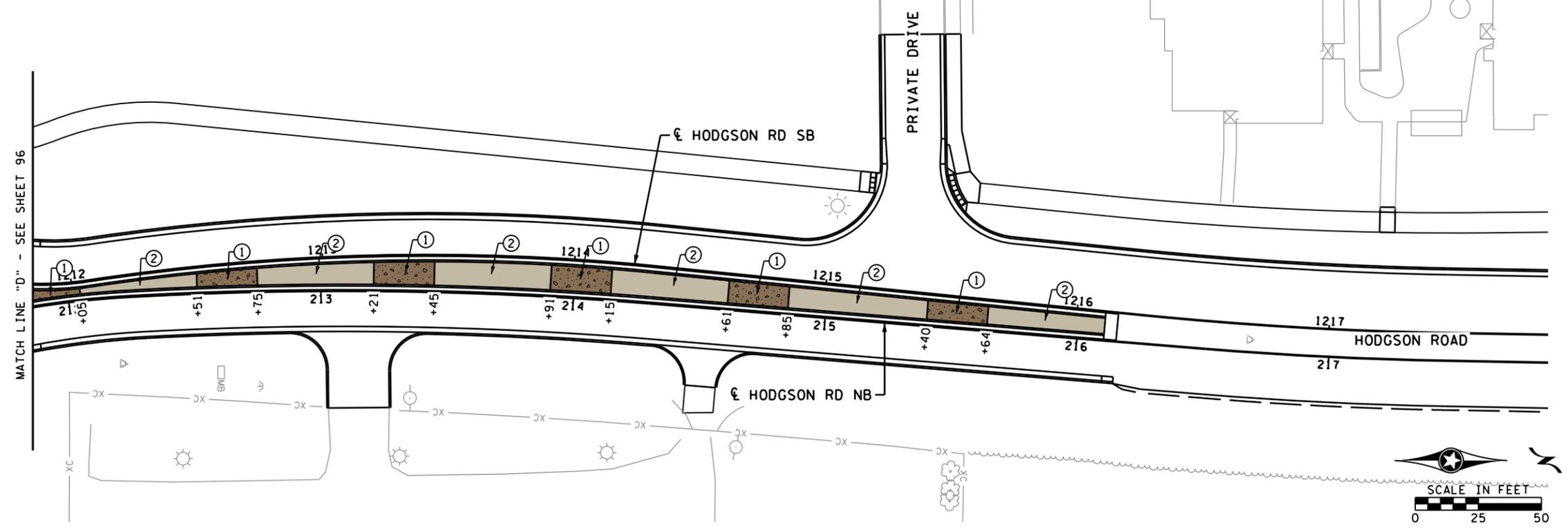
CSAH 49 (Hodgson Road)



LEGEND

- ① 4" CONCRETE WALK SPECIAL 1 (BROWN, STAMPED)
- ② 4" CONCRETE WALK SPECIAL 3 (TAN, BROOM FINISH)
- ③ CONCRETE PAVEMENT (7.0") SPECIAL 1 (BROWN, STAMPED)
- ④ CONCRETE PAVEMENT (7.0") SPECIAL 2 (BROWN, BROOM FINISH)

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

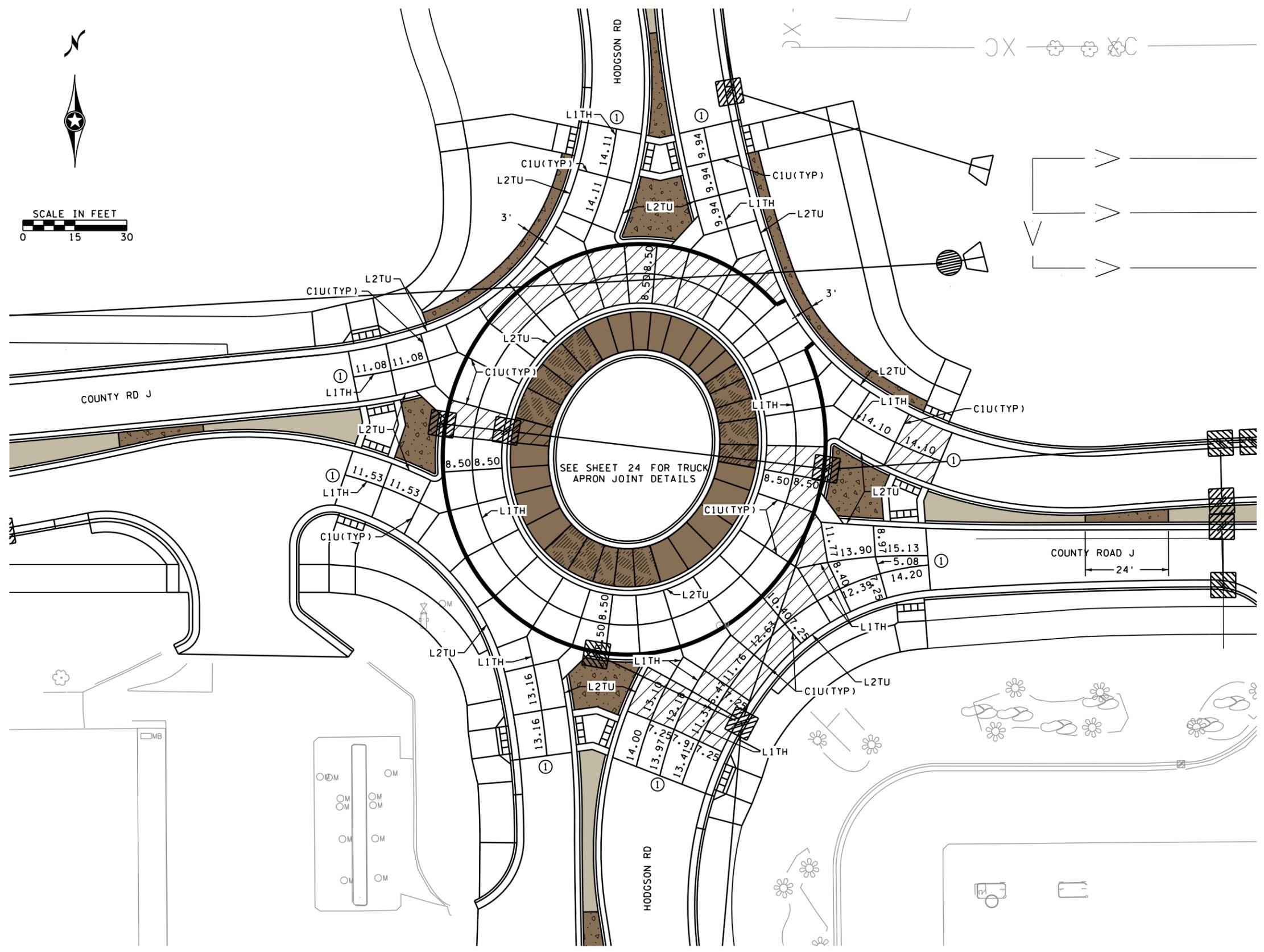
ANOKA & RAMSEY COUNTY, MN

MEDIAN DETAILS
PAVING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **98**
 OF **162**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:47:47 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_conc01.dgn



LEGEND	
	E1H JOINT
SPECIAL 1	CONCRETE PAVEMENT 7.0\"/> SPECIAL 1
SPECIAL 2	CONCRETE PAVEMENT 7.0\"/> SPECIAL 2
Concrete Walk Special 1	4\"/> CONCRETE WALK SPECIAL 1
Concrete Walk Special 3	4\"/> CONCRETE WALK SPECIAL 3
	SUPPLEMENTAL REINFORCEMENT REQUIRED. SEE MNDOT STANDARD PLATE 1070 (INCIDENTAL)
	PERMANENT HEADER (INCIDENTAL) SEE STANDARD PLAN 5-297.221

- GENERAL NOTES**
- ALL L1TH JOINTS ARE 7' OFFSET FROM SPLITTER ISLAND CURB AND GUTTER UNLESS OTHERWISE NOTED.
 - JOINT LAYOUTS MAY BE CHANGED IN THE FIELD BY THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER.
 - CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL PROPOSED AND EXISTING STRUCTURES ARE LOCATED AND RAISED DURING PAVING.
 - IT IS ASSUMED A MAJORITY OF THE REINFORCEMENT BARS WILL NEED TO BE DRILLED AND GROUTED IN THE SPLITTER ISLANDS DUE TO STAGING. REINFORCEMENT BARS PLACED BETWEEN ADJACENT PANELS WILL BE INCIDENTAL.
 - JOINT LOCATIONS SHALL MATCH EXISTING JOINTS, INCLUDING CURB & GUTTER JOINTS.
 - REFER TO TEMPORARY TRAFFIC CONTROL PLAN FOR CONCRETE PAVEMENT STAGING DETAILS. USE BENT TIE BARS TO TIE STAGED PAVEMENT AREAS TOGETHER.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200

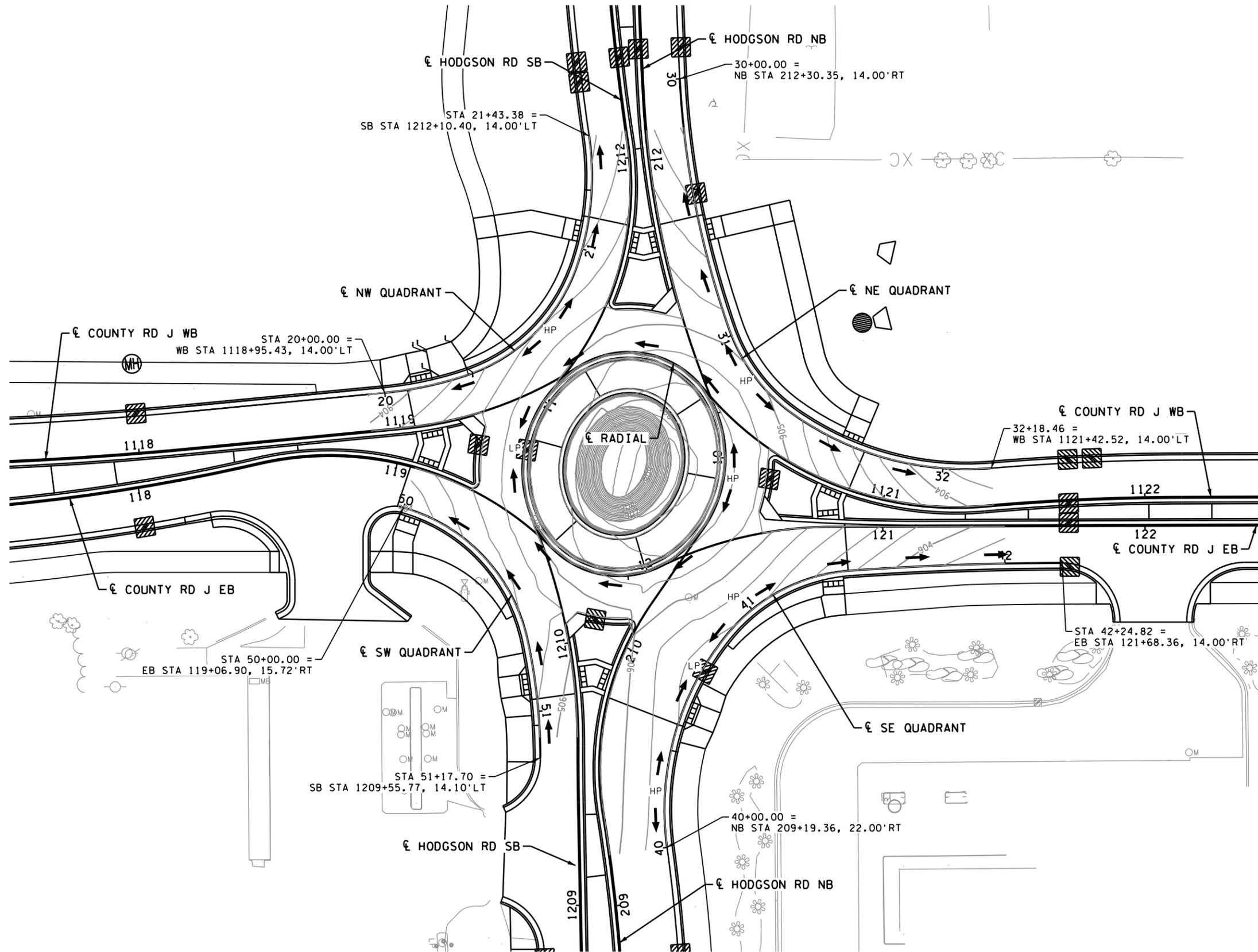


**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

CONCRETE PAVING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
99
 OF
162
 SHEETS



- LEGEND**
- CONSTRUCT CONCRETE CURB & GUTTER
 - 0.10' CONTOUR
 - PROPOSED CATCH BASIN
 - LOCALIZED HIGH POINT
 - LOCALIZED LOW POINT
 - DRAINAGE FLOW ARROW
- NOTES:**
1. SEE SHEET 102 FOR QUADRANT TOE OF GUTTER PROFILES.
 2. SEE SHEET 92 FOR RADIAL PROFILE.

NO.	DATE	BY	CHK	REVISIONS

Design By: **AJP**
 Plan By: **AJF**
 Checked By: **AJP**
 Approved By: **AJP**

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: **2/1/2024** LICENSE #: **44200**

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

ROUNDABOUT INTERSECTION DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
100
 OF
162
 SHEETS

PLOTTED/REVISED: 2/11/2024 9:47:58 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\9054-000_rab02.dgn

ALIGNMENT TABULATION

Table with columns: POINT NUMBER, POINT, STATION, DELTA, DEGREE, RADIUS, TANGENT, LENGTH, COORDINATES (X, Y), BEARING. Includes sections for ROUNDABOUT NW QUADRANT, ROUNDABOUT NE QUADRANT, and ROUNDABOUT SE QUADRANT.

ALIGNMENT TABULATION

Table with columns: POINT NUMBER, POINT, STATION, DELTA, DEGREE, RADIUS, TANGENT, LENGTH, COORDINATES (X, Y), BEARING. Includes sections for ROUNDABOUT SE QUADRANT and ROUNDABOUT SW QUADRANT.

NOTES: <XXXX> INDICATES GEOPAK ALIGNMENT NAMES.

Table with columns: NO., DATE, BY, CHK, REVISIONS. Includes a design log with entries for AJP.

Design By: AJP
Plan By: AJF
Checked By: AJP
Approved By: AJP
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: ANDREW J. FLOWMAN
DATE: 2/11/2024 LICENSE #: 44200



CSAH 49 at Ramsey County CSAH 1 / Anoka County CSAH 32 Intersection Improvements

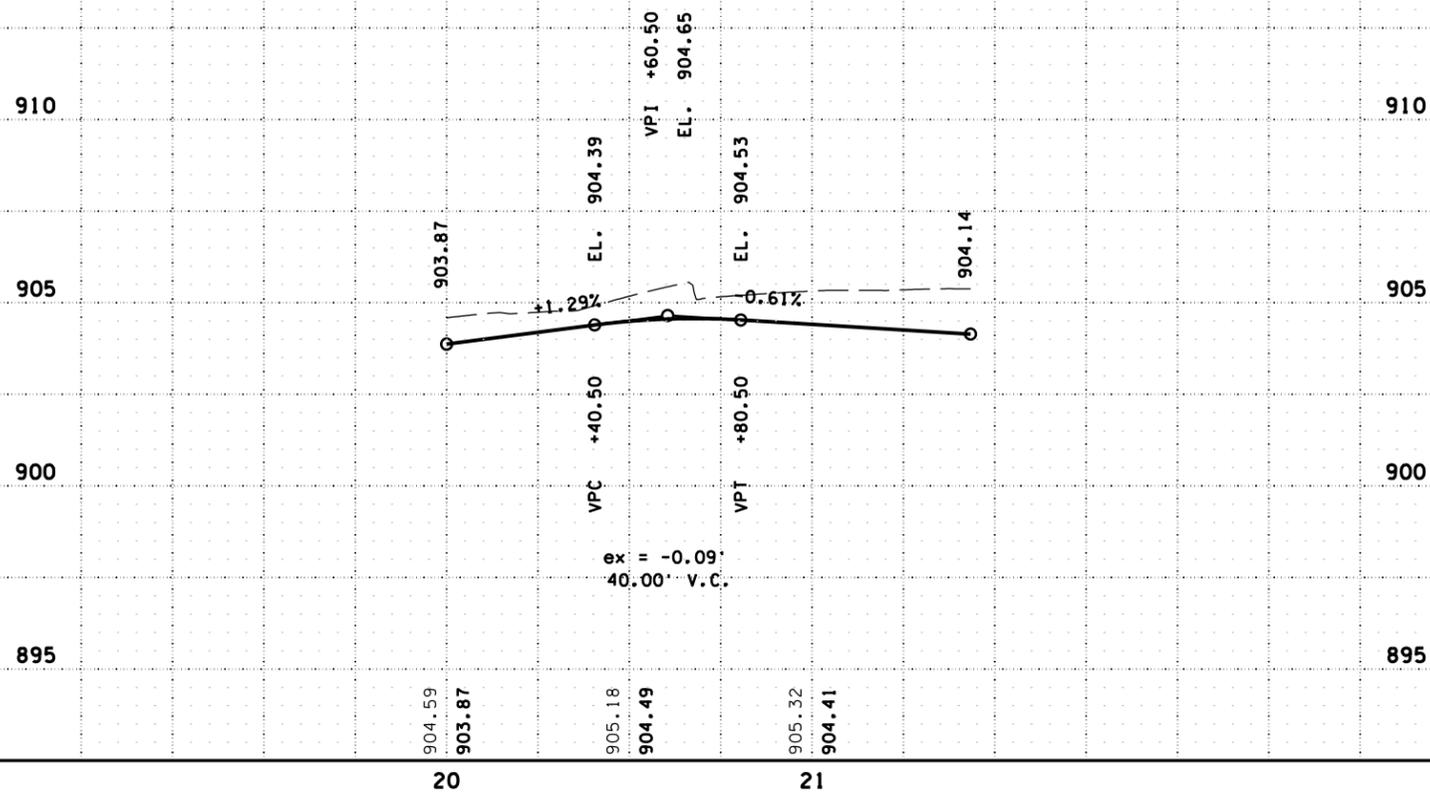
ANOKA & RAMSEY COUNTY, MN
QUADRANT ALIGNMENT TABULATIONS
ROUNDABOUT INTERSECTION DETAILS
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET 101 OF 162 SHEETS

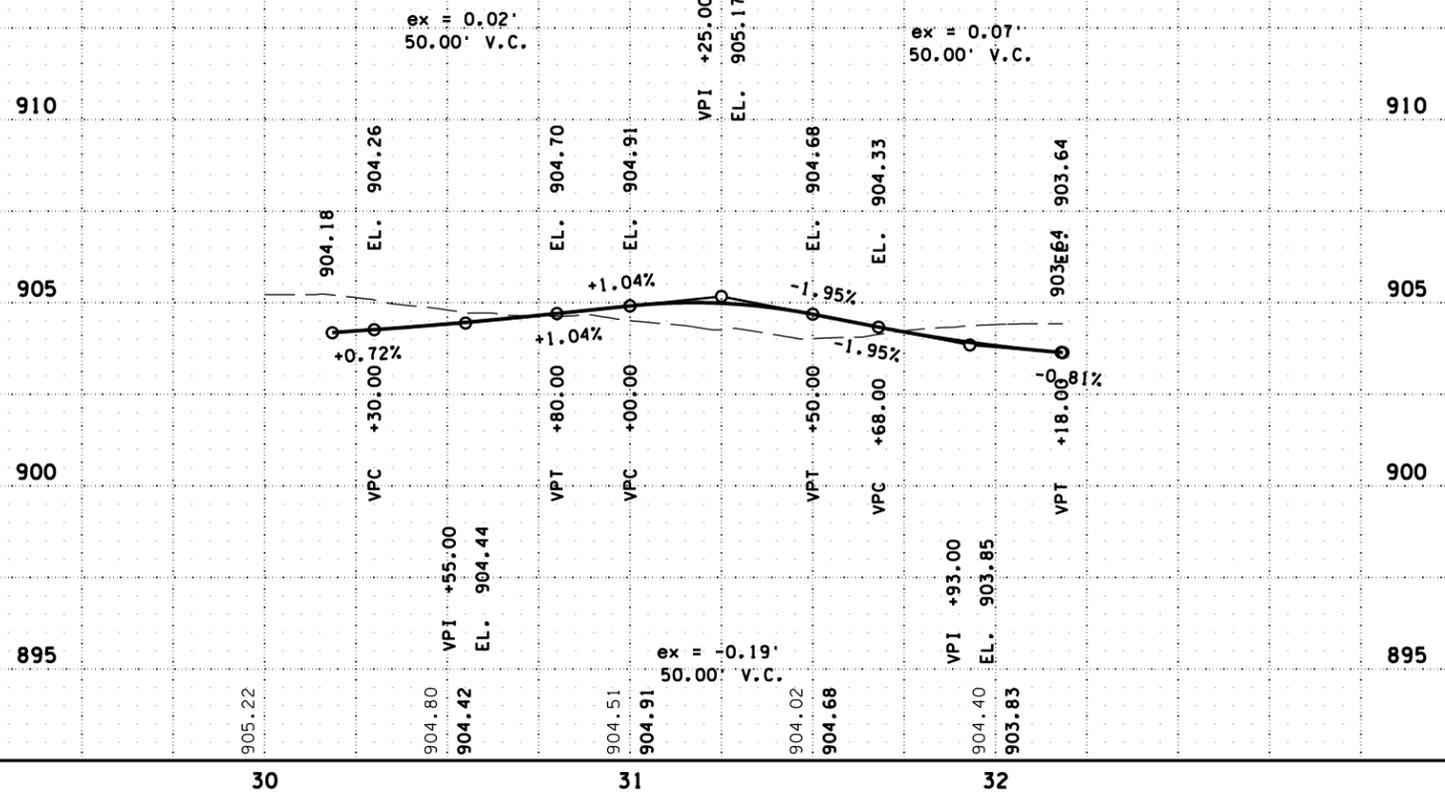
PLOTTED/REVISED: 2/1/2024 9:47:59 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_rab03.dgn

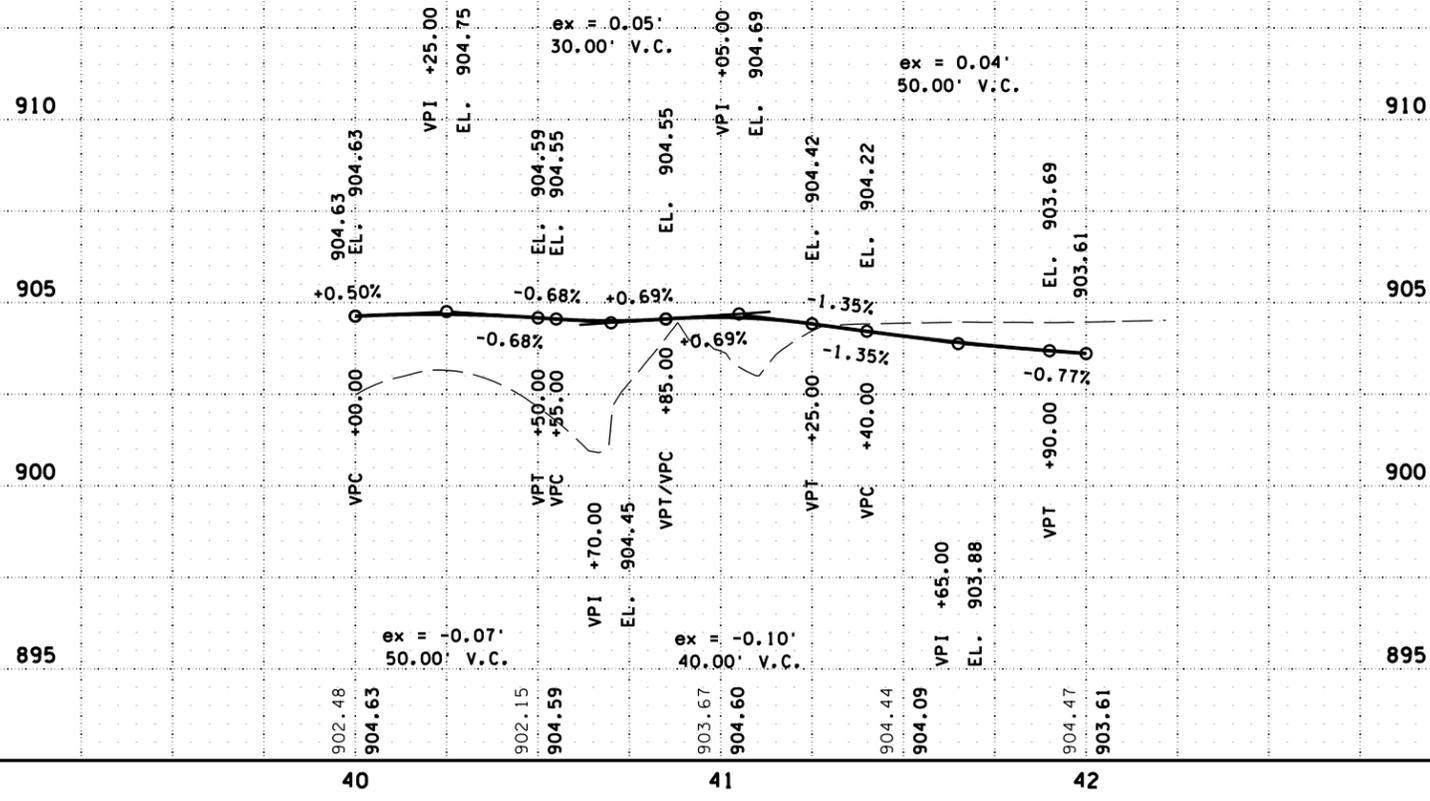
NW Quadrant Toe of Gutter Profile



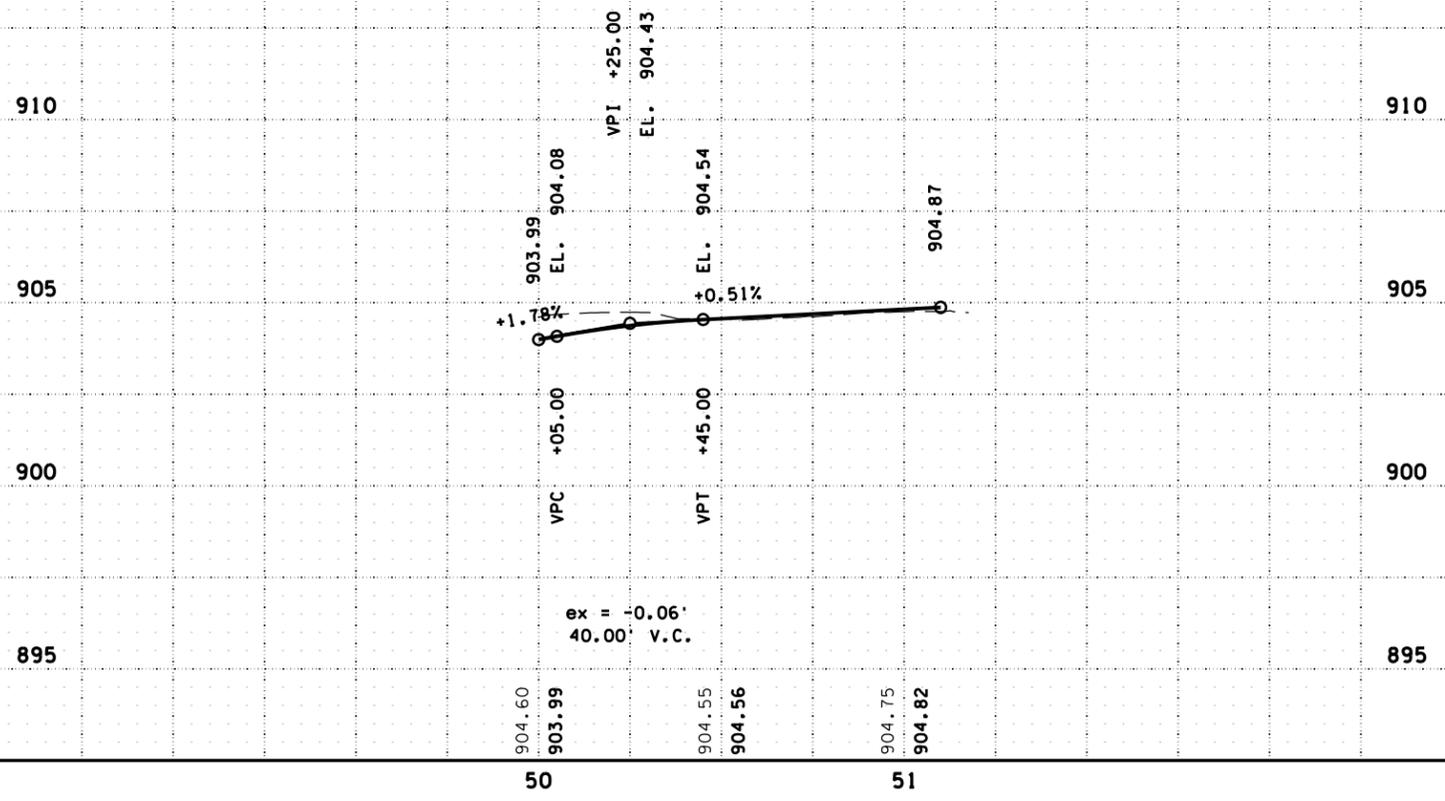
NE Quadrant Toe of Gutter Profile



SE Quadrant Toe of Gutter Profile



SW Quadrant Toe of Gutter Profile



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

ANOKA & RAMSEY COUNTY, MN
 QUADRANT TOE OF GUTTER PROFILES
ROUNDABOUT INTERSECTION DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
102
 OF
162
 SHEETS

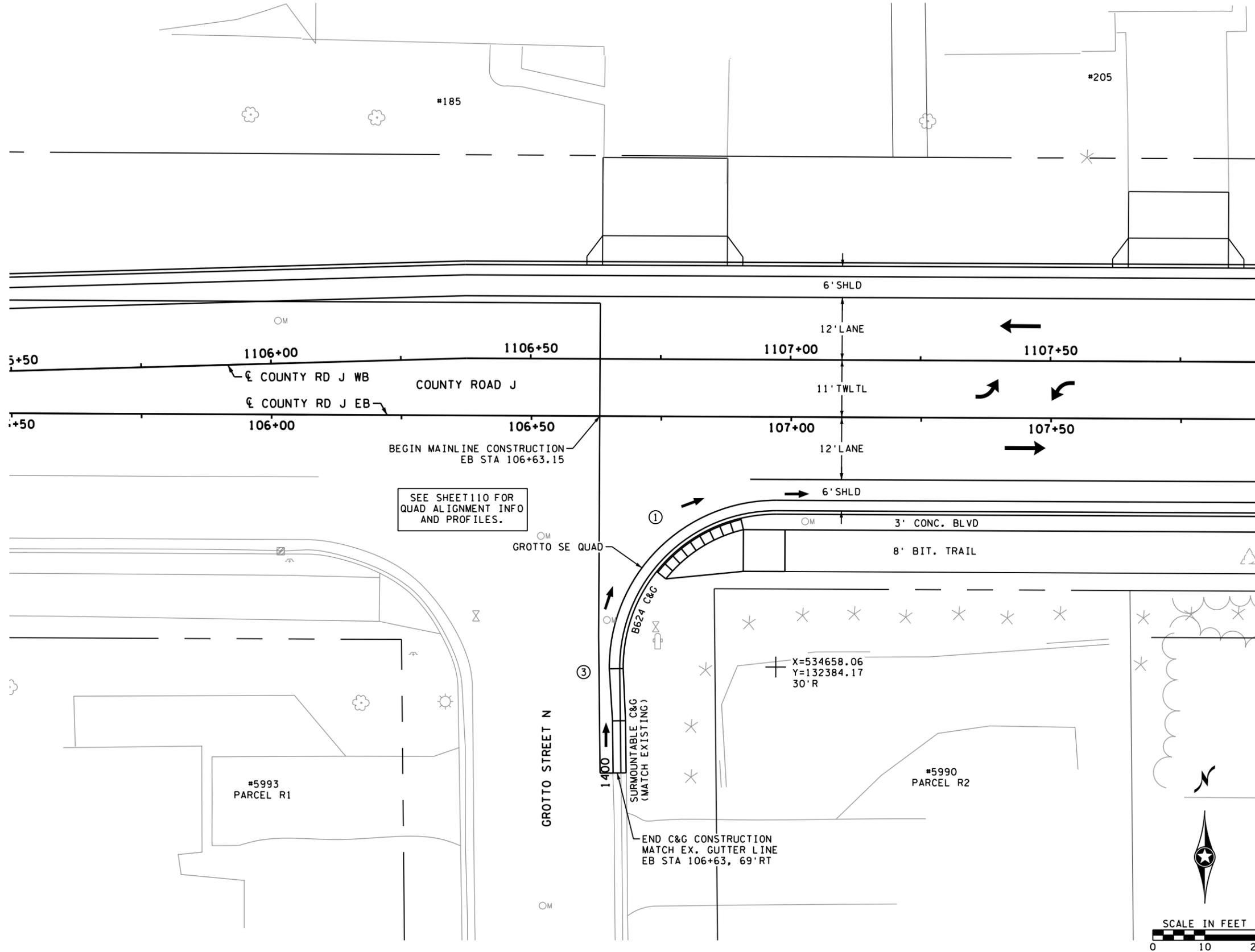
County Road J at Grotto Street

LEGEND

- TRAFFIC DIRECTION
- DRAINAGE FLOW DIRECTION
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
- ③ CURB TRANSITION, SEE MISCELLANEOUS DETAILS
- ▨ CATCH BASIN
- ⊙ MANHOLE
- ⬇ AREA OF ENVIRONMENTAL SENSITIVITY
- - - INPLACE RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
- - - TEMPORARY EASEMENT
- - - PERMANENT EASEMENT

GENERAL NOTES

1. RADII LABELS ARE TO FACE OF CURB.



PLOTTED/REVISED: 2/1/2024 9:48:00 AM
 WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

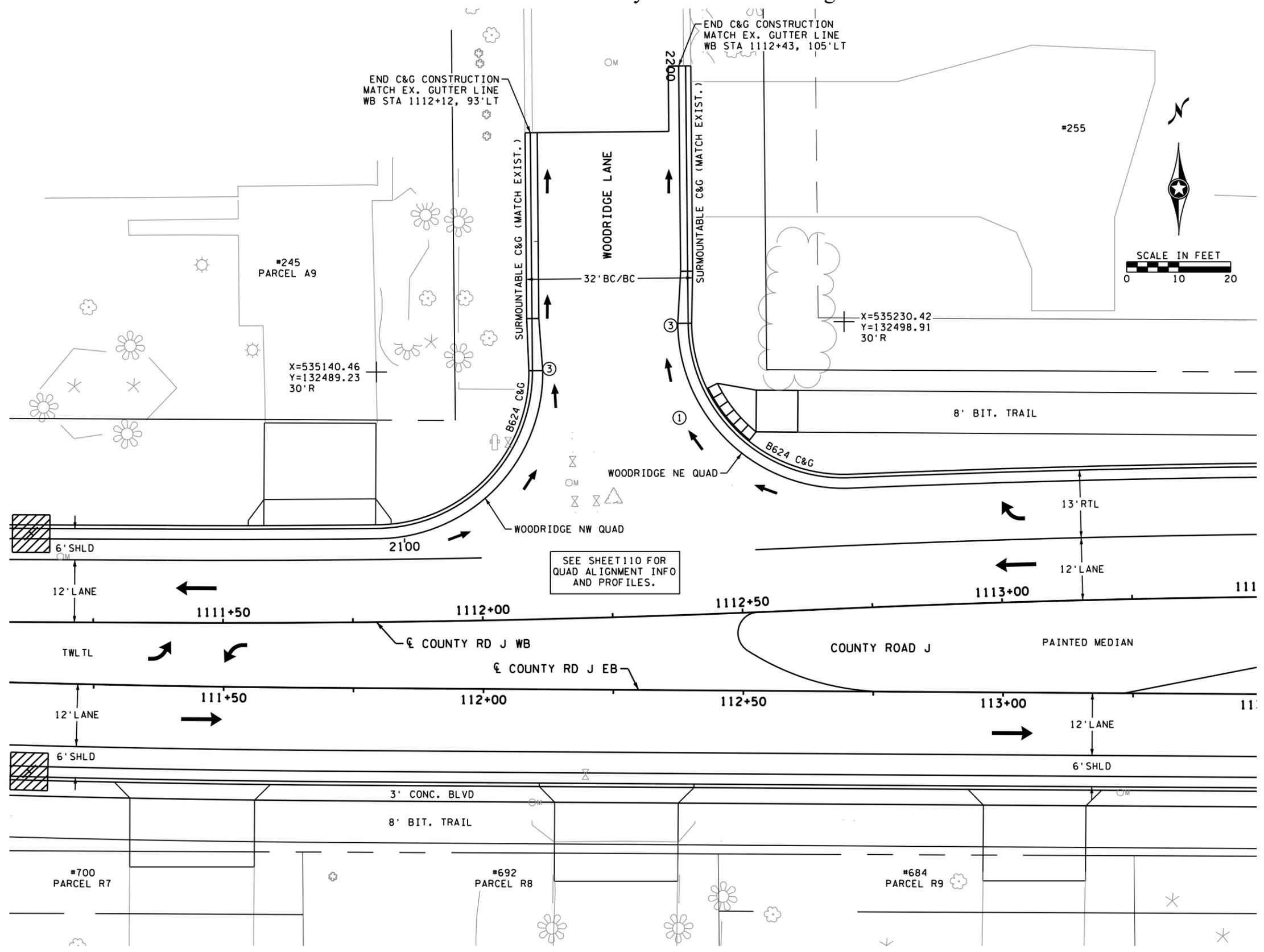
ANOKA & RAMSEY COUNTY, MN
 COUNTY ROAD J AT GROTTO STREET N
INTERSECTION DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
103
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:48:03 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\9054-000_102.dgn

County Road J at Woodridge Lane



LEGEND	
	TRAFFIC DIRECTION
	DRAINAGE FLOW DIRECTION
①	CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
②	CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
③	CURB TRANSITION, SEE MISCELLANEOUS DETAILS
	CATCH BASIN
	MANHOLE
	AREA OF ENVIRONMENTAL SENSITIVITY
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	TEMPORARY EASEMENT
	PERMANENT EASEMENT

GENERAL NOTES
 1. RADII LABELS ARE TO FACE OF CURB.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200

CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

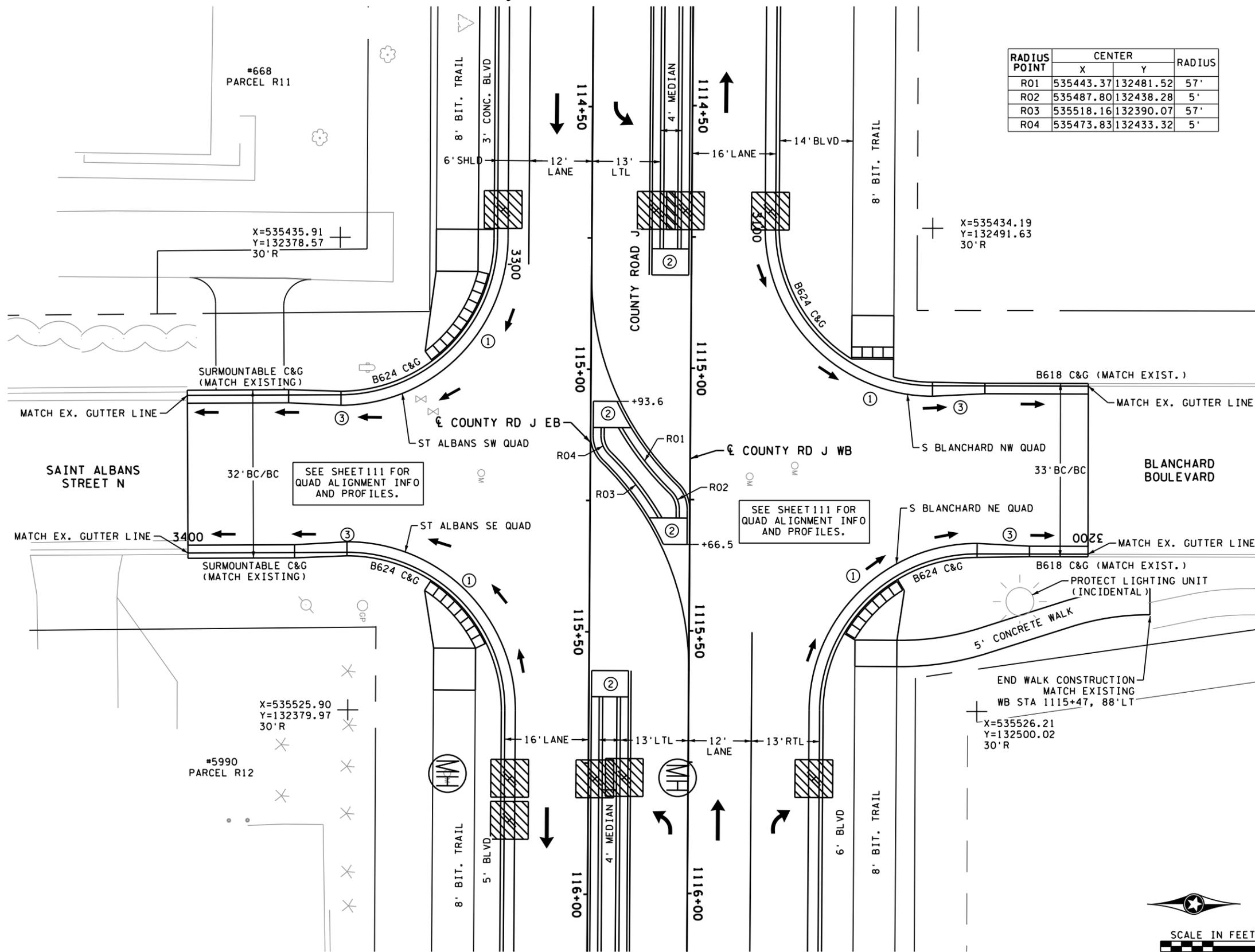
ANOKA & RAMSEY COUNTY, MN
 COUNTY ROAD J AT WOODRIDGE LANE
INTERSECTION DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **104** OF **162** SHEETS

County Road J at Saint Albans Street N / Blanchard Boulevard

PLOTTED/REVISED: 2/1/2024 9:48:08 AM

WSB PATH & FILENAME: Projects\Mnnesota\09054-000\CadPlan\9054-000_1003.dgn



- ### LEGEND
- TRAFFIC DIRECTION
 - DRAINAGE FLOW DIRECTION
 - ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
 - ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
 - ③ CURB TRANSITION, SEE MISCELLANEOUS DETAILS
 - CATCH BASIN
 - MANHOLE
 - AREA OF ENVIRONMENTAL SENSITIVITY
 - INPLACE RIGHT-OF-WAY
 - PROPOSED RIGHT-OF-WAY
 - TEMPORARY EASEMENT
 - PERMANENT EASEMENT

GENERAL NOTES

1. RADII LABELS ARE TO FACE OF CURB.



NO.	DATE	BY	CHK	REVISIONS

Design By: **AJP**
 Plan By: **AJP**
 Checked By: **AJP**
 Approved By: **AJP**

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: **2/1/2024** LICENSE #: **44200**

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

County Road J at Saint Albans Street N / Blanchard Boulevard

INTERSECTION DETAILS

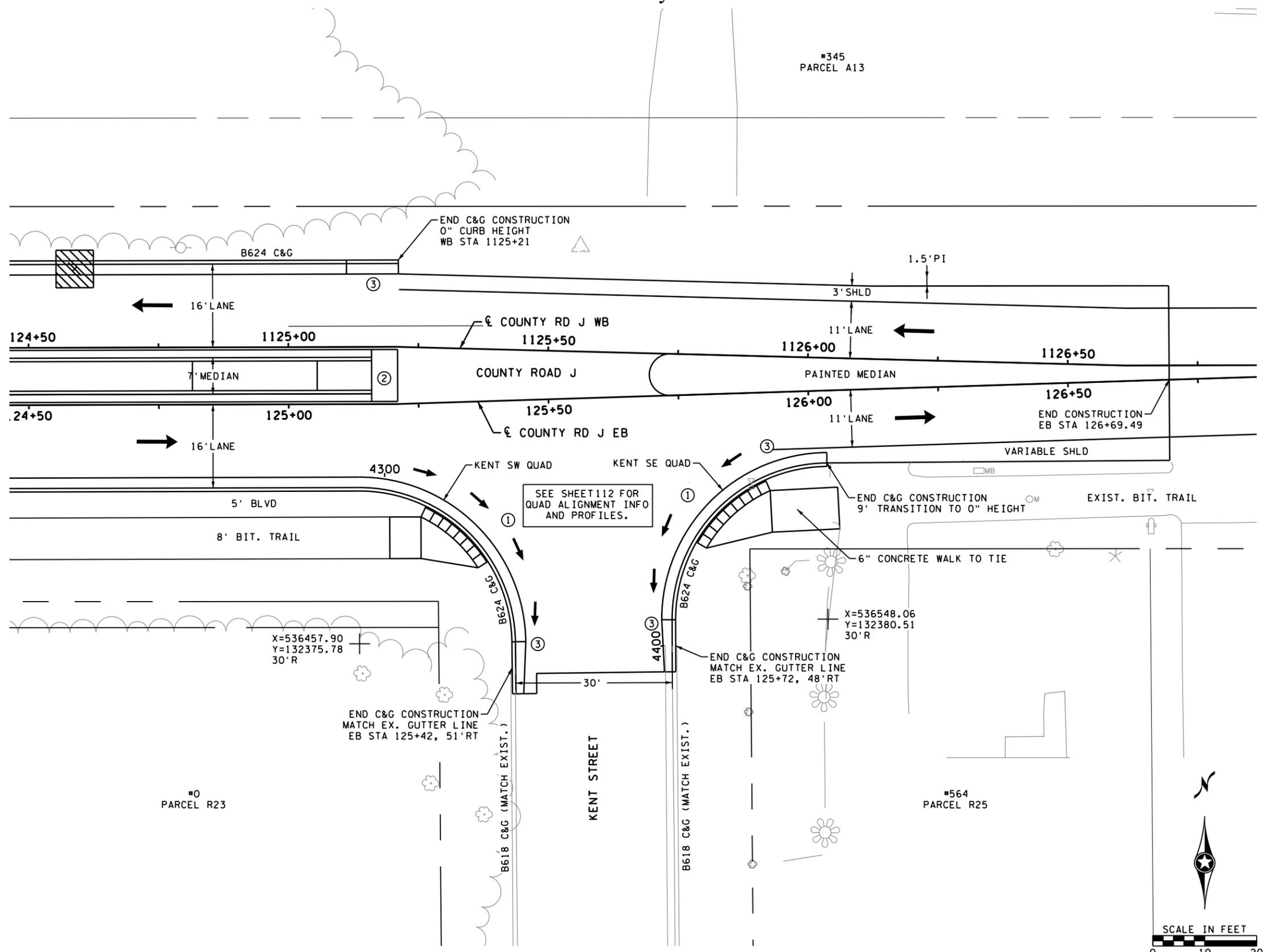
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
105
 OF
162
 SHEETS

County Road J at Kent Street

PLOTTED/REVISED: 2/1/2024 9:48:12 AM

WSB PATH & FILENAME: Projects\Mnmesa\019054-000\Cad\Plan\19054-000_100.dgn



LEGEND	
	TRAFFIC DIRECTION
	DRAINAGE FLOW DIRECTION
①	CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
②	CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
③	CURB TRANSITION, SEE MISCELLANEOUS DETAILS
	CATCH BASIN
	MANHOLE
	AREA OF ENVIRONMENTAL SENSITIVITY
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	TEMPORARY EASEMENT
	PERMANENT EASEMENT

GENERAL NOTES
 1. RADII LABELS ARE TO FACE OF CURB.



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

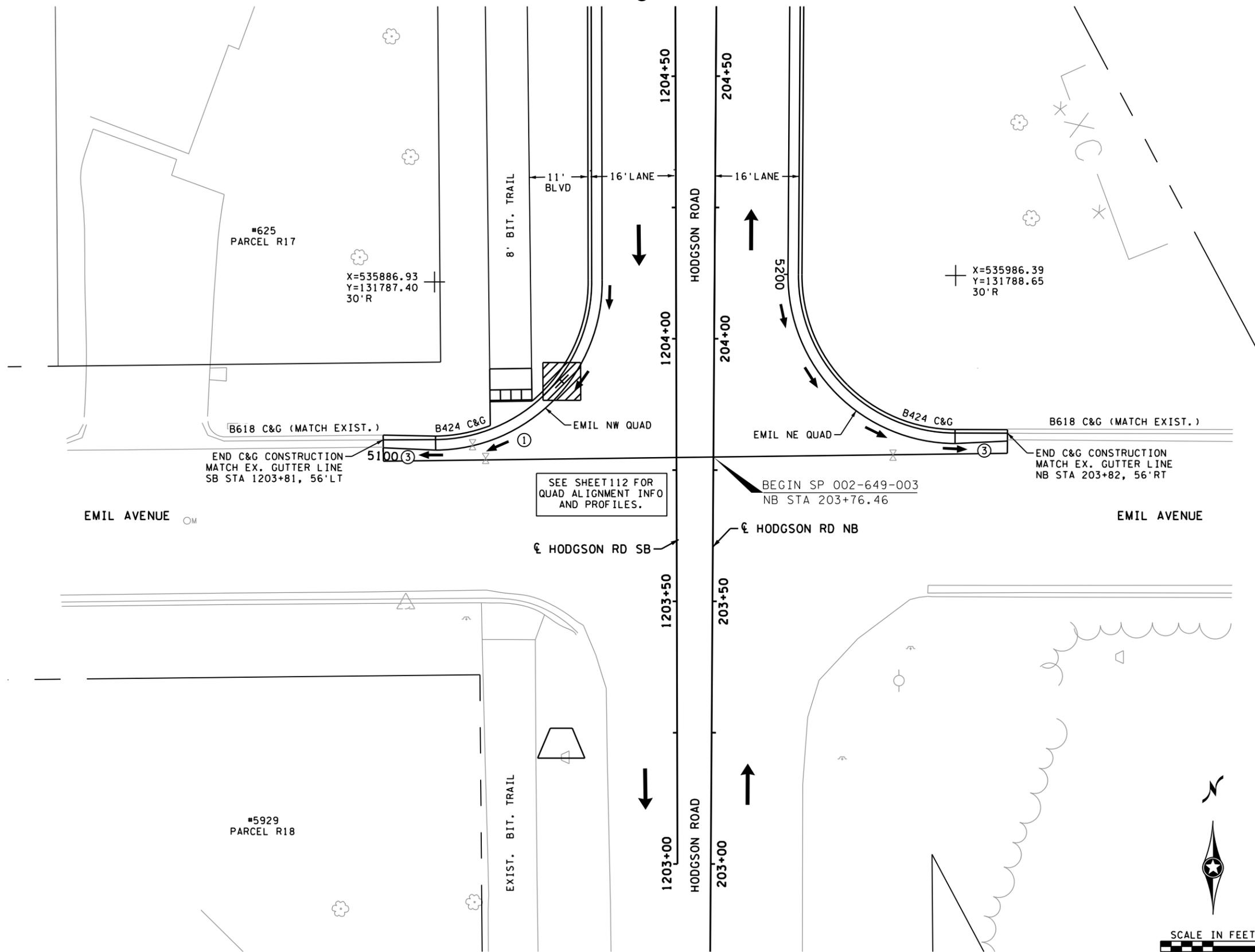
ANOKA & RAMSEY COUNTY, MN
 COUNTY ROAD J AT KENT STREET
INTERSECTION DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **106**
 OF **162**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:48:16 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1405.dgn

Hodgson Road at Emil Avenue



- ### LEGEND
- TRAFFIC DIRECTION
 - DRAINAGE FLOW DIRECTION
 - ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
 - ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
 - ③ CURB TRANSITION, SEE MISCELLANEOUS DETAILS
 - ▨ CATCH BASIN
 - ⊙ MANHOLE
 - ⬇️ AREA OF ENVIRONMENTAL SENSITIVITY
 - - - INPLACE RIGHT-OF-WAY
 - - - PROPOSED RIGHT-OF-WAY
 - - - TEMPORARY EASEMENT
 - - - PERMANENT EASEMENT

GENERAL NOTES

1. RADII LABELS ARE TO FACE OF CURB.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

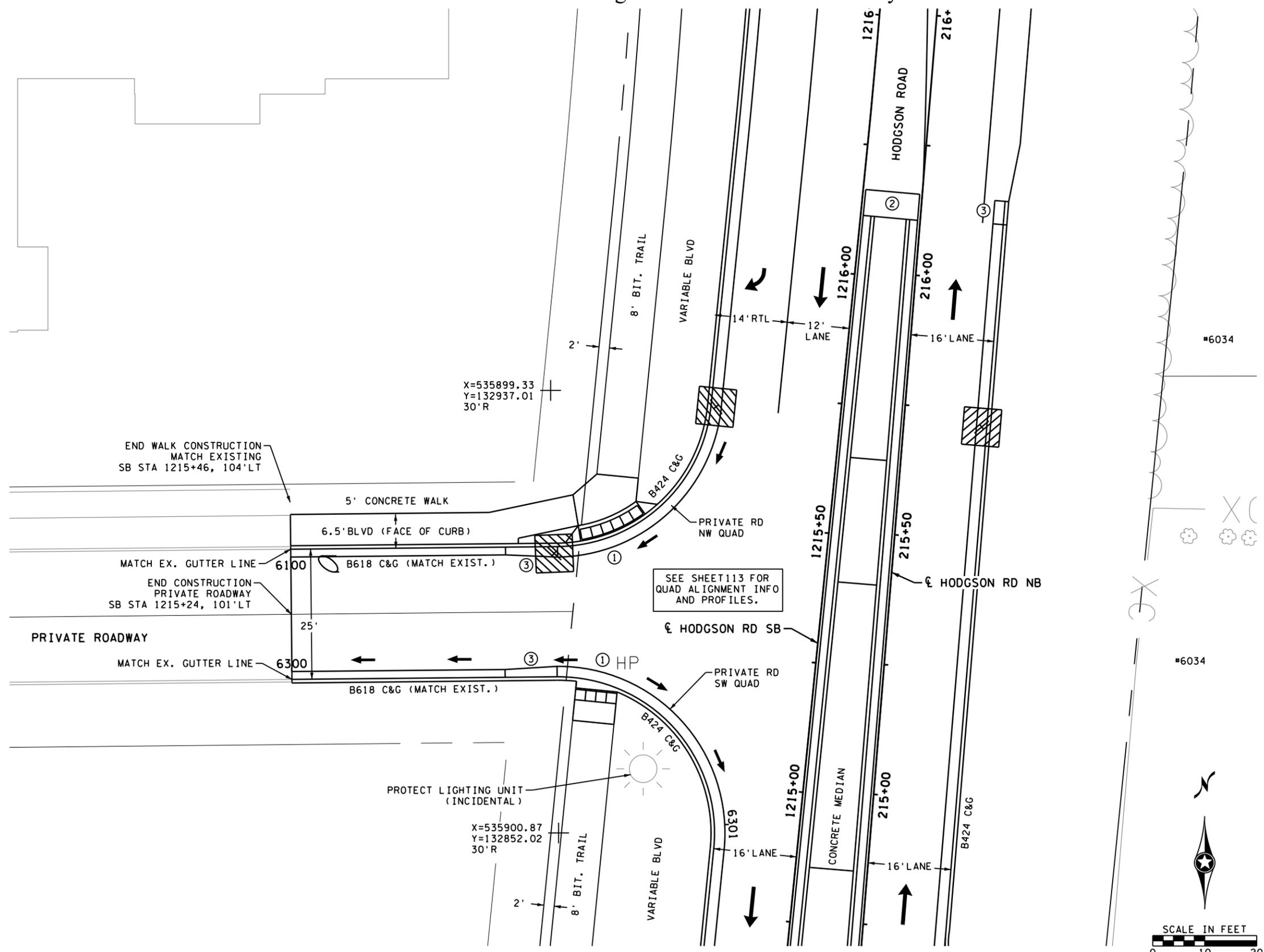
HODGSON ROAD AT EMIL AVENUE
INTERSECTION DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
107
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:48:20 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1106.dgn

Hodgson Road at Private Roadway



LEGEND	
	TRAFFIC DIRECTION
	DRAINAGE FLOW DIRECTION
①	CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
②	CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
③	CURB TRANSITION, SEE MISCELLANEOUS DETAILS
	CATCH BASIN
	MANHOLE
	AREA OF ENVIRONMENTAL SENSITIVITY
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	TEMPORARY EASEMENT
	PERMANENT EASEMENT

GENERAL NOTES
 1. RADII LABELS ARE TO FACE OF CURB.

END WALK CONSTRUCTION
MATCH EXISTING
SB STA 1215+46, 104'LT

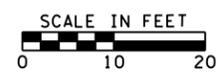
MATCH EX. GUTTER LINE 6100
 END CONSTRUCTION
PRIVATE ROADWAY
SB STA 1215+24, 101'LT

MATCH EX. GUTTER LINE 6300

X=535899.33
Y=132937.01
30'R

X=535900.87
Y=132852.02
30'R

SEE SHEET 113 FOR
QUAD ALIGNMENT INFO
AND PROFILES.



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

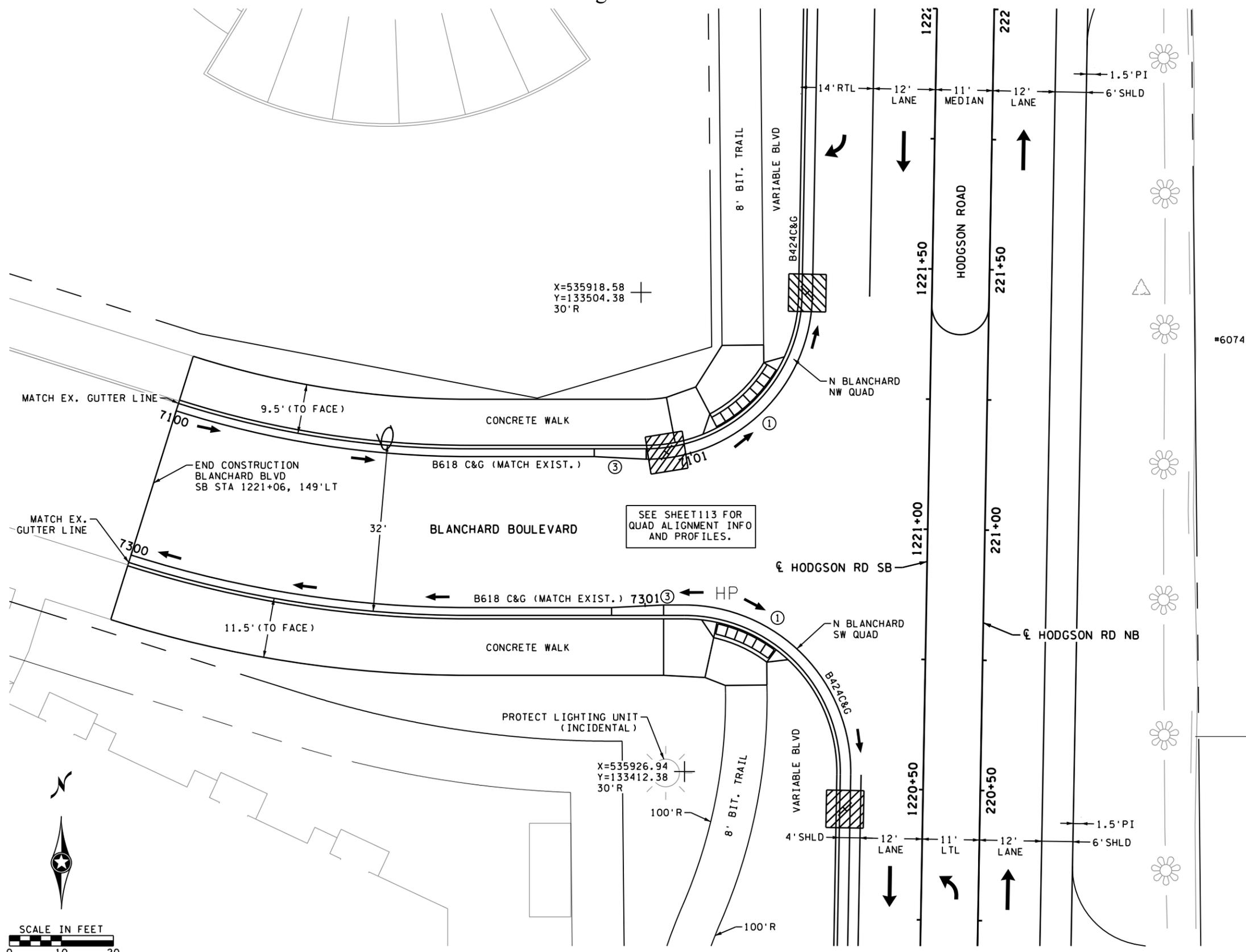
ANOKA & RAMSEY COUNTY, MN
 HODGSON ROAD AT PRIVATE ROADWAY
INTERSECTION DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
108
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:48:25 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1407.dgn

Hodgson Road at Blanchard Boulevard



LEGEND	
	TRAFFIC DIRECTION
	DRAINAGE FLOW DIRECTION
①	CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
②	CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLATE 7113
③	CURB TRANSITION, SEE MISCELLANEOUS DETAILS
	CATCH BASIN
	MANHOLE
	AREA OF ENVIRONMENTAL SENSITIVITY
	INPLACE RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	TEMPORARY EASEMENT
	PERMANENT EASEMENT

GENERAL NOTES
 1. RADII LABELS ARE TO FACE OF CURB.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 HODGSON ROAD AT BLANCHARD BOULEVARD
INTERSECTION DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

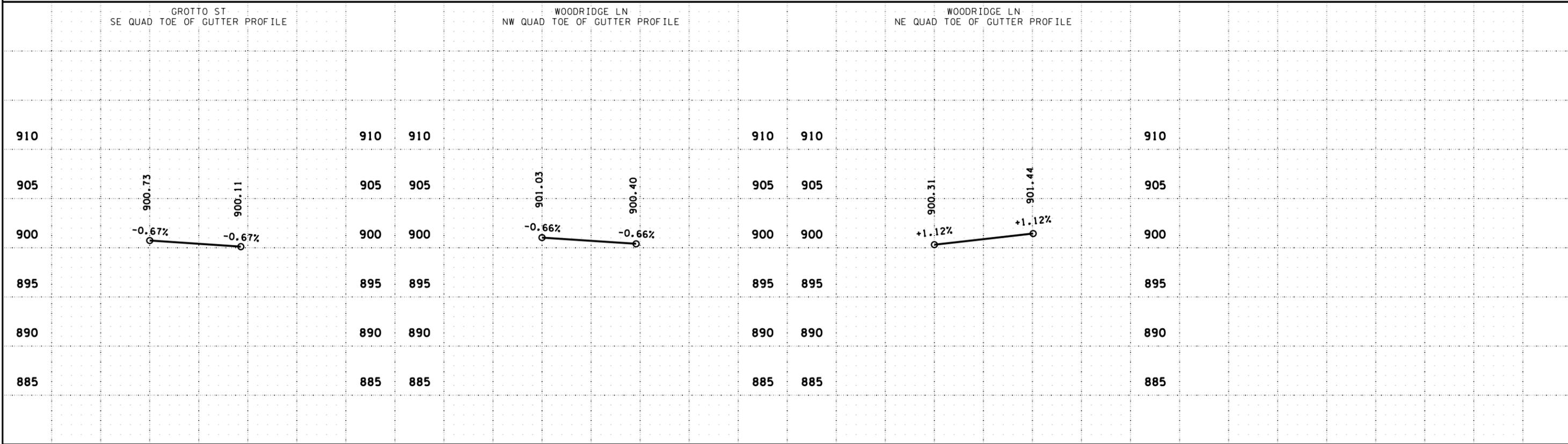
SHEET **109**
 OF **162**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:48:27 AM

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION						COORDINATES		BEARING
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
GROTTO ST SE QUAD <Q_GROTTO_SE>										
POT		1400+00.00						534,626.779	132,363.825	
POT		1400+10.03						534,626.671	132,373.851	
PC		1400+20.040						534,626.064	132,383.845	N 0° 36' 56.5" W
PI		1400+52.539	90° 53' 14.5" RT	179° 02' 57.5"	32.000'	32.499'	50.761'	534,625.715	132,416.343	PI
CC								534,658.062	132,384.189	
PT		1400+70.801						534,658.214	132,416.189	S 89° 43' 42.1" E

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION						COORDINATES		BEARING
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
WOODRIDGE LN NW QUAD <Q_WOODRIDGE_NW>										
PC		2100+00.000								
PI		2100+31.919	89° 51' 15.6" LT	179° 02' 57.5"	32.000'	31.919'	50.184'	535,172.744	132,457.601	N 89° 20' 12.5" E
CC								535,140.457	132,489.230	
PT		2100+50.184						535,172.456	132,489.519	N 0° 31' 03.1" W
POT		2100+60.21						535,171.699	132,499.512	
POT		2100+95.89						535,171.377	132,535.197	
WOODRIDGE LN NE QUAD <Q_WOODRIDGE_NE>										
POT		2200+00.00						535,198.590	132,548.000	
POT		2200+39.41						535,198.987	132,508.593	
PC		2200+49.432						535,198.422	132,498.586	S 0° 34' 42.6" E
PI		2200+82.484	91° 51' 10.9" LT	179° 02' 57.5"	32.000'	33.052'	51.300'	535,198.756	132,465.535	PI
CC								535,230.420	132,498.909	
PT		2201+00.733						535,231.778	132,466.938	N 87° 34' 06.5" E

NOTES: <XXXX> INDICATES GEOPAK ALIGNMENT NAMES.



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

ALIGNMENT TABULATIONS/PROFILES
INTERSECTION DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

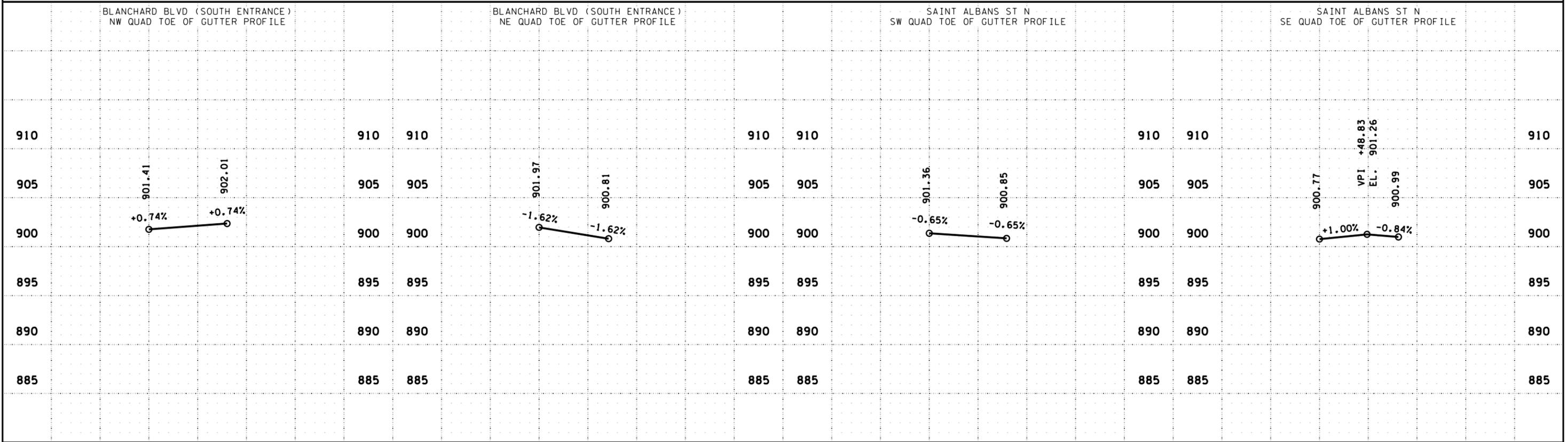
SHEET
110
 OF
162
 SHEETS

PLOTTED/REVISED: 2/11/2024 9:48:27 AM

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	COORDINATES					BEARING		
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH		X	Y
BLANCHARD BLVD (SOUTH ENTRANCE) NW QUAD <Q_SBLANCH_NW>										
228	POT	3200+00.00						535,494.755	132,521.256	
	POT	3200+11.17						535,494.731	132,510.090	
	PC	3200+21.178						535,494.210	132,500.091	S 0° 07' 24.8" W
	PI	3200+53.035	89° 44' 36.4" LT	179° 02' 57.5"	32.000'	31.857'	50.122'	535,494.141	132,468.234	PI
	CC							535,526.210	132,500.022	
	PT	3200+71.300						535,525.997	132,468.023	S 89° 37' 11.5" E
BLANCHARD BLVD (SOUTH ENTRANCE) NE QUAD <Q_SBLANCH_NE>										
	PC	3100+00.000						535,433.979	132,459.633	S 89° 37' 11.5" E
	PI	3100+32.144	90° 15' 23.6" LT	179° 02' 57.5"	32.000'	32.144'	50.409'	535,466.122	132,459.420	PI
	CC							535,434.191	132,491.633	
	PT	3100+50.409						535,466.191	132,491.564	N 0° 07' 24.8" E
	POT	3100+60.42						535,465.713	132,501.565	
	POT	3100+80.18						535,465.755	132,521.318	

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	COORDINATES					BEARING		
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH		X	Y
SAINT ALBANS ST N SW QUAD <Q_STALBANS_SW>										
	PC	3300+00.000						535,436.118	132,410.565	S 89° 37' 11.5" E
	PI	3300+31.651	89° 22' 15.7" RT	179° 02' 57.5"	32.000'	31.651'	49.914'	535,467.768	132,410.355	PI
	CC							535,435.906	132,378.566	
	PT	3300+49.914						535,467.905	132,378.705	S 0° 14' 55.8" E
	POT	3300+59.93						535,467.449	132,368.703	
	POT	3300+79.26						535,467.533	132,349.366	
SAINT ALBANS ST N SE QUAD <Q_STALBANS_SE>										
	POT	3400+00.00						535,494.533	132,349.483	
	POT	3400+20.35						535,494.444	132,369.832	
	PC	3400+30.362						535,493.901	132,379.830	N 0° 14' 55.8" W
	PI	3400+62.715	90° 37' 44.3" RT	179° 02' 57.5"	32.000'	32.353'	50.617'	535,493.760	132,412.183	PI
	CC							535,525.901	132,379.969	
	PT	3400+80.978						535,526.113	132,411.968	S 89° 37' 11.5" E

NOTES: <XXXX> INDICATES GEOPAK ALIGNMENT NAMES.



3100		3101		3200		3201		3300		3301		3400		3401							
NO.	DATE	BY	CHK	REVISIONS																	
Design By: AJP				I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.																	
Plan By: AJF				PRINT NAME: ANDREW J. FLOWMAN																	
Checked By: AJP				DATE: 2/11/2024 LICENSE #: 44200																	
Approved By: AJP																					
												CSAH 49 at Ramsey County CSAH 1 / Anoka County CSAH 32 Intersection Improvements				ANOKA & RAMSEY COUNTY, MN ALIGNMENT TABULATIONS/PROFILES INTERSECTION DETAILS SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014				SHEET 111 OF 162 SHEETS	

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1d.tbl.dgn

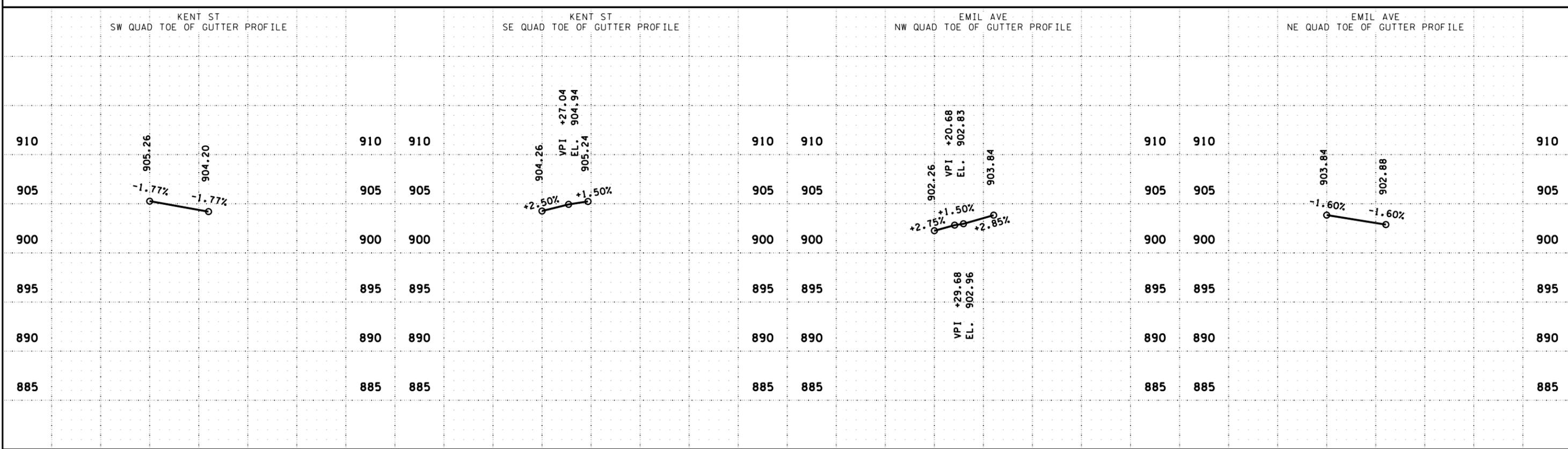
9:48:28 AM PLOTTED/REVISED: 2/1/2024

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION						COORDINATES		BEARING
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
KENT ST SW QUAD <Q_KENT_SW>										
PC		4300+00.00						536,457.813	132,407.784	N 89° 50' 11.3" E
PI		4300+31.682	89° 25' 39.0" RT	179° 02' 57.5"	32.000'	31.682'	49.946'	536,489.495	132,407.874	PI
CC								536,457.905	132,375.784	
PT		4300+49.946						536,489.902	132,376.195	S 0° 44' 09.8" E
POT		4300+59.96						536,489.530	132,366.190	
KENT ST SE QUAD <Q_KENT_SE>										
POT		4400+00.00						536,516.596	132,370.399	
PC		4400+10.012						536,516.062	132,380.397	N 0° 11' 50.9" W
PI		4400+41.889	89° 46' 44.6" RT	179° 02' 57.5"	32.000'	31.877'	50.142'	536,515.952	132,412.274	PI
CC								536,548.061	132,380.508	
PT		4400+60.155						536,547.828	132,412.507	N 89° 34' 53.7" E

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION						COORDINATES		BEARING
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
EMIL AVE NW QUAD <Q_EMIL_NW>										
POT		5100+00.00						535,877.154	131,755.833	
PC		5100+10.012						535,887.158	131,755.403	N 89° 36' 01.8" E
PI		5100+42.165	90° 16' 20.6" LT	179° 02' 57.5"	32.000'	32.153'	50.418'	535,919.309	131,755.627	PI
CC								535,886.934	131,787.402	
PT		5100+60.430						535,918.932	131,787.777	N 0° 40' 18.8" W
EMIL AVE NE QUAD <Q_EMIL_NE>										
PC		5200+00.000						535,954.391	131,788.850	S 0° 21' 58.7" W
PI		5200+32.083	90° 08' 53.5" LT	179° 02' 57.5"	32.000'	32.083'	50.348'	535,954.186	131,756.768	PI
CC								535,986.390	131,788.645	
PT		5200+50.348						535,986.269	131,756.646	S 89° 46' 54.8" E
POT		5200+60.36						535,996.270	131,757.106	

NOTES: <XXXX> INDICATES GEOPAK ALIGNMENT NAMES.

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_Id.tbl.dgn



4300		4301		4400		4401		5100		5101		5200		5201	
NO.	DATE	BY	CHK	REVISIONS											
Design By: AJP				I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.											
Plan By: AJP				PRINT NAME: ANDREW J. FLOWMAN											
Checked By: AJP				DATE: 2/1/2024 LICENSE #: 44200											
Approved By: AJP															
												CSAH 49 at Ramsey County CSAH 1 / Anoka County CSAH 32 Intersection Improvements			
ANOKA & RAMSEY COUNTY, MN															
ALIGNMENT TABULATIONS/PROFILES															
INTERSECTION DETAILS															
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014															
														SHEET 112 OF 162 SHEETS	

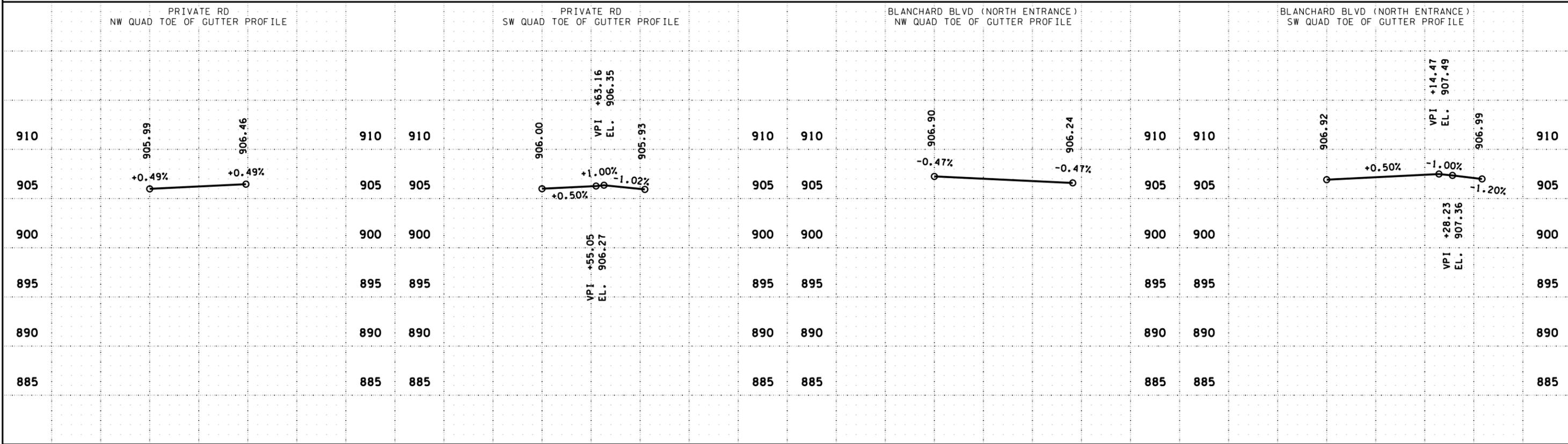
PLOTTED/REVISED: 2/1/2024 9:48:29 AM

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	COORDINATES					BEARING		
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH		X	Y
PRIVATE ROADWAY NW QUAD <Q_PRD_NW>										
POT		6100+00.00						535,849.325	132,905.007	
POT		6100+41.33						535,890.655	132,905.417	
PC		6100+51.344						535,900.659	132,905.017	N 89° 25' 49.5" E
PI		6100+80.012	83° 42' 44.2" LT	179° 02' 57.5"	32.000'	28.668'	46.754'	535,929.325	132,905.302	PI
CC								535,900.341	132,937.015	
PT		6100+98.098						535,932.182	132,933.827	N 5° 43' 05.3" E
PRIVATE ROADWAY SW QUAD <Q_PRD_SW>										
POT		6300+00.00						535,849.537	132,883.008	
POT		6300+41.03						535,890.562	132,883.415	
PC		6300+51.039						535,900.557	132,884.015	N 89° 25' 49.5" E
PI		6300+86.759	96° 17' 15.8" RT	179° 02' 57.5"	32.000'	35.720'	53.777'	535,936.274	132,884.370	PI
CC								535,900.875	132,852.016	
PT		6301+04.816						535,932.715	132,848.828	S 5° 43' 05.3" W

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	COORDINATES					BEARING		
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH		X	Y
BLANCHARD BLVD (NORTH ENTRANCE) NW QUAD <Q_NBLANCH_NW>										
PC		7100+00.000						535,829.105	133,481.651	S 72° 18' 42.1" E
PI		7100+28.863	17° 41' 17.9" LT	30° 53' 14.0"	185.500'	28.863'	57.267'	535,856.604	133,472.881	PI
CC								535,885.467	133,658.381	
PT		7100+57.267						535,885.467	133,472.881	Due East
POT		7100+81.38						535,909.581	133,472.881	
PC		7100+91.393						535,919.581	133,472.381	Due East
PI		7101+22.826	88° 58' 32.5" LT	179° 02' 57.5"	32.000'	31.433'	49.693'	535,951.014	133,472.381	PI
CC								535,919.581	133,504.381	
PT		7101+41.086						535,951.575	133,503.809	N 1° 01' 27.5" E
BLANCHARD BLVD (NORTH ENTRANCE) SW QUAD <Q_NBLANCH_SW>										
POT		7300+00.00						535,820.420	133,453.980	
PC		7300+00.833						535,821.215	133,453.730	S 72° 34' 10.5" E
PI		7300+33.714	17° 25' 49.5" LT	26° 42' 40.7"	214.500'	32.881'	65.255'	535,852.586	133,443.881	PI
CC								535,885.467	133,658.381	
PT		7300+66.087						535,885.467	133,443.881	Due East
POT		7300+97.56						535,916.937	133,443.881	
PC		7301+07.570						535,926.937	133,444.381	Due East
PI		7301+40.147	91° 01' 27.5" RT	179° 02' 57.5"	32.000'	32.577'	50.838'	535,959.514	133,444.381	PI
CC								535,926.937	133,412.381	
PT		7301+58.407						535,958.932	133,411.809	S 1° 01' 27.5" W

NOTES: <XXXX> INDICATES GEOPAK ALIGNMENT NAMES.

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\9054-000_1d.dwg

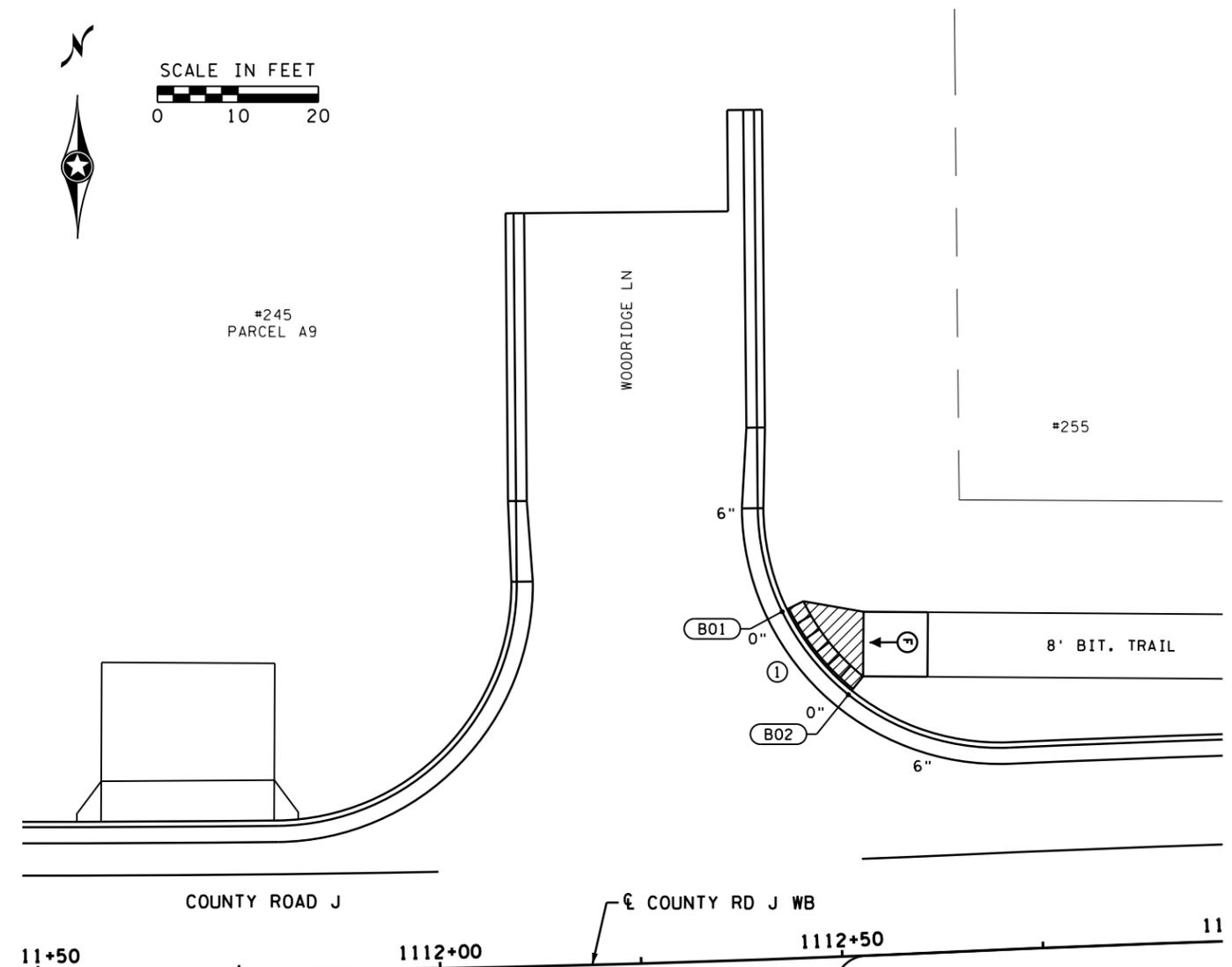
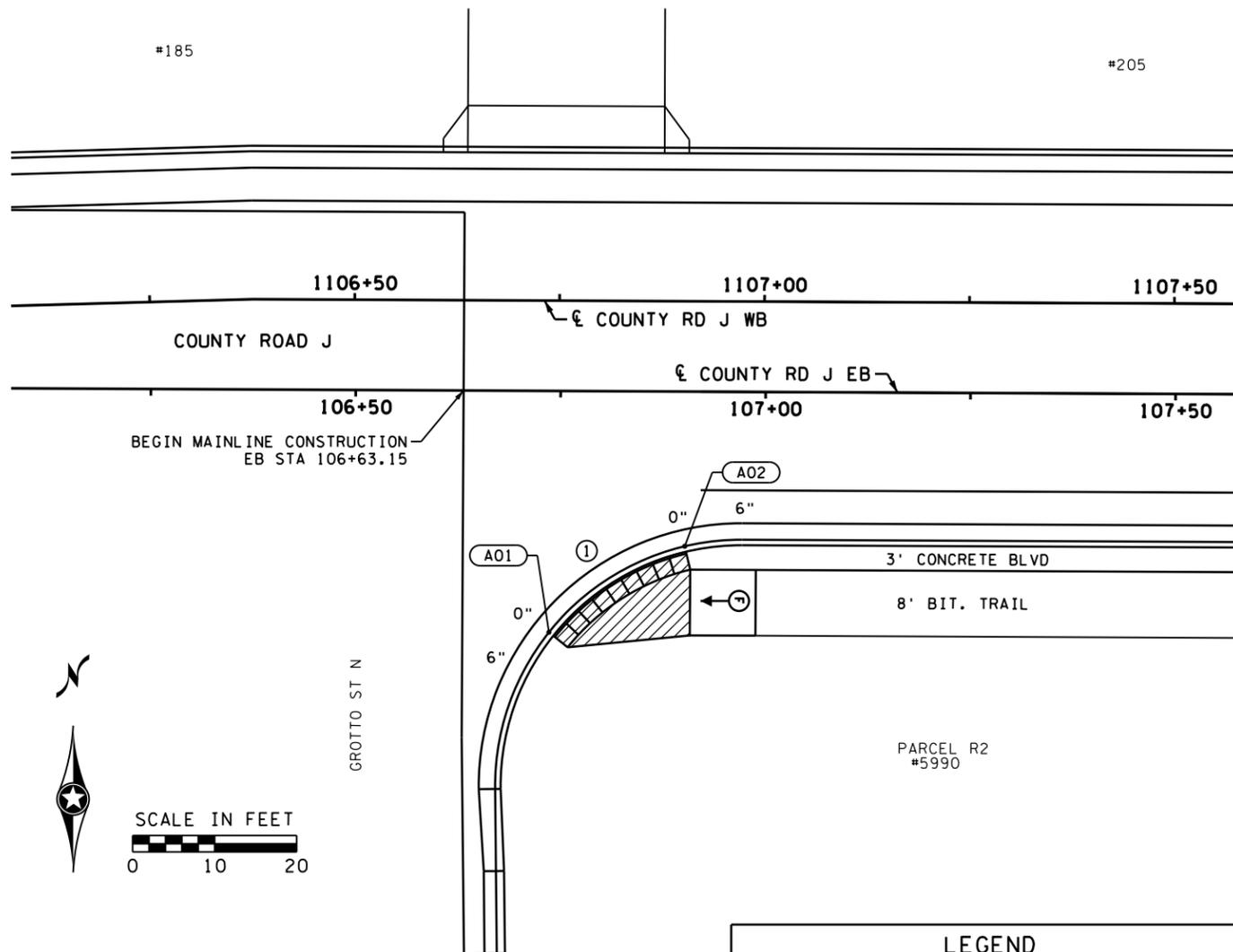


6100		6101		6300		6301		7100		7101		7300		7301							
NO.	DATE	BY	CHK	REVISIONS																	
Design By: AJP				I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.																	
Plan By: AJP				PRINT NAME: <u>ANDREW J. FLOWMAN</u>																	
Checked By: AJP				DATE: <u>2/1/2024</u> LICENSE #: <u>44200</u>																	
Approved By: AJP																					
  												CSAH 49 at Ramsey County CSAH 1 / Anoka County CSAH 32 Intersection Improvements				ANOKA & RAMSEY COUNTY, MN ALIGNMENT TABULATIONS/PROFILES INTERSECTION DETAILS SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014				SHEET 113 OF 162 SHEETS	

County Road J at Grotto Street

County Road J at Woodridge Lane

PLOTTED/REVISED: 2/1/2024 9:48:33 AM



CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
A01	534634.6397	132402.9349	900.33
A02	534651.1889	132413.3914	900.19

LEGEND	GENERAL NOTES
<ul style="list-style-type: none"> XX CONTROL POINTS AT GUTTER FLOW LINE TRUNCATED DOMES (SEE STANDARD PLATE 7038) X" CURB HEIGHT LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. S INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%. F INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%. ① PEDESTRIAN CURB RAMP, SEE STANDARD PLANS ② DEPRESSED MEDIAN CROSSWALK, SEE DETAIL ON SHEET 25. ③ 2% MAX SLOPE IN ALL DIRECTIONS 	<ul style="list-style-type: none"> - MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION TO OBSTRUCTION AND/OR OBSTRUCTION TO FAR EDGE OF WALK. - THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL NOT EXCEED 0.020 FT/FT - PROVIDE A SAWCUT (INCIDENTAL) AT ALL CONCRETE WALK AND BITUMINOUS TRAIL REMOVAL LIMITS. - ALL CURB RAMPS AND LANDING AREAS SHALL BE 6" CONCRETE WALK ON 4" AGGREGATE BASE CLASS 5. - LANDINGS SHALL BE CONNECTED TO EXISTING SIDEWALKS MAINTAINING A 4' WIDE (MINIMUM) PEDESTRIAN ACCESS ROUTE WITH A CROSS SLOPE THAT DOES NOT EXCEED 0.020 FT/FT AND A RUNNING SLOPE THAT DOES NOT EXCEED 0.050 FT/FT. - ALL DISTURBED AREAS IN CUT SECTION THAT ARE NOT OTHERWISE SURFACED SHALL BE GRADED FLUSH WITH NEW SURFACING AT A 1:6 SLOPE FOR A DISTANCE OF UP TO 5 FEET FROM THE EDGE OF WALK TO MATCH SURROUNDING CONTOURS.

CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
B01	535203.4424	132485.7865	900.90
B02	535211.6745	132475.4867	901.06

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Card\Plan\9054-000_ped01.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

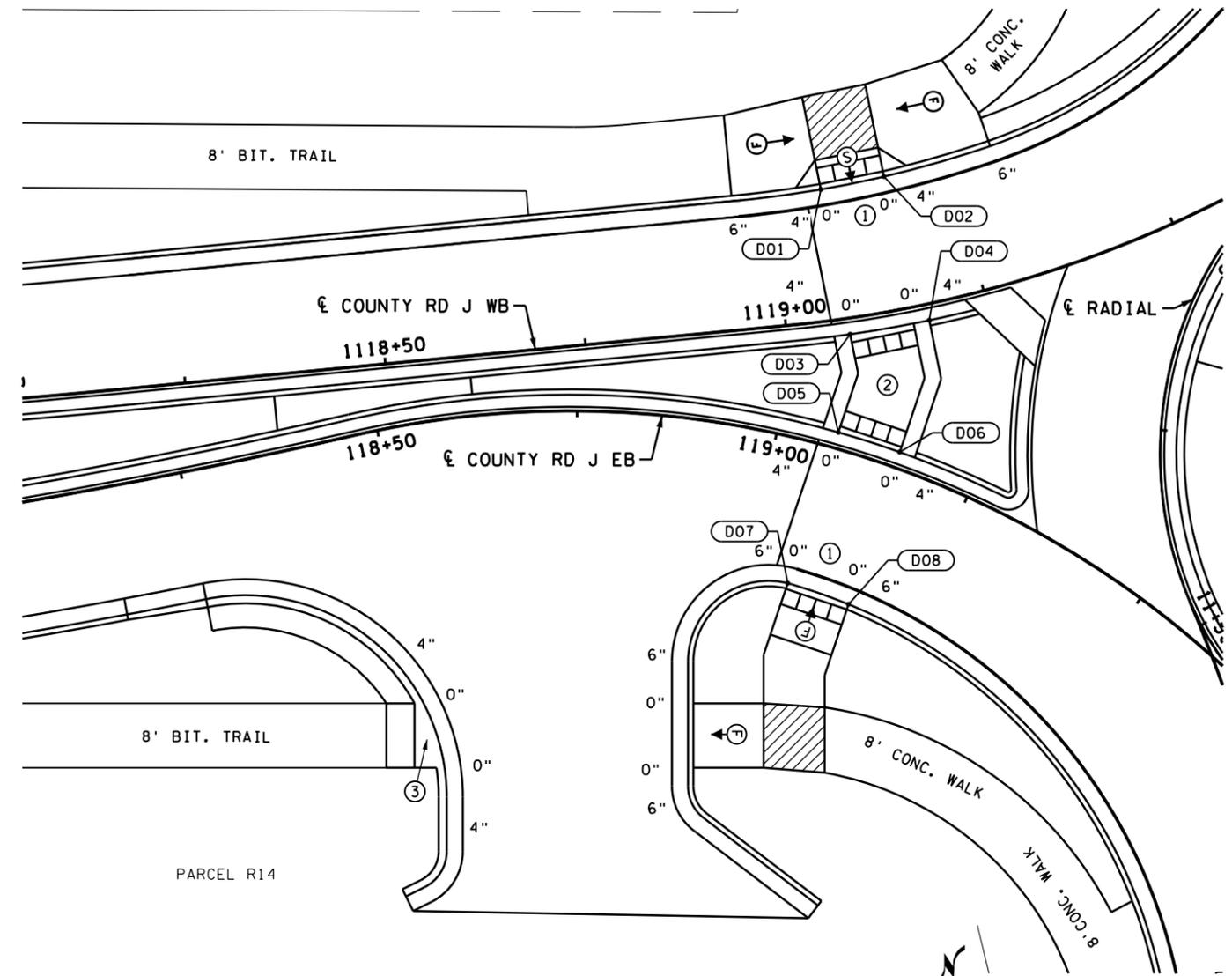
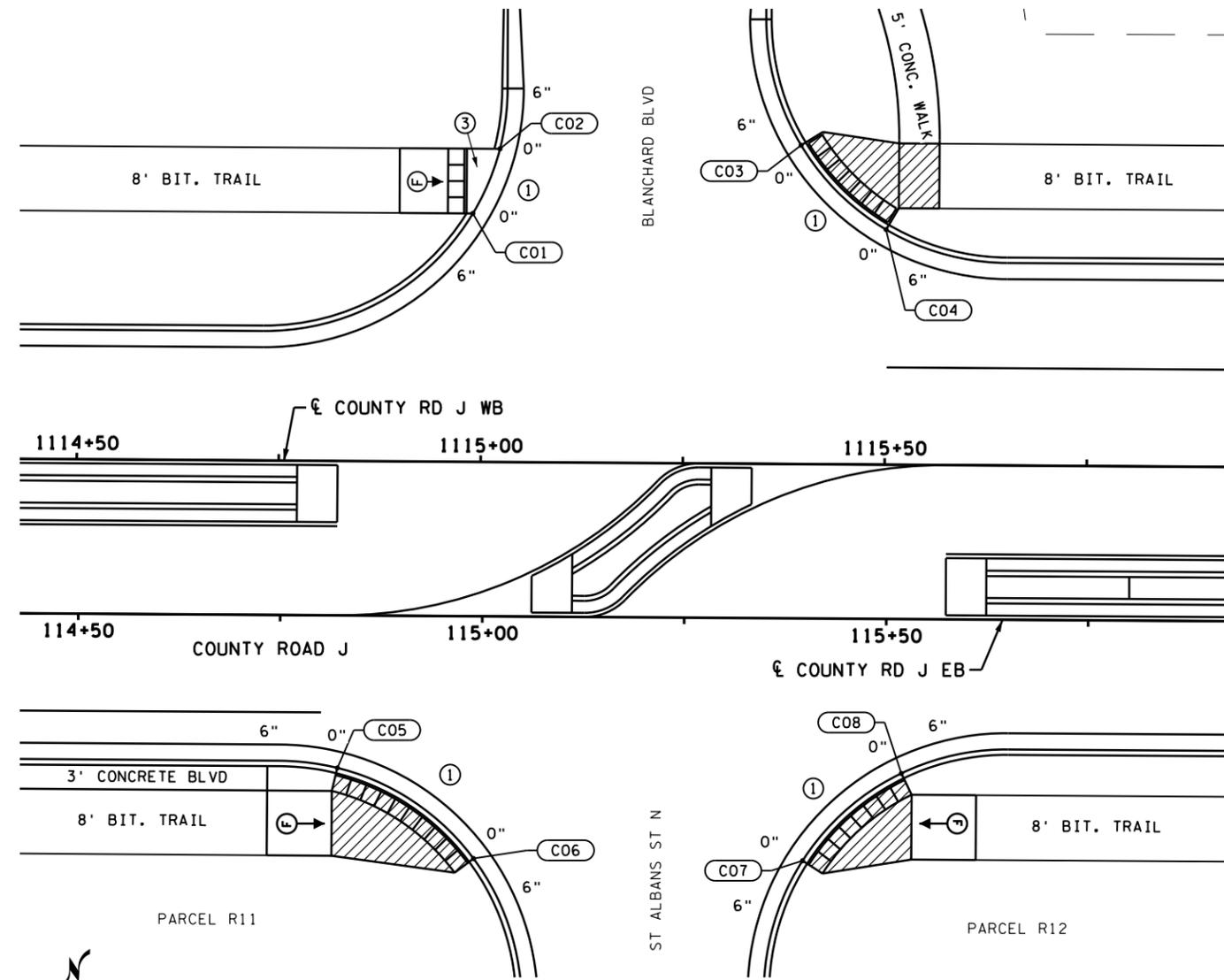
PEDESTRIAN RAMP DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
114
 OF
162
 SHEETS

County Road J at Saint Albans Street N and Blanchard Boulevard

County Road J at Roundabout (West Leg)

PLOTTED/REVISED: 2/1/2024 9:48:41 AM



CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
C01	535459.8797	132476.1370	901.54
C02	535463.2340	132484.1143	901.61
C03	535500.5042	132484.5552	901.22
C04	535511.0269	132474.1479	900.96
C05	535443.1107	132407.6879	901.19
C06	535459.9596	132396.4939	901.05
C07	535500.6865	132396.2248	901.14
C08	535512.9073	132407.0092	900.99

CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
D01	535864.6329	132474.9017	903.89
D02	535872.4728	132476.4942	903.99
D03	535868.2824	132456.9352	904.21
D04	535878.1325	132458.6785	904.33
D05	535866.8202	132444.7833	904.25
D06	535874.4393	132442.3412	904.36
D07	535860.5152	132426.0730	903.86
D08	535868.0803	132423.4710	904.01

LEGEND

- XX CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- X"** CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.
- S INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- F INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- 1 PEDESTRIAN CURB RAMP, SEE STANDARD PLANS
- 2 DEPRESSED MEDIAN CROSSWALK, SEE DETAIL ON SHEET 25.
- 3 2% MAX SLOPE IN ALL DIRECTIONS

GENERAL NOTES

- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION TO OBSTRUCTION AND/OR OBSTRUCTION TO FAR EDGE OF WALK.
- THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL NOT EXCEED 0.020 FT/FT
- PROVIDE A SAWCUT (INCIDENTAL) AT ALL CONCRETE WALK AND BITUMINOUS TRAIL REMOVAL LIMITS.
- ALL CURB RAMPS AND LANDING AREAS SHALL BE 6" CONCRETE WALK ON 4" AGGREGATE BASE CLASS 5.
- LANDINGS SHALL BE CONNECTED TO EXISTING SIDEWALKS MAINTAINING A 4' WIDE (MINIMUM) PEDESTRIAN ACCESS ROUTE WITH A CROSS SLOPE THAT DOES NOT EXCEED 0.020 FT/FT AND A RUNNING SLOPE THAT DOES NOT EXCEED 0.050 FT/FT.
- ALL DISTURBED AREAS IN CUT SECTION THAT ARE NOT OTHERWISE SURFACED SHALL BE GRADED FLUSH WITH NEW SURFACING AT A 1:6 SLOPE FOR A DISTANCE OF UP TO 5 FEET FROM THE EDGE OF WALK TO MATCH SURROUNDING CONTOURS.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

PEDESTRIAN RAMP DETAILS

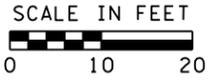
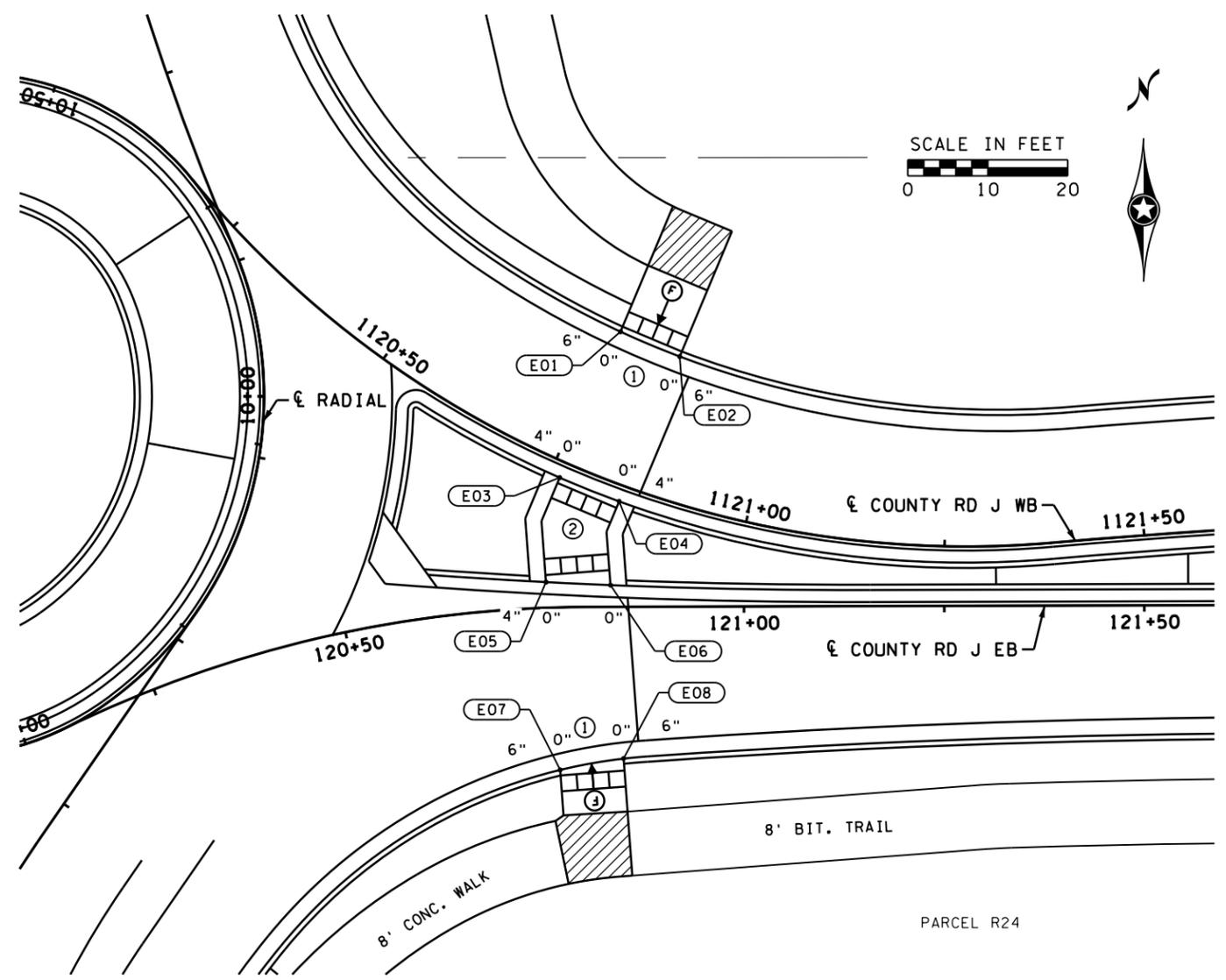
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
115
 OF
162
 SHEETS

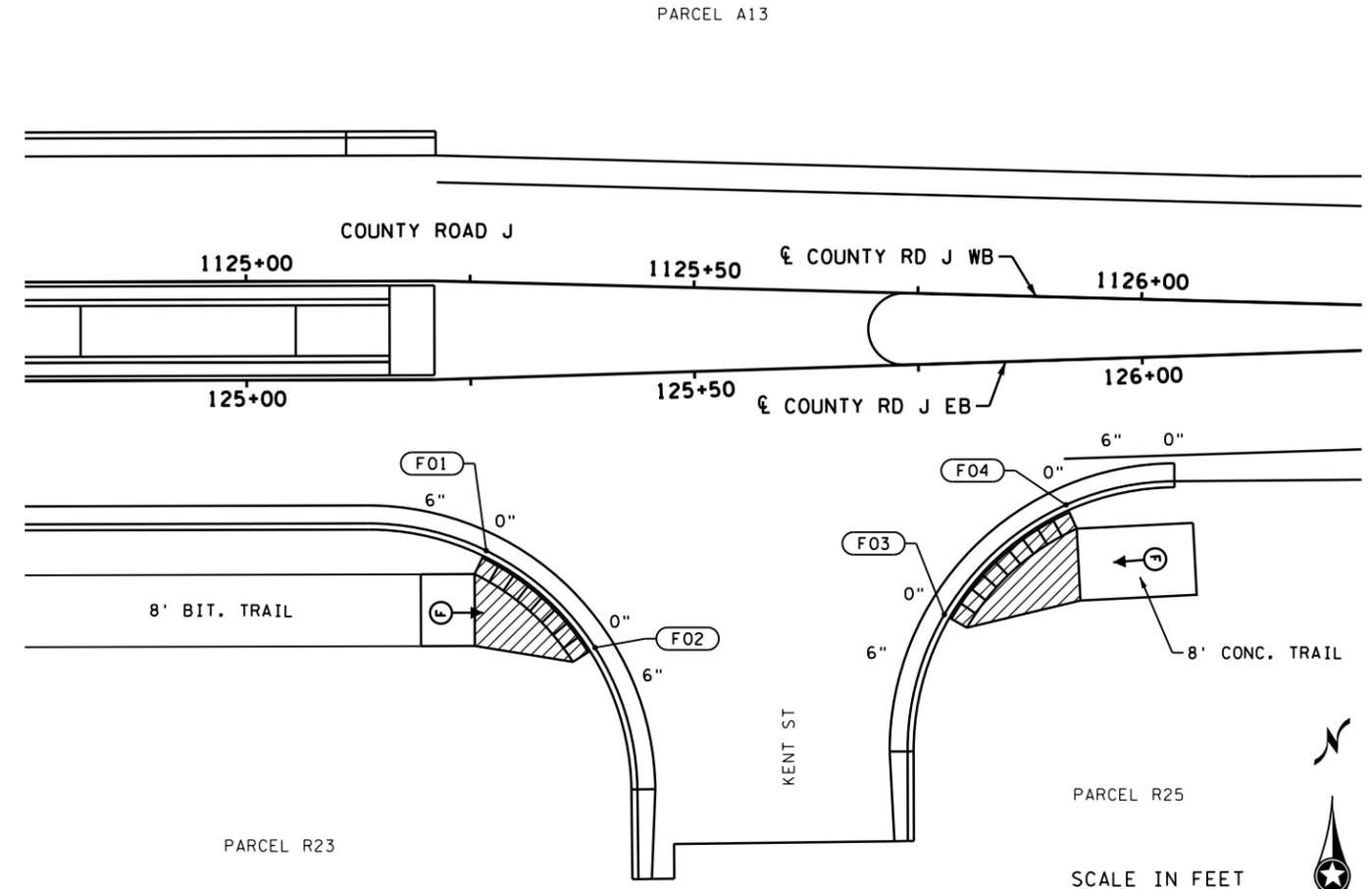
PLOTTED/REVISED: 2/1/2024 9:48:48 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Cad\Plan\9054-000_pao03.dgn

County Road J at Roundabout (East Leg)



County Road J at Kent Street



CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
E01	536028.8790	132454.8246	904.38
E02	536036.2577	132451.7336	904.22
E03	536021.2675	132436.6542	904.67
E04	536028.6990	132433.6891	904.55
E05	536019.5685	132423.6306	904.70
E06	536027.6189	132423.2607	904.57
E07	536021.3272	132400.2435	904.24
E08	536029.2435	132401.6574	904.12

LEGEND

- CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- X"** CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- 1** PEDESTRIAN CURB RAMP, SEE STANDARD PLANS
- 2** DEPRESSED MEDIAN CROSSWALK, SEE DETAIL ON SHEET 25.
- 3** 2% MAX SLOPE IN ALL DIRECTIONS

GENERAL NOTES

- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION TO OBSTRUCTION AND/OR OBSTRUCTION TO FAR EDGE OF WALK.
- THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL NOT EXCEED 0.020 FT/FT
- PROVIDE A SAWCUT (INCIDENTAL) AT ALL CONCRETE WALK AND BITUMINOUS TRAIL REMOVAL LIMITS.
- ALL CURB RAMP AND LANDING AREAS SHALL BE 6" CONCRETE WALK ON 4" AGGREGATE BASE CLASS 5.
- LANDINGS SHALL BE CONNECTED TO EXISTING SIDEWALKS MAINTAINING A 4' WIDE (MINIMUM) PEDESTRIAN ACCESS ROUTE WITH A CROSS SLOPE THAT DOES NOT EXCEED 0.020 FT/FT AND A RUNNING SLOPE THAT DOES NOT EXCEED 0.050 FT/FT.
- ALL DISTURBED AREAS IN CUT SECTION THAT ARE NOT OTHERWISE SURFACED SHALL BE GRADED FLUSH WITH NEW SURFACING AT A 1:6 SLOPE FOR A DISTANCE OF UP TO 5 FEET FROM THE EDGE OF WALK TO MATCH SURROUNDING CONTOURS.

CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
F01	536471.0311	132402.7599	904.88
F02	536483.1798	132391.9446	904.57
F03	536522.1583	132395.6413	904.82
F04	536535.7448	132407.8627	905.12

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

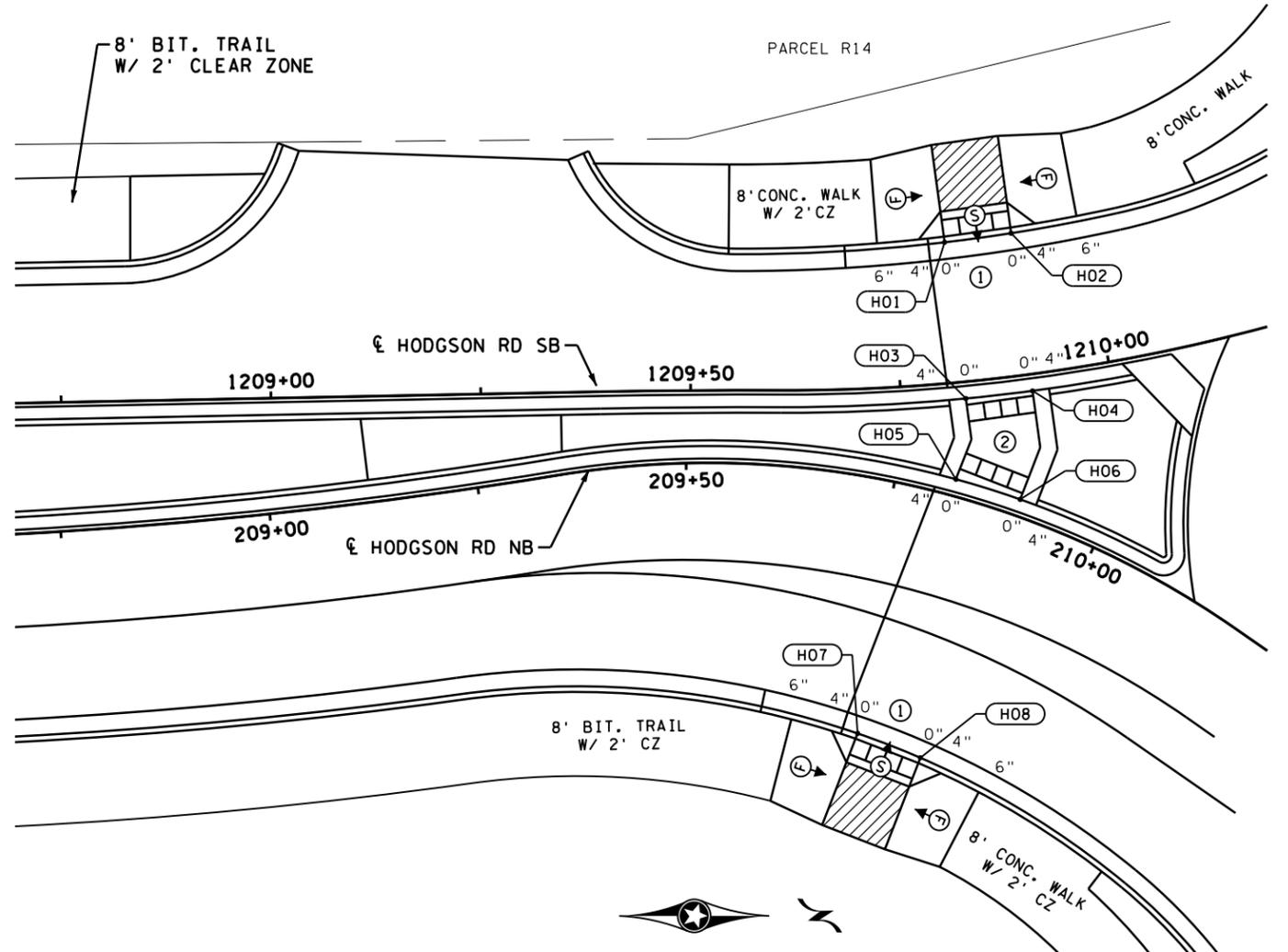
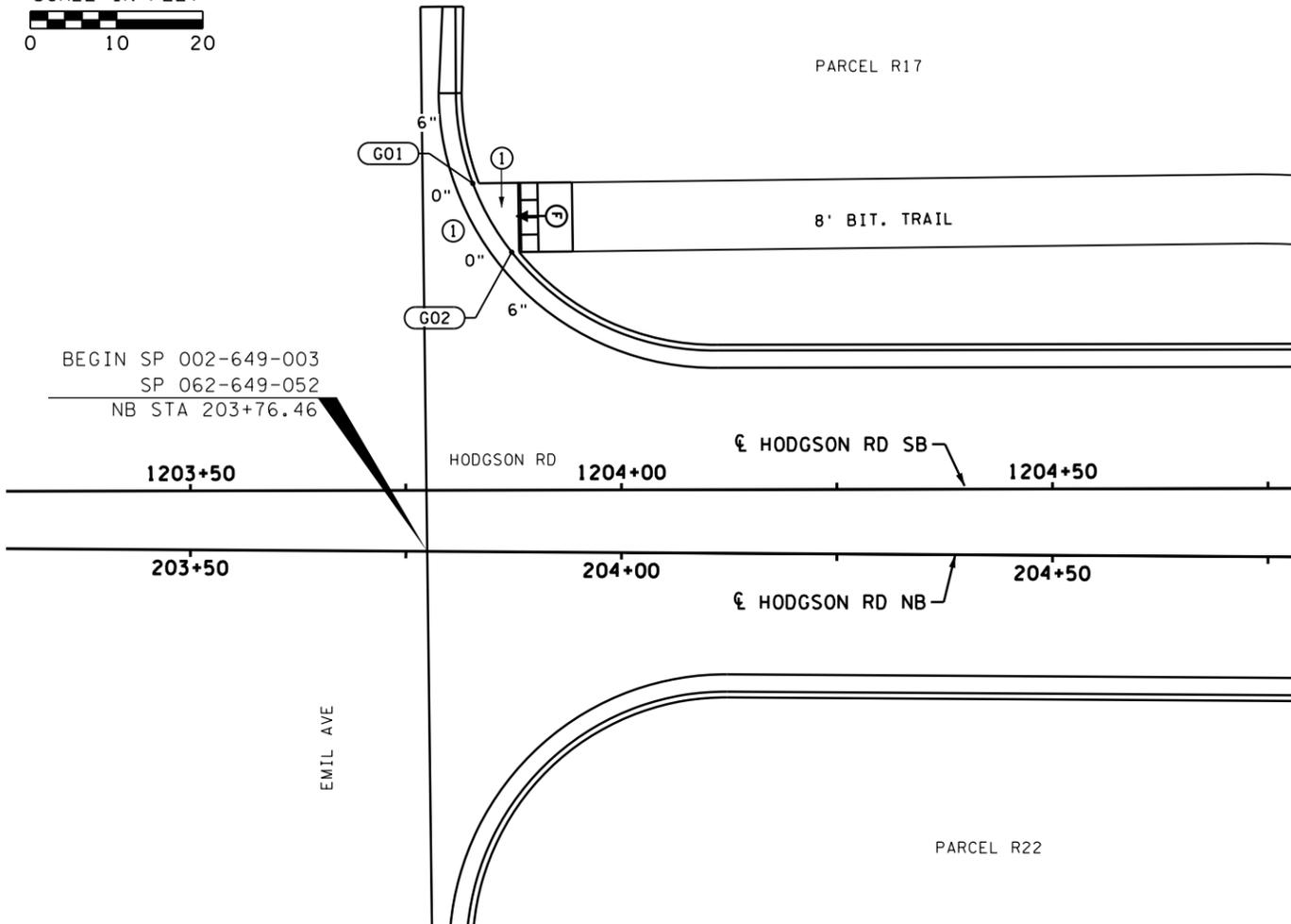
ANOKA & RAMSEY COUNTY, MN

PEDESTRIAN RAMP DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **116**
 OF
162
 SHEETS

CSAH 49 (Hodgson Road) at Emil Avenue

CSAH 49 (Hodgson Road) at Roundabout (South Leg)



BEGIN SP 002-649-003
SP 062-649-052
NB STA 203+76.46

CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
G01	535897.5940	131759.3594	902.72
G02	535905.5417	131763.8694	902.88

LEGEND		GENERAL NOTES	
	CONTROL POINTS AT GUTTER FLOW LINE	-	MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION TO OBSTRUCTION AND/OR OBSTRUCTION TO FAR EDGE OF WALK.
	TRUNCATED DOMES (SEE STANDARD PLATE 7038)	-	THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL NOT EXCEED 0.020 FT/FT
	X" CURB HEIGHT	-	PROVIDE A SAWCUT (INCIDENTAL) AT ALL CONCRETE WALK AND BITUMINOUS TRAIL REMOVAL LIMITS.
	LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.	-	ALL CURB RAMPS AND LANDING AREAS SHALL BE 6" CONCRETE WALK ON 4" AGGREGATE BASE CLASS 5.
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.	-	LANDINGS SHALL BE CONNECTED TO EXISTING SIDEWALKS MAINTAINING A 4' WIDE (MINIMUM) PEDESTRIAN ACCESS ROUTE WITH A CROSS SLOPE THAT DOES NOT EXCEED 0.020 FT/FT AND A RUNNING SLOPE THAT DOES NOT EXCEED 0.050 FT/FT.
	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.	-	ALL DISTURBED AREAS IN CUT SECTION THAT ARE NOT OTHERWISE SURFACED SHALL BE GRADED FLUSH WITH NEW SURFACING AT A 1:6 SLOPE FOR A DISTANCE OF UP TO 5 FEET FROM THE EDGE OF WALK TO MATCH SURROUNDING CONTOURS.
	PEDESTRIAN CURB RAMP, SEE STANDARD PLANS		
	DEPRESSED MEDIAN CROSSWALK, SEE DETAIL ON SHEET 25.		
	2% MAX SLOPE IN ALL DIRECTIONS		

CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
H01	535910.3102	132356.8102	904.66
H02	535909.2273	132364.7366	904.62
H03	535928.8758	132359.3467	905.04
H04	535927.9668	132367.2968	904.99
H05	535938.4676	132358.1703	905.10
H06	535940.8569	132365.8243	905.07
H07	535968.6578	132346.4611	904.47
H08	535971.5507	132353.9197	904.42

PLOTTED/REVISED: 2/1/2024 9:48:54 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\CardPlan\19054-000_pcd04.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
Plan By: AJF
Checked By: AJP
Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
DATE: 2/1/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

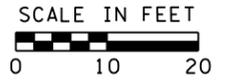
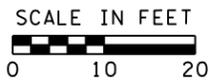
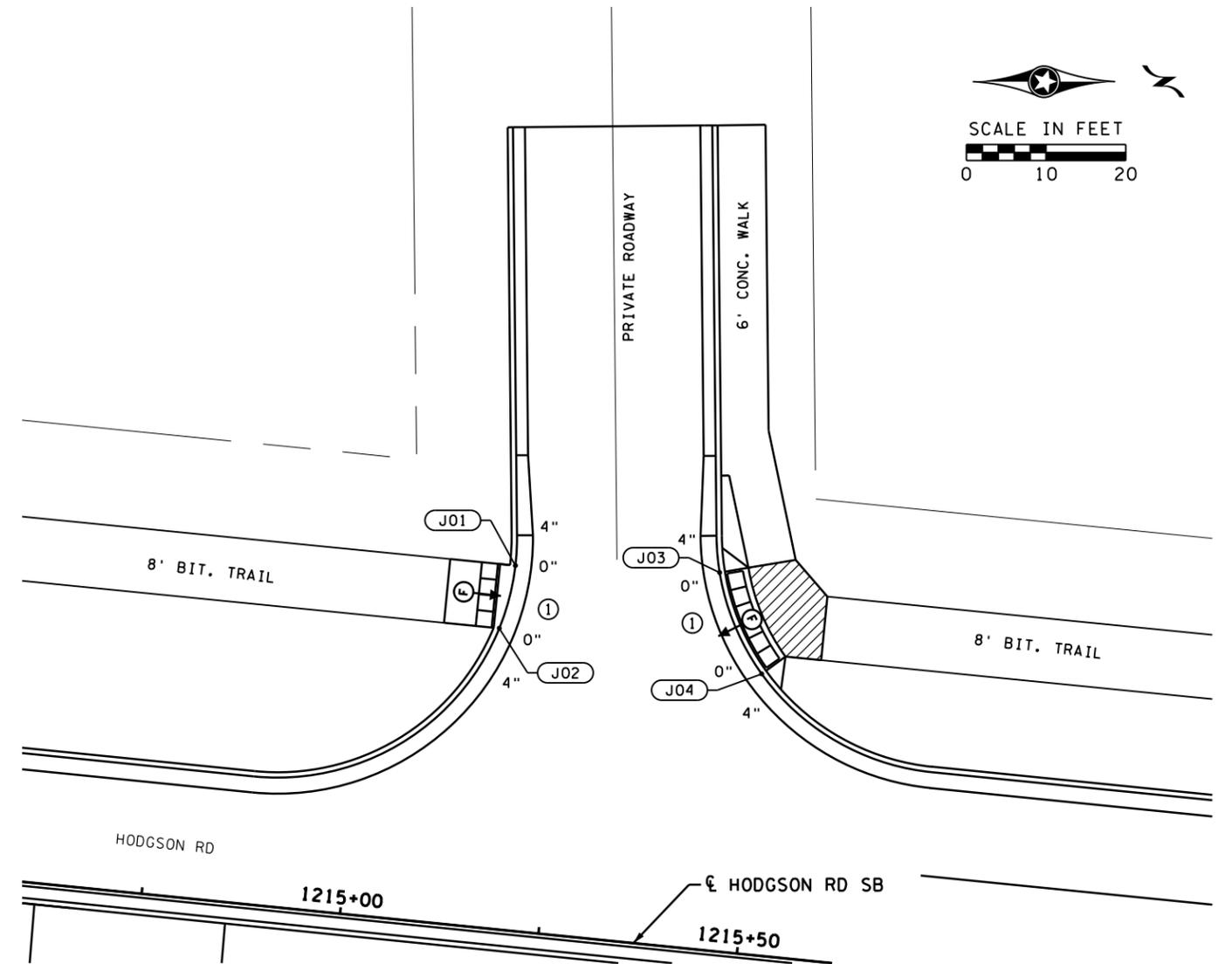
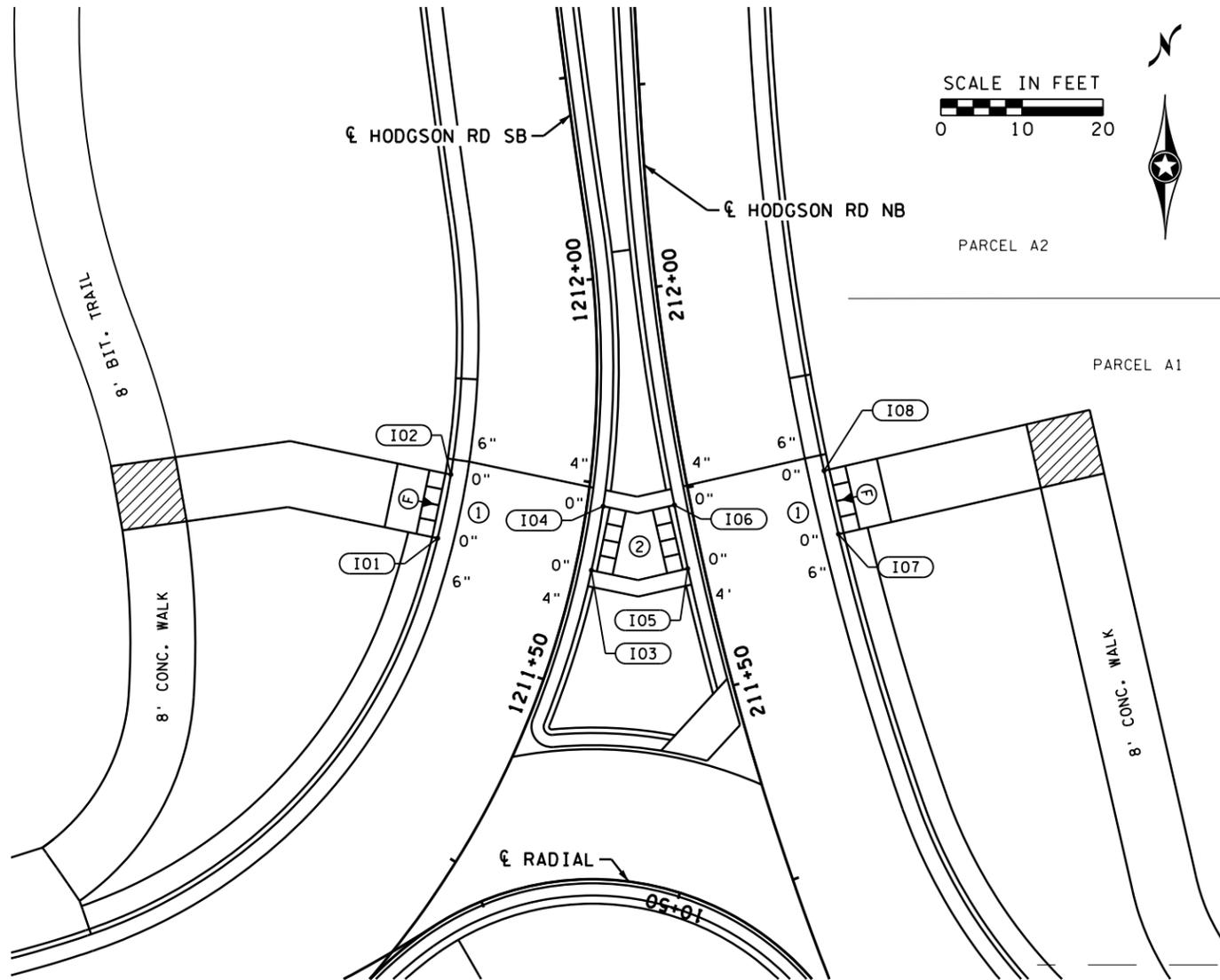
ANOKA & RAMSEY COUNTY, MN

PEDESTRIAN RAMP DETAILS
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
117
OF
162
SHEETS

CSAH 49 (Hodgson Road) at Roundabout (North Leg)

CSAH 49 (Hodgson Road) at Private Roadway



LEGEND

- XX CONTROL POINTS AT GUTTER FLOW LINE
- ▤ TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- x" CURB HEIGHT
- ▨ LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.
- S INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- F INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- ① PEDESTRIAN CURB RAMP, SEE STANDARD PLANS
- ② DEPRESSED MEDIAN CROSSWALK, SEE DETAIL ON SHEET 25.
- ③ 2% MAX SLOPE IN ALL DIRECTIONS

GENERAL NOTES

- MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION TO OBSTRUCTION AND/OR OBSTRUCTION TO FAR EDGE OF WALK.
- THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL NOT EXCEED 0.020 FT/FT
- PROVIDE A SAWCUT (INCIDENTAL) AT ALL CONCRETE WALK AND BITUMINOUS TRAIL REMOVAL LIMITS.
- ALL CURB RAMP AND LANDING AREAS SHALL BE 6" CONCRETE WALK ON 4" AGGREGATE BASE CLASS 5.
- LANDINGS SHALL BE CONNECTED TO EXISTING SIDEWALKS MAINTAINING A 4' WIDE (MINIMUM) PEDESTRIAN ACCESS ROUTE WITH A CROSS SLOPE THAT DOES NOT EXCEED 0.020 FT/FT AND A RUNNING SLOPE THAT DOES NOT EXCEED 0.050 FT/FT.
- ALL DISTURBED AREAS IN CUT SECTION THAT ARE NOT OTHERWISE SURFACED SHALL BE GRADED FLUSH WITH NEW SURFACING AT A 1:6 SLOPE FOR A DISTANCE OF UP TO 5 FEET FROM THE EDGE OF WALK TO MATCH SURROUNDING CONTOURS.

CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
I01	535928.3901	132529.0033	904.27
I02	535930.0190	132536.8357	903.22
I03	535947.3579	132525.0586	904.55
I04	535948.7980	132532.9302	904.51
I05	535959.2279	132525.2623	904.63
I06	535957.5754	132533.0909	904.58
I07	535977.8098	132529.5024	904.41
I08	535976.0301	132537.3019	904.34

CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
J01	535904.3641	132881.8128	906.15
J02	535912.2035	132879.7952	906.23
J03	535905.2340	132907.4170	906.14
J04	535917.9043	132912.6940	906.21

PLOTTED/REVISED: 2/1/2024 9:49:01 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Card\Plan\9054-000_ped05.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

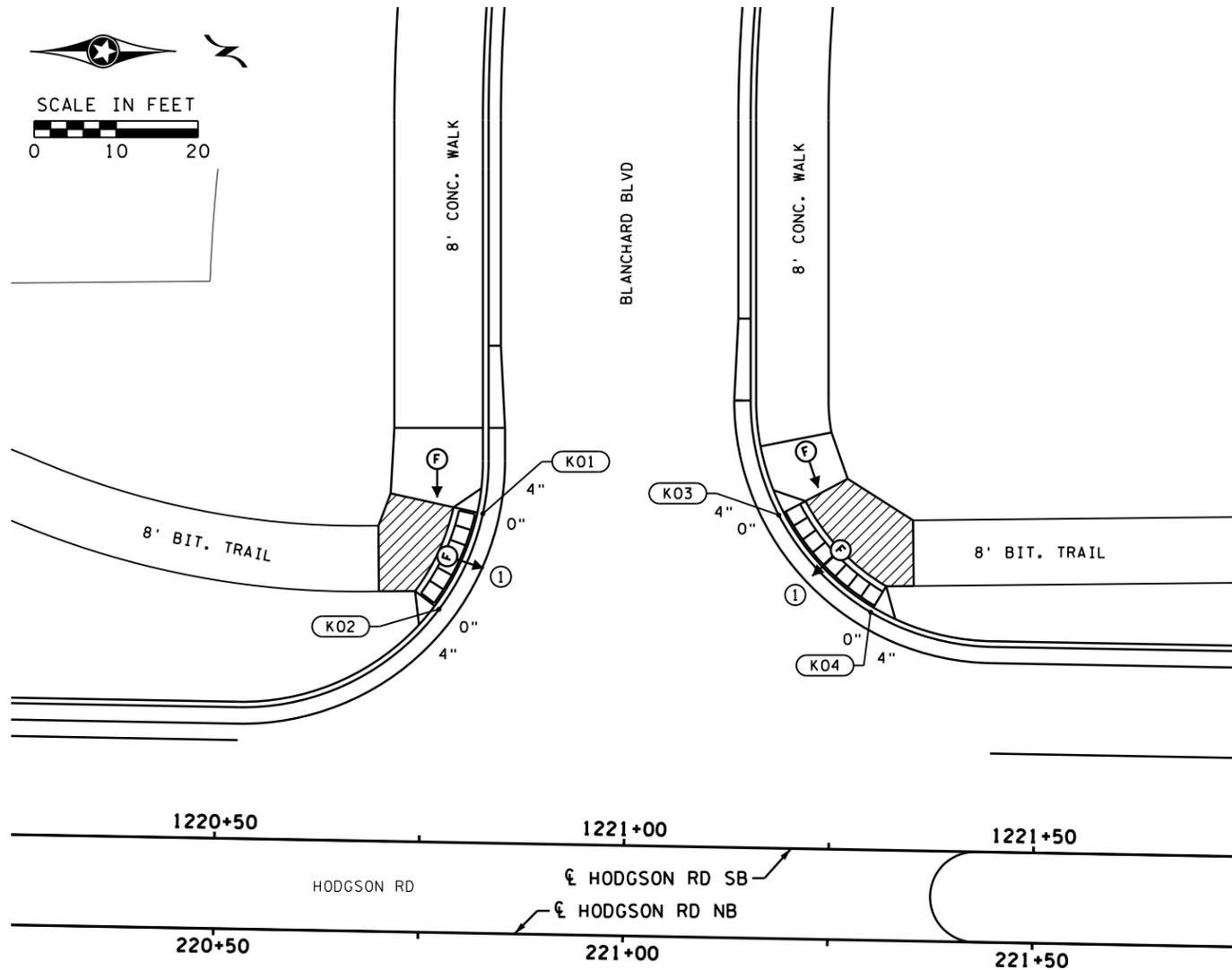
ANOKA & RAMSEY COUNTY, MN

PEDESTRIAN RAMP DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
118
 OF
162
 SHEETS

CSAH 49 (Hodgson Road) at Blanchard Boulevard

PLOTTED/REVISED: 2/1/2024 9:49:05 AM



CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
K01	535933.3572	133441.6858	907.37
K02	535944.9855	133436.3444	907.24
K03	535933.5321	133477.8223	906.28
K04	535945.3596	133489.0366	906.20

LEGEND	GENERAL NOTES
<p>XX CONTROL POINTS AT GUTTER FLOW LINE</p> <p> TRUNCATED DOMES (SEE STANDARD PLATE 7038)</p> <p>X" CURB HEIGHT</p> <p> LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS.</p> <p>S INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.</p> <p>F INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.</p> <p>I PEDESTRIAN CURB RAMP, SEE STANDARD PLANS</p> <p>2 DEPRESSED MEDIAN CROSSWALK, SEE DETAIL ON SHEET 25.</p> <p>3 2% MAX SLOPE IN ALL DIRECTIONS</p>	<ul style="list-style-type: none"> - MAINTAIN A MINIMUM 4' WIDE PEDESTRIAN ACCESS ROUTE OBSTRUCTION TO OBSTRUCTION AND/OR OBSTRUCTION TO FAR EDGE OF WALK. - THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL NOT EXCEED 0.020 FT/FT - PROVIDE A SAWCUT (INCIDENTAL) AT ALL CONCRETE WALK AND BITUMINOUS TRAIL REMOVAL LIMITS. - ALL CURB RAMPS AND LANDING AREAS SHALL BE 6" CONCRETE WALK ON 4" AGGREGATE BASE CLASS 5. - LANDINGS SHALL BE CONNECTED TO EXISTING SIDEWALKS MAINTAINING A 4' WIDE (MINIMUM) PEDESTRIAN ACCESS ROUTE WITH A CROSS SLOPE THAT DOES NOT EXCEED 0.020 FT/FT AND A RUNNING SLOPE THAT DOES NOT EXCEED 0.050 FT/FT. - ALL DISTURBED AREAS IN CUT SECTION THAT ARE NOT OTHERWISE SURFACED SHALL BE GRADED FLUSH WITH NEW SURFACING AT A 1:6 SLOPE FOR A DISTANCE OF UP TO 5 FEET FROM THE EDGE OF WALK TO MATCH SURROUNDING CONTOURS.

WSB PATH & FILENAME: Projects\Minnesota\09054-000\Card\Plan\9054-000_ped06.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: **AJP**

Plan By: **AJP**

Checked By: **AJP**

Approved By: **AJP**

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

PRINT NAME: **ANDREW J. FLOWMAN**

DATE: **2/1/2024** LICENSE #: **44200**

ANOKA COUNTY

RAMSEY COUNTY

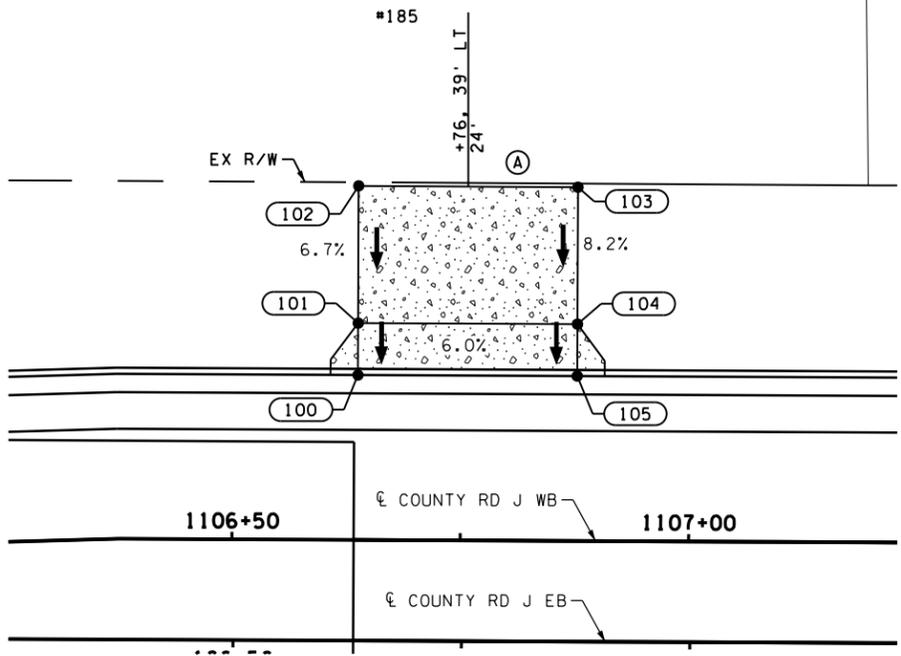
**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

PEDESTRIAN RAMP DETAILS

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

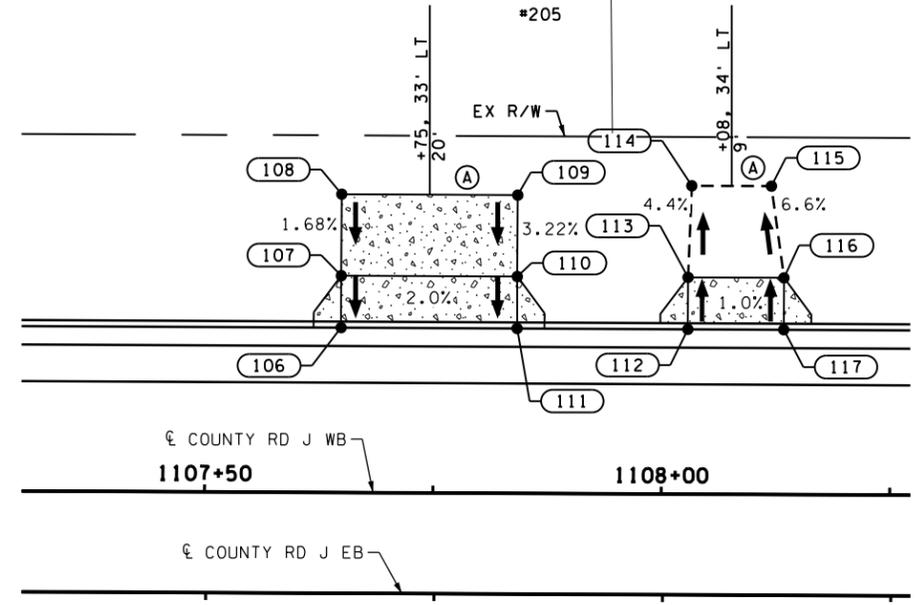
SHEET
119
OF
162
SHEETS



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
100	534624.7507	132461.3481	900.42
101	534624.7808	132467.0181	900.76
102	534624.8344	132482.0034	901.76
103	534648.834	132481.8632	901.81
104	534648.7806	132466.9043	900.56
105	534648.7505	132461.2344	900.22

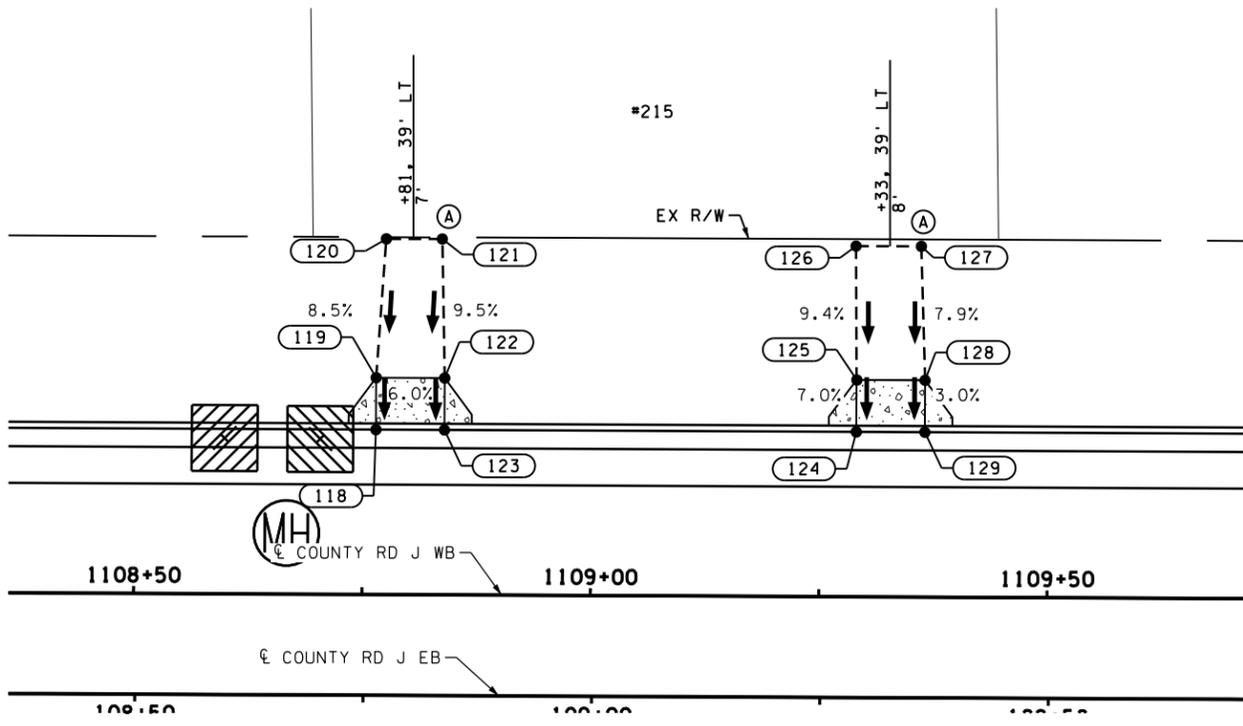
CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
106	534725.8921	132460.8686	899.61
107	534725.9191	132466.5385	899.72
108	534725.9664	132475.4414	899.87
109	534745.2323	132475.3392	899.86
110	534745.1851	132466.4472	899.57
111	534745.1581	132460.7773	899.46

CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
112	534763.8493	132460.6886	899.33
113	534763.8761	132466.3586	899.28
114	534764.2832	132476.3568	898.83
115	534773.0054	132476.3154	898.55
116	534774.376	132466.3088	899.22
117	534774.3491	132460.6389	899.28



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
118	534837.4726	132460.3396	899.18
119	534837.4995	132466.0095	899.52
120	534838.6198	132481.1691	900.86
121	534844.7382	132481.1585	901.01
122	534844.9994	132465.974	899.54
123	534844.9726	132460.304	899.20

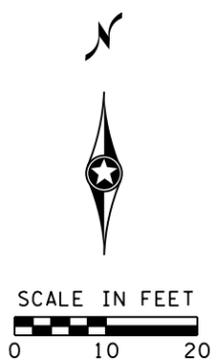
CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
124	534890.0575	132460.0903	899.40
125	534890.1188	132465.76	899.80
126	534890.0327	132480.3765	901.21
127	534897.1234	132480.3551	901.12
128	534897.5843	132465.7246	899.94
129	534897.5574	132460.0547	899.77



LEGEND

- PROPOSED CATCH BASIN
- CONSTRUCT CONCRETE CURB AND GUTTER
- CONTROL POINT
- DRAINAGE FLOW ARROW
- SEE DRIVEWAY DETAIL ON SHEET 13 .
- SEE DRIVEWAY DETAIL ON SHEET 14 .
- 6" CONCRETE DRIVEWAY PAVEMENT, SEE INSET D ON SHEET 16 .
- BITUMINOUS DRIVEWAY, SEE INSET E ON SHEET 16 .

DRIVEWAY INFORMATION: — STA AT CENTER, OFFSET
— DRIVEWAY WIDTH, MATERIAL



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

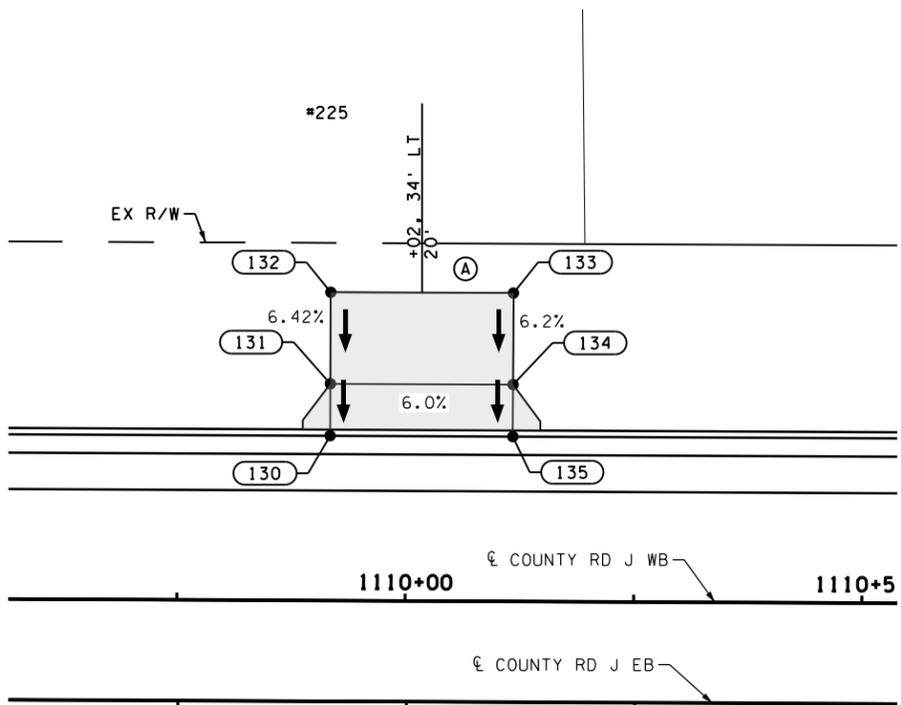
ANOKA & RAMSEY COUNTY, MN

DRIVEWAY DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

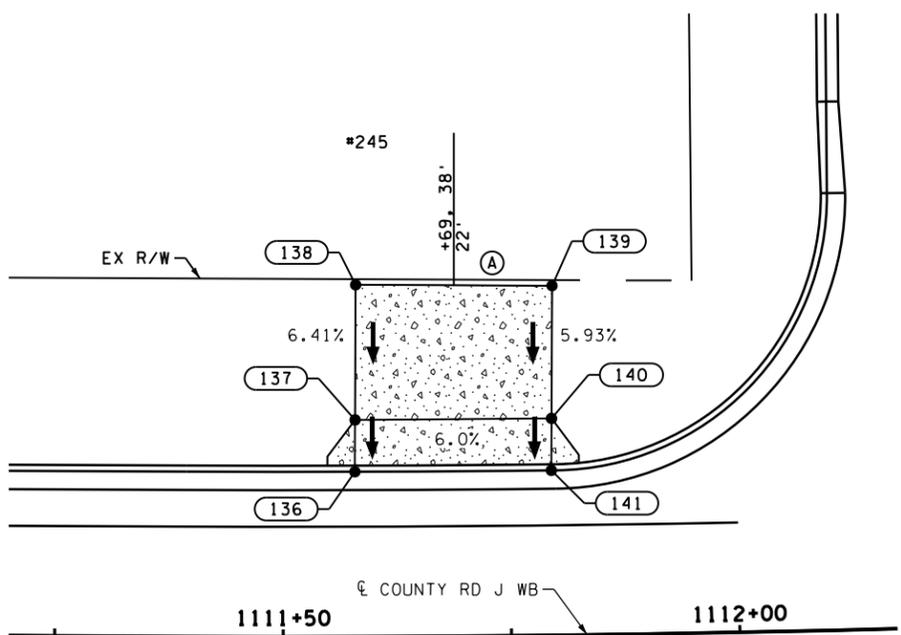
SHEET **120**
 OF **162**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:49:16 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_drw\02.dgn



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
130	534952.7187	132459.7932	899.78
131	534952.7455	132465.4631	900.12
132	534952.793	132475.463	900.76
133	534972.7927	132475.3682	900.86
134	534972.7453	132465.3683	900.24
135	534972.7184	132459.6983	899.90



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
136	535118.783	132459.0746	900.78
137	535118.8035	132464.7446	901.12
138	535118.8694	132479.4846	902.06
139	535140.3692	132479.3885	902.11
140	535140.3044	132464.8964	901.25
141	535140.2897	132459.2259	900.91

LEGEND

- PROPOSED CATCH BASIN
- CONSTRUCT CONCRETE CURB AND GUTTER
- CONTROL POINT
- DRAINAGE FLOW ARROW
- (A) SEE DRIVEWAY DETAIL ON SHEET 13 .
- (B) SEE DRIVEWAY DETAIL ON SHEET 14 .
- 6" CONCRETE DRIVEWAY PAVEMENT, SEE INSET D ON SHEET 16 .
- BITUMINOUS DRIVEWAY, SEE INSET E ON SHEET 16 .

DRIVEWAY INFORMATION: — STA AT CENTER, OFFSET
— DRIVEWAY WIDTH, MATERIAL



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE # 44200

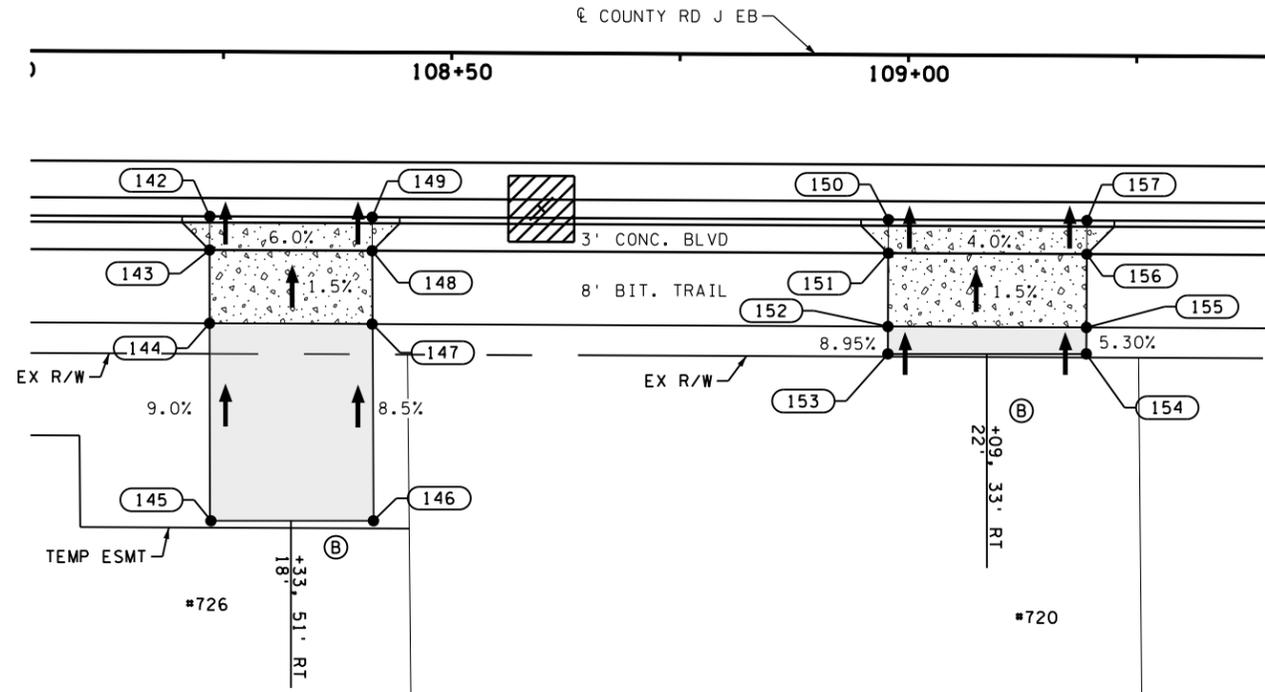


**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

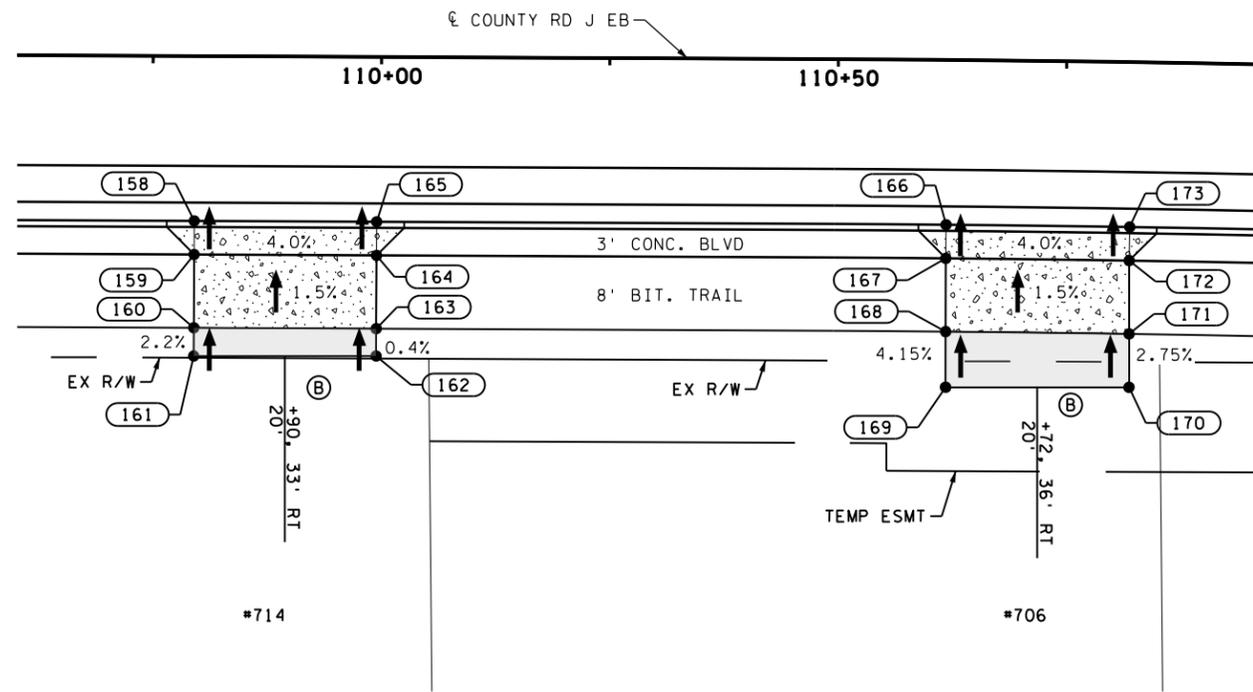
DRIVEWAY DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
121
 OF
162
 SHEETS



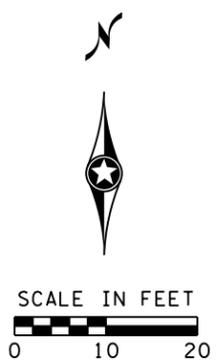
CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
142	534784.5741	132413.5899	899.24
143	534784.5567	132409.9199	899.46
144	534784.5567	132401.9198	899.58
145	534784.5962	132380.3536	901.56
146	534802.4957	132380.3536	901.40
147	534802.3508	132401.8354	899.53
148	534802.3508	132409.8355	899.41
149	534802.3682	132413.5055	899.19

CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
150	534858.8701	132413.2376	899.24
151	534858.8527	132409.5676	899.39
152	534858.8147	132401.5677	899.51
153	534858.8006	132398.5811	899.78
154	534880.5233	132398.5811	899.77
155	534880.537	132401.4647	899.61
156	534880.5749	132409.4692	899.49
157	534880.5923	132413.1346	899.35



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
158	534940.5567	132412.8503	899.71
159	534940.5393	132409.1803	899.85
160	534940.5014	132401.1804	899.97
161	534940.4867	132398.0946	900.04
162	534960.4621	132398.0946	900.11
163	534960.4763	132401.0857	900.09
164	534960.5142	132409.0856	899.97
165	534960.5316	132412.7556	899.83

CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
166	535022.8457	132412.435	900.20
167	535022.8132	132408.7651	900.35
168	535022.803	132400.7649	900.47
169	535022.7952	132394.6837	900.72
170	535042.8796	132394.6837	900.75
171	535042.887	132400.5189	900.59
172	535042.8972	132408.5197	900.47
173	535042.9544	132412.1893	900.32



LEGEND

- PROPOSED CATCH BASIN
- CONSTRUCT CONCRETE CURB AND GUTTER
- CONTROL POINT
- DRAINAGE FLOW ARROW
- SEE DRIVEWAY DETAIL ON SHEET 13 .
- SEE DRIVEWAY DETAIL ON SHEET 14 .
- 6" CONCRETE DRIVEWAY PAVEMENT, SEE INSET D ON SHEET 16 .
- BITUMINOUS DRIVEWAY, SEE INSET E ON SHEET 16 .

DRIVEWAY INFORMATION: — STA AT CENTER, OFFSET
— DRIVEWAY WIDTH, MATERIAL

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

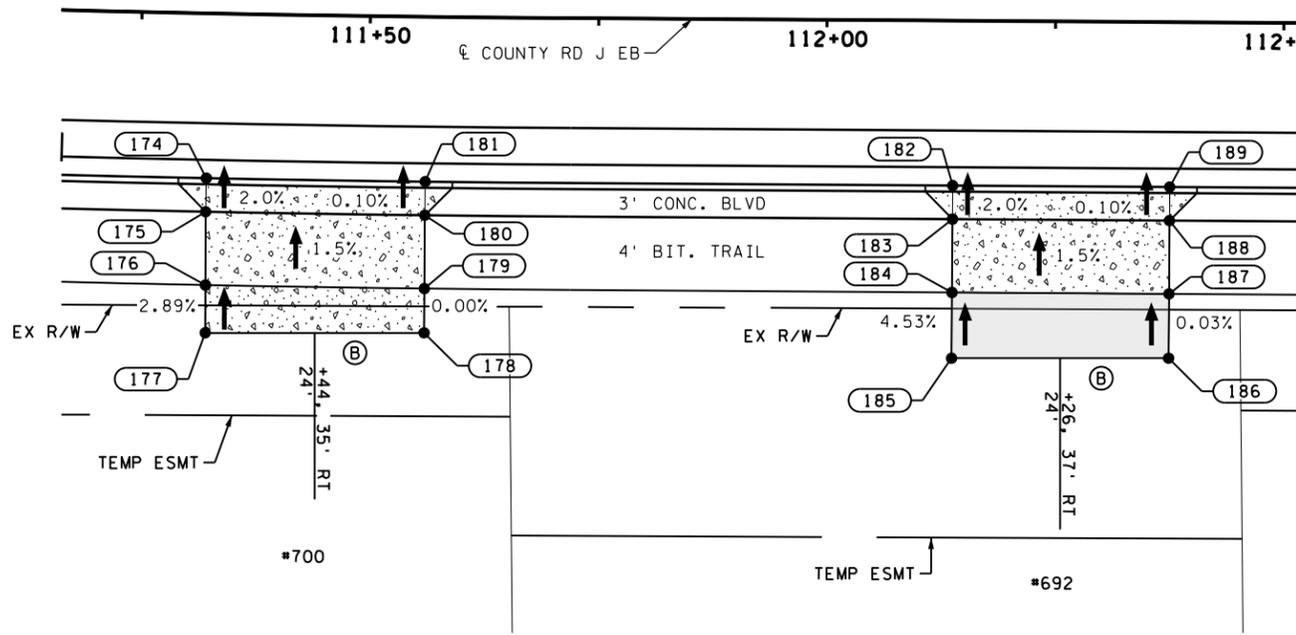
DRIVEWAY DETAILS

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **122**
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:49:27 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000.dwg

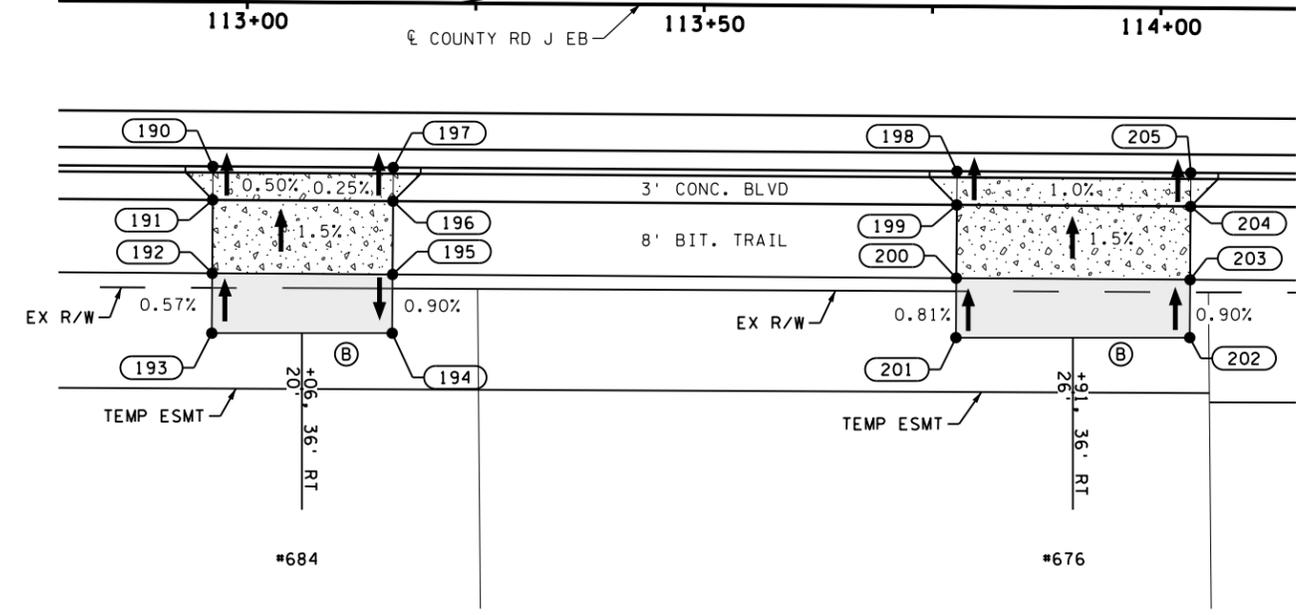


CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
174	535093.0896	132411.1043	900.62
175	535093.0168	132407.435	900.70
176	535092.9877	132399.434	900.82
177	535092.9688	132394.2174	900.97
178	535116.929	132394.2174	900.89
179	535116.9572	132399.0542	900.89
180	535117.0037	132407.0542	900.77
181	535117.0474	132410.724	900.77

CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
182	535174.7857	132410.299	901.11
183	535174.7613	132406.6291	901.19
184	535174.7082	132398.6293	901.31
185	535174.6606	132391.444	901.63
186	535198.4192	132391.444	901.38
187	535198.4658	132398.4717	901.38
188	535198.5189	132406.4715	901.26
189	535198.5432	132410.1414	901.26

CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
190	535257.2649	132409.7518	901.60
191	535257.2405	132406.0819	901.62
192	535257.1874	132398.0821	901.74
193	535257.144	132391.5379	901.77
194	535276.8874	132391.5379	901.75
195	535276.93	132397.958	901.80
196	535276.983	132405.9509	901.68
197	535277.0074	132409.6208	901.67

CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
198	535338.715	132409.2114	901.70
199	535338.6907	132405.5415	901.74
200	535338.6376	132397.5417	901.86
201	535338.5946	132391.0567	901.91
202	535364.1885	132391.0567	901.84
203	535364.2304	132397.3719	901.78
204	535364.2835	132405.3717	901.66
205	535364.3079	132409.0416	901.63



LEGEND

- PROPOSED CATCH BASIN
- CONSTRUCT CONCRETE CURB AND GUTTER
- CONTROL POINT
- DRAINAGE FLOW ARROW
- SEE DRIVEWAY DETAIL ON SHEET 13 .
- SEE DRIVEWAY DETAIL ON SHEET 14 .
- 6" CONCRETE DRIVEWAY PAVEMENT, SEE INSET D ON SHEET 16 .
- BITUMINOUS DRIVEWAY, SEE INSET E ON SHEET 16 .

DRIVEWAY INFORMATION: — STA AT CENTER, OFFSET
— DRIVEWAY WIDTH, MATERIAL



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE # 44200

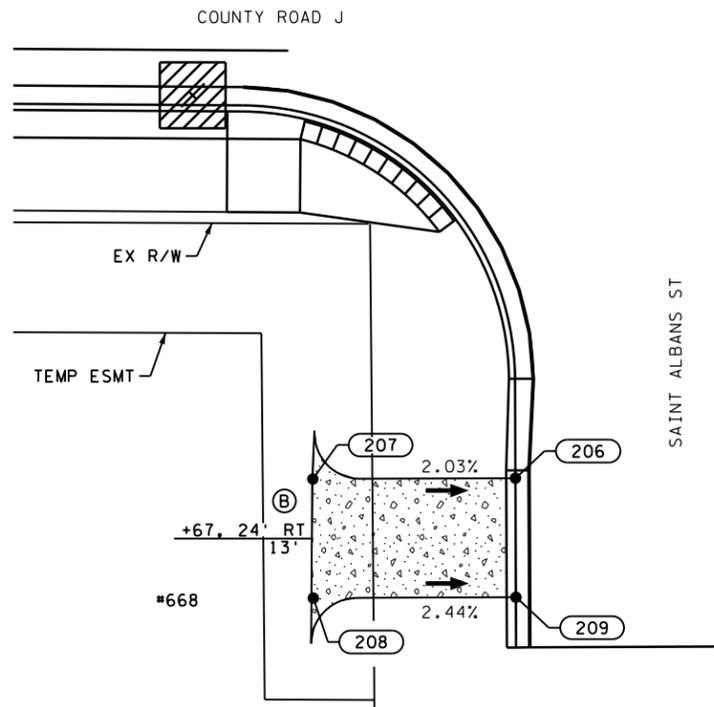


**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

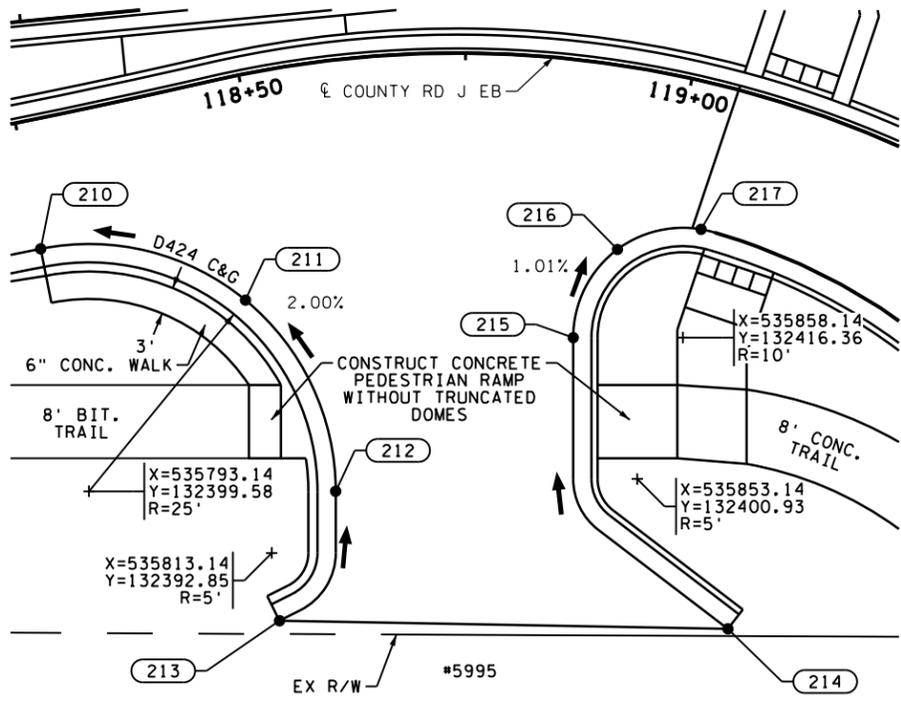
ANOKA & RAMSEY COUNTY, MN

DRIVEWAY DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
123
 OF
162
 SHEETS



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
206	535465.9526	132367.8471	900.85
207	535443.7759	132367.7508	901.30
208	535443.8323	132354.7509	901.30
209	535466.0091	132354.8472	900.76

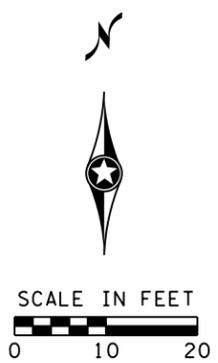


CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
210	535787.8454	132426.0591	903.07
211	535810.2562	132420.4619	903.09
212	535820.1372	132399.5828	904.03
213	535813.9821	132385.4503	904.37
214	535863.0709	132384.5627	904.49
215	535846.1372	132416.3598	904.18
216	535850.9808	132425.9924	904.06
217	535860.1291	132428.1933	903.96

LEGEND

- PROPOSED CATCH BASIN
- CONSTRUCT CONCRETE CURB AND GUTTER
- CONTROL POINT
- DRAINAGE FLOW ARROW
- SEE DRIVEWAY DETAIL ON SHEET 13 .
- SEE DRIVEWAY DETAIL ON SHEET 14 .
- 6" CONCRETE DRIVEWAY PAVEMENT, SEE INSET D ON SHEET 16 .
- BITUMINOUS DRIVEWAY, SEE INSET E ON SHEET 16 .

DRIVEWAY INFORMATION: STA AT CENTER, OFFSET / DRIVEWAY WIDTH, MATERIAL



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE # 44200

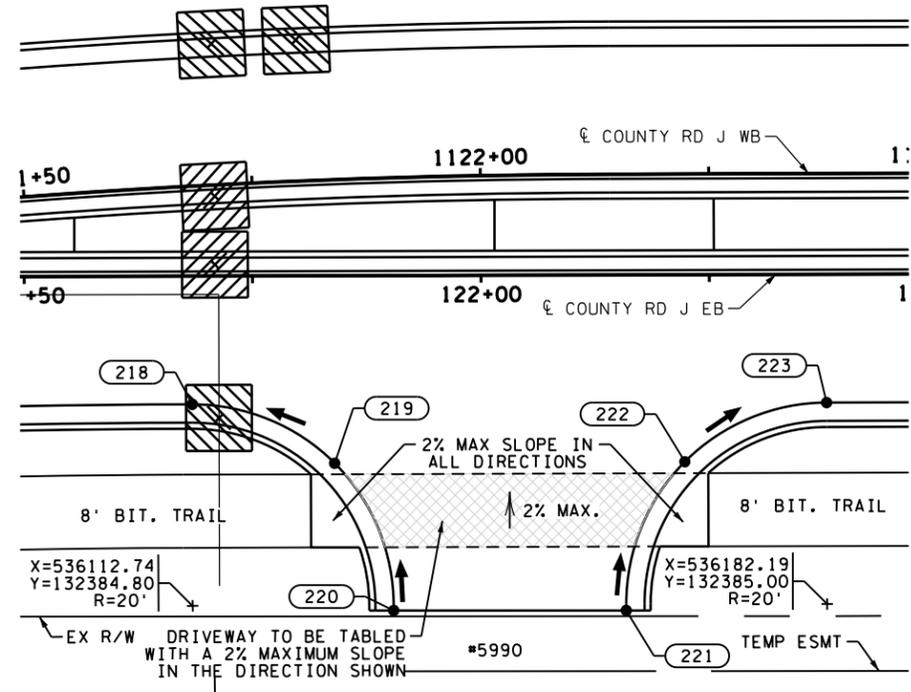


**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

DRIVEWAY DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **124**
 OF **162**
 SHEETS



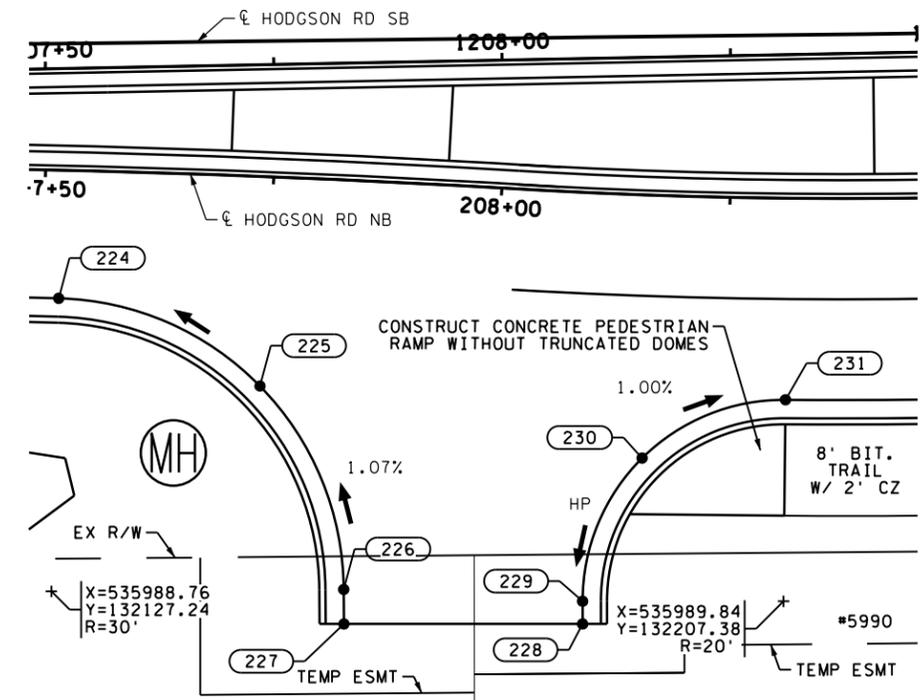
CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
218	536112.6986	132406.7985	903.55
219	536128.2832	132400.3703	904.07
220	536134.7424	132384.295	904.63
221	536160.2039	132384.295	904.32
222	536166.6141	132400.5313	904.08
223	536182.1299	132406.9971	903.84

LEGEND

- PROPOSED CATCH BASIN
- CONSTRUCT CONCRETE CURB AND GUTTER
- CONTROL POINT
- DRAINAGE FLOW ARROW
- SEE DRIVEWAY DETAIL ON SHEET 13 .
- SEE DRIVEWAY DETAIL ON SHEET 14 .
- 6" CONCRETE DRIVEWAY PAVEMENT, SEE INSET D ON SHEET 16 .
- BITUMINOUS DRIVEWAY, SEE INSET E ON SHEET 16 .

DRIVEWAY INFORMATION: STA AT CENTER, OFFSET
DRIVEWAY WIDTH, MATERIAL

CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
224	535956.7653	132128.0367	903.82
225	535966.3388	132150.0727	903.77
226	535988.5486	132159.2356	904.03
227	535992.3212	132159.26	904.07
228	535992.3212	132185.3773	904.20
229	535989.8391	132185.3773	904.24
230	535974.2064	132191.8976	904.15
231	535967.8402	132207.5937	904.12



NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE # 44200

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

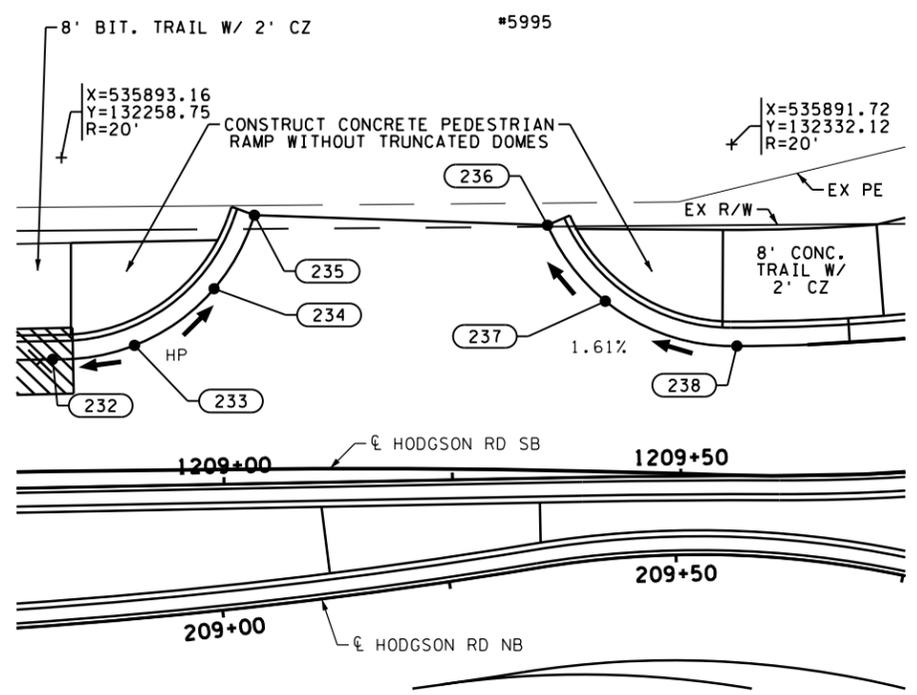
ANOKA & RAMSEY COUNTY, MN

DRIVEWAY DETAILS
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

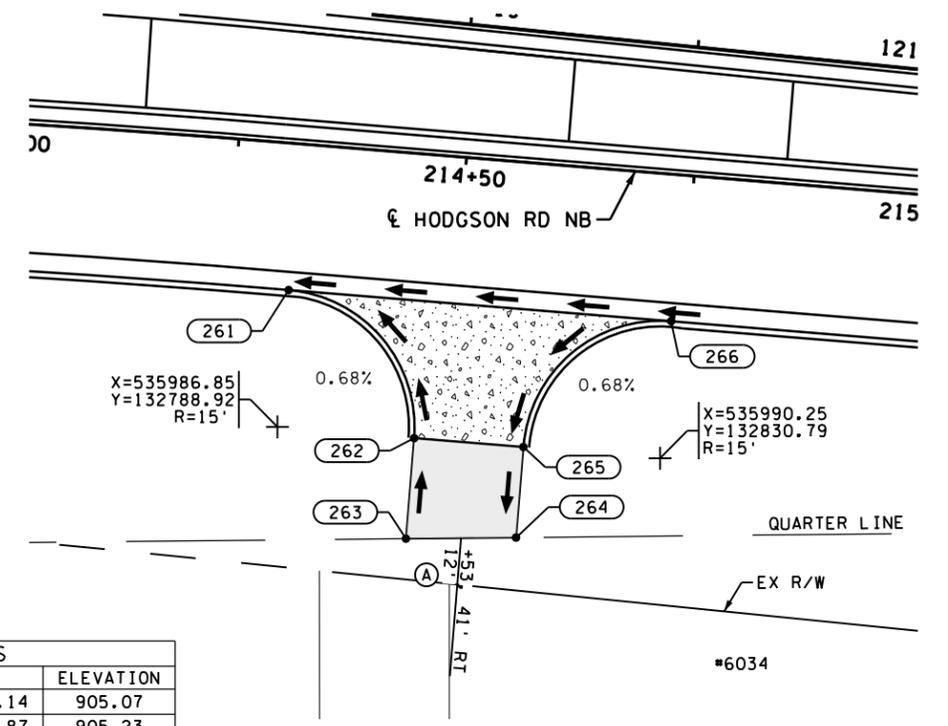
SHEET **125**
OF
162
SHEETS

PLOTTED/REVISED: 2/1/2024 9:49:44 AM

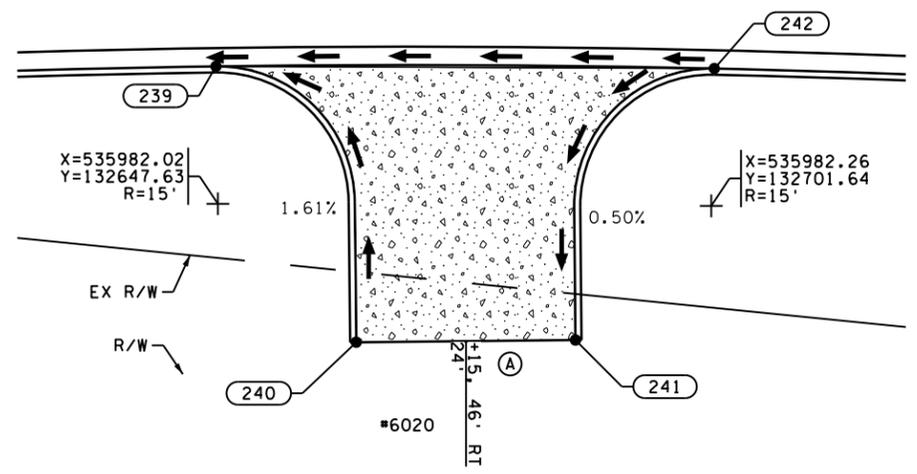
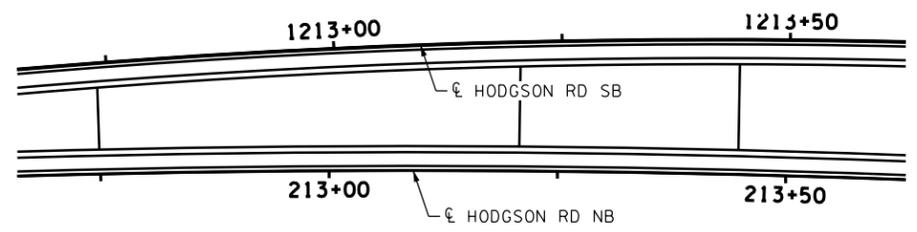
WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_drw\07.dgn



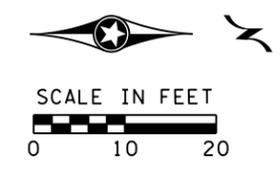
CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
232	535915.1843	132257.7763	904.57
233	535913.653	132266.7562	904.60
234	535907.471	132275.4607	904.53
235	535899.4428	132279.8797	903.85
236	535900.5286	132311.958	904.47
237	535908.829	132318.2866	904.78
238	535913.7213	132332.6838	904.89



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
261	535971.90	132790.14	905.07
262	535988.06	132803.87	905.23
263	535999.05	132802.98	905.31
264	535998.93	132815.09	905.47
265	535989.04	132815.83	905.53
266	535975.30	132832.00	905.69



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
239	535967.0226	132647.4251	904.12
240	535997.1443	132662.7845	904.75
241	535996.9057	132686.7846	904.69
242	535967.2633	132701.9816	904.86



LEGEND

- PROPOSED CATCH BASIN
- CONSTRUCT CONCRETE CURB AND GUTTER
- CONTROL POINT
- DRAINAGE FLOW ARROW
- (A) SEE DRIVEWAY DETAIL ON SHEET 13 .
- (B) SEE DRIVEWAY DETAIL ON SHEET 14 .
- 6" CONCRETE DRIVEWAY PAVEMENT, SEE INSET D ON SHEET 16 .
- BITUMINOUS DRIVEWAY, SEE INSET E ON SHEET 16 .

DRIVEWAY INFORMATION: — STA AT CENTER, OFFSET
— DRIVEWAY WIDTH, MATERIAL

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200

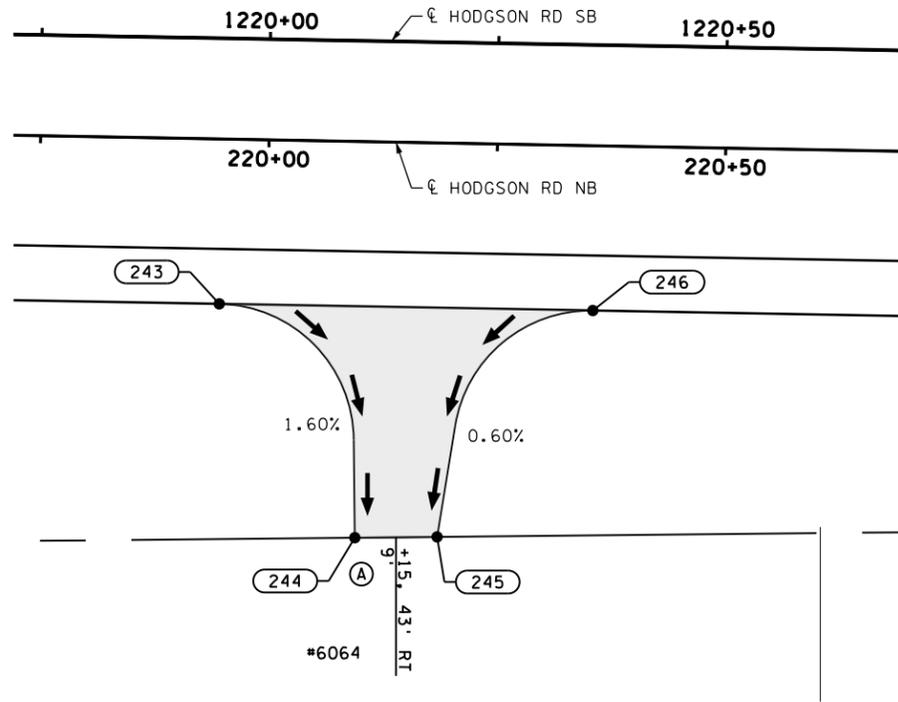
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

DRIVEWAY DETAILS

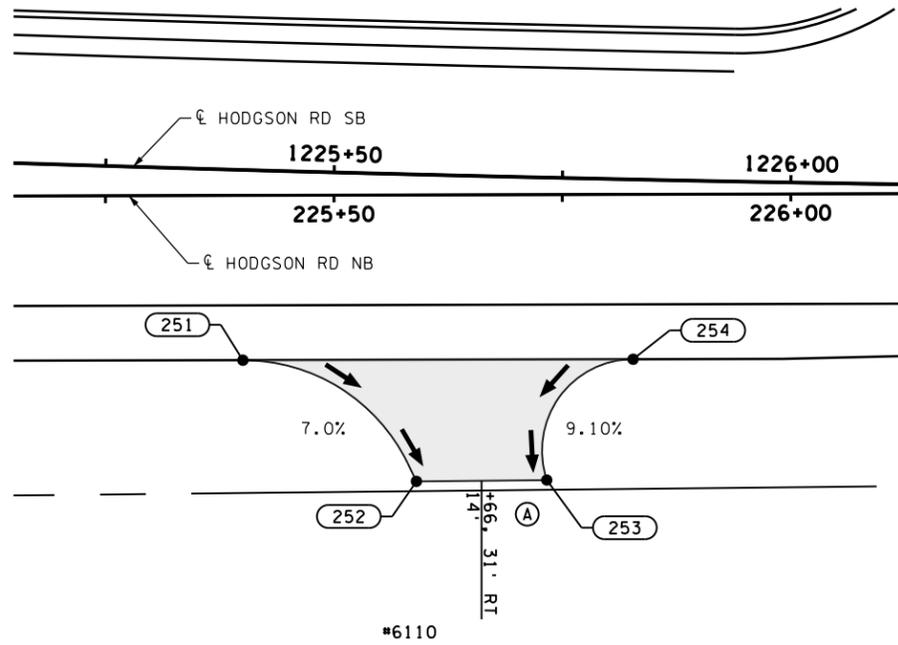
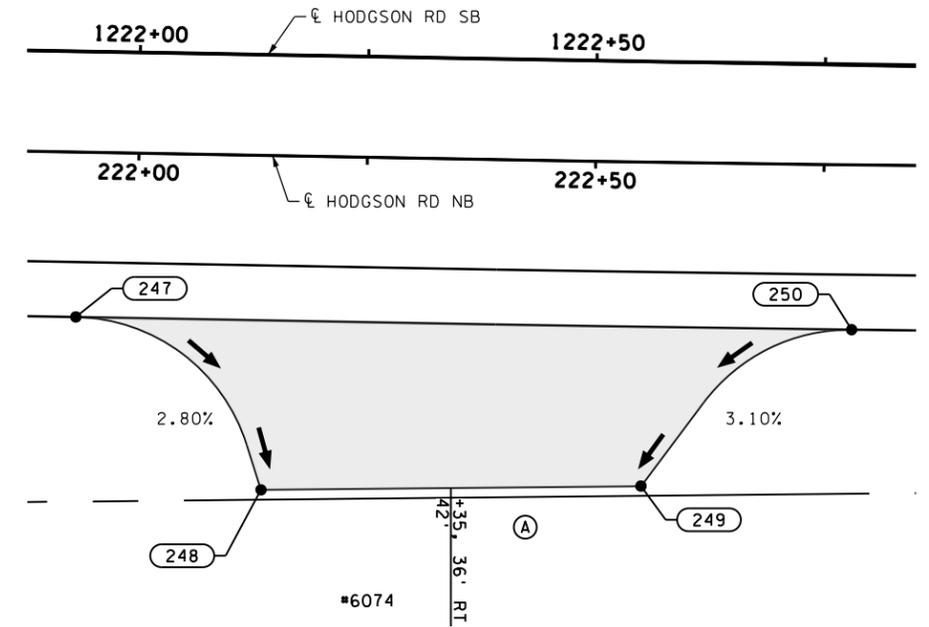
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **126**
 OF
 162
 SHEETS



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
243	536000.8931	133353.3226	907.09
244	536026.4288	133368.16	906.56
245	536026.3409	133377.1606	906.70
246	536001.6243	133394.214	906.89

CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
247	536004.4423	133551.8256	907.22
248	536023.3283	133572.0942	906.39
249	536022.9148	133613.6857	906.26
250	536005.8343	133636.7449	907.19



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
251	536005.7538	133898.7589	905.91
252	536018.9875	133917.7608	904.19
253	536018.8393	133932.0177	903.97
254	536005.6454	133941.4685	905.70



LEGEND

- PROPOSED CATCH BASIN
- CONSTRUCT CONCRETE CURB AND GUTTER
- CONTROL POINT
- DRAINAGE FLOW ARROW
- (A) SEE DRIVEWAY DETAIL ON SHEET 13 .
- (B) SEE DRIVEWAY DETAIL ON SHEET 14 .
- 6" CONCRETE DRIVEWAY PAVEMENT, SEE INSET D ON SHEET 16 .
- BITUMINOUS DRIVEWAY, SEE INSET E ON SHEET 16 .

DRIVEWAY INFORMATION: — STA AT CENTER, OFFSET
— DRIVEWAY WIDTH, MATERIAL

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE # 44200

CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

ANOKA & RAMSEY COUNTY, MN

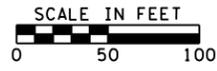
DRIVEWAY DETAILS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **127** OF **162** SHEETS

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

LEGEND

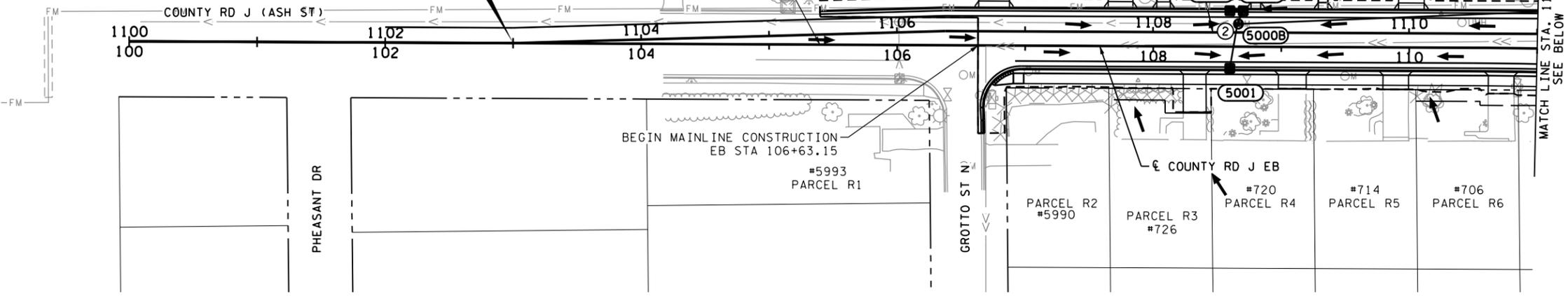
-  GUIDE POST TYPE B
-  RANDOM RIPRAP
-  CATCH BASIN
-  MANHOLE
-  DROP INLET
-  APRON
-  STRUCTURE
-  SURFACE FLOW DIRECTION
-  CONNECT TO EXISTING DRAINAGE STRUCTURE
-  CONNECT TO EXISTING STORM SEWER
-  STORM SEWER PIPE
-  INPLACE STORM SEWER
-  INPLACE CULVERT
-  CONSTRUCTION LIMITS
-  AREA OF ENVIRONMENTAL SENSITIVITY



BEGIN SP 002-632-019
 SP 062-601-016
 SP 167-020-030
 SP 210-020-014
 EB STA 103+00.00

BEGIN CONSTRUCTION
 EB STA 105+39.71

BEGIN MAINLINE CONSTRUCTION
 EB STA 106+63.15



Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

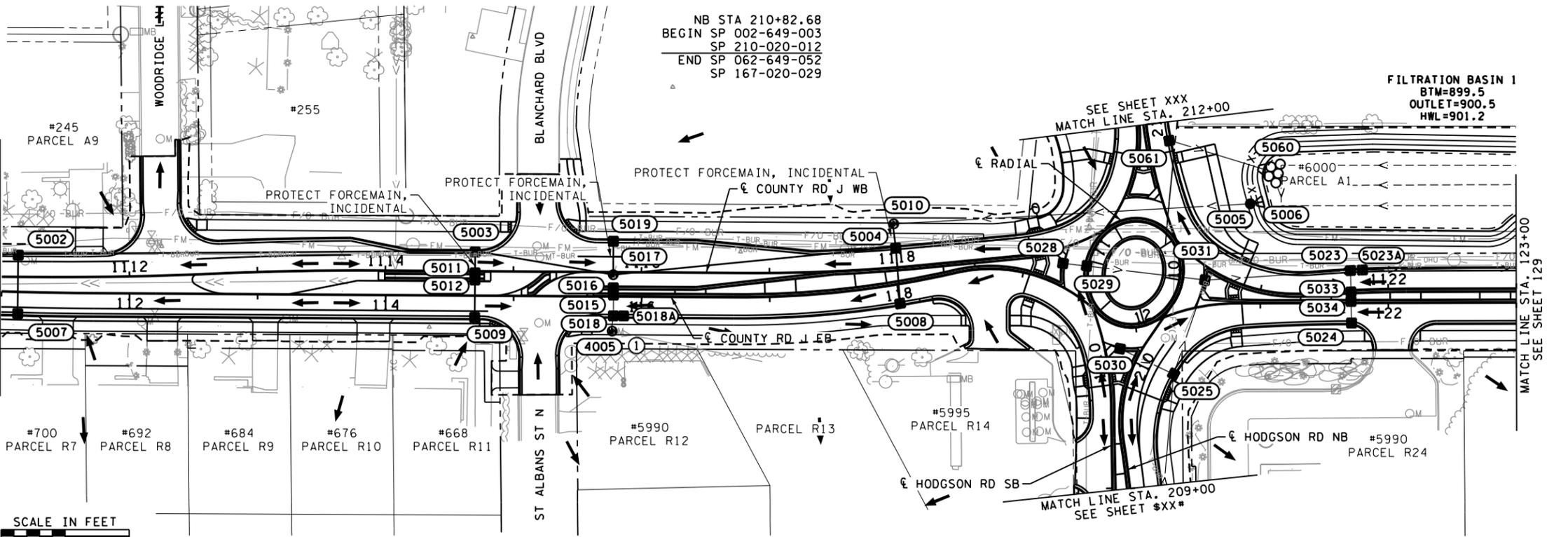
NB STA 210+82.68
 BEGIN SP 002-649-003
 SP 210-020-012
 END SP 062-649-052
 SP 167-020-029

FILTRATION BASIN 1
 BTM=899.5
 OUTLET=900.5
 HWL=901.2

SEE ABOVE
 MATCH LINE STA. 111+00

SEE SHEET XXX
 MATCH LINE STA. 212+00

MATCH LINE STA. 123+00
 SEE SHEET 129



PLOTTED/REVISED: 2/1/2024 9:49:56 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\CoopPlan\054-000_dpd.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: GFT
 Plan By: GFT
 Checked By: LGR
 Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE
 DATE: 2/1/2024 LICENSE #: 44235



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

ANOKA & RAMSEY COUNTY, MN

EB STA 103+00.00 TO EB STA 123+00

DRAINAGE PLAN

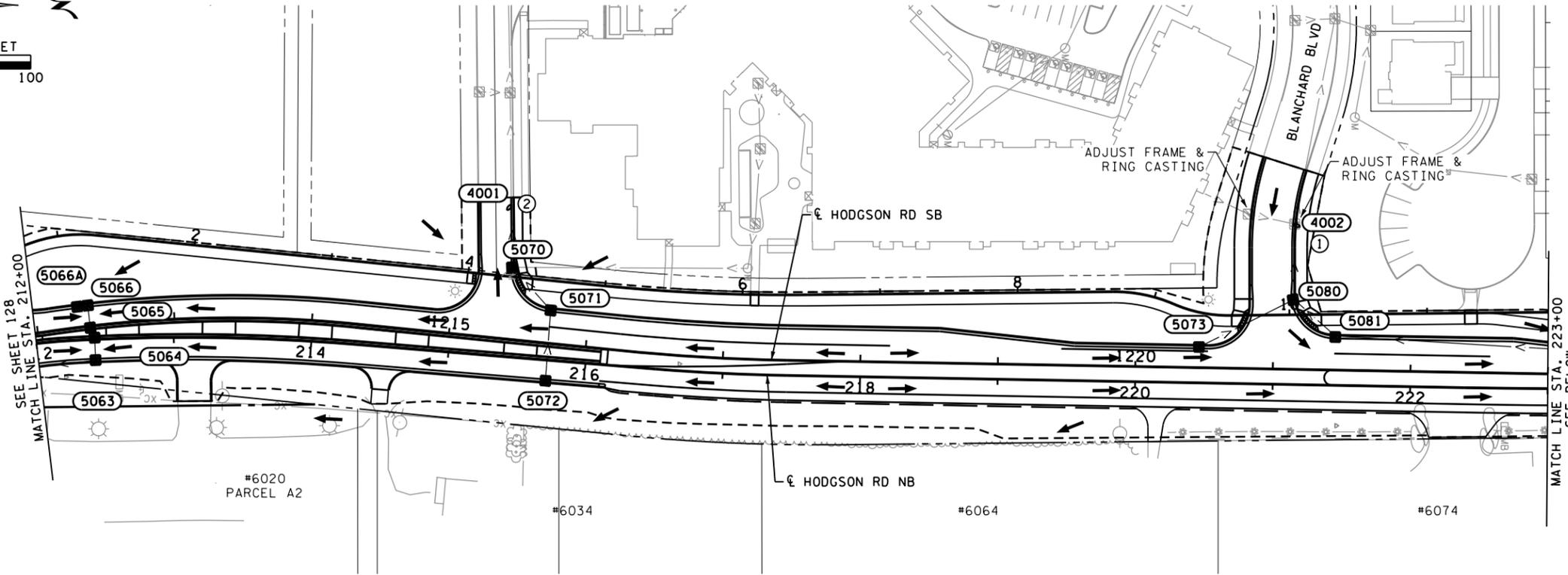
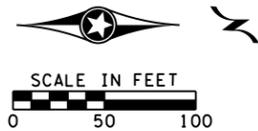
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET 128 OF 162 SHEETS

PLOTTED/REVISED: 2/1/2024 9:50:08 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_d03.dgn

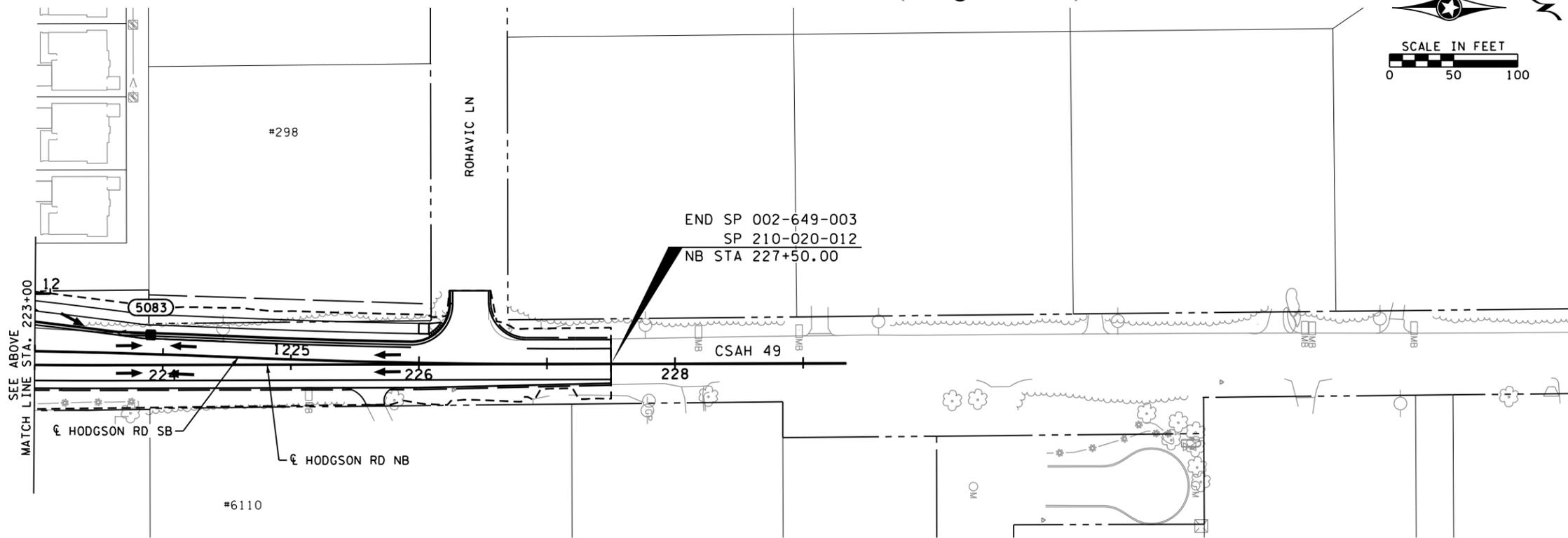
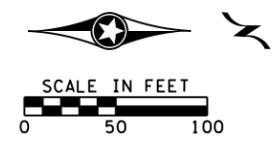
CSAH 49 (Hodgson Road)



LEGEND

- GUIDE POST TYPE B
- RANDOM RIPRAP
- CATCH BASIN
- MANHOLE
- DROP INLET
- APRON
- STRUCTURE
- SURFACE FLOW DIRECTION
- CONNECT TO EXISTING DRAINAGE STRUCTURE
- CONNECT TO EXISTING STORM SEWER
- STORM SEWER PIPE
- INPLACE STORM SEWER
- INPLACE CULVERT
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: GFT
 Plan By: GFT
 Checked By: LGR
 Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE
 DATE: 2/1/2024 LICENSE #: 44235

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

NB STA 212+00 TO NB STA 227+50.00

DRAINAGE PLAN

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

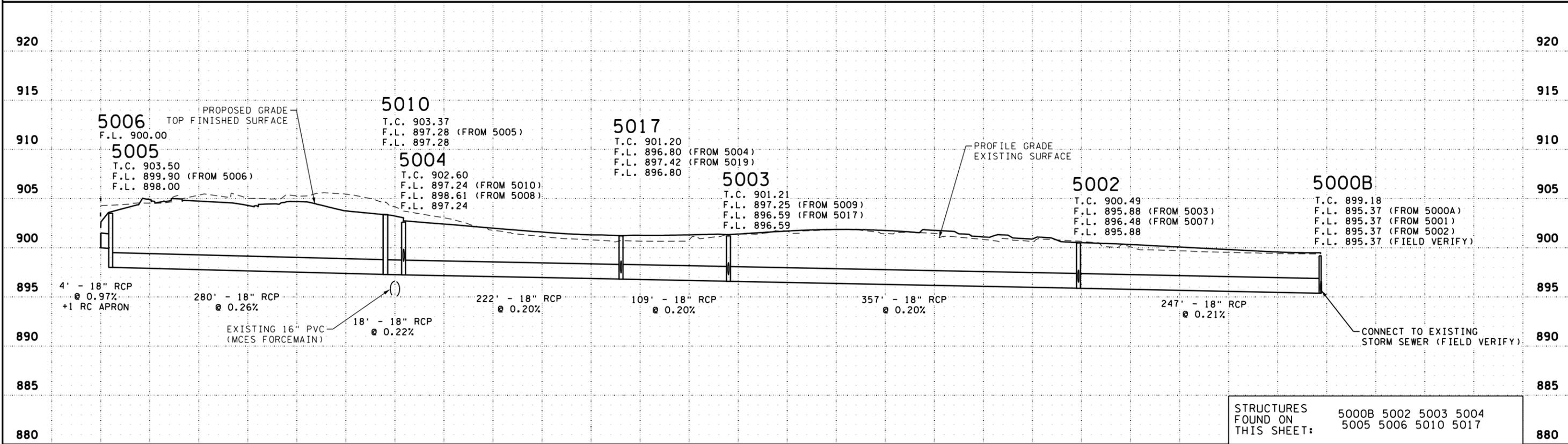
SHEET
130
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:50:06 AM

DRAINAGE TABULATION (THIS SHEET ONLY)																					
STRUCTURE NO.	STRUCTURE LOCATION			COORDINATES		DRAINAGE STRUCTURES				CONNECT TO EXISTING STORM SEWER EACH	TOP OF CASTING ELEV.	OUTLET ELEV.	INLET ELEV.	18" RCP CL V LIN FT	APRON EACH	APRON TYPE	GUIDE POSTS TYPE B EACH	REMARKS			
	FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	X	Y	PAY HEIGHT											CASTING ASSEMBLY TYPE	STEPS REO'D	
								SPEC 2 EACH	G LIN FT												48-4020 LIN FT
5006	5005	COUNTY_J_WB2	1120+71.93	66.0' LT	536046.59	132499.87												A			
5005	5010	COUNTY_J_WB2	1120+55.89	59.6' LT	536036.46	132498.13	1			SPEC-2	YES	903.50	898.00	897.29	280			D			
5010	5004	COUNTY_J_WB1	1118+00.00	34.0' LT	535757.98	132482.53			6.2	A - 7D	YES	903.37	897.28	897.24	18						
5004	5017	COUNTY_J_WB1	1118+00.00	15.0' LT	535759.52	132463.59			5.3	C	YES	902.60	897.24	896.80	222						
5017	5003	COUNTY_J_WB1	1115+78.00	2.0' RT	535538.84	132442.94		4.5		A - 7D	YES	901.20	896.80	896.59	109						
5003	5002	COUNTY_J_WB1	1114+70.00	15.0' LT	535430.95	132460.65			4.5	C	YES	901.21	896.59	895.88	357						
5002	5000B	COUNTY_J_WB1	1111+13.00	17.0' LT	535074.01	132458.22			4.5	C	YES	900.49	895.88	895.37	247						
5000B		COUNTY_J_WB1	1108+66.70	6.7' LT	534827.67	132449.06															
TOTAL							1	4.5	20.5						1237	1		1			

GENERAL NOTES:
 - TABULATED VALUES ARE GIVEN TO:
 - CENTER OF CASTING FOR ALL STORM STRUCTURES.
 - END OF ALL CONCRETE APRONS.
 - F.L. (FLOWLINE) ELEVATIONS ARE TO CENTER OF STRUCTURE.
 - ALL PIPE LENGTHS EXCLUDE APRONS.
 - PAY HEIGHTS ARE FROM BOTTOM OF CASTING TO OUTLET INVERT, PLUS 0.7'.
 - RC PIPE IS DES 3006 GASKET JOINT PIPE.
 - CASTING TYPE B IS NEENAH R-3448-C OR APPROVED EQUAL. SEE SHEET 130 FOR DETAILS FOR CASTING TYPES C AND D.

NOTES:
 A. TIE ALL JOINTS (INCIDENTAL).
 B. 4 FT SUMP INCLUDED IN PAY HEIGHT.
 C. ADJUST FRAME AND RING CASTING.
 D. STRUCTURE SPECIAL 2 IS AN OUTLET CONTROL STRUCTURE. SEE DETAIL ON SHEET 137. CASTING IS INCLUSIVE TO THIS STRUCTURE.



WSB PATH & FILENAME: Projects\Minnesota\09054-000\09054-000.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: GFT
 Plan By: GFT
 Checked By: LGR
 Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE
 DATE: 2/1/2024 LICENSE #: 44235



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

ANOKA & RAMSEY COUNTY, MN
 PROFILES & TABULATION
DRAINAGE PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
 131
 OF
 162
 SHEETS

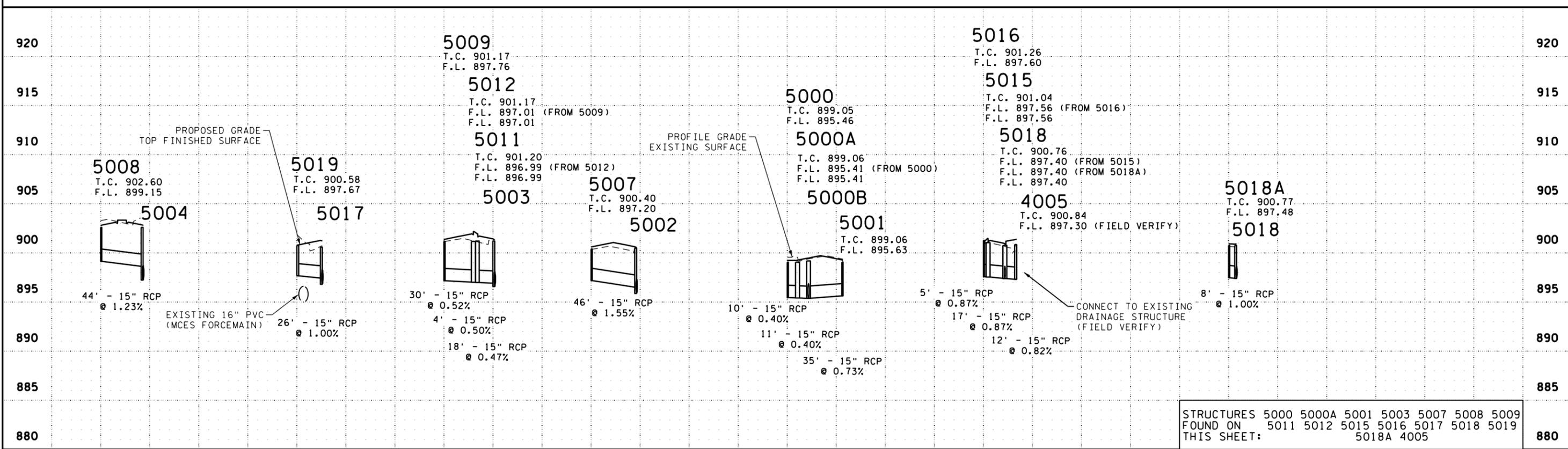
PLOTTED/REVISED: 2/1/2024 9:50:08 AM

DRAINAGE TABULATION (THIS SHEET ONLY)

STRUCTURE NO.		STRUCTURE LOCATION			COORDINATES		DRAINAGE STRUCTURES			CONNECT TO EXISTING DRAINAGE STRUCTURE EACH	TOP OF CASTING ELEV.	OUTLET ELEV.	INLET ELEV.	15" RCP CL V LIN FT	REMARKS	
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	X	Y	PAY HEIGHT									CASTING ASSEMBLY TYPE
							H LIN FT	G LIN FT	48-4020 LIN FT							
5008	5004	COUNTY_J_EB	118+00.00	15.0' RT	535762.94	132420.45	3.4			C	902.60	899.15	898.61	44		
5019	5017	COUNTY_J_WB1	1115+78.00	24.0' LT	535539.01	132468.94	2.8			D	900.58	897.68	897.42	26		
5009	5012	COUNTY_J_WB1	1114+70.00	36.0' RT	535430.62	132409.65	3.9			C	901.17	897.16	897.01	30		
5012	5011	COUNTY_J_WB1	1114+70.00	6.8' RT	535430.81	132438.85			4.1	C	901.17	897.00	897.00	4		
5011	5003	COUNTY_J_WB1	1114+70.00	1.2' RT	535430.85	132444.42			4.1	C	901.20	896.99	896.91	18		
5007	5002	COUNTY_J_EB	111+13.00	17.0' RT	535073.61	132412.55	3.1			C	900.40	897.20	896.48	46		
5000	5000A	COUNTY_J_WB1	1108+59.89	17.0' LT	534820.91	132459.42	3.5			D	899.05	895.46	895.41	10		
5000A	5000B	COUNTY_J_WB1	1108+70.36	17.0' LT	534831.38	132459.33		3.6		D	899.06	895.41	895.37	11		
5001	5000B	COUNTY_J_EB	108+59.89	17.0' RT	534820.87	132414.42	3.4			D	899.06	895.63	895.37	35		
5016	5015	COUNTY_J_WB1	1115+78.00	12.2' RT	535538.77	132432.74	4.4			B	901.26	897.60	897.56	5		
5015	5018	COUNTY_J_EB	115+78.00	1.3' LT	535539.04	132427.13			4.2	B	901.04	897.56	897.40	17		
5018	4005	COUNTY_J_EB	115+78.00	15.0' RT	535538.94	132410.88		3.3		D	900.76	897.40	897.30	12		
4005		COUNTY_J_EB	115+77.16	26.9' RT	535538.02	132399.01						897.30				
5018A	5018	COUNTY_J_EB	115+86.00	15.0' RT	535546.94	132410.83	3.2			D	900.77	897.48	897.40	8		
TOTAL							27.7	6.9	12.4		1				266	

GENERAL NOTES:
 - TABULATED VALUES ARE GIVEN TO:
 - CENTER OF CASTING FOR ALL STORM STRUCTURES.
 - END OF ALL CONCRETE APRONS.
 - F.L. (FLOWLINE) ELEVATIONS ARE TO CENTER OF STRUCTURE.
 - ALL PIPE LENGTHS EXCLUDE APRONS.
 - PAY HEIGHTS ARE FROM BOTTOM OF CASTING TO OUTLET INVERT, PLUS 0.7'.
 - RC PIPE IS DES 3006 GASKET JOINT PIPE.
 - CASTING TYPE B IS NEENAH R-3448-C OR APPROVED EQUAL. SEE SHEET 130 FOR DETAILS FOR CASTING TYPES C AND D.

NOTES:
 A. TIE ALL JOINTS (INCIDENTAL).
 B. 4 FT SUMP INCLUDED IN PAY HEIGHT.
 C. ADJUST FRAME AND RING CASTING.
 D. STRUCTURE SPECIAL 2 IS AN OUTLET CONTROL STRUCTURE. SEE DETAIL ON SHEET 137. CASTING IS INCLUSIVE TO THIS STRUCTURE.



STRUCTURES FOUND ON THIS SHEET:	5000	5001	5003	5007	5008	5009	5011	5012	5015	5016	5017	5018	5018A	4005
---------------------------------	------	------	------	------	------	------	------	------	------	------	------	------	-------	------

WSB PATH & FILENAME: Projects\Minnesota\09054-000\000\09054-000.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: GFT
 Plan By: GFT
 Checked By: LGR
 Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE
 DATE: 2/1/2024 LICENSE #: 44235

wsb

ANOKA COUNTY RAMSEY COUNTY

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

PROFILES & TABULATION
DRAINAGE PLAN

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET 132 OF 162 SHEETS

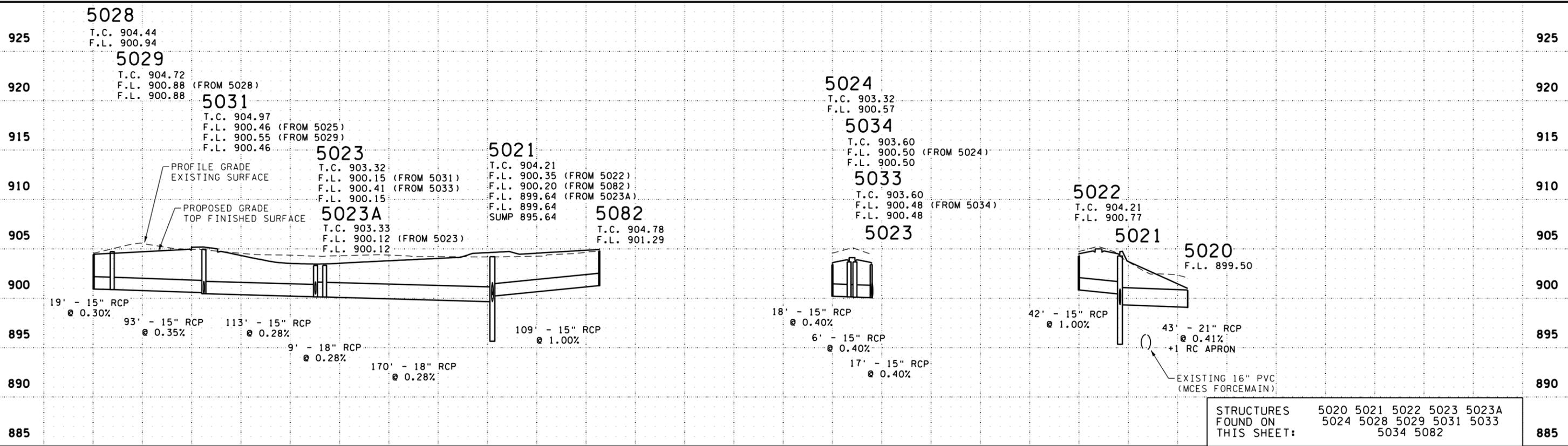
PLOTTED/REVISED: 2/1/2024 9:50:21 AM

DRAINAGE TABULATION (THIS SHEET ONLY)

STRUCTURE NO.	STRUCTURE LOCATION			COORDINATES		DRAINAGE STRUCTURES				TOP OF CASTING ELEV.	OUTLET ELEV.	INLET ELEV.	15" RCP CL V LIN FT	18" RCP CL V LIN FT	21" RCP CL V LIN FT	APRON EACH	APRON TYPE	RIPRAP CLASS III CU YD	GEOTEXTILE FILTER TYPE IV SQ YD	GUIDE POSTS TYPE B EACH	REMARKS				
	FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	X	Y	PAY HEIGHT														CASTING ASSEMBLY TYPE	STEPS REO'D		
								H LIN FT	G LIN FT															48-4020 LIN FT	60-4020 LIN FT
5028	5029	RADIAL	11+20.90	17.4' RT	535890.19	132451.75	4.2					B										E			
5029	5031	RADIAL	11+20.11	1.3' LT	535908.72	132449.71			4.5			B	YES												
5031	5023	RADIAL	9+92.00	16.7' RT	536000.99	132438.77			5.2			B	YES												
5023	5023A	COUNTY_J_WB2	1121+71.31	15.4' LT	536114.78	132446.17		3.1				D			9										
5023A	5021	COUNTY_J_WB2	1121+80.41	15.4' LT	536124.02	132446.59		3.1				D			170										
5022	5021	COUNTY_J_EB	123+50.00	15.0' RT	536294.34	132406.32	3.4					C			42										
5082	5021	COUNTY_J_WB2	1124+58.92	15.1' LT	536403.09	132447.76	3.4					C			109										
5021	5020	COUNTY_J_WB2	1123+50.00	15.0' LT	536294.18	132447.32				8.5		C	YES									B			
5020		COUNTY_J_WB2	1123+46.40	64.8' LT	536290.44	132497.11											1	RC APRON	7.1	27.4	1	A			
5024	5034	COUNTY_J_EB	121+71.28	15.5' RT	536115.62	132405.31	2.7					D			18										
5034	5033	COUNTY_J_EB	121+70.88	1.3' LT	536115.18	132422.06			3.8			B			6										
5033	5023	COUNTY_J_WB2	1121+70.85	1.3' RT	536115.16	132429.52			3.8			B			17										
TOTAL							13.7	6.2	17.3	8.5					417	179	43	1		7.1	27.4	1			

GENERAL NOTES:
 - TABULATED VALUES ARE GIVEN TO:
 - CENTER OF CASTING FOR ALL STORM STRUCTURES.
 - END OF ALL CONCRETE APRONS.
 - F.L. (FLOWLINE) ELEVATIONS ARE TO CENTER OF STRUCTURE.
 - ALL PIPE LENGTHS EXCLUDE APRONS.
 - PAY HEIGHTS ARE FROM BOTTOM OF CASTING TO OUTLET INVERT, PLUS 0.7'.
 - RC PIPE IS DES 3006 GASKET JOINT PIPE.
 - CASTING TYPE B IS NEENAH R-3448-C OR APPROVED EQUAL. SEE SHEET 130 FOR DETAILS FOR CASTING TYPES C AND D.

NOTES:
 A. TIE ALL JOINTS (INCIDENTAL).
 B. 4 FT SUMP INCLUDED IN PAY HEIGHT.
 C. ADJUST FRAME AND RING CASTING.
 D. STRUCTURE SPECIAL 2 IS AN OUTLET CONTROL STRUCTURE. SEE DETAIL ON SHEET 137. CASTING IS INCLUSIVE TO THIS STRUCTURE.



STRUCTURES FOUND ON THIS SHEET:	5020 5021 5022 5023 5023A 5024 5028 5029 5031 5033 5034 5082
---------------------------------	--

WSB PATH & FILENAME: Projects\Minnesota\09054-000\09054-000.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: GFT
 Plan By: GFT
 Checked By: LGR
 Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE
 DATE: 2/1/2024 LICENSE #: 44235



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 PROFILES & TABULATION
DRAINAGE PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
133
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:50:24 AM

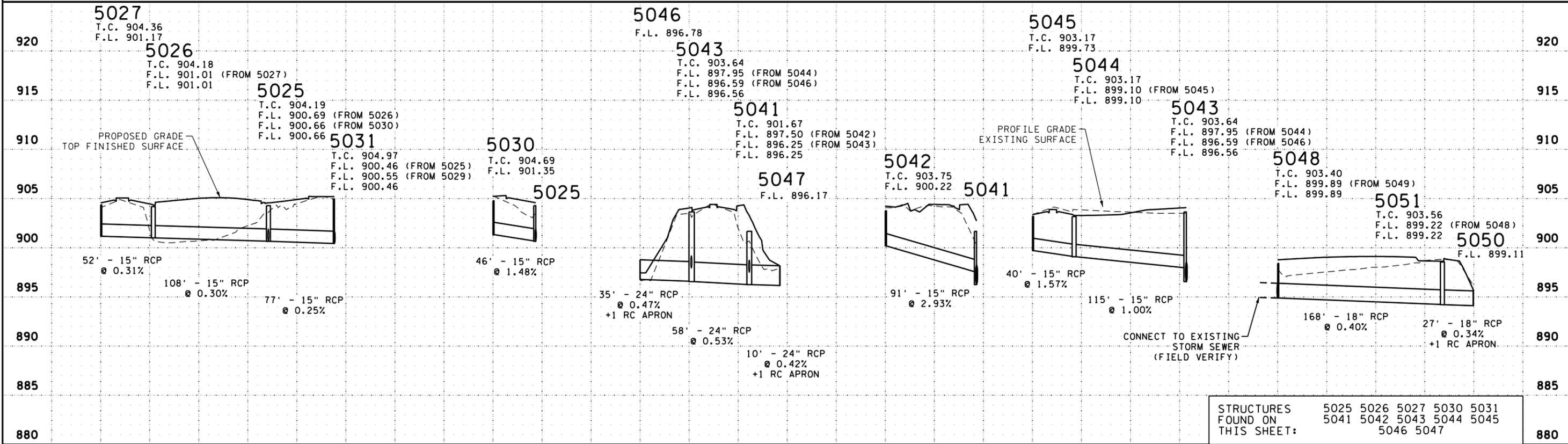
DRAINAGE TABULATION (THIS SHEET ONLY)

STRUCTURE NO.	STRUCTURE LOCATION			COORDINATES		DRAINAGE STRUCTURES				CONNECT TO EXISTING STORM SEWER EACH	TOP OF CASTING ELEV.	OUTLET ELEV.	INLET ELEV.	15" RCP CL V LIN FT	18" RCP CL V LIN FT	24" RCP CL V LIN FT	APRON EACH	APRON TYPE	RIPRAP CLASS III CU YD	GEOTEXTILE FILTER TYPE IV SQ YD	GUIDE POSTS TYPE B EACH	REMARKS				
	FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	X	Y	PAY HEIGHT															CASTING ASSEMBLY TYPE	STEPS REO'D		
								H LIN FT	G LIN FT																48-4020 LIN FT	60-4020 LIN FT
5027	5026	HODGSON_SB1	1208+80.13	13.8' LT	535915.41	132256.42	3.1				C		904.36	901.17	901.01	52										
5026	5025	HODGSON_NB	208+80.00	23.0' RT	535967.28	132258.13		3.1			C		904.18	901.01	900.69	108										
5025	5031	HODGSON_NB	210+05.92	31.0' RT	535976.60	132365.44		3.5			C		904.19	900.66	900.46	77										
5030	5025	RADIAL	11+82.80	17.2' RT	535934.65	132385.32	4.0				B		904.69	901.35	900.66	46						E				
5046	5043	HODGSON_SB1	1207+66.08	56.8' LT	535874.67	132141.57								896.78	896.59			35	1	RC APRON		1	A			
5043	5041	HODGSON_SB1	1207+60.14	15.0' LT	535916.53	132136.43				7.0	C	YES	903.64	896.56	896.25											
5041	5047	HODGSON_NB	207+65.00	30.5' RT	535973.65	132140.58				5.5	A - 7D	YES	901.67	896.25	896.17											
5047		HODGSON_NB	207+47.83	35.0' RT	535977.62	132123.70								896.17												
5042	5041	HODGSON_NB	208+51.03	44.7' RT	535990.41	132228.59	3.6				M - 11		903.75	900.22	897.50	91										
5045	5044	HODGSON_NB	206+45.52	15.0' RT	535956.88	132022.02	3.4				D		903.17	899.73	899.10	40										
5044	5043	HODGSON_SB1	1206+45.36	15.0' LT	535917.5	132021.91				4.0	D		903.17	899.10	897.95	115										
5048	5051	HODGSON_SB1	1203+91.93	21.9' LT	535911.23	131768.47	3.4				C		903.40	899.89	899.22		168									
5051	5050	HODGSON_SB1	1205+59.84	15.0' LT	535917.7	131936.4				4.3	C		903.56	899.22	899.11		27									
5050		HODGSON_SB1	1205+79.42	40.0' LT	535890.96	131955.52								899.11					1	RC APRON		1	A			
TOTAL							17.5	10.9	4.0	12.5								529	195	103	3		9.2	33.4	5	

GENERAL NOTES:
 - TABULATED VALUES ARE GIVEN TO:
 - CENTER OF CASTING FOR ALL STORM STRUCTURES.
 - END OF ALL CONCRETE APRONS.
 - F.L. (FLOWLINE) ELEVATIONS ARE TO CENTER OF STRUCTURE.
 - ALL PIPE LENGTHS EXCLUDE APRONS.
 - PAY HEIGHTS ARE FROM BOTTOM OF CASTING TO OUTLET INVERT, PLUS 0.7'.
 - RC PIPE IS DES 3006 GASKET JOINT PIPE.
 - CASTING TYPE B IS NEENAH R-3448-C OR APPROVED EQUAL. SEE SHEET 130 FOR DETAILS FOR CASTING TYPES C AND D.

NOTES:
 A. TIE ALL JOINTS (INCIDENTAL).
 B. 4 FT SUMP INCLUDED IN PAY HEIGHT.
 C. ADJUST FRAME AND RING CASTING.
 D. STRUCTURE SPECIAL 2 IS AN OUTLET CONTROL STRUCTURE. SEE DETAIL ON SHEET 137. CASTING IS INCLUSIVE TO THIS STRUCTURE.

WSB PATH & FILENAME: Projects\Minnesota\09054-000\09054-000.dwg



STRUCTURES FOUND ON THIS SHEET:	5025 5026 5027 5030 5031
	5041 5042 5043 5044 5045
	5046 5047

NO.	DATE	BY	CHK	REVISIONS

Design By: GFT
 Plan By: GFT
 Checked By: LGR
 Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE
 DATE: 2/1/2024 LICENSE #: 44235



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 PROFILES & TABULATION
DRAINAGE PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

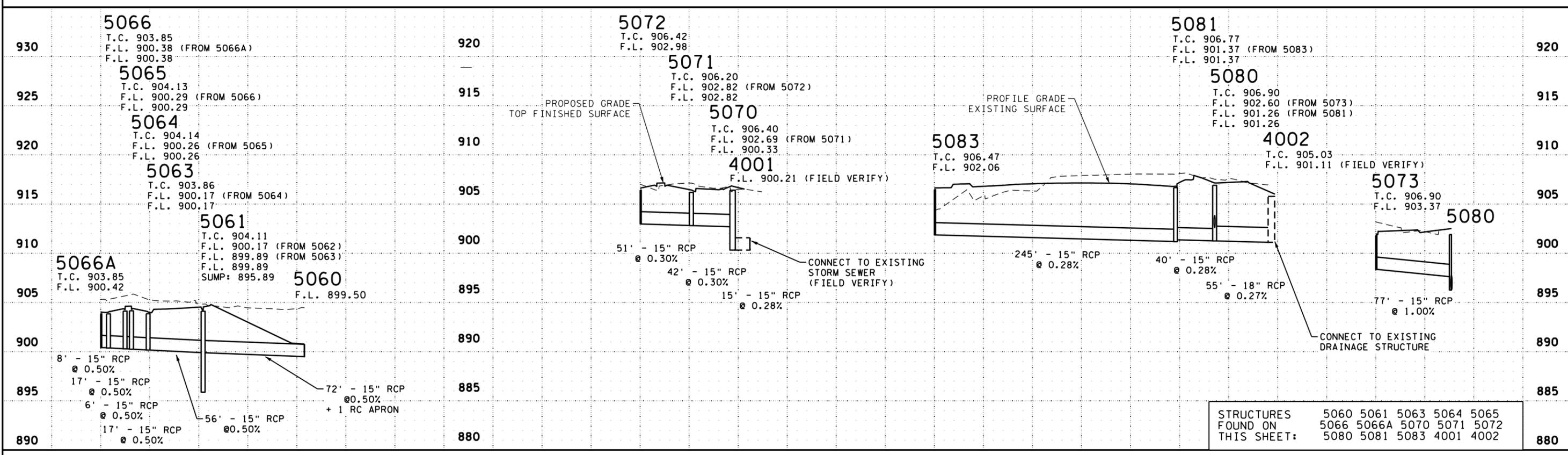
SHEET
134
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:50:27 AM

STRUCTURE NO.		STRUCTURE LOCATION			COORDINATES		DRAINAGE STRUCTURES			CONNECT TO EXISTING STORM SEWER	CONNECT TO EXISTING DRAINAGE STRUCTURE	TOP OF CASTING ELEV.	OUTLET ELEV.	INLET ELEV.	15" RCP CL V	18" RCP CL V	APRON	APRON TYPE	RIPRAP CLASS III CU YD	GEOTEXTILE FILTER TYPE IV SQ YD	GUIDE POSTS TYPE B EACH	REMARKS		
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	X	Y	PAY HEIGHT		CASTING ASSEMBLY TYPE	STEPS REQ'D	EACH	EACH	EACH	EACH	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH		
							H	48-4020																
5066A	5066	HODGSON_SB2	1212+30.78	15.0' LT	535928.60	132589.54	3.4		D			903.85	900.42	900.38	8									
5066	5065	HODGSON_SB2	1212+38.39	15.0' LT	535927.63	132597.22			D			903.85	900.38	900.29	17									
5065	5064	HODGSON_SB2	1212+38.39	1.3' RT	535943.77	132599.08		4.5	B	YES		904.13	900.29	900.26	6									
5064	5063	HODGSON_NB	212+42.48	1.3' LT	535951.08	132602.25		4.6	B	YES		904.14	900.26	900.17	17									
5063	5061	HODGSON_NB	212+42.48	15.0' RT	535967.31	132602.97			D			903.86	900.17	899.89	56									
5061	5060	HODGSON_NB	211+84.60	15.9' RT	535973.18	132547.30		8.1	C	YES		904.11	899.89	899.50	72							B		
5060		HODGSON_NB	211+39.08	84.0' RT	536048.19	132524.75							899.50				1	RC APRON	4.8	20.8	1	A		
5072	5071	HODGSON_NB	215+72.00	15.0' RT	535982.27	132929.99	3.4		C			906.42	902.98	902.82	51									
5071	5070	HODGSON_SB2	1215+72.00	24.0' LT	535931.18	132933.86			C			906.20	902.82	902.69	42									
5070	4001	HODGSON_SB2	1215+40.87	52.2' LT	535900.02	132905.70		6.0	C	YES	1	906.40	900.33	900.21	15									
4001		HODGSON_SB1	1210+49.54	136.6' RT	535855.32	132905.22							900.21											
5083	5081	HODGSON_SB2	1223+90.02	15.0' LT	535964.56	133749.35	4.3		C			906.47	902.06	901.37	245									
5081	5080	HODGSON_SB2	1221+44.97	24.0' LT	535950.58	133504.3		5.2	C	YES		906.67	901.37	901.26	40									
5080	4002	HODGSON_SB2	1221+13.82	50.5' LT	535923.49	133473.63		5.6	C	YES		906.90	901.26	901.11		55								
4002		HODGSON_SB1	1210+49.55	370.7' RT	535868.77	133474.62							901.11									C		
5073	5080	HODGSON_SB2	1220+46.00	15.0' LT	535957.81	133405.19	3.2		D			906.68	903.37	902.60	77									
TOTAL																								
							14.3	34.0				1									4.8	20.8	1	

GENERAL NOTES:
 - TABULATED VALUES ARE GIVEN TO:
 - CENTER OF CASTING FOR ALL STORM STRUCTURES.
 - END OF ALL CONCRETE APRONS.
 - F.L. (FLOWLINE) ELEVATIONS ARE TO CENTER OF STRUCTURE.
 - ALL PIPE LENGTHS EXCLUDE APRONS.
 - PAY HEIGHTS ARE FROM BOTTOM OF CASTING TO OUTLET INVERT, PLUS 0.7'.
 - RC PIPE IS DES 3006 GASKET JOINT PIPE.
 - CASTING TYPE B IS NEENAH R-3448-C OR APPROVED EQUAL. SEE SHEET 130 FOR DETAILS FOR CASTING TYPES C AND D.

NOTES:
 A. TIE ALL JOINTS (INCIDENTAL).
 B. 4 FT SUMP INCLUDED IN PAY HEIGHT.
 C. ADJUST FRAME AND RING CASTING.
 D. STRUCTURE SPECIAL 2 IS AN OUTLET CONTROL STRUCTURE. SEE DETAIL ON SHEET 137. CASTING IS INCLUSIVE TO THIS STRUCTURE.



STRUCTURES FOUND ON THIS SHEET:	5060	5061	5063	5064	5065
	5066	5066A	5070	5071	5072
	5080	5081	5083	4001	4002

WSB PATH & FILENAME: Projects\Minnesota\09054-000\09054-000.dpr.dgn

<table border="1"> <tr><th>NO.</th><th>DATE</th><th>BY</th><th>CHK</th><th>REVISIONS</th></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>	NO.	DATE	BY	CHK	REVISIONS						Design By: GFT Plan By: GFT Checked By: LGR Approved By: EAE	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: EARTH A. EVANS, PE DATE: 2/1/2024 LICENSE #: 44235		CSAH 49 at Ramsey County CSAH 1 / Anoka County CSAH 32 Intersection Improvements	ANOKA & RAMSEY COUNTY, MN PROFILES & TABULATION DRAINAGE PLAN SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014	SHEET 135 OF 162 SHEETS
NO.	DATE	BY	CHK	REVISIONS												

DRAINAGE STRUCTURE SUMMARY							J	
ITEM	UNIT	QUANTITIES FROM SHEET NO.					SUBTOTAL	TOTALS
		131	132	133	134	135		
CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	4.5	6.9	6.2	10.9		29	29
CONST DRAINAGE STRUCTURE DESIGN H	LIN FT		27.7	13.7	17.5	14.3	73	73
CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	20.5	8.3	17.3	4.0	34.0	84	84
CONST DRAINAGE STRUCTURE DES 60-4020	LIN FT			8.5	12.5		21	21
CONST DRAINAGE STRUCTURE DESIGN SPEC 2	EACH	1					1	1
CASTING ASSEMBLY	EACH	5	13	11	11	13	53	53

STORM SEWER SUMMARY							K	
ITEM	UNIT	QUANTITIES FROM SHEET NO.					SUBTOTAL	TOTALS
		131	132	133	134	135		
15" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT		262	417	529	646	1854	1854
18" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	1237		179	195	55	1666	1666
21" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT			43			43	43
24" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT				103		103	103
15" RC PIPE APRON	EACH					1	1	1
18" RC PIPE APRON	EACH	1			1		2	2
21" RC PIPE APRON	EACH			1			1	1
24" RC PIPE APRON	EACH				2		2	2
CONNECT TO EXISTING STORM SEWER	EACH	1			1	1	3	3
CONNECT TO EXISTING DRAINAGE STRUCTURE	EACH		1			1	2	2
RANDOM RIPRAP CLASS III	CU YD			7.1	9.2	4.8	21	21
GEOTEXTILE FILTER TYPE IV	SQ YD			27.4	33.4	20.8	82	82
GUIDE POST TYPE B	EACH	1		1	5	1	8	8

CASTING ASSEMBLY SUMMARY						
ASSEMBLY	RING OR FRAME	COVER OR GRATE	CURB BOX	STANDARD PLATE NUMBER	USE	TOTALS
A - 7D	700-7	715		4101 4110	CATCH BASIN	3
TYPE - B	NEENAH 3448 WITH TYPE C GRATE OR APPROVED EQUAL					10
TYPE - C	805 MODIFIED	819		SEE DETAIL 4154	CATCH BASIN	24
TYPE - D	802A MODIFIED	816	823A	SEE DETAIL 4154 4160	CATCH BASIN	15
M - 11	ROUND CONC	731		4143 4143	CATCH BASIN	1
TOTAL						53
SPEC - 2	SEE SHEET 137 FOR SPECIAL 2 DETAILS. STRUCTURE INCLUDES SPECIAL 2 CASTING TOTAL FOR INFORMATIONAL PURPOSES.					1

NO.	DATE	BY	CHK	REVISIONS

Design By: GFT
 Plan By: GFT
 Checked By: LGR
 Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE
 DATE: 2/1/2024 LICENSE #: 44235



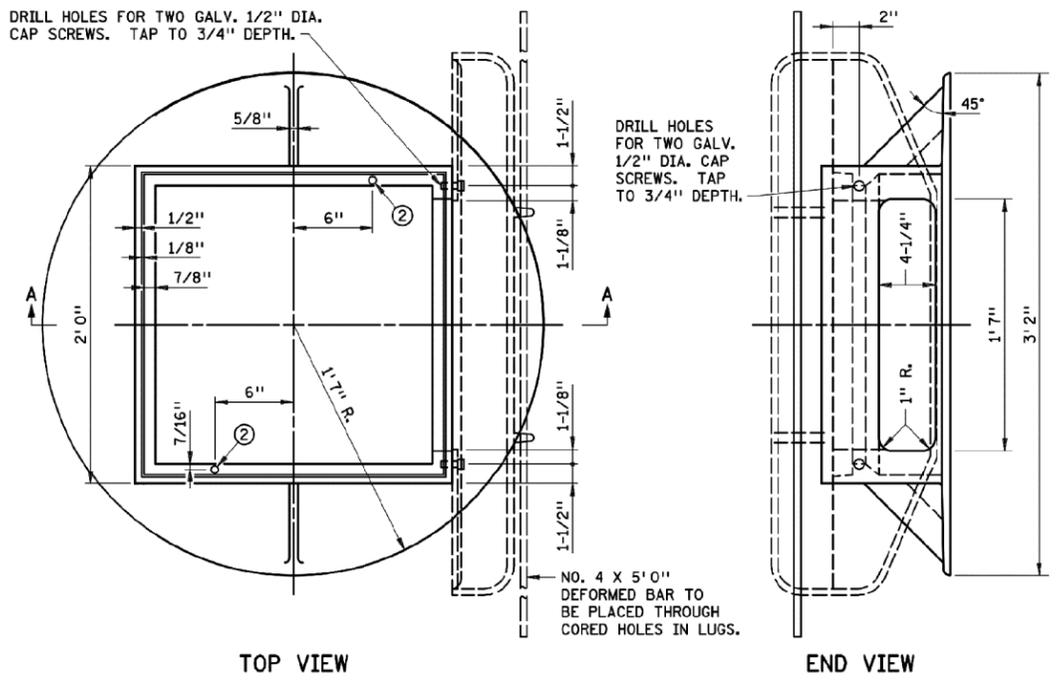


**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

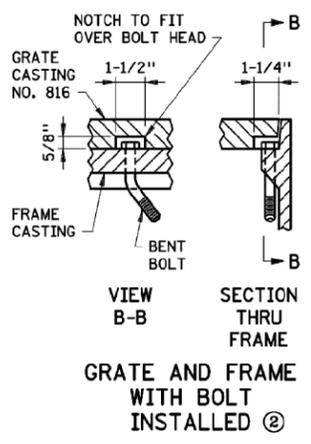
QUANTITY SUMMARY
DRAINAGE PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

PLOTTED/REVISED: 2/1/2024 9:50:32 AM

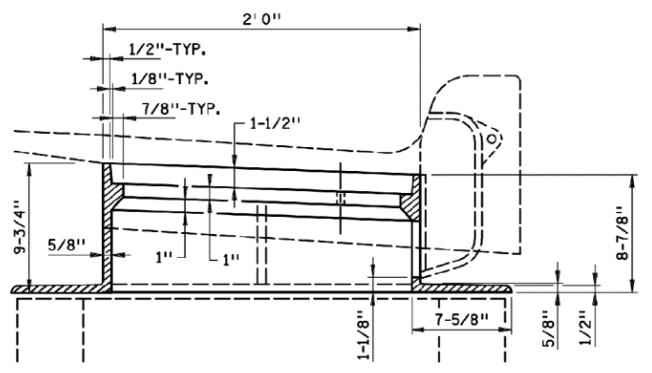


TOP VIEW

END VIEW



VIEW B-B
SECTION THRU FRAME
GRATE AND FRAME WITH BOLT INSTALLED ②



SECTION A-A

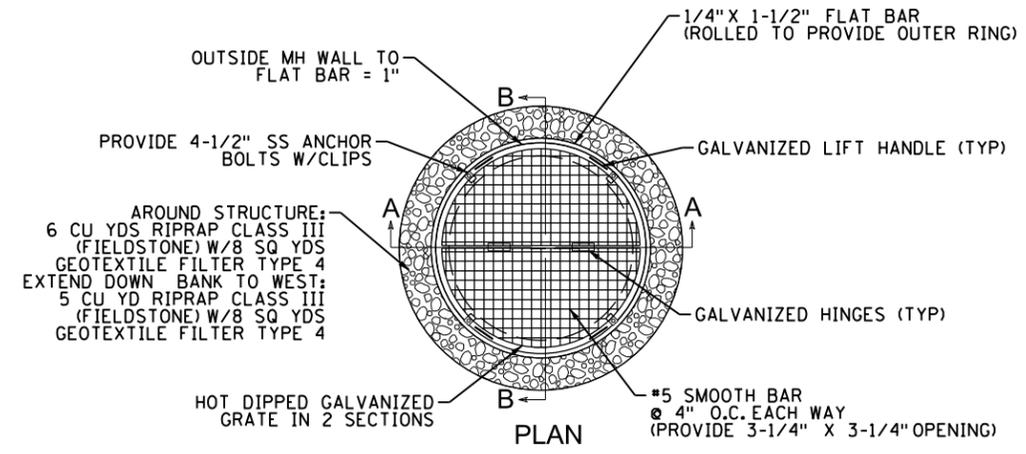
GRATE FRAME CASTING TYPE C & D

NOT TO SCALE

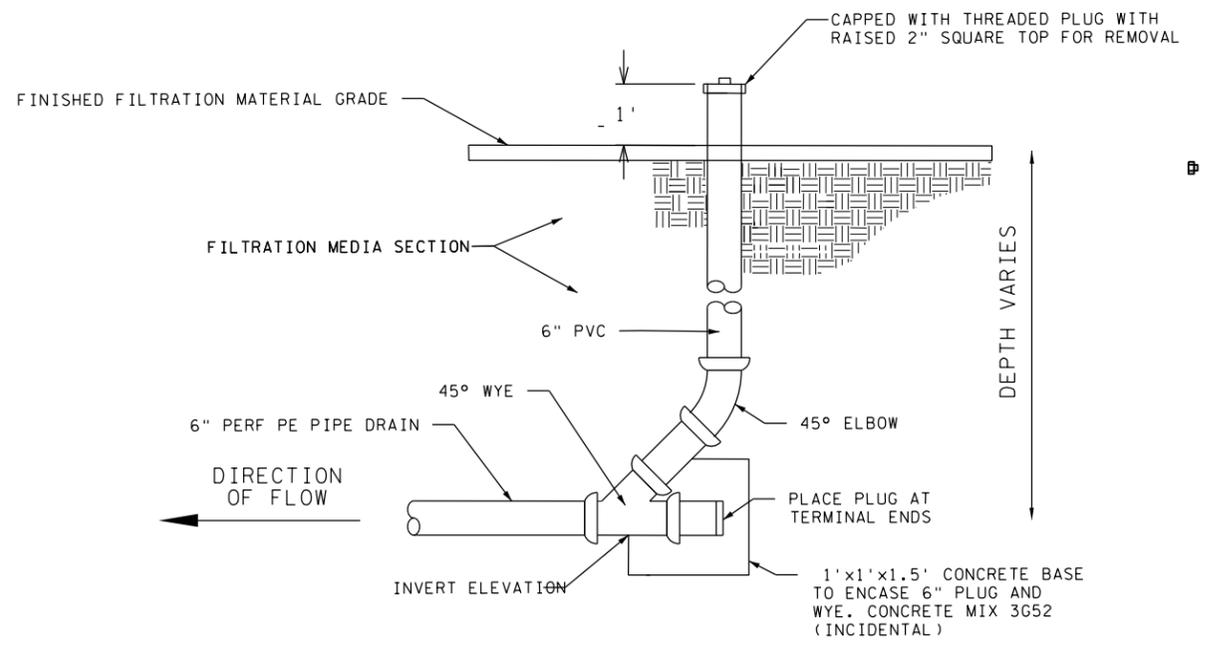
CASTINGS USED FOR ASSEMBLY	
GRATE	NO. 816 (MNDOT STD PLATE 4154B)
CURB BOX ①	NO. 823A (MNDOT STD PLATE 4160) OR

NOTES:

- USE 1/4" FILLETS IN ALL CORNERS. SEE MNDOT STANDARD PLATE 7111 FOR INSTALLATION REQUIREMENTS.
- ① APPLIES TO DESIGN B OR V CURB AND CURB AND GUTTER.
- ② AT LOCATIONS INDICATED IN TOP VIEW, PROVIDE 9/16" DIA. HOLES WHEN GRATE NO. 816 (MNDOT STD PLATE 4154) IS USED WITH THIS FRAME. FIELD PLACE 1/2" DIA X 4" LONG GALV BOLT IN UP STREAM SIDE AND BENT UNDERSIDE TO PREVENT REMOVAL. THIS WILL PREVENT GRATE NO. 816 (MNDOT STD PLATE 4154) FROM BEING PLACED IN WRONG AND NOT BEING BICYCLE SAFE

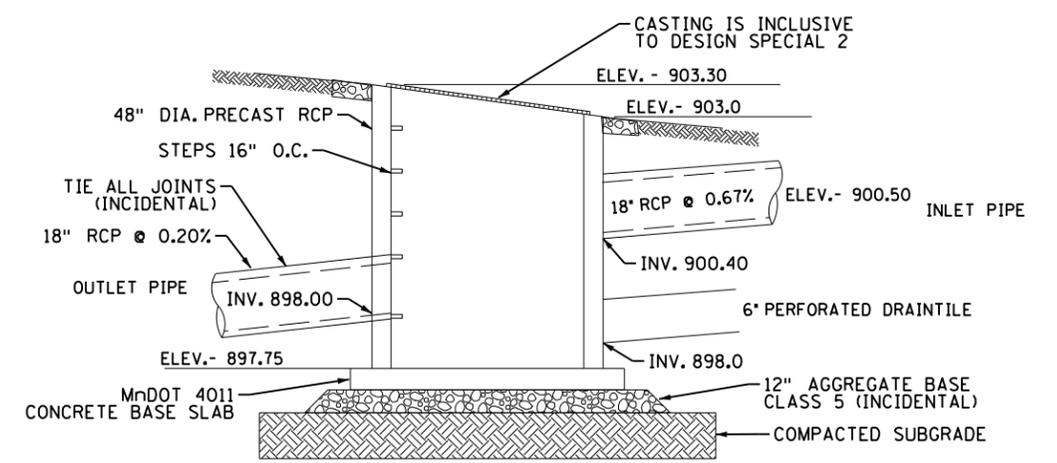


PLAN



6" PVC PIPE DRAIN CLEANOUT

NO SCALE



SECTION A-A

NOTE: SEE SHEET 128 FOR PIPE PROFILES
PLACE LOW RIM ELEVATION TOWARDS BASIN.

OUTLET CONTROL STRUCTURE
DESIGN SPECIAL 2 (STRUCTURE 5005)

NOT TO SCALE

NO.	DATE	BY	CHK	REVISIONS

Design By:	GFT	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Plan By:	GFT	
Checked By:	LGR	
Approved By:	EAE	
DATE	2/1/2024	



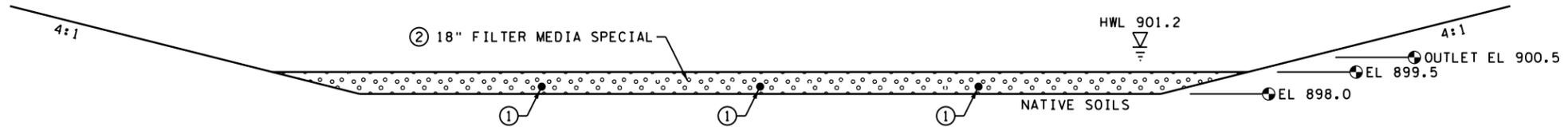
CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

ANOKA & RAMSEY COUNTY, MN

DRAINAGE DETAILS
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

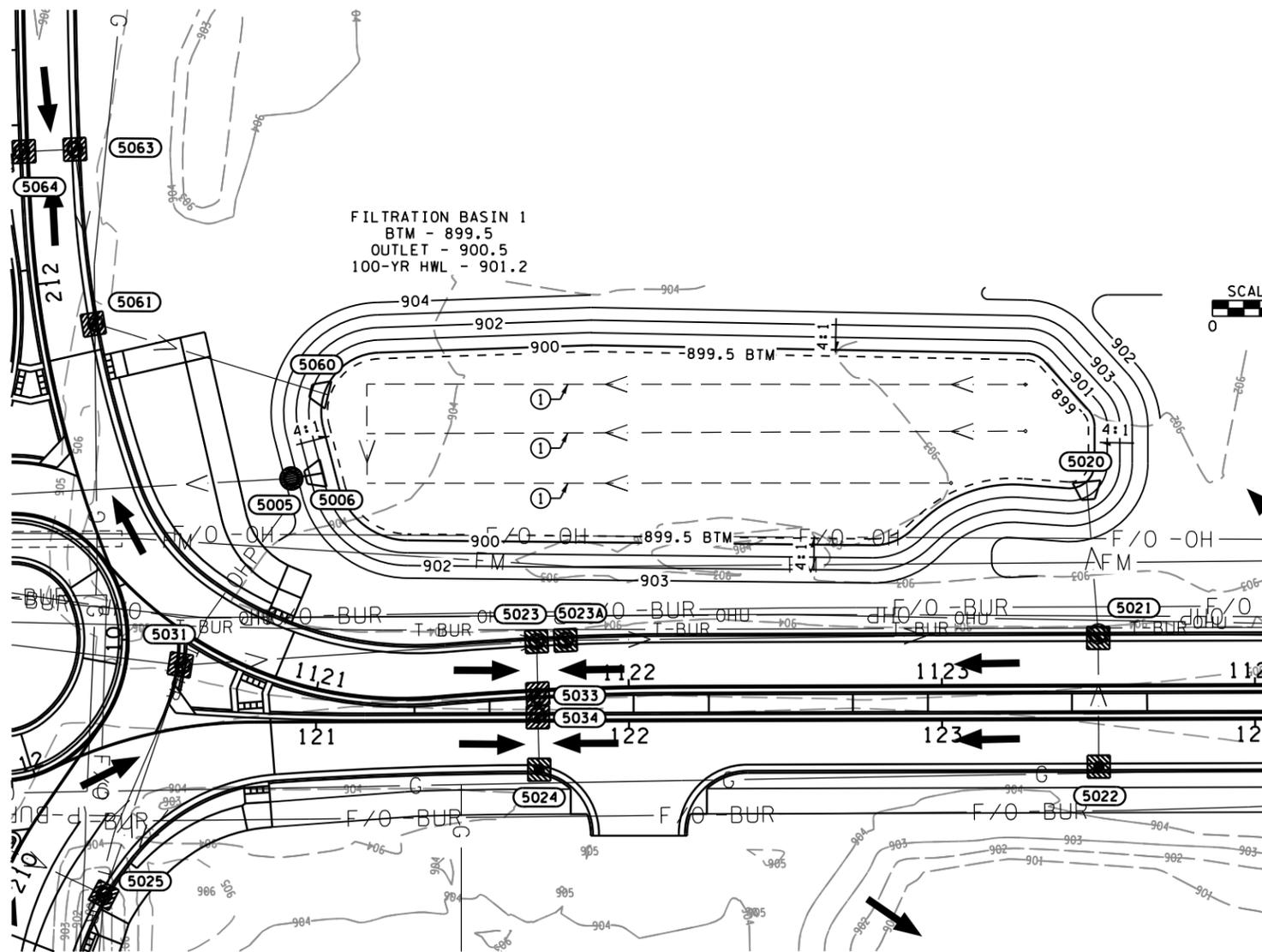
SHEET
137
OF
162
SHEETS

WSB PATH: FILENAME: Projects\Minnesota\019054-000\Card\Plan\19054-000_dtd.dwg



- NOTES:
- ① 6" PERFORATED PE PIPE DRAIN WITH A MINIMUM SLOPE OF 0.25%. DRAINS SHALL INCLUDE SLITS FOR PERFORATIONS (DO NOT USE HOLES FOR PERFORATIONS). DO NOT USE GEOTEXTILE SOCKS AROUND DRAINS.
 - ② 637 CU YD CONSISTING OF 60% COARSE SAND, 30% TOPSOIL, 10% MNDOT GADE 2 COMPOST

FILTRATION BASIN CROSS SECTION DETAIL
NOT TO SCALE



LOCATION	POND TABULATION			L
	EXCAVATION CHANNEL & POND (A)	FILTER MEDIA SPECIAL	6" PERF PE PIPE DRAIN	6" PVC PIPE DRAIN CLEANOUT
	CU YD	CU YD	LIN FT	EACH
FILTRATION BASIN 1	2666 (P)	637	653	6
PROJECT TOTAL	2666	637	653	6

- NOTES:
- (A) 45% ANOKA COUNTY, 45% RAMSEY COUNTY, 5% LINO LAKES, 5% SHOREVIEW
 - (P) PLAN QUANTITY



- GENERAL NOTES:
1. PERFORM CONTINUOUS INSPECTIONS OF EROSION CONTROL PRACTICES, ESPECIALLY AFTER EACH RAINFALL EVENT. SEE SHEETS 159 TO 162 FOR TURF ESTABLISHMENT & EROSION CONTROL.
 2. CONTOURS ARE TO FINISHED GROUND GRADE (TOP OF TOPSOIL).
 3. EXISTING GROUND AND PROPOSED GROUND CONTOURS ARE APPROXIMATE. EXACT CONTOURS SHALL BE DETERMINED IN THE FIELD BY ENGINEER.
 4. EXCAVATION OF THE BMP REQUIRES A TOOTHED BUCKET TO AVOID COMPACTING OR SMEARING SOILS.
 5. GRADING OF THE BMP REQUIRES USE OF LOW-IMPACT EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF THE UNDERLYING SOILS. SMALL TRACKED DOZERS AND BOBCATS WITH RUNNER TRACKS ARE RECOMMENDED.
 6. INSTALL ALL UTILITIES PRIOR TO SETTING FINAL GRADE OF BMP.
 7. IF BMP AREA IS BEING USED AS TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION, LEAVE A MINIMUM OF 2 FEET OF COVER OVER THE FINISHED GRADE ELEVATION TO PROTECT THE UNDERLYING SOILS.
 8. ENSURE ALL CRITICAL ELEVATIONS ARE CORRECT PRIOR TO TOPSOIL PLACEMENT. A 6-INCH LAYER OF TOPSOIL SHALL BE PLACED ON THE EXPOSED POND SLOPES TO SUPPORT VEGETATION.
 9. SEEDING AND INSTALLATION OF EROSION CONTROL BLANKET SHALL BE COMPLETED WITHIN 48 HOURS OF FINAL GRADING.
 10. SEE SHEETS 131 TO 136 FOR DRAINAGE PROFILES AND TABULATIONS.
 11. FINISHED SLOPE GRADES ARE LISTED AS HORIZONTAL TO VERTICAL (H:V).

NO.	DATE	BY	CHK	REVISIONS

Design By: GFT
 Plan By: GFT
 Checked By: LGR
 Approved By: EAE

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

PRINT NAME: EARTH A. EVANS, PE
 DATE: 2/1/2024 LICENSE #: 44235



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

GRADING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
138
 OF
162
 SHEETS

SIGN NUMBER	PANEL CODE	PANEL		SUPPORT			REMOVE SIGN	SIGN	SALVAGE SIGN	INSTALL SIGN	DEL INEATOR / MARKER	DEL INEATOR / MARKER PANEL									
		LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE	RISER POST SIZE						NUMBER OF POSTS	EACH GROUP		EACH GROUP		EACH GROUP				
													INCH	FEET	INCHES	A	B	A	B	A	B
																A	B	A	B	A	B
S-1	R1-1	STOP	36 x 36	7	SQ-SOIL	2	1														
S-2		METRO TRANSIT BUS STOP	x	7	SQ-SOIL	2	1														
S-3	R4-17	DO NOT DRIVE ON SHOULDER	x																		
	R8-3	NO PARKING	x	7				1													
S-4	R8-3	NO PARKING	18 x 18	7	SQ-SOIL	2	1														
S-5	R1-1	STOP	36 x 36	7	SQ-SOIL	2	1														
S-6		METRO TRANSIT BUS STOP	x						1		1										
S-7		METRO TRANSIT BUS STOP	x						1		1										
S-8	R3-7R	RIGHT LANE MUST TURN RIGHT	x					1													
S-9	R1-1	STOP	x					1													
S-10	R8-3	NO PARKING	x					1													
S-11	R2-1	SPEED LIMIT 35	x					1													
	R8-3	NO PARKING	x					1													
S-12	R3-8AD	L-TR	x					1													
S-13		METRO TRANSIT BUS STOP	x						1		1										
S-14		METRO TRANSIT BUS STOP	x						1		1										
S-15	R8-3	NO PARKING	x					1													
S-16	R3-8AD	L-TR	x					1													
S-17	W3-3	SIGNAL AHEAD	x					1													
S-18	R1-1	STOP	36 x 36	7	SQ-SOIL	2	1														
S-19	W14-3	NO PASSING ZONE	64 x 48	7	SQ-SOIL	2 1/2	1														
	R2-1	SPEED LIMIT 50	24 x 30																		
S-20	R8-3	NO PARKING	30 x 30	7	SQ-SOIL	2 1/2	1														
	M3-1	NORTH (BLUE)	24 x 12																		
S-21	M1-6M	ANOKA COUNTY 49	24 x 24	7	SQ-SOIL	2	1														
S-22	I2-X4B	ANOKA COUNTY LINO LAKES POP 20,216 (3)	84 x 42	7	SQ-SOIL	2 1/2	2														
S-23	M1-6M	RAMSEY COUNTY 1	x						1												
S-24	R3-8AD	L-TR	x						1		1										
S-25	R2-1	SPEED LIMIT 35	24 x 30	7	SQ-SOIL	2	1														
S-26	R1-1	STOP	36 x 36	7	SQ-SOIL	2	1														
	R2-1	SPEED LIMIT 45	x																		
S-27	M1-6M	RAMSEY COUNTY 49	x						1												
	R7-MOD	NO STREET PARKING BETWEEN 2AM -5AM	x																		
S-28	R3-8AD	L-TR	x						1												
S-29	I2-X4B	RAMSEY COUNTY SHOREVIEW POP 25,043 (3)	84 x 42	7	SQ-SOIL	2 1/2	2														
S-30		COUNTY RD J DOUBLE ARROW	x						1												
S-31	R3-9b	TWO WAY LEFT TURN LANE	24 x 36	7	SQ-SOIL	2 1/2	1														
	R8-3	NO PARKING	18 x 18																		
S-32	R3-9b	TWO WAY LEFT TURN LANE	24 x 36	7	SQ-SOIL	2 1/2	1														
	R8-3	NO PARKING	18 x 18																		
S-33	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7	SQ-SOIL	2	1														
	R3-4	NO U-TURN	24 x 24																		
(1) S-34	R4-7	KEEP RIGHT	24 x 30	7	SQ-CONC	2	1														
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4									1								
S-35	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7	SQ-CONC	2	1														
S-36	R5-1	DO NOT ENTER	30 x 30	7	SQ-CONC	2	1														
	R3-4	NO U-TURN	24 x 24																		
S-37	R4-7	KEEP RIGHT	24 x 30	7	SQ-CONC	2	1														
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4									1								
S-38	R3-2	NO LEFT TURN	30 x 30	7	SQ-SOIL	2	1														
S-39A	R1-1	STOP	30 x 30	7																	
		NO PARKING FIRE LANE	18 x 24	4					1		1										
(1) S-39	R6-1L	ONE WAY LEFT	36 x 12	9.5	SQ-SOIL	2 1/2	1														
	R6-1R	ONE WAY RIGHT	36 x 12																		
S-40	OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4	SQ-CONC	1 3/4	1					1									
S-41	R6-1R	ONE WAY RIGHT	54 x 18	7	SQ-CONC	2	1														
S-42	R6-1R	ONE WAY RIGHT	54 x 18	7	SQ-CONC	2	1														
S-43	OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4	SQ-CONC	1 3/4	1					1									
(1) S-44	R6-1L	ONE WAY LEFT	36 x 12																		
	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2 1/2	1														
	R1-1	STOP	30 x 30																		
S-45	R3-2	NO LEFT TURN	30 x 30	7	SQ-SOIL	2	1														
	R3-4	NO U-TURN	24 x 24																		
S-46	R4-7	KEEP RIGHT	24 x 30	7	SQ-CONC	2	1														
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4									1								
(2) S-47	M3-1	NORTH (BLUE)	24 x 12										2.00								
	M1-6M	ANOKA COUNTY 49	24 x 24	7									4.00								
	M5-3	CURVED STEM (BLUE)	21 x 15										2.19								
	M3-2	EAST (COLOR)	24 x 12										2.00								
	M1-6M	RAMSEY COUNTY 1	24 x 24	7	SQ-SOIL	2 1/2	2						4.00								
	M1-6M	ANOKA COUNTY 32	24 x 24										4.00								
	M6-3	ARROW UP (BLUE)	21 x 15										2.19								
	M3-3	SOUTH (COLOR)	24 x 12										2.00								
	M1-6M	RAMSEY COUNTY 49	24 x 24	7									4.00								
	M6-1	ARROW RIGHT (BLUE)	21 x 15										2.19								
S-48	R5-1	DO NOT ENTER	30 x 30	7	SQ-CONC	2	1						6.25								
S-49	R2-1	SPEED LIMIT 35	24 x 30	7	SQ-SOIL	2	1						5.00								
S-50	R3-7L	LEFT LANE MUST TURN LEFT	30 x 30	7	SQ-CONC	2	1						6.25								
S-51	R3-7R	RIGHT LANE MUST TURN RIGHT	30 x 30	7	SQ-SOIL	2	1						6.25								
	W2-6	ROUNDABOUT	30 x 30										6.25								
S-52	W13-1P	15 MPH PLAQUE	18 x 18	7	SQ-SOIL	2 1/2	1						2.25								
	M3-4	WEST (BLUE)	24 x 12										2.00								
S-53	M1-6M	RAMSEY COUNTY 1	24 x 24	7	SQ-SOIL	2 1/2	1						4.00								
	M1-6M	ANOKA COUNTY 32	24 x 24										4.00								

SPECIFIC NOTE(S):
 (1) MOUNT BACK TO BACK.
 (2) SEE SIDE BY SIDE MOUNTING DETAIL.
 (3) CONTACT MNDDOT FOR 2020 CENSUS DATA BEFORE NEW SIGN FABRICATION.
 GROUP A = 100% ANOKA COUNTY.
 GROUP B = 100% RAMSEY COUNTY.

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

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

PRINT NAME: SEAN DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945






**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

SIGNING PLAN

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
139
 OF
162
 SHEETS

9:50:39 AM
2/1/2024
PLOTTED/REVISED:

WSB PATH & FILENAME: Projects\Minnesota\09054-000\09054-000_sprtab.dgn

SIGN NUMBER	SIGN AND DELINEATOR / MARKER							REMOVE SIGN		SIGN		SALVAGE SIGN		INSTALL SIGN		DEL INEATOR / MARKER		DEL INEATOR / MARKER PANEL		
	PANEL CODE	LEGEND	SIZE (W x H) INCH	MOUNTING HEIGHT FEET	TYPE	RISER POST SIZE INCHES	NUMBER OF POSTS	EACH GROUP		SQ FT GROUP		EACH GROUP		EACH GROUP		EACH GROUP		EACH GROUP		
								A	B	A	B	A	B	A	B	A	B			
								PANEL		SUPPORT		H								
S-54	R5-1	DO NOT ENTER	30 x 30	7	SQ-CONC	2	1			6.25										
S-55	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2	1			3.00										
S-56	R5-1	DO NOT ENTER	30 x 30	7	SQ-CONC	2	1			6.25										
S-57	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2	1			3.00										
S-58	M3-2	EAST (BLUE)	24 x 12							2.00										
	M1-6M	RAMSEY COUNTY 1	24 x 24	7	SQ-SOIL	2 1/2	1			4.00										
	M1-6M	ANOKA COUNTY 32	24 x 24							4.00										
S-59	R5-1	DO NOT ENTER	30 x 30	7	SQ-CONC	2	1			6.25										
S-60	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2	1			3.00										
(2) S-61	M3-3	SOUTH (BLUE)	24 x 12							2.00										
	M1-6M	RAMSEY COUNTY 49	24 x 24	7						4.00										
	M5-3	CURVED STEM (BLUE)	21 x 15							2.19										
	M3-4	WEST (BLUE)	24 x 12							2.00										
	M1-6M	RAMSEY COUNTY 1	24 x 24	7	SQ-SOIL	2 1/2	2			4.00										
	M1-6M	ANOKA COUNTY 32	24 x 24							4.00										
	M6-3	ARROW UP (BLUE)	21 x 15							2.19										
	M3-1	NORTH (BLUE)	24 x 12							2.00										
	M1-6M	ANOKA COUNTY 49	24 x 24	7						4.00										
	M6-1	ARROW RIGHT (BLUE)	21 x 15							2.19										
(1) S-62	R3-4	NO U-TURN	24 x 24	7	SQ-CONC	2	1			4.00										
	R4-7	KEEP RIGHT	24 x 30	7	SQ-CONC	2	1			5.00										
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4															1	
S-63	R5-1	DO NOT ENTER	30 x 30	7	SQ-CONC	2	1			6.25										
S-64	W2-6	ROUNDABOUT	30 x 30	7	SQ-SOIL	2 1/2	1			6.25										
	W13-1P	15 MPH PLAQUE	18 x 18							2.25										
S-65	M3-3	SOUTH (BLUE)	24 x 12	7	SQ-SOIL	2	1			2.00										
S-66	M1-6M	RAMSEY COUNTY 49	24 x 24	7	SQ-SOIL	2	1			4.00										
(1) S-67	R5-1	DO NOT ENTER	30 x 30	7	SQ-CONC	2	1			6.25										
	R3-4	NO U-TURN	24 x 24	7	SQ-CONC	2	1			4.00										
	R4-7	KEEP RIGHT	24 x 30	7	SQ-CONC	2	1			5.00										
(2) S-69	OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4															1	
	R2-1	SPEED LIMIT 45	24 x 30	7	SQ-SOIL	2	1			5.00										
	M3-4	WEST (BLUE)	24 x 12							2.00										
	M1-6M	RAMSEY COUNTY 1	24 x 24	7						4.00										
	M1-6M	ANOKA COUNTY 32	24 x 24							4.00										
	M5-3	CURVED STEM (BLUE)	21 x 15							2.19										
	M3-1	NORTH (BLUE)	24 x 12							2.00										
	M1-6M	RAMSEY COUNTY 49	24 x 24	7	SQ-SOIL	2 1/2	2			4.00										
	M6-3	ARROW UP (BLUE)	21 x 15							2.19										
	M3-2	EAST (BLUE)	24 x 12							2.00										
S-70	W3-2	YIELD AHEAD	30 x 30	7	SQ-SOIL	2	1			6.25										
	W2-6	ROUNDABOUT	30 x 30	7	SQ-SOIL	2 1/2	1			6.25										
S-71	W13-1P	15 MPH PLAQUE	18 x 18							2.25										
S-72	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2	1			3.00										
S-73	R3-8LA	ROUNDABOUT LT-R	36 x 30	7	SQ-SOIL	2	1			7.50										
S-74	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2 1/2	1			3.00										
	R1-1	STOP	30 x 30	7	SQ-SOIL	2 1/2	1			6.25										
	R3-4	NO U-TURN	24 x 24	7	SQ-CONC	2	1			4.00										
(1) S-75	R4-7	KEEP RIGHT	24 x 30	7	SQ-CONC	2	1			5.00										
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18	4															1	
	R3-8AC	L-T	36 x 30	7	SQ-SOIL	2	1			7.50										
S-76	R3-7R MOD	RIGHT TURN LANE	30 x 30	7	SQ-SOIL	2	1			6.25										
S-77	R1-1	STOP	30 x 30	7	SQ-SOIL	2 1/2	1			6.25										
S-78	R1-1	NO PARKING ANY TIME	18 x 24	7	SQ-SOIL	2 1/2	1			3.00										
S-79	D1-5	ROUNDABOUT DIAGRAMMATIC SIGN	198 x 84	7	SQ-SOIL	2 1/2	4			115.50										
S-80	R3-7R MOD	RIGHT TURN LANE	30 x 30	7	SQ-SOIL	2	1			6.25										
S-81	W3-2	YIELD AHEAD	30 x 30	7	SQ-SOIL	2	1			6.25										
S-82	R5-1	DO NOT ENTER	30 x 30	7	SQ-CONC	2	1			6.25										
S-83	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2 1/2	1			3.00										
	R1-1	STOP	30 x 30	7	SQ-SOIL	2 1/2	1			6.25										
S-84	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2	1			3.00										
	W2-6	ROUNDABOUT	30 x 30	7	SQ-SOIL	2 1/2	1			6.25										
S-85	W13-1P	15 MPH PLAQUE	18 x 18	7	SQ-SOIL	2 1/2	1			2.25										
S-86	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2	1			3.00										
S-87	R5-1	DO NOT ENTER	30 x 30	7	SQ-CONC	2	1			6.25										
	M2-1	JCT (BLUE)	21 x 15							2.19										
	M1-6M	RAMSEY COUNTY 1	24 x 24	7	SQ-SOIL	2 1/2	1			4.00										
	M1-6M	ANOKA COUNTY 32	24 x 24							4.00										
S-88	W16-17P	ROUNDABOUT PLAQUE	36 x 12							3.00										
	W11-2	PEDESTRIAN CROSSING	30 x 30	7	SQ-SOIL	2 1/2	1			6.25										
S-89	W16-7PL	DOWN ARROW LEFT PLAQUE	24 x 12							2.00										
	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2 1/2	1			3.00										
S-90	R1-2	YIELD	36 x 36 x 36	7	SQ-CONC	2 1/2	1			3.90										
	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2 1/2	1			3.00										
S-91	R1-2	YIELD	36 x 36 x 36	7	SQ-SOIL	2 1/2	1			3.90										
	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2 1/2	1			3.00										
S-92	R6-4A	ROUNDABOUT DIRECTIONAL (3 ARROWS)	48 x 24	4	SQ-CONC	2 1/2	1			8.00										
	M3-3	SOUTH (BLUE)	24 x 12							2.00										
S-93	M1-6M	RAMSEY COUNTY 49	24 x 24	7	SQ-SOIL	2	1			4.00										
	M6-2R	ARROW RIGHT (BLUE)	21 x 15							2.19										

SPECIFIC NOTE(S):
 (1) MOUNT BACK TO BACK.
 (2) SEE SIDE BY SIDE MOUNTING DETAIL.
 (3) CONTACT MNDDOT FOR 2020 CENSUS DATA BEFORE NEW SIGN FABRICATION.
 GROUP A = 100% ANOKA COUNTY.
 GROUP B = 100% RAMSEY COUNTY.

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

ANOKA & RAMSEY COUNTY, MN

SIGNING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-0

SIGN NUMBER	SIGN AND DELINEATOR / MARKER					SUPPORT				H									
	PANEL CODE	LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE	RISER POST SIZE	NUMBER OF POSTS	REMOVE SIGN		SIGN		SALVAGE SIGN		INSTALL SIGN		DELINEATOR / MARKER		DELINEATOR / MARKER PANEL	
								EACH GROUP		SQ FT GROUP		EACH GROUP		EACH GROUP		EACH GROUP		EACH GROUP	
								A	B	A	B	A	B	A	B	A	B	A	B
			INCH	FEET		INCHES													
S-94	P1	HODGSON RD RT ARROW	72 x 18	7	SQ-CONC	2 1/2	2			9.00									
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18																1
S-95	W11-2	PEDESTRIAN CROSSING	30 x 30	7	SQ-SOIL	2 1/2	1			6.25									
	W16-7PL	DOWN ARROW LEFT PLAQUE	24 x 12							2.00									
(1) S-96	R1-6a	STATE LAW STOP FOR PED W/I X-WALK	12 x 36	1	SQ-CONC	2	1			3.00									
	R1-6a	STATE LAW STOP FOR PED W/I X-WALK	12 x 36							3.00									
	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2 1/2	1			3.00									
	R1-2	YIELD	36 x 36 x 36							3.90									
S-98	W11-2	PEDESTRIAN CROSSING	30 x 30	7	SQ-SOIL	2 1/2	1			6.25									
	W16-7PL	DOWN ARROW LEFT PLAQUE	24 x 12							2.00									
S-99	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2 1/2	1			3.00									
	R1-2	YIELD	36 x 36 x 36							3.90									
	M3-2	EAST (BLUE)	24 x 12							2.00									
	M1-6M	RAMSEY COUNTY 1	24 x 24	7	SQ-SOIL	2 1/2	1			4.00									
	M1-6M	ANOKA COUNTY 32	24 x 24							4.00									
	M6-2R	ARROW RIGHT (BLUE)	21 x 15							2.19									
	R6-1R	ONE WAY RIGHT	36 x 12							3.00									
S-101	R6-4b	ROUNDAABOUT DIRECTIONAL (4 ARROWS)	60 x 24	4	SQ-CONC	2 1/2	1			10.00									
S-102	W11-2	PEDESTRIAN CROSSING	30 x 30	7	SQ-SOIL	2 1/2	1			6.25									
	W16-7PL	DOWN ARROW LEFT PLAQUE	24 x 12							2.00									
S-103	P2	COUNTY J RT ARROW	66 x 18	7	SQ-CONC	2 1/2	2			8.25									
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18																1
(1) S-104	R1-6a	STATE LAW STOP FOR PED W/I X-WALK	12 x 36	1	SQ-CONC	2	1			3.00									
	R1-6a	STATE LAW STOP FOR PED W/I X-WALK	12 x 36							3.00									
	W11-2	PEDESTRIAN CROSSING	30 x 30	7	SQ-SOIL	2 1/2	1			6.25									
	W16-7PL	DOWN ARROW LEFT PLAQUE	24 x 12							2.00									
S-106	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2 1/2	1			3.00									
	R1-2	YIELD	36 x 36 x 36							3.90									
S-107	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2 1/2	1			3.00									
	R1-2	YIELD	36 x 36 x 36							3.90									
S-108	R6-1R	ONE WAY RIGHT	36 x 12	4	SQ-CONC	2 1/2	1			3.00									
	R6-4a	ROUNDAABOUT DIRECTIONAL (3 ARROWS)	48 x 24							8.00									
	M3-1	NORTH (BLUE)	24 x 12							2.00									
	M1-6M	ANOKA COUNTY 49	24 x 24	7	SQ-SOIL	2	1			4.00									
	M6-2R	ARROW RIGHT (BLUE)	21 x 15							2.19									
(1) S-110	W11-2	PEDESTRIAN CROSSING	30 x 30	7	SQ-SOIL	2	1			6.25									
	W16-7PL	DOWN ARROW LEFT PLAQUE	24 x 12							2.00									
S-111	P1	HODGSON RD RT ARROW	72 x 18	7	SQ-CONC	2 1/2	2			9.00									
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18																1
(1) S-112	R1-6a	STATE LAW STOP FOR PED W/I X-WALK	12 x 36	1	SQ-CONC	2 1/2	1			3.00									
	R1-6a	STATE LAW STOP FOR PED W/I X-WALK	12 x 36							3.00									
	W11-2	PEDESTRIAN CROSSING	30 x 30	7	SQ-SOIL	2	1			6.25									
(1) S-113	W16-7PL	DOWN ARROW LEFT PLAQUE	24 x 12	7	SQ-SOIL	2	1			2.00									
	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-CONC	2 1/2	1			3.00									
	R1-2	YIELD	36 x 36 x 36							3.90									
S-115	R6-1R	ONE WAY RIGHT	36 x 12	7	SQ-SOIL	2 1/2	1			3.00									
	R1-2	YIELD	36 x 36 x 36							3.90									
S-116	R6-1R	ONE WAY RIGHT	36 x 12	4	SQ-CONC	2 1/2	1			3.00									
	R6-4b	ROUNDAABOUT DIRECTIONAL (4 ARROWS)	60 x 24							10.00									
	M3-4	WEST (BLUE)	24 x 12							2.00									
	M1-6M	RAMSEY COUNTY 1	24 x 24	7	SQ-SOIL	2 1/2	1			4.00									
	M1-6M	ANOKA COUNTY 32	24 x 24							4.00									
	M6-2R	ARROW RIGHT (COLOR)	21 x 15							2.19									
S-118	W11-2	PEDESTRIAN CROSSING	30 x 30	7	SQ-SOIL	2 1/2	1			6.25									
	W16-7PL	DOWN ARROW LEFT PLAQUE	24 x 12							2.00									
S-119	P2	COUNTY J RT ARROW	66 x 18	7	SQ-CONC	2 1/2	2			8.25									
	OM1-2	TYPE 1 OBJECT MARKER	18 x 18																1
(1) S-120	R1-6a	STATE LAW STOP FOR PED W/I X-WALK	12 x 36	1	SQ-CONC	2	1			3.00									
	R1-6a	STATE LAW STOP FOR PED W/I X-WALK	12 x 36							3.00									
S-121		CAUTION SLOW MOVING VEHICLE	12 x 18	7	SQ-SOIL	2	1												
S-122		CAUTION SLOW MOVING VEHICLE	12 x 18	7	SQ-SOIL	2	1												
S-123	R1-1	STOP	x																
TOTAL								9	17	269	681	3	6	3	6		2	1	9

SPECIFIC NOTE(S):
 (1) MOUNT BACK TO BACK.
 (2) SEE SIDE BY SIDE MOUNTING DETAIL.
 (3) CONTACT MNDOT FOR 2020 CENSUS DATA BEFORE NEW SIGN FABRICATION.
 GROUP A = 100% ANOKA COUNTY.
 GROUP B = 100% RAMSEY COUNTY.

SIGN	SIGN TYPE SPECIAL					REMOVE SIGN TYPE SPECIAL		SALVAGE SIGN TYPE SPECIAL		INSTALL SIGN TYPE SPECIAL			
	PANEL CODE	LEGEND	SIZE (W x H)	MOUNTING HEIGHT	TYPE	RISER INCHES	NUMBER OF POSTS	EACH GROUP		EACH GROUP			
								EACH GROUP B		EACH GROUP B		EACH GROUP B	
								A	B	A	B	A	B
S-501		ASH STREET WOODBIDGE LN COUNTY RD J	x x x	7	SQ-SOIL	2	1			1	1		
S-502		ST ALBANS ST METRO TRANSIT BUS STOP RICE CREEK NORTH MEMORIAL TRAIL RICE CREEK NORTH MEMORIAL TRAIL	x x x x	7	SQ-SOIL	2	1			1	1		
S-503		ASH STREET HODGSON RD	x x							1			
S-504		COUNTY RD J KENT ST	x x	7	SQ-SOIL	2	1			1	1		
S-505		ASH STREET BLANCHARD BLVD NO PARKING FIRE LANE	x x x	7	SQ-SOIL	2	1			1	1		
S-506		HODGSON RD LYNGBLOMSTEN DR	x x	7	SQ-SOIL	2	1			1	1		
S-507		HODGSON RD BLANCHARD BLVD NO PARKING ANY TIME	x x x	7	SQ-SOIL	2	1			1	1		
TOTAL								1		6	6		

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

ANOKA & RAMSEY COUNTY, MN

SIGNING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

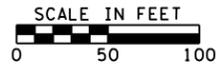
PLOTTED/REVISED: 2/1/2024 9:50:49 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Plan\19054-000_spr01.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

LEGEND

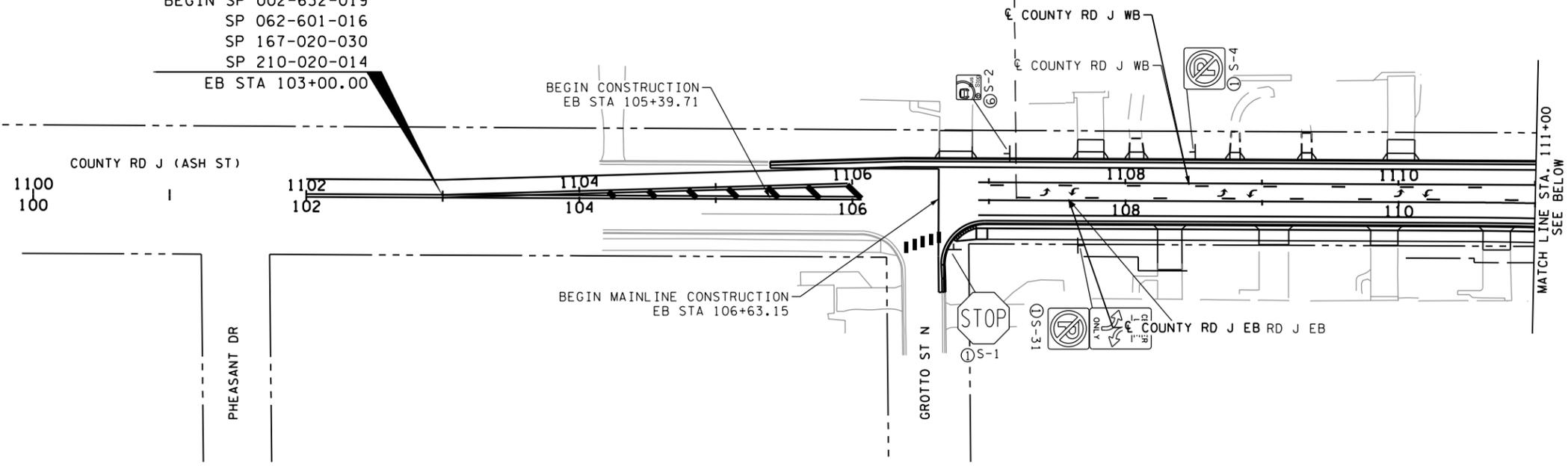
- ① FURNISH & INSTALL
- ② INPLACE
- ⑥ INSTALL



BEGIN SP 002-632-019
 SP 062-601-016
 SP 167-020-030
 SP 210-020-014
 EB STA 103+00.00

BEGIN CONSTRUCTION
 EB STA 105+39.71

BEGIN MAINLINE CONSTRUCTION
 EB STA 106+63.15

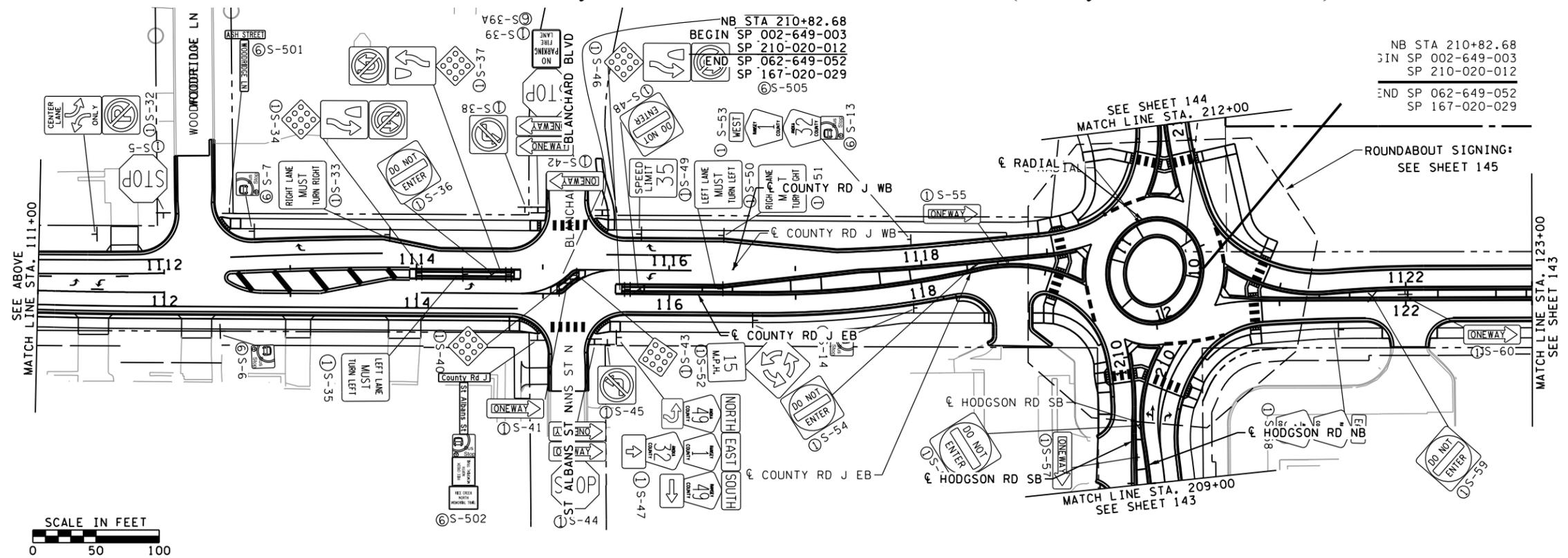


Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

NB STA 210+82.68
 BEGIN SP 002-649-003
 SP 210-020-012
 SP 062-649-052
 SP 167-020-029
 END SP 062-649-052
 SP 167-020-029

SEE SHEET 144
 MATCH LINE STA. 212+00

ROUNDABOUT SIGNING:
 SEE SHEET 145



NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

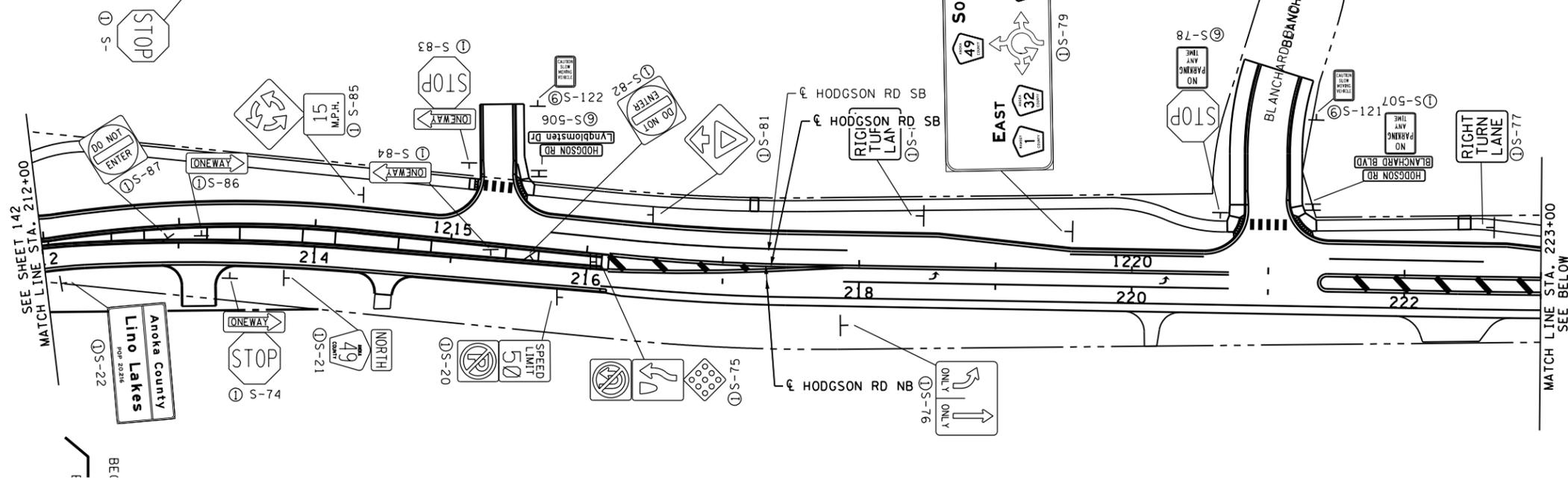
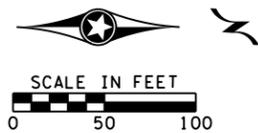
ANOKA & RAMSEY COUNTY, MN
 EB STA 103+00 TO EB STA 123+00
SIGNING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
142
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:56:01 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_spr03.dgn

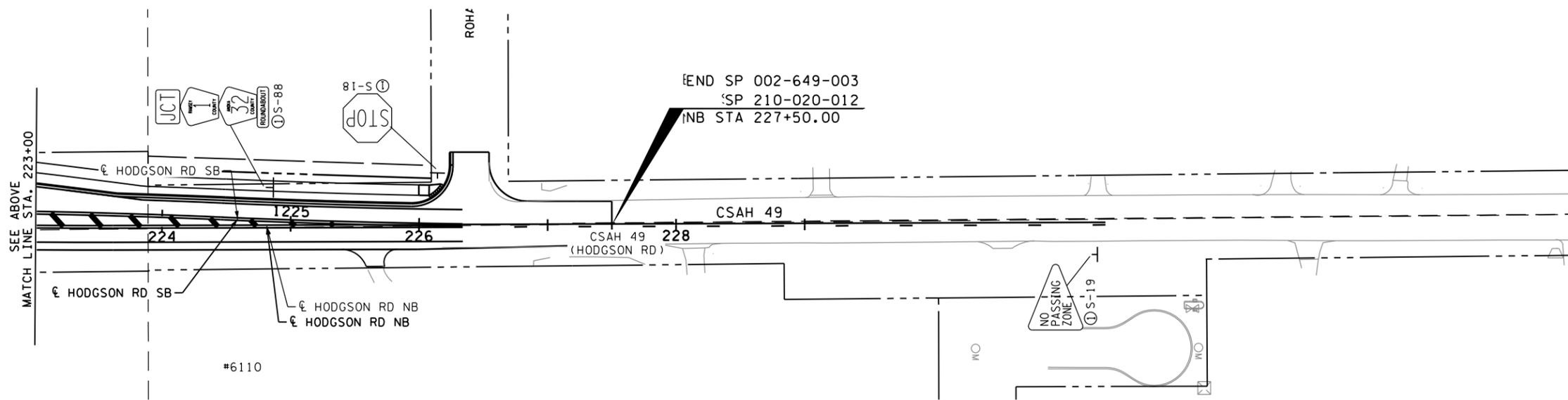
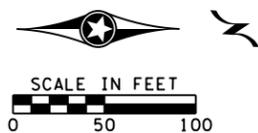
CSAH 49 (Hodgson Road)



LEGEND

- ① FURNISH & INSTALL
- ② INPLACE
- ⑥ INSTALL

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

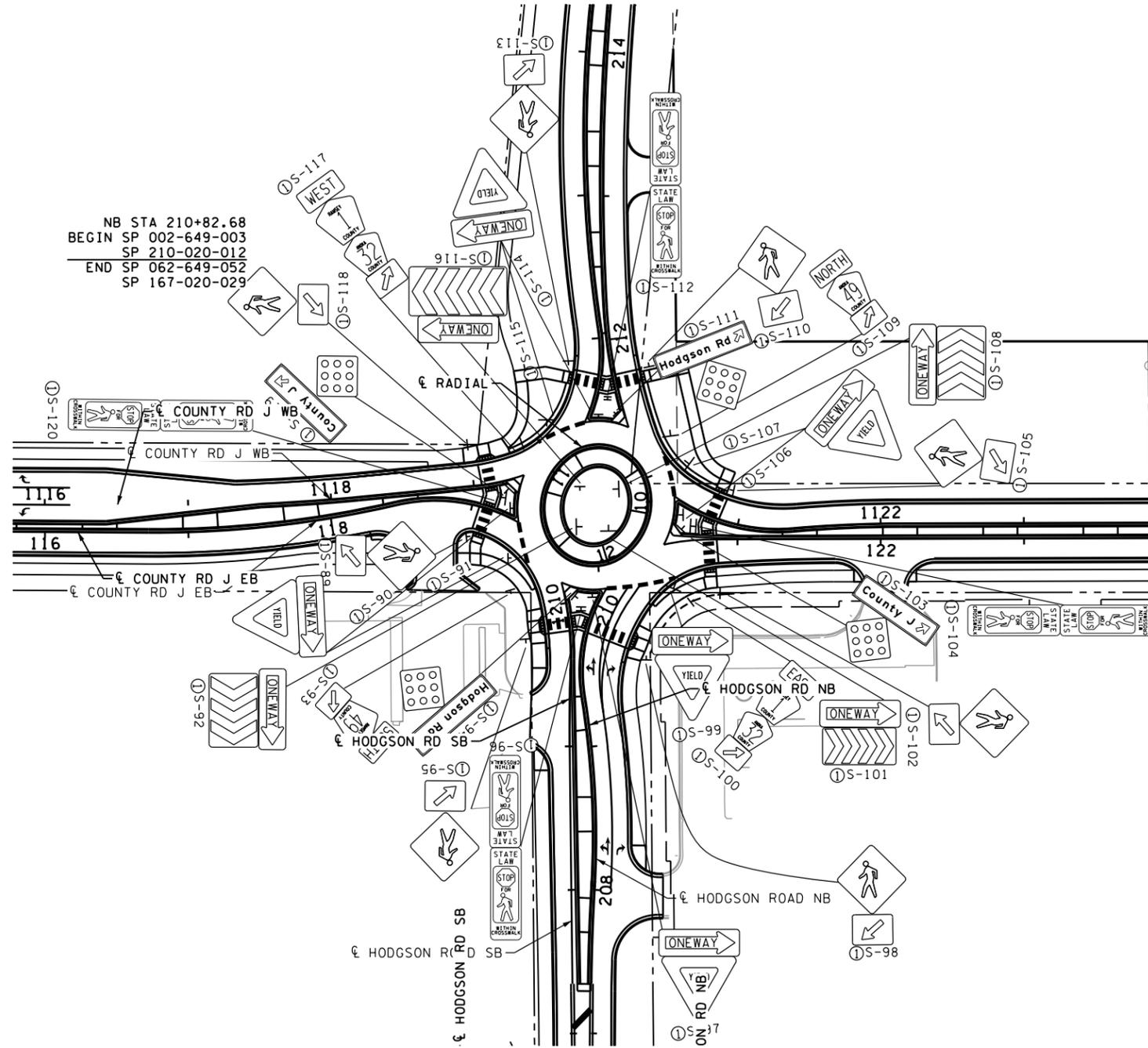
ANOKA & RAMSEY COUNTY, MN
 NB STA 212+00 TO NB STA 227+50
SIGNING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
144
 OF
162
 SHEETS

County Road J at Hodgson Road Roundabout

LEGEND

- ① FURNISH & INSTALL
- ② INPLACE
- ⑥ INSTALL



NB STA 210+82.68
 BEGIN SP 002-649-003
 SP 210-020-012
 END SP 062-649-052
 SP 167-020-029

PLOTTED/REVISED: 2/1/2024 9:56:07 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_spr04.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945



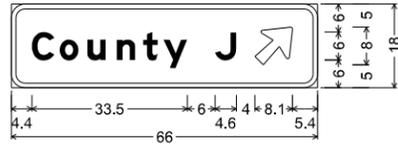
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**



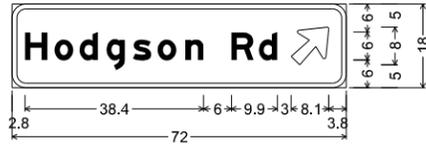
ANOKA & RAMSEY COUNTY, MN

SIGNING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

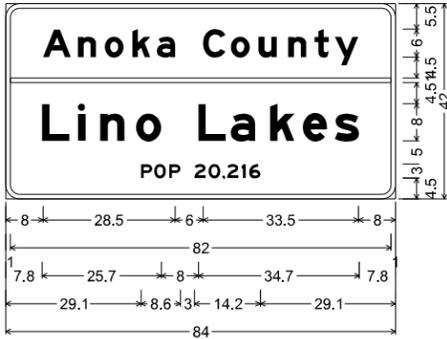
SHEET
145
 OF
162
 SHEETS



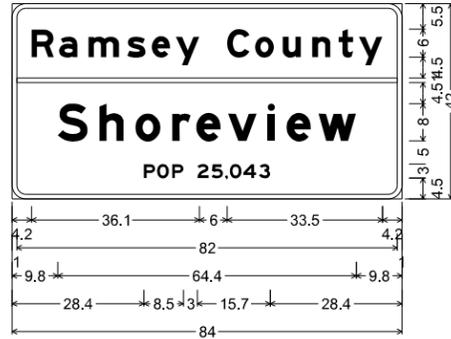
3.0" Radius, 1.0" Border, White on, Green;
 "County J", E Mod 2K;
 Arrow 3 - 10.0" 45°;



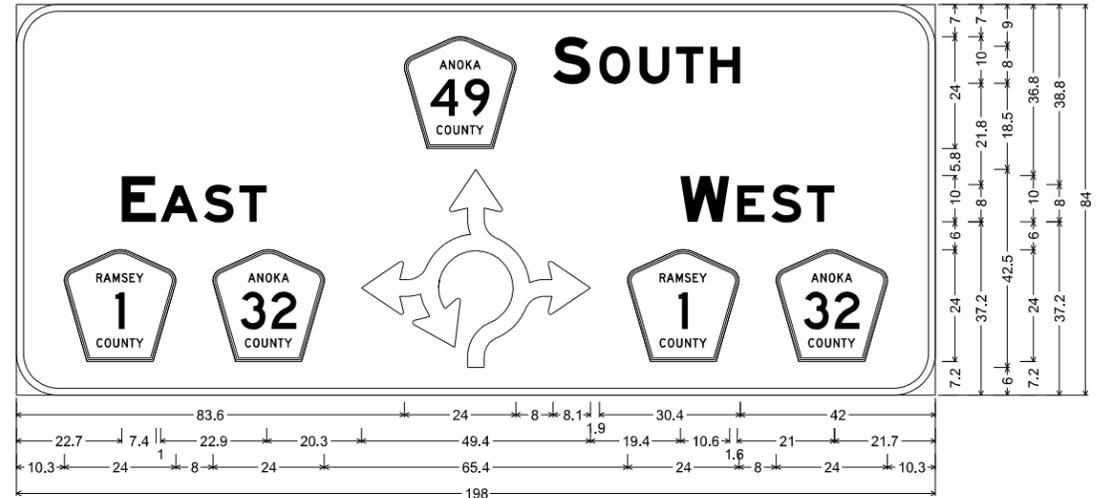
3.0" Radius, 1.0" Border, White on, Green;
 "Hodgson Rd", E Mod 2K;
 Arrow 3 - 10.0" 45°;



1.0" Border, White on, Green;
 "Anoka County", E Mod 2K;
 "Lino Lakes", E Mod 2K; "POP", E Mod 2K;
 "20,216", E Mod 2K;



1.0" Border, White on, Green;
 "Ramsey County", E Mod 2K;
 "Shoreview", E Mod 2K; "POP", E Mod 2K;
 "25,043", E Mod 2K;



9.0" Radius, 1.5" Border, White on, Green;
 Pentagonal County 49 M1-6; "SOUTH", E Mod 2K; "EAST", E Mod 2K; Pentagonal County 1 M1-6;
 Pentagonal County 32 M1-6; RA Arrow-4hd; "WEST", E Mod 2K; Pentagonal County 1 M1-6; Pentagonal County 32 M1-6;

ALL DIMENSIONS IN INCHES

NO.	DATE	BY	CHK	REVISIONS

Design By:	MF	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: <u>SEAN DELMORE, PE</u> DATE: <u>2/1/2024</u> LICENSE # <u>40945</u>
Plan By:	MF	
Checked By:	ES	
Approved By:	SD	



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN	
SIGNING PLAN	
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014	

SHEET
146
 OF
162
 SHEETS

PAVEMENT MARKING TABULATION																								M						
LOCATION	PAVEMENT MARKING REMOVAL	MULTI-COMPONENT										PREFORM THERMOPLASTIC		PREFORM THERMOPLASTIC GROUND IN		PREFORM TAPE GROUND IN (WR) CONTRAST														
		4" SOLID LINE				4" BROKEN LINE		4" DOUBLE SOLID LINE		24" SOLID LINE		CROSSWALK		4" SOLID LINE		8" DOTTED LINE		CROSSWALK		PAVEMENT MESSAGE										
		WHITE		YELLOW		YELLOW		YELLOW		YELLOW				WHITE	YELLOW	WHITE	WHITE			YELLOW	LEFT ARROW	RIGHT ARROW	THRU/LEFT ARROW							
		LIN FT		LIN FT		LIN FT		LIN FT		LIN FT		LIN FT		SQ FT		LIN FT	LIN FT	LIN FT	SQ FT		SQ FT	SQ FT	SQ FT							
(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(B)	(C)	(A)	(B)	(A)	(B)	(B)						
COUNTY RD J																														
STA 103+00.00 TO STA 118+00.00		340		1878	1210	871	871	110	110	501	501	82	82	240	120															
STA 122+00.00 TO STA 128+04.29		260	260	927	788	317	317			325	325	13	13	120																
ROUNDBOUT																														
STA 10+00.00 TO STA 12+72.47																														
CSAH 49 (HODGSON RD)																														
STA 203+76.46 TO STA 209+00.00					1197		337						647		166															
STA 212+00.00 TO STA 226+24.76		100		2101		1333		100		1627		196																		
SUBTOTAL		700	260	4906	3195	2521	1525	210	110	2453	1473	291	261	360	336	263	253	536	643	15	15	264	312			109	78	78	32	64
PROJECT TOTAL		960		12147				320		3926		552		696		1695				30		576		361						
TOTAL SP 002-632-012		600		3993				110		826		95		360		400				8				109						
TOTAL SP 002-649-003		100		3434				100		1627		196		100		399				7				78						
TOTAL SP 062-601-016		260		3186				110		826		95		120		449				8		132		102						
TOTAL SP 062-649-052				1534						647		166		216		447				7		132		72						
TOTAL SP 167-020-029																														
TOTAL SP 167-020-030																														
TOTAL SP 210-020-012																														
TOTAL SP 210-020-014																														

NOTES:
 (A) 100% ANOKA COUNTY
 (B) 100% RAMSEY COUNTY
 (C) 100% LINO LAKES

PAVEMENT MARKING REMOVAL QUANTITIES INCLUDE:
 WESTBOUND COUNTY RD J EDGELINE STA 102+00 TO 105+40
 COUNTY RD J EDGELINES AND CENTERLINE STA 126+70 TO 128+00
 CSAH 49 CENTERLINE STA 226+34 TO 231+34

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945





**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

TABULATION
STRIPING PLAN

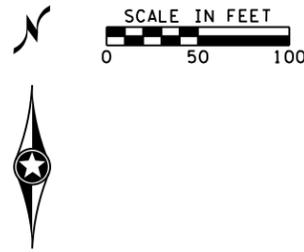
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
148
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:56:09 AM

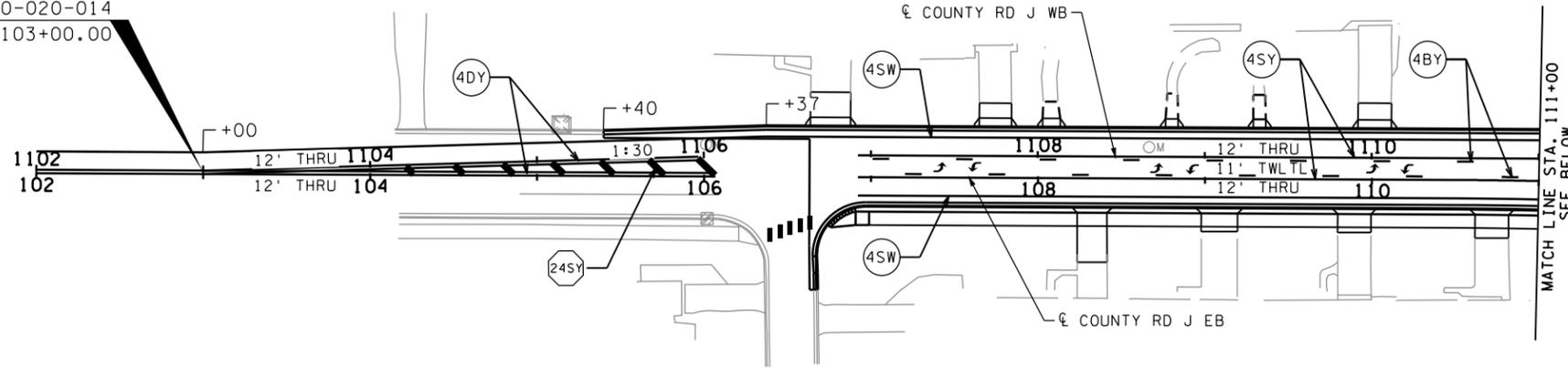
WSB PATH & FILENAME: Projects\Mnmesa\019054-000\CadPlan\19054-000_dml.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



BEGIN SP 002-632-019
SP 062-601-016
SP 167-020-030
SP 210-020-014
EB STA 103+00.00

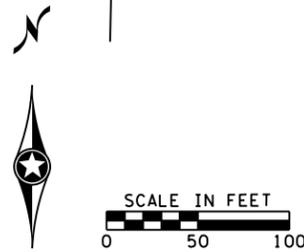
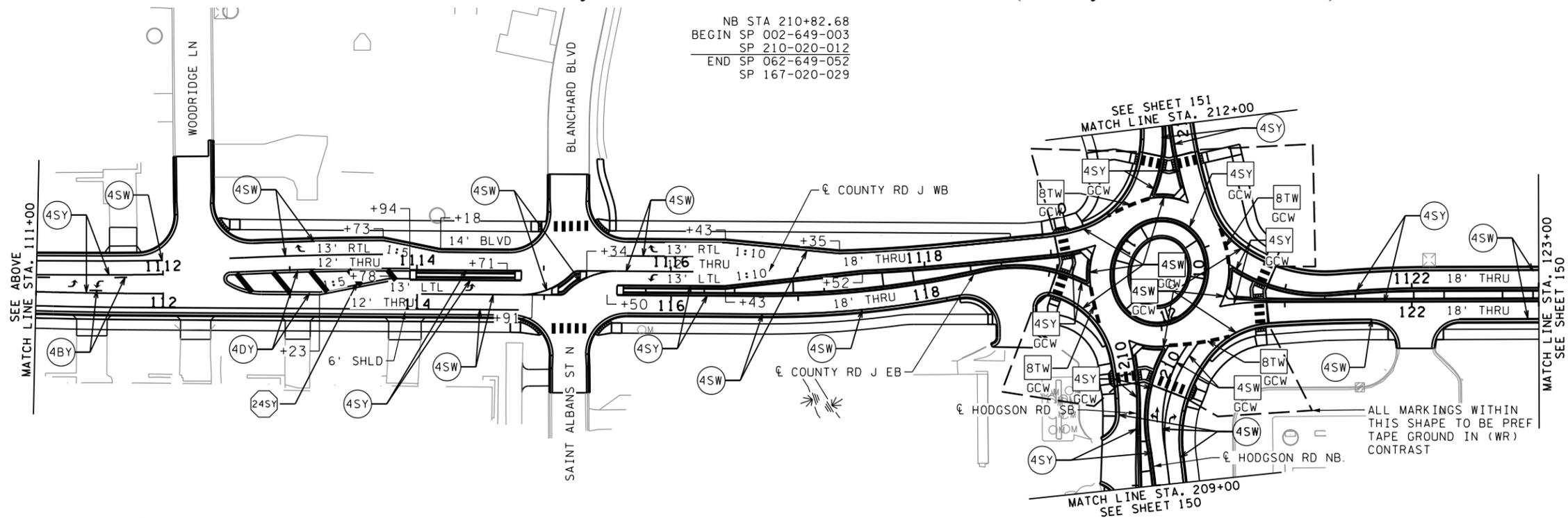
1100
100



LEGEND	
	CIRCLE - MULTI-COMP
	SQUARE - PREF TAPE
	OCTAGON - PREF THERMO
	ARROWS - PREF THERMO
	CROSSWALK - PREF THERMO
	MULTI-COMP
1ST DIGIT WIDTH 4", 8", ETC.	3RD DIGIT COLOR W = WHITE Y = YELLOW B = BLACK
2ND DIGIT PATTERN S = SOLID B = BROKEN D = DOUBLE T = DOTTED	G = GROUND IN C = CONTRAST W = WET REFLECTIVE
EXAMPLE:	= 4" SOLID LINE WHITE - MULTI-COMP

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)

NB STA 210+82.68
BEGIN SP 002-649-003
SP 210-020-012
END SP 062-649-052
SP 167-020-029



ALL MARKINGS WITHIN THIS SHAPE TO BE PREF TAPE GROUND IN (WR) CONTRAST

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945

**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

EB STA 103+00 TO EB STA 123+00

STRIPING PLAN

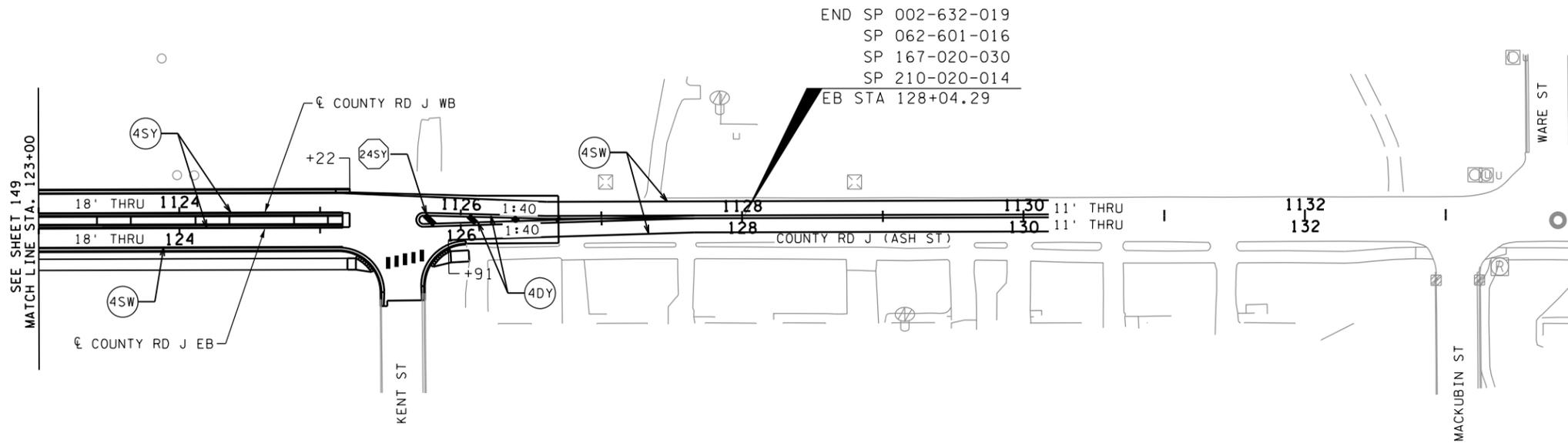
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
149
OF
162
SHEETS

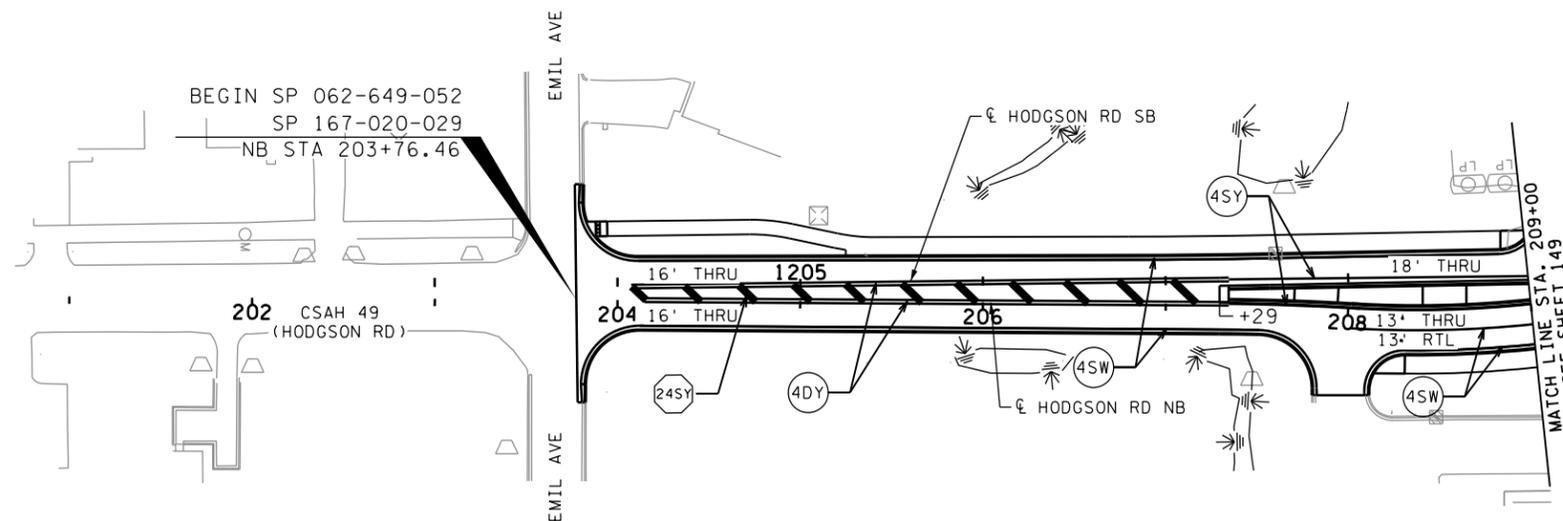
PLOTTED/REVISED: 2/1/2024 9:51:25 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_pml2.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024
 LICENSE #: 40945

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

EB STA 123+00 TO EB STA 127+66.06, NB STA 203+76.46 TO NB STA 209+00

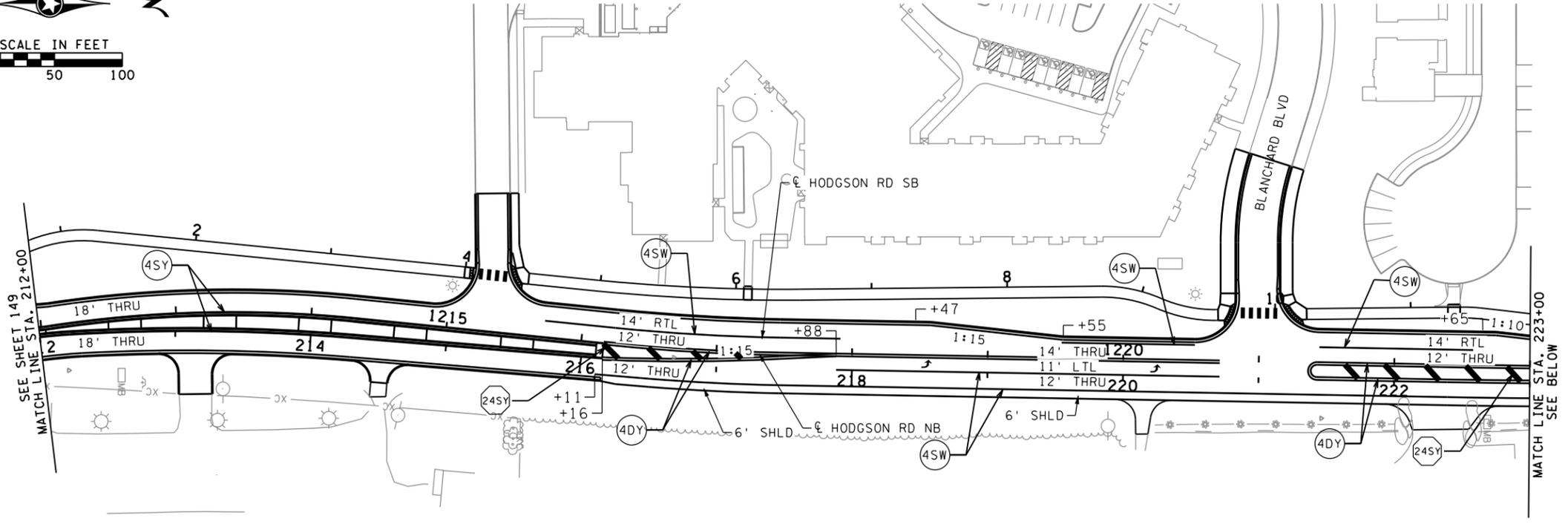
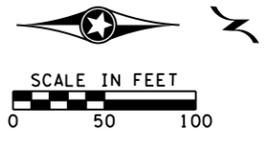
STRIPING PLAN

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
150
 OF
162
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:56:32 AM

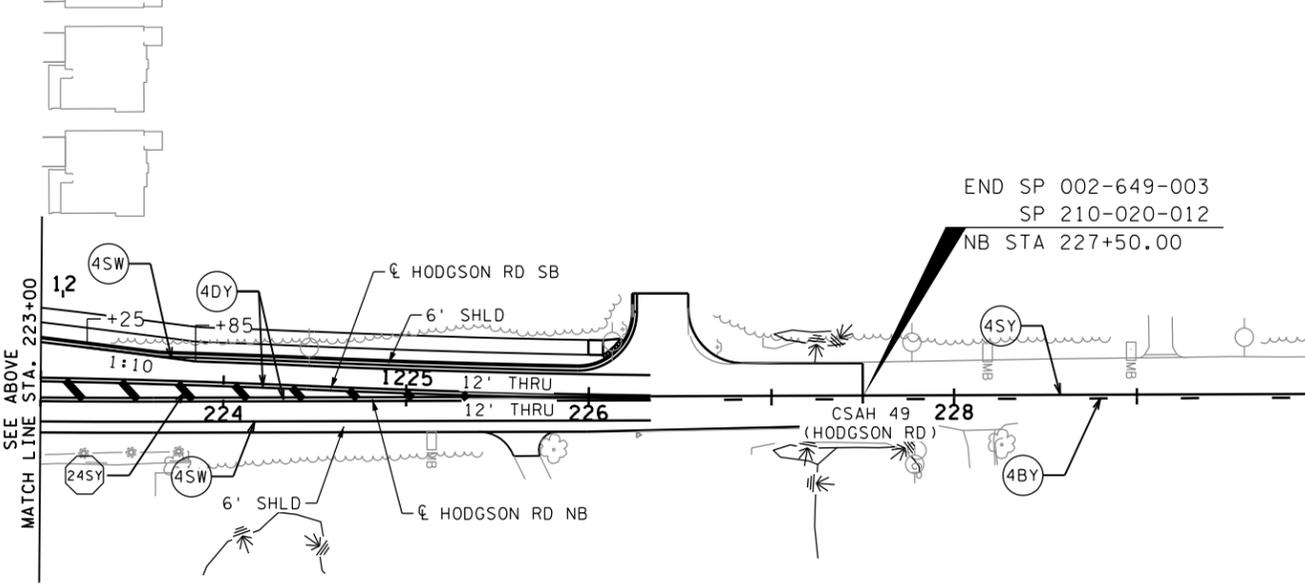
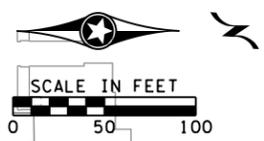
CSAH 49 (Hodgson Road)



LEGEND

- CIRCLE - MULTI-COMP
 - SQUARE - PREF TAPE
 - OCTAGON - PREF THERMO
 - ARROWS - PREF THERMO
 - CROSSWALK - PREF THERMO
-
- | | |
|--|---|
| 1ST DIGIT WIDTH
4", 8", ETC. | 3RD DIGIT COLOR
W = WHITE
Y = YELLOW
B = BLACK |
| 2ND DIGIT PATTERN
S = SOLID
B = BROKEN
D = DOUBLE
T = DOTTED | G = GROUND IN
C = CONTRAST
W = WET REFLECTIVE |
- EXAMPLE: = 4" SOLID LINE WHITE - MULTI-COMP

CSAH 49 (Hodgson Road)



WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_p162.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

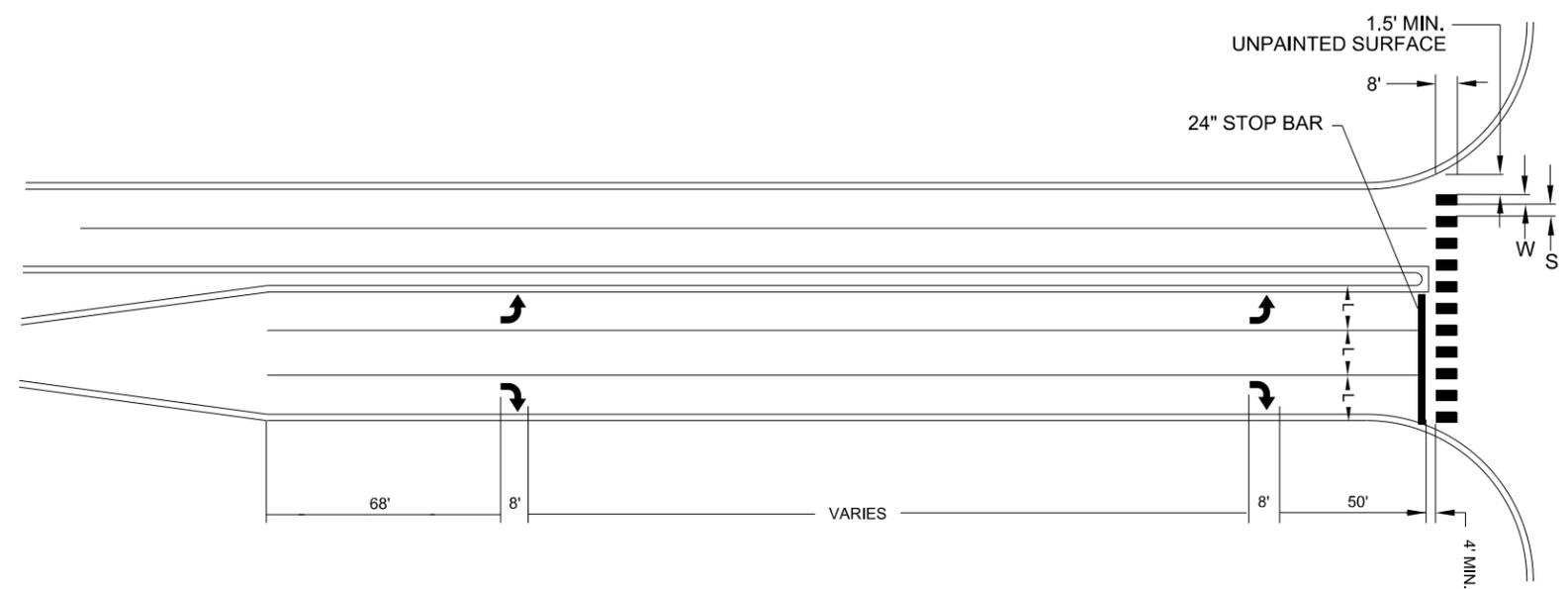
NB STA 212+00 TO NB STA 227+50.00

STRIPING PLAN

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
151
 OF
162
 SHEETS

MARKINGS FOR PEDESTRIAN CROSSWALKS



(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

- NOTES: CROSSWALKS:**
- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
 - 2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
 - 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES, EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
 - 4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
 - 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3m) INSIDE LANE.

NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945



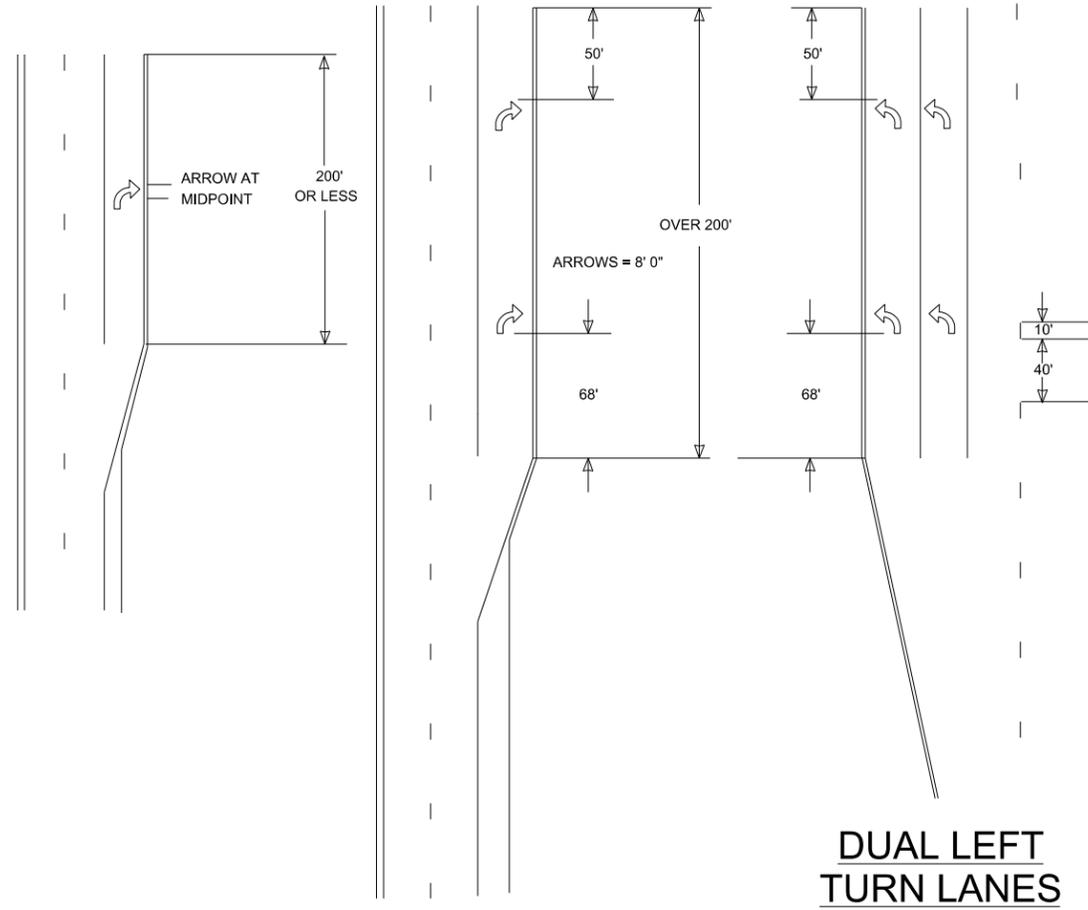
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

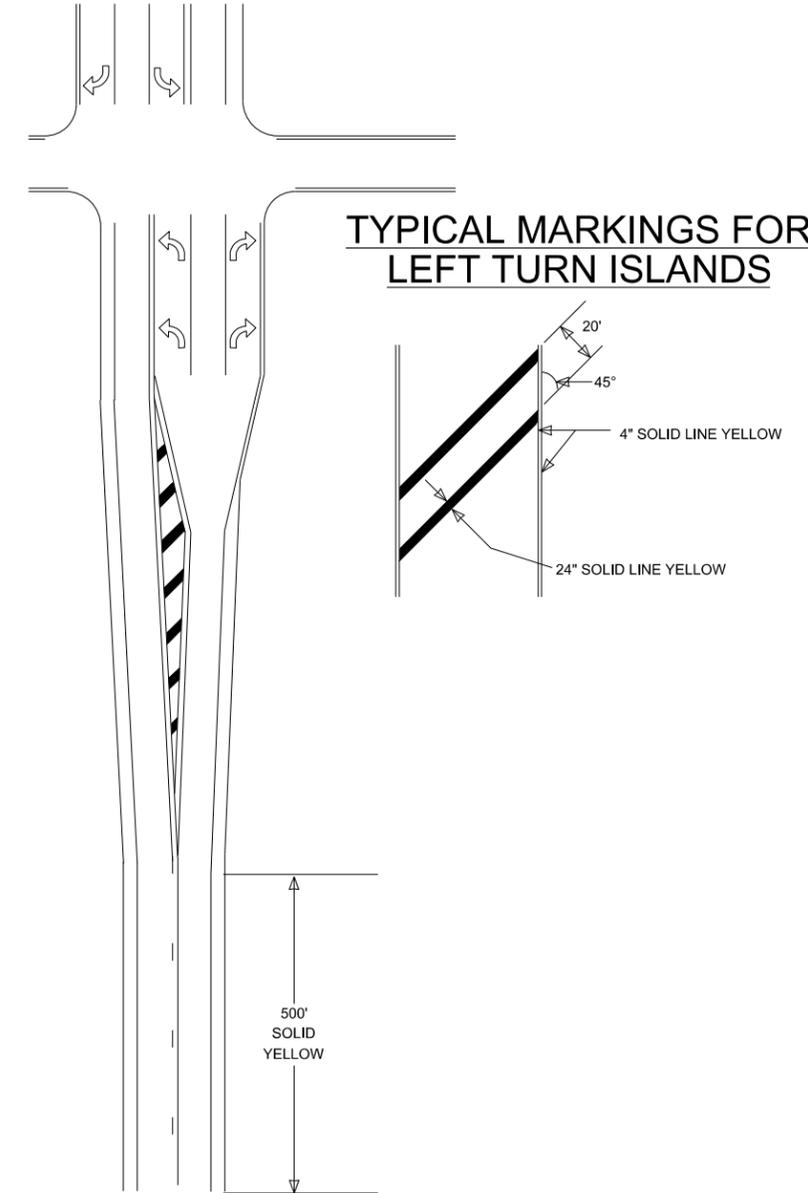
STRIPING PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
152
 OF
162
 SHEETS

TYPICAL MESSAGE PLACEMENT FOR TURN LANES



TYPICAL MARKINGS FOR LEFT TURN ISLANDS



NO.	DATE	BY	CHK	REVISIONS

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/1/2024 LICENSE #: 40945

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

STRIPING PLAN

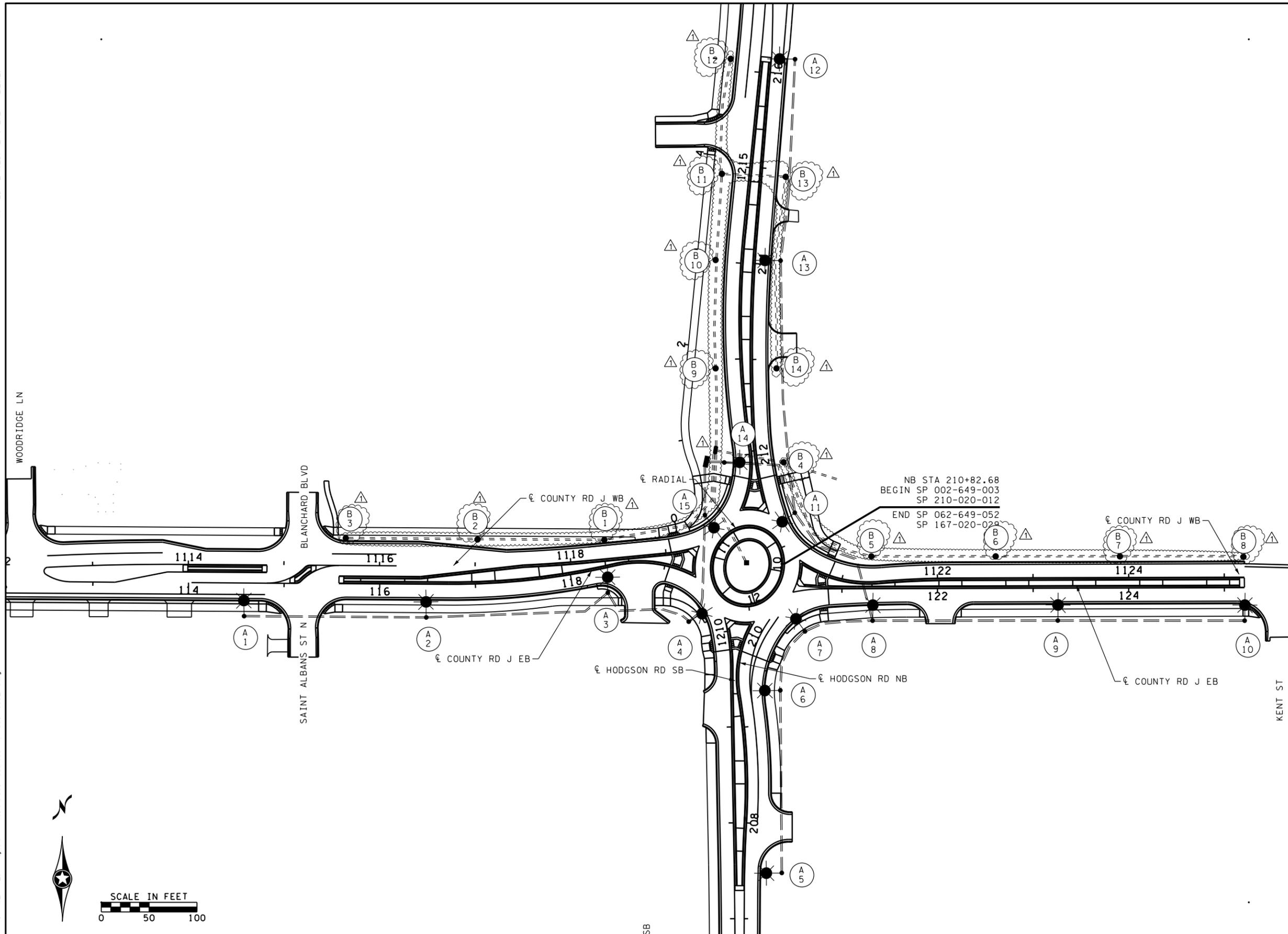
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

PLOTTED/REVISED: 2/19/2024 12:20:28 PM

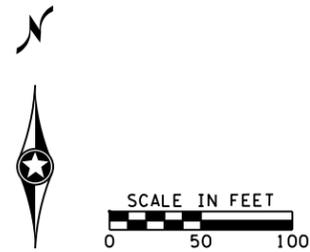
WSB PATH & FILENAME: Projects\Minnesota\019054-000\000\000\Plan\19054-000_1101.dgn

LEGEND

- LIGHTING UNIT TYPE 9-30
- 2" NMC WITH 3-1/C 8 AWG AND 1-1/C 8 AWG GR. (UNLESS OTHERWISE NOTED)
- 1.5" NMC
- SERVICE CABINET TYPE L1
- EQUIPMENT PAD B
- HANDHOLE
- LIGHT FOUNDATION DESIGN E MODIFIED



- NOTES:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO WORK.
 2. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF CONDUIT AND FOUNDATIONS WITH OTHER CONSTRUCTION ACTIVITIES IN THE AREA.
 3. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND UTILITY COORDINATION.
 4. ALL MATERIAL AND WORK SHALL BE IN ACCORDANCE WITH THE N.E.C.
 5. LIGHTING UNITS MUST MAINTAIN A MINIMUM CLEARANCE OF 10' FROM OVERHEAD POWER LINES.
 6. EXACT LOCATIONS OF LIGHT AND SERVICE CABINET FOUNDATIONS SHALL BE STAKED IN THE FIELD FOR ENGINEER APPROVAL.



NO.	DATE	BY	CHK	REVISIONS
1	02/11/2024	DS	A#P	LIGHTING SYSTEM B & LEGEND ADJUSTMENTS
.
.
.

Design By: MF
 Plan By: MF
 Checked By: ES
 Approved By: SD

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY 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 DELMORE, PE
 DATE: 2/19/2024 LICENSE #: 40945

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

LIGHTING PLAN

SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
154R
 OF
162
 SHEETS

PLOTTED/REVISED: 2/22/2024 5:09:24 PM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\CadPlan\19054-000_Lit.dwg

FEEDPOINT A

LIGHTING STANDARDS AND FOUNDATIONS

NO.	STATION	LT	RT	LOCATION	TYPE	MH
1	1114+60		X	COUNTY RD J EB	9-30	30
2	1116+50		X	COUNTY RD J EB	9-30	30
3	1118+40		X	COUNTY RD J EB	9-30	30
4	1210+20	X		HODGSON RD SB	9-30	30
5	1207+45		X	HODGSON RD NB	9-30	30
6	1209+35		X	HODGSON RD NB	9-30	30
7	1120+35		X	COUNTY RD J EB	9-30	30
8	1121+30		X	COUNTY RD J EB	9-30	30
9	1123+25		X	COUNTY RD J EB	9-30	30
10	1125+20		X	COUNTY RD J EB	9-30	30
11	1211+20		X	HODGSON RD NB	9-30	30
12	1216+15		X	HODGSON RD NB	9-30	30
13	1214+05		X	HODGSON RD NB	9-30	30
14	1211+90	X		HODGSON RD SB	9-30	30
15	1119+60	X		COUNTY RD J WB	9-30	30

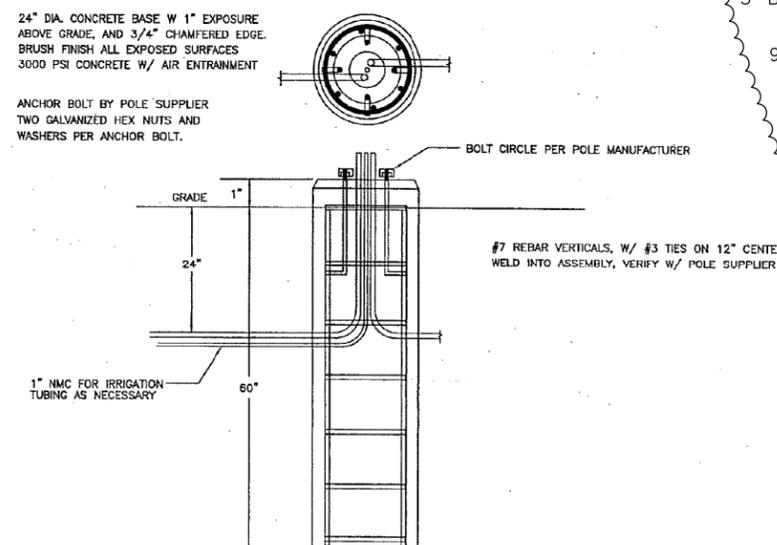
FEEDPOINT B

LIGHTING FOUNDATIONS

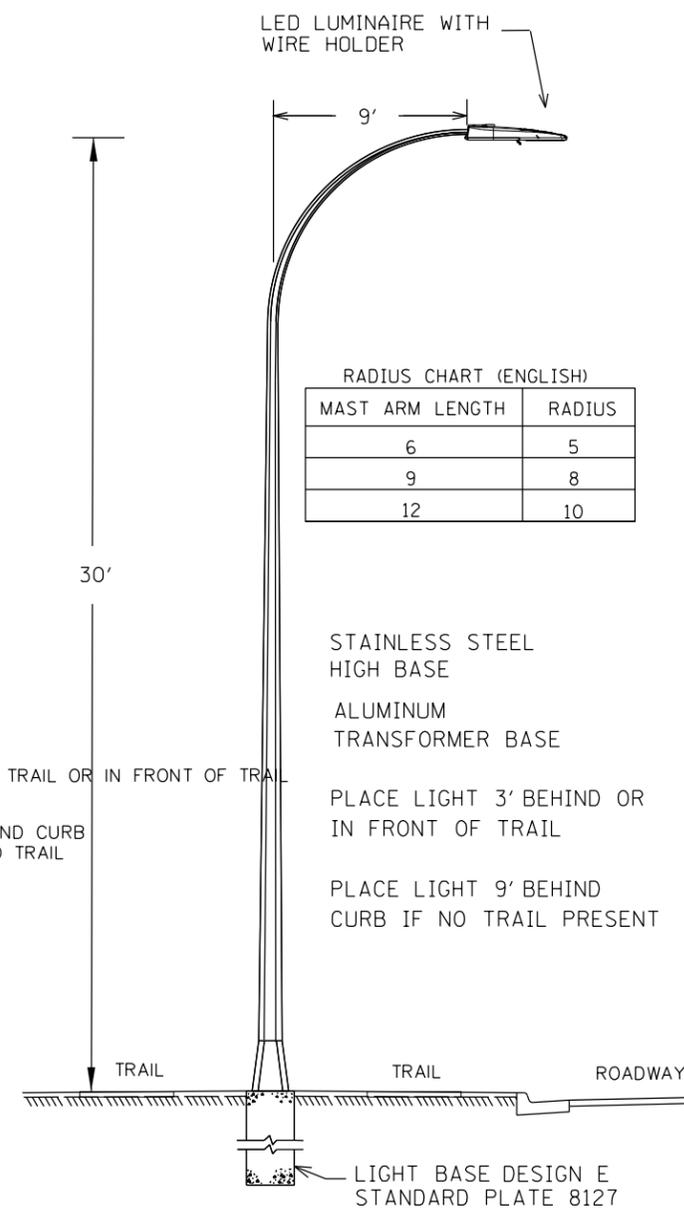
NO.	STATION	LT	RT	LOCATION
1	1118+40	X		COUNTY RD J WB
2	1117+00	X		COUNTY RD J WB
3	1115+65	X		COUNTY RD J WB
4	1211+90		X	HODGSON RD NB
5	1121+30	X		COUNTY RD J WB
6	1122+60	X		COUNTY RD J WB
7	1123+90	X		COUNTY RD J WB
8	1125+20	X		COUNTY RD J WB
9	1212+90	X		HODGSON RD SB
10	1214+00	X		HODGSON RD SB
11	1214+90	X		HODGSON RD SB
12	1215+90	X		HODGSON RD SB
13	1214+90		X	HODGSON RD NB
14	1212+90		X	HODGSON RD NB

STREET LIGHTING TABULATION

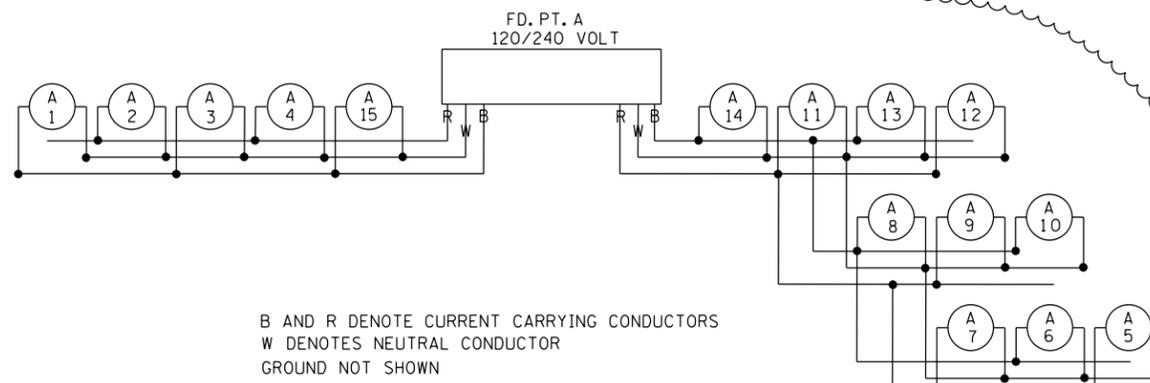
ITEM	ITEM DESCRIPTION	UNIT	TOTAL
2545.502	LIGHTING UNIT TYPE 9-30	EACH	15
2545.502	LIGHT FOUNDATION DESIGN E	EACH	15
2545.502	LIGHT FOUNDATION DESIGN E-MODIFIED	EACH	14
2545.502	SERVICE CABINET TYPE L1	EACH	1
2545.502	SERVICE EQUIPMENT	EACH	1
2545.502	EQUIPMENT PAD B	EACH	2
2545.502	HANDHOLE	EACH	1
2545.503	1.5" NON-METALLIC CONDUIT	LIN FT	1950
2545.503	2" NON-METALLIC CONDUIT	LIN FT	2150
2545.503	UNDERGROUND WIRE 1/C 8 AWG	LIN FT	9800



LIGHTING FOUNDATION DESIGN E-MODIFIED DETAIL
NOT TO SCALE



LIGHTING UNIT TYPE 9-30
PLACEMENT DETAIL
(NON-BREAKAWAY)
NOT TO SCALE



B AND R DENOTE CURRENT CARRYING CONDUCTORS
W DENOTES NEUTRAL CONDUCTOR
GROUND NOT SHOWN

NO.	DATE	BY	CHK	REVISIONS
1	02/11/2024	DS	AJP	SCHEDULE, DETAIL & TAB ADJUSTMENTS

Design By:	MF	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Plan By:	MF	
Checked By:	ES	
Approved By:	SD	
DATE:	2/22/2024	

PRINT NAME: SEAN DELMORE, PE
DATE: 2/22/2024 LICENSE #: 40945



CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

ANOKA & RAMSEY COUNTY, MN

LIGHTING PLAN
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
155R
OF
162
SHEETS

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT NAME: CSAH 49 AT RAMSEY COUNTY CSAH 1 / ANOKA COUNTY CSAH 32 INTERSECTION IMPROVEMENTS
PROJECT NUMBER: SP 002-632-019; SP 002-649-003; SP 062-601-016; SP 062-649-052; WSB 019054-000
PROJECT LOCATION: STREET: COUNTY RD J/ ASH ST & HODGSON RD CITY: SHOREVIEW COUNTY: ANOKA/RAMSEY
STATE: MINNESOTA ZIP: 55126 LATITUDE/LONGITUDE: 45.1241/-93.1274

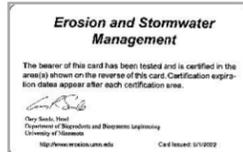
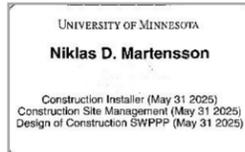
THE PLANNED SCOPE OF THE PROJECT INCLUDES:

ANOKA AND RAMSEY COUNTIES ARE PROPOSING TO RECONSTRUCT THE ROADWAY, ADD ADA IMPROVEMENTS, ADD A ROUNDABOUT, AND IMPROVE DRAINAGE AND LIGHTING ALONG CSAH 32 (COUNTY RD J) FROM 330 FEET WEST OF GROTTO ST N TO 250 FEET EAST OF KENT STREET AND ALONG CSAH 49 (HODGSON RD) FROM EMIL AVE TO ROHAVIC LANE.

TENTATIVE CONSTRUCTION SCHEDULE (OPERATOR SHOULD PROVIDE ESTIMATED CONSTRUCTION SCHEDULE TO THE ENGINEER)	
CONSTRUCTION ACTIVITIES:	ESTIMATED DATES OF SOIL DISTURBANCE ACTIVITIES:
TEMPORARY SEDIMENT CONTROL BMPs & REMOVALS	OCT 2023 - MAY 2024
GRADING & UTILITY WORK	MAY 2024 - OCT 2024
CURB & PAVEMENT	MAY 2024 - OCT 2024
FINAL STABILIZATION	OCT 2024

PROJECT PERSONNEL AND TRAINING

SWPPP DEVELOPER:
WSB NIKLAS MARTENSSON
701 XENIA AVE S, SUITE 300
GOLDEN VALLEY, MN 55416
NMARTENSSON@WSBENG.COM/612-271-4385



CONTRACTOR TO PROVIDE CERTIFICATION OF EROSION CONTROL OFFICER AND ANY OTHER CREW MEMBERS WHO WILL WORK ON THE IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs BEFORE, DURING, AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA. PROVIDE PROOF OF CERTIFICATION AT THE PRECONSTRUCTION MEETING. WORK WILL NOT BE ALLOWED TO COMMENCE UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED TO THE PROJECT ENGINEER.

CHAIN OF RESPONSIBILITY

ANOKA AND RAMSEY COUNTIES AND THE CONTRACTOR ARE CO-PERMITTEES FOR THE NPDES CONSTRUCTION GENERAL PERMIT. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION PERMIT AT ALL TIMES UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA.

NAME	COMPANY	TITLE	PHONE
CHRIS OSTERHUS	ANOKA COUNTY HIGHWAY DEPARTMENT	CONSTRUCTION ENGINEERING SUPERVISOR	763-324-3189
CONTRACTOR TO COMPLETE			

AGENCY CONTACTS

ORGANIZATION	CONTACT NAME	PHONE
MPCA (EMERGENCY) 24 HOUR	STATE DUTY OFFICER	1-800-422-0798
MPCA	SARAH KAMRATH	651-757-2855
RICE CREEK WATERSHED (RCWD)	PATRICK HUGHES	763-398-3080
ACOE	TOM HINGSBERGER	651-290-5367
RAMSEY CONSERVATION DISTRICT	ANN WHITEEAGLE	651-266-7271
ANOKA SWCD	CHRIS LORD	763-434-2030

LOCATION OF SWPPP REQUIREMENTS

THE REQUIRED SWPPP ELEMENTS MAY BE LOCATED IN MANY PLACES WITHIN THE PLAN SET AS WELL AS IN THE SPECIAL PROVISIONS, PROJECT MANUAL, MNDOT SPEC BOOK, OR ON FILE WITH THE PROJECT OWNER.

DESCRIPTION	LOCATION
TEMPORARY/PERMANENT EROSION CONTROL MEASURES	SHEET NO. 160 - 162
DIRECTION OF FLOW	SHEET NO. 128 - 130
CONSTRUCTION NOTES & STANDARD PLATES	SHEET NO. 12 - 15
DRAINAGE PLAN & CONSTRUCTION PLAN	SHEET NO. 128 - 138 & 83 - 92
BMP TABULATION	SHEET NO. 10
STORMWATER CALCULATIONS	DRAINAGE REPORT & HYDRAULIC REPORT. AVAILABLE UPON REQUEST

RECEIVING WATERS

A SPECIAL AND IMPAIRED WATERS SEARCH WAS COMPLETED USING THE MPCA SEARCH ENGINE ON 09/16/2022. BASED ON THIS REVIEW, THE FOLLOWING SPECIAL/IMPAIRED WATERS (WITH CONSTRUCTION RELATED IMPAIRMENTS) ARE LOCATED WITHIN ONE MILE OF, AND DOWNSTREAM OF, ANY PROJECT DISCHARGE POINTS. PARTS 23.9 & 23.10 OF THE NPDES PERMIT APPLY.

WATERBODY	IMPAIRMENT(S)
RICE CREEK	BENTHIC MACROINVERTEBRATES BIOASSESSMENTS; FISH BIOASSESSMENTS.
BALDWIN LAKE	NUTRIENTS
NWI (PEM1C)	N/A

AREAS OF ENVIRONMENTAL SENSITIVITY (AES) AND INFESTED WATERS

IN ADDITION TO THE LIST OF SPECIAL AND IMPAIRED WATERS, THE CONTRACTOR SHALL BE AWARE THAT THERE ARE 4 WETLANDS, 6 WET DITCHES, AND EXISTING STORMWATER FACILITIES WITHIN AND NEAR THE PROJECT BOUNDARY. THERE IS A MAP OF KNOWN NATURAL RESOURCES ON THE LAST PAGE OF THE SWPPP NARRATIVE. AREAS OF ENVIRONMENTAL SENSITIVITY ARE ALSO CALLED OUT ON THE PLAN SHEETS.

AREA OF ENVIRONMENTAL SENSITIVITY	LOCATION
WETLAND 1	CSAH 49 SE OF INTERSECTION ALONG ROADWAY
WETLAND 2	CSAH 49 SW OF INTERSECTION ALONG ROADWAY
WETLAND 3	CSAH 49 NE OF INTERSECTION ALONG ROADWAY
WETLAND 4	CSAH 49 NE OF INTERSECTION ALONG ROADWAY
WET DITCH 1	CSAH 32 SE OF INTERSECTION ALONG ROADWAY
WET DITCH 2	CSAH 49 SE OF INTERSECTION ALONG ROADWAY
WET DITCH 3	CSAH 49 SE OF INTERSECTION ALONG ROADWAY
WET DITCH 4A	CSAH 49 SW OF INTERSECTION ALONG ROADWAY
WET DITCH 4B	CSAH 32 SW OF INTERSECTION ALONG ROADWAY
WET DITCH 5	CSAH 49 NE OF INTERSECTION ALONG ROADWAY
WET DITCH 6	CSAH 49 NW OF INTERSECTION ALONG ROADWAY

SOIL TYPES

A PROJECT WIDE GEOTECHNICAL REPORT WAS COMPLETED DURING THE DESIGN PHASE. LACUSTRINE DEPOSITS ARE PREDOMINATING ALONG MOST OF THE ALIGNMENT. BENEATH THE EXISTING BITUMINOUS PAVEMENT AND FILL, THE DEPOSITS CONSIST OF A BLEND OF SANDS THAT ARE SILTY IN PLACES. ADDITIONAL SOIL INFORMATION CAN BE FOUND IN THE GEOTECHNICAL REPORT, LOCATED WITHIN THE PROJECT SPECIFICATIONS. SOIL CLASSIFICATIONS FOR HIGHLY ERODIBLE LAND (HEL), POTENTIALLY HIGHLY ERODIBLE LAND (PHEL), AND NOT HIGHLY ERODIBLE LAND (NHEL) SOILS CAN BE FOUND ON *FIGURE 1. SWPPP RESOURCE MAP*.

NATIVE TOPSOIL WILL BE STRIPPED; IF MATERIAL NEEDS TO BE STOCKPILED, APPROPRIATE ACTION WILL TAKE PLACE TO ENSURE THE STOCKPILES HAVE ALL PROPER BMPs IN PLACE ACCORDING TO THIS SWPPP AND THE NPDES PERMIT.

ENVIRONMENTAL REVIEW

A PHASE ONE ENVIRONMENTAL SITE ASSESSMENT, GEOTECHNICAL REPORT, AND LEVEL TWO WETLAND DELINEATION WERE CONDUCTED FOR THIS PROJECT.

WETLANDS: MITIGATION MEASURES ARE REQUIRED AS A RESULT OF WETLAND IMPACTS FROM THE PROJECT. A PROJECT WIDE WETLAND DELINEATION REPORT SHOWS FOUR (4) WETLANDS AND SIX (6) WET DITCHES WERE DELINEATED WITHIN THE PROJECT AREA USING THE LEVEL 2 METHOD. MITIGATION MEASURES HAVE BEEN ADDRESSED VIA PERIMETER PROTECTION. ALL WETLAND AREAS WILL BE PROTECTED WITH PERIMETER CONTROL AND A 50' NATURAL BUFFER (IF INFEASIBLE, REDUNDANT PERIMETER CONTROL MEASURES), INCLUDING AREAS THAT ARE PERMITTED TO BE FILLED AND/OR EXCAVATED UNTIL WORK IN THE PERMITTED AREAS ARE NECESSARY. REDUNDANT BMP MEASURES MUST BE PLACED 5' FROM THE INITIAL PERIMETER CONTROL MEASURE WITH A STABILIZED BUFFER STRIP BETWEEN THE BMPs.

THREATENED/ENDANGERED SPECIES: ANOKA AND RAMSEY COUNTIES LIST THE NORTHERN LONG-EARED BAT AS THREATENED/ENDANGERED SPECIES WITHIN THE COUNTY. BASED ON THE CONSTRUCTION ACTIVITIES, IT IS DETERMINED THAT THE PROJECT WILL HAVE NO EFFECT ON THESE SPECIES OR THEIR HABITATS. HOWEVER, IF THESE SPECIES ARE FOUND, CONTRACTOR TO STOP WORK IMMEDIATELY FOR FURTHER INVESTIGATION.

DRINKING WATER/WELLS: ACCORDING TO THE MDH, THE PROJECT IS LOCATED ADJACENT TO THE SHOREVIEW DRINKING WATER SUPPLY MANAGEMENT AREA (DWSMA) AND THERE ARE 14 WELLS LOCATED WITHIN 200 FEET OF THE PROJECT AREA.

WELL NUMBER	LATITUDE/LONGITUDE
00554376	45.1283/-93.1278
00554494	45.1273/-93.1270
00401579	45.1251/-93.1277
00264765	45.1242/-93.1280
00135378	45.1242/-93.1293
00194490	45.1245/-93.1297
00155852	45.1243/-93.1313
00770213	45.1244/-93.1318
00401552	45.1244/-93.1328
00156062	45.1239/-93.1281
00270448	45.1225/-93.1271
00401571	45.1246/-93.1264
00503633	45.1238/-93.1272
00503634	45.1240/-93.1269

CONTAMINATED PROPERTIES: THE MPCA'S "WHAT'S IN MY NEIGHBORHOOD" DATABASE WAS REVIEWED ON 09/16/2022. THE RESULTS OF THIS REVIEW SHOW FIVE SITES WITHIN 200 FEET OF THE PROJECT AREA. THE DEPTH OF THE FULL RECLAMATION IS NOT PROPOSED TO UNEARTH ANY CONTAMINATED SOIL, CONTAMINATED WATER, AND/OR REGULATED WASTE. REFER TO MNDOT SPEC 1717.1.A. FOR POTENTIAL INDICATORS OF CONTAMINATED MATERIALS AND REGULATED WASTE. IF CONTAMINATED MATERIAL, CONTAMINATED WATER, AND/OR REGULATED MATERIALS ARE FOUND, CREWS ARE TO STOP WORK IMMEDIATELY FOR FURTHER INVESTIGATION/TESTING.

NAME	ID NUMBER	TYPE
ROLAND FORD	23228	HAZARDOUS WASTE
BP SERVICE STATION	27490	HAZARDOUS WASTE, MINIMAL QUANTITY GENERATOR; PETROLEUM REMEDIATION, LEAK SITE; UNDERGROUND TANKS
FREEDOM VALU CENTER #76	112022	UNDERGROUND TANKS
SADDER'S AUTOMOTIVE	25460	HAZARDOUS WASTE; SMALL QUANTITY GENERATOR
LYNGBLOMSTEN LINO LAKES	249275	CONSTRUCTION STORMWATER PERMIT

PLOTTED/REVISED: 2/1/2024 9:54:47 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Plan\19054-000_SWPPP.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/1/2024 LICENSE # 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

STORM WATER POLLUTION PREVENTION PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
156
 OF
162
 SHEETS

ACTIVITIES AND AREAS IF SEASONAL PRECIPITATION POSSES A POTENTIAL RISK OF FLOODING WORK AREAS WITHIN THE PROJECT LIMITS. THIS PLAN SHALL BE SUBMITTED BY THE OPERATOR TO THE PROJECT ENGINEER FOR APPROVAL A MINIMUM OF 72 HOURS PRIOR TO THE SCHEDULED WORK AND/OR DURING ACTIVE WORK WITHIN THE AREA OF POTENTIAL RISK OF FLOODING. NO WORK CAN COMMENCE IN THE AREA UNTIL WRITTEN APPROVAL HAS BEEN GRANTED BY THE PROJECT ENGINEER.

LAND FEATURE CHANGES

TOTAL AREA TO BE DISTURBED = 9.83 ACRES
IMPERVIOUS AREA: PRE-CONSTRUCTION = 5.17 ACRES/POST-CONSTRUCTION = 6.32 ACRES
NET INCREASE OF IMPERVIOUS AREA = 1.15 ACRES

LONG TERM MAINTENANCE AND OPERATION:

THE NPDES PERMANENT STORMWATER TREATMENT SYSTEM (PART 15.1) FROM THE NET NEW IMPERVIOUS SURFACES OF THE PROJECT IS PROVIDED IN THE CONSTRUCTED FILTRATION BASIN. ANOKA COUNTY STAFF IS RESPONSIBLE FOR THE LONG-TERM MAINTENANCE AND OPERATION OF THE PERMANENT STORMWATER SYSTEM.

STABILIZATION TIME FRAMES

AREA	TIME FRAME	NOTES
EXPOSED AREAS	IMMEDIATELY AND NO LATER THAN 7 DAYS OF BEING UNWORKED	1, 4, 5
LAST 200 LINEAL FEET OF DRAINAGE DIICH/SWALE	WITHIN 24 HOURS OF CONNECTION TO SURFACE WATER/PROPERTY EDGE	1, 2, 3
REMAINING PORTIONS OF DRAINAGE DITCH OR SWALE	7 DAYS	1, 3
PIPE AND CULVERT OUTLETS	24 HOURS	
STOCKPILES	7 DAYS	1

- INITIATE STABILIZATION IMMEDIATELY WHEN CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED ON ANY PORTION OF THE SITE. COMPLETE STABILIZATION WITHIN THE TIME FRAME LISTED. IN MANY INSTANCES THIS WILL REQUIRE STABILIZATION TO OCCUR MORE THAN ONCE DURING THE COURSE OF THE PROJECT. TEMPORARY SOIL STOCKPILES WITHOUT SIGNIFICANT CLAY OR SILT AND STOCKPILED AND CONSTRUCTED ROAD BASE ARE EXEMPT FROM THE STABILIZATION REQUIREMENT.
- STABILIZE WETTED PERIMETER OF DITCH (I.E. WHERE THE DITCH GETS WET).
- APPLICATION OF MULCH, HYDROMULCH, TACKIFIER AND POLYACRYLAMIDE ARE NOT ACCEPTABLE STABILIZATION METHODS IN THESE AREAS.
- STABILIZE ALL AREAS OF THE SITE PRIOR TO THE ONSET OF WINTER. ANY WORK STILL BEING PERFORMED WILL BE MULCHED OR BLANKETED WITHIN THE TIME FRAMES IN THE NPDES PERMIT.
- TOPSOIL BERMS MUST BE STABILIZED TO BE CONSIDERED PERIMETER CONTROL BMPS. USE RAPID STABILIZATION METHOD 3. THE SEED MIX USED IN THE RAPID STABILIZATION MAY BE SUBSTITUTED AS FOLLOWS:
 - SINGLE YEAR CONSTRUCTION BETWEEN MAY 1 - AUGUST 1, SEED WITH SEED MIX 21-111
 - SINGLE YEAR CONSTRUCTION BETWEEN AUGUST 1 - OCTOBER 31, SEED WITH SEED MIX 21-112
 - MULTI YEAR TEMPORARY STABILIZATION 22-111
- KEEP DITCHES AND EXPOSED SOILS IN AN EVEN ROUGH GRADED CONDITION IN ORDER TO BE ABLE TO APPLY EROSION CONTROL MULCHES, HYDROMULCHES, AND BLANKETS.

SITE INSPECTION AND MAINTENANCE

THE EROSION CONTROL OFFICER IS TO INSPECT THE ENTIRE CONSTRUCTION SITE AT LEAST ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. THE OPERATOR SHALL PROVIDE A RAINFALL GAUGE ON-SITE AT VARIOUS MILE INTERVALS ALONG THE ALIGNMENT. INSPECT ALL TEMPORARY AND PERMANENT PROJECT BMPS UNTIL THE SITE HAS UNDERGONE FINAL STABILIZATION AND THE NOT HAS BEEN SUBMITTED. INSPECT SURFACE WATER INCLUDING DRAINAGE DITCHES FOR SIGNS OF EROSION AND SEDIMENT DEPOSITION. INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS FOR EVIDENCE OF TRACKING ONTO PAVED SURFACES. INSPECT SURROUNDING PROPERTIES FOR EVIDENCE OF OFF-SITE SEDIMENT ACCUMULATION. ALL INSPECTIONS AND MAINTENANCE CONDUCTED MUST BE RECORDED IN WRITING BY THE OPERATOR AND RETAINED WITH THE SWPPP. SUBMIT INSPECTION REPORTS IN A FORMAT THAT IS ACCEPTABLE TO THE PROJECT ENGINEER. RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE:

- DATE, TIME, AND NAME OF PERSON(S) CONDUCTING INSPECTIONS;
- FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS;
- CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES); INCLUDING DOCUMENTATION/PHOTOS OF IMPLEMENTED BMPS INTENDED TO CORRECT A PROBLEM BUT FAILED.
- DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCHES IN 24 HOURS;
- DOCUMENTATION OF CHANGES MADE TO THE SWPPP.

REPLACE, REPAIR OR SUPPLEMENT ALL NONFUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY FOLLOWING DISCOVERY UNLESS LISTED DIFFERENTLY BELOW:

- REPAIR, REPLACE, OR SUPPLEMENT PERIMETER CONTROL DEVICES WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT OF THE DEVICE. COMPLETE REPAIRS BY THE END OF THE NEXT BUSINESS DAY FOLLOWING DISCOVERY.
- REPAIR OR REPLACE INLET PROTECTION DEVICES WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES 1/2 THE HEIGHT AND/OR DEPTH OF THE DEVICE.
- REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS. STABILIZE ANY AREAS THAT ARE DISTURBED BY SEDIMENT REMOVAL OPERATIONS. SEDIMENT REMOVAL AND STABILIZATION MUST BE COMPLETED WITHIN 7 DAYS OF DISCOVERY.
- REMOVE TRACKED SEDIMENT FROM PAVED SURFACES BOTH ON AND OFF SITE WITHIN ONE (1) CALENDAR DAY OF DISCOVERY. STREET SWEEPING MAY HAVE TO OCCUR MORE OFTEN TO MINIMIZE OFF SITE IMPACTS. LIGHTLY WET THE PAVEMENT PRIOR TO SWEEPING.
- MAINTAIN ALL BMPS UNTIL WORK HAS BEEN COMPLETED, SITE HAS GONE UNDER FINAL STABILIZATION, AND THE NOT HAS BEEN SUBMITTED TO THE MPCA.

CONSTRUCTION ACTIVITY REQUIREMENTS: EROSION/SEDIMENT CONTROL, PROCEDURES, & MAINTENANCE STANDARDS

- AMEND THE SWPPP AND DOCUMENT ALL CHANGES TO THE SWPPP AND ASSOCIATED PLAN SHEETS IN A TIMELY MANNER. SWPPP AMENDMENTS AND SITE PLANS WILL BE PREPARED BY THE OPERATOR AND SUBMITTED TO THE OWNER FOR REVIEW AND WRITTEN APPROVAL BY THE PROJECT OWNER (OR DESIGNATED REPRESENTATIVE). STORE THE SWPPP AND ALL AMENDMENTS ON SITE AT ALL TIMES.
- PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR THE ENGINEER'S ACCEPTANCE FOR STAGING/STOCKPILE MANAGEMENT AREAS, CONCRETE MANAGEMENT, CONCRETE SLURRY APPLICATION AREAS, FUGITIVE DUST CONTROL PLAN, SPILL CONTAINMENT PLAN, HAZARDOUS MATERIAL MANIFEST & MANAGEMENT PLAN, WETLAND MANAGEMENT PLAN, VEGETATION PRESERVATION & MAINTENANCE

PLAN, WORK IN AND NEAR AREAS OF ENVIRONMENTAL SENSITIVITY, AREAS IDENTIFIED IN THE PLANS AS "SITE MANAGEMENT PLAN AREA", ANY WORK THAT WILL REQUIRE DEWATERING, ANY ADDITIONAL PLANS LISTED IN THE PROJECT SPECIFICATIONS, AND AS REQUIRED BY THE ENGINEER. SUBMIT ALL SITE MANAGEMENT PLANS TO THE ENGINEER IN WRITING. ALLOW A MINIMUM OF 7 DAYS FOR MNDOT TO REVIEW AND ACCEPT SITE MANAGEMENT PLAN SUBMITTALS. WORK WILL NOT BE ALLOWED TO COMMENCE IF A SITE MANAGEMENT PLAN IS REQUIRED UNTIL ACCEPTANCE HAS BEEN GRANTED BY THE ENGINEER. THERE WILL BE NO EXTRA TIME ADDED TO THE CONTRACT DUE TO THE UNTIMELY SUBMITTAL.

- THE PROJECT'S CONSTRUCTION PHASING AND STAGING IS DEFINED BY THE "CONSTRUCTION STAGING & TRAFFIC CONTROL PLAN" AND PROJECT SPECIFICATIONS.
- BURNING OF ANY MATERIAL IS NOT ALLOWED WITHIN PROJECT BOUNDARY.
- DO NOT DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS. DELINEATE AREAS NOT TO BE DISTURBED AND WETLANDS (EVEN AREAS THAT ARE PERMITTED FOR CONSTRUCTION) PRIOR TO STARTING GROUND DISTURBING ACTIVITIES. IF IT BECOMES NECESSARY TO DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS, OBTAIN WRITTEN PERMISSION FROM THE PROJECT ENGINEER PRIOR TO PROCEEDING. PRESERVE ALL NATURAL BUFFERS SHOWN ON THE PLANS.
- ROUTE STORMWATER AROUND UNSTABILIZED AREAS OF THE SITE WHENEVER FEASIBLE. PROVIDE EROSION CONTROL AND VELOCITY DISSIPATION DEVICES AS NEEDED TO KEEP CHANNELS FROM ERODING AND TO PREVENT NUISANCE CONDITIONS AT THE OUTLET.
- DIRECT DISCHARGE FROM BMPS TO VEGETATED AREAS WHENEVER FEASIBLE. PROVIDE VELOCITY DISSIPATION DEVICES AS NEEDED TO PREVENT EROSION.
- LOCATE PERIMETER CONTROL ON THE CONTOUR TO CAPTURE OVERLAND, LOW-VELOCITY SHEET FLOWS DOWN GRADIENT OF ALL EXPOSED SOILS AND PRIOR TO DISCHARGING TO SURFACE WATERS. PLACE J-HOOKS AT A MAXIMUM OF 100-FOOT INTERVALS.
- ALL STOCKPILES MUST HAVE PERIMETER SEDIMENT CONTROLS IMPLEMENTED AND MAINTAINED AT ALL TIMES. PILES CANNOT BE PLACED IN BUFFER AREAS OR SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE TO PREVENT STORMWATER RUN-ON INTO THE STOCKPILE.
- STEEP SLOPES MAY BE TEMPORARILY CREATED DURING GRADING OPERATIONS. STABILIZATION OF STEEP SLOPES (3:1 OR GREATER) SHALL BE PROPERLY CAT-TRACKED AND STABILIZED PER THE EROSION CONTROL PLAN. LONG SLOPES CAN BE BROKEN UP WITH SEDIMENT CONTROL LOGS IF EROSION IS EVIDENT.
- DITCH CHECKS WILL BE PLACED AS INDICATED ON THE PLANS DURING ALL PHASES OF CONSTRUCTION.
- ALL STORM DRAIN INLETS, THAT RECEIVE PROJECT STORMWATER, MUST BE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED. INLET PROTECTION MAY BE REMOVED FOR A PARTICULAR INLET IF A SPECIFIC SAFETY CONCERN (STREET FLOODING/FREEZING) HAS BEEN IDENTIFIED AND THE PERMITTEE(S) HAS RECEIVED WRITTEN CORRESPONDENCE FROM THE JURISDICTIONAL AUTHORITY VERIFYING THE NEED FOR REMOVAL. WRITTEN CORRESPONDENCE MUST BE DOCUMENTED IN THE SWPPP.
- SILT FENCE IS NOT AN ACCEPTABLE CATCH BASIN INLET PROTECTION BMP. CONTACTOR SHALL CLEAN, REMOVE AND DISPOSE OF SEDIMENT, AND/OR REPLACE STORM DRAIN INLET PROTECTION ON A ROUTINE BASIS TO ENSURE THE DEVICE IS FULLY FUNCTIONAL PRIOR TO THE NEXT FORECASTED PRECIPITATION EVENT (30% OR GREATER).
- DISCHARGE TURBID OR SEDIMENT LADEN WATER TO TEMPORARY SEDIMENT BASINS WHENEVER FEASIBLE. IN THE EVENT THAT IT IS NOT FEASIBLE TO DISCHARGE THE SEDIMENT LADEN WATER TO A TEMPORARY SEDIMENT BASIN, THE WATER MUST BE TREATED SO THAT IT DOES NOT CAUSE A NUISANCE CONDITION IN THE RECEIVING WATERS OR TO DOWNSTREAM LANDOWNERS. CLEAN OUT ALL PERMANENT STORMWATER BASINS REGARDLESS OF WHETHER USED AS TEMPORARY SEDIMENT BASINS/TRAPS TO THE DESIGN CAPACITY AFTER COMPLETING ALL UP-GRADIENT LAND DISTURBING ACTIVITY. USE A SKIMMER DEVICE FOR BASIN DRAINING.
- PROVIDE STABILIZATION IN ANY TRENCHES CUT FOR DEWATERING OR SITE DRAINING PURPOSES.
- THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN AND NARRATIVE TO THE PROJECT ENGINEER FOR APPROVAL 7 DAYS PRIOR TO UNDERTAKING THESE ACTIVITIES. DEWATERING PLAN MUST INCLUDE BMP'S TO PREVENT SEDIMENT TRANSPORT, EROSION, AND ADVERSE IMPACTS TO DOWNSTREAM RECEIVING WATERS. THE DEWATERING PLAN MUST ALSO INCLUDE ANY SPECIFIC CHEMICAL TREATMENTS (FLOC, POLYMERS, ETC.) THAT WILL BE USED. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ANY PERMIT NECESSARY FOR THESE ACTIVITIES; THE DEWATERING PLAN AND DNR APPROPRIATIONS PERMIT WILL BECOME PART OF THE SWPPP.

TEMPORARY & PERMANENT EROSION CONTROL BMPS

SEED MIX: SEED MIX SHALL BE USED IN CONSTRUCTION AND REVEGETATION PROJECTS IN ORDER TO ENHANCE SOIL NUTRIENT AVAILABILITY AND BIOLOGICAL SOIL STRUCTURE, ENCOURAGE NATIVE PLAN SUCCESSION, REDUCE EROSION, AND DISCOURAGE INVASIVE PLANT SPECIES. INOCULATION OF SOILS WITH MYCORRHIZAL FUNGI OR THE PRESENCE OF PRE-EXISTING SOIL MICROBES IS ESSENTIAL FOR THE STABILIZATION OF ADVERSE SOILS, ESTABLISHMENT OF NATIVE GRASSES, AND THE EXCLUSION OF NON-NATIVE "ANNUALS" AND NOXIOUS WEEDS.

EROSION CONTROL BLANKET: EROSION CONTROL BLANKETS (ECBS) ARE A SOIL STABILIZATION (EROSION CONTROL) BMP, INTENDED TO PROTECT DISTURBED SOIL SURFACES FROM RAINDROP IMPACT EROSION. ECBS ARE CARPET-LIKE MATS, INSTALLED OVER AND ANCHORED TO THE PROPERLY PREPARED SOIL SURFACES. PROPERLY SELECTED AND INSTALLED, ECBS CAN MIMIC THE BENEFICIAL EFFECTS OF VEGETATIVE COVER THEREBY REDUCING EROSION RATES BY OVER 90%. ECBS ALSO PROTECT SEEDS AND PROVIDE A BENEFICIAL ENVIRONMENT FOR VEGETATION TO BECOME ESTABLISHED. CONTRACTOR SHALL VERIFY DURING REGULAR INSPECTIONS THAT NO GULLIES, RILLS, OR SCOUR HOLES HAVE FORMED UNDER EROSION CONTROL BLANKETS AND MATS AND CORRECT ALL ERODED AREAS WITHIN 7 or 14 DAYS. ALL REPAIRS MUST BE COMPLETED WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

STRAW MULCHING: DISTURBED SOIL AREAS SHALL BE PROTECTED WITH STRAW MULCH. MULCHING IS THE APPLICATION OF A PROTECTIVE LAYER OF STRAW OR OTHER SUITABLE MATERIAL TO THE SOIL SURFACE. STRAW MULCH SHALL BE USED IN CONJUNCTION WITH SEEDING AND HYDRO-SEEDING FOR ESTABLISHMENT OF VEGETATION. STRAW MULCH MUST BE SECURED TO THE GROUND USING DISKING OR AN OVERSPRAY OF AN HECP. MULCHING IS COMMONLY USED AS A TEMPORARY MEASURE TO PROTECT BARE OR DISTURBED SOIL AREAS THAT HAVE NOT BEEN SEEDED, UNTIL NATIVE VEGETATION RE-GROWS. CERTIFIED WEED-FREE MULCH MUST BE USED WHEN USING NATIVE SEED MIXES OR WHEN WORKING NEAR ENVIRONMENTALLY SENSITIVE AREAS.

HYDRAULIC MATRICES: HYDRAULIC MATRICES ARE EROSION CONTROL PRODUCTS THAT ARE USED TO STABILIZE EXPOSED SOILS. THESE MATRICES ARE APPLIED IN A SLURRY, PRODUCED BY MIXING FIBER, WATER AND A BINDING AGENT TOGETHER IN A MECHANICAL HYDRO-SEEDER. WOOD FIBER IS WIDELY USED BUT OTHER FIBERS CAN INCLUDE PAPER, STRAW, COIR, CORN, ETC. THE EFFECTIVENESS OF THESE HYDRAULIC MATRICES ARE DEPENDENT ON:

- PROPER SOIL PREPARATION
 - APPLICATION RATES (DEPENDENT ON THE MANUFACTURERS RECOMMENDATIONS)
 - THE TYPE OF FIBERS USED
 - THE TYPE OF BOND AGENT(S) ADDED
- THESE HYDRAULIC MATRICES ARE CLASSIFIED IN THE MNDOT SPEC BOOK AND APPROVED PRODUCTS LIST, DEPENDING ON THE PRODUCT CHARACTERISTICS, STRENGTH, AND LONGEVITY. HYDRAULIC MATRICES USED INCLUDE: ORGANIC FIBER MATRIX, HYDRAULIC MULCH MATRIX, STABILIZED FIBER MATRIX, BONDED FIBER MATRIX, AND FIBER REINFORCED MATRIX.

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE # 44200






**CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

STORM WATER POLLUTION PREVENTION PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
157
OF
162
SHEETS

SOD TYPE LAWN: SOD IS A PERMANENT EROSION PREVENTION BMP THAT PROVIDES INSTANTANEOUS SOIL STABILIZATION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF SOD AS OUTLINED IN THE PROJECT SPECIFICATIONS.

ENERGY DISSIPATER: AN ENERGY DISSIPATER IS A STRUCTURE DESIGNED TO CONTROL EROSION AT THE OUTLET OF A CHANNEL OR CONDUIT.

RAPID STABILIZATION METHOD #2: THIS METHOD SHALL CONSIST OF TYPE 3 MULCH (1.5 TON PER ACRE) OR 3884 TYPE STABILIZED FIBER MATRIX (750 LBS PER ACRE) BE SPREAD IN AREAS THAT HAVE BEEN UNWORKED FOR 7 DAYS. THIS METHOD SHALL BE USED ON SLOPES LESS THAN 3:1.

RAPID STABILIZATION METHOD #3: THIS WORK SHALL CONSIST OF OPERATIONS NECESSARY TO RAPIDLY STABILIZE SMALL CRITICAL AREAS WITHIN 200 FEET OF SURFACE WATERS, TO PREVENT OFF SITE SEDIMENTATION AND OR TO COMPLY WITH PERMIT REQUIREMENTS. THIS FORM OF RAPID STABILIZATION EMPLOYS SFM, SEED MIX 22-111, AND FERTILIZER TYPE 3. THIS METHOD SHALL BE USED ON SLOPES LESS THAN 3:1. INSTALL PER MNDOT SPECIFICATION 2575.3.M.1.C.

RAPID STABILIZATION METHOD #4: THIS METHOD SHALL CONSIST OF CATEGORY 20/25 EROSION CONTROL BLANKET (NATURAL NET ONLY) IN COMBINATION WITH MNDOT SEED MIX 22-111 (2 LBS PER 100 SQ. YD.) AND TYPE 3 SLOW RELEASE FERTILIZER (8 LBS PER 100 SQ. YD.). THIS IS AN ACCEPTABLE BMP FOR DISTURBED AREAS ADJACENT TO ENVIRONMENTALLY SENSITIVE AREAS, SURFACE WATERS, AND WITHIN THE LAST 200 FEET OF DITCH BOTTOMS.

TEMPORARY & PERMANENT SEDIMENT CONTROL BMPs

SEDIMENT CONTROL LOGS: SEDIMENT CONTROL LOGS ARE MANUFACTURED FROM STRAW, WOOD EXCELSIOR, COCONUT FIBERS, AND/OR OTHER MATERIALS THAT ARE BOUND WITH POLYPROPYLENE OR BIODEGRADABLE NETTING INTO TIGHT TUBULAR ROLLS. FIBER ROLLS CONTROL THREE TYPES OF EROSIONAL PROCESSES; EROSION CONTROL, RUN OFF CONTROL, AND SEDIMENT CONTROL. SEDIMENT CONTROL LOGS CAN BE USED FOR THE FOLLOWING:

- SLOPE INTERRUPTERS TO REDUCE EROSION ON NEWLY CONSTRUCTED SLOPES
- TEMPORARY DITCH CHECKS TO REDUCE RUNOFF VELOCITIES IN DRAINAGE CHANNELS
- SEDIMENT CONTROL BARRIERS FOR SMALL DISTURBED SOIL AREAS SUCH AS STOCKPILES, DISCRETE SLOPES, OR INDIVIDUAL LOTS

MACHINE SLICED SILT FENCE: A SILT FENCE IS A TEMPORARY SEDIMENT BARRIER CONSISTING OF FILTER FABRIC ENTRENCHED INTO THE SOIL AND ATTACHED TO SUPPORTING POSTS. SILT FENCE IS INTENDED TO BE INSTALLED WHERE SEDIMENT-LADEN WATER CAN POND, THUS ALLOWING THE SEDIMENT TO FALL OUT OF SUSPENSION AND SEPARATE FROM THE RUNOFF. SILT FENCE INSTALLED WITH A TRENCHER OR BY SLICING IS THE MOST EFFECTIVE INSTALLATION METHOD TO ENSURE AGAINST COMMON SILT FENCE FAILURES. THE BMP WILL BE CLEANED OUT OR REPLACED WHEN THE SEDIMENT REACHES 1/2 THE HEIGHT OF THE FENCE.

STABILIZED CONSTRUCTION EXIT: TEMPORARY CONSTRUCTION EXITS ARE CONSTRUCTED AT THE EGRESS POINT FROM THE CONSTRUCTION AREA ONTO A PAVED ROAD. A STABILIZED CONSTRUCTION EXIT IS A TRACKING CONTROL BMP INTENDED TO PREVENT TRACKING OF SOIL FROM THE CONSTRUCTION SITE BY EQUIPMENT AND VEHICLES. THE EXITS ARE CONSTRUCTED OF LARGE ANGULAR ROCK, STEEL RIBS (RUMBLE STRIPS), OR TRACK PADS INTENDED TO KNOCK THE MUD OFF THE TIRES BEFORE TRAVELING ONTO THE ROADWAY.

DUST CONTROL: OPERATOR WILL COMPLY WITH STATE RULE 7011.0150 ON DUST PREVENTION REQUIREMENTS. DUST FROM THE SITE WILL BE CONTROLLED BY INCREASED STREET SWEEPING AND/OR USING A MOBILE PRESSURE-TYPE DISTRIBUTOR TRUCK TO APPLY POTABLE WATER TO DISTURBED AREAS. THE MOBILE UNIT WILL APPLY WATER AT A RATE NECESSARY TO PREVENT RUNOFF AND PONDING.

POLLUTION PREVENTION MANAGEMENT

POTENTIAL SOURCES OF POLLUTANTS FROM CONSTRUCTION ACTIVITIES INCLUDE, BUT NOT LIMITED TO:

1. SEDIMENT AND FUGITIVE DUST GENERATED FROM CLEARING AND GRUBBING, IMPORT/EXPORT OPERATIONS, REMOVALS/COMPACTION, MASS/FINE GRADING, EXCAVATIONS, TRENCHING, TOPSOIL STRIPING STOCKPILING, WET/DRY PAVEMENT CUTTING, STREET CONSTRUCTION.
2. BASIC/ACIDIC PH LEVELS FROM CURB AND GUTTER, MANHOLE STRUCTURES, SIDEWALKS, DRIVEWAY APRONS, FOUNDATIONS, BRIDGE ABUTMENTS, WET/DRY PAVEMENT CUTTING, MASONRY WASHOUT/CLEANOUT.
3. EXCESS NUTRIENTS FROM LANDSCAPING INSTALLATIONS, SOIL ADDITIVES, FERTILIZATION, MULCHING.
4. HYDROCARBONS FROM STREET CONSTRUCTION, DEMOLITION/REMOVALS, WET/DRY PAVEMENT CUTTING.

OPERATOR WILL COMPLY WITH ALL OF THE POLLUTION PREVENTION AND MANAGEMENT MEASURES IDENTIFIED IN THE NPDES-CSW PERMIT, PART 12.1. STORAGE AND DISPOSAL OF CONSTRUCTION AND HAZARDOUS WASTES MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.

- A. POSITION AND STAKE DOWN ALL PORTABLE TOILETS SO THEY CANNOT BE TIPPED OR KNOCKED OVER. SUPPLY ADEQUATE SECONDARY CONTAINMENT.
- B. SECONDARY CONTAINMENT IS NEEDED AROUND ALL STATIONARY EQUIPMENT (GENERATORS, PUMPS, LIGHT PLANTS, ETC.) PROVIDE CONTAINMENT FOR ALL HAZARDOUS MATERIALS AND TOXIC WASTE.
- C. NO ENGINE DEGREASING IS ALLOWED ON SITE.
- D. VEHICLE AND EQUIPMENT WASHING TO OCCUR IN DESIGNATED AREA AS DETERMINED BY THE CONTRACTOR SUBMITTAL OF A MANAGEMENT PLAN FOR THESE ACTIVITIES.
- E. PROPERLY CLEAN UP AND REPORT ALL SPILLS AS REQUIRED BY THE MPCA AND MNDOT SPECIFICATIONS.
- F. PROVIDE A SPILL KIT AT EACH WORK LOCATION ON THE SITE.
- G. PROVIDE A SECURE STORAGE AREA WITH RESTRICTED ACCESS FOR ALL HAZARDOUS MATERIALS AND TOXIC WASTE. RETURN ALL HAZARDOUS MATERIALS AND TOXIC WASTE TO THE DESIGNATED STORAGE AREA AT THE END OF THE BUSINESS DAY UNLESS INFEASIBLE. STORE ALL HAZARDOUS MATERIALS AND TOXIC WASTE (INCLUDING BUT NOT LIMITED TO OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT, PETROLEUM BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) IN SEALED CONTAINERS WITH SECONDARY CONTAINMENT. CLEAN UP SPILLS IMMEDIATELY. STORE, COLLECT AND DISPOSE OF ALL SOLID WASTE.
- H. SLURRY FROM CONCRETE OPERATIONS MUST BE VACUUMED UP IMMEDIATELY. NO CONCRETE WASHOUT SHALL COME IN CONTACT WITH THE GROUND AND MUST BE PROPERLY DISPOSED OF.
- I. A SIGN MUST BE INSTALLED ADJACENT TO EACH CONCRETE WASHOUT FACILITY.
- J. CREATE AND FOLLOW A WRITTEN DISPOSAL PLAN FOR ALL WASTE MATERIALS. INCLUDE IN THE PLAN HOW THE MATERIAL WILL BE DISPOSED OF AND THE LOCATION OF THE DISPOSAL SITE. SUBMIT PLAN TO THE ENGINEER PRIOR TO CONSTRUCTION.
- K. USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT DISCHARGE OR PLACEMENT OF BITUMINOUS GRINDINGS, CUTTINGS, MILLINGS, AND OTHER BITUMINOUS WASTES FROM AREAS OF EXISTING OR FUTURE VEGETATED SOILS AND FROM ALL WATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.

FINAL STABILIZATION

FINAL STABILIZATION IS ACHIEVED WHEN NPDES CGP PARTS 13.1-13.7 (AS APPLICABLE) ARE COMPLETED PRIOR TO SUBMISSION OF THE NOTICE OF TERMINATION (NOT) TO MPCA.

1. ALL AREAS MUST BE STABILIZED WITH A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70%.
2. ALL TEMPORARY SEDIMENT CONTROL BMP MEASURES MUST BE REMOVED PRIOR TO SUBMITTING PERMIT NOT.

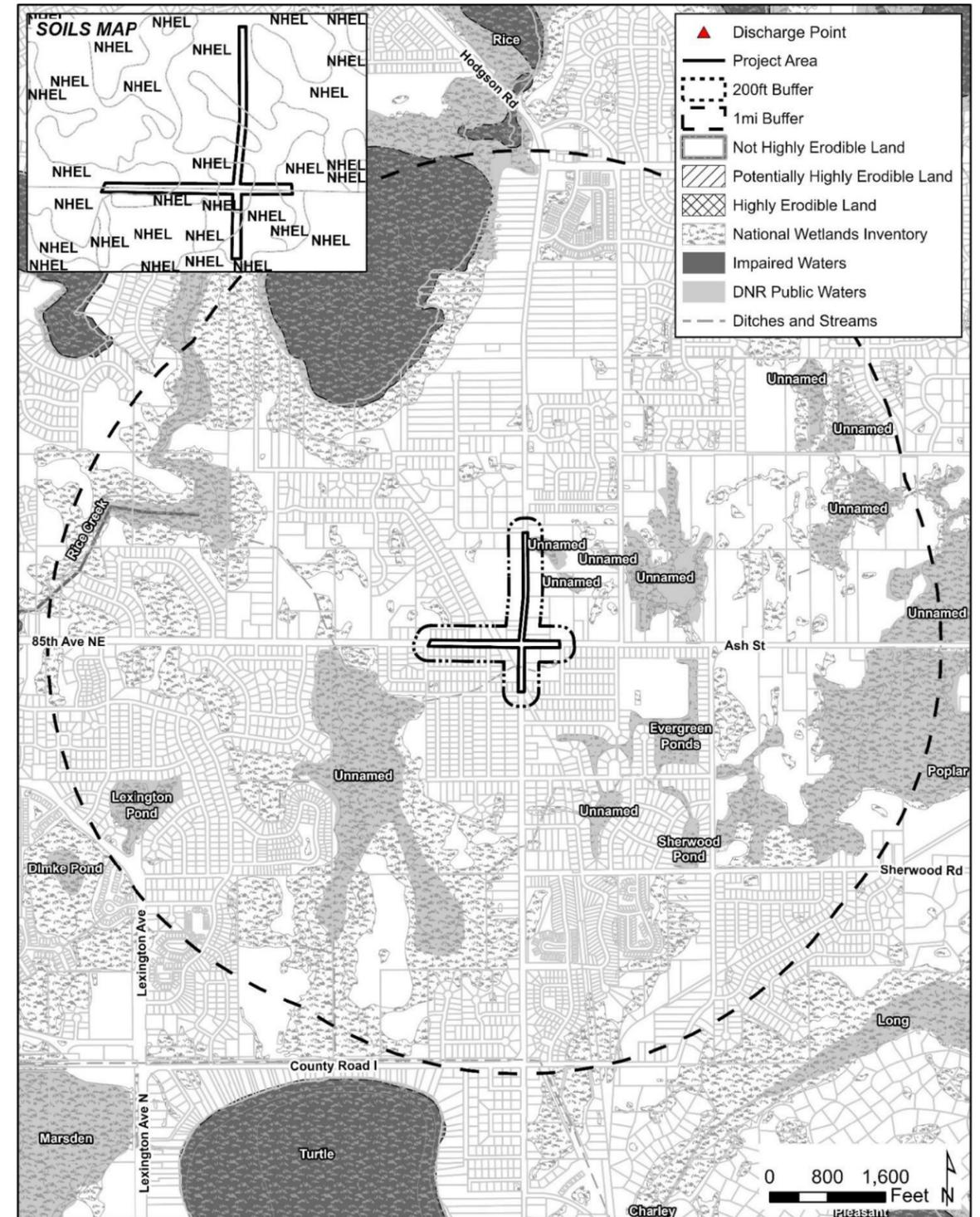


Figure 1. SWPPP Resource Map

PLOTTED/REVISED: 2/1/2024 9:56:51 AM

WSB PATH & FILENAME: Projects\Minnesota\09054-000\09054-000_SWPPP.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/1/2024 LICENSE #: 44200

**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN

STORM WATER POLLUTION PREVENTION PLAN
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
158
 OF
162
 SHEETS

PLOTTED/REVISED: 2/19/2024 12:21:06 PM

WSB PATH & FILENAME: Projects\Minesota\019054-000\Cad\Plan\19054-000_160.dgn

EROSION/SEDIMENT CONTROL NOTES:

SEDIMENT CONTROL PRACTICES:

1. SEDIMENT CONTROL MUST BE IN PLACE AND APPROVED BY THE ENGINEER BEFORE ANY PHASE OF CONSTRUCTION CAN BEGIN.
2. IF A 50' NATURAL BUFFER AROUND A SURFACE WATER IS INFEASIBLE, REDUNDANT PERIMETER CONTROLS MUST BE PROVIDED. REDUNDANT MEASURE TO BE INSTALLED 3-5' FROM THE PRIMARY MEASURE WITH STABILIZED AREAS IN BETWEEN THE TWO BMPs.
3. INLET PROTECTION WILL BE INSTALLED AT ALL CATCH INLETS WITHIN THE PROJECT AREA PER STANDARD DETAILS.
4. TEMPORARY STABILIZATION MEASURES SHALL BE EMPLOYED WITHIN 200 FEET OF THE NWP OF ALL DISCHARGE POINTS WITHIN 24 HOURS. MULCH IS NOT AN APPROVED MEASURE.
5. IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE IMPLEMENTED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THE DISTURBED AREA HAS CEASED, TEMPORARY STABILIZATION BMPs MUST BE SCHEDULED TO OCCUR WITHIN THAT 7 DAY TIME FRAME (EXCEPT WHERE CALLED OUT BY NOTE BELOW)
6. RAPID STABILIZATION METHOD 4 SHALL BE EMPLOYED WITHIN 200 FEET OF THE NORMAL WETTED PERIMETER OF ALL DISCHARGE POINTS WITHIN 24 HOURS.
7. A SEDIMENT TRAP MUST BE INSTALLED PER THE APPROVED STANDARD DETAILS WITHIN 24 HOURS OF CONNECTING THE UTILITIES.
8. ALL STOCKPILES MUST HAVE DOWN GRADIENT PERIMETER SEDIMENT CONTROL IMPLEMENTED AND MAINTAINED AT ALL TIMES. STOCKPILES TO RECEIVE TEMPORARY STABILIZATION IF UNWORKED FOR 7 DAYS.
9. STOCKPILES MAY NOT BE PLACED WITHIN ANY DRAINAGE OR CURB LINE UNLESS PROPER BYPASS IS INSTALLED PRIOR TO STOCKPILE PLACEMENT.
10. CONTRACTOR TO INSTALL SEDIMENT CONTROL LOGS DOWN GRADIENT FROM ANY EXPOSED AREAS

EROSION PREVENTION PRACTICES:

1. STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.

POLLUTION PREVENTION MANAGEMENT MEASURES:

1. A ROCK CONSTRUCTION ENTRANCE WILL BE PLACED AT ALL ENTRANCES THAT LEAD TO THE PROJECT SITE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE APPROVED STANDARD DETAILS.
2. ALL STREETS IN AND ADJACENT TO THE PROJECT SHALL REMAIN CLEAN AND PASSABLE AT ALL TIMES. ADJACENT STREET AND CURB LINE TO BE SWEEPED FREE OF DEBRIS AT THE END OF EACH WORK DAY, OR AS OFTEN AS NEEDED TO ENSURE PUBLIC SAFETY.
3. SLURRY FROM CONCRETE OPERATIONS MUST BE VACUUMED UP IMMEDIATELY. NO CONCRETE WASHOUT SHALL COME IN CONTACT WITH THE GROUND AND MUST BE PROPERLY DISPOSED OF. ALL HAZARDOUS MATERIALS MUST BE KEPT UNDER COVER AND WITHIN PROPER CONTAINMENT WHEN NOT IN USE.

INFILTRATION BASINS:

1. NO HEAVY EQUIPMENT, STOCKPILES, OR HAZARDOUS MATERIALS SHALL BE STORED ON OR NEAR THE INFILTRATION BASINS.
2. DO NOT FULLY EXCAVATE INFILTRATION BASINS UNTIL ALL UPGRADIENT LAND DISTURBING ACTIVITY HAS BEEN COMPLETED AND THE DRAINAGE AREA HAS BEEN STABILIZED. PROVIDE RIGOROUS EROSION PREVENTION AND SEDIMENT AND SEDIMENT CONTROL BMPs TO KEEP SEDIMENT AND RUNOFF COMPLETELY AWAY FROM THE INFILTRATION AREAS.
3. KEEP INFILTRATION BASINS OFFLINE UNTIL VEGETATION HAS BEEN ADEQUATELY ESTABLISHED.

MISCELLANEOUS:

1. ADDITIONAL EROSION AND SEDIMENT CONTROL MAY BE ADDED DURING ANY PHASE OF CONSTRUCTION AS DIRECTED BY THE ENGINEER.
2. IF PROJECT CONSISTS OF MILL & OVERLAY OF SECTIONS, ENSURE MILLINGS ARE NOT A THREAT FROM WASHING OFF THE PROJECT ROW.
3. CONTRACTOR TO PROTECT ALL WETLAND AREAS WITH PERIMETER CONTROL (AND REDUNDANT MEASURES) UNTIL WORK IN THE PERMITTED AREAS IS NEEDED.

TURF ESTABLISHMENT AND EROSION CONTROL LEGEND

	PERMANENT: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 25-151 (120 LBS/ACRE) FERTILIZER TYPE 3 (350 LBS/ACRE)	TEMPORARY: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 22-111 (30.5 LBS/ACRE) FERTILIZER TYPE 3 (350 LBS/ACRE)
	PERMANENT: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 25-131 (220 LBS/ACRE) FERTILIZER TYPE 3 (350 LBS/ACRE)	TEMPORARY: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 22-111 (30.5 LBS/ACRE) FERTILIZER TYPE 3 (350 LBS/ACRE)
	PERMANENT: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 25-121 (61 LBS/ACRE) FERTILIZER TYPE 3 (350 LBS/ACRE)	TEMPORARY: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 22-111 (30.5 LBS/ACRE) FERTILIZER TYPE 3 (350 LBS/ACRE)
	PERMANENT: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE SPECIAL (34 LBS/ACRE) FERTILIZER TYPE 4 (150 LBS/ACRE)	TEMPORARY: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 22-111 (30.5 LBS/ACRE) FERTILIZER TYPE 3 (350 LBS/ACRE)

	SILT FENCE; TYPE MS
	SEDIMENT CONTROL LOG, TYPE COMPOST
	CULVERT END CONTROLS
	STORM DRAIN INLET PROTECTION
	DITCH CHECK (SEDIMENT CONTROL LOG, TYPE COMPOST)
	STABILIZED CONSTRUCTION EXIT
	SURFACE DRAINAGE DIRECTION
	RIGHT OF WAY
	TEMPORARY EASEMENT
	PERMANENT DRAINAGE EASEMENT

NO.	DATE	BY	CHK	REVISIONS
1	2024/02/19	AJF	AJP	UPDATE SEEDING MIXTURE

Design By: AJP
 Plan By: AJF
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/19/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

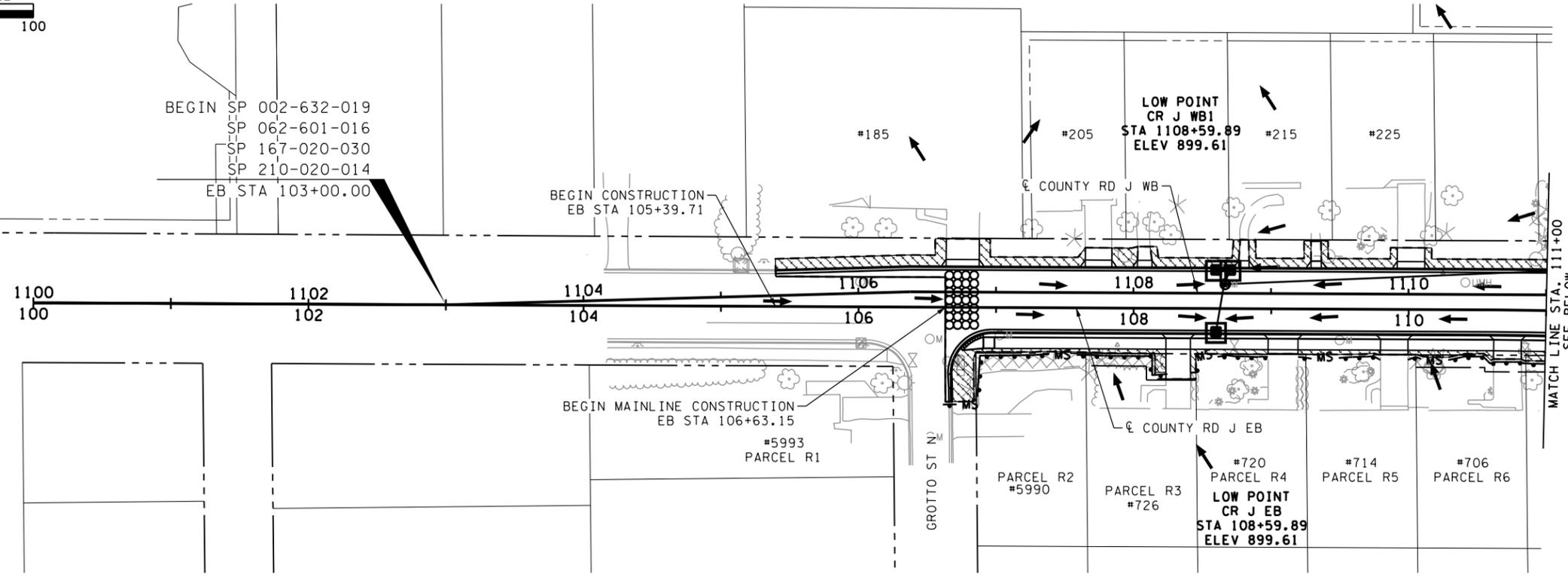
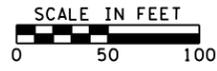
ANOKA & RAMSEY COUNTY, MN
EROSION CONTROL & TURF ESTABLISHMENT
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET 159R OF 162 SHEETS

PLOTTED/REVISED: 2/19/2024 12:24:08 PM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Coop\Plan\19054-000_160.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



LEGEND

- SURFACE FLOW DIRECTION
- STORM DRAIN INLET PROTECTION
- CULVERT END CONTROL
- DITCH CHECK (SEDIMENT CONTROL LOG, TYPE COMPOST)
- STABILIZED CONSTRUCTION EXIT
- SEDIMENT CONTROL LOG, TYPE COMPOST
- SILT FENCE, TYPE MS
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY

PERMANENT: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 25-151 (120 LBS/ACRE) FERTILIZER TYPE 3 (200 LBS/ACRE)

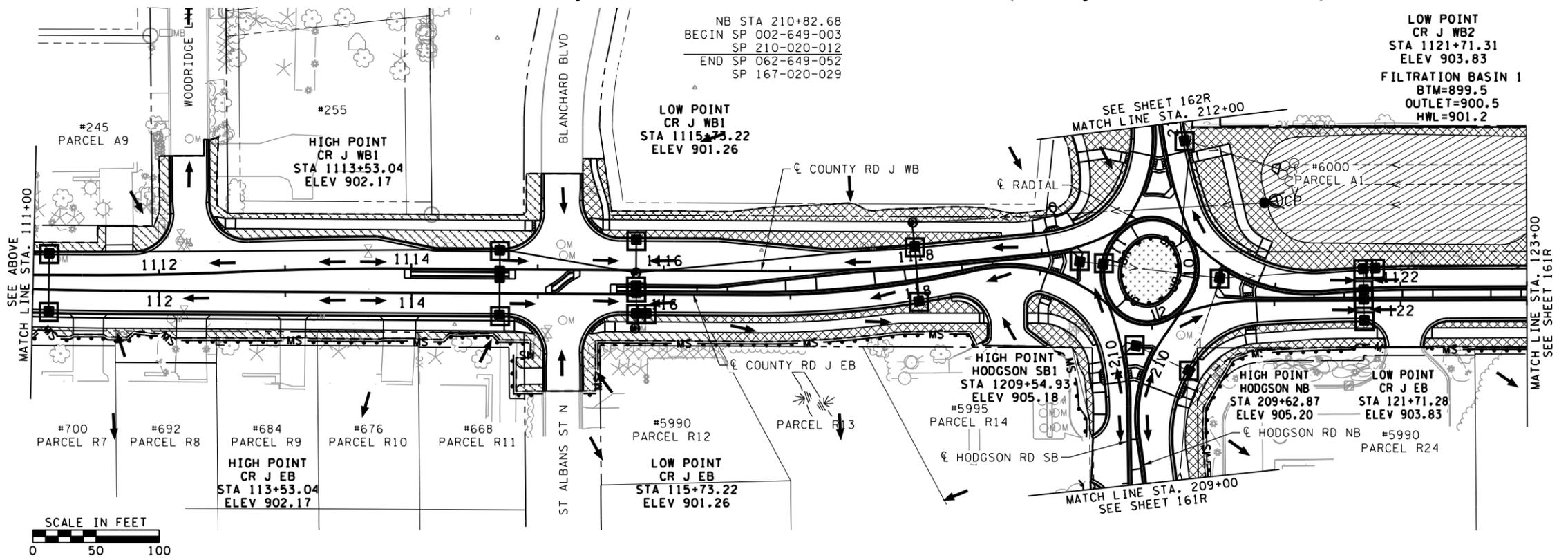
PERMANENT: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 25-131 (220 LBS/ACRE) FERTILIZER TYPE 1 (350 LBS/ACRE)

PERMANENT: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 25-141 (59 LBS/ACRE) FERTILIZER TYPE 3 (200 LBS/ACRE)

PERMANENT: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE SPECIAL (34 LBS/ACRE) FERTILIZER TYPE 4 (150 LBS/ACRE)

TEMPORARY: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 22-111 (30.5 LBS/ACRE) FERTILIZER TYPE 3 (200 LBS/ACRE)

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



NO.	DATE	BY	CHK	REVISIONS
1	2024/02/19	AJF	AJP	UPDATE TO SEED MIXTURE

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
 DATE: 2/19/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements

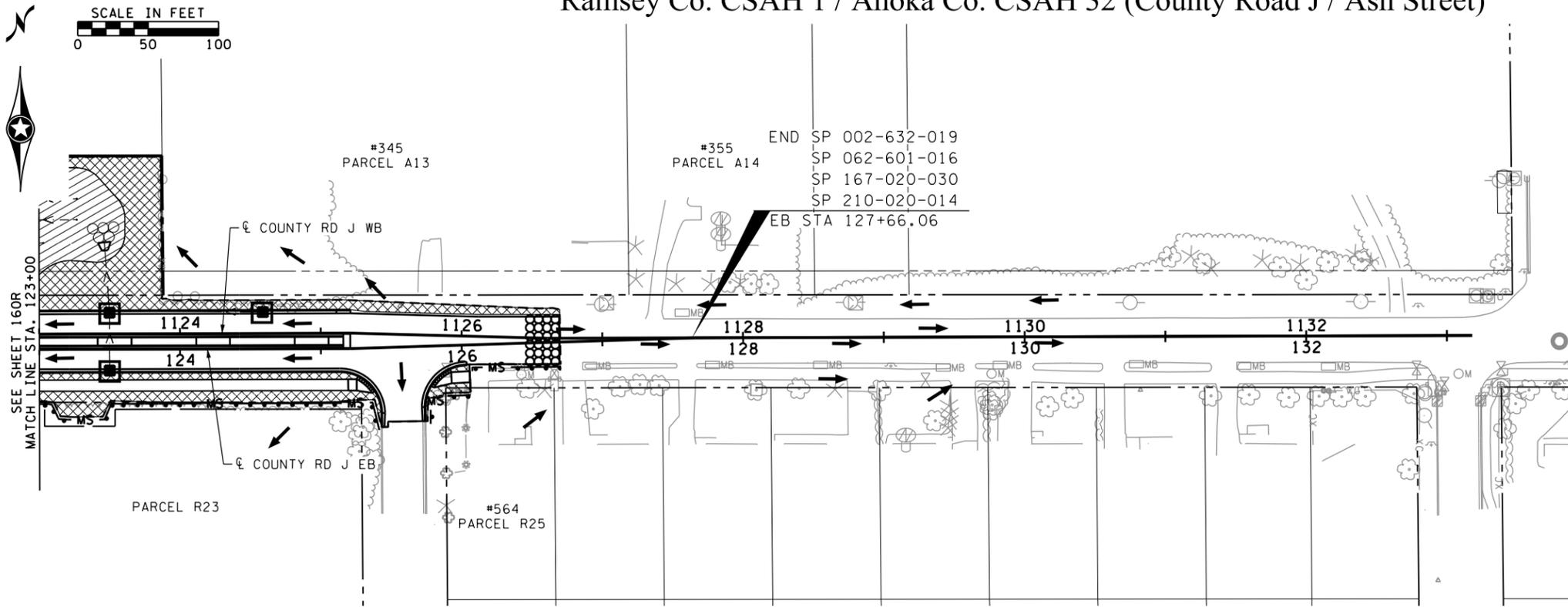
ANOKA & RAMSEY COUNTY, MN
 EB STA 103+00 TO EB STA 123+00
EROSION CONTROL & TURF ESTABLISHMENT
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052, SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET 160R OF 162 SHEETS

PLOTTED/REVISED: 2/19/2024 12:21:29 PM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Plan\19054-000_1602.dgn

Ramsey Co. CSAH 1 / Anoka Co. CSAH 32 (County Road J / Ash Street)



- #### LEGEND
- SURFACE FLOW DIRECTION
 - STORM DRAIN INLET PROTECTION
 - CULVERT END CONTROL
 - DITCH CHECK (SEDIMENT CONTROL LOG, TYPE COMPOST)
 - STABILIZED CONSTRUCTION EXIT
 - SEDIMENT CONTROL LOG, TYPE COMPOST
 - SILT FENCE, TYPE MS
 - CONSTRUCTION LIMITS
 - AREA OF ENVIRONMENTAL SENSITIVITY
 - INPLACE RIGHT-OF-WAY

PERMANENT:
ROLLED EROSION PREVENTION
PRODUCT CATEGORY 20
SEED MIXTURE 25-151
(120 LBS/ACRE)
FERTILIZER TYPE 3
(200 LBS/ACRE)

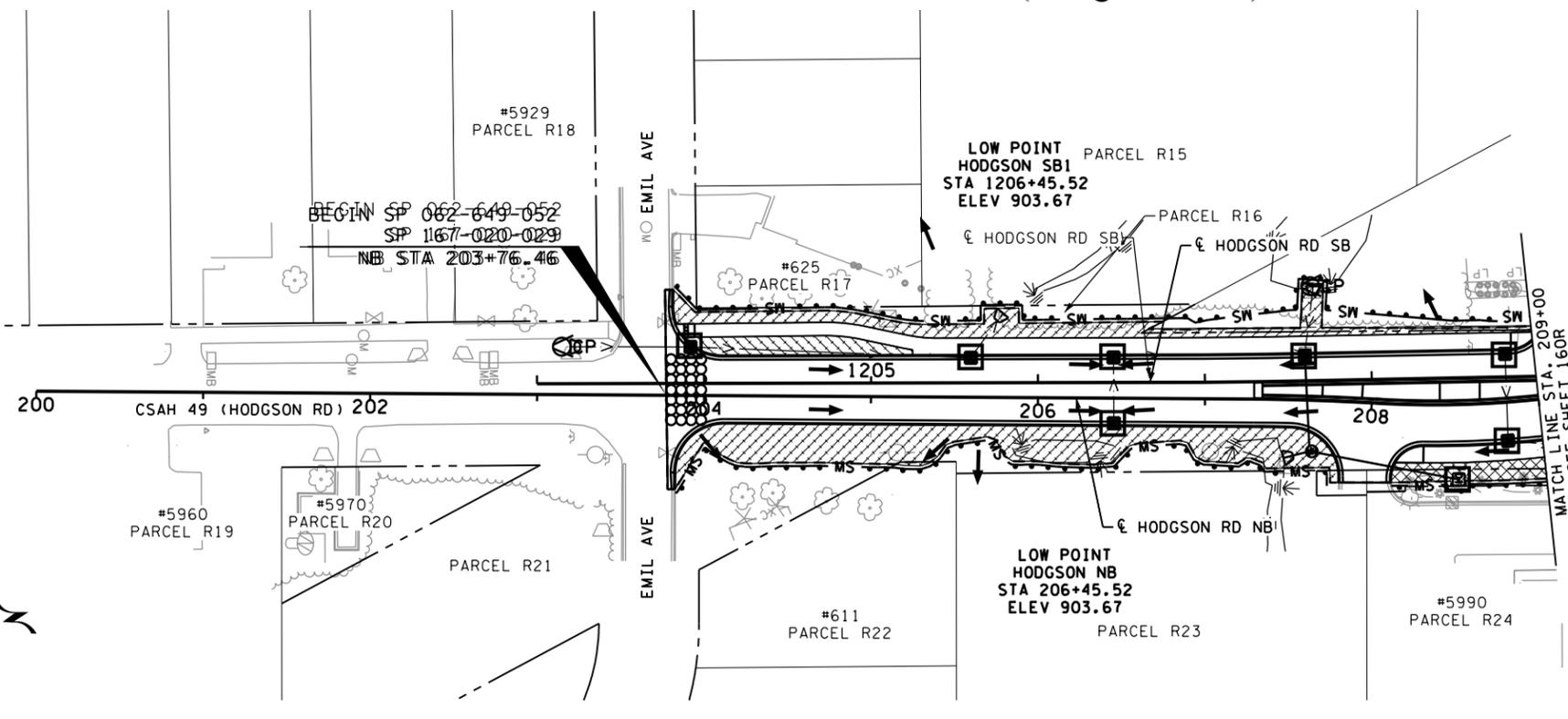
PERMANENT:
ROLLED EROSION PREVENTION
PRODUCT CATEGORY 20
SEED MIXTURE 25-131
(220 LBS/ACRE)
FERTILIZER TYPE 1
(350 LBS/ACRE)

PERMANENT:
ROLLED EROSION PREVENTION
PRODUCT CATEGORY 20
SEED MIXTURE 25-141
(59 LBS/ACRE)
FERTILIZER TYPE 3
(200 LBS/ACRE)

PERMANENT:
ROLLED EROSION PREVENTION
PRODUCT CATEGORY 20
SEED MIXTURE SPECIAL
(34 LBS/ACRE)
FERTILIZER TYPE 4
(150 LBS/ACRE)

TEMPORARY:
ROLLED EROSION PREVENTION
PRODUCT CATEGORY 20
SEED MIXTURE 22-111
(30.5 LBS/ACRE)
FERTILIZER TYPE 3
(200 LBS/ACRE)

CSAH 49 (Hodgson Road)



NO.	DATE	BY	CHK	REVISIONS
1	2024/02/19	AJF	AJP	UPDATE SEED MIXTURE

Design By: AJP
 Plan By: AJP
 Checked By: AJP
 Approved By: AJP

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

PRINT NAME: **ANDREW J. FLOWMAN**
 DATE: 2/19/2024 LICENSE #: 44200



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

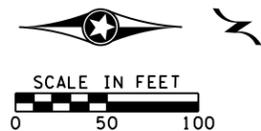
ANOKA & RAMSEY COUNTY, MN
 EB STA 123+00 TO EB STA 127+66.06, NB STA 203+76.46 TO NB STA 209+00
EROSION CONTROL & TURF ESTABLISHMENT
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
161R
 OF
162
 SHEETS

WSB PATH & FILENAME: Projects\Minnesota\019054-000\000\Plan\19054-000_1603.dgn

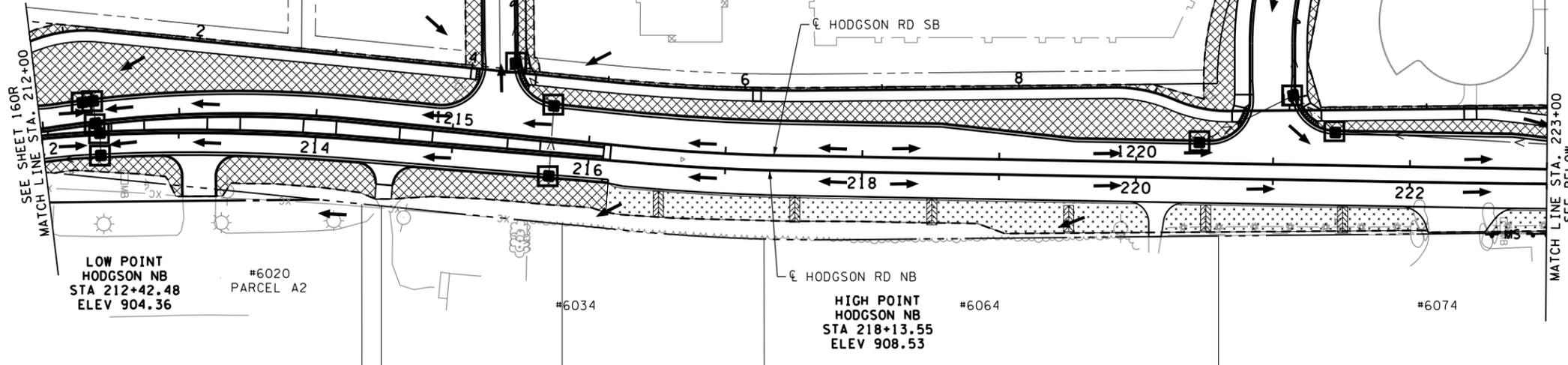
PLOTTED/REVISED: 2/19/2024 12:24:42 PM

CSAH 49 (Hodgson Road)



LOW POINT
HODGSON SB2
STA 1212+38.39
ELEV 904.34

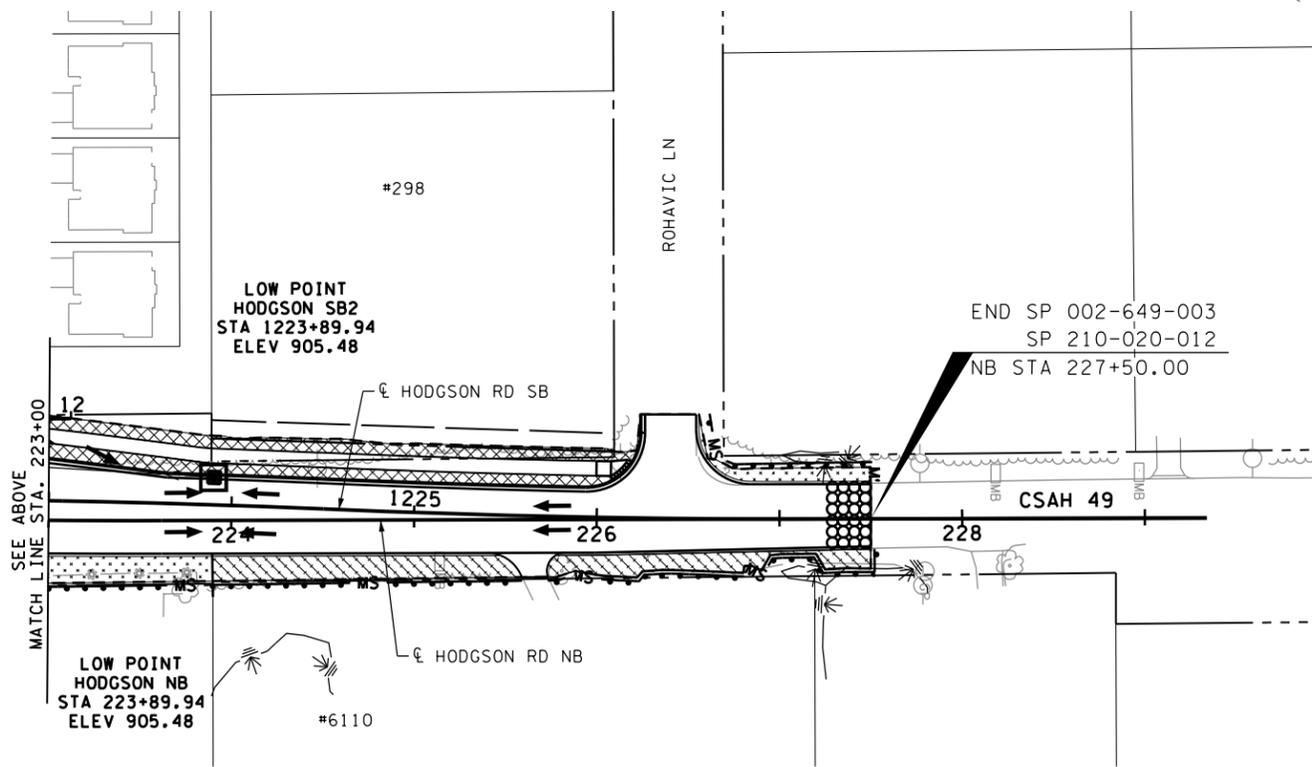
HIGH POINT
HODGSON SB2
STA 1218+13.55
ELEV 908.53



LOW POINT
HODGSON NB
STA 212+42.48
ELEV 904.36

HIGH POINT
HODGSON NB
STA 218+13.55
ELEV 908.53

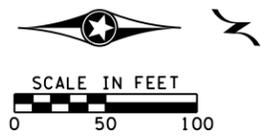
CSAH 49 (Hodgson Road)



LOW POINT
HODGSON SB2
STA 1223+89.94
ELEV 905.48

END SP 002-649-003
SP 210-020-012
NB STA 227+50.00

LOW POINT
HODGSON NB
STA 223+89.94
ELEV 905.48



LEGEND

- SURFACE FLOW DIRECTION
- STORM DRAIN INLET PROTECTION
- CULVERT END CONTROL
- DITCH CHECK (SEDIMENT CONTROL LOG, TYPE COMPOST)
- STABILIZED CONSTRUCTION EXIT
- SEDIMENT CONTROL LOG, TYPE COMPOST
- SILT FENCE, TYPE MS
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY

PERMANENT:
ROLLED EROSION PREVENTION
PRODUCT CATEGORY 20
SEED MIXTURE 25-151
(120 LBS/ACRE)
FERTILIZER TYPE 3
(200 LBS/ACRE)

PERMANENT:
ROLLED EROSION PREVENTION
PRODUCT CATEGORY 20
SEED MIXTURE 25-131
(220 LBS/ACRE)
FERTILIZER TYPE 1
(350 LBS/ACRE)

PERMANENT:
ROLLED EROSION PREVENTION
PRODUCT CATEGORY 20
SEED MIXTURE 25-141
(59 LBS/ACRE)
FERTILIZER TYPE 3
(200 LBS/ACRE)

PERMANENT:
ROLLED EROSION PREVENTION
PRODUCT CATEGORY 20
SEED MIXTURE SPECIAL
(34 LBS/ACRE)
FERTILIZER TYPE 4
(150 LBS/ACRE)

TEMPORARY:
ROLLED EROSION PREVENTION
PRODUCT CATEGORY 20
SEED MIXTURE 22-111
(30.5 LBS/ACRE)
FERTILIZER TYPE 3
(200 LBS/ACRE)

NO.	DATE	BY	CHK	REVISIONS
1	2024/02/19	AJF	AJP	UPDATE SEEDING MIXTURE

Design By: AJP
Plan By: AJP
Checked By: AJP
Approved By: AJP

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

PRINT NAME: ANDREW J. FLOWMAN
DATE: 2/19/2024 LICENSE #: 44200



CSAH 49 at Ramsey County
CSAH 1 / Anoka County CSAH 32
Intersection Improvements

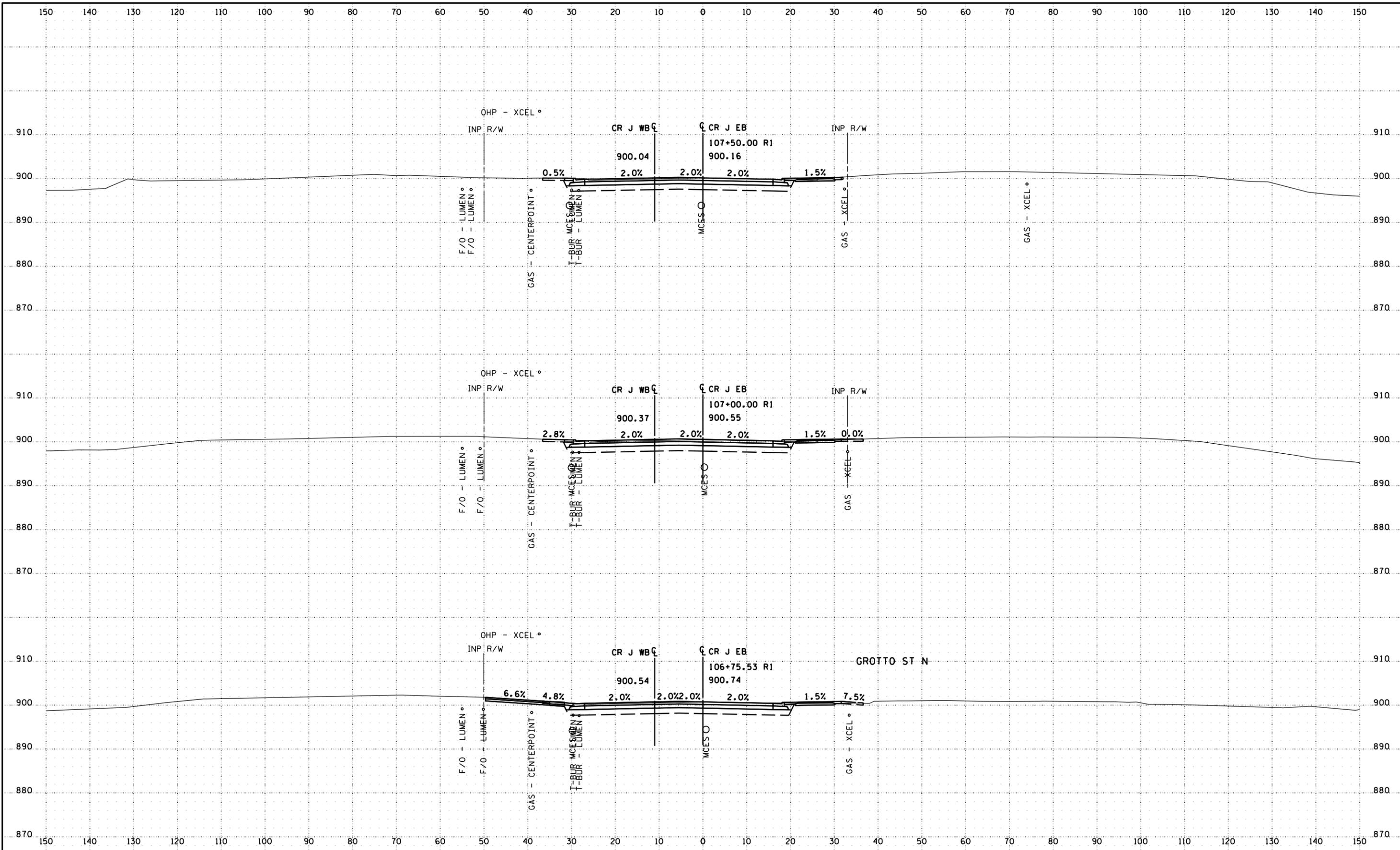
ANOKA & RAMSEY COUNTY, MN

EROSION CONTROL & TURF ESTABLISHMENT
SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
162R
OF
162
SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:05 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sst_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



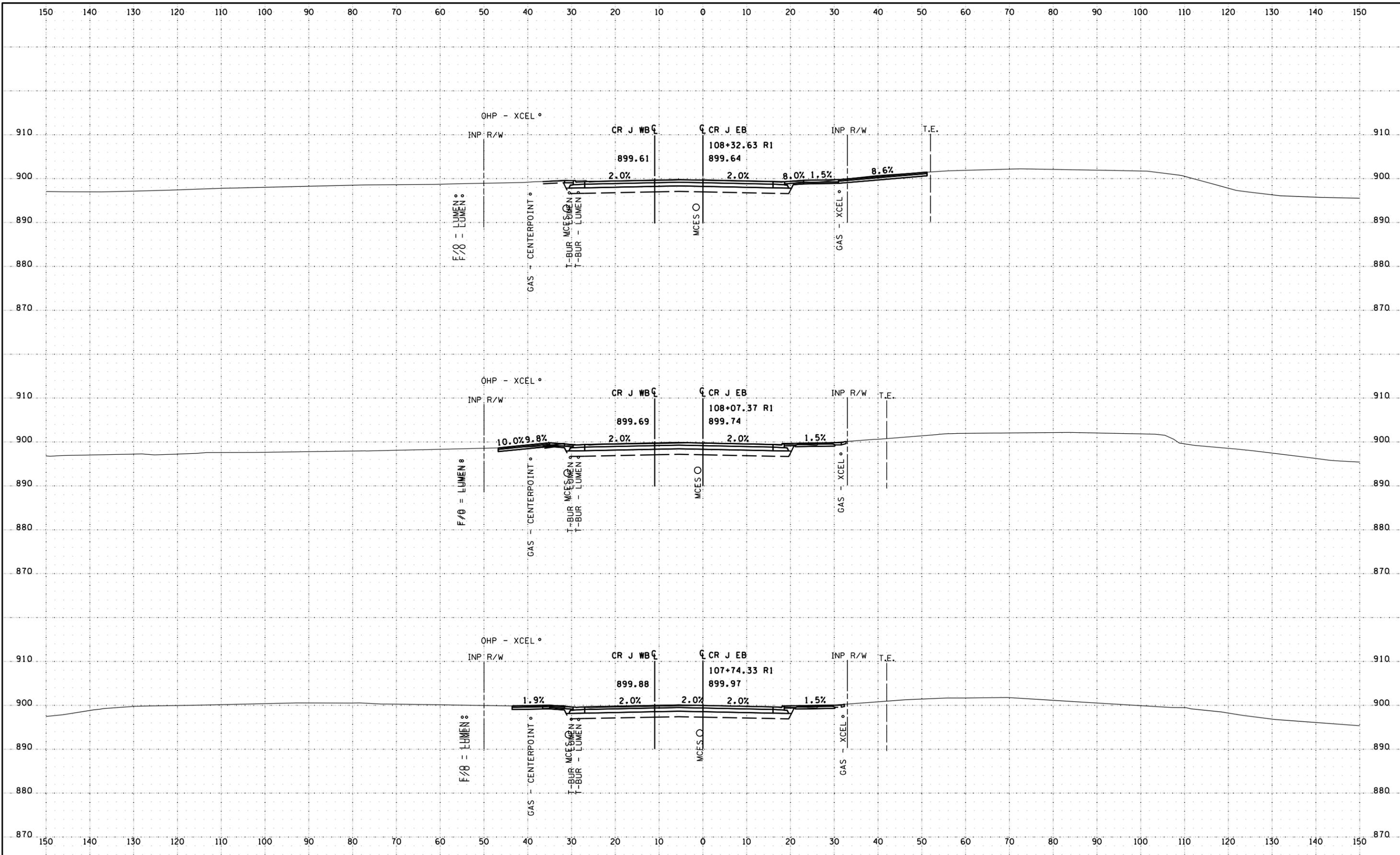
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 106+75.53 TO STA. 107+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
X1
 OF
X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:05 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sst_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



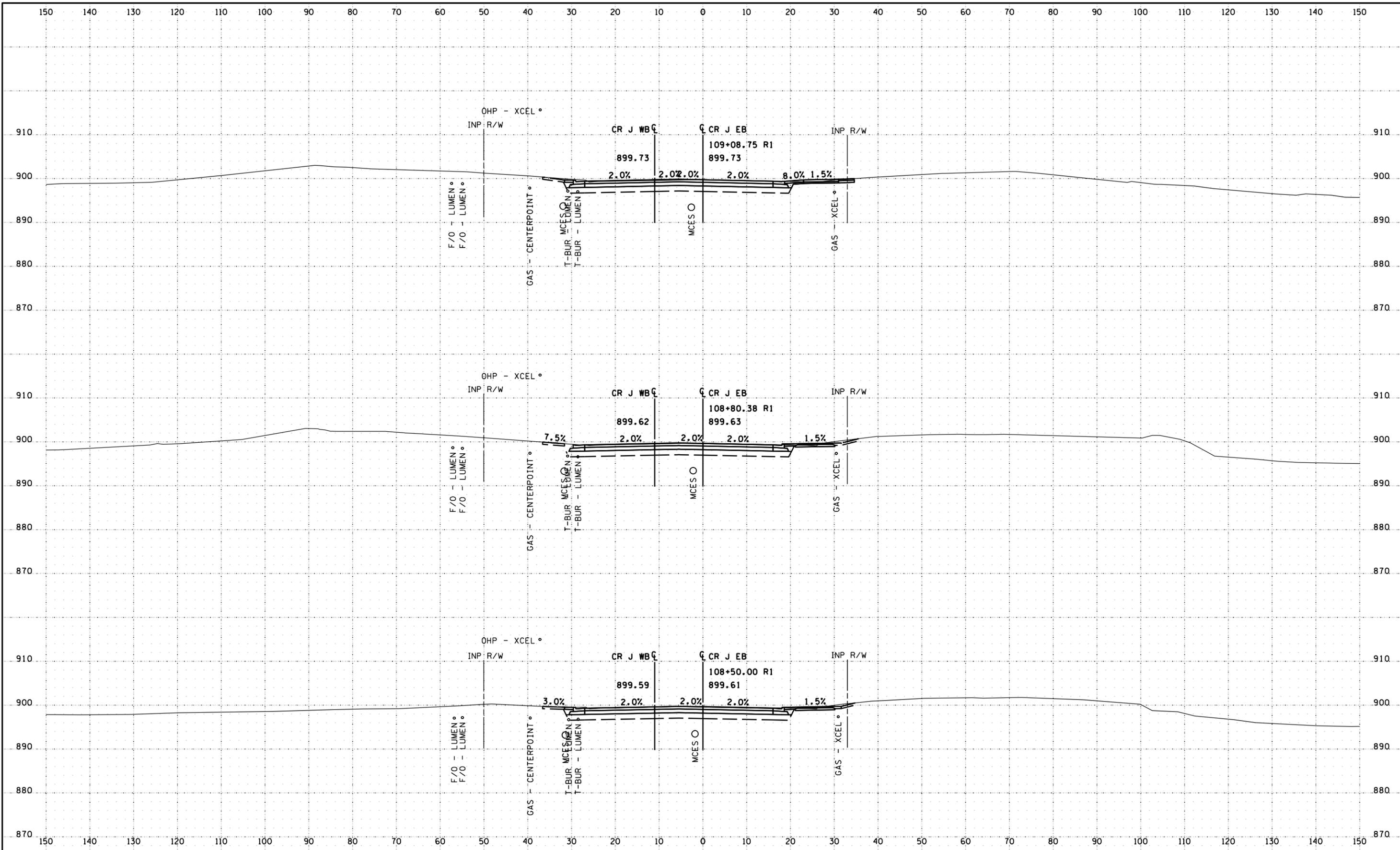
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 107+74.33 TO STA. 108+32.63
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X2**
 OF
X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:16 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sst_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



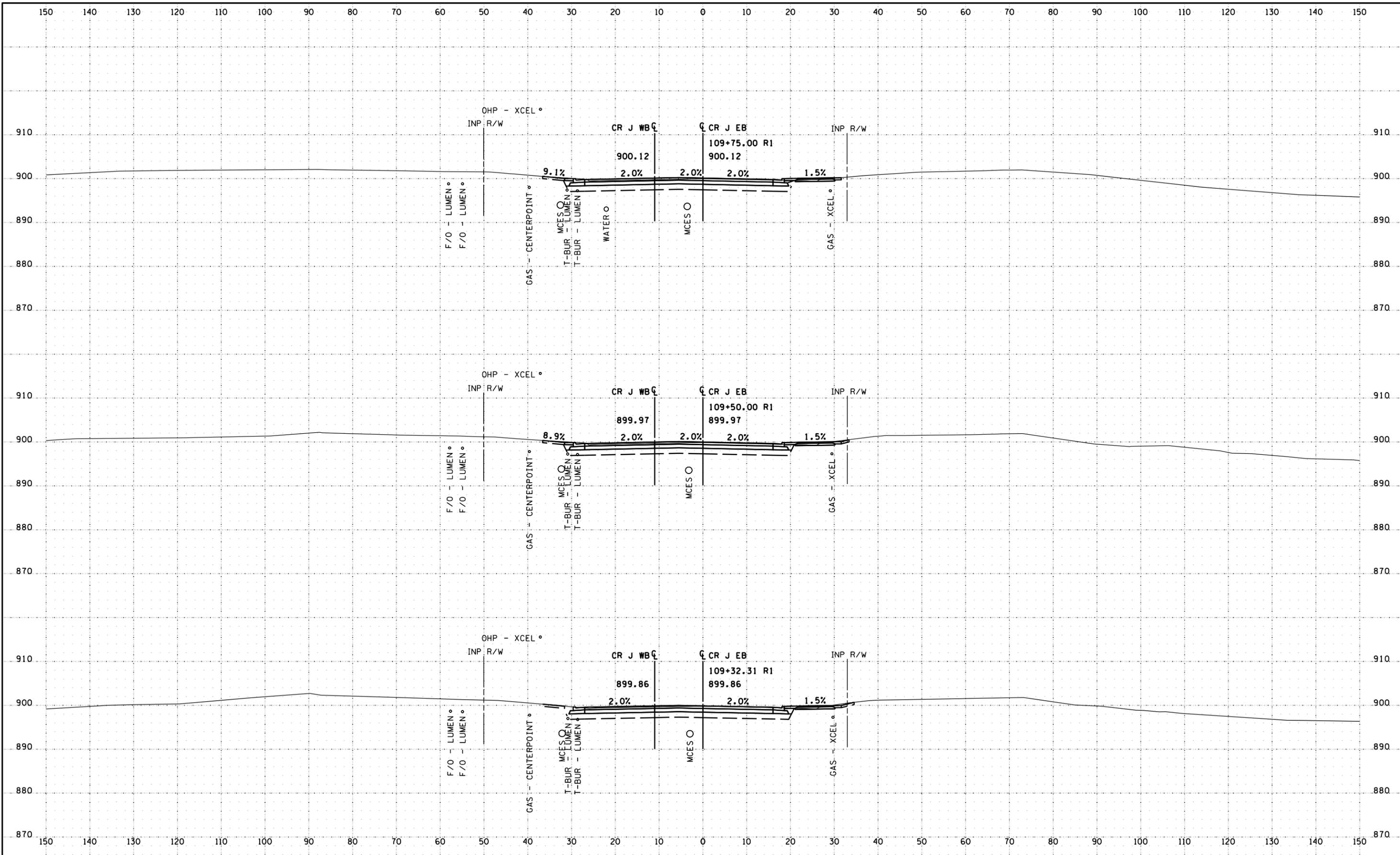
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 108+50.00 TO STA. 109+08.75
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
X3
 OF
X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:16 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sst_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



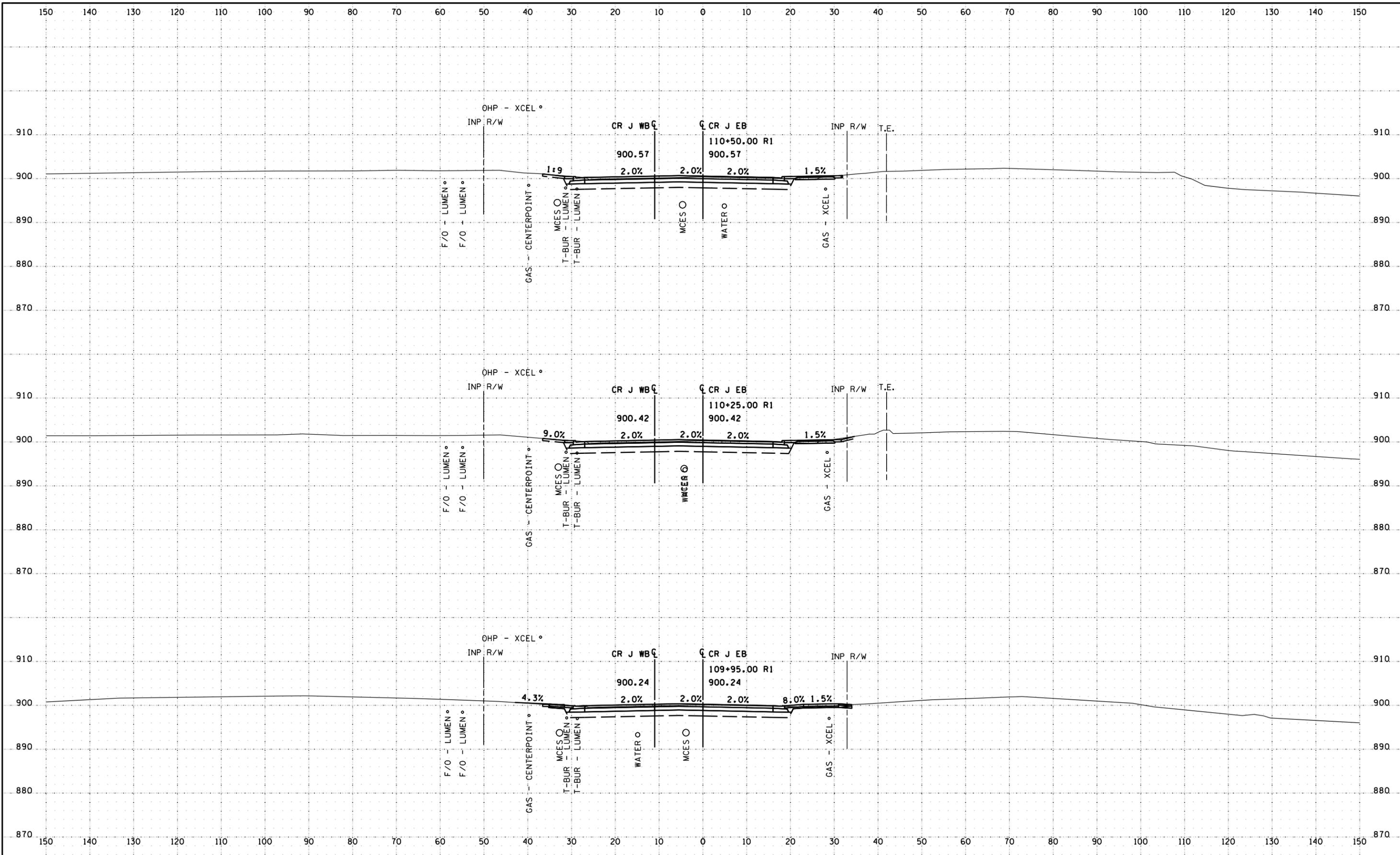
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 109+32.31 TO STA. 109+75.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
X4
 OF
X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:17 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sstH_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



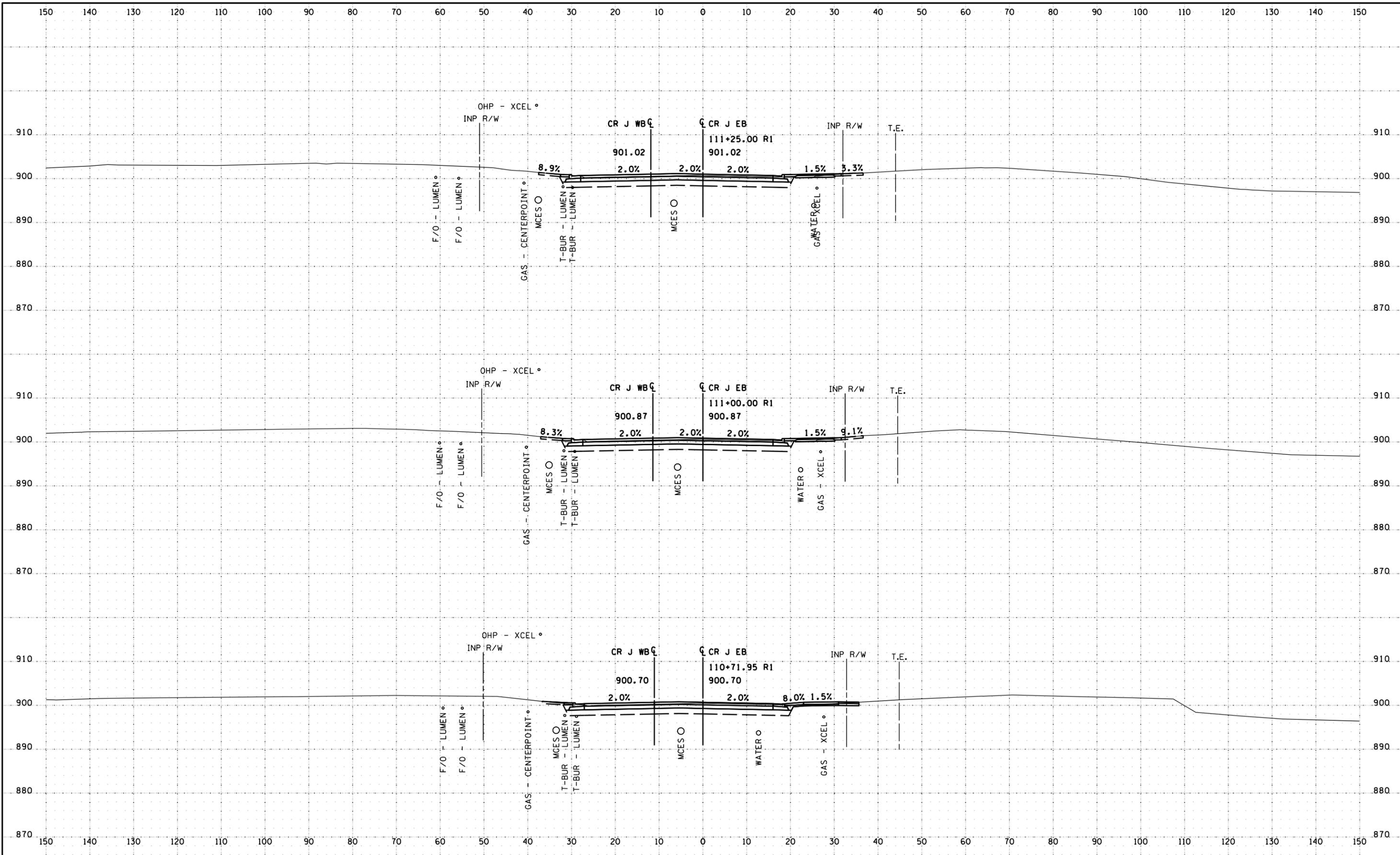
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 109+95.00 TO STA. 110+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
X5
 OF
X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:18 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sstH_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



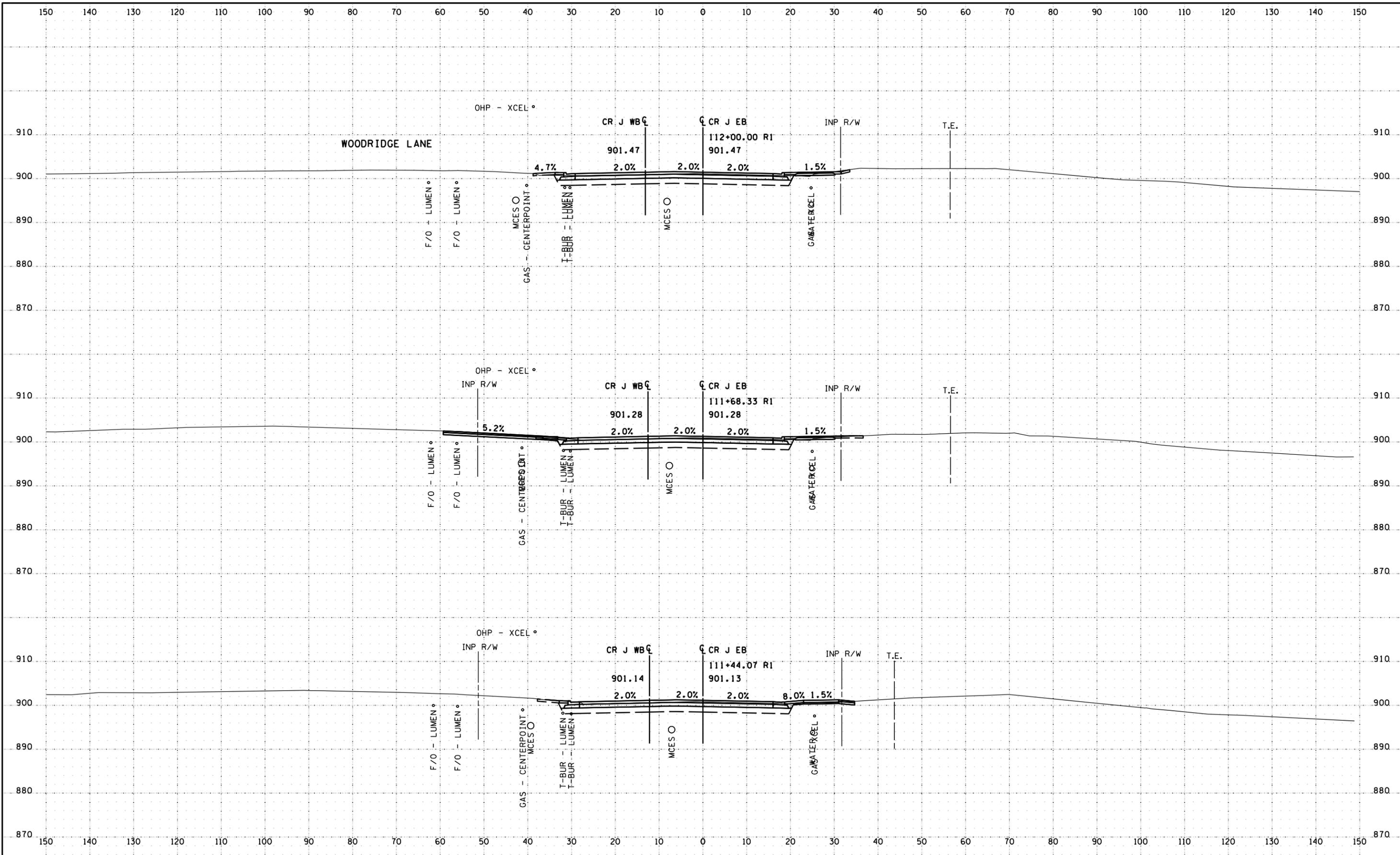
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 110+71.95 TO STA. 111+25.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X6**
 OF
X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:19 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sst_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



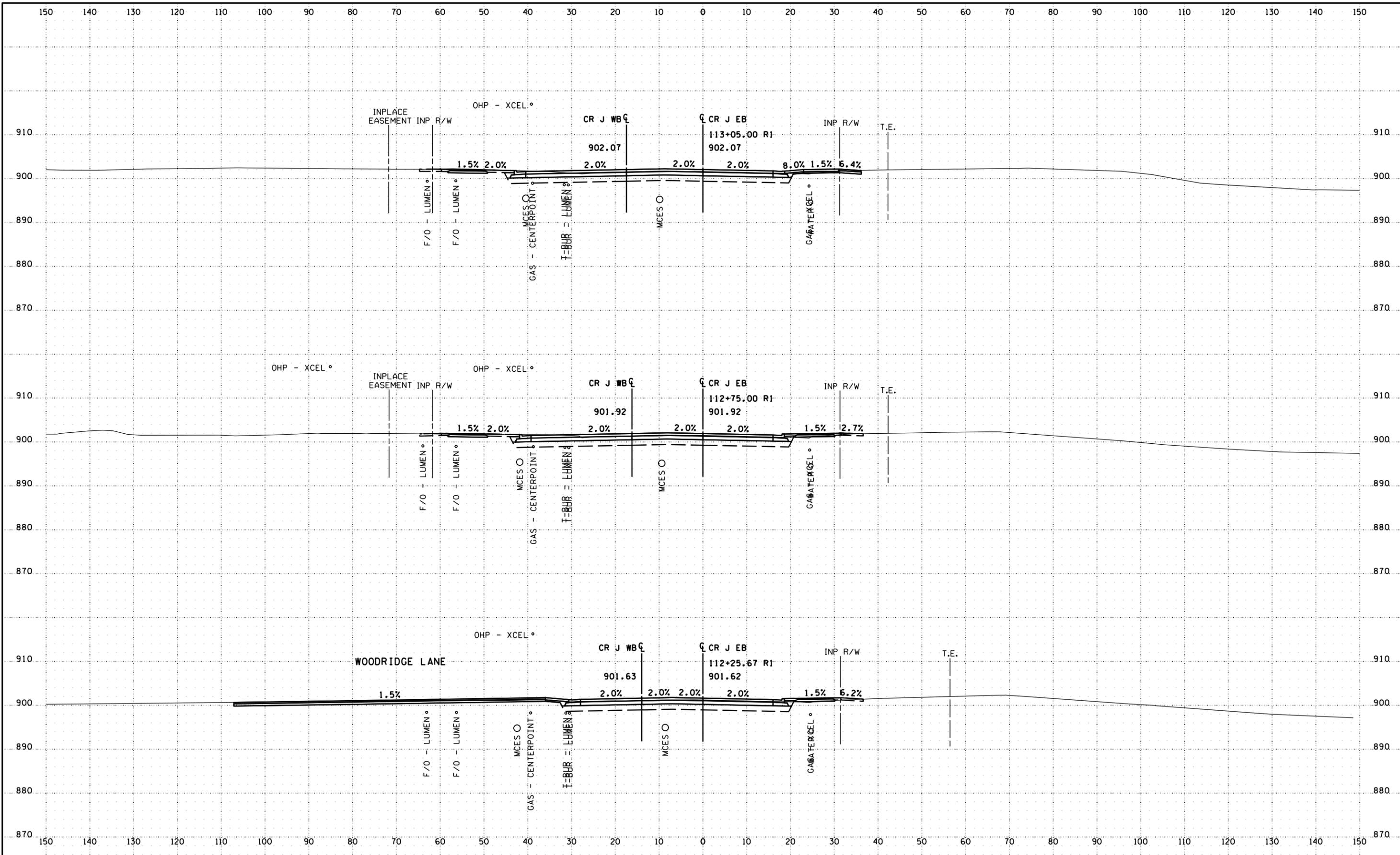
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 111+44.07 TO STA. 112+00.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
X7
 OF
X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:19 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sstH_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP

WOODRIDGE LANE



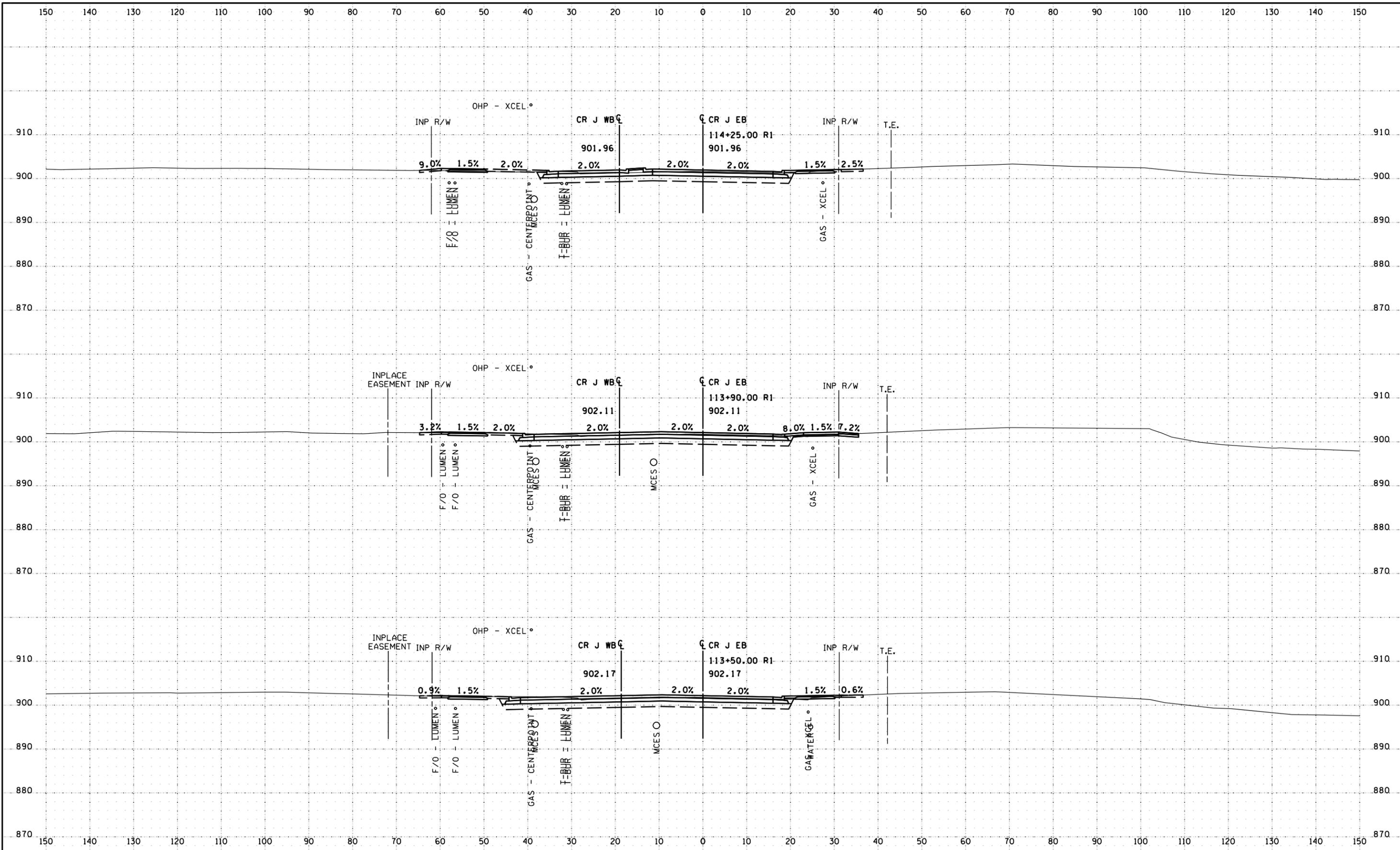
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 112+25.67 TO STA. 113+05.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X8**
 OF
X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:20 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sstH_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



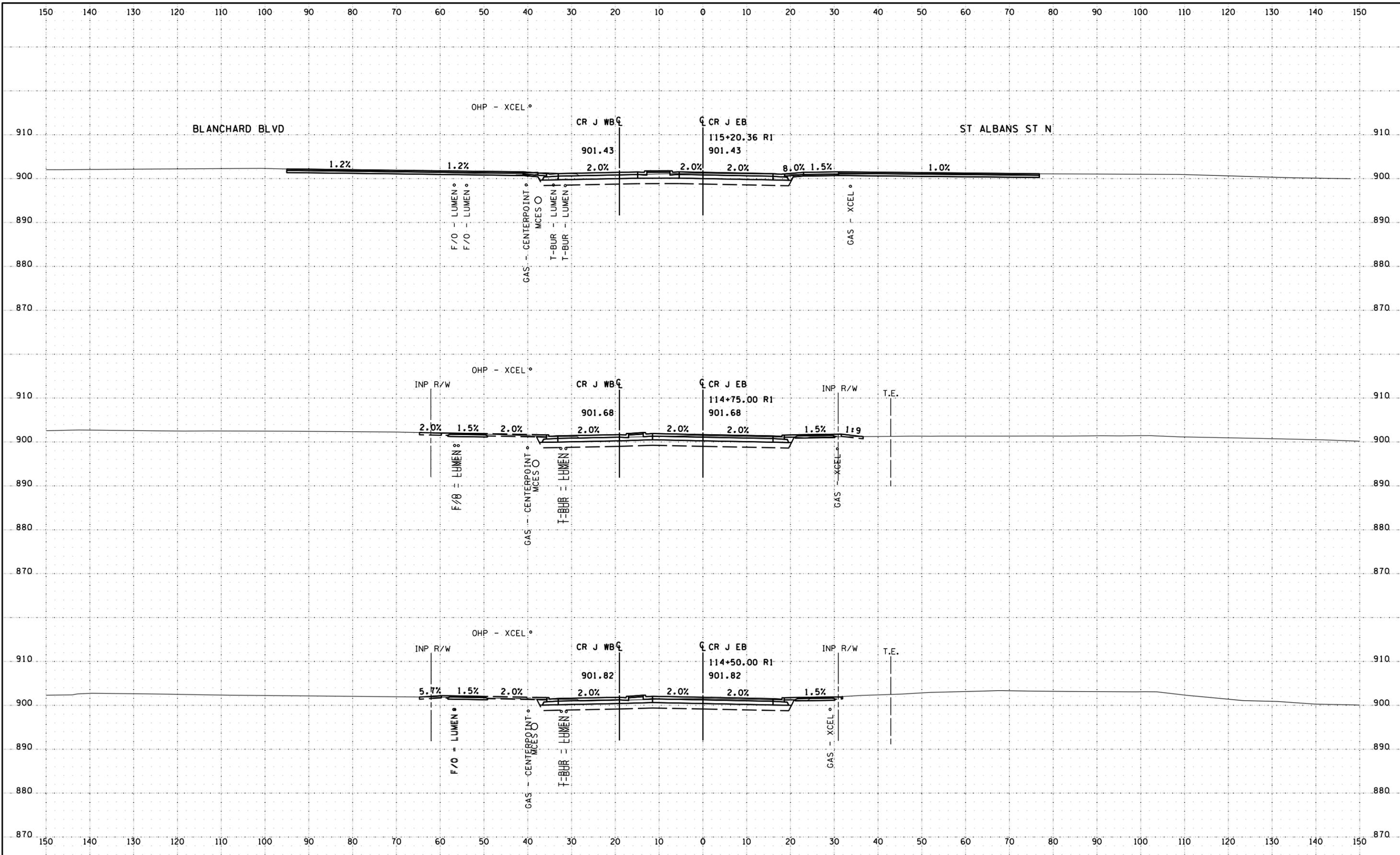
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 113+50.00 TO STA. 114+25.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET
X9
 OF
X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:21 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sstH_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



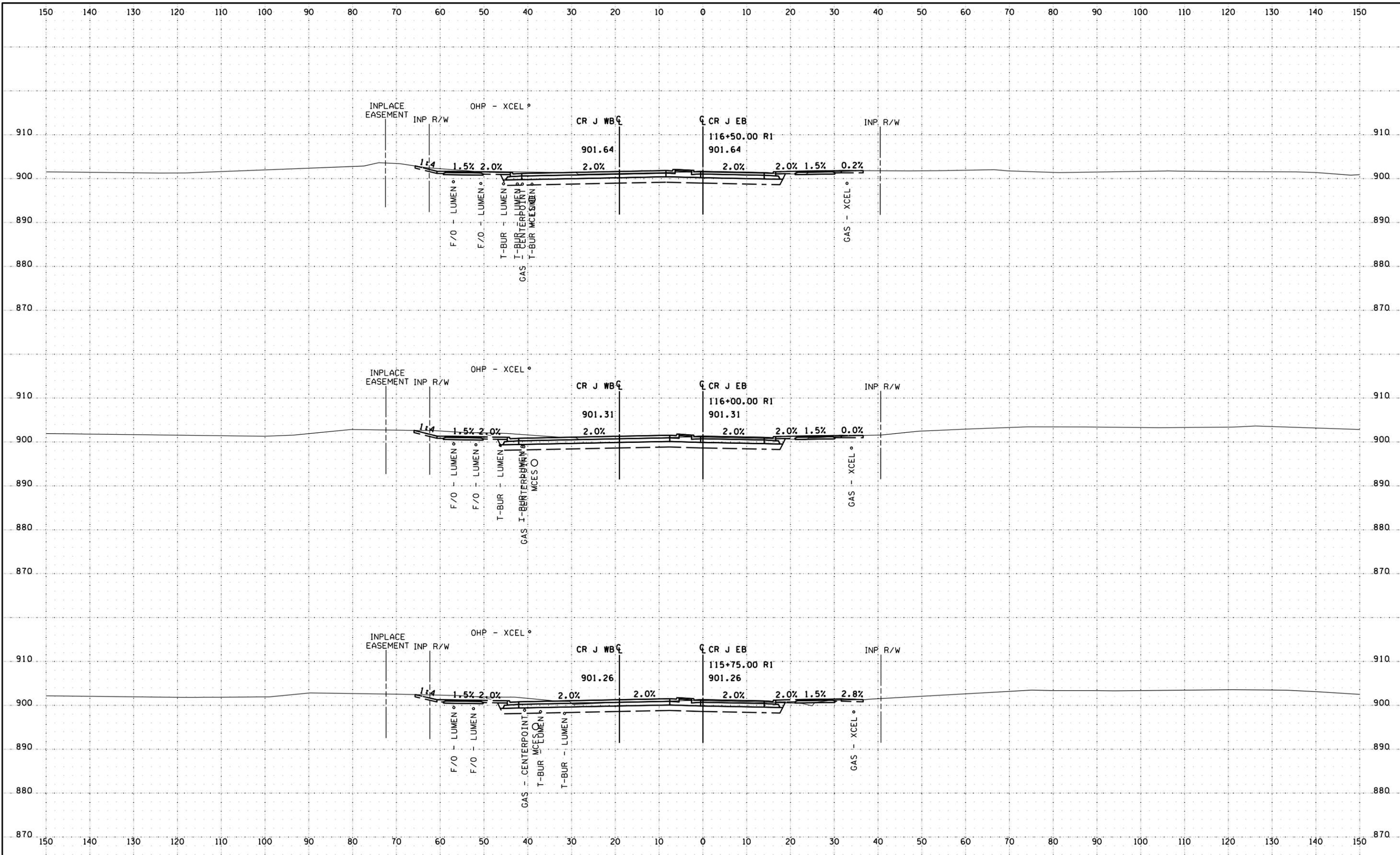
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 114+50.00 TO STA. 115+20.36
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X10**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:21 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sstH_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP

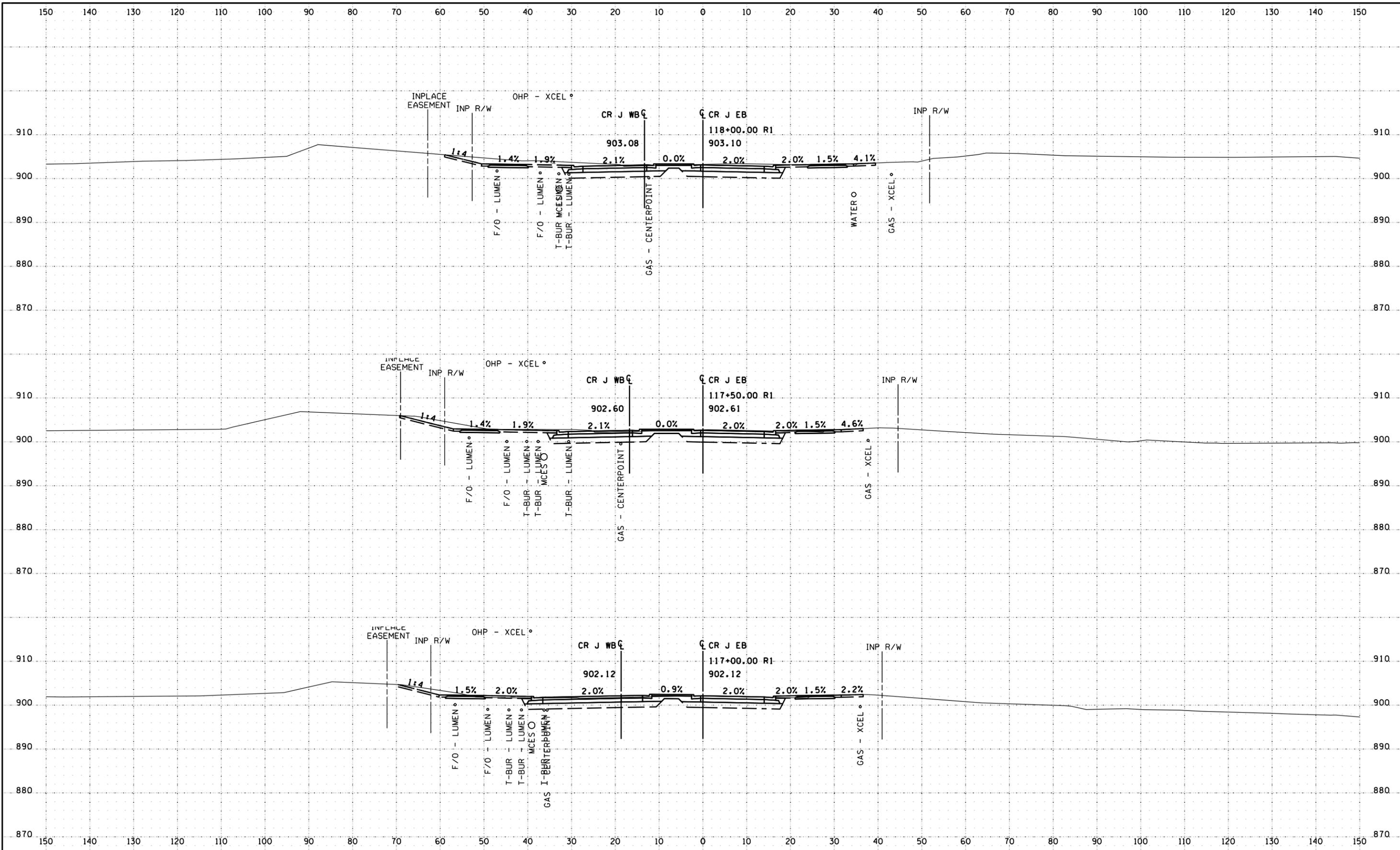
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 115+75.00 TO STA. 116+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X11**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:22 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sstH_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



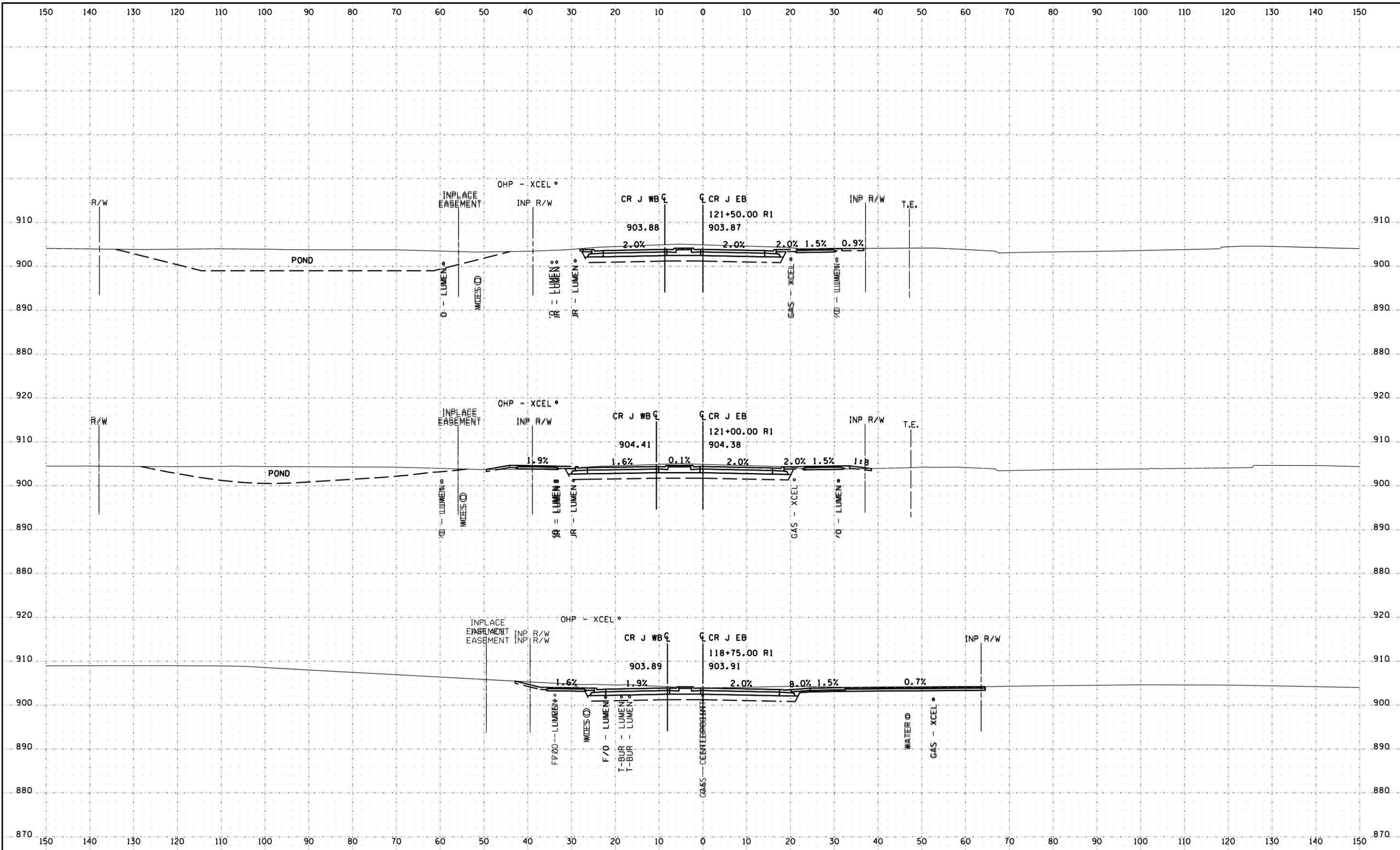
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 117+00.00 TO STA. 118+00.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

**SHEET
 X12
 OF
 X33
 SHEETS**

PLOTTED/REVISED: 2/1/2024 9:52:23 AM

WSB PATH & FILENAME: Projects\Mnstate\019054-000\Cad\Proposed\019054-000_sst_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

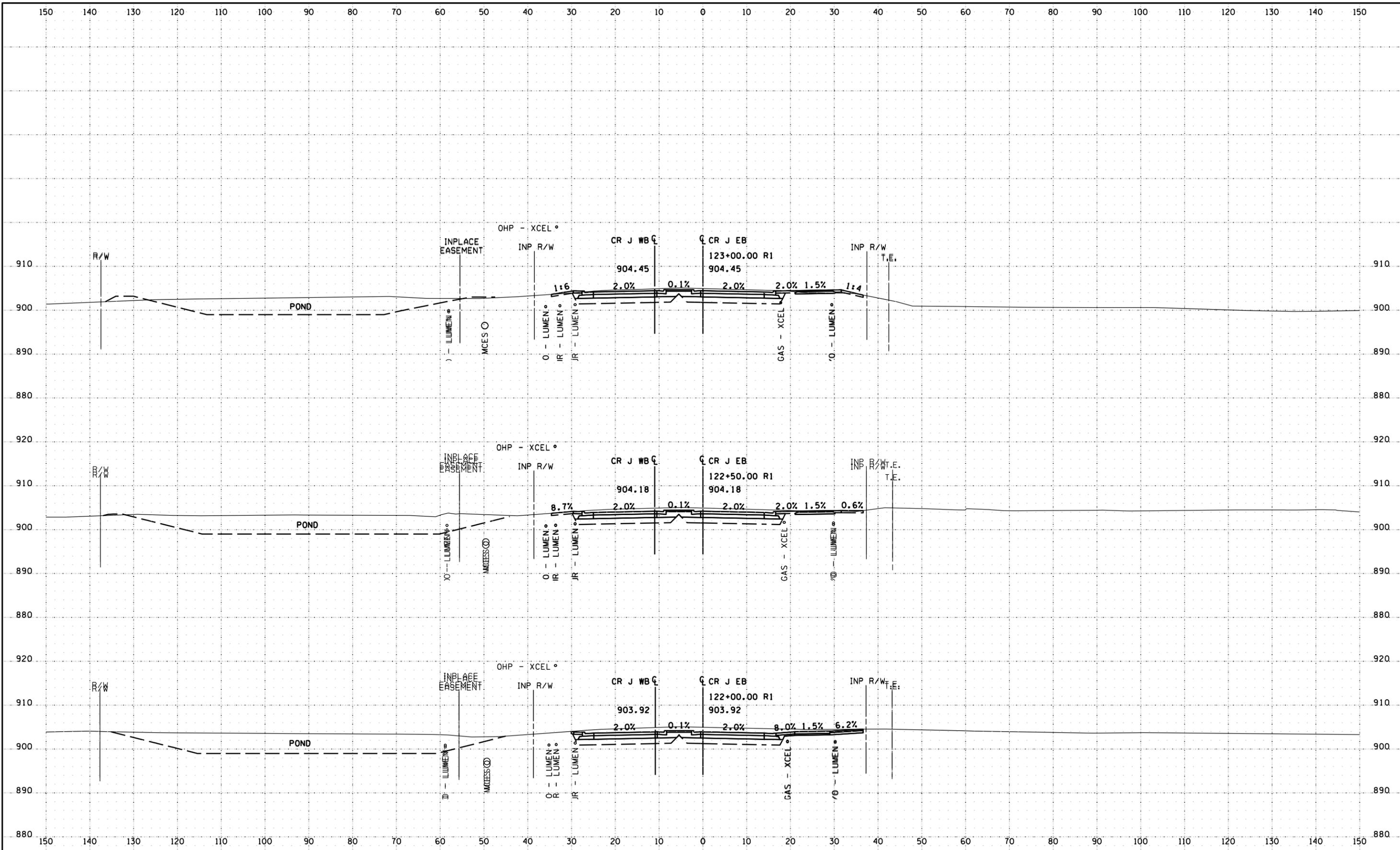
Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP

ANOKA & RAMSEY COUNTY, MN
 STA. 118+75.00 TO STA. 121+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X13**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:24 AM

WSB PATH & FILENAME: Projects\Minesota\019054-000\Card\Proposed\019054-000_sstH_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP

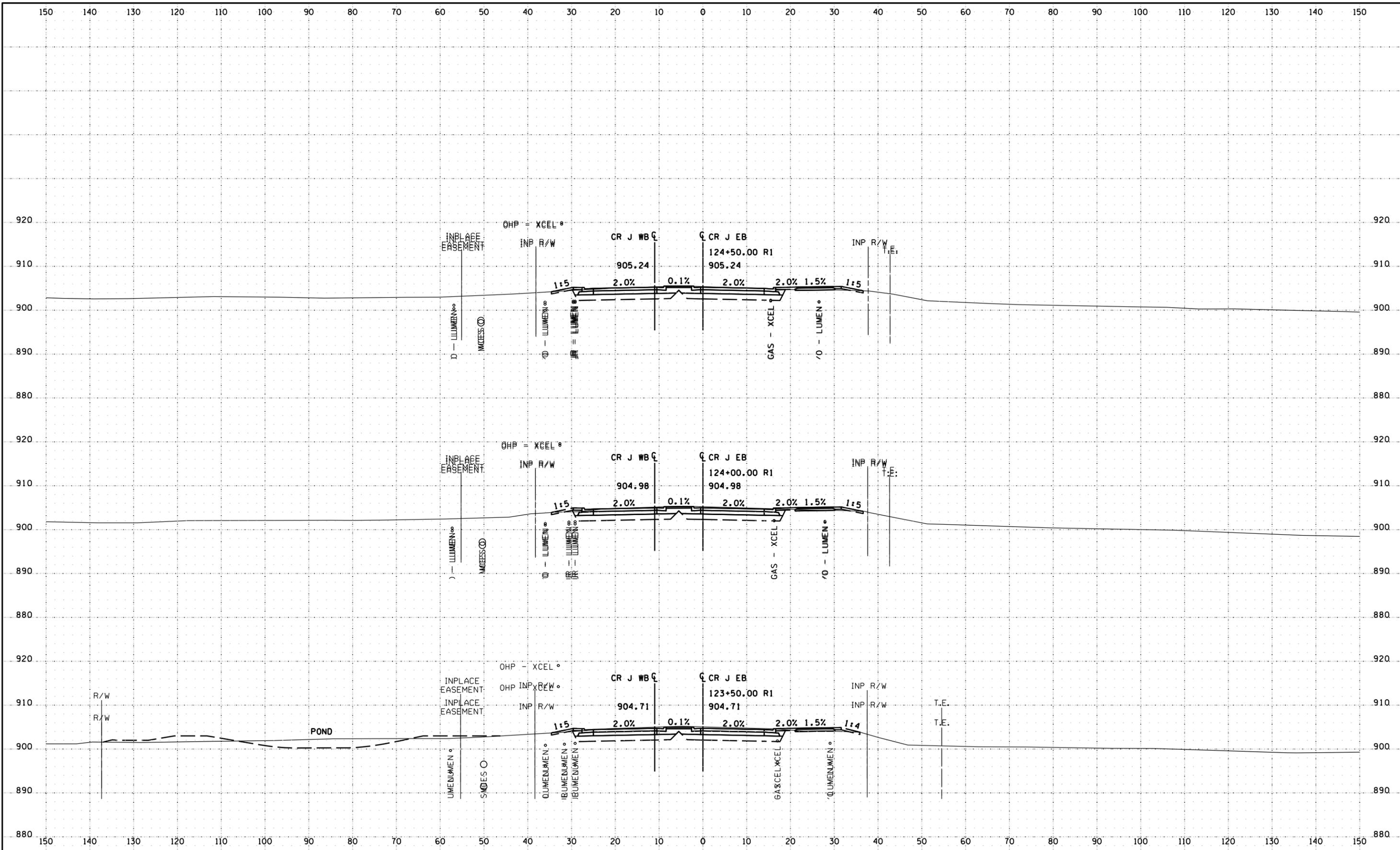
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 122+00.00 TO STA. 123+00.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET X14 OF X33 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:25 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sstH_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP

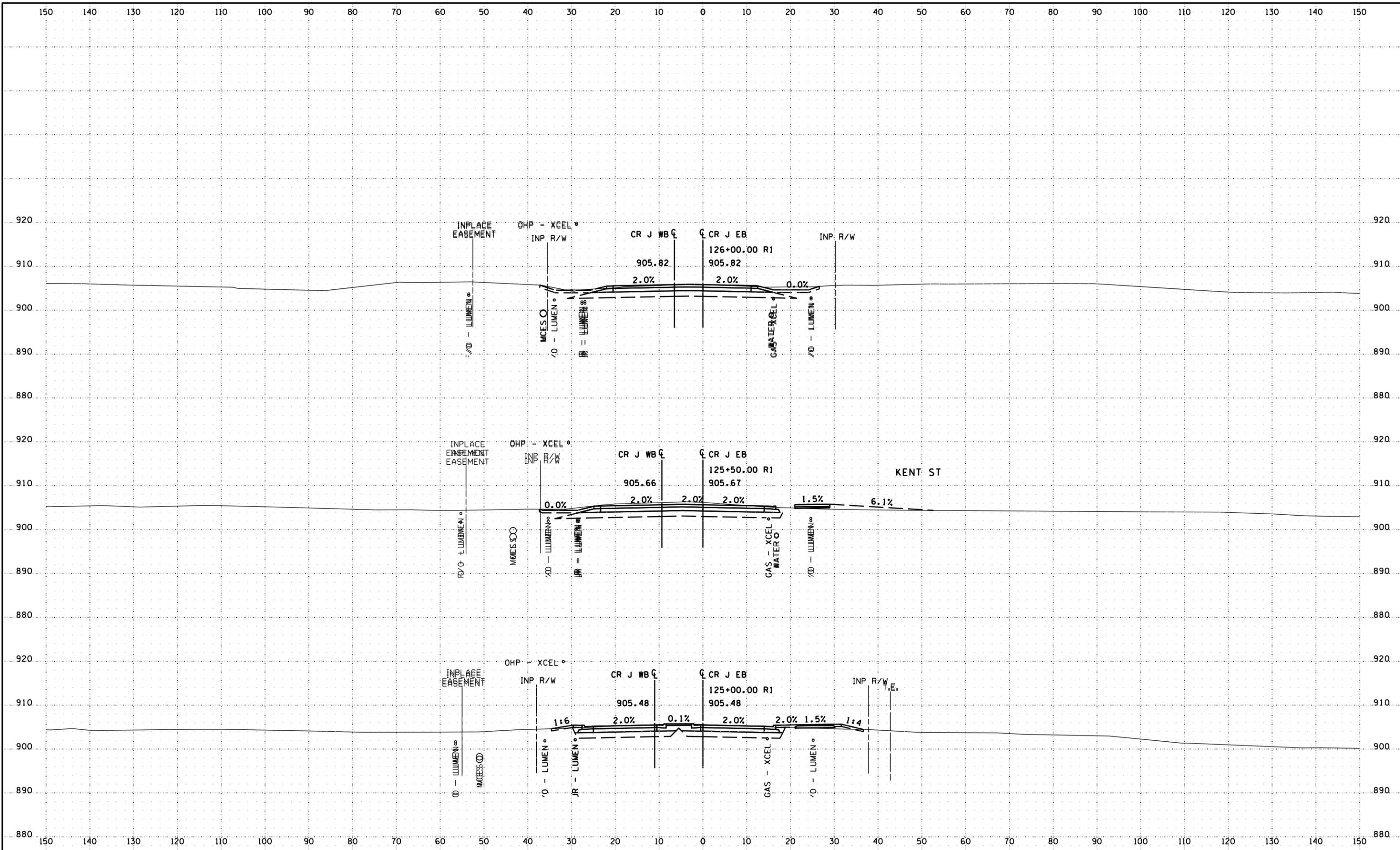
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 123+50.00 TO STA. 124+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X15**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:25 AM

WSB PATH & FILENAME: Projects\Mnstate\019054-000\Cad\Proposed\019054-000_sst_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



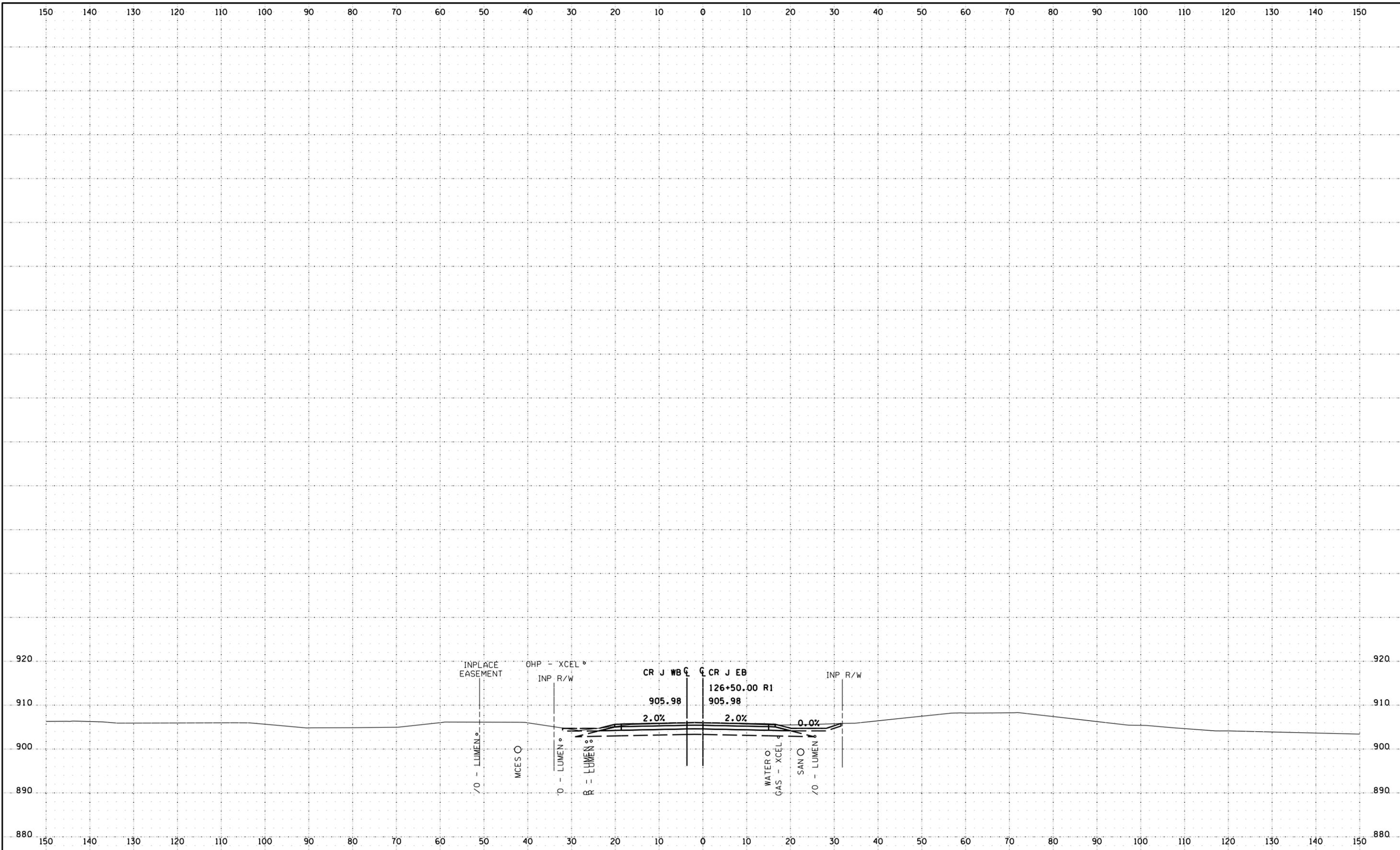
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 125+00.00 TO STA. 126+00.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X16**
 OF
X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:26 AM

WSB PATH & FILENAME: Projects\Minesota\019054-000\Card\Proposed\019054-000_sstH_CR.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



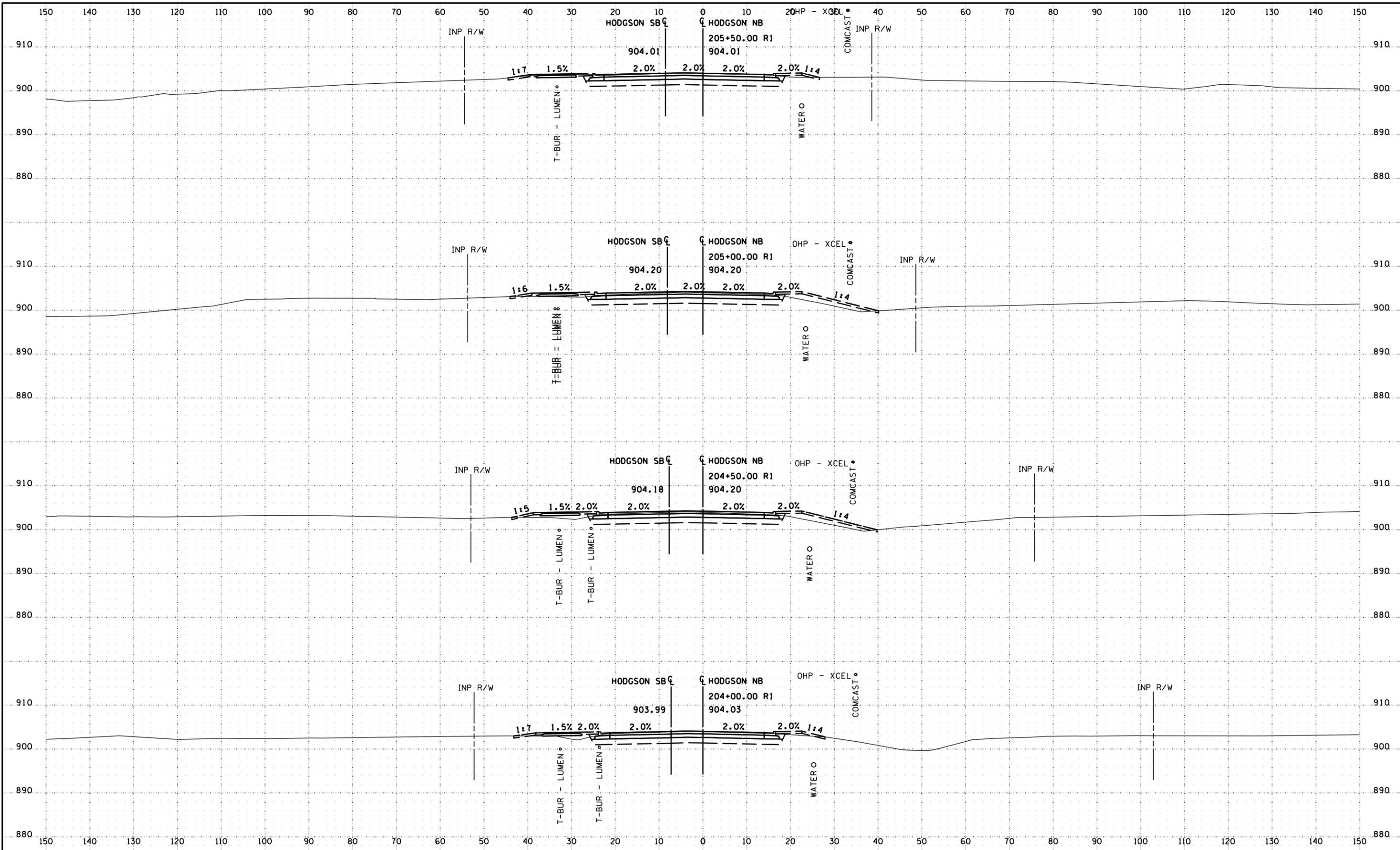
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 126+50.00 TO STA. 126+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X17**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:29 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\000\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



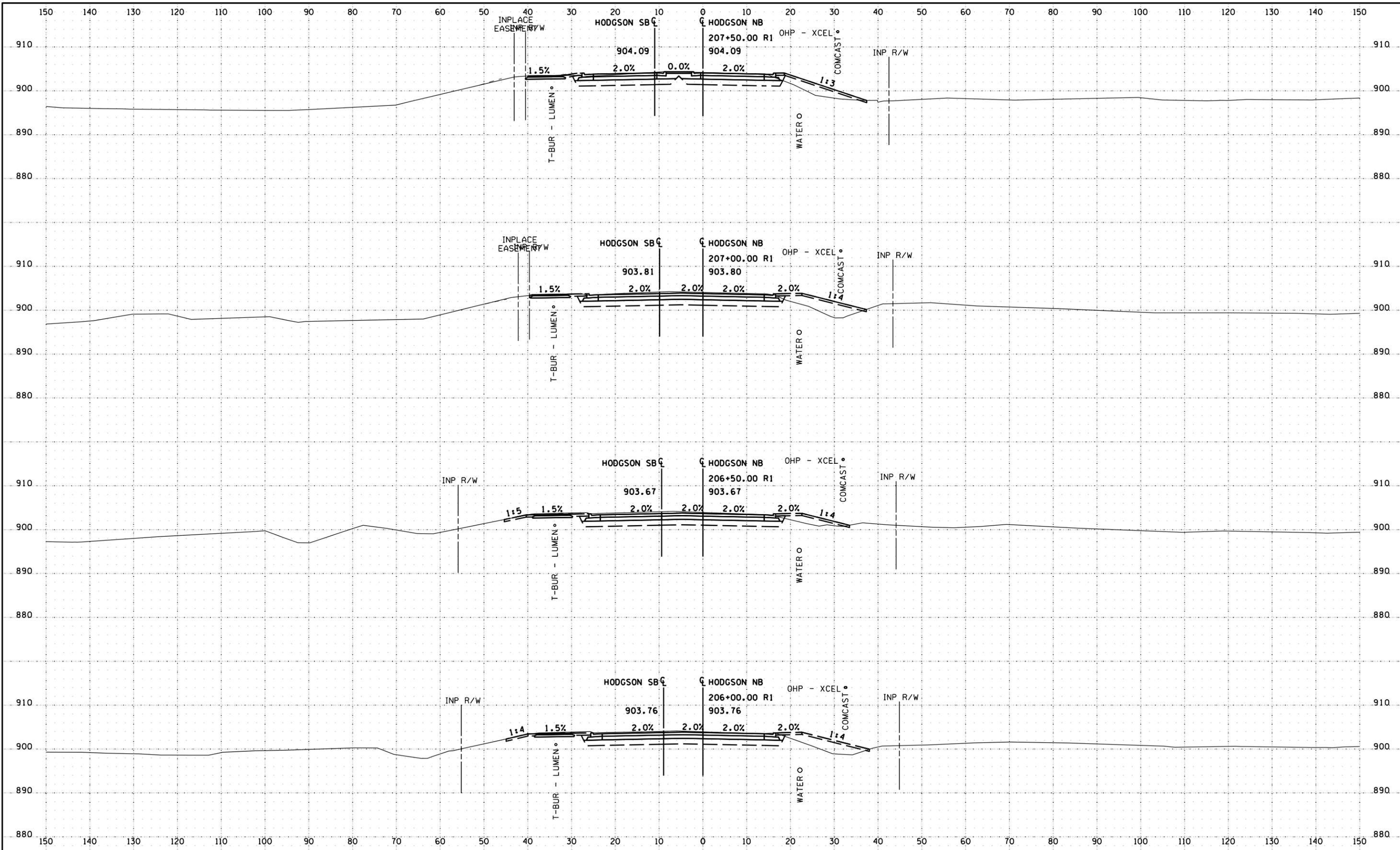
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 204+00.00 TO STA. 205+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X18**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:29 AM

WSB PATH & FILENAME: Projects\Minesota\019054-000\Card\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



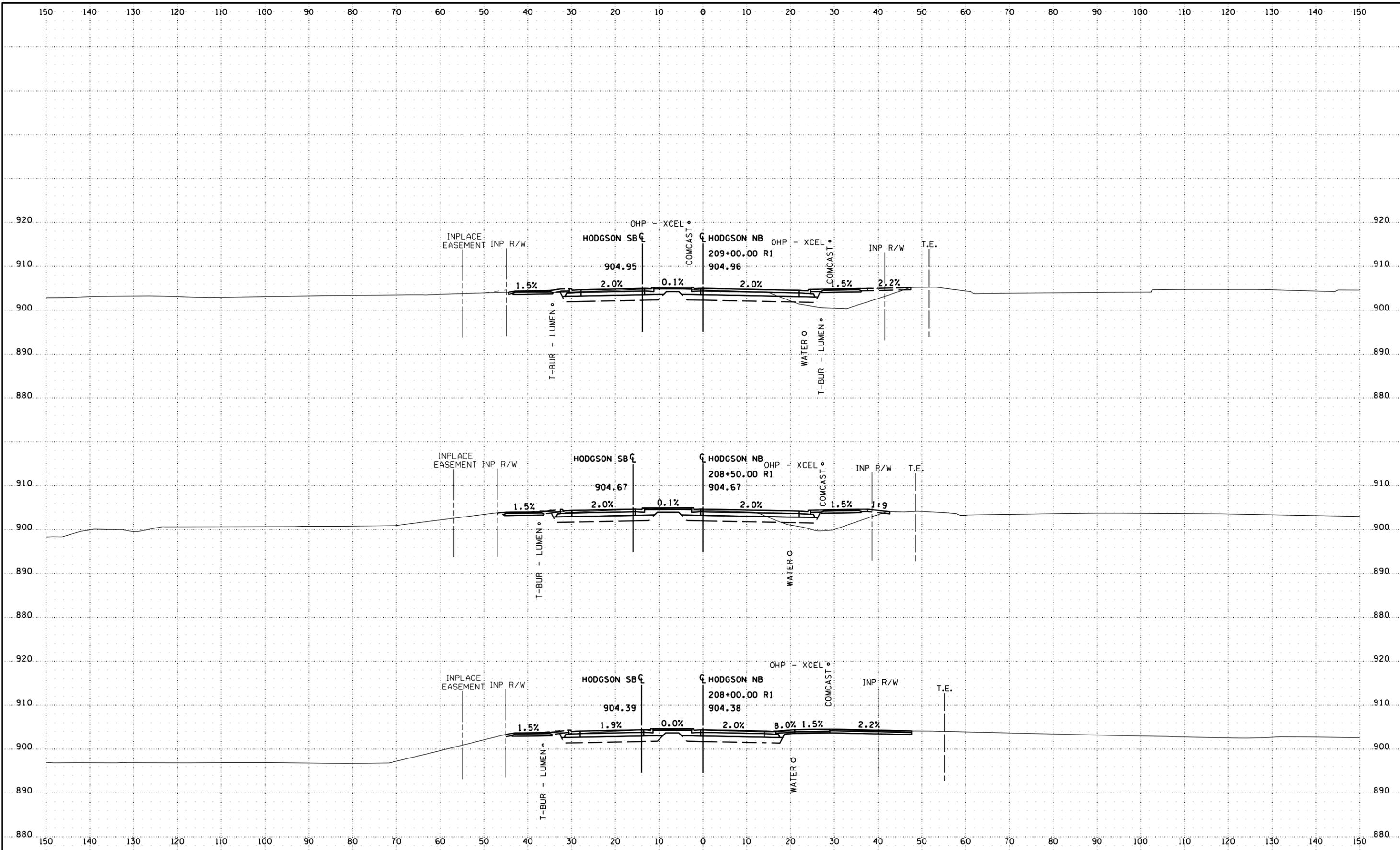
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 206+00.00 TO STA. 207+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X19**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:30 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\000\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



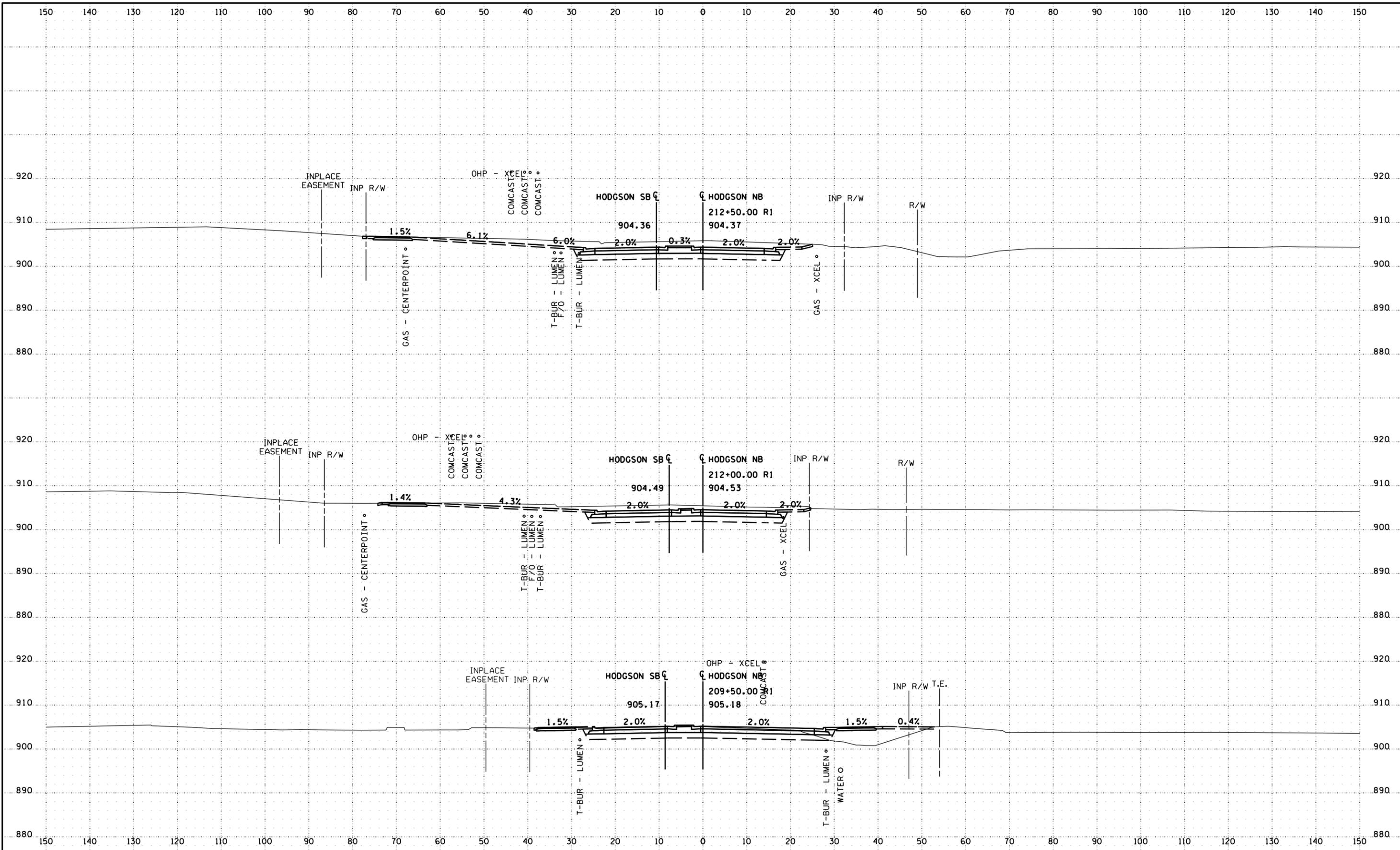
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 208+00.00 TO STA. 209+00.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X20**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:30 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



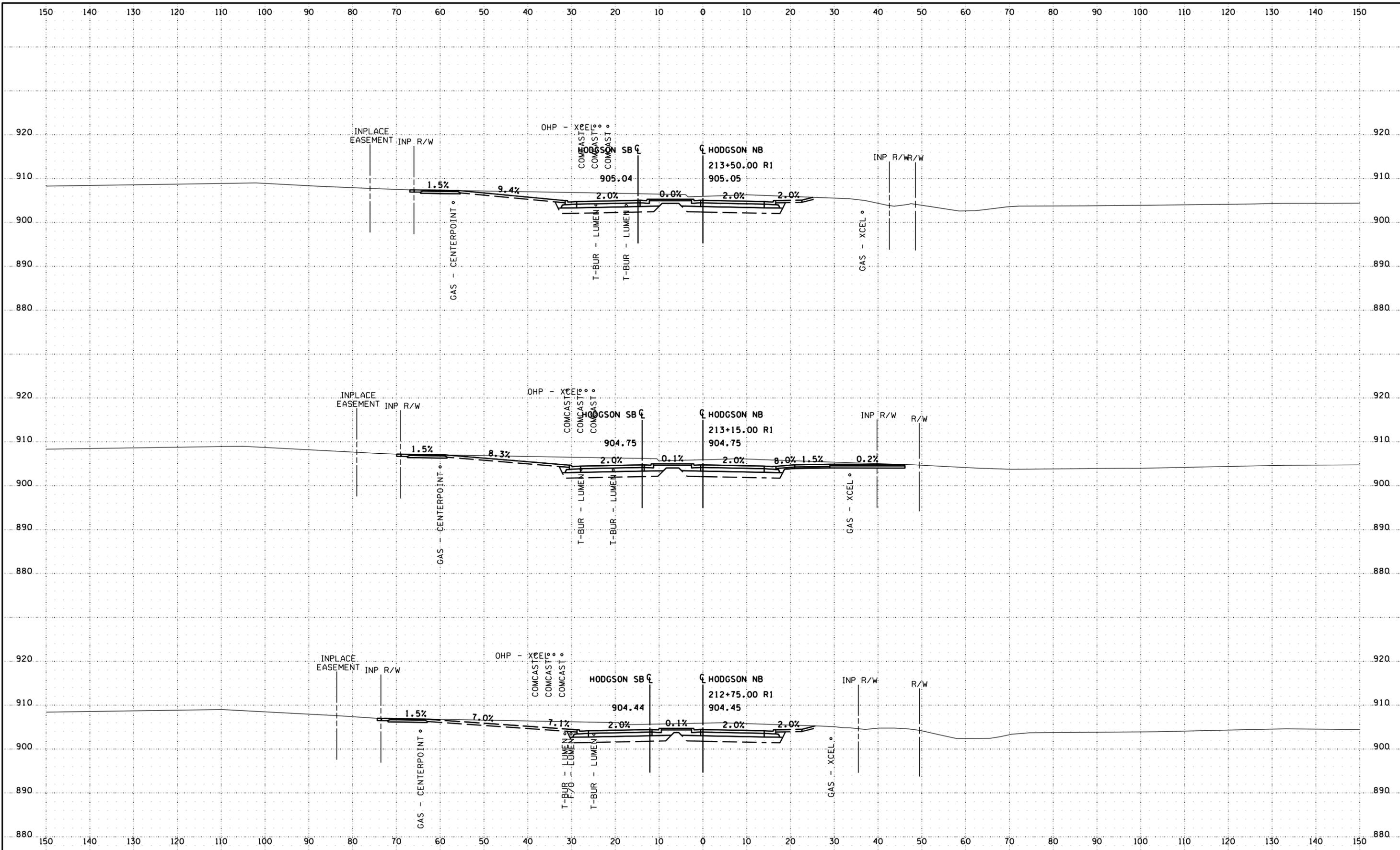
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 209+50.00 TO STA. 212+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X21**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:31 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\000\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP

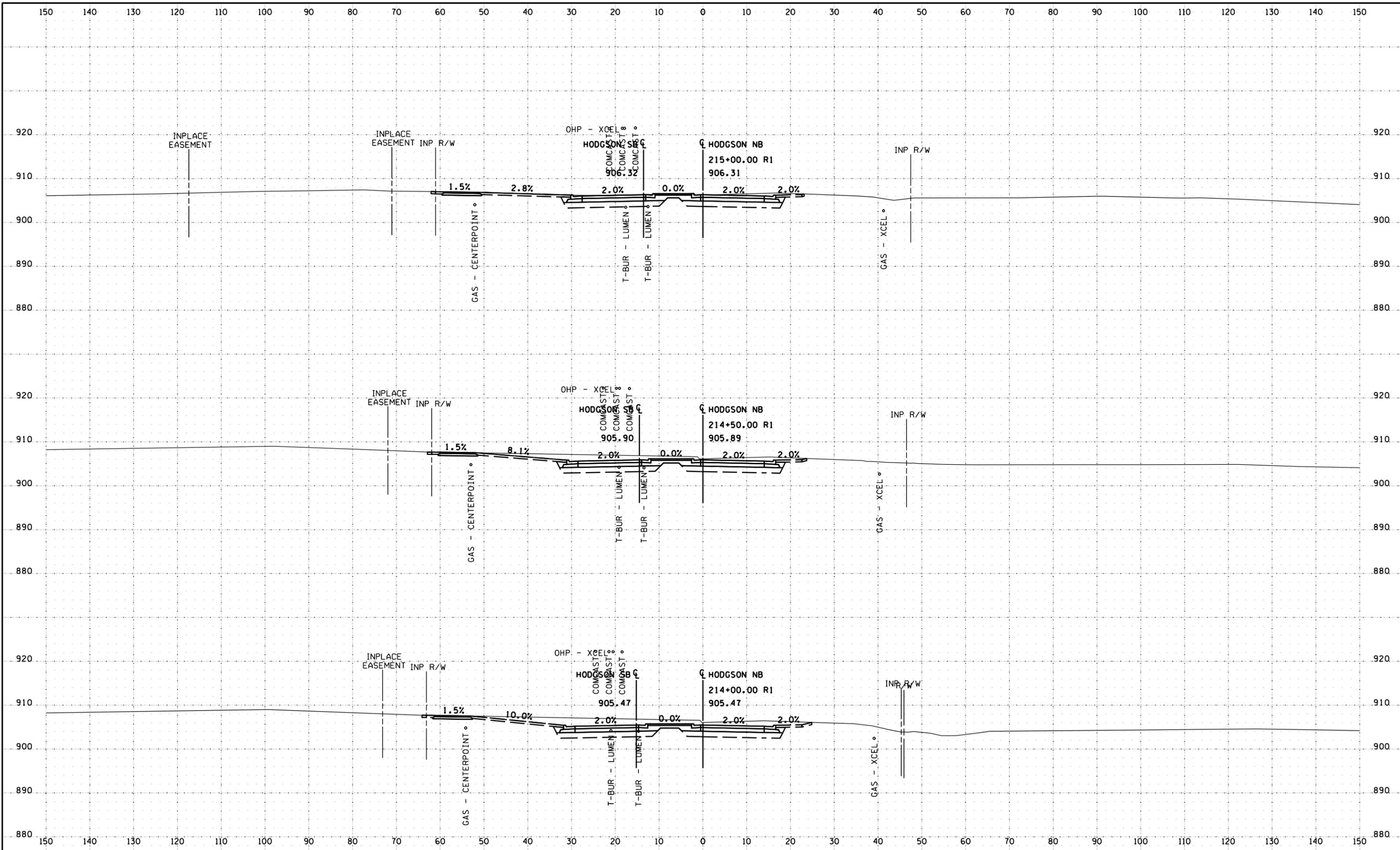
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 212+75.00 TO STA. 213+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X22**
 OF
 X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:32 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Cad\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



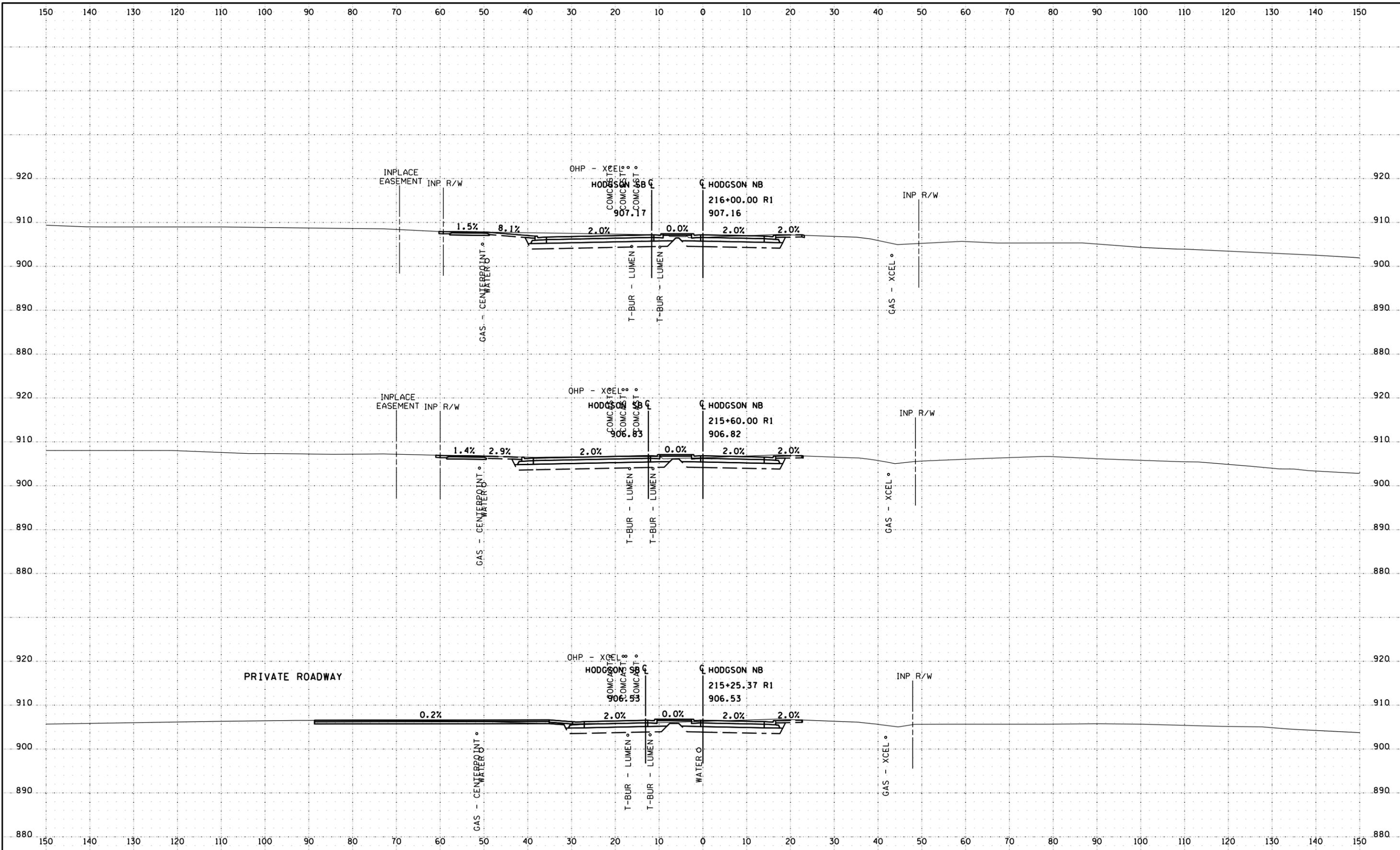
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 214+00.00 TO STA. 215+00.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X23**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:32 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\000\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



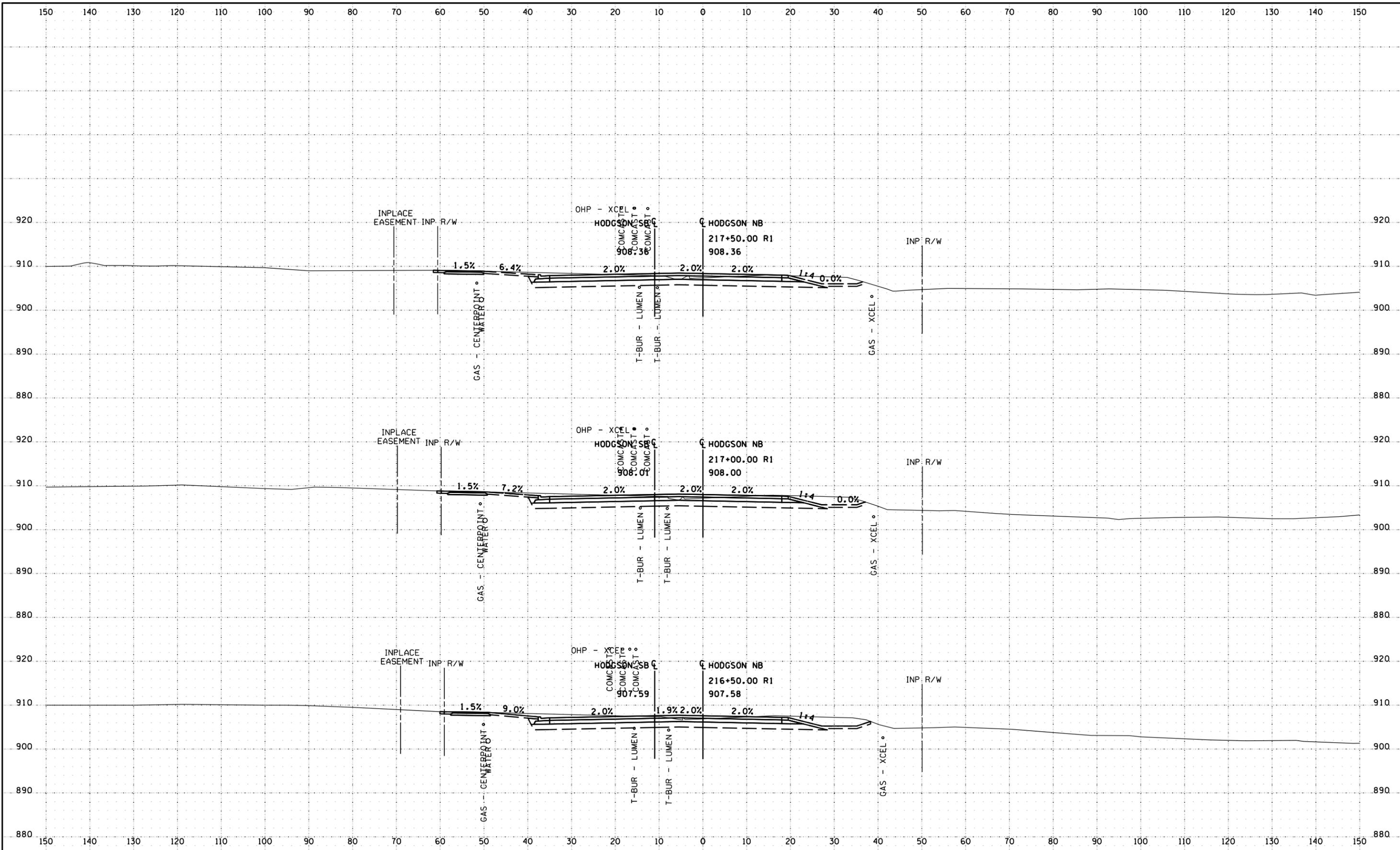
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 215+25.37 TO STA. 216+00.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X24**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:33 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



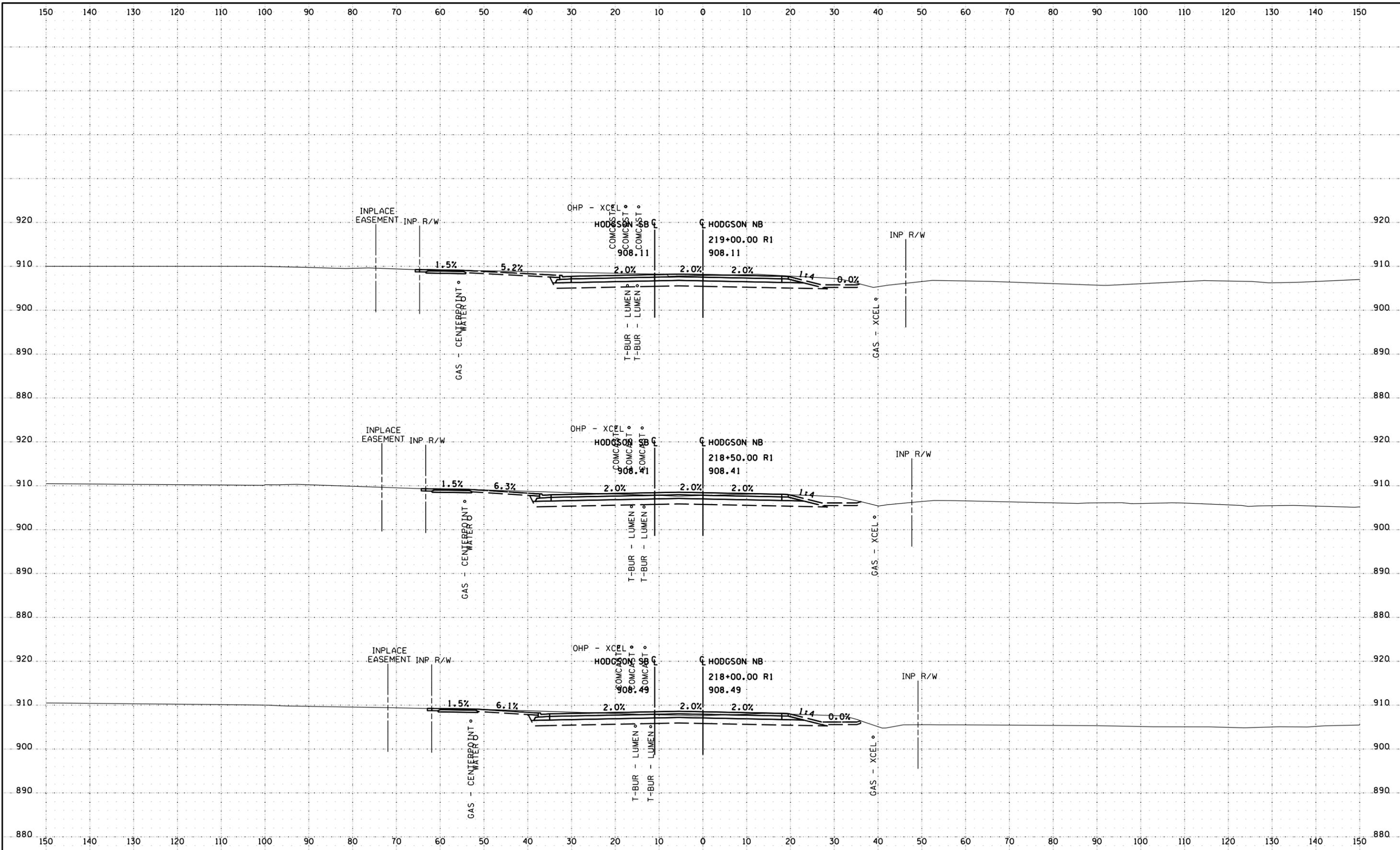
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 216+50.00 TO STA. 217+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X25**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:34 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\000\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



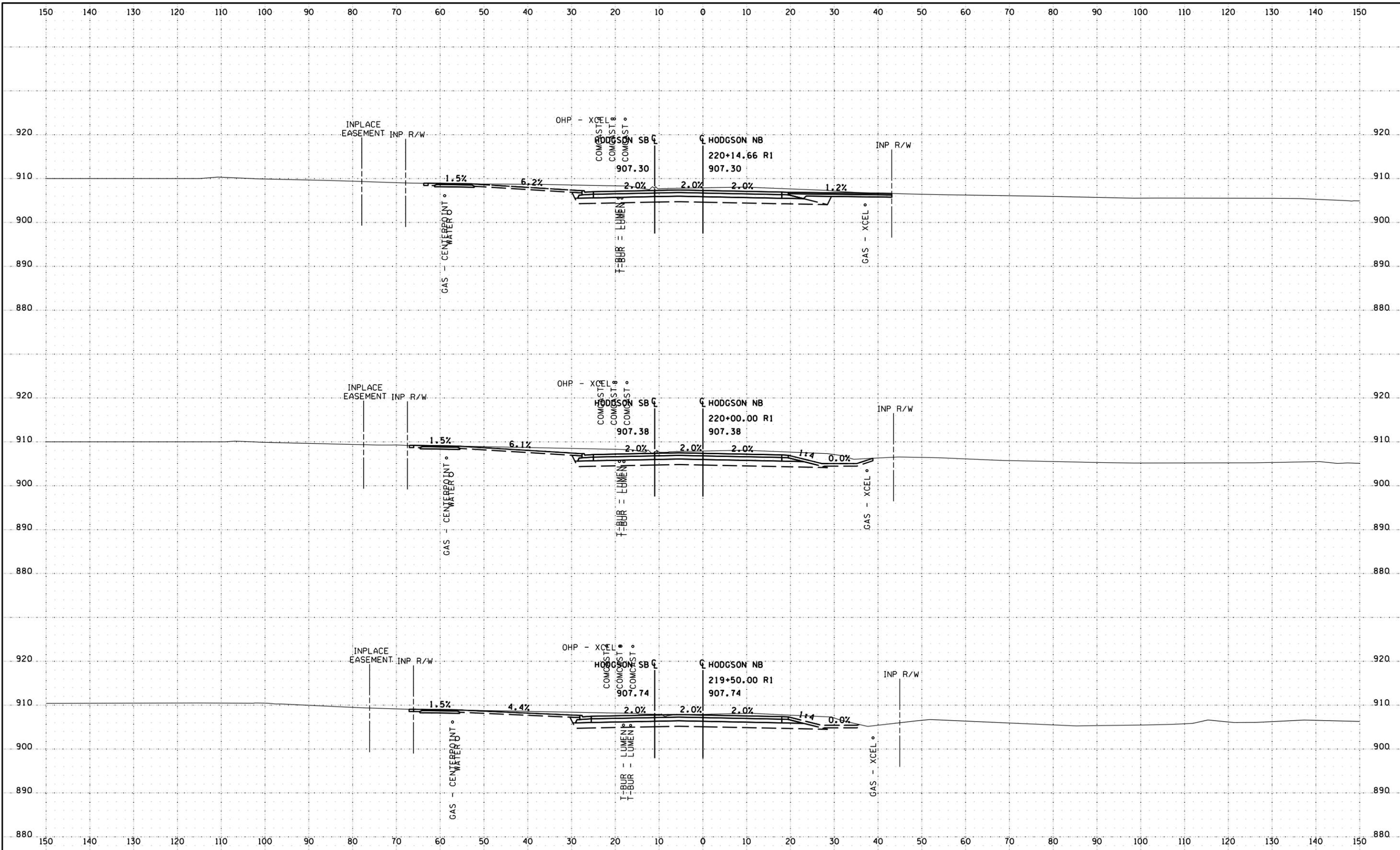
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 218+00.00 TO STA. 219+00.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X26**
 OF
 X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:35 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



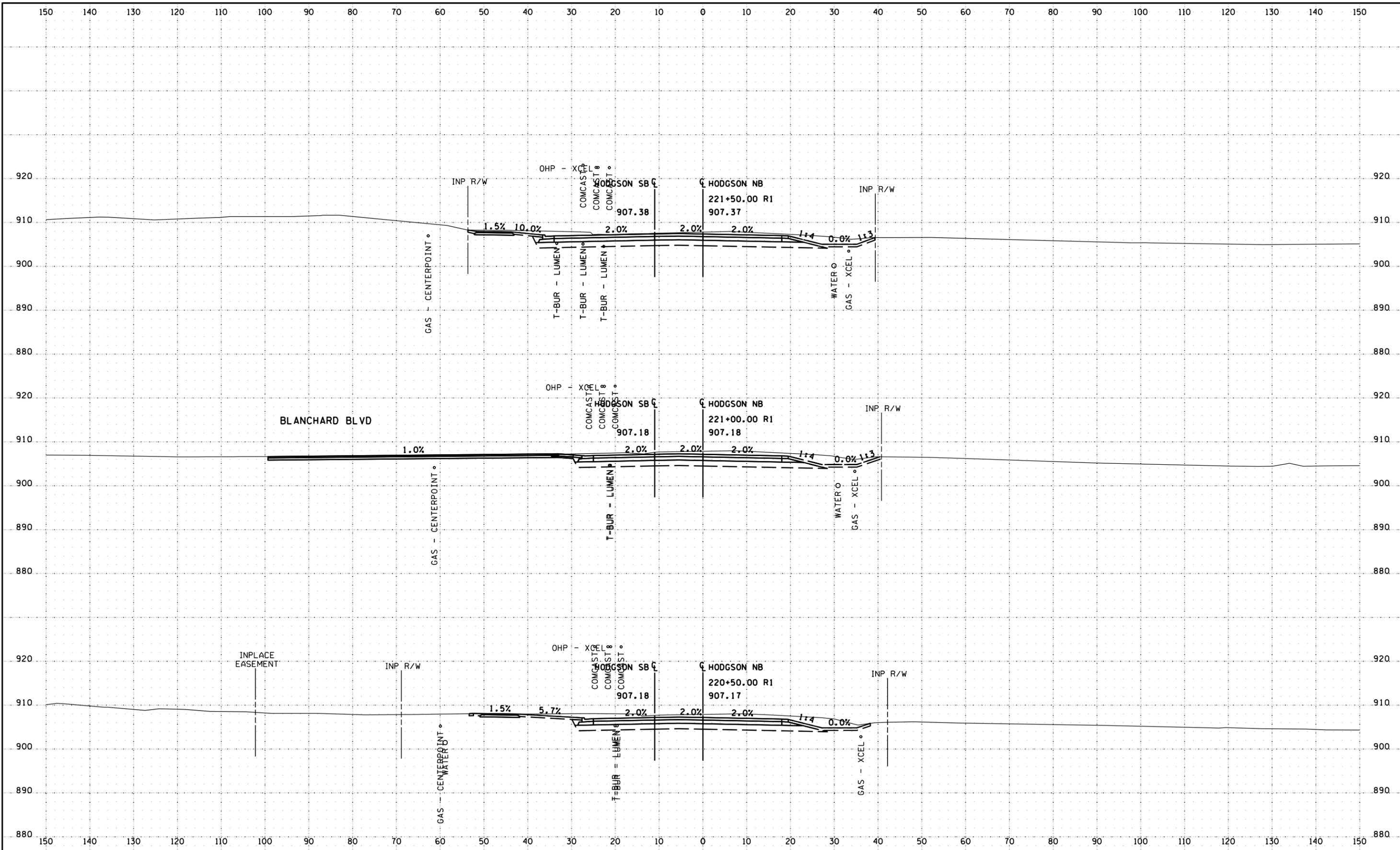
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 219+50.00 TO STA. 220+14.66
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X27**
 OF
X33
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:35 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\000\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



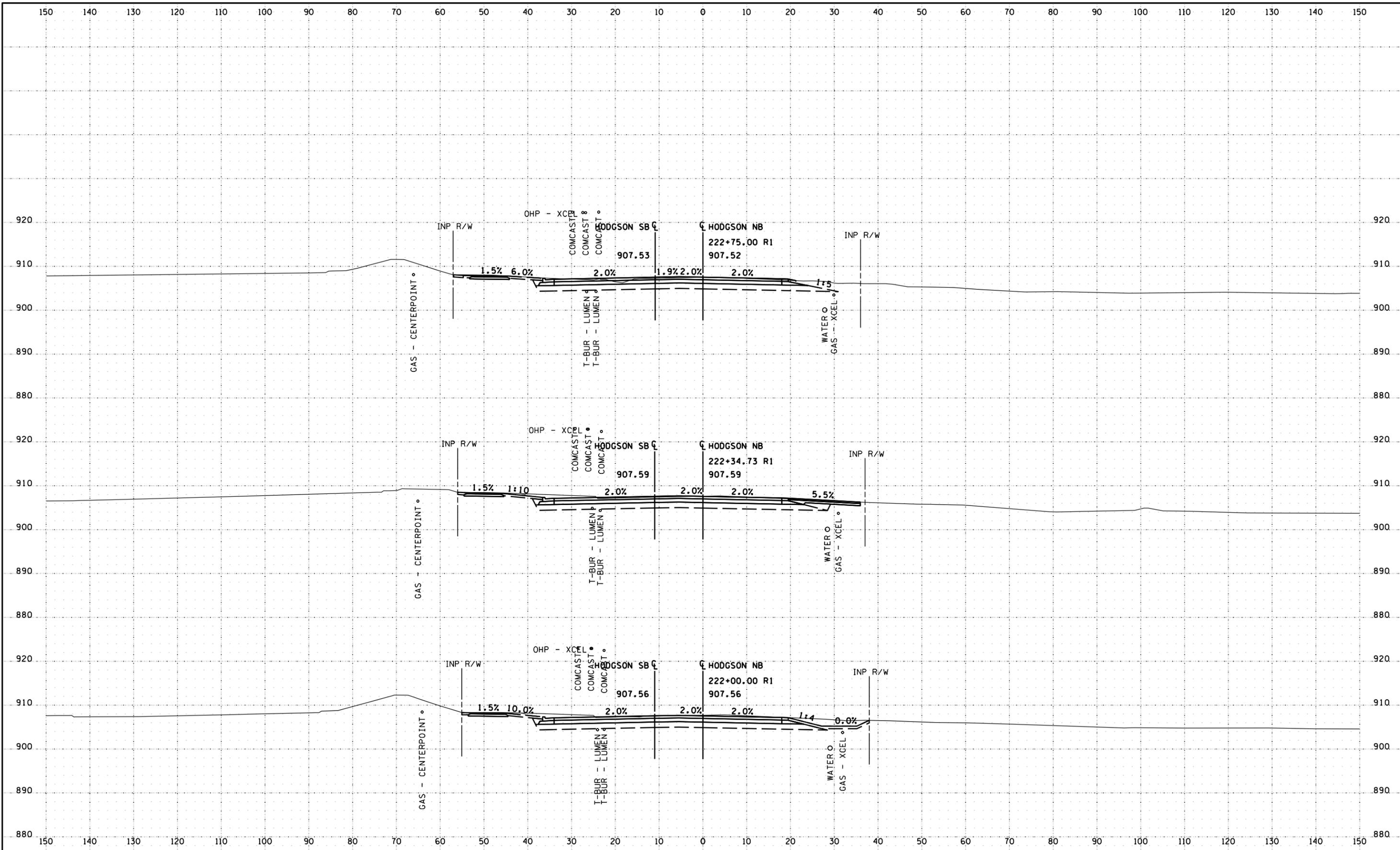
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 220+50.00 TO STA. 221+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X28**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:36 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\000\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



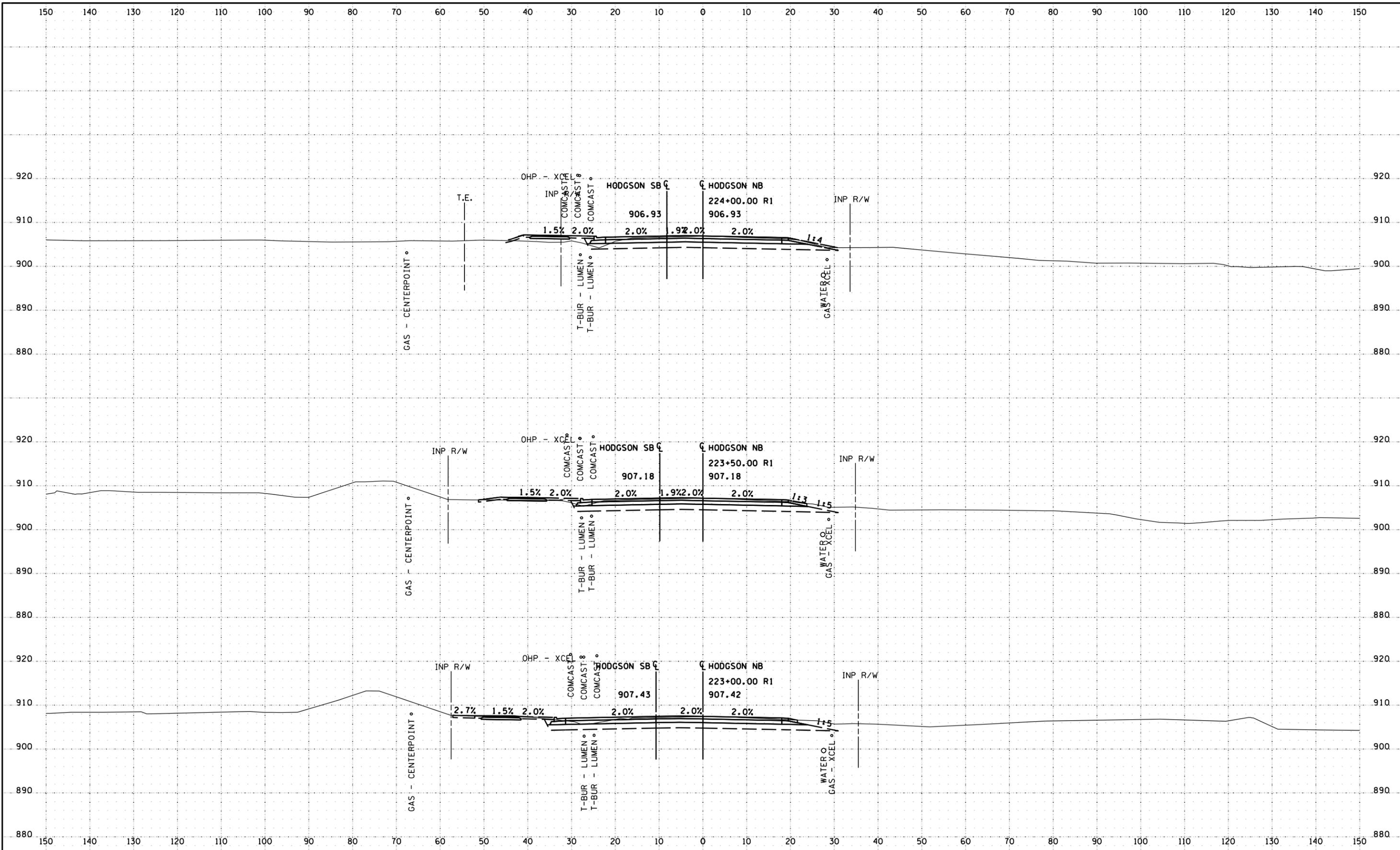
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 222+00.00 TO STA. 222+75.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X29**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:37 AM

WSB PATH & FILENAME: Projects\Minesota\019054-000\Card\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



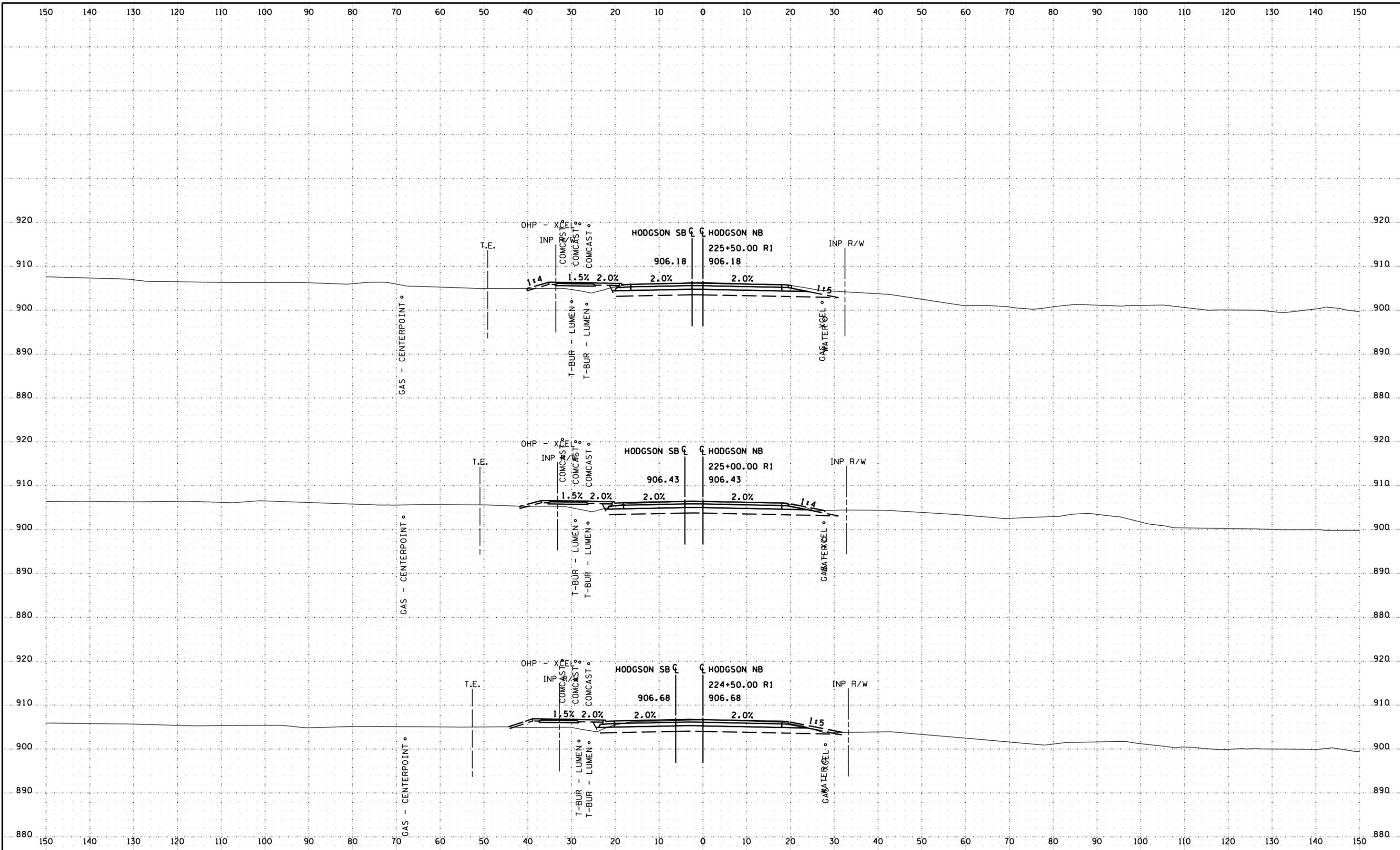
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 223+00.00 TO STA. 224+00.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X30**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:38 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sst_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



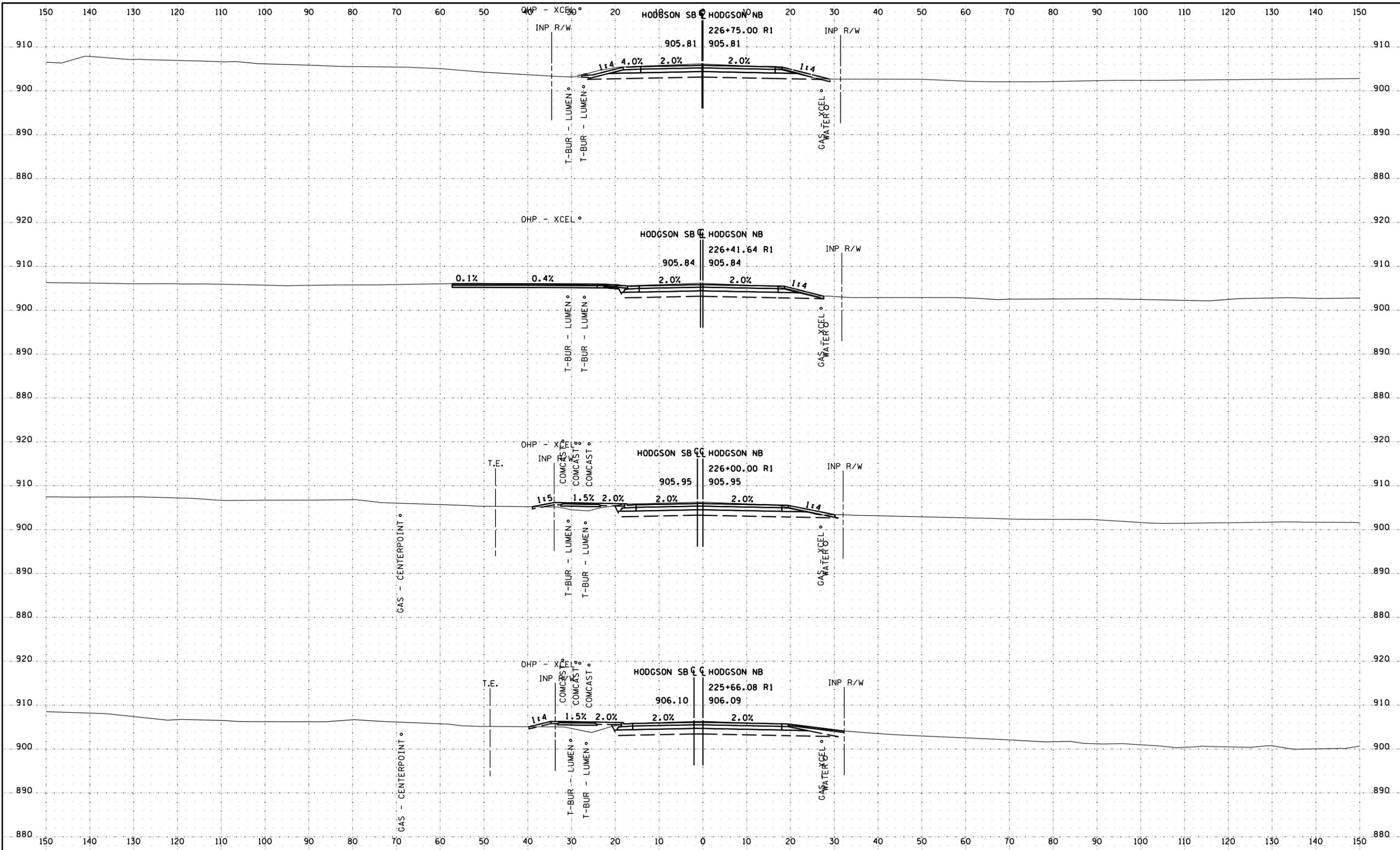
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 224+50.00 TO STA. 225+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X31**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:38 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\000\Proposed\019054-000_sstH_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



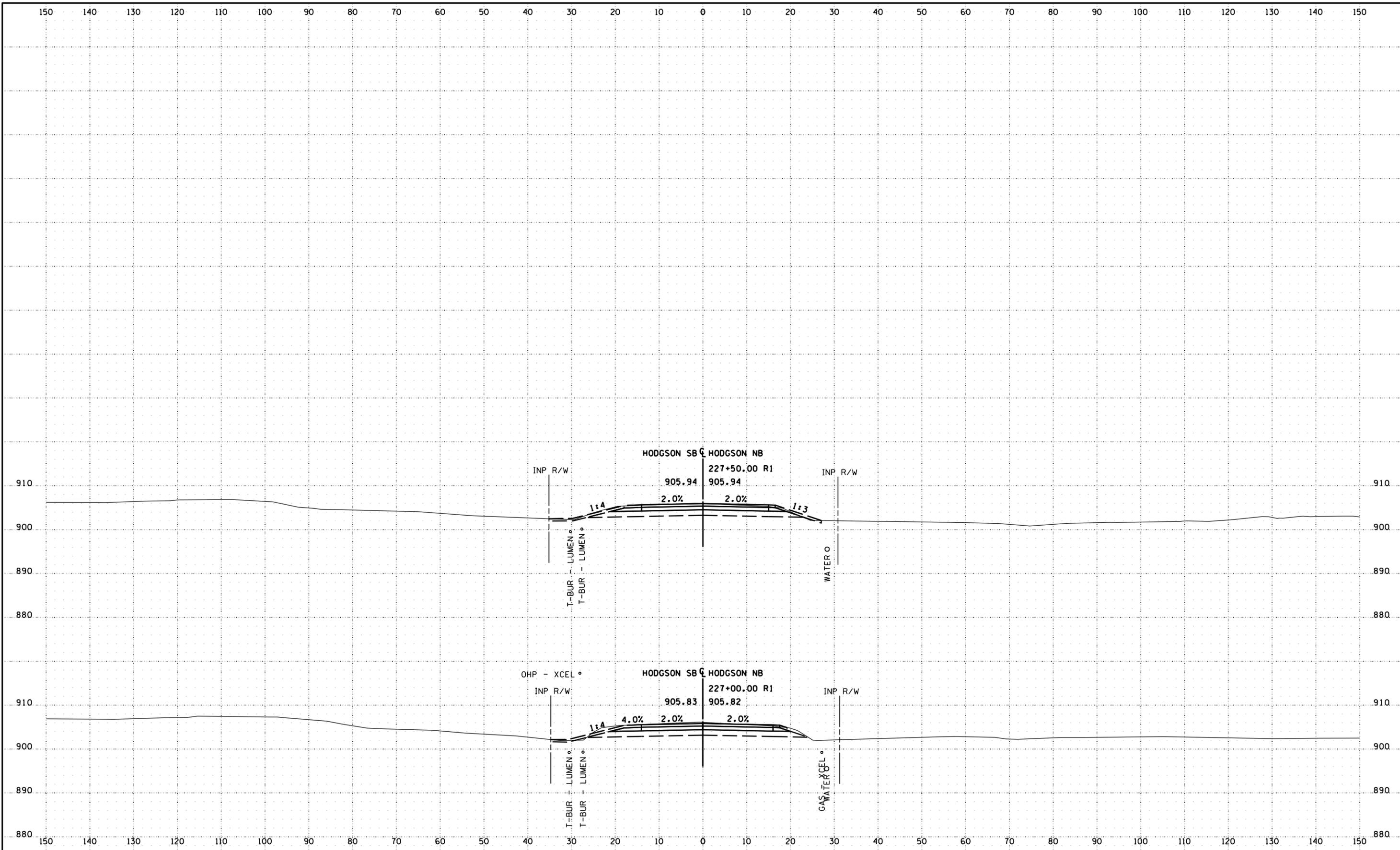
**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 225+66.08 TO STA. 226+75.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X32**
 OF **X33**
 SHEETS

PLOTTED/REVISED: 2/1/2024 9:52:39 AM

WSB PATH & FILENAME: Projects\Minnesota\019054-000\Card\Proposed\019054-000_sstH_HODGSON.dgn



NO.	DATE	BY	CHK	REVISIONS

Design By: AJF
 Plan By: CK
 Checked By: AJP
 Approved By: AJP



**CSAH 49 at Ramsey County
 CSAH 1 / Anoka County CSAH 32
 Intersection Improvements**

ANOKA & RAMSEY COUNTY, MN
 STA. 227+00.00 TO STA. 227+50.00
CROSS SECTIONS
 SP 002-632-019, SP 002-649-003, SP 062-601-016, SP 062-649-052,
 SP 167-020-029, SP 167-020-030, SP 210-020-012, SP 210-020-014

SHEET **X33**
 OF **X33**
 SHEETS