

GENERAL NOTES

2

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE SEEDED (USE SEEDING NURSE CROP AND SEEDING MIXTURE NO. 75 UPDATED) AND MULCHED OR EROSION MAT AS DIRECTED BY THE ENGINEER.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

FILL EXPANSION IS VARIABLE AND IS ESTIMATES AT 25%.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS, IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS, OR WATERWAYS.

THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER IN THE FIELD.

ASPHALTIC SURFACE QUANTITIES WERE CALCULATED USING 112 LB/SY/IN.

CURVE DATA IS BASED ON THE ARC DEFINITIONS.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

CONTACTS

WISDOT:

WISCONSIN DEPARTMENT OF TRANSPORTATION
718 W. CLAIREMONT AVE.
EAU CLAIRE, WI 54701
ATTN: TOU YANG, P.E.
PHONE: (715) 833-5570
EMAIL: tou.yang@dot.wi.gov

TOWNSHIP OF HIXTON:

TONY LIEN, TOWN CHAIRMAN
W13298 SAND PRAIRIE ROAD
HIXTON, WI 54635
PHONE: (715) 299-7788
EMAIL: tlienfarms@gmail.com

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.
3406 OAKWOOD HILLS PARKWAY, SUITE 300
EAU CLAIRE, WI 54701
ATTN: DAN GERLING, P.E.
PHONE: (715) 900-2602
EMAIL: daniel.gerling@jewellassoc.com

DNR LIAISON:

STATE OF WISCONSIN
DNR SERVICE CENTER AT BLACK RIVER FALLS
910 HWY 54 E
BLACK RIVER FALLS, WI 54615
ATTN: BRADLEY BETTHAUSER
PHONE: (715) 213-9064
EMAIL: Bradley.Betthauer@wisconsin.gov

UTILITIES

ELECTRIC

XCEL ENERGY
ATTN: JOHN KELSER
1414 W HAMILTON AVE
P.O. BOX 8
EAU CLAIRE, WI 54702
PHONE: (715) 737-6020
EMAIL: john.kelser@xcelenergy.com

COMMUNICATION

BRIGHTSPEED
ATTN: BRIAN STEPLUGH
333 N FRONT ST
LA CROSSE, WI 54601
CELL: (980) 376-1557
EMAIL: brian.steplugh@brightspeed.com



LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment	INV	Invert	SALV	Salvaged
AC	Acre	IP	Iron Pipe or Pin	SAN S	Sanitary Sewer
AGG	Aggregate	IRS	Iron Rod Set	SEC	Section
AH	Ahead	JT	Joint	SHLDR	Shoulder
<	Angle	JCT	Junction	SHR	Shrinkage
ASPH	Asphaltic	LHF	Left-Hand Forward	SW	Sidewalk
AVG	Average	L	Length of Curve	S	South
ADT	Average Daily Traffic	LIN FT or LF	Linear Foot	SQ	Square
BAD	Base Aggregate Dense	LC	Long Chord of Curve	SF or SQ FT	Square Feet
BK	Back	MH	Manhole	SY or SQ YD	Square Yard
BF	Back Face	MB	Mailbox	STD	Standard
BM	Bench Mark	ML or M/L	Match Line	SDD	Standard Detail Drawings
BR	Bridge	N	North	STH	State Trunk Highways
C or C/L	Center Line	Y	North Grid Coordinate	STA	Station
CC	Center to Center	O.A.L.	Overall Length	SS	Storm Sewer
CTH	County Trunk Highway	OD	Outside Diameter	SG	Subgrade
CR	Creek	PLE	Permanent Limited Easement Point	SE	Superelevation
CR	Crushed	PT	Point of Curvature	SL or S/L	Survey Line
CY or CU YD	Cubic Yard	PC	Point of Intersection	SV	Septic Vent
CP	Culvert Pipe	PI	Point of Reverse Curvature	TEL	Telephone
C & G	Curb and Gutter	PRC	Point of Tangency	TEMP	Temporary
D	Degree of Curve	PT	Point On Curve	TI	Temporary Interest
DHV	Design Hour Volume	POC	Point on Tangent	TLE	Temporary Limited Easement
DIA	Diameter	POT	Polyvinyl Chloride	t	Ton
E	East	PVC	Portland Cement Concrete	TRANS	Transition
X	East Grid Coordinate	PCC	Pound	T or TN	Town
ELEC	Electric (al)	LB	Pounds Per Square Inch	TL or T/L	Transit Line
EL or ELEV	Elevation	PSI	Private Entrance	T	Trucks (percent of)
ESALS	Equivalent Single Axle Loads	PE	Radius	TYP	Typical
EBS	Excavation Below Subgrade	R	Railroad	UNCL	Unclassified
ESTR	Existing Sign to Remain	RR	Range	UG	Underground Cable
FF	Face to Face	R	Reference Line	USH	United States Highway
FE	Field Entrance	RL or R/L	Reference Point	VAR	Variable
F	Fill	RP	Reinforced Concrete Culvert	V	Velocity or Design Speed
FG	Finished Grade	RCCP	Pipe	VERT	Vertical
FL or F/L	Flow Line	REQ'D	Required	VC	Vertical Curve
FT	Foot	RES	Residence or Residential	VOL	Volume
FTG	Footing	RW	Retaining Wall	WM	Water Main
GN	Grid North	RT	Right	WV	Water Valve
HT	Height	RHF	Right-Hand Forward	W	West
CWT	Hundredweight	R/W	Right-of-Way	WB	Westbound
HYD	Hydrant	R	River	YD	Yard
INL	Inlet	RD	Road		
ID	Inside Diameter	RDWY	Roadway		

LAND USE	HYDROLOGIC SOIL GROUP					
	A		B		C	
	SLOPE RANGE (PERCENT)		SLOPE RANGE (PERCENT)		SLOPE RANGE (PERCENT)	
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44
MEDIAN STRIP TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.20 .33
SIDE SLOPE TURF			.25 .32		.27 .34	.28 .36
PAVEMENT						
ASPHALT						.70 - .95
CONCRETE						.80 - .95
BRICK						.70 - .80
DRIVES, WALKS						.75 - .85
ROOFS						.75 - .95
GRAVEL ROADS, SHOULDERS						.40 - .60

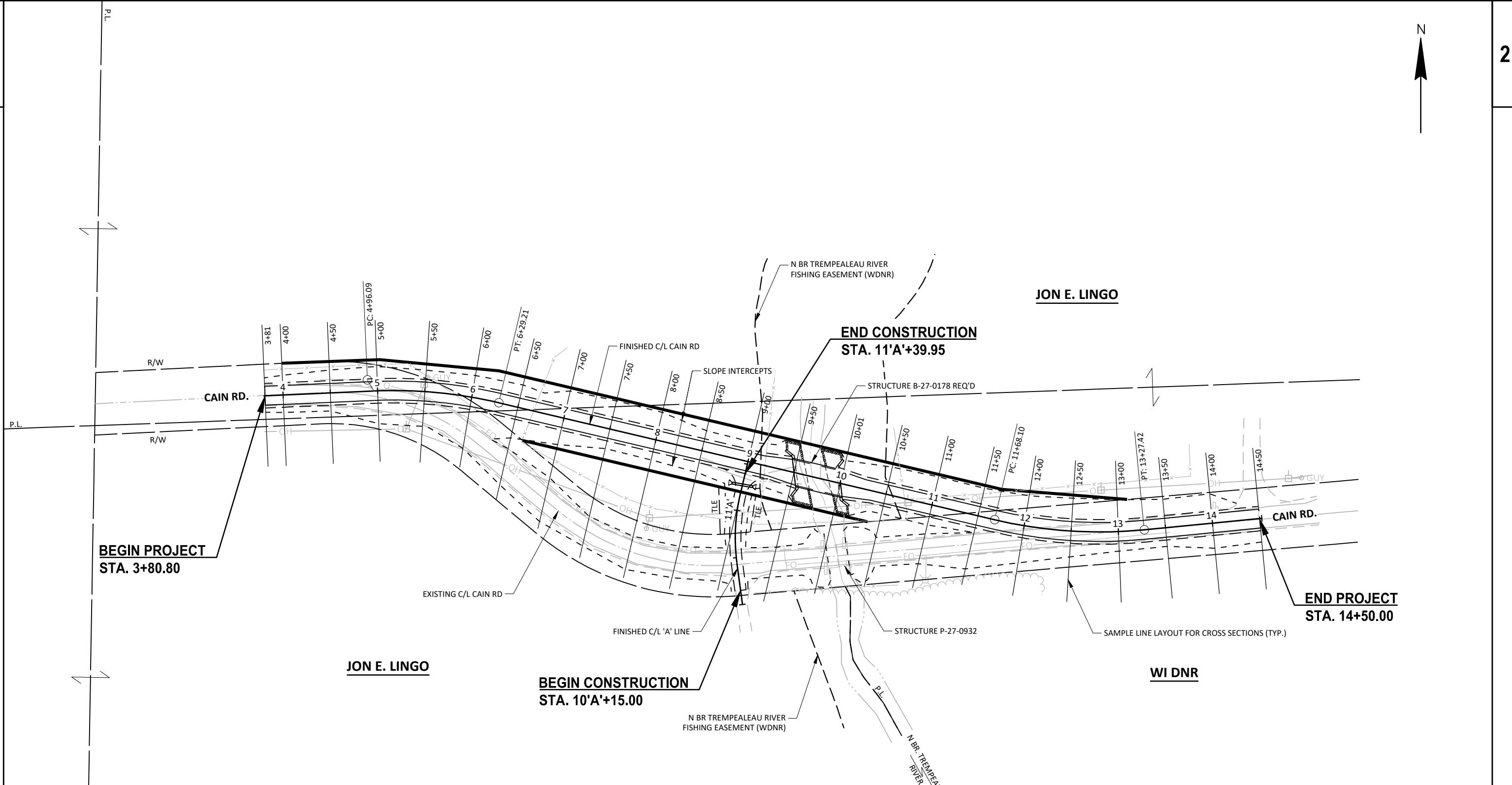
TOTAL PROJECT AREA = 2.58 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.81 ACRES

2

P.L.

2



PROJECT NO: 7250-00-70

HWY: CAIN ROAD

COUNTY: JACKSON

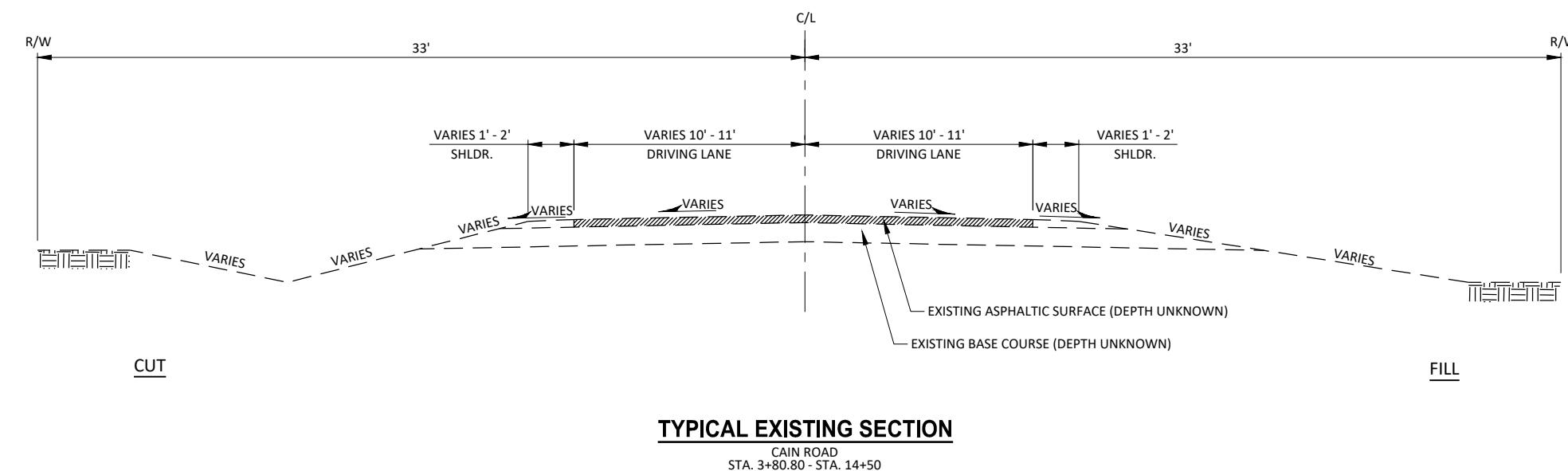
PROJECT OVERVIEW & SAMPLE LINE LAYOUT

SHEET

E

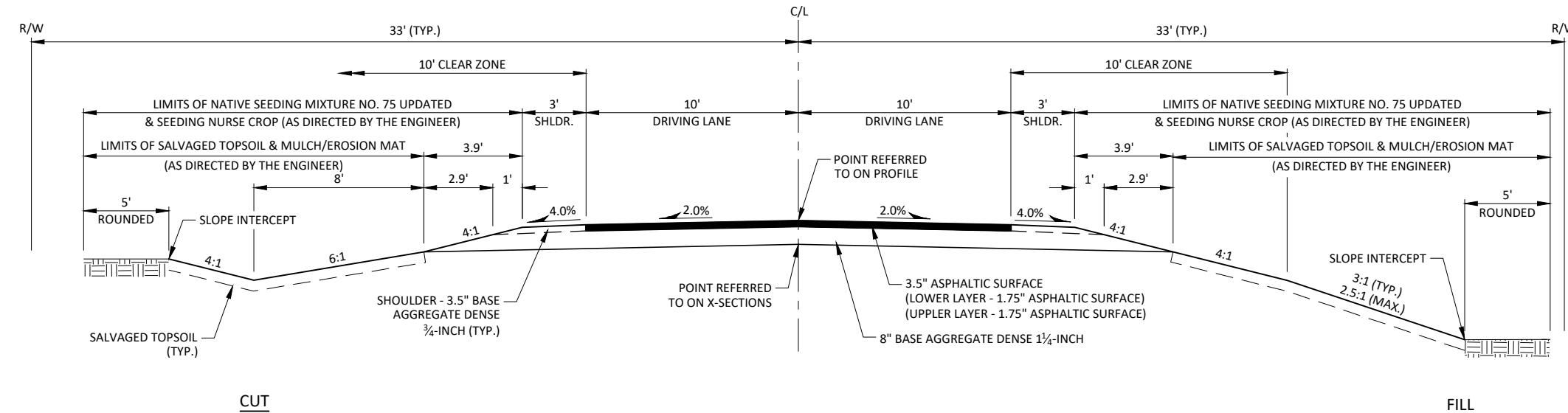
2

2



2

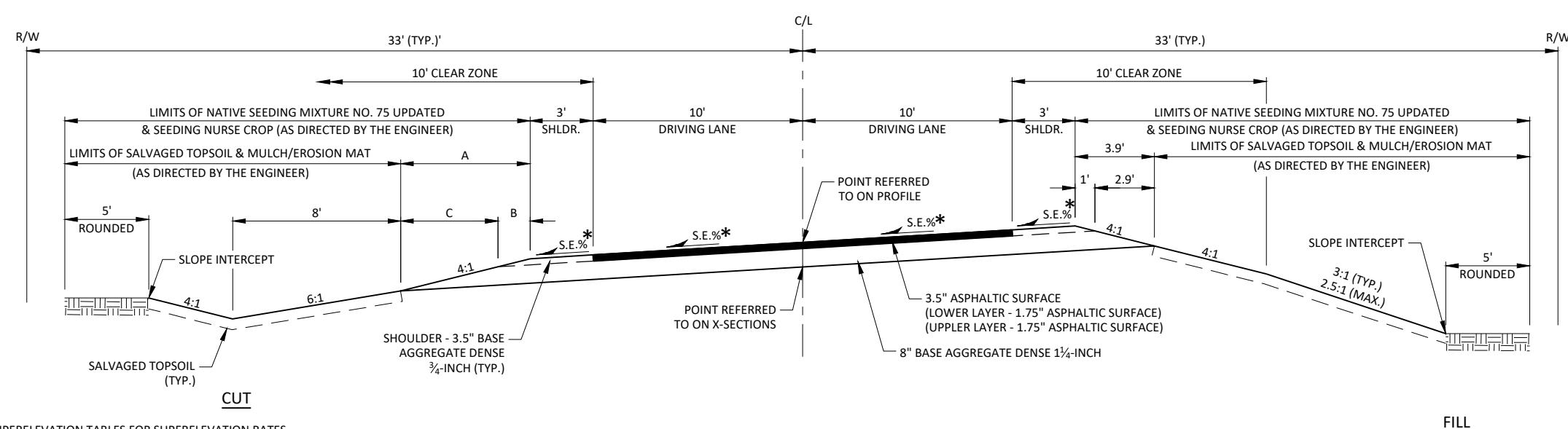
2



TYPICAL FINISHED SECTION

CAIN ROAD
STA 7+53 - STA 10+44

SUPERELEVATION TABLE - CURVE 1						
STATION	LEFT(%)	RIGHT(%)	A (FT)	B (FT)	C (FT)	
3+80	MATCH EXISTING	MATCH EXISTING	3.9	1.0	2.9	
4+00	0.7	2.0	3.9	1.0	2.9	
4+13	0.0	2.0	3.9	1.0	2.9	
4+50	1.8	2.0	3.9	1.0	2.9	
4+54	2.0	2.0	3.9	1.0	2.9	
5+00	4.2	4.2	4.6	1.4	4.2	
5+37	6.0	6.0	5.0	1.5	3.5	



* S.E. - SEE SUPERELEVATION TABLES FOR SUPERELEVATION RATES

A/B/C - SEE SUPERELEVATION TABLES FOR DIMENSIONS

CURVE TO THE LEFT IS SHOWN. CURVE TO THE RIGHT IS MIRROR IMAGE.

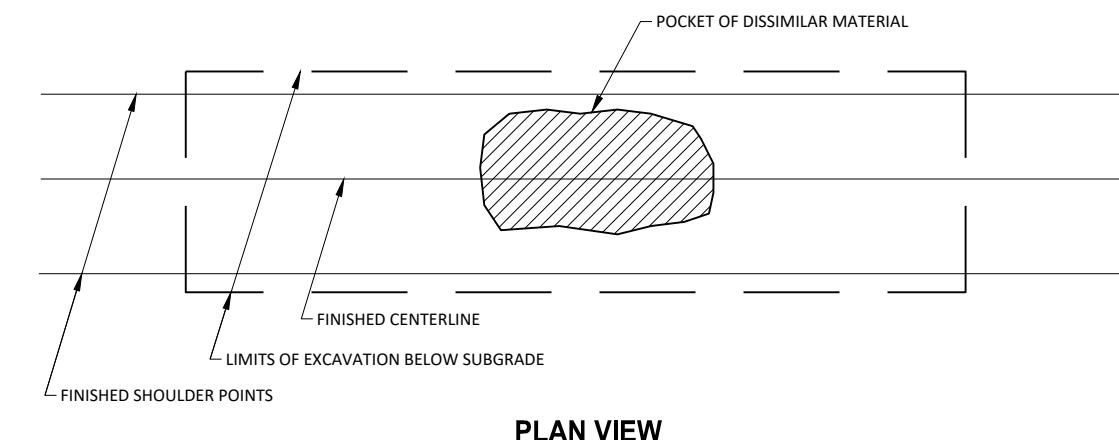
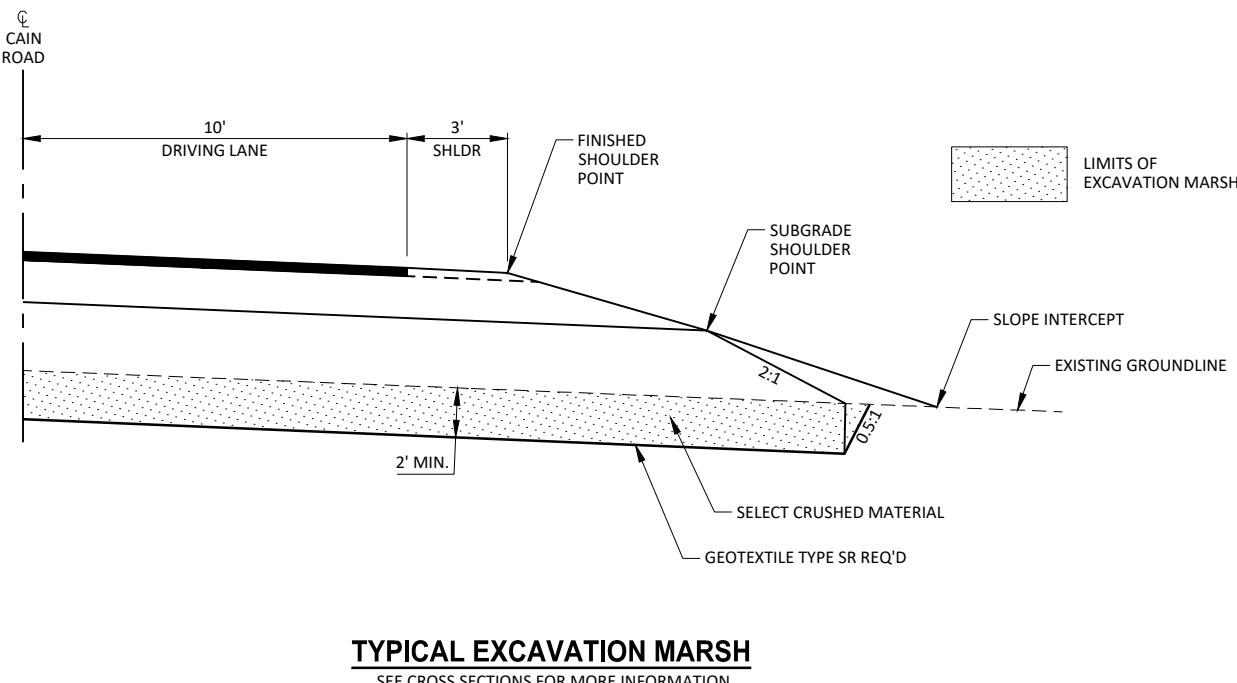
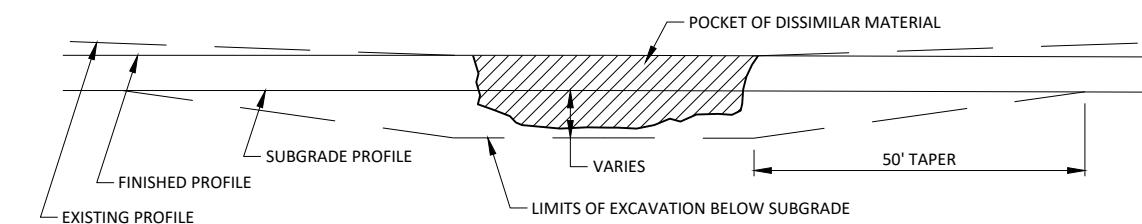
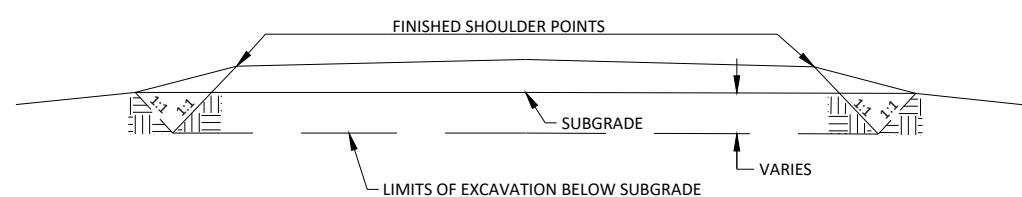
THE LOW SIDE SHOULDER SLOPE ON THE SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION WHEN THE SUPERELEVATION IS GREATER THAN 0.04 FT./FT. IF THE SUPERELEVATION IS LESS THAN OR EQUALS 0.04 FT./FT., THEN THE LOW SIDE SHOULDER SLOPE IS 0.04 FT./FT. AND THE HIGH SIDE SHOULDER SLOPE ON THE SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION.

NOTE: CUT SECTION: 4:1 (FORESLOPE)/4:1 (BACKSLOPE):
STA. 10+50 - STA. 11+00, LT.

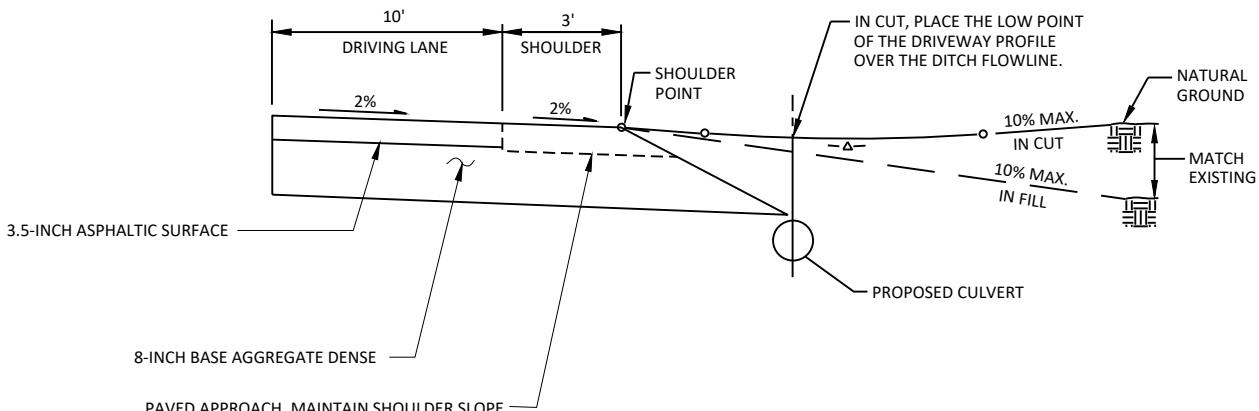
TYPICAL FINISHED SUPERELEVATED SECTION

CAIN ROAD
STA. 3+80 - STA. 7+53
STA. 10+44 - STA. 14+50

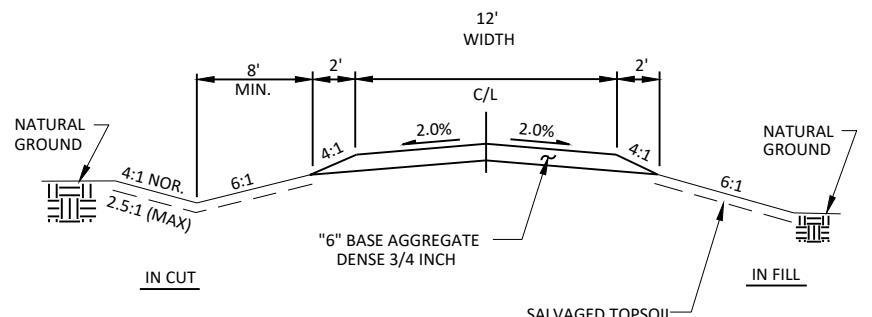
STATION	LEFT(%)	RIGHT(%)	A (FT)	B (FT)	C (FT)
10+44	2.0	2.0	3.9	1.0	2.9
10+50	2.0	1.7	3.9	1.0	2.9
10+85	2.0	0.0	3.9	1.0	2.9
11+00	2.0	0.7	3.9	1.0	2.9
11+27	2.0	2.0	3.9	1.0	2.9
11+50	3.1	3.1	4.3	1.2	3.1
12+09	6.0	6.0	5.0	1.5	3.5
FULL SUPERELEVATION					
12+83	6.0	6.0	5.0	1.5	3.5
13+00	5.2	5.2	4.8	1.2	3.6
13+24	4.0	4.0	4.6	1.4	3.2
13+50	2.7	2.7	4.1	1.1	3.0
13+65	2.0	2.0	3.9	1.0	2.9
14+00	2.0	0.3	3.9	1.0	2.9
14+50	MATCH EXISTING	MATCH EXISTING	3.9	1.0	2.9

**PLAN VIEW****PROFILE VIEW****EXCAVATION BELOW SUBGRADE (E.B.S.) DETAIL****CROSS SECTION VIEW**

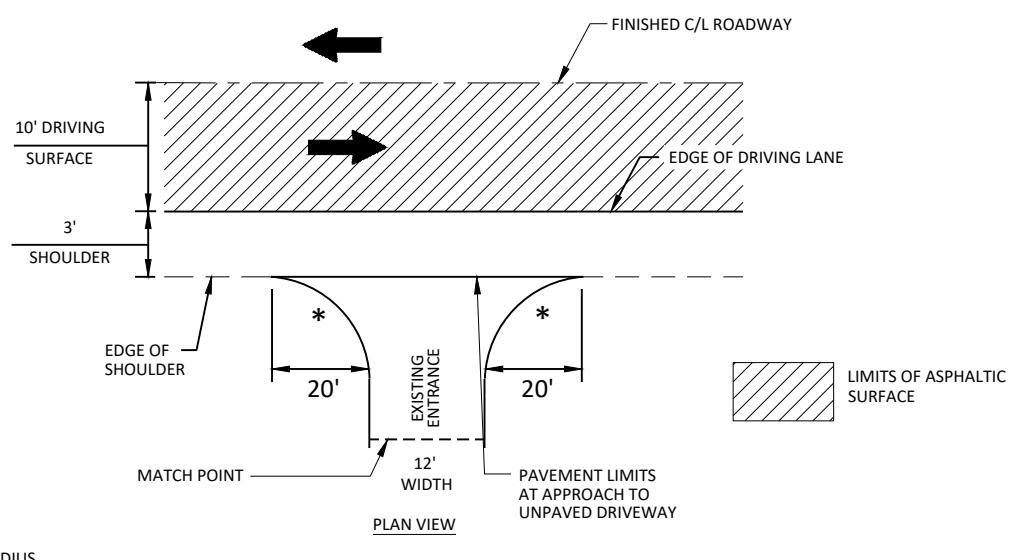
1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.



TYPICAL RURAL ENTRANCE PROFILES



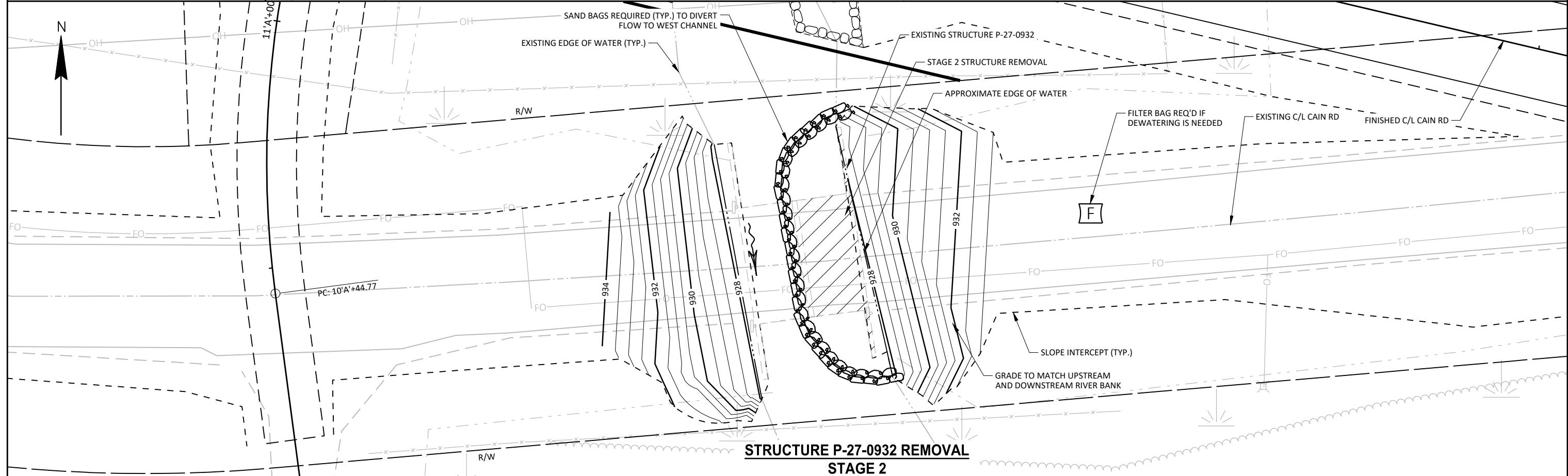
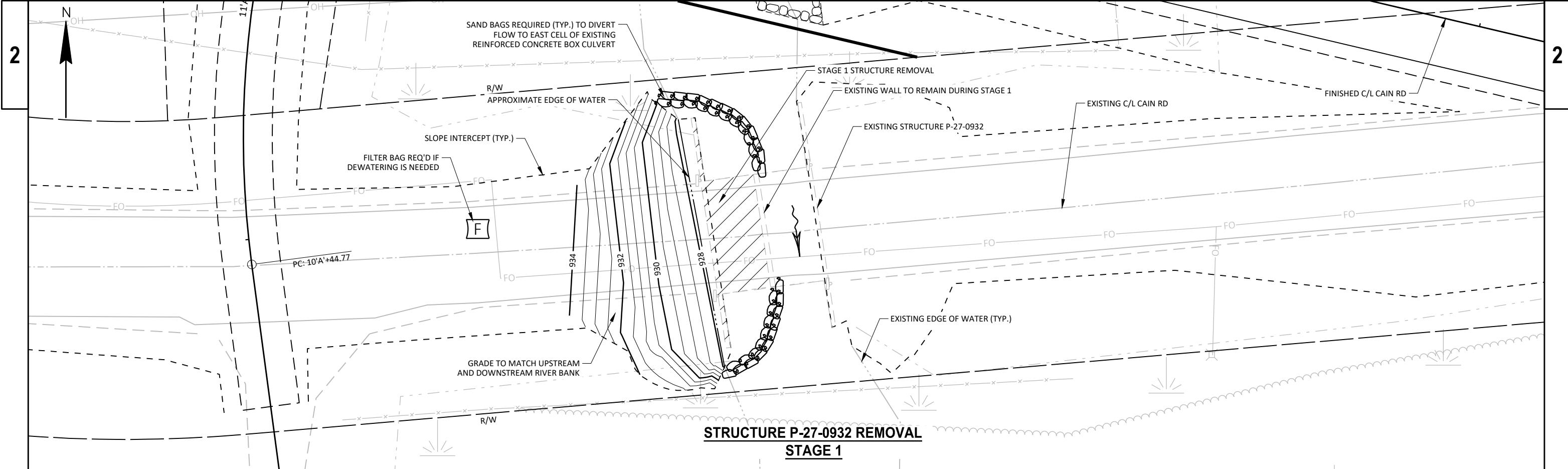
TYPICAL CROSS-SECTION FOR RURAL ENTRANCE

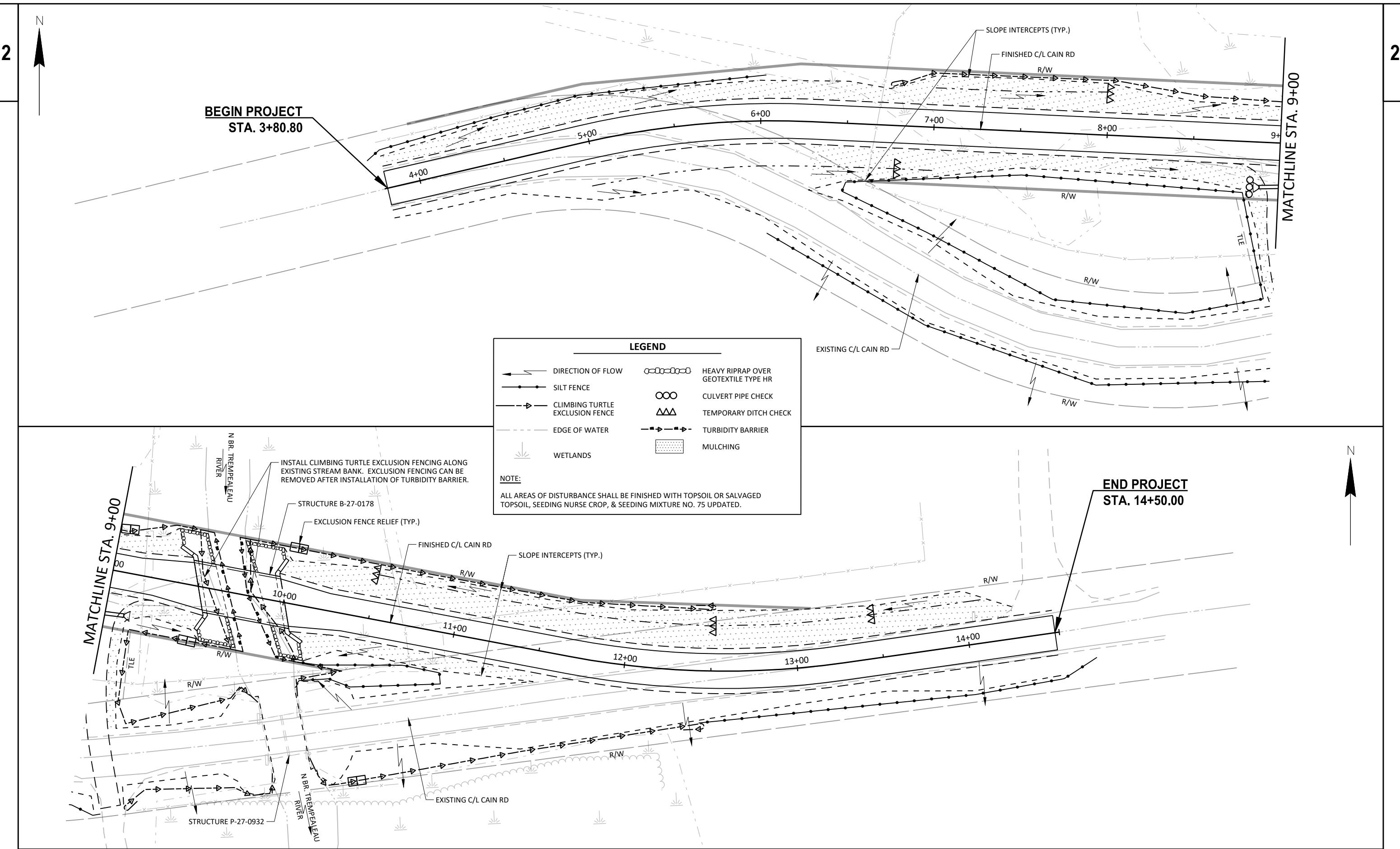


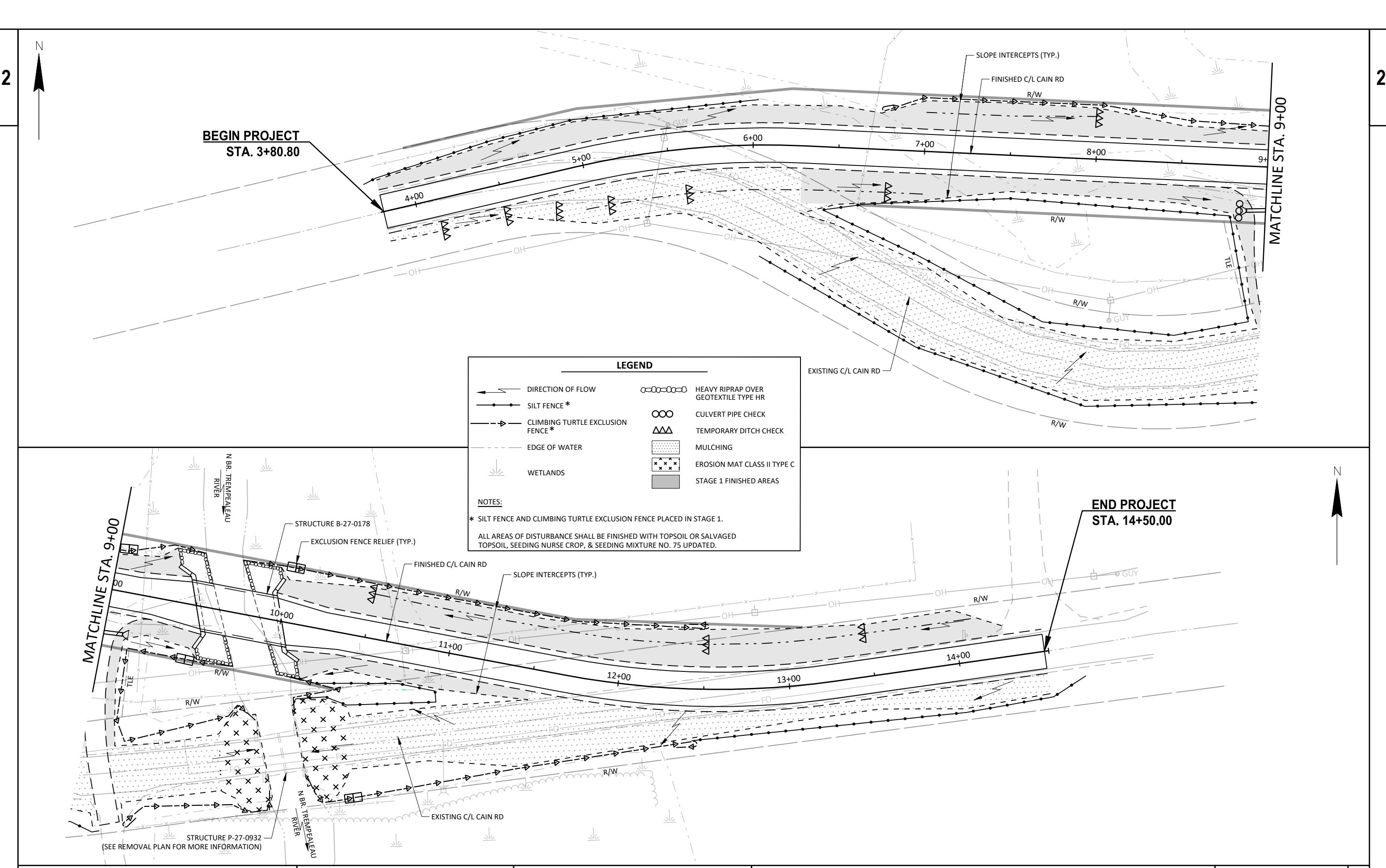
* RADIUS

RURAL ENTRANCE DETAIL

STA. 9+00
'A'-LINE

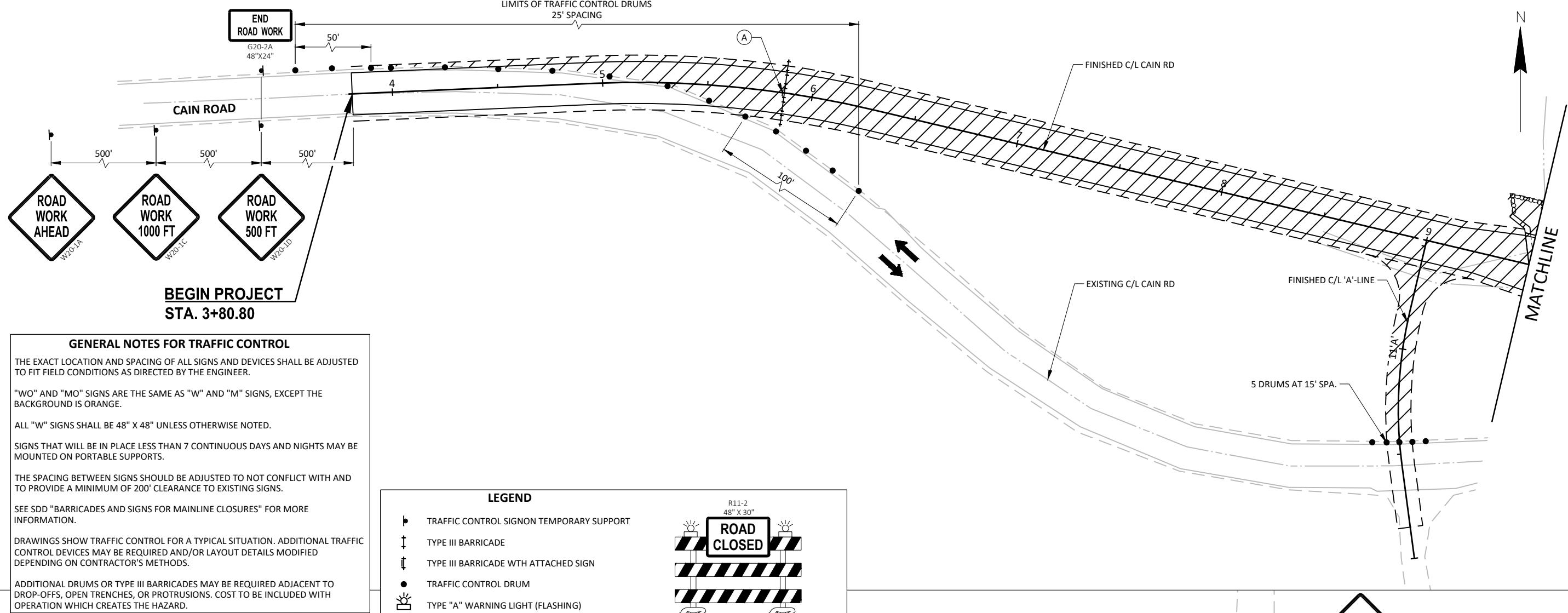






2

2



GENERAL NOTES FOR TRAFFIC CONTROL

THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS, EXCEPT THE BACKGROUND IS ORANGE.

ALL "W" SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200' CLEARANCE TO EXISTING SIGNS.

SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR MORE INFORMATION.

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR'S METHODS.

ADDITIONAL DRUMS OR TYPE III BARRICADES MAY BE REQUIRED ADJACENT TO DROP-OFFS, OPEN TRENCHES, OR PROTRUSIONS. COST TO BE INCLUDED WITH OPERATION WHICH CREATES THE HAZARD.

LEGEND

- ▶ TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- ‡ TYPE III BARRICADE
- ‡ TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- ⚠ TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA (STAGE 1)
- DIRECTION OF TRAFFIC



PROJECT NO: 7250-00-70

HWY: CAIN ROAD

COUNTY: JACKSON

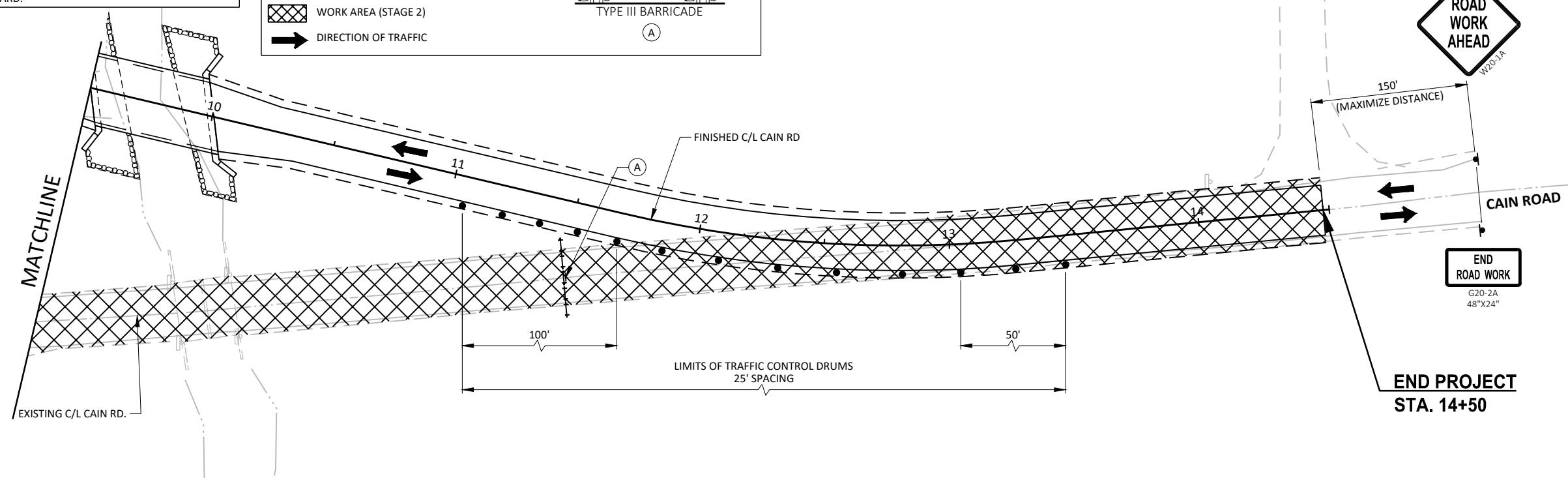
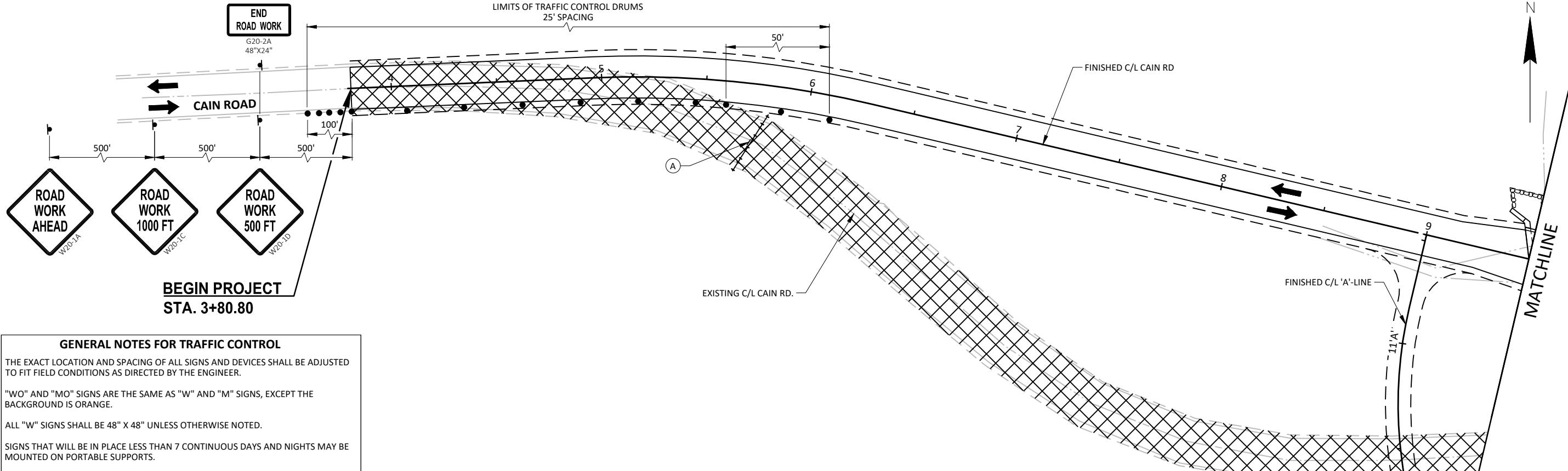
TRAFFIC CONTROL - STAGE 1

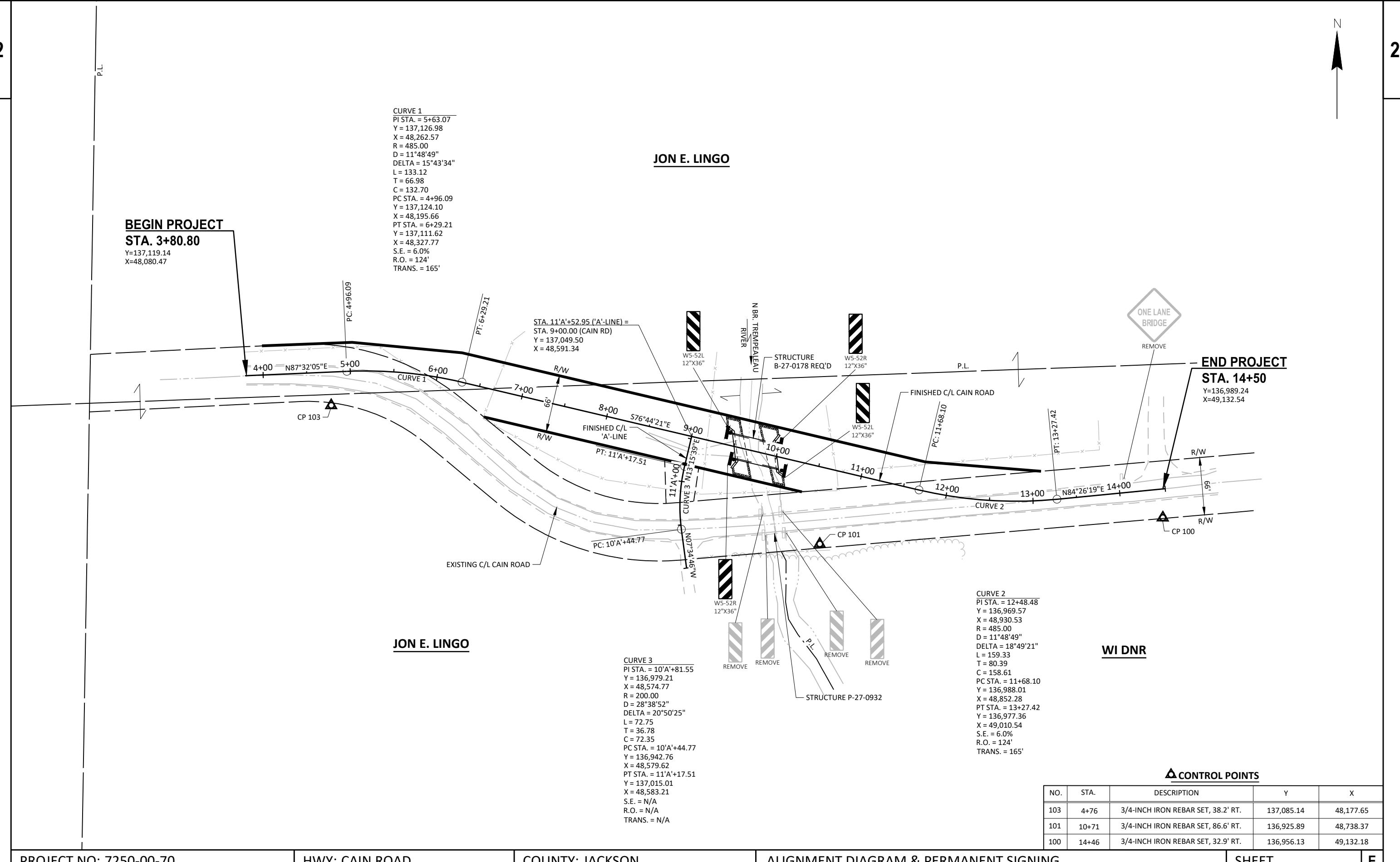
SHEET

8

2

2





Estimate Of Quantities

7250-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	2.000	2.000
0004	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. P-27-0932	EACH	1.000	1.000
0006	204.0170	Removing Fence	LF	100.000	100.000
0008	205.0100	Excavation Common	CY	1,600.000	1,600.000
0010	205.0400	Excavation Marsh	CY	790.000	790.000
0012	206.1001	Excavation for Structures Bridges (structure) 01. B-27-0178	EACH	1.000	1.000
0014	208.1100	Select Borrow	CY	1,550.000	1,550.000
0016	210.1500	Backfill Structure Type A	TON	332.000	332.000
0018	213.0100	Finishing Roadway (project) 01. 7250-00-70	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	250.000	250.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,610.000	1,610.000
0024	312.0110	Select Crushed Material	TON	2,245.000	2,245.000
0026	455.0605	Tack Coat	GAL	115.000	115.000
0028	465.0105	Asphaltic Surface	TON	475.000	475.000
0030	502.0100	Concrete Masonry Bridges	CY	163.000	163.000
0032	502.3200	Protective Surface Treatment	SY	220.000	220.000
0034	505.0400	Bar Steel Reinforcement HS Structures	LB	4,420.000	4,420.000
0036	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	27,360.000	27,360.000
0038	513.4061	Railing Tubular Type M	LF	106.000	106.000
0040	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0042	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	2.000	2.000
0044	521.3124	Culvert Pipe Corrugated Steel 24-Inch	LF	22.000	22.000
0046	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,120.000	1,120.000
0048	606.0300	Riprap Heavy	CY	150.000	150.000
0050	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	144.000	144.000
0052	618.0100	Maintenance and Repair of Haul Roads (project) 01. 7250-00-70	EACH	1.000	1.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	624.0100	Water	MGAL	28.000	28.000
0058	625.0100	Topsoil	SY	2,405.000	2,405.000
0060	625.0500	Salvaged Topsoil	SY	3,380.000	3,380.000
0062	627.0200	Mulching	SY	5,435.000	5,435.000
0064	628.1504	Silt Fence	LF	1,780.000	1,780.000
0066	628.1520	Silt Fence Maintenance	LF	3,560.000	3,560.000
0068	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0070	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0072	628.2027	Erosion Mat Class II Type C	SY	350.000	350.000
0074	628.6005	Turbidity Barriers	SY	220.000	220.000
0076	628.7504	Temporary Ditch Checks	LF	125.000	125.000
0078	628.7555	Culvert Pipe Checks	EACH	3.000	3.000
0080	630.0400	Seeding Nurse Crop	LB	44.000	44.000
0082	630.0500	Seed Water	MGAL	130.000	130.000
0084	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0086	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0088	638.2602	Removing Signs Type II	EACH	5.000	5.000
0090	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0092	642.5001	Field Office Type B	EACH	1.000	1.000
0094	643.0300	Traffic Control Drums	DAY	3,305.000	3,305.000
0096	643.0420	Traffic Control Barricades Type III	DAY	1,130.000	1,130.000
0098	643.0705	Traffic Control Warning Lights Type A	DAY	2,260.000	2,260.000

Estimate Of Quantities

7250-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	643.0900	Traffic Control Signs	DAY	904.000	904.000
0102	643.5000	Traffic Control	EACH	1.000	1.000
0104	645.0111	Geotextile Type DF Schedule A	SY	92.000	92.000
0106	645.0120	Geotextile Type HR	SY	280.000	280.000
0108	645.0220	Geogrid Type SR	SY	960.000	960.000
0110	650.4500	Construction Staking Subgrade	LF	1,145.000	1,145.000
0112	650.5000	Construction Staking Base	LF	1,145.000	1,145.000
0114	650.6501	Construction Staking Structure Layout (structure) 01. B-27-0178	EACH	1.000	1.000
0116	650.9911	Construction Staking Supplemental Control (project) 01. 7250-00-70	EACH	1.000	1.000
0118	650.9920	Construction Staking Slope Stakes	LF	1,145.000	1,145.000
0120	690.0150	Sawing Asphalt	LF	44.000	44.000
0122	715.0502	Incentive Strength Concrete Structures	DOL	978.000	978.000
0124	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. Sta. 10+20	EACH	1.000	1.000
0126	999.2100.S	Installing and Maintaining Climbing Turtle Exclusion Fence	LF	1,360.000	1,360.000
0128	SPV.0085	Special 01. Seeding Mixture No. 75 Updated	LB	17.000	17.000
0130	SPV.0195	Special 01. Select Crushed Material for Travel Corridor	TON	65.000	65.000

EARTHWORK SUMMARY

CATEGORY	STAGE	STATION - STATION	LOCATION	205.0100 COMMON EXCAVATION CUT (1) (CY)	AVAILABLE MATERIAL (2) (CY)	205.0400 MARSH EXCAVATION (3) (CY)	UNEXPANDED FILL (CY)	EXPANDED FILL (4) (CY) FACTOR (1.25)	MASS ORDINATE +/- (CY) (5)	208.1100 SELECT BORROW (CY)	WASTE (CY)
10	1	7+00 - 12+50	MAINLINE	90	90	649	1,043	1,304	-1,214	1,214	649
10	1	7+00 - 12+50	MAINLINE (UNDISTRIBUTED)	0	0	100	0	0	0	0	100
10	1	10'A'+15 - 11'A'+40	'A'-LINE	0	0	0	120	150	-150	150	0
10	2	7+00 - 12+50	MAINLINE	545	545	0	0	0	545	0	545
10	2	9+75 - 10+50	EXISTING STRUCTURE REMOVAL (6)	275	275	0	0	0	275	0	275

CATEGORY 0010 SUBTOTALS = 910 910 749 1,163 1,454 1,364 1,569

30	1	3+80 - 7+00	MAINLINE	70	70	41	205	256	-186	186	41
30	1	12+50 - 14+50	MAINLINE	0	0	0	0	0	0	0	0
30	2	3+80 - 7+00	MAINLINE	380	380	0	0	0	380	0	380
30	2	12+50 - 14+50	MAINLINE	240	240	0	19	24	216	0	216

CATEGORY 0030 SUBTOTALS = 690 690 41 224 280 186 637

PROJECT TOTALS = 1,600 1,600 790 1,387 1,734 1,550 2,206

NOTES:

- 1.) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- 2.) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL.
- 3.) MARSH EXCAVATION. ITEM NUMBER 205.0400. TO BE BACKFILLED WITH ITEM 312.0100.
- 4.) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL)*1.25
- 5.) THE MASS ORDINATE+ OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION
- 6.) EXISTING STRUCTURE REMOVAL GRADING IS NOT SHOWN ON THE CROSS SECTIONS OR EARTHWORK TABLES. SEE STRUCTURE REMOVAL PLAN FOR MORE INFORMATION.

GRUBBING

CATEGORY	STATION - STATION	LOCATION	201.0205
			(STA)
10	9+00 - 11+00	MAINLINE	2

CATEGORY 0010 SUBTOTAL = 2

PROJECT TOTAL = 2

REMOVING FENCE

CATEGORY	STATION - STATION	LOCATION	204.0170
			(LF)
30	9+15 - 10+75	MAINLINE	100

CATEGORY 0030 SUBTOTAL = 100

PROJECT TOTAL = 100

ASPHALTIC SURFACE

CATEGORY	STATION - STATION	LOCATION	455.0605
			TACK COAT (GAL)
10	7+00 - 9+50	MAINLINE	30 115
10	10+00 - 12+50	MAINLINE	30 120
10	PROJECT	BEHIND WINGWALLS	- 5

CATEGORY 0010 SUBTOTALS = 60 240

30	3+80 - 7+00	MAINLINE	465.0105
			ASPHALTIC SURFACE (TON)
30	12+50 - 14+50	MAINLINE	20 90

CATEGORY 0030 SUBTOTALS = 55 235

PROJECT TOTALS = 115 475

BASE AGGREGATE DENSE

305.0110 BASE AGGREGATE	305.0120 BASE AGGREGATE	312.0110 SELECT CRUSHED MATERIAL	645.0220 GEOGRID TYPE SR
DENSE 3/4-	DENSE 1 1/4-	624.0100 WATER (MGAL)	(SY)
10	40	385	975 6 520
10	40	390	870 7 370
10	-	-	285 - -
10	80	-	1 - -

CATEGORY 0010 SUBTOTALS = 160 775 2,130 14 890

CATEGORY 0030 SUBTOTALS = 55 835 115 14 70

PROJECT TOTALS = 250 1,610 2,245 28 960

3

CULVERT PIPES

521.1024 APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH

521.3124 CUVLERT PIPE CORRUGATED STEEL 24-INCH

CATEGORY	STATION - STATION	LOCATION	(EACH)	(LF)
10	11'A'+28	F.E.	2	22
		CATEGORY 0010 SUBTOTAL =	2	22
		PROJECT TOTAL =	2	22

EROSION CONTROL

CATEGORY	STATION - STATION	LOCATION	628.1504	628.1520	628.6005	628.7504	628.7555
			SILT FENCE (LF)	SILT FENCE MAINTENANCE (LF)	TURBIDITY BARRIERS (SY)	TEMPORARY DITCH CHECKS (LF)	CULVERT PIPE CHECKS (EACH)
10	7+00 - 12+50	MAINLINE STAGE 1	1,070	2,140	195	20	3
10	7+00 - 12+50	MAINLINE STAGE 2	-	-	-	-	-
10	-	UNDISTRIBUTED	160	320	25	5	-
		CATEGORY 0010 SUBTOTALS =	1,230	2,460	220	25	3
30	3+80 - 7+00	MAINLINE STAGE 1	475	950	-	10	-
30	12+50 - 14+50	MAINLINE STAGE 1	-	-	-	20	-
30	3+80 - 7+00	MAINLINE STAGE 2	-	-	-	50	-
30	12+50 - 14+50	MAINLINE STAGE 2	-	-	-	-	-
30	-	UNDISTRIBUTED	75	150	-	20	-
		CATEGORY 0030 SUBTOTALS =	550	1,100	-	100	-
		PROJECT TOTALS =	1,780	3,560	220	125	3

3

FINISHING ITEMS

CATEGORY	STATION - STATION	LOCATION	625.0100 TOPSOIL (SY)	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	628.2027 EROSION MAT CLASS II TYPE C (SY)	630.0400 SEEDING NURSE CROP (LB)	630.0500 SEED WATER (MGAL)	SPV.0085 SEEDING MIX TYPE 75 UPDATED (LB)
10	7+00 - 12+50	MAINLINE STAGE 1	1,310	-	1,310	-	10	30	4
10	7+00 - 12+50	MAINLINE STAGE 2	-	1,990	1,670	320	15	38	6
10	-	UNDISTRIBUTED	130	200	300	30	2	12	1
		CATEGORY 0010 SUBTOTALS =	1,440	2,190	3,280	350	27	80	11
30	3+80 - 7+00	MAINLINE STAGE 1	520	-	520	-	5	10	1
30	12+50 - 14+50	MAINLINE STAGE 1	355	-	355	-	2	10	1
30	3+80 - 7+00	MAINLINE STAGE 2	-	850	850	-	6	20	2
30	12+50 - 14+50	MAINLINE STAGE 2	-	230	230	-	2	5	1
30	-	UNDISTRIBUTED	90	110	200	-	2	5	1
		CATEGORY 0030 SUBTOTALS =	965	1,190	2,155	0	17	50	6
		PROJECT TOTALS =	2,405	3,380	5,435	350	44	130	17

MOBILIZATION EROSION CONTROL

628.1910 MOBILIZATION
628.1905 MOBILIZATION
MOBILIZATION EMERGENCY
EROSION EROSION
CONTROL CONTROL
CATEGORY PROJECT (EACH) (EACH)
10 7250-00-70 4 3
CATEGORY 0010 SUBTOTALS = 4 3
PROJECT TOTALS = 4 3

PERMANENT SIGNING

CATEGORY	SIGN NUMBER	APPROX. STATION	LOCATION	POSITION	SIGN CODE	SIGN DESCRIPTION	SIZE (INCH X INCH)	WOOD 4X6- INCH X 14-FT (EACH)	634.0614 POSTS	637.2230 SIGNS	638.2602 REMOVING SIGNS	638.3000 REMOVING SMALL SIGN SUPPORTS
									TYPE II (SF)	TYPE II (EACH)	TYPE II (EACH)	TYPE II (EACH)
10	1-00	9+42	MAINLINE	LEFT	W5-52L	BRIDGE HASH MARKS	12X36	1	3.00	-	-	-
10	1-01	9+53	MAINLINE	RIGHT	W5-52R	BRIDGE HASH MARKS	12X36	1	3.00	-	-	-
10	1-02	9+98	MAINLINE	LEFT	W5-52R	BRIDGE HASH MARKS	12X36	1	3.00	-	-	-
10	1-03R	10+00	68', RT.	RIGHT	W5-52L	BRIDGE HASH MARKS	-	-	-	1	1	1
10	1-04R	10+09	91', RT.	RIGHT	W5-52R	BRIDGE HASH MARKS	-	-	-	1	1	1
10	1-05	10+09	MAINLINE	RIGHT	W5-52L	BRIDGE HASH MARKS	12X36	1	3.00	-	-	-
10	1-06R	10+21	60', RT.	RIGHT	W5-52R	BRIDGE HASH MARKS	-	-	-	1	1	1
10	1-07R	10+31	83', RT.	RIGHT	W5-52L	BRIDGE HASH MARKS	-	-	-	1	1	1
10	1-08R	14+06	MAINLINE	LEFT	W5-3	ONE LANE BRIDGE	-	-	-	1	1	1
CATEGORY 0010 SUBTOTALS =								4	12.00	5	5	
PROJECT TOTALS =								4	12.00	5	5	

TRAFFIC CONTROL

CATEGORY	LOCATION	STAGE	CALENDAR DAY DURATION	643.0300	643.0420	643.0705	643.0900	643.5000
				TRAFFIC CONTROL DRUMS (COUNT)	TRAFFIC CONTROL BARRICADES TYPE III (COUNT)	TRAFFIC CONTROL WARNING LIGHTS TYPE A (COUNT)	TRAFFIC CONTROL SIGNS (COUNT)	TRAFFIC CONTROL (EACH)
10	MAINLINE	1	96	30	2,880	10	960	20
10	MAINLINE	2	17	25	425	10	170	20
10	PROJECT	-	-	-	-	-	-	1
CATEGORY 0010 TOTALS =				3,305	1,130	2,260	904	1
PROJECT TOTALS =				3,305	1,130	2,260	904	1

CONSTRUCTION STAKING

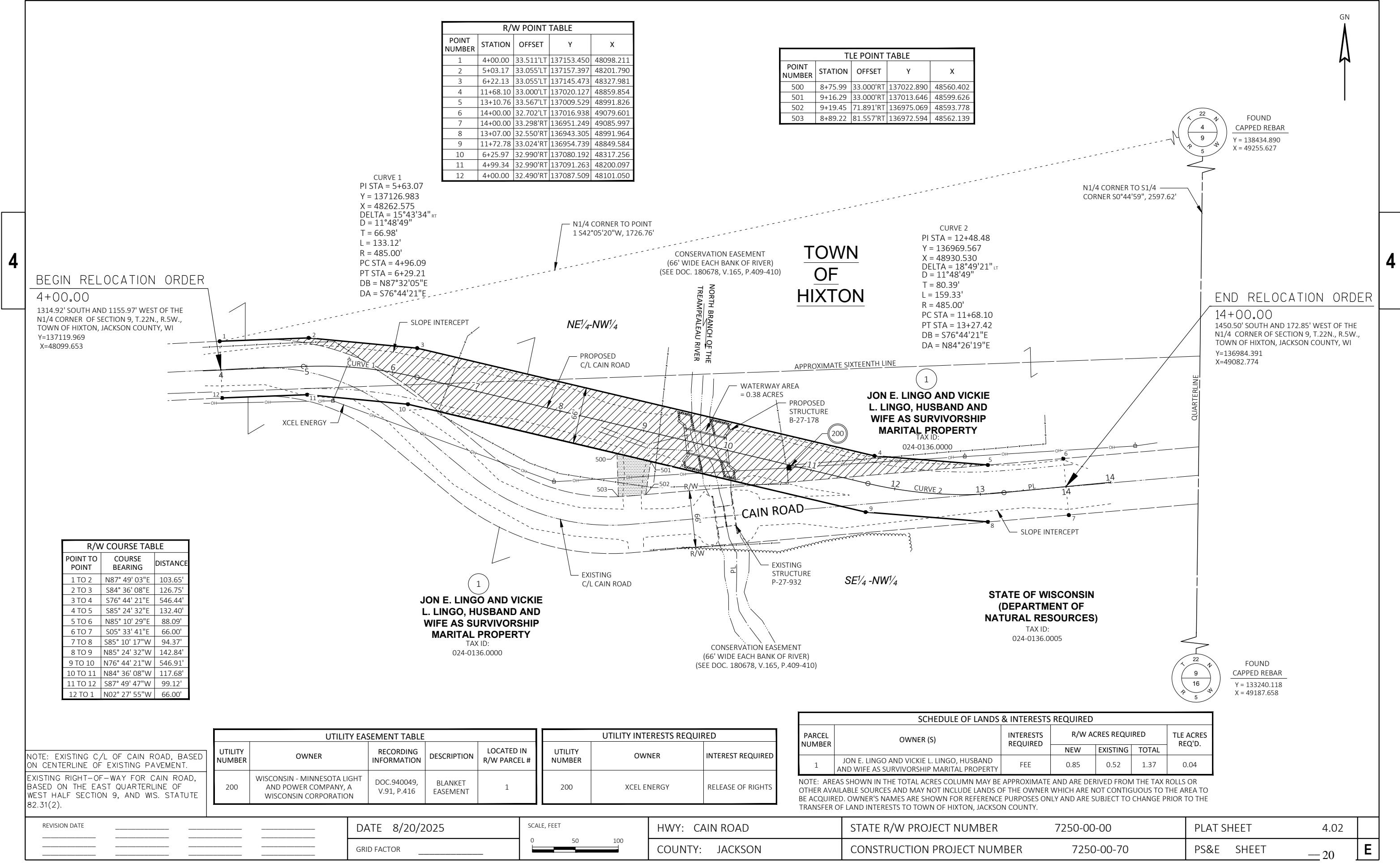
CATEGORY	STATION - STATION	LOCATION	650.4500	650.5000	650.6501	650.9911	650.9920
			SUBGRADE (LF)	BASE (LF)	STRUCTURE LAYOUT (01. B-27-0178)	SUPPLEMENTAL CONTROL (EACH)	SLOPE STAKES (LF)
10	7+00 - 9+50	MAINLINE	250	250	-	-	250
10	10+00 - 12+50	MAINLINE	250	250	-	-	250
10	10'A'+15 - 11'A'+40	A'-LINE	125	125	-	-	125
10	PROJECT	-	-	-	-	1	-
CATEGORY 0010 SUBTOTALS =				625	625	-	625
20	9+75	MAINLINE	-	-	1	-	-
CATEGORY 0020 SUBTOTALS =				-	-	1	-
30	3+80 - 7+00	MAINLINE	320	320	-	-	320
30	12+50 - 14+50	MAINLINE	200	200	-	-	200
CATEGORY 0030 SUBTOTALS =				520	520	-	520
PROJECT TOTALS =				1,145	1,145	1	1,145

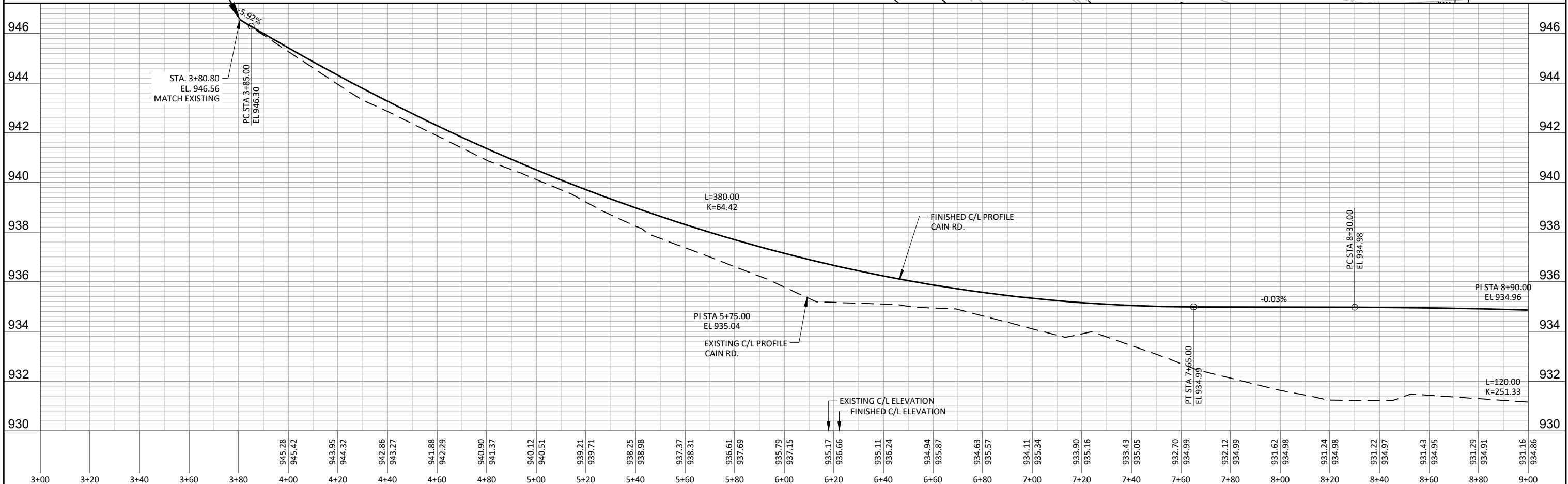
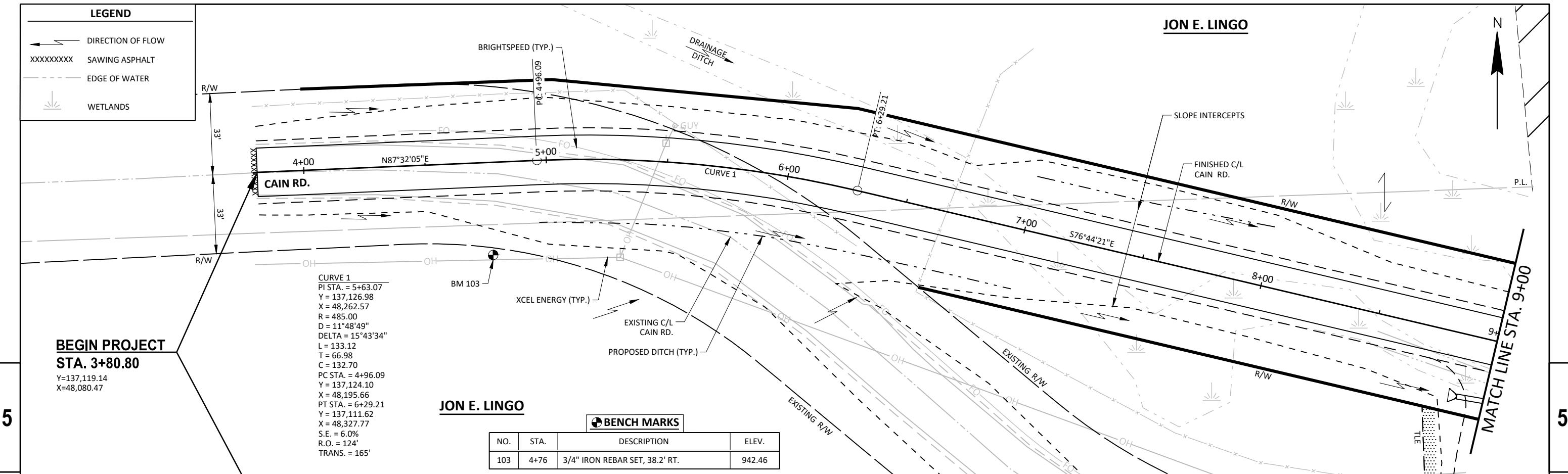
SAWING ASPHALT

CATEGORY	STATION - STATION	LOCATION	690.0150
			(LF)
10	3+80	MAINLINE	22
10	14+50	MAINLINE	22
CATEGORY 0010 SUBTOTAL =			44
PROJECT TOTAL =			44

INSTALLING AND MAINTAINING CLIMBING TURTLE EXCLUSION FENCE

CATEGORY	STATION - STATION	LOCATION	999.2100.S
			(LF)
10	6+75 - 10+00	MAINLINE	675
10	9+75 - 14+50	MAINLINE	685
CATEGORY 0010 SUBTOTAL =			1,360
PROJECT TOTAL =			1,360





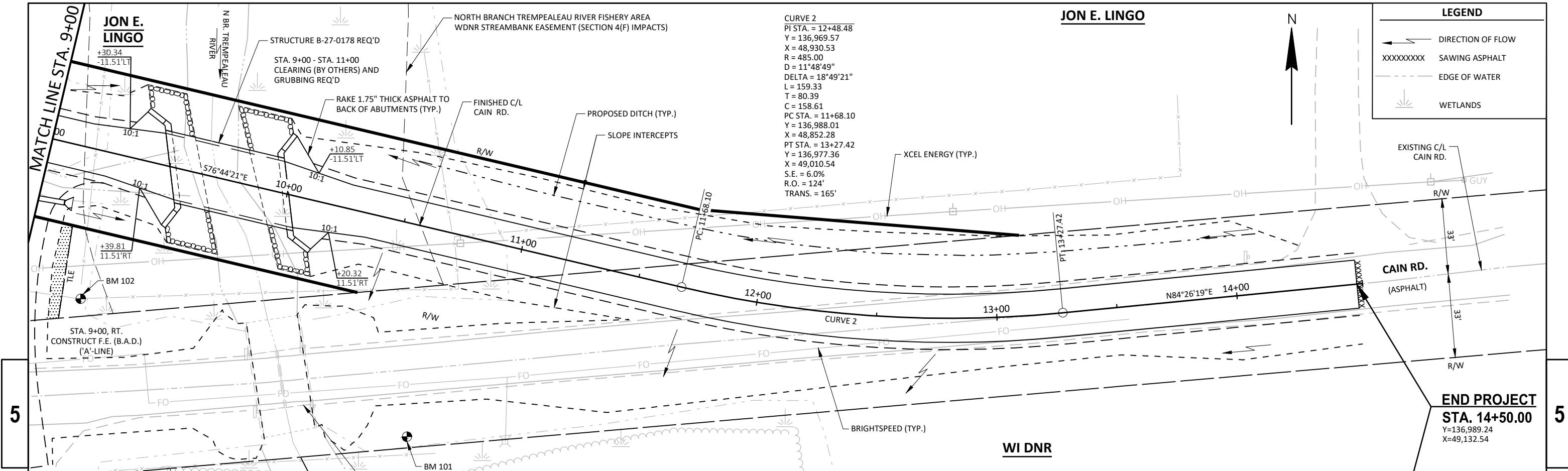
PROJECT NO: 7250-00-70

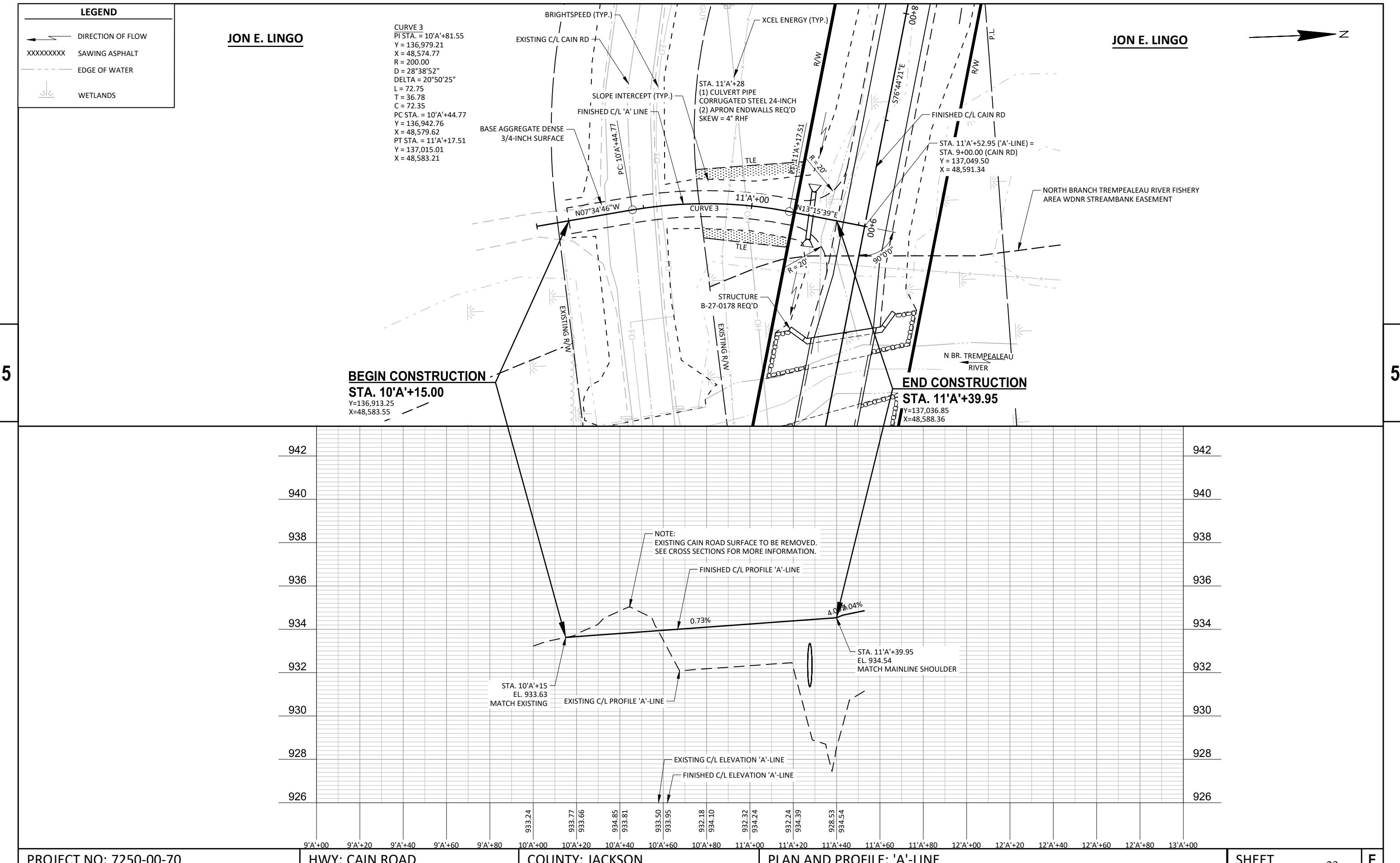
HWY: CAIN ROAD

COUNTY: JACKSON

PLAN AND PROFILE: MAINLINE

SHEET





PROJECT NO: 7250-00-70

HWY: CAIN ROA

COUNTY: JACKSON

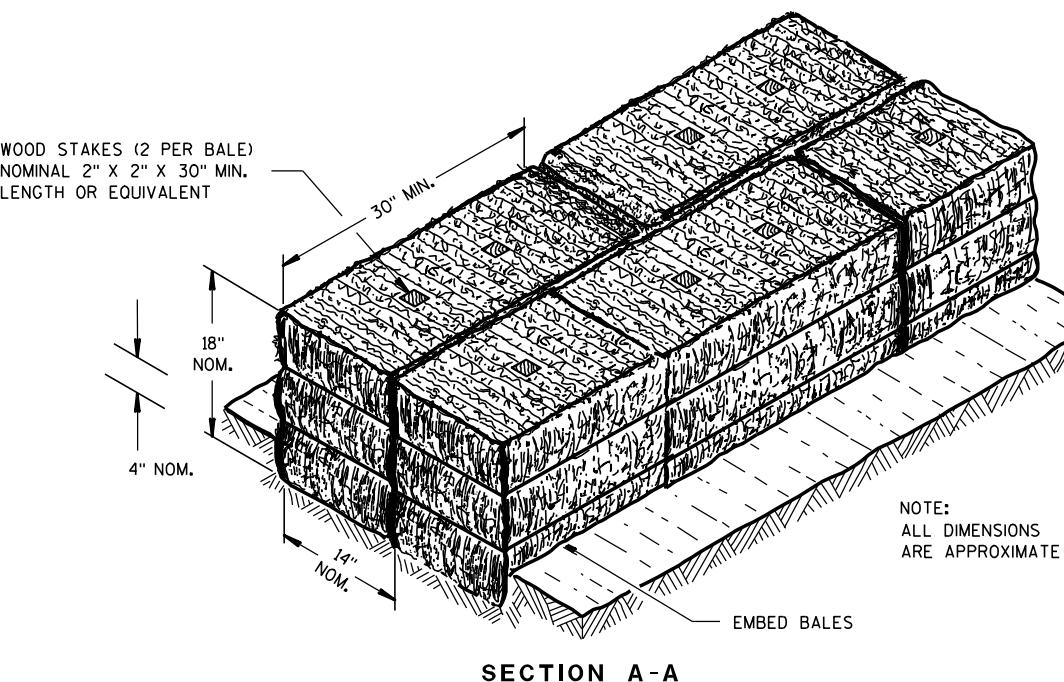
PLAN AND PROFILE: 'A'-LINE

SHEET

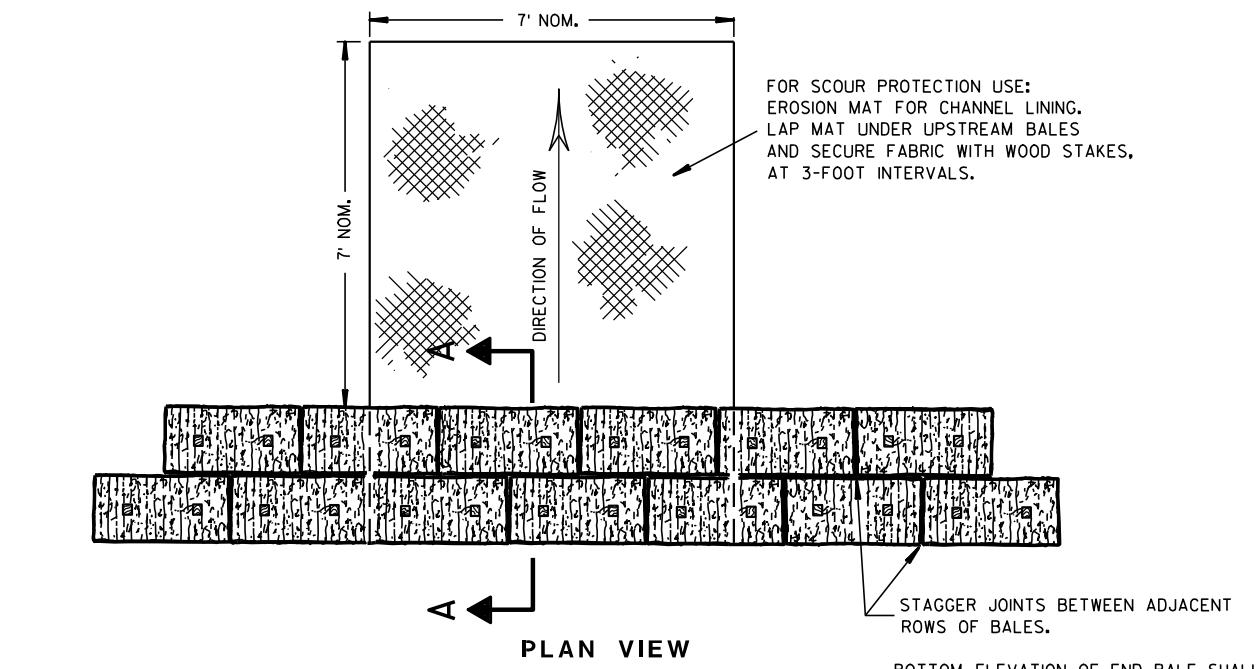
1

Standard Detail Drawing List

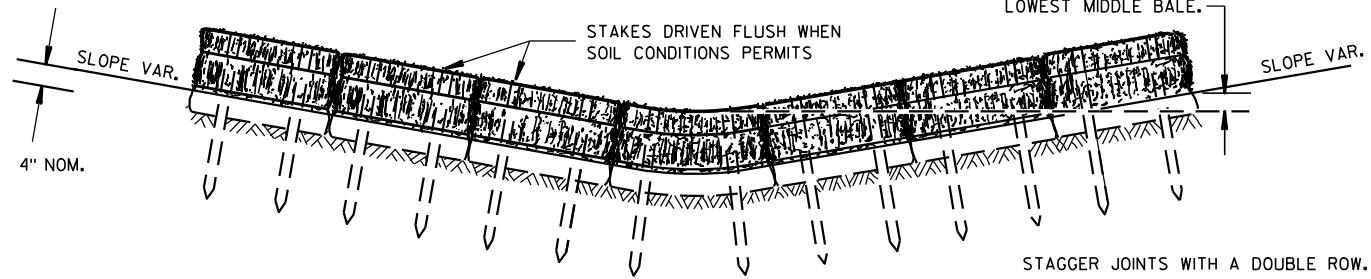
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14D01-01	TURTLE EXCLUSION FENCE CLIMBING TURTLE
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



SECTION A-A



PLAN VIEW



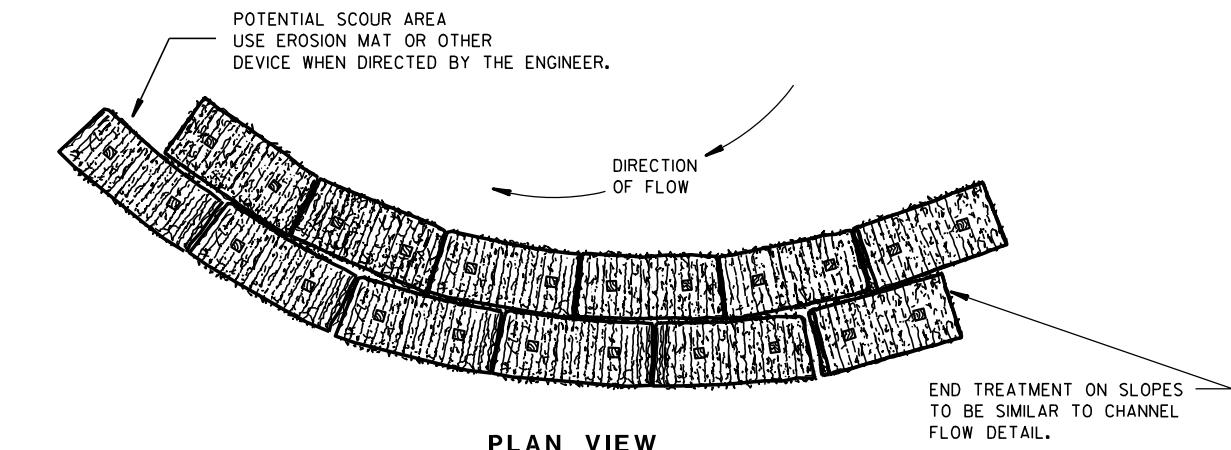
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

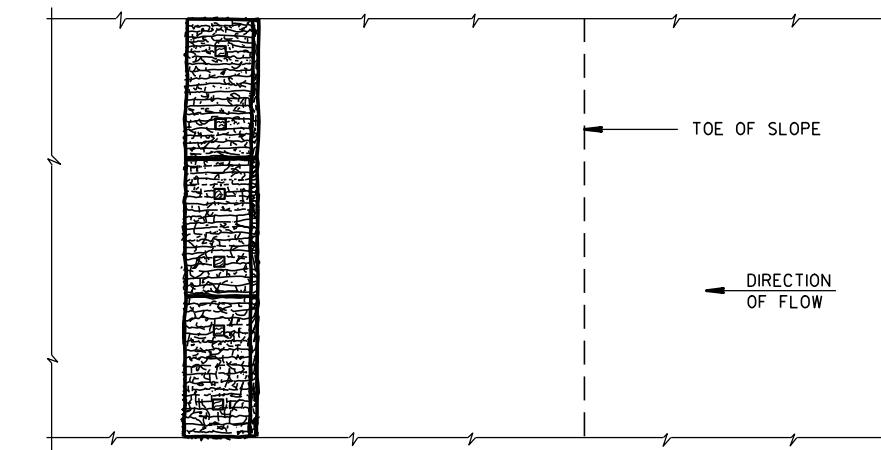
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

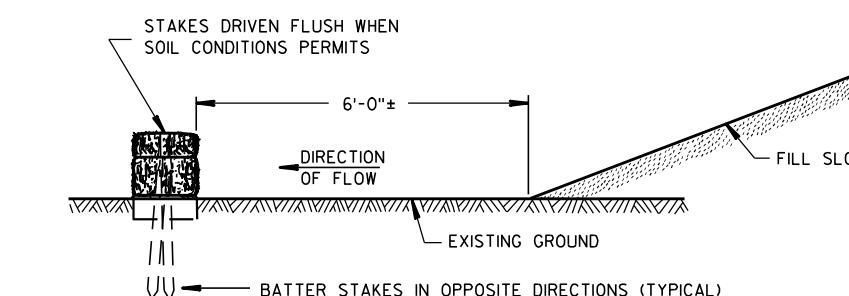


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

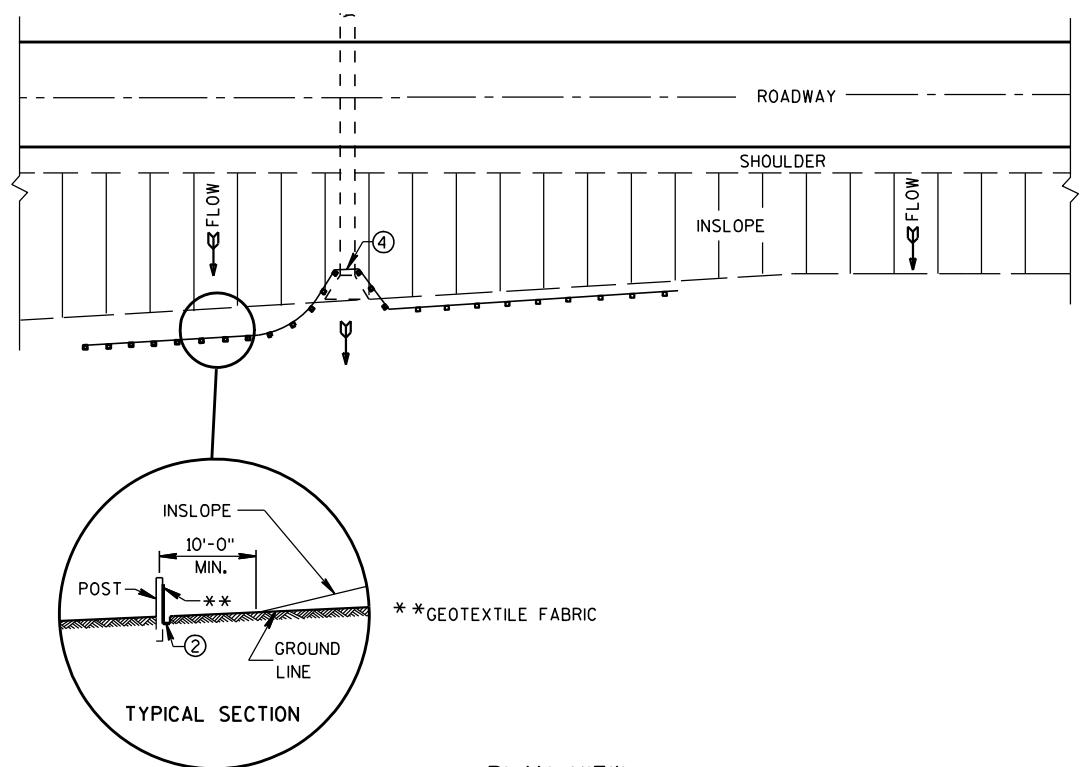
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

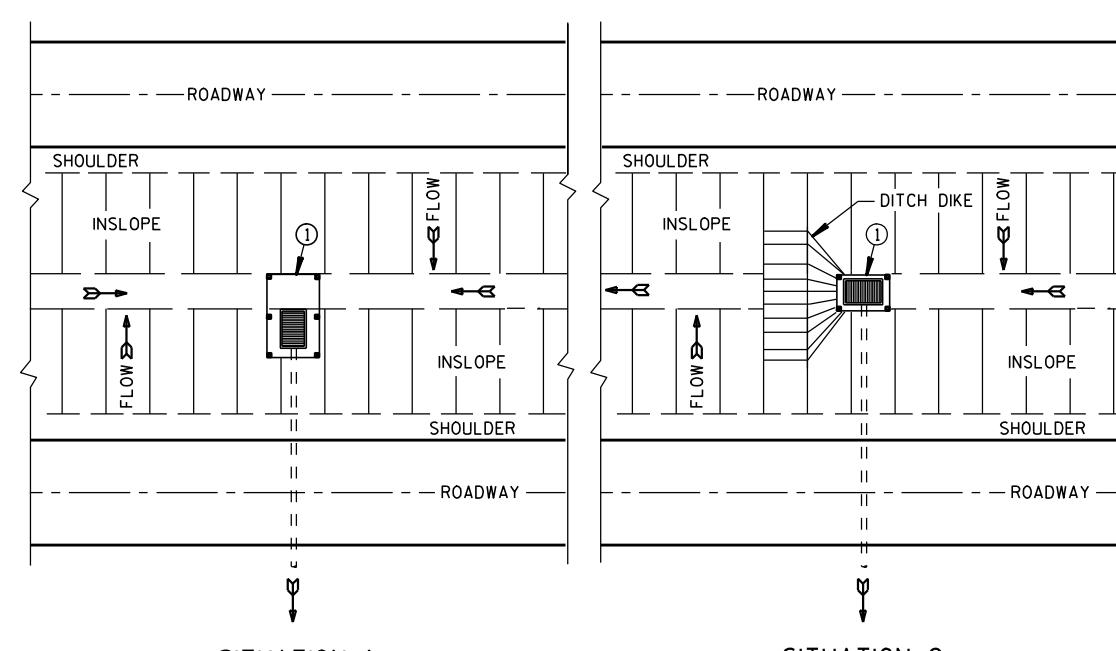
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 /S/ Beth Cann
DATE CHIEF ROADWAY DEVELOP 25
FHWA



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

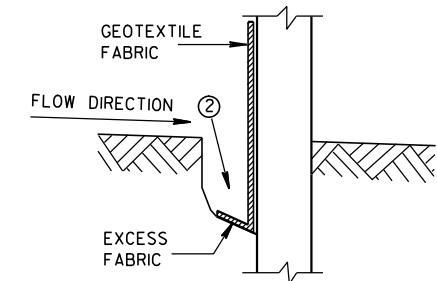


SILT FENCE AT MEDIAN SURFACE DRAINS

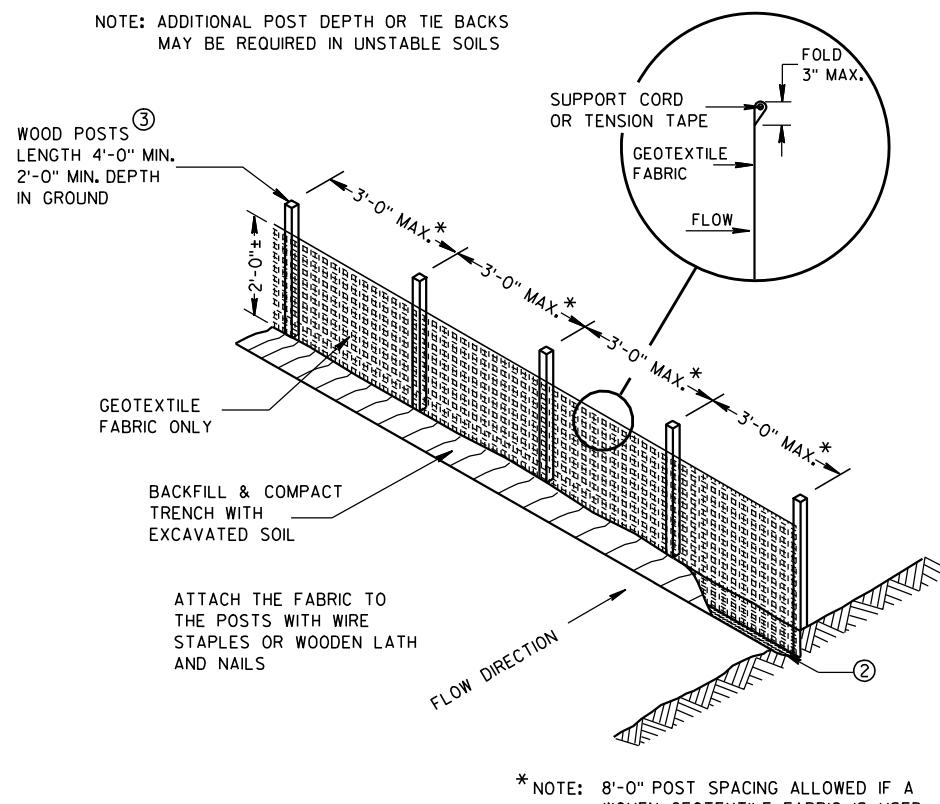
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

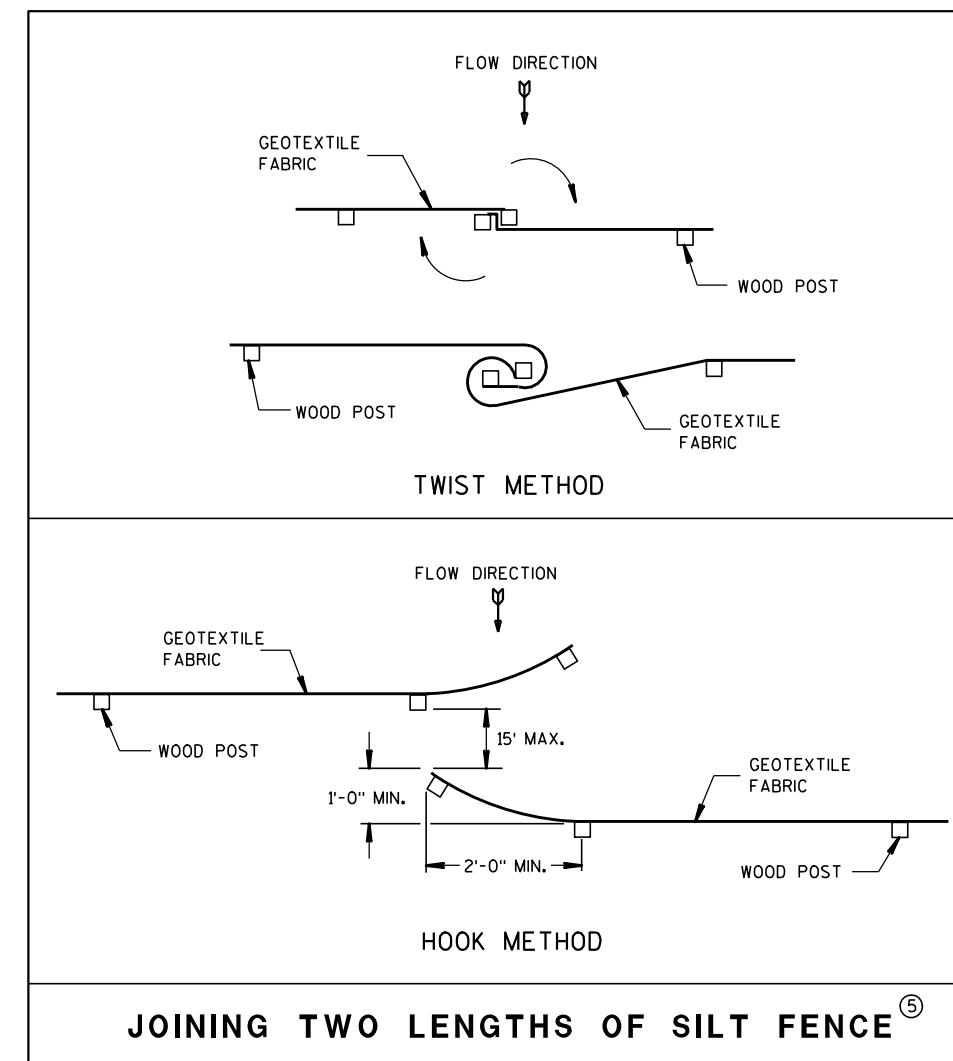
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1/8" X 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



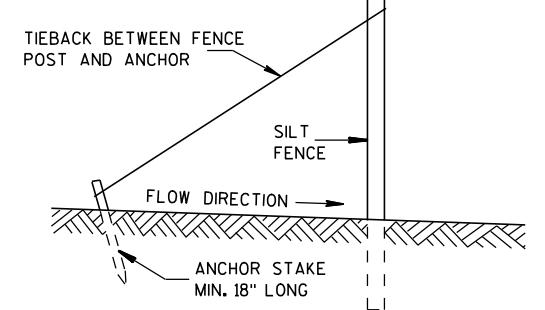
TRENCH DETAIL



SILT FENCE

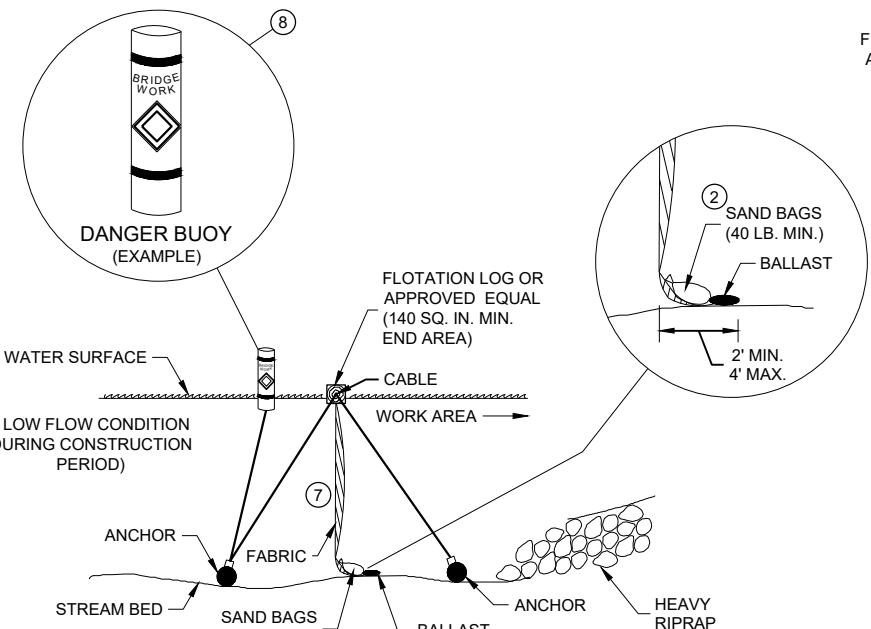


JOINING TWO LENGTHS OF SILT FENCE^⑤

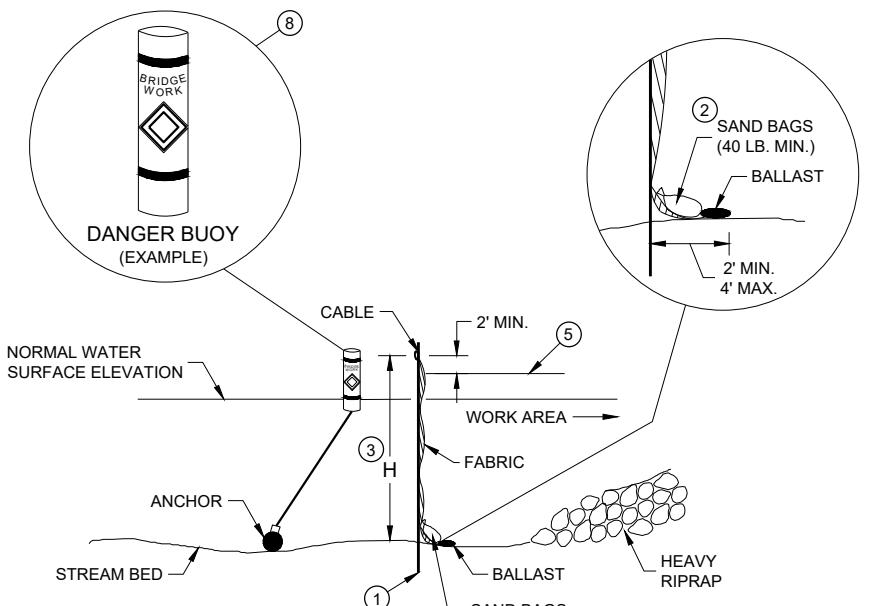


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

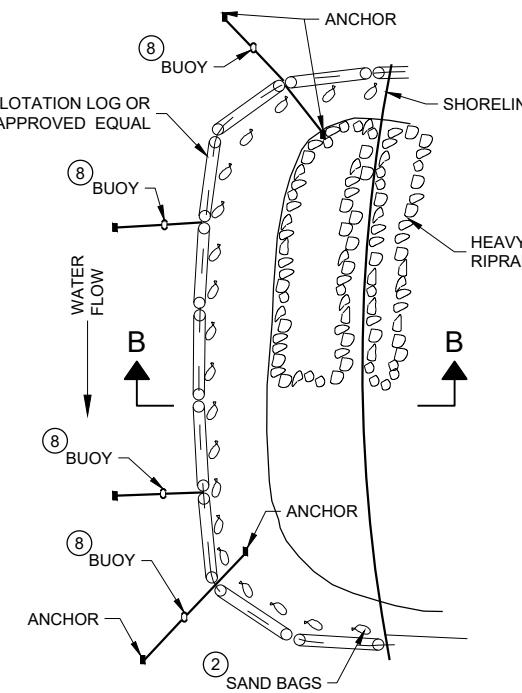
SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	/S/ Beth Cannon
4-29-05	DATE
CHIEF ROADWAY DEVELOP 26	
FHWA	



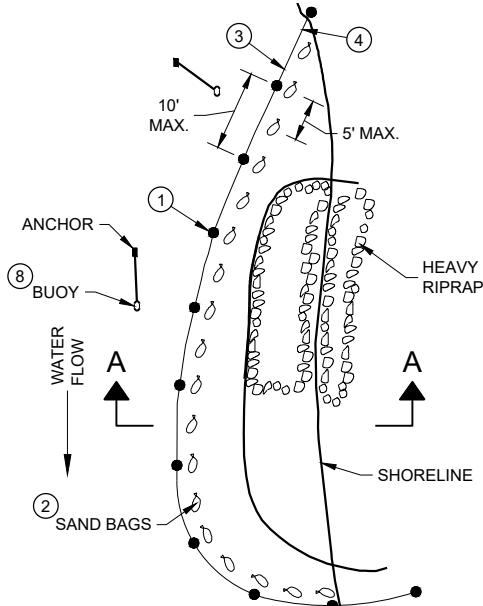
SECTION B - B

**TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6**


SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION
TURBIDITY BARRIER PLACEMENT DETAILS


PLAN VIEW



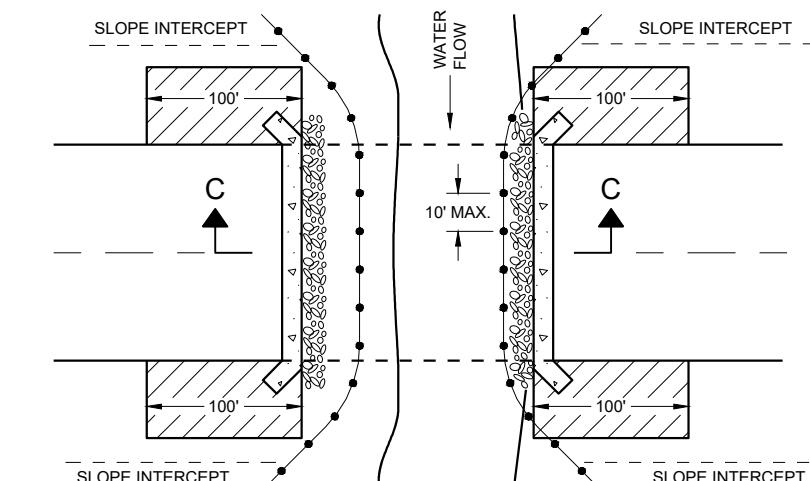
PLAN VIEW

GENERAL NOTES

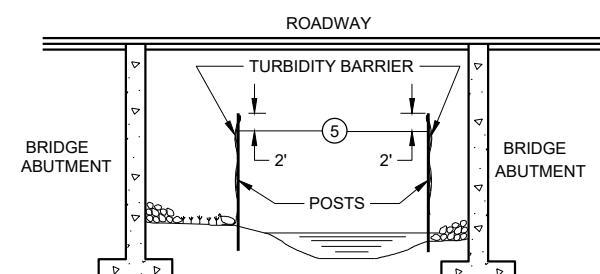
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW

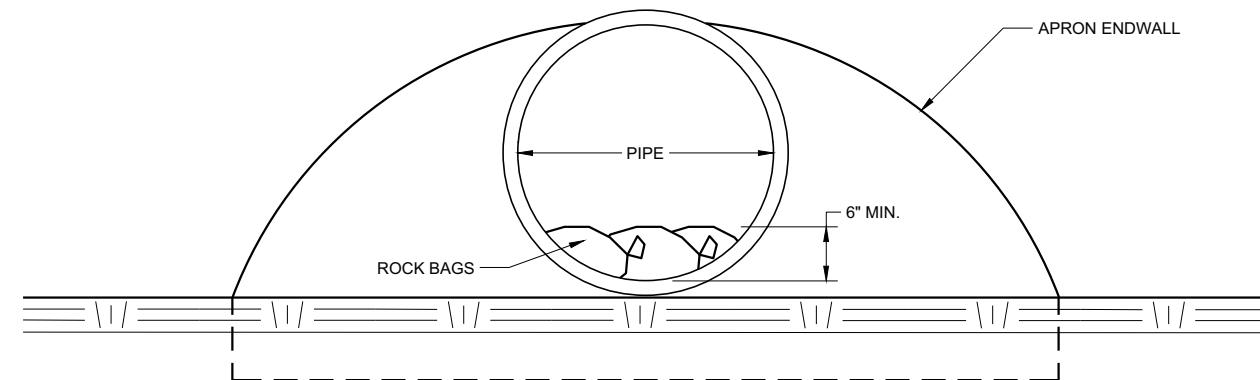


SECTION C - C

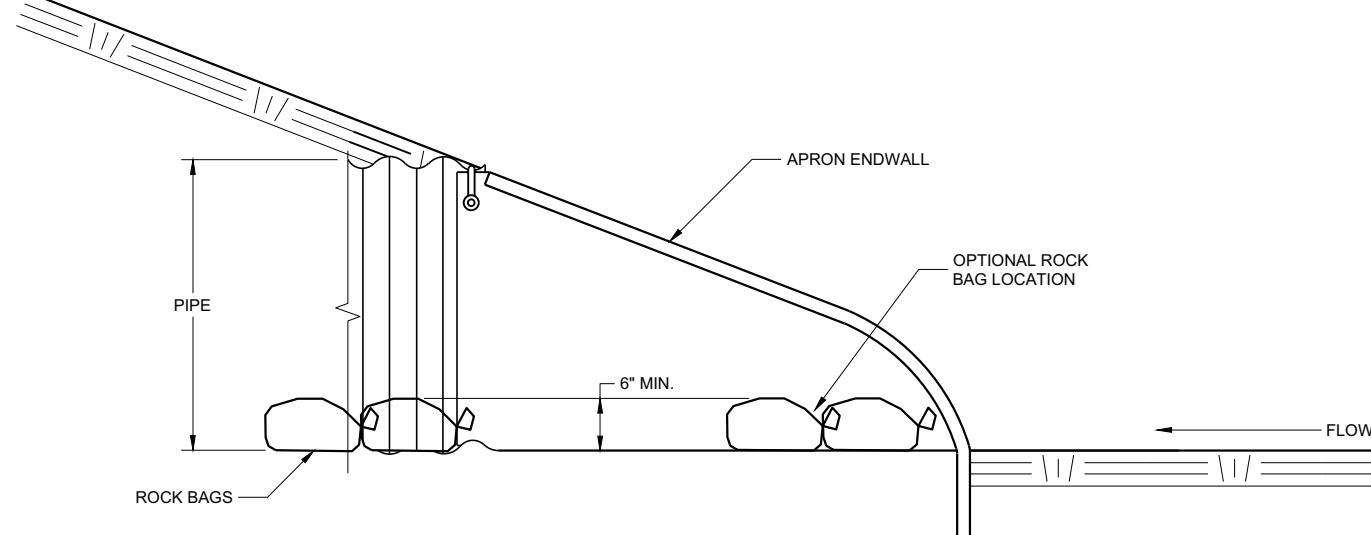
**TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES**
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02 /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT
FHWA ENGINEER 27



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Daniel Schave
DATE
FHWA

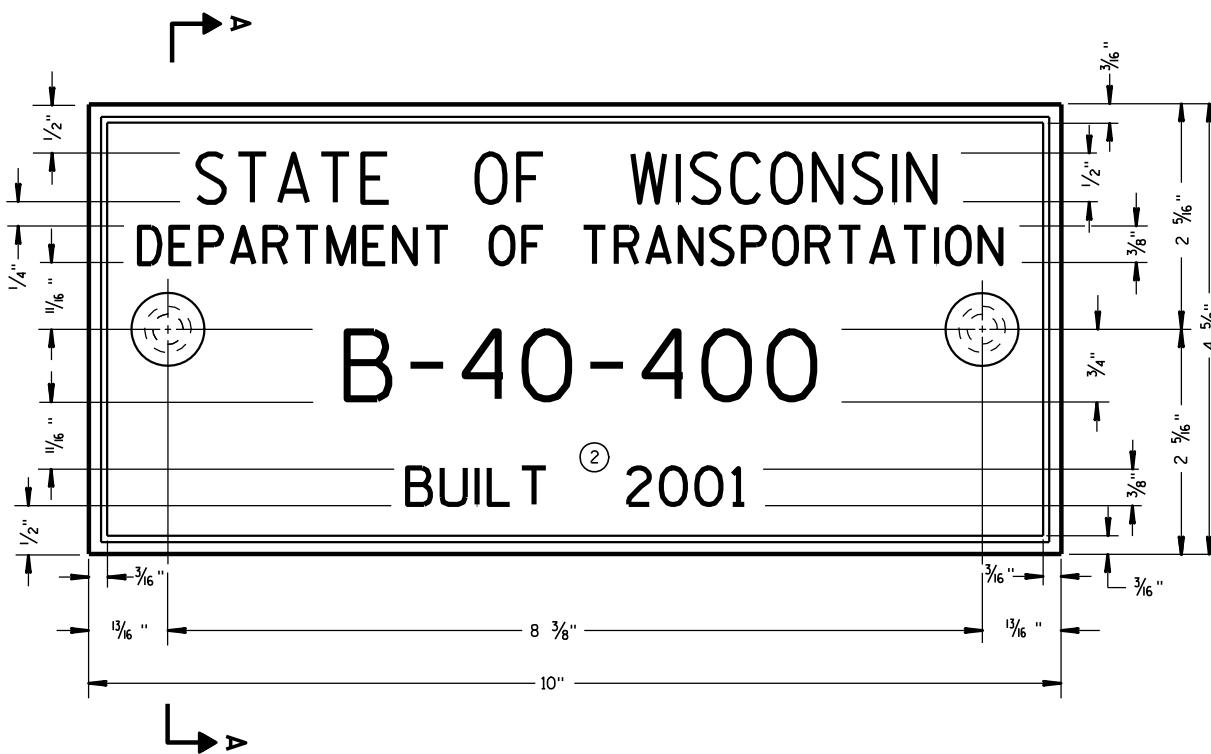
EROSION CONTROL ENGI 28

GENERAL NOTES

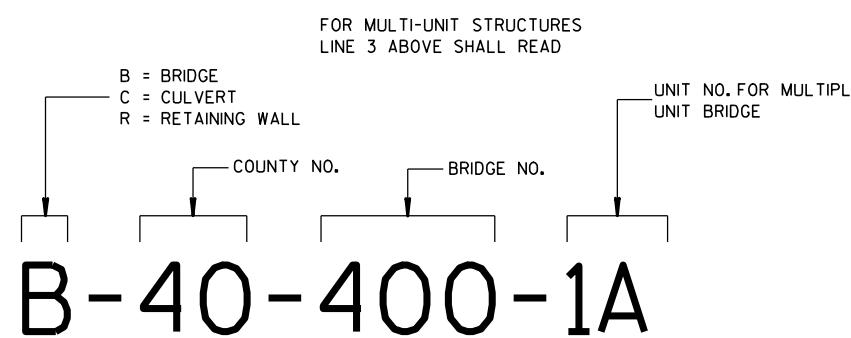
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

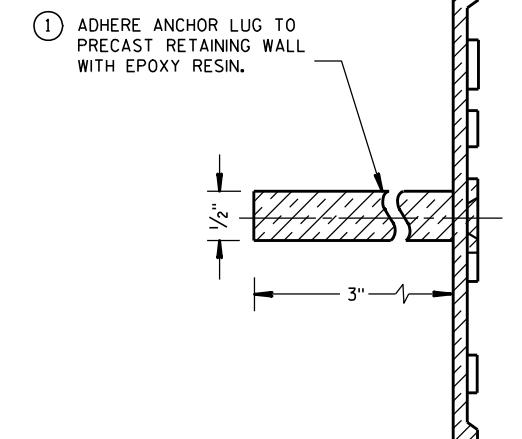
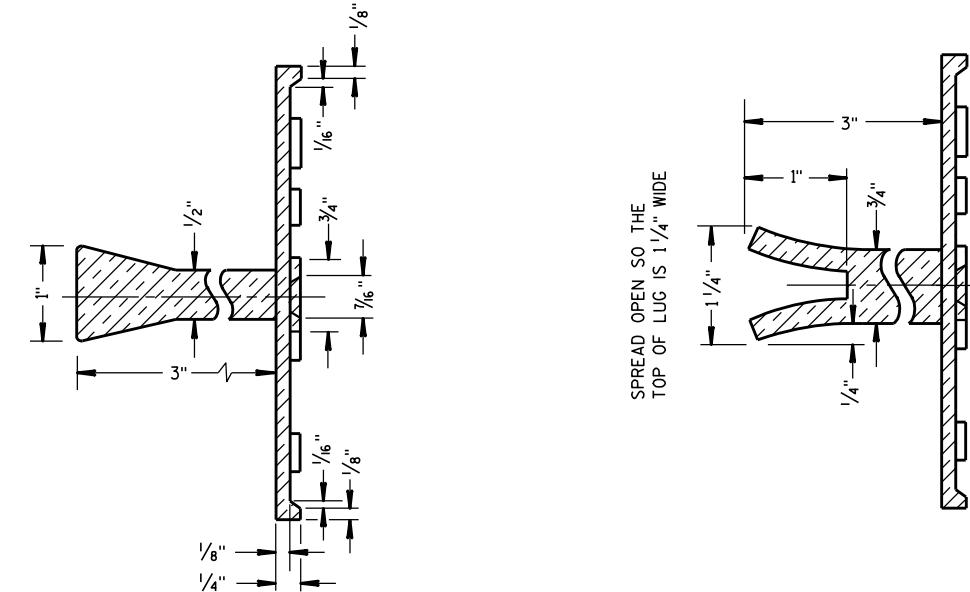
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

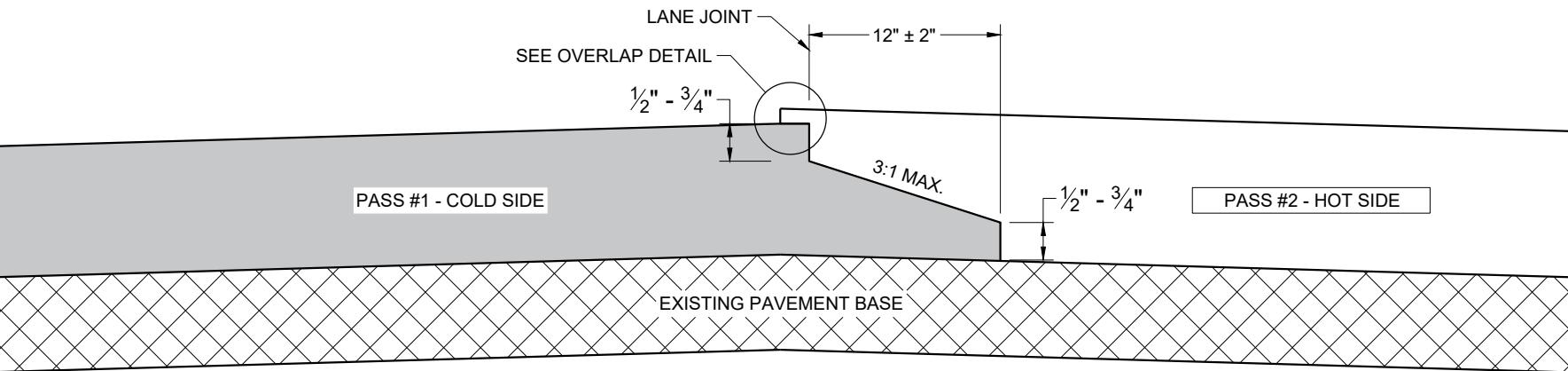


NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10	/S/ Scot Beck
DATE	CHIEF STRUCTURAL DEVELOP 29
FHWA	



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**

GENERAL NOTES

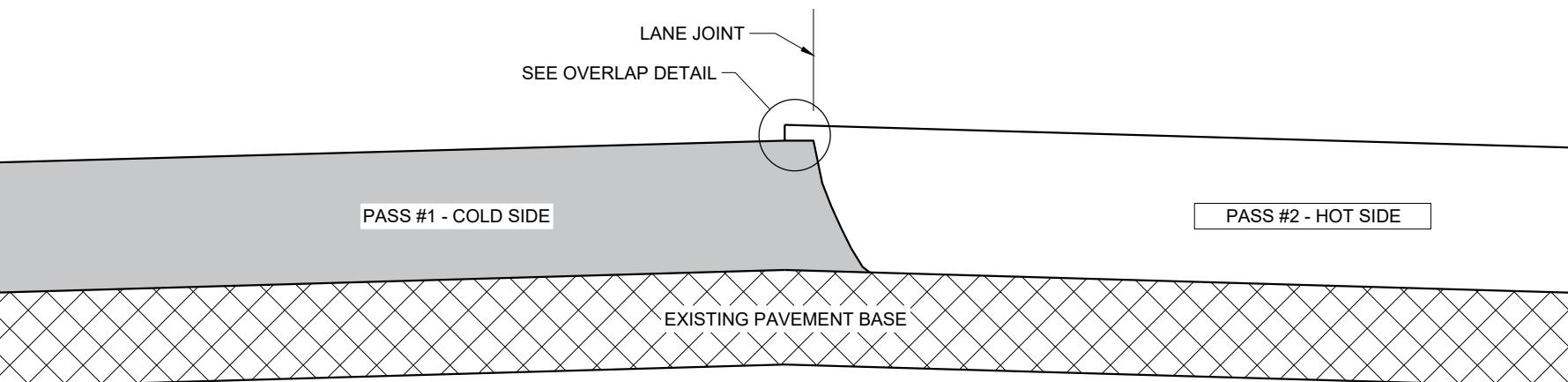
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1'' \pm 0.5''$ AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY $0.1''$ AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

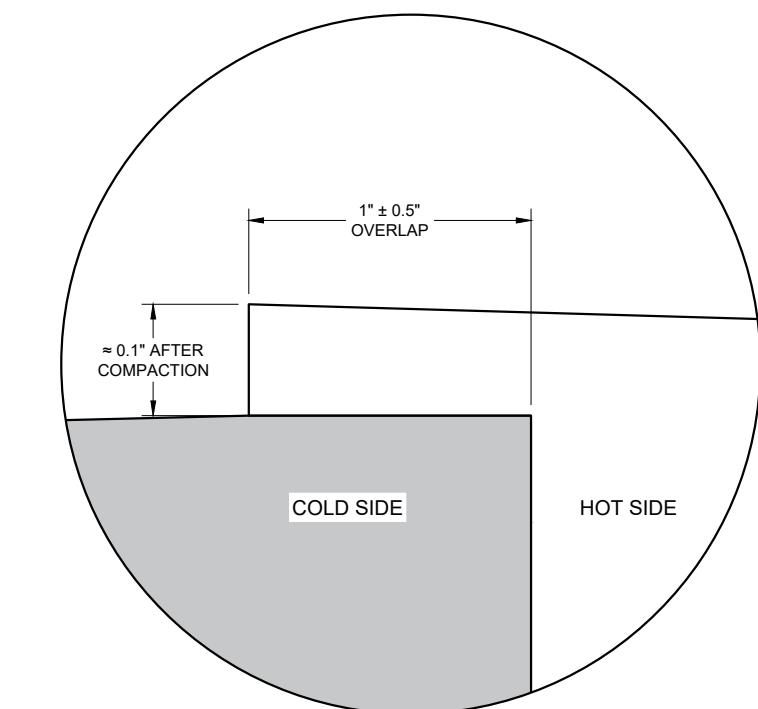
ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO $2''$ FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

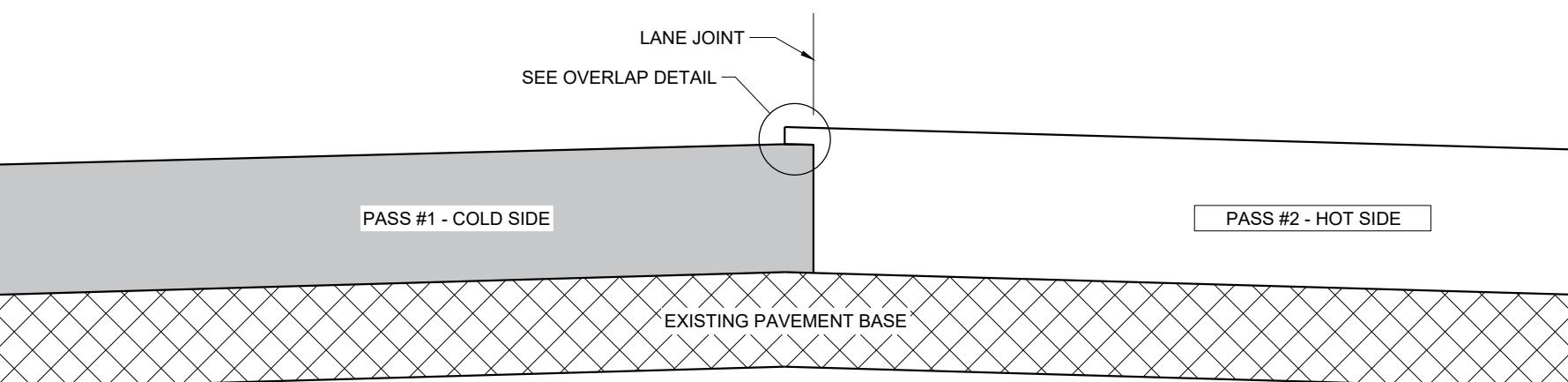
USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR AS THE ENGINEER DIRECTS.



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



OVERLAP DETAIL (TYPICAL)



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

HMA LONGITUDINAL JOINTS

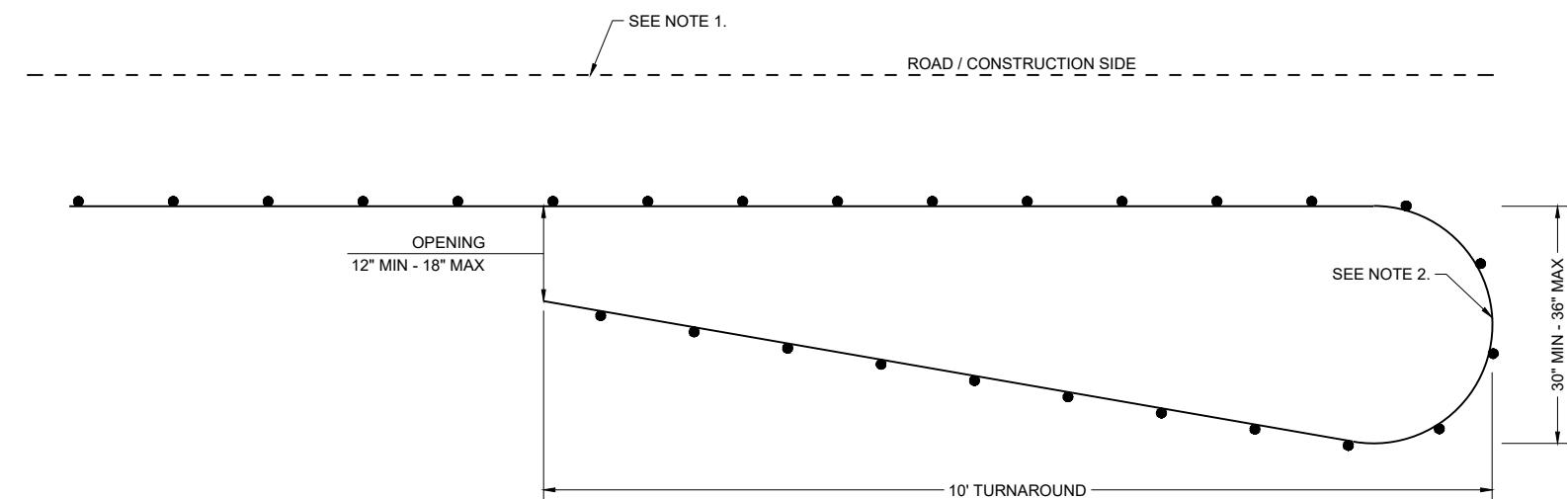
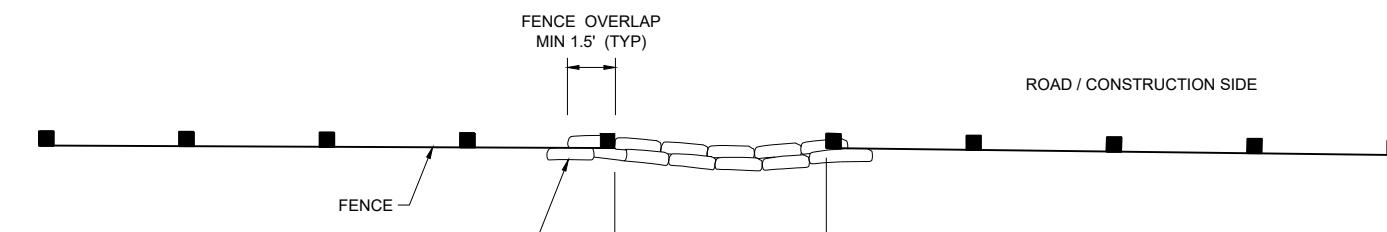
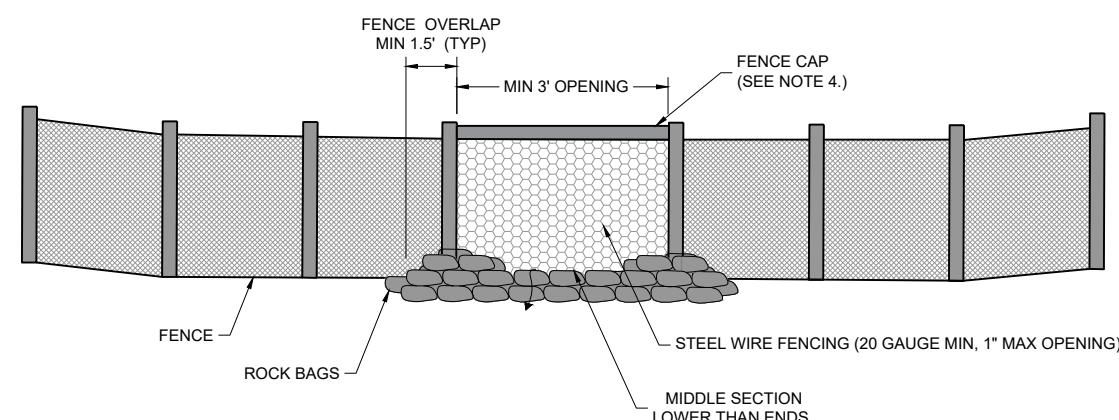
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 30
FHWA

GENERAL NOTES:

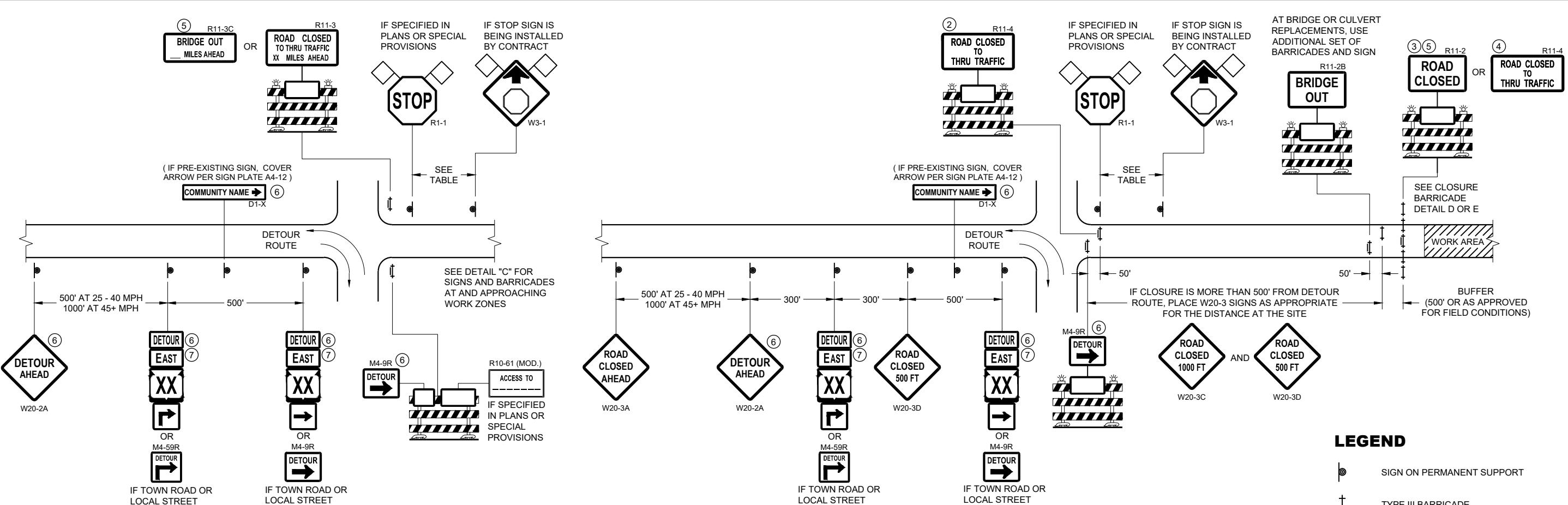
1. WHERE SILT FENCE IS REQUIRED, IT SHALL BE PLACED ON THE CONSTRUCTION SIDE OF THE EXCLUSION FENCING, OR COMBINED WITH THE EXCLUSION FENCING AS ALLOWED IN THE SPECIFICATIONS. STAKES ON THIS DETAIL ARE OPPOSITE OF STANDARD SILT FENCE FOR SEDIMENT CONTROL.
2. PLACE TURNAROUNDS AT ALL TERMINI ENDS OF THE EXCLUSION FENCING.
3. IF TEMPORARY ACCESS POINTS ARE NEEDED DURING CONSTRUCTION THAT REQUIRE OPENINGS IN THE EXCLUSION FENCING, ACCESS OPENINGS SHOULD BE TIGHTLY SECURED WITH BALES OF HAY OR STRAW WHENEVER CONSTRUCTION RELATED ACTIVITIES ARE NOT OCCURRING. REINSTALL EXCLUSION FENCING WHEN THE WORK REQUIRING THE TEMPORARY ACCESS OPENING IS COMPLETED.
4. THE FENCE CAP MAY BE A 6" UNDER DRAIN PIPE, SLIT DOWN THE CENTER AND PLACED OVER THE FENCE. COMMERCIALLY AVAILABLE SAFETY CAPS WITH A LIP MAY BE USED. OTHER DNR APPROVED METHODS TO PREVENT TURTLES FROM PASSING OVER THE TOP OF THE FENCE MAY BE USED.

SECURELY FASTEN THE CAP TO PREVENT IT FROM BEING DISLODGED.

**PLAN VIEW****CLIMBING TURTLE EXCLUSION FENCE DETAIL****PLAN VIEW****FRONT VIEW****CLIMBING TURTLE FENCE RELIEF DETAIL****TURTLE EXCLUSION FENCE
CLIMBING TURTLE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
AUGUST 2025 /S/ ALYSSA BARRETTE
DATE CHIEF STATEWIDE ENVIRONMENTAL SERVICES
FHWA BUREAU OF TECHNICAL SERVICES

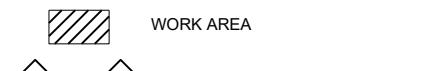


DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN $\frac{1}{2}$ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- + TYPE III BARRICADE
- || TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)



WORK AREA



FLAGS, 16" X 16" MIN. (ORANGE)



COUNTY X



DETOUR



EAST



XX



COUNTY X

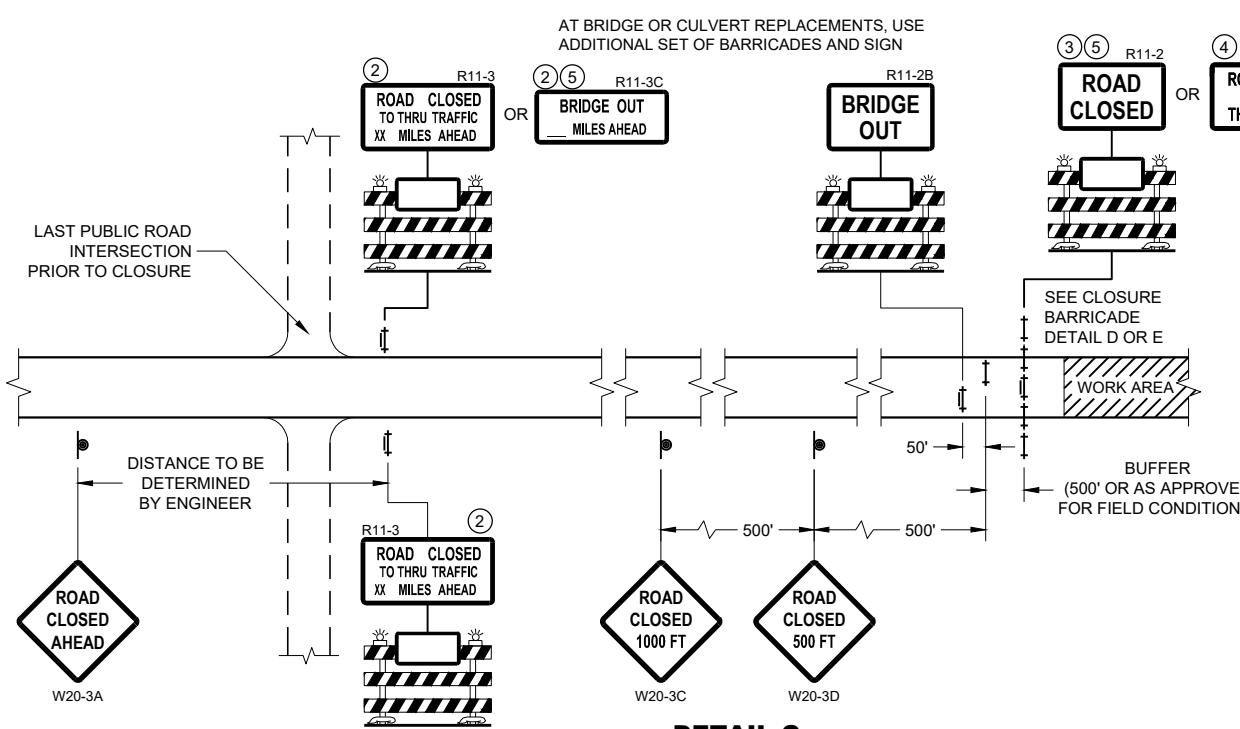


M05 - 1



M06 - 1

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750



BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidke
DATE
FHWA
WORK ZONE ENGINEER 32

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11 - 2 SHALL BE 48" X 30"

R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"

M4 - 9 SHALL BE 30" X 24"

M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)

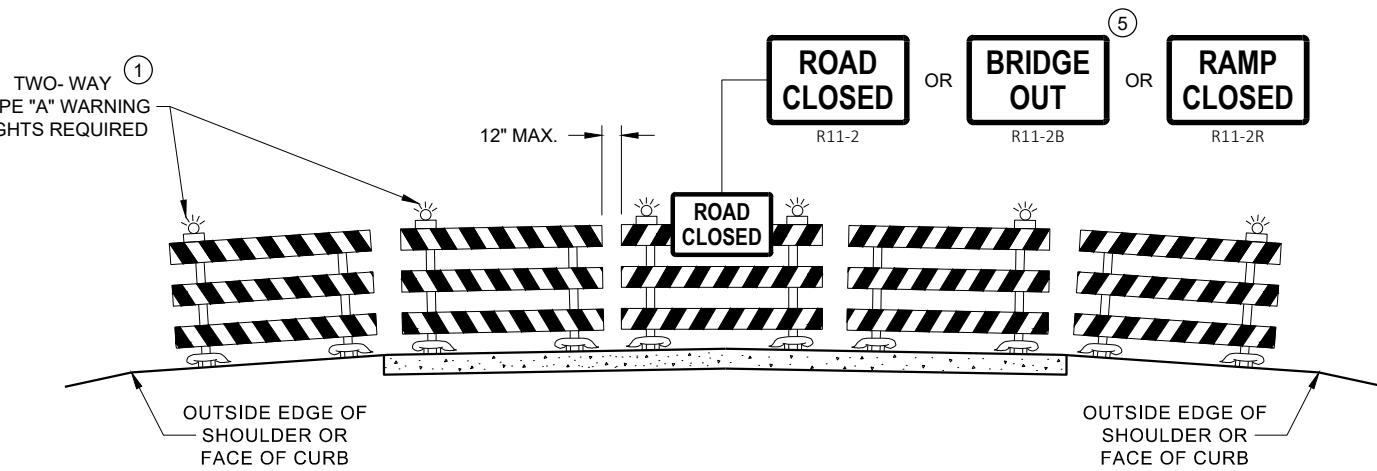
M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)

M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)

M05 - 1 AND M06 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)

D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

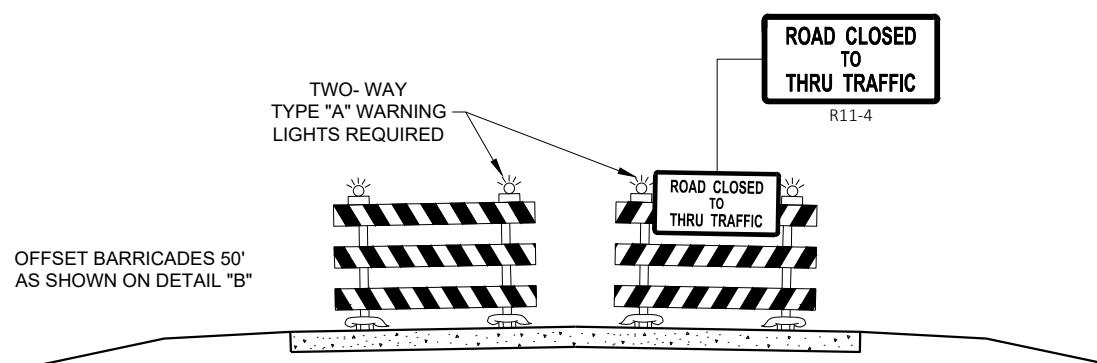
R1 - 1 SHALL BE 36" X 36"



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW

6

6



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SDD 15C02 - 09b

SEE SDD 15C2 - SHEET "a" FOR LEGEND

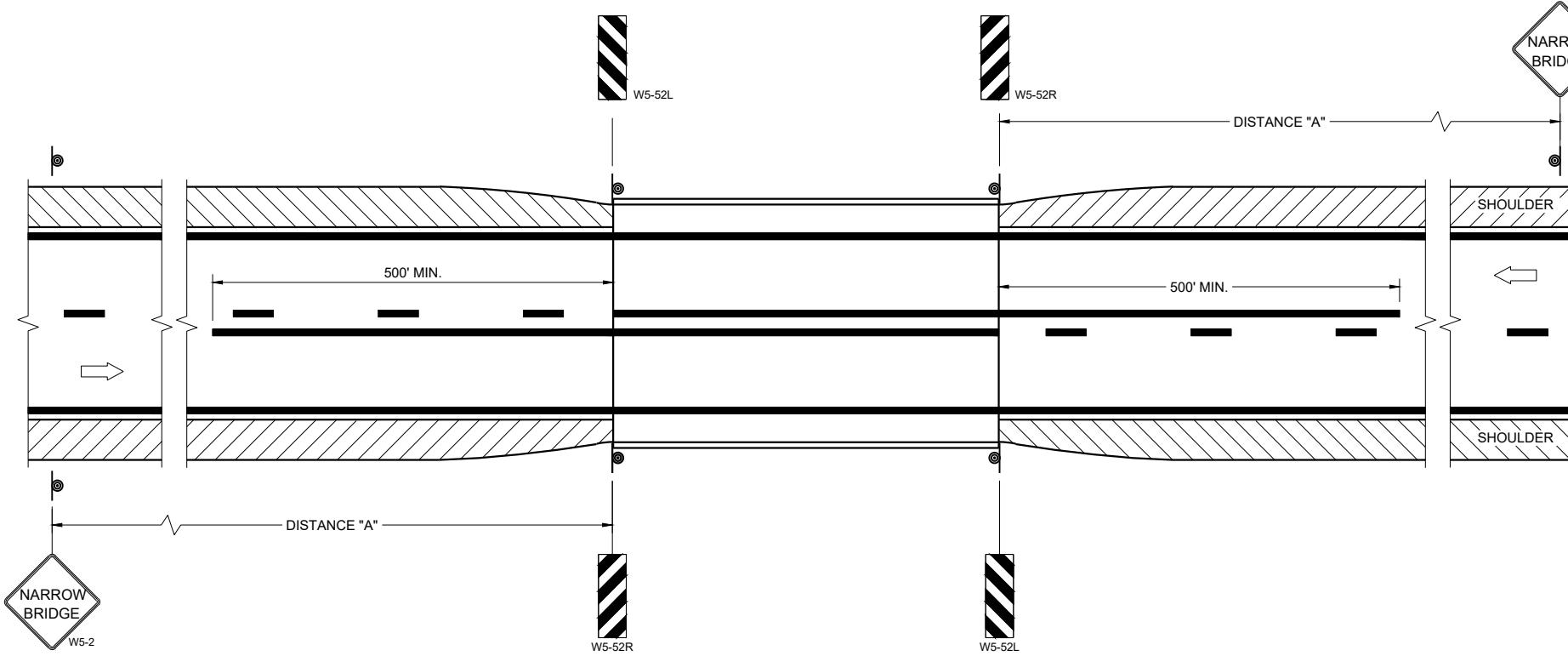
BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

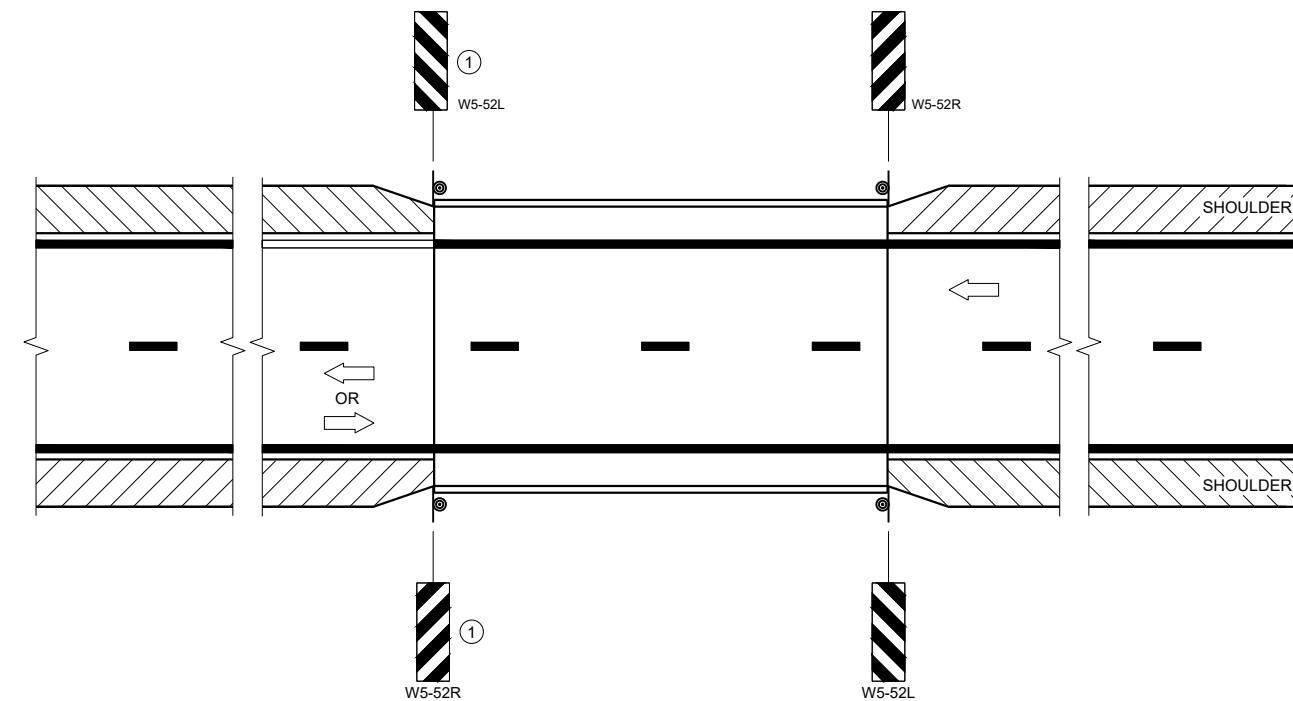
APPROVED
May 2023
DATE
FHWA

/S/ Andrew Heidke
WORK ZONE ENGINEER 33

SDD 15C02 - 09b

**SITUATION 1**

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

**SITUATION 2**

WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

Ⓐ SIGN ON PERMANENT SUPPORT

→ DIRECTION OF TRAFFIC

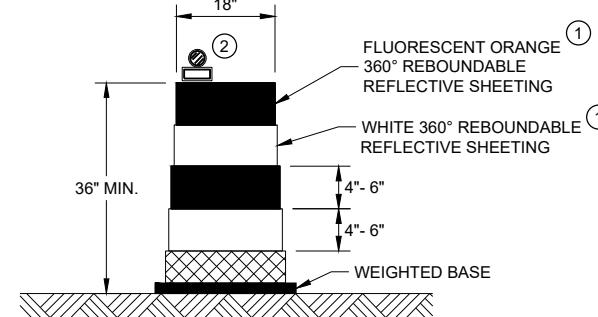
DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

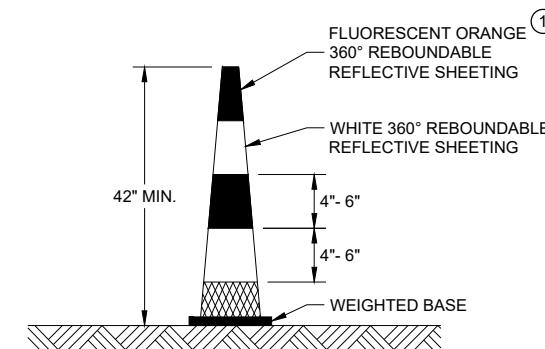
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

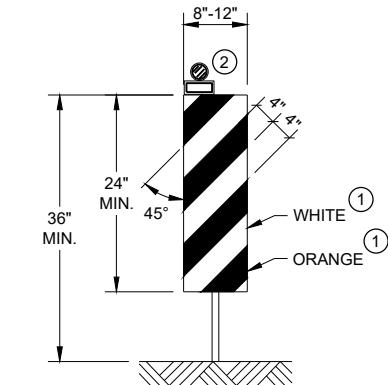
APPROVED
May 2023 /S/ Jeannie Silver
DATE
FHWA
Statewide Pavement Marking Engineer

**DRUM**

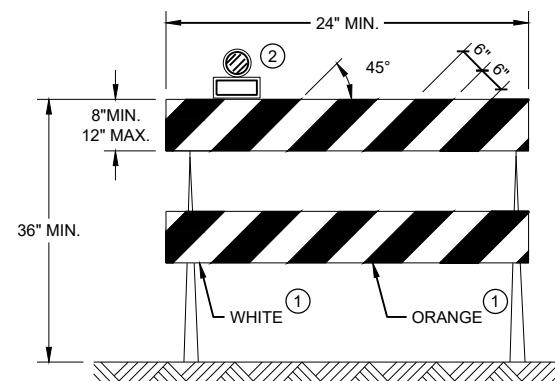
BALLAST WIDTHS
RANGE FROM 24"-36"

**42" CONE**

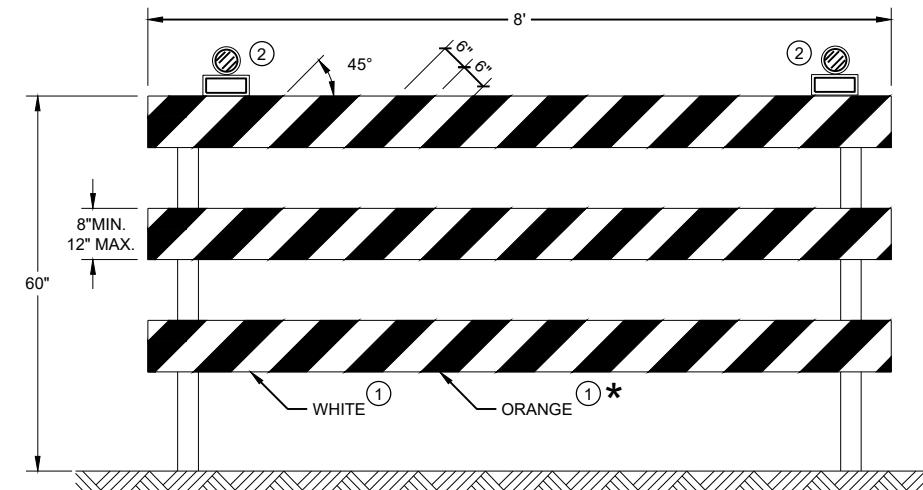
DO NOT USE IN TAPERS
 $\frac{1}{2}$ SPACING OF DRUMS
 BALLAST WIDTHS
RANGE FROM 14"-20"

**VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.

**TYPE II BARRICADE**

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.

**TYPE III BARRICADE**

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

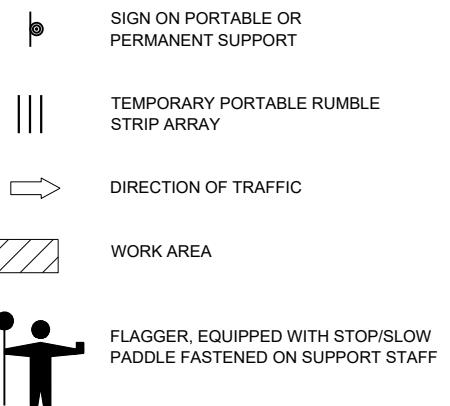
GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Andrew Heidtke
DATE FHWA
WORK ZONE ENGINEER 35

LEGEND**GENERAL NOTES**

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

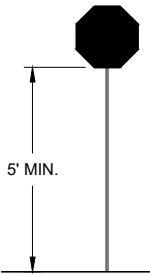
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.



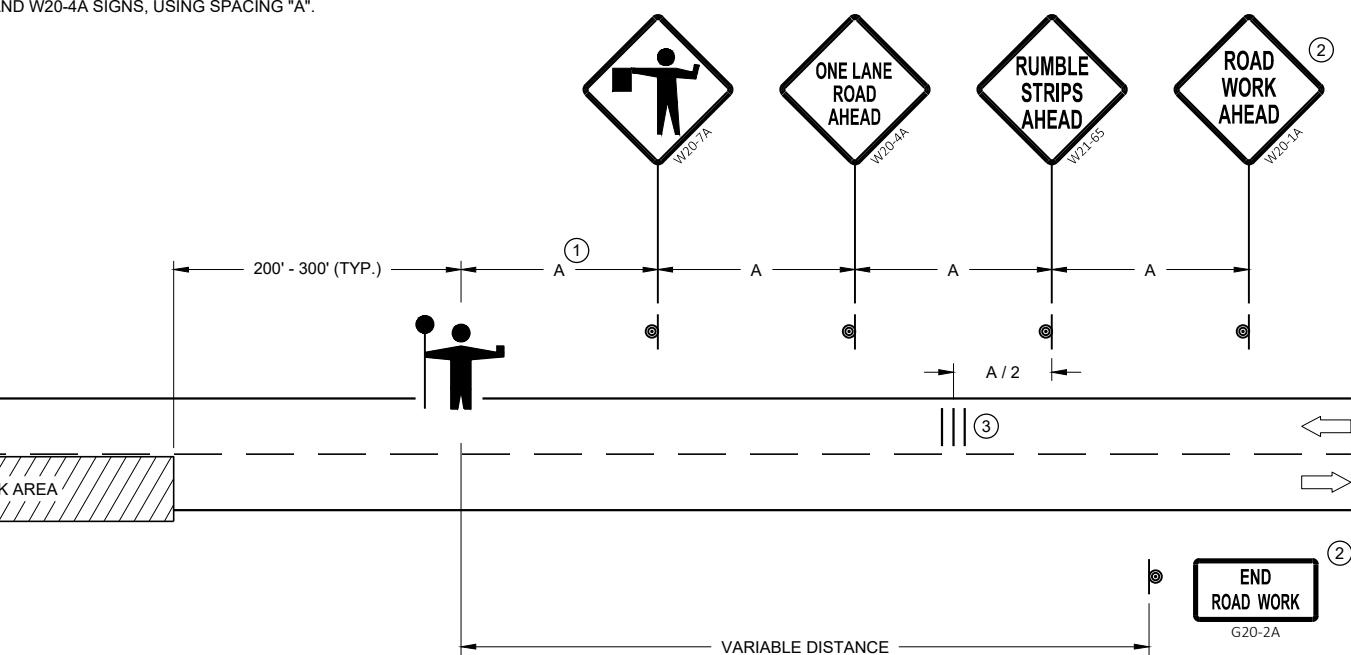
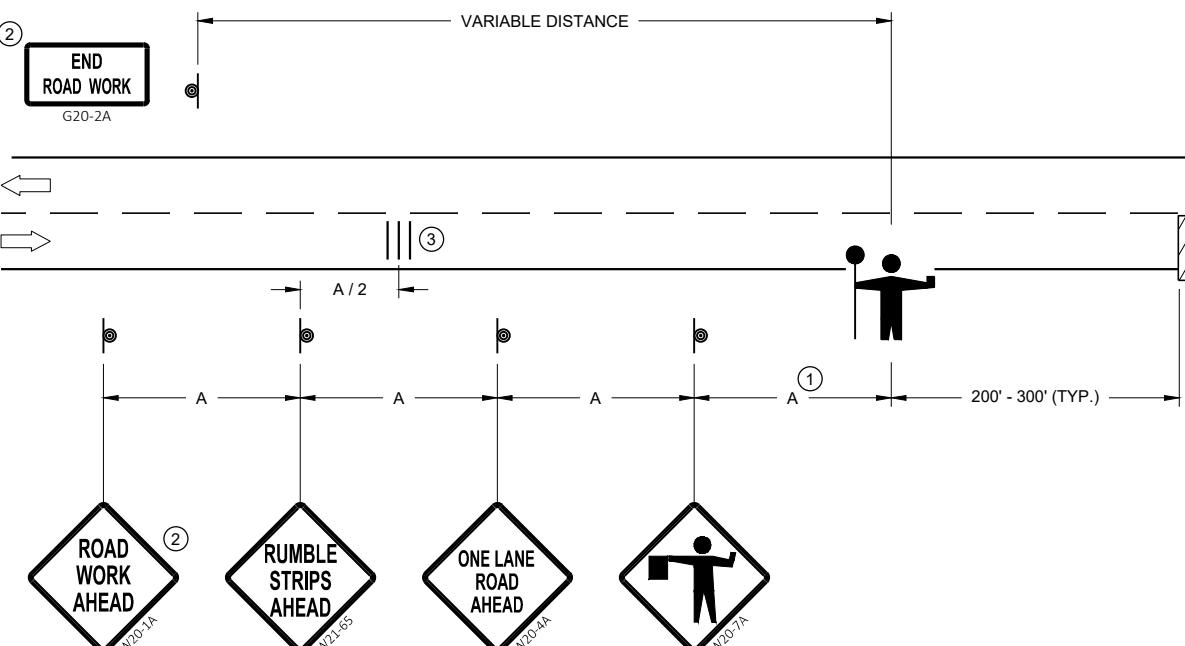
**STOP/SLOW PADDLE
ON SUPPORT STAFF**

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".

**FLAGGING**

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

**TRAFFIC CONTROL FOR
LANE CLOSURE WITH
FLAGGING OPERATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE
FHWA
/S/ Andrew Heidke
WORK ZONE ENGINEER 36

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

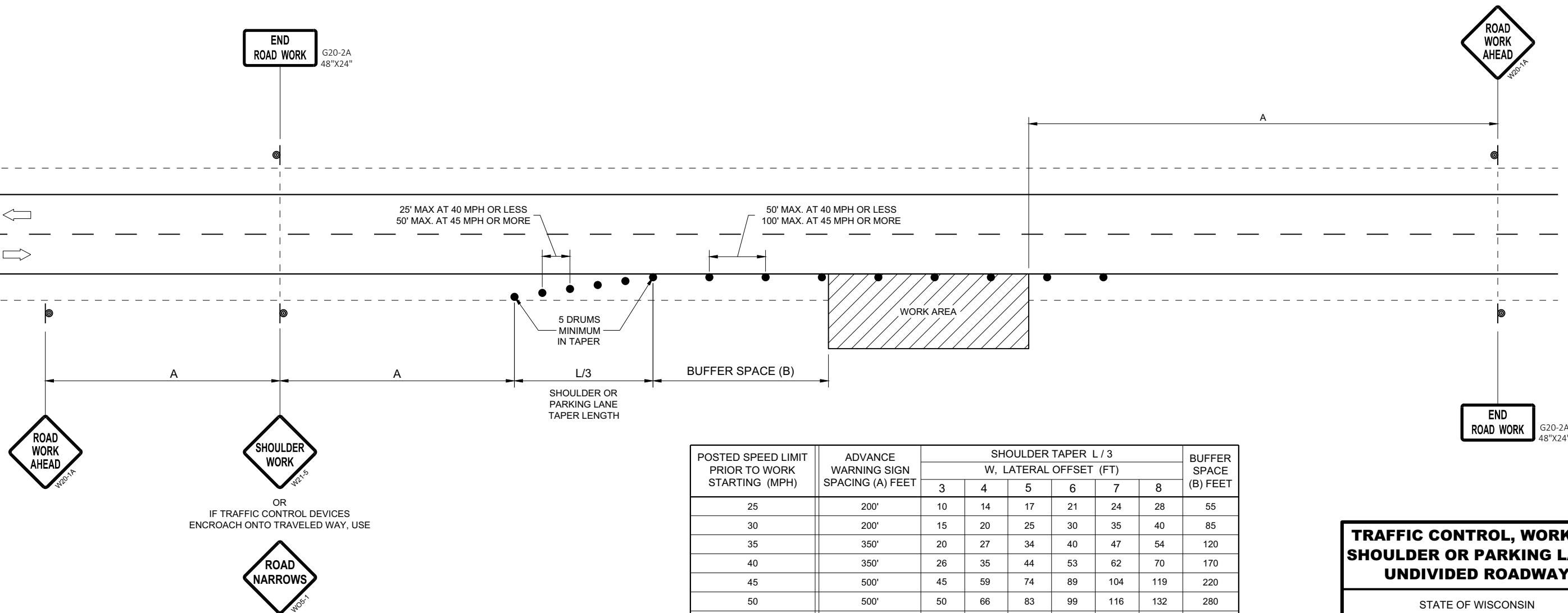
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



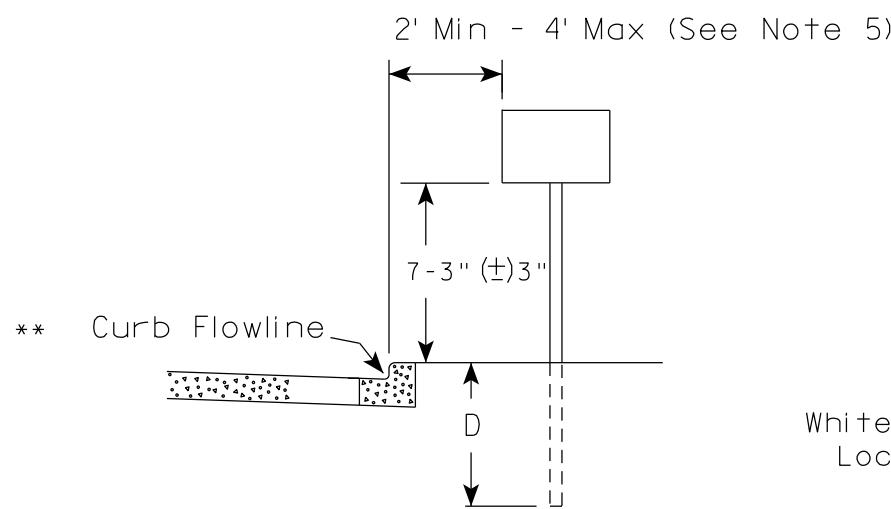
POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

**TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY**

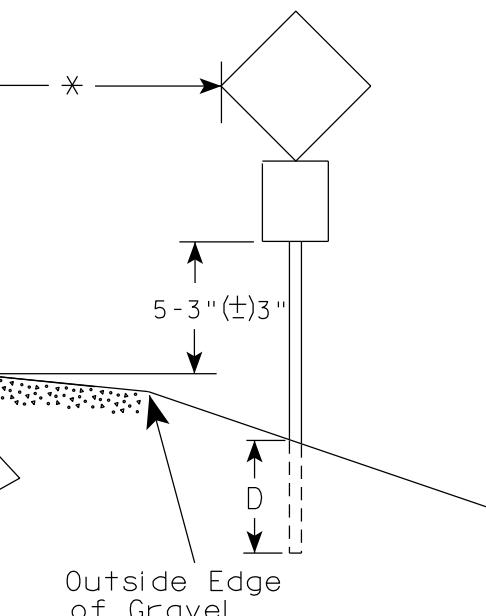
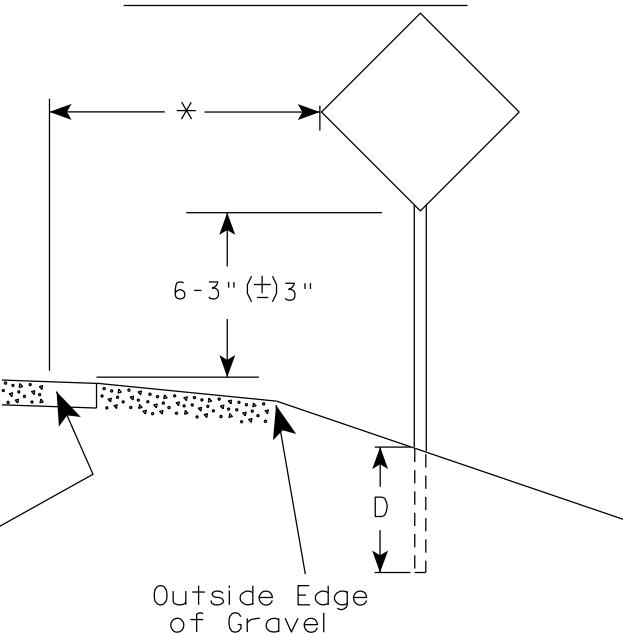
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE
FHWA
/S/ Andrew Heidke
STATEWIDE WORK ZONE T
SAFETY ENGINEER 37

URBAN AREA



RURAL AREA (See Note 2)



** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate. The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'-3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

POST EMBEDMENT DEPTH

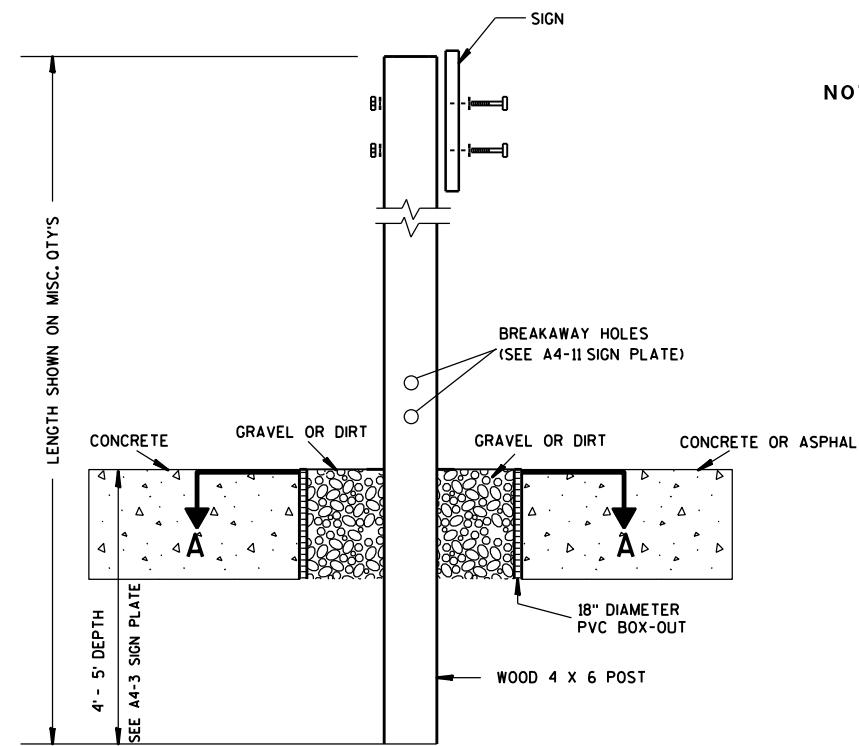
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew P. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

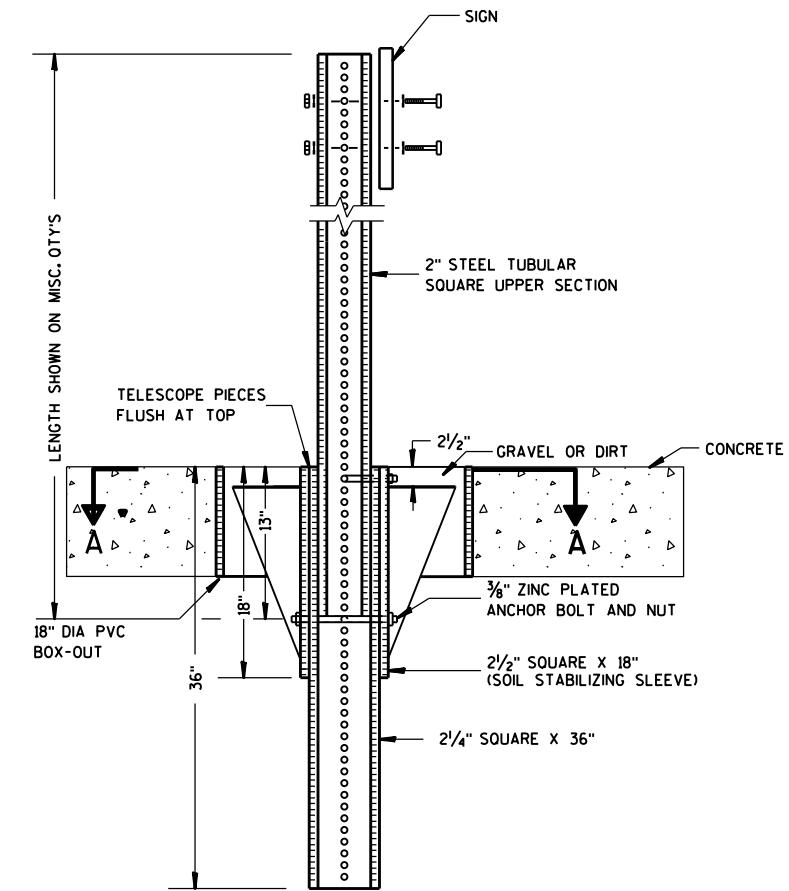


ELEVATION VIEW

DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

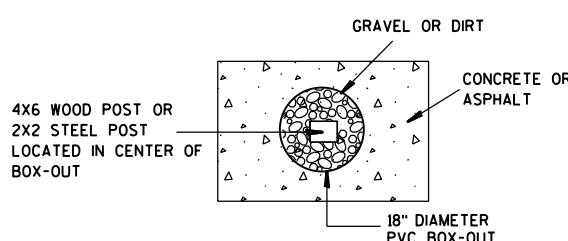
NOTES:

1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

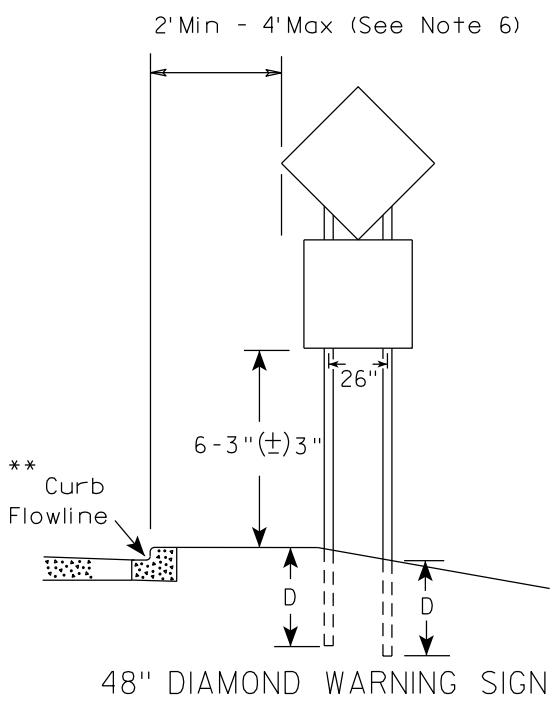
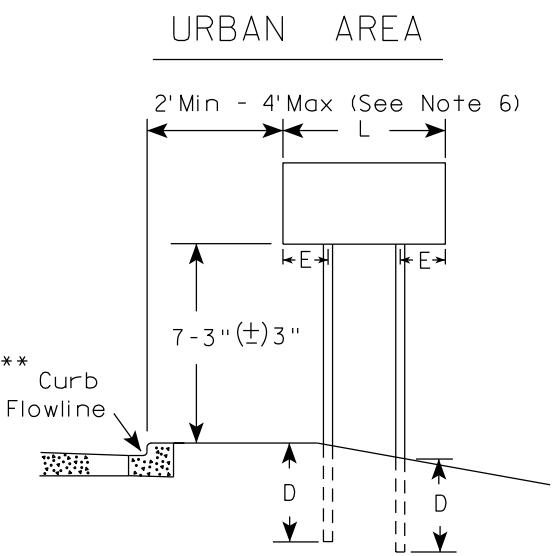
**SIGN POST
BOX-OUTS
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

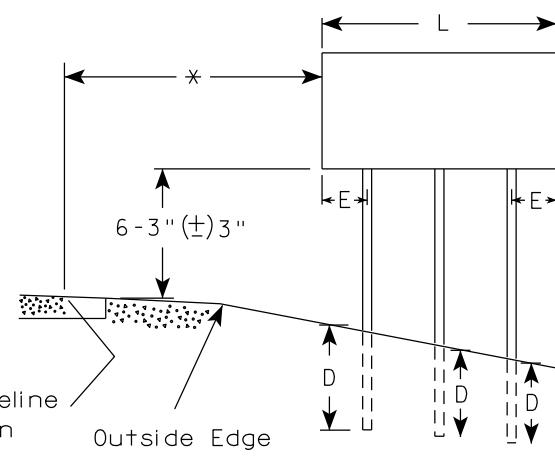
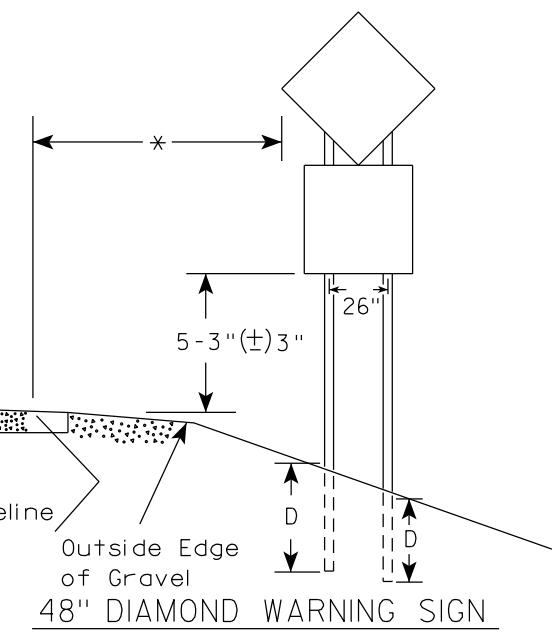
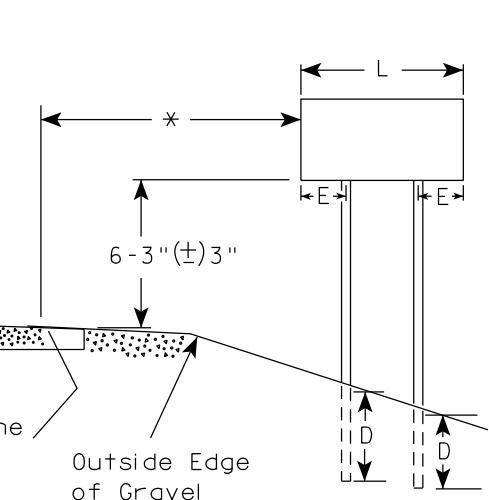
APPROVED
Matthew P Rauch
for State Traffic Engineer
DATE 1/27/14 PLATF 39 A4-3B.1

GENERAL NOTES

- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (\pm 3") or 6'-3" (\pm 3") depending upon existence of sub-sign.
- The (\pm) tolerance for mounting height is 3 inches.
- J-Assemblies are considered to be one sign for mounting height.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (\pm 3") or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (\pm 3"). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (\pm 3").



RURAL AREA (See Note 3)



* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)

L	E
Greater than 48"	12"
Less than 60"	
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)

L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

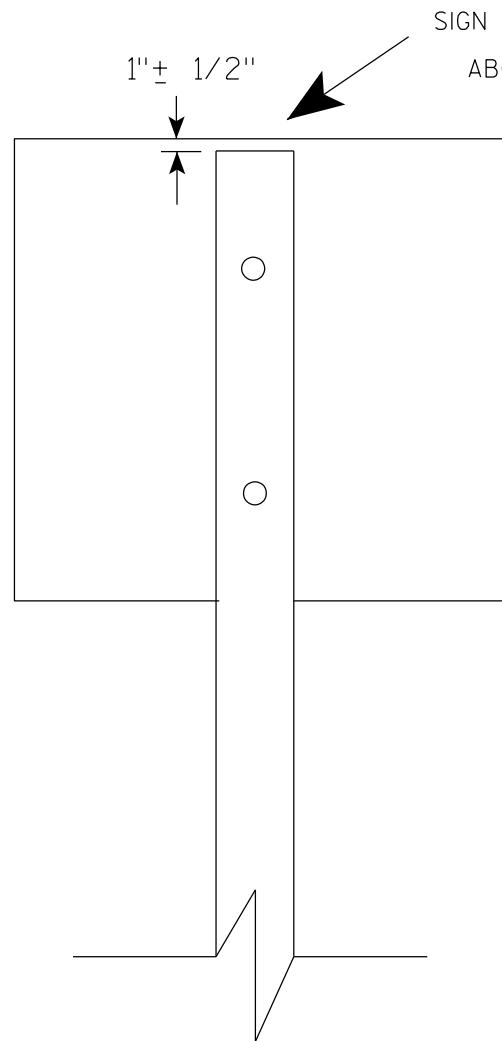
PROJECT NO:

HWY:

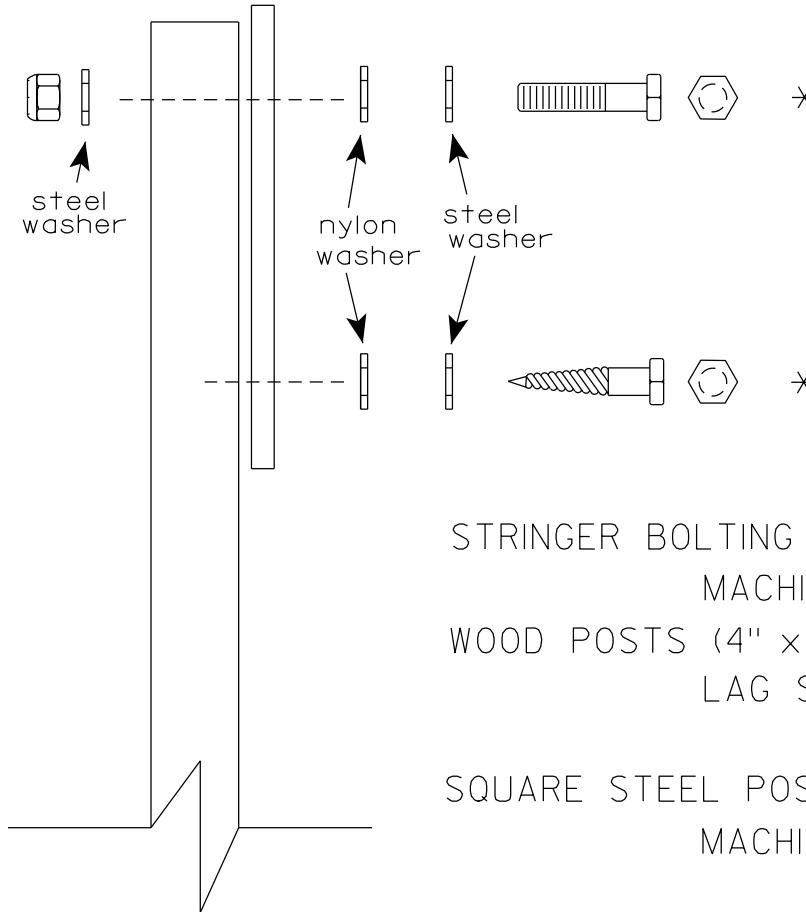
COUNTY:

SHEET NO: 40

E



SIGN SHALL BE MOUNTED TO PROJECT
ABOVE THE TOP OF THE POST



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation :B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL

O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL

1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

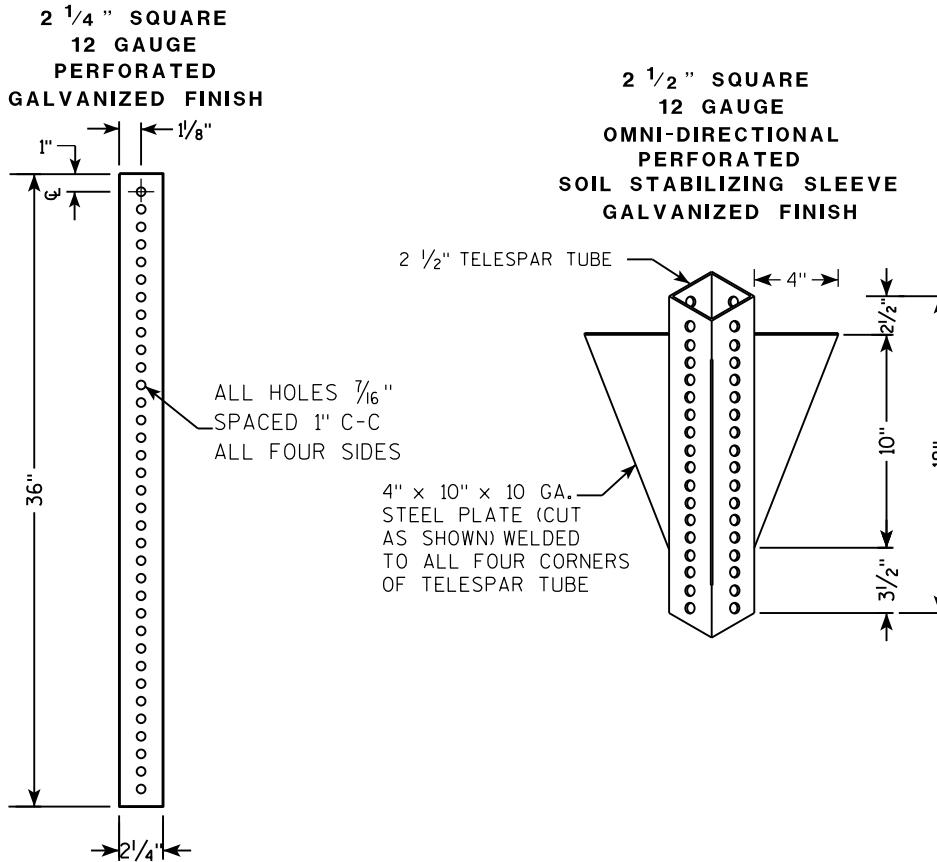
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
for State Traffic Engineer

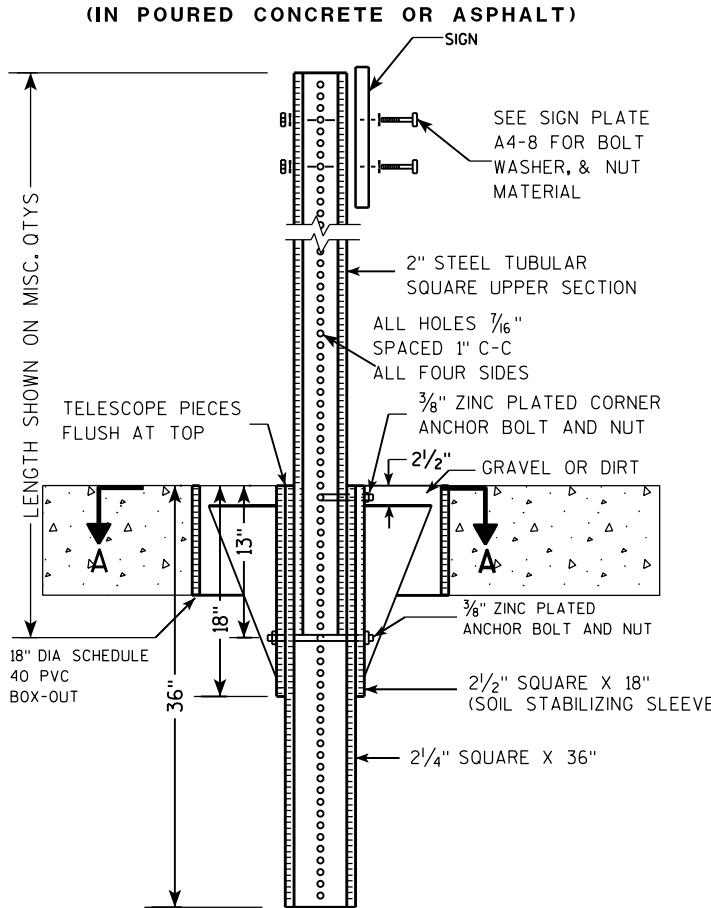
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS TWO PIECE SYSTEM



7

DETAIL OF TUBULAR STEEL SIGN POST (IN Poured CONCRETE OR ASPHALT)

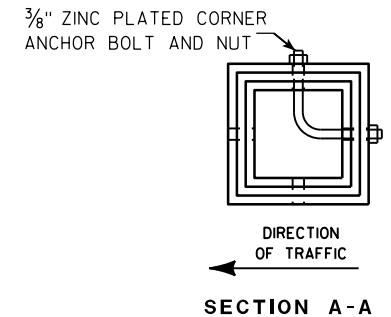
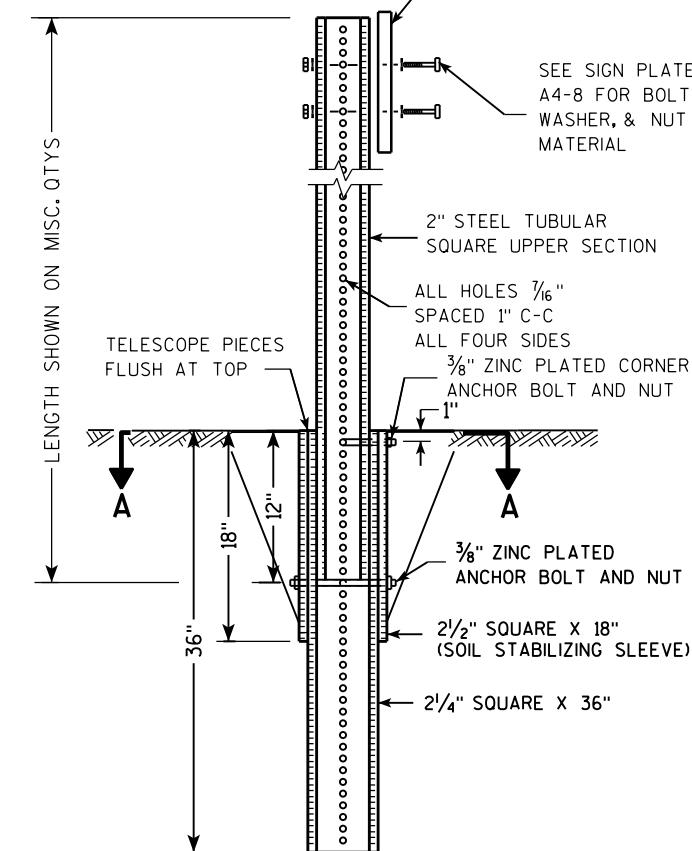


COUNTY:

PROJECT NO:

HWY:

DETAIL OF TUBULAR STEEL SIGN POST (IN LOCATIONS OTHER THAN Poured CONCRETE OR ASPHALT)



SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL SIGN POST

A4-9

WISCONSIN DEPT OF TRANSPORTATION

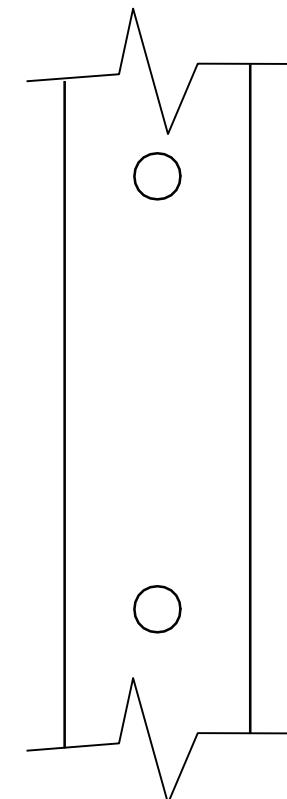
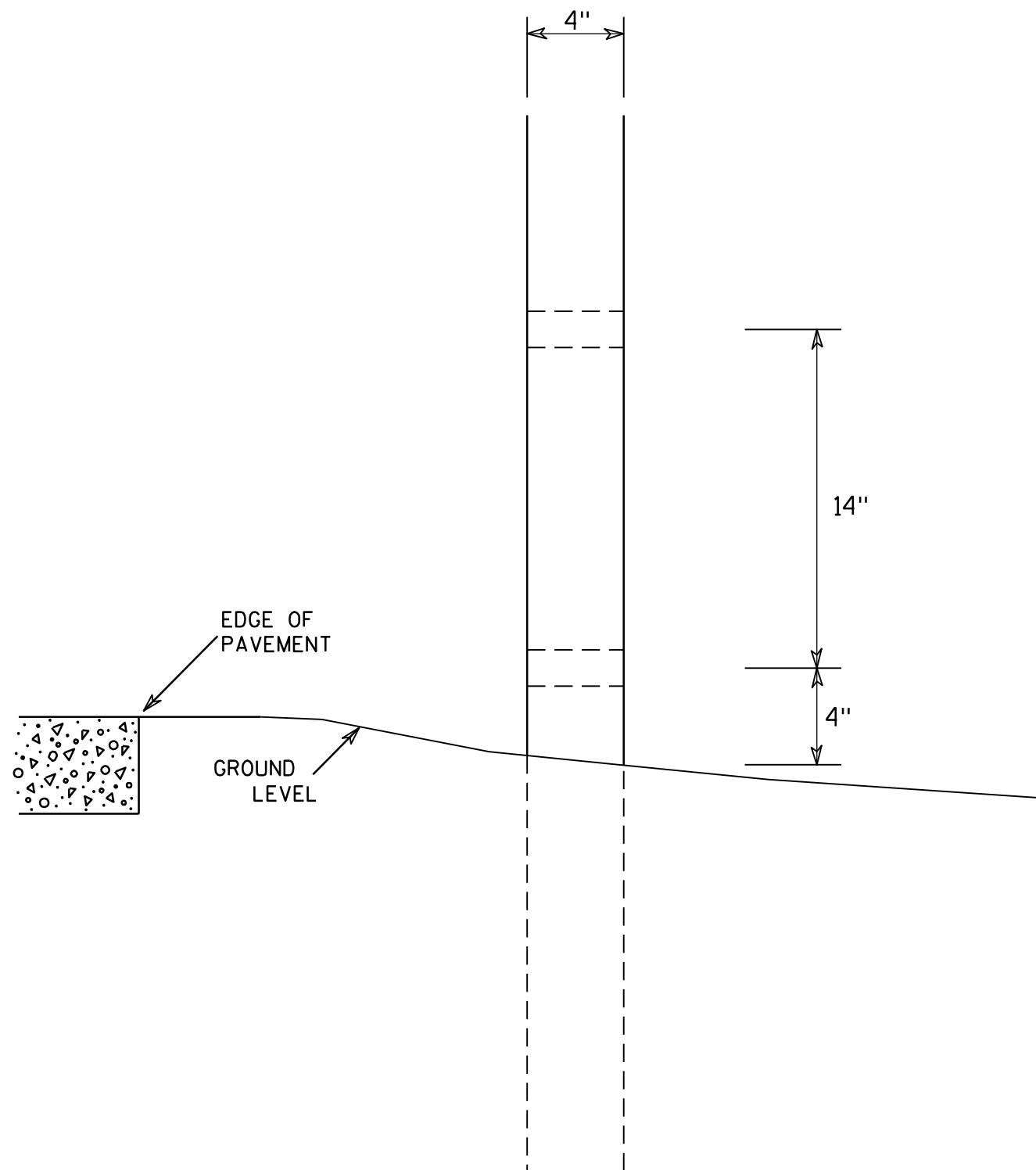
APPROVED
Matthew P Rauch

for State Traffic Engineer

DATE 2/05/15 PLATI 42 14-9.9

SHEET NO:

E



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two $1\frac{1}{2}$ " diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST
MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Cheska J. Sprey
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

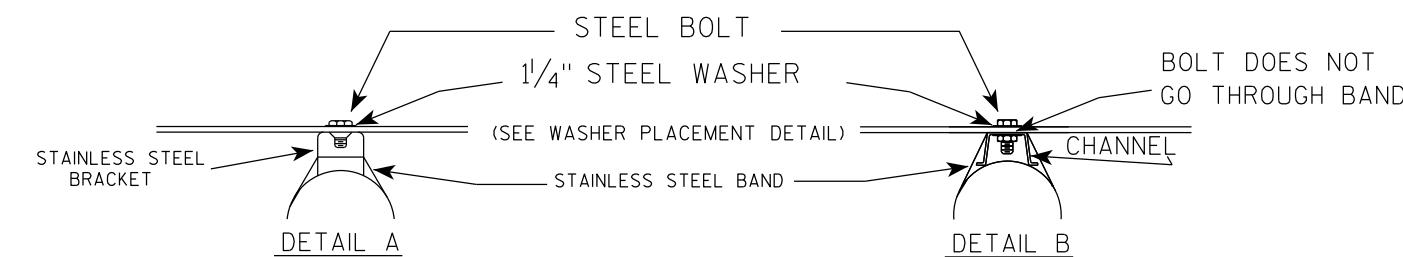
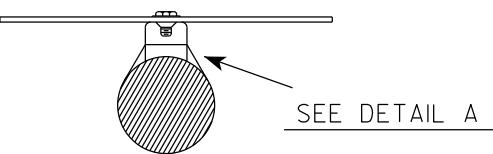
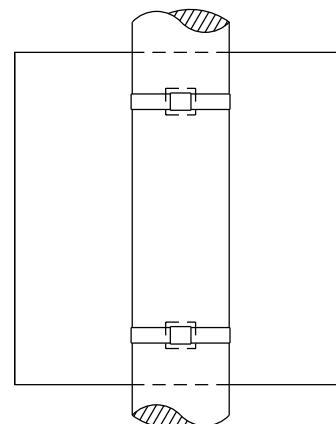
COUNTY:

BANDING

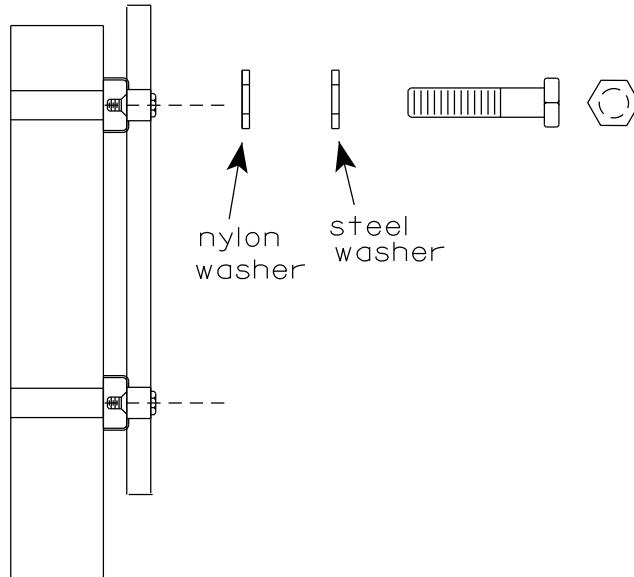
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

SINGLE SIGN

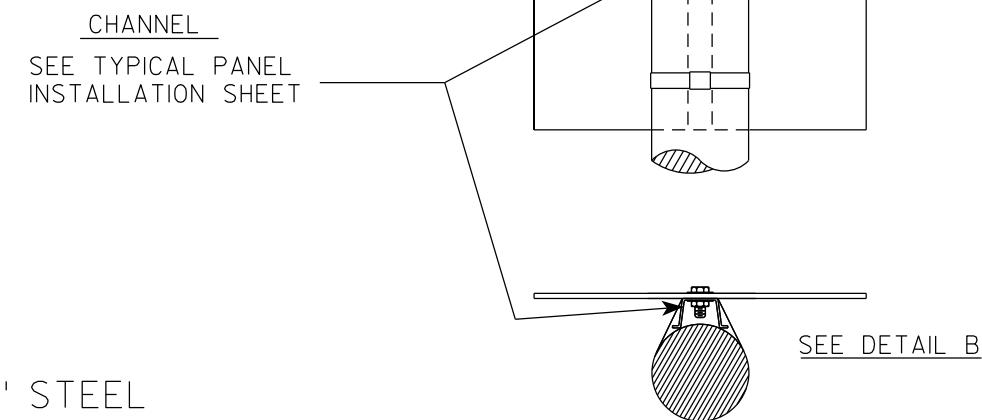


WASHER PLACEMENT



WASHERS (ALL POSTS) -
 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
 FOR ALL TYPE H SIGNS

"J" ASSEMBLY

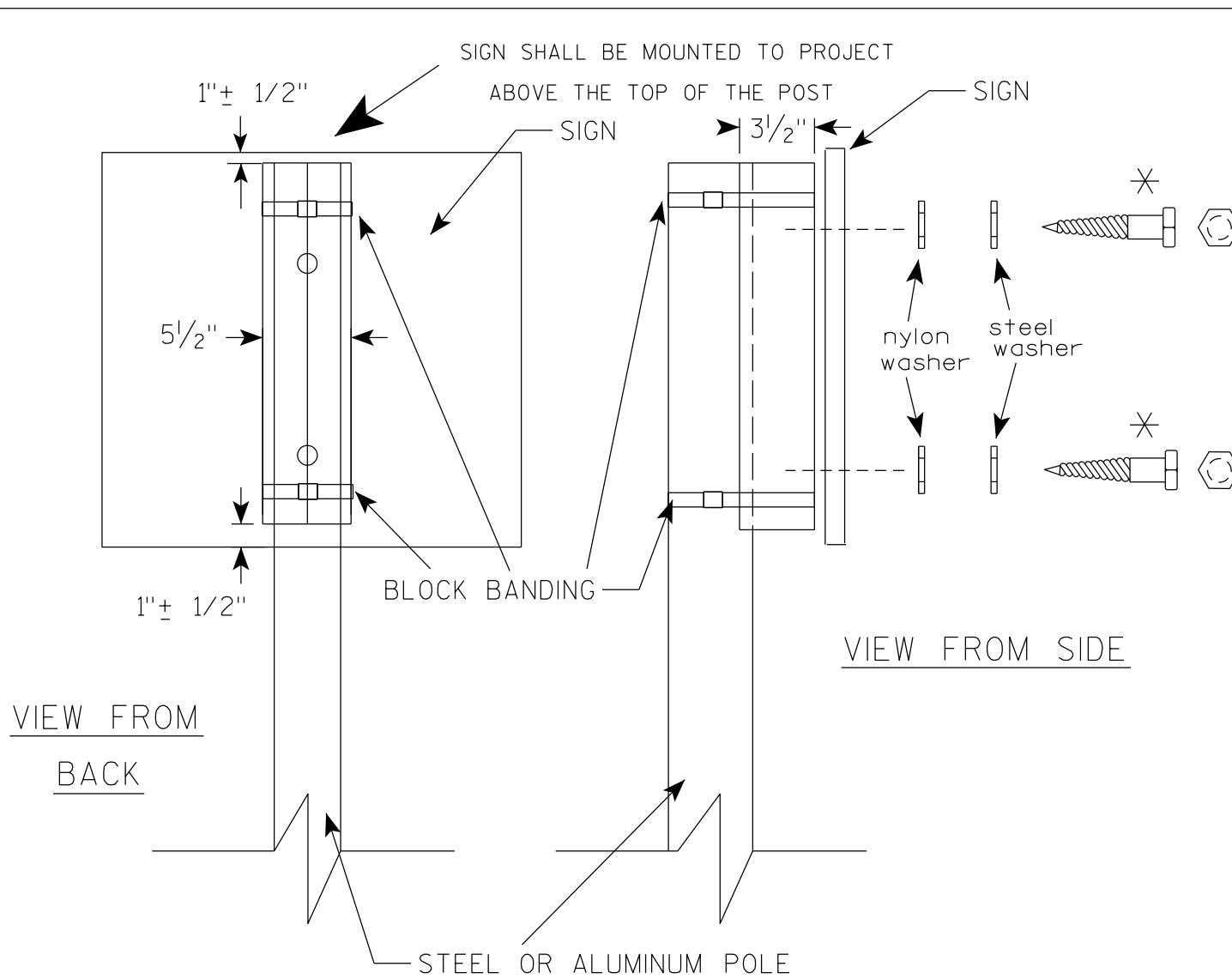


STANDARD SIGN SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

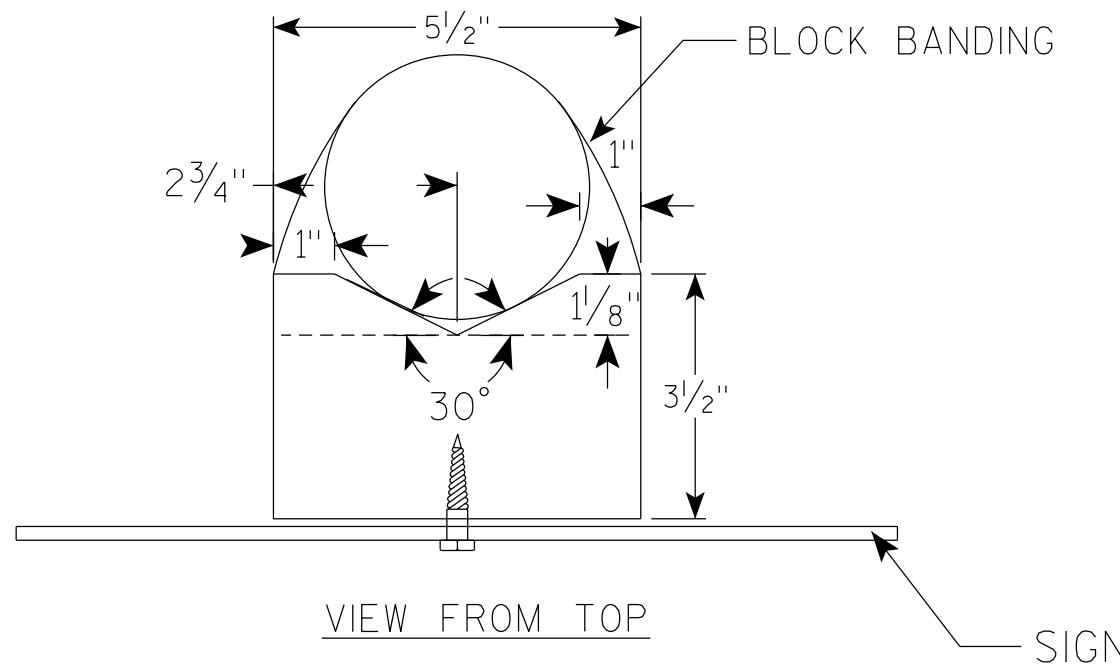
 for State Traffic Engineer
 DATE 6/10/19 PLATE NO. A5-9.4



GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $1\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $1\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

※ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "



BLOCK BANDING DETAIL
(V-BLOCK OPTION)

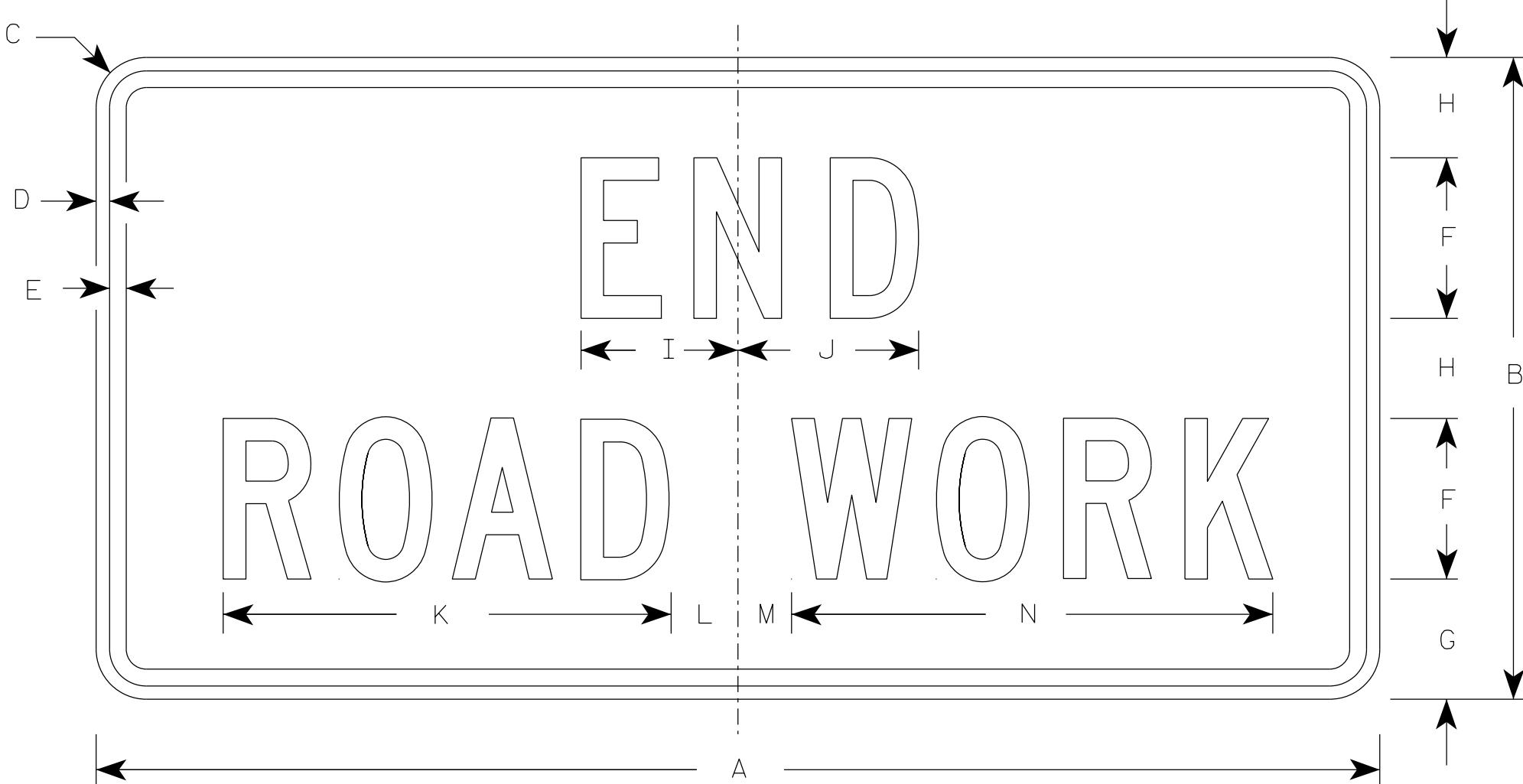
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



G20-2A

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8												4.5	
2	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2												8.0	
2M	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2												8.0	
3	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2												8.0	
4	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2												8.0	
5	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2												8.0	

PROJECT NO:

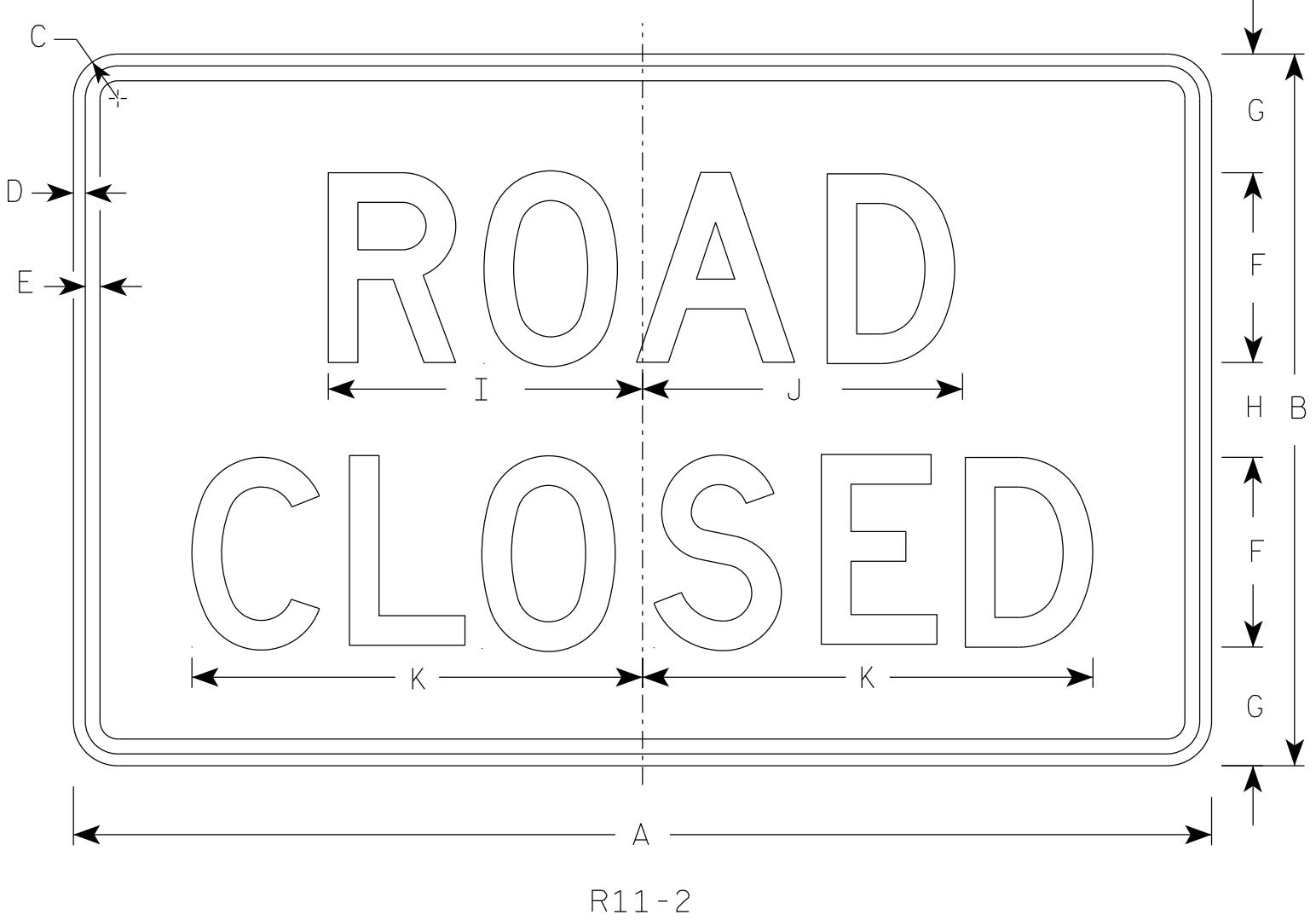
HWY:

COUNTY:

STANDARD SIGN
G20-2A
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R Rauch*
for State Traffic Engineer
DATE 1/26/2023 PLATE NO. G20-2A.10

SHEET NO:

E



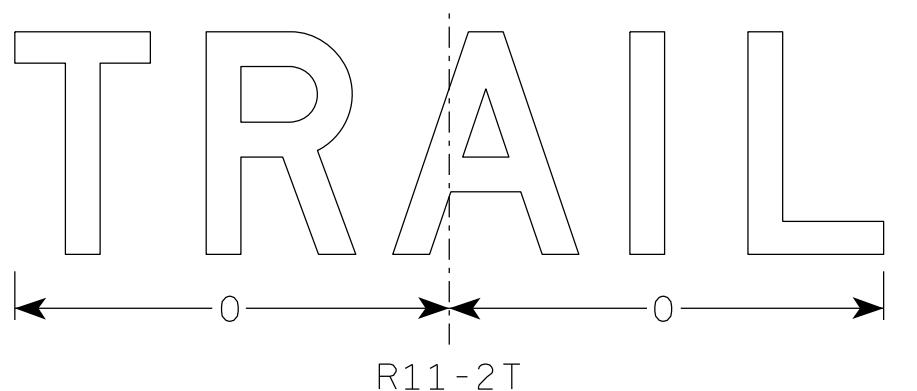
R11-2

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2T



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8											10.0	
2M	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8											10.0	
3	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8											10.0	
4	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8											10.0	
5	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8											10.0	

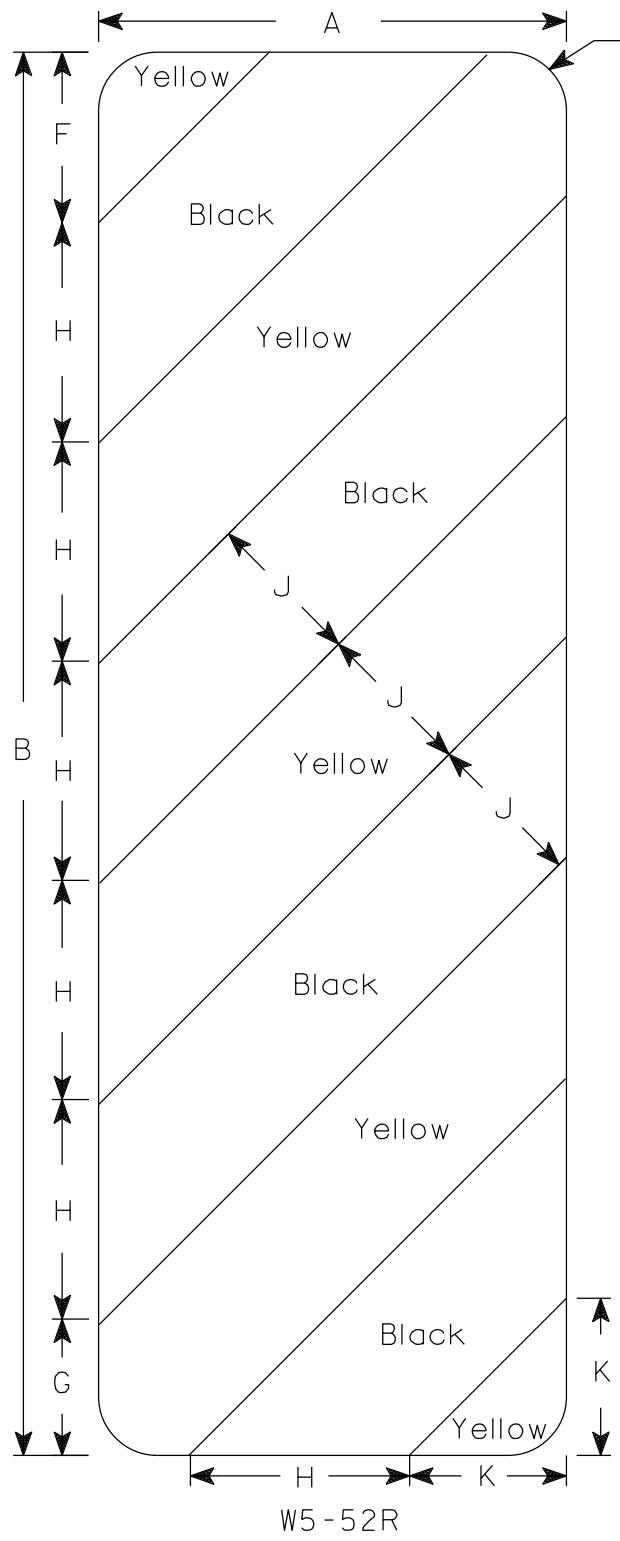
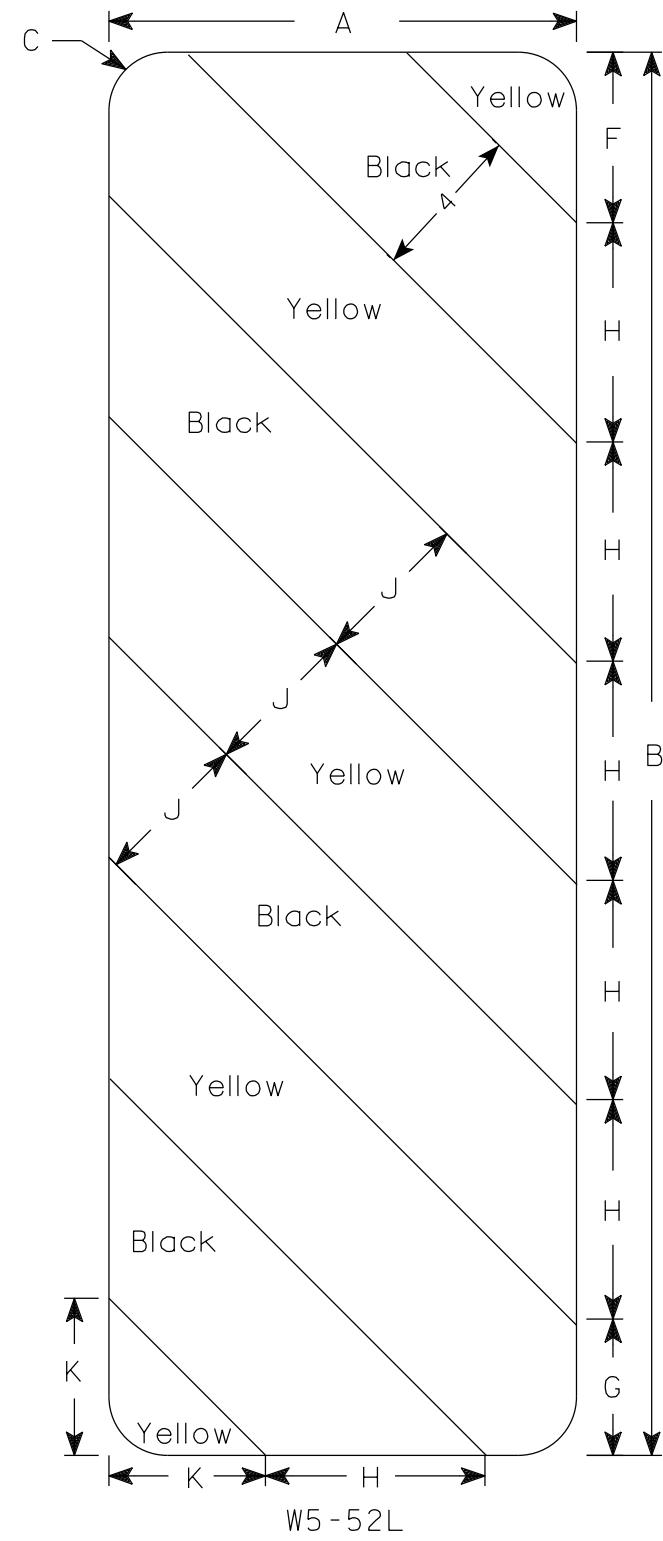
STANDARD SIGN	
R11-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED <i>Matthew R Rausch</i> for State Traffic Engineer	
DATE 2/5/24 PLATE NO. R11-2.12	

PROJECT NO:

HWY:

COUNTY:

SHEET NO: **E**



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Yellow
Message - Black
3. Alternate colors of stripes as shown.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4															3.0	
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4															3.0	
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16															6.75	
4																											
5																											

PROJECT NO:

HWY:

COUNTY:

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*

for State Traffic Engineer

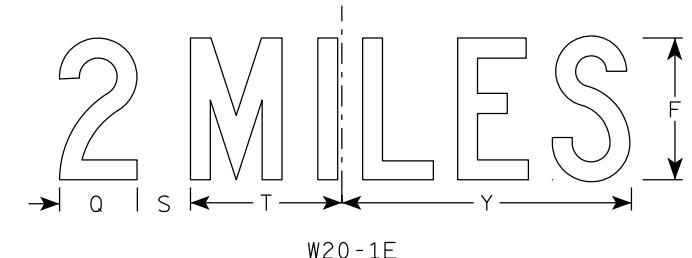
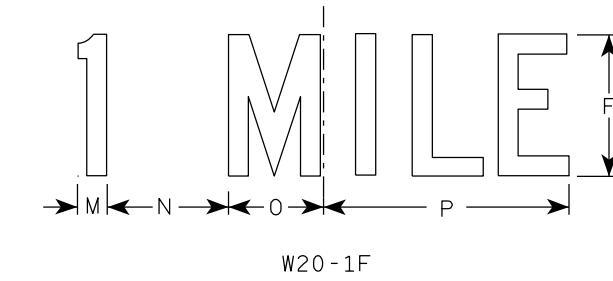
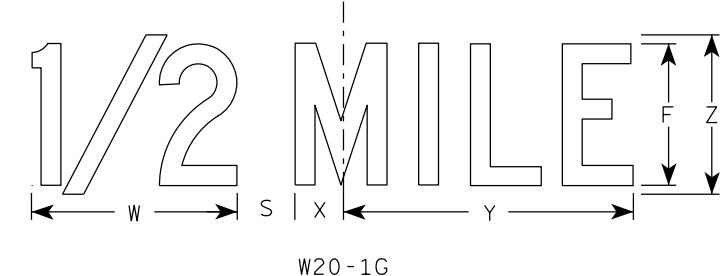
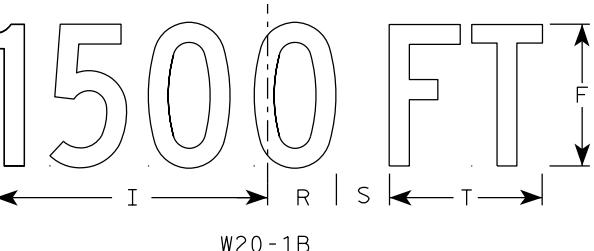
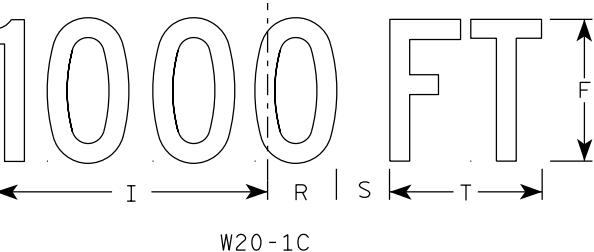
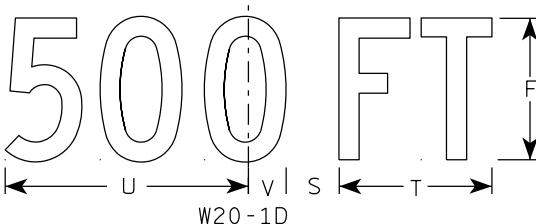
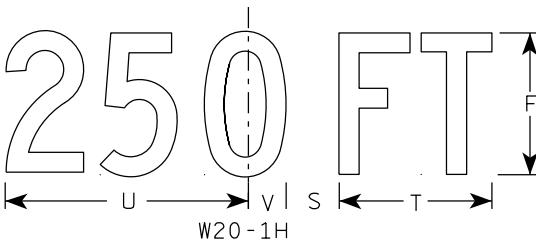
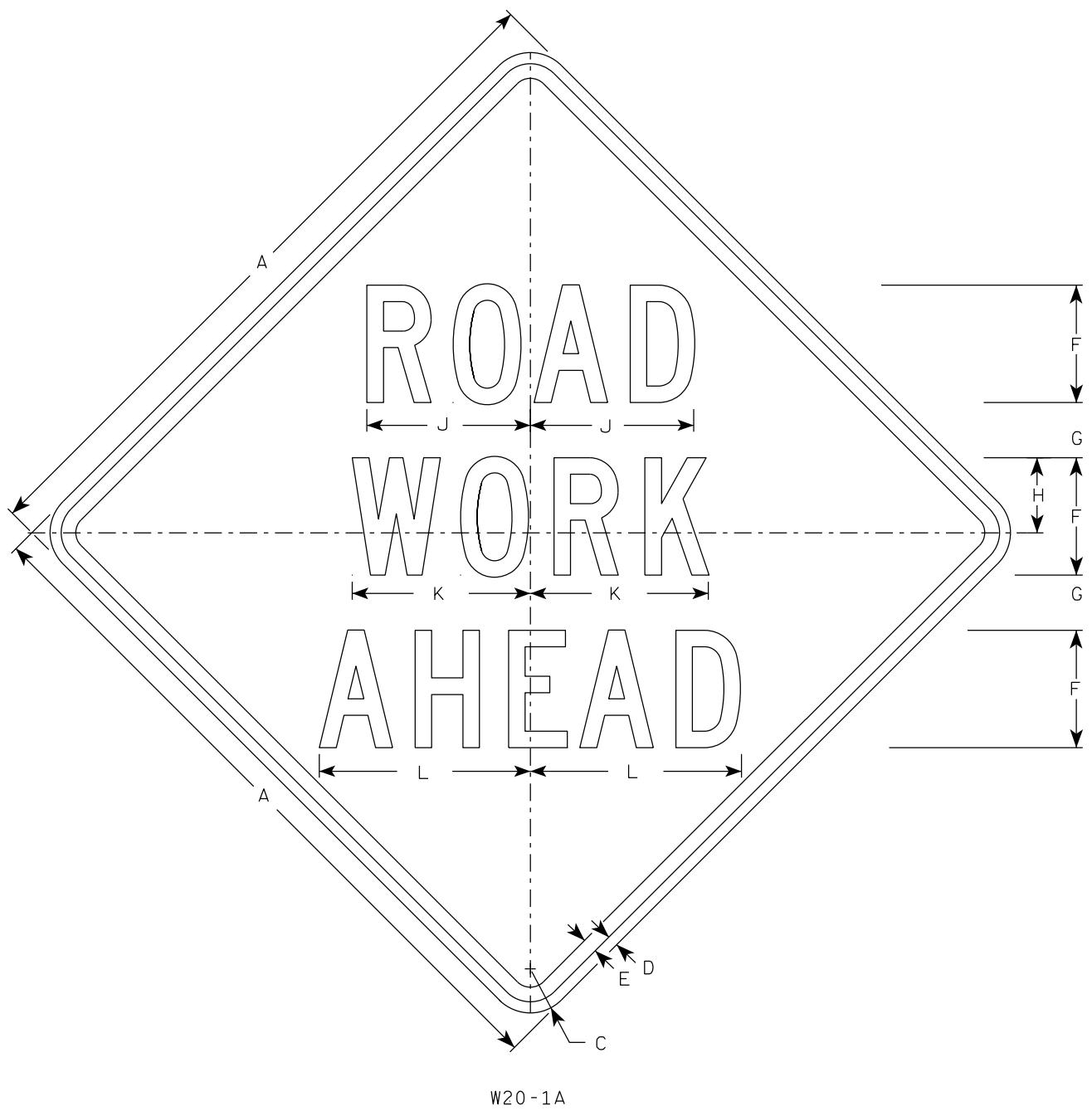
DATE 3/4/2024 PLATE NO. W5-52.10

SHEET NO:

E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		$2\frac{1}{4}$	$\frac{5}{8}$	$\frac{3}{4}$	5	$2\frac{5}{8}$	$3\frac{1}{4}$	$10\frac{1}{8}$	7	$7\frac{5}{8}$	$8\frac{7}{8}$	$1\frac{1}{8}$	$4\frac{1}{2}$	$3\frac{1}{2}$	9	$3\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{1}{4}$	$5\frac{5}{8}$	9	$1\frac{3}{8}$	8	$1\frac{3}{4}$	$10\frac{3}{4}$	6	9.0
2S	48		3	$\frac{3}{4}$	1	8	$3\frac{3}{4}$	$5\frac{1}{8}$	$15\frac{3}{8}$	$11\frac{1}{8}$	$12\frac{1}{8}$	$14\frac{3}{8}$	$1\frac{5}{8}$	$6\frac{7}{8}$	$5\frac{3}{8}$	$13\frac{7}{8}$	$4\frac{3}{8}$	$3\frac{7}{8}$	3	$8\frac{5}{8}$	$13\frac{3}{4}$	$2\frac{1}{8}$	$11\frac{7}{8}$	$2\frac{3}{4}$	$16\frac{3}{8}$	9	16.0
2M	48		3	$\frac{3}{4}$	1	8	$3\frac{3}{4}$	$5\frac{1}{8}$	$15\frac{3}{8}$	$11\frac{1}{8}$	$12\frac{1}{8}$	$14\frac{3}{8}$	$1\frac{5}{8}$	$6\frac{7}{8}$	$5\frac{3}{8}$	$13\frac{7}{8}$	$4\frac{3}{8}$	$3\frac{7}{8}$	3	$8\frac{5}{8}$	$13\frac{3}{4}$	$2\frac{1}{8}$	$11\frac{7}{8}$	$2\frac{3}{4}$	$16\frac{3}{8}$	9	16.0
3	48		3	$\frac{3}{4}$	1	8	$3\frac{3}{4}$	$5\frac{1}{8}$	$15\frac{3}{8}$	$11\frac{1}{8}$	$12\frac{1}{8}$	$14\frac{3}{8}$	$1\frac{5}{8}$	$6\frac{7}{8}$	$5\frac{3}{8}$	$13\frac{7}{8}$	$4\frac{3}{8}$	$3\frac{7}{8}$	3	$8\frac{5}{8}$	$13\frac{3}{4}$	$2\frac{1}{8}$	$11\frac{7}{8}$	$2\frac{3}{4}$	$16\frac{3}{8}$	9	16.0
4	48		3	$\frac{3}{4}$	1	8	$3\frac{3}{4}$	$5\frac{1}{8}$	$15\frac{3}{8}$	$11\frac{1}{8}$	$12\frac{1}{8}$	$14\frac{3}{8}$	$1\frac{5}{8}$	$6\frac{7}{8}$	$5\frac{3}{8}$	$13\frac{7}{8}$	$4\frac{3}{8}$	$3\frac{7}{8}$	3	$8\frac{5}{8}$	$13\frac{3}{4}$	$2\frac{1}{8}$	$11\frac{7}{8}$	$2\frac{3}{4}$	$16\frac{3}{8}$	9	16.0
5	48		3	$\frac{3}{4}$	1	8	$3\frac{3}{4}$	$5\frac{1}{8}$	$15\frac{3}{8}$	$11\frac{1}{8}$	$12\frac{1}{8}$	$14\frac{3}{8}$	$1\frac{5}{8}$	$6\frac{7}{8}$	$5\frac{3}{8}$	$13\frac{7}{8}$	$4\frac{3}{8}$	$3\frac{7}{8}$	3	$8\frac{5}{8}$	$13\frac{3}{4}$	$2\frac{1}{8}$	$11\frac{7}{8}$	$2\frac{3}{4}$	$16\frac{3}{8}$	9	16.0

PROJECT NO:

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 1/10/2024 PLATE NO. W20-1.12

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-27-0178" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

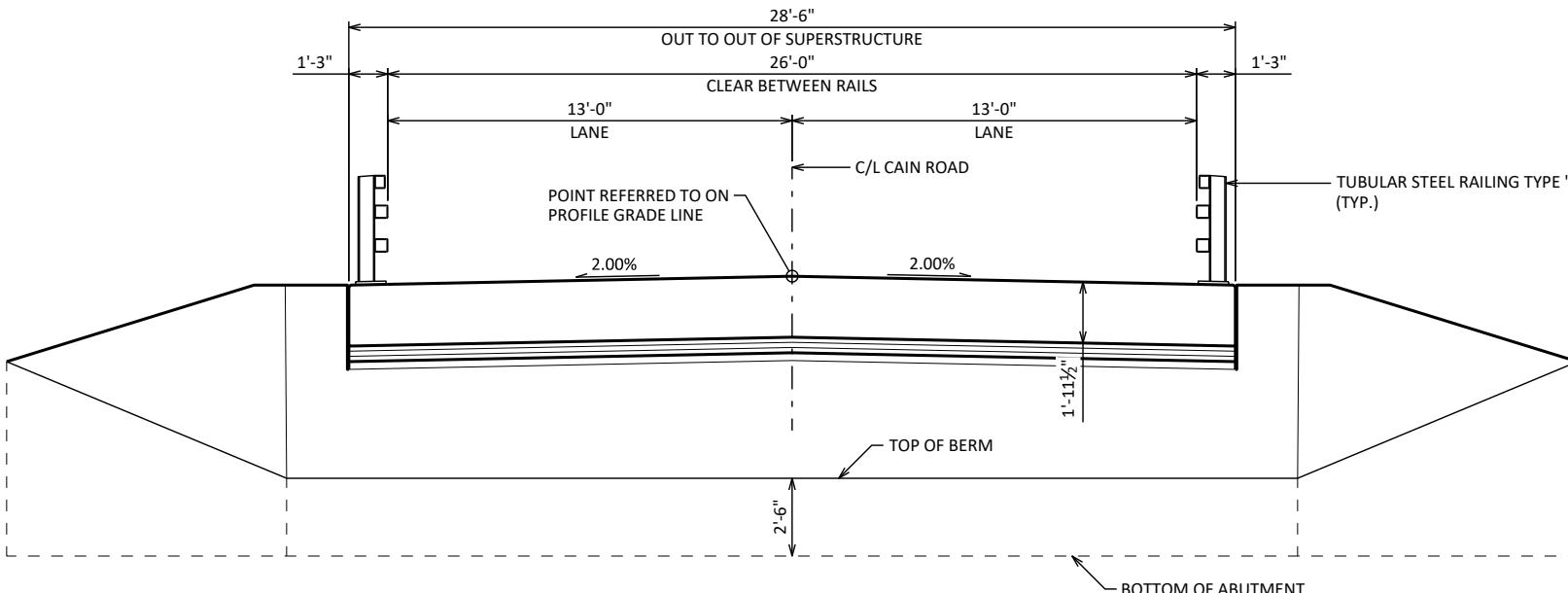
THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

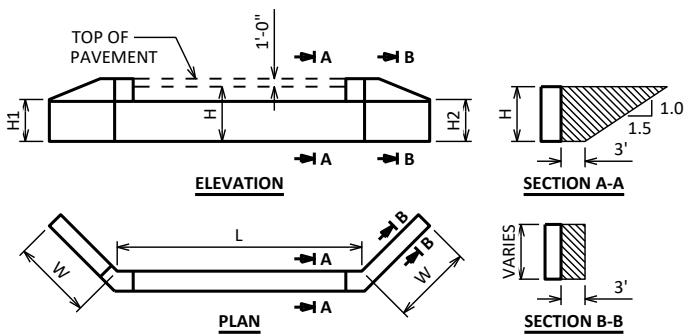
AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO ENTIRE EXPOSED TOP OF SLAB, INCLUDING THE SLAB EDGE AND 1'-0" UNDER THE SLAB, THE TOP AND EXTERIOR EXPOSED FACE OF WINGS AND FRONT FACE OF ABUTMENT TO 1'-0" PAST THE EDGE OF SLAB.



CROSS SECTION THRU ROADWAY

LOOKING UPSTATION
(PILING NOT SHOWN FOR CLARITY)

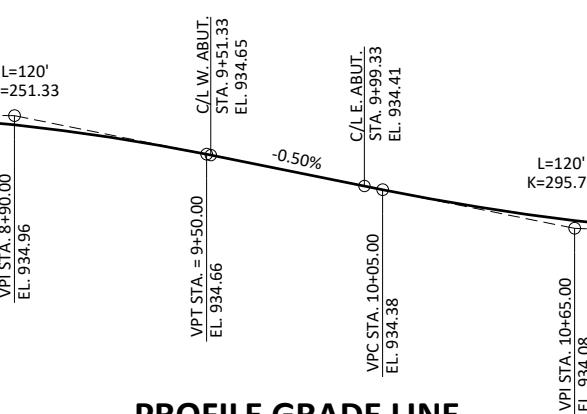
ABUTMENT BACKFILL DIAGRAM

L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
 H = AVERAGE ABUTMENT FILL HEIGHT (FT)
 H1 = WING 1 HEIGHT AT TIP (FT)
 H2 = WING 2 HEIGHT AT TIP (FT)
 W = WING LENGTH (FT)
 EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)$
 $V_{CY} = V_{CF}(EF)/27$
 $V_{TON} = V_{CY}(2.0)$

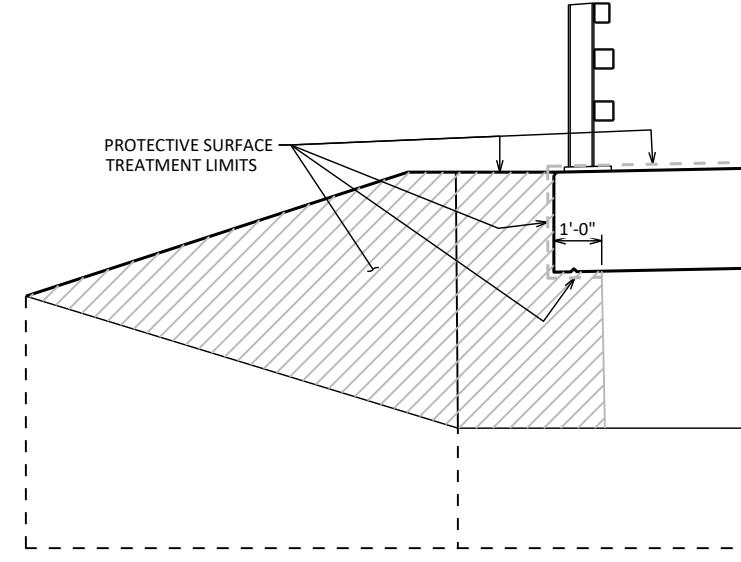
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	W ABUT.	E ABUT.	TOTALS
203.0250	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS (P-27-0932)	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES (B-27-0178)	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	166	166	332
502.0100	CONCRETE MASONRY BRIDGES	CY	109	27	27	163
502.3200	PROTECTIVE SURFACE TREATMENT	SY	190	15	15	220
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	---	2,210	2,210	4,420
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	24,280	1,540	1,540	27,360
513.4061	RAILING TUBULAR TYPE M	LF	106	---	---	106
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	6	6	12
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	---	560	560	1,120
606.0300	RIPRAP HEAVY	CY	---	75	75	150
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	72	72	144
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	---	46	46	92
645.0120	GEOTEXTILE TYPE HR	SY	---	145	135	280
SPV.0195	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	---	33	32	65
NON-BID ITEMS						
	FILLER	SIZE	---	---	---	$\frac{1}{2}$ ", $\frac{3}{4}$ "
	NAME PLATE					

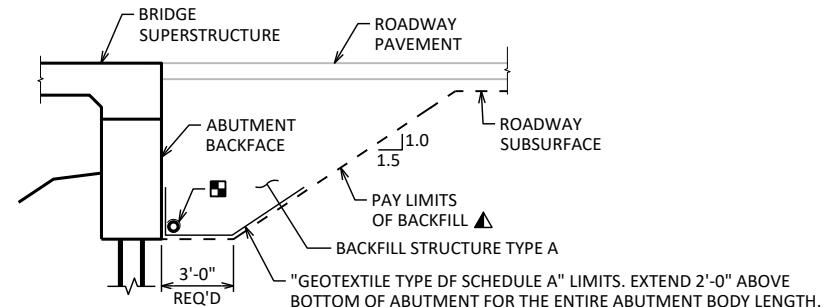
THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.1.0.0



PROFILE GRADE LINE



PROTECTIVE SURFACE TREATMENT DETAILS

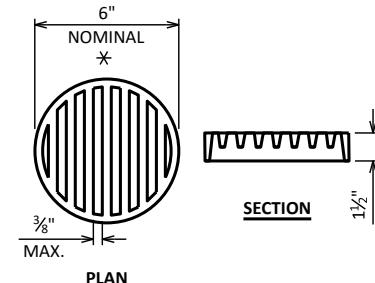


TYPICAL SECTION THRU ABUTMENT

- BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

BENCH MARK

NO.	STA.	DESCRIPTION	ELEV.
101	11+24	3/4" IRON REBAR SET, 29.0' RT.	932.77
102	9+94	CGSS, 39.2' LT.	933.38
103	5+18	3/4" IRON REBAR SET, 35.5' RT.	942.46



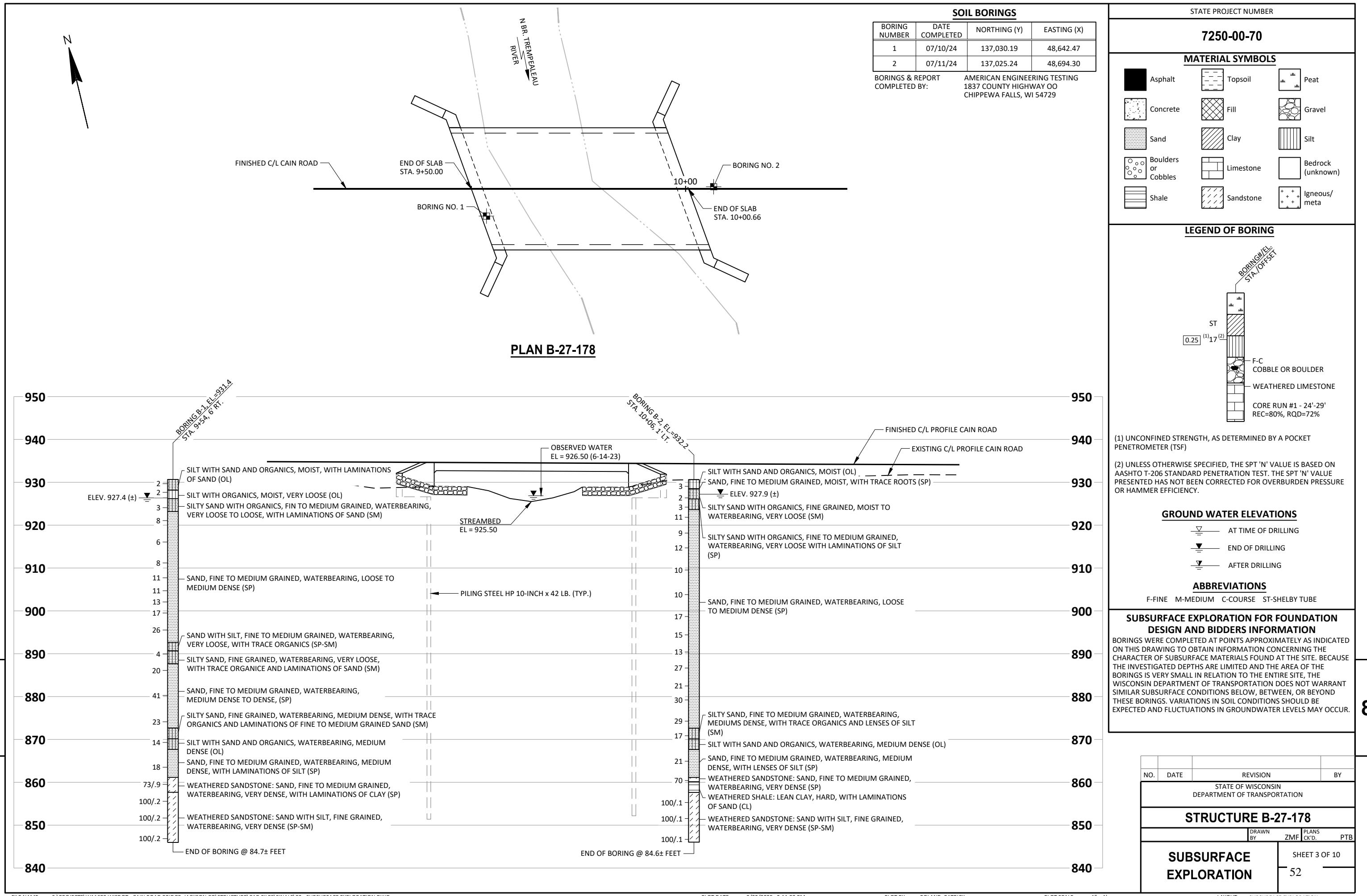
RODENT SHIELD DETAIL

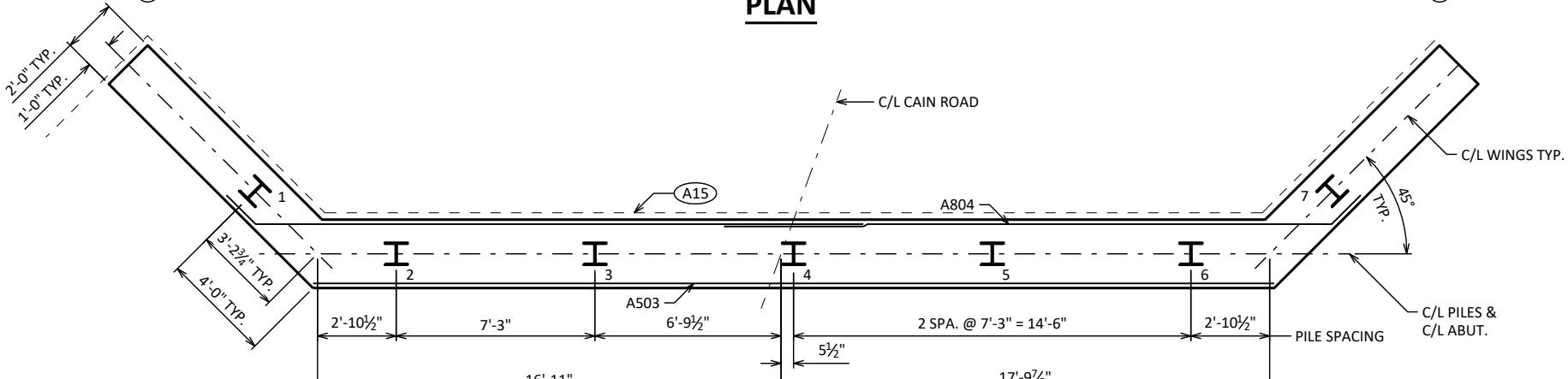
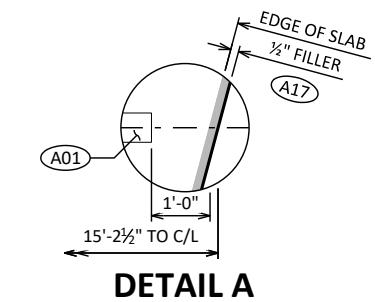
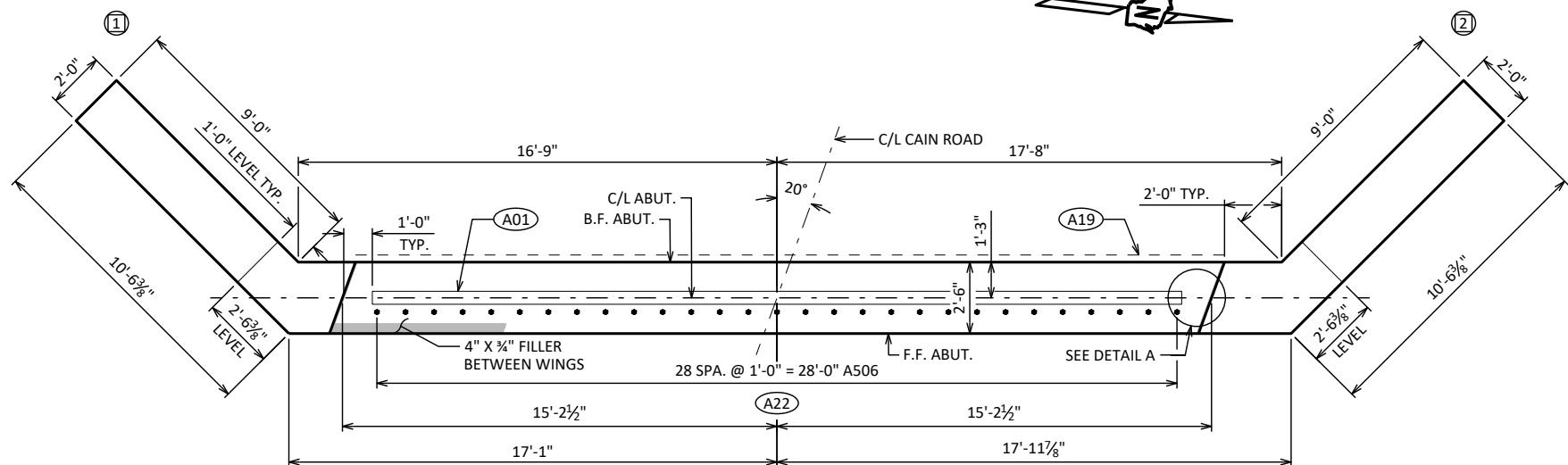
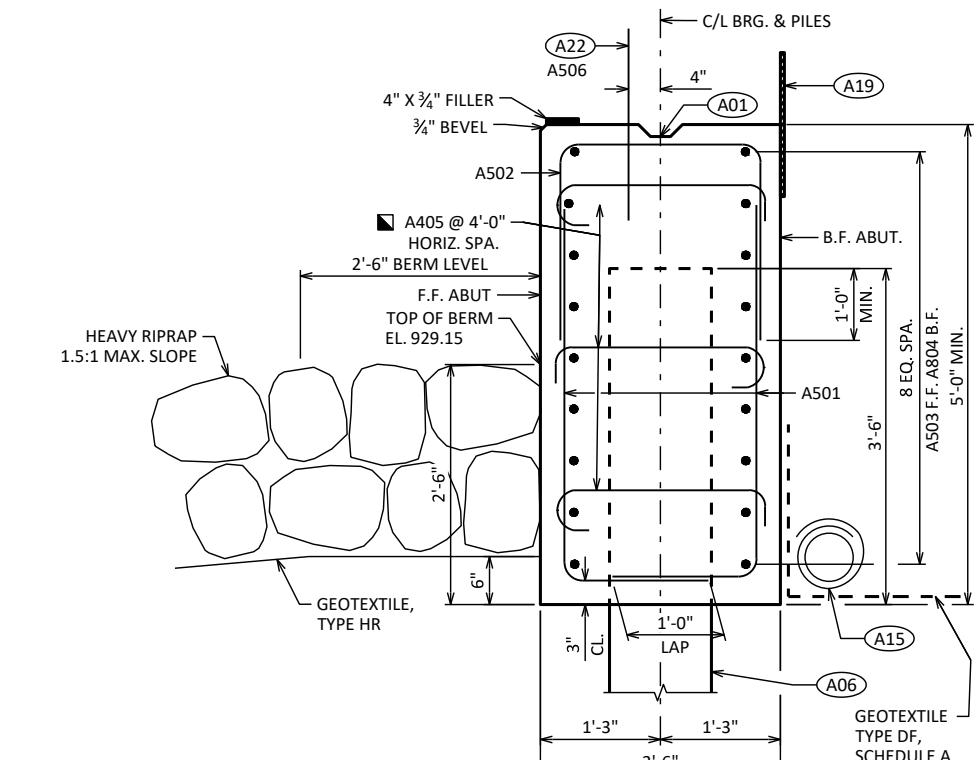
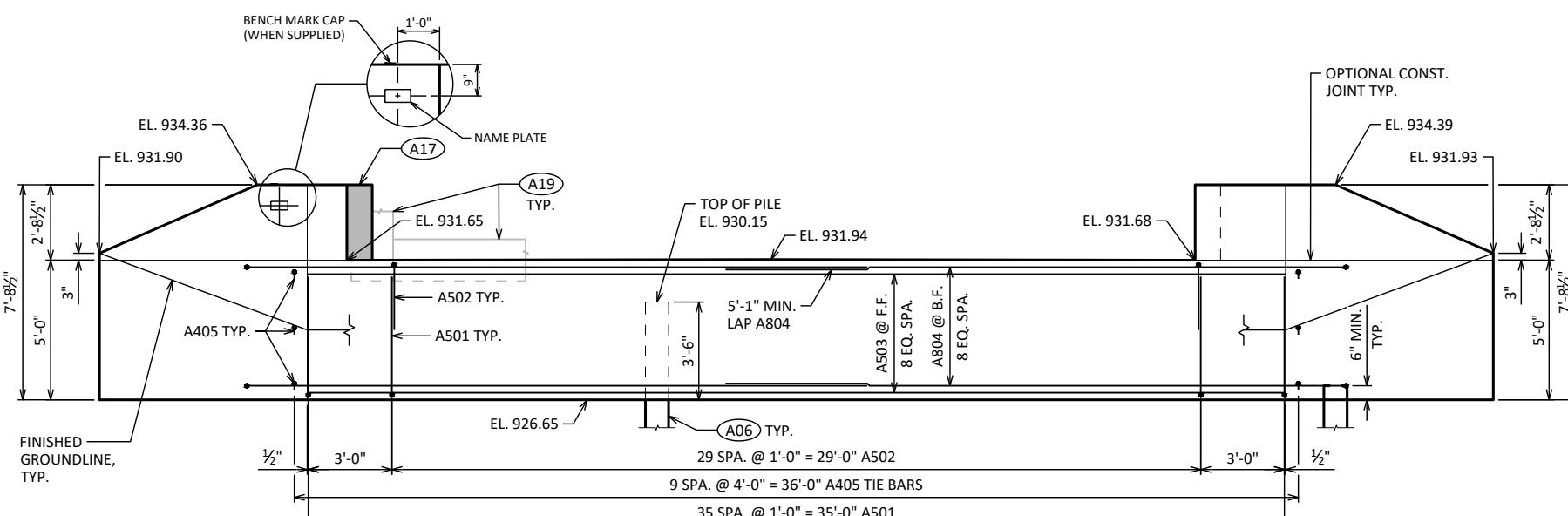
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-178			
DRAWN BY ZMF PLANS CK'D PTB			
CROSS SECTION & QUANTITIES		SHEET 2 OF 10	51





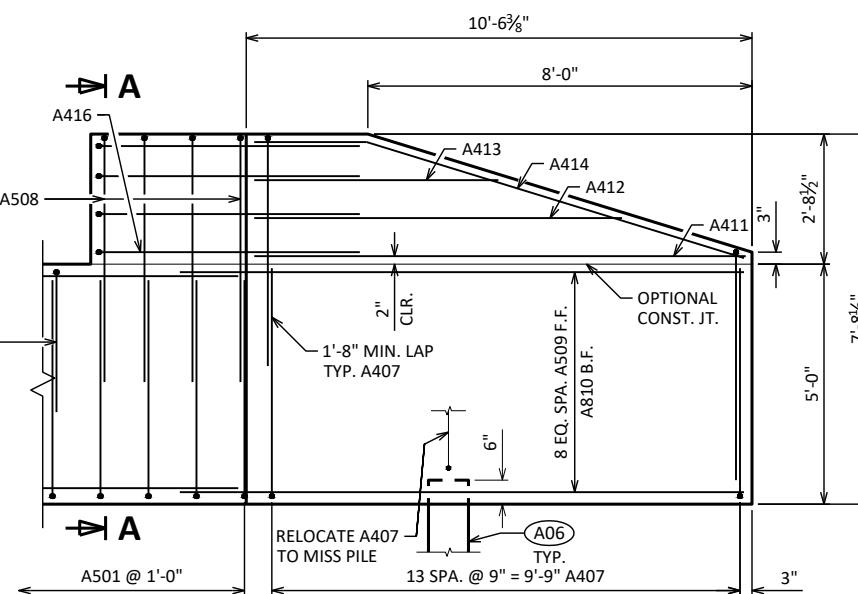
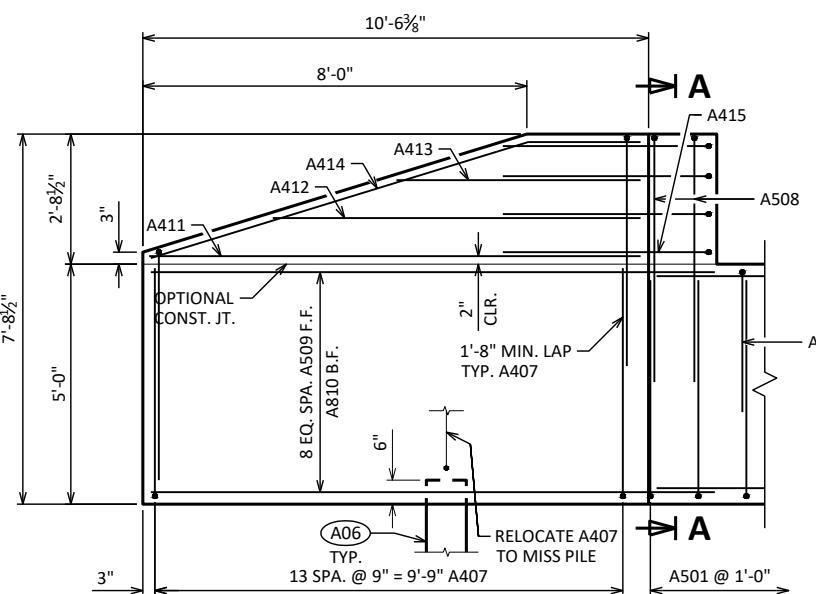
- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6.
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 PILING, ESTIMATED 80 FT LONG WITH A REQUIRED DRIVING RESISTANCE OF 140TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22) A506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-178			
DRAWN BY	ZMF	PLANS CK'D	PTB
SHEET 4 OF 10			
WEST ABUTMENT	53		SCALE =

BILL OF BARS

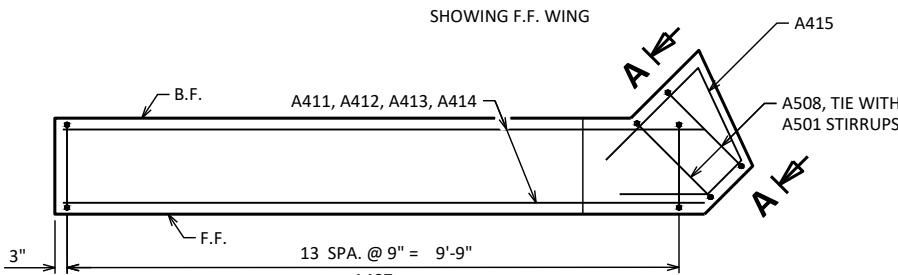
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		72	6'-0"	X		ABUT BODY STIRRUPS
A502		30	7'-9"	X		ABUT BODY STIRRUPS - TOP U-BAR
A503		9	35'-1"			ABUT BODY HORIZ. - F.F.
A804		18	23'-6"	X		ABUT BODY HORIZ. - B.F.
A405		30	3'-0"	X		ABUT BODY TIE BARS
A506	X	29	2'-0"			ABUT BODY DOWEL BARS
A407	X	56	11'-0"	X		WING STIRRUPS
A508	X	6	12'-1"	X		WING CORNER STIRRUPS
A509	X	18	11'-9"	X		WING LOWER HORIZ. - F.F.
A810	X	18	13'-3"	X		WING LOWER HORIZ. - B.F.
A411	X	4	10'-2"			WING UPPER HORIZ.
A412	X	4	7'-7"			WING UPPER HORIZ.
A413	X	4	5'-0"			WING UPPER HORIZ.
A414	X	4	9'-9"	X		WING TOP HORIZ.
A415	X	4	7'-6"	X		WING 1 UPPER HORIZ. CORNER
A416	X	4	9'-5"	X		WING 2 UPPER HORIZ. CORNER



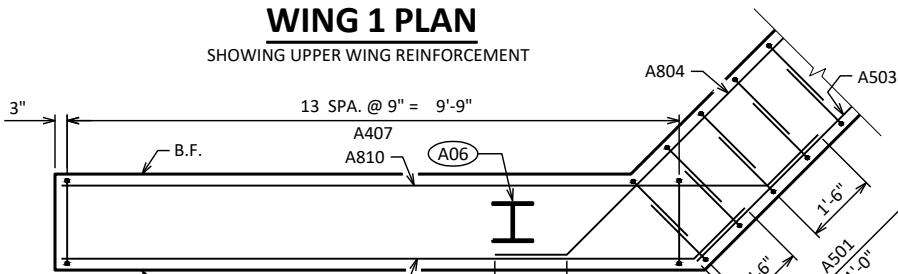
WING 1 ELEVATION

SHOWING F.F. WING

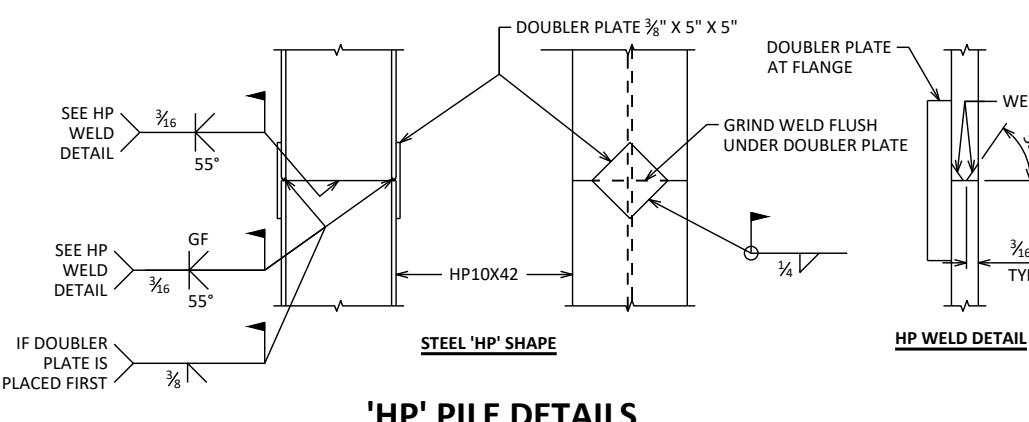


WING 1 PLAN

SHOWING UPPER WING REINFORCEMENT



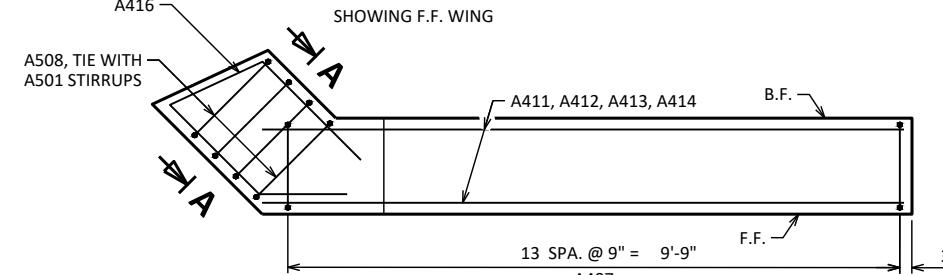
WING 1 PLAN

SHOWING LOWER WING REINFORCEMENT
WING 2 SIMILAR

THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.1.0.0

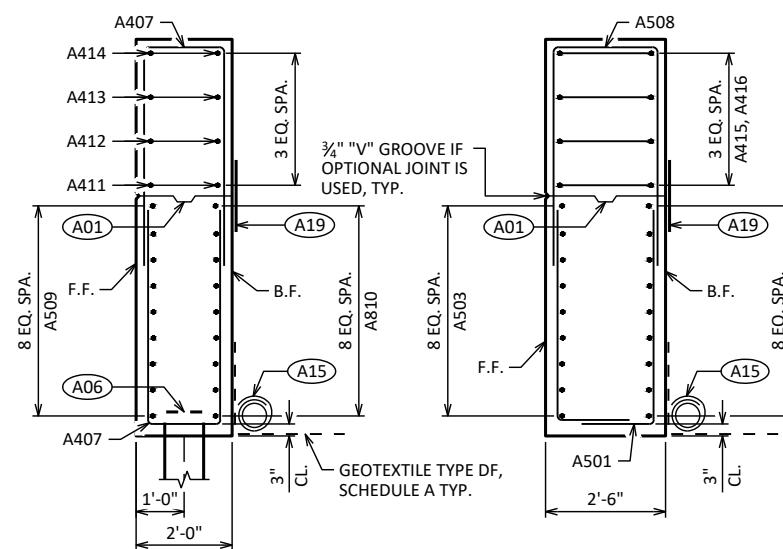
WING 2 ELEVATION

SHOWING F.F. WING



WING 2 PLAN

SHOWING UPPER WING REINFORCEMENT

SECTION THRU WING 1
TYPICAL BOTH WINGS

SECTION A-A

(A01) OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE $\frac{3}{4}$ " "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.

(A06) SUPPORT ABUTMENT ON HP 10 x 42 PILING, ESTIMATED 80 FT LONG WITH A REQUIRED DRIVING RESISTANCE OF 140TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

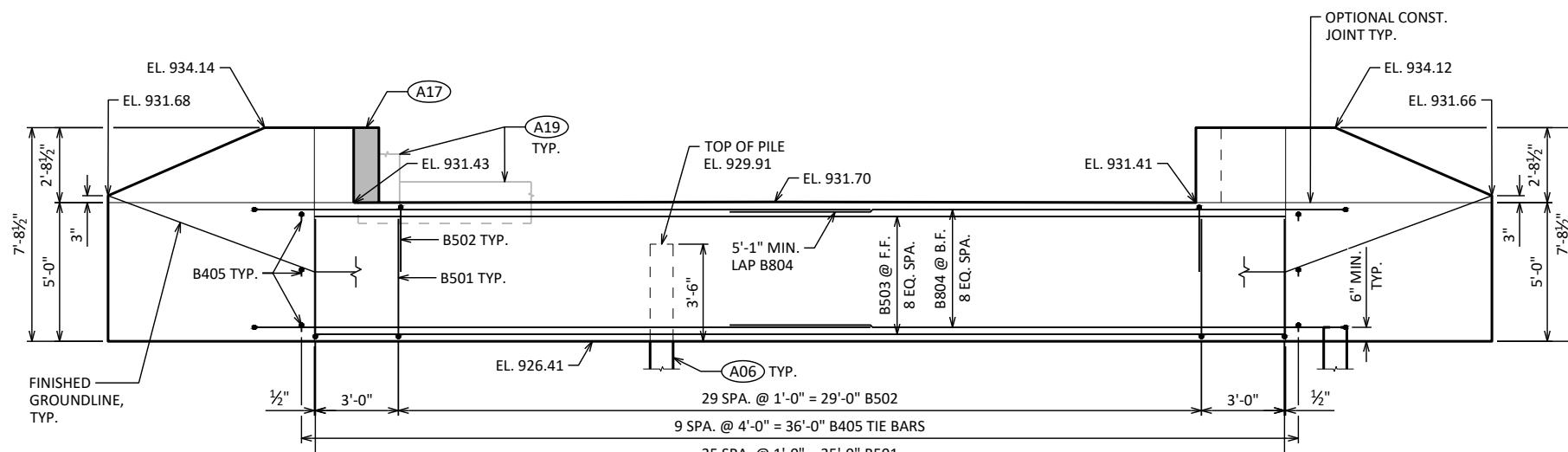
(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

NO. DATE REVISION BY
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

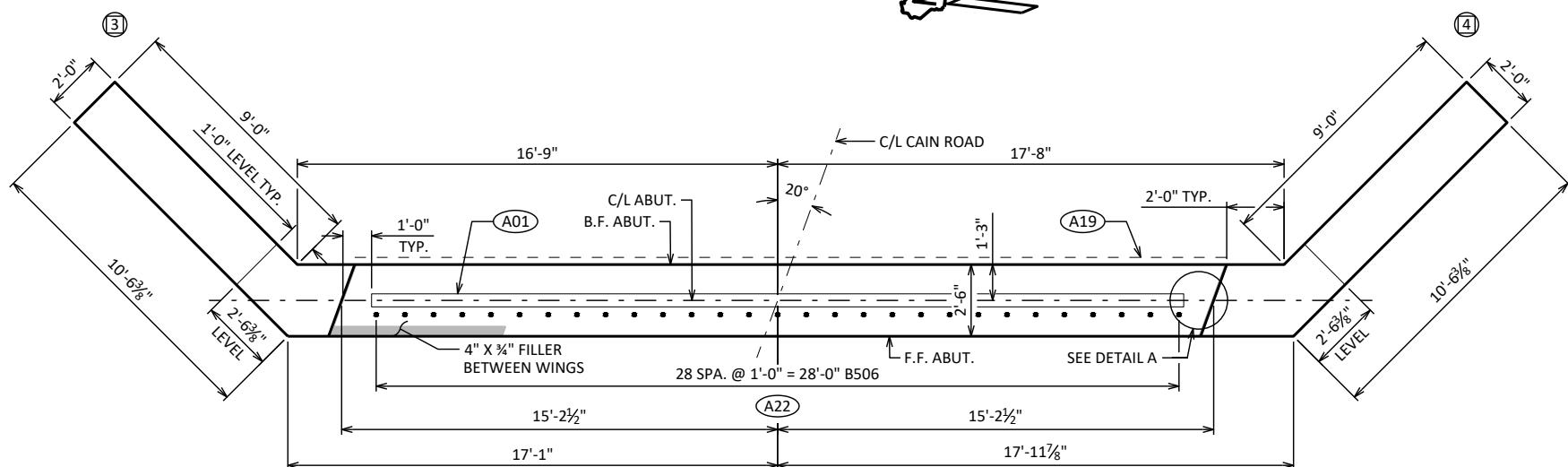
STRUCTURE B-27-178

DRAWN BY ZMF PLANS CK'D PTB

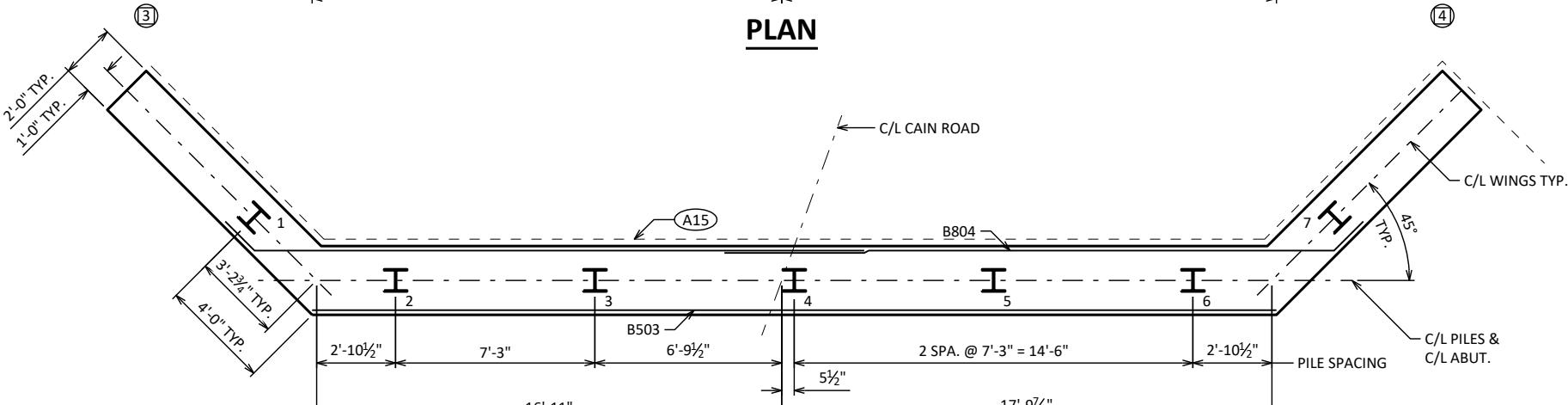
WEST ABUTMENT DETAILS
SHEET 5 OF 10
54



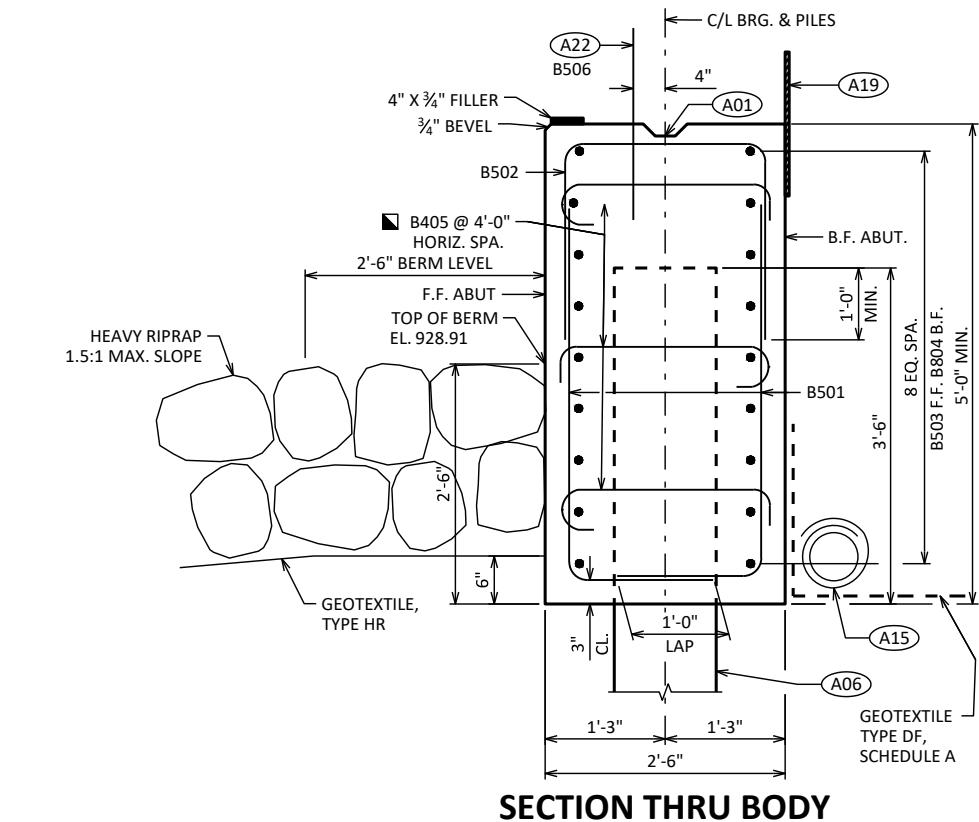
ELEVATIO



PLAN



PILE PLAN



SECTION THRU BODY

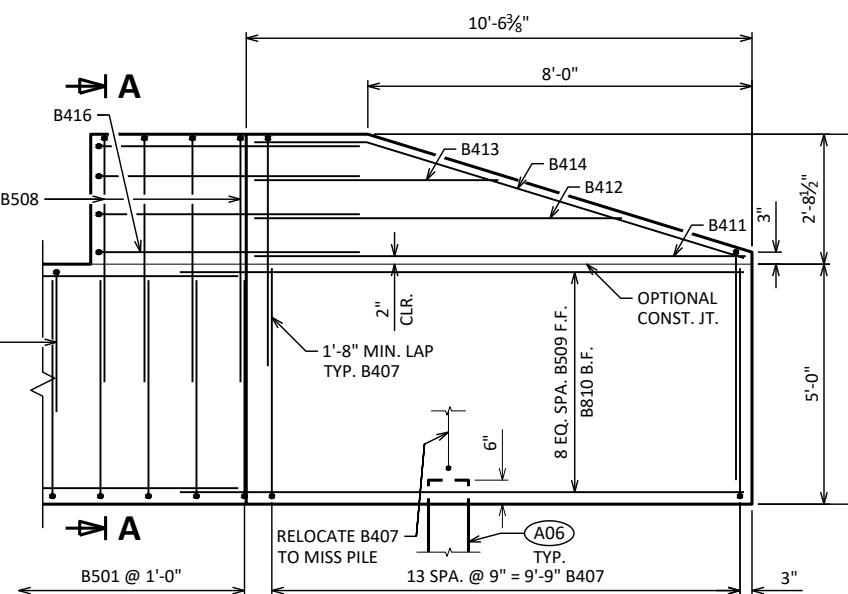
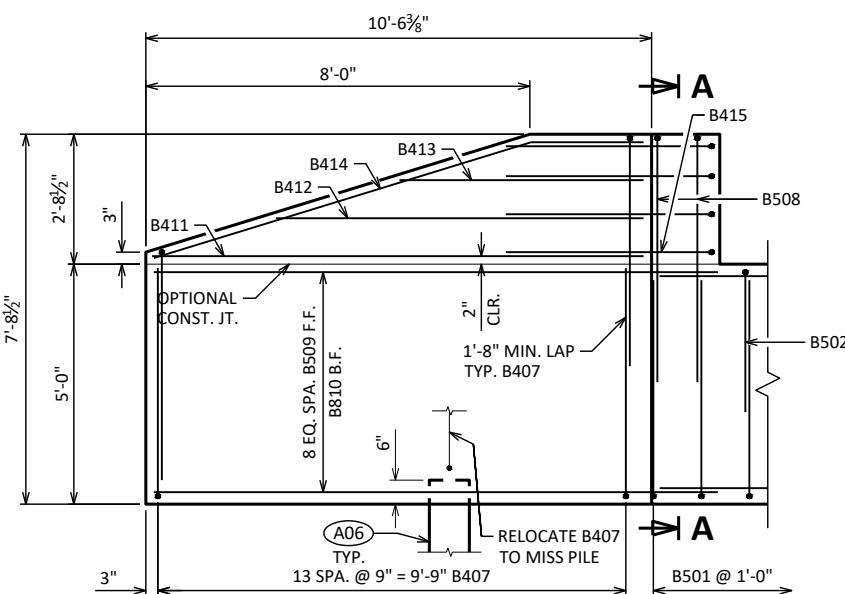
- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6.
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 PILING, ESTIMATED 80 FT LONG WITH A REQUIRED DRIVING RESISTANCE OF 140TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) $\frac{1}{2}$ " FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF $\frac{1}{2}$ " FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD $\frac{1}{8}$ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22) B506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-178			
DRAWN BY		ZMF	PLANS CK'D
PTB			
EAST ABUTMENT		SHEET 6 OF 10	
		55	

BILL OF BARS

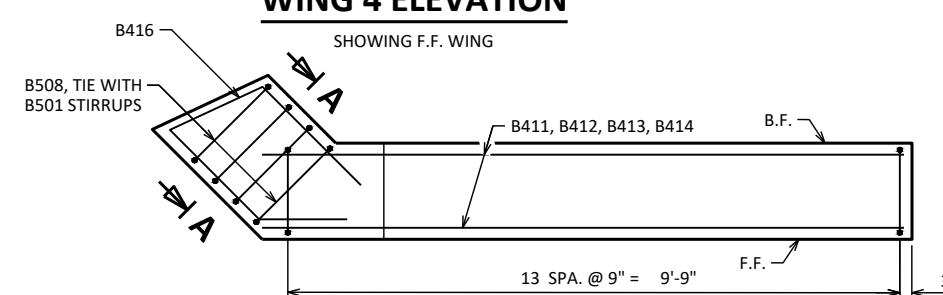
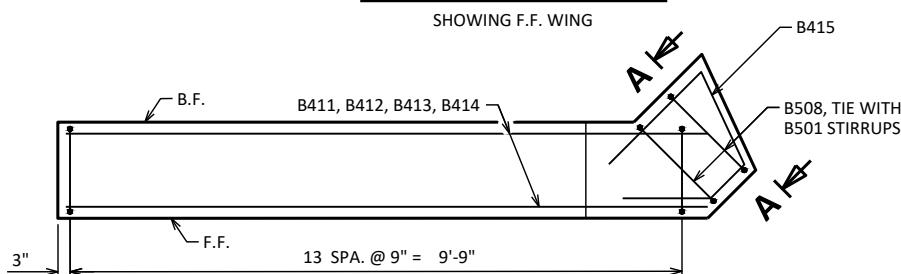
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		72	6'-0"	X		ABUT BODY STIRRUPS
B502		30	7'-9"	X		ABUT BODY STIRRUPS - TOP U-BAR
B503		9	35'-1"			ABUT BODY HORIZ. - F.F.
B804		18	23'-6"	X		ABUT BODY HORIZ. - B.F.
B405		30	3'-0"	X		ABUT BODY TIE BARS
B506	X	29	2'-0"			ABUT BODY DOWEL BARS
B407	X	56	11'-0"	X		WING STIRRUPS
B508	X	6	12'-1"	X		WING CORNER STIRRUPS
B509	X	18	11'-9"	X		WING LOWER HORIZ - F.F.
B810	X	18	13'-3"	X		WING LOWER HORIZ. - B.F.
B411	X	4	10'-2"			WING UPPER HORIZ.
B412	X	4	7'-7"			WING UPPER HORIZ.
B413	X	4	5'-0"			WING UPPER HORIZ.
B414	X	4	9'-9"	X		WING TOP HORIZ.
B415	X	4	7'-6"	X		WING 3 UPPER HORIZ. CORNER
B416	X	4	9'-5"	X		WING 4 UPPER HORIZ. CORNER



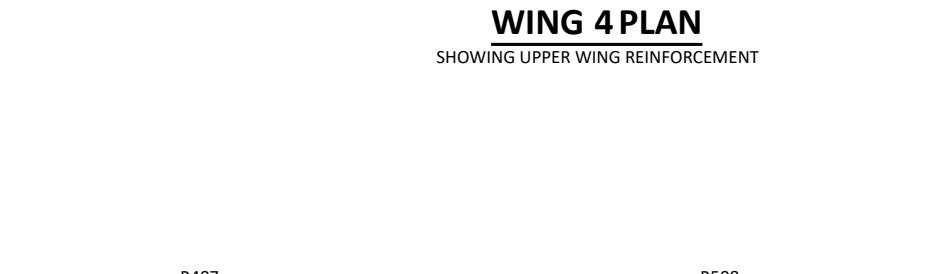
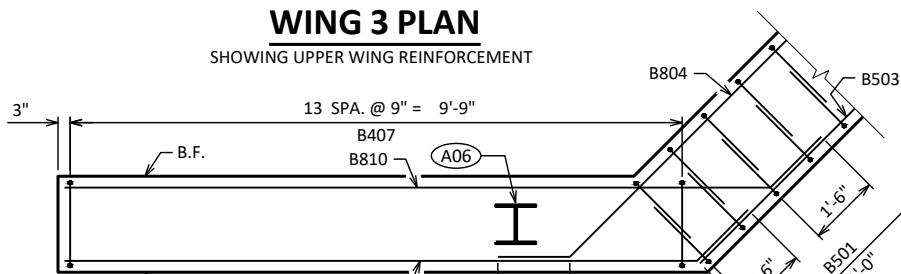
WING 3 ELEVATION

WING 4 ELEVATION



WING 3 PLAN

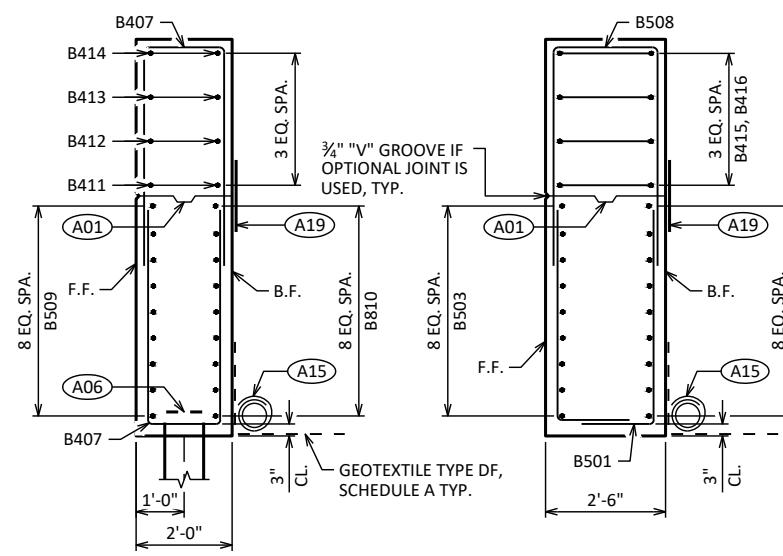
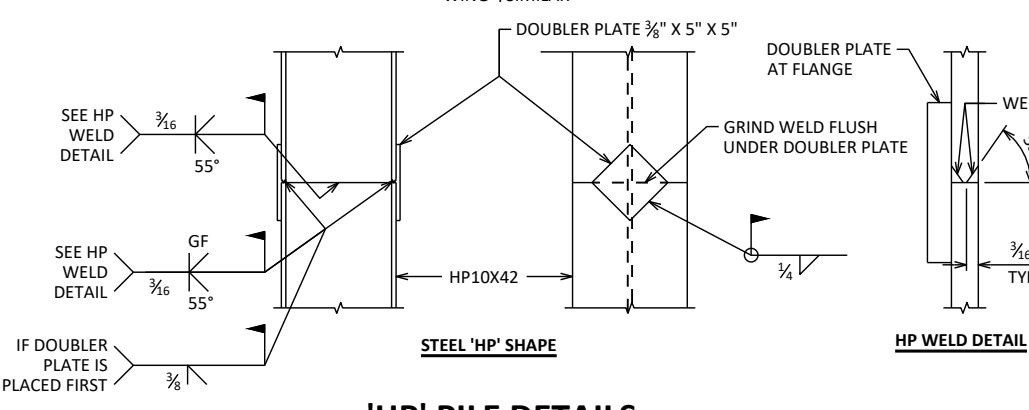
WING 4 PLAN



WING 3 PLAT

WING CROWN

SHOWING LOWER WING REINFORCEMENT WING : 1:500000



SECTION THRU WING 3

SECTION A-A

- (A01) OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE $\frac{3}{4}$ " "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 PILING, ESTIMATED 80 FT LONG WITH A REQUIRED DRIVING RESISTANCE OF 140TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.1.0.C

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-178			
DRAWN BY		PLANS CK'D	PTB
EAST ABUTMENT DETAILS		SHEET 7 OF 10 56	
CALE =			

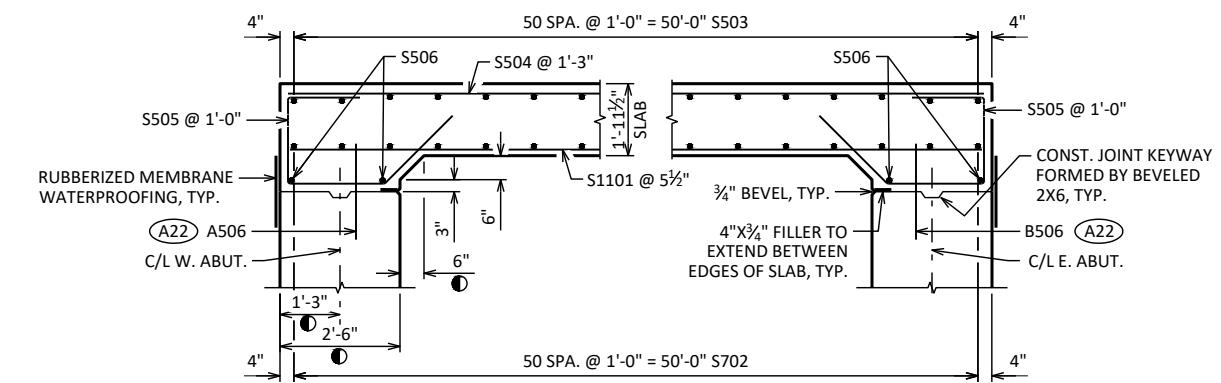
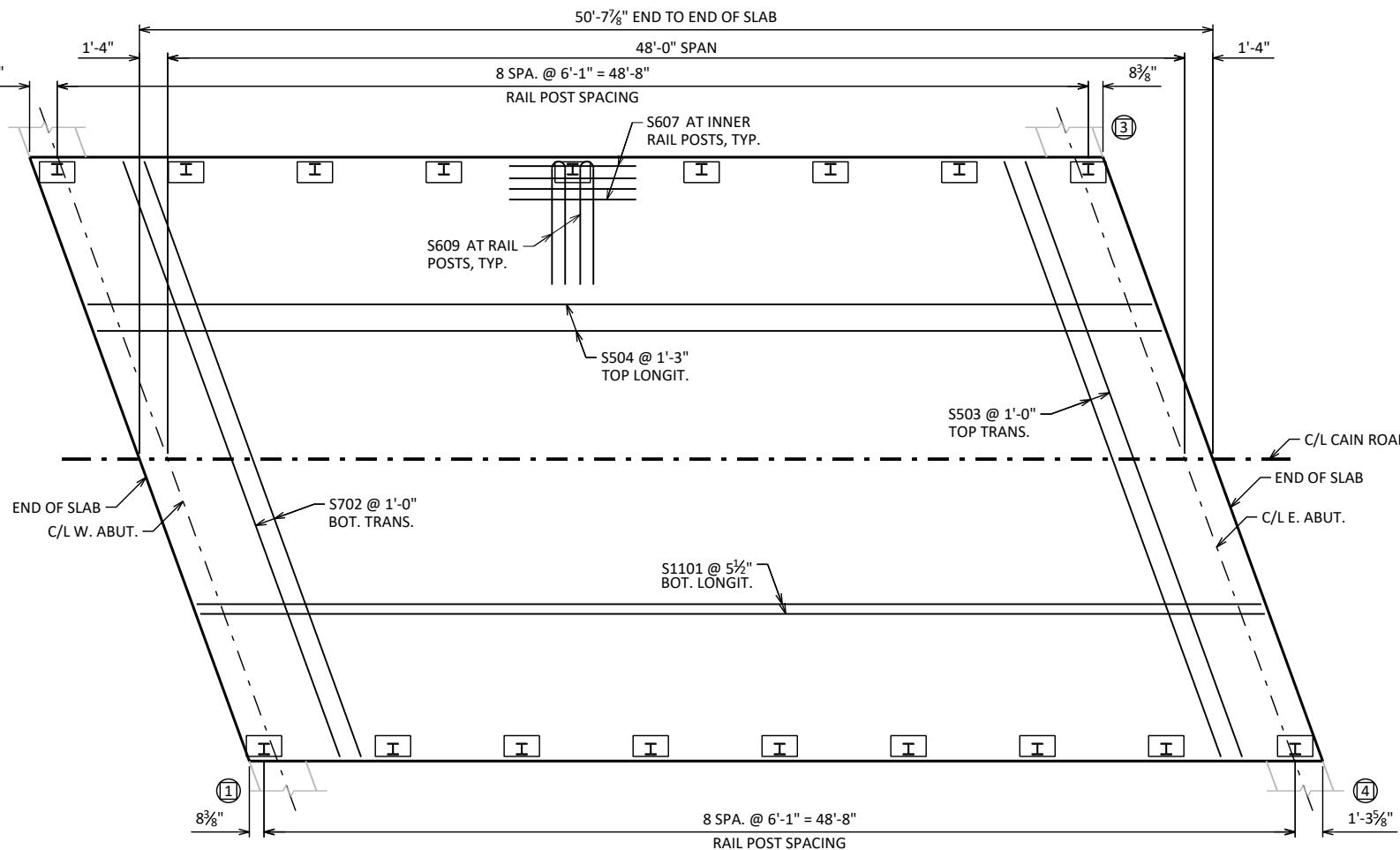
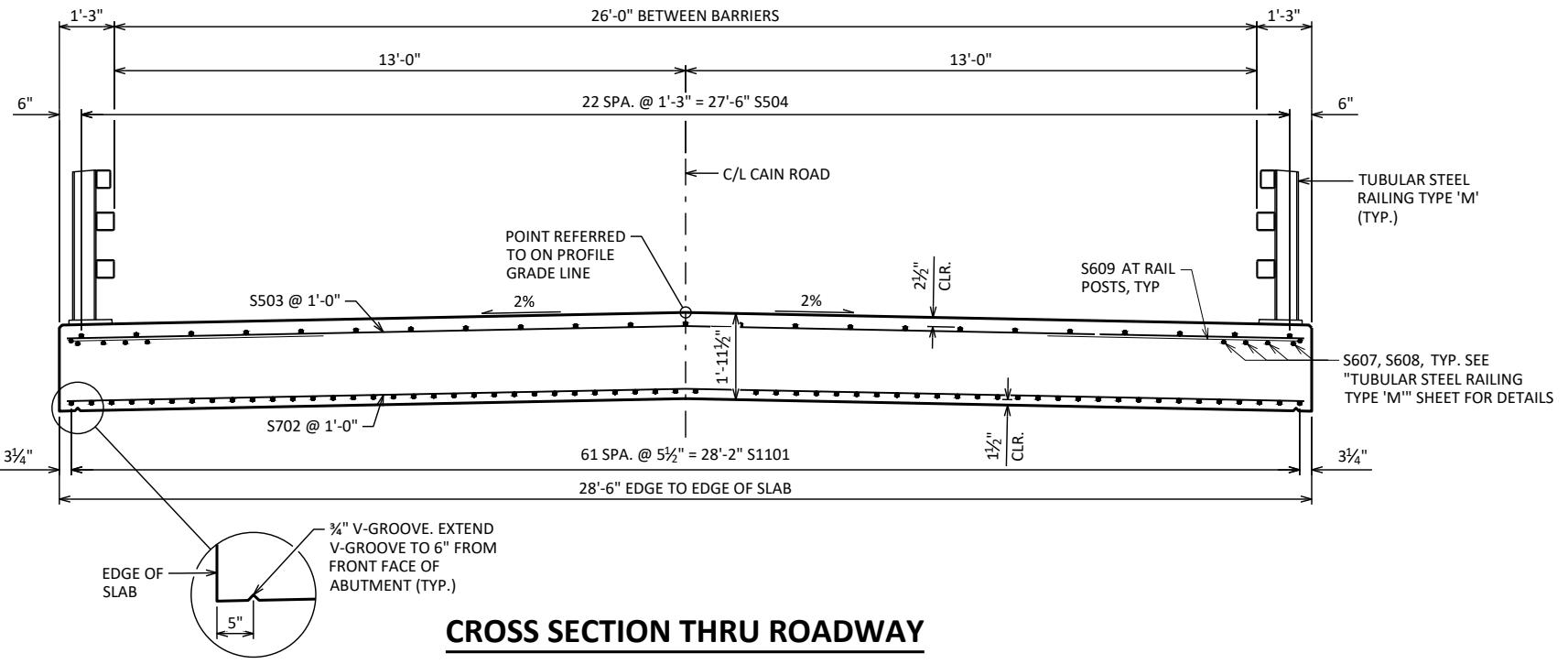
STRUCTURE B-27-178

	DRAWN BY	ZMF	PLANS CK'D	PTB
--	-------------	-----	---------------	-----

SHEET 7 OF 10

EAST ABUTMENT DETAILS

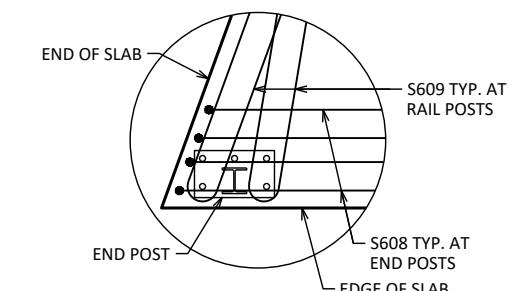
55



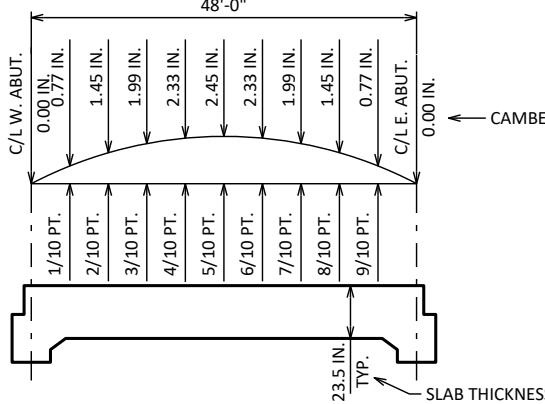
DIMENSIONS ARE GIVEN PARALLEL TO THE ROADWAY UNLESS OTHERWISE NOTED.

(1) MEASURED NORMAL TO THE END OF ABUTMENT. DIMENSIONS ARE TYPICAL FOR BOTH ABUTMENTS.

(2) A22 A506, B506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-178			
DRAWN BY	ZMF	PLANS CK'D	PTB
SHEET 8 OF 10			
SUPERSTRUCTURE		57	SCALE



CAMBER AND SLAB THICKNESS DIAGRAM

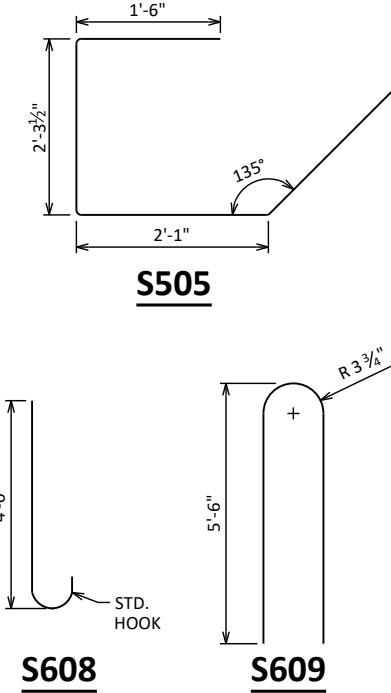
CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT FOR STAGED CONSTRUCTION.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

LESS	TOP OF SLAB ELEVATION AT FINAL GRADE
PLUS	SLAB THICKNESS
PLUS	CAMBER
EQUALS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
	TOP OF SLAB FALSEWORK ELEVATION

TOP OF SLAB ELEVATIONS

LOCATION	C/L BRG. W. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L BRG. E. ABUT.
N. EDGE OF DECK	934.39	934.37	934.34	934.32	934.30	934.27	934.25	934.22	934.20	934.18	934.15
CROWN OR R/L	934.65	934.63	934.60	934.58	934.56	934.53	934.51	934.48	934.46	934.43	934.41
S. EDGE OF DECK	934.34	934.32	934.29	934.27	934.24	934.22	934.20	934.17	934.15	934.12	934.10



BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S1101	X	62	50'-3"			SLAB BOTTOM LONGITUDINAL
S702	X	51	29'-11"			SLAB BOTTOM TRANSVERSE
S503	X	51	29'-11"			SLAB TOP TRANSVERSE
S504	X	23	50'-3"			SLAB TOP LONGITUDINAL
S505	X	58	7'-8"	X		ABUTMENT DIAPHRAGM STIRRUPS
S506	X	4	29'-11"			ABUTMENT DIAPHRAGM LONGITUDINAL
S607	X	56	6'-0"			SLAB TOP LONGIT. UNDER RAIL POSTS
S608	X	16	4'-8"	X		SLAB TOP LONGIT. UNDER RAIL END POSTS
S609	X	36	11'-3"	X		SLAB TOP HOOKS UNDER RAIL POSTS

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	W. ABUTMENT	5/10 PT.	E. ABUTMENT
N. EDGE OF DECK			
CROWN OR R/L			
S. EDGE OF DECK			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, THE C/L OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR R/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

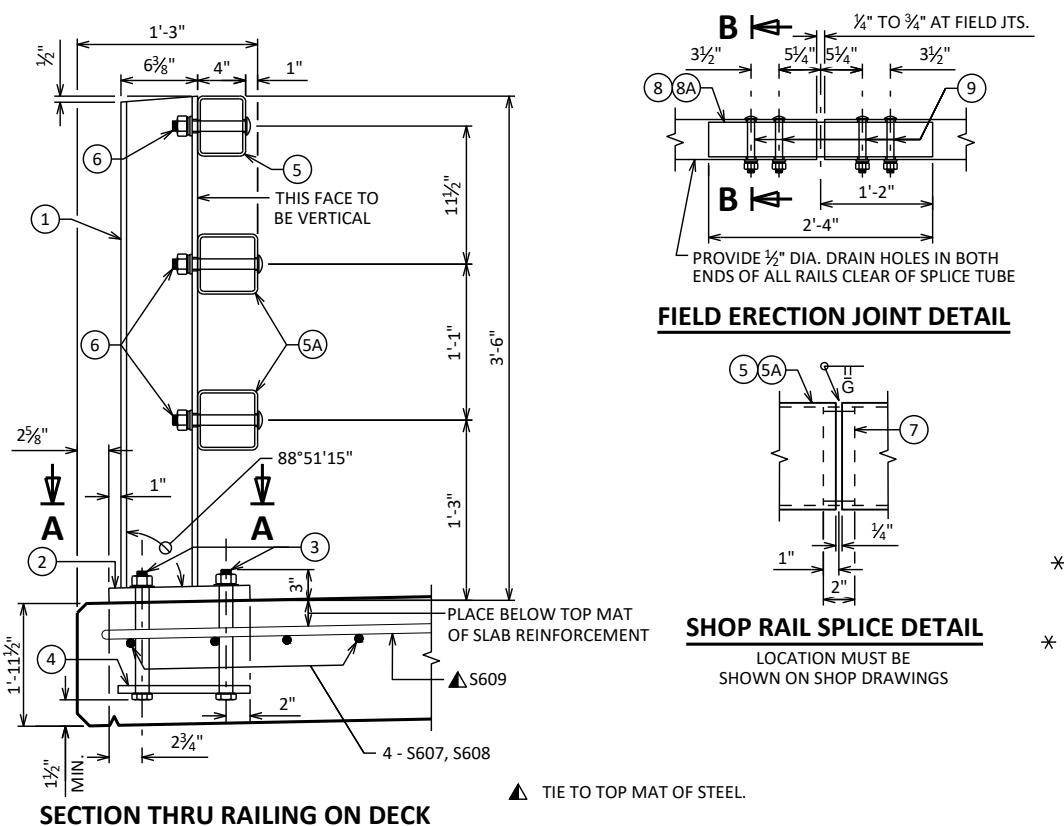
NOTES

FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON AS BUILT PLANS.

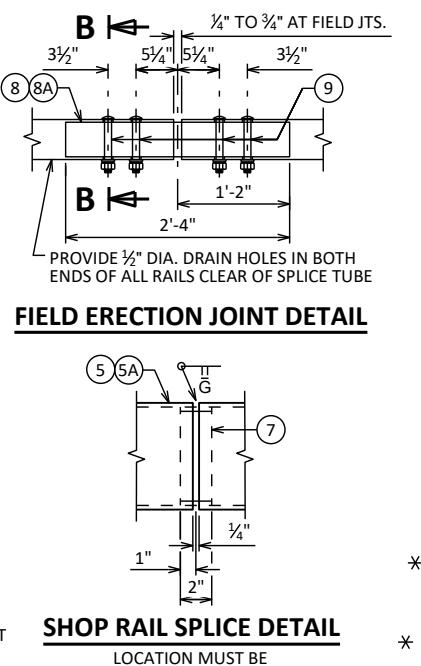
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

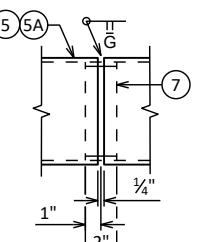
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-178			
DRAWN BY	ZMF	PLANS CK'D	PTB
SUPERSTRUCTURE DETAILS		SHEET 9 OF 10	SCALE = 58



SECTION THRU RAILING ON DECK

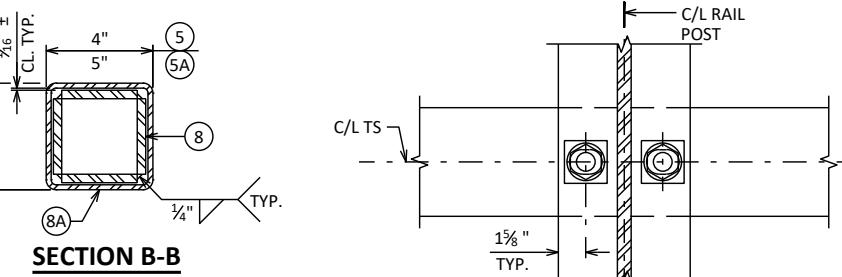


FIELD ERECTION JOINT DETAIL

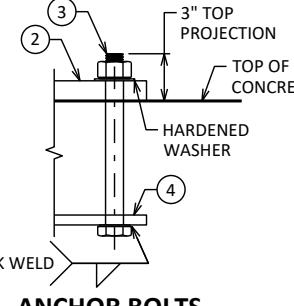


SHOP RAIL SPLICE DETAIL

* ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.



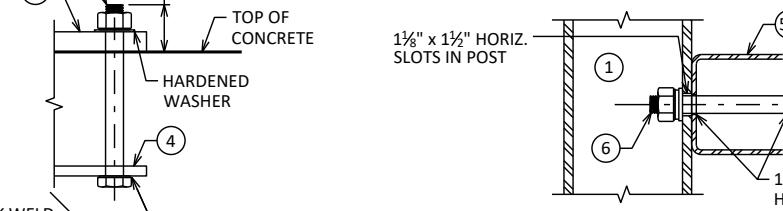
SECTION THRU POST WEB



ANCHOR BOLTS

NOTE: CONNECTIONS AT LOWER RAILS SHOWN.
CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



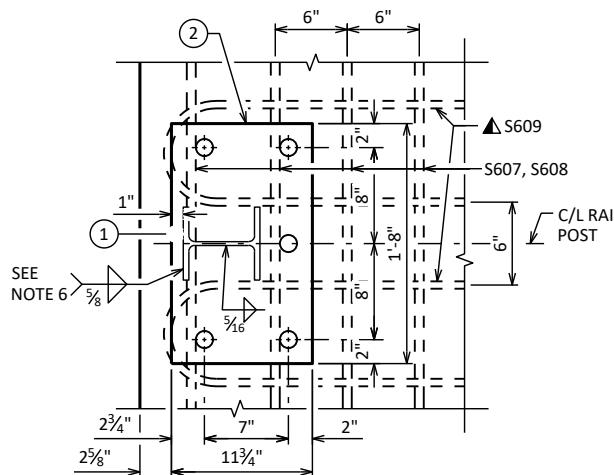
SECTION THRU RAIL

LEGEND

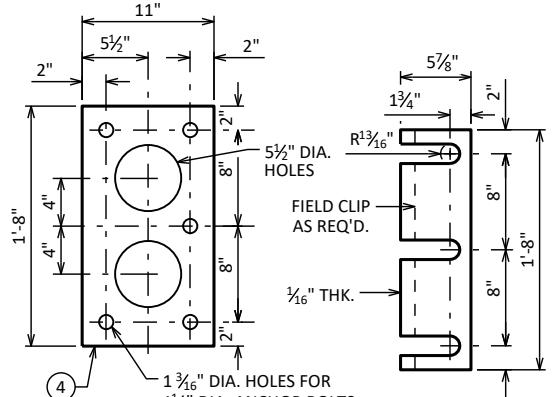
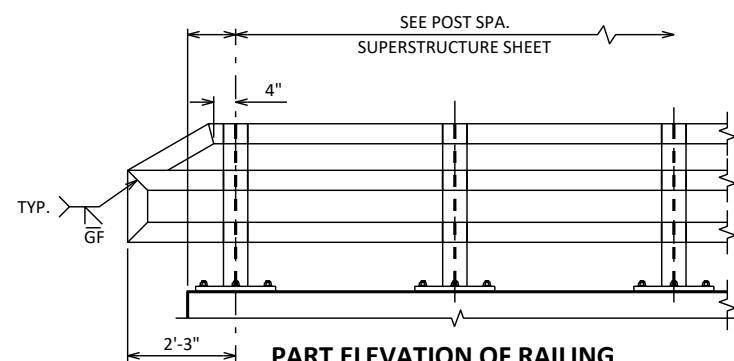
- ① W6 x 25 with 1 1/8" x 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1 1/4" x 11 3/4" x 1'-8" WITH 1 1/16" OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
- ③ ASTM A449 - 1 1/4" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)
- ④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
- ⑤ TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑦ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑧ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑨ 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5, 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

* 1 1/8" x 1 1/2" HORIZ. SLOTS IN POST

SECTION THRU RAIL



SECTION A-A

ANCHOR PLATE
AT RAIL TO DECK CONNECTIONPOST SHIM
DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE	B-27-178		
DRAWN BY	ZMF	PLANS CK'D	PTB

EARTHWORK - CAIN RD (STAGE 1)													
STATION	DISTANCE (LF)	AREA (SF)			INCREMENTAL VOLUME (CY)				CUMULATIVE VOLUME (CY)				
		CUT	MARSH EXCAVATION	FILL	CUT NOTE 1	MARSH EXCAVATION NOTE 2	FILL NOTE 3	FILL (1.25) NOTE 4	CUT (1.00) NOTE 1	MARSH EXCAVATION NOTE 2	FILL NOTE 3	FILL (1.25) NOTE 4	MASS ORDINATE NOTE 5
03+81	0	0	0	0	0	0	0	0	0	0	0	0	0
04+00	19	0	0	5	0	0	2	3	0	0	2	3	-3
04+50	50	0	0	14	0	0	18	23	0	0	20	25	-25
05+00	50	0	0	25	0	0	36	45	0	0	56	70	-70
05+50	50	0	0	16	0	0	38	48	0	0	94	118	-118
06+00	50	10	0	26	9	0	39	49	9	0	133	166	-157
06+50	50	23	2	17	31	2	40	50	40	2	173	216	-176
07+00	50	11	40	17	31	39	31	39	71	41	204	255	-184
07+50	50	7	7	33	17	44	46	58	88	85	250	313	-225
08+00	50	6	45	73	12	48	98	123	100	133	348	435	-335
08+50	50	0	24	96	6	64	156	195	106	197	504	630	-524
09+00	50	0	26	143	0	46	221	276	106	243	725	906	-800
09+50	50	0	125	65	0	141	193	241	106	384	918	1148	-1042
10+01	0	0	124	62	0	0	0	0	106	384	918	1148	-1042
10+50	49	3	211	65	3	306	116	145	109	690	1034	1293	-1184
11+00	50	7	0	46	9	0	103	129	118	690	1137	1421	-1303
11+50	50	6	0	36	12	0	76	95	130	690	1213	1516	-1386
12+00	50	13	0	1	18	0	34	43	148	690	1247	1559	-1411
12+50	50	0	0	0	12	0	1	1	160	690	1248	1560	-1400
13+00	50	0	0	0	0	0	0	0	160	690	1248	1560	-1400
13+50	50	0	0	0	0	0	0	0	160	690	1248	1560	-1400
14+00	50	0	0	0	0	0	0	0	160	690	1248	1560	-1400
14+50	50	0	0	0	0	0	0	0	160	690	1248	1560	-1400
COLUMN SUBTOTALS =					160	690	1248	1560	160	690	1248	1560	-1400

NOTES:
 1 - CUT
 2 - MARSH EXCAVATION
 3 - FILL
 4 - FILL (1.25)
 5 - MASS ORDINATE

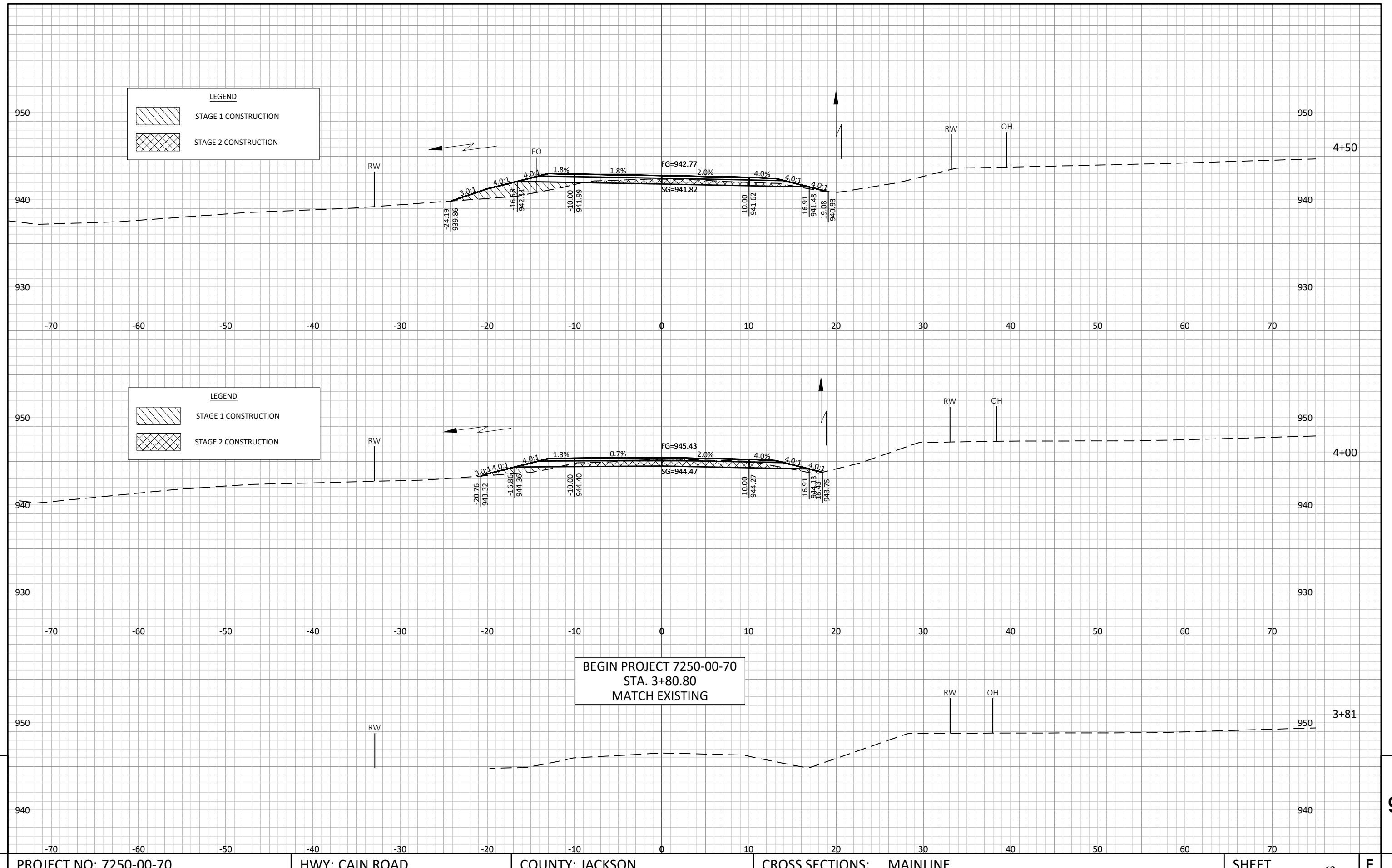
CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
 MARSH EXCAVATION NOT TO BE USED IN ROADWAY FILL
 DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME
 (UNEXPANDED FILL - REDUCED MARSH IN FILL)*1.25
 CUT - FILL (1.25)

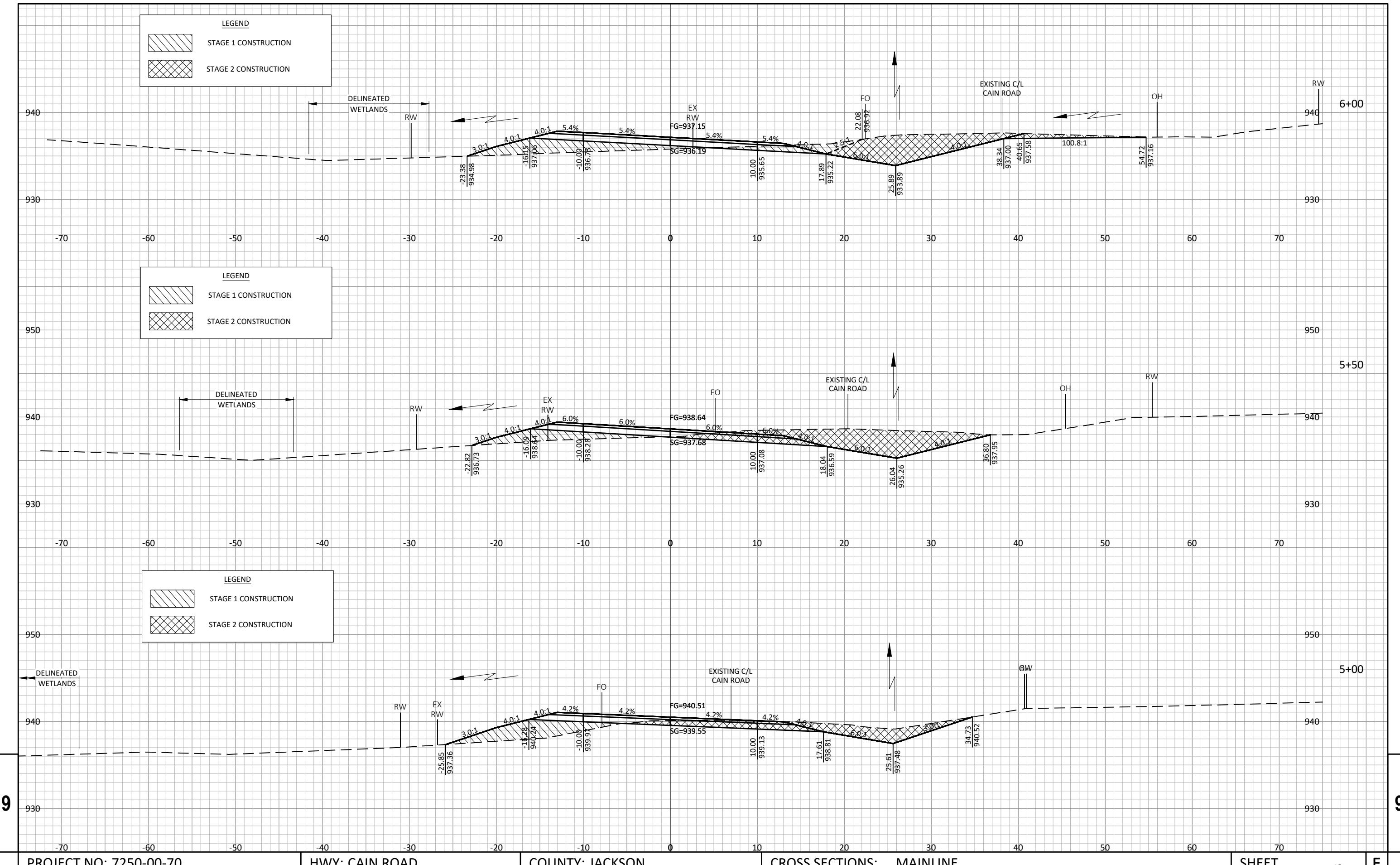
EARTHWORK - CAIN RD (STAGE 2)										
STATION	DISTANCE (LF)	AREA (SF)		INCREMENTAL VOLUME (CY)			CUMULATIVE VOLUME (CY)			
		CUT	FILL	CUT NOTE 1	FILL NOTE 2	FILL (1.25) NOTE 3	CUT (1.00) NOTE 1	FILL NOTE 2	FILL (1.25) NOTE 3	MASS ORDINATE NOTE 4
03+81	0	0	0	0	0	0	0	0	0	0
04+00	19	16	0	6	0	0	6	0	0	6
04+50	50	10	0	24	0	0	30	0	0	30
05+00	50	35	0	42	0	0	72	0	0	72
05+50	50	60	0	88	0	0	160	0	0	160
06+00	50	48	0	100	0	0	260	0	0	260
06+50	50	22	0	65	0	0	325	0	0	325
07+00	50	39	0	56	0	0	381	0	0	381
07+50	50	20	0	55	0	0	436	0	0	436
08+00	50	32	0	48	0	0	484	0	0	484
08+50	50	33	0	60	0	0	544	0	0	544
09+00	50	37	0	65	0	0	609	0	0	609
09+50	50	28	0	60	0	0	669	0	0	669
10+01	0	29	0	0	0	0	669	0	0	669
10+50	49	22	0	47	0	0	716	0	0	716
11+00	50	26	0	44	0	0	760	0	0	760
11+50	50	30	0	52	0	0	812	0	0	812
12+00	50	22	0	48	0	0	860	0	0	860
12+50	50	48	1	65	1	1	925	1	1	924
13+00	50	43	5	84	6	8	1009	7	9	1000
13+50	50	28	4	66	8	10	1075	15	19	1056
14+00	50	35	0	58	4	5	1133	19	24	1109
14+50	50	0	0	32	0	0	1165	19	24	1141
COLUMN SUBTOTALS =				1165	19	24	1165	19	24	1141

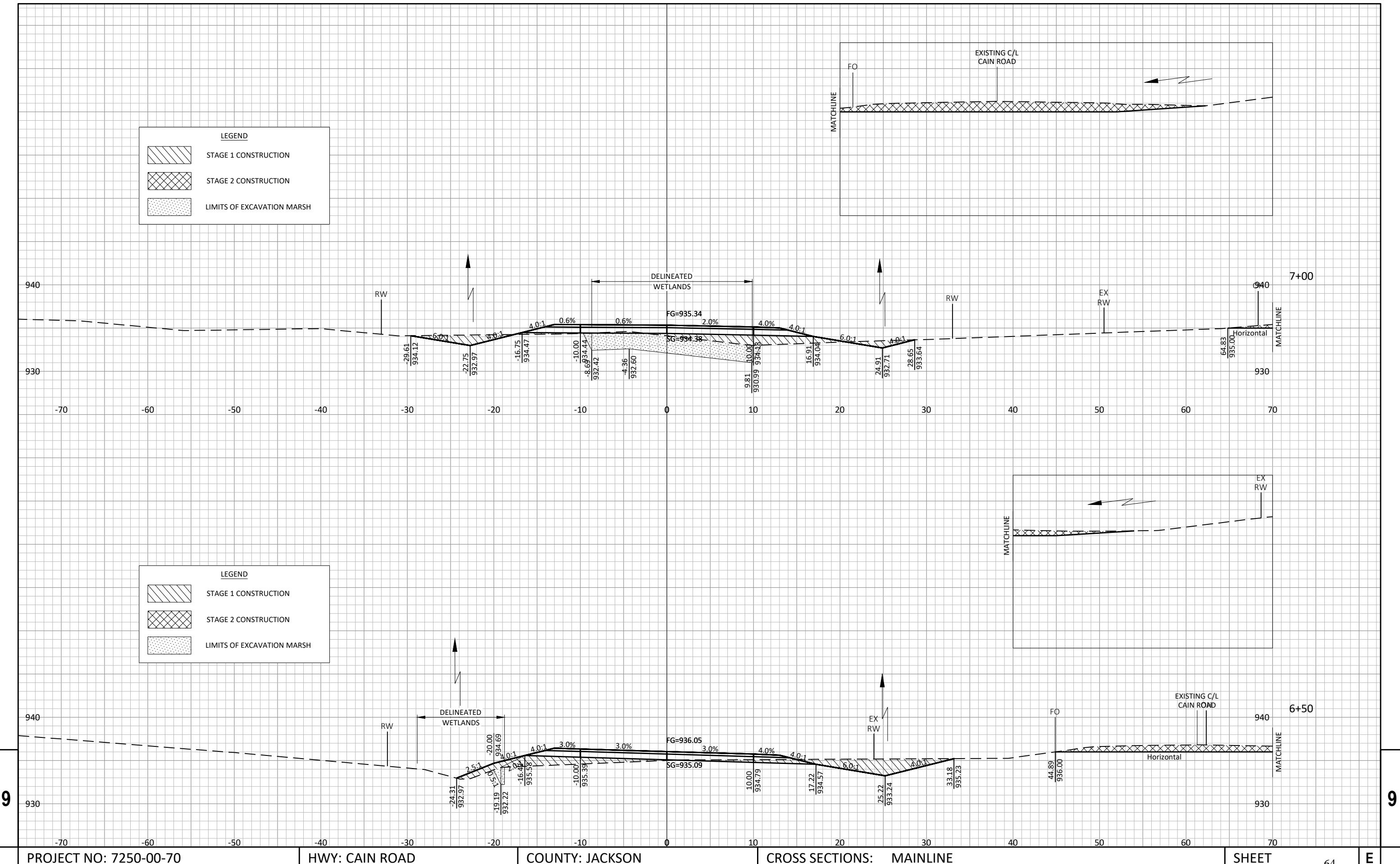
EARTHWORK - 'A'-LINE										
STATION	DISTANCE (LF)	AREA (SF)		INCREMENTAL VOLUME (CY)			CUMULATIVE VOLUME (CY)			
		CUT	FILL	CUT NOTE 1	FILL NOTE 2	FILL (1.25) NOTE 3	CUT (1.00) NOTE 1	FILL NOTE 2	FILL (1.25) NOTE 3	MASS ORDINATE NOTE 4
10'A'+15	0	0	0	0	0	0	0	0	0	0
10'A'+50	35	0	0	0	0	0	0	0	0	0
11'A'+00	50	0	24	0	22	28	0	22	28	-28
11'A'+25	25	0	82	0	98	123	0	120	150	-150
COLUMN SUBTOTALS =				0	120	150	0	120	150	-150

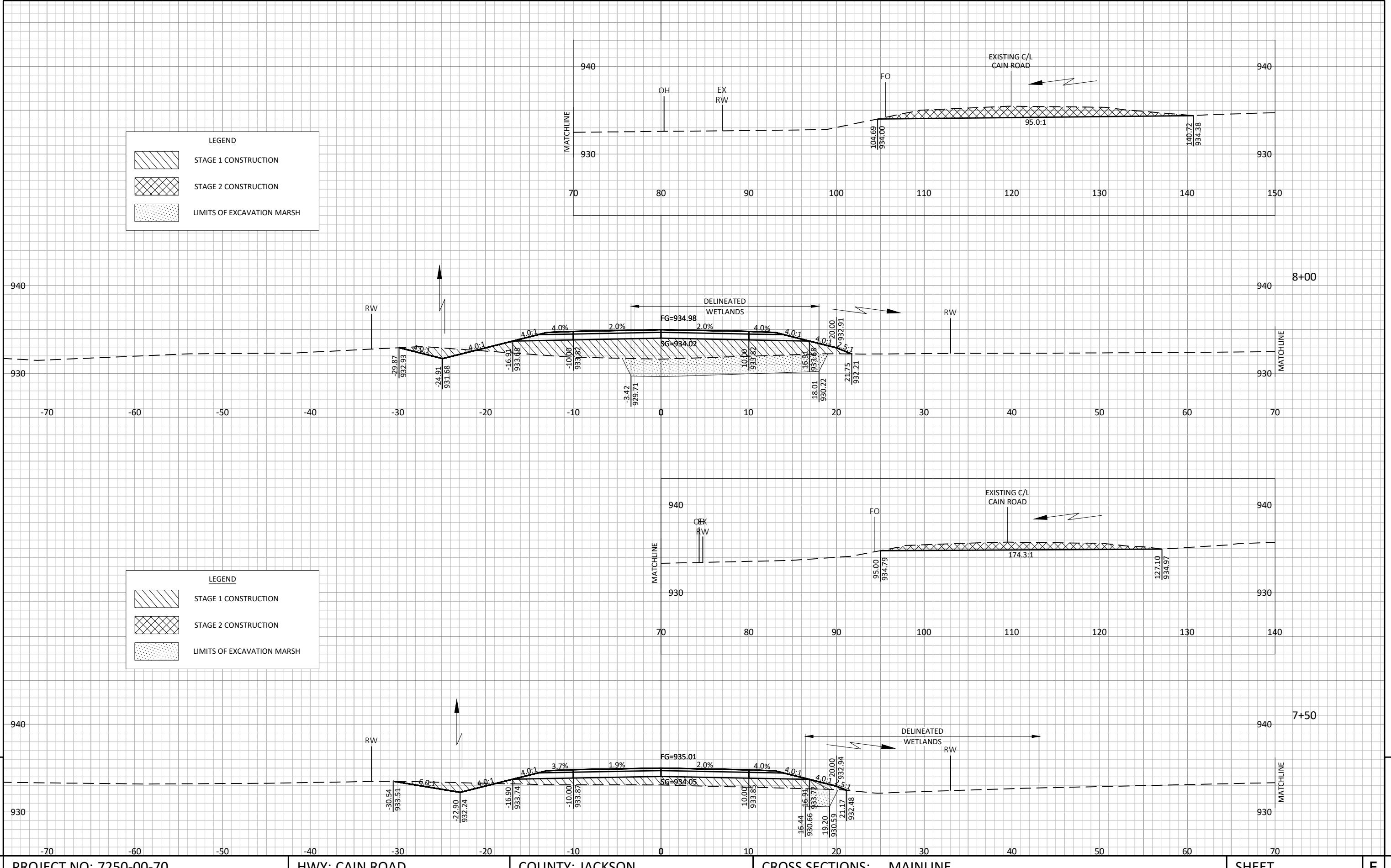
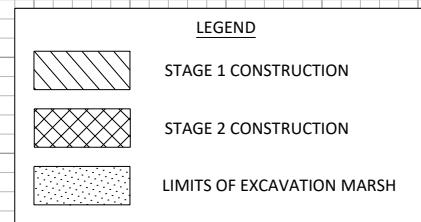
NOTES:
 1 - CUT
 2 - FILL
 3 - FILL (1.25)
 4 - MASS ORDINATE

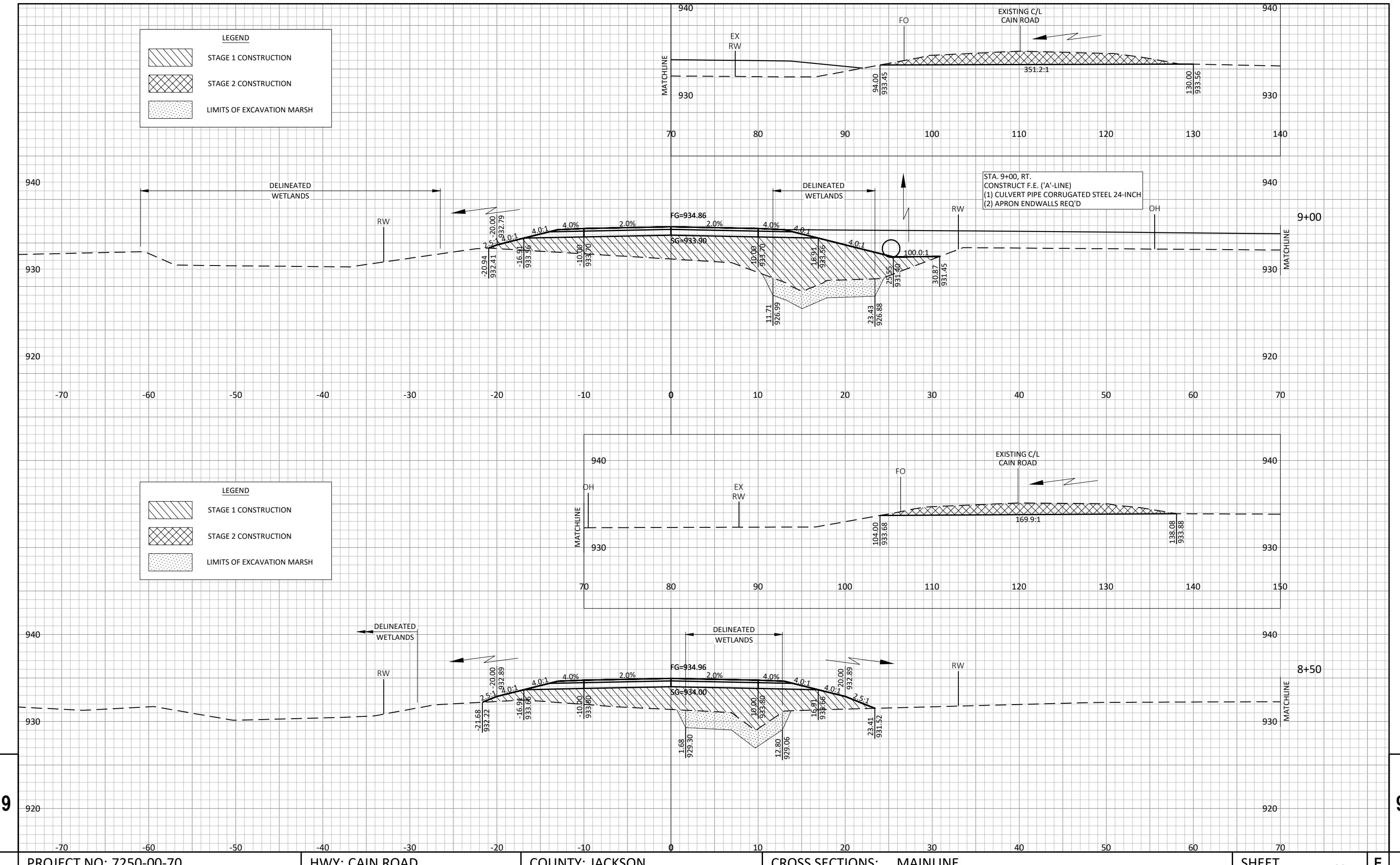
CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
 DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME
 (UNEXPANDED FILL - REDUCED MARSH IN FILL)*1.25
 CUT - FILL (1.25)

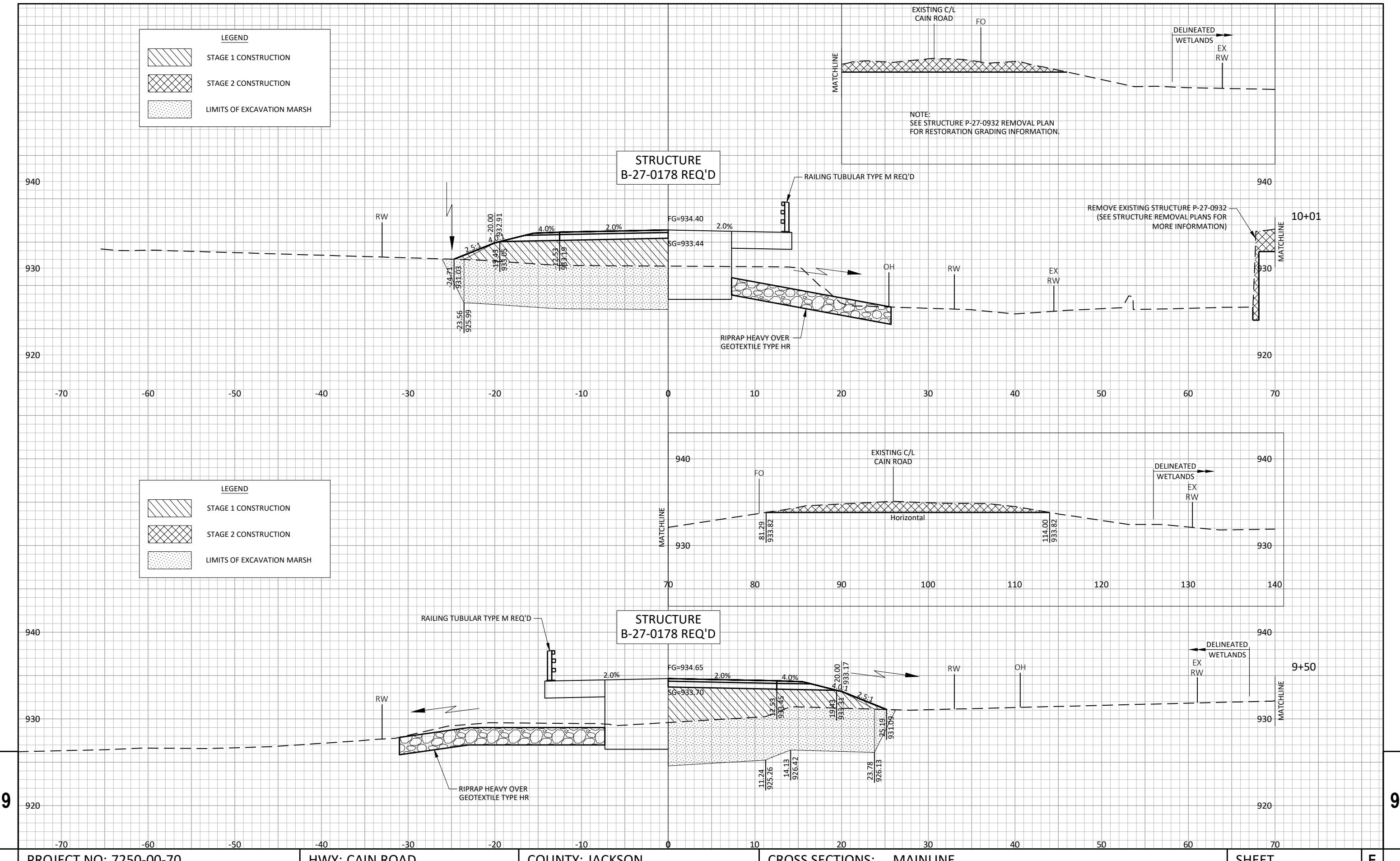


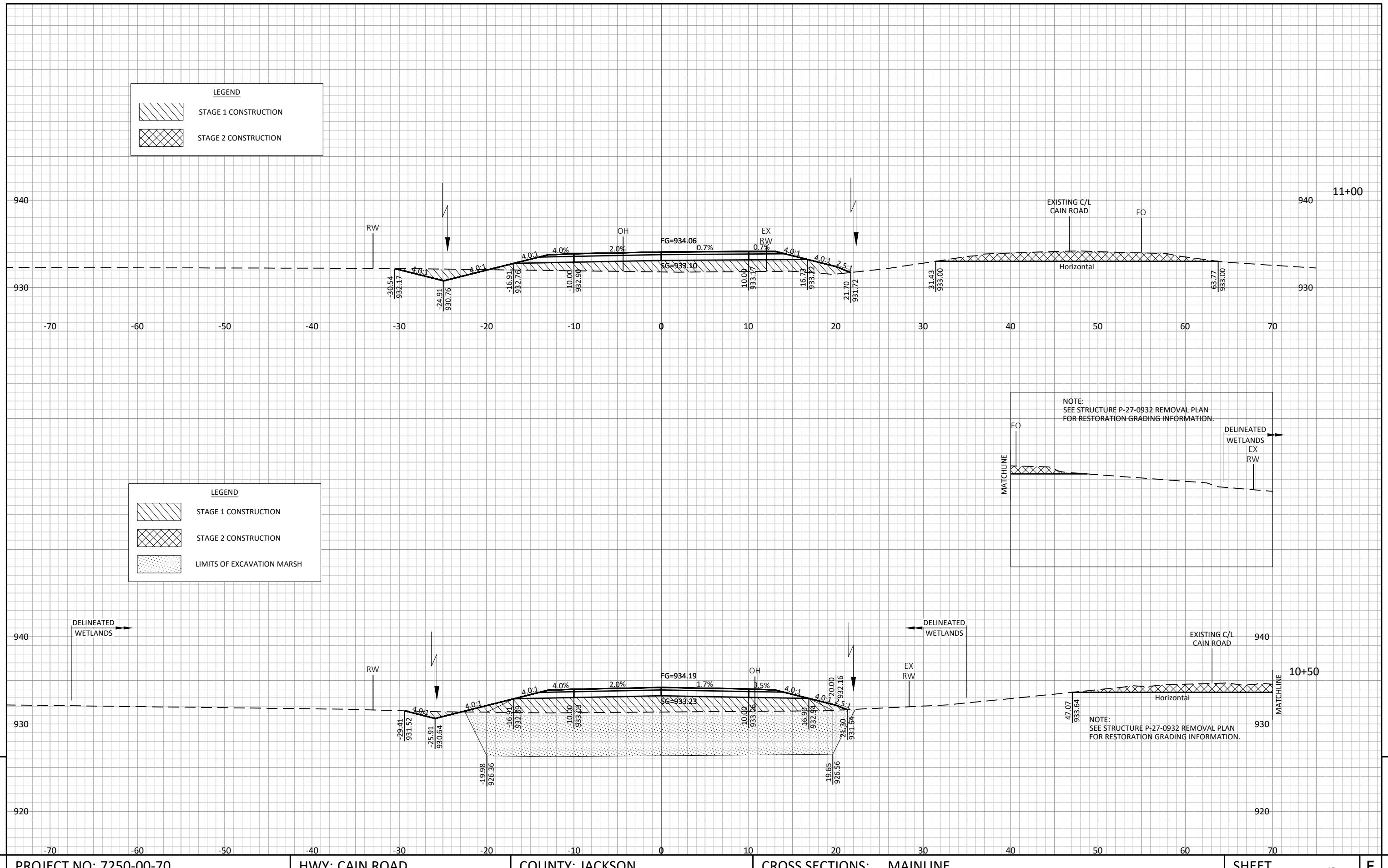


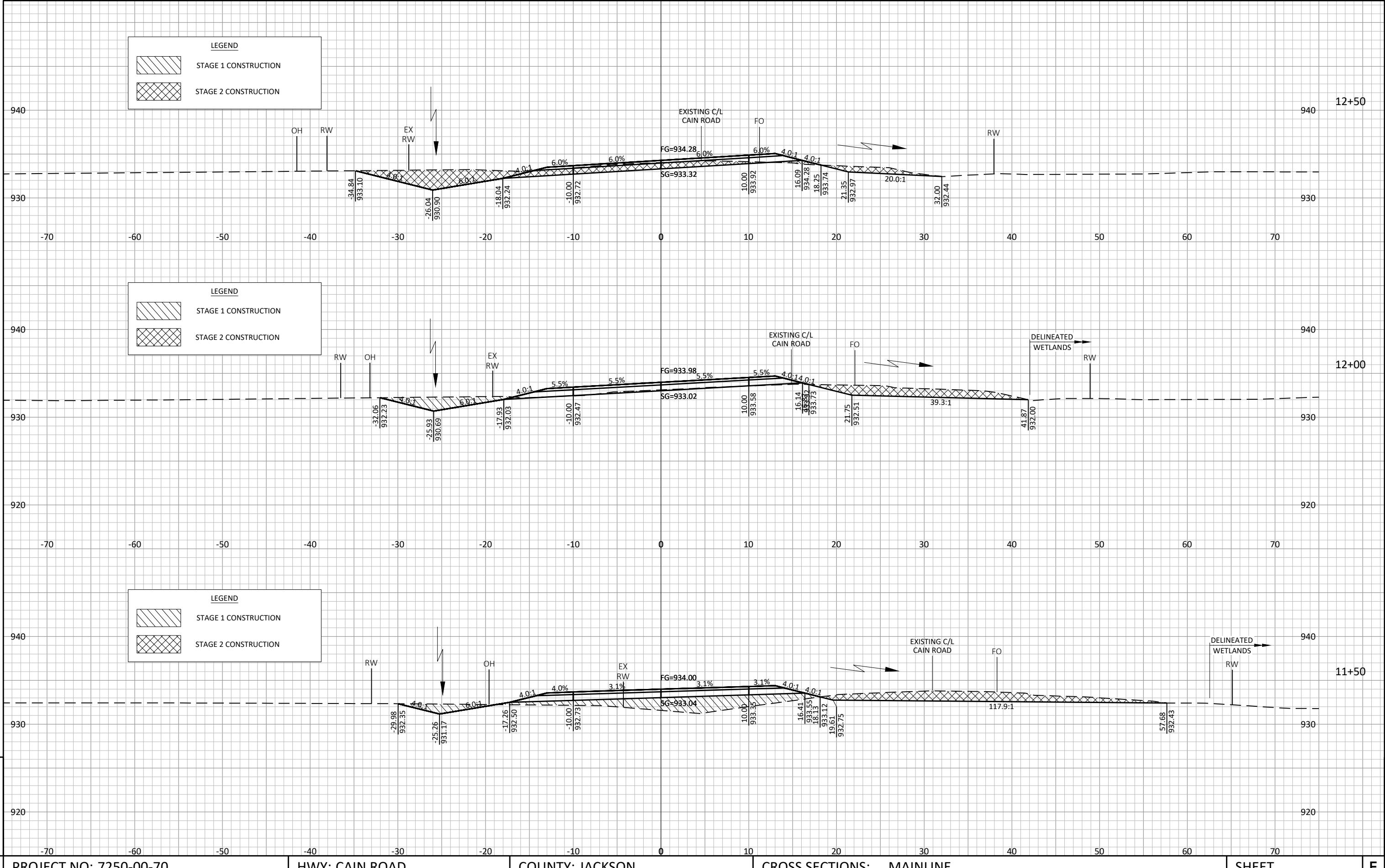
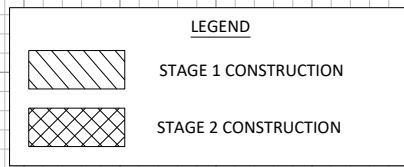




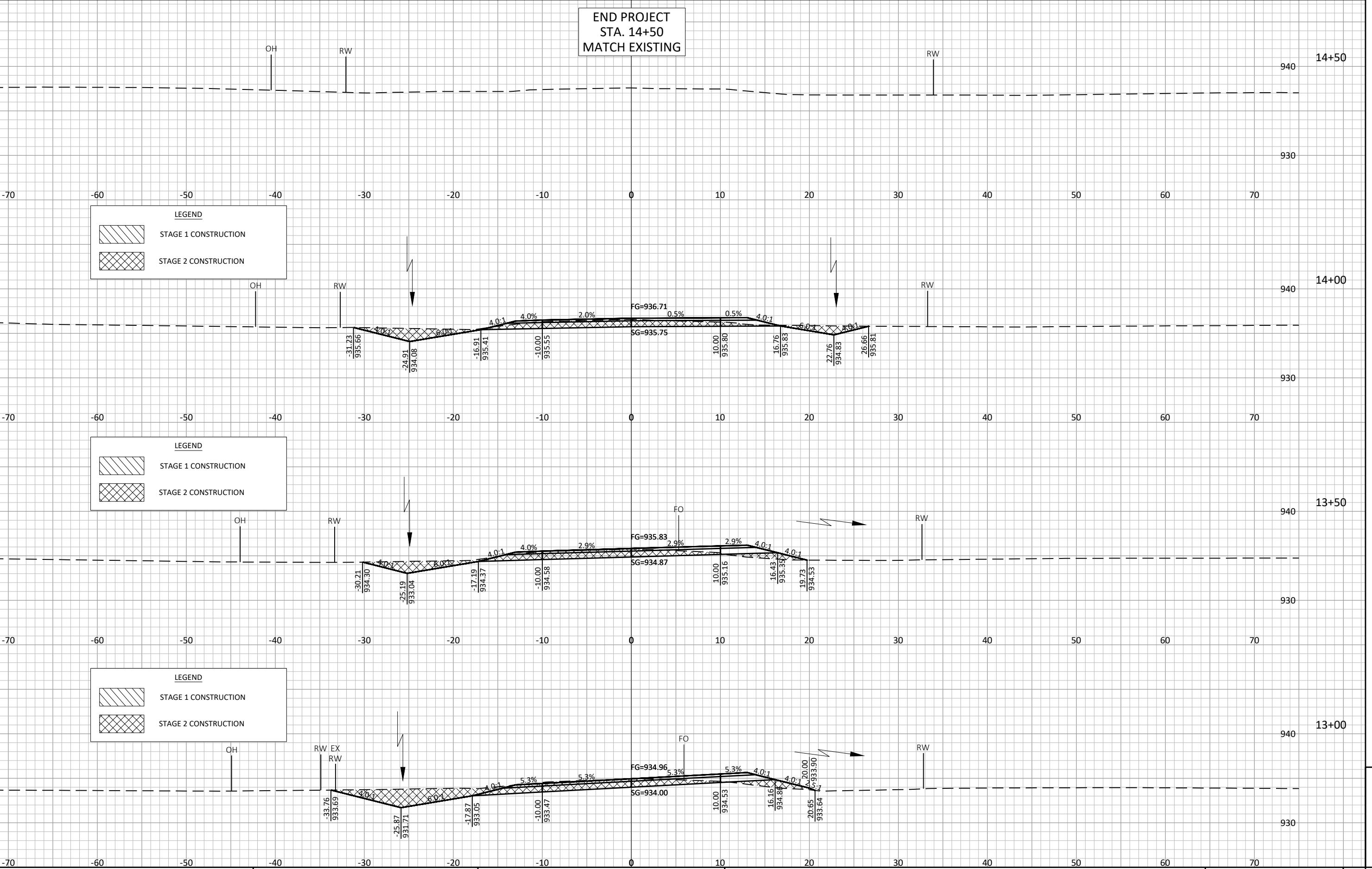


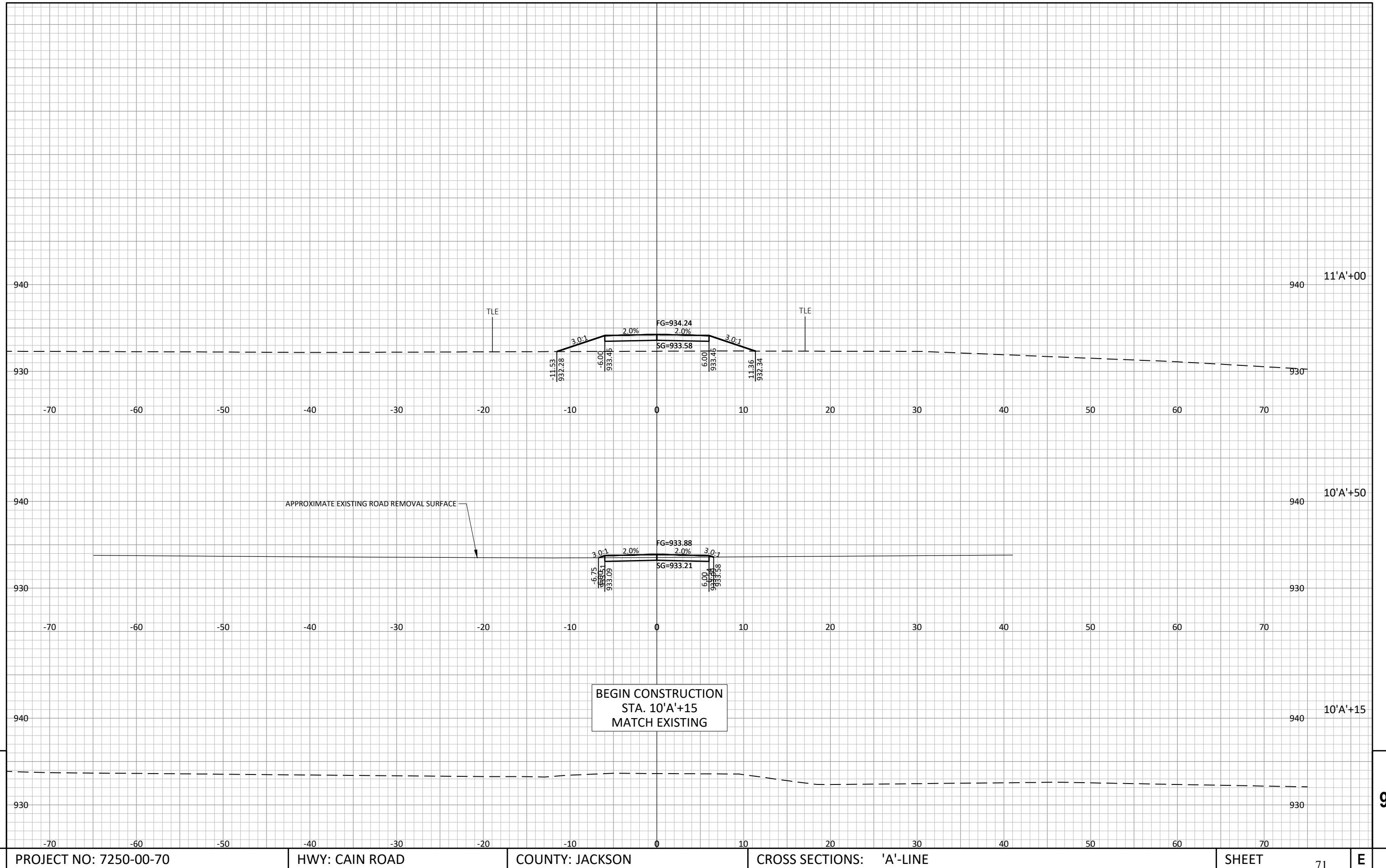




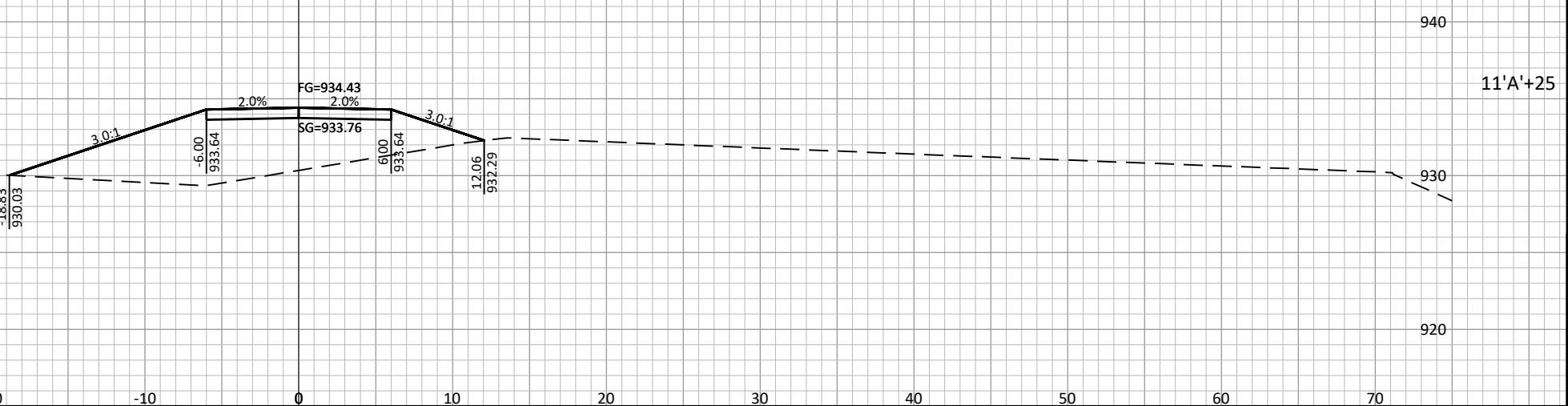
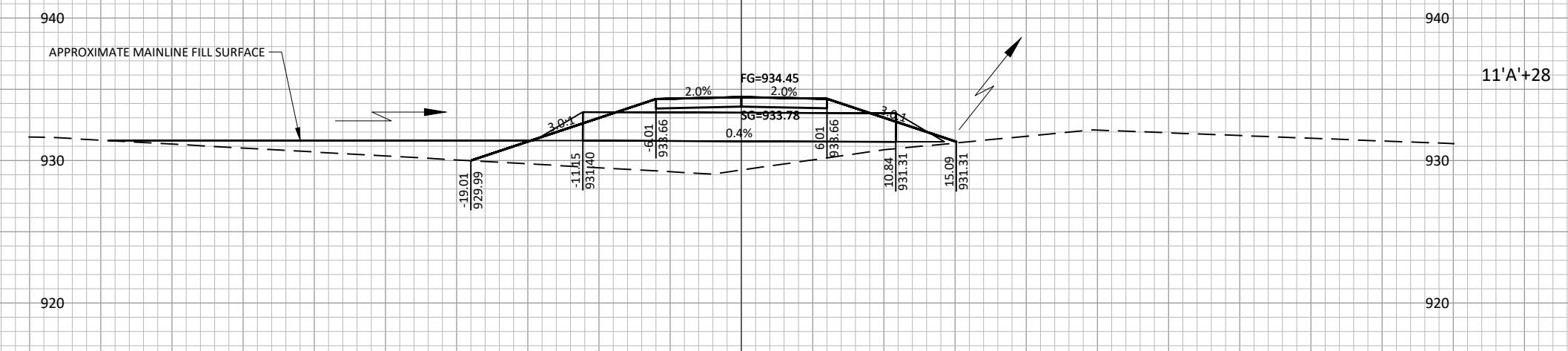


END PROJECT
STA. 14+50
MATCH EXISTING

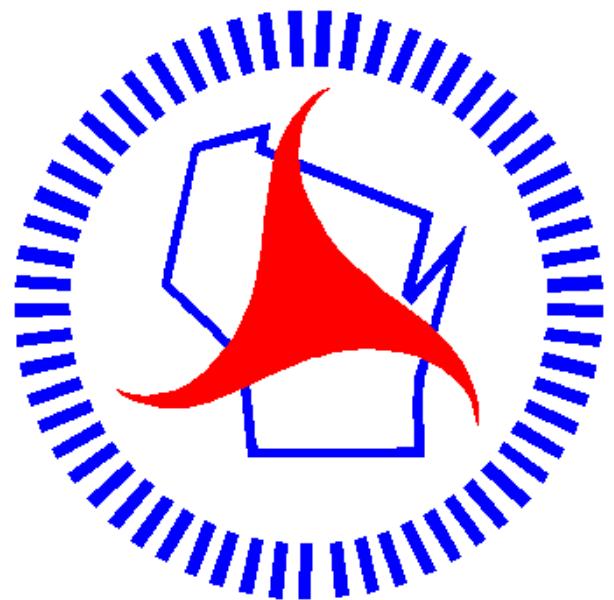




STA. 11'A'+28
(1) CULVERT PIPE CORRUGATED STEEL 24-INCH
(2) APRON ENDWALLS REQ'D
SKEW = 4° RHF
NOTE: SECTION DRAWN NORMAL TO PIPE



Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

<http://www.dot.wisconsin.gov>