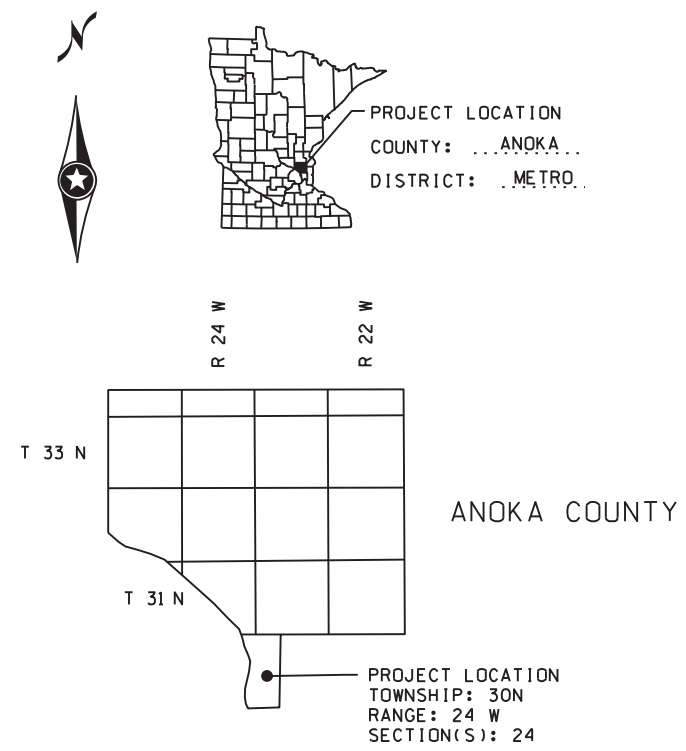
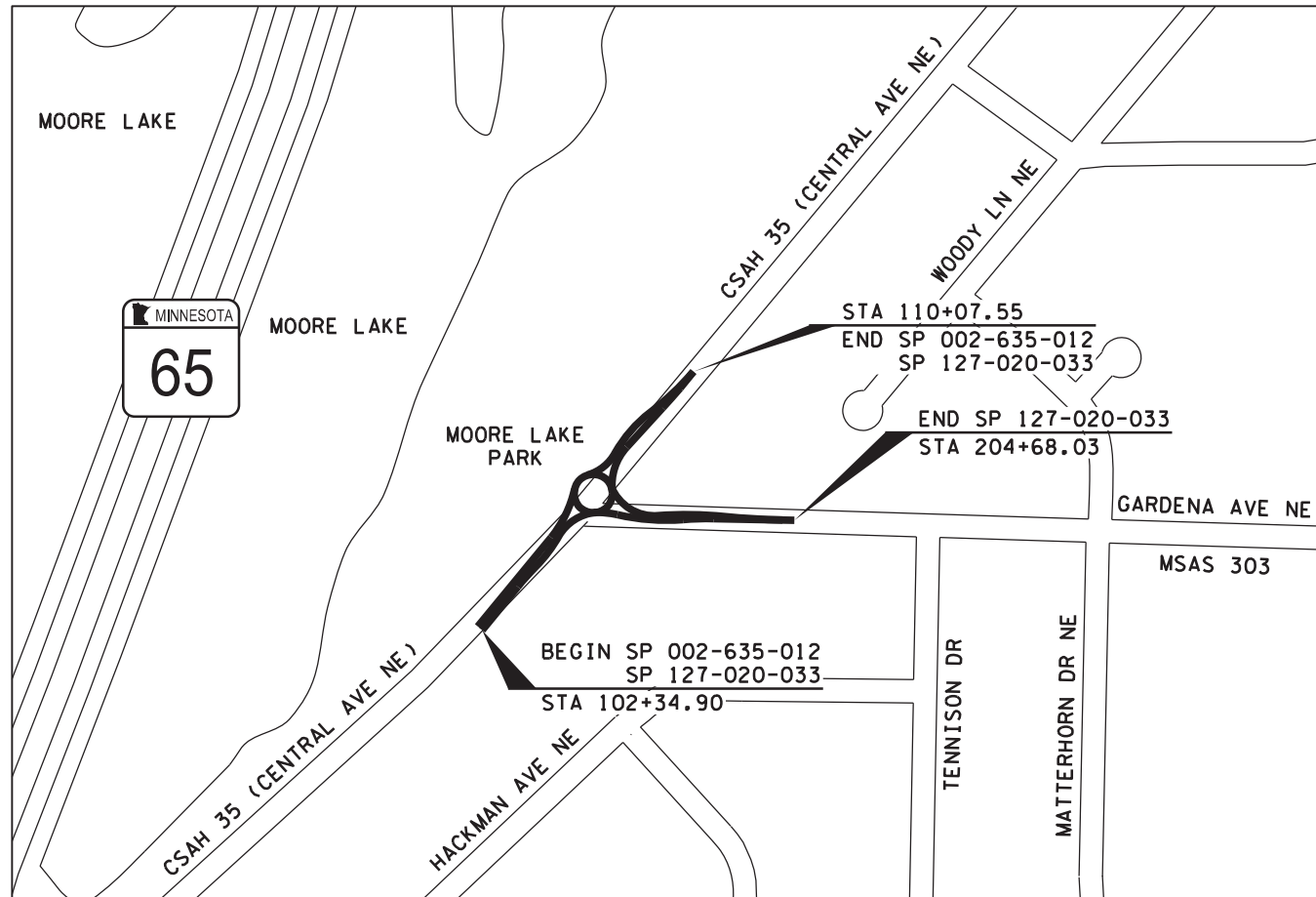


MINNESOTA DEPARTMENT OF TRANSPORTATION CITY OF FRIDLEY, ANOKA COUNTY, MINNESOTA

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

SP 002-652-012, SP 127-020-033 LOCATED ON CSAH 35 (CENTRAL AVE NE) FROM 1100 FT NORTH OF HACKMAN AVE NE TO 350 FT NORTH OF GARDENA AVE NE
 SP 127-020-033 LOCATED ON GARDENA AVE NE FROM CSAH 35 (CENTRAL AVE NE) TO 470 FT EAST OF CSAH 35



DESIGN DESIGNATION CSAH 35 GARDENA AVE NE
 SP 002-635-012 (MSAS 303)
 SP 127-020-033 SP 127-020-033

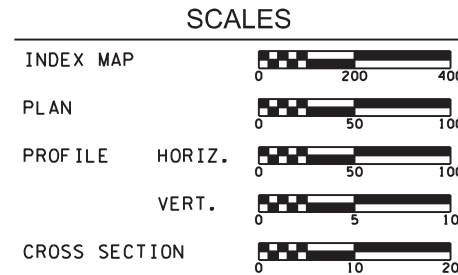
GROSS LENGTH	772.65' = 0.146 MILES	468.03' = 0.089 MILES
BRIDGES-LENGTH	NA	NA
EXCEPTIONS-LENGTH	NA	NA
NET LENGTH	772.65' = 0.146 MILES	468.03' = 0.089 MILES

R VALUE	25	25
ADT (Current Year) 2023	10,490	4,320
ADT (Future Year) 2043	10,850	4,560
D (DIRECTIONAL DISTR.)	50/50	50/50
HEAVY COMMERCIAL	4.38%	4.04%
ESALS	1,422,000	528,000
DESIGN SPEED	35 MPH	30 MPH
BASED ON SIGHT DISTANCE	STOPPING	STOPPING
HEIGHT OF EYE / HEIGHT OF OBJECT	3.5' / 2.0'	3.5' / 2.0'
FUNCTIONAL CLASS	MAJOR COLLECTOR	MAJOR COLLECTOR
NO. OF TRAFFIC LANES	2 - 12'	2 - 11'
NO. OF PARKING LANES	0	1 - 8' ①
SHOULDER WIDTH	2' - 10'	2' - 8'
TON DESIGN	10	10
DESIGN SPEED NOT ACHIEVED AT	ROUNDABOUT	ROUNDABOUT

① LOCATED ON THE NORTH SIDE OF GARDENA AVE NE STARTING 200' EAST OF CSAH 35

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38/02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

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

MINN. PROJECT NO.: HSIP 0223 (079)

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 - 4	STATEMENT OF ESTIMATED QUANTITIES
5 - 6	QUANTITY TABULATIONS
8	EARTHWORK TABULATION
9	SOILS AND CONSTRUCTION NOTES
10 - 15	TYPICAL SECTIONS
16 - 18	MISCELLANEOUS DETAILS
19 - 40	STANDARD PLANS
41 - 50	TEMPORARY TRAFFIC CONTROL PLAN
51 - 53	ALIGNMENT PLAN & TABULATIONS
54 - 55	INPLACE TOPOGRAPHY & UTILITIES
56	REMOVAL PLAN
57	SIGN REMOVAL PLAN
58 - 60	CONSTRUCTION PLAN & PROFILES
61	PAVING PLAN
62	CONCRETE PAVEMENT JOINT PLAN
63 - 65	ROUNDABOUT INTERSECTION DETAILS
66	PEDESTRIAN RAMP DETAILS
67 - 69	DRIVEWAY DETAILS
70 - 76	DRAINAGE PLAN
77	SUPERELEVATION PLAN
78 - 79	SIGNING PLAN
81 - 82	PAVEMENT MARKING PLAN
83 - 85	LIGHTING PLAN
86 - 88	STORM WATER POLLUTION PREVENTION PLAN
89 - 90	TURF ESTABLISHMENT & EROSION CONTROL PLAN
X1 - X8	CROSS SECTIONS

THIS PLAN CONTAINS 98 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
Digitally signed by Andrew Plowman
 DN: G=US, E=aplowman@wsbang.com,
 O=WSB, OU=WSB, CN=Andrew
 Plowman
 Date: 2022.11.04 12:43:25-05'00'

APPROVED: ANOKA COUNTY ENGINEER
 Joseph MacPherson
Digitally signed by Joseph MacPherson
 Date: 2022.11.14 12:03:49 -06'00'

APPROVED: FRIDLEY CITY ENGINEER
 James Kosluchar
Digitally signed by James Kosluchar
 Date: 2022.11.23 14:45:10 -06'00'

DISTRICT STATE AID ENGINEER:
 REVIEWED FOR COMPLIANCE WITH
 STATE AND FEDERAL AID RULES/POLICY
 Dan Erickson
Digitally signed by Dan Erickson
 Date: 2022.11.29 16:15:27 -06'00'

FOR STATE AID ENGINEER:
 APPROVED FOR STATE AND
 FEDERAL AID FUNDING
 Dan Erickson
Digitally signed by Dan Erickson
 Date: 2022.11.29 16:15:52 -06'00'

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.

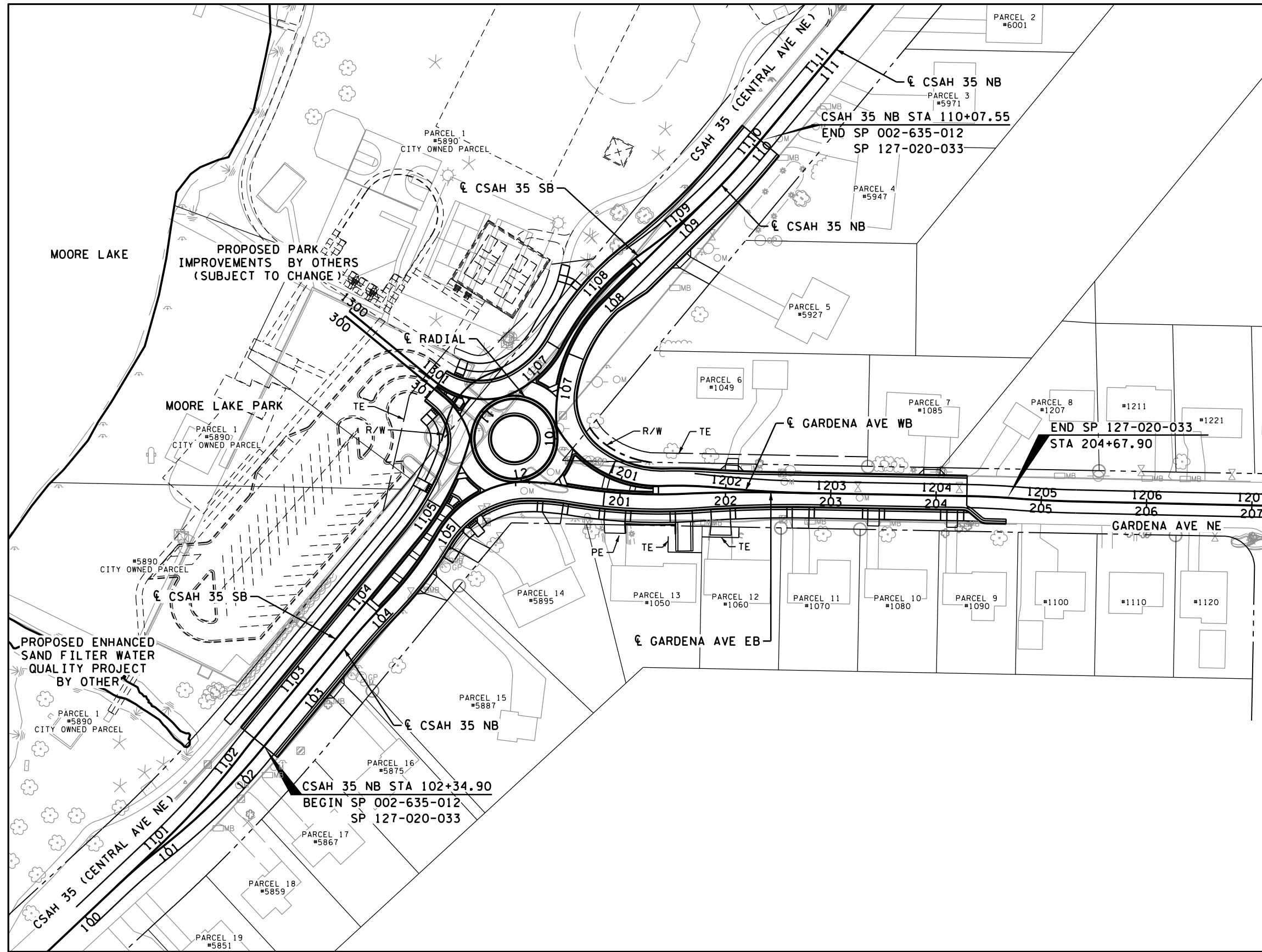
PRINTED NAME: _____
 LICENSE NO. _____

SP 002-635-012, SP 127-020-033
 SHEET NO. 1 OF 90 SHEETS

PLOTTED/REVISED: 11/3/2022 2:48:54 PM

PATH & FILENAME: Projects\Minnesota\018314-000\Cad\Plan\18314-000_1.sxdgn

CSAH 35 (Central Ave NE) at Gardena Ave NE



LEGEND	
SECTION	PLAN SHEET
INPLACE TOPOGRAPHY & UTILITIES	54 - 55
REMOVAL PLAN	56
CONSTRUCTION PLAN & PROFILE	58
DRAINAGE PLAN	70
TURF ESTABLISHMENT PLAN	90
SIGNING PLAN	79

PLOTTED/REVISED: 11/28/2022 11:04:47 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorPlan\8314-000.dwg

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, PE
 DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
GENERAL LAYOUT
 SP 002-635-012, SP 127-020-033

SHEET
2
 OF
90
 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

TAB ID	SHEET NO.	ITEM	DESCRIPTION	NOTES	UNIT	PROJECT TOTAL	PARTICIPATING - FEDERAL		
							ANOKA COUNTY SP 002-635-012 ROADWAY	CITY OF FRIDLEY SP 127-020-033 ROADWAY	DRAINAGE 90% FEDERAL AID 10% STATE AID
							ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY
		2021.501	MOBILIZATION		LUMP SUM	1	0.65	0.11	0.24
		2031.502	FIELD OFFICE		EACH	1	1		
A	5	2101.502	CLEARING	(1)	EACH	12	12		
A	5	2101.502	GRUBBING	(1)	EACH	12	12		
		2102.503	PAVEMENT MARKING REMOVAL	(15)	LIN FT	2120	2120		
B	5	2104.502	REMOVE DRAINAGE STRUCTURE		EACH	7	7		
K	78	2104.502	REMOVE SIGN		EACH	17	17		
G	7	2104.502	REMOVE MAIL BOX SUPPORT	(2)	EACH	4	4		
K	78	2104.502	SALVAGE SIGN		EACH	2	2		
G	7	2104.502	SALVAGE MAIL BOX SUPPORT	(2)	EACH	6	6		
A	5	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	137	137		
A	5	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	384	384		
B	5	2104.503	REMOVE SEWER PIPE (STORM)		LIN FT	560	560		
A	5	2104.503	REMOVE CURB AND GUTTER		LIN FT	2648	2648		
A	5	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT		SO YD	185	185		
A	5	2104.504	REMOVE CONCRETE PAVEMENT	(14)	SO YD	1489	1489		
A	5	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		SO YD	157	157		
A	5	2104.504	REMOVE BITUMINOUS PAVEMENT		SO YD	6585	6585		
A	5	2104.518	REMOVE BITUMINOUS WALK		SO FT	4937	4937		
A	5	2104.518	REMOVE CONCRETE WALK		SO FT	32	32		
A	5	2104.518	REMOVE BRICK MEDIAN		SO FT	423	423		
G	7	2104.602	SALVAGE MAIL BOX	(2)	EACH	10	10		
A	56R	2104.607	SALVAGE RANDOM RIPRAP		CU YD	16		16	
H	8	2106.507	EXCAVATION - COMMON		CU YD	2743	2743		
H	8	2106.507	EXCAVATION - SUBGRADE	(P)	CU YD	2759	2759		
H	8	2106.507	SELECT GRANULAR EMBANKMENT (CV)		CU YD	2830	2830		
H	8	2106.507	COMMON EMBANKMENT (CV)	(P)	CU YD	1566	1566		
		2106.601	DEWATERING		LUMP SUM	1			1
C	5	2108.504	GEOTEXTILE FABRIC TYPE 5		SO YD	5814	5814		
		2123.610	STREET SWEEPER (WITH PICKUP BROOM)	(4)	HOOR	100	100		
		2123.610	1.5 CU YD BACKHOE	(3)	HOOR	100	100		
		2130.523	WATER	(5)	MGAL	200	100	100	
C	5	2211.507	AGGREGATE BASE (CV) CLASS 5	(P)	CU YD	1452	1354	98	
E	6R	2211.507	AGGREGATE BASE (CV) CLASS 5 (DRIVEWAYS)		CU YD	68	68		
		2231.509	BITUMINOUS PATCHING MIXTURE		TON	20	20		
D	6R	2301.502	DOWEL BAR		EACH	1300	1300		
D	6R	2301.504	CONCRETE PAVEMENT 7.0"		SO YD	1293	1293		
D	6R	2301.504	CONCRETE PAVEMENT 7.0" SPECIAL	(6)	SO YD	737	737		
D	6R	2301.602	DRILL & GROUT REINF BAR (EPOXY COATED)	(7)	EACH	135	124	11	
C	5	2357.506	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	381	381		
C	5	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (2.B)	(8)	TON	126	85	41	
E	6R	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3.C)	(16)	TON	24	24		
C	5	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3.C)		TON	835	835		
C	5	2360.509	TYPE SP 12.5 NON-WEAR COURSE MIX (3.C)		TON	276	276		
I	73R	2501.502	15" RC PIPE APRON		EACH	1			1
I	73R	2501.502	36" RC PIPE APRON		EACH	1			1
		2502.503	4" PERF TP PIPE DRAIN	(13)(20)	LIN FT	600		600	
		2502.602	IRRIGATION SYSTEM REPAIR	(9)	EACH	5	5		
I	73R	2503.503	15" RC PIPE SEWER DES 3006 CL V		LIN FT	451			451
I	73R	2503.503	18" RC PIPE SEWER DES 3006 CL III		LIN FT	245			245
I	73R	2503.503	21" RC PIPE SEWER DES 3006 CL III		LIN FT	130			130
I	73R	2503.503	24" RC PIPE SEWER DES 3006 CL III		LIN FT	83			83
I	73R	2503.503	30" RC PIPE SEWER DES 3006 CL III		LIN FT	348			348
I	73R	2503.503	36" RC PIPE SEWER DES 3006 CL III		LIN FT	37			37

- NOTES:
- (1) NO TREES SHALL BE CLEARED OR GRUBBED WITHOUT THE ENGINEER'S APPROVAL.
 - (2) CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF TEMPORARY MAIL SERVICE AND FINAL MAIL BOX PLACEMENT.
 - (3) TO BE USED 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) COLORED CONCRETE, INTEGRAL RED (FS 31136)
 - (7) TO BE USED IN PEDESTRIAN RAMP LANDINGS PER MN/DOT STANDARD PLAN 5-297.250.
 - (8) TO BE USED FOR BITUMINOUS TRAILS.
 - (9) TO BE MEASURED BY THE NUMBER OF SYSTEMS REPAIRED, ONE SYSTEM PER PARCEL.
 - (10) THIS ITEM INCLUDES THE QUANTITY FOR CONCRETE MEDIANS AND BOULEVARDS.
 - (11) SEE DETAIL IN TYPICAL SECTIONS.
 - (12) SEE TABULATION FOR COLOR.
 - (13) GEOTEXTILE WRAP, 3733, TYPE 1 (INCIDENTAL).
 - (14) 6" BIT PAVEMENT OVER 8" CONCRETE PAVEMENT (ASSUMED TO BE REINFORCED) AND LOCATED IN MIDDLE 24' OF CSAH 35
 - (15) TO BE USED OUTSIDE OF THE CONSTRUCTION LIMITS IN LANE TRANSITION AREAS TO OBLITERATE CONFLICTING PAVEMENT MARKINGS.
 - (16) TO BE USED FOR BITUMINOUS DRIVEWAYS.
 - (17) TO BE USED UNDER DRIVEWAYS.
 - (18) THE CONTRACTOR SHALL MATCH AS CLOSELY AS POSSIBLE THE ATTRIBUTES OF THE INPLACE DRIVEWAY INCLUDING BUT NOT LIMITED TO THE COLOR, STAMP PATTERN, WIDTH, ETC OF THE CONCRETE DRIVEWAY EDGE LOCATED AT #1050 GARDENA AVE NE.
 - (19) INCLUDES AGGREGATE UNDER BITUMINOUS PAVEMENT, TRAIL, CURB & GUTTER, CONCRETE WALK, AND CONCRETE PAVEMENT.
 - (20) SEE TYPICAL SECTIONS "DETAIL C" FOR INSTALLATION REQUIREMENTS.
 - (P) PLAN QUANTITY

BASIS FOR QUANTITIES

UNIT WEIGHT OF BITUMINOUS MIX:	
- 2360 MIX.....	113 LBS/SY/IN
TACK COAT:	
- NEW SURFACES.....	0.05 GAL/SY
SEED MIXTURE APPLICATION RATE:	
- 25-151.....	120 LBS/ACRE
FERTILIZER APPLICATION RATE:	
- TYPE 3.....	350 LBS/ACRE
RAPID STABILIZATION:	
- METHOD 3.....	6 MGAL/ACRE

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NO.	DATE	BY	CHK	REVISIONS
1	2023/01/10	AJF	AJP	ADDENDUM 1: ADD ONE ITEM

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, PE

DATE: 1/11/2023 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

STATEMENT OF ESTIMATED QUANTITIES
 SP 002-635-012, SP 127-020-033

SHEET
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90
 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

TAB ID	SHEET NO.	ITEM	DESCRIPTION	NOTES	UNIT	PROJECT TOTAL	PARTICIPATING - FEDERAL		
							ANOKA COUNTY SP 002-635-012 ROADWAY	CITY OF FRIDLEY SP 127-020-033 ROADWAY	DRAINAGE 90% FEDERAL AID 10% STATE AID
							ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY
I	73R	2503.602	CONNECT TO EXISTING STORM SEWER		EACH	5			5
B	5	2503.603	PLUG FILL & ABANDON PIPE SEWER		LIN FT	73	73		
A	5	2504.602	ADJUST HYDRANT		EACH	1		1	
A	5	2504.602	ADJUST GATE VALVE & BOX		EACH	8		8	
J	74	2506.502	CASTING ASSEMBLY		EACH	35			35
A	5	2506.502	ADJUST FRAME RING & CASTING		EACH	6		6	
I	73R	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 1		EACH	5			5
I	73R	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 2		EACH	1			1
I	73R	2506.503	CONST DRAINAGE STRUCTURE DESIGN H		LIN FT	15.7			15.7
I	73R	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-48		LIN FT	15.1			15.1
I	73R	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-72		LIN FT	9.5			9.5
I	73R	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020		LIN FT	62.2			62.2
I	73R	2506.503	CONST DRAINAGE STRUCTURE DES 60-4020		LIN FT	28.7			28.7
I	73R	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE		EACH	2			2
I	73R	2511.504	GEOTEXTILE FILTER TYPE 4		SO YD	77			77
I	73R	2511.507	RANDOM RIPRAP CLASS III		CU YD	7			7
I	70R	2511.607	INSTALL RANDOM RIPRAP		CU YD	16			16
D	6R	2521.518	4" CONCRETE WALK	(10)	SO FT	1723	1723		
D	6R	2521.518	4" CONCRETE WALK SPECIAL	(6)	SO FT	1453	1453		
D	6R	2521.518	6" CONCRETE WALK		SO FT	1719	601	1118	
D	6R	2531.503	CONCRETE CURB AND GUTTER DESIGN R418		LIN FT	268	268		
D	6R	2531.503	CONCRETE CURB AND GUTTER DESIGN B418 (MOD)	(11)	LIN FT	983	983		
D	6R	2531.503	CONCRETE CURB AND GUTTER DESIGN B424		LIN FT	2596	1298	1298	
D	6R	2531.503	CONCRETE CURB DESIGN V10		LIN FT	70		70	
E	6R	2531.504	6" CONCRETE DRIVEWAY PAVEMENT		SO YD	517	517		
E	6R	2531.604	6" CONCRETE DRIVEWAY PAVEMENT SPECIAL	(18)	SO YD	13	13		
D	6R	2531.618	TRUNCATED DDMES		SO FT	101	17	84	
G	7	2540.602	INSTALL MAIL BOX SUPPORT		EACH	6	6		
G	7	2540.602	INSTALL MAIL BOX		EACH	10	10		
G	7	2540.602	MAIL BOX SUPPORT		EACH	4	4		
M	84	2545.502	LIGHTING UNIT TYPE 9-30		EACH	11	6	5	
M	84	2545.502	LIGHT FOUNDATION DESIGN E		EACH	11	6	5	
M	84	2545.502	SERVICE CABINET TYPE -L1		EACH	1	1		
M	84	2545.502	SERVICE EQUIPMENT		EACH	1	1		
M	84	2545.502	EQUIPMENT PAD B		EACH	1	1		
M	84	2545.503	1.5" NON-METALLIC CONDUIT		LIN FT	1200	600	600	
M	84	2545.503	UNDERGROUND WIRE 1/C 8 AWG		LIN FT	4920	2460	2460	
		2563.601	TRAFFIC CONTROL		LUMP SUM	1	0.65	0.11	0.24
K	78	2564.502	INSTALL SIGN		EACH	2	2		
K	78	2564.602	DELINEATOR / MARKER PANEL		EACH	8	8		
K	78	2564.618	SIGN		SO FT	297	297		
M	84	2565.616	PEDESTRIAN CROSSWALK FLASHER SYSTEM		SYSTEM	1		1	
		2573.501	STABILIZED CONSTRUCTION EXIT		LUMP SUM	1	1		
		2573.501	EROSION CONTROL SUPERVISOR		LUMP SUM	1	1		
F	6R	2573.502	STORM DRAIN INLET PROTECTION		EACH	33	33		
F	6R	2573.503	SEDIMENT CONTROL LOG TYPE COMPOST		LIN FT	1436	1436		
F	6R	2574.505	SOIL BED PREPARATION		ACRE	1.4	1.4		
F	6R	2574.507	FERTILIZER TYPE 3		POUND	464	464		
F	6R	2575.504	SOODING TYPE LAWN		SO YD	88	88		
F	6R	2575.504	ROLLED EROSION PREVENTION CATEGORY 20		SO YD	4901	4901		
F	6R	2575.505	SEEDING		ACRE	1.4	1.4		
F	6R	2575.508	SEED MIXTURE 25-151		POUND	161	161		
F	6R	2575.523	RAPID STABILIZATION METHOD 3		MGAL	11	11		
L	81	2582.503	4" SOLID LINE MULTI-COMPONENT	(12)	LIN FT	3999	3999		
L	81	2583.503	4" BROKEN LINE MULTI-COMPONENT	(12)	LIN FT	300	300		
L	81	2582.503	4" DOUBLE SOLID LINE MULTI COMPONENT	(12)	LIN FT	984	984		
L	81	2582.503	4" SOLID LINE PREFORM THERMO	(12)	LIN FT	716	716		
L	81	2582.503	24" SOLID LINE PREFORM THERMO	(12)	LIN FT	101	101		
L	81	2582.503	12" DOTTED LINE PREFORM THERMO	(12)	LIN FT	40	40		
L	81	2582.518	PAVEMENT MESSAGE PREFORM THERMOPLASTIC		SO FT	31	31		

NOTES:

- (1) NO TREES SHALL BE CLEARED OR GRUBBED WITHOUT THE ENGINEER'S APPROVAL.
- (2) CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF TEMPORARY MAIL SERVICE AND FINAL MAIL BOX PLACEMENT.
- (3) TO BE USED 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) COLORED CONCRETE, INTEGRAL RED (FS 31136)
- (7) TO BE USED IN PEDESTRIAN RAMP LANDINGS PER MN/DOT STANDARD PLAN 5-297.250.
- (8) TO BE USED FOR BITUMINOUS TRAILS.
- (9) TO BE MEASURED BY THE NUMBER OF SYSTEMS REPAIRED, ONE SYSTEM PER PARCEL.
- (10) THIS ITEM INCLUDES THE QUANTITY FOR CONCRETE MEDIANS AND BOULEVARDS.
- (11) SEE DETAIL IN TYPICAL SECTIONS.
- (12) SEE TABULATION FOR COLOR.
- (13) GEOTEXTILE WRAP, 3733, TYPE 1 (INCIDENTAL).
- (14) 6" BIT PAVEMENT OVER 8" CONCRETE PAVEMENT (ASSUMED TO BE REINFORCED) AND LOCATED IN MIDDLE 24' OF CSAH 35
- (15) TO BE USED OUTSIDE OF THE CONSTRUCTION LIMITS IN LANE TRANSITION AREAS TO OBLITERATE CONFLICTING PAVEMENT MARKINGS.
- (16) TO BE USED FOR BITUMINOUS DRIVEWAYS.
- (17) TO BE USED UNDER DRIVEWAYS.
- (18) THE CONTRACTOR SHALL MATCH AS CLOSELY AS POSSIBLE THE ATTRIBUTES OF THE INPLACE DRIVEWAY INCLUDING BUT NOT LIMITED TO THE COLOR, STAMP PATTERN, WIDTH, ETC OF THE CONCRETE DRIVEWAY EDGE LOCATED AT #1050 GARDENA AVE NE.
- (19) INCLUDES AGGREGATE UNDER BITUMINOUS PAVEMENT, TRAIL, CURB & GUTTER, CONCRETE WALK, AND CONCRETE PAVEMENT.
- (20) SEE TYPICAL SECTIONS "DETAIL C" FOR INSTALLATION REQUIREMENTS.
- (P) PLAN QUANTITY

BASIS FOR QUANTITIES

- UNIT WEIGHT OF BITUMINOUS MIX:
 - 2360 MIX.....113 LBS/SY/IN
- TACK COAT:
 - NEW SURFACES.....0.05 GAL/SY
- SEED MIXTURE APPLICATION RATE:
 - 25-151.....120 LBS/ACRE
- FERTILIZER APPLICATION RATE:
 - TYPE 3.....350 LBS/ACRE
- RAPID STABILIZATION:
 - METHOD 3.....6 MGAL/ACRE

PLOTTED/REVISED: 1/11/2023 3:05:34 PM
 WSB PATH & FILENAME: Projects\Minnesota\01834-000\000\Plan\834-000_est.mxd

NO.	DATE	BY	CHK	REVISIONS
1	2023/01/10	AJF	AJP	ADDENDUM 1: ADD TWO ITEMS. UPDATE QUANTITIES

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, PE
 DATE: 1/11/2023 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
STATEMENT OF ESTIMATED QUANTITIES
 SP 002-635-012, SP 127-020-033

SHEET
4R
 OF
90
 SHEETS

PLOTTED/REVISED: 1/11/2023 3:05:37 PM

WSB PATH & FILENAME: Projects\Minnesota\08314-000\CarPlan\8314-000.tbl

CONCRETE TABULATION														D	
LOCATION	CONCRETE CURB & GUTTER DESIGN			CONCRETE CURB DESIGN V10	TRUNCATED DOMES		DRILL & GROUT REINF BAR EPOXY COATED		4" CONCRETE WALK SPECIAL (4)(5)	DOWEL BARS	7.0" CONCRETE PAVEMENT (SPECIAL) (5)	7.0" CONCRETE PAVEMENT	4" CONCRETE WALK	6" CONCRETE WALK	
	B418 (MOD)	B424	R418	DESIGN V10	SQ FT		EACH		SQ FT	EACH	SQ YD	SQ YD	SQ FT	SQ FT	
	LN FT (A)	LN FT (C)	LN FT (A)	LN FT (B)	(A)	(B)	(A)	(B)	(A)	(A)	(A)	(A)	(B)	(A)	(B)
SP 002-635-012 & SP 127-020-033															
CSAH 35															
STA 100+00.00 TO STA 105+14.44	324	587						18					475	130	
STA 107+34.09 TO STA 111+00.00	224	576						10					424	147	
ROUNDAABOUT															
STA 10+00.00 STA 12+57.61(1)	339	655	268		17	84	19	11	1453	1300	737	1293	250	324	620
GARDENA AVE NE															
PARK ENTRANCE															
STA 200+85.20 TO STA 208+00.00	96	760		70				77					574		498
PROJECT TOTAL															
	983	2596	268	70	17	84	124	11	1453	1300	737	1293	1723	601	1118

NOTES:

- (4) FRONT PART OF SPLITTER ISLAND, SEE SHEET 62 FOR DETAILS
- (5) COLOR SHALL BE INTEGRAL RED (FS COLOR 31136)

DRIVEWAY TABULATION							E	
ALIGNMENT	STA	LT/RT/MEDIAN	HOUSE NO.	TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	6" CONCRETE DRIVEWAY PAVEMENT	6" CONCRETE DRIVEWAY PAVEMENT SPECIAL (6)	AGGREGATE BASE (CV) CLASS 5	
				TON (A)	SQ YD (A)	SQ YD (A)	CU YD (A)	
SP 002-635-012 & SP 127-020-033								
CSAH 35 .NB	103+21	RT	5875		56			7
CSAH 35 .NB	104+58	RT	5887	5	9			2
CSAH 35 .NB	104+58	MEDIAN	5887		24			3
CSAH 35 .NB	105+02	RT	5895		61			7
CSAH 35 .NB	105+02	MEDIAN	5895		20			3
GARDENA .EB	200+39	RT	5895		49			6
GARDENA .EB	200+97	RT	1050	5	34			5
GARDENA .EB	200+97	MEDIAN	1050		26			3
GARDENA .EB	201+60	RT	1050		74	13		9
GARDENA .EB	201+95	RT	1060	6	26			4
GARDENA .EB	202+72	RT	1070		46			6
GARDENA .EB	203+41	RT	1080		31			4
GARDENA .EB	204+16	RT	1090		32			4
GARDENA .EB	203+95	LT	1085	1	12			2
GARDENA .EB	202+06	LT	1049	2	10			2
CSAH 35 .NB	108+74	RT	5927	9	11			3
PROJECT TOTAL								
				28	521	13		70

NOTES:

- (6) THE CONTRACTOR SHALL MATCH AS CLOSELY AS POSSIBLE THE ATTRIBUTES OF THE INPLACE DRIVEWAY INCLUDING BUT NOT LIMITED TO THE COLOR, STAMP PATTERN, WIDTH, ETC.

TURF ESTABLISHMENT & EROSION CONTROL									F
LOCATION	RAPID STABILIZATION METHOD 3	ROLLED EROSION PRODUCT CATEGORY 20	SODDING TYPE LAWN	SEEDING	SEED MIXTURE 25-151	SOIL BED PREPARATION	FERTILIZER TYPE 3	STORM DRAIN INLET PROTECTION	SEDIMENT CONTROL LOG, TYPE COMPOST
	MGAL (A)	SQ YD (A)	SQ YD	ACRE (A)	POUND (A)	ACRE (A)	POUND (A)	EACH (A)	LN FT (A)
SP 002-635-012 & SP 127-020-033									
CSAH 35									
STA 100+00.00 TO STA 105+14.44	2.7	1564		0.3	40	0.3	116	9	333
STA 107+34.09 TO STA 111+00.00	2.7	1195		0.3	40	0.3	116	5	344
ROUNDAABOUT									
STA 10+00.00 TO STA 12+57.61(1)	1.8	908		0.2	27	0.2	77	15	420
GARDENA AVE NE									
PARK ENTRANCE	0.9	39		0.1	14	0.1	39		338
STA 200+85.20 TO STA 208+00.00	2.7	1195	88	0.3	40	0.3	116	4	
PROJECT TOTAL									
	11	4901	88	1.4	161	1.4	464	33	1436

GENERAL NOTES

- ① INCLUDES STA 105+14.44 TO STA 107+34.09

FUNDING GROUP

- (A) 100% COUNTY (SP 002-635-012)
- (B) 100% CITY (SP 127-020-033)
- (C) 50% COUNTY (SP 002-635-012), 50% CITY (SP 127-020-033)

NO.	DATE	BY	CHK	REVISIONS
1	2023/01/10	AJF	AJP	ADDENDUM 1: ADD SODDING TYPE LAWN ITEM

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

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PRINT NAME: ANDREW J. FLOWMAN, PE
 DATE: 1/11/2023 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

QUANTITY TABULATIONS
 SP 002-635-012, SP 127-020-033

SHEET **6R** OF **90** SHEETS

MAILBOX REPLACEMENT SCHEDULE										G
HOUSE NUMBER	STREET	EXISTING SIDE OF ROAD	PROPOSED SIDE OF ROAD	MAILBOX			SUPPORT			F&I NEW PER MNDOT STD PLATE 9350B
				NON CONFORMING	SALVAGE EXISTING	INSTALL OLD	NON CONFORMING	SALVAGE AND INSTALL	DISPOSE OF EXISTING	
5875	CSAH 35	RT	RT		X	X			X	X
5887	CSAH 35	RT	RT		X	X			X	X
5927	CSAH 35	RT	RT		X	X			X	X
5947	CSAH 35	RT	RT		X	X			X	X
1049	GARDENA AVE	LT	LT		X	X		X		
1050	GARDENA AVE	RT	LT	X	X	X	X	X		
1060	GARDENA AVE	RT	LT	X	X	X	X	X		
1070	GARDENA AVE	RT	LT		X	X	X	X		
1080	GARDENA AVE	RT	LT	X	X	X	X	X		
1090	GARDENA AVE	RT	RT		X	X	X	X		

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
2104.502	REMOVE MAIL BOX SUPPORT	4	EACH
2104.502	SALVAGE MAIL BOX SUPPORT	6	EACH
2104.602	SALVAGE MAIL BOX	10	EACH
2540.602	INSTALL MAIL BOX SUPPORT	6	EACH
2540.602	INSTALL MAIL BOX	10	EACH
2540.602	MAIL BOX SUPPORT	4	EACH

GENERAL 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 CITY STD PLATE GEN-2, INCIDENTAL.

GENERAL NOTES

- ① INCLUDES STA 105+14.44 TO STA 107+34.09

FUNDING GROUP

- (A) 100% COUNTY (SP 002-635-012)
- (B) 100% CITY (SP 127-020-033)
- (C) 50% COUNTY (SP 002-635-012), 50% CITY (SP 127-020-033)

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. FLOWMAN, PE
 DATE: 11/29/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

QUANTITY TABULATIONS
 SP 002-635-012, SP 127-020-033

PLOTTED/REVISED: 11/28/2022 10:09 AM

LOCATION	REMOVALS											ADJUST			CLEARING	GRUBBING
	REMOVE								SAWING BIT PAVEMENT (FULL DEPTH)	SAWING CONC PAVEMENT (FULL DEPTH)	HYDRANT	GATE VALVE & BOX	FRAME & RING CASTING			
	BITUMINOUS PAVEMENT	CONCRETE PAVEMENT (1)	CONCRETE DRIVEWAY PAVEMENT	BITUMINOUS DRIVEWAY PAVEMENT	BRICK MEDIAN	CONCRETE WALK	BITUMINOUS WALK	CURB AND GUTTER								
	SQ YD	SQ YD	SQ YD	SQ YD	SQ FT	SQ FT	SQ FT	LIN FT						LIN FT		
(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(B)	(B)	(B)	(A)	(A)		
SP 002-635-012 & SP 127-020-033 CSAH 35																
STA 100+00.00 TO STA 105+14.44	1389	561	102	32			2239	563	50	47		2	2	5	5	
STA 107+34.09 TO STA 111+00.00	1335	538		44			1522	535	49	18		1		3	3	
ROUNDABOUT																
STA 10+00.00 TO STA 12+57.61(1) GARDENA AVE NE	2005	390	7		423	32	1176	819	73	16		3	2	1	1	
PARK ENTRANCE	69								10	71						
STA 200+85.20 TO STA 208+00.00	1787		76	81					721	141	56	1	2	2	3	
PROJECT TOTAL	6585	1489	185	157	423	32	4937	2648	384	137	1	8	6	12	12	

NOTES:
 - REMOVAL OF MISCELLANEOUS SHRUBS SHALL BE INCIDENTAL.
 - SAWING OF CONCRETE CURB & GUTTER IS INCIDENTAL
 (1) LOCATED IN MIDDLE 24' OF CSAH 35, ASSUMED 6" BITUMINOUS PAVEMENT OVER 8" CONCRETE PAVEMENT

EX. STRUCTURE NO.	DRAINS TO STRUCTURE	ALIGNMENT	STATION	OFFSET (FT)	SIDE	EXISTING TOP OF CASTING	EXISTING STORM SEWER TABULATION					REMOVE			DRAINAGE STRUCTURE			
							ELEVATION		CASTING TYPE	PIPE SIZE	PIPE TYPE	SEWER PIPE (STORM)	PLUG FILL & ABANDON	DRAINAGE STRUCTURE				
							OUTLET	INLET								LIN FT	LIN FT	EACH
4000	MOORE LAKE	CSAH 35 NB	101+84	16	RT	880.29	876.99	CB	UNK	RC								
4001	4000	CSAH 35 NB	102+53	30	RT	881.52	UNK	DI	UNK	RC		73						
4002 (2)	MOORE LAKE	CSAH 35 NB	102+63	58	LT	UNK	UNK	UNK	UNK	UNK								
4003	4001	CSAH 35 NB	105+43	27	RT	882.21	879.01	CB	18"	RC			1					
4004	4003 4006	CSAH 35 NB	106+21	6	RT	884.08	879.68	MH	18" 21"	RC	33 86		1					
4005	4004	CSAH 35 NB	106+36	15	RT	884.22	880.52	CB	UNK	RC	21		1					
4006	4002	CSAH 35 NB	106+75	70	LT	882.45	878.78	MH	21"	RC	349		1					
4007	4004	CSAH 35 NB	106+73	6	RT	882.2	880.00	CB	UNK	RC	55		1					
4009	4004	GARDENA EB	202+56	10	LT	895.23	886.63	MH	24"	RC								
4008	4009	GARDENA EB	202+55	25	RT	895.19	890.29	CB	UNK	UNK	16		1					
4010	4009	GARDENA EB	202+54	19	LT	894.68	891.68	CB	UNK	UNK			1					
4011	4009	GARDENA EB	AT TENNISON DRIVE		LT	UNK	UNK	MH	21"	RC								
PROJECT TOTAL											560	73	7					

NOTES:
 (2) PROPOSED PARK IMPROVEMENTS STRUCTURE

LOCATION	BITUMINOUS AND AGGREGATE TABULATION				C		
	TYPE SP 9.5		TYPE SP 12.5		AGGREGATE BASE (CV) CLASS 5 (3)	BITUMINOUS MATERIAL FOR TACK COAT	GEOTEXTILE FABRIC TYPE 5
	WEARING COURSE MIX (2,B)		WEARING COURSE MIX (3,C)				
	TON	TON	NON-WEAR COURSE MIX (3,C)	TON			
(A)	(B)	(A)	(A)	(A)	(B)	(A)	(A)
SP 002-635-012 & SP 127-020-033 CSAH 35							
STA 100+00.00 TO STA 105+14.44	39		277	139	296	10	127
STA 107+34.09 TO STA 111+00.00	26		274	137	277	9	127
ROUNDABOUT							
STA 10+00.00 TO STA 12+57.61(1) GARDENA AVE NE	20	12			383	27	2125
PARK ENTRANCE					2		
STA 200+85.20 TO STA 208+00.00		29	284		396	52	127
PROJECT TOTAL	85	41	835	276	1354	98	5814

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

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

GENERAL NOTES
 (1) INCLUDES STA 105+14.44 TO STA 107+34.09

FUNDING GROUP
 (A) 100% COUNTY (SP 002-635-012)
 (B) 100% CITY (SP 127-020-033)
 (C) 50% COUNTY (SP 002-635-012), 50% CITY (SP 127-020-033)

WSB PATH & FILENAME: Projects\Minnesota\08314-000-CorPlan\8314-000_1.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. FLOMMAN, PE
 DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
QUANTITY TABULATIONS
 SP 002-635-012, SP 127-020-033

SHEET **5** OF **90** SHEETS

EARTH WORK TABULATION					H	
STA.	-	STA.	EXCAVATION		COMMON EMBANKMENT	SELECT GRANULAR EMBANKMENT
			CU YD (EV)	SUBGRADE CU YD (EV)	CU YD (CV)	CU YD (CV)
CSAH 35						
102+35	-	102+50	24	34	8	34
102+50	-	102+75	42	55	15	55
102+75	-	103+00	44	55	13	55
103+00	-	103+25	53	55	11	55
103+25	-	103+50	49	55	11	55
103+50	-	103+75	34	56	15	56
103+75	-	104+00	30	57	17	57
104+00	-	104+25	24	55	20	55
104+25	-	104+50	18	52	23	53
104+50	-	104+55	5	10	4	11
104+55	-	104+75	17	38	18	43
104+75	-	105+00	16	38	34	56
105+00	-	105+25	16	24	48	57
ROUNDBOUT			978	918	978	918
107+25	-	107+50	22	46	96	55
107+50	-	107+75	32	49	58	52
107+75	-	108+00	45	52	32	53
108+00	-	108+25	58	57	10	57
108+25	-	108+50	63	59	10	59
108+50	-	108+75	68	56	8	56
108+75	-	108+82	23	15	2	15
108+82	-	109+00	51	39	5	39
109+00	-	109+25	48	53	9	53
109+25	-	109+50	45	54	9	54
109+50	-	109+75	44	55	9	55
109+75	-	110+00	43	56	9	56
110+00	-	110+08	12	17	3	17
CSAH 35 SUBTOTAL			1904	2110	1475	2181
GARDENA AVE						
200+75	-	201+00	107	57	9	57
201+00	-	201+25	115	54	6	54
201+25	-	201+50	102	52	6	52
201+50	-	201+60	48	21	2	21
201+60	-	201+75	66	31	4	31
201+75	-	201+95	66	39	4	39
201+95	-	202+00	15	9	1	9
202+00	-	202+09	22	16	2	16
202+09	-	202+25	32	28	4	28
202+25	-	202+50	42	43	9	43
202+50	-	202+72	43	37	4	37
202+72	-	202+75	6	5	0	5
202+75	-	203+00	32	41	4	41
203+00	-	203+25	24	41	6	41
203+25	-	203+41	21	27	3	27
203+41	-	203+50	12	15	2	15
203+50	-	203+75	21	42	9	42
203+75	-	204+00	26	42	7	42
204+00	-	204+16	23	27	4	27
204+16	-	204+25	12	15	3	15
204+25	-	204+29	4	7	2	7
GARDENA AVE SUBTOTAL			839	649	91	649
PROJECT TOTAL			2743	2759	1566	2830

NOTES:

1. THE EXCAVATION - COMMON QUANTITY INCLUDES TOPSOIL STRIPPING.
2. EXISTING PAVEMENT DEPTHS ARE ASSUMED TO BE APPROXIMATELY AS FOLLOWS:
CSAH 35 MAINLINE - 6"
MIDDLE 24' OF CSAH 35 - 6" BIT OVER 8" CONCRETE
GARDENA AVE - 6"
PAVEMENT REMOVAL HAS BEEN SUBTRACTED FROM THE COMMON EXCAVATION AND/OR SUBGRADE EXCAVATION QUANTITIES.
3. TOPSOIL IS INCLUDED IN COMMON EMBANKMENT.
4. PLACING, HAULING AND DISPOSING OF EXCAVATED MATERIALS IS CONSIDERED INCIDENTAL.
5. ALL STOCKPILE AREAS SHALL BE APPROVED BY THE ENGINEER.
6. 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.
7. 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 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: 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. PLUMMAN, PE
 DATE: 11/28/2022 LICENSE # 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

EARTHWORK TABULATION
 SP 002-635-012, SP 127-020-033

SHEET **8** OF **90** SHEETS

CONSTRUCTION AND SOIL 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 HIS RESPONSIBILITIES TO CONDUCT HIS 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 REMOVED 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
3133D	RIPRAP AT RCP OUTLETS
3145G	CONCRETE PIPE OR PRECAST BOX CULVERT TIES
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4022A	MANHOLE OR CATCH BASIN COVER (3 FT. X 2 FT. OPENING)
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) * CASTING NO. 715 AND
4140D	SPECIAL GRATE CASTINGS FOR CATCH BASIN (CONVEX AND CONCAVE) - CASTING NO. 720
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
7020K	CONCRETE CURB (DESIGN B, DESIGN V, DESIGN S, DESIGN DR AND DESIGN BR)(2 SHEETS)
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
8112I	PEDESTAL FOUNDATION (TRAFFIC CONTROL SIGNALS)
8122F	PEDESTAL AND PEDESTAL BASE (FOR TRAFFIC CONTROL SIGNALS SUPPORT) (2 SHEETS)
8127E	LIGHT FOUNDATION - DESIGN E PRECAST/CAST-IN-PLACE (40 FT. POLE OR LESS) (2
8129A	SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING)
9350B	MAILBOX SUPPORT - SWING-AWAY TYPE

THE FOLLOWING STANDARD PLATES SHALL APPLY ON THIS PROJECT	
CITY OF FRIDLEY STANDARD PLATES	
PLATE NO.	DESCRIPTION
ERO-11	SLOPE TRACKING
GEN-2	MAILBOX INSTALLATION
GEN-2A	MAILBOX INSTALLATION
SAN-1	SANITARY SEWER MANHOLE
SER-5A	IRRIGATION SERVICE BY PRIVATE CONTRACTOR
STR-9	URBAN RESIDENTIAL DRIVEWAY APRON
STR-19	STREET NAME BLADE SIGNS - PUBLIC STREETS
STR-22A	TYPICAL URBAN ROAD SECTION
STR-22B	TYPICAL URBAN ROAD SECTION EDGE DRAIN
WAT-4	GATE VALVE AND BOX
WAT-8	HYDRANT

PLOTTED/REVISED: 11/30/2022 10:09:21 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-Cad\Plan\8314-000.cad

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, PE</u> DATE: <u>11/30/2022</u> LICENSE # <u>44200</u>
Plan By:	AJF	
Checked By:	AJP	
Approved By:	AJP	



CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

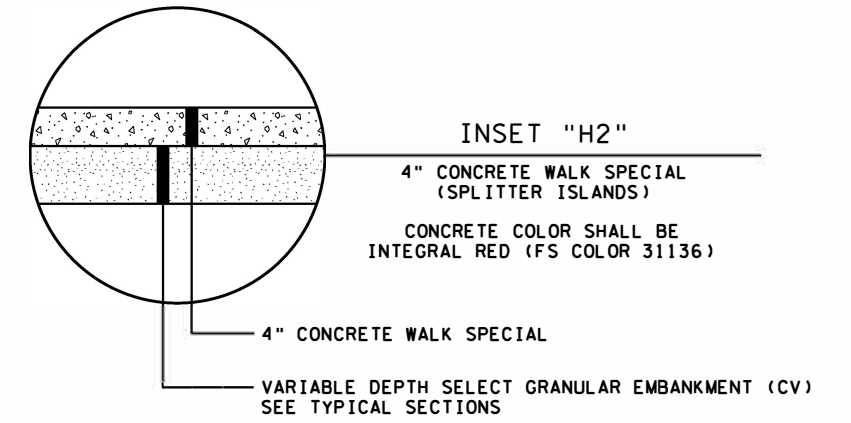
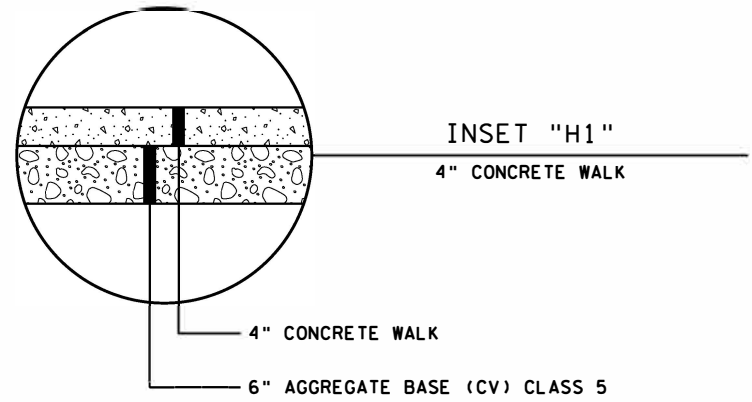
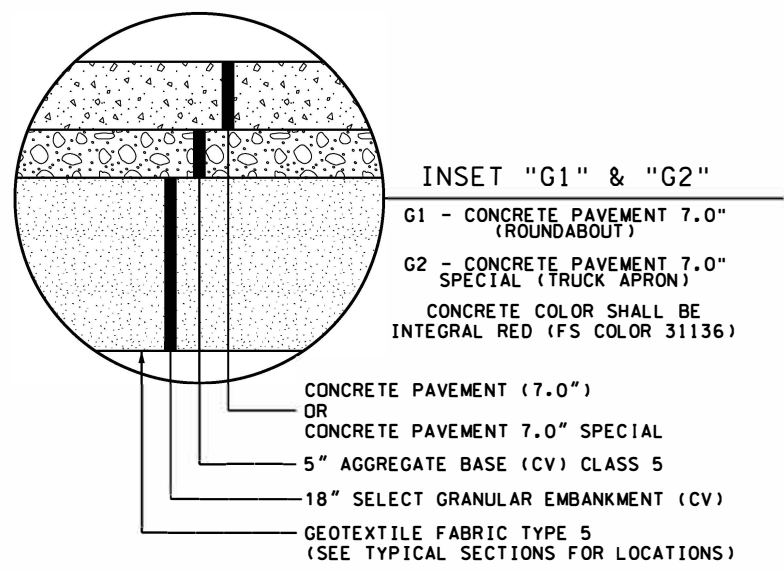
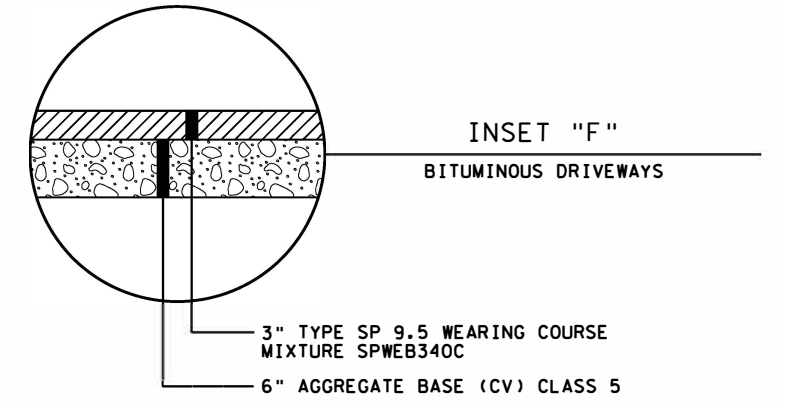
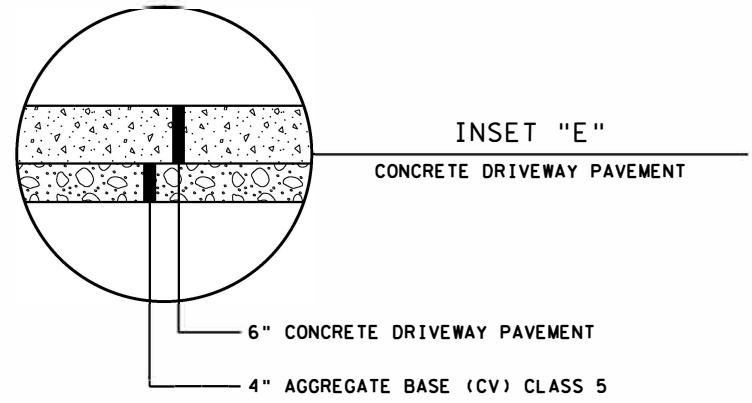
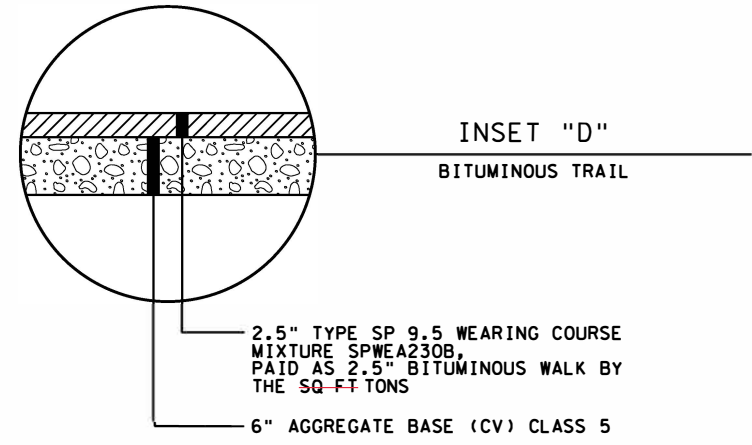
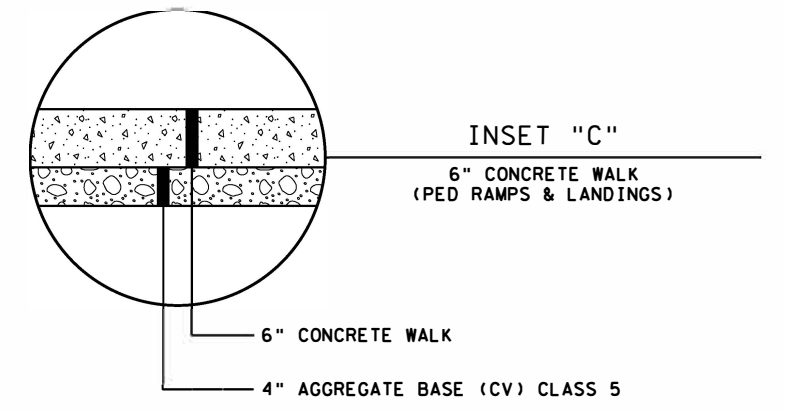
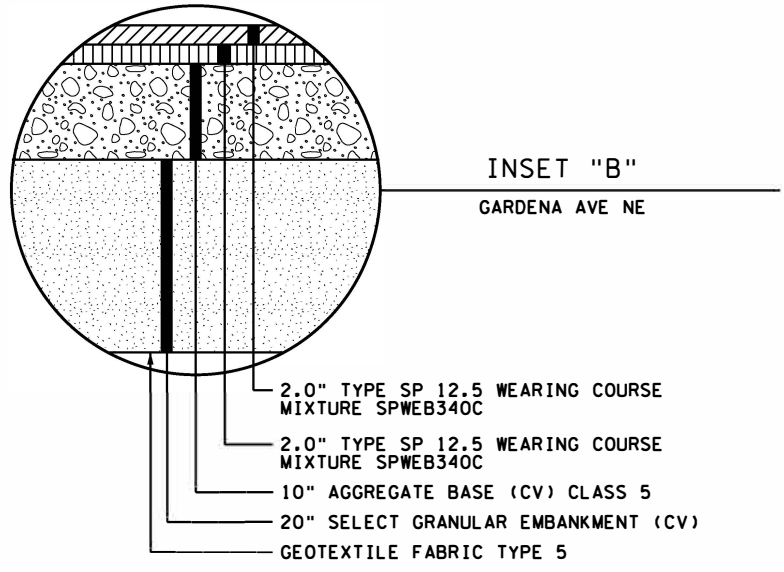
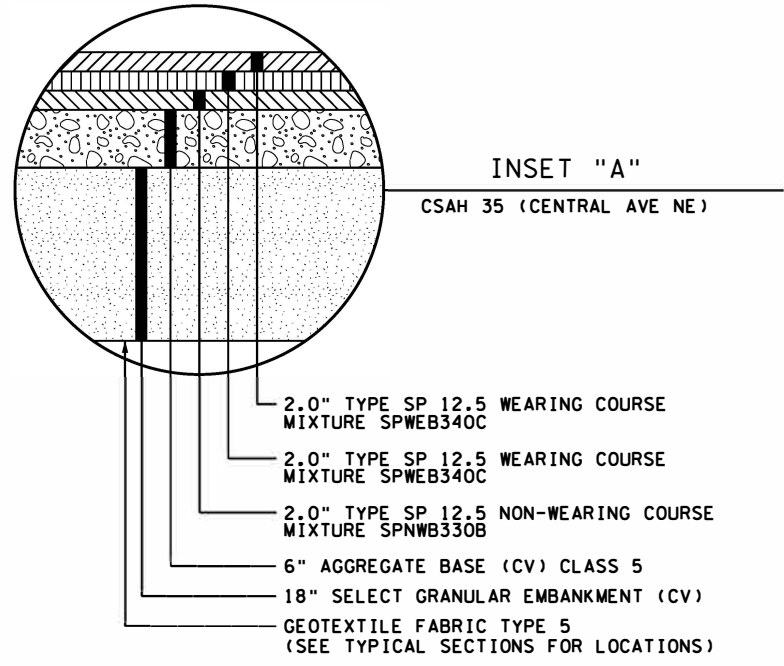
ANOKA COUNTY, MINNESOTA

SOILS AND CONSTRUCTION NOTES
SP 002-635-012, SP 127-020-033

SHEET
9
OF
90
SHEETS

PLOTTED/REVISED: 11/28/2022 11:05:55 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorPlan\18314-000-typts.ctb

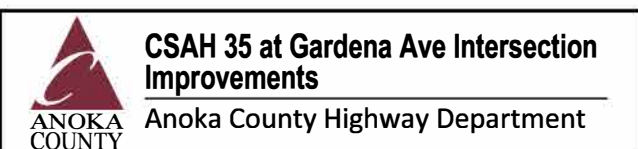


NO.	DATE	BY	CHK	REVISIONS

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. PLYMANN, PE**
 DATE: **11/28/2022** LICENSE #: **44200**

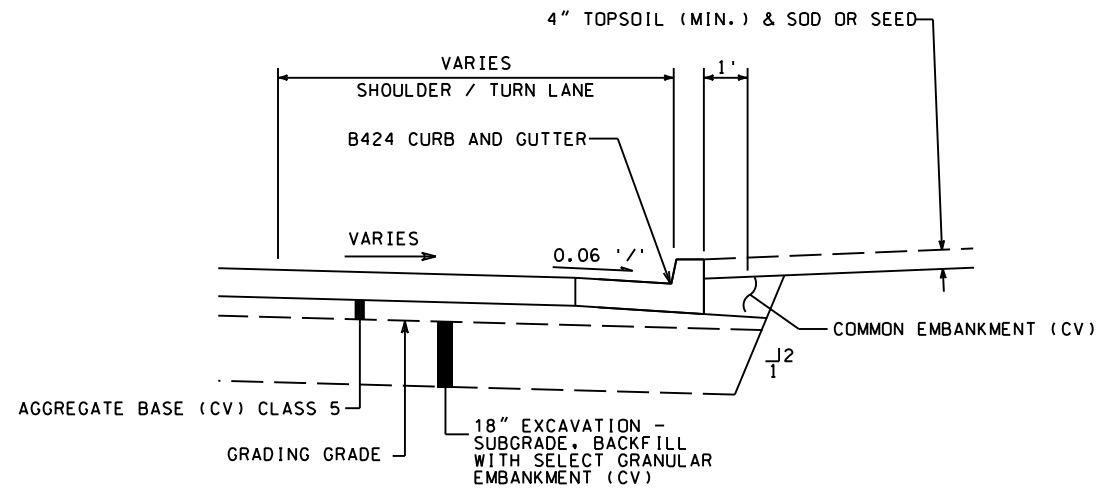


ANOKA COUNTY, MINNESOTA

INSETS
TYPICAL SECTIONS
 SP 002-635-012, SP 127-020-033

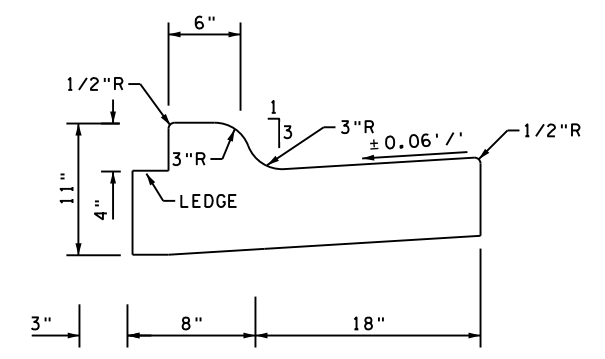
SHEET **10R** OF **90** SHEETS

PLOTTED/REVISED: 11/28/2022 11:05:55 AM



DETAIL A

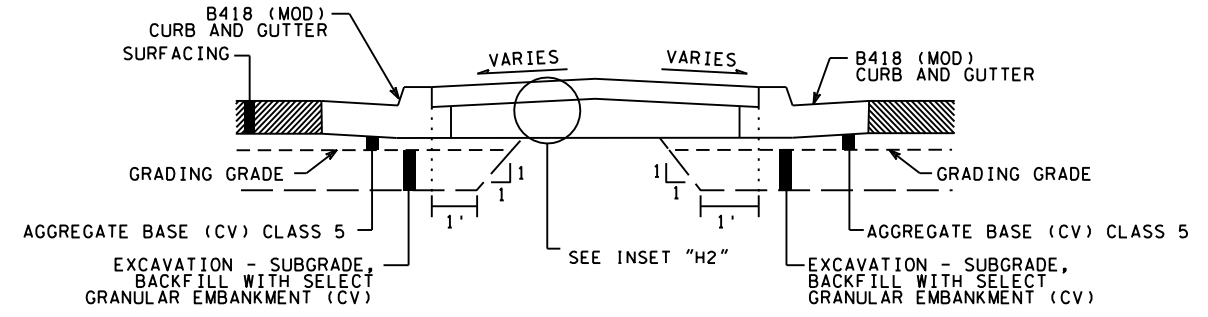
CONCRETE CURB & GUTTER - CSAH 35



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

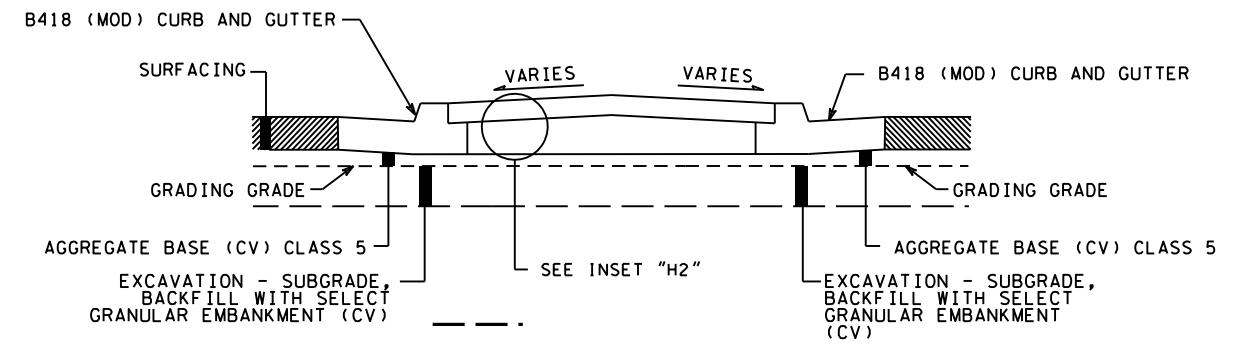
B418 MODIFIED CURB & GUTTER

(NO VARIANCES ALLOWED)



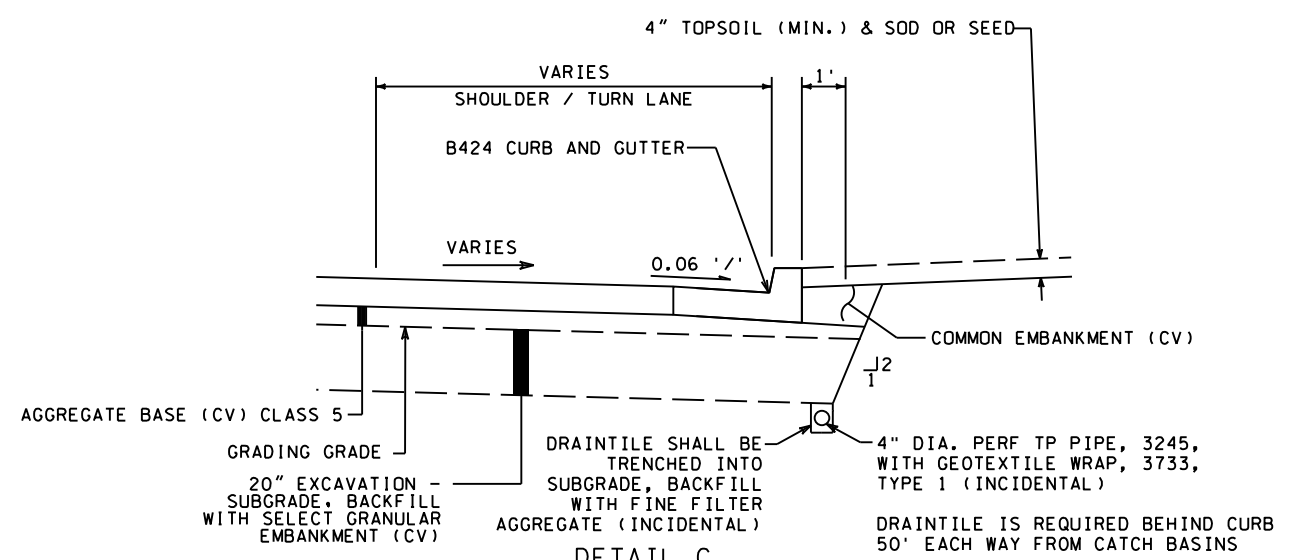
DETAIL B

CONCRETE MEDIAN GREATER THAN 8' (FACE TO FACE)



DETAIL B

CONCRETE MEDIAN LESS THAN 8' (FACE TO FACE)



DETAIL C

CONCRETE CURB & GUTTER - GARDENA AVE

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.

WSB PATH & FILENAME: Projects\Minnesota\018314-000\CarPlan\8314-000-111.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.
Plan By:	AJP	
Checked By:	AJP	
Approved By:	AJP	
DATE:	11/28/2022	

PRINT NAME: ANDREW J. FLOMMAN, PE
 LICENSE # 44200



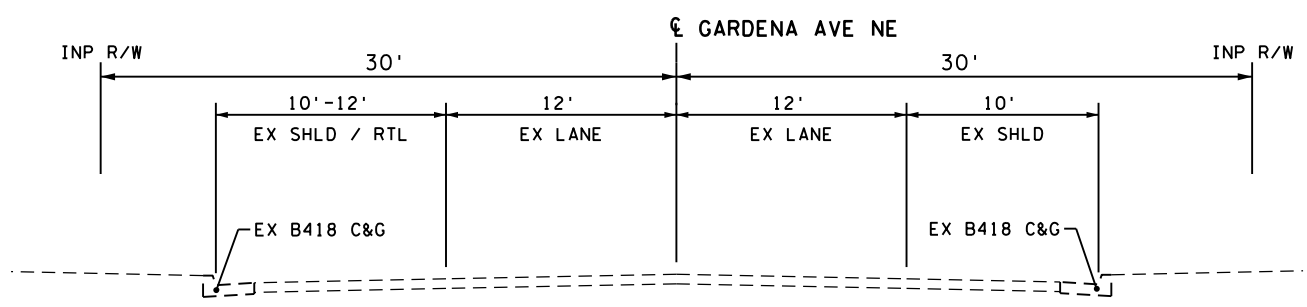
CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 DETAILS / NOTES
TYPICAL SECTIONS
 SP 002-635-012, SP 127-020-033

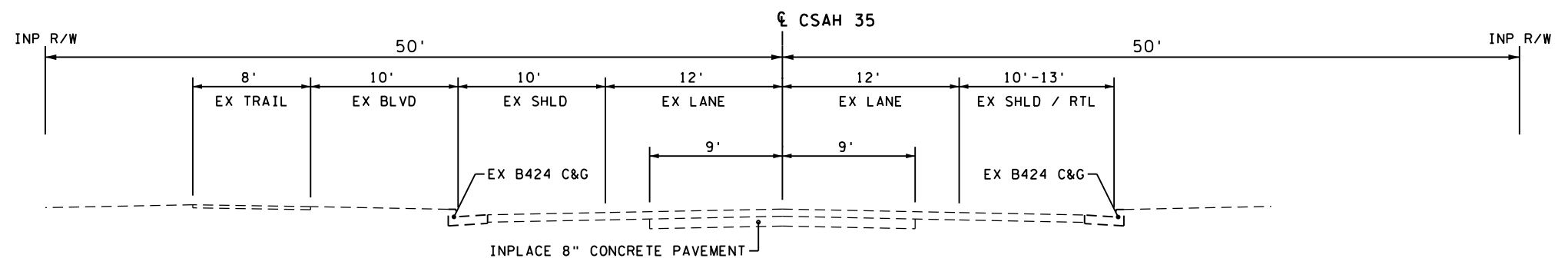
SHEET **11**
 OF **90**
 SHEETS

PLOTTED/REVISED: 11/28/2022 11:05:55 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000\CarPlan\8314-000-1typicals



EXISTING TYPICAL 2 - GARDENA AVE NE
STA 200+00.00 TO STA 204+68.03



EXISTING TYPICAL 1 - CSAH 35 (CENTRAL AVE NE)
STA 102+34.90 TO STA 110+07.55

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. FLOWMAN, PE
 DATE: 11/28/2022 LICENSE # 44200



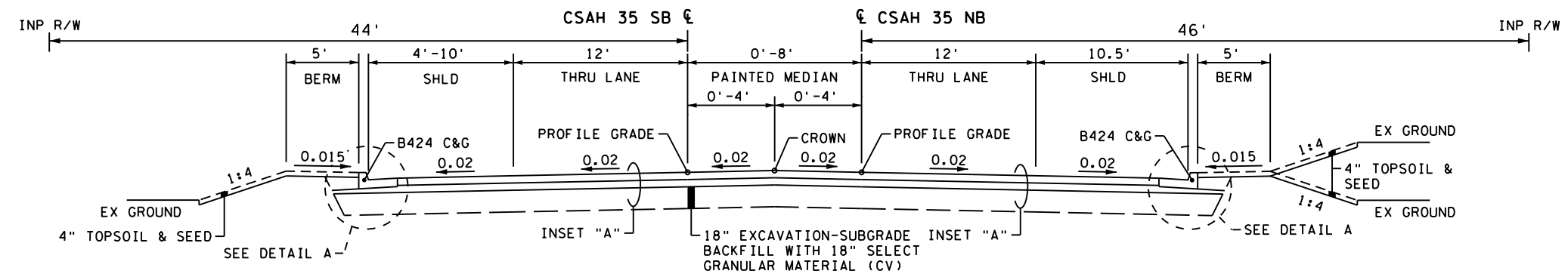
CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 EXISTING
TYPICAL SECTIONS
 SP 002-635-012, SP 127-020-033

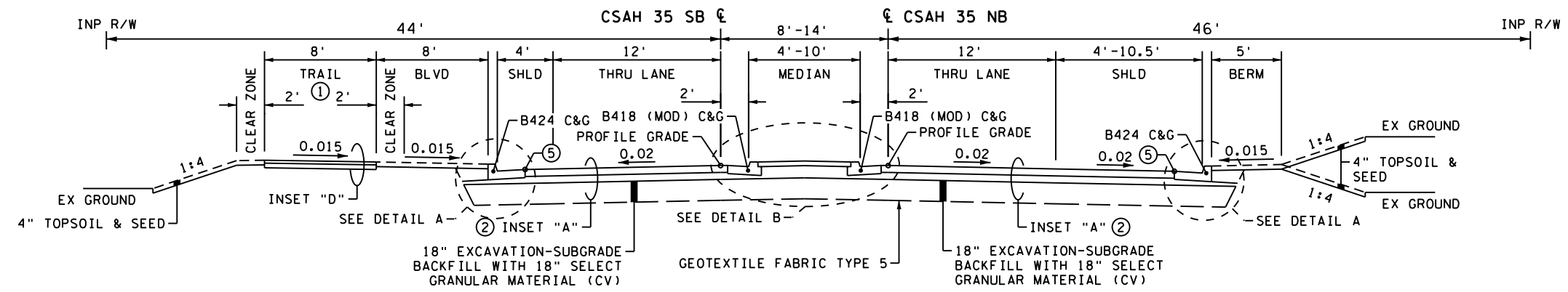
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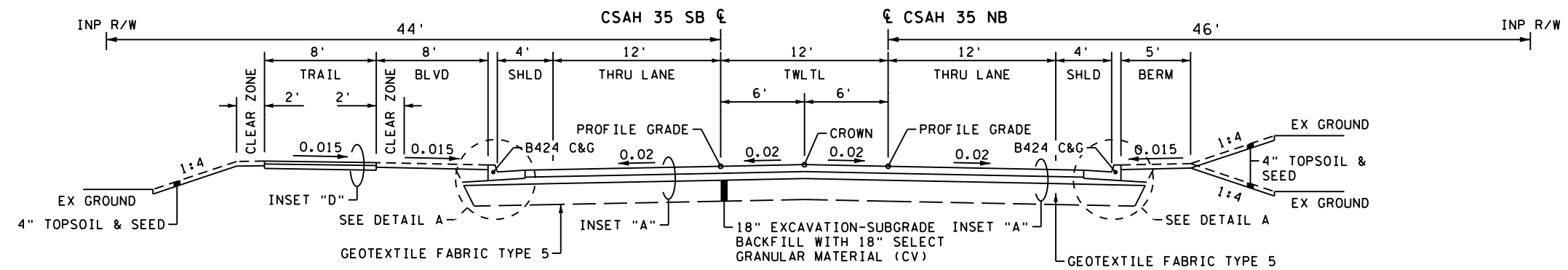
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TYPICAL SECTION 3 - CSAH 35 (CENTRAL AVE NE)
STA 108+44 TO STA 110+07.55



TYPICAL SECTION 2 - CSAH 35 (CENTRAL AVE NE)
STA 104+02 TO STA 105+57
STA 106+91 TO STA 108+44



TYPICAL SECTION 1 - CSAH 35 (CENTRAL AVE NE)
STA 102+34.90 TO STA 104+02

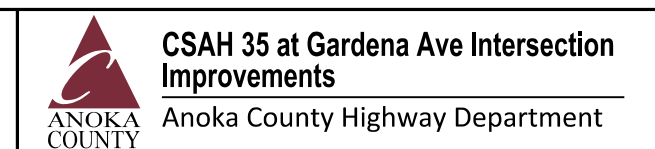
- NOTES:**
- ① TRAIL CONSTRUCTION END STA 107+33.
 - ② USE INSET "G1" FROM STA 105+15 TO STA 107+34.
 - ⑤ QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION DETAILS.
- GENERAL NOTES:**
- ALL SLOPES IN FOOT PER FOOT UNLESS OTHERWISE NOTED.
 - PREPARATION OF THE EXISTING SUBGRADE SHALL BE IN ACCORDANCE WITH MNDOT SPECIFICATIONS AND SHALL BE INCIDENTAL.
 - SEE SHEET 10 FOR INSETS AND SHEET 11 FOR DETAILS.

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. FLOWMAN, PE
 DATE: 11/28/2022 LICENSE #: 44200

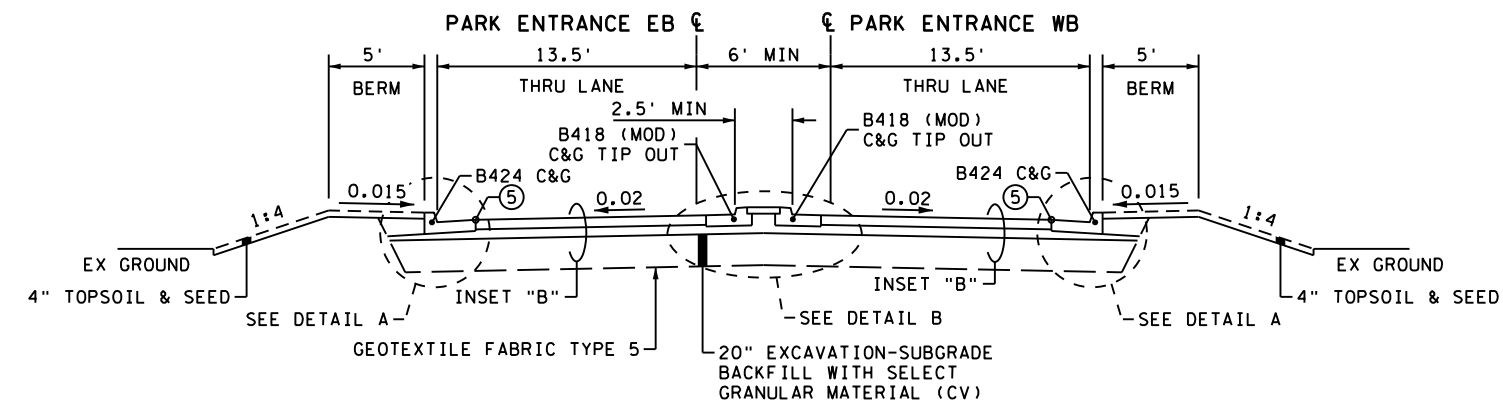


ANOKA COUNTY, MINNESOTA

TYPICAL SECTIONS
 SP 002-635-012, SP 127-020-033

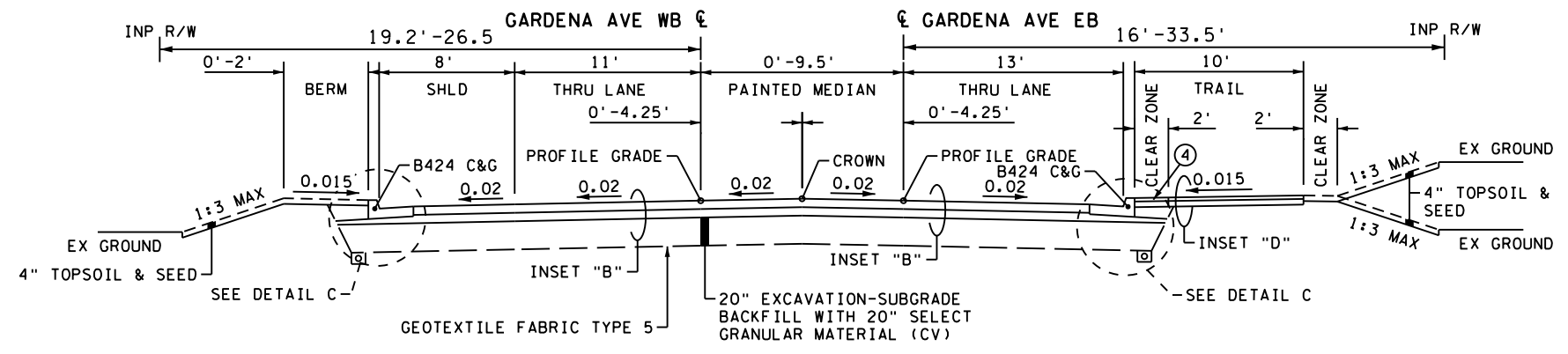
SHEET 13 OF 90 SHEETS

PLOTTED/REVISED: 11/28/2022 11:05:56 AM



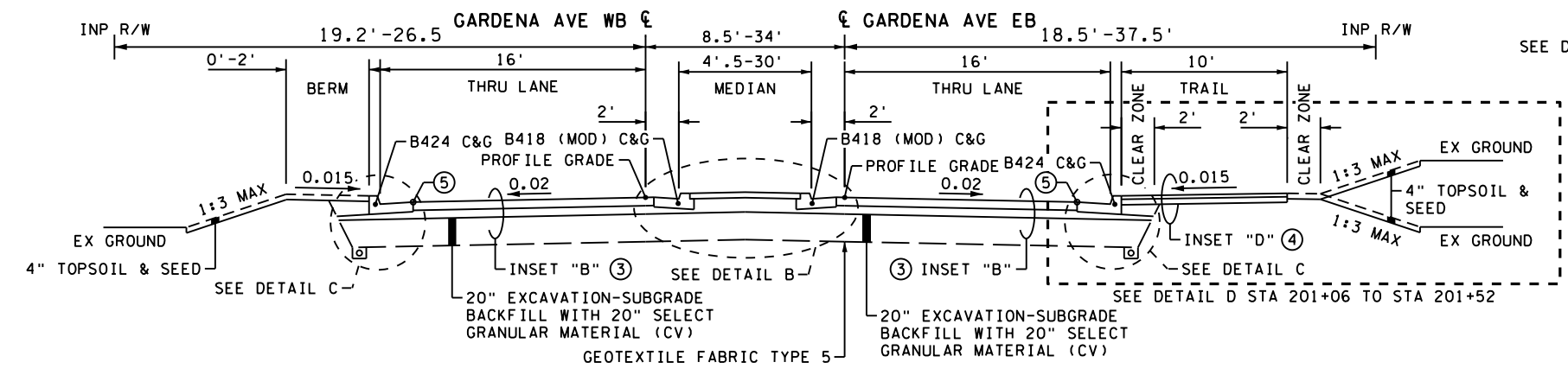
TYPICAL SECTION 6 - MOORE LAKE PARK ENTRANCE

STA 301+00 TO STA 301+44



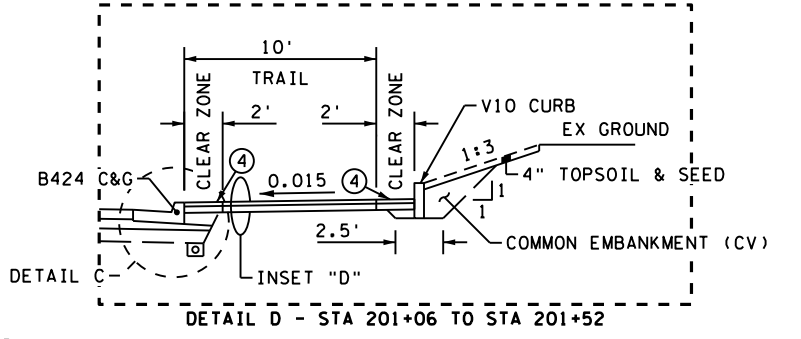
TYPICAL SECTION 5 - GARDENA AVE NE

STA 201+73 TO STA 204+29.40



TYPICAL SECTION 4 - GARDENA AVE NE

STA 200+36 TO STA 201+73



- NOTES:**
- ③ USE INSET "G1" FROM STA 200+36 TO STA 200+90.
 - ④ USE INSET "H1" FOR PAVED CLEARZONE
 - ⑤ QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION 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 10 FOR INSETS AND SHEET 11 FOR DETAILS.

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorridorPlan\8314-000-typts.ctb

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. FLOWMAN, PE
 DATE: 11/29/2022 LICENSE #: 44200

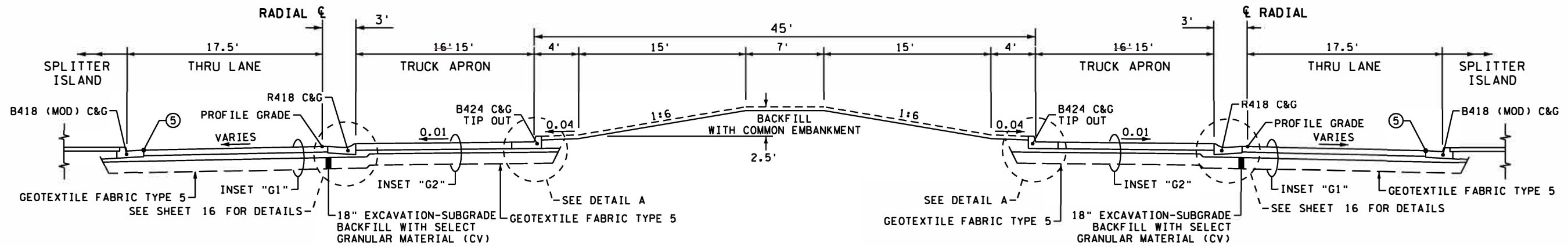


CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

TYPICAL SECTIONS
 SP 002-635-012, SP 127-020-033

SHEET **14** OF **90** SHEETS



TYPICAL SECTION 7 - CSAH 35 & GARDENA AVE ROUNDABOUT

CSAH 35 NB STA 105+57 TO 106+91
 GARDENA AVE EB STA 200+00.00 TO 200+36
 RADIAL STA 10+00 TO 12+57.61

NOTES:

⑤ QUADRANT PROFILE GRADE, SEE ROUNDABOUT INTERSECTION 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 10 FOR INSETS AND SHEET 11 FOR DETAILS.

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLOMMAN, PE
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CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
TYPICAL SECTIONS
 SP 002-635-012, SP 127-020-033

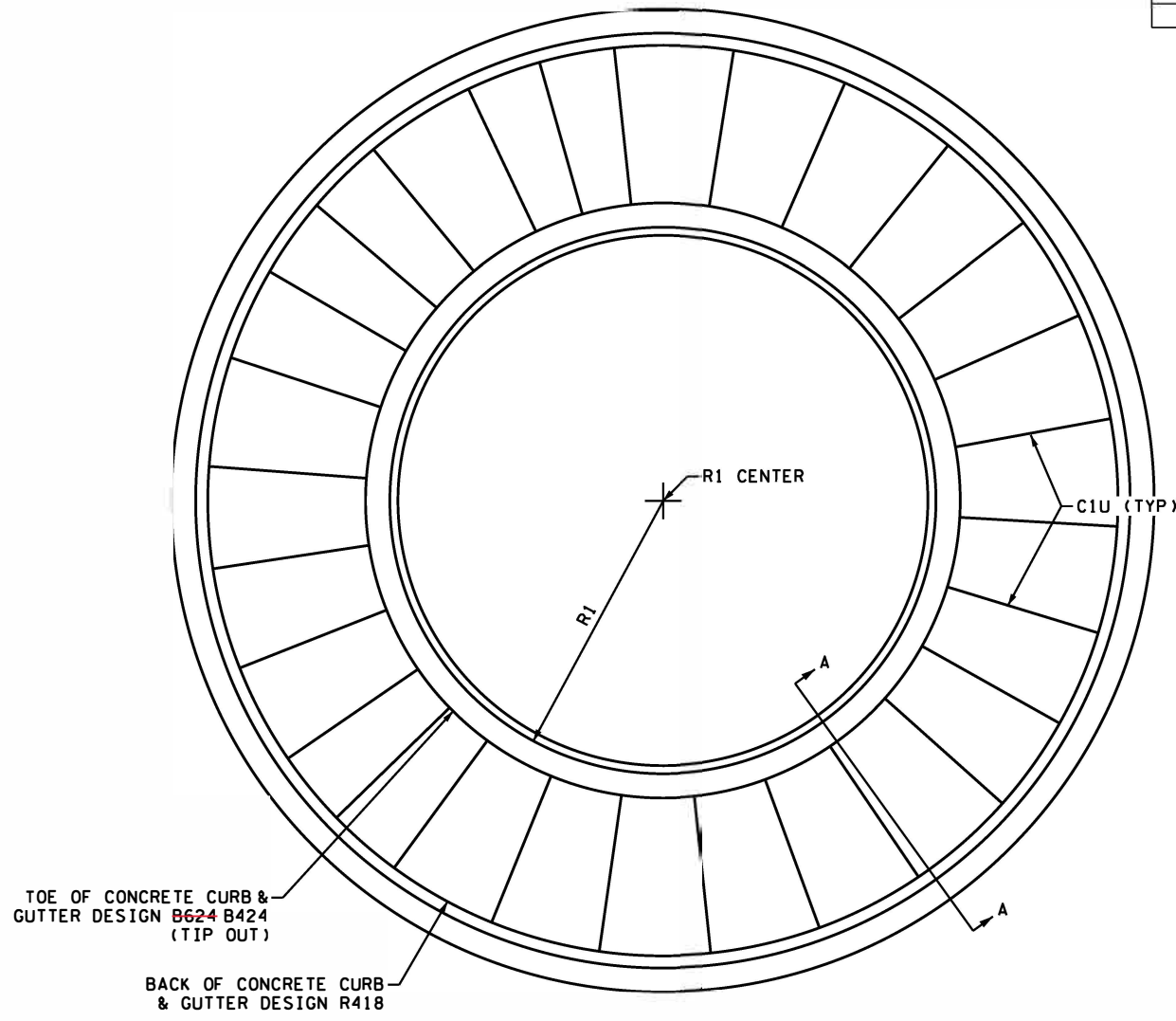
SHEET 15R OF 90 SHEETS

PLOTTED/REVISED: 11/28/2022 11:05:59 AM

CSAH 35 & GARDENA AVENUE ROUNDABOUT

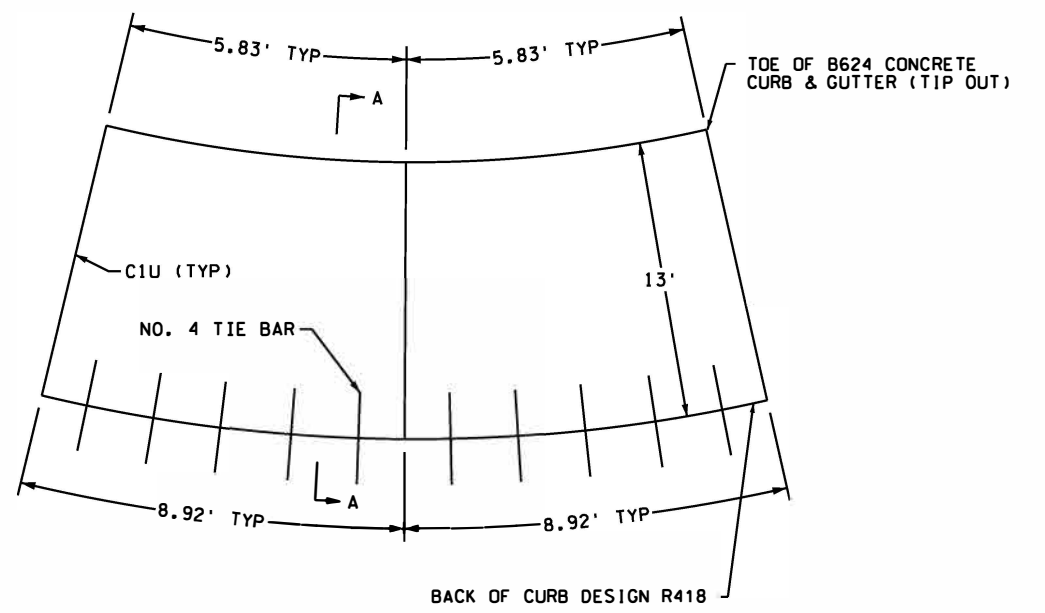
NOT TO SCALE

CSAH 35 & GARDENA AVENUE ROUNDABOUT			
RADIUS	CENTER		
	X	Y	
R1	22.5'	506386.8107	114507.6898



PLAN VIEW JOINT LAYOUT

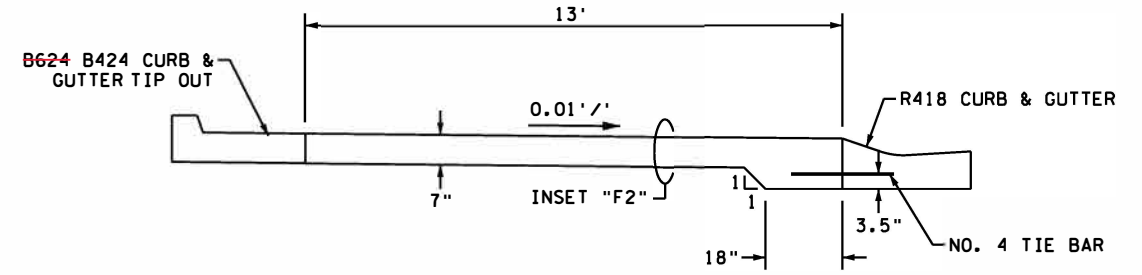
NOT TO SCALE



NOTE: CIU JOINT SHOULD EXTEND THROUGH CURB AND GUTTER

CONCRETE PANEL REINFORCEMENT

NOT TO SCALE



SECTION A-A

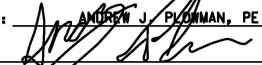
NOT TO SCALE

GENERAL NOTES:

- SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CURB AND GUTTER DETAILS
- 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
- TIE BARS: USE NO. 4 BARS, 2' LONG AT 3' SPACING
- REINFORCEMENT BARS ARE CONSIDERED INCIDENTAL.
- ADDITIONAL CONCRETE PAVEMENT DEPTH, ADJACENT TO CONCRETE CURB DESIGN R418, IS INCIDENTAL.

WSB PATH & FILENAME: Projects\Minnesota\01834-000\CurPlan\1834-000.mxd

NO.	DATE	BY	CHK	REVISIONS

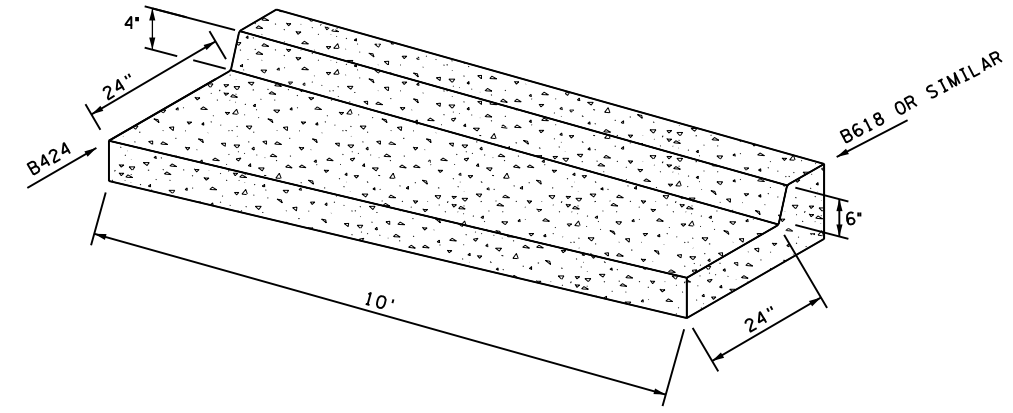
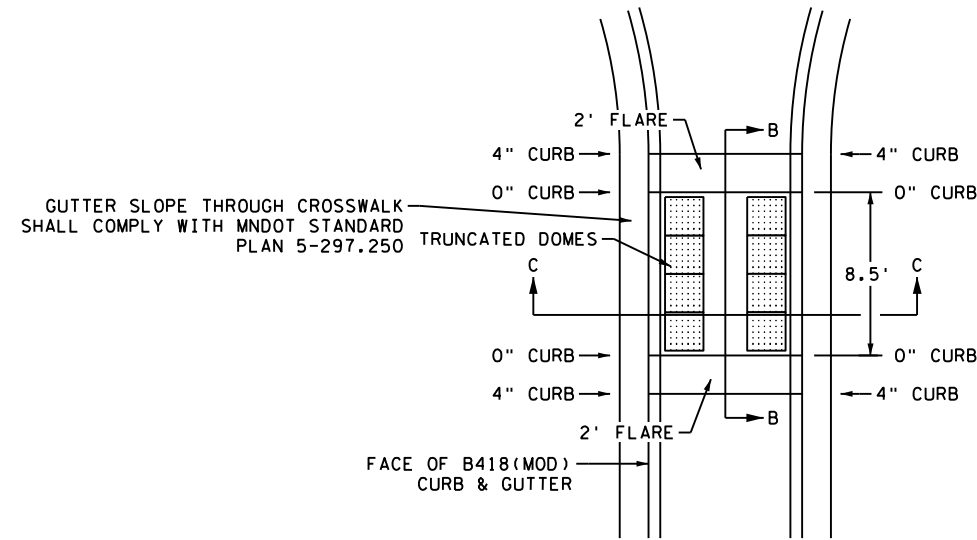
Design By:	AJP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Plan By:	AJF	
Checked By:	AJP	
Approved By:	AJP	
PRINT NAME:	ANDREW J. PLUMMAN, PE	
DATE:	11/28/2022	
LICENSE #:	44200	



CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

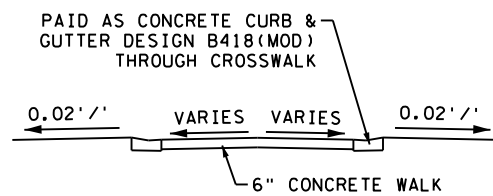
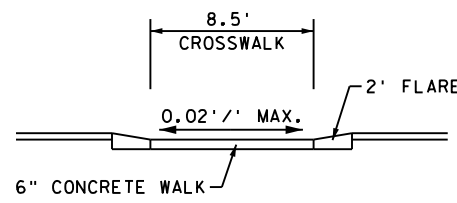
ANOKA COUNTY, MINNESOTA
TRUCK APRON DETAILS
MISCELLANEOUS DETAILS
SP 002-635-012, SP 127-020-033

SHEET
16R
OF
90
SHEETS



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

B424 TO B618 CURB & GUTTER TRANSITION
 NOT TO SCALE



- 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
 NO SCALE

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, PE</u> DATE: <u>11/28/2022</u> LICENSE # <u>44200</u>
Plan By:	AJF	
Checked By:	AJP	
Approved By:	AJP	

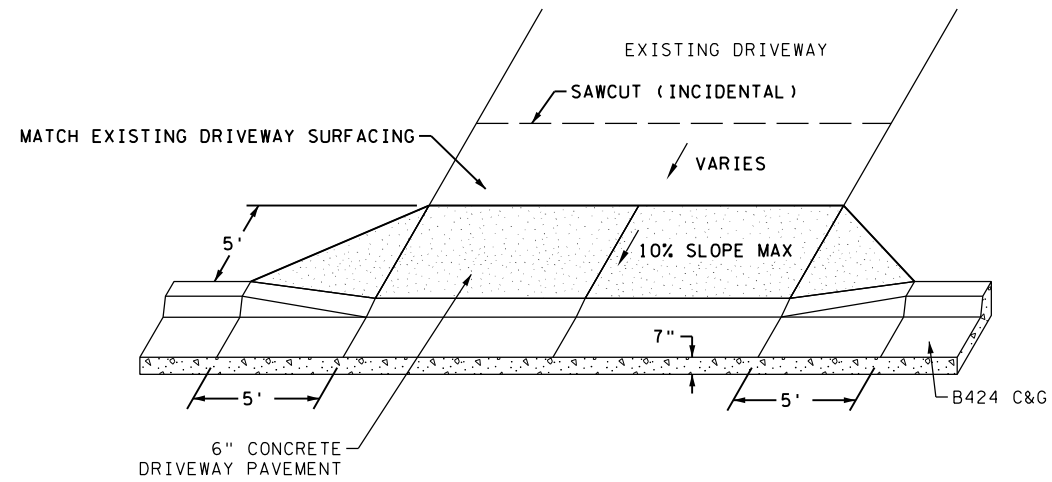


CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

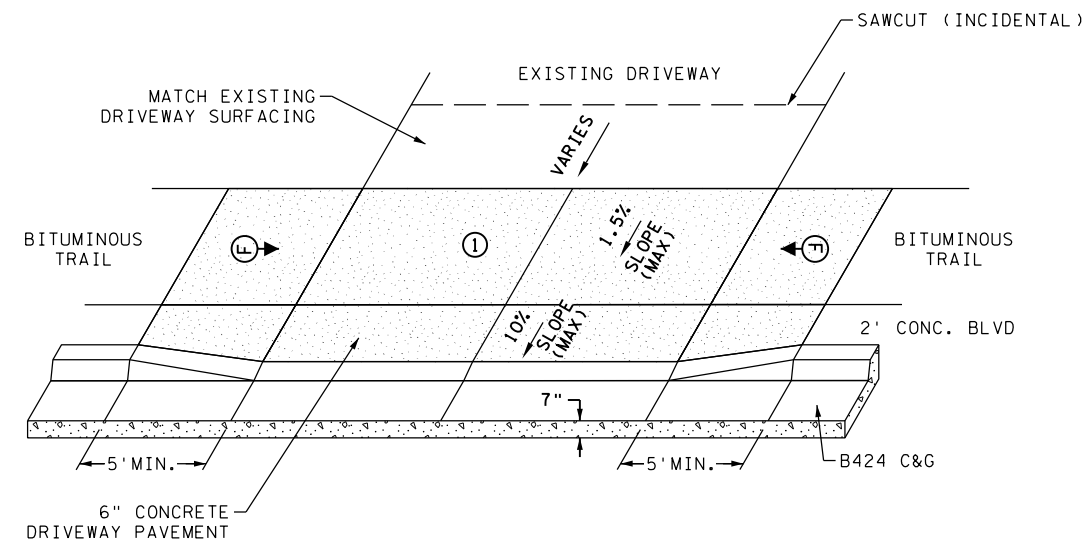
ANOKA COUNTY, MINNESOTA
MISCELLANEOUS DETAILS
 SP 002-635-012, SP 127-020-033

SHEET **17** OF **90** SHEETS

PLOTTED/REVISED: 11/28/2022 11:10:11 AM



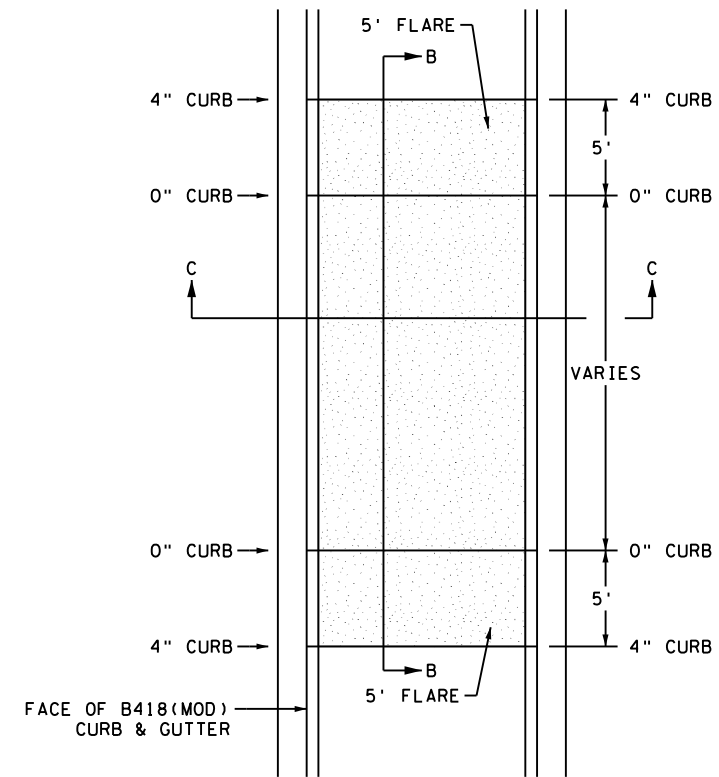
CONCRETE DRIVEWAY APRON (NO PEDESTRIAN FACILITIES)
NOT TO SCALE



NOTES:

- ① BITUMINOUS WALK WIDTH = 8', ENTIRE WIDTH 1.5% MAX CROSS SLOPE
- Ⓣ SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 1.5%.

BITUMINOUS TRAIL (2' BLVD) AT DRIVEWAY
NO SCALE



SECTION B-B

SECTION C-C

NOTES:

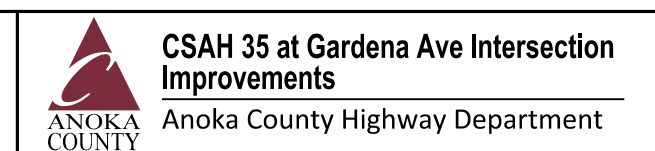
- 1. DEPRESSION TO BE PAID AS 6" CONCRETE DRIVEWAY PAVEMENT.
- 3. FLARES TO BE PAID FOR AS 6" CONCRETE DRIVEWAY PAVEMENT.

DEPRESSED MEDIAN CURB AT DRIVEWAY
NO SCALE

WSB PATH & FILENAME: Projects\Minnesota\018314-000-Cad\Plan\18314-000.mxd

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	
DATE	11/28/2022	

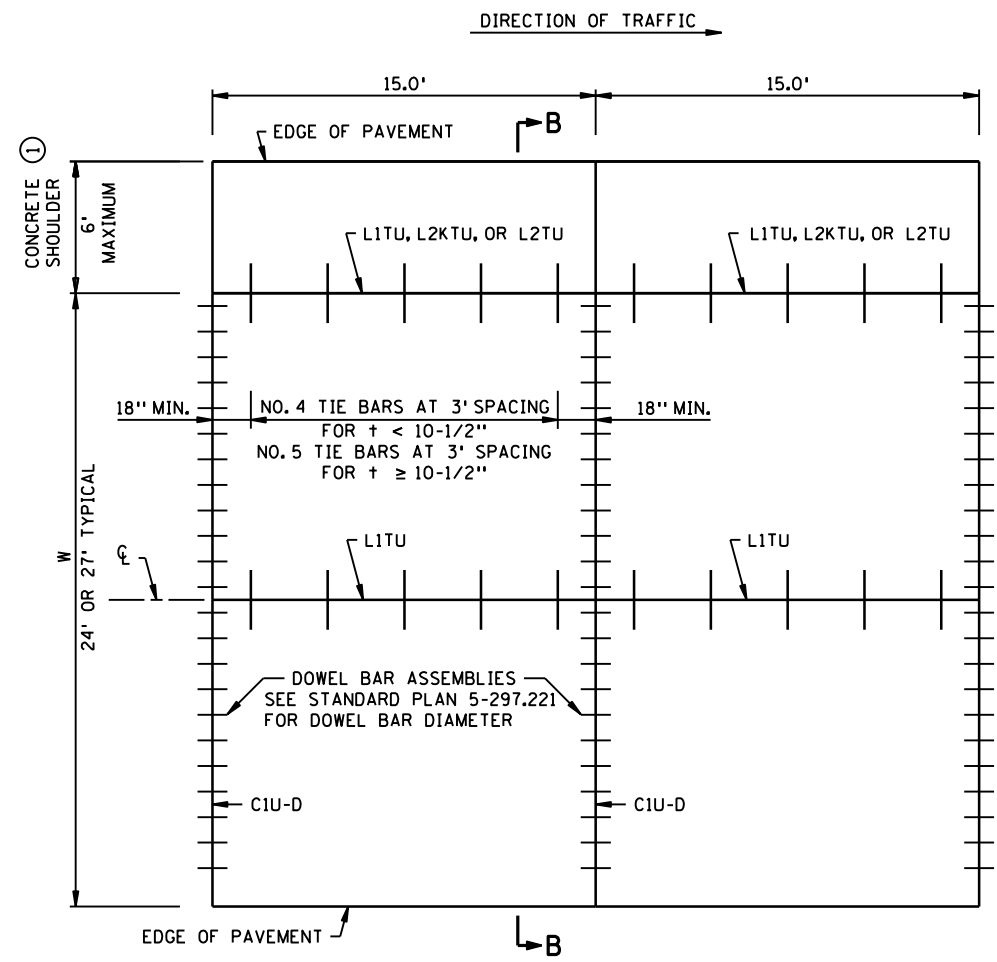


ANOKA COUNTY, MINNESOTA
MISCELLANEOUS DETAILS
SP 002-635-012, SP 127-020-033

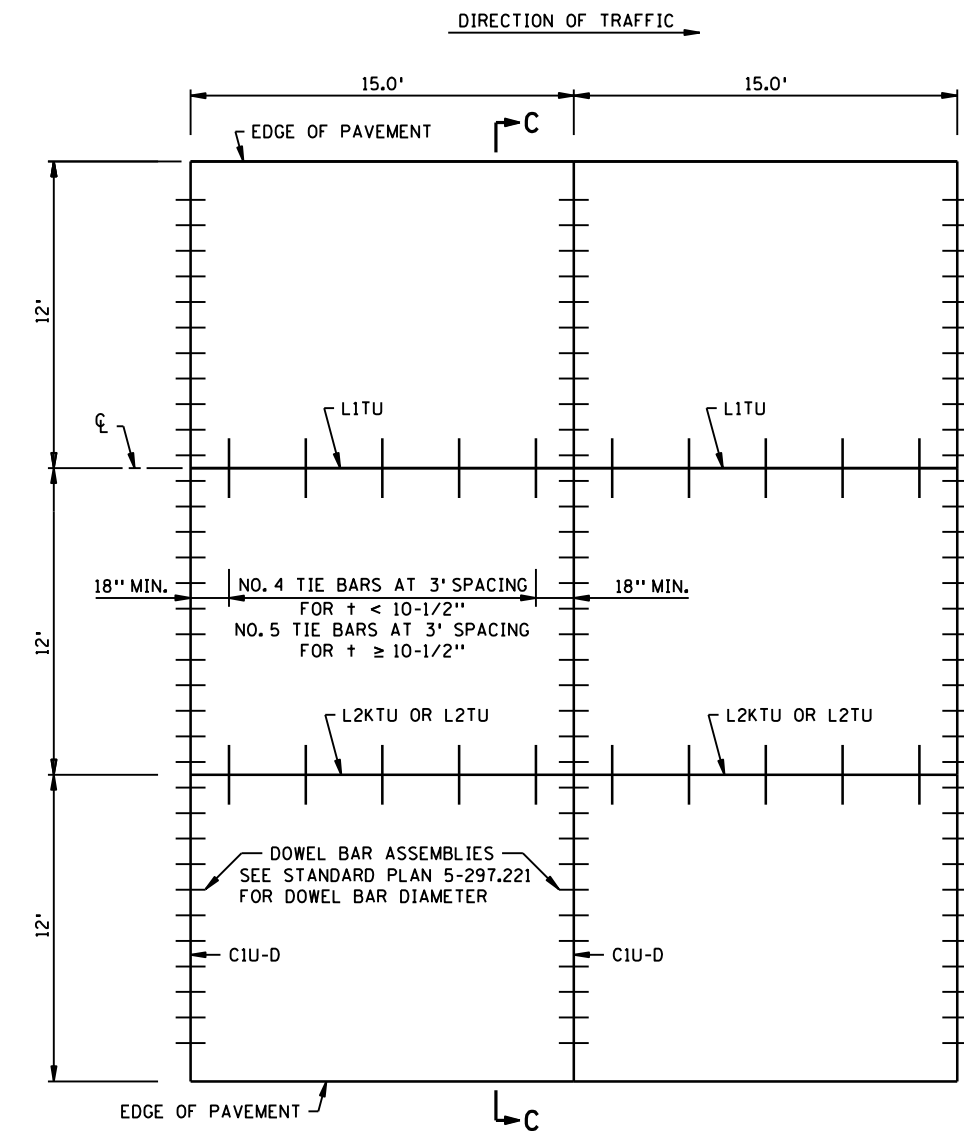
SHEET **18** OF **90** SHEETS

PLOTTED/REVISED: 11/28/2022 11:11:03 AM

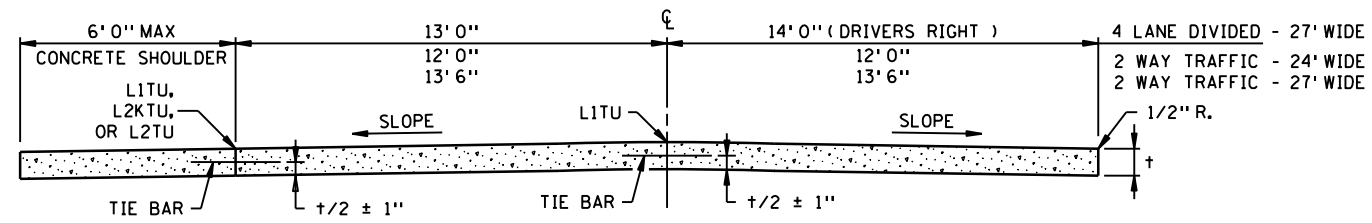
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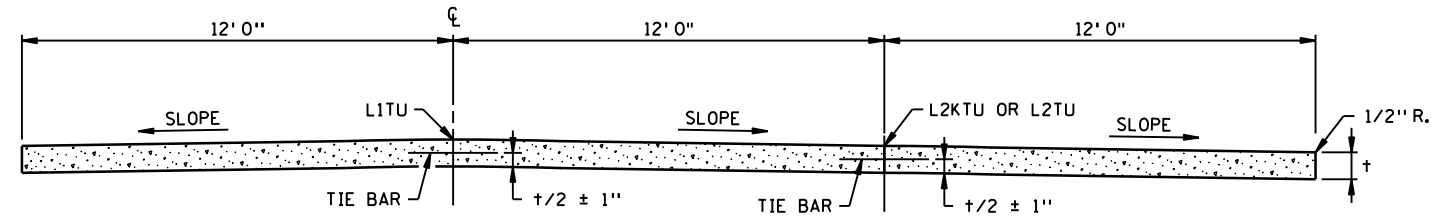
MAINLINE PAVEMENT WITH INSIDE CONCRETE SHOULDER
DOWELED



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.

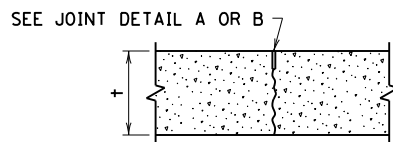
① CONTACT THE CONCRETE ENGINEER TO DISCUSS WHETHER TIE BARS AND SAWED JOINTS ARE NEEDED BASED ON CONCRETE SHOULDER WIDTH AND DEPTH.

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

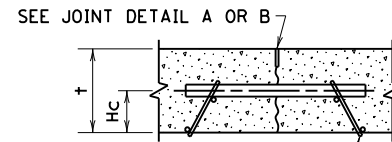
	STANDARD PLAN 5-297.217	2 OF 2	CONCRETE MAINLINE PAVEMENT 15.0 FT. PANEL LENGTH URBAN OR CONCRETE SHOULDERS
		APPROVED: 2-16-2016 REVISED:	
DEPARTMENT OF TRANSPORTATION	STATE DESIGN ENGINEER	SHEET 19 OF 90 SHEETS	

PLOTTED/REVISED: 11/28/2022 11:11:03 AM

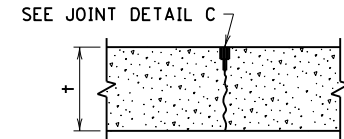
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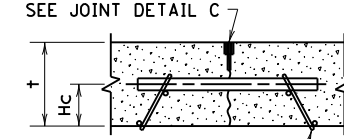
C1U & C2H



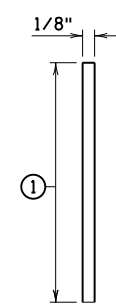
DOWEL BAR ASSEMBLY
C1U-D & C2H-D ⑧



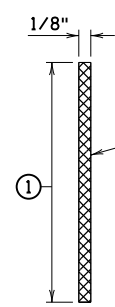
C3P



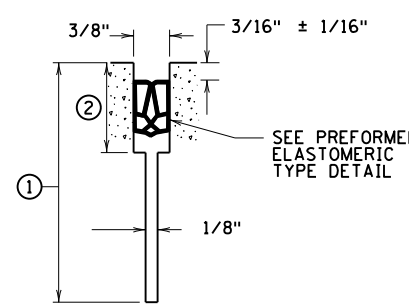
DOWEL BAR ASSEMBLY
C3P-D ⑧



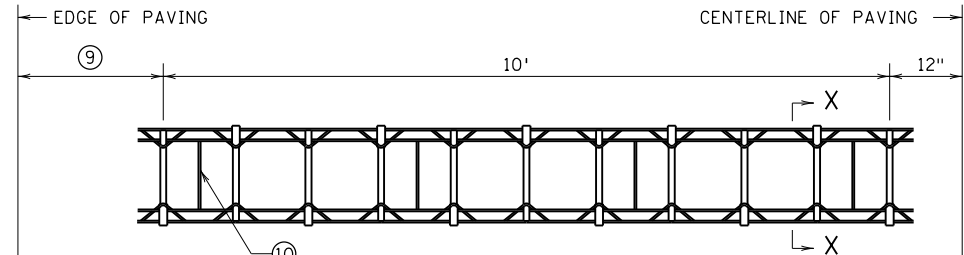
JOINT DETAIL A ③⑤
SAWED & UNSEALED



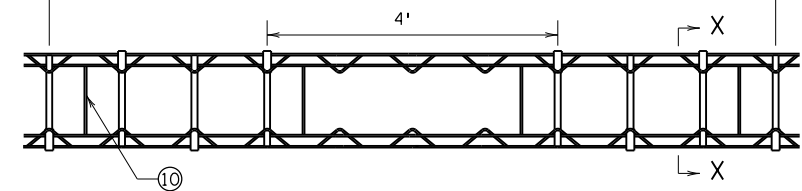
JOINT DETAIL B ④⑤
SAWED & SEALED



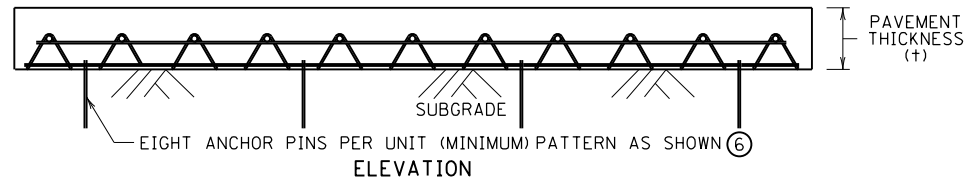
JOINT DETAIL C ④⑤
SAWED AND SEALED



PLAN VIEW
ELEVEN DOWEL BASKET (SPACED AT 12")

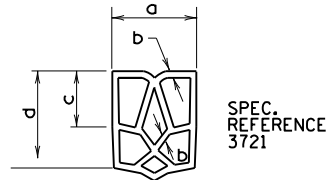


PLAN VIEW
EIGHT DOWEL BASKET (WHEEL PATH DOWELS SPACED AT 12")



ELEVATION
CONTRACTION JOINT DOWEL BAR ASSEMBLIES

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.



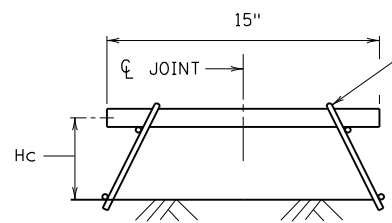
TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)
SPEC. REFERENCE 3721

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"

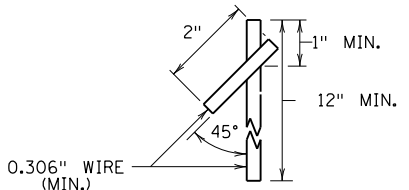
LEGEND		EXAMPLE	
C = CONTRACTION JOINT	— C2H-D	—	—
NO. = JOINT REFERENCE			
U = UNSEALED			
H = HOT POURED			
P = PREFORMED			
-D = DOWEL BARS			

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



SECTION X-X ⑧

WELD ALTERNATE ENDS OF DOWEL BAR



ANCHOR PIN ⑦

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: $\pm 3 \pm 1/4"$.
- 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 $\pm 1/16"$ 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 $\pm 1/8"$ IN 15".
 - PLACE DOWEL BARS PARALLEL TO THE CENTERLINE OF THE PAVEMENT $\pm 1/4"$ IN 15".
 - SAW CONTRACTION JOINTS PERPENDICULAR TO THE CENTERLINE OF THE PAVEMENT AND CENTERED ON THE DOWEL BAR $\pm 3"$.
 - HEIGHT (Hc) TO CENTER OF DOWEL BAR $\pm 1/2"$.
- 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

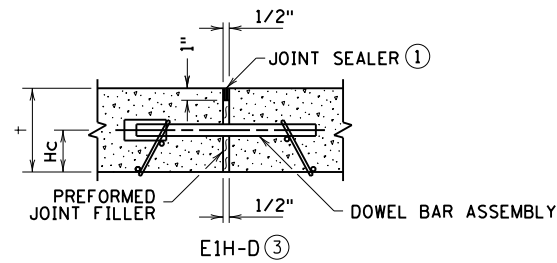
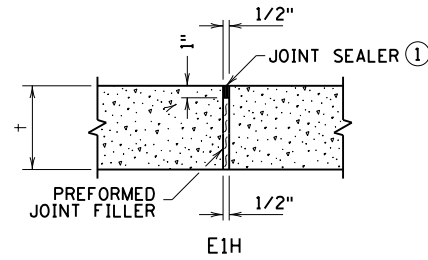
GLENN ENGSTROM
DIRECTOR
OFFICE OF MATERIALS
AND ROAD RESEARCH



STANDARD PLAN 5-297.221 1 OF 4
APPROVED: 10-03-2022
REVISED:
THOMAS STYBICKI
STATE DESIGN ENGINEER

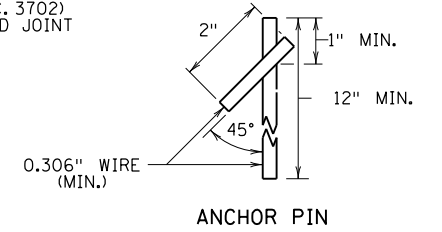
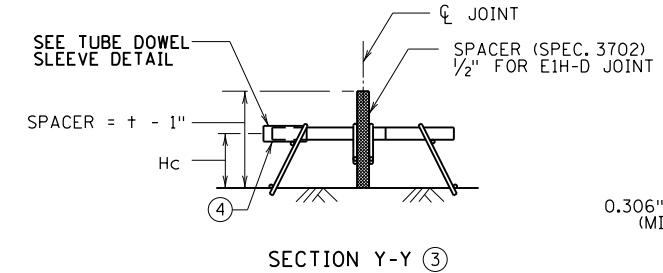
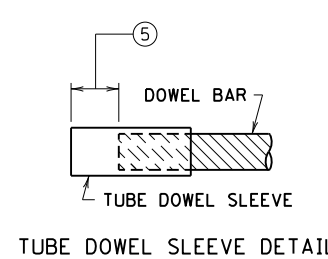
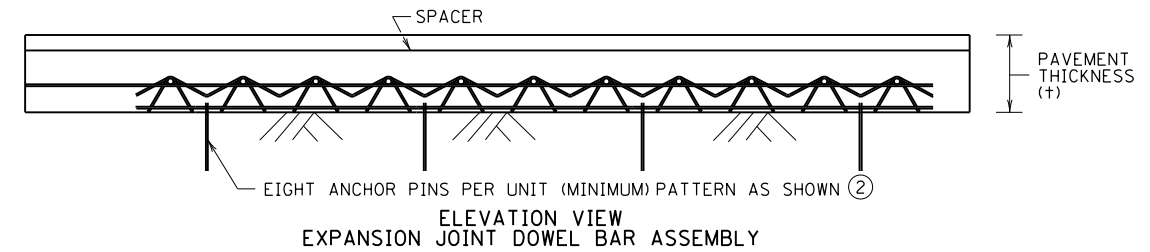
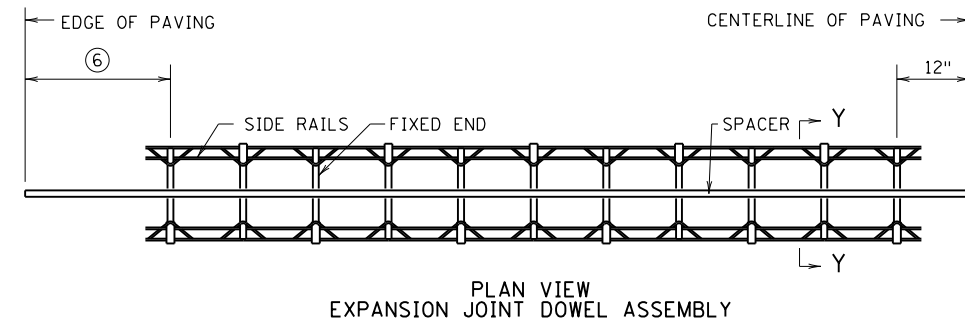
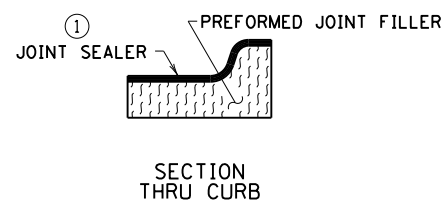
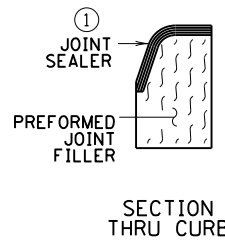
PAVEMENT JOINTS
CONTRACTION (DESIGN C)

SP 002-635-012, SP 127-020-033



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	_____ E1H-D
H = HOT POURED	_____ E1H-D
-D = DOWEL BARS	_____ E1H-D



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

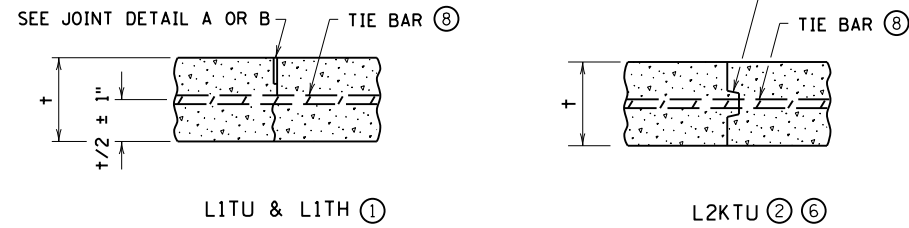
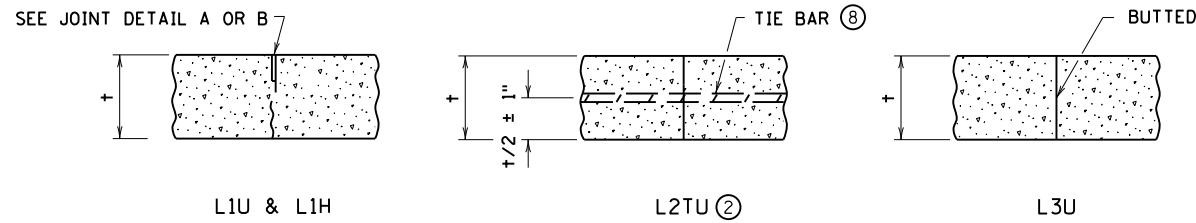
APPROVED: 10-03-2022
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

SP 002-635-012, SP 127-020-033

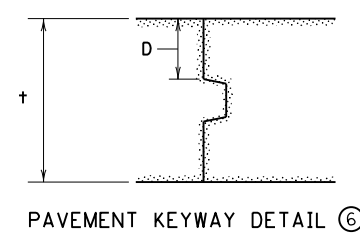
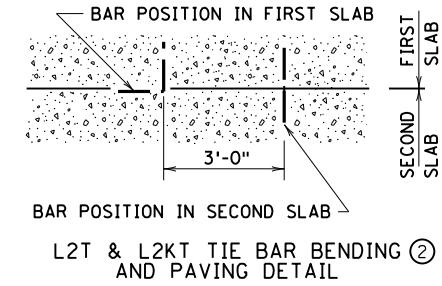
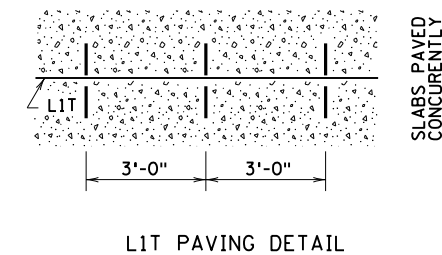
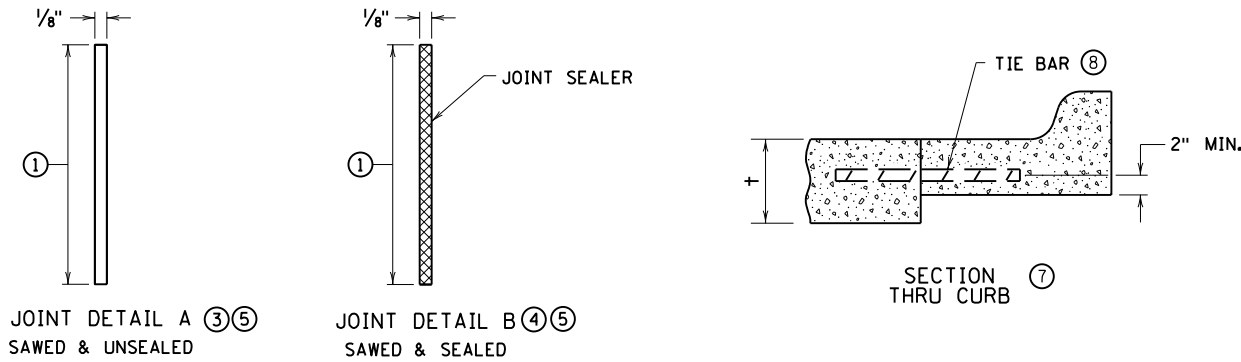
PAVEMENT JOINTS
EXPANSION (DESIGN E)

SHEET 21 OF 90 SHEETS



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		



FIXED FORM KEYWAY TABLE ⑥	
+ PAVEMENT THICKNESS	D (MIN. DEPTH)
< 7"	2-1/2"
7" TO 7-1/2"	3"
8" TO 9-1/2"	4"
≥ 10"	5"

SLIPFORM KEYWAY TABLE ⑥	
+ PAVEMENT THICKNESS	D (MIN. DEPTH)
< 10"	NO KEYWAY
≥ 10"	5"

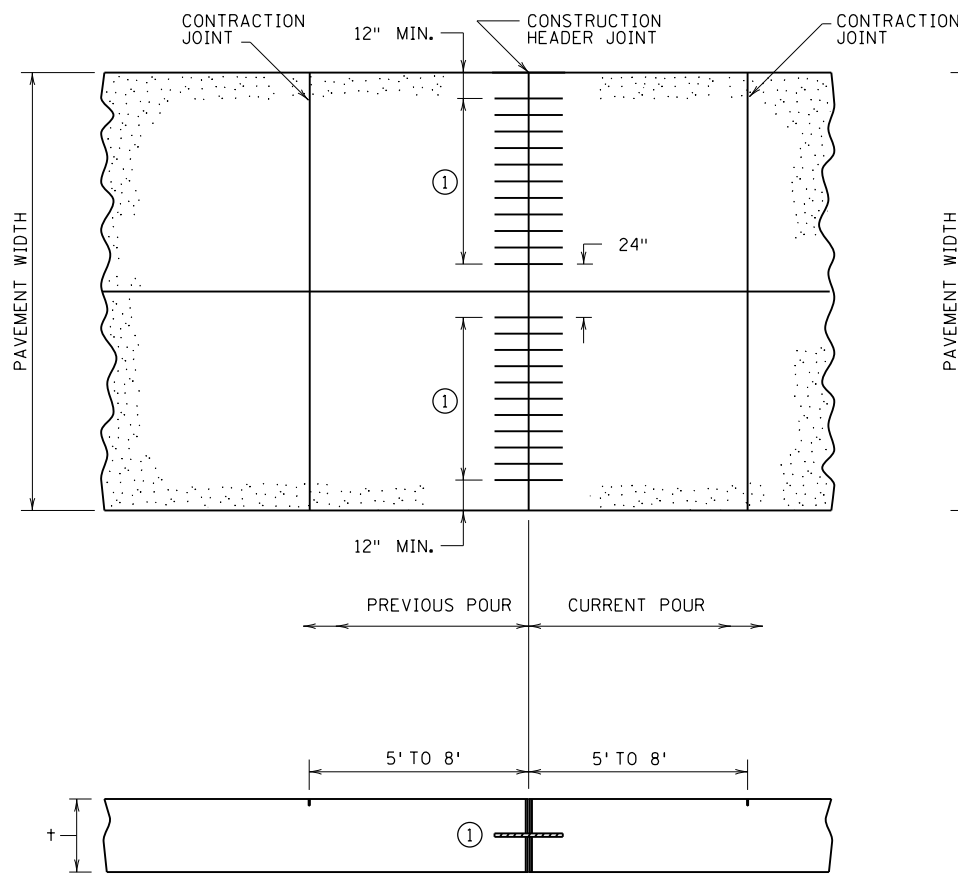
NOTES:

- 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: +/3 ± 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 + ≥ 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.

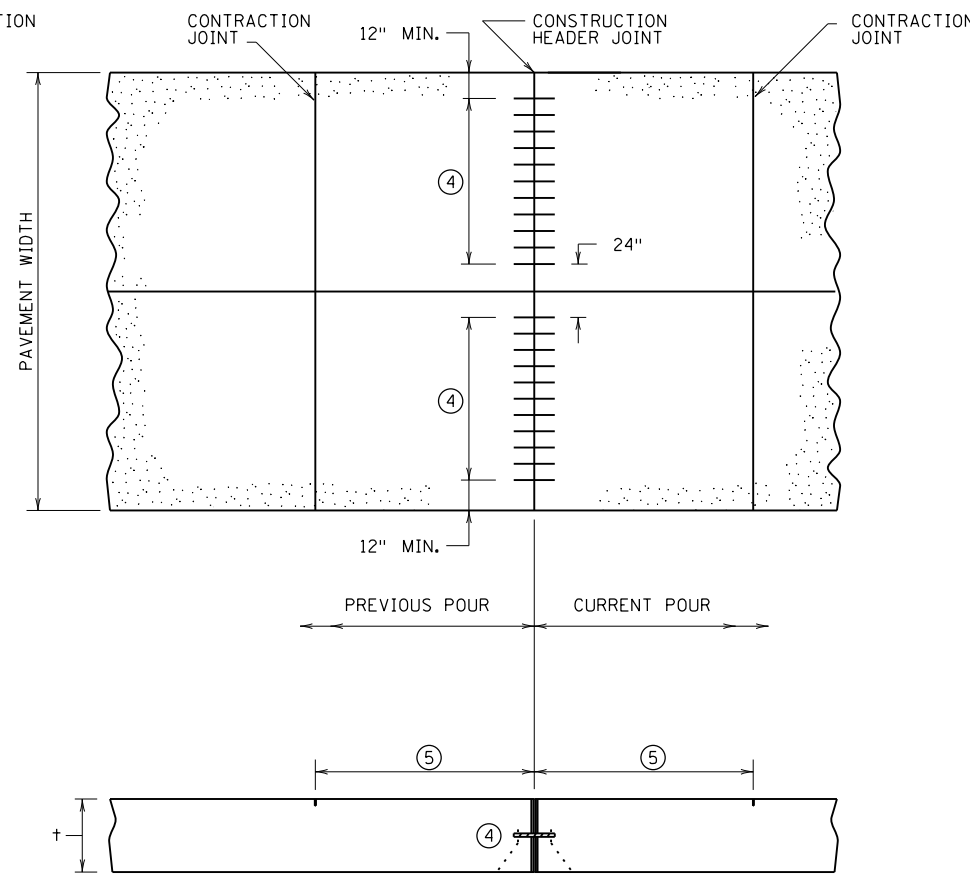
LEAD EXPERT OFFICE
 GLENN ENGSTROM
 DIRECTOR
 OFFICE OF MATERIALS
 AND ROAD RESEARCH

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

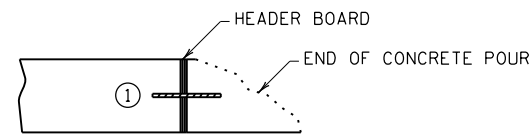
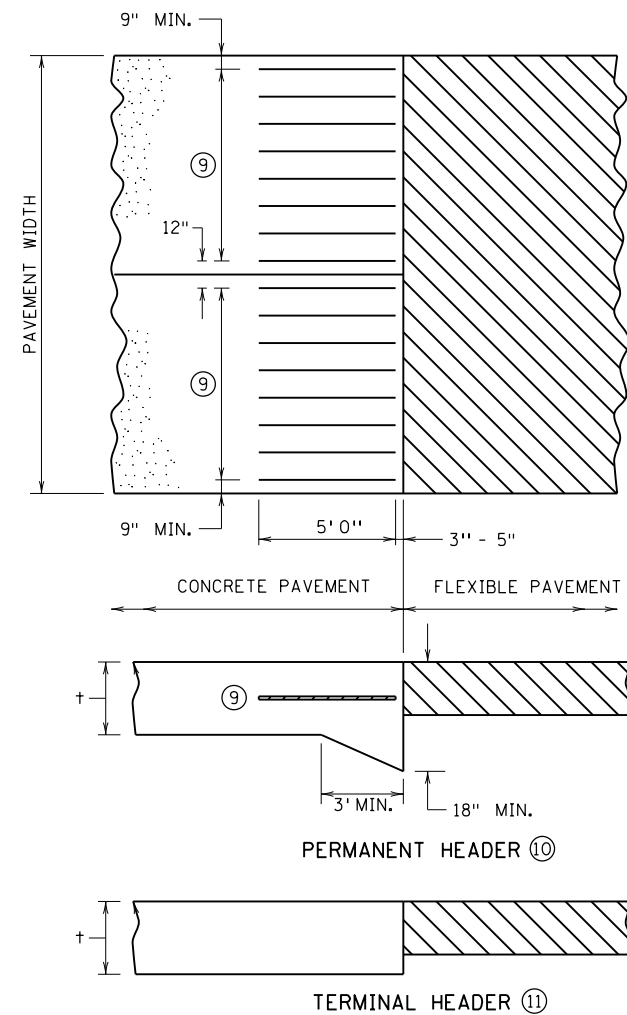
PAVEMENT JOINTS
 LONGITUDINAL (DESIGN L)
 SP 002-635-012, SP 127-020-033
 SHEET 22 OF 90 SHEETS



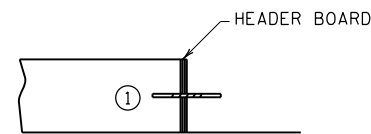
REINFORCEMENT BAR CONSTRUCTION HEADERS



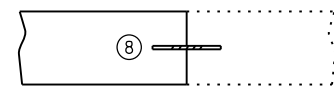
DOWEL BAR CONSTRUCTION HEADERS



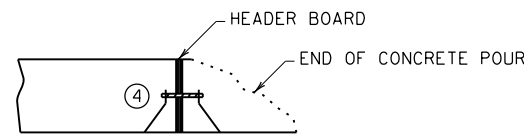
SLIPFORM PLACED REINFORCEMENT BAR HEADER ②



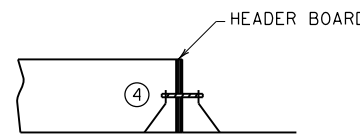
FIXED FORM PLACED REINFORCEMENT BAR HEADER ③



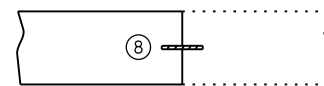
DRILL AND GROUT REINFORCEMENT BAR HEADER



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. PLACE THE CONCRETE BEHIND THE BOARD 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 FINISH THE CONCRETE BEHIND THE 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

APPROVED: 10-03-2022
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

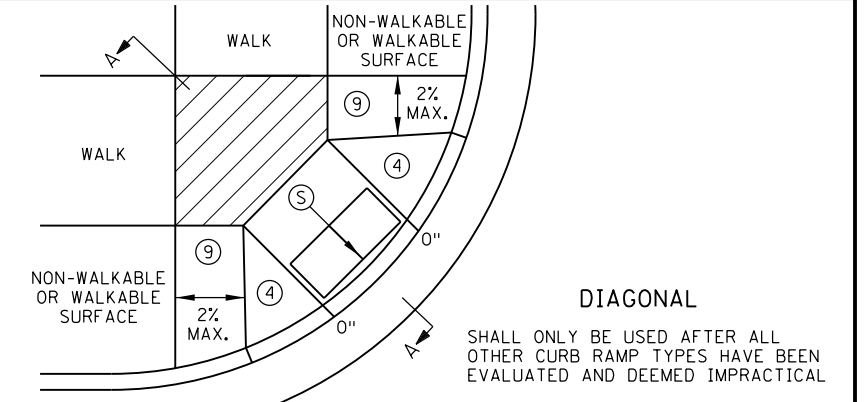
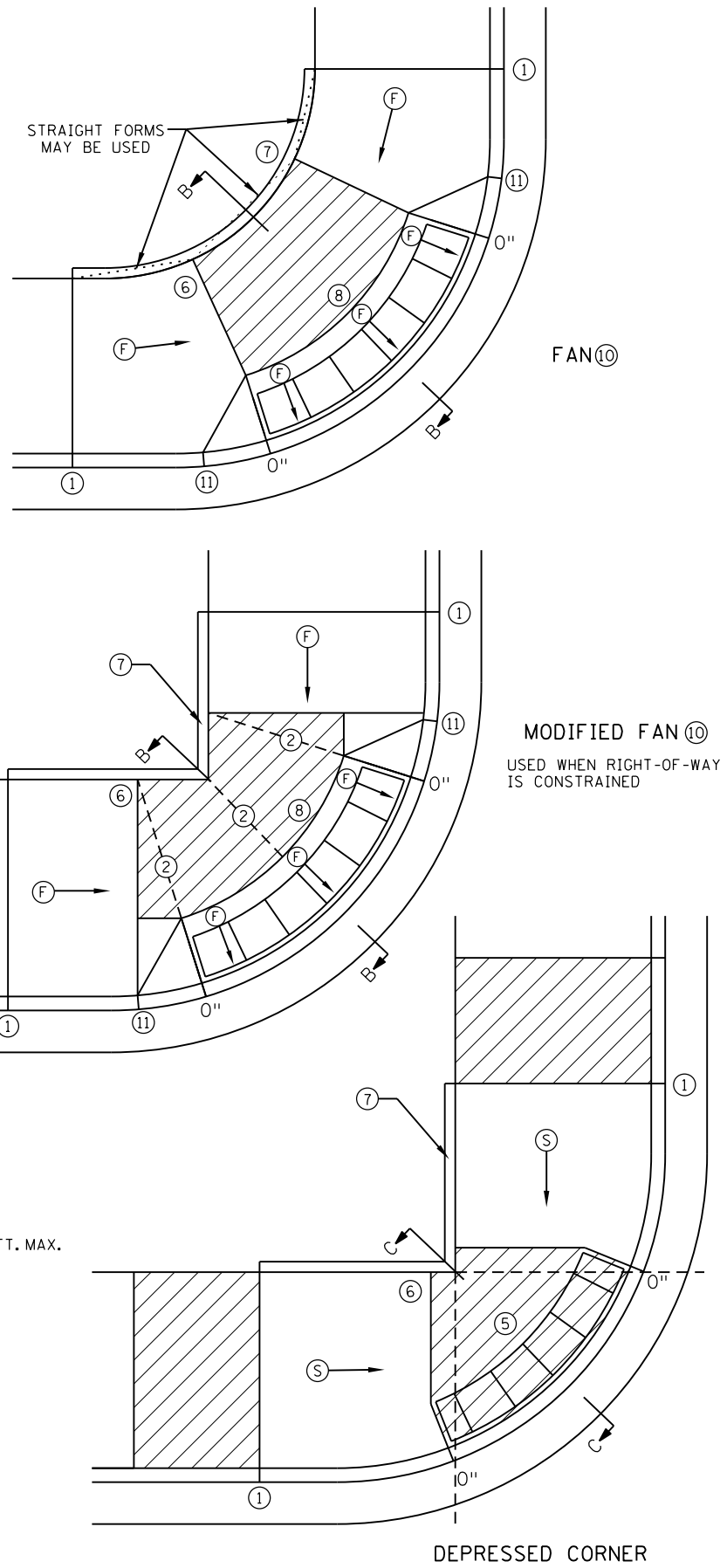
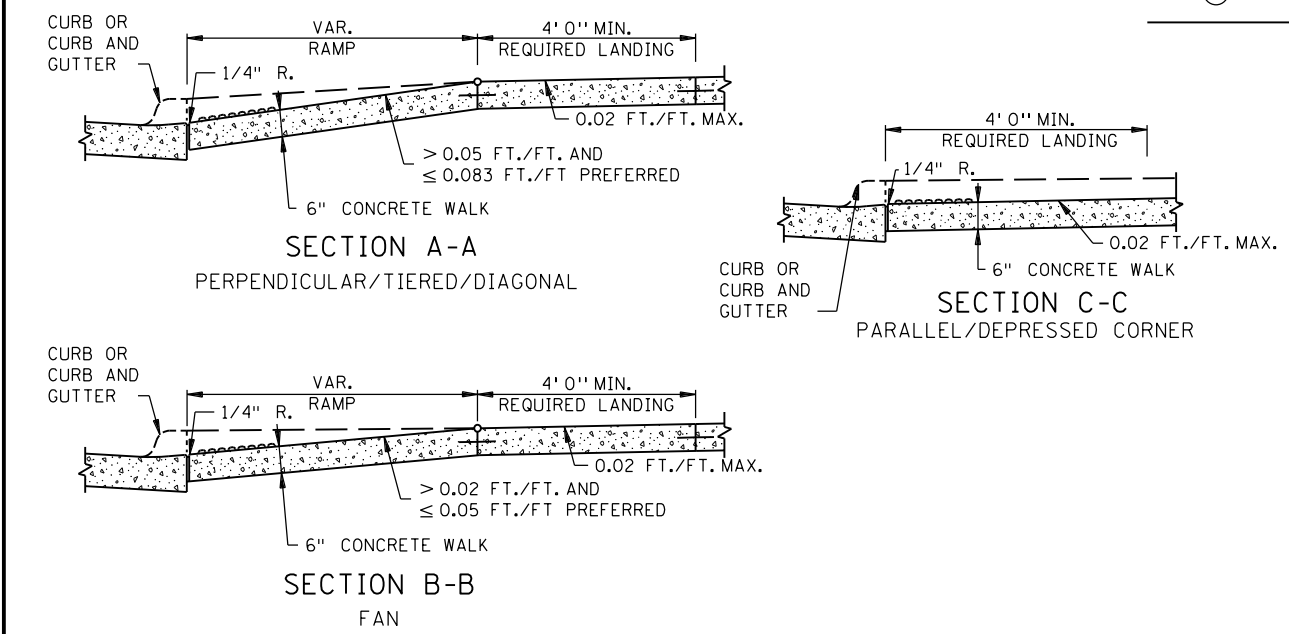
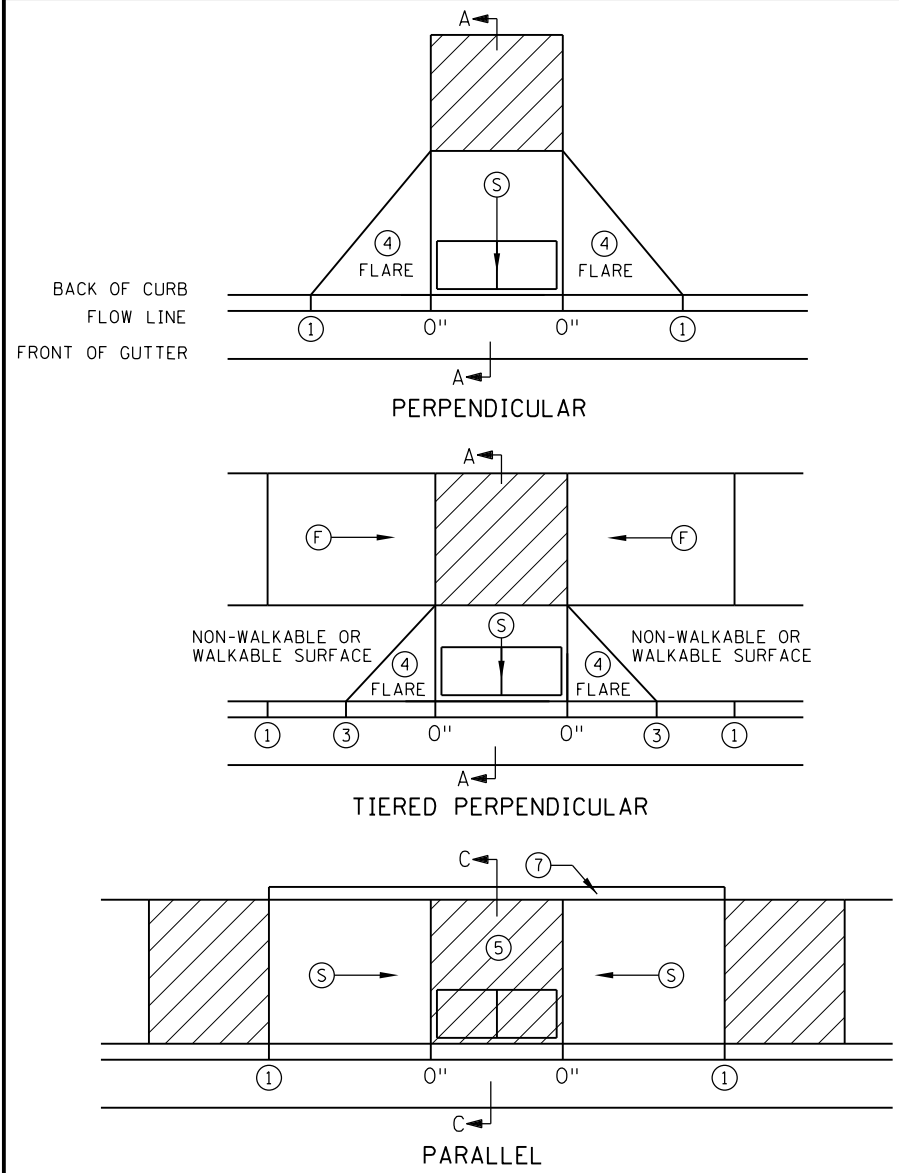
SP 002-635-012, SP 127-020-033

PAVEMENT JOINTS
CONSTRUCTION AND TERMINAL HEADERS

SHEET 23 OF 90 SHEETS

PLOTTED/REVISED: 11/28/2022 11:11:05 AM

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- 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 PAR.
X"	CURB HEIGHT

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

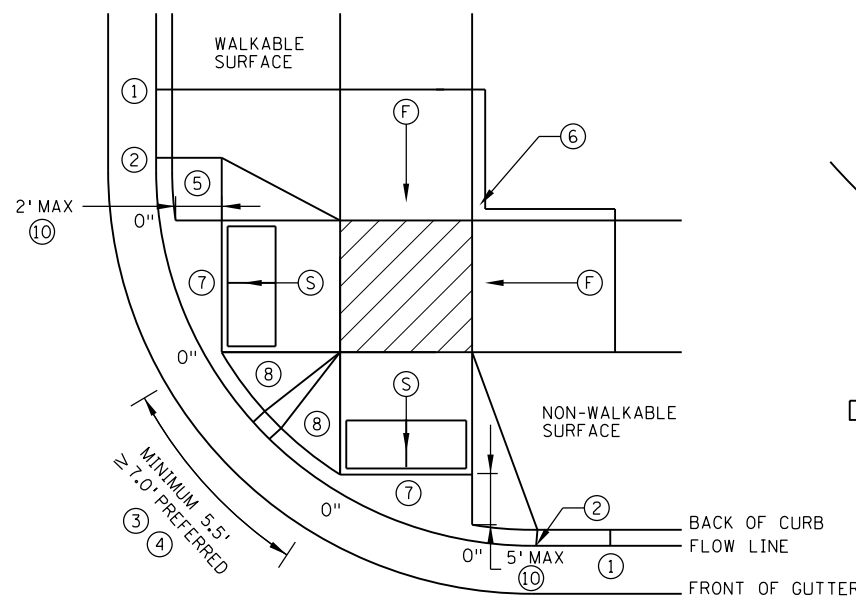
MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 1 OF 6

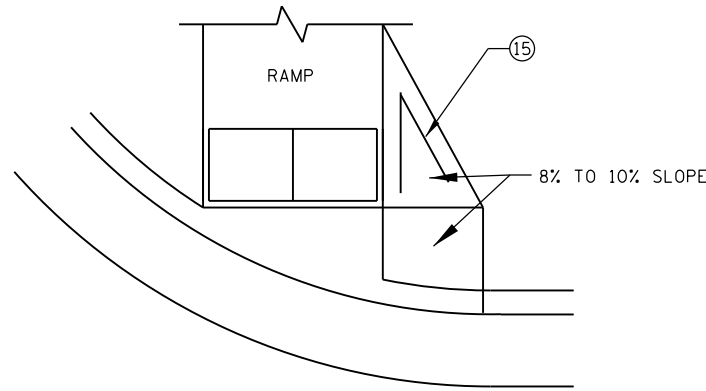
APPROVED: 11-04-2021
REVISED:
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

SP 002-635-012, SP 127-020-033

PEDESTRIAN CURB RAMP DETAILS

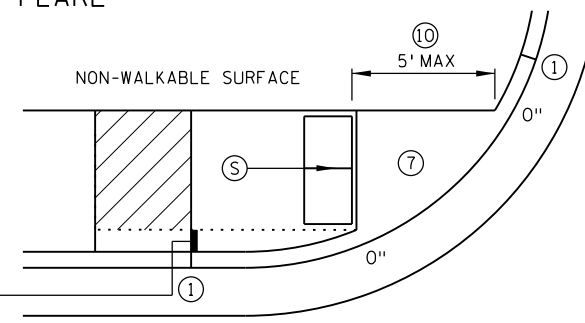


COMBINED DIRECTIONAL

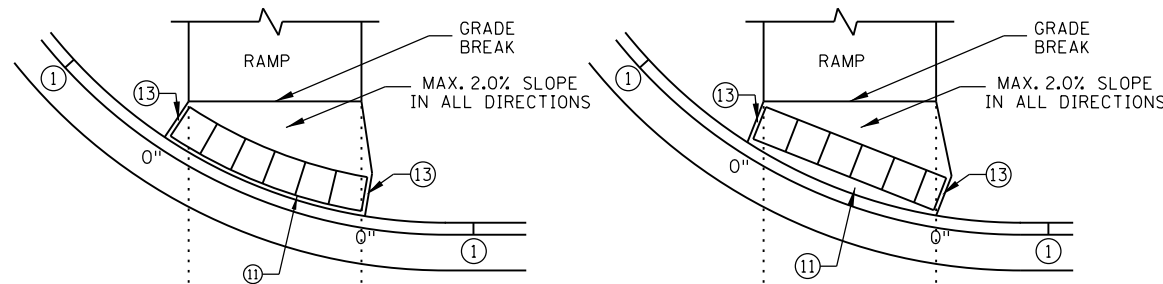


DIRECTIONAL RAMP WALKABLE FLARE

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.

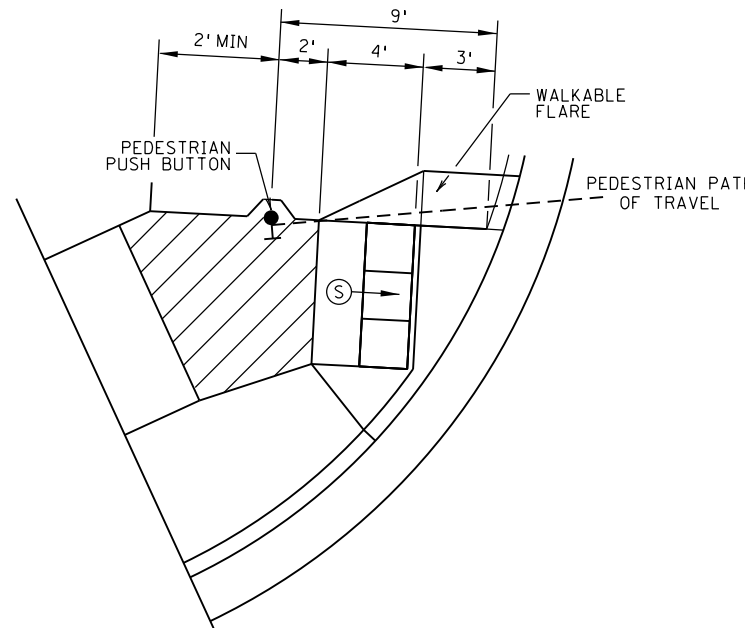


STANDARD ONE-WAY DIRECTIONAL ⑨



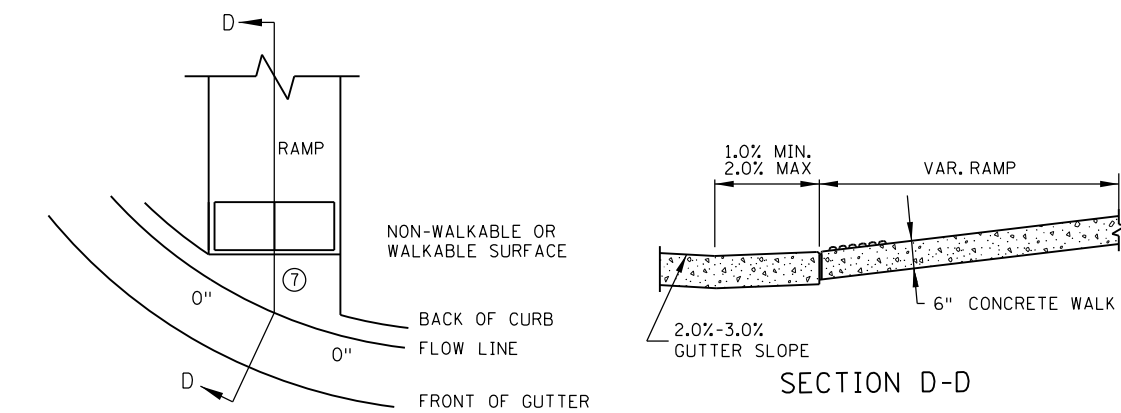
DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

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

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.

⑤ 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%.

⑥ 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%.

⑦ 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.

X" CURB HEIGHT

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



STANDARD PLAN 5-297.250

2 OF 6

PEDESTRIAN CURB RAMP DETAILS

Thomas Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

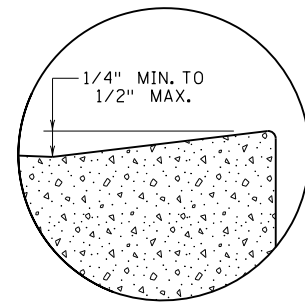
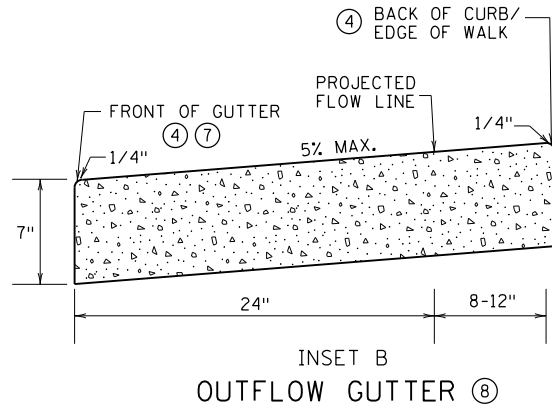
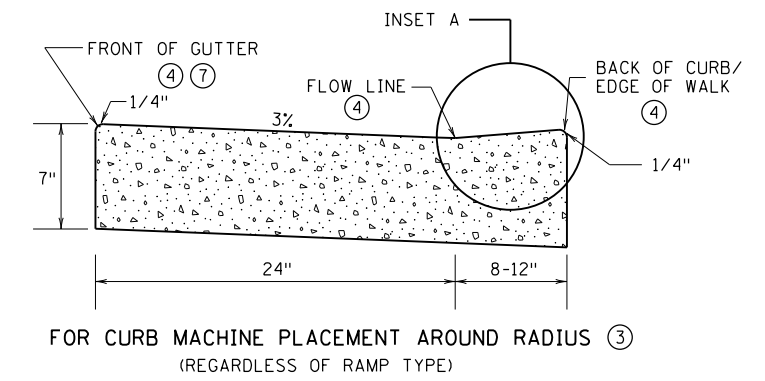
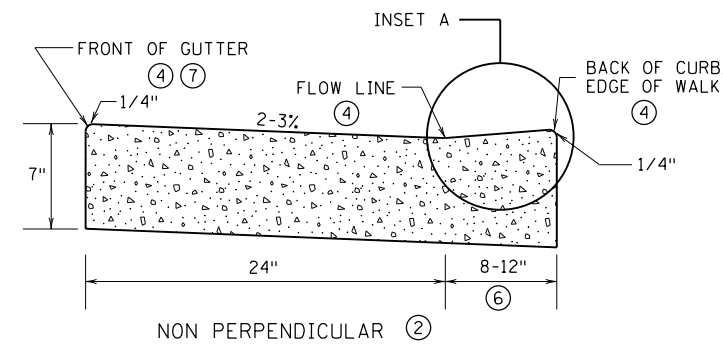
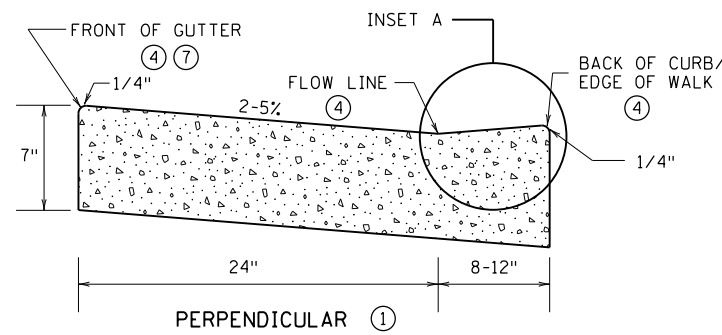
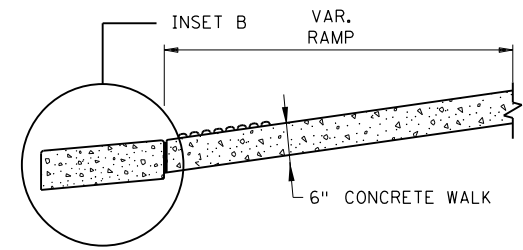
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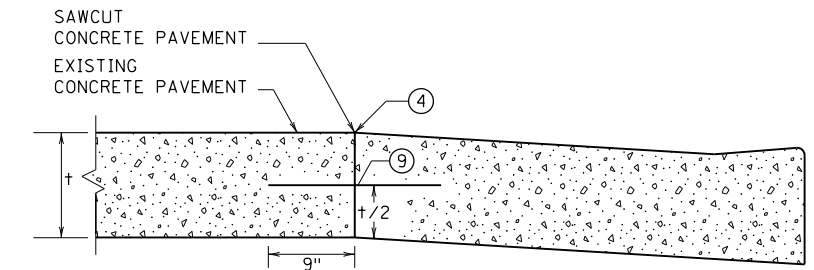
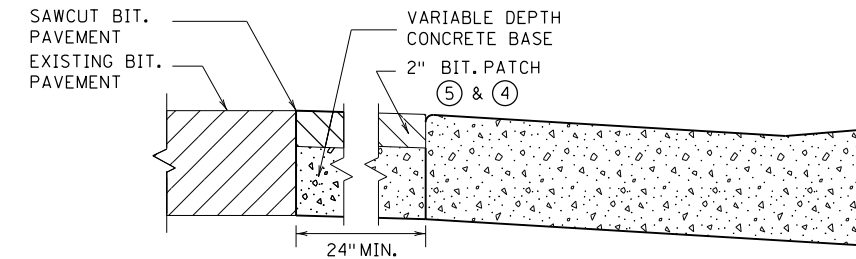
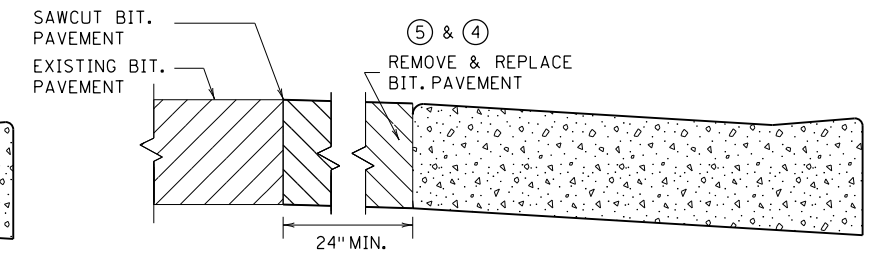
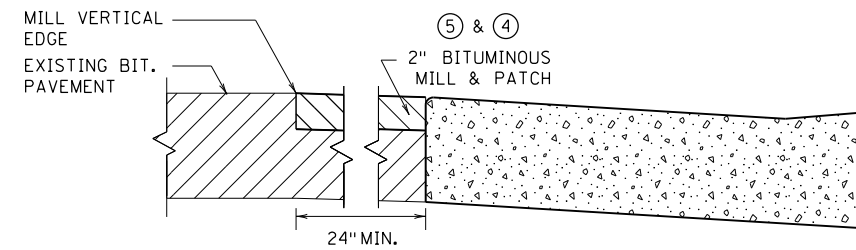
SHEET 25 OF 90 SHEETS

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PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL

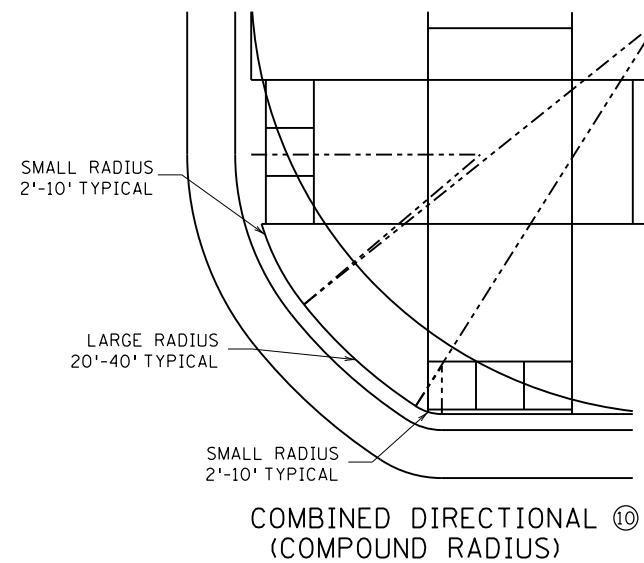
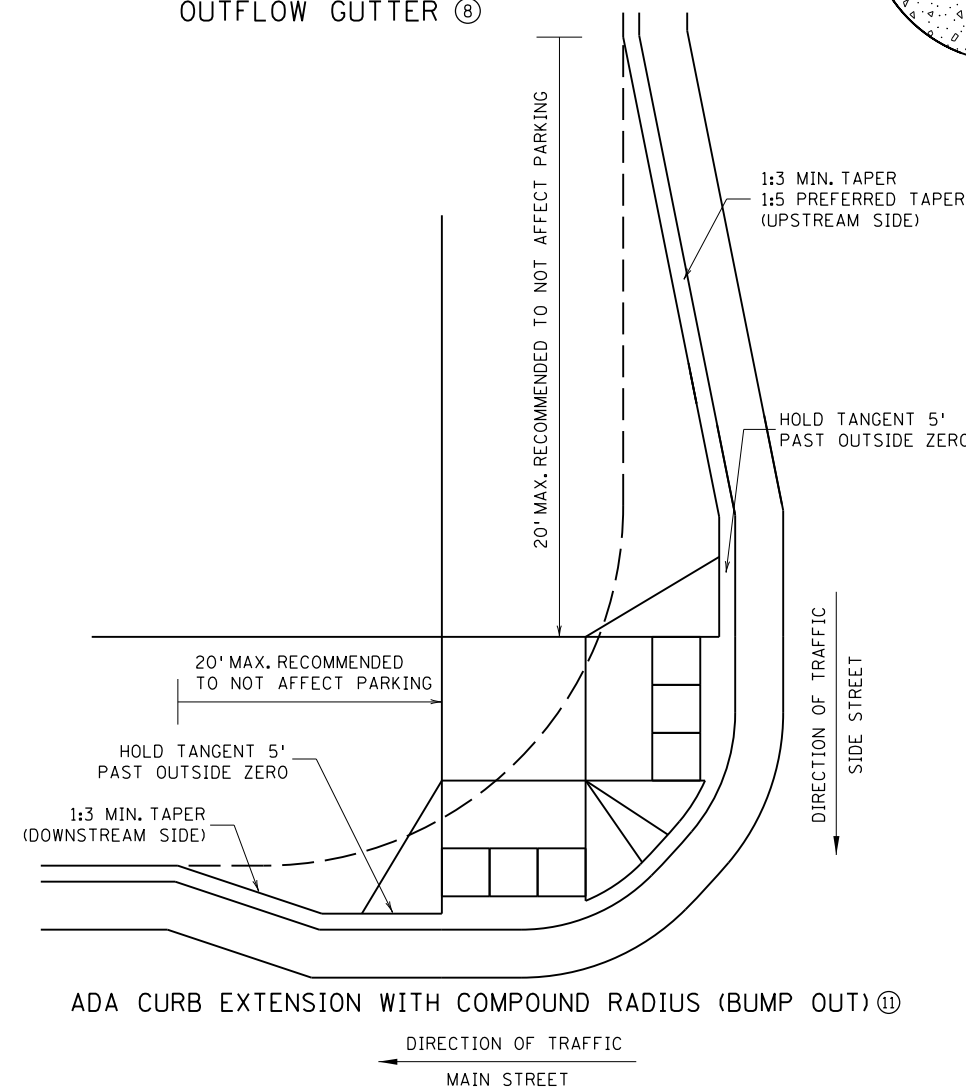


ONLY ALLOWED PER ENGINEER'S APPROVAL

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

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.



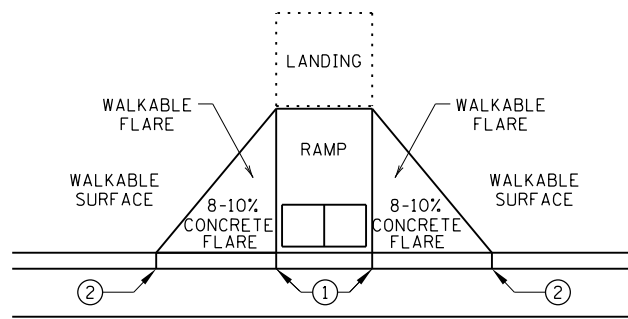
REVISION:
APPROVED: 11-04-2021 <i>Jeff J. Perkins</i> JEFFREY PERKINS OPERATIONS DIVISION

	STANDARD PLAN 5-297.250	3 OF 6
	 THOMAS STYRBICKI STATE DESIGN ENGINEER	
APPROVED: 11-04-2021		REVISED:
SP 002-635-012, SP 127-020-033		

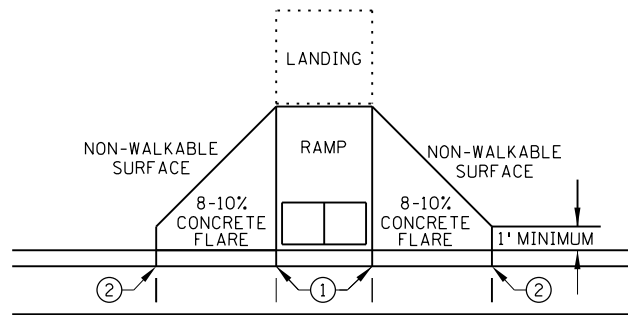
PEDESTRIAN CURB RAMP DETAILS

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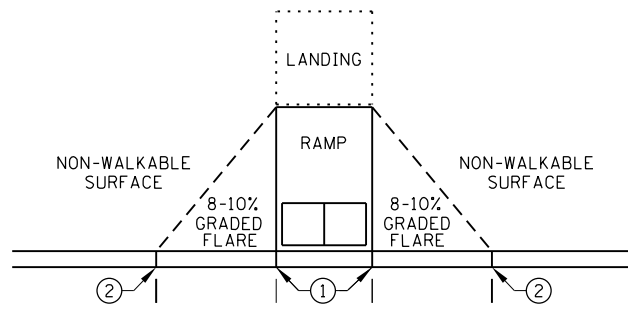
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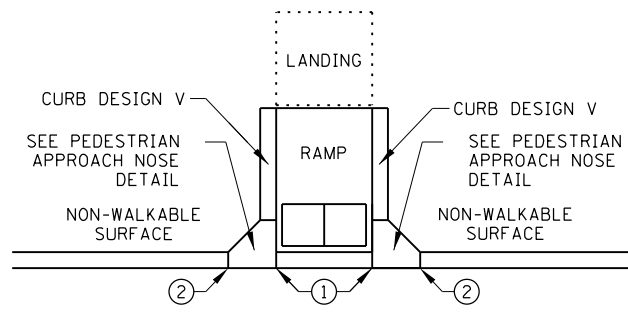
PAVED FLARES ADJACENT TO WALKABLE SURFACE



PAVED FLARES ADJACENT TO NON-WALKABLE SURFACE

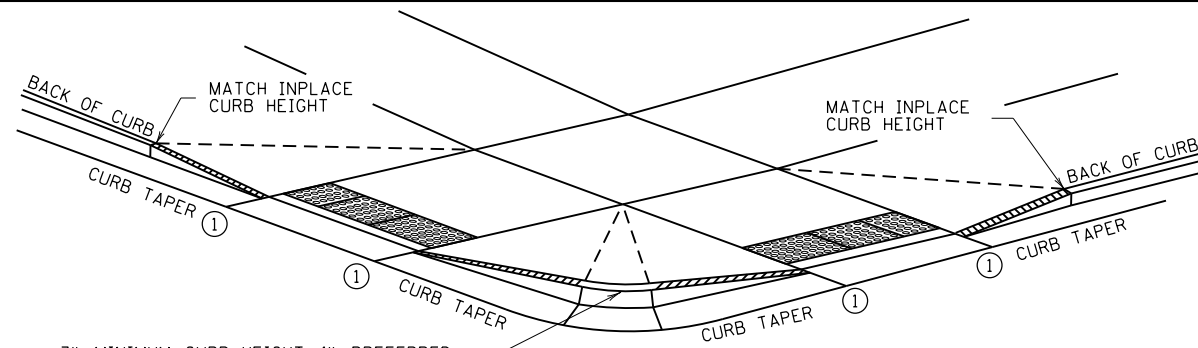


GRADED FLARES



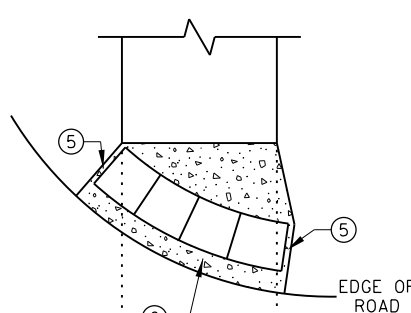
RETURNED CURB ④

TYPICAL SIDE TREATMENT OPTIONS ③ ⑩

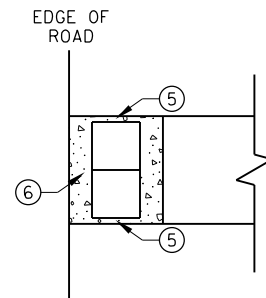


3" MINIMUM CURB HEIGHT, 4" PREFERRED (MEASURED AT FRONT FACE OF CURB) FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH CURB AND GUTTER ⑦

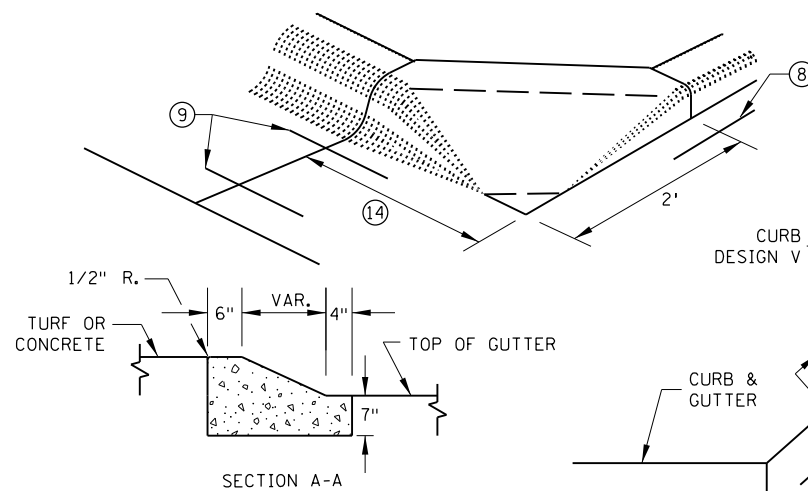


RADIAL DETECTABLE WARNING

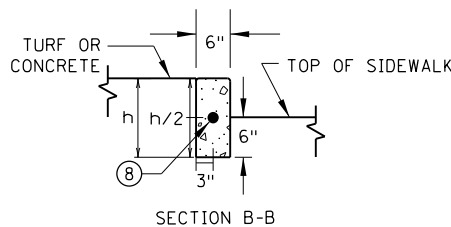


RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

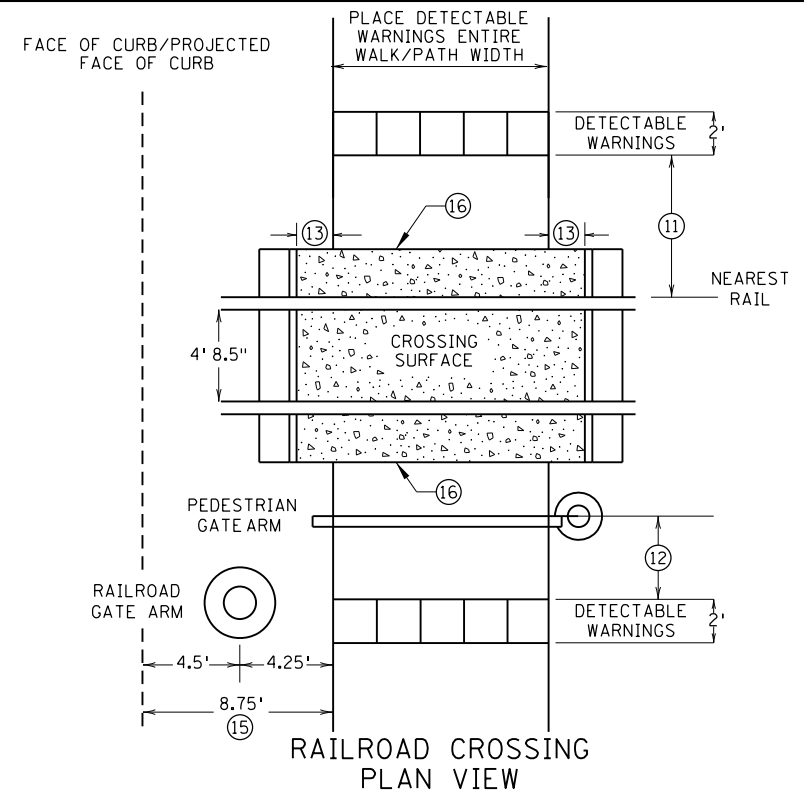


SECTION A-A



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 RAMPS 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
<i>Jeff J. Perkins</i>
JEFFREY PERKINS
OPERATIONS DIVISION



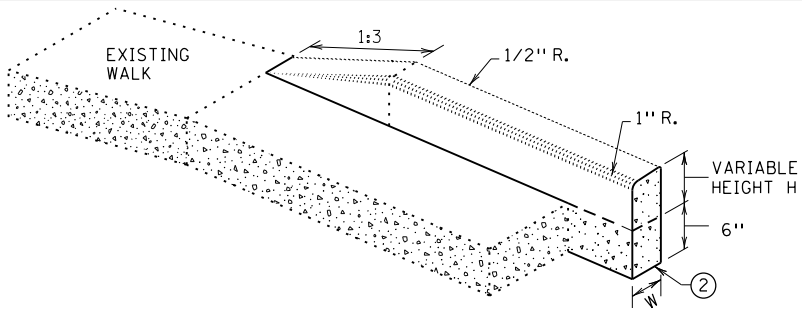
STANDARD PLAN 5-297.250	4 OF 6
<i>Tom Styrbicki</i>	APPROVED: 11-04-2021
THOMAS STYRBICKI	REVISOR:
STATE DESIGN ENGINEER	

SP 002-635-012, SP 127-020-033

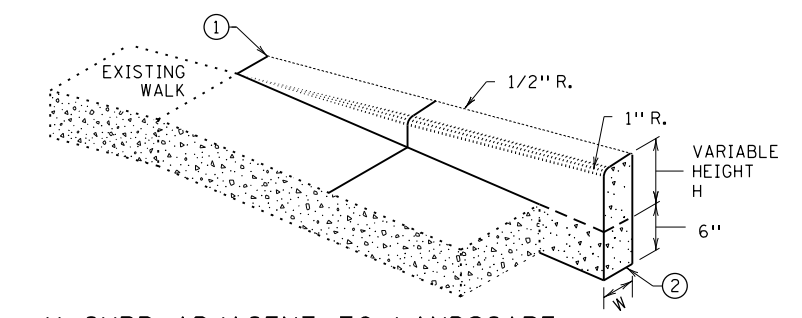
PEDESTRIAN CURB RAMP DETAILS

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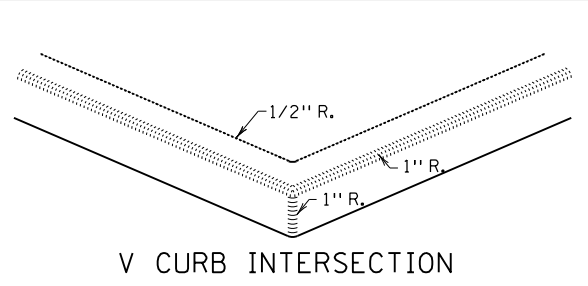
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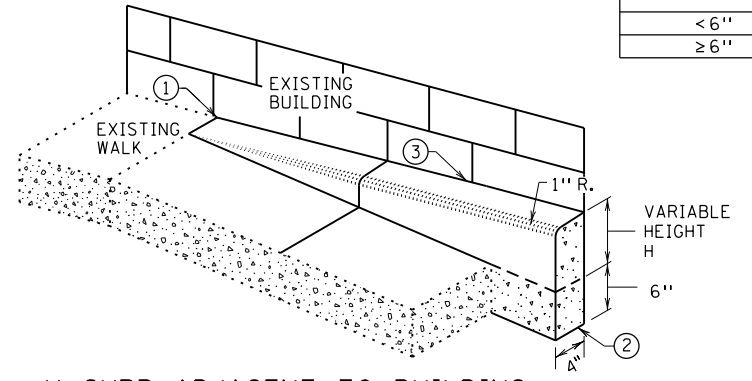
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

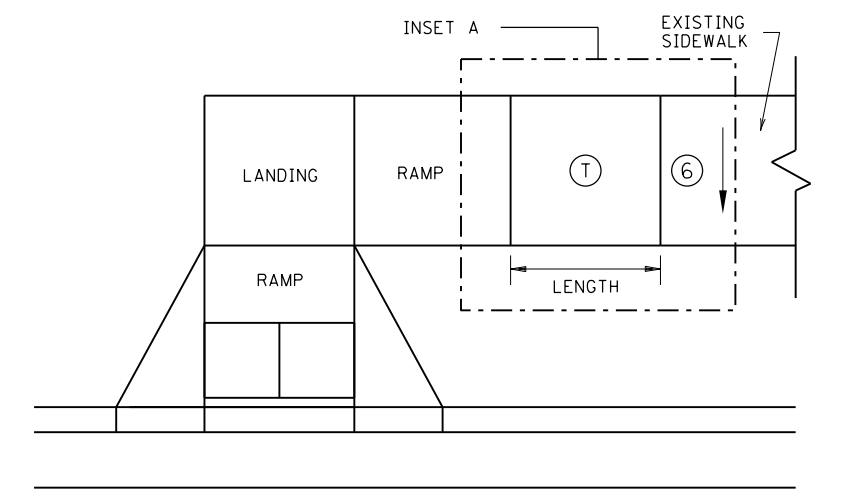


V CURB INTERSECTION

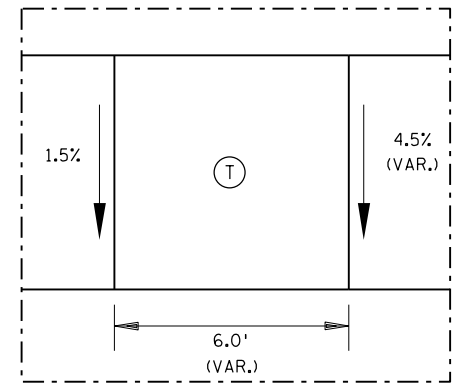


V CURB ADJACENT TO BUILDING OR BARRIER

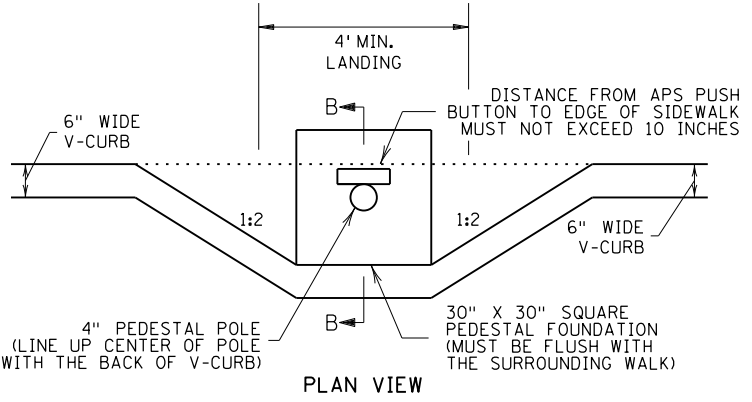
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



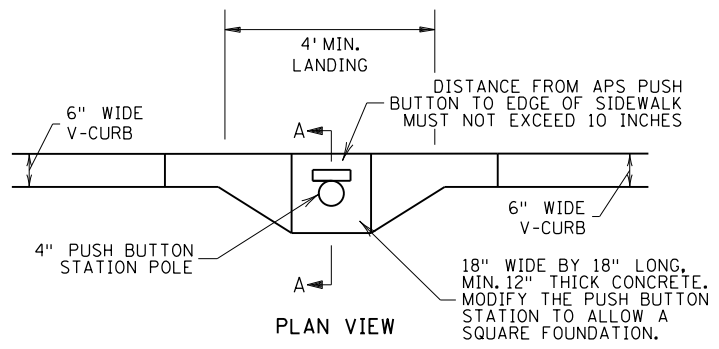
TRANSITION PANEL ④ ⑤



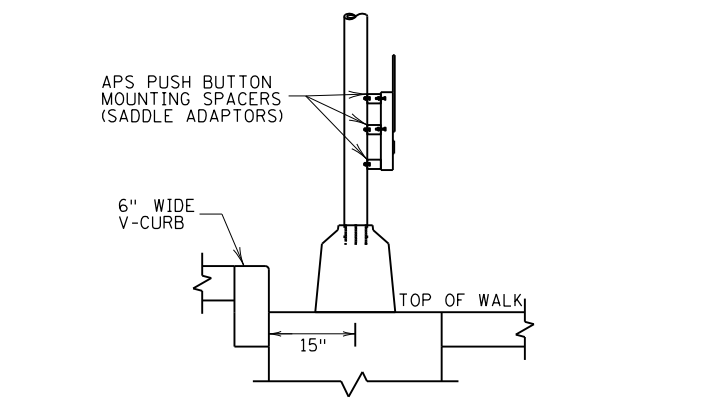
INSET A



PLAN VIEW

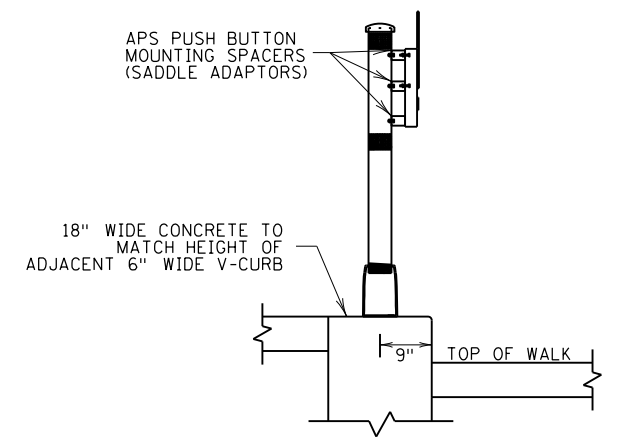


PLAN VIEW



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

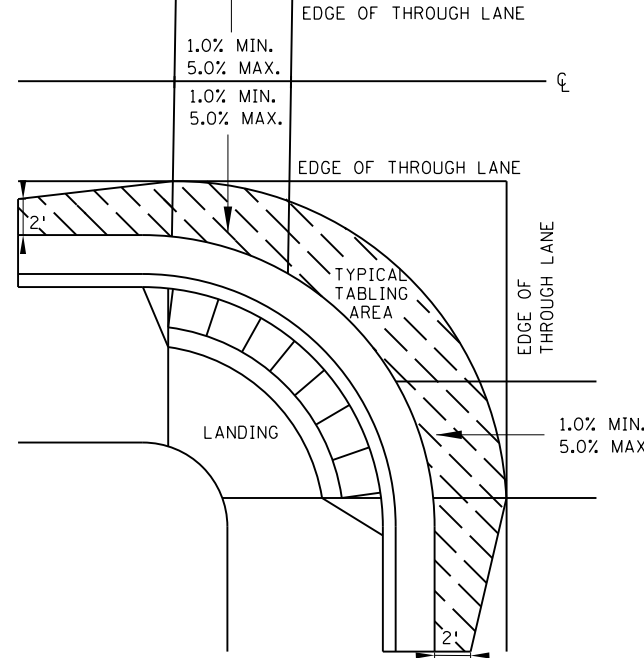
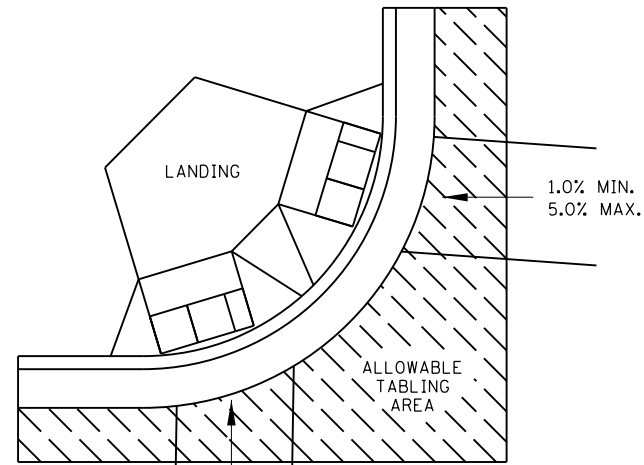
- THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
- ⑤ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- ④ 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.
- ① 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:
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Jeff J. Perkins
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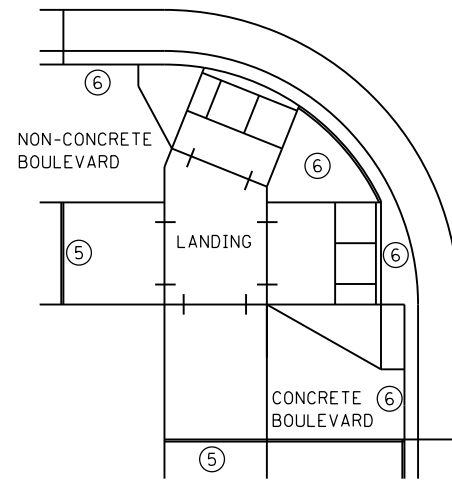
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STANDARD PLAN 5-297.250 5 OF 6
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER
APPROVED: 11-04-2021
REVISED:

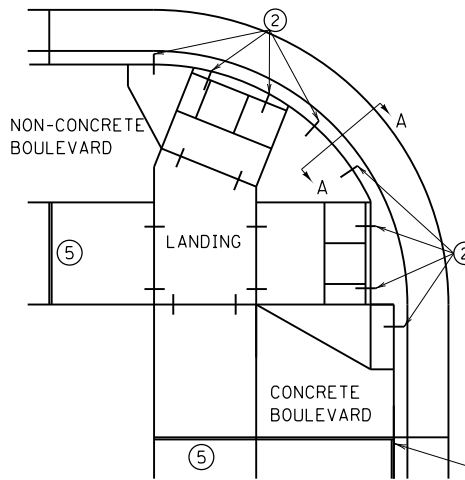
PEDESTRIAN CURB RAMP DETAILS
SP 002-635-012, SP 127-020-033
SHEET 28 OF 90 SHEETS



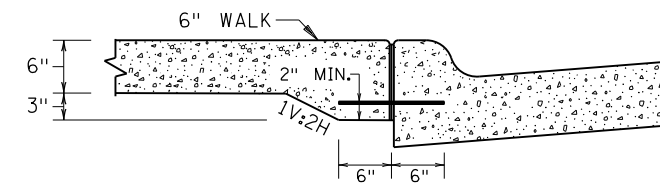
CURB LINE AND ROAD CROSSING ADJUSTMENTS



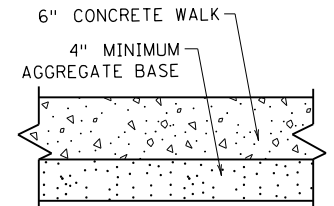
EXPANSION MATERIAL PLACEMENT FOR CONCRETE ROADWAYS



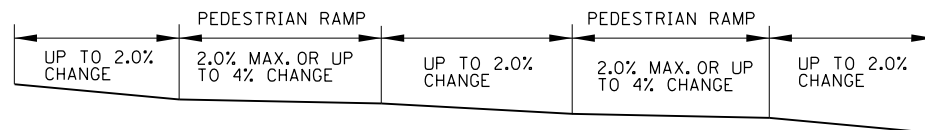
CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS



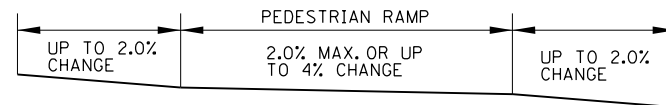
SECTION VIEW A-A THICKENED SECTION THROUGH CURB RAMP FLARES



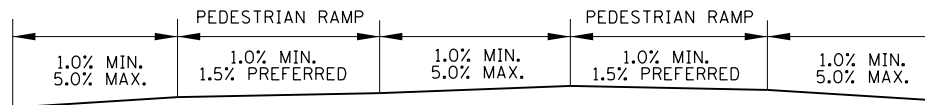
TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER



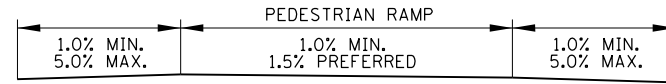
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



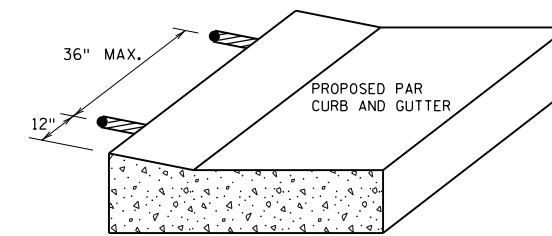
FLOW LINE PROFILE "TABLE" - FAN



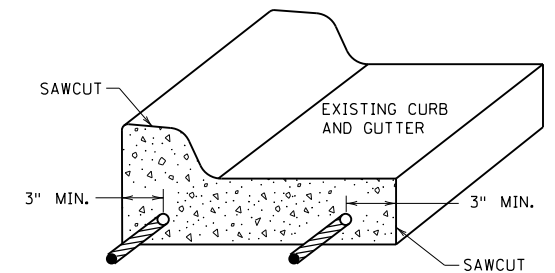
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



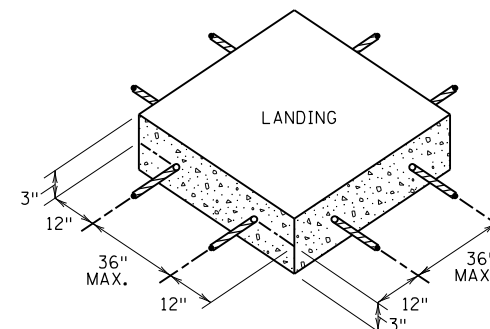
FLOW LINE PROFILE RAISE - FAN



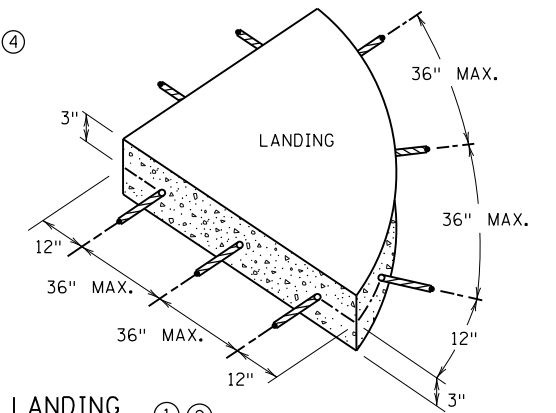
CURB RAMP REINFORCEMENT DETAILS



CURB AND GUTTER REINFORCEMENT



SEPARATE LANDING POUR REINFORCEMENT



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) 1.0% MIN. CROSS-SLOPE OF THE ROAD
- 2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
- 3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
- 4) 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) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
- 2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
- 3) 5.0% RECOMMENDED MAX. FLOW LINE
- 4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

- 1) 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.
- 2) 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.
- 3) 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.
- 4) THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.
- 5) CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.
- 6) 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

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MINNESOTA
DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250 6 OF 6

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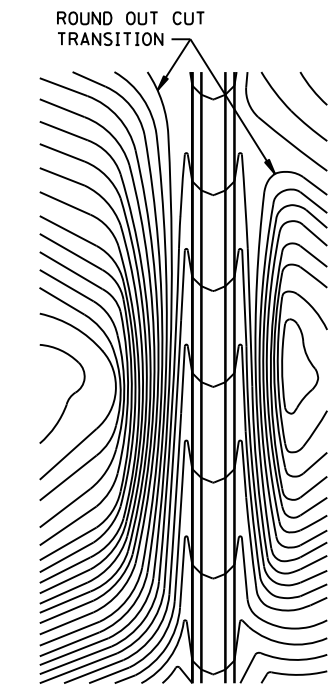
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

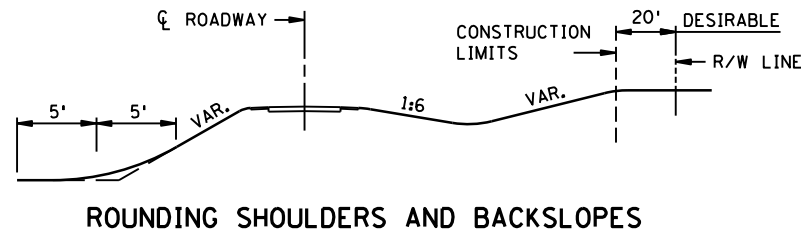
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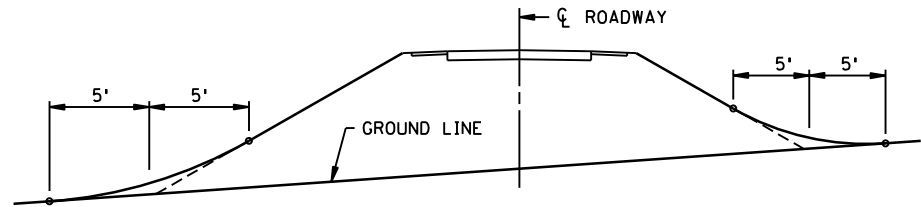
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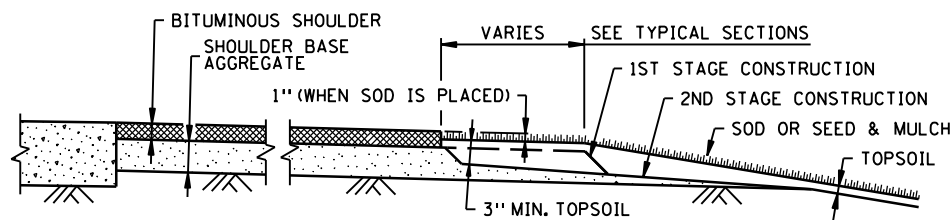
CONTOURING ROAD CUTS



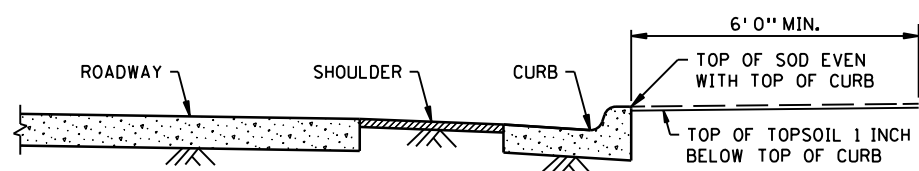
ROUNDING SHOULDERS AND BACKSLOPES



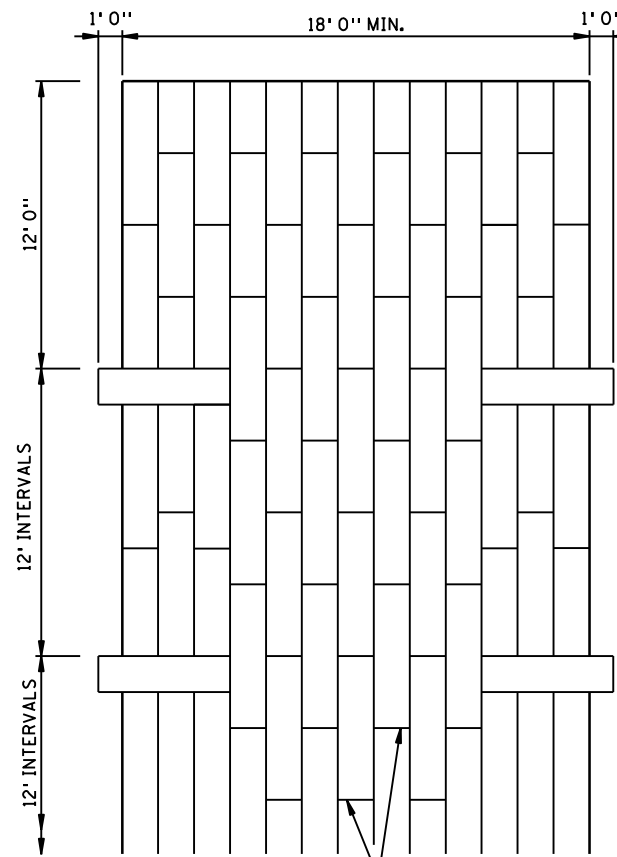
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



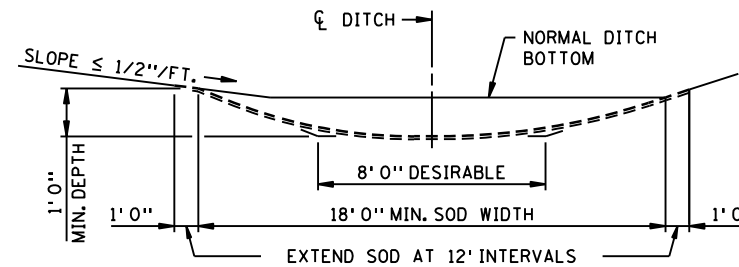
SHAPING AND TOPSOILING INSLOPES



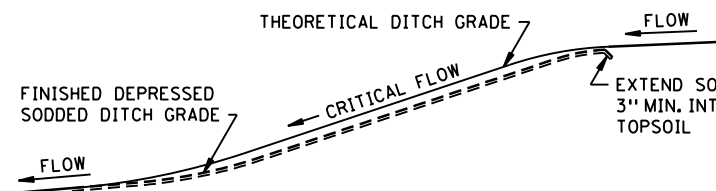
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



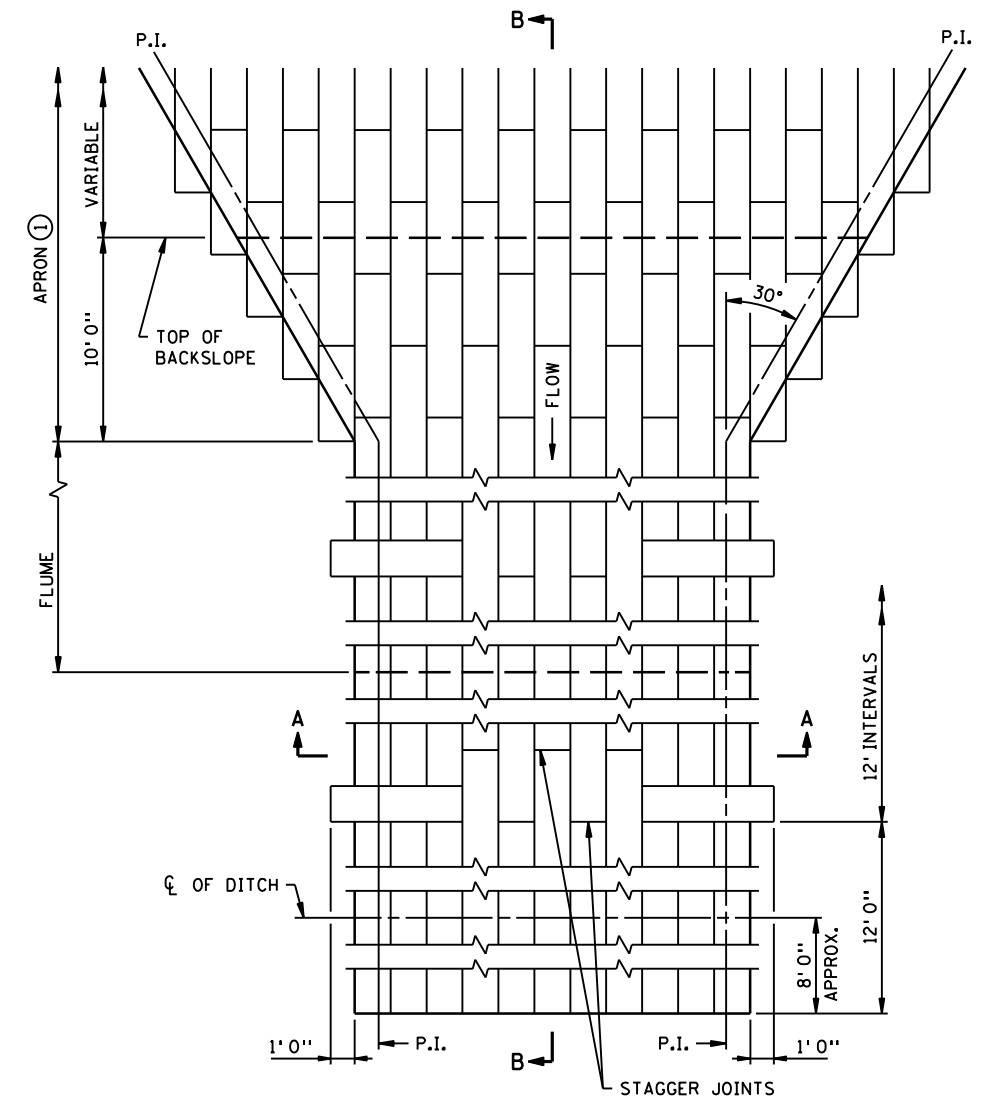
PLAN VIEW



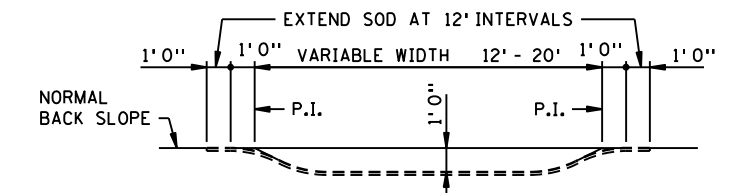
SODDED DITCH CROSS SECTION WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



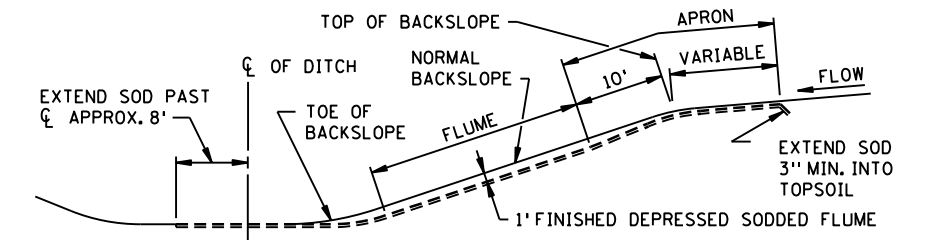
DITCH PROFILE SODDED DITCH DETAILS



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
 [Signature]
 CHIEF ENVIRONMENTAL OFFICER

m
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STANDARD PLAN 5-297.404 1 OF 3
 [Signature]
 STATE DESIGN ENGINEER
 APPROVED: 2-28-2017
 REVISED:

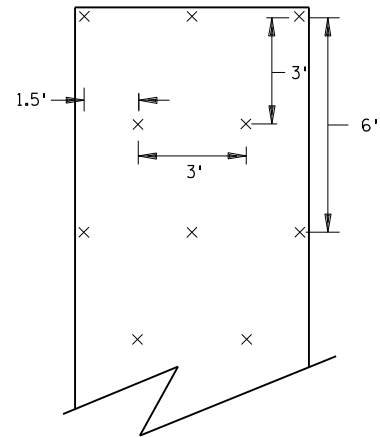
SP 002-635-012, SP 127-020-033

PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES

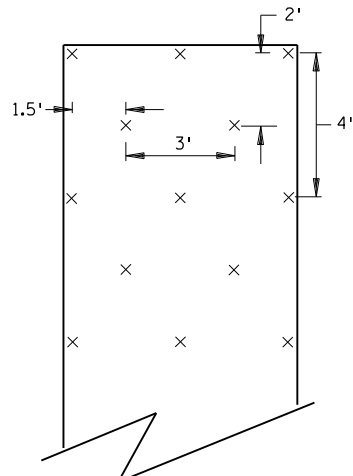
SHEET 30 OF 90 SHEETS

PLOTTED/REVISED: 11/28/2022 11:11:08 AM

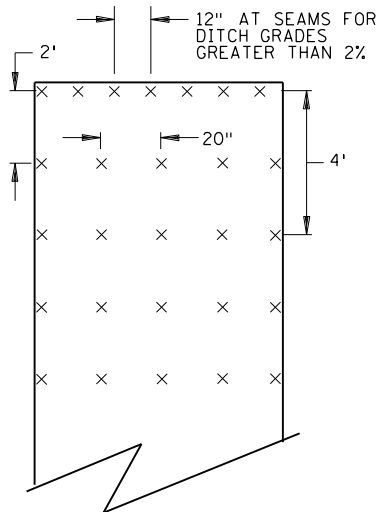
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SLOPES FLATTER THAN 1:2
120 STAPLES PER 100 SQ YD

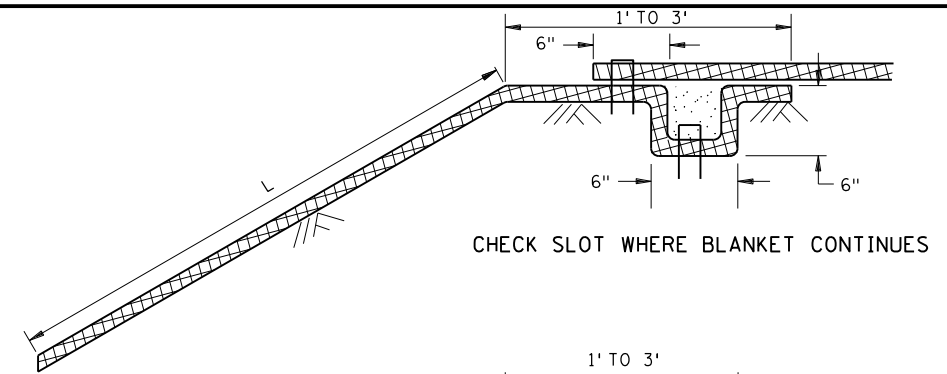


SLOPES 1:2 TO 1:1
170 STAPLES PER 100 SQ YD

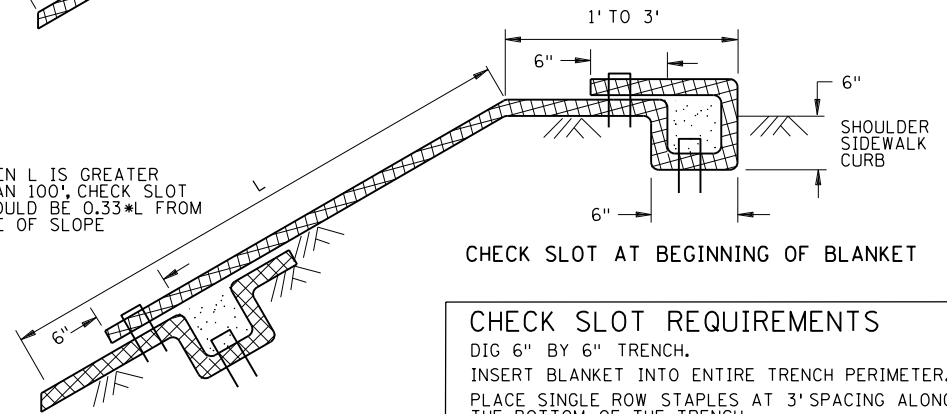


CHANNEL AND DITCH APPLICATIONS
350 STAPLES PER 100 SQ YD

BLANKET STAPLE PATTERN

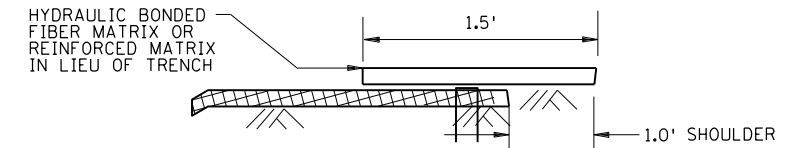


CHECK SLOT WHERE BLANKET CONTINUES



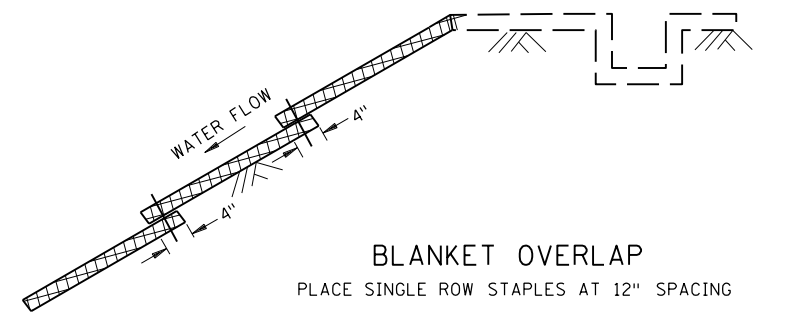
CHECK SLOT AT BEGINNING OF BLANKET

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.



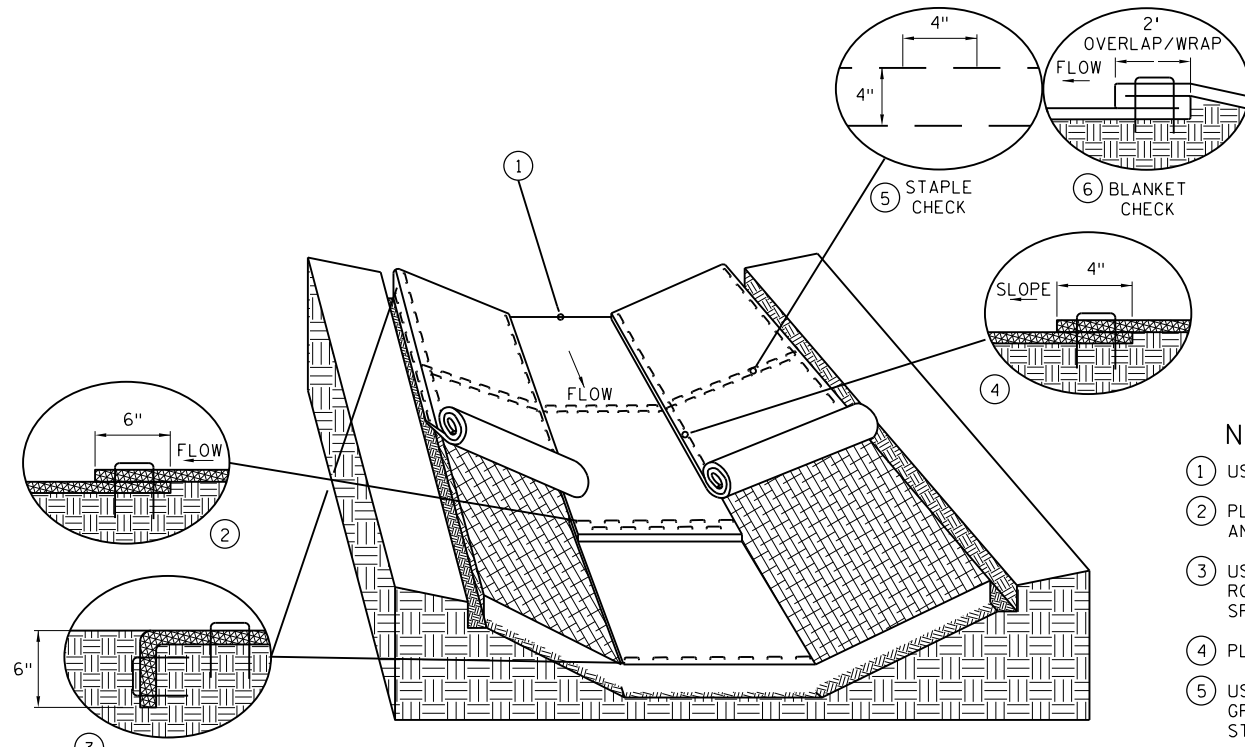
CHECK SLOT ALTERNATIVE
PLACE SINGLE ROW STAPLES AT 12" SPACING

CHECK SLOT DETAILS

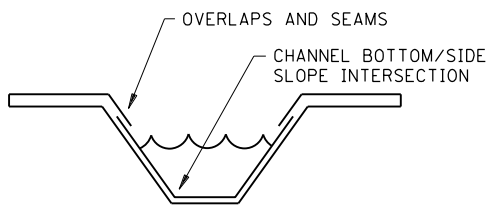


BLANKET OVERLAP
PLACE SINGLE ROW STAPLES AT 12" SPACING

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 STAPLE DETAIL



DITCH BLANKET CRITICAL POINTS ⑦

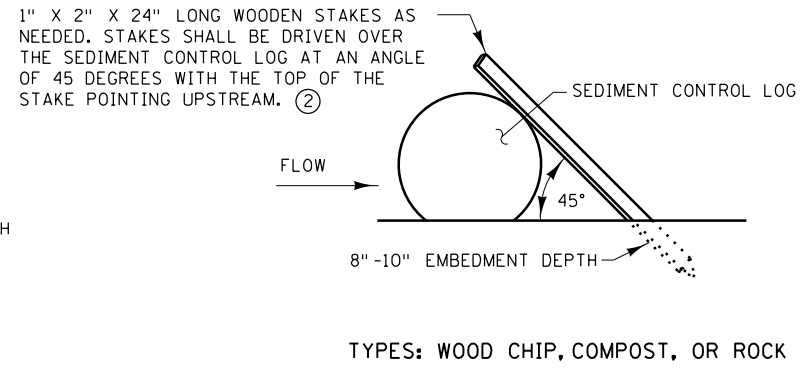
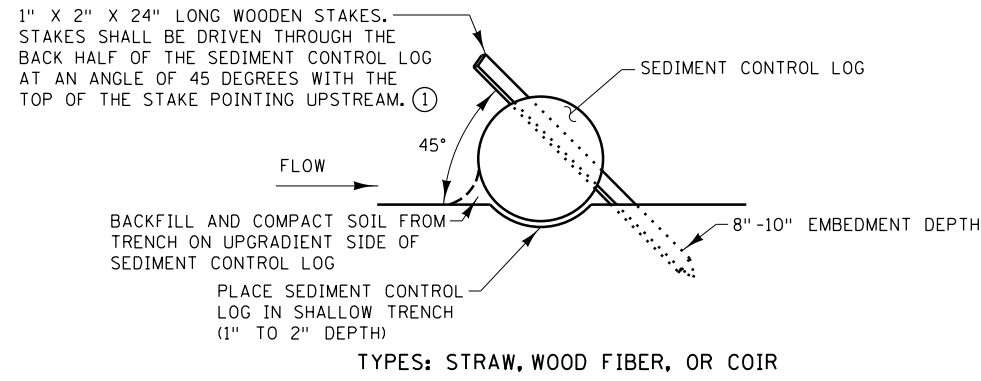
NOTES:

- 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.

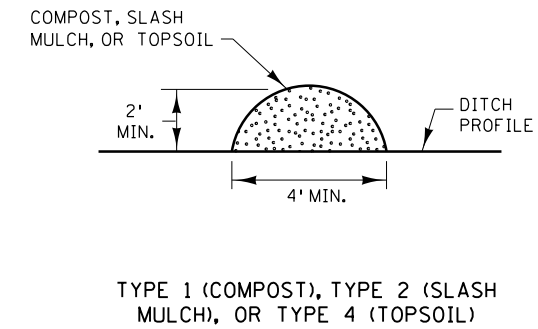
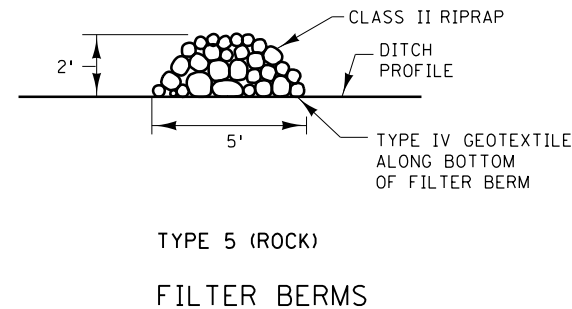
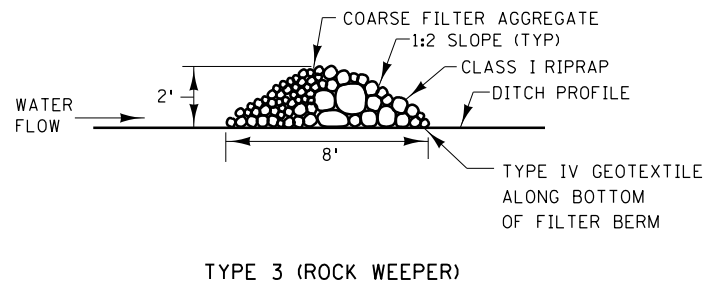
REVISION:
APPROVED: JANUARY 8, 2020
Marni Karnowski
MARNI KARNOWSKI
CHIEF ENVIRONMENTAL OFFICER

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

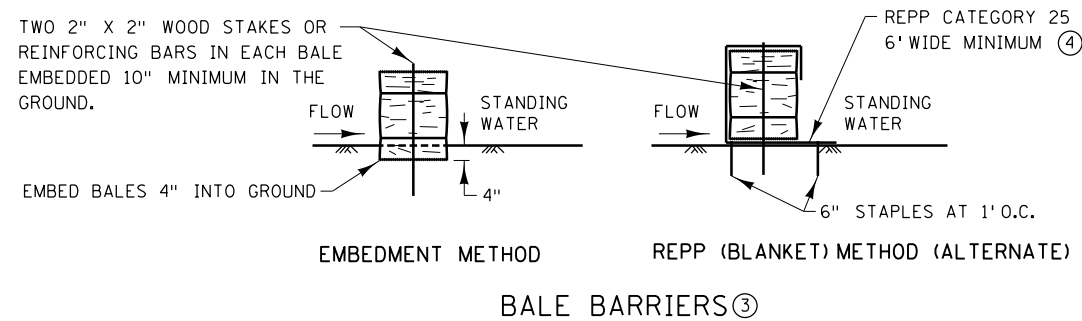
PERMANENT EROSION CONTROL
REPP (BLANKET) STAPLE PATTERN FOR SLOPES
SP 002-635-012, SP 127-020-033
SHEET 31 OF 90 SHEETS



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

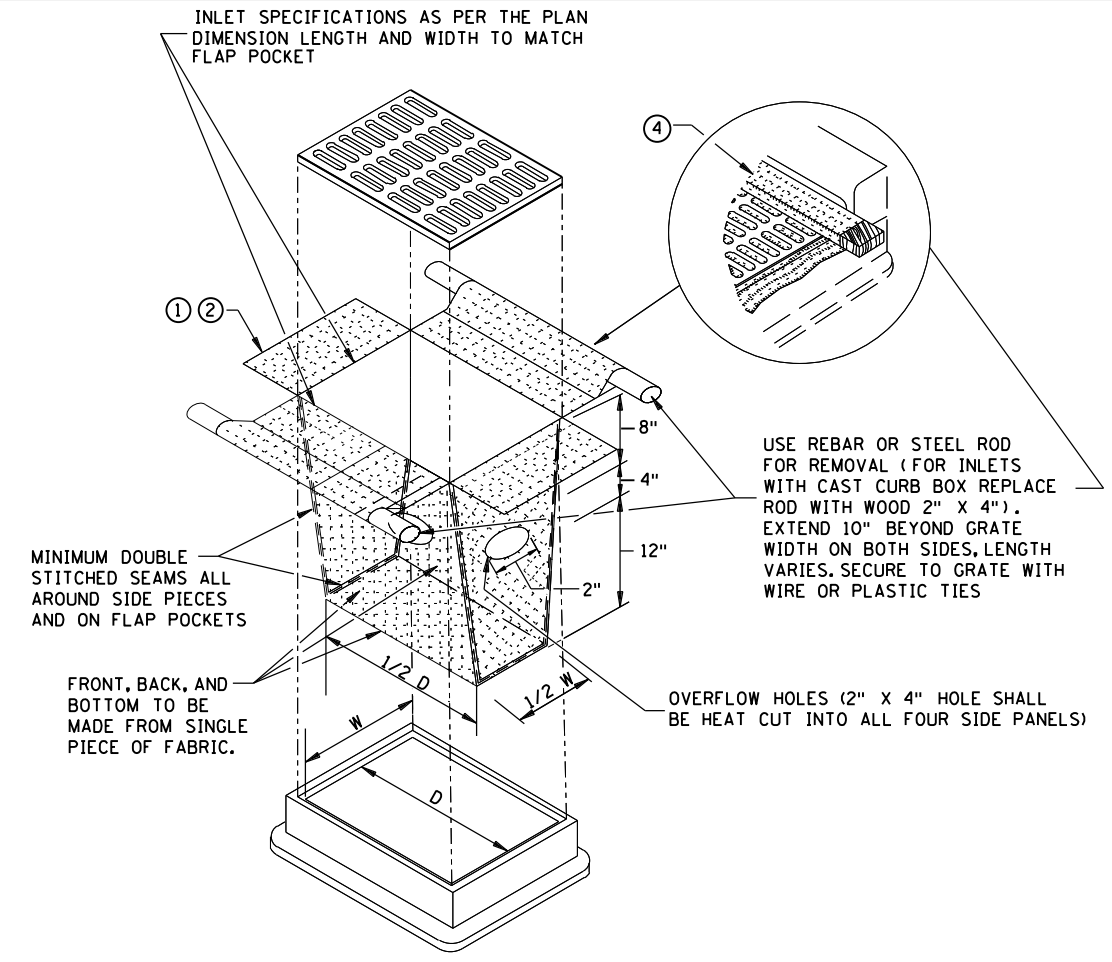
	STANDARD PLAN 5-297.405	2 OF 8
		APPROVED: 1-8-2020
DEPARTMENT OF TRANSPORTATION	THOMAS STYRBICKI STATE DESIGN ENGINEER	REVISED:

<p>TEMPORARY SEDIMENT CONTROL</p> <p>FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS</p>
<p>SP 002-635-012, SP 127-020-033</p>
<p>SHEET 32 OF 90 SHEETS</p>

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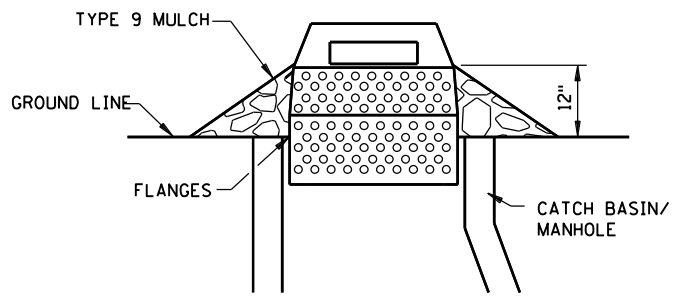
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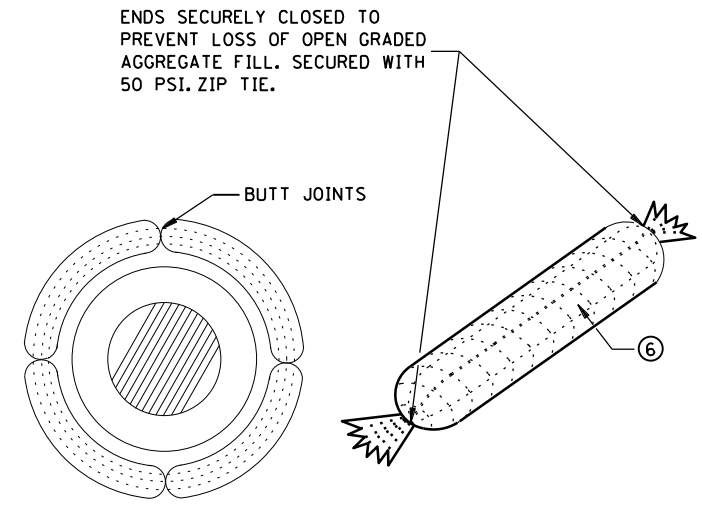
FILTER BAG INSERT ③

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

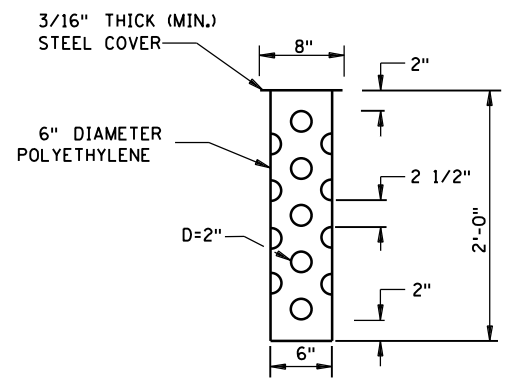


SEDIMENT CONTROL INLET HAT

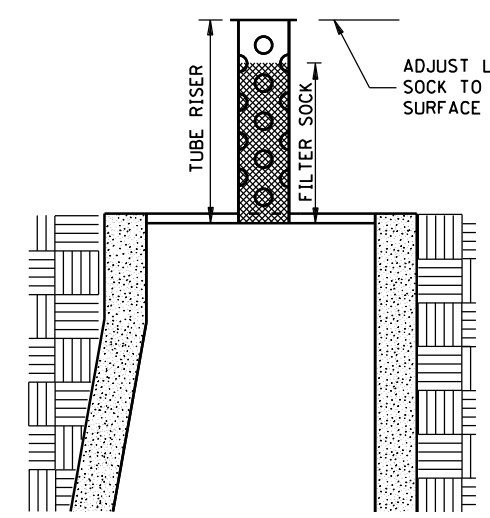
NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



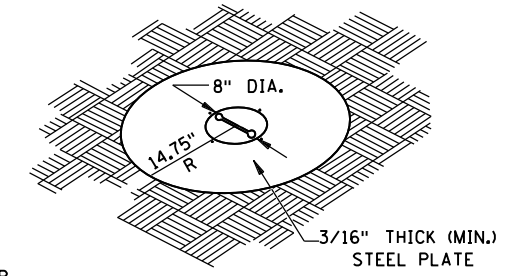
ROCK LOG/COMPOST LOG



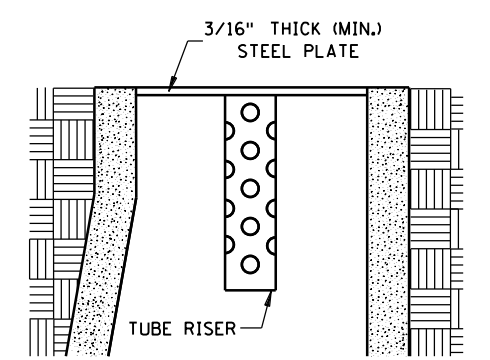
TUBE RISER



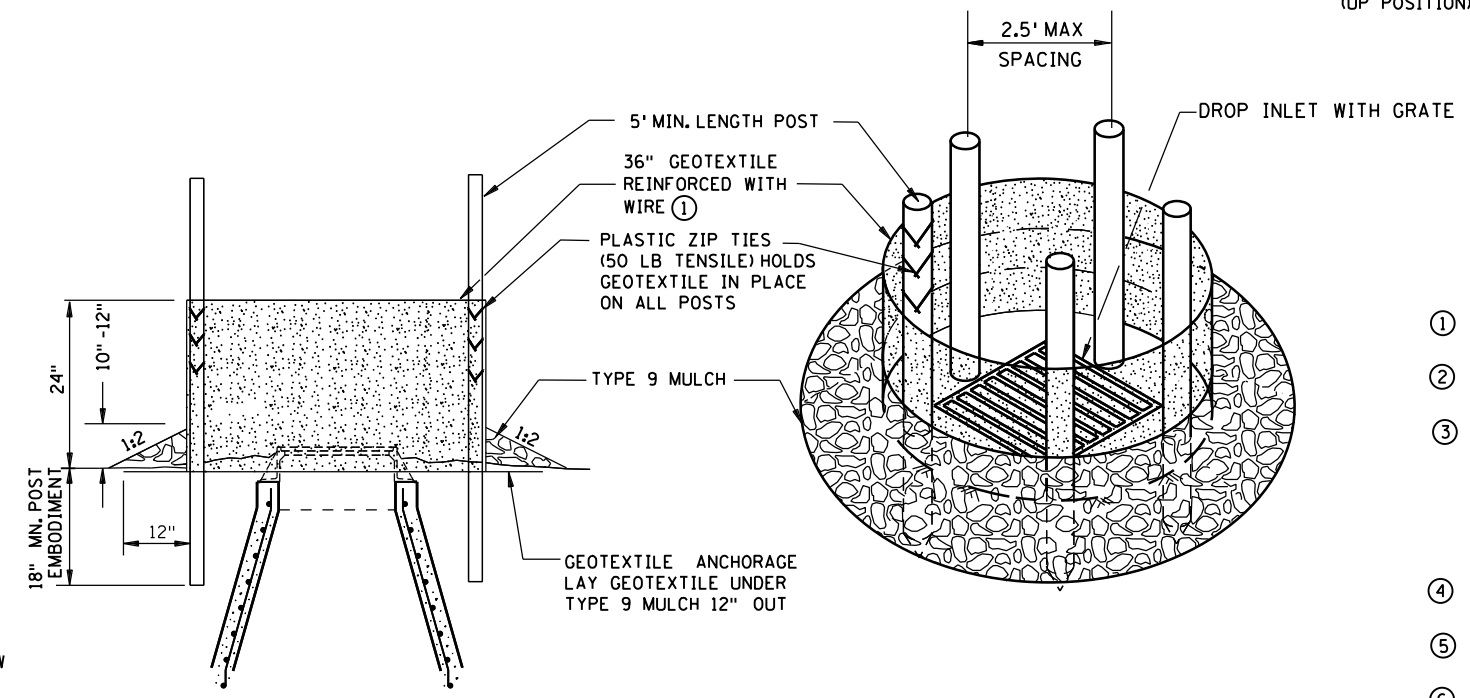
SECTION (UP POSITION)



PERSPECTIVE VIEW



SECTION (DOWN POSITION)



SILT FENCE RING AND ROCK FILTER BERM

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

POP-UP HEAD

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.

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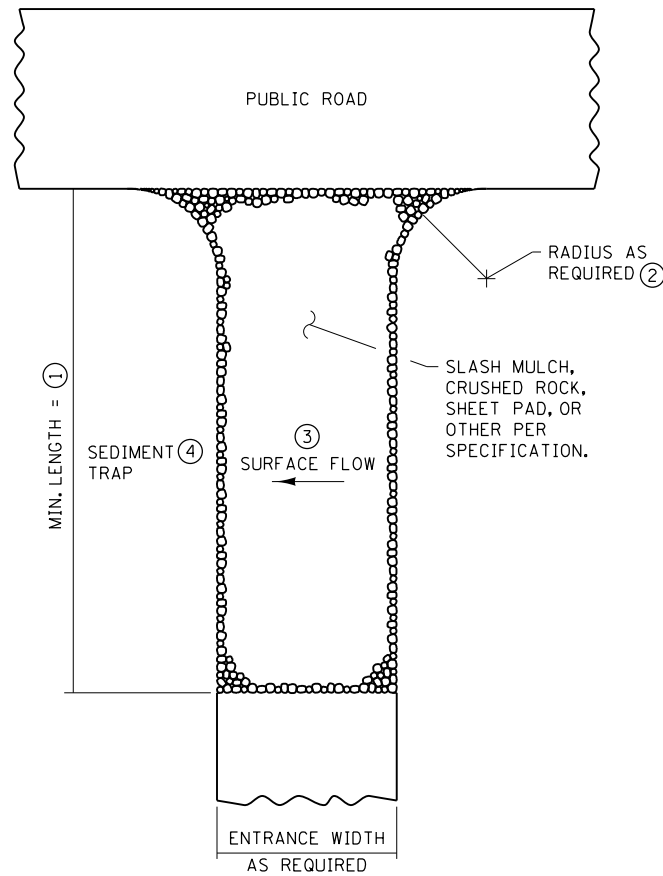


STANDARD PLAN 5-297.405 4 OF 8
APPROVED: 2-28-2017
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STATE DESIGN ENGINEER

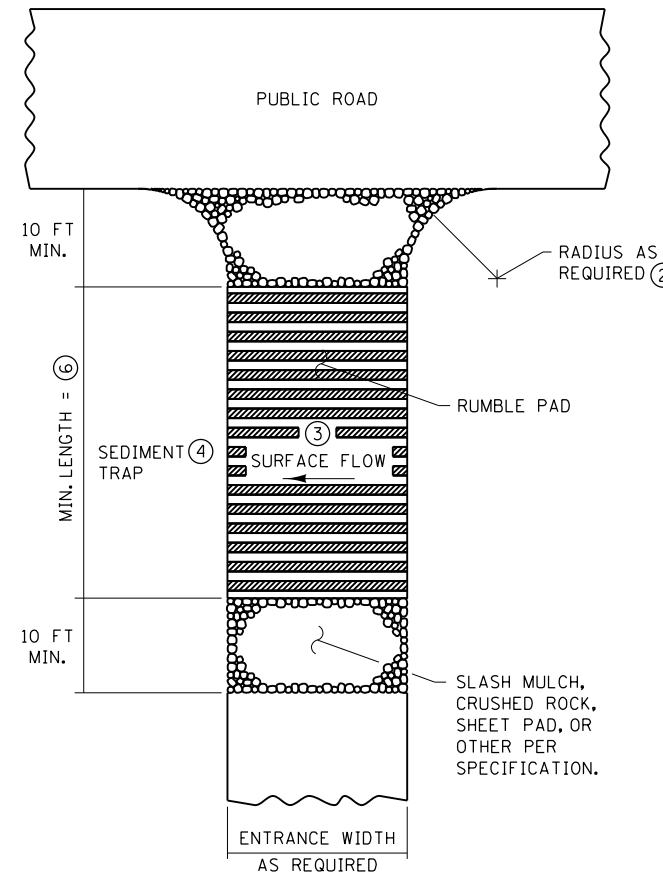
**TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION**

SP 002-635-012, SP 127-020-033

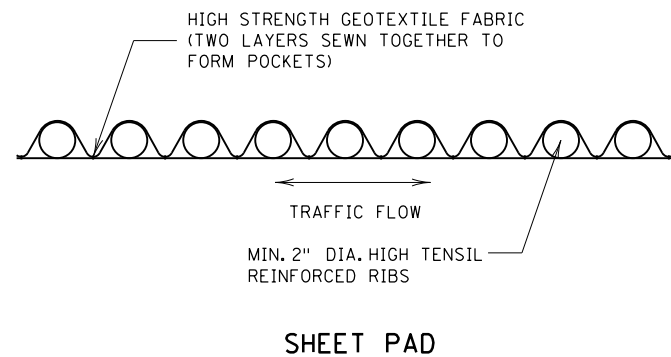
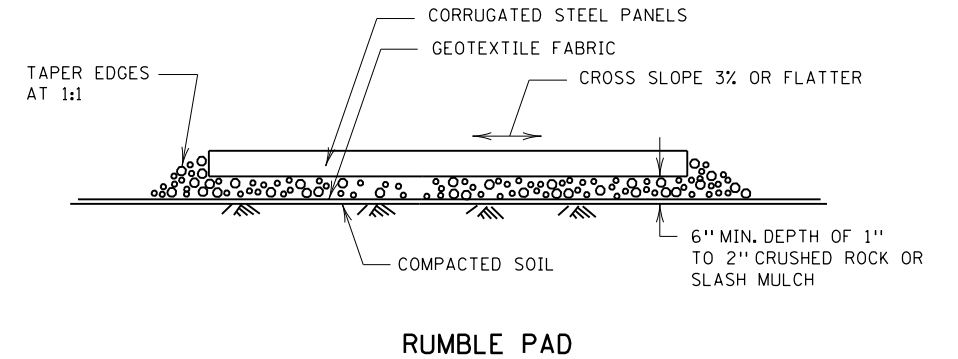
SHEET 33 OF 90 SHEETS



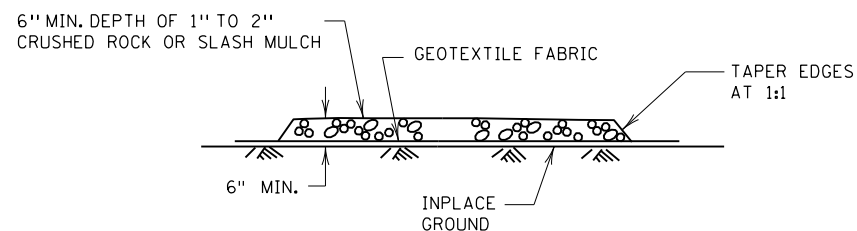
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT 5 7



RUMBLE PAD CONSTRUCTION EXIT 5 7



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.

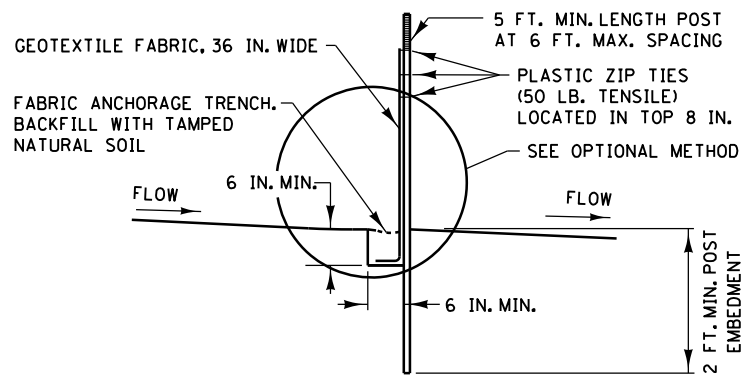
REVISION:
APPROVED: 2-28-2017
<i>[Signature]</i> CHIEF ENVIRONMENTAL OFFICER

	STANDARD PLAN 5-297.405	5 OF 8
	APPROVED: 2-28-2017 REVISED:	
DEPARTMENT OF TRANSPORTATION	STATE DESIGN ENGINEER	SP 002-635-012, SP 127-020-033

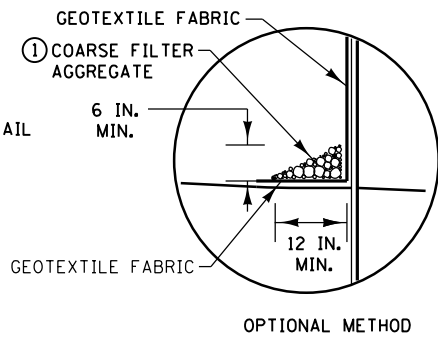
**TEMPORARY SEDIMENT CONTROL
STABILIZED CONSTRUCTION EXIT**

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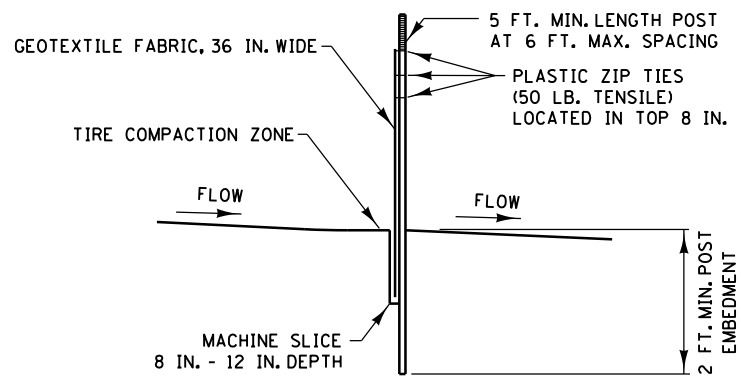
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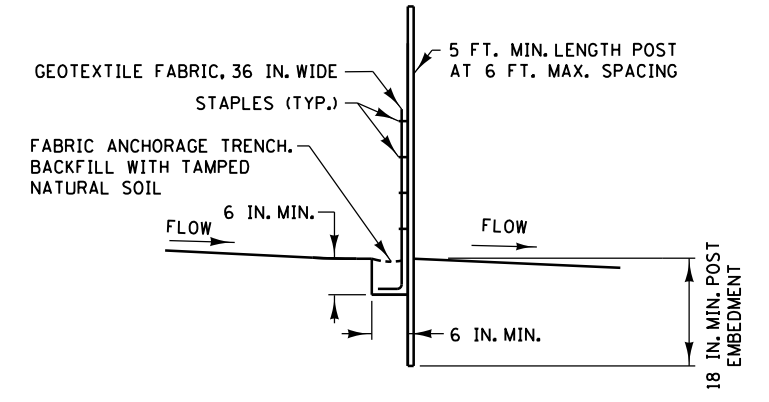
**SILT FENCE TYPE HI ②
(HAND INSTALLED)**



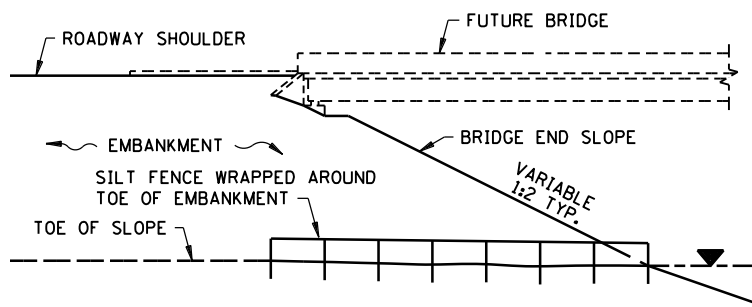
OPTIONAL METHOD



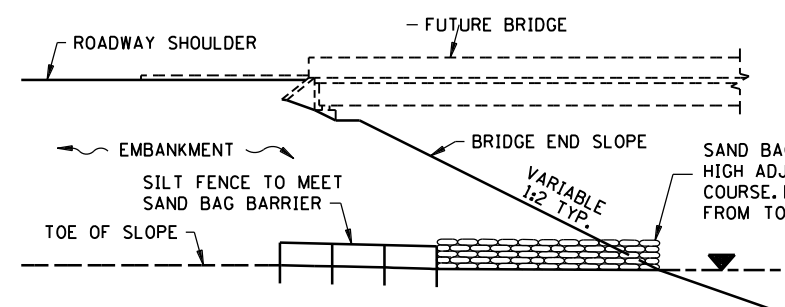
**SILT FENCE TYPE MS ②
(MACHINE SLICED)**



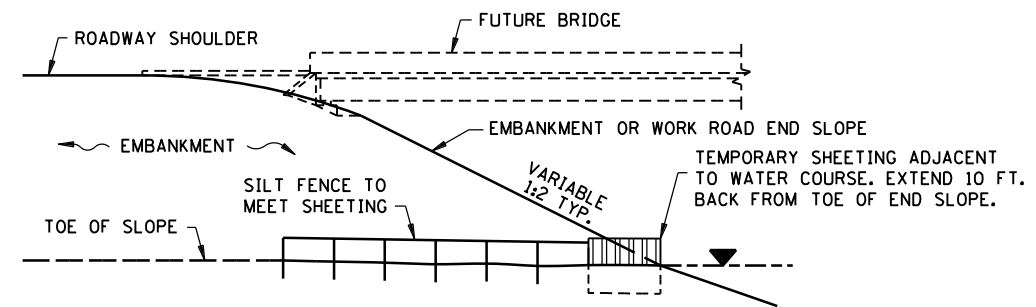
**SILT FENCE TYPE PA ③
(PREASSEMBLED)**



SILT FENCE ONLY ④

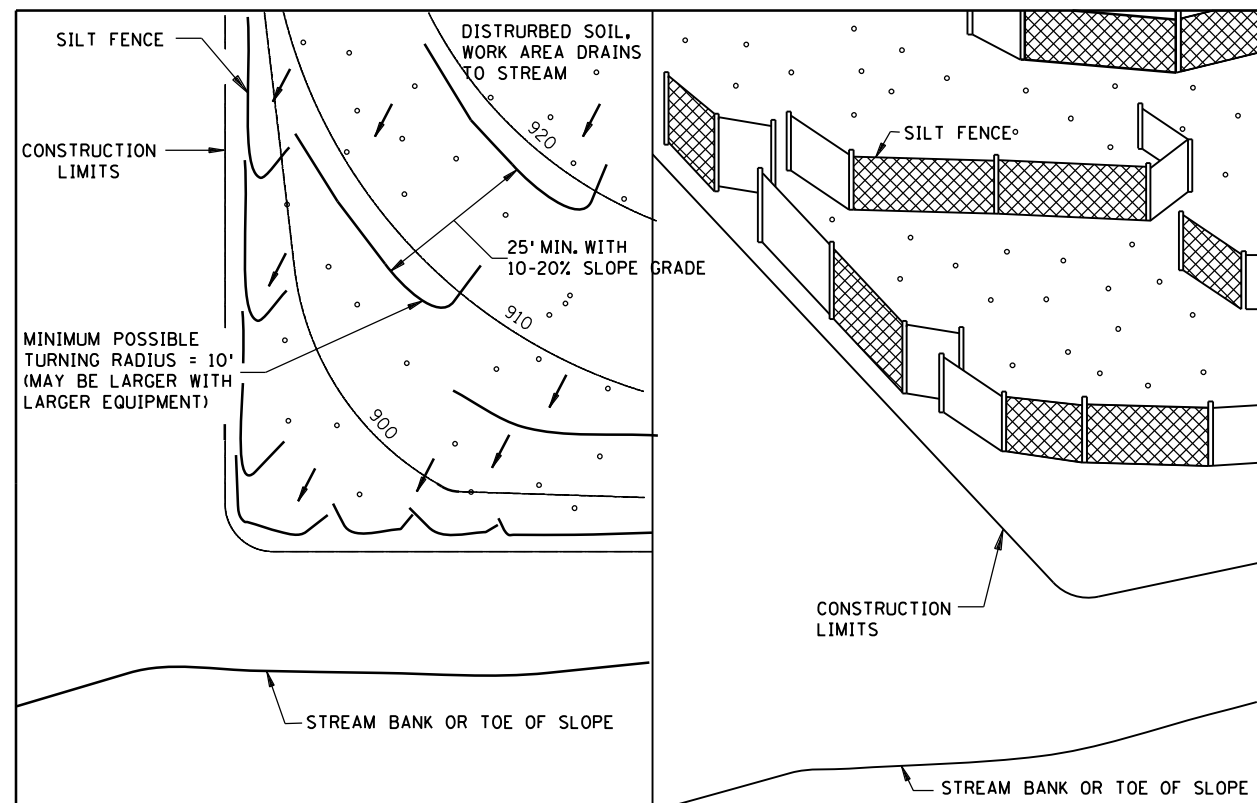


SILT FENCE WITH SAND BAGS ⑤



SILT FENCE WITH SHEETING ⑥

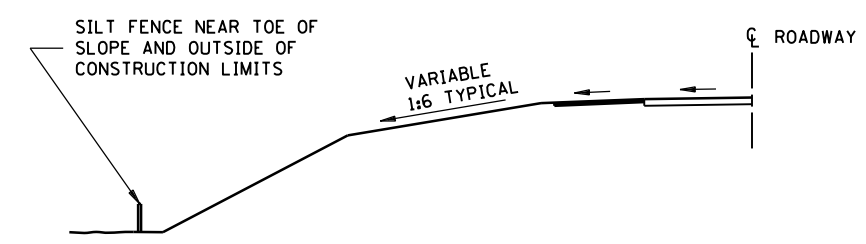
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



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.

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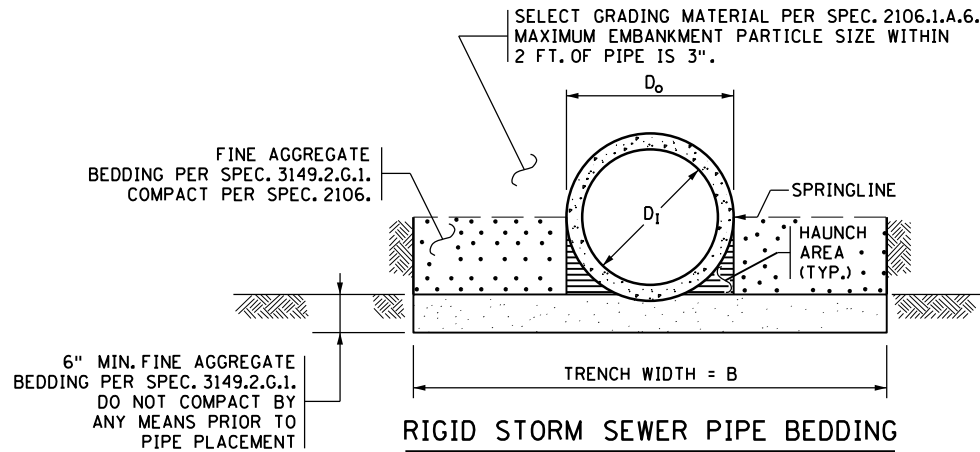
STANDARD PLAN 5-297.405 6 OF 8
APPROVED: 2-28-2017
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**TEMPORARY SEDIMENT CONTROL
SILT FENCE**

SP 002-635-012, SP 127-020-033

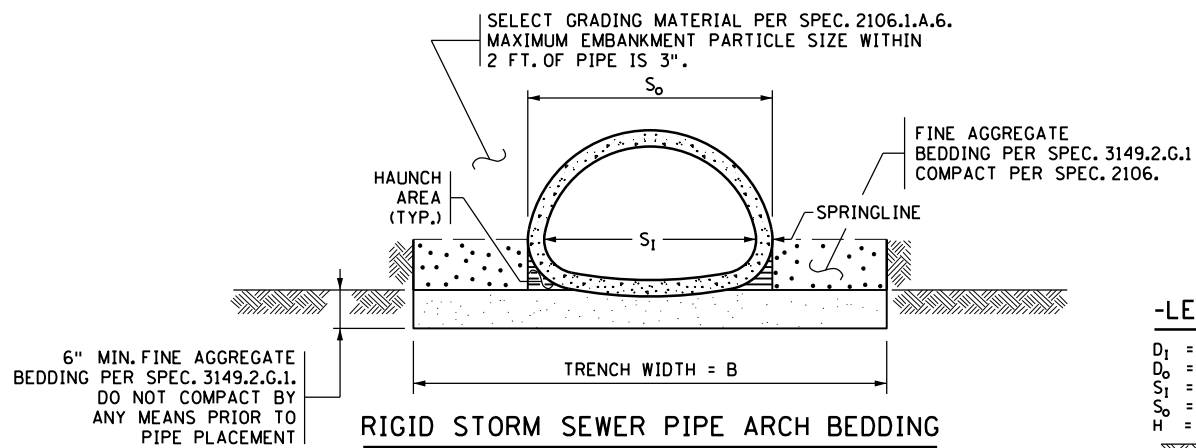
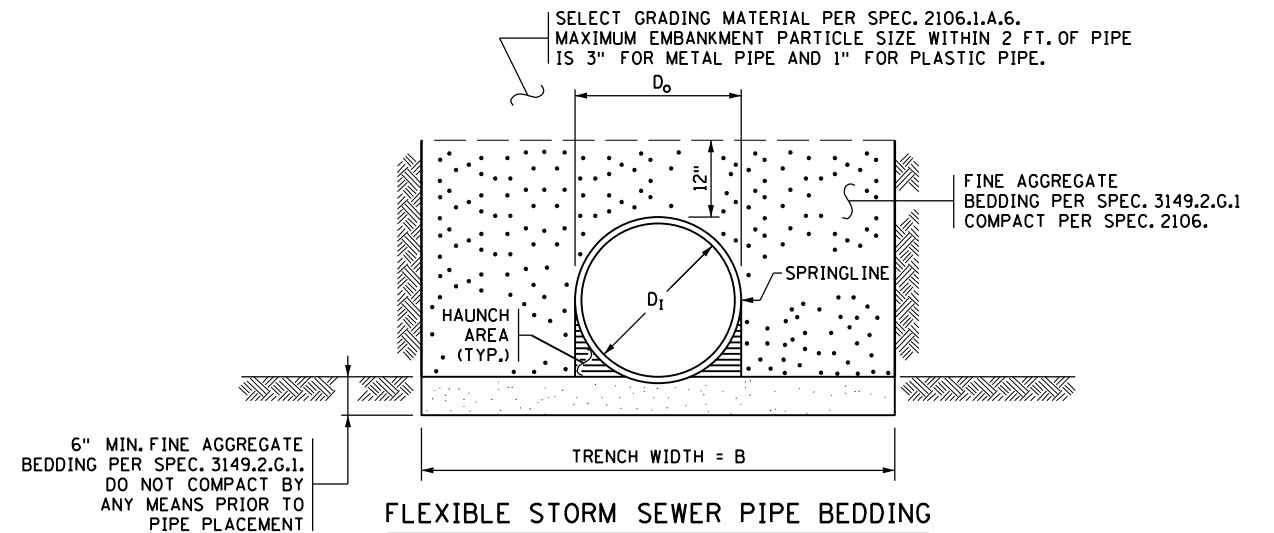
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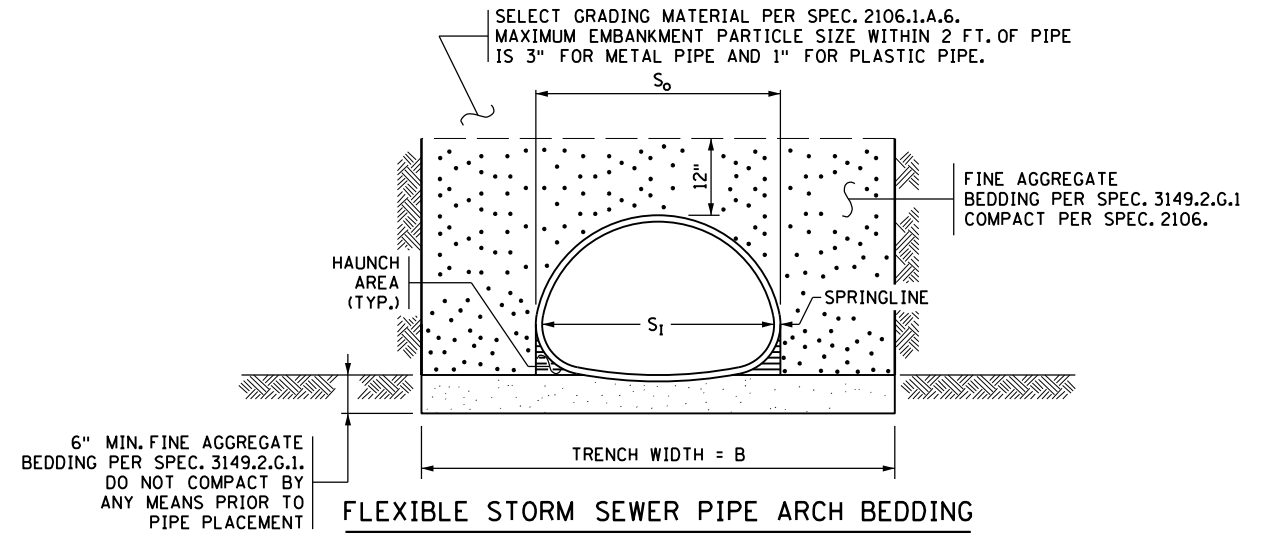
TRENCH BASE WIDTH ①②	
PIPE DIA. D_1 OR S_1	TRENCH WIDTH B
< 42"	$D_0 + 24"$
42" TO 54"	$1.5 \times D_0$
> 54"	$D_0 + 36"$

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
Kevin Weston
 STATE BRIDGE ENGINEER

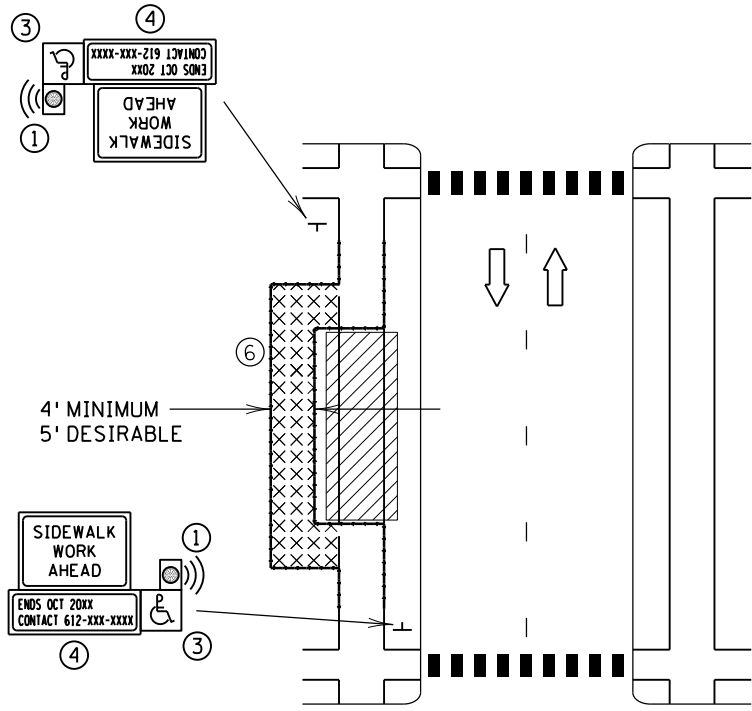


STANDARD PLAN 5-297.442 1 OF 1
 APPROVED: 01-18-2019
 REVISED:
Tom S...
 STATE DESIGN ENGINEER

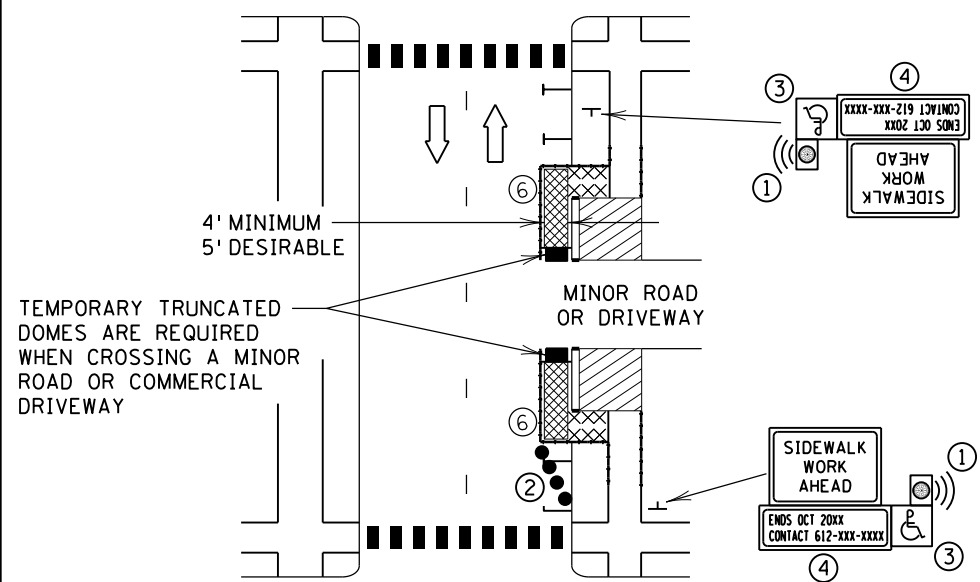
STANDARD STORM SEWER BEDDING FOR RIGID AND FLEXIBLE PIPE

SP 002-635-012, SP 127-020-033

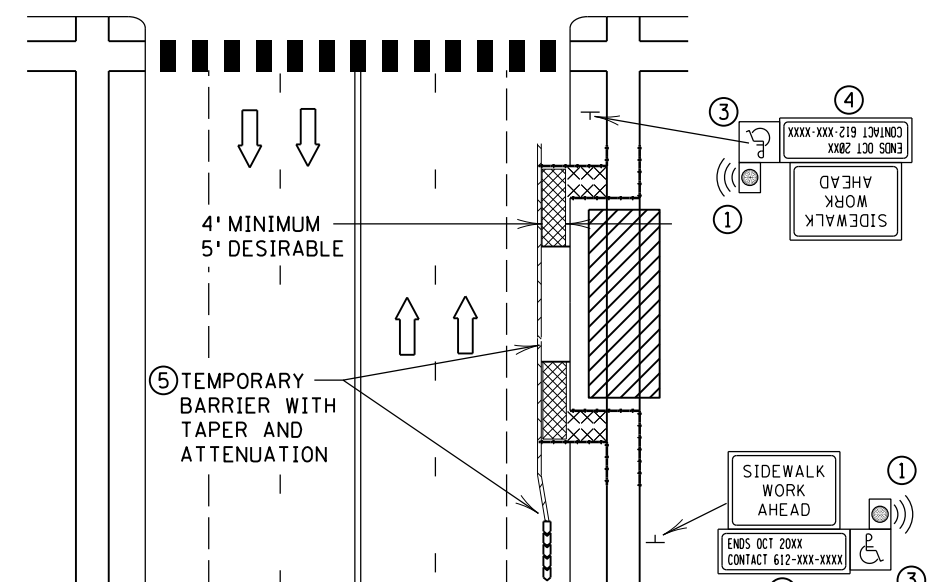
SHEET 36 OF 90 SHEETS



BYPASS TYPE A
BYPASS ON ADJACENT AVAILABLE
RIGHT OF WAY



BYPASS TYPE B
SIDEWALK BYPASS USING PARKING OR
SHOULDER ON LOW-SPEED ROADWAY



BYPASS TYPE C
SIDEWALK BYPASS USING SHOULDER
OR PARKING LANE ON A MULTI-LANE
OR HIGH-SPEED ROADWAY

NOTES:

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES. THE ALTERNATE PEDESTRIAN ROUTE (APR) MUST REMAIN OPEN AT ALL TIMES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK AS NECESSARY TO PROVIDE AN APR AT ALL TIMES FOR ROADWAYS WITH NO AVAILABLE DETOURS. PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR.

PROVIDE A FIRM, STABLE, FREE-DRAINING, NON-SLIP, TEMPORARY WALKWAY SURFACE REGARDLESS OF WEATHER CONDITIONS. SUPPORT THE TEMPORARY WALKWAY SURFACE WITH A SOLID BASE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND. THE TEMPORARY WALKWAY SURFACE WILL ALLOW NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS, AND OTHER MOBILITY DEVICES. CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (3/4" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR THE TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, AND OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS. IF NEEDED, PROVIDE SOIL STABILIZATION TO PREVENT EROSION AROUND TEMPORARY SURFACES. IF NEEDED, PROVIDE SOIL STABILIZATION TO PREVENT EROSION AROUND TEMPORARY SURFACES.

IF A 60" PEDESTRIAN WALKWAY WIDTH ISN'T PROVIDED FOR THE ROUTE, THEN A 60" BY 60" PASSING SPACE IS REQUIRED EVERY 200'. THE MINIMUM WIDTH OF THE WALKWAY IS 48".

COVER OR DEACTIVATE ANY PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS.

POST-MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7' MINIMUM CLEARANCE FROM THE BOTTOM OF THE LOWEST SIGN TO THE SIDEWALK SURFACE. SHARED-USE PATH SHALL HAVE 8' MINIMUM CLEARANCE FROM THE BOTTOM OF THE LOWEST SIGN TO THE SHARED USE PATH SURFACE.

APR SHOULD BE KEPT FREE OF TRASH, SEDIMENT, AND DEBRIS.

ANY PORTABLE SIGN OR BARRICADE PLACED OR STORED IN A PEDESTRIAN WALKWAY THAT COULD POSE A HAZARD TO A VISUALLY-IMPAIRED PEDESTRIAN SHALL HAVE A DETECTABLE EDGE TO GUIDE THE PEDESTRIAN AROUND THE HAZARD. FOR ADDITIONAL GUIDANCE, SEE THE "DETECTABLE EDGE FOR SIGN ON PORTABLE STAND" DETAIL ON STANDARD PLAN 5-297.813.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE ROADWAY AS THE DISRUPTED ROUTE UTILIZING 2. BYPASSES.
2. WHERE NOT FEASIBLE TO PROVIDE A SAME-SIDE APR, PROVIDE AN APR DETOUR ON THE OTHER SIDE OF THE ROADWAY.
3. WHERE NOT FEASIBLE TO PROVIDE AN APR ON EITHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS.
- ① CONSIDER PROVIDING AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE FOR PEDESTRIANS WITH VISUAL DISABILITIES.
- ② RECOMMENDED TAPER WHEN THE CLOSED AREA WAS PREVIOUSLY USED AS AN INTERMITTENT TRAFFIC LANE OR BYPASS LANE IS 25' LONG USING FIVE EQUALLY-SPACED CHANNELIZING DEVICES.
- ③ FOR FULLY-ACCESSIBLE WALKWAYS THROUGH WORKZONES, CONSIDER DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.
- ④ INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24/7 QUESTIONS OR REPORTING HAZARDS ON SIGNS FOR TEMPORARY PEDESTRIAN DETOURS.
- ⑤ SEE THE MOST CURRENT EDITION OF THE MNDOT TEMPORARY BARRIER GUIDANCE MANUAL FOR GUIDANCE ON PLACEMENT AND USAGE OF TEMPORARY BARRIER.

⑥ PROVIDE SOIL STABILIZATION AROUND TEMPORARY SURFACES TO PREVENT EROSION, IF NEEDED.

LEGEND

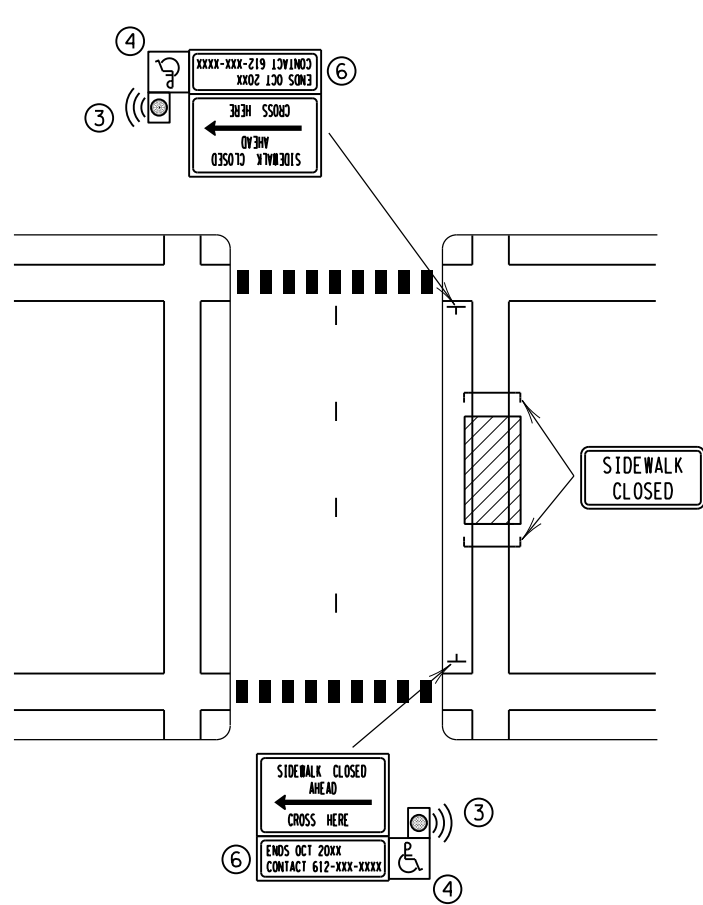
- ⊥ SIGN
- ▨ WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TEMPORARY BARRIER
- ➔ DIRECTION OF TRAFFIC
- CHANNELIZER
- Ⓜ AUDIBLE MESSAGE DEVICE (AMD)
- ▨ TEMPORARY CURB RAMP WITH DETECTABLE EDGES
- XXXX TEMPORARY WALKWAY SURFACE

REVISION:
APPROVED: 03-18-2021
<i>Brian Subenson</i> BRIAN SUBENSON STATE TRAFFIC ENGINEER

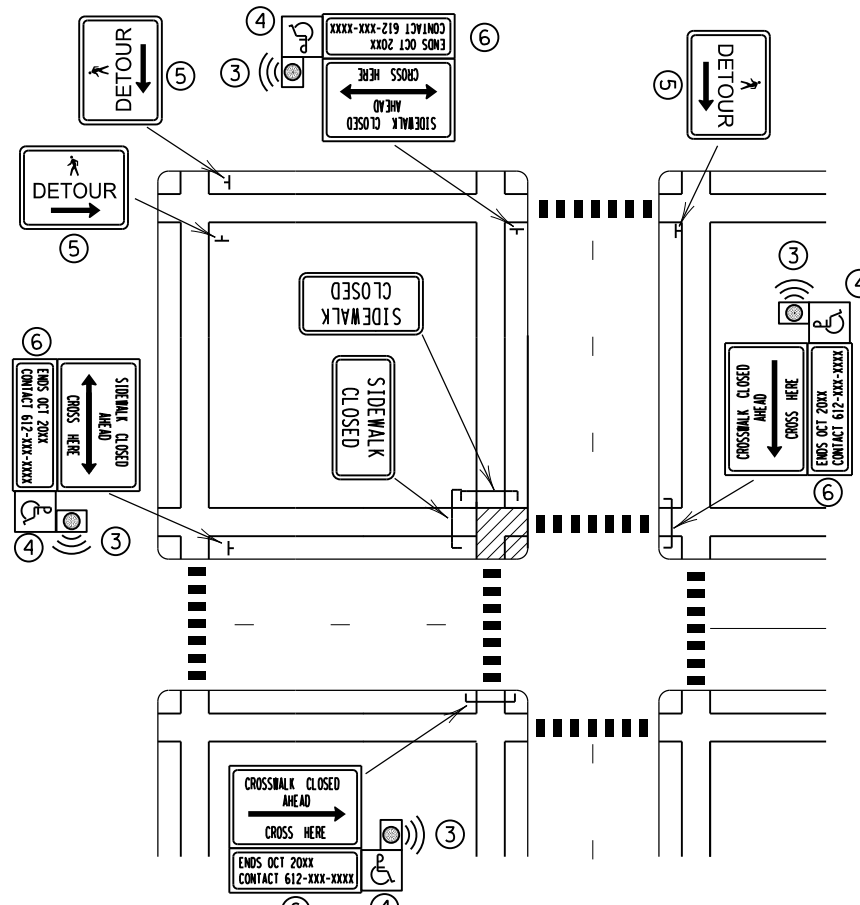
	STANDARD PLAN 5-297.811	1 OF 2
	 THOMAS STYRBICKI STATE DESIGN ENGINEER	APPROVED: 03-18-2021

SP 002-635-012, SP 127-020-033

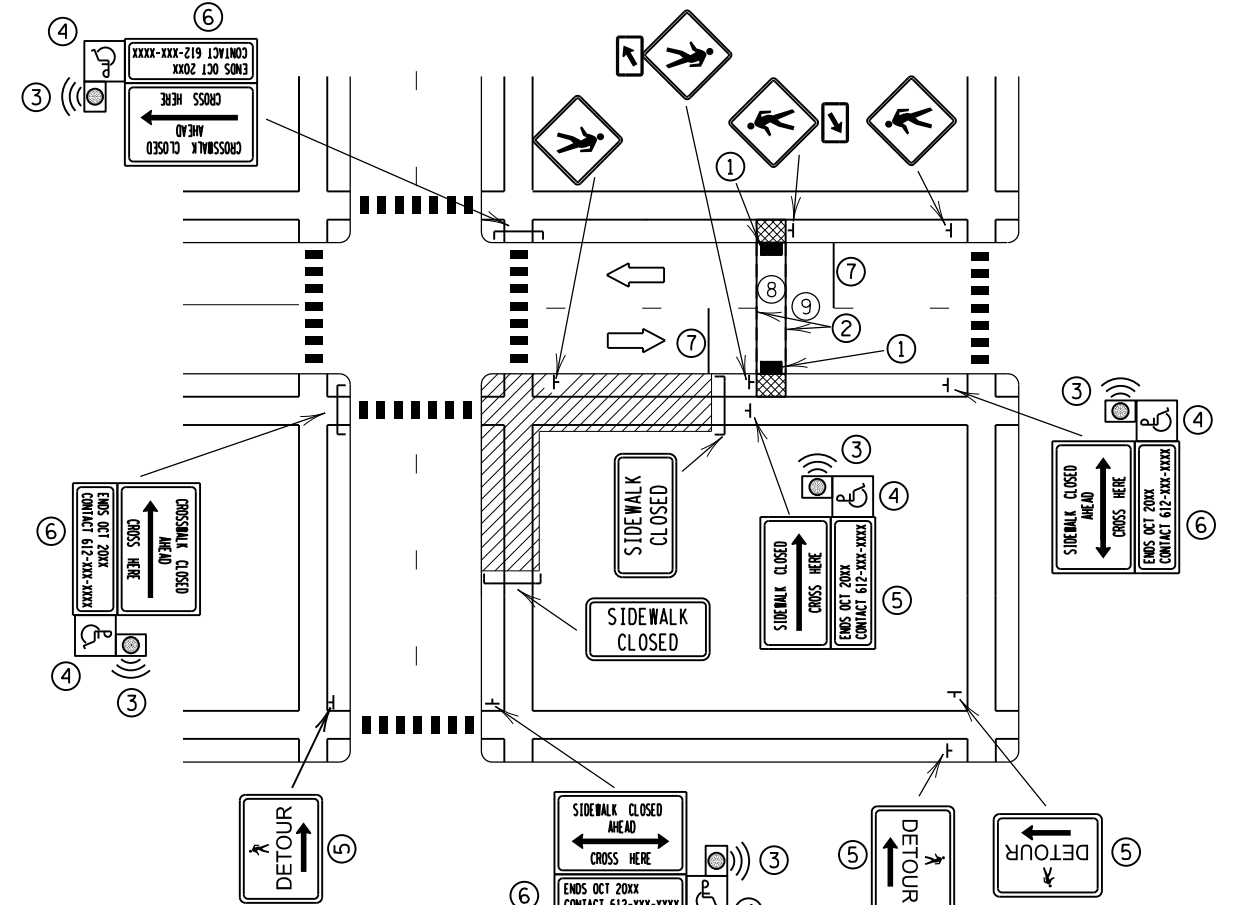
ALTERNATE PEDESTRIAN ROUTE (APR) LAYOUTS



OTHER SIDE OF ROADWAY DETOUR FOR MID-BLOCK CLOSURE



ONE QUADRANT CLOSED



OTHER SIDE OF STREET DETOUR OR DETOUR WITH TRAILBLAZING SIGNS FOR CORNER SIDEWALK CLOSURE WITH OPTIONAL TEMPORARY CROSSWALK

NOTES:

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECTABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES. THE MINIMUM TEMPORARY WALKWAY WIDTH SHOULD BE THE WIDTH OF THE EXISTING FACILITY. IF THE EXISTING FACILITY HAS A WIDTH GREATER THAN 60", THE WIDTH OF THE TEMPORARY FACILITY MAY BE 60". IF THE WIDTH OF THE DETOUR IS LESS THAN 60", A 60"-WIDE PASSING SPACE IS REQUIRED EVERY 200'.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER TRAILBLAZING SIGNS OR DEVICES MAY BE NEEDED FOR ADEQUATE ROUTING. STAGE WORK AS NECESSARY TO PROVIDE AN ALTERNATE PEDESTRIAN ROUTE (APR) AT ALL TIMES.

PROVIDE A SMOOTH, CONTINUOUS, HARD SURFACE THROUGH THE LENGTH OF THE APR. PROVIDE A FIRM, STABLE, FREE-DRAINING, NON-SLIP, TEMPORARY WALKWAY SURFACE REGARDLESS OF WEATHER CONDITIONS. SUPPORT THE TEMPORARY WALKWAY SURFACE WITH A SOLID BASE TO COVER SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN GROUND. THE TEMPORARY WALKWAY SURFACE WILL ALLOW NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS, AND OTHER MOBILITY DEVICES. CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (3/4" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR THE TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, OR OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS. IF NEEDED, PROVIDE SOIL STABILIZATION TO PREVENT EROSION AROUND TEMPORARY SURFACES.

COVER OR DEACTIVATE ANY PEDESTRIAN TRAFFIC SIGNALS CONTROLLING CLOSED CROSSWALKS.

APR SHOULD BE KEPT FREE OF TRASH, SEDIMENT, AND DEBRIS.

POST-MOUNTED SIGNS ADJACENT TO SIDEWALKS SHALL HAVE 7' MINIMUM CLEARANCE FROM THE BOTTOM OF THE LOWEST SIGN TO THE SIDEWALK SURFACE. SHARED-USE PATHS SHALL HAVE 8' MINIMUM CLEARANCE FROM THE BOTTOM OF THE LOWEST SIGN TO THE SHARED-USE PATH SURFACE.

ANY PORTABLE SIGN OR BARRICADE PLACED OR STORED IN A PEDESTRIAN WALKWAY THAT COULD BE A HAZARD TO A VISUALLY-IMPAIRED PEDESTRIAN SHALL HAVE A DETECTABLE EDGE TO GUIDE THE PEDESTRIAN AROUND THE HAZARD. FOR ADDITIONAL GUIDANCE SEE THE "TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) DEVICES" STANDARD PLAN, "DETECTABLE EDGE FOR SIGN ON PORTABLE STAND" DETAIL.

MINIMIZE DISRUPTION TO PEDESTRIANS TO THE MAXIMUM EXTENT FEASIBLE BY PROVIDING AN APR IN THE FOLLOWING ORDER OF PREFERENCE:

1. PROVIDE THE APR ON THE SAME SIDE OF THE ROADWAY AS THE DISRUPTED ROUTE UTILIZING BYPASSES.
 2. WHERE IT IS NOT FEASIBLE TO PROVIDE A SAME-SIDE APR, PROVIDE AN APR DETOUR ON THE OTHER SIDE OF THE ROADWAY.
 3. WHERE IT IS NOT FEASIBLE TO PROVIDE AN APR ON EITHER SIDE OF THE ROADWAY, PROVIDE AN APR DETOUR WITH TRAILBLAZING SIGNS.
- ① TEMPORARY CURB RAMPS WITH DETECTABLE WARNINGS.
 ② TEMPORARY PAVEMENT MARKINGS FOR CROSSWALKS MAY USE CROSSWALK BLOCKS, TWO TRANSVERSE LINES OR TWO STRIPS OF 18" PREFORMED MARKING MATERIAL TO FORM 36" WIDE CROSSWALK BLOCKS.
 ③ PROVIDE AN APPROVED AUDIBLE MESSAGE DEVICE OR TACTILE MESSAGE FOR PEDESTRIANS WITH VISUAL DISABILITIES.

- ④ FOR FULLY ACCESSIBLE WALKWAYS THROUGH WORKZONES, CONSIDER DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.
- ⑤ USE PEDESTRIAN DETOUR TRAILBLAZING SIGNS IF THE PEDESTRIAN DETOUR IS NOT LOCATED ACROSS THE ROADWAY FROM THE SIDEWALK CLOSURE.
- ⑥ TYPICAL SIGN MESSAGE FOR AN ALTERNATE PEDESTRIAN ROUTE SHOULD INCLUDE INFORMATION SUCH AS THE DURATION OF THE WALKWAY RESTRICTIONS (BEGINNING AND/OR END DATES) AND A PROJECT CONTACT NUMBER FOR 24/7 QUESTIONS OR REPORTING HAZARDS. TYPICAL INFORMATION INCLUDED IN AN AUDIBLE MESSAGE CAN BE FOUND IN "TPAR - AUDIBLE MESSAGE CONTENT GUIDELINES" AVAILABLE ON THE MNDOT TRAFFIC ENGINEERING WEBSITE ON THE PEDESTRIAN ACCOMMODATIONS THROUGH WORK ZONES WEB PAGE. ADDITIONALLY, A SUMMARY OF THE MESSAGE CONTENT GUIDELINES CAN BE FOUND WITHIN THE PEDESTRIAN ACCOMMODATIONS THROUGH WORK ZONES DESIGN GUIDANCE DOCUMENT.
- ⑦ LOCATE STOP BAR 20' TO 50' BEFORE THE CROSSWALK. RESTRICT PARKING BETWEEN THE STOP BAR AND THE CROSSWALK. ON TWO-WAY ROADWAYS, RESTRICT PARKING BOTH BEFORE AND AFTER THE CROSSWALK FOR BOTH DIRECTIONS.
- ⑧ CONSIDER LIGHTING AT MID-BLOCK CROSSINGS IN ORDER TO ILLUMINATE PEDESTRIANS, IF NOT ALREADY LIT.
- ⑨ CONSIDER THE ADDITION OF R1-6a SIGNS AS MOTORISTS ARE NOT EXPECTING MID-BLOCK CROSSING.

LEGEND

- SIGN
- DIRECTION OF TRAFFIC
- ▨ WORK AREA
- Ⓜ AUDIBLE MESSAGE DEVICE (AMD)
- ▩ TEMPORARY CURB RAMP WITH DETECTABLE EDGES
- Ⓜ R1-6a

REVISION:
APPROVED: 03-18-2021 <i>Brian Subenson</i> BRIAN SUBENSON STATE TRAFFIC ENGINEER



STANDARD PLAN 5-297.811

2 OF 2

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 03-18-2021
REVISED:

SP 002-635-012, SP 127-020-033

ALTERNATE PEDESTRIAN ROUTE (APR) LAYOUTS

PLOTTED/REVISED: 11/28/2022 11:11:13 AM

PATH & FILENAME: Projects\Minnesota\018314-000\Cadd\Plan\18314-000_std\plr_800.dgn

NOTES:

TPAR SHOULD BE KEPT FREE OF TRASH, SEDIMENT, AND DEBRIS.

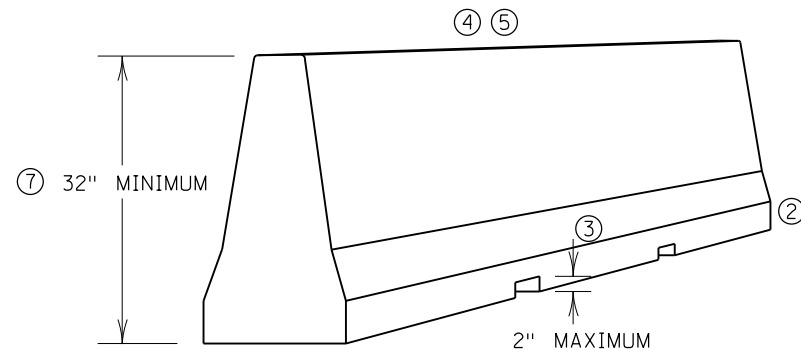
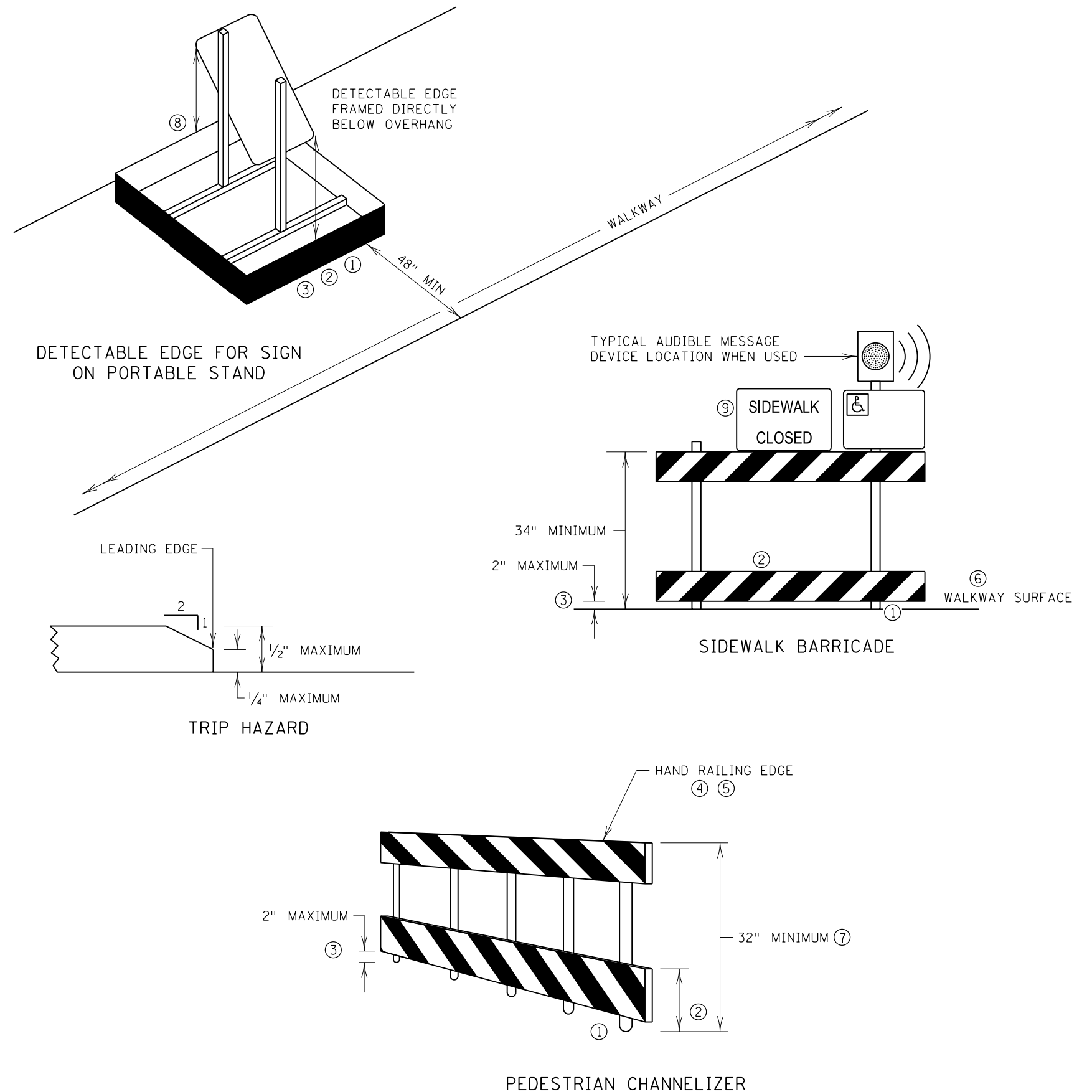
RAILINGS OR OTHER OBJECTS MAY PROTRUDE A MAXIMUM OF 4" INTO THE WALKWAY CLEAR SPACE WHEN LOCATED A MINIMUM OF 27" ABOVE THE WALKWAY SURFACE.

USE CRASHWORTHY TEMPORARY BARRIERS WHEN USED AS A PEDESTRIAN CHANNELIZERS.

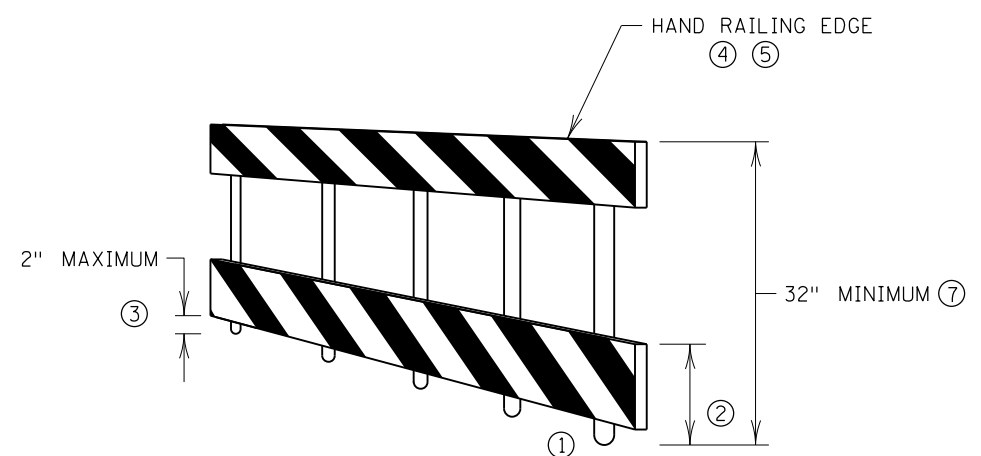
PLACE SIDEWALK BARRICADES ACROSS THE ENTIRE WIDTH OF THE WALKWAYSURFACE, WHEN USED.

USE INTERLOCKING DEVICES TO CHANNELIZE PEDESTRIAN FLOW TO PREVENT GAPS THAT COULD ALLOW PEDESTRIANS TO STRAY FROM THE CHANNELIZED PATH.

- ① PROVIDE DETECTABLE EDGE TO ANY TRIPPING HAZARD IN THE WALKWAY. LOCATE BALLAST BEHIND THE DETECTABLE EDGE OR INTEGRAL TO THE DEVICE. ANY SUPPORT ON THE FRONT OF THE DEVICE SHOULD NOT EXTEND INTO THE 48" MINIMUM WALKWAY CLEAR SPACE. ANY SUPPORT THAT EXTENDS INTO THE WALKWAY SHALL NOT EXCEED 1/2" HEIGHT ABOVE THE WALKWAY SURFACE; IF GREATER THAN 1/4", BEVEL AS SHOWN IN THE TRIP HAZARD DETAIL.
- ② PROVIDE CONTINUOUS DETECTABLE EDGES EXTENDING AT LEAST 6" ABOVE THE WALKWAY SURFACE. MARK DETECTABLE EDGES WITH A COLOR THAT CONTRASTS WITH THE WALKWAY SURFACE. PLACE THE DETECTABLE EDGE AROUND ANY PORTABLE SIGN STAND IN THE WALKWAY AREA WHERE THE SIGN POSES A HAZARD TO A VISUALLY-IMPAIRED PEDESTRIAN.
- ③ DEVICES AND DETECTABLE EDGES SHALL NOT BLOCK WATER DRAINAGE FROM THE WALKWAY. A GAP HEIGHT OR OPENING FROM THE WALKWAY SURFACE UP TO A MAXIMUM OF 2" IS ALLOWED FOR DRAINAGE PURPOSES.
- ④ USE HAND AND GUIDE RAILS WHEN REQUIRED. INSTALL TOP RAIL OR TOP SURFACE IN A VERTICAL PLANE PERPENDICULAR TO THE WALKWAY, ABOVE THE DETECTABLE EDGE. PROVIDE CONTINUOUS RAIL AT A HEIGHT OF 34" TO 38" ABOVE THE WALKWAY SURFACE. USE RAIL SUPPORTS THAT MINIMIZE CONTACT WITH PEDESTRIAN'S HANDS AND FINGERS. SEE "PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG) 2005" FOR ADDITIONAL GUIDANCE ON USE OF HAND AND GUIDE RAILS.
- ⑤ USE DEVICES FREE OF SHARP OR ROUGH EDGES, AND USE ROUNDED FASTENERS (BOLTS) TO PREVENT HARM TO A PEDESTRIAN'S HANDS, ARMS, AND CLOTHING.
- ⑥ REGARDLESS OF WEATHER CONDITIONS PROVIDE FIRM, STABLE, FREE-DRAINING, AND NON-SLIP TEMPORARY WALKWAY SURFACES. TEMPORARY WALKWAY SURFACES SHALL ALLOW NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS, OR OTHER MOBILITY DEVICES. CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (3/4" OR THICKER), AND PLASTIC ARE ACCEPTABLE SURFACE MATERIALS FOR A TEMPORARY WALKWAY SURFACE. GRAVEL, MILLINGS, AND OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS.
- ⑦ PROVIDE 32" HIGH OR GREATER LONGITUDINAL CHANNELIZING DEVICES FOR PEDESTRIANS.
- ⑧ AN EDGE OF THE FRAMING MAY BE REMOVED IF IT IS NOT NEEDED FOR PEDESTRIAN GUIDANCE. STABILITY OF THE DETECTABLE EDGE SHOULD BE MAINTAINED.
- ⑨ TYPICAL. SEE SIGNING PLAN FOR DETAILS.



PEDESTRIAN CHANNELIZER DEVICE USING A PORTABLE CONCRETE BARRIER



PEDESTRIAN CHANNELIZER

REVISION:
APPROVED: 03-18-2021 <i>Brian Subenson</i> BRIAN SUBENSON STATE TRAFFIC ENGINEER

	STANDARD PLAN 5-297.813	1 OF 2
	APPROVED: 03-18-2021 REVISED: <i>Thomas Styrbicki</i> THOMAS STYRBICKI STATE DESIGN ENGINEER	

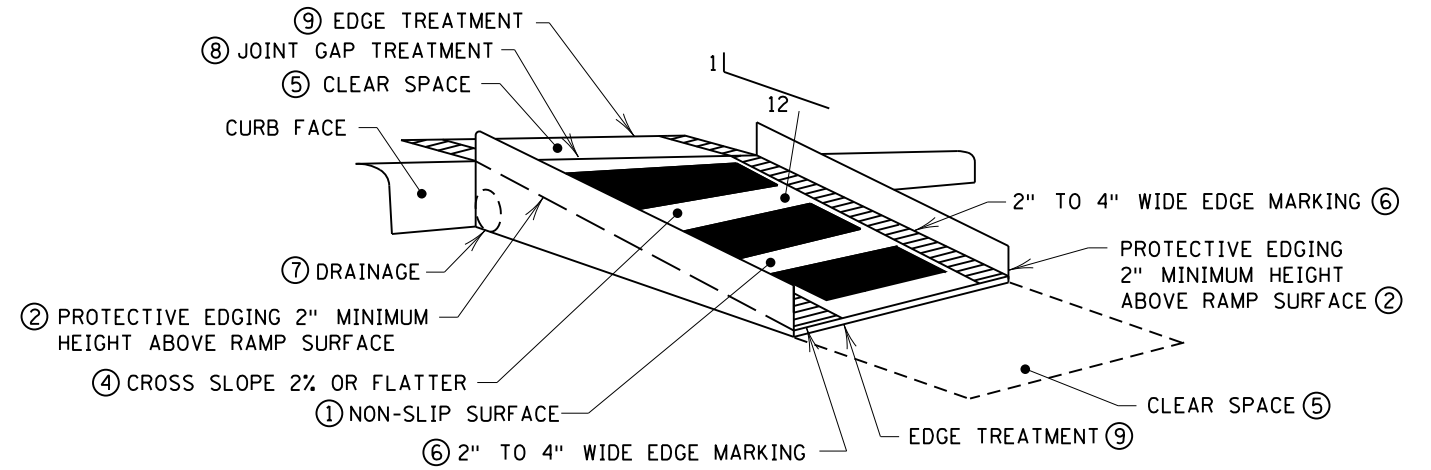
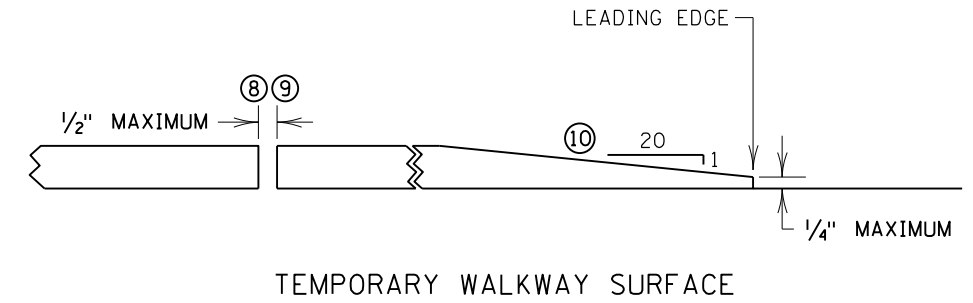
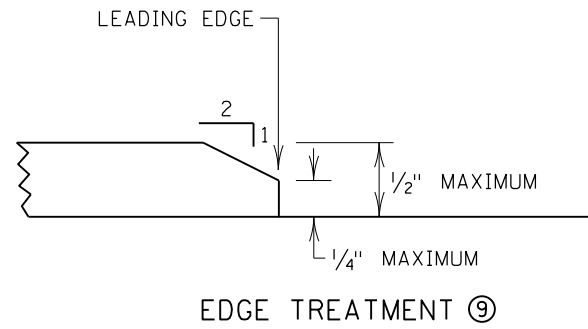
TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) DEVICES CHANNELIZERS, SIDEWALK BARRICADES, AND PORTABLE STANDS	
SP 002-635-012, SP 127-020-033	SHEET 39 OF 90 SHEETS

NOTES:

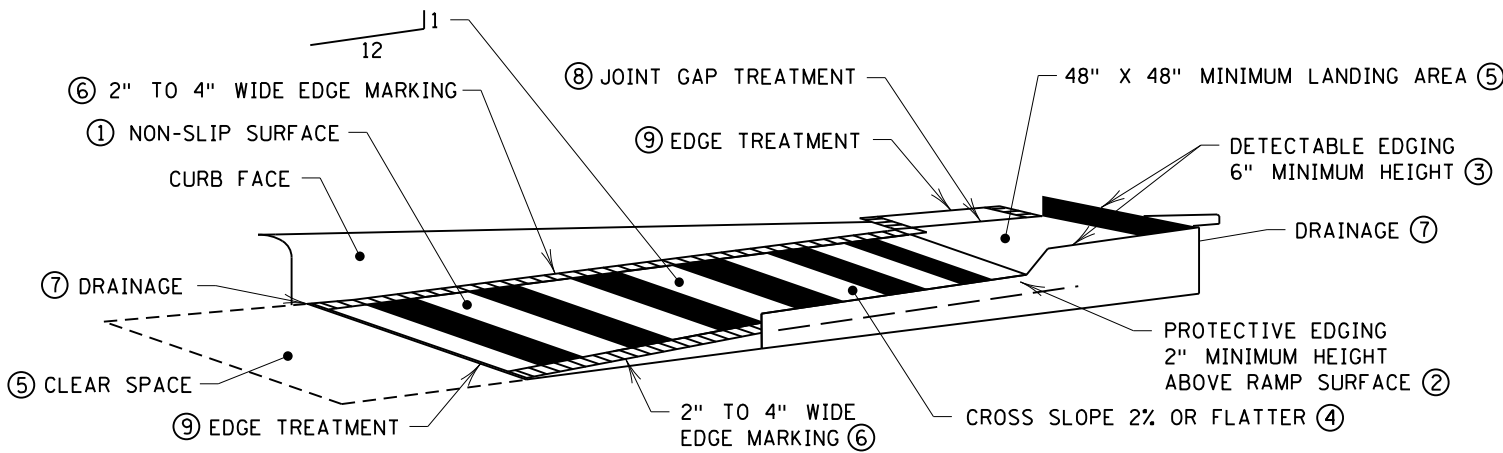
CONSTRUCT SLOPES AS INDICATED OR FLATTER, BUT NOT STEEPER.

TPAR SHOULD BE KEPT FREE OF TRASH, SEDIMENT, AND DEBRIS.

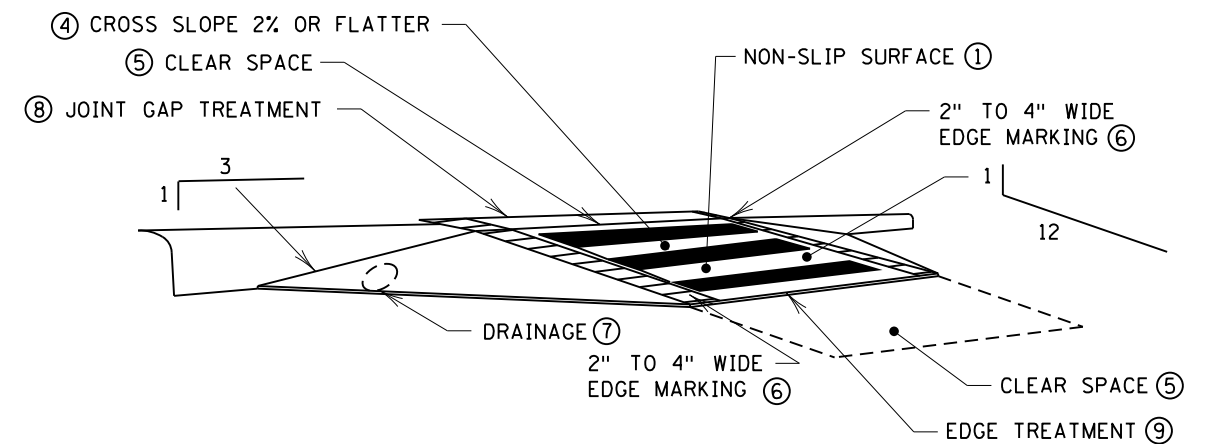
- ① CONSTRUCT CURB RAMPS AT LEAST 48" WIDE WITH A FIRM, STABLE, AND SLIP-RESISTANT SURFACE.
- ② PLACE PROTECTIVE EDGING WITH A 2" MINIMUM HEIGHT WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1V:3H. CONSIDER PROTECTIVE EDGING WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ PLACE DETECTABLE EDGING WITH 6" MINIMUM HEIGHT AND CONTRASTING COLOR ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION.
- ④ CONSTRUCT CURB RAMPS AND LANDINGS WITH A 2% OR FLATTER CROSS SLOPE.
- ⑤ PROVIDE A CLEAR SPACE OF AT LEAST 48" X 48" ABOVE AND BELOW THE CURB RAMP.
- ⑥ MARK THE CURB RAMP WALKWAY EDGE WITH A 2" TO 4" WIDE MARKING OF CONTRASTING COLOR. THE MARKING IS OPTIONAL WHERE COLOR-CONTRASTING EDGING IS USED.
- ⑦ DO NOT IMPEDE WATER FLOW IN THE GUTTER SYSTEM.
- ⑧ NO LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL EXCEED 1/2" WIDTH.
- ⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". USE VERTICAL LATERAL EDGES UP TO 1/4" HIGH, AND BEVELED AT 1V:2H FOR LATERAL EDGES BETWEEN 1/4" AND 1/2" HEIGHT.
- ⑩ BEVEL THE EDGE OF TEMPORARY WALKWAY SURFACES 1/2" OR THINNER AT 1V:2H. FOR THICKER WALKWAY SURFACE BEVEL EDGE 1V:20H OR FLATTER.



TEMPORARY CURB RAMP PERPENDICULAR TO CURB
SHOWN WITH PROTECTIVE EDGE



TEMPORARY CURB RAMP
PARALLEL TO CURB



TEMPORARY CURB RAMP PERPENDICULAR TO CURB
SHOWN WITH SIDE APRON

REVISION:
APPROVED: 03-18-2021
<i>Brian Subenson</i> BRIAN SUBENSON STATE TRAFFIC ENGINEER



STANDARD PLAN 5-297.813

2 OF 2

Thomas Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 03-18-2021
REVISED:

SP 002-635-012, SP 127-020-033

**TEMPORARY PEDESTRIAN ACCESS
ROUTE (TPAR) DEVICES**

TEMPORARY CURB RAMPS AND WALKWAY SURFACES

PLOTTED/REVISED: 11/28/2022 10:45 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorridorPlan\18314-000-1a.dgn

NOTES & GUIDELINES

GENERAL INFORMATION:

1. ALL DISTANCES ARE APPROXIMATE.
2. ACCESS SHALL BE MAINTAINED TO ALL RESIDENTS 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-dj) 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 OR REMOVE ANY CONFLICTING PAVEMENT MARKINGS AS SHOWN IN THE PLAN OR APPROVED BY THE ENGINEER.
2. SEE 2582 IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.

BARRIER & DELINEATION:

1. PLACE AND MAINTAIN PORTABLE BARRIER DELINEATORS ANY TIME TRAFFIC IS WITHIN 10' OF BARRIER. DELINEATORS WILL EACH HAVE A MINIMUM OF 24 SQ IN. OF RETROREFLECTIVE SURFACE ON BOTH SIDES PLACED AT 25' SPACING ON TOP OF THE BARRIER. SIDE MOUNTED PORTABLE BARRIER DELINEATORS WILL HAVE A MINIMUM OF 12 SQ. IN. OF RETROREFLECTIVE SURFACE AREA AND BE PLACED AT 12.5' SPACING. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE A MINIMUM OF 6 SQ IN. OF RETROREFLECTIVE SURFACE AREA AND BE PLACED ON BOTH SIDES AT 6.25' SPACING. TEMPORARY BARRIER DELINEATOR COLOR SHALL MATCH APPLICABLE PAVEMENT MARKING.

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 CHANGABLE MESSAGE SIGN ADVANCE NOTICE OF CONSTRUCTION 10 DAYS PRIOR TO CONSTRUCTION.

PLACE G20-X2 ADVANCE NOTICE SIGNS 7 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.

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.







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TRAFFIC CONTROL SHEET NO. DESCRIPTIONS

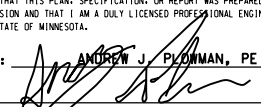
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TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

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

NO.	DATE	BY	CHK	REVISIONS

Design By:	AJP	<small>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.</small>
Plan By:	AJP	PRINT NAME: <u>ANDREW J. FLOWMAN, PE</u>
Checked By:	AJP	
Approved By:	AJP	DATE: <u>11/28/2022</u> LICENSE # <u>44200</u>



CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
TITLE SHEET
TEMPORARY TRAFFIC CONTROL PLAN
SP 002-635-012, SP 127-020-033

SHEET
41
OF
90
SHEETS

"M" SERIES			
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)
	M3-1	WHITE ON BLUE	24 X 12
	M3-3	WHITE ON BLUE	24 X 12
	M4-8	BLACK ON ORANGE	24 X 12
	M4-8a	BLACK ON ORANGE	24 X 18
	M5-1 (R/L)	WHITE ON BLUE	21 X 15
	M6-1 (R/L)	WHITE ON BLUE	21 X 15
	M6-3	WHITE ON BLUE	21 X 15

"W" SERIES			
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)
	W20-1	BLACK ON ORANGE	48 X 48
	W20-2	BLACK ON ORANGE	48 X 48
	W20-3	BLACK ON ORANGE	48 X 48

BARRICADE MOUNTED SIGNS			
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)
	R11-2M	BLACK ON WHITE	48 X 30
 	R11-3a	BLACK ON WHITE	60 X 30

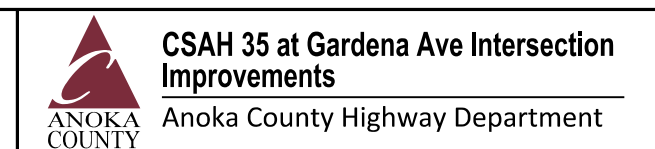
"G" SERIES			
SIGN	SIGN NO.	COLOR	SIZE (IN. X IN.) (WxH)
	G20-2	BLACK ON ORANGE	36 X 18

GENERAL NOTES:

- SIGN STRUCTURE TABULATIONS INDICATE SQUARE TUBE GROUND MOUNTED SIGN STRUCTURES THAT ARE MASH-16 COMPLIANT.
- 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.
- 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.
- UNLESS OTHERWISE INDICATED, USE 2-1/2 INCH RISER POSTS FOR GROUND MOUNTED SIGN STRUCTURES.

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. PLUMMAN, PE</u> DATE: <u>11/28/2022</u> LICENSE # <u>44200</u>
Plan By: AJP	
Checked By: AJP	
Approved By: AJP	



ANOKA COUNTY, MINNESOTA
TABULATION
TEMPORARY TRAFFIC CONTROL PLAN
SP 002-635-012, SP 127-020-033

PLOTTED/REVISED: 11/28/2022 11:16 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorridorPlan\8314-000-1a.dgn

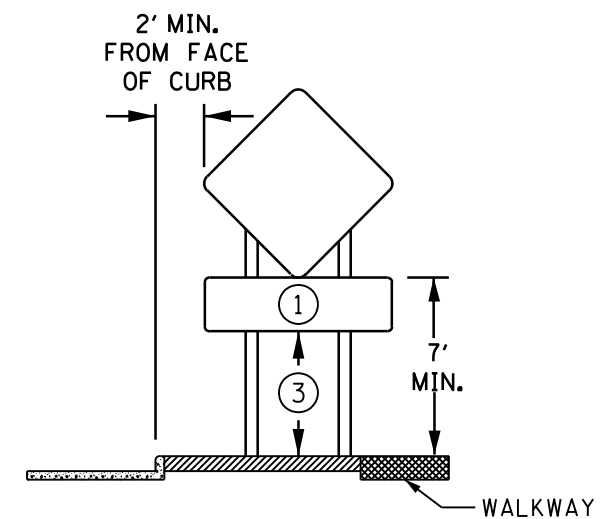
GENERAL NOTES:

1. GROUND MOUNTED SQUARE TUBE SIGN STRUCTURES PLACED WITHIN 50' OF THE RADIUS END OF AN INTERSECTION SHALL BE PLACED ON ONE 2 INCH OR 2-1/2 INCH POST.
2. FOR 2 INCH SQUARE TUBE RISER POST IN SOIL, USE FIN BASE PLACED PER MANUFACTURER'S SPECIFICATIONS. USE A 2 INCH X 2 INCH PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE RISER POST. PLACE 3/8 INCH STAINLESS STEEL BOLT THROUGH THE 5TH HOLE DOWN FROM THE TOP OF THE BASE. RISER POST SHALL REST ON THE BOLT.
3. FOR 2-1/2 INCH SQUARE TUBE RISER POST IN SOIL, USE SLIP BASE PLACED PER MANUFACTURER'S SPECIFICATIONS USING A 10 GAUGE, 2-1/2 INCH X 2-1/2 INCH PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE RISER POST WITH A 10 GAUGE 2-3/16 INCH X 2-3/16 INCH PRE-PUNCHED, GALVANIZED STEEL, SQUARE TUBE INTERNAL INSERT.

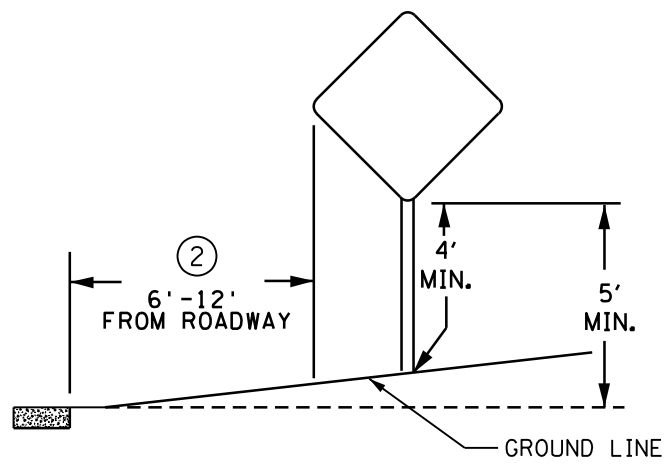
SPECIFIC NOTES:

- ① IF ANY PART OF A SIGN OR SIGN ASSEMBLY EXTENDS MORE THAN 4" INTO THE PEDESTRIAN FACILITY, THE MINIMUM HEIGHT TO BOTTOM OF THE SIGN OR SIGN ASSEMBLY SHALL BE 7'.
- ② 6' - 12' FROM EDGE OF ROADWAY, MUST BE A MINIMUM OF 6' FROM EDGE OF PAVED SHOULDER (WHEN PRESENT).
- ③ IF GROUND MOUNTED TEMPORARY SIGN OR SIGN ASSEMBLY IS PLACED ON 2-1/2 INCH SQUARE TUBE RISER POST(S), THE MINIMUM CLEARANCE FROM THE GROUND LINE TO THE BOTTOM OF THE LOWEST SIGN ON THE ASSEMBLY SHALL BE 7', OR AS SHOWN IN DETAIL, WHICHEVER IS GREATER.
- ④ 5' MINIMUM IN RURAL, 7' MINIMUM IN BUSINESS, COMMERCIAL, OR RESIDENTIAL AREAS.

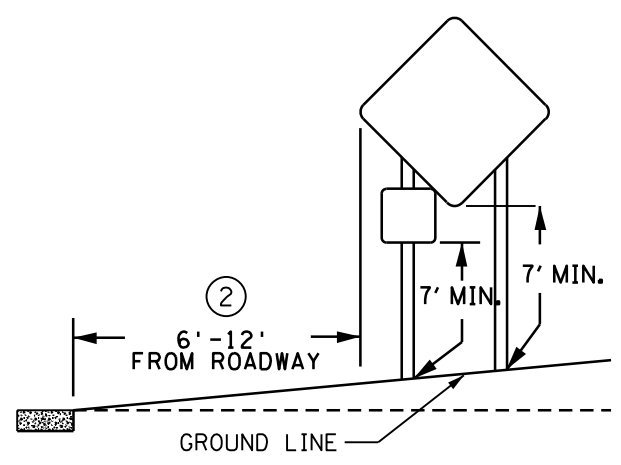
NOT TO SCALE



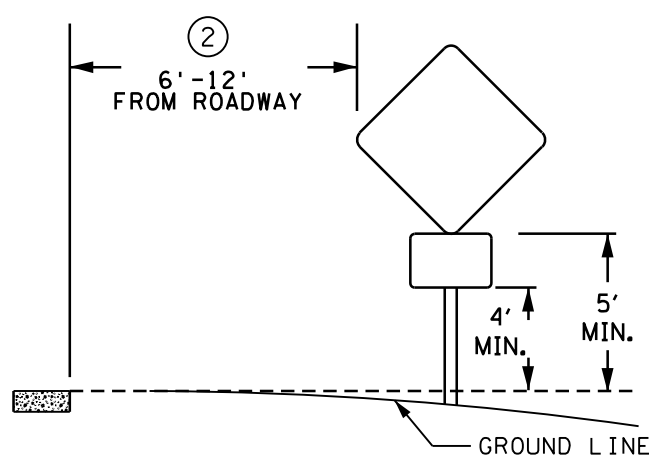
**BUSINESS, COMMERCIAL,
OR RESIDENTIAL AREA**



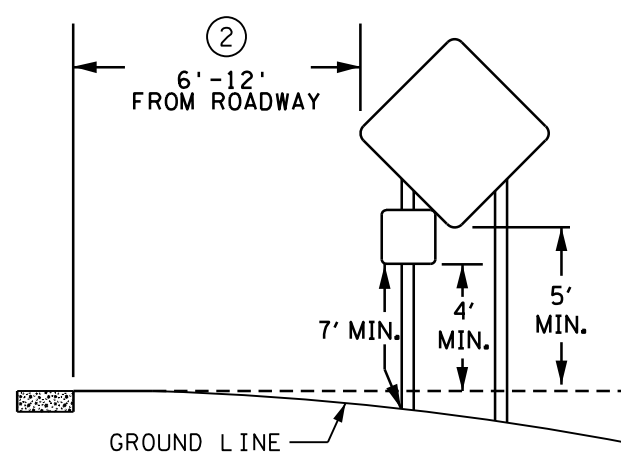
**TYPICAL RURAL DESIGN
AND 2 INCH RISER POST**



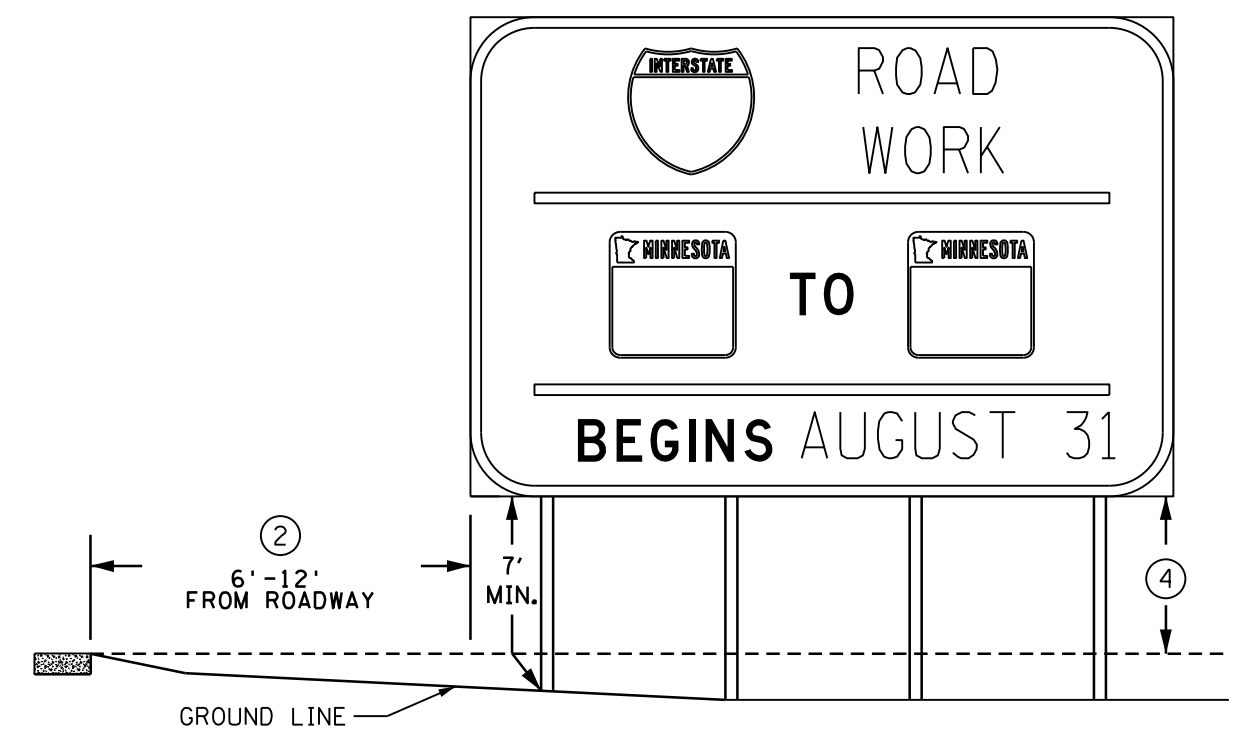
**TYPICAL RURAL DESIGN WITH SUPPLEMENTAL
PLAQUE AND 2-1/2 INCH RISER POST**



**TYPICAL RURAL DESIGN WITH SUPPLEMENTAL
PLAQUE AND 2 INCH RISER POST**



**TYPICAL RURAL DESIGN
2-1/2 INCH RISER POST**



TYPICAL G20-X2 DESIGN

TEMPORARY SQUARE TUBE GROUND MOUNTED SIGN PLACEMENT (TRUNK HIGHWAY)

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. PLUMMAN, PE
 DATE: 11/28/2022 LICENSE #: 44200



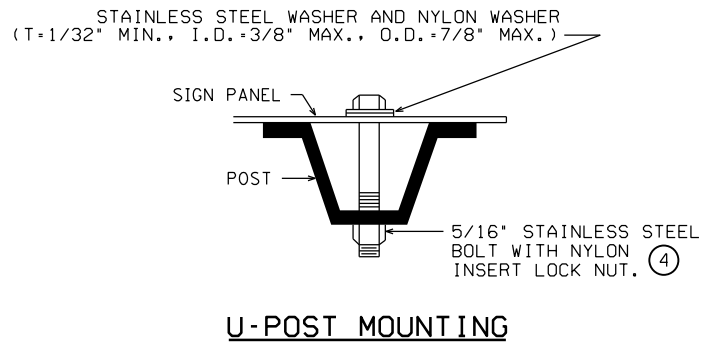
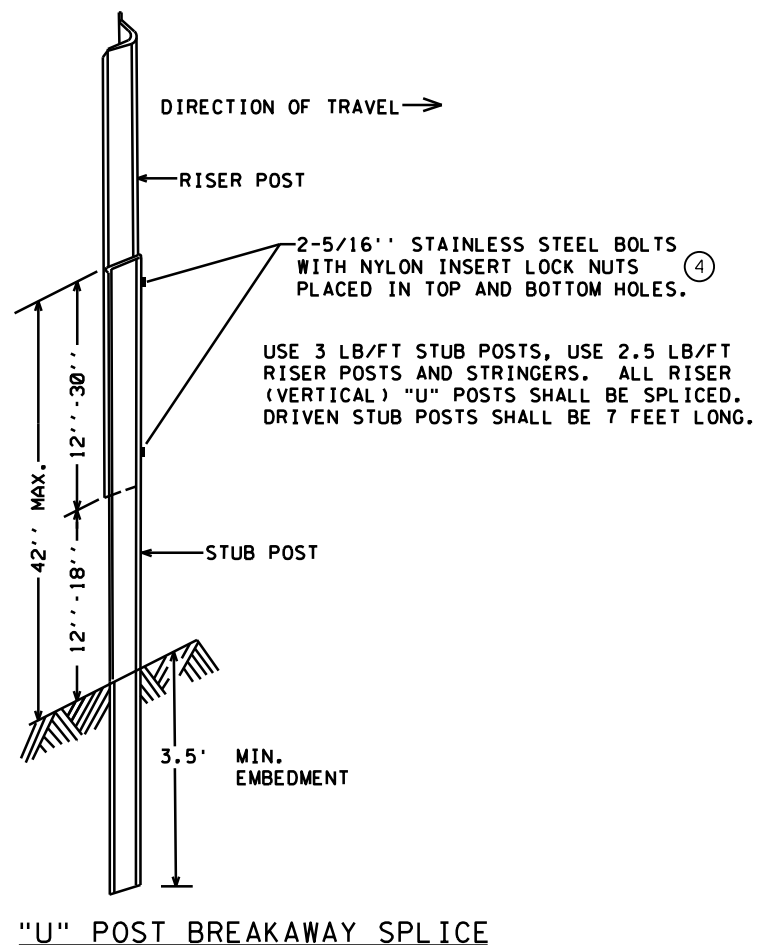
**CSAH 35 at Gardena Ave Intersection
Improvements**
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 TITLE SHEET
TEMPORARY TRAFFIC CONTROL PLAN
 SP 002-635-012, SP 127-020-033

SHEET
44
 OF
90
 SHEETS

PLOTTED/REVISED: 11/28/2022 10:16 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorridorPlan\8314-000-1a.dgn

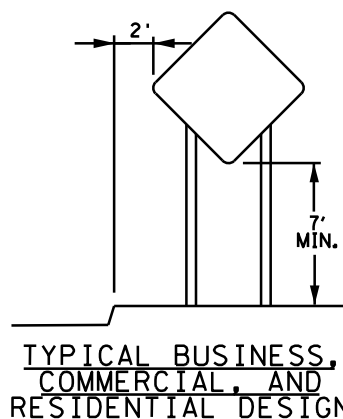


GENERAL NOTES:

1. SIGNS TO BE PLACED ON DRIVEN U-POSTS SHALL BE PLACED IN ACCORDANCE WITH TABLE 1. IF THE TTC PLAN PLACES POST MOUNTED TEMPORARY SIGNS ADJACENT TO EXISTING STRUCTURES THERE SHALL BE NO MORE THAN TWO U-POST WITHIN 84 INCHES OF EACH OTHER ALIGNED IN THE SAME PLANE SO AS NOT TO COMPROMISE THAT STRUCTURE'S AND THE NEW DEVICE'S CRASHWORTHINESS. IF IT IS NOT POSSIBLE TO MAINTAIN THIS SPACING THEN THE POST MOUNTED TEMPORARY SIGNS SHALL BE PLACED OFFSET, AND STAGGERED WITH A MIN OF 4' BETWEEN THE SIGN STRUCTURES. SIGN PANELS SHALL BE PLACED ON SIGN STRUCTURES TO MEET THE 5' MIN DEPICTED ON THE TYPICAL RURAL DESIGN DETAIL, AND THE 7' MIN DEPICTED ON THE TYPICAL BUSINESS, COMMERCIAL, OR RESIDENTIAL AREA DESIGN DETAIL ON THIS SHEET.
2. ANY SIGN PANEL LARGER THAN WHAT IS LISTED ON TABLE 1 SHALL BE INSTALLED ON SQUARE TUBE.
3. SEE MnDOT STANDARD SIGNS AND MARKINGS MANUAL FOR PUNCHING HOLES.
4. A 48" X 48" WARNING SIGN INSTALLED ON TWO U-CHANNEL POSTS MAY BE SUPPLEMENTED WITH UP TO ONE 24" X 12" CARDINAL DIRECTION PLAQUE AND ONE 30" X 24" ROUTE MARKER, PROVIDED SUPPLEMENTAL SIGNS ARE MOUNTED IN THE UPPER TRAFFIC SIDE CORNER OF THE WARNING SIGN(S).

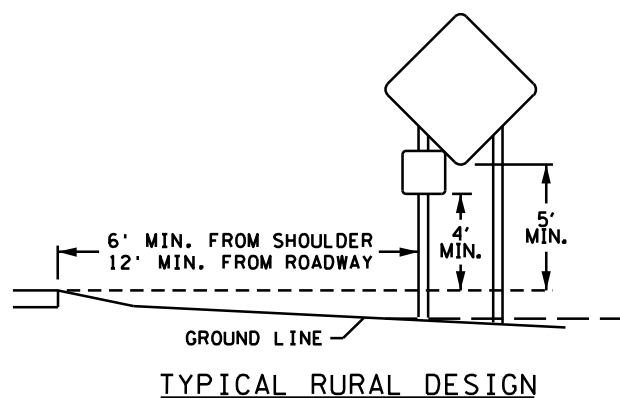
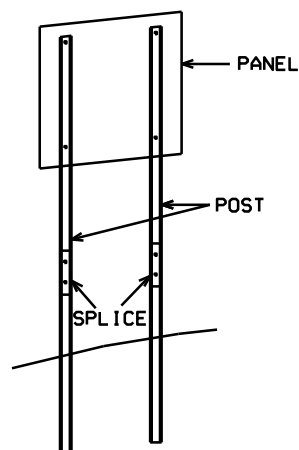
SPECIFIC NOTES:

- ① FOR TEMPORARY CONSTRUCTION SIGN FRAMING, THE CONTRACTOR MAY USE GRADE 5 ZINC PLATED BOLTS IN LIEU OF STAINLESS STEEL BOLTS FOR ALL BOLTED CONNECTIONS



TYPICAL BUSINESS, COMMERCIAL, AND RESIDENTIAL DESIGN

"U" POST BREAKAWAY SPLICE



TYPICAL RURAL DESIGN

TABLE 1

		WIDTH IN INCHES													
		12	18	24	30	36	42	48	54	60	66	72	78	84	90
HEIGHT IN INCHES	12	1	1	1	1	1	1	1	1	2/42	2/42	2/42	2/48	2/54	
	18	1	1	1	1	1	1	1	1	2/42	2/42	2/42	2/48	2/54	
	24	1	1	1	1	1	1	2/30	2/36	2/42	2/42	2/42	2/48	2/54	
	30	1	1	1	1	1	2/24	2/30	2/36	2/42	2/42	2/42	2/48	2/54	
	36	1	1	1	1	2/18	2/24	2/30	2/36	2/42	2/42	2/42			
	42	1	1	1	2/12	2/18	2/24	2/30	2/36	2/42	2/42				
	48	1	1	1	2/12	2/18	2/24	2/30	2/36	2/42					
	54	1	1	2/12	2/12	2/18	2/24	2/30							
	60	1	1	2/12	2/12	2/18	2/24								
	66			2/12	2/12	2/18									
72			2/12	2/12											
78			2/12	2/12											
84			2/12												
90			2/12												

NUMBER OF POST(S)/SPACING

REQUIRES SQUARE TUBE POSTS

PUBLISHED BY OTE 04/24/2020

NCHRP 350 COMPLIANT GROUND MOUNTED TEMPORARY SIGN INSTALLATION DETAILS (TRUNK HIGHWAY)

NO.	DATE	BY	CHK	REVISIONS

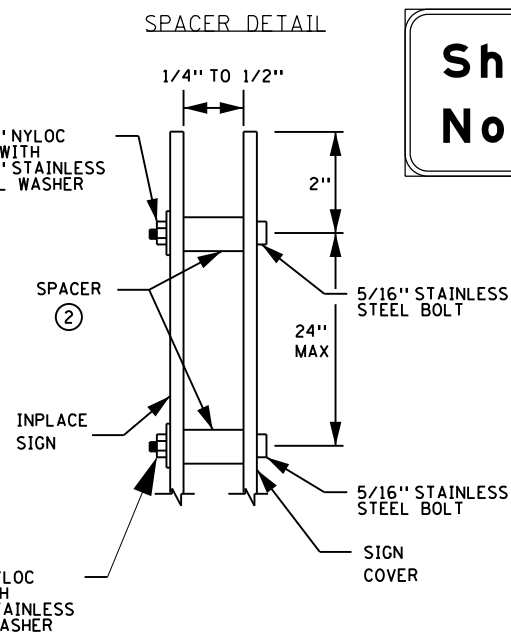
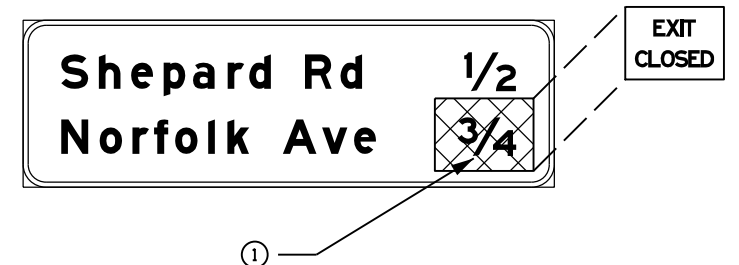
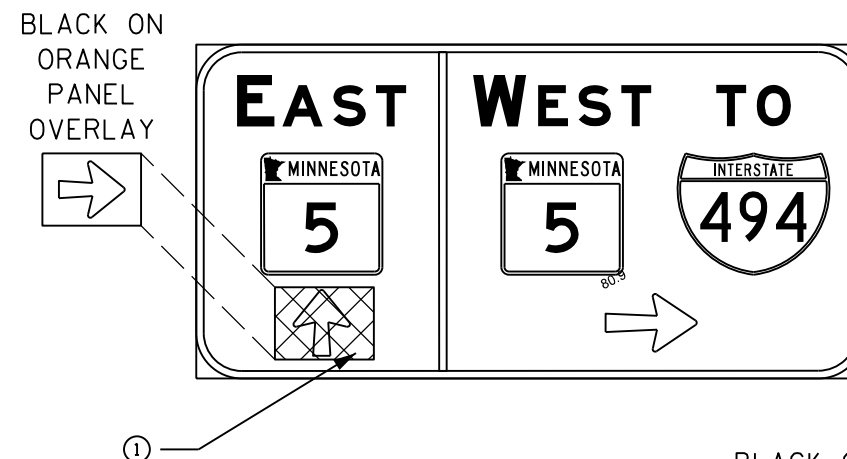
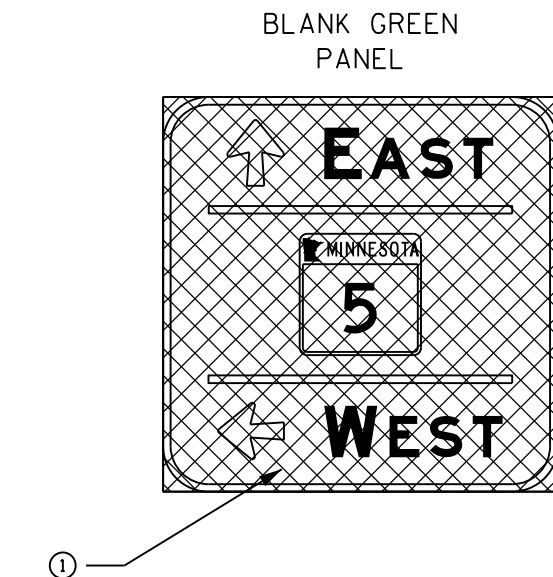
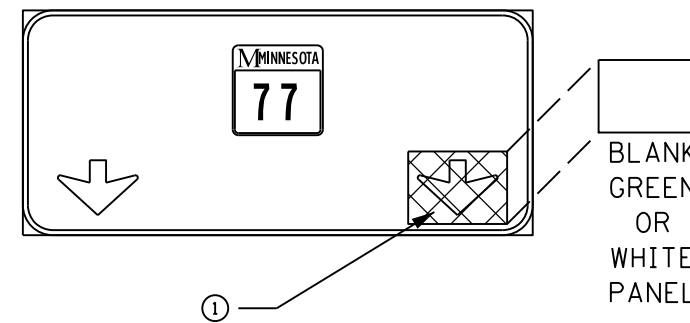
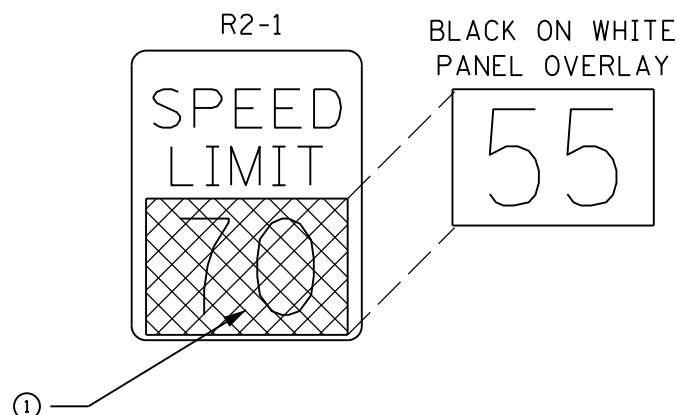
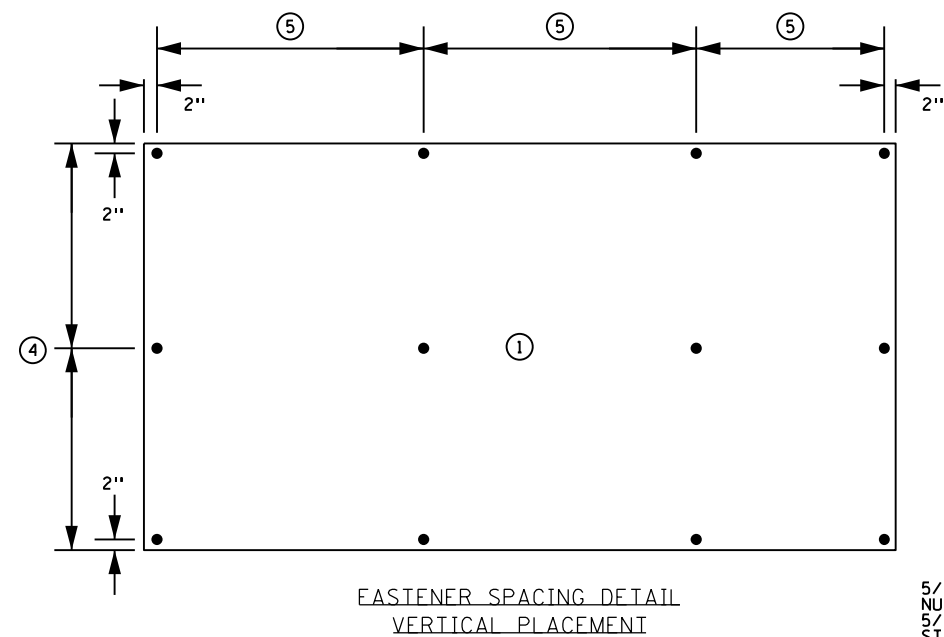
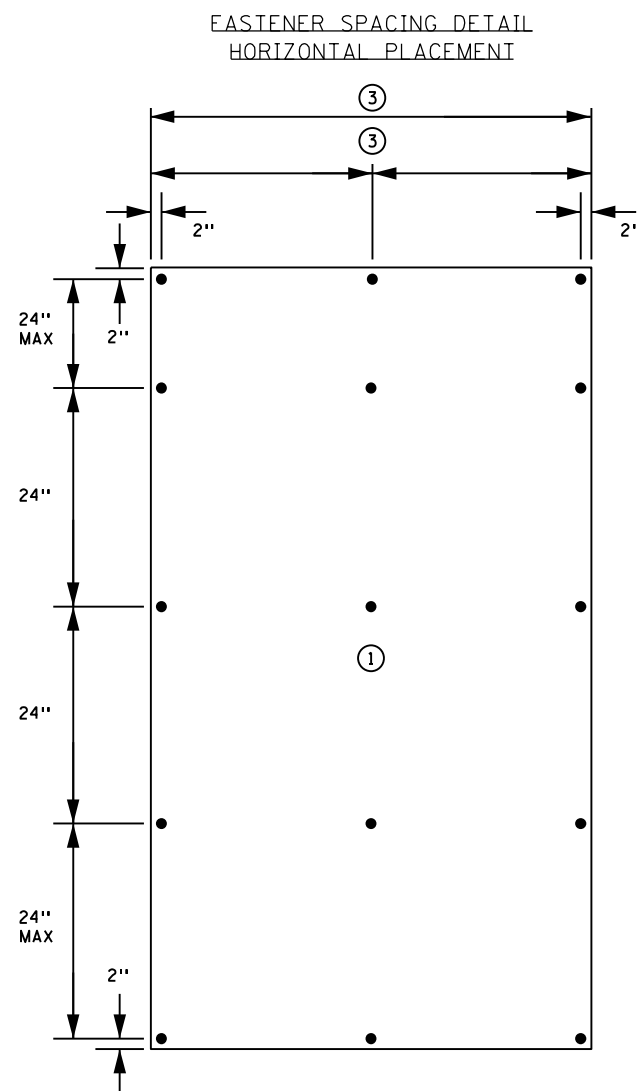
Design By:	AJP	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Plan By:	AJF	
Checked By:	AJP	
Approved By:	AJP	
DATE	11/28/2022	



CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
DETAILS
TEMPORARY TRAFFIC CONTROL PLAN
SP 002-635-012, SP 127-020-033

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GENERAL NOTES:

- SIGN COVER PANELS ARE USED TO COVER AN ENTIRE INPLACE SIGN PANEL OR A PORTION THEREOF TO REMOVE OR MODIFY THE SIGN MESSAGE. THEY HAVE NO ADDITIONAL MESSAGE PRINTED ON THEM. SIGN COVER PANELS SHALL BE MADE OF A RIGID MATERIAL (SHEET ALUMINUM, PLYWOOD, CORRUGATED PLASTIC, OR OTHER MATERIAL AS APPROVED BY THE ENGINEER). SIGN COVER PANELS SHALL BE THE SAME COLOR AS THE BACKGROUND COLOR OF THE INPLACE SIGN PANEL AND SHALL COVER THE ENTIRE SIGN PANEL OR MESSAGE ELEMENT.
- SIGN PANEL OVERLAYS ARE USED TO MODIFY THE MESSAGE OF AN INPLACE SIGN PANEL. THEY INCLUDE A SIGN MESSAGE. SIGN PANEL OVERLAYS SHALL BE MADE OF SHEET ALUMINUM WITH THE APPROPRIATE SHEETING MATERIAL AS SPECIFIED ON THE MNDOT SHEETING FOR RIGID PERMANENT SIGNS, DELINEATORS, AND MARKERS APL OR THE MNDOT SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS APL. SIGN PANEL OVERLAY MESSAGES SHALL BE BLACK ON FLUORESCENT ORANGE, EXCEPT ON REGULATORY SIGNS WHICH SHALL BE THE PROPER COLOR ON A WHITE BACKGROUND. THE MESSAGE SHALL FOLLOW THE REQUIREMENTS OF THE MNDOT STANDARD SIGNS AND MARKINGS MANUAL OR THE FHWA STANDARD HIGHWAY SIGNS MANUAL (AND SUPPLEMENTS). THE SIGN PANEL OVERLAY SHALL FULLY COVER THE MESSAGE ELEMENT(S) BEING MODIFIED.
- MINIMIZE DAMAGE TO THE INPLACE SIGN PANEL. DO NOT APPLY TAPE TO THE INPLACE SIGN SHEETING.
- SPACERS SHALL BE A MATERIAL THAT WILL NOT HARM THE INPLACE SIGN SHEETING FACE (SUCH AS PLASTIC OR RUBBER).
- ATTACH SIGN COVER PANEL OR PANEL OVERLAY USING HARDWARE SHOWN IN THE SPACER DETAIL.
- IF SHEET METAL SCREWS ARE USED TO PLACE CORRUGATED PLASTIC AS A SIGN COVER PANEL, PLACE FENDER WASHERS BETWEEN THE SCREW HEADS AND THE CORRUGATED PLASTIC. REMOVE ALL COVERING MATERIAL, MOUNTING HARDWARE, AND FASTENERS WHEN SIGN COVER PANEL OR PANEL OVERLAY IS REMOVED.
- NO HANDLE OR OTHER LIFTING DEVICE SHALL BE LEFT ATTACHED TO ANY SIGN COVER PANEL AFTER PLACEMENT.

SPECIFIC NOTES:

- THE SIGN COVER PANEL OR PANEL OVERLAY SHALL FULLY COVER THE MESSAGE BEING COVERED OR MODIFIED.
- INSTALL SIGN COVER PANELS AND PANEL OVERLAYS WITH SPACERS THAT PROVIDE A SPACING OF 1/4 IN TO 1/2 IN BETWEEN THE COVER MATERIAL AND THE INPLACE SIGN. THE SPACERS SHALL HAVE AN OUTSIDE DIAMETER BETWEEN 3/8 IN TO 7/8 IN. EACH FASTENER REQUIRES A SPACER.
- IF THE SIGN COVER PANEL OR PANEL OVERLAY IS GREATER THAN 48 IN WIDE, THE FASTENER SPACING SHALL BE NO GREATER THAN 24 IN. IF THE SIGN COVER PANEL OR PANEL OVERLAY IS LESS THAN 24 IN WIDE, DO NOT INSTALL A CENTER FASTENER (UNLESS REQUIRED BY SPECIFIC NOTE 4).
- VERTICAL SPACING FOR FASTENERS IS 50% OF THE SIGN COVER PANEL OR PANEL OVERLAY. IF THE SIGN COVER PANEL OR PANEL OVERLAY IS LESS THAN 24 IN HIGH, DO NOT INSTALL A CENTER FASTENER (UNLESS REQUIRED PER SPECIFIC NOTE 5).
- HORIZONTAL SPACING FOR FASTENERS SHALL NOT BE LESS THAN 15 IN NOR MORE THAN 24 IN.

ASSEMBLY STEPS

- DRILL 11/32 IN HOLES ON THE SIGN COVER PANEL OR PANEL OVERLAY IN ACCORDANCE WITH THE FASTENER SPACING DETAILS.
- ATTACH PLASTIC SPACERS TO SIGN COVER PANEL OR PANEL OVERLAY WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
- POSITION THE COVER OR OVERLAY MATERIAL OVER THE SIGN OR MESSAGE TO BE MODIFIED.
- DRILL ALL THE OUTSIDE HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH THE COVER OR OVERLAY MATERIAL WITH APPROPRIATE FASTENERS.
- DRILL ALL THE INNER HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH WITH APPROPRIATE FASTENERS.

TEMPORARY SIGN COVERING AND MODIFICATION (TRUNK HIGHWAY)

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, PE		
DATE:	11/28/2022	LICENSE #:	44200



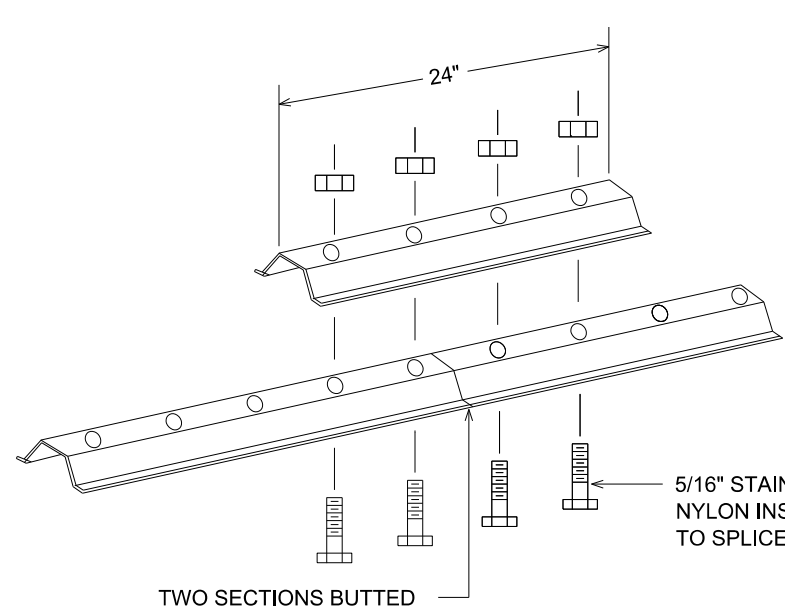
CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
DETAILS
TEMPORARY TRAFFIC CONTROL PLAN
SP 002-635-012, SP 127-020-033

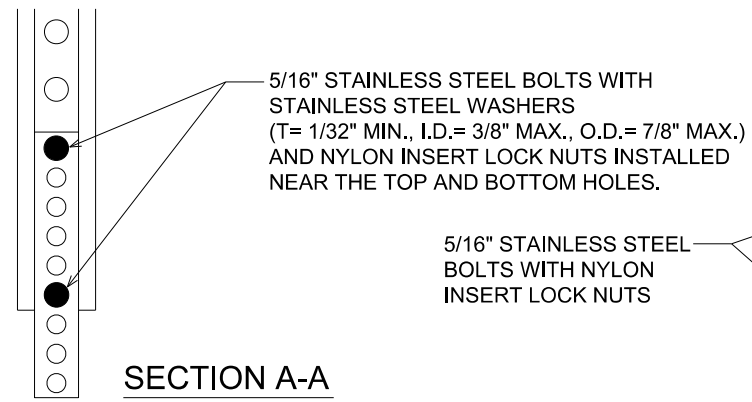
SHEET
46
OF
90
SHEETS

PLOTTED/REVISED: 11/28/2022 11:17 AM

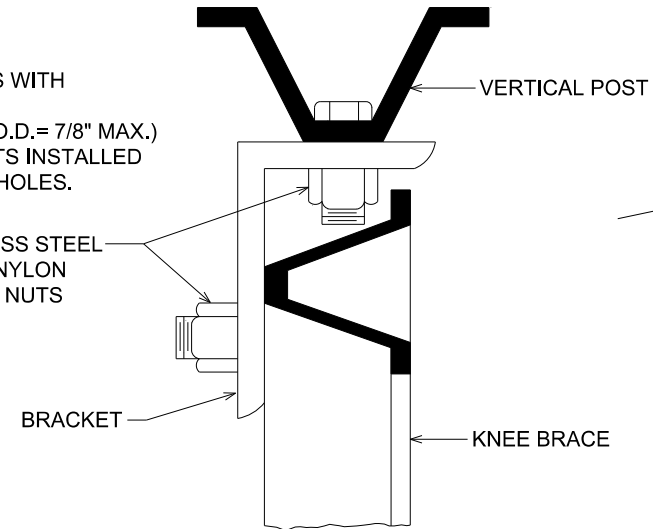
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LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)

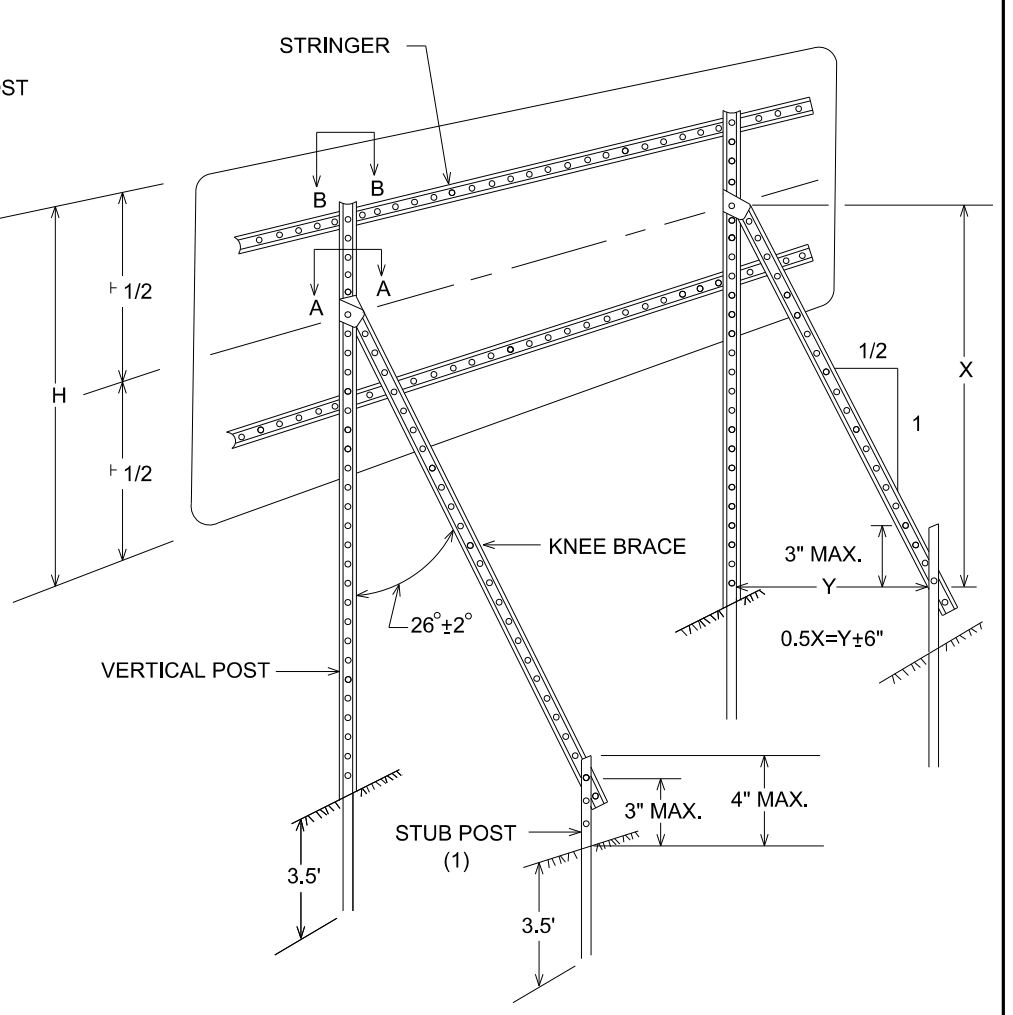


SECTION A-A

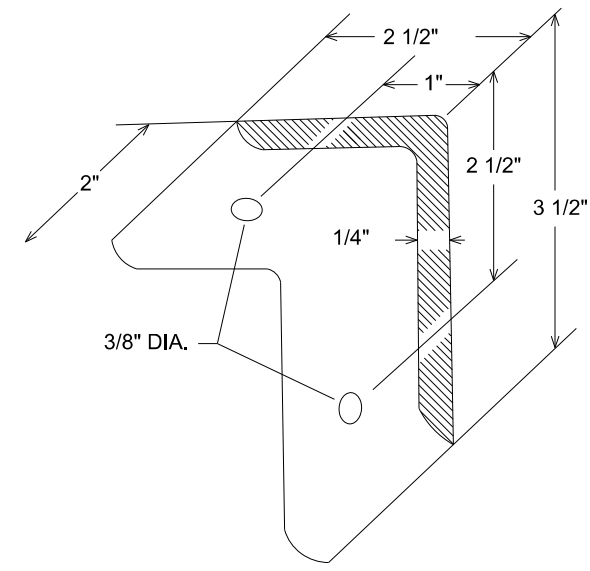


BRACKET

KNEE BRACE

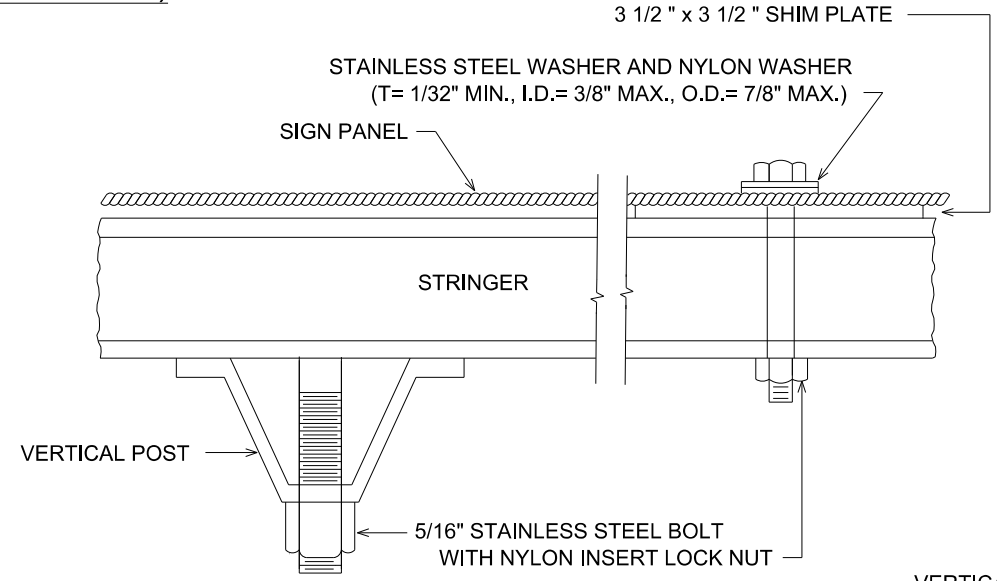


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS



A-FRAME BRACKET

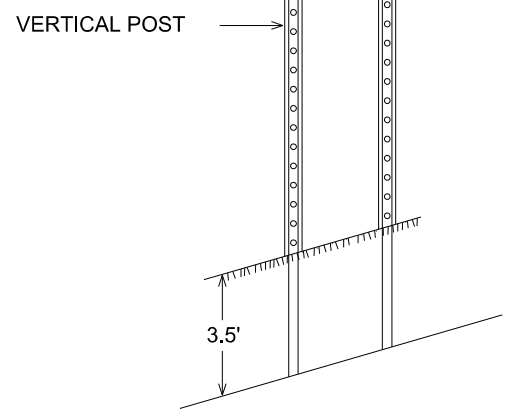
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



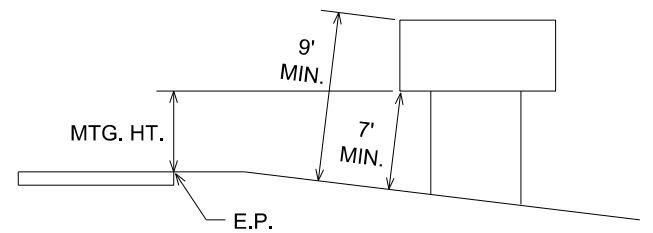
SECTION B-B

VERTICAL POST

5/16" STAINLESS STEEL BOLT
WITH NYLON INSERT LOCK NUT



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:	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, PE	DATE 11/28/2022 LICENSE # 44200



CSAH 35 at Gardena Ave Intersection
Improvements
Anoka County Highway Department

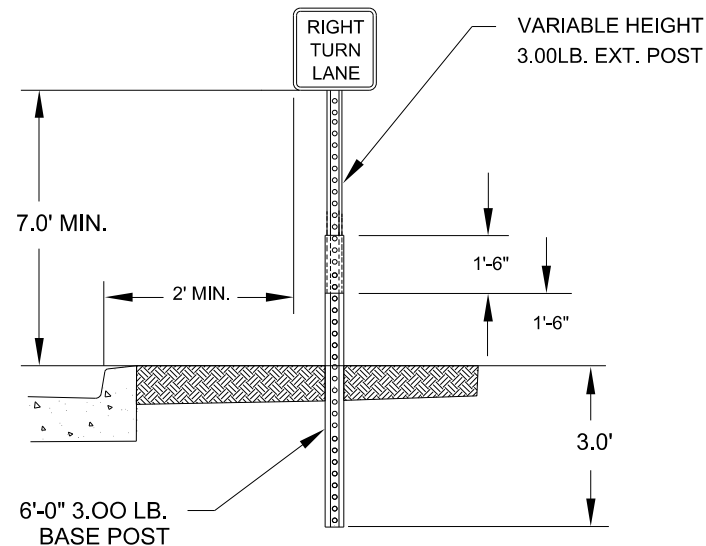
ANOKA COUNTY, MINNESOTA
DETAILS
TEMPORARY TRAFFIC CONTROL PLAN
SP 002-635-012, SP 127-020-033

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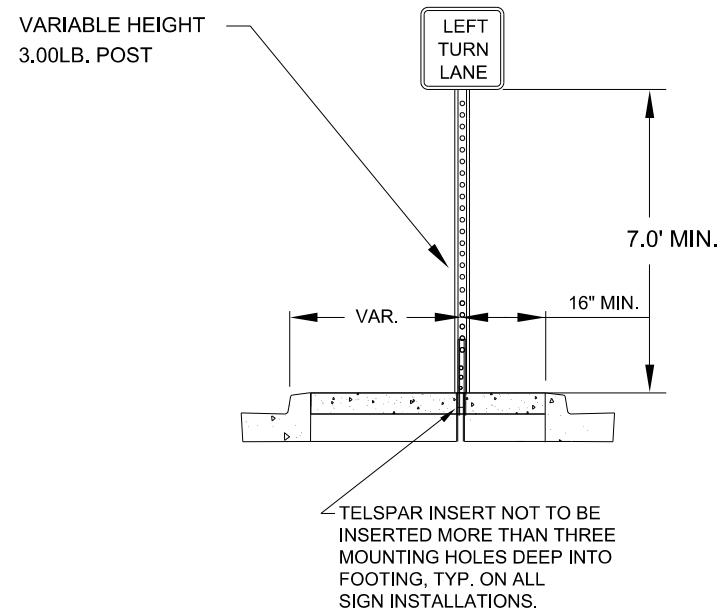
PLOTTED/REVISED: 11/28/2022 11:17 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000\CarPlan\8314-000_road.sgn

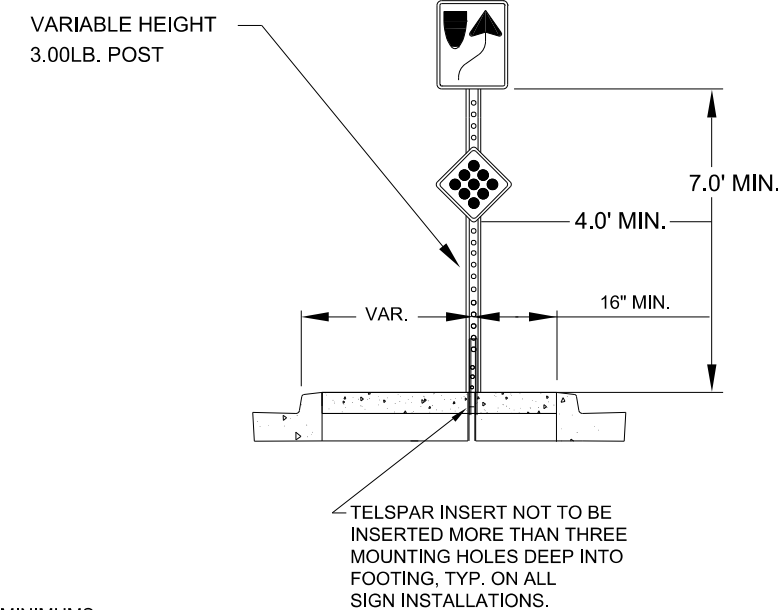
GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



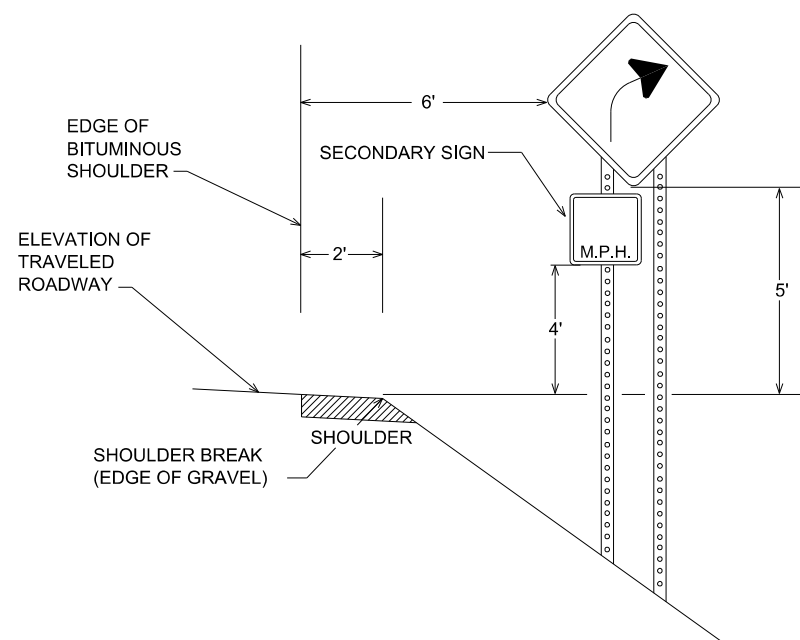
ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL
KEEP RIGHT/CLUSTER



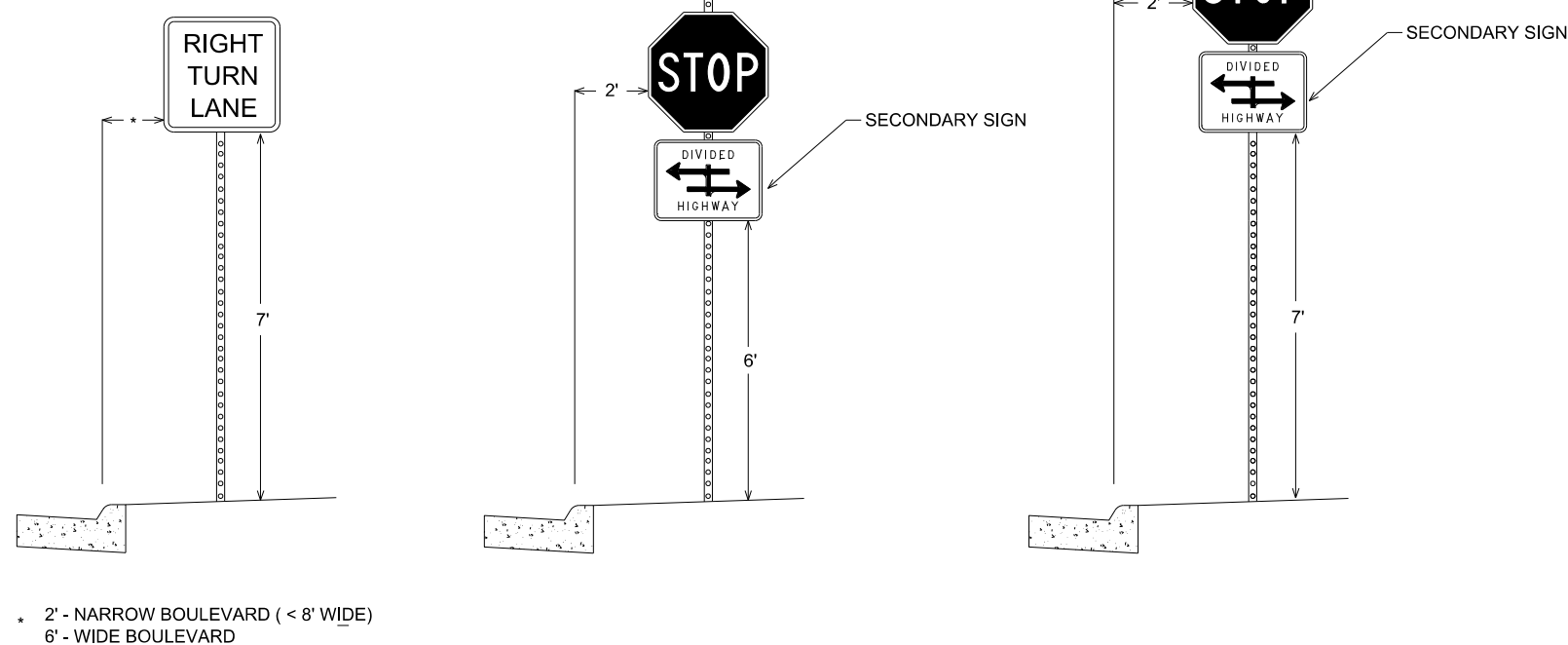
NOTES:

- 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)



ANOKA COUNTY HIGHWAY DEPARTMENT SIGN PLACEMENT

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.

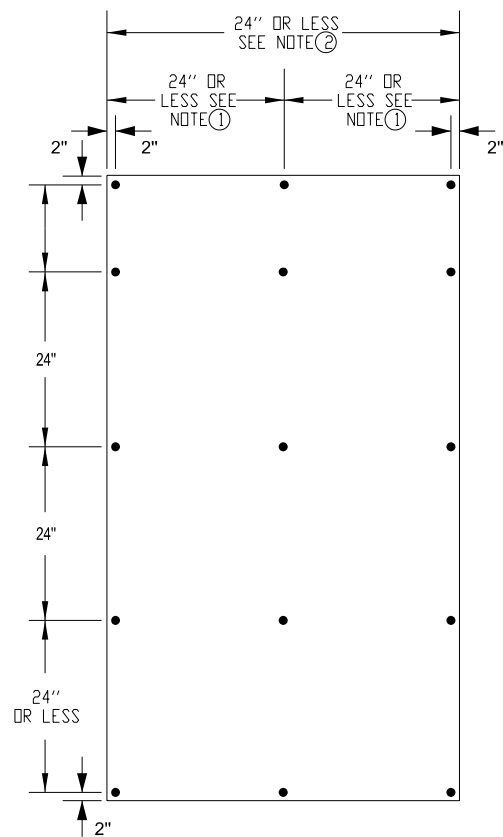
PRINT NAME: ANDREW J. FLOWMAN, PE
 DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection
 Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 DETAILS
 TEMPORARY TRAFFIC CONTROL PLAN
 SP 002-635-012, SP 127-020-033

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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).

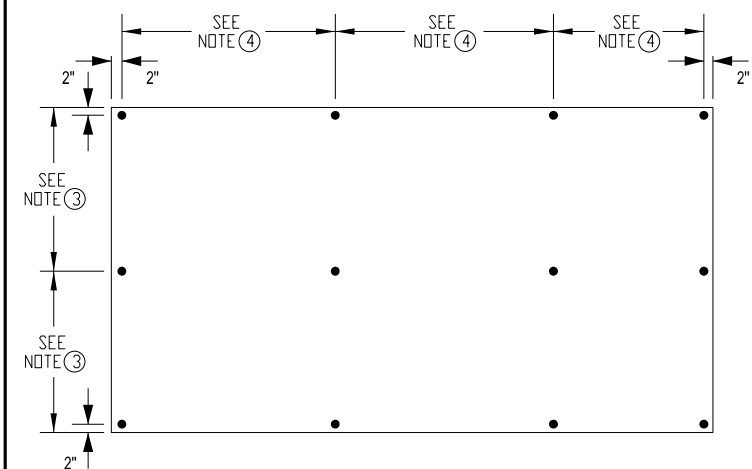
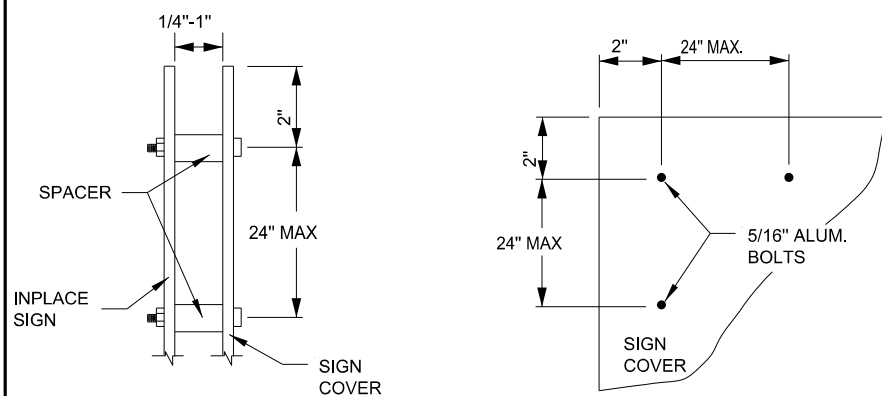
IF SHEET METAL SCREWS ARE USED WITH CORRUGATED PLASTIC, FENDER WASHERS SHALL BE PLACED BETWEEN SCREWS AND PANEL OVERLAY.

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.



OVERLAY ASSEMBLY COVERING TYPE C OR D SIGN PANEL:

A RIGID OPAQUE PANEL OVERLAY, THE OVERLAY PANEL SHOULD BE APPROXIMATELY THE SAME SIZE AS THE SIGN PANEL SUCH THAT THE SIGN MESSAGE IS COMPLETELY COVERED

HOOKS OR PREFORMED STRAPS EXTEND OVER TOP EDGE(S) OF SIGN PANEL

INPLACE SIGN

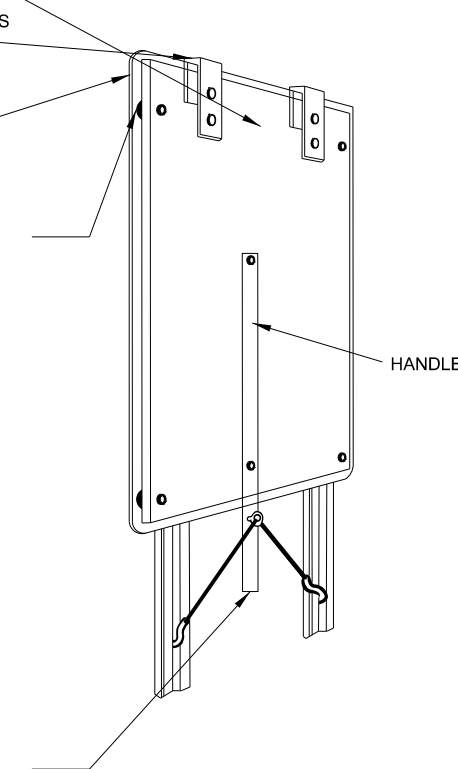
A SPACER IS REQUIRED IN ALL 4 CORNERS TO PROVIDE AIR FLOW GAP BETWEEN THE SIGN FACE AND OVERLAY PANEL

SPACERS SHALL ALLOW BETWEEN 1/4" TO 1" GAP AND BE A MATERIAL THAT WILL NOT HARM THE SIGN SHEETING FACE

ALL FASTENERS (SUCH AS BOLTS, HOOKS OR SCREWS) SHALL NOT TOUCH THE SIGN SHEETING FACE

THE OVERLAY PANEL SHALL BE ATTACHED TO THE SIGN STRUCTURE SUCH THAT IT WILL NOT MOVE DUE TO WIND

BOTTOM OF HANDLE SHALL BE SECURED TO PREVENT MOVEMENT. BOLT ON HANDLE SHALL BE ATTACHED TO OVERLAY PANEL AS TO NOT DAMAGE INPLACE SIGN PANEL.



ACHD REFERENCE DATE: 01/26/2018

ANOKA COUNTY HIGHWAY DEPARTMENT TEMPORARY SIGN COVERING

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. PLUMMAN, PE		
DATE:	11/28/2022	LICENSE #:	44200



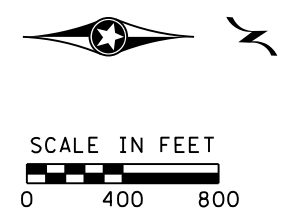
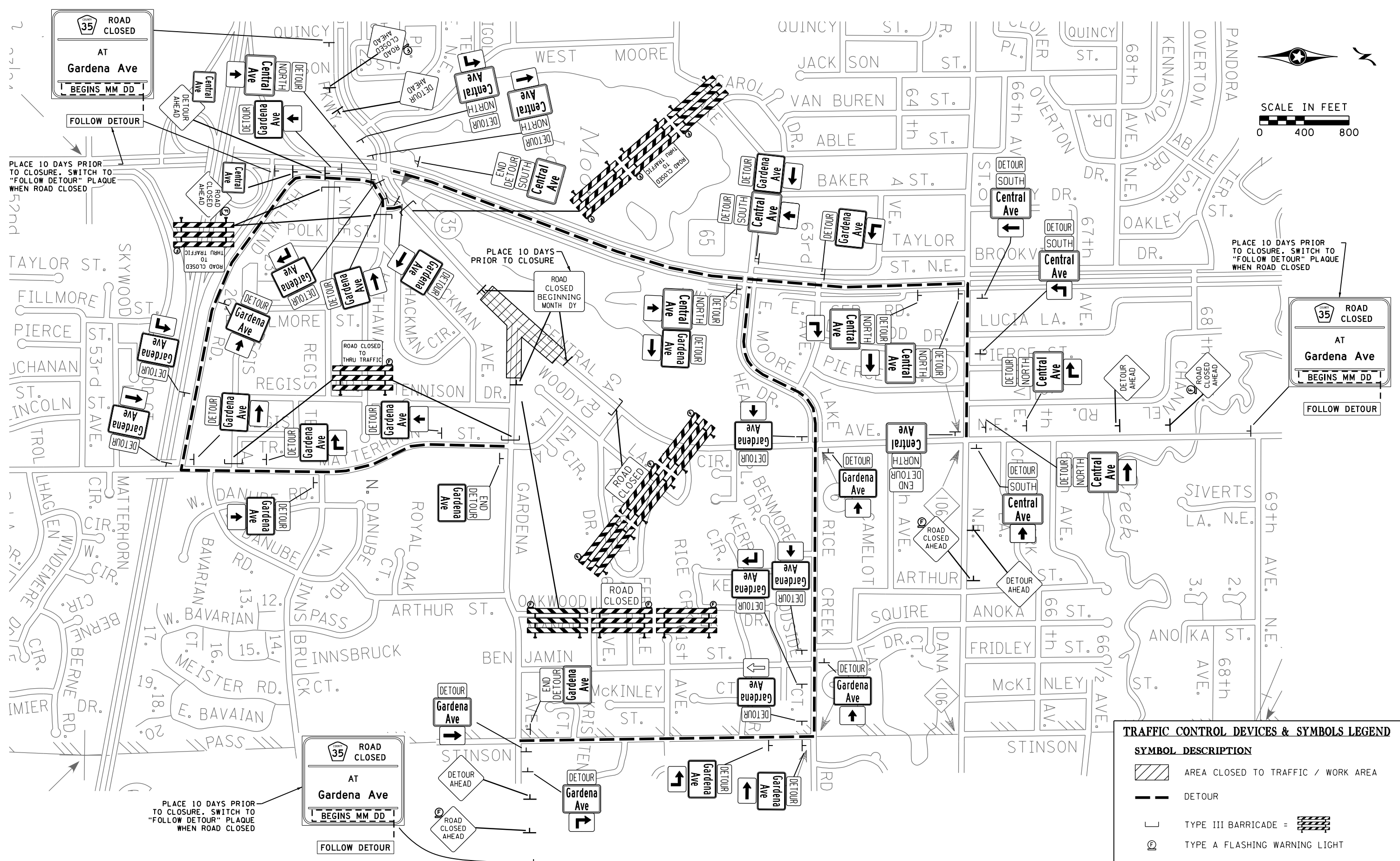
CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
DETAILS
TEMPORARY TRAFFIC CONTROL PLAN
SP 002-635-012, SP 127-020-033

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49
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PLOTTED/REVISED: 11/28/2022 10:02 AM

WSB PATH & FILENAME: Projects\Minnesota\08314-000\CarPlan\8314-000_tcd.dgn



PLACE 10 DAYS PRIOR TO CLOSURE. SWITCH TO "FOLLOW DETOUR" PLAQUE WHEN ROAD CLOSED

PLACE 10 DAYS PRIOR TO CLOSURE

PLACE 10 DAYS PRIOR TO CLOSURE. SWITCH TO "FOLLOW DETOUR" PLAQUE WHEN ROAD CLOSED

PLACE 10 DAYS PRIOR TO CLOSURE. SWITCH TO "FOLLOW DETOUR" PLAQUE WHEN ROAD CLOSED

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND	
SYMBOL	DESCRIPTION
	AREA CLOSED TO TRAFFIC / WORK AREA
	DETOUR
	TYPE III BARRICADE =
	TYPE A FLASHING WARNING LIGHT

NO.	DATE	BY	CHK	REVISIONS

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

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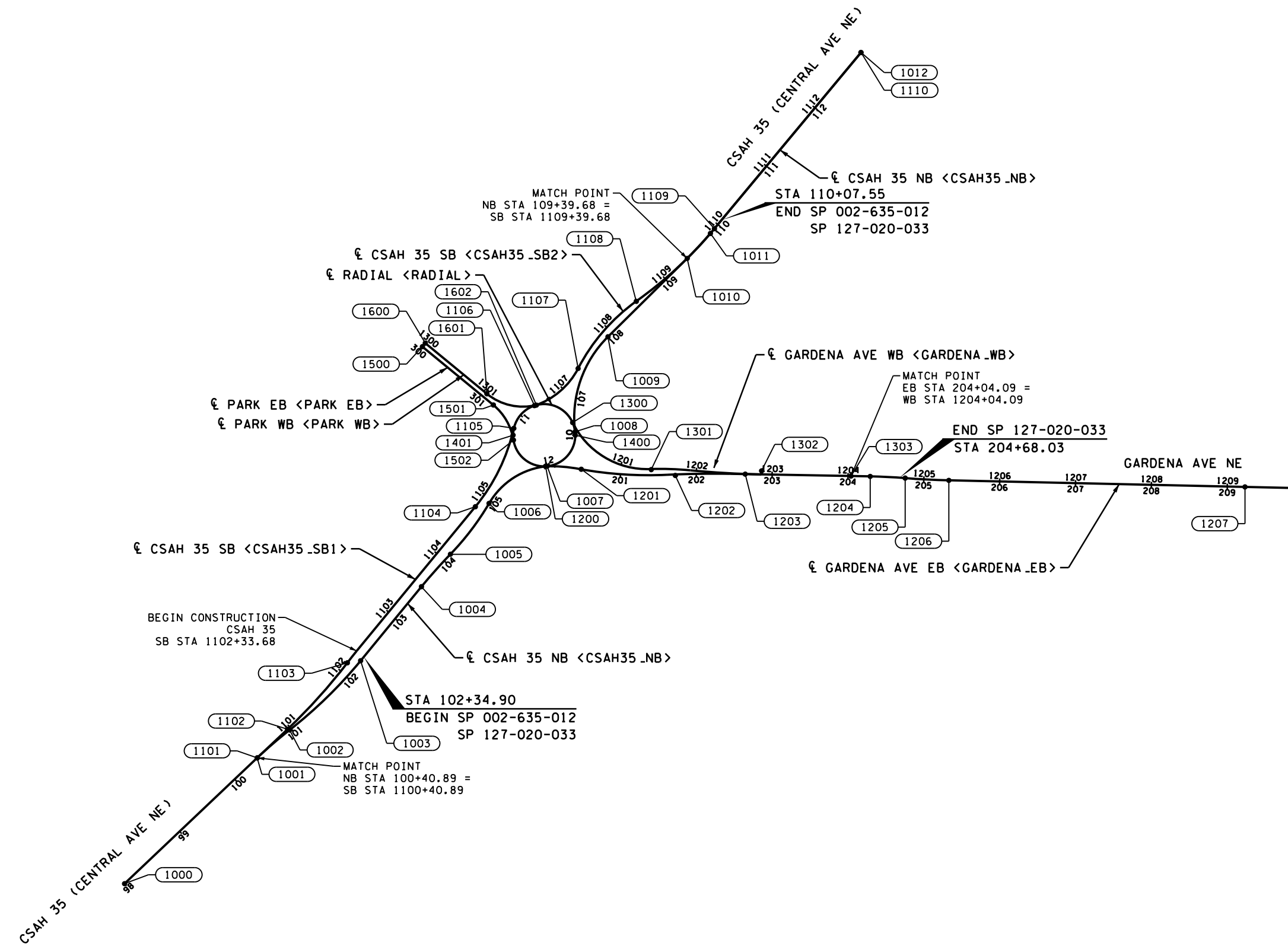
PRINT NAME: ANDREW J. FLOMMAN, PE
 DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 DETOUR
TEMPORARY TRAFFIC CONTROL PLAN
 SP 002-635-012, SP 127-020-033

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 OF
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 SHEETS



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

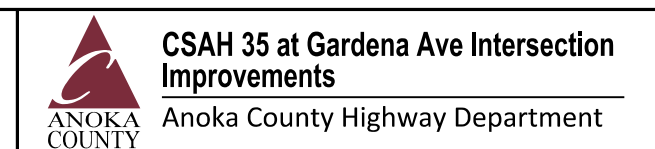
LEGEND
 (XXXX) POINT NUMBER (DETAILS FOUND ON ALIGNMENT TABULATION SHEETS)
 NOTE: SEE SHEET 64 FOR QUADRANT ALIGNMENT TABULATION.

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. FLOMMAN, PE
 DATE: 11/28/2022 LICENSE #: 44200



ANOKA COUNTY, MINNESOTA

ALIGNMENT PLAN & TABULATION
 SP 002-635-012, SP 127-020-033

SHEET **51** OF **90** SHEETS

PLOTTED/REVISED: 11/28/2022 11:25 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorPlan\8314-000.d02

ALIGNMENT TABULATION

Table with columns: POINT NUMBER, POINT, STATION, DELTA, DEGREE, RADIUS, TANGENT, LENGTH, COORDINATES (X, Y), BEARING. Includes alignment data for CSAH 35 NB <CSAH35_NB> from station 98+00.00 to 112+94.80.

ALIGNMENT TABULATION

Table with columns: POINT NUMBER, POINT, STATION, DELTA, DEGREE, RADIUS, TANGENT, LENGTH, COORDINATES (X, Y), BEARING. Includes alignment data for CSAH 35 SB <CSAH35_SB1> and CSAH 35 SB <CSAH35_SB2> from station 1100+40.89 to 1112+94.80.

NOTES:
<XXXX> INDICATES GEOPAK ALIGNMENT NAMES.
SEE SHEET 64 FOR QUADRANT ALIGNMENTS.

Table with columns: NO., DATE, BY, CHK, REVISIONS. Contains revision history for the drawing.

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. FLOMMAN, PE
DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
ALIGNMENT PLAN & TABULATION
SP 002-635-012, SP 127-020-033

SHEET 52 OF 90 SHEETS

PLOTTED/REVISED: 11/28/2022 11:25 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000\CarPlan\8314-000.dwg

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	COORDINATES					BEARING		
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH		X	Y
GARDENA AVE EB <GARDENA_EB>										
1200	PC	200+00.000						506,387.943	114,466.705	N 88° 25' 04.6" E
	PI	200+24.117	12° 30' 43.0" RT	26° 02' 36.7"	220.000'	24.117'	48.042'	506,412.051	114,467.371	PI
	CC							506,394.016	114,246.789	
1201	PRC	200+48.042						506,435.730	114,462.798	S 79° 04' 12.3" E
	PRC	200+48.042						506,435.730	114,462.798	S 79° 04' 12.3" E
	PI	201+10.621	14° 16' 03.6" LT	11° 27' 33.0"	500.000'	62.578'	124.509'	506,497.173	114,450.933	PI
	CC							506,530.534	114,953.728	
1202	PRC	201+72.551						506,559.645	114,454.577	N 86° 39' 44.1" E
	PRC	201+72.551						506,559.645	114,454.577	N 86° 39' 44.1" E
	PI	202+18.601	4° 23' 42.9" RT	4° 46' 28.7"	1,200.000'	46.050'	92.054'	506,605.617	114,457.258	PI
	CC							506,629.511	113,256.612	
1203	PT	202+64.605						506,651.658	114,456.408	S 88° 56' 33.0" E
1204	PC	204+29.400						506,816.425	114,453.366	S 88° 56' 33.0" E
	PI	204+52.451	3° 31' 15.2" RT	7° 38' 22.0"	750.000'	23.051'	46.088'	506,839.473	114,452.941	PI
	CC							506,802.583	113,703.494	
1205	PRC	204+75.488						506,862.450	114,451.101	S 85° 25' 17.7" E
	PRC	204+75.488						506,862.450	114,451.101	S 85° 25' 17.7" E
	PI	205+04.312	3° 18' 07.3" LT	5° 43' 46.5"	1,000.000'	28.824'	57.631'	506,891.182	114,448.800	PI
	CC							506,942.274	115,447.910	
1206	PT	205+33.120						506,919.998	114,448.158	S 88° 43' 25.0" E
1207	POT	209+23.40						507,310.179	114,439.465	
GARDENA AVE WB <GARDENA_WB>										
1300	PC	1200+11.697						506,423.866	114,525.237	S 25° 20' 19.8" E
	PI	1200+86.858	68° 41' 18.0" LT	52° 05' 13.5"	110.000'	75.161'	131.872'	506,456.033	114,457.306	PI
	CC							506,523.283	114,572.313	
1301	PRC	1201+43.569						506,531.009	114,462.585	N 85° 58' 22.2" E
	PRC	1201+43.569						506,531.009	114,462.585	N 85° 58' 22.2" E
	PI	1202+14.969	9° 36' 11.2" RT	6° 44' 26.4"	850.000'	71.400'	142.465'	506,602.232	114,467.599	PI
	CC							506,590.704	113,614.684	
1302	PRC	1202+86.034						506,673.294	114,460.662	S 84° 25' 26.6" E
	PRC	1202+86.034						506,673.294	114,460.662	S 84° 25' 26.6" E
	PI	1203+45.093	4° 31' 06.4" LT	3° 49' 38.5"	1,497.000'	59.058'	118.056'	506,732.073	114,454.923	PI
	CC							506,818.750	115,950.578	
1303	PT	1204+04.090						506,791.121	114,453.833	S 88° 56' 33.0" E

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	COORDINATES					BEARING		
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH		X	Y
RADIAL <RADIAL>										
	POT	9+00.00						506,427.811	114,407.690	
1400	PC	10+00.000						506,427.811	114,507.690	Due North
	PI		180° 00' 00.0" LT	139° 44' 44.9"	41.000'		128.805'			PI
	CC							506,386.811	114,507.690	
1401	PCC	11+28.805						506,345.811	114,507.690	Due South
	PCC	11+28.805						506,345.811	114,507.690	Due South
	PI		180° 00' 00.0" LT	139° 44' 44.9"	41.000'		128.805'			PI
	CC							506,386.811	114,507.690	
1402	PT	12+57.611						506,427.811	114,507.690	Due North
	POT	13+57.61						506,427.811	114,607.690	
PARK EB <PARK_EB>										
1500	POT	300+00.00						506,226.319	114,624.402	
1501	PC	301+21.079						506,319.857	114,547.519	S 50° 34' 53.6" E
	PI	301+49.569	41° 35' 58.6" RT	76° 23' 39.7"	75.000'	28.490'	54.454'	506,341.866	114,529.428	PI
	CC							506,272.233	114,489.579	
1502	PT	301+75.533						506,346.314	114,501.288	S 8° 58' 54.9" E
PARK WB <PARK_WB>										
1600	POT	1300+00.00						506,230.129	114,629.037	
1601	PC	1301+05.036						506,311.272	114,562.341	S 50° 34' 53.6" E
	PI	1301+42.710	53° 20' 35.1" LT	76° 23' 39.7"	75.000'	37.674'	69.826'	506,340.377	114,538.419	PI
	CC							506,358.896	114,620.281	
1602	PT	1301+74.862						506,376.944	114,547.485	N 76° 04' 31.4" E

NOTES:
 <XXXX> INDICATES GEOPAK ALIGNMENT NAMES.
 SEE SHEET 64 FOR QUADRANT ALIGNMENTS.

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. FLOMMAN, PE
 DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

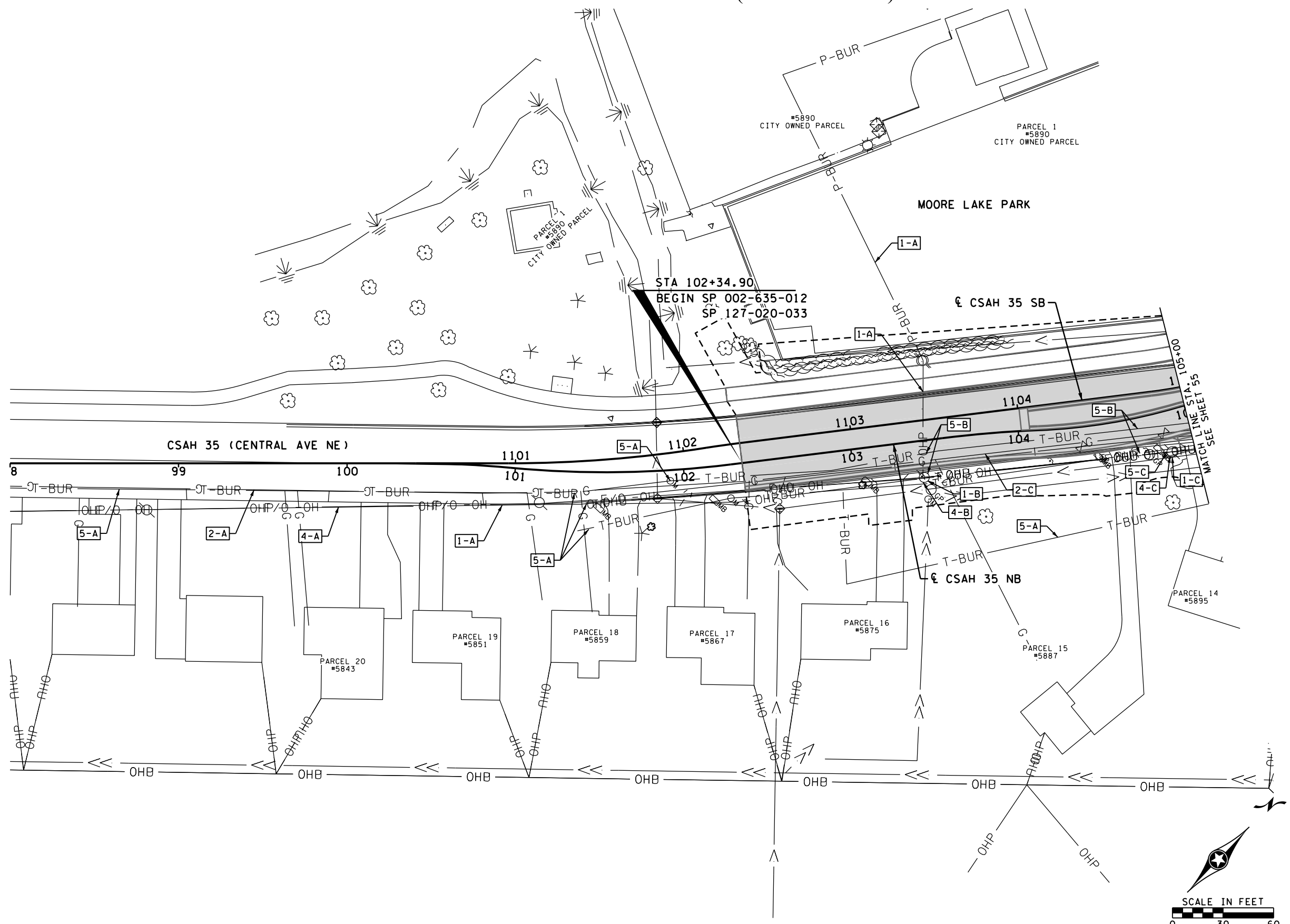
ANOKA COUNTY, MINNESOTA
ALIGNMENT PLAN & TABULATION
 SP 002-635-012, SP 127-020-033

SHEET **53** OF **90** SHEETS

PLOTTED/REVISED: 11/28/2022 10:53:31 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorPlan\8314-000-1.dwg

CSAH 35 (Central Ave NE)



LEGEND

- T-BUR — BURIED TELEPHONE LINE
- TV-BUR — BURIED TELEVISION LINE
- OHU — OVERHEAD UTILITY LINE
- F/O-BUR — BURIED 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
- SM — STORM SEWER LINE
- WM — FORCE MAIN
- | — WATER MAIN

- ☐ UTILITY PEDESTAL
- HANDHOLE
- ⊙ POWER/UTILITY POLE
- ⊙ LIGHT POLE
- ⊙ CABINET
- ⊙ VALVE (GAS)
- ⊙ MANHOLE
- ⊙ CATCH BASIN
- ⊙ CONCRETE APRON
- ⊙ HYDRANT
- ⊙ VALVE (WATER)
- ⊙ VALVE (GAS)
- ⊙ 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 PAVEMENT TO BE REMOVED
- ⊙-A UTILITY CONFLICT AREA (OWNER-IMPACT)

- OWNERSHIP:**
- (1) XCEL ENERGY
 - (2) CEBTERPOINT ENERGY
 - (3) COMCAST CABLE LLC
 - (4) AT&T
 - (5) LUMEN TECHNOLOGIES
- IMPACT:**
- (A) LEAVE AS IS
 - (B) ADJUST
 - (C) RELOCATE
 - (D) REMOVE

GENERAL NOTES

1. THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-02.
2. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).

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, PE
 DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

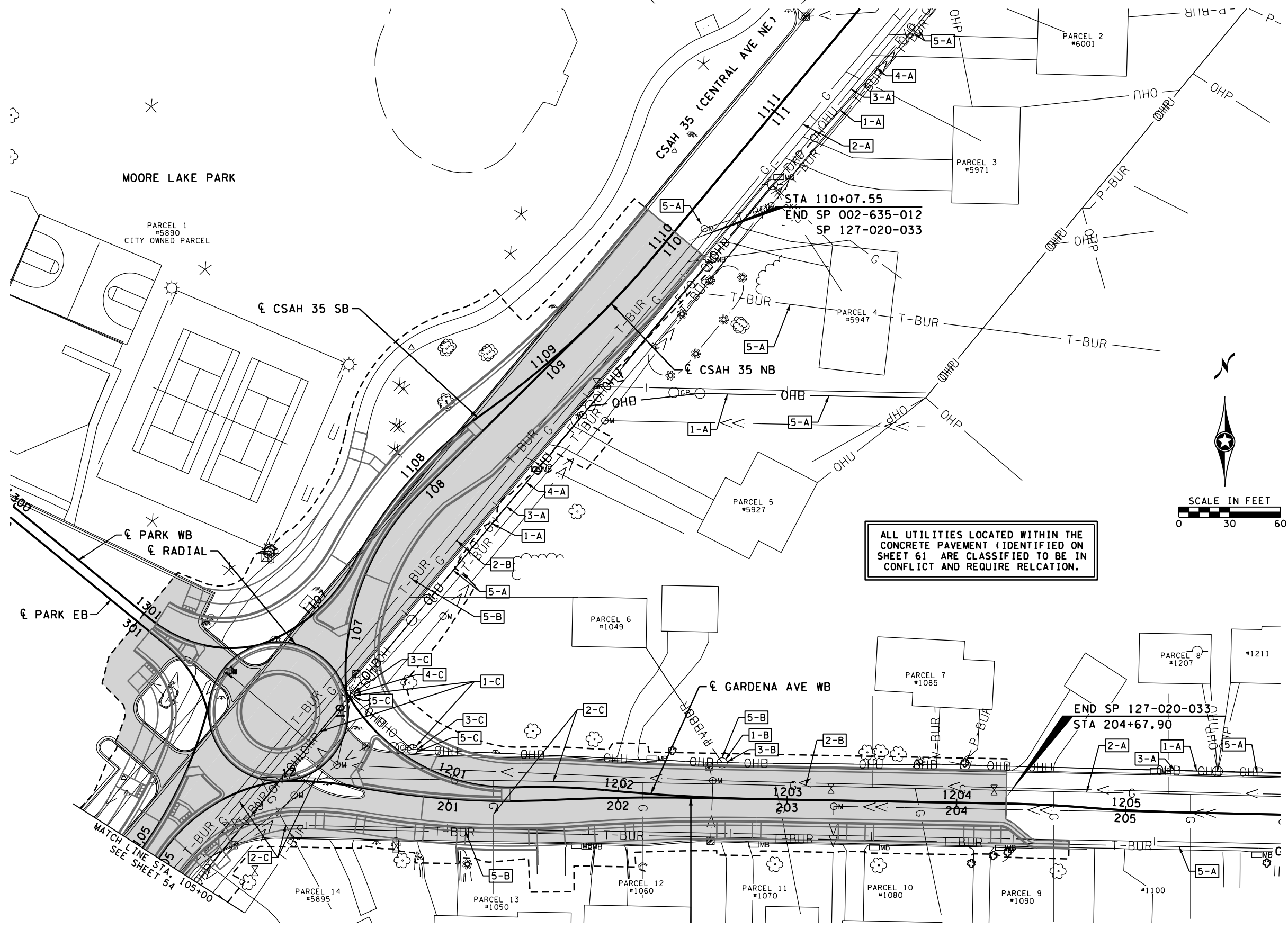
ANOKA COUNTY, MINNESOTA
 NB STA 102+34.90 TO NB STA 105+00
INPLACE TOPOGRAPHY & UTILITIES
 SP 002-635-012, SP 127-020-033

SHEET 54 OF 90 SHEETS

CSAH 35 (Central Ave NE) at Gardena Ave NE

PLOTTED/REVISED: 11/28/2022 11:41:40 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorPlan\8314-000_1-02.dgn



ALL UTILITIES LOCATED WITHIN THE CONCRETE PAVEMENT (IDENTIFIED ON SHEET 61) ARE CLASSIFIED TO BE IN CONFLICT AND REQUIRE RELLOCATION.

LEGEND

- T-BUR BURIED TELEVISION LINE
- TV-BUR BURIED TELEVISION LINE
- OHU OVERHEAD UTILITY LINE
- F/O-BUR BURIED 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
- W 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)
- VALVE (GAS)
- 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 PAVEMENT TO BE REMOVED
- UTILITY CONFLICT AREA (OWNER-IMPACT)

OWNERSHIP:
 (1) XCEL ENERGY
 (2) CEBTERPOINT ENERGY
 (3) COMCAST CABLE LLC
 (4) AT&T
 (5) LUMEN TECHNOLOGIES

IMPACT:
 (A) LEAVE AS IS
 (B) ADJUST
 (C) RELOCATE
 (D) REMOVE

GENERAL NOTES

1. THE EXISTING SUBSURFACE UTILITY INFORMATION IS QUALITY LEVEL D IN ACCORDANCE WITH THE GUIDELINES OF CI/ASCE 38-02.
2. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL BURIED UTILITIES IN THE FIELD (INCIDENTAL).

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. FLOWMAN, PE
 DATE: 11/28/2022 LICENSE #: 44200









CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department








ANOKA COUNTY, MINNESOTA
 NB STA 105+00 TO NB STA 110+07.55
INPLACE TOPOGRAPHY & UTILITIES
 SP 002-635-012, SP 127-020-033









SHEET
55
 OF
90
 SHEETS

CSAH 35 (Central Ave NE) at Gardena Ave NE

LEGEND

-  REMOVE BITUMINOUS PAVEMENT
-  REMOVE BITUMINOUS PAVEMENT & REMOVE CONCRETE PAVEMENT BENEATH
-  REMOVE BITUMINOUS WALK
-  REMOVE BITUMINOUS DRIVEWAY PAVEMENT
-  REMOVE CONCRETE DRIVEWAY PAVEMENT
-  REMOVE BRICK MEDIAN

-  CLEAR & GRUB TREE (EACH)
-  SALVAGE MAILBOX SUPPORT
-  SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
-  REMOVE DRAINAGE STRUCTURE
-  ADJUST HYDRANT
-  ADJUST GATE VALVE & BOX
-  ADJUST FRAME & RING CASTING

-  REMOVE SEWER PIPE (STORM)
-  REMOVE CURB & GUTTER
-  CONSTRUCTION LIMITS
-  AREA OF ENVIRONMENTAL SENSITIVITY
-  INPLACE RIGHT-OF-WAY
-  PROPOSED RIGHT-OF-WAY
-  TEMPORARY EASEMENT
-  PERMANENT EASEMENT

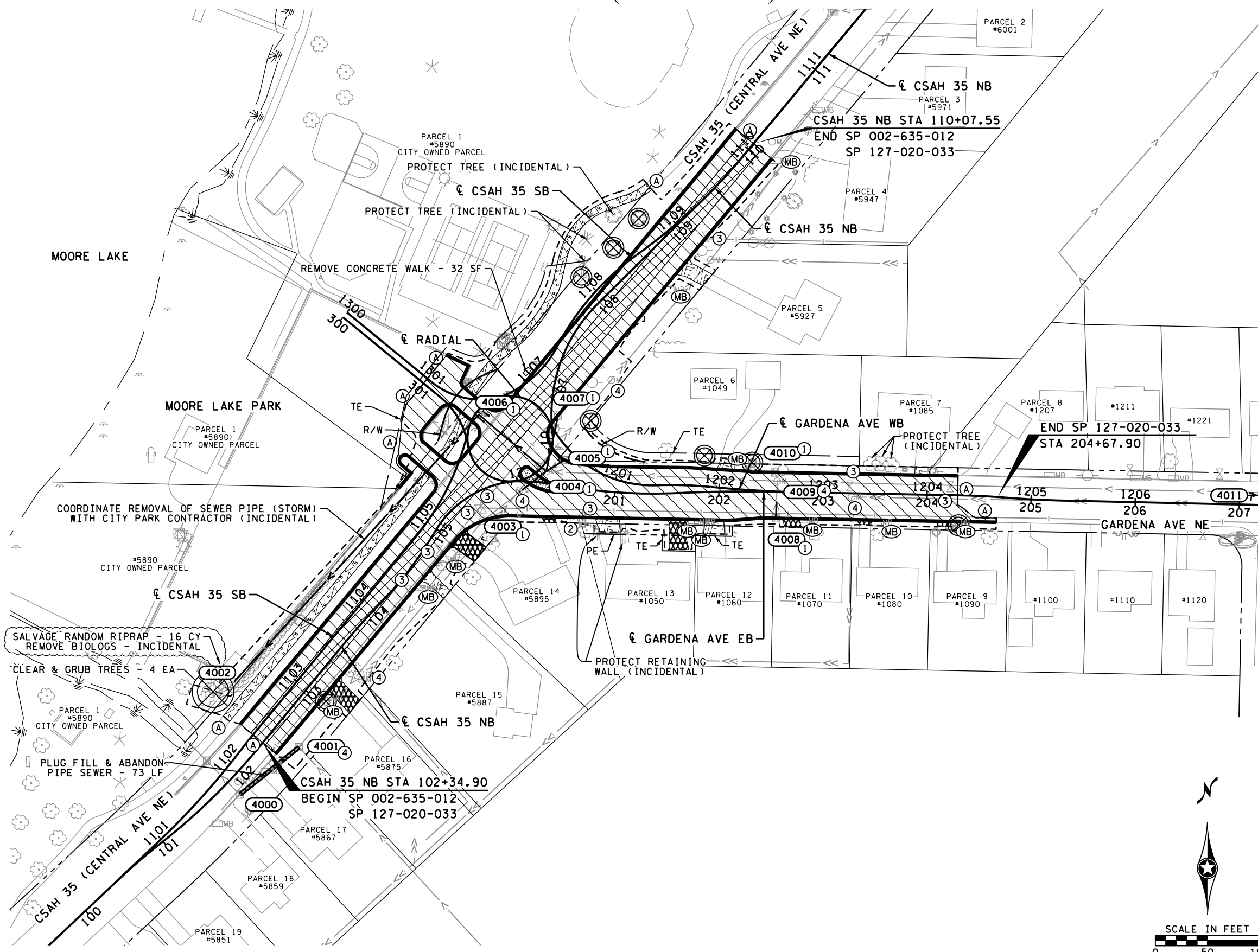
GENERAL NOTES

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.



PLOTTED/REVISED: 1/11/2023 3:05:41 PM

WSB PATH & FILENAME: Projects\Minnesota\08314-000-CorPlan\8314-000_r.mxd



NO.	DATE	BY	CHK	REVISIONS
1	2023/01/10	LGR	AJP	ADDENDUM 1: SALVAGE RIPRAP AND REMOVE BIOLOGS

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. PLUMMAN, PE
 DATE: 1/11/2023 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

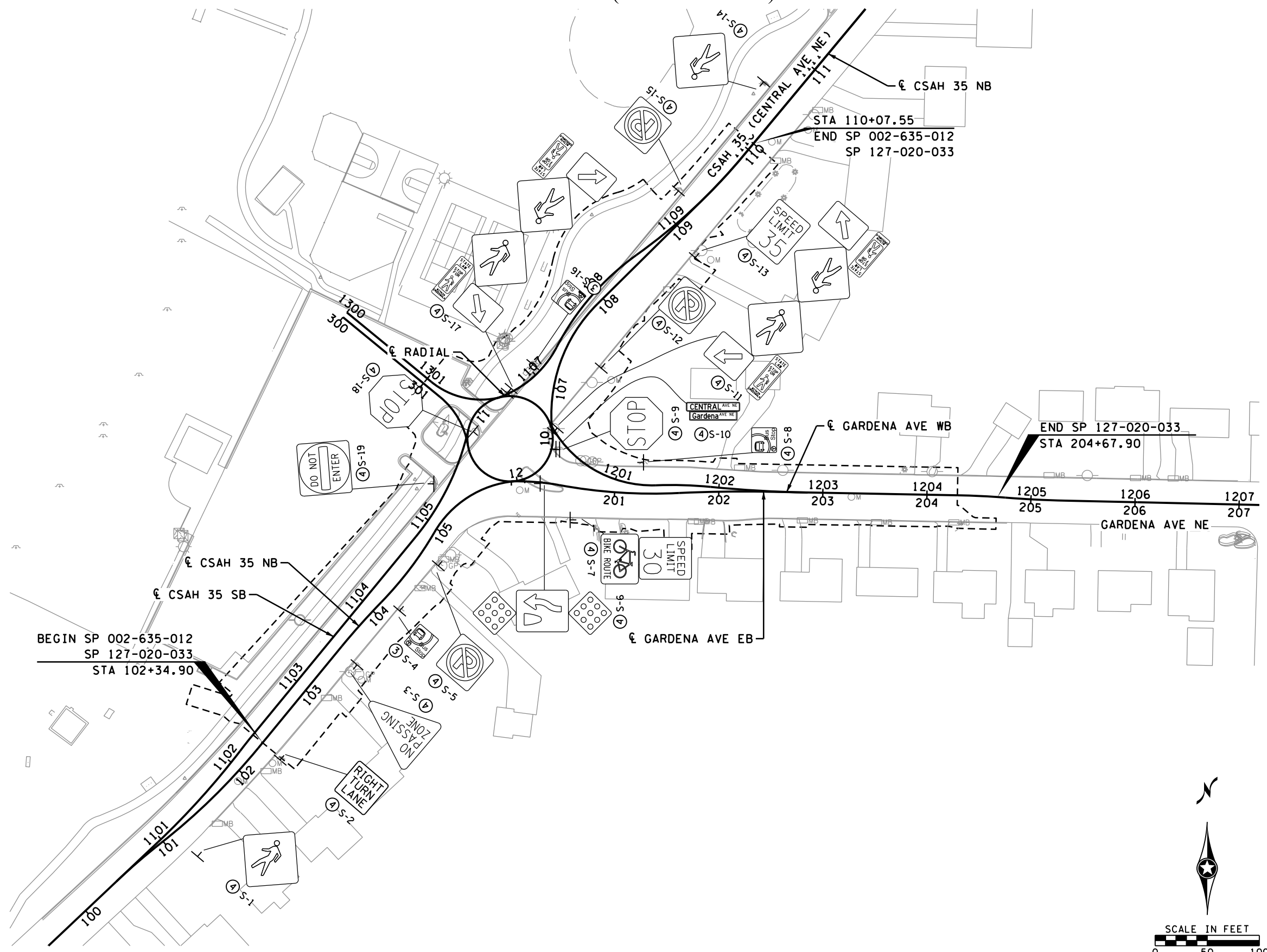
REMOVAL PLAN
 SP 002-635-012, SP 127-020-033

SHEET
56R
 OF
90
 SHEETS

CSAH 35 (Central Ave NE) at Gardena Ave NE

LEGEND

- ③ SALVAGE
- ④ REMOVE



PLOTTED/REVISED: 11/28/2022 11:50 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000\CarPlan\8314-000_srl.dgn

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: SEAN DELMORE, PE

 DATE: 11/28/2022 LICENSE #: 40145



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

SIGN REMOVAL
 SP 002-635-012, SP 127-020-033

SHEET
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 OF
90
 SHEETS

CSAH 35 (Central Ave NE) at Gardena Ave NE

LEGEND

- ➔ TRAFFIC DIRECTION
- ① CONSTRUCT CONCRETE PEDESTRIAN CURB RAMP WITH TRUNCATED DOMES. SEE PEDESTRIAN RAMP DETAILS.
- ② CONSTRUCT CONCRETE MEDIAN NOSE PER STANDARD PLAN 7113
- ③ CONSTRUCT DEPRESSED MEDIAN CURB AT DRIVEWAY, SEE MISCELLANEOUS DETAILS
- Ⓐ 2.5" BITUMINOUS TRAIL

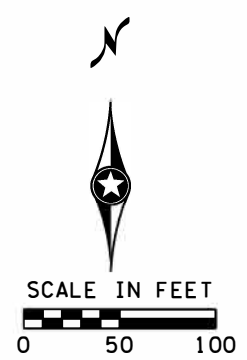
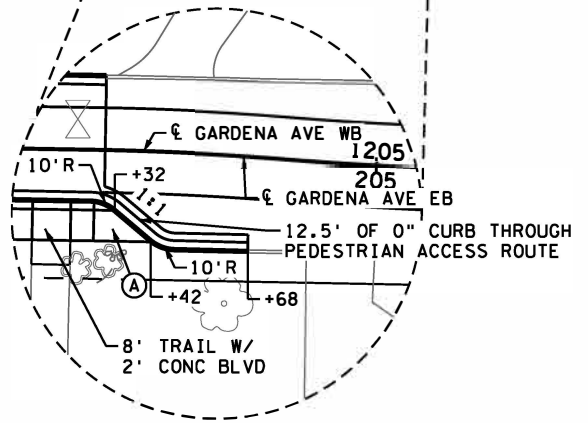
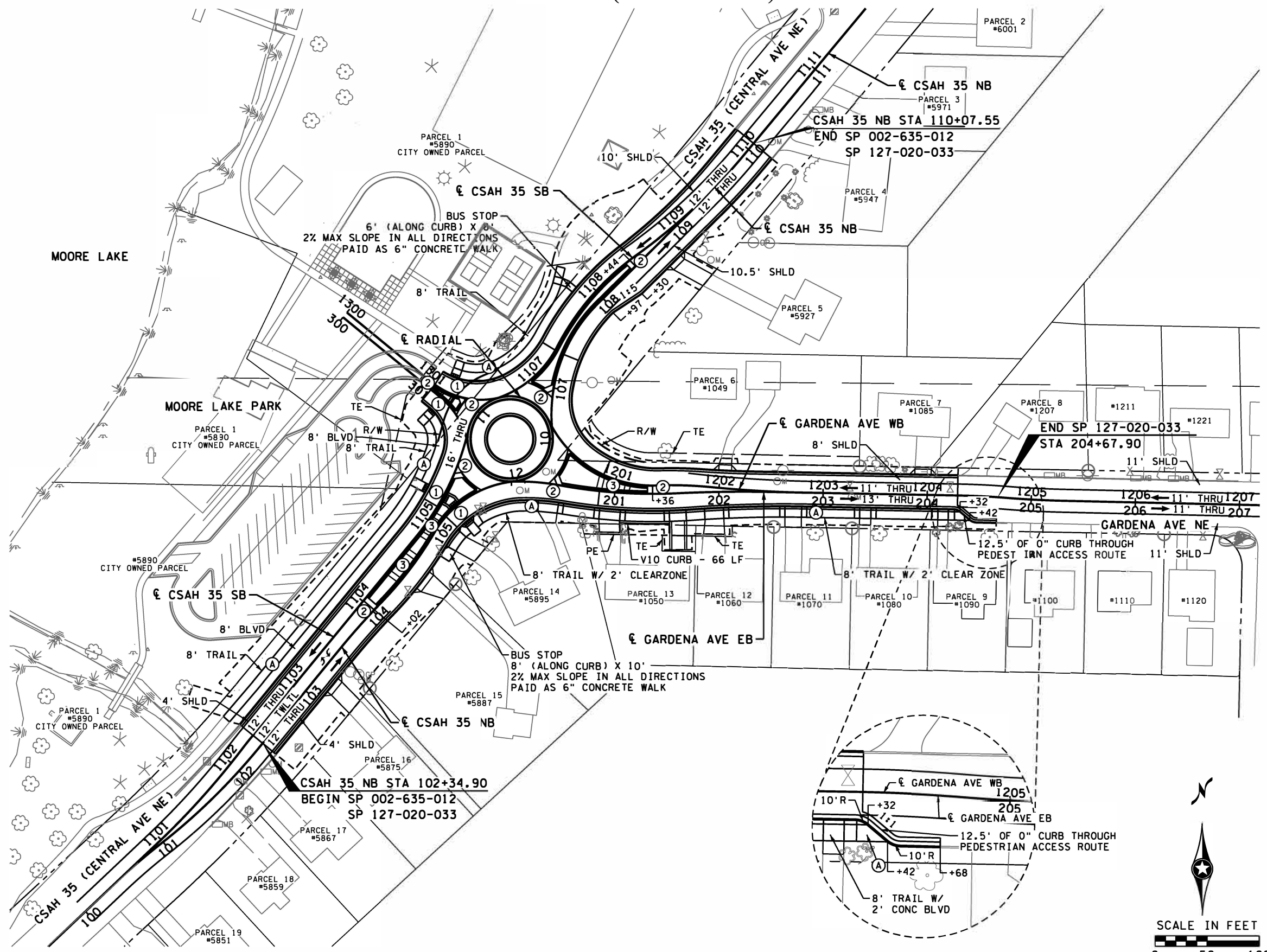
- CONSTRUCTION LIMITS
- ⊕ AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

GENERAL NOTES

1. CURB & GUTTER DES. ~~8618~~ B418 (MOD) USED FOR MEDIANS
2. CURB & GUTTER DES. ~~8624~~ B424 USED FOR OUTSIDE LANES AND INSIDE TRUCK APRON ON ROUNDABOUT
3. CURB & GUTTER DES. R418 USED FOR OUTSIDE TRUCK APRON ON ROUNDABOUT
4. MEDIANS CONSTRUCTED WITH 4" CONCRETE WALK
5. ALL LANE DIMENSIONS ARE FROM CENTERLINE TO LANE LINE OR FACE OF CURB.
6. ALL SHOULDER DIMENSIONS ARE FROM LANE LINE TO FACE OF CURB.
7. SEE DRIVEWAY DETAILS FOR ADDITIONAL INFORMATION AT DRIVEWAYS.
8. SEE ALIGNMENT PLAN FOR CURVE DATA.
9. SEE PAVING PLAN FOR REQUIRED PAVEMENT SECTIONS.
10. SEE SHEET 59 - 60 FOR ROADWAY PROFILES.
11. SEE SHEET 63 - 65 FOR ROUNDABOUT INTERSECTION DETAILS.

PLOTTED/REVISED: 11/28/2022 11:20:00 AM

 WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorridorPlan\18314-000.dwg



NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: ANDREW J. PLYMANN, PE
 DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

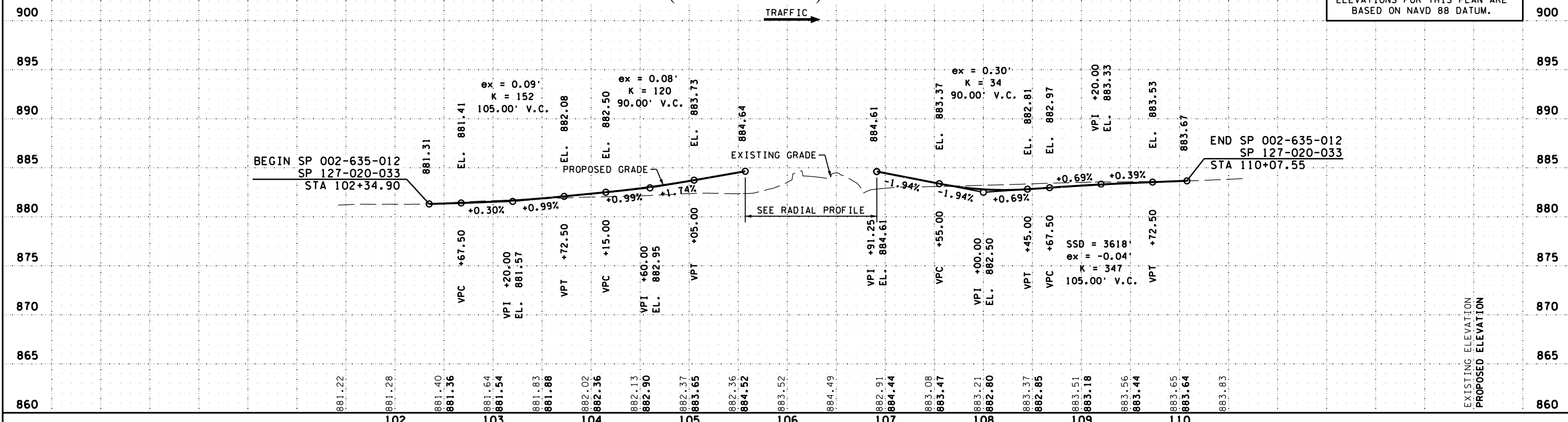
ANOKA COUNTY, MINNESOTA

CONSTRUCTION PLAN & PROFILE
 SP 002-635-012, SP 127-020-033

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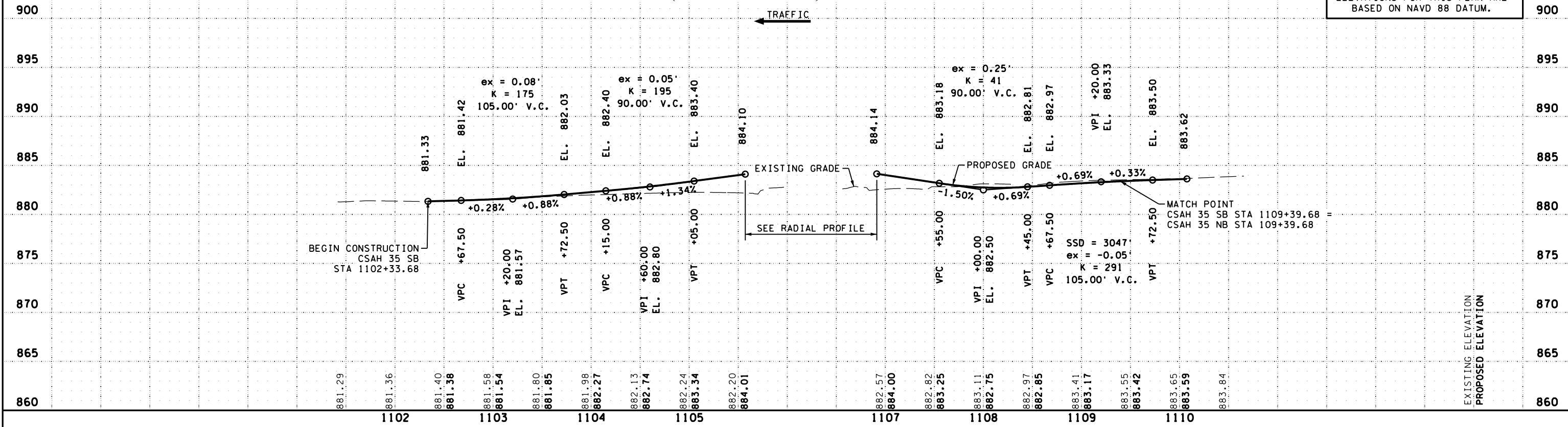
CSAH 35 (Central Ave NE) Northbound Profile

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



CSAH 35 (Central Ave NE) Southbound Profile

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



PLOTTED/REVISED: 11/28/2022 11:20:03 AM

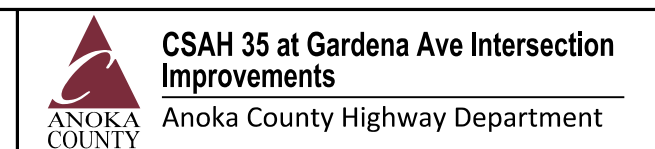
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NO.	DATE	BY	CHK	REVISIONS

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

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ANOKA COUNTY, MINNESOTA

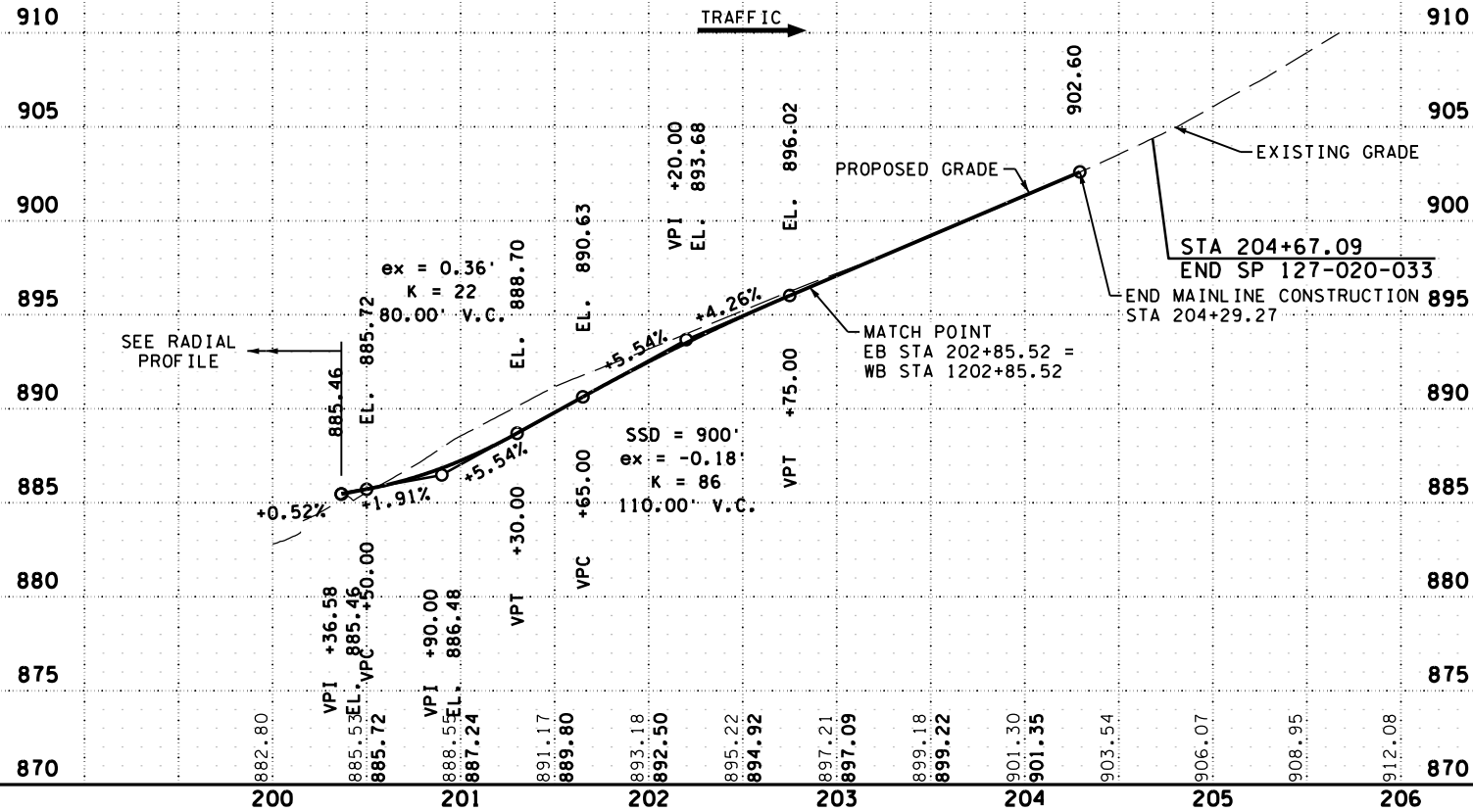
CONSTRUCTION PLAN & PROFILE
 SP 002-635-012, SP 127-020-033

SHEET
59
 OF
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 SHEETS

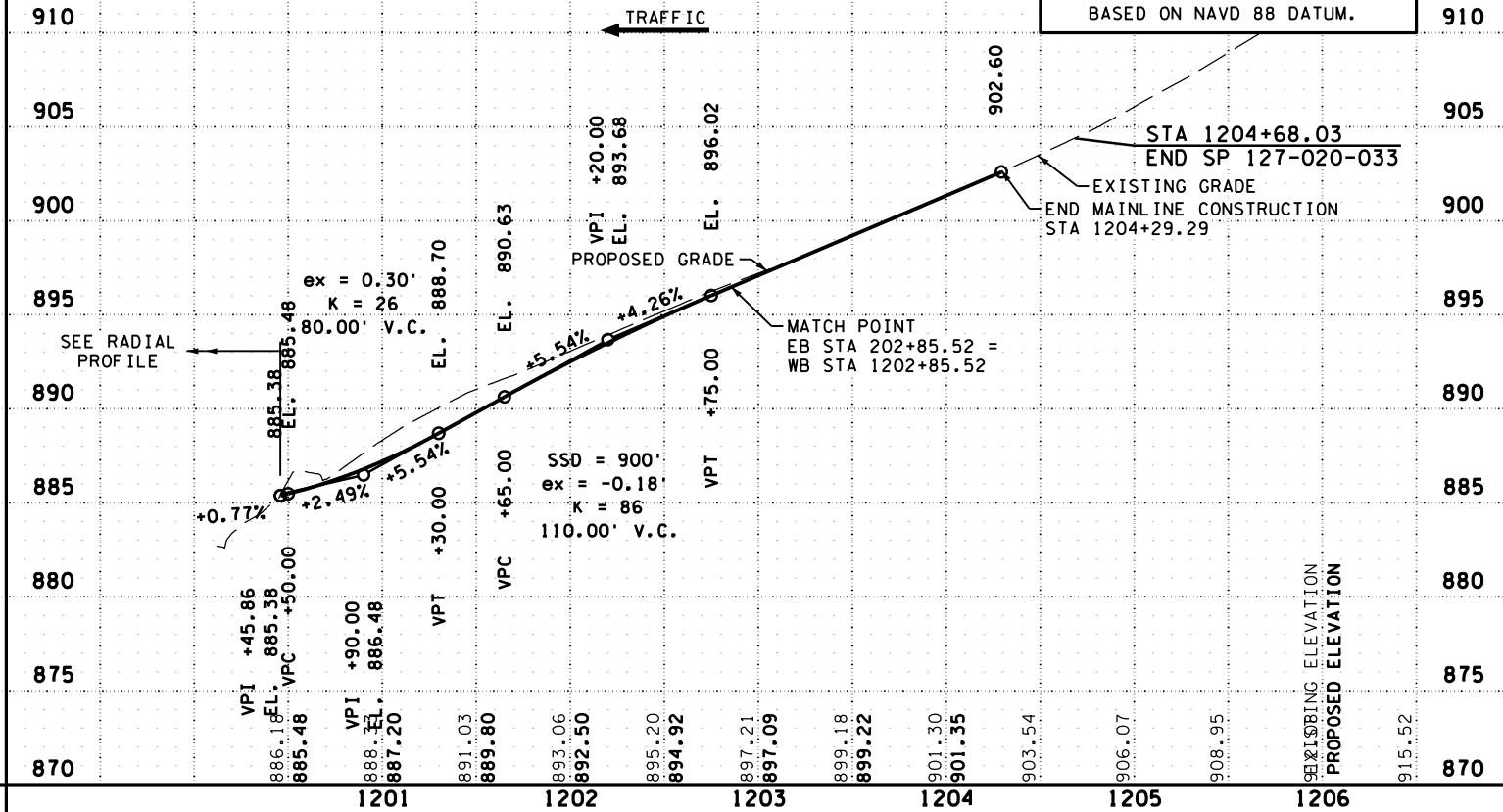
PLOTTED/REVISED: 11/28/2022 11:20:06 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorPlan\8314-000-003

Gardena Ave NE Eastbound Profile

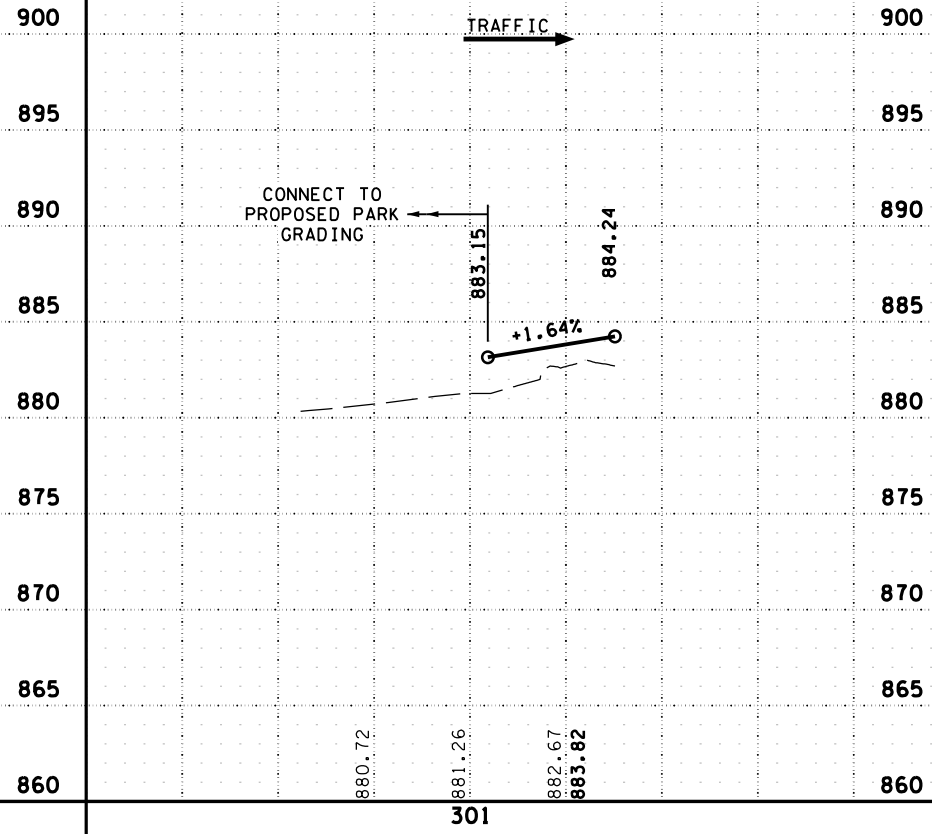


Gardena Ave NE Westbound Profile

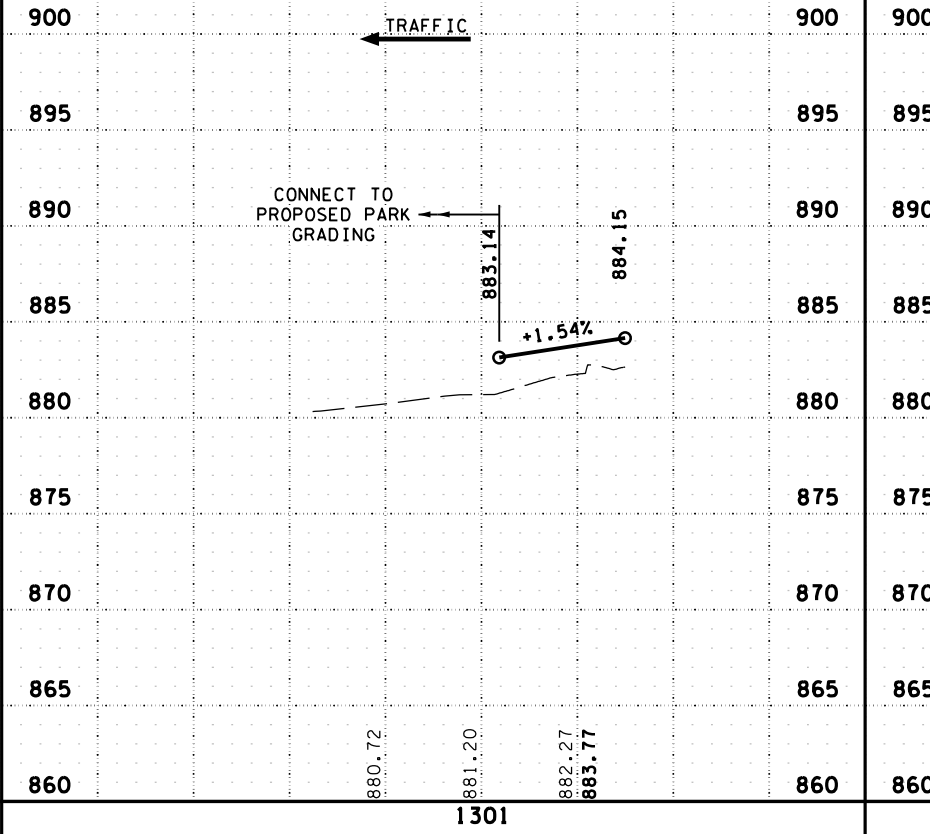


VERTICAL CONTROL
ELEVATIONS FOR THIS PLAN ARE
BASED ON NAVD 88 DATUM.

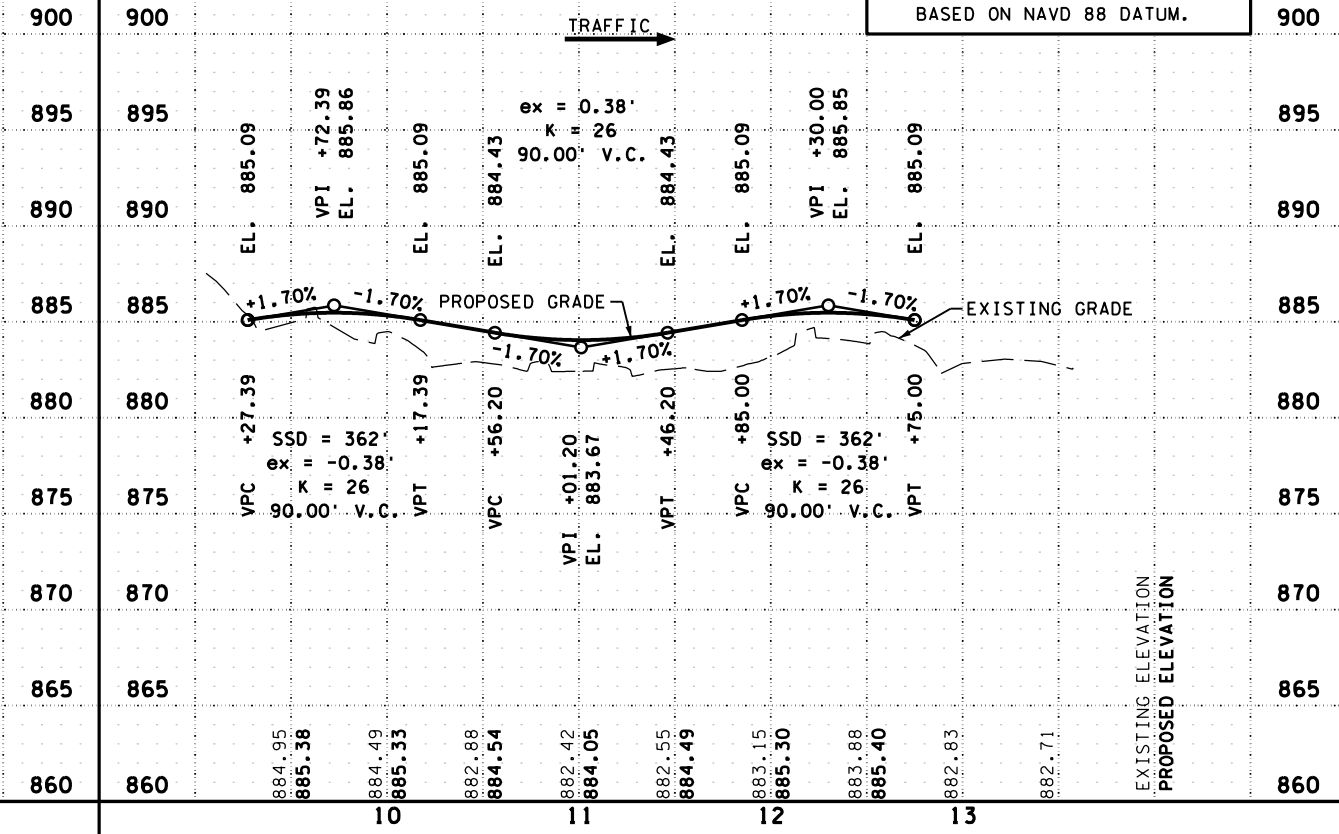
Park Entrance EB Profile



Park Entrance WB Profile



Radial 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

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









CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
CONSTRUCTION PLAN & PROFILE
SP 002-635-012, SP 127-020-033

SHEET
60
OF
90
SHEETS

CSAH 35 (Central Ave NE) at Gardena Ave NE

LEGEND

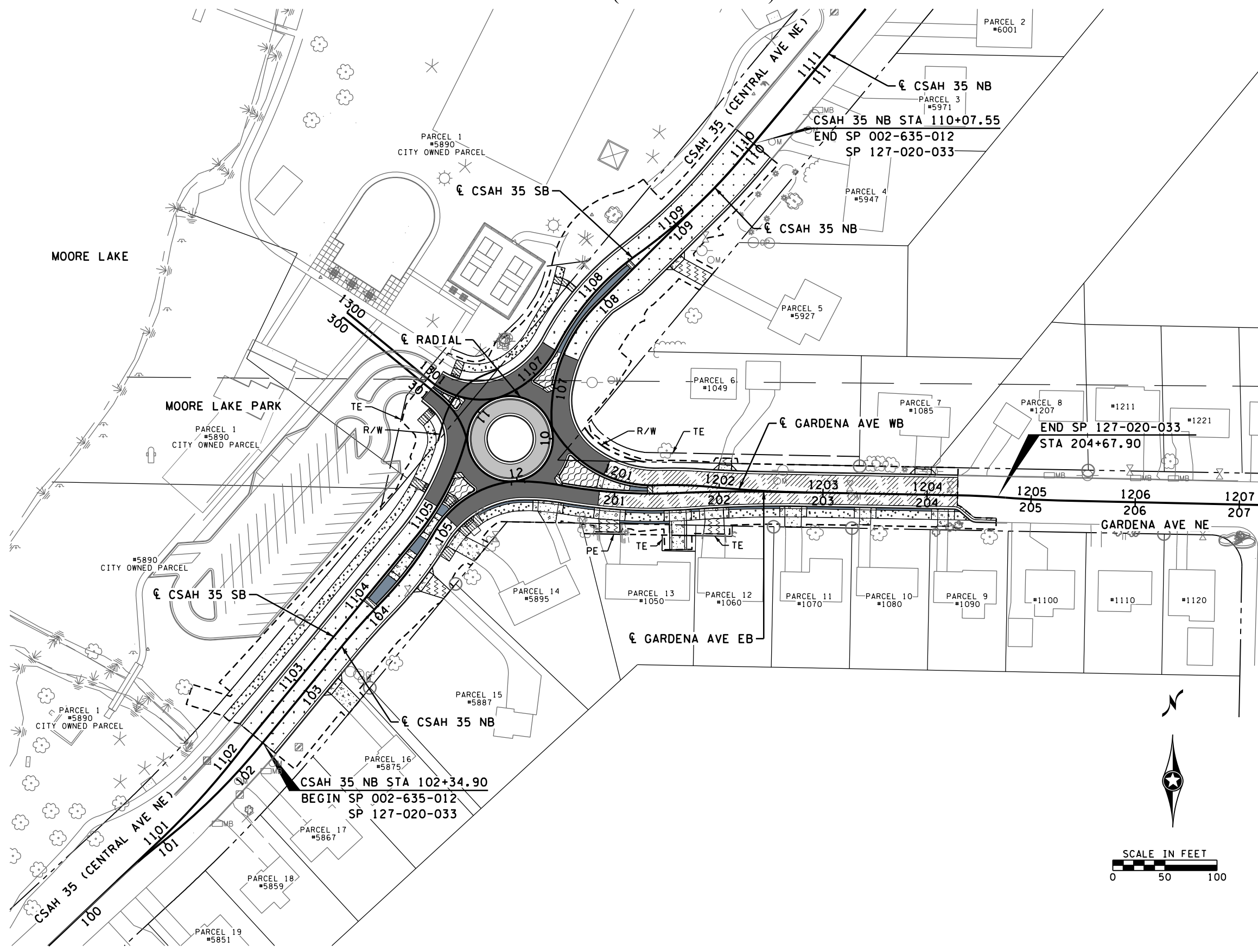
-  INSET "A" - CSAH 35 BITUMINOUS ROADWAY
-  INSET "B" - GARDENA AVE BITUMINOUS ROADWAY
-  INSET "C" - 6" CONCRETE WALK
-  INSET "D" - 2.5" BITUMINOUS TRAIL
-  INSET "E" - 6" CONCRETE DRIVEWAY PAVEMENT
-  INSET "F" - 3" BITUMINOUS DRIVEWAY PAVEMENT
-  INSET "G1" - CONCRETE PAVEMENT 7.0"
-  INSET "G2" - CONCRETE PAVEMENT 7.0" SPECIAL
-  INSET "H1" - 4" CONCRETE WALK
-  INSET "H2" - 4" CONCRETE WALK SPECIAL

GENERAL NOTES

1. SEE SHEET 62 FOR JOINT DETAILING.

PLOTTED/REVISED: 11/28/2022 11:24:55 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorPlan\8314-000-plan01



NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: **ANDREW J. FLOWMAN, PE**
 DATE: **11/28/2022** LICENSE #: **44200**



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

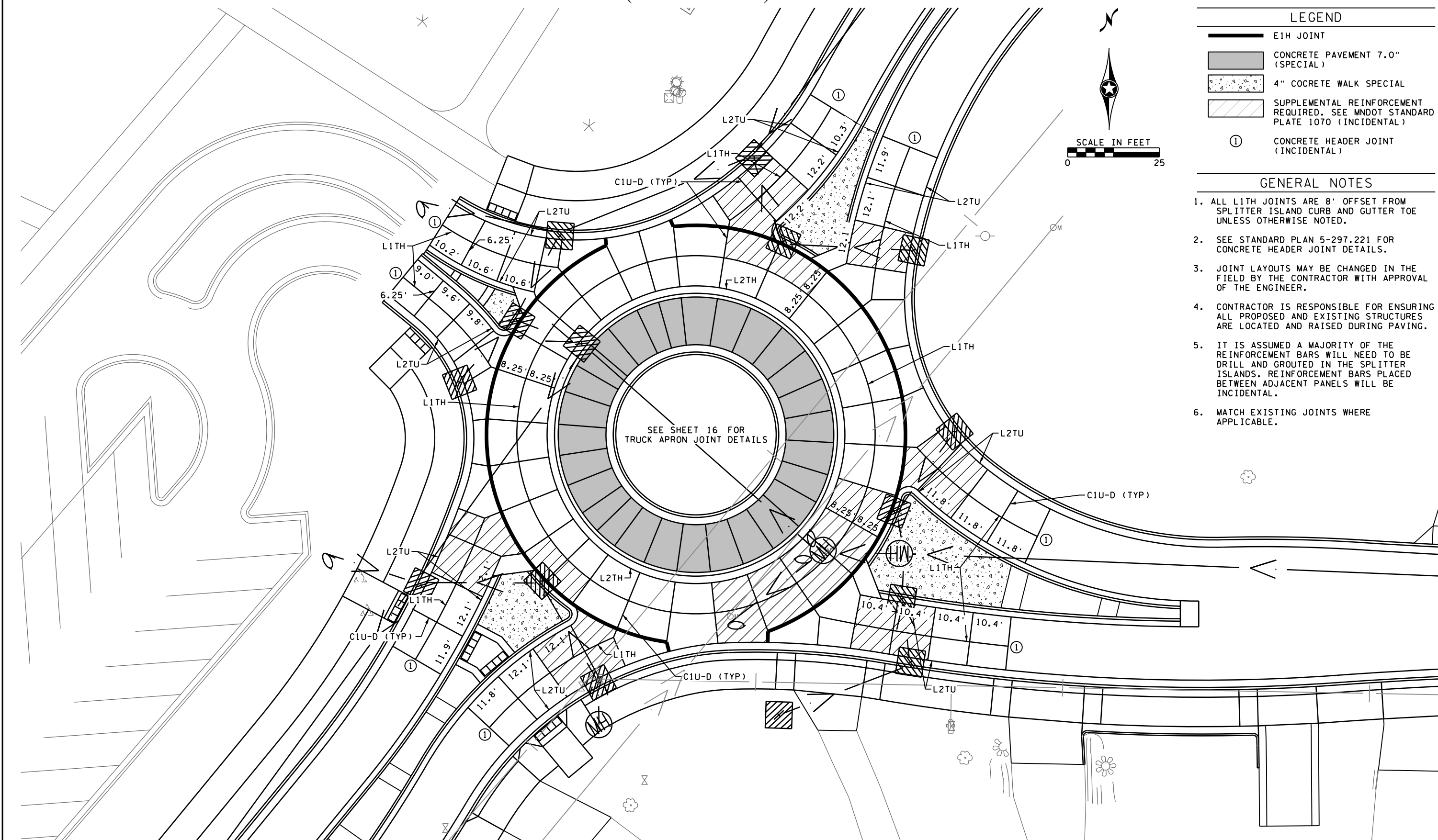
PAVING PLAN
 SP 002-635-012, SP 127-020-033

SHEET
61
 OF
90
 SHEETS

CSAH 35 (Central Ave NE) at Gardena Ave NE

PLOTTED/REVISED: 11/28/2022 11:29 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000\CarPlan\8314-000_conc01



LEGEND	
	E1H JOINT
	CONCRETE PAVEMENT 7.0" (SPECIAL)
	4" COCRETE WALK SPECIAL
	SUPPLEMENTAL REINFORCEMENT REQUIRED. SEE MNDOT STANDARD PLATE 1070 (INCIDENTAL)
①	CONCRETE HEADER JOINT (INCIDENTAL)

- GENERAL NOTES**
1. ALL L1TH JOINTS ARE 8' OFFSET FROM SPLITTER ISLAND CURB AND GUTTER TOE UNLESS OTHERWISE NOTED.
 2. SEE STANDARD PLAN 5-297.221 FOR CONCRETE HEADER JOINT DETAILS.
 3. JOINT LAYOUTS MAY BE CHANGED IN THE FIELD BY THE CONTRACTOR WITH APPROVAL OF THE ENGINEER.
 4. CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL PROPOSED AND EXISTING STRUCTURES ARE LOCATED AND RAISED DURING PAVING.
 5. IT IS ASSUMED A MAJORITY OF THE REINFORCEMENT BARS WILL NEED TO BE DRILL AND GROUTED IN THE SPLITTER ISLANDS. REINFORCEMENT BARS PLACED BETWEEN ADJACENT PANELS WILL BE INCIDENTAL.
 6. MATCH EXISTING JOINTS WHERE APPLICABLE.

NO.	DATE	BY	CHK	REVISIONS

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

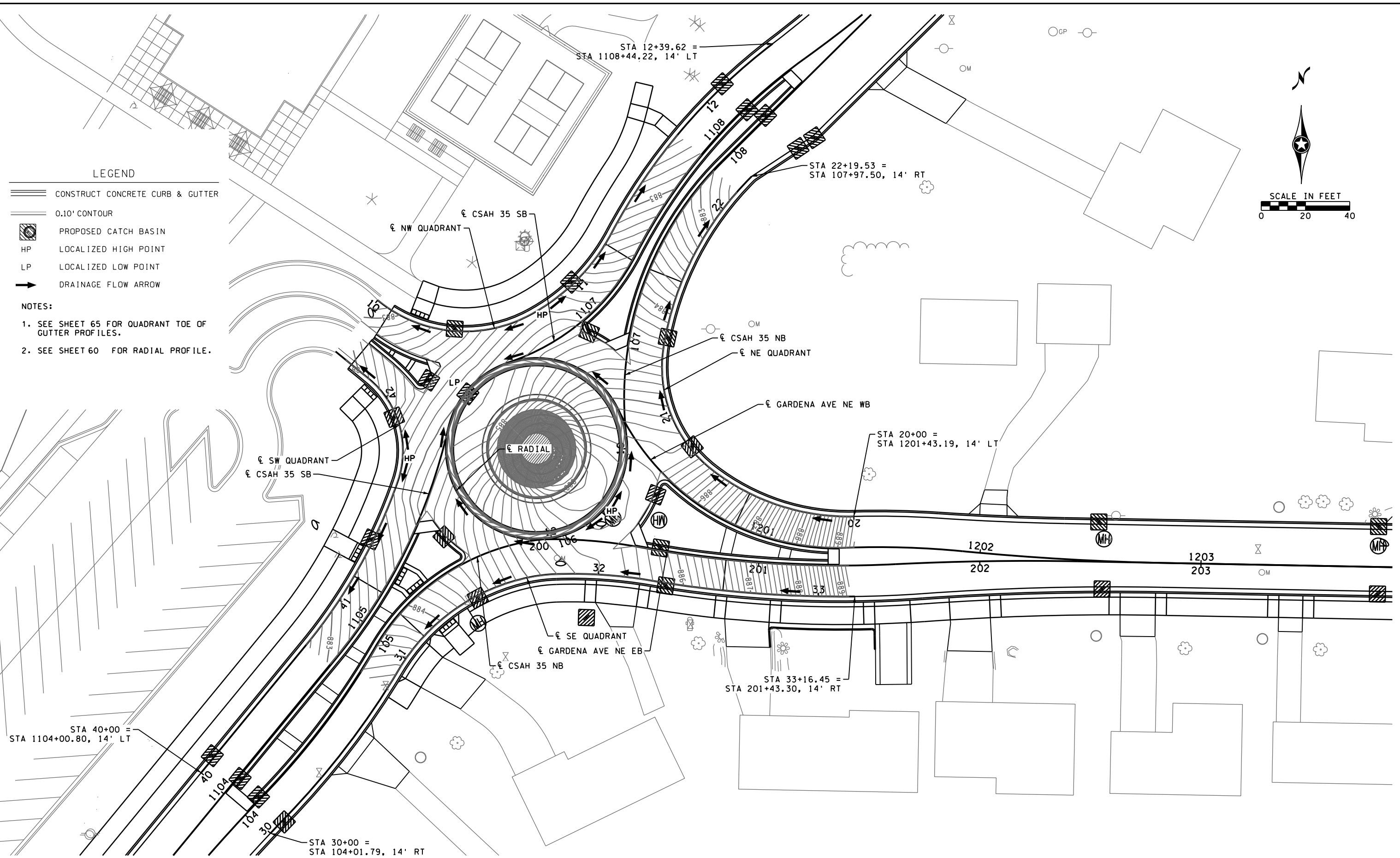
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: ANDREW J. FLOMMAN, PE
 DATE: 11/28/2022 LICENSE # 44200

	 CSAH 35 at Gardena Ave Intersection Improvements Anoka County Highway Department	ANOKA COUNTY, MINNESOTA CONCRETE PAVEMENT JOINT PLAN SP 002-635-012, SP 127-020-033	SHEET 62 OF 90 SHEETS
--	--	--	---

PLOTTED/REVISED: 11/28/2022 11:28 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000\CarPlan\8314-000_rdb01



LEGEND

- CONSTRUCT CONCRETE CURB & GUTTER
- 0.10' CONTOUR
- PROPOSED CATCH BASIN
- LOCALIZED HIGH POINT
- LOCALIZED LOW POINT
- DRAINAGE FLOW ARROW

- NOTES:**
1. SEE SHEET 65 FOR QUADRANT TOE OF GUTTER PROFILES.
 2. SEE SHEET 60 FOR RADIAL PROFILE.

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, PE</u> DATE: <u>11/28/2022</u> LICENSE # <u>44200</u>
Plan By:	AJP	
Checked By:	AJP	
Approved By:	AJP	



CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
ROUNDABOUT INTERSECTION DETAILS
SP 002-635-012, SP 127-020-033

SHEET **63** OF **90** SHEETS

WSB PATH & FILENAME: Projects\Minnesota\018314-000\CarPlan\8314-000_r02.dwg

PLOTTED/REVISED: 11/28/2022 11:29 AM

ALIGNMENT TABULATION

Table with columns: POINT NUMBER, POINT, STATION, DELTA, DEGREE, RADIUS, TANGENT, LENGTH, COORDINATES (X, Y), BEARING. Includes sections for NORTHWEST QUADRANT <QUAD_NW>, NORTHEAST QUADRANT <QUAD_NE>, and SOUTHWEST QUADRANT <QUAD_SW>.

ALIGNMENT TABULATION

Table with columns: POINT NUMBER, POINT, STATION, DELTA, DEGREE, RADIUS, TANGENT, LENGTH, COORDINATES (X, Y), BEARING. Includes sections for SOUTHEAST QUADRANT <QUAD_SE> and SOUTHWEST QUADRANT <QUAD_SW>.

NOTES:
<XXXX> INDICATES GEOPAK ALIGNMENT NAMES.

Table with columns: NO., DATE, BY, CHK, REVISIONS. Contains revision history.

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, PE
DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

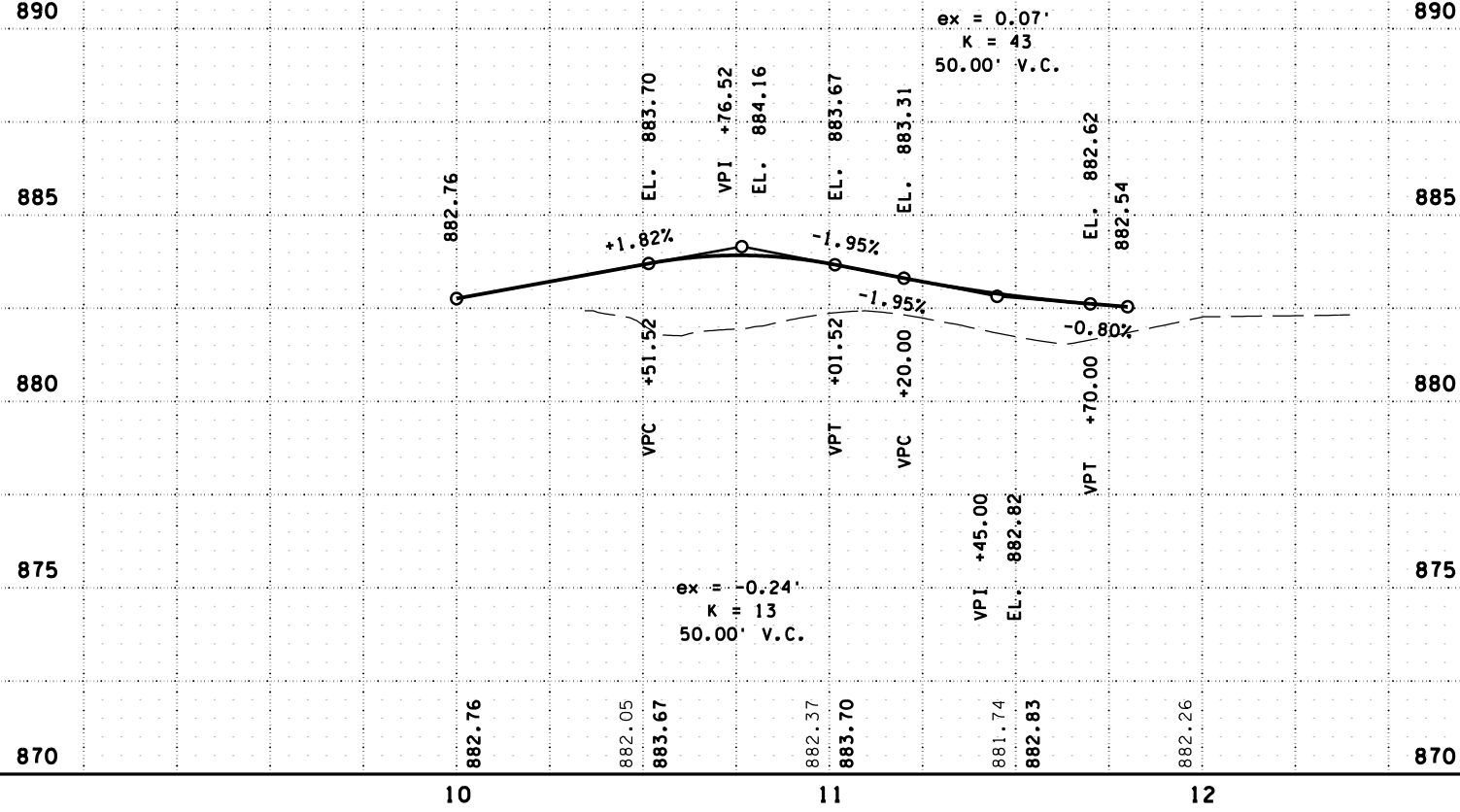
ANOKA COUNTY, MINNESOTA
QUADRANT ALIGNMENT TABULATIONS
ROUNDBOUT INTERSECTION DETAILS
SP 002-635-012, SP 127-020-033

SHEET 64 OF 90 SHEETS

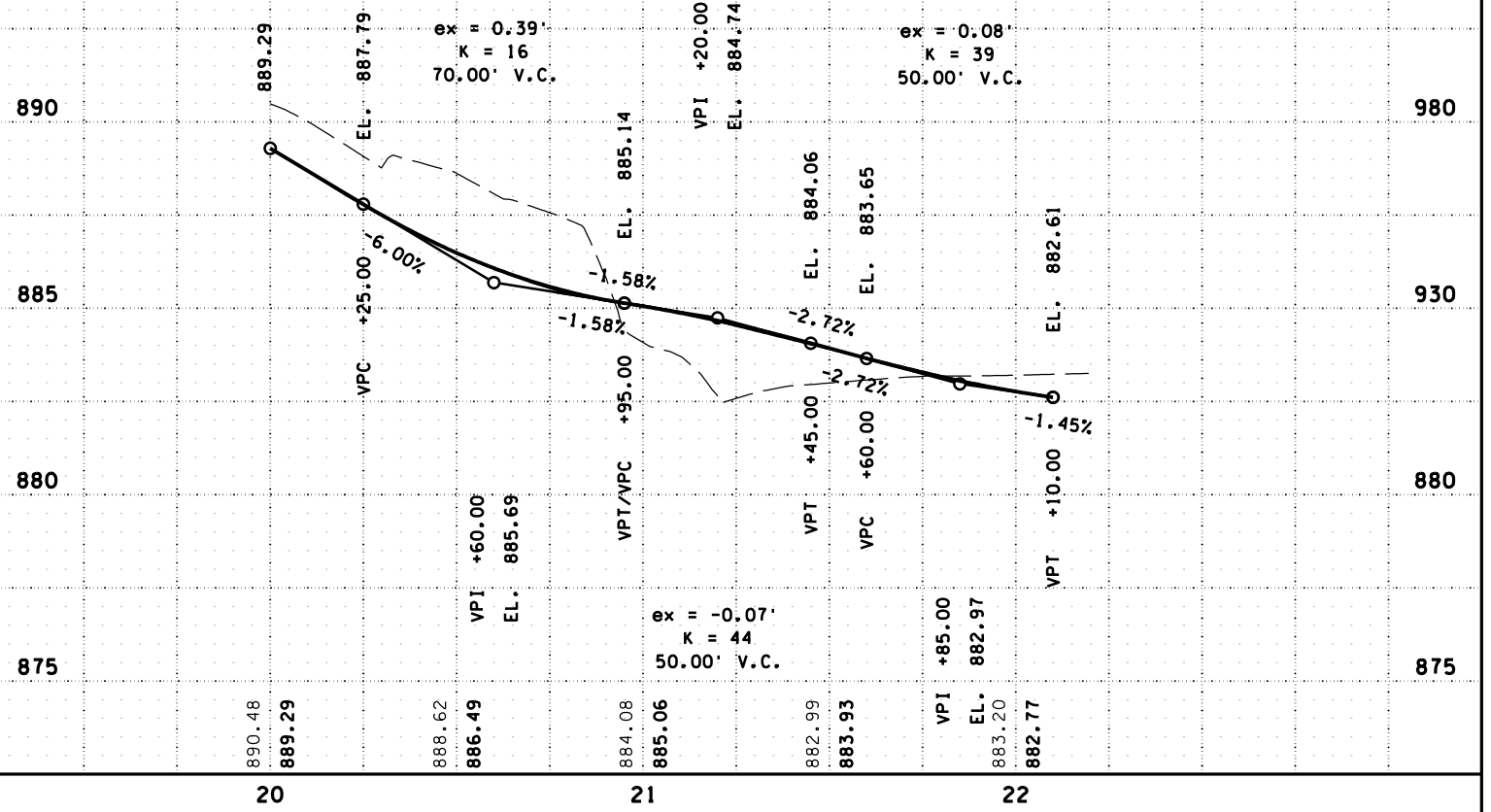
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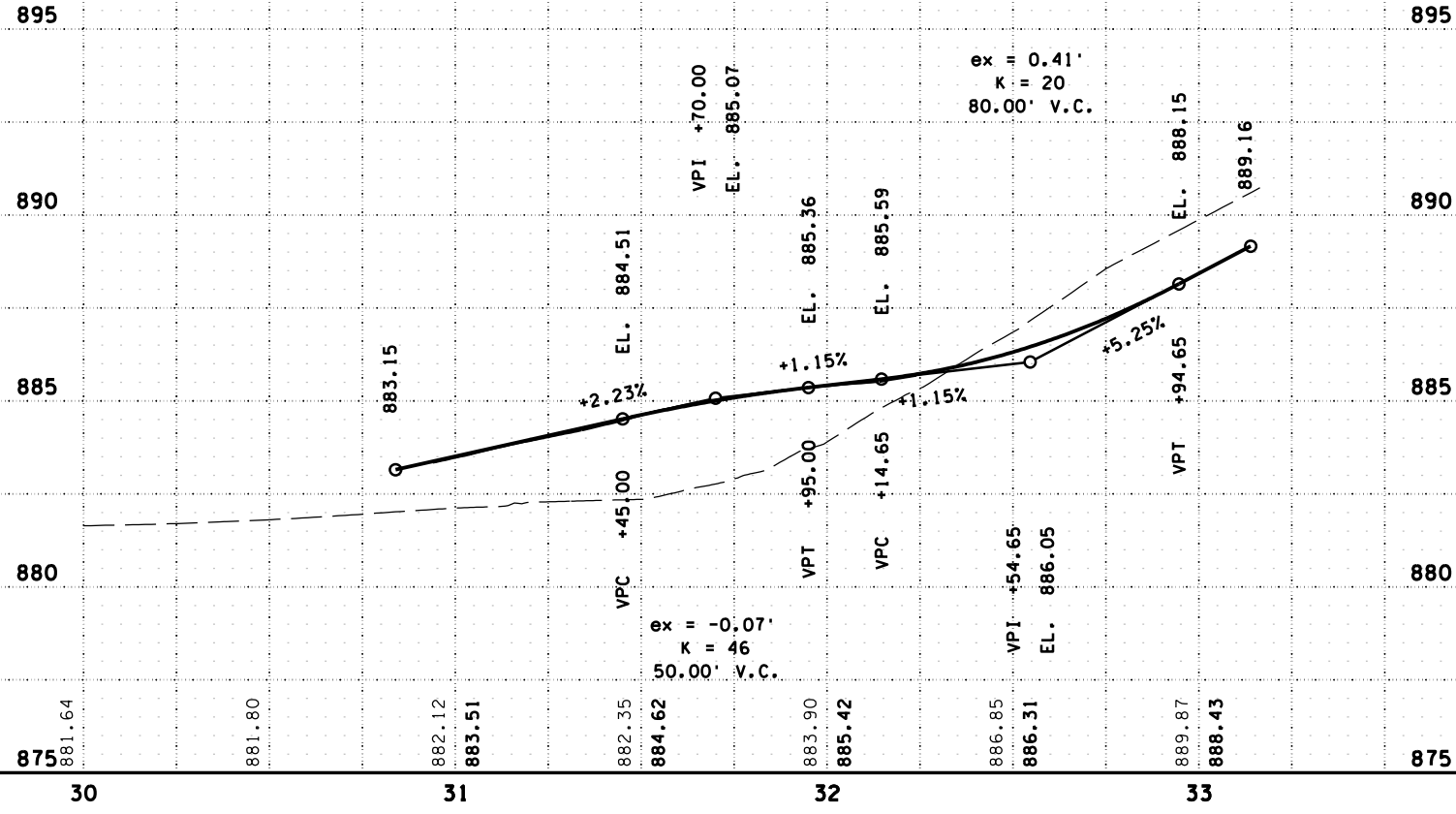
NW Quadrant Toe of Gutter Profile



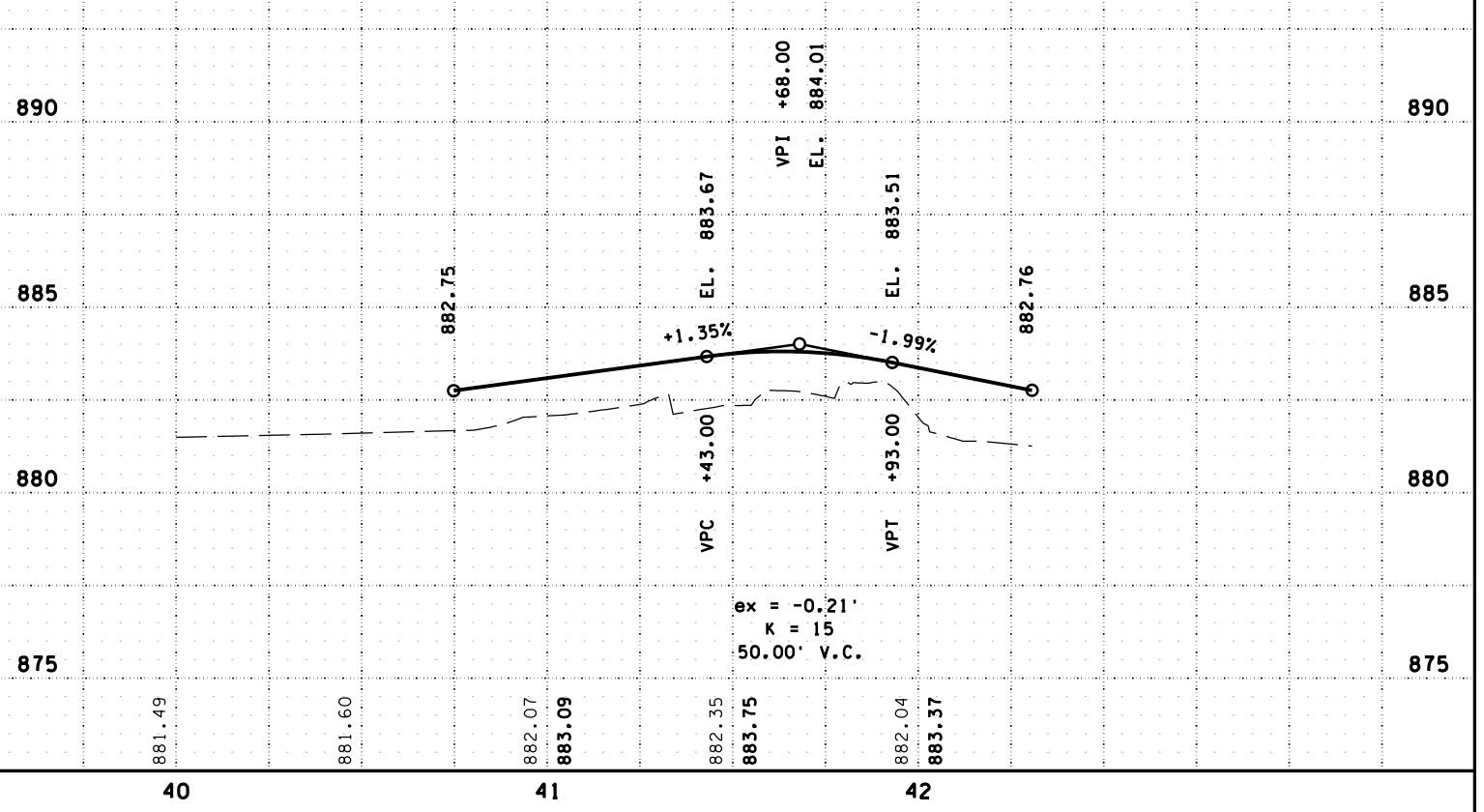
NE Quadrant Toe of Gutter Profile



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 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, PE
 DATE: 11/28/2022 LICENSE #: 44200

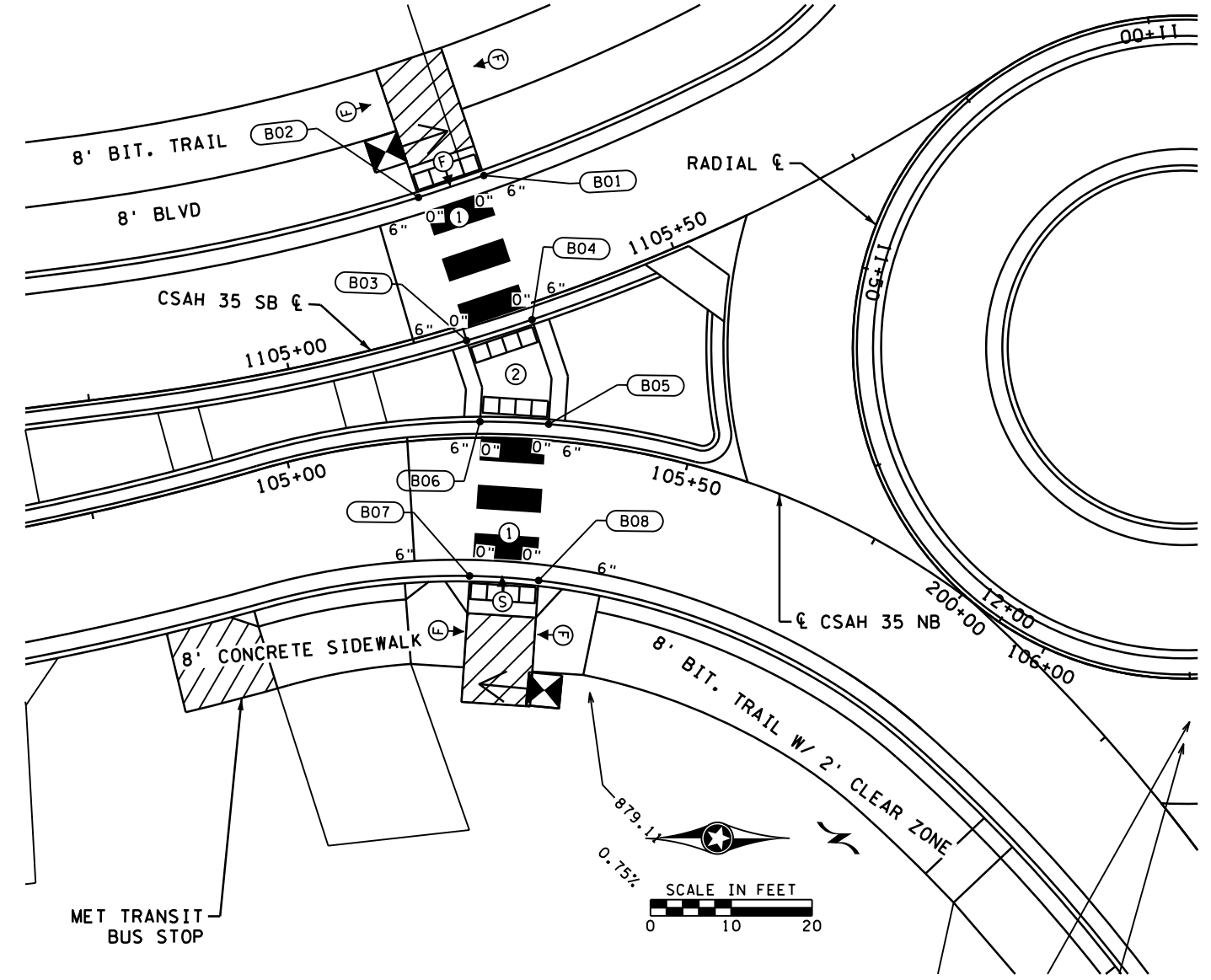


ANOKA COUNTY, MINNESOTA
 ROUNDABOUT QUADRANT PROFILES
ROUNDABOUT INTERSECTION DETAILS
 SP 002-635-012, SP 127-020-033

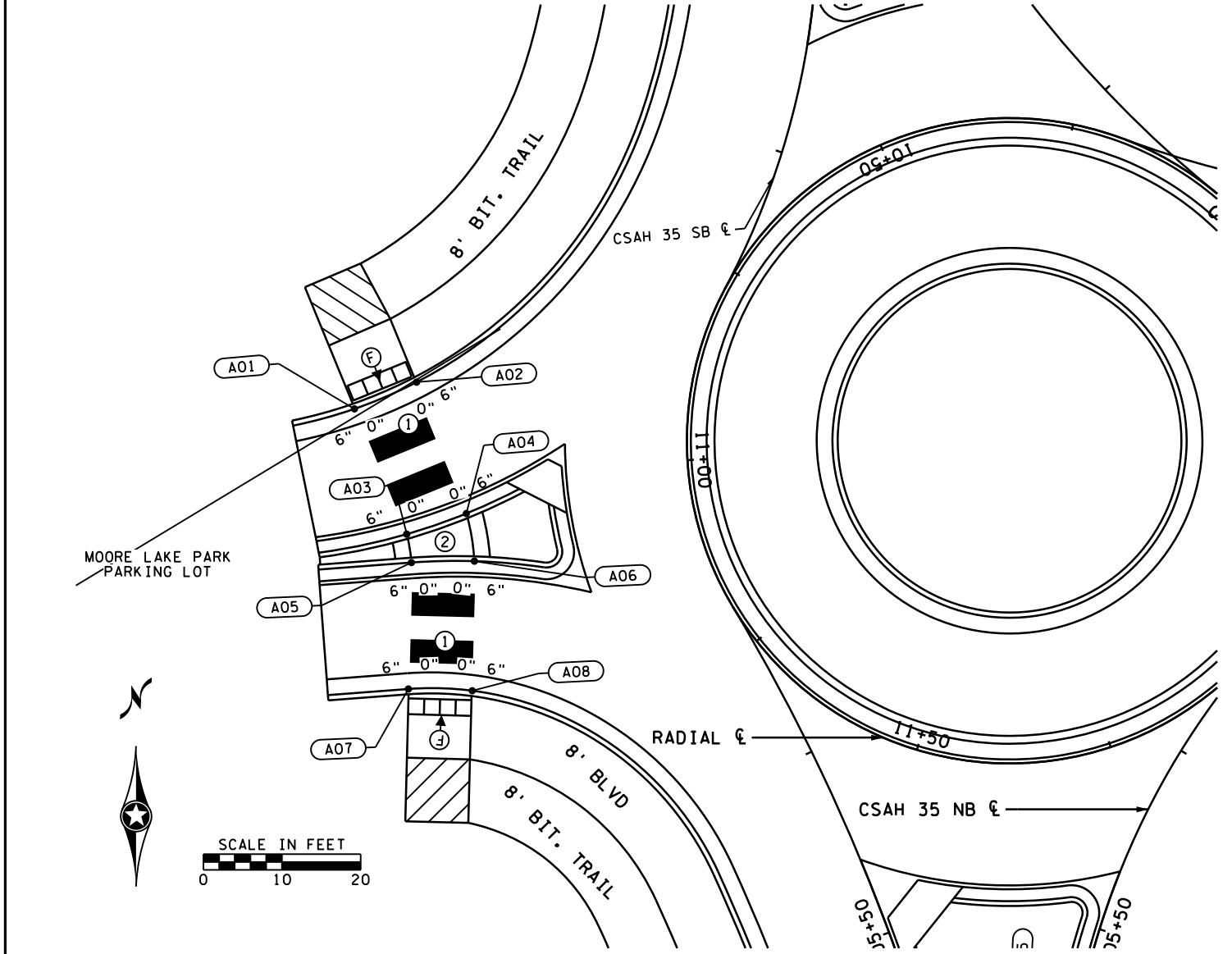
SHEET
65
 OF
90
 SHEETS

PLOTTED/REVISED: 11/28/2022 11:24:41 AM

GARDENA AVENUE ROUNDABOUT: SOUTH LEG



GARDENA AVENUE ROUNDABOUT: WEST LEG



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 MISC. DETAILS

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 3" 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	506309.3527	114463.4751	883.33
B02	506305.3511	114455.9488	883.22
B03	506321.8592	114447.1853	883.55
B04	506325.9509	114454.6366	883.67
B05	506336.3388	114446.6732	884.13
B06	506329.9546	114441.0562	883.98
B07	506342.1586	114426.3131	883.84
B08	506348.7473	114431.7860	884.03

CONTROL POINTS AT GUTTER FLOW LINE			
POINT NO.	X	Y	ELEVATION
A01	506329.4358	114568.1326	882.93
A02	506337.4914	114565.1292	883.10
A03	506323.2354	114552.0363	883.36
A04	506330.5251	114548.6981	883.48
A05	506321.1765	114549.0228	883.39
A06	506327.0850	114543.6187	883.52
A07	506309.7880	114537.6724	883.03
A08	506315.5085	114531.9021	883.20

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorridorPlan\18314-000_psd01

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, PE**
 DATE: **11/28/2022** LICENSE #: **44200**



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

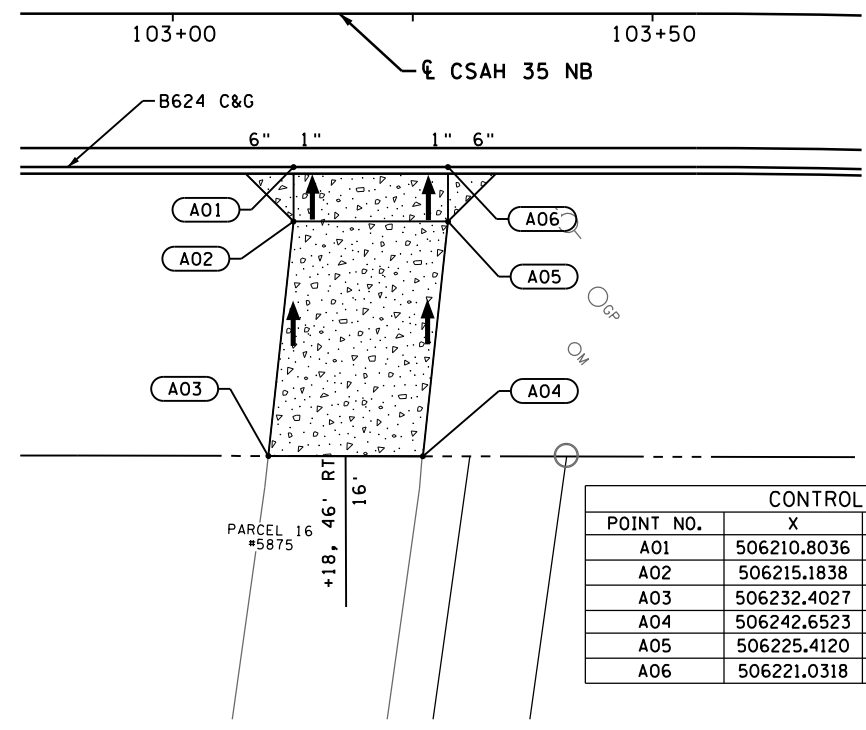
ANOKA COUNTY, MINNESOTA

PEDESTRIAN RAMP DETAILS
 SP 002-635-012, SP 127-020-033

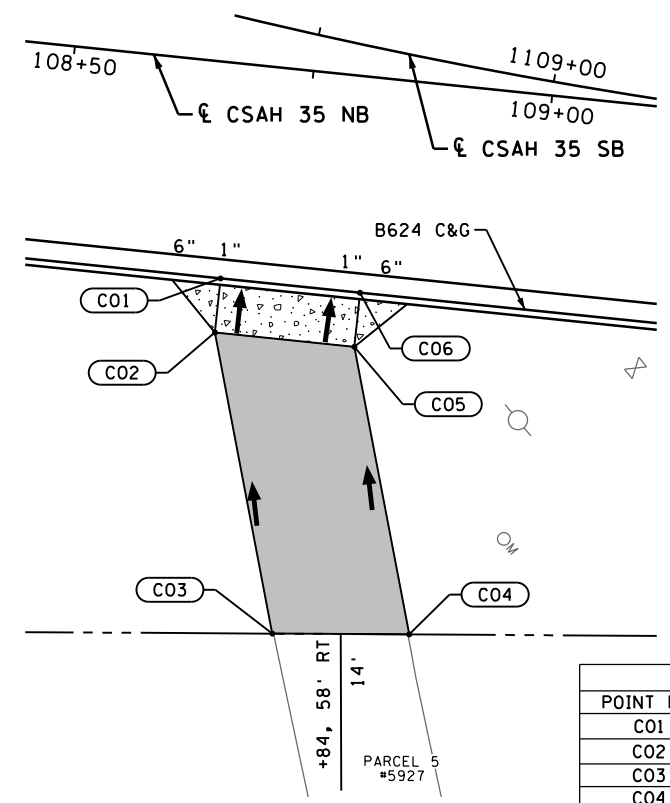
SHEET
66
 OF
90
 SHEETS

PLOTTED/REVISED: 11/28/2022 11:24:48 AM

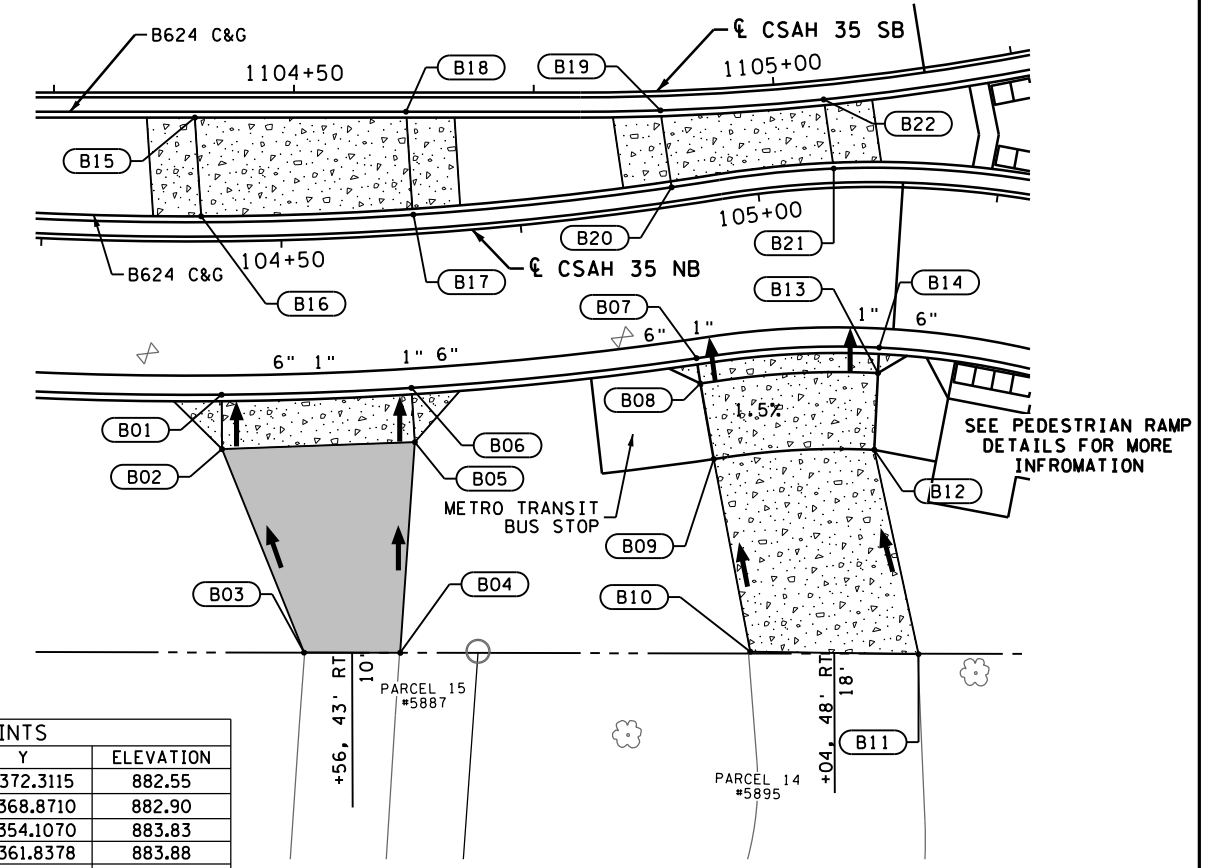
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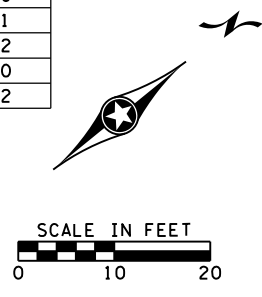
CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
A01	506210.8036	114265.4766	881.27
A02	506215.1838	114261.8763	881.66
A03	506232.4027	114244.3377	883.06
A04	506242.6523	114256.7593	882.99
A05	506225.4120	114274.3201	881.74
A06	506221.0318	114277.9204	881.38



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
C01	5065398285	114673.9785	882.44
C02	506543.8177	114669.9492	882.82
C03	506571.8533	114654.6399	884.69
C04	506580.9783	114665.6083	884.83
C05	506554.2019	114680.2301	882.92
C06	506550.2127	114684.2594	882.54



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
B01	506302.8612	114372.3115	882.55
B02	506307.3681	114368.8710	882.90
B03	506322.9784	114354.1070	883.83
B04	506329.3575	114361.8378	883.88
B05	506313.3702	114376.9584	882.98
B06	506308.7717	114380.2755	882.68
B07	506325.2467	114405.1990	883.22
B08	506327.5323	114403.8188	883.38
B09	506334.5134	114399.9036	883.50
B10	506352.4363	114390.0928	884.23
B11	506363.7637	114403.4859	884.35
B12	506344.3875	114413.4458	883.90
B13	506338.4552	114418.8131	883.78
B14	506336.4789	114420.6084	883.65
B15	506279.0640	114389.4689	882.68
B16	506288.0707	114382.6026	882.86
B17	506294.9521	114391.8898	883.02
B18	506286.1733	114398.1191	882.80
B19	506302.9043	114418.6909	883.11
B20	506309.8382	114414.5037	883.42
B21	506319.0512	114428.7994	883.70
B22	506312.8273	114432.5578	883.32



LEGEND

- CONSTRUCT CONCRETE CURB AND GUTTER
- XX CONTROL POINTS AT GUTTER FLOW LINE
- X" CURB HEIGHT
- 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%.
- DRAINAGE FLOW ARROW
- 6" CONCRETE DRIVEWAY PAVEMENT, SEE INSET E ON SHEET 61
- BITUMINOUS DRIVEWAY, SEE INSET F ON SHEET 61
- PROPOSED CATCH BASIN

DRIVEWAY INFORMATION: STA AT CENTER, OFFSET DRIVEWAY WIDTH

GENERAL NOTES

SEE SHEET 18 FOR DRIVEWAY DETAILS

DRIVEWAYS INCLUDED THIS SHEET:
#5875, #5887, #5895, #5927

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, PE
 DATE: 11/28/2022 LICENSE #: 44200



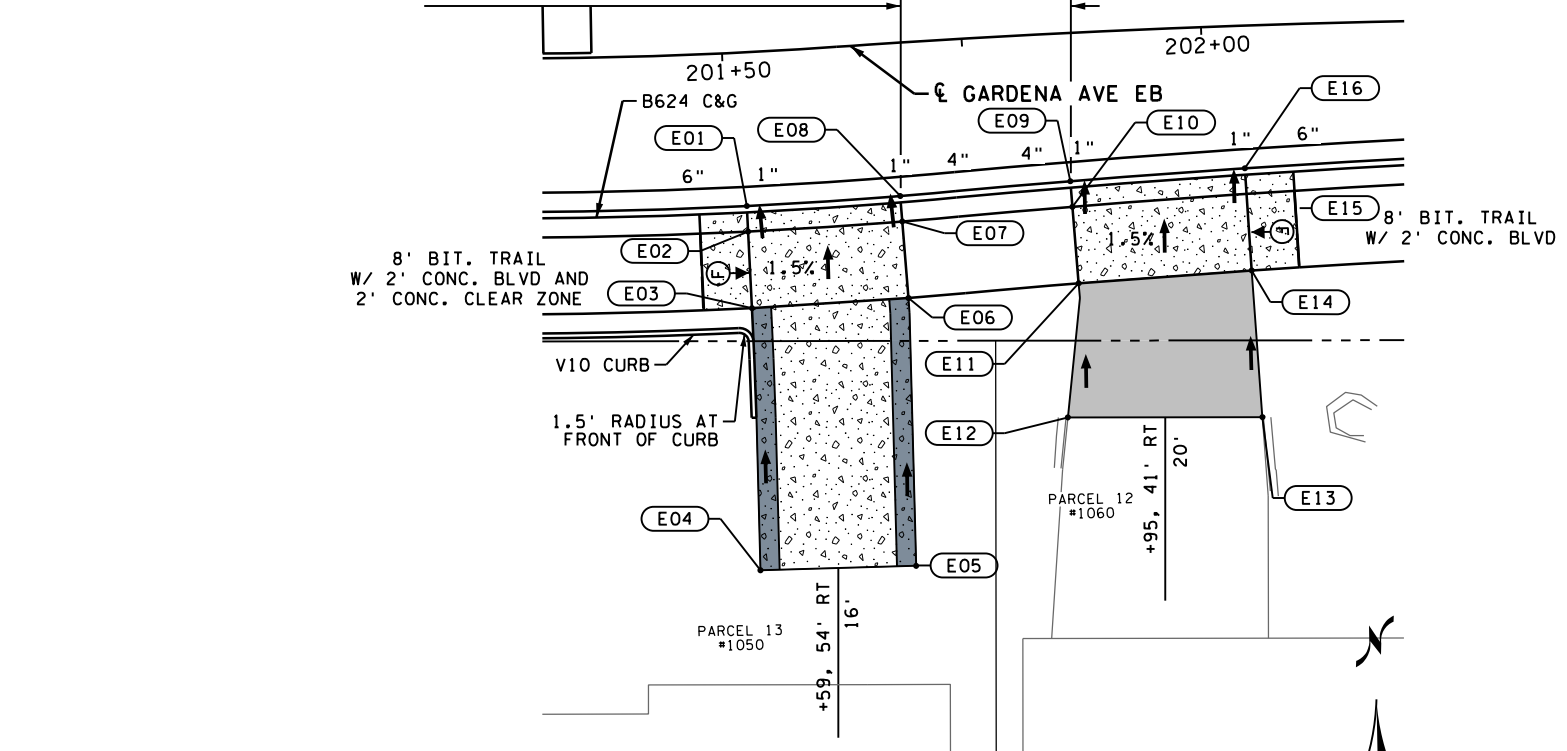
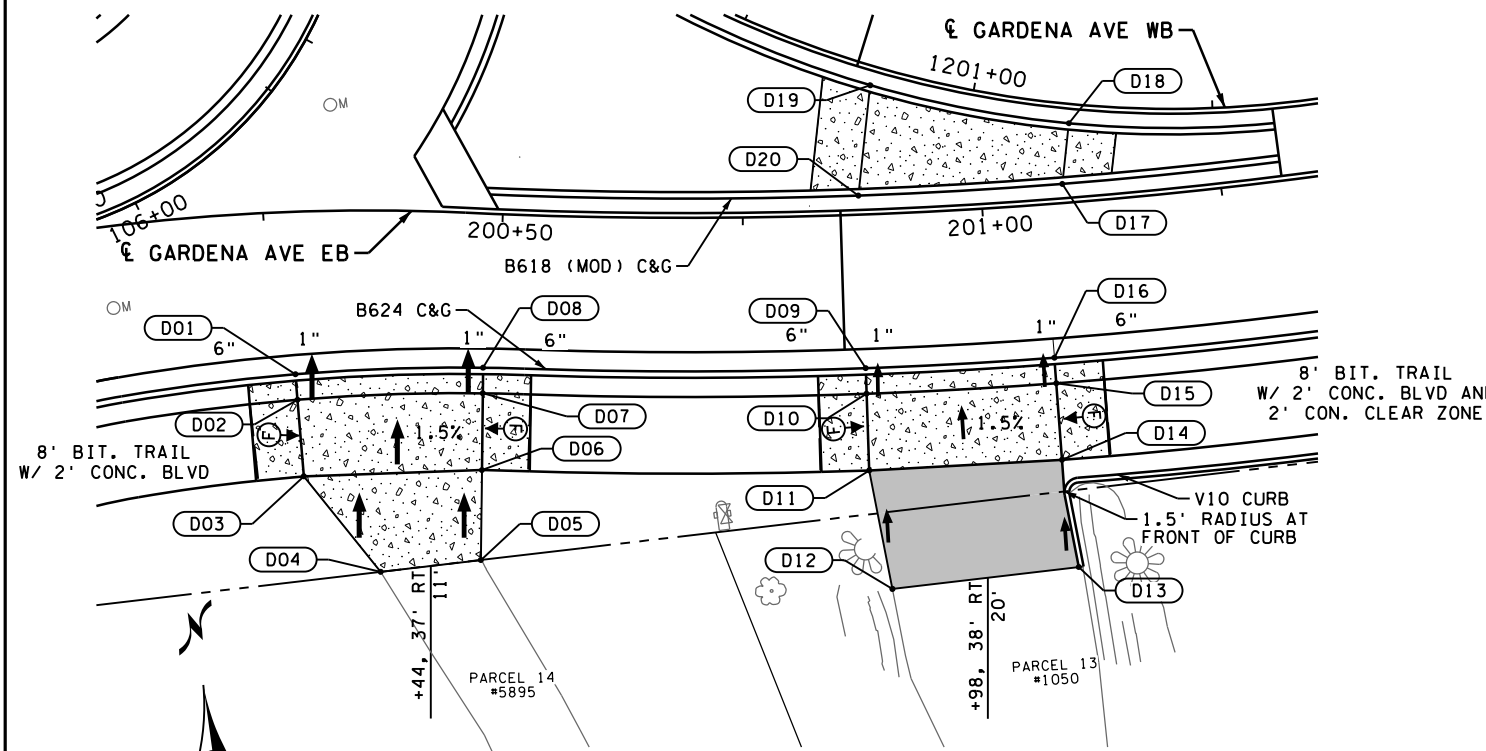
CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
DRIVEWAY DETAILS
 SP 002-635-012, SP 127-020-033

SHEET **67** OF **90** SHEETS

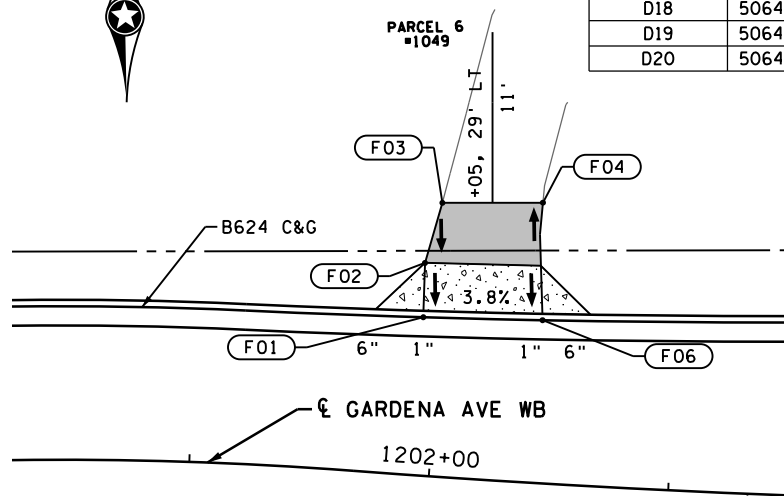
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PLOTTED/REVISED: 11/28/2022 11:25:55 AM



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
D01	506413.9722	114448.8693	885.29
D02	506413.8338	114446.2031	885.38
D03	506413.4042	114438.2147	885.50
D04	506419.9965	114427.2663	884.41
D05	506430.5022	114427.0695	885.27
D06	506431.8841	114436.3454	885.74
D07	506433.0629	114444.2581	885.62
D08	506433.4563	114446.8989	885.52
D09	506472.9510	114441.4594	886.48
D10	506472.6849	114438.8027	886.59
D11	506471.8878	114430.8425	887.03
D12	506472.6038	114418.2792	888.22
D13	506492.1563	114417.9129	888.65
D14	506491.9368	114429.2207	887.78
D15	506492.4294	114437.2055	887.36
D16	506492.5938	114439.8704	887.24
D17	506495.8558	114457.7081	887.53
D18	506497.3886	114463.8810	887.59
D19	506477.4209	114470.6067	886.68
D20	506474.6334	114459.3809	886.66

CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
E01	506539.4836	114439.1126	889.50
E02	506539.5618	114436.4437	889.67
E03	506539.7962	114428.4471	889.79
E04	506540.1316	114401.1200	894.11
E05	506556.3649	114401.2541	894.15
E06	506556.1285	114429.1796	890.66
E07	506555.6461	114437.1650	890.54
E08	506555.4851	114439.8302	890.38
E09	506573.2426	114441.0114	891.44
E10	506573.4070	114438.3465	891.55
E11	506573.8999	114430.3617	891.67
E12	506572.4849	114416.4077	892.93
E13	506592.7638	114416.0278	893.53
E14	506591.9511	114431.3379	892.56
E15	506591.5750	114439.3291	892.44
E16	506591.4511	114441.9962	892.33



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
F01	506587.1023	114477.2252	892.00
F02	506587.3907	114482.8879	892.29
F03	506589.3335	114489.1049	892.61
F04	506599.8032	114488.9087	892.72
F05	506599.4606	114482.3352	892.92
F06	506599.5200	114476.6582	892.63



LEGEND

- CONSTRUCT CONCRETE CURB AND GUTTER
- XX CONTROL POINTS AT GUTTER FLOW LINE
- x" CURB HEIGHT
- 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%.
- DRAINAGE FLOW ARROW
- 6" CONCRETE DRIVEWAY PAVEMENT, SEE INSET E ON SHEET 61
- BITUMINOUS DRIVEWAY, SEE INSET F ON SHEET 61
- 6" CONCRETE DRIVEWAY PAVEMENT SPECIAL, NOTE: THE CONTRACTOR SHALL MATCH AS CLOSELY AS POSSIBLE THE EXISTING COLOR AND STAMP PATTERN
- PROPOSED CATCH BASIN

DRIVEWAY INFORMATION: STA AT CENTER, OFFSET DRIVEWAY WIDTH

GENERAL NOTES

SEE SHEET 18 FOR DRIVEWAY DETAILS

DRIVEWAYS INCLUDED ON THIS SHEET:
#5895 (EAST), #1050, #1060, #1049

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, PE
 DATE: 11/28/2022 LICENSE #: 44200



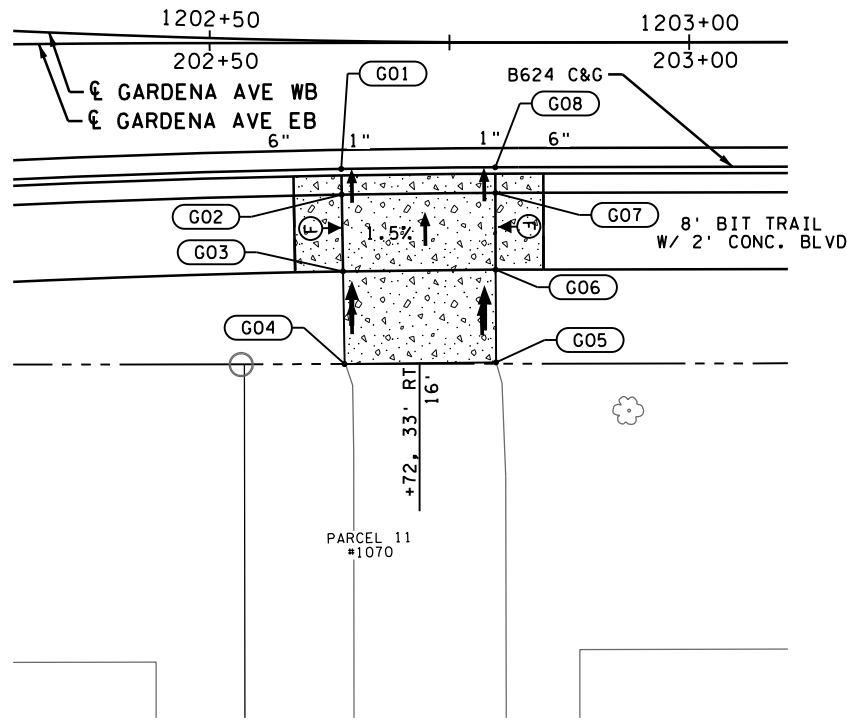
CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
DRIVEWAY DETAILS
 SP 002-635-012, SP 127-020-033

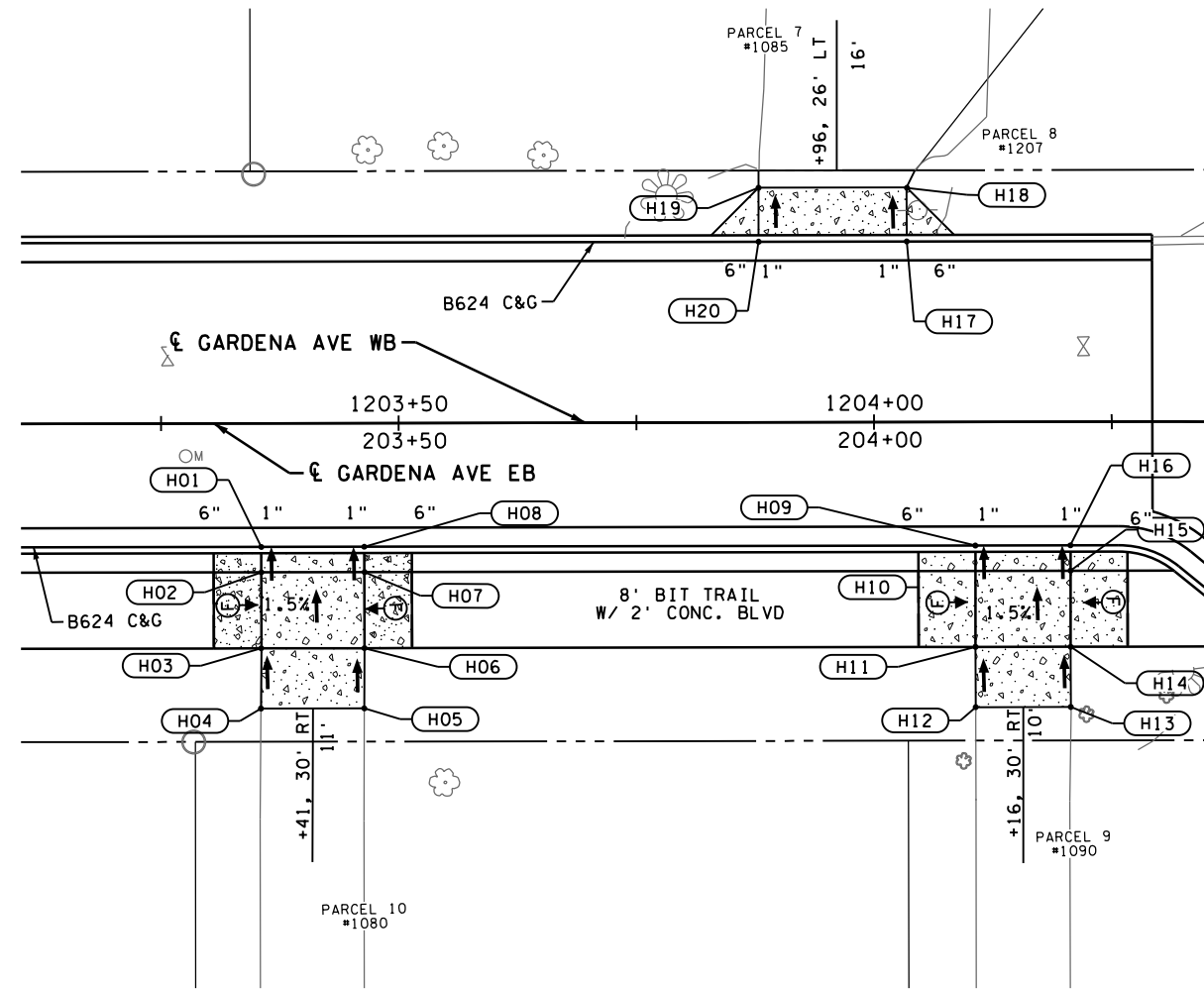
SHEET **68** OF **90** SHEETS

PLOTTED/REVISED: 11/28/2022 11:30:01 AM

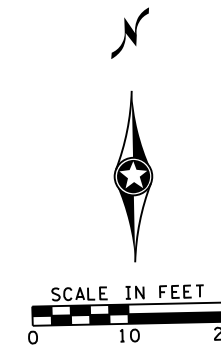
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CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
G01	506650.6315	114443.2813	895.19
G02	506650.6235	114440.6113	895.31
G03	506650.5996	114432.6114	895.43
G04	506650.4212	114422.9489	896.49
G05	506666.3265	114422.6508	897.10
G06	506666.5075	114432.4571	896.12
G07	506666.6387	114440.4561	896.00
G08	506666.6825	114443.1257	895.89



CONTROL POINTS			
POINT NO.	X	Y	ELEVATION
H01	506722.4491	114442.0988	898.26
H02	506722.3998	114439.4293	898.38
H03	506722.2219	114431.4312	898.50
H04	506722.0700	114425.1029	898.75
H05	506732.9400	114424.9023	899.18
H06	506733.0866	114431.2307	898.96
H07	506733.2343	114439.2293	898.84
H08	506733.2835	114441.8988	898.73
H09	506797.5518	114440.7125	901.55
H10	506797.5025	114438.0430	901.66
H11	506797.3549	114430.0443	901.78
H12	506797.2380	114423.7154	902.23
H13	506807.2363	114423.5308	902.41
H14	506807.3532	114429.8598	902.21
H15	506807.5008	114437.8584	902.09
H16	506807.5501	114440.5279	901.98
H17	506790.9851	114472.8392	901.04
H18	506791.0894	114478.4923	900.32
H19	506775.5151	114478.7957	900.23
H20	506775.4104	114473.1267	900.38



LEGEND

- CONSTRUCT CONCRETE CURB AND GUTTER
- CONTROL POINTS AT GUTTER FLOW LINE
- CURB HEIGHT
- 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%.
- DRAINAGE FLOW ARROW
- 6" CONCRETE DRIVEWAY PAVEMENT, SEE INSET E ON SHEET 61
- BITUMINOUS DRIVEWAY, SEE INSET F ON SHEET 61
- PROPOSED CATCH BASIN

DRIVEWAY INFORMATION: STA AT CENTER, OFFSET DRIVEWAY WIDTH

GENERAL NOTES

SEE SHEET 18 FOR DRIVEWAY DETAILS

DRIVEWAY INCLUDED ON THIS SHEET:
#1070, #1080, #1085, #1090

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. FLOMMAN, PE
 DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

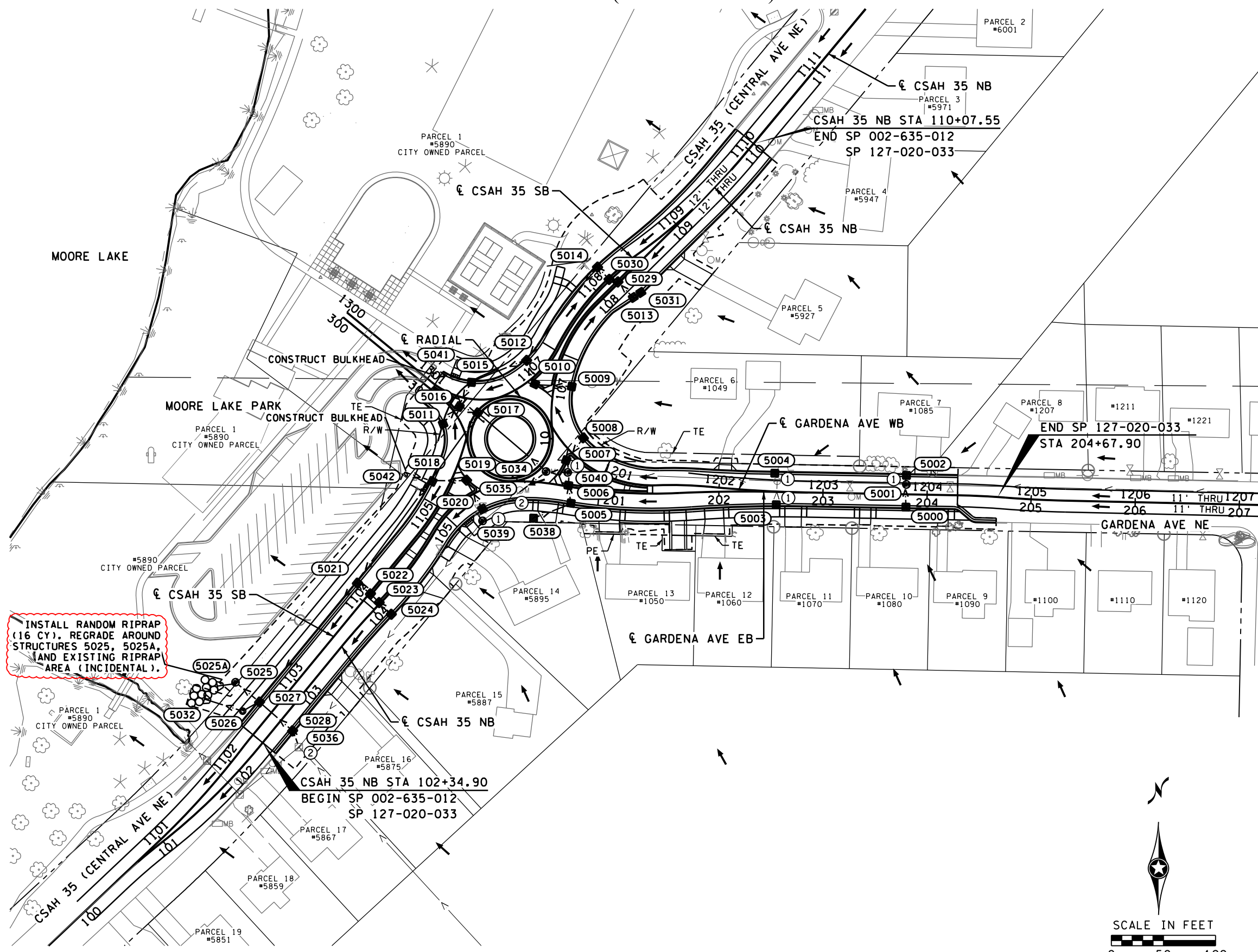
DRIVEWAY DETAILS
 SP 002-635-012, SP 127-020-033

SHEET
69
 OF
90
 SHEETS

CSAH 35 (Central Ave NE) at Gardena Ave NE

PLOTTED/REVISED: 1/11/2023 3:05:45 PM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorPlan\8314-000-d101.dgn



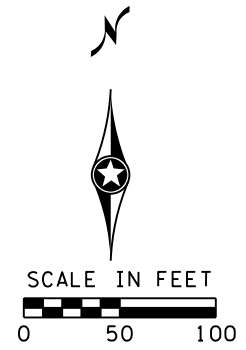
INSTALL RANDOM RIPRAP (16 CY), REGRADE AROUND STRUCTURES 5025, 5025A, AND EXISTING RIPRAP AREA (INCIDENTAL).

LEGEND

- GUIDE POST TYPE B
- RANDOM RIPRAP
- CATCH BASIN
- MANHOLE
- WATER QUALITY TREATMENT DEVICE
- APRON
- STRUCTURE NUMBER
- SURFACE FLOW DIRECTION
- STORM SEWER PIPE
- INPLACE STORM SEWER TO REMAIN
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- ① CONNECT TO EXISTING STORM SEWER
- ② CONNECT TO EXISTING DRAINAGE STRUCTURE

GENERAL NOTES

1. SEE SHEET 71R - 72R FOR DRAINAGE PROFILES.
2. SEE SHEET 73R FOR DRAINAGE TABULATION.



NO.	DATE	BY	CHK	REVISIONS
1	2023/01/10	LGR	AJP	ADDENDUM 1: INSTALL RIPRAP AND REGRADE.

Design By: LGR
 Plan By: LGR
 Checked By: JHN
 Approved By: JHN

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: JACOB H. NEWHALL, PE
 DATE: 1/11/2023 LICENSE #: 49170



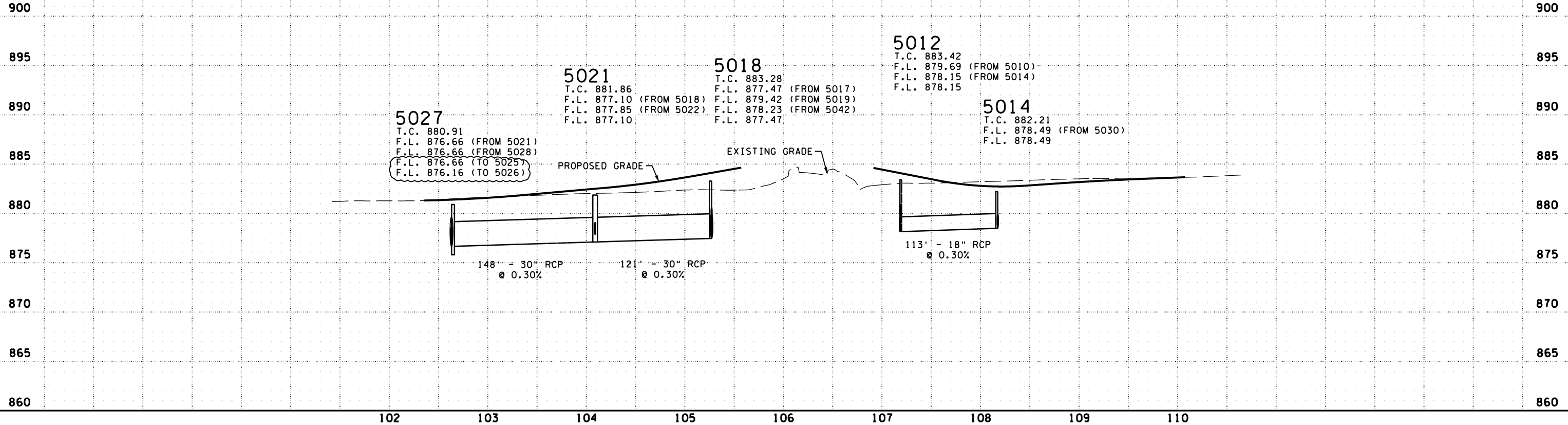
CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

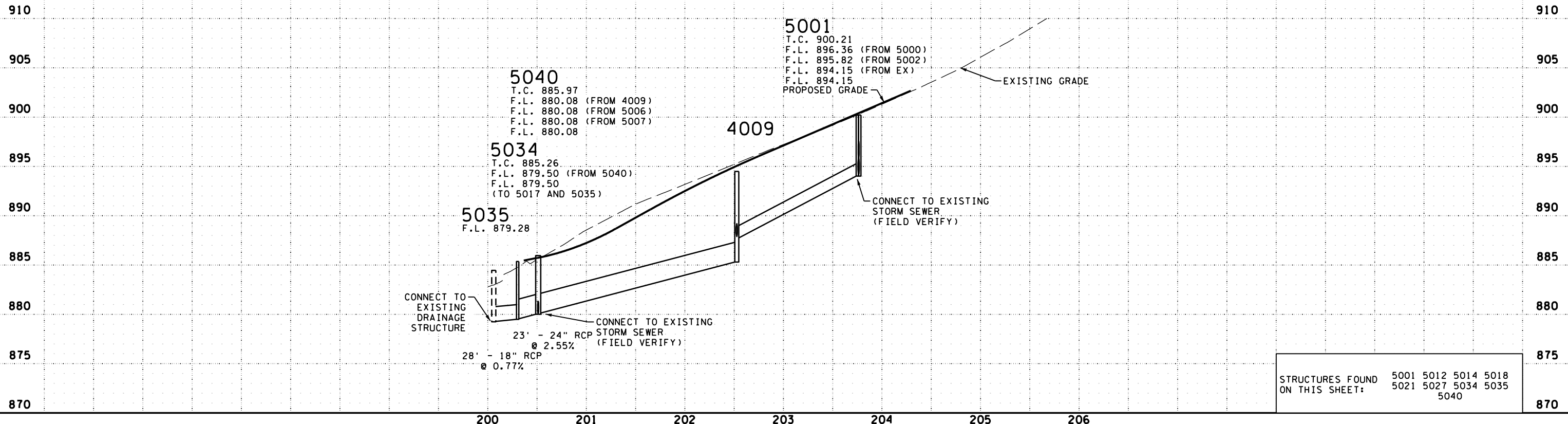
DRAINAGE PLAN
 SP 002-635-012, SP 127-020-033

SHEET
70R
 OF
90
 SHEETS

CSAH 35 (Central Ave NE) Northbound Profile



Gardena Ave NE Eastbound Profile



STRUCTURES FOUND ON THIS SHEET:	5001	5012	5014	5018
	5021	5027	5034	5035
		5040		

PLOTTED/REVISED: 1/11/2023 3:05:48 PM
 WSB PATH & FILENAME: Projects\Minnesota\018314-000-Cad\Plan\8314-000-dp02.dgn

NO.	DATE	BY	CHK	REVISIONS
1	2023/01/10	LGR	AJP	ADDENDUM 1: INVERT UPDATES

Design By: LGR
 Plan By: LGR
 Checked By: JHN
 Approved By: JHN

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PRINT NAME: JACOB H. NEWHALL, PE
 DATE: 1/11/2023 LICENSE #: 49170



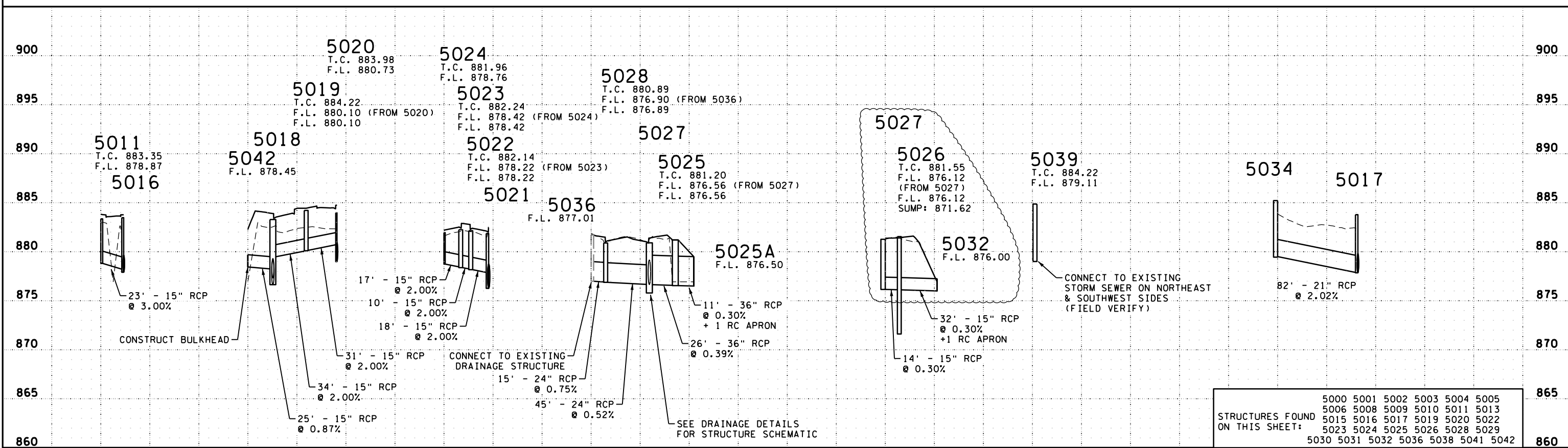
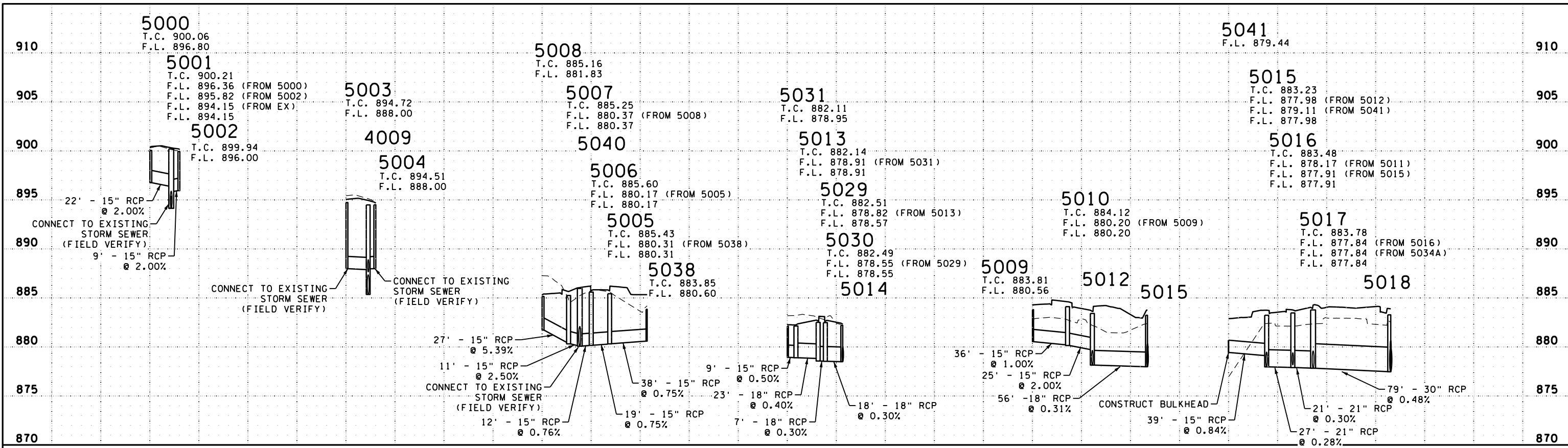
CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
DRAINAGE PROFILES
 SP 002-635-012, SP 127-020-033

SHEET 71R OF 90 SHEETS

PLOTTED/REVISED: 1/11/2023 3:05:50 PM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorPlan\8314-000-dp03.dgn



5000	5001	5002	5003	5004	5005
5006	5008	5009	5010	5011	5013
5015	5016	5017	5019	5020	5022
5023	5024	5025	5026	5028	5029
5030	5031	5032	5036	5038	5041
5042	5043	5044	5045	5046	5047

NO.	DATE	BY	CHK	REVISIONS
1	2023/01/10	LGR	AJP	ADDENDUM 1: INVERT UPDATES

Design By: LGR
 Plan By: LGR
 Checked By: JHN
 Approved By: JHN

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PRINT NAME: JACOB H. NEWHALL, PE
 DATE: 1/11/2023 LICENSE #: 49170



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
DRAINAGE PROFILES
 SP 002-635-012, SP 127-020-033

SHEET 72R OF 90 SHEETS

CASTING ASSEMBLY SUMMARY						J
ASSEMBLY	RING OR FRAME	COVER OR GRATE	CURB BOX	STANDARD PLATE NUMBER	USE	TOTALS (EACH)
A - 7D	700-7	715		4101 4110	MANHOLE	5
C - 1	NEENAH 3067 CASTING WITH TYPE V GRATE, OR APPROVED EQUAL.					8
TYPE - B	FRAME AND RING CASTING TYPE B FOR MEDIAN CATCH BASINS. SEE DETAILS.					6
TYPE - C	805 MODIFIED	816		SEE DETAIL 4154	CATCH BASIN	11
TYPE - D	802A MODIFIED	816	823A	SEE DETAIL 4154 4160	CATCH BASIN	4
M - 5	700-10	720		4101 4140	CATCH BASIN	1
TOTAL						35

NO.	DATE	BY	CHK	REVISIONS

Design By: LGR
 Plan By: LGR
 Checked By: JHN
 Approved By: JHN

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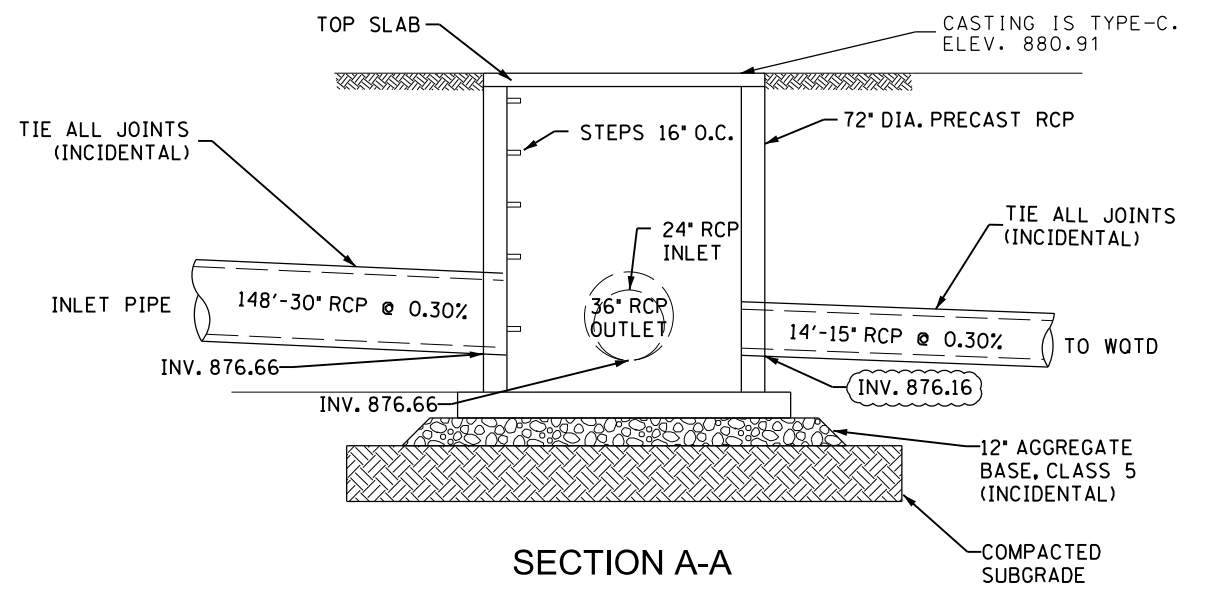
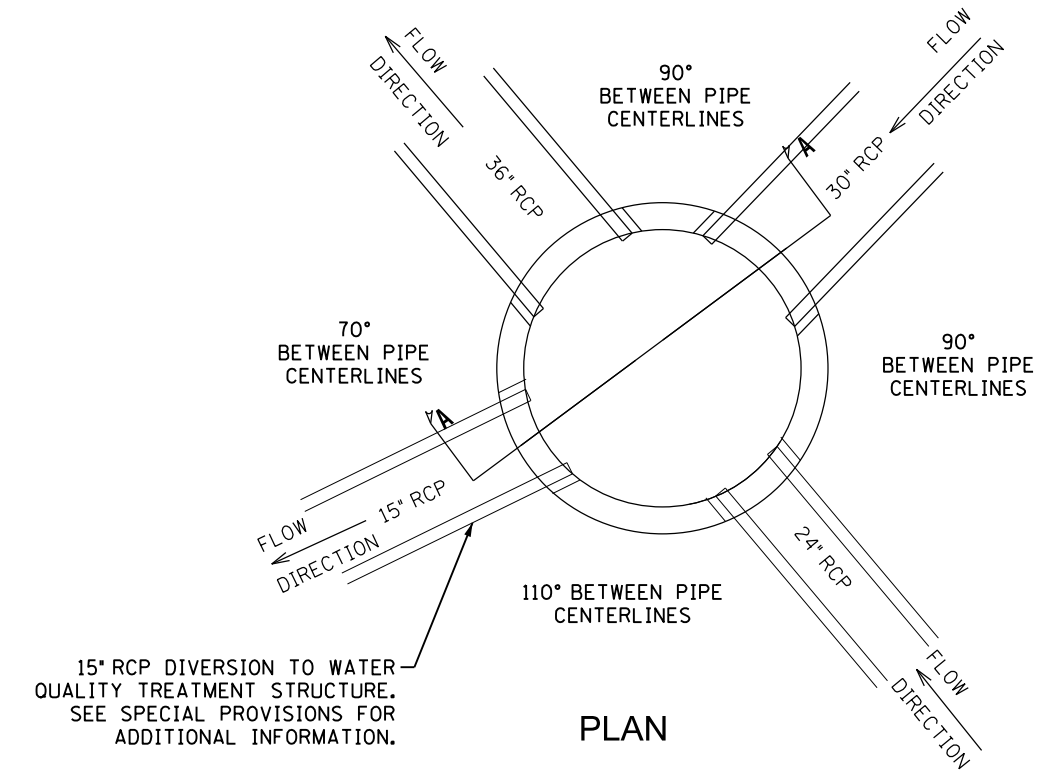
PRINT NAME: JACOB H. NEWHALL, PE
 DATE: 11/28/2022 LICENSE # 49170



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 SP 002-635-012, SP 127-020-033

SHEET **74** OF **90** SHEETS



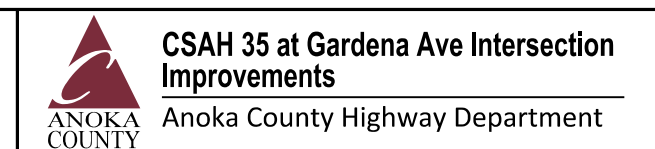
SECTION A-A
 NOTE: SEE SHEET 71-72 FOR PIPE PROFILES
STRUCTURE 5027
 NOT TO SCALE

NO.	DATE	BY	CHK	REVISIONS
1	2023/01/10	LGR	AJP	ADDENDUM 1: INVERT UPDATES

Design By: LGR
 Plan By: LGR
 Checked By: JHN
 Approved By: JHN

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PRINT NAME: JACOB H. NEWMAN, PE
 DATE: 1/11/2023 LICENSE # 49170



ANOKA COUNTY, MINNESOTA

DRAINAGE DETAILS
 SP 002-635-012, SP 127-020-033

SHEET **76R** OF **90** SHEETS



PLOTTED/REVISED: 11/28/2022 11:32:4 AM

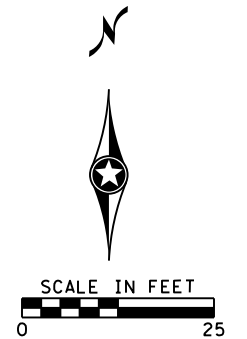
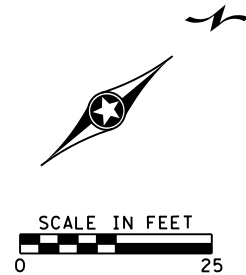
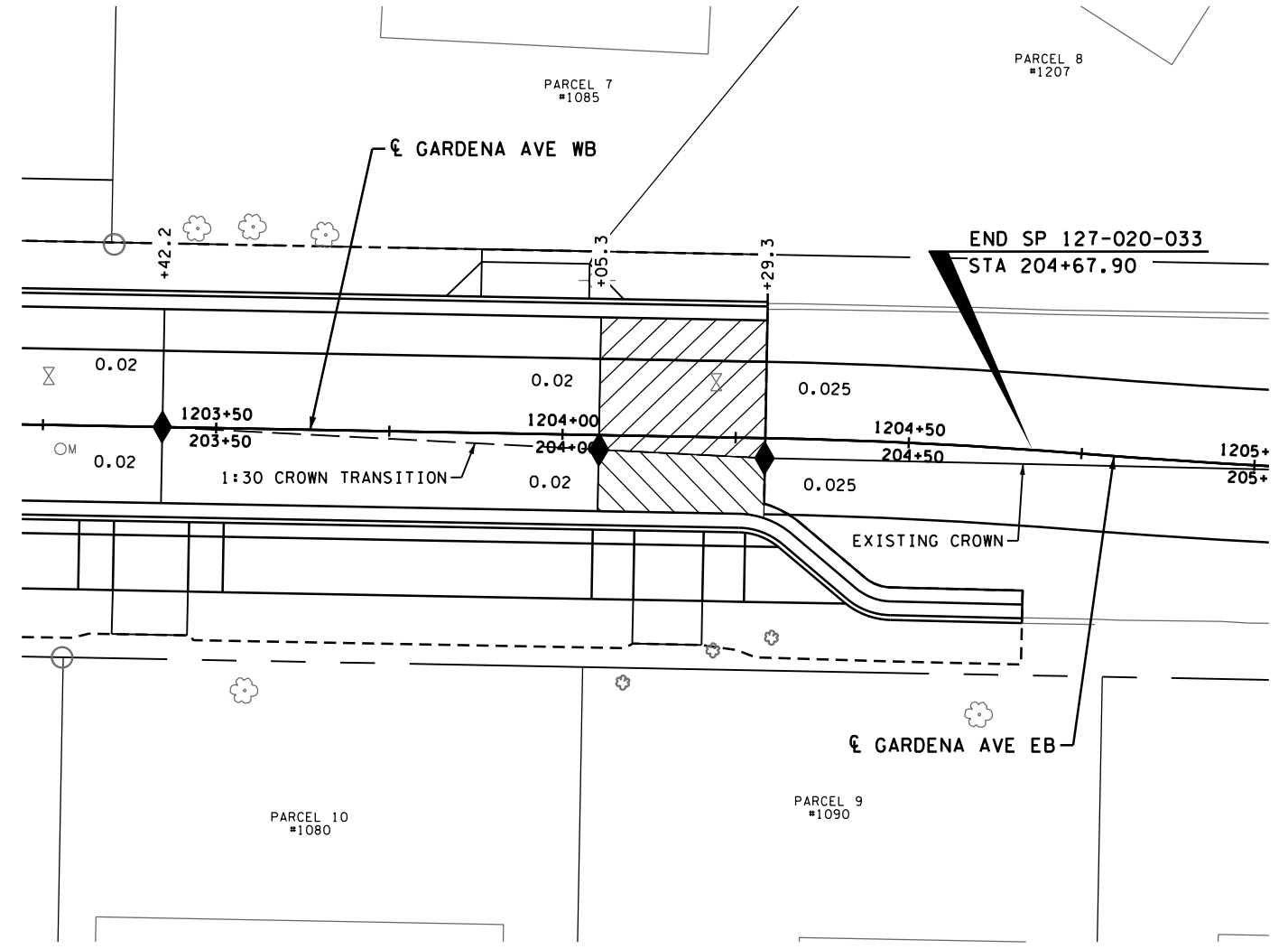
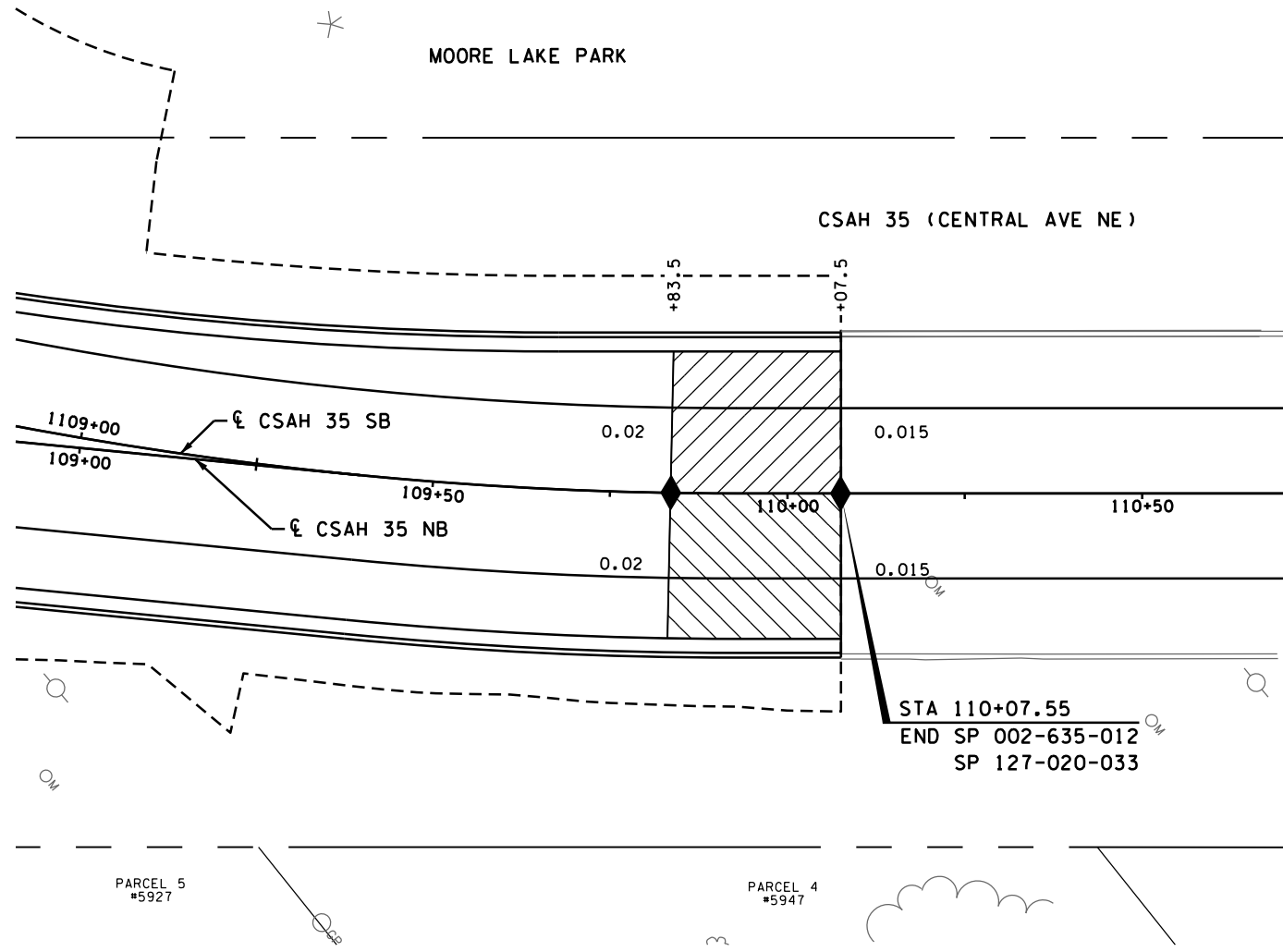
WSB PATH & FILENAME: Projects\Minnesota\018314-000\CarPlan\8314-000_s01.dgn

CSAH 35 (Central Ave NE)

Gardena Ave NE

LEGEND

-  SLOPE TRANSITION (FT/FT)
-  PAVEMENT SLOPE



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, PE
 DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

SUPERELEVATION PLAN
 SP 002-635-012, SP 127-020-033

SHEET **77** OF **90** SHEETS

PLOTTED/REVISED: 11/28/2022 10:32:25 AM

WSB PATH & FILENAME: Projects\Minnesota\08314-000\CarPlan\8314-000_sgn00.dgn

SIGN AND DELINEATOR / MARKER

Table with columns: SIGN, CODE, LEGEND, SIZE (W X H), MOUNTING HEIGHT, SUPPORT (TYPE, NUMBER OF POSTS), REMOVE SIGN, SIGN, SALVAGE SIGN, INSTALL SIGN, DELINEATOR / MARKER PANEL, K. Includes rows for various signs like pedestrian crossing, speed limit, and roundabout directional signs.

SIGN AND DELINEATOR / MARKER

Summary table for signs and delineators, including a 'TOTAL' row at the bottom with counts for each column.

SPECIFIC NOTE(S):
(1) U-CHANNEL 3" PER FOOT BLACK POST.
(2) MOUNTED BACK TO BACK.

Revision table with columns: NO., DATE, BY, CHK, REVISIONS.

Design By: MF, Plan By: MF, Checked By: ES, Approved By: SD. Includes a signature and date: 11/28/2022, LICENSE # 40145.

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



CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

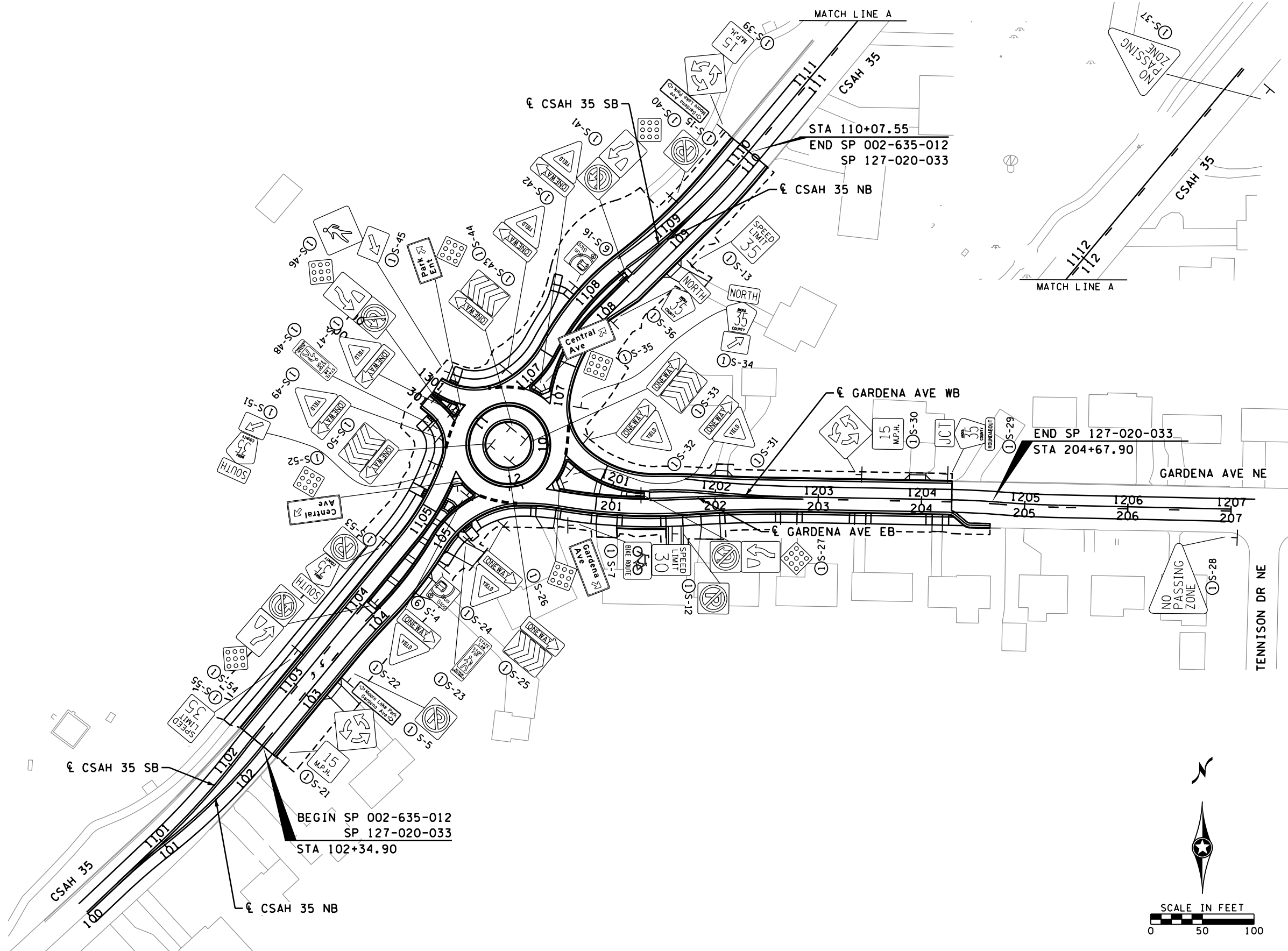
SIGNING PLAN
SP 002-635-012, SP 127-020-033

SHEET 78 OF 90 SHEETS

CSAH 35 (Central Ave NE) at Gardena Ave NE

LEGEND

- ① FURNISH & INSTALL
- ⑥ INSTALL



PLOTTED/REVISED: 11/28/2022 11:33:33 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000\CarPlan\8314-000_sgn01.dgn

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: SEAN DELMORE, PE

 DATE: 11/28/2022 LICENSE #: 40145

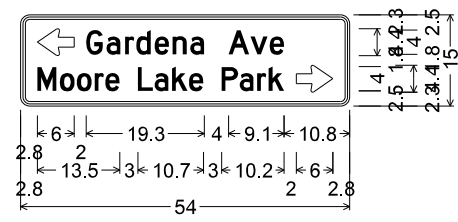


CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

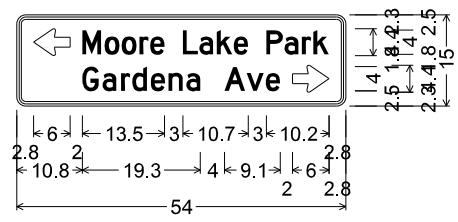
ANOKA COUNTY, MINNESOTA

SIGNING PLAN
 SP 002-635-012, SP 127-020-033

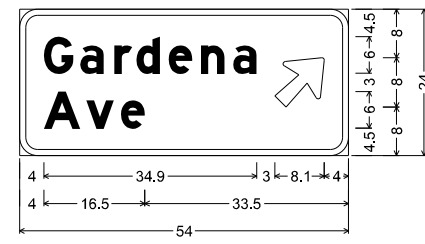
SHEET
79
 OF
90
 SHEETS



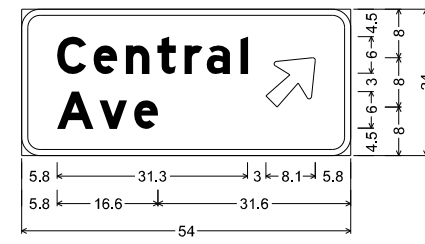
1.5" Radius, 0.4" Border, 0.4" Indent, Black on, Yellow;
 Standard Arrow Custom 6.0" X 4.4" 180';
 "Gardena Ave", D 2K;
 "Moore Lake Park", D 2K 75% spacing;
 Standard Arrow Custom 6.0" X 4.4" 0';



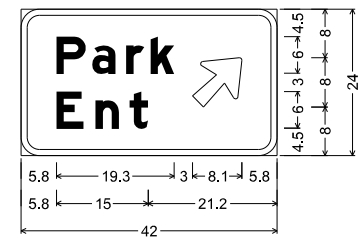
1.5" Radius, 0.4" Border, 0.4" Indent, Black on, Yellow;
 Standard Arrow Custom 6.0" X 4.4" 180';
 "Moore Lake Park", D 2K 75% spacing;
 "Gardena Ave", D 2K;
 Standard Arrow Custom 6.0" X 4.4" 0';



3.0" Radius, 1.0" Border, White on, Green;
 "Gardena", E Mod 75% spacing;
 "Ave", E Mod; Arrow 3 - 10.0" 45';



3.0" Radius, 1.0" Border, White on, Green;
 "Central", E Mod 75% spacing;
 "Ave", E Mod; Arrow 3 - 10.0" 45';



3.0" Radius, 1.0" Border, White on, Green;
 "Park", E Mod 75% spacing;
 "Ent", E Mod;
 Arrow 3 - 10.0" 45';

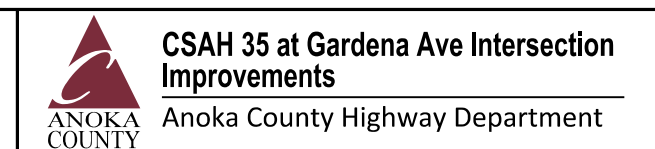
ALL DIMENSIONS ARE IN INCHES.

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: 11/28/2022 LICENSE #: 40145



ANOKA COUNTY, MINNESOTA

SIGNING PLAN
 SP 002-635-012, SP 127-020-033

SHEET 80 OF 90 SHEETS

PAVEMENT MARKING TABULATION											L
LOCATION	MULTI-COMPONENT				PREFORM THERMOPLASTIC					CROSSWALK SQ FT	PAVEMENT MESSAGE LEFT ARROW SQ FT
	4" SOLID LINE		4" BROKEN LINE	4" DOUBLE SOLID LINE	4" SOLID LINE		12" DOTTED LINE	24" SOLID LINE			
	WHITE LIN FT	YELLOW LIN FT	YELLOW LIN FT	YELLOW LIN FT	WHITE LIN FT	YELLOW LIN FT	WHITE LIN FT	WHITE LIN FT	YELLOW LIN FT		
SP 002-635-012 CSAH 35											
STA 100+00 TO STA 105+57 (1) ROUNDAABOUT	820	570	120	440	63	87	20	15	45	144	31
STA 106+91 TO STA 111+00 (2) GARDENA AVE NE	554	670	90	245		88			10		
PARK ENTRANCE ROUNDAABOUT						68		12		96	
STA 200+36 TO STA 208+00 (3)	847	538	90	299	58	130	20			19	
						92					
SP 002-635-012 SUBTOTAL	2221	1778	300	984	121	595	40	27	74	240	31
SP 002-635-012 TOTAL	3999		300	984	716		40	101		240	31

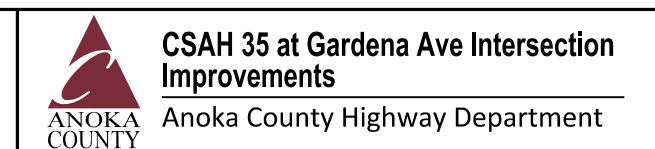
NOTES:
 (1) BEGIN CENTERLINE AND EDGELINE STRIPING AT STATION 100+00.
 (2) END CENTERLINE STRIPING AT STATION 114+40.
 (3) END CENTERLINE AND EDGELINE STRIPING AT STATION 207+24.

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: 11/28/2022 LICENSE #: 40145



ANOKA COUNTY, MINNESOTA

STRIPING PLAN
 SP 002-635-012, SP 127-020-033

SHEET 81 OF 90 SHEETS

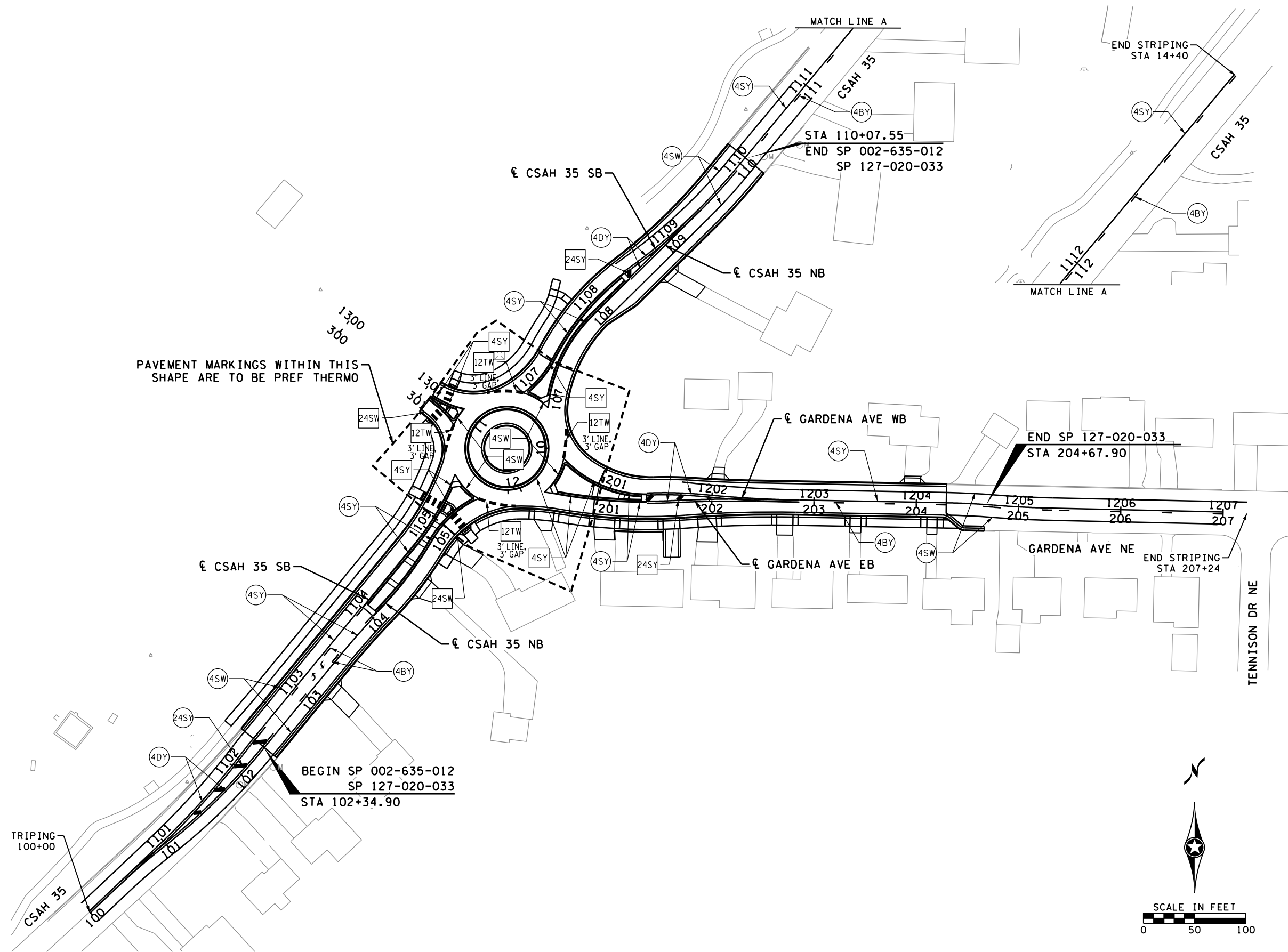
CSAH 35 (Central Ave NE) at Gardena Ave NE

LEGEND

- CIRCLE - MULTI-COMP
 - SQUARE - 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
- EXAMPLE: 4SW = 4" SOLID LINE WHITE - MULTI-COMP

PLOTTED/REVISED: 11/28/2022 11:35:55 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000\CarPlan\8314-000_pml.dgn



PAVEMENT MARKINGS WITHIN THIS SHAPE ARE TO BE PREF THERMO

NO.	DATE	BY	CHK	REVISIONS

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

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PRINT NAME: SEAN DELMORE, PE
Sean Delmore
 DATE: 11/28/2022 LICENSE #: 40145



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

STRIPING PLAN
 SP 002-635-012, SP 127-020-033

SHEET **82** OF **90** SHEETS

CSAH 35 (Central Ave NE) at Gardena Ave NE

LEGEND

- LIGHTING UNIT TYPE 9-30
- 1.5" NMC WITH 3-1/C 8 AWG AND 1-1/C 8 AWG GR. (UNLESS OTHERWISE NOTED)
- SERVICE CABINET TYPE L1
- PEDESTAL

② F&I BY CONTRACTOR:
 MODIFIED PEDESTAL CONCRETE FOUNDATION
 PEDESTAL POLE AND BASE (MNDOT STD PLATE 8112)
 POLE MOUNTED CONTROL CABINET
 (2) W11-2 LED ENHANCED SIGNS (30"X30") BACK TO BACK
 1 W16-7PL (24"X12") AND 1 W16-7PL (24"X12") BACK TO BACK
 1 PED PUSHBUTTON (PB-2) AND SIGN

F&I BY CONTRACTOR FROM FLASHER 1:
 2" RSC
 1-4/C 14
 1-2/C 14
 1-1/C 6 INS. GR.

2" RSC
 1-4/C 14
 1-2/C 14
 1-1/C 6 INS. GR.

2" RSC
 2-4/C 14
 2-2/C 14
 1-1/C 6 INS. GR.

① F&I BY CONTRACTOR:
 MODIFIED PEDESTAL CONCRETE FOUNDATION
 PEDESTAL POLE AND BASE (MNDOT STD PLATE 8112)
 POLE MOUNTED CONTROL CABINET
 (2) W11-2 LED ENHANCED SIGNS (30"X30") BACK TO BACK
 1 W16-7PL (24"X12") AND 1 W16-7PR (24"X12") BACK TO BACK
 1 PED PUSHBUTTON (PB-1) AND SIGN

F&I BY CONTRACTOR FROM CABINET:
 2" RSC
 2-4/C 14
 2-2/C 14
 1-1/C 6 INS. GR.

BEGIN SP 002-635-012
 SP 127-020-033
 STA 102+34.90

STA 110+07.55
 END SP 002-635-012
 SP 127-020-033

END SP 127-020-033
 STA 204+67.90

- 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, PEDESTAL, AND SERVICE CABINET FOUNDATIONS SHALL BE STAKED IN THE FIELD FOR ENGINEER APPROVAL.



PLOTTED/REVISED: 11/28/2022 10:35:56 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000-CorPlan\8314-000_1101.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: 11/28/2022 LICENSE #: 40145



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

LIGHTING PLAN
 SP 002-635-012, SP 127-020-033

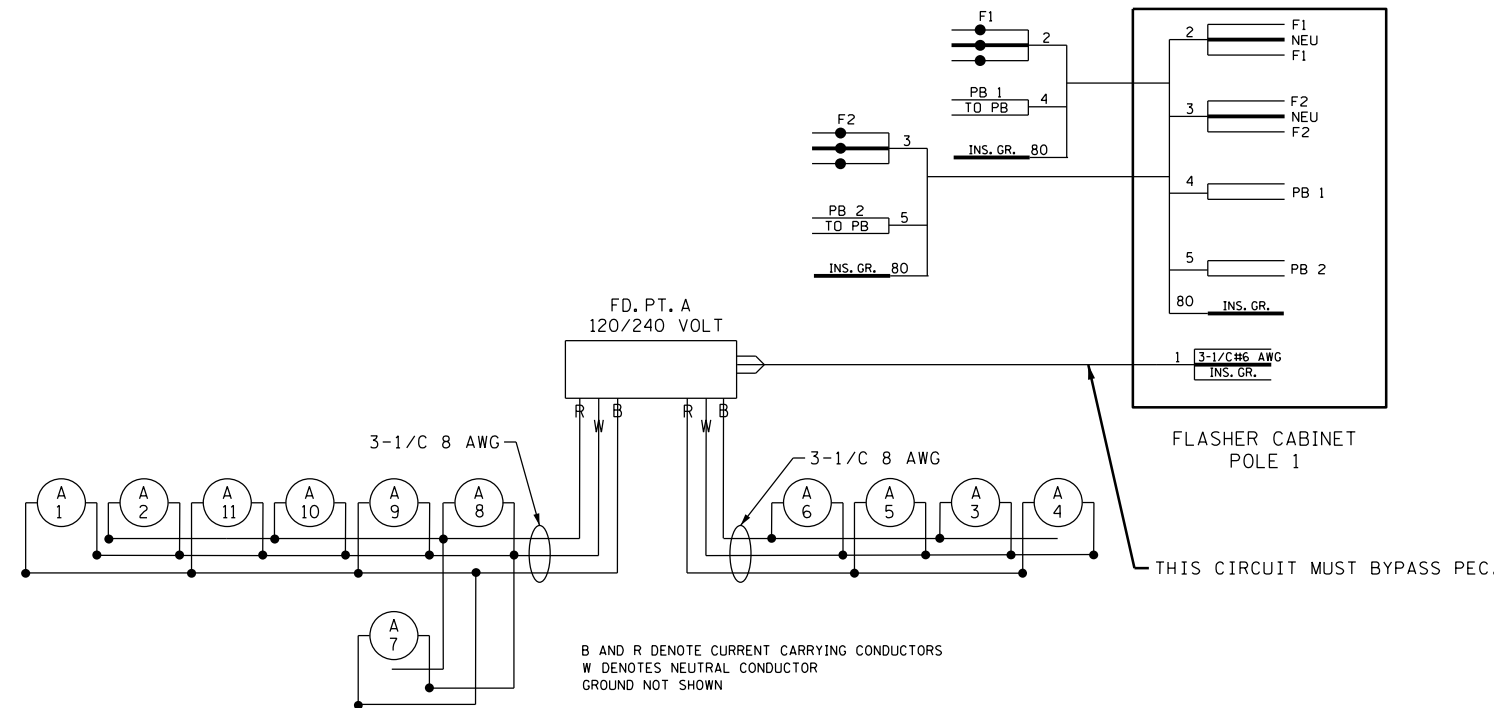
SHEET
83
 OF
90
 SHEETS

PLOTTED/REVISED: 11/28/2022 11:35:57 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000\Cad\Plan\18314-000_11102.dgn

STREET LIGHTING TABULATION					
ITEM	ITEM DESCRIPTION	UNIT			M
			ANOKA COUNTY SP 002-635-012	CITY OF FRIDLEY SP 127-020-033	TOTAL
2545.502	LIGHTING UNIT TYPE 9-30	EACH	6	5	11
2545.502	LIGHT FOUNDATION DESIGN E	EACH	6	5	11
2545.502	SERVICE CABINET -TYPE L1	EACH	1		1
2545.502	SERVICE EQUIPMENT	EACH	1		1
2545.502	EQUIPMENT PAD B	EACH	1		1
2545.503	1.5" NON-METALLIC CONDUIT	L IN FT	600	600	1200
2545.503	UNDERGROUND WIRE 1/C 8 AWG	L IN FT	2460	2460	4920
2565.616	PEDESTRIAN CROSSWALK FLASHER SYSTEM	SYSTEM	1		1

FEEDPOINT A LIGHTING STANDARDS AND FOUNDATIONS						
NO.	STATION	LT	RT	LOCATION	TYPE	FOUNDATION
1	1103+56	X		CSAH 35 SB	9-30	DESIGN E
2	1105+06	X		CSAH 35 SB	9-30	DESIGN E
3	200+23		X	GARDENA AVE EB	9-30	DESIGN E
4	202+50		X	GARDENA AVE EB	9-30	DESIGN E
5	1201+00	X		GARDENA AVE WB	9-30	DESIGN E
6	106+68		X	CSAH 35 NB	9-30	DESIGN E
7	108+86	X		CSAH 35 SB	9-30	DESIGN E
8	107+36	X		CSAH 35 SB	9-30	DESIGN E
9	1106+45	X		CSAH 35 SB	9-30	DESIGN E
10	301+03		X	PARK ACCESS EB	9-30	DESIGN E
11	105+70	X		CSAH 35 SB	9-30	DESIGN E



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: 11/28/2022 LICENSE #: 40145



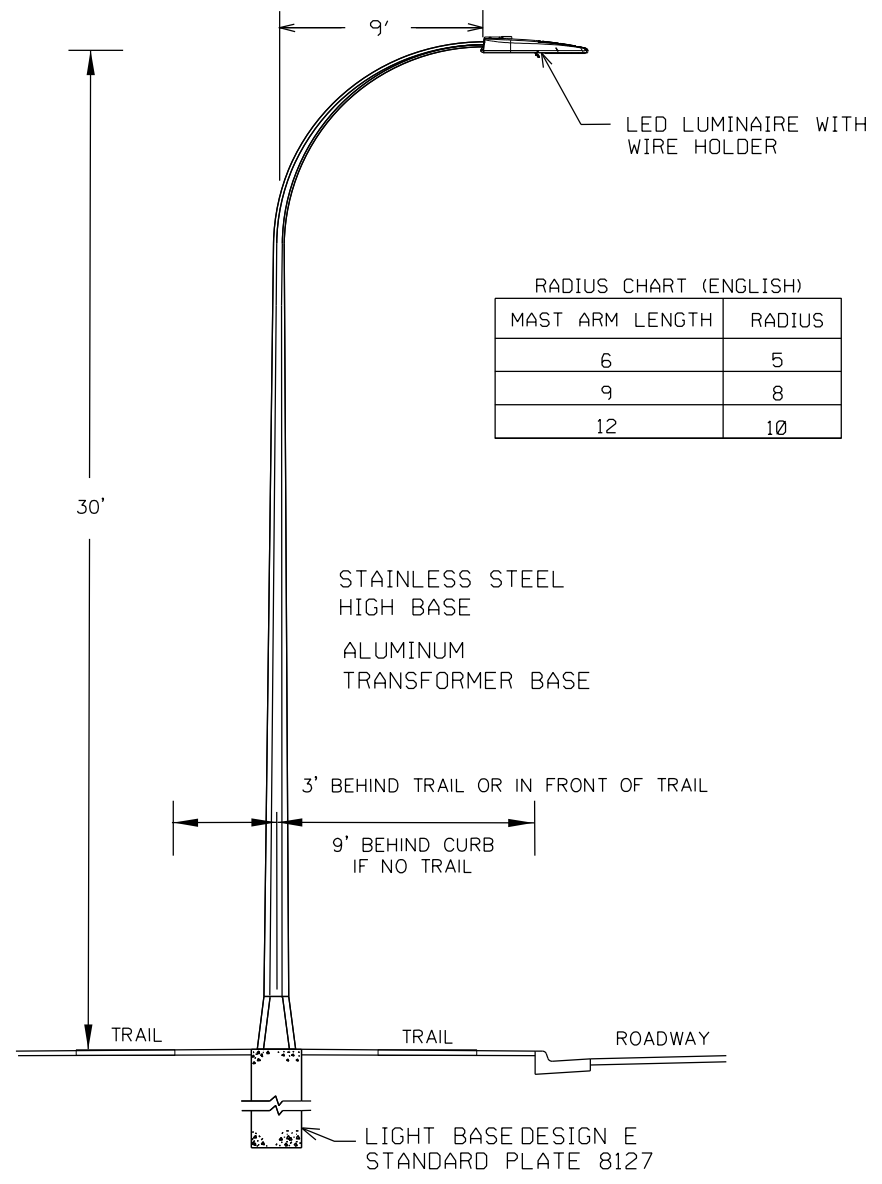
CSAH 35 at Gardena Ave Intersection
 Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

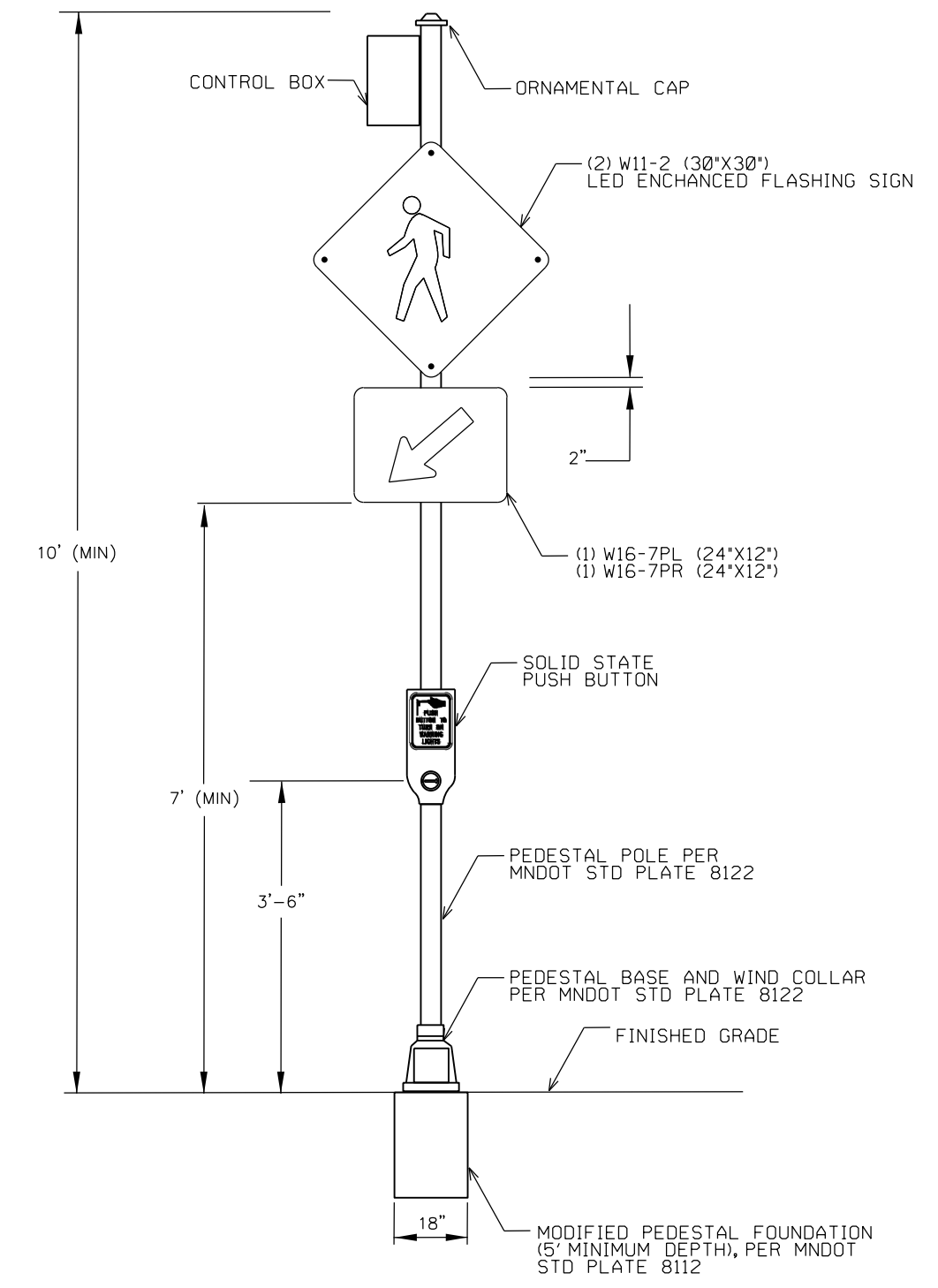
LIGHTING PLAN
 SP 002-635-012, SP 127-020-033

SHEET
 84
 OF
 90
 SHEETS

PLOTTED/REVISED: 11/28/2022 11:40:07 AM



LIGHTING UNIT TYPE 9-30
PLACEMENT DETAIL
(NON-BREAKAWAY)
NOT TO SCALE



LED ENHANCED PEDESTRIAN CROSSING SIGN

WSB PATH & FILENAME: invalid expression

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CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

LIGHTING PLAN
SP 002-635-012, SP 127-020-033

SHEET 85 OF 90 SHEETS

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT NAME: ANOKA COUNTY CSAH 35 & GARDENA AVENUE **PROJECT NUMBER:** WSB 018314-000
PROJECT LOCATION: STREET: CSAH 35 CITY: FRIDLEY COUNTY: ANOKA
STATE: MINNESOTA ZIP: 55432 LATITUDE/LONGITUDE: 45.0750/-93.2420

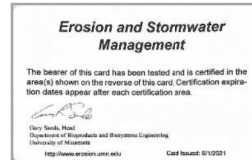
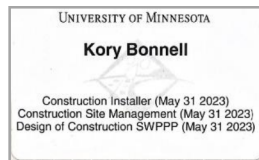
THE PLANNED SCOPE OF THE PROJECT INCLUDES:

ANOKA COUNTY IS PROPOSING TO RECONSTRUCT CSAH 35 IN FRIDLEY, MINNESOTA. THE PROJECT INCLUDES RECONSTRUCTION OF CSAH 35 BETWEEN HACKMAN AVENUE AND JUST NORTH OF GARDENA AVENUE NORTHEAST. ADDITIONAL PROJECT ACTIVITIES INCLUDE ROUNDABOUT CONSTRUCTION, LIGHTING, AND ADA IMPROVEMENTS.

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	SEPT 2022
GRADING & UTILITY WORK	SEPT - NOV 2022
CURB & PAVEMENT	SEPT - NOV 2022
FINAL STABILIZATION	NOV 2022

PROJECT PERSONNEL AND TRAINING

SWPPP DEVELOPER:
WSB (KORY BONNELL)
701 XENIA AVE S, SUITE 300
GOLDEN VALLEY, MN 55416
612-749-2799/KBONNELL@WSBENG.COM



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 COUNTY 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	OWNER CONTACT	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
ANOKA COUNTY LGU		
RICE CREEK WATERSHED DISTRICT	NICK TOMCZIK	763-398-3070

LOCATION OF SWPPP REQUIREMENTS

THE REQUIRED SWPPP ELEMENTS MAY BE LOCATED IN MANY PLACES WITHIN THE PLAN SET AS WELL AS IN THE PROJECT MANUAL, MNDOT SPEC BOOK, OR ON FILE WITH THE PROJECT OWNER.

DESCRIPTION	LOCATION
TEMPORARY/PERMANENT EROSION CONTROL MEASURES	PLAN SET SHEET 90
DIRECTION OF FLOW	PLAN SET SHEETS 90
CONSTRUCTION NOTES & STANDARD PLATES	PLAN SET SHEET 9
DRAINAGE PLAN & CONSTRUCTION PLAN	PLAN SET SHEETS 70 - 73 & 58 - 60
BMP TABULATION	PLAN SET 6
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 08/31/2022. 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)
EAST MOORE LAKE	NUTRIENTS
SANDY LAKE	NUTRIENTS

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 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.

SOIL TYPES

A PROJECT WIDE GEOTECHNICAL REPORT WAS COMPLETED DURING THE DESIGN PHASE. GLACIAL TILL IS PREDOMINATING ALONG MOST OF THE ALIGNMENT. THE GLACIAL TILL CONSISTS OF A MIXTURE OF CLAY, SILT AND SAND. THESE SOILS MAY CONTAIN POCKETS OF

GRAVEL, COBBLES OR BOULDERS. THE GLACIAL TILLS ARE OVERLAIN IN AREAS BY LACUSTRINE OR EOLIAN SANDS. 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

NO FORMAL ENVIRONMENTAL REVIEW WAS REQUIRED FOR THIS PROJECT.

WETLANDS: THIS PROJECT INCLUDES PERMANENT WETLAND IMPACTS WHICH WILL BE MITIGATED THROUGH BWSR'S ROAD BANK WETLAND CREDITS.

THREATENED/ENDANGERED SPECIES: ANOKA COUNTY LISTS 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 IN THE MINNEAPOLIS, BROOKLYN CENTER, & FRIDLEY DRINKING WATER SUPPLY MANAGEMENT AREA (DWSMA). THESE DWSMAS ARE CLASSIFIED AS MODERATE VULNERABILITY. SPECIAL CARE MUST BE TAKEN DURING CONSTRUCTION TO PREVENT AND IMMEDIATELY RESPOND TO ALL SPILLS. IN ADDITION, THERE ARE ZERO (0) WELLHEAD PROTECTION AREAS WITHIN/ADJACENT TO THE PROJECT.

CONTAMINATED PROPERTIES: THE MPCA'S "WHAT'S IN MY NEIGHBORHOOD" DATABASE WAS REVIEWED ON 08/29/2022. THE RESULTS OF THIS REVIEW SHOW NO CONTAMINATED PROPERTIES LOCATED ADJACENT TO THE PROJECT ALIGNMENT. IF CONTAMINATED MATERIAL, CONTAMINATED WATER, AND/OR REGULATED MATERIALS ARE FOUND, CREWS ARE TO STOP WORK IMMEDIATELY FOR FURTHER INVESTIGATION/TESTING.

FLOOD CONTINGENCY PLAN: PROJECT ACTIVITIES ARE NOT LOCATED WITHIN THE 100-YEAR FLOODPLAIN OR FLOODWAY; HOWEVER, THE PROJECT ENGINEER (AT THEIR DISCRETION) MAY REQUIRE A PREVENTATIVE FLOOD CONTINGENCY PLAN FOR SPECIFIC PROJECT ACTIVITIES AND AREAS IF SEASONAL PRECIPITATION POSES 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.

AQUATIC INVASIVE SPECIES: NO IN WATER WORK IS ANTICIPATED WITH THIS PROJECT, THEREFORE, AQUATIC INVASIVE SPECIES REGULATIONS DO NOT APPLY.

LAND FEATURE CHANGES

TOTAL AREA TO BE DISTURBED = 2.04 ACRES
IMPERVIOUS AREA: PRE-CONSTRUCTION = 1.55 ACRES/POST-CONSTRUCTION = 1.61 ACRES
NET INCREASE OF IMPERVIOUS AREA = 0.06 ACRES

LONG TERM MAINTENANCE AND OPERATION:

THE NPDES PERMANENT STORMWATER TREATMENT SYSTEM (PART 15.1) IS NOT REQUIRED BECAUSE THE NET NEW IMPERVIOUS AREA CREATED BY THE PROJECT IS LESS THAN ONE ACRE.

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 DITCH/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.
- 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

PLOTTED/REVISED: 11/28/2022 11:46:27 AM

WSB PATH & FILENAME: Projects\Minnesota\018314-000\CSAH35\Plan\8314-000-swppp


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. FLOMMAN, PE
DATE: 11/28/2022 LICENSE #: 44200




CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
STORM WATER POLLUTION PREVENTION PLAN
SP 002-635-012, SP 127-020-033

SHEET 86 OF 90 SHEETS

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, SPILL CONTAINMENT 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 THE PROJECT ENGINEER 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.
- THERE IS NO CONSTRUCTION PHASING OR STAGING DEFINED BY THE OWNER FOR THIS PROJECT. THE SCHEDULE FOR INSTALLING TEMPORARY BMPS SHALL BE INCORPORATED INTO THE OPERATOR'S WEEKLY SCHEDULE FOR EACH CONSTRUCTION STAGE AND PRESENTED TO THE OWNER'S REPRESENTATIVE.
- 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 PLANT 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 DAYS. ALL REPAIRS MUST BE COMPLETED WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

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.

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 #1: THIS METHOD SHALL CONSIST OF TYPE 1 MULCH (2 TON PER ACRE) WITH DISC ANCHORING BE SPREAD IN AREAS THAT HAVE BEEN UNWORKED FOR 7 DAYS. THIS METHOD SHALL BE USED ON SLOPES OF 3:1 AND LESS. OPERATOR MUST APPLY MULCH IN A UNIFORM PATTERN OVER THE DISTURBED SOILS TO ACHIEVE A MINIMUM OF 90% GROUND COVER.

RAPID STABILIZATION METHOD #2: THIS METHOD SHALL CONSIST OF TYPE 3 MULCH (1.5 TON PER ACRE) OR 3884.B 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:

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Design By: AJP

Plan By: AJF

Checked By: AJP

Approved By: AJP

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PRINT NAME: ANDREW J. FLOMMAN, PE

DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements

Anoka County Highway Department

ANOKA COUNTY, MINNESOTA

STORM WATER POLLUTION PREVENTION PLAN

SP 002-635-012, SP 127-020-033

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.

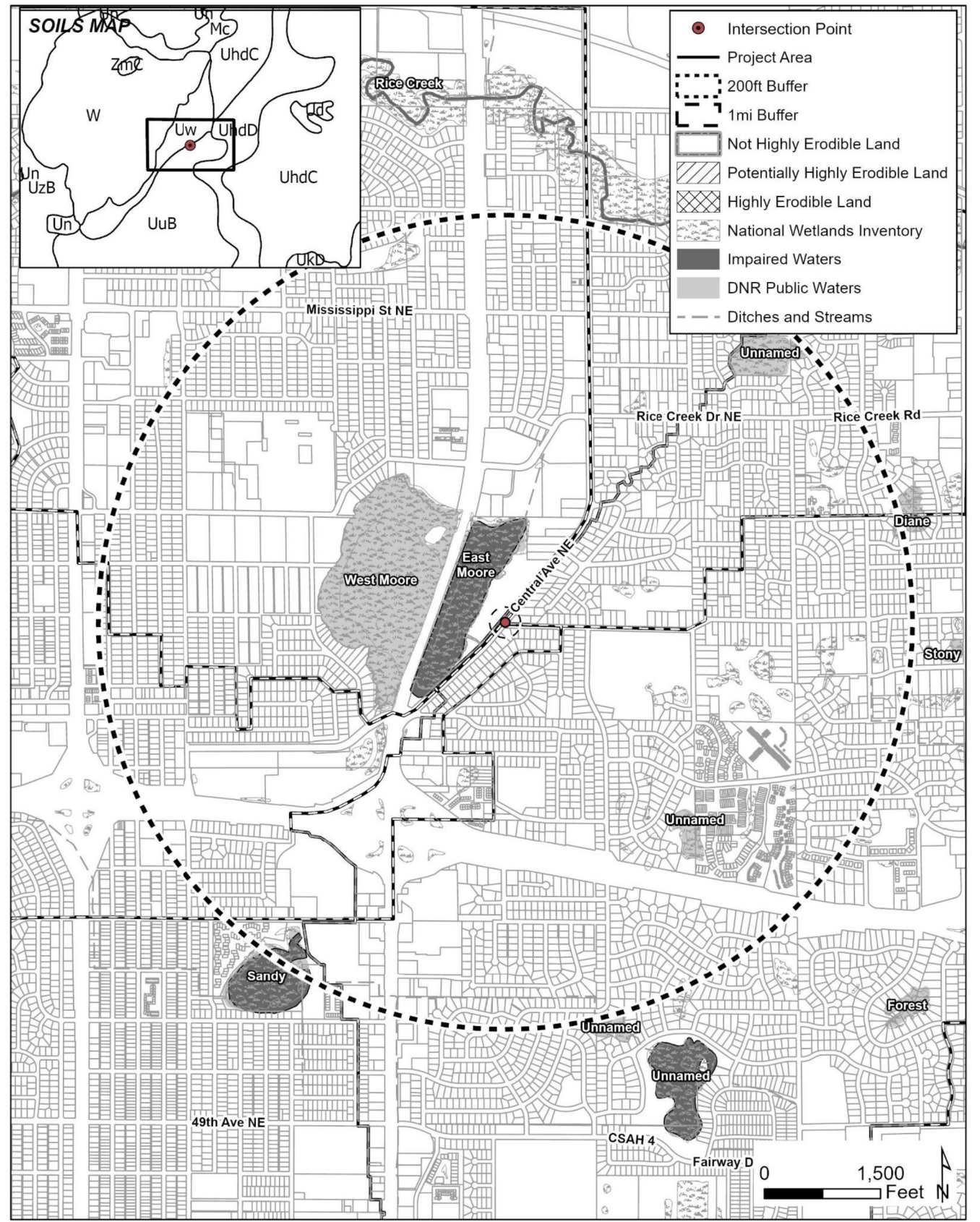


Figure 1. SWPPP Resource Map

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

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PRINT NAME: ANDREW J. FLOWMAN, PE
 DATE: 11/28/2022 LICENSE #: 44200



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
STORM WATER POLLUTION PREVENTION PLAN
 SP 002-635-012, SP 127-020-033

PLOTTED/REVISED: 11/28/2022 11:44:37 AM

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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.







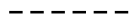

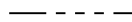
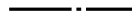
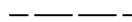

INFILTRATION BASINS:

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

	<p>PERMANENT: ROLLED EROSION PREVENTION PRODUCT CATEGORY 20 SEED MIXTURE 25-151 (120 LBS/ACRE) FERTILIZER TYPE 3 (350 LBS/ACRE)</p>	<p>TEMPORARY: RAPID STABILIZATION METHOD 3</p>	
	<p>PERMANENT: SODDING TYPE LAWN FERTILIZER TYPE 3 (350 LBS/ACRE)</p>	<p>TEMPORARY: RAPID STABILIZATION METHOD 3</p>	
			<p>SURFACE FLOW DIRECTION</p>
			<p>STORM DRAIN INLET PROTECTION</p>
			<p>STABILIZED CONSTRUCTION EXIT</p>
			<p>SEDIMENT CONTROL LOG, TYPE COMPOST</p>
			<p>CONSTRUCTION LIMITS</p>
			<p>AREA OF ENVIRONMENTAL SENSITIVITY</p>
			<p>INPLACE RIGHT-OF-WAY</p>
			<p>PROPOSED RIGHT-OF-WAY</p>
			<p>TEMPORARY EASEMENT</p>
			<p>PERMANENT EASEMENT</p>

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



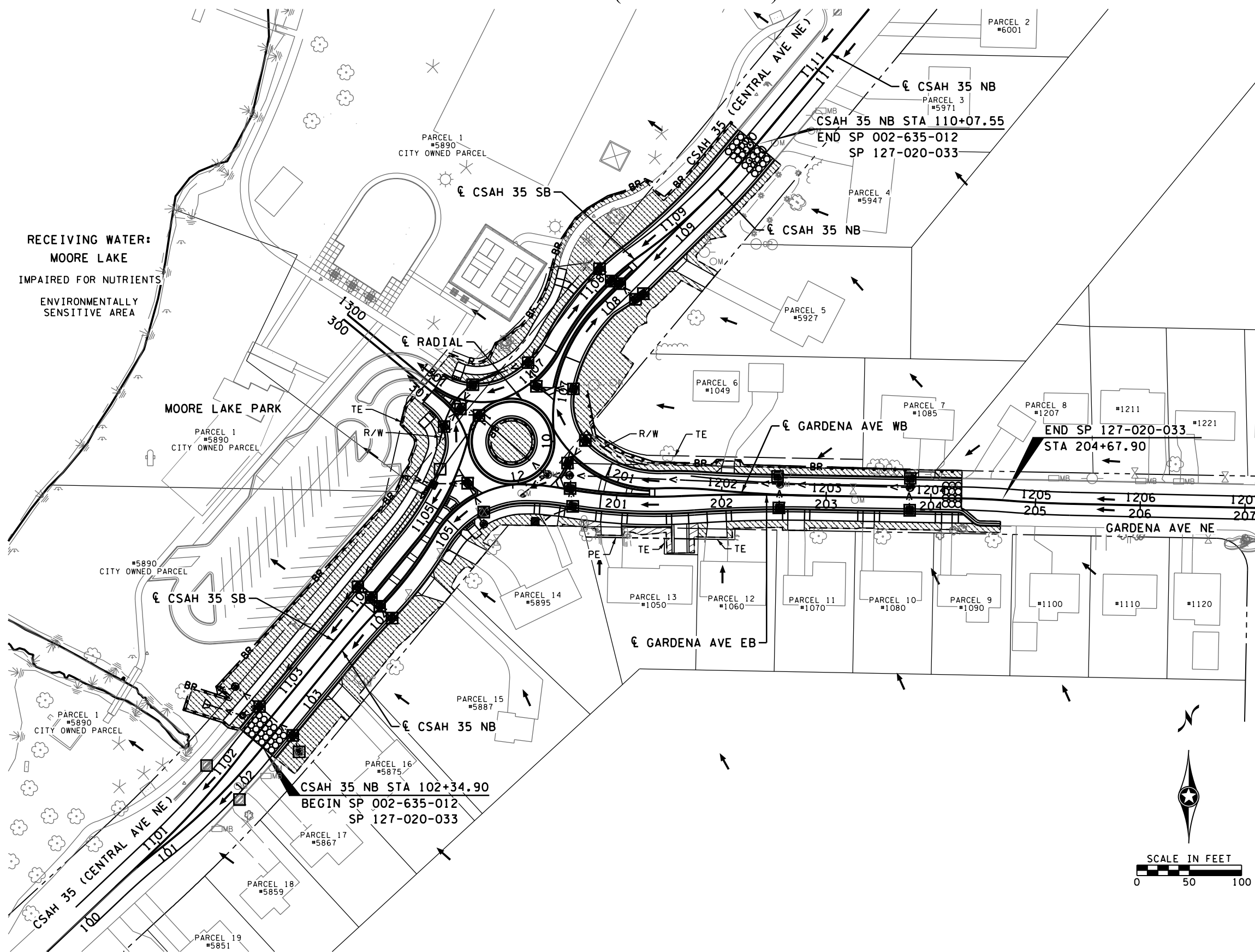
CSAH 35 at Gardena Ave Intersection Improvements
Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
NOTES / LEGEND
EROSION CONTROL & TURF ESTABLISHMENT
SP 002-635-012, SP 127-020-033

CSAH 35 (Central Ave NE) at Gardena Ave NE

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RECEIVING WATER:
MOORE LAKE
IMPAIRED FOR NUTRIENTS
ENVIRONMENTALLY
SENSITIVE AREA

MOORE LAKE PARK

LEGEND

- SURFACE FLOW DIRECTION
- STORM DRAIN INLET
- PROTECTION
- STABILIZED CONSTRUCTION EXIT
- SEDIMENT CONTROL LOG, TYPE COMPOST
- CONSTRUCTION LIMITS
- AREA OF ENVIRONMENTAL SENSITIVITY
- INPLACE RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

- PERMANENT:
ROLLED EROSION PREVENTION
PRODUCT CATEGORY 20,
SEED MIXTURE 25-151
(120 LBS/ACRE),
FERTILIZER TYPE 3
(350 LBS/ACRE)
- PERMANENT:
SODDING TYPE LAWN
FERTILIZER TYPE 3
(350 LBS/ACRE)

- TEMPORARY:
(AS DIRECTED BY THE ENGINEER)
RAPID STABILIZATION METHOD 3
(6 MGAL/ACRE)



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 Plan By: **AJP**
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PRINT NAME: **ANDREW J. FLOWMAN, PE**
 DATE: **11/28/2022** LICENSE #: **44200**



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 Anoka County Highway Department

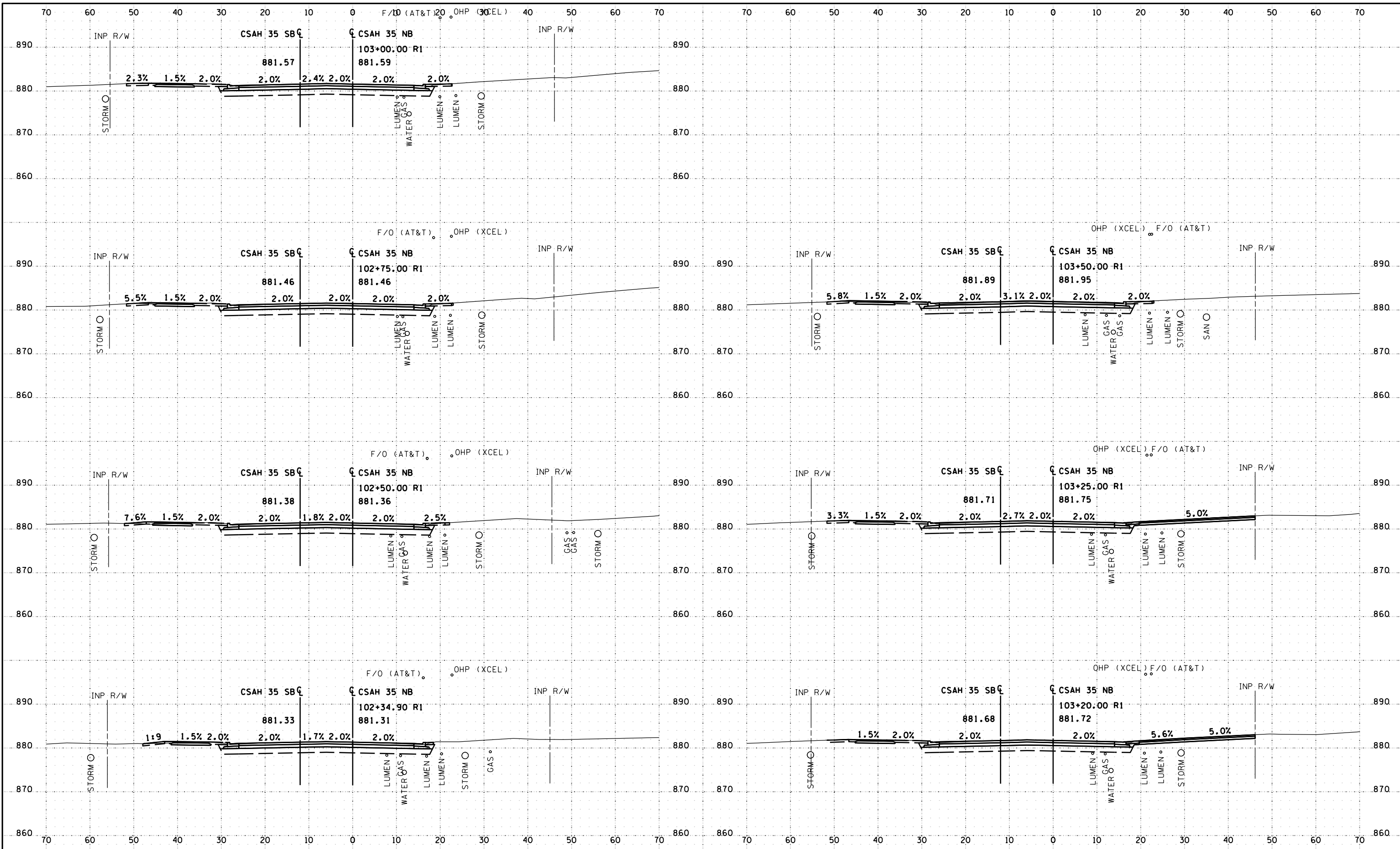
ANOKA COUNTY, MINNESOTA

EROSION CONTROL & TURF ESTABLISHMENT
 SP 002-635-012, SP 127-020-033

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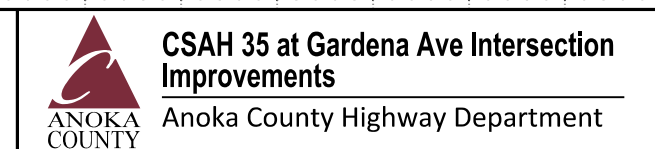
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Plan By:	JV
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Approved By:	AJP

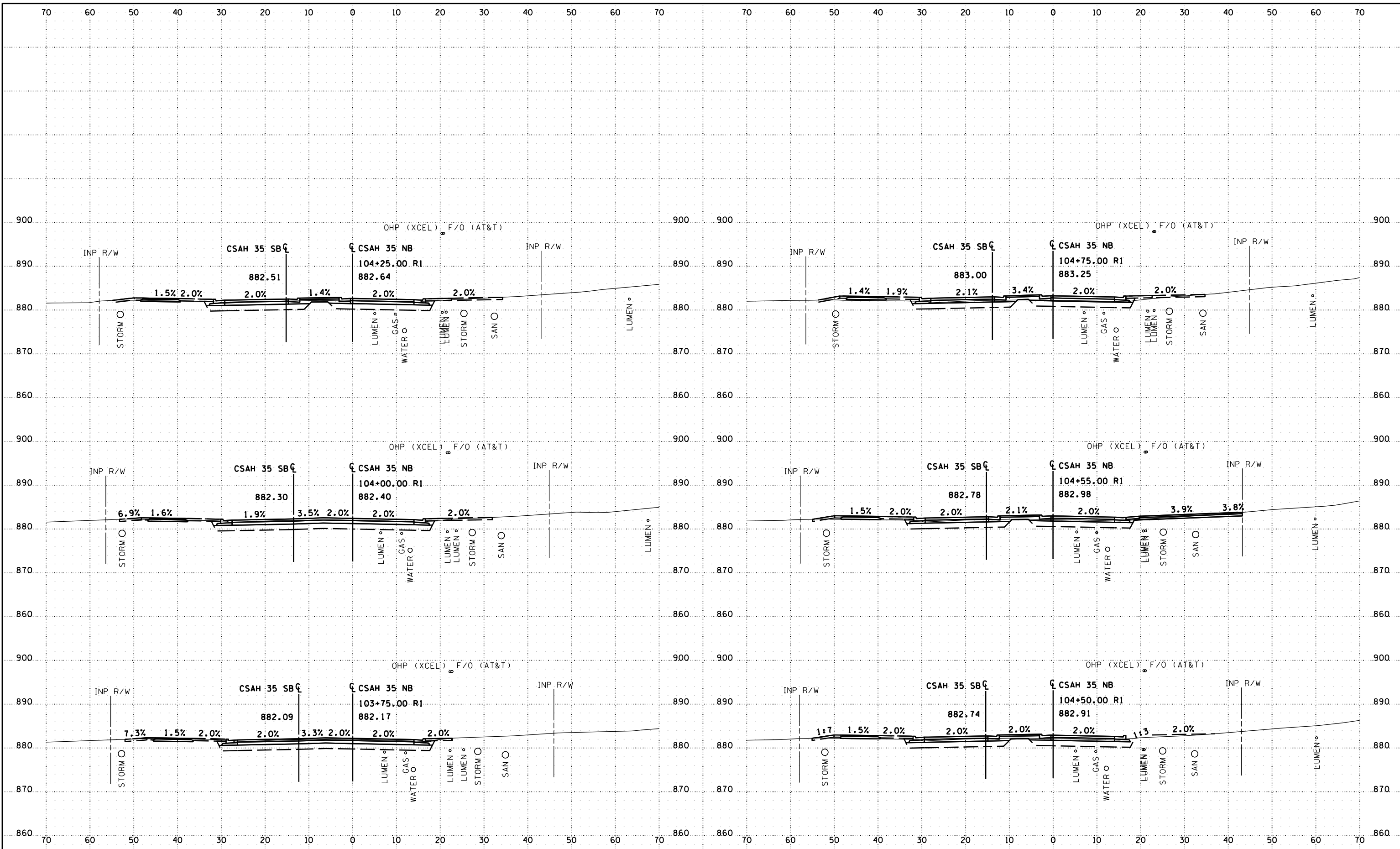


ANOKA COUNTY, MINNESOTA
CSAH 35
CROSS SECTIONS
SP 002-635-012, SP 127-020-033

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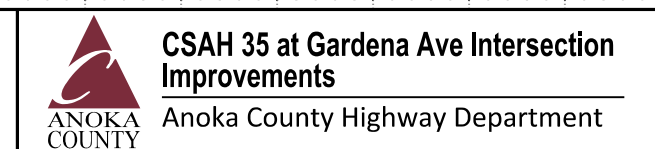
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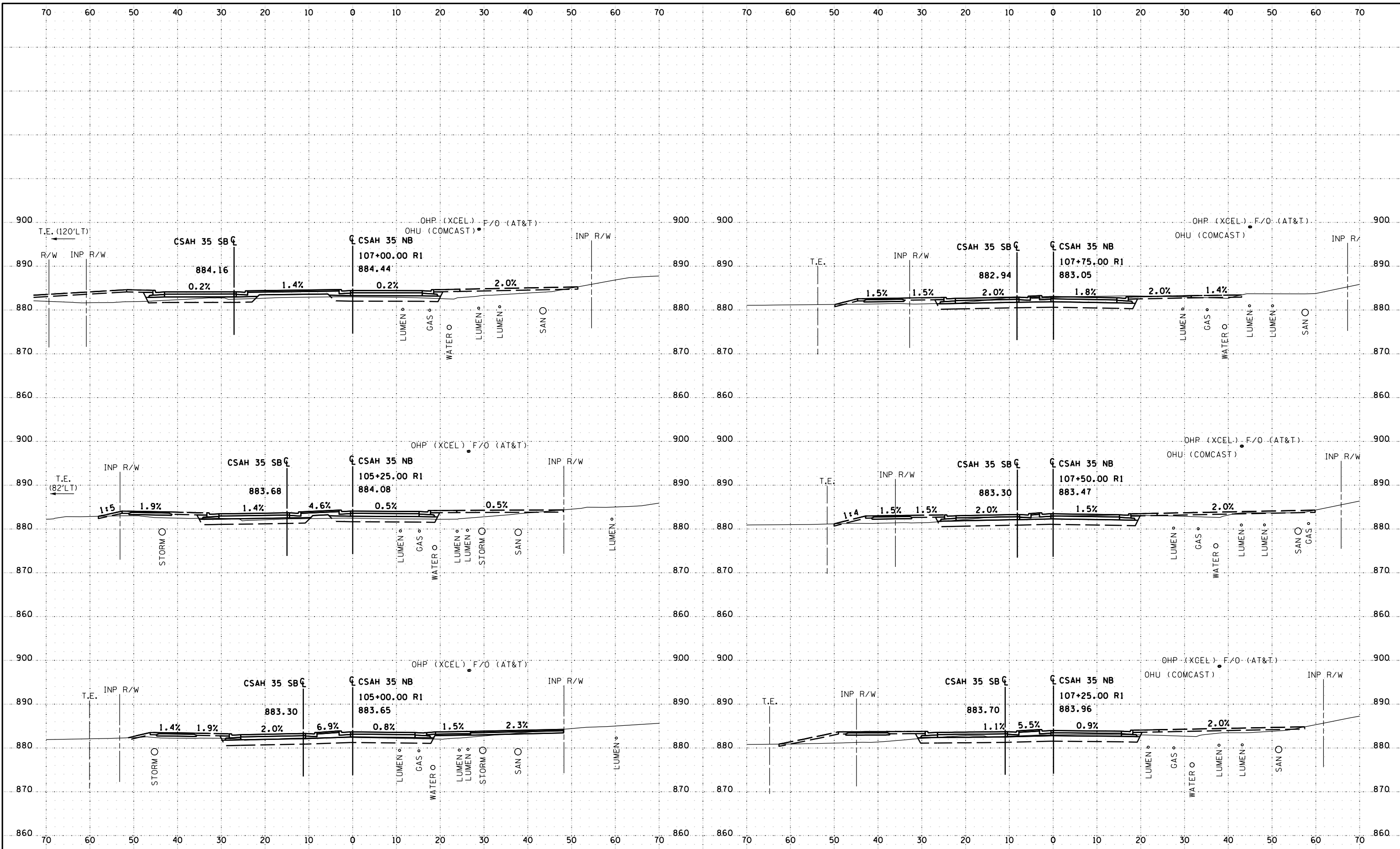


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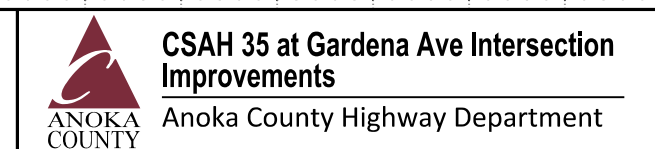
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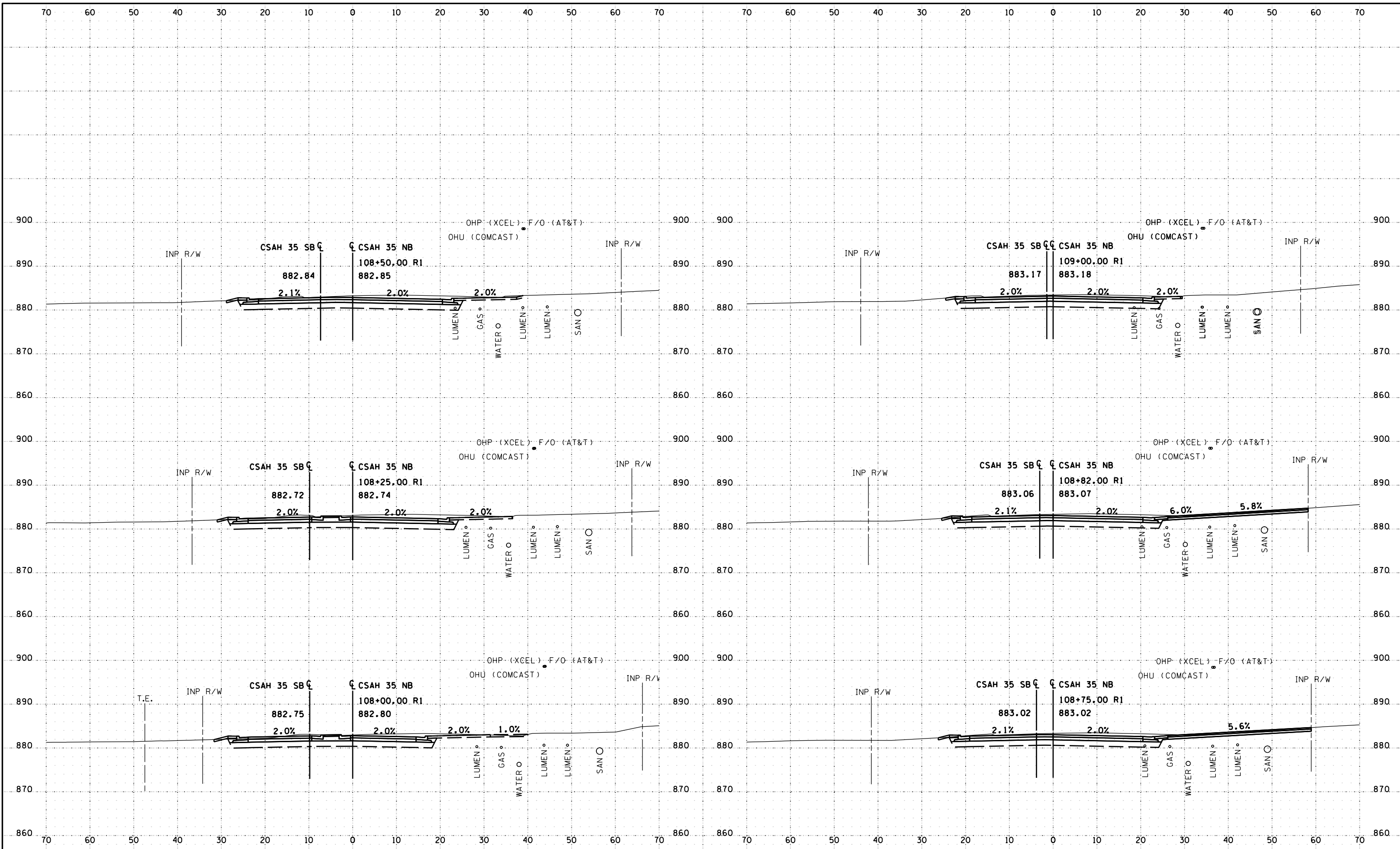


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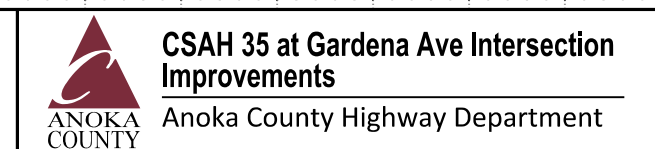
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 Plan By: JV
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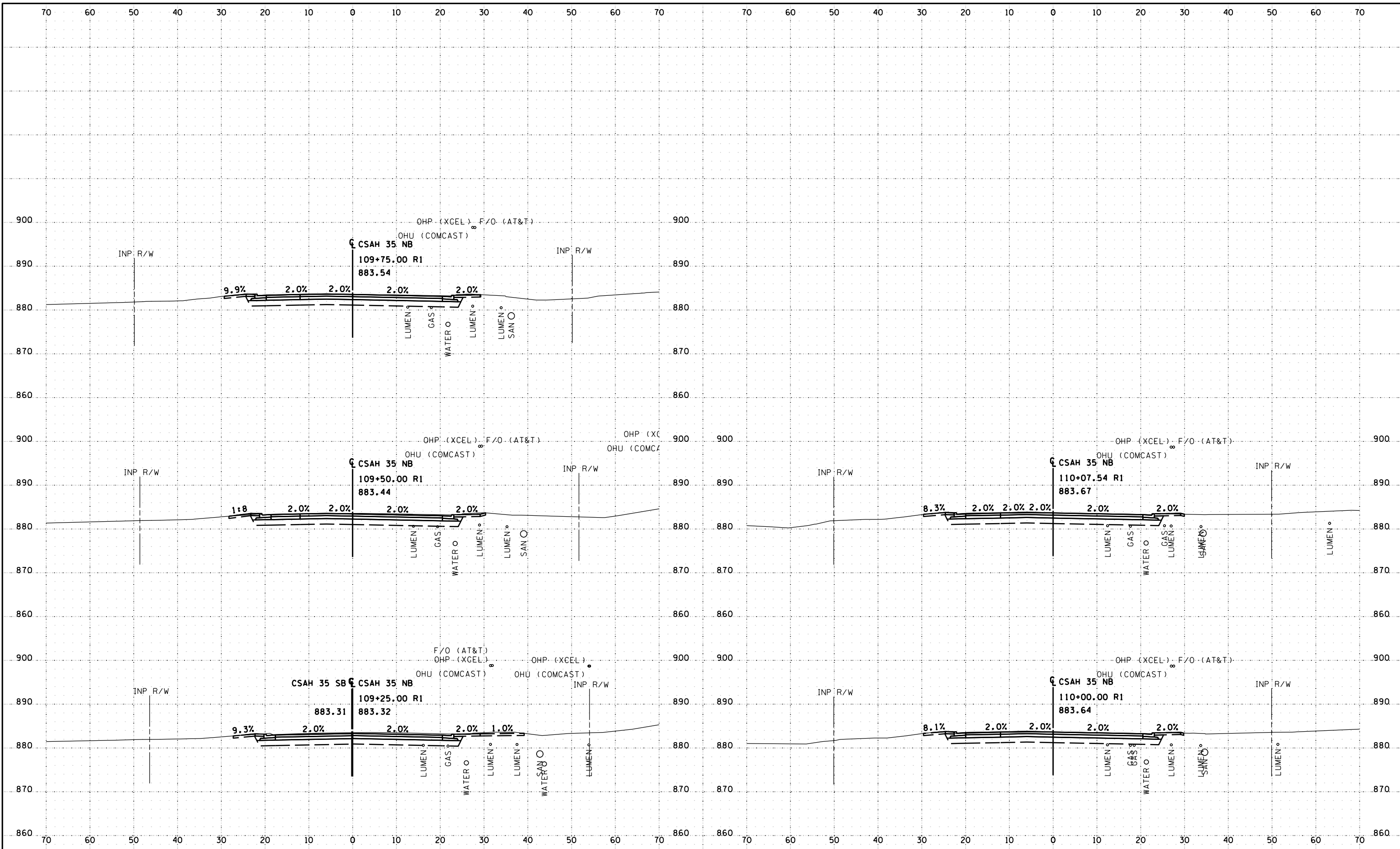


ANOKA COUNTY, MINNESOTA
 CSAH 35
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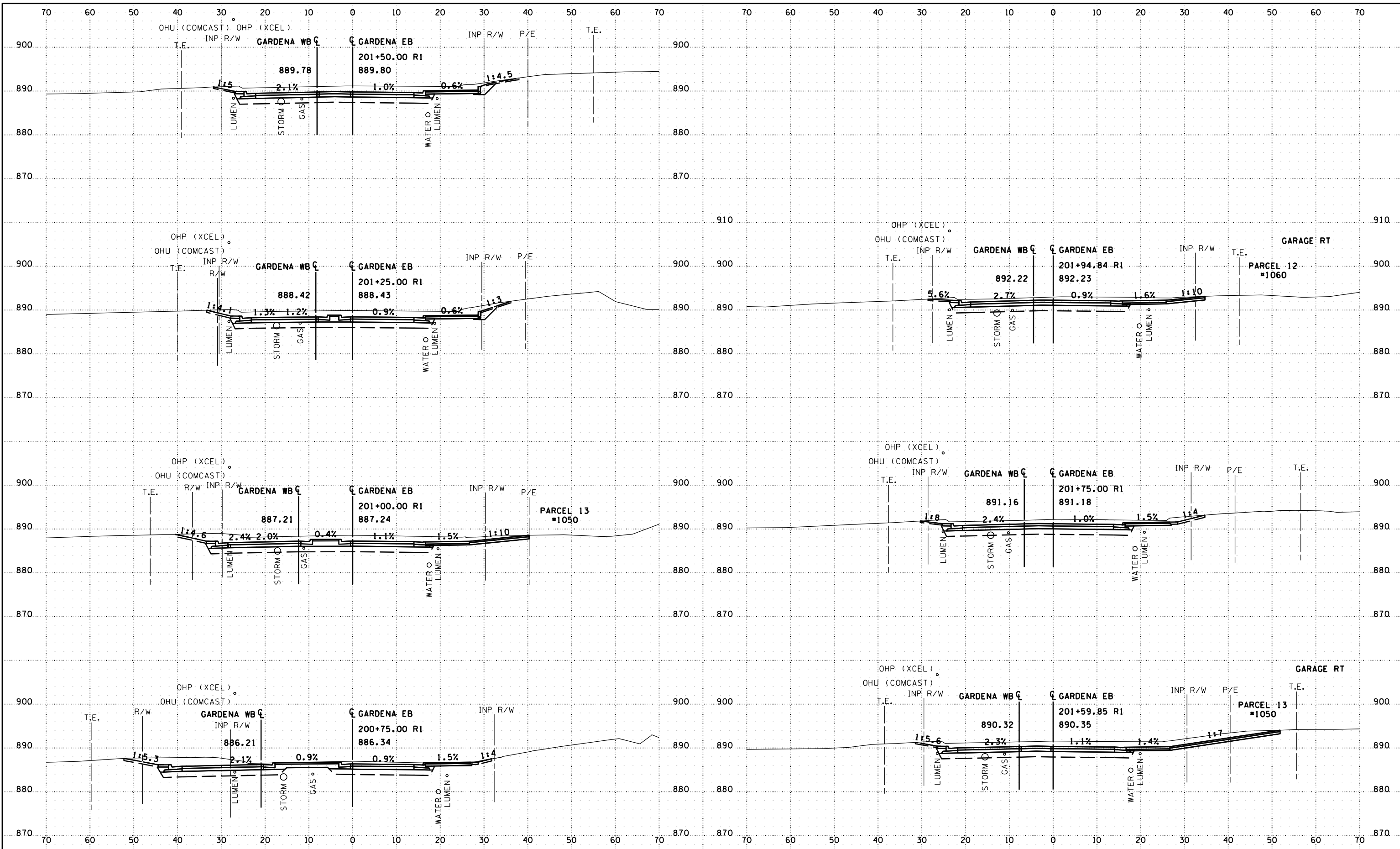
CSAH 35 at Gardena Ave Intersection Improvements
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ANOKA COUNTY, MINNESOTA
 CSAH 35
CROSS SECTIONS
 SP 002-635-012, SP 127-020-033

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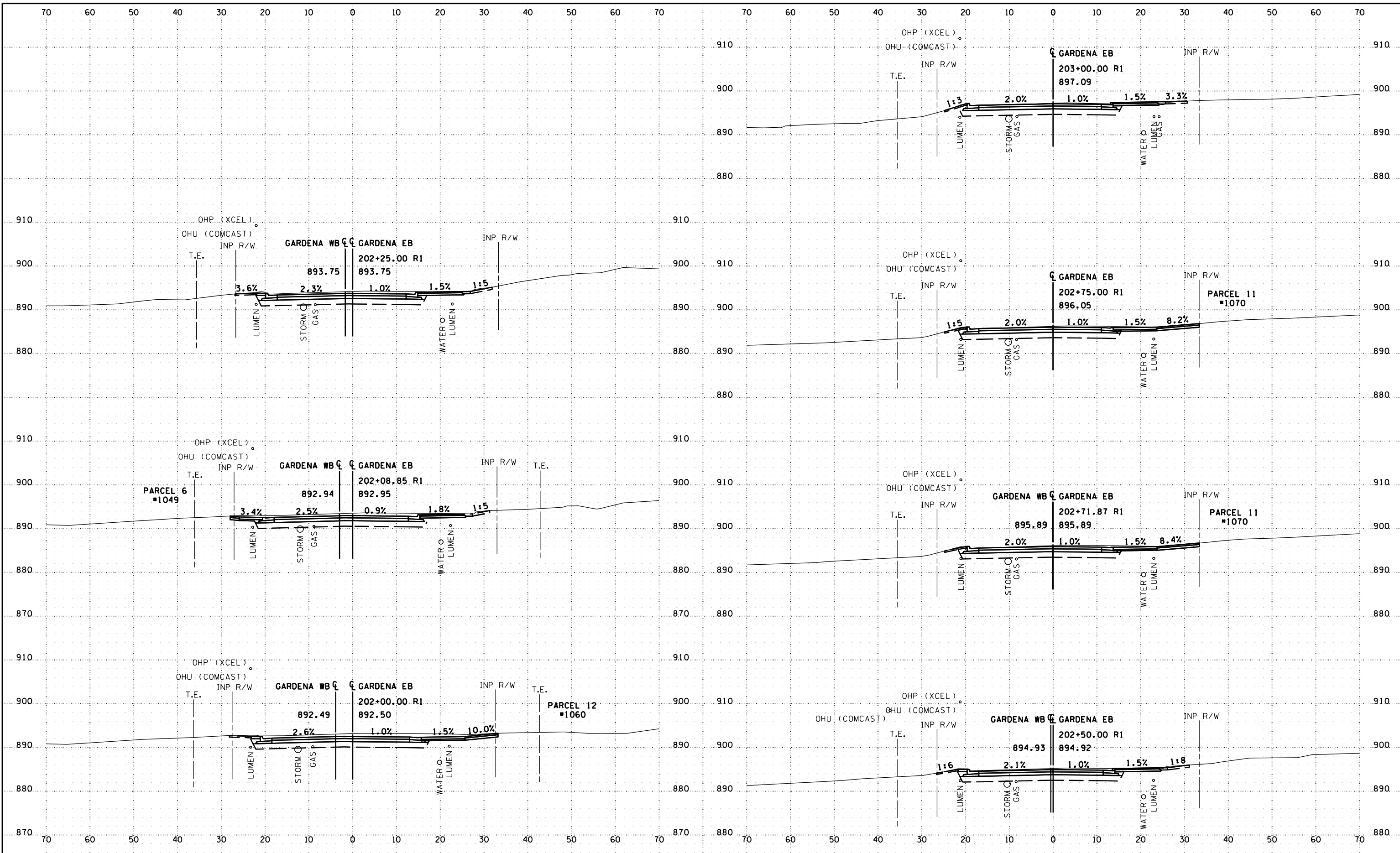
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ANOKA COUNTY, MINNESOTA
 GARDENA AVENUE NE
CROSS SECTIONS
 SP 002-635-012, SP 127-020-033

SHEET **X6**
 OF **X8**
 SHEETS

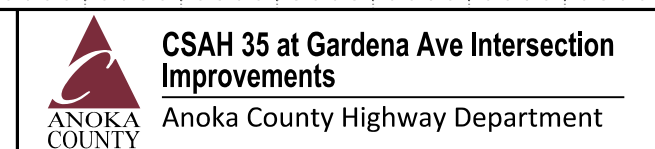
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NO.	DATE	BY	CHK	REVISIONS

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

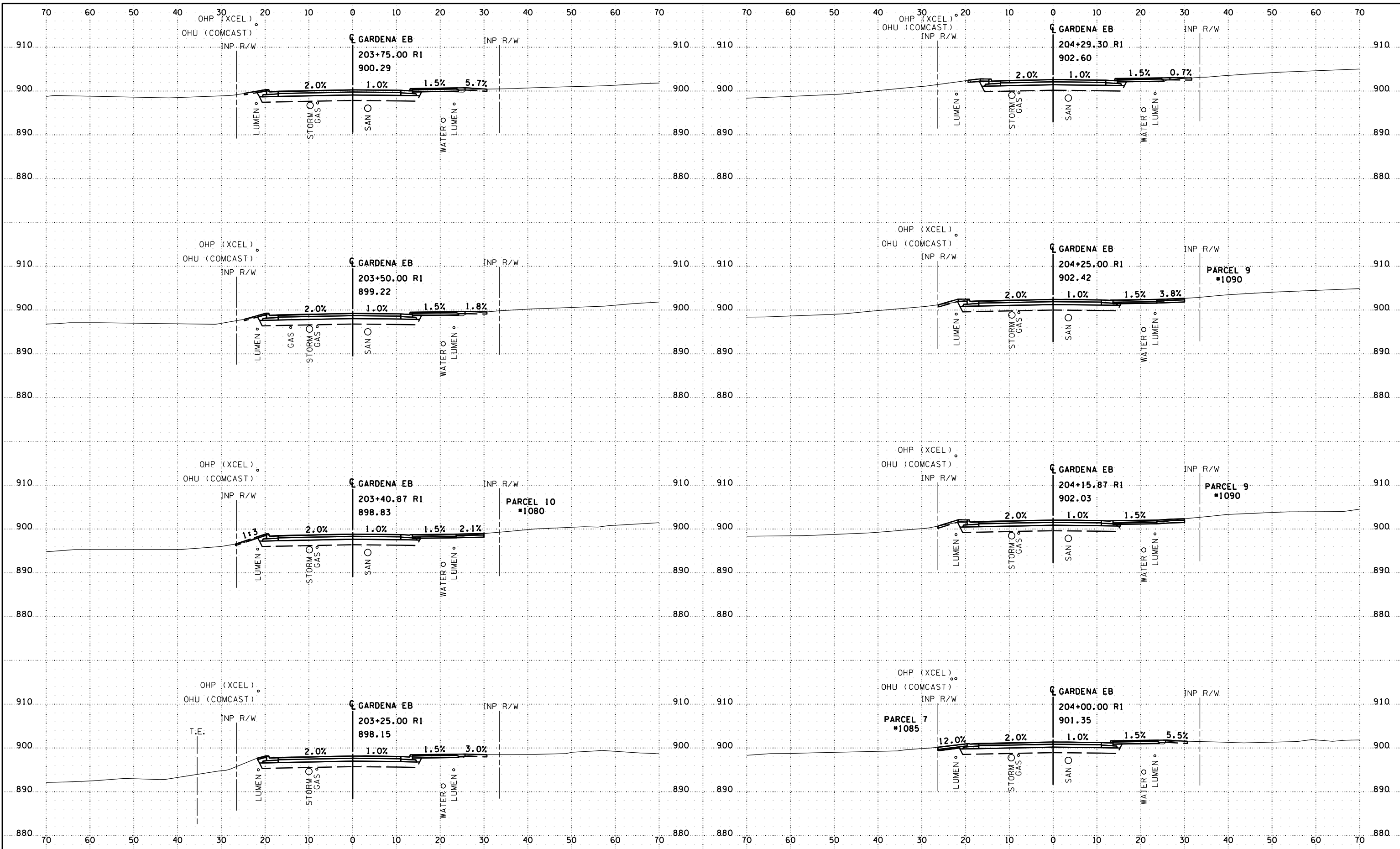


ANOKA COUNTY, MINNESOTA
 GARDENA AVENUE NE
CROSS SECTIONS
 SP 002-635-012, SP 127-020-033

SHEET **X7** OF **X8** SHEETS

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WSB PATH & FILENAME: Projects\Minnesota\018314-000\Proposed\18314-000_wsht_Corona.dgn



NO.	DATE	BY	CHK	REVISIONS

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



CSAH 35 at Gardena Ave Intersection Improvements
 Anoka County Highway Department

ANOKA COUNTY, MINNESOTA
 GARDENA AVENUE NE
CROSS SECTIONS
 SP 002-635-012, SP 127-020-033

SHEET **X8**
 OF **X8**
 SHEETS