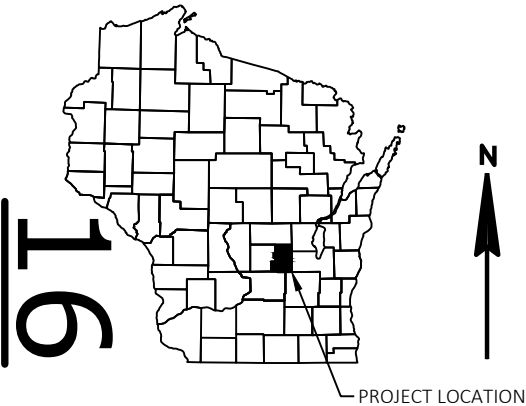


WIS
PROJECT ID: 6536-03-74
WITH: N/A
COUNTY: GREEN LAKE

AUGUST 2026
ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 98



DESIGN DESIGNATION 6536-03-04

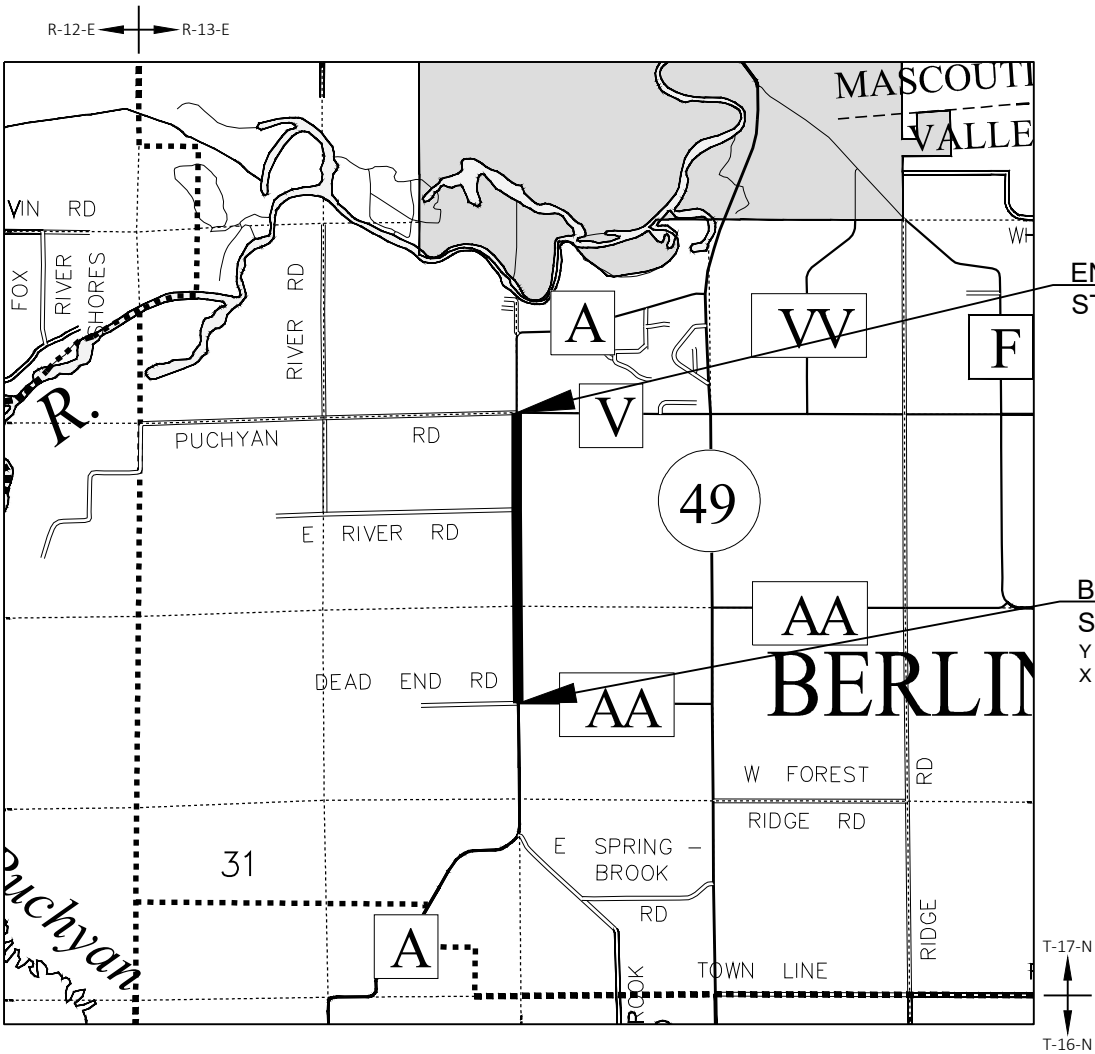
A.A.D.T.	2026	=	304
A.A.D.T.	2046	=	335
D.H.V.		=	46
D.D.		=	62/38
T.		=	7.7%
DESIGN SPEED		=	50 MPH
ESALS		=	52,000

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

ROCK	
LABEL	
95.36	
31	
E	
FO	
G	
SAN	
SS	
T	
W	
Ø	



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 1.509 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), GREEN LAKE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CTH J - STH 49
CTH AA TO CTH V
CTH A
GREEN LAKE COUNTY

STATE PROJECT NUMBER
6536-03-74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6536-03-74	WISC 2026395	1

ACCEPTED FOR
GREEN LAKE COUNTY
4/28/2026 Date
Derek Mashuda (Signature and Title of Official)

ORIGINAL PLANS PREPARED BY
WESTBROOK
Associated Engineers, Inc.
619 EAST HOXIE STREET
P.O. BOX 429
SPRING GREEN, WISCONSIN 53588
PHONE (608) 588-7866
FAX (608) 588-7954

WISCONSIN
AARON B. PALMER
E-35695
RICHLAND CENTER, WI
PROFESSIONAL ENGINEER
DATE: 4/27/26 Aaron Palmer (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor WESTBROOK ASSOCIATED ENGINEERS, INC.
Designer WESTBROOK ASSOCIATED ENGINEERS, INC.
Project Manager JASON SCHAEFFER
Regional Examiner NORTH CENTRAL REGION
Regional Supervisor DAN ERVA, P.E.

APPROVED FOR THE DEPARTMENT
DATE: 4/28/2026 (Signature)

E

GENERAL NOTES

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

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

APPLY TACK COAT AT A RATE OF 0.05 GAL/SY BETWEEN HMA PAVEMENT.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.

WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE, SUBBASE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYERS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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.

PAVEMENT REMOVAL WILL BE TO THE NEAREST JOINT OR A SAWED EDGE WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.

PRIOR TO PLACING THE NEW BASE AGGREGATE DENSE COURSE OR PAVED SHOULDERS EXISTING UNCOMPACTED SHOULDER MATERIAL SHALL BE REMOVED OR DEPOSITED ON THE OUTER PORTION OF THE EXISTING SHOULDER OR AS DIRECTED BY THE ENGINEER.

THE EXACT LOCATION AND WIDTH OF DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. DRIVEWAYS SHALL BE REPLACED IN KIND. COMMERCIAL DRIVEWAYS SHALL BE A MINIMUM OF 35 FEET WIDE UNLESS SHOWN OTHERWISE IN THE PLANS. ALL RESIDENTIAL DRIVEWAYS SHALL BE A MAXIMUM OF 24 FEET WIDE.

THE PROPOSED SHOULDER WIDTH SHOWN IN THE TYPICAL SECTIONS ARE MINIMUM WIDTH. PERPETUATE EXISTING SHOULDERS THAT ARE WIDER THAN WHAT IS SHOWN IN THE TYPICAL SECTIONS.

SAWCUTS, AS SHOWN ON THE PLANS, ARE SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

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

RUNOFF COEFFICIENT TABLE

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIPTURF:	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPETURF:			.25			.27			.28			.30
			.32			.34			.36			.38
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 = 12.07 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 7.32 ACRES

WISCONSIN DNR LIAISON

MARTY DILLENBURG
OSHKOSH SERVICE CENTER
625 E COUNTY ROAD Y, SUITE 70
OSHKOSH, WI 54901
PHONE: (920) 412-0165
EMAIL: MARTY.DILLENBURG@WISCONSIN.GOV

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DESIGN PROJECT MANAGER

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COUNTY HIGHWAY COMMISSIONER

DEREK MASHUDA
GREEN LAKE COUNTY
570 SOUTH STREET
GREEN LAKE, WI 54941
PHONE: (920) 294-4060
EMAIL: DMASHUDA@GREENLAKECOUNTYWI.GOV

ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- PERMANENT SIGNING AND MARKING
- ALIGNMENT DETAILS

UTILITIES CONTACTS

ALLIANT ENERGY
ELECTRIC
COREY CLINCH
880 N WISCONSIN ST
BERLIN, WI 54923
PHONE: (920) 290-6356
EMAIL: COREYCLINCH@ALLIANTENERGY.COM

BUG TUSSEL WIRELESS
COMMUNICATIONS
ERIN WICHMANN
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BRIGHTSPEED
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144 N PEARL STREET
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PHONE: (608) 716-5964
EMAIL: SCOTT.HEINZELMAN@BRIGHTSPEED.COM

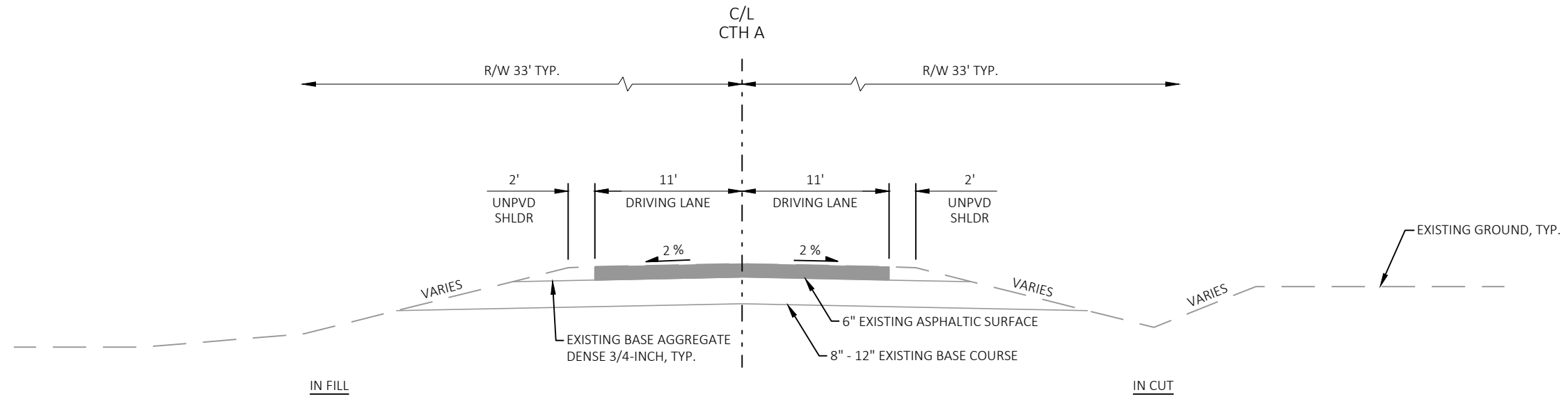
STANDARD ABBREVIATIONS

AC	ACRE	LT	LEFT
AGG	AGGREGATE	LHF	LEFT HAND FORWARD
AH	AHEAD	L	LENGTH OF CURVE
∠	ANGLE	LF	LINEAR FOOT
AADT	ANNUAL AVERAGE DAILY TRAFFIC	LC	LONG CHORD OF CURVE
AEW	APRON ENDWALL	LS	LUMP SUM
ASPH	ASPHALTIC	MGAL	ONE THOUSAND GALLONS
BK	BACK	ML OR M/L	MATCH LINE
BAD	BASE AGGREGATE DENSE	NOM	NOMINAL
BL OR B/L	BASE LINE	NC	NORMAL CROWN
BM	BENCH MARK	NB	NORTHBOUND
CL OR C/L	CENTER LINE	NO	NUMBER
Δ	CENTRAL ANGLE OR DELTA	OD	OUTSIDE DIAMETER
CE	COMMERCIAL ENTRANCE	PAVT	PAVEMENT
CONC	CONCRETE	PLE	PERMANENT LIMITED EASEMENT
CONST	CONSTRUCTION	PC	POINT OF CURVATURE
CP	CONTROL POINT	PI	POINT OF INTERSECTION
CO	COUNTY	PT	POINT OF TANGENCY
CTH	COUNTY TRUCK HIGHWAY	PCC	PORTLAND CEMENT CONCRETE
CY	CUBIC YARD	LB	POUND
CP	CULVERT PIPE	PSI	POUNDS PER SQUARE INCH
CPCA	CULVERT PIPE CORRUGATED ALUMINUM	PE	PRIVATE ENTRANCE
CPCPE	CULVERT PIPE CORRUGATED POLYETHYLENE	PROJ	PROJECT
CPCPP	CULVERT PIPE CORRUGATED POLYPROPYLENE	PL	PROPERTY LINE
CPCS	CULVERT PIPE CORRUGATED STEEL	PRW	PROPOSED RIGHT OF WAY
CPCSAC	CULVERT PIPE CORRUGATED STEEL ALUMINUM COATED	R	RADIUS
CPCSPC	CULVERT PIPE CORRUGATED STEEL POLYMER COATED	RL OR R/L	REFERENCE LINE
CPRC	CULVERT PIPE REINFORCED CONCRETE	REQD	REQUIRED
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	RT	RIGHT
CPS	CULVERT PIPE SALVAGED	RHF	RIGHT HAND FORWARD
CPT	CULVERT PIPE TEMPORARY	R/W	RIGHT OF WAY
D	DEGREE OF CURVE	RD	ROAD
DHV	DESIGN HOUR VOLUME	RDWY	ROADWAY
DIA	DIAMETER	SHLDR	SHOULDER
DD	DIRECTIONAL DISTRIBUTION	SW	SIDEWALK
DE	DRAINAGE EASEMENT	SB	SOUTHBOUND
DWY	DRIVEWAY	SPECS	SPECIFICATIONS
EA	EACH	SF	SQUARE FEET
EB	EASTBOUND	SY	SQUARE YARD
EL OR ELEV	ELEVATION	SDD	STANDARD DETAIL DRAWINGS
EMB	EMBANKMENT	STH	STATE TRUNK HIGHWAY
EW	ENDWALL	STA	STATION
ESALS	EQUIVALENT SINGLE AXLE LOADS	SE	SUPERELEVATION
EXC	EXCAVATION	SL OR S/L	SURVEY LINE
EBS	EXCAVATION BELOW SUBGRADE	TEMP	TEMPORARY
EXIST	EXISTING	TI	TEMPORARY INTEREST
FERT	FERTILIZER	TLE	TEMPORARY LIMITED EASEMENT
FE	FIELD ENTRANCE	TL OR T/L	TRANSIT LINE
FL OR F/L	FLOW LINE	T	TRUCKS (PERCENT OF)
FT	FOOT	TYP	TYPICAL
HE	HIGHWAY EASEMENT	USH	UNITED STATES HIGHWAY
CWT	HUNDRED WEIGHT	VAR	VARIABLE
IN DIA	INCH DIAMETER	VC	VERTICAL CURVE
ID	INSIDE DIAMETER	VPC	VERTICAL POINT OF CURVATURE
INTERS	INTERSECTION	VPI	VERTICAL POINT OF INTERSECTION
IH	INTERSTATE HIGHWAY	VPT	VERTICAL POINT OF TANGENCY
INV	INVERT	W	WEST
JT	JOINT	WB	WESTBOUND

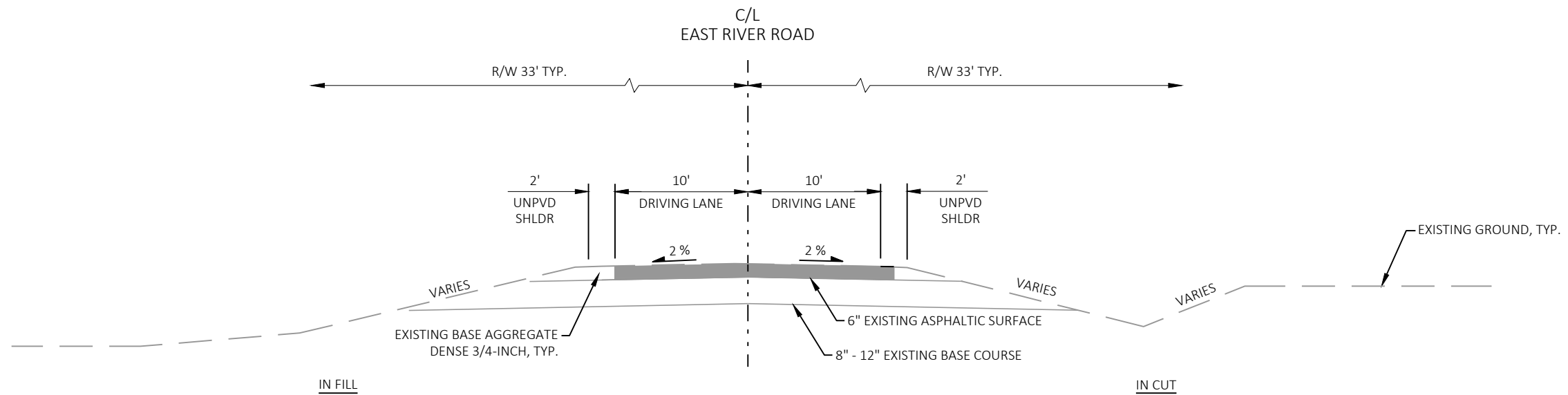


Dial 811 or (800)242-8511

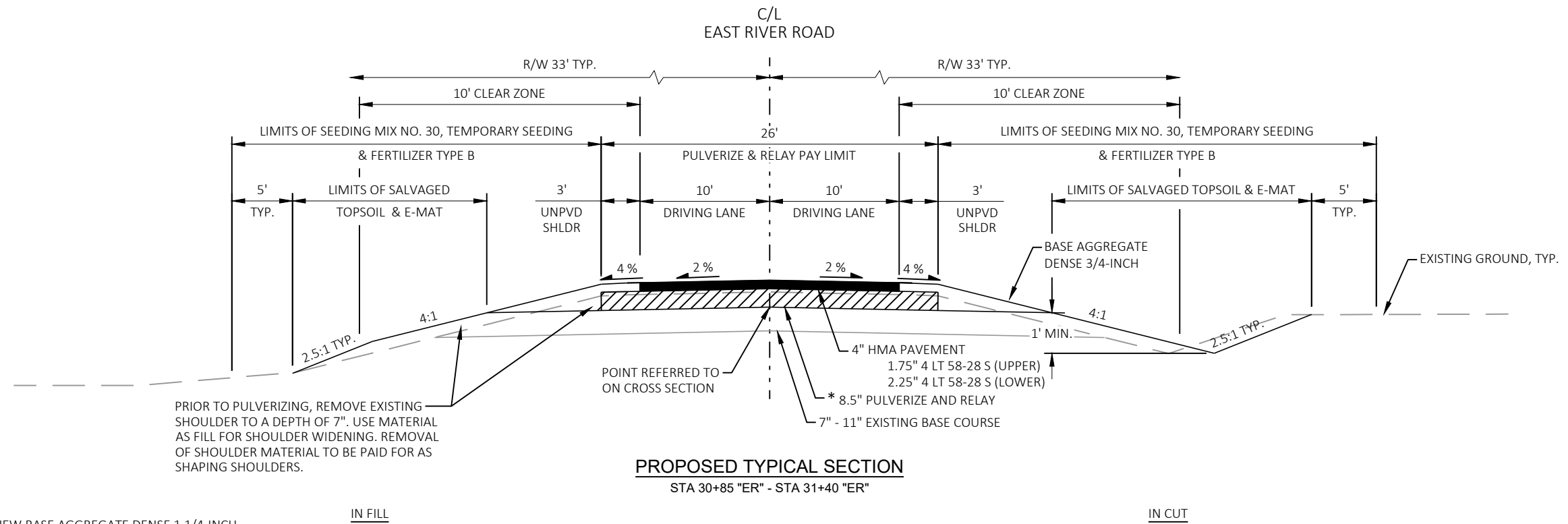
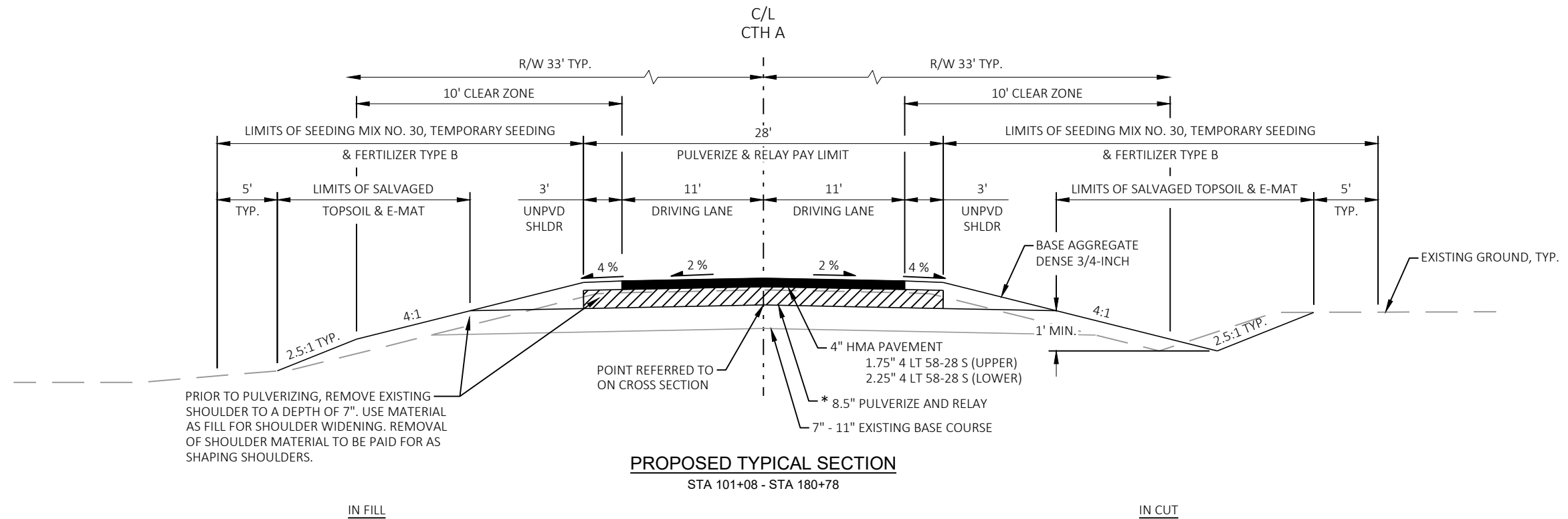
www.DiggersHotline.com



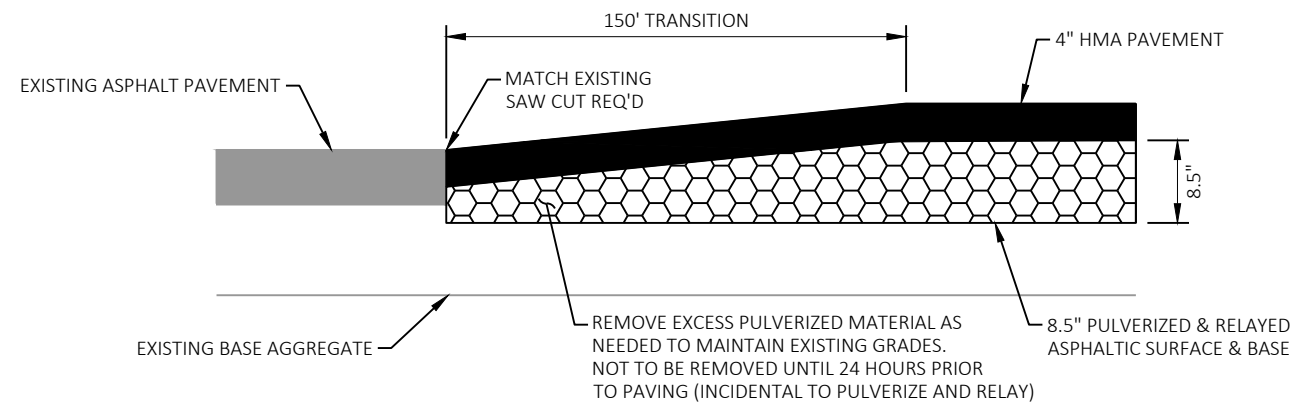
EXISTING TYPICAL SECTION
STA 101+08 - STA 180+78



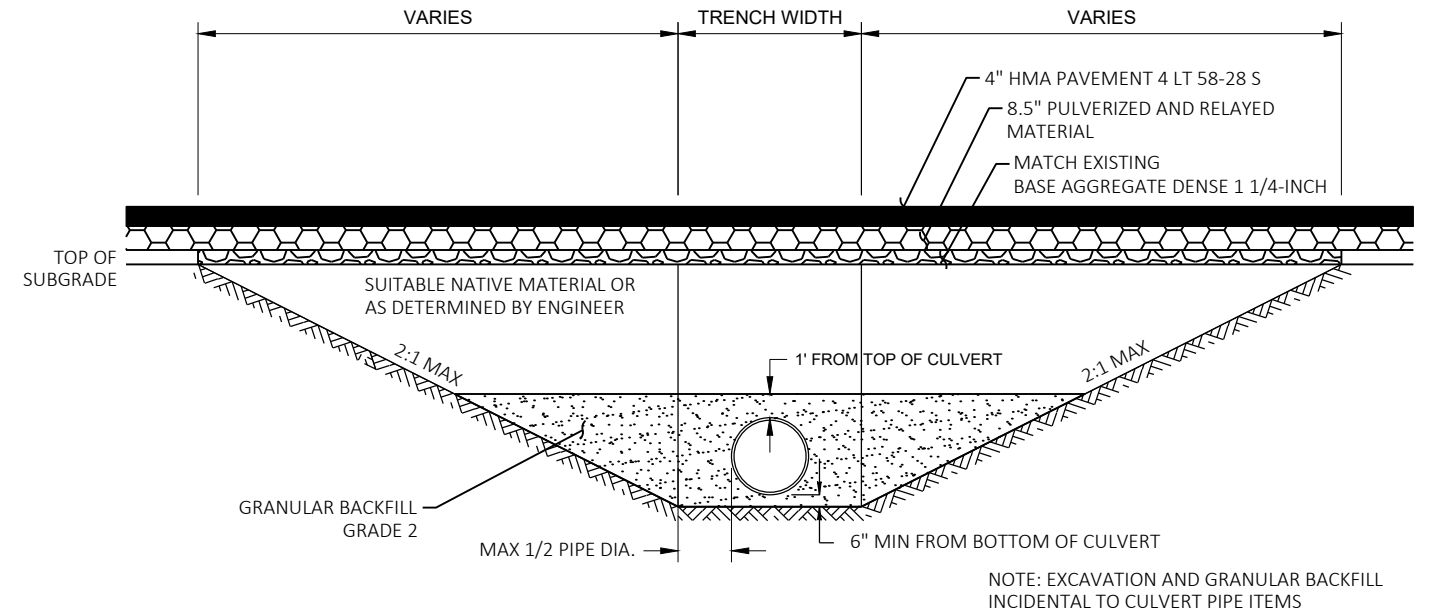
EXISTING TYPICAL SECTION
STA 30+85 "ER" - STA 31+40 "ER"



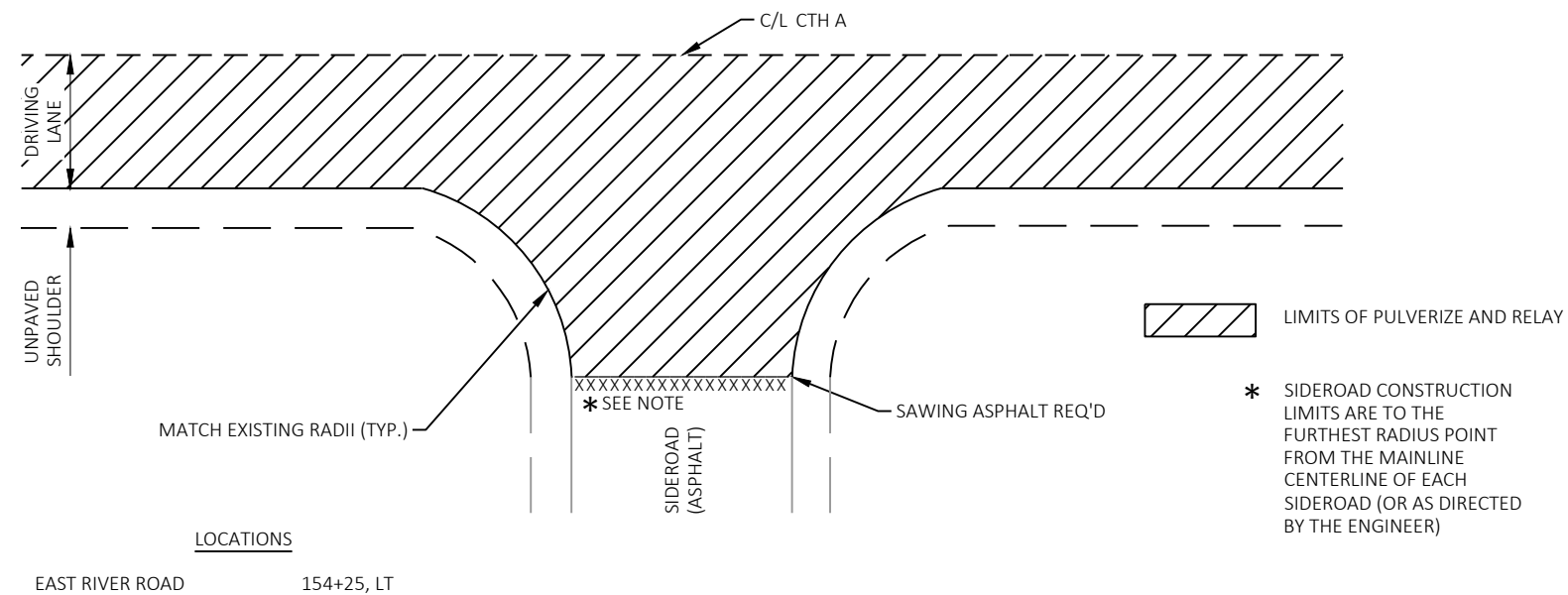
* PRIOR TO PULVERIZING PLACE 3" OF NEW BASE AGGREGATE DENSE 1 1/4-INCH (PAID AS BASE AGGREGATE DENSE 1 1/4-INCH) ATOP EXISTING ASPHALT SURFACE. PULVERIZE AT LEAST 1" INTO EXISTING BASE AGGREGATE MATERIAL.



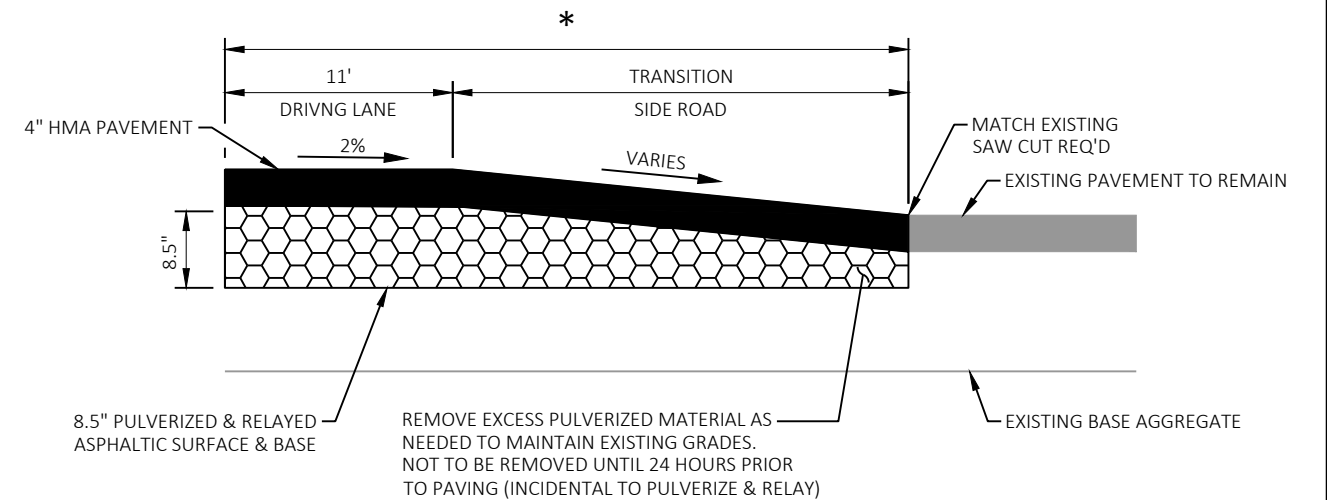
BUTT JOINT DETAIL - PULVERIZE AND RELAY



CULVERT REPLACEMENT DETAIL

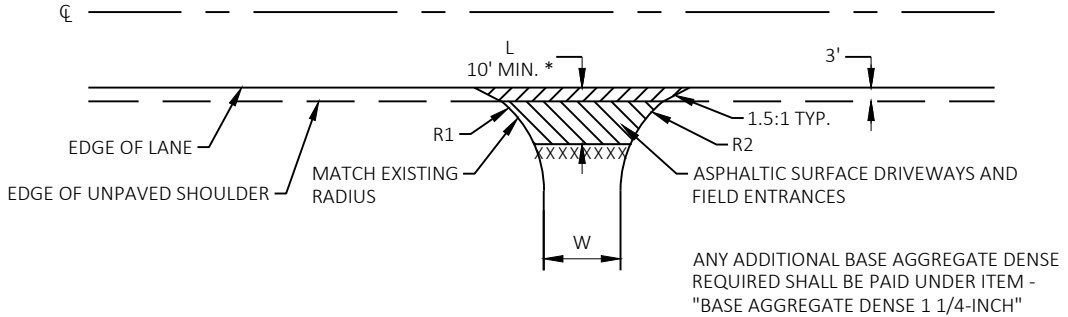


SIDE ROAD DETAIL

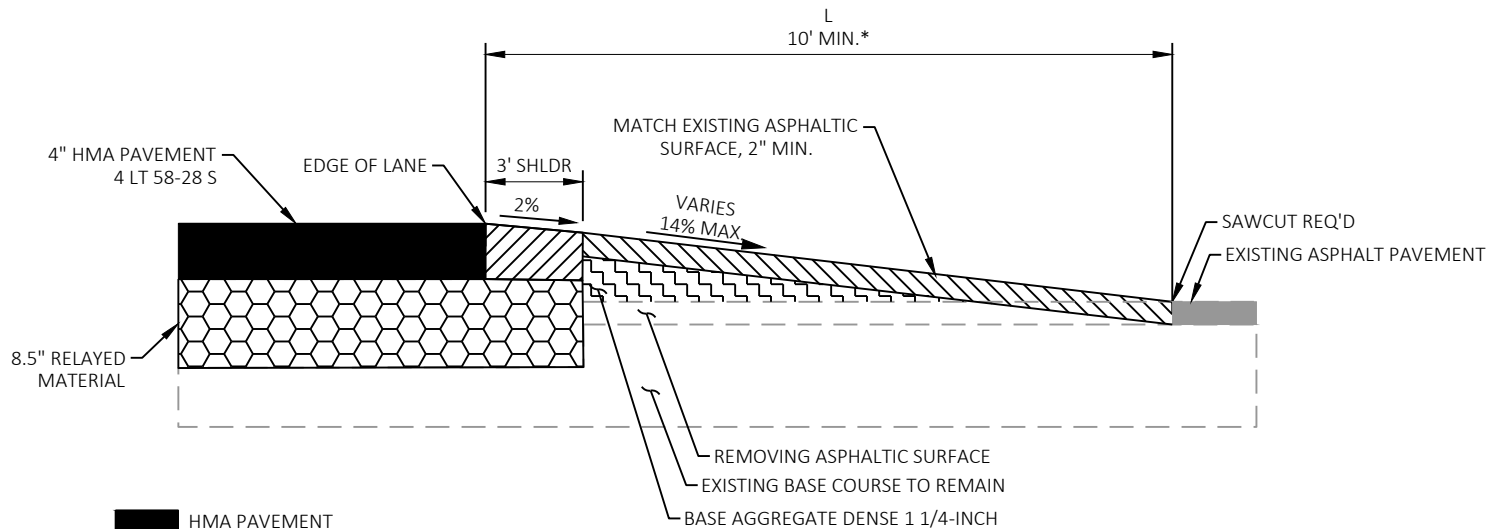


2

ASPHALTIC DRIVEWAYS				
STATION	W	L	R1	R2
139+37	12	21	24	24
146+79	19	20	20	20
150+28	12	20	8	12
151+17	10.5	20	22	11
162+15	13	20	30	13
166+90	18	18	18	11
177+21	12	25	30	12



PLAN VIEW
ASPHALT



- HMA PAVEMENT
- BASE AGGREGATE DENSE 1 1/4-INCH
- ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
- RELAYED MATERIAL
- HMA PAVEMENT APRON
CONSTRUCT CONTINUOUSLY
WITH MAINLINE PAVEMENT,
MATCH MAINLINE THICKNESS.

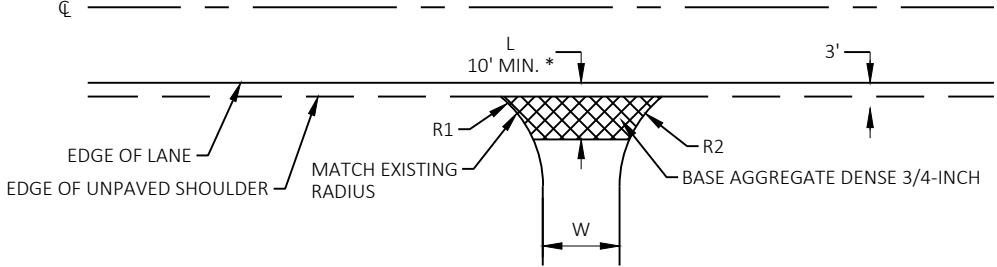
ELEVATION VIEW

ASPHALTIC DRIVEWAY DETAIL

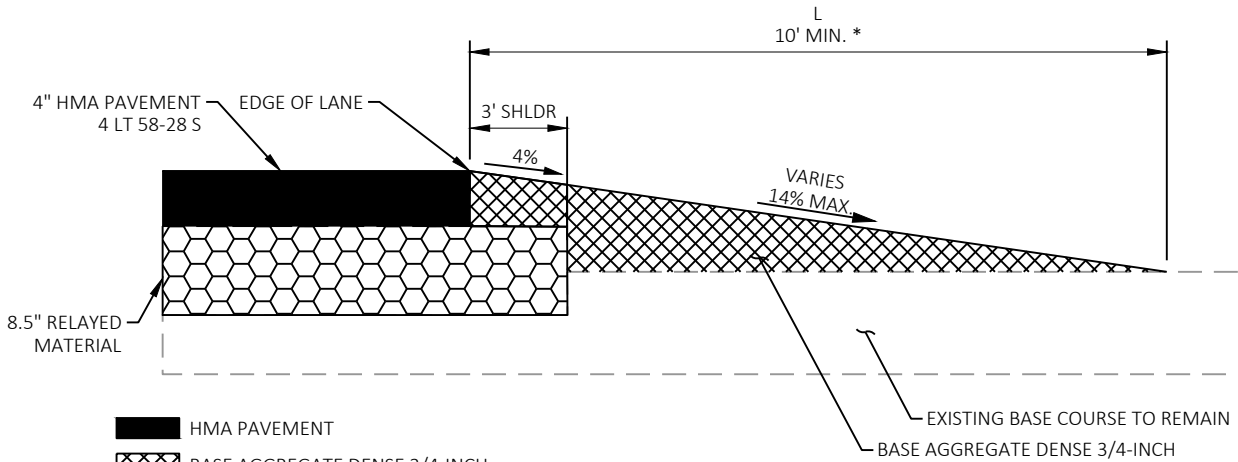
*EXACT DIMENSIONS TO BE DETERMINED
BY ENGINEER IN THE FIELD

2

BASE AGGREGATE DENSE DRIVEWAYS				
STATION	W	L	R1	R2
105+44	18	20	16	16
110+29	39	15	30	30
112+35	22	22	15	15
125+64	18	21	20	20
125+65	12	18	15	15
126+22	22	20	20	20
131+30	15	19	17	28
132+81	22	21	20	20
137+90	17	17	10	10
138+24	17	19	18	26
147+89	18	21	10	10
149+32	15	19	10	10
154+41	12	21	15	15
168+06	24	15	10	10
178+83	20	20	20	30



PLAN VIEW
BASE AGGREGATE

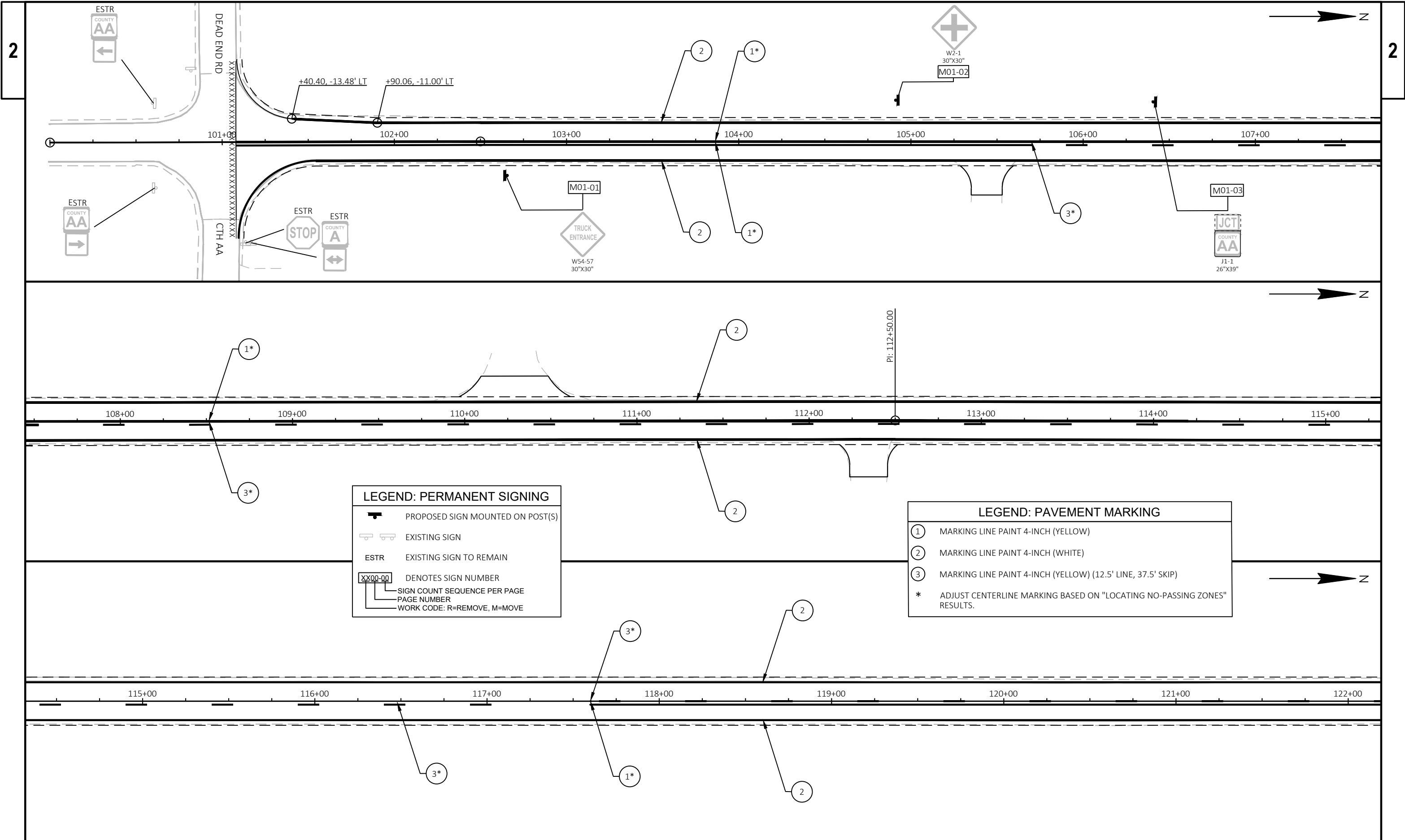


- HMA PAVEMENT
- BASE AGGREGATE DENSE 3/4-INCH
- RELAYED MATERIAL

ELEVATION VIEW

AGGREGATE DRIVEWAY DETAIL

*EXACT DIMENSIONS TO BE DETERMINED
BY ENGINEER IN THE FIELD



LEGEND: PERMANENT SIGNING

PROPOSED SIGN MOUNTED ON POST(S)

EXISTING SIGN

ESTR EXISTING SIGN TO REMAIN

DENOTES SIGN NUMBER

SIGN COUNT SEQUENCE PER PAGE

PAGE NUMBER

WORK CODE: R=REMOVE, M=MOVE

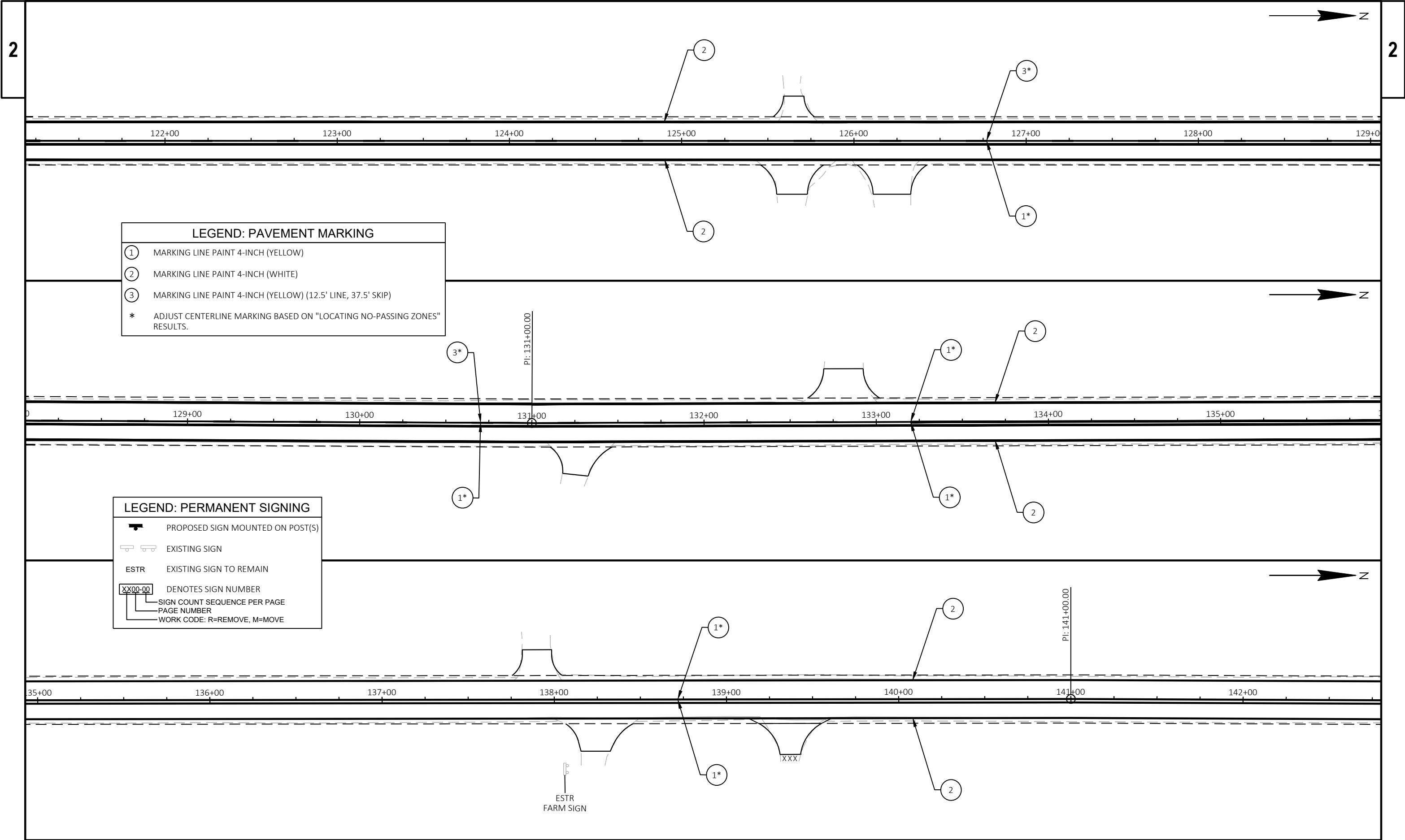
LEGEND: PAVEMENT MARKING

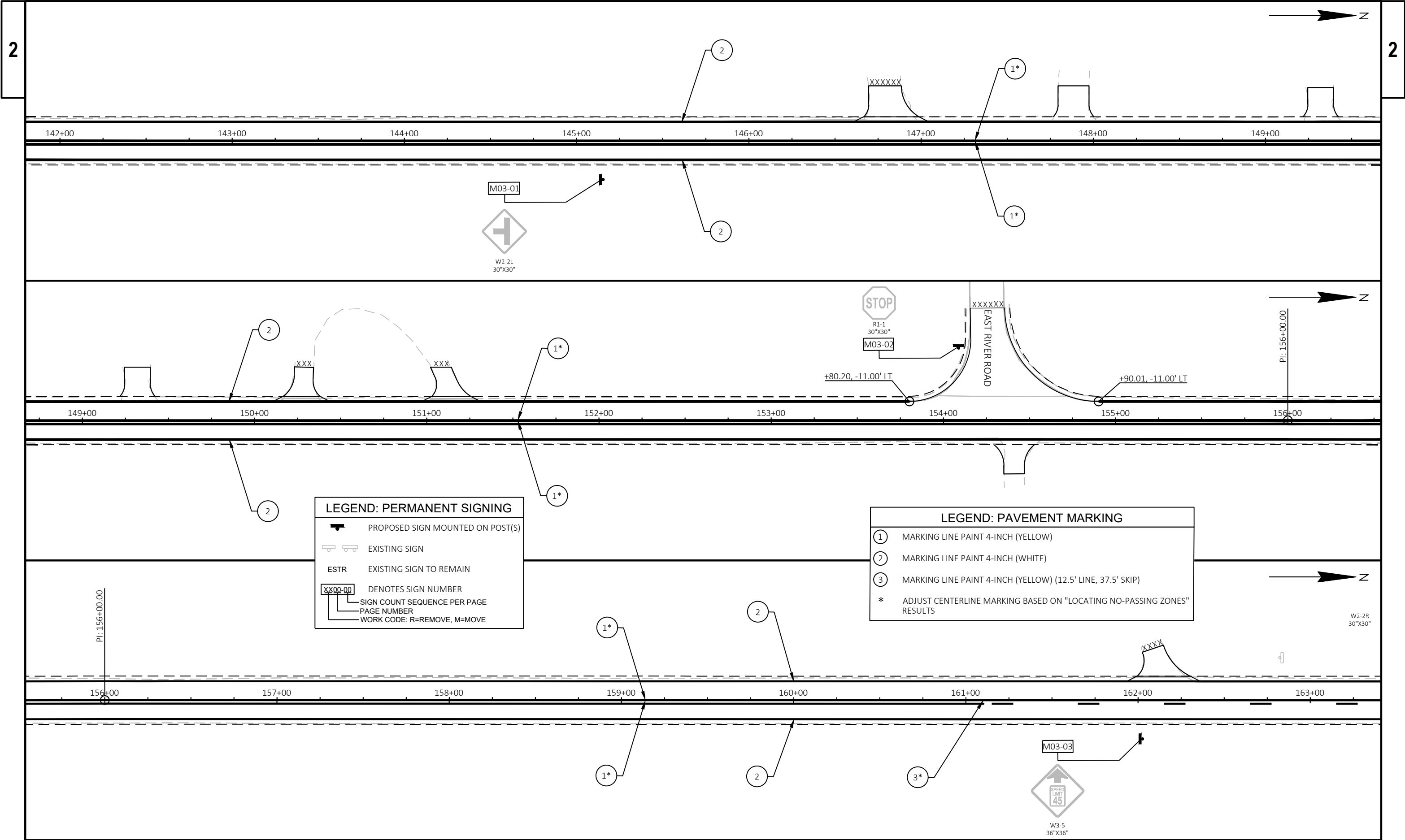
① MARKING LINE PAINT 4-INCH (YELLOW)

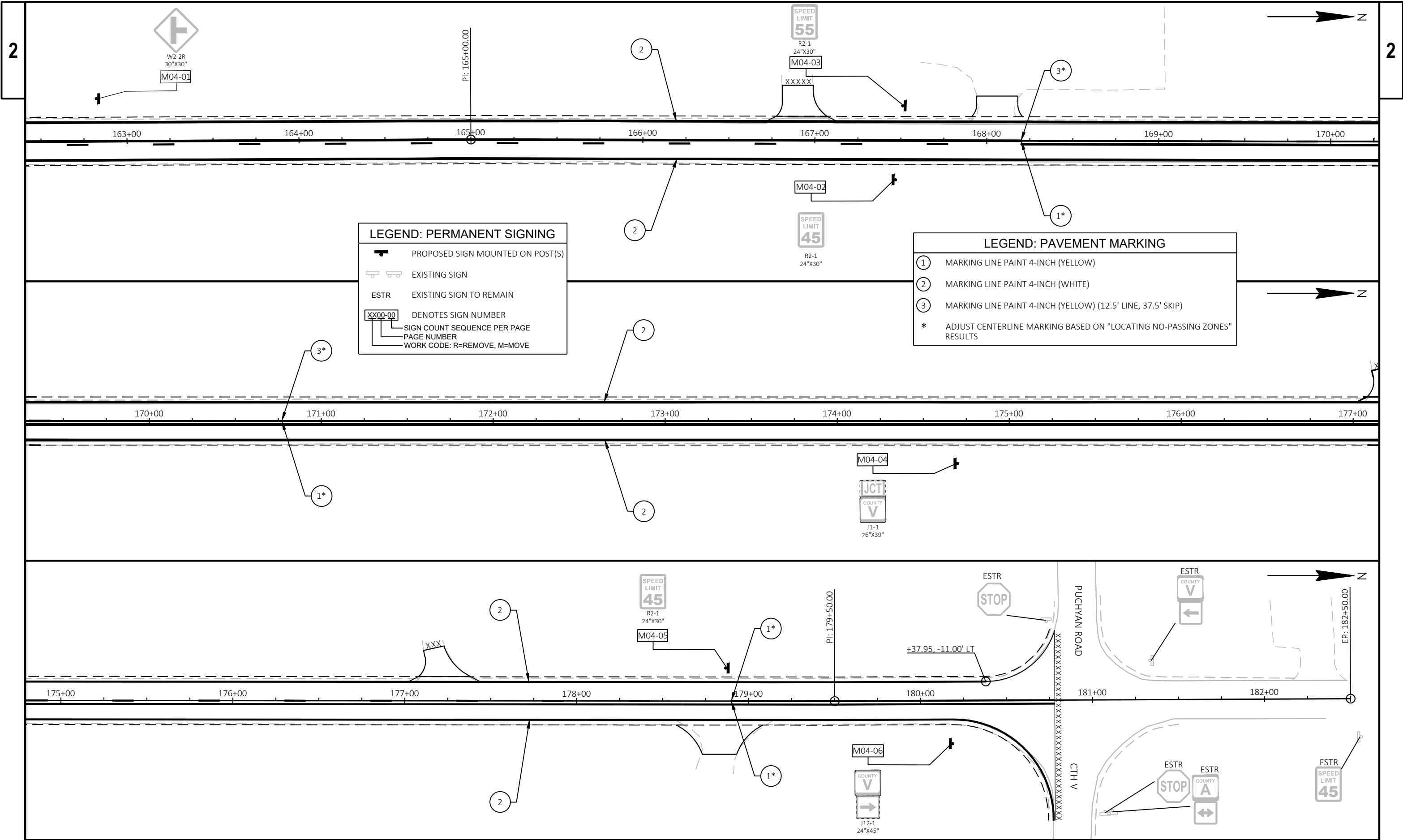
② MARKING LINE PAINT 4-INCH (WHITE)

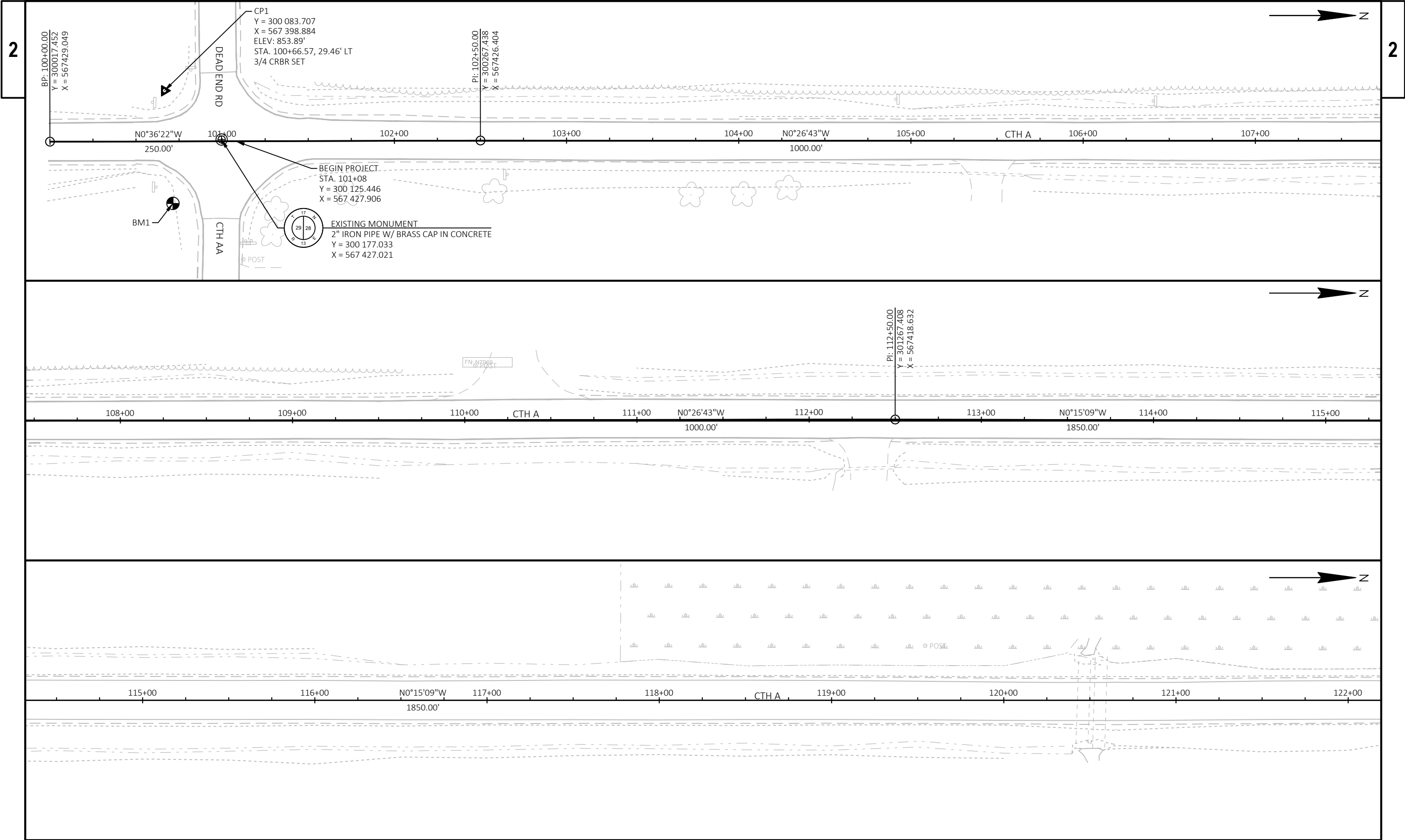
③ MARKING LINE PAINT 4-INCH (YELLOW) (12.5' LINE, 37.5' SKIP)

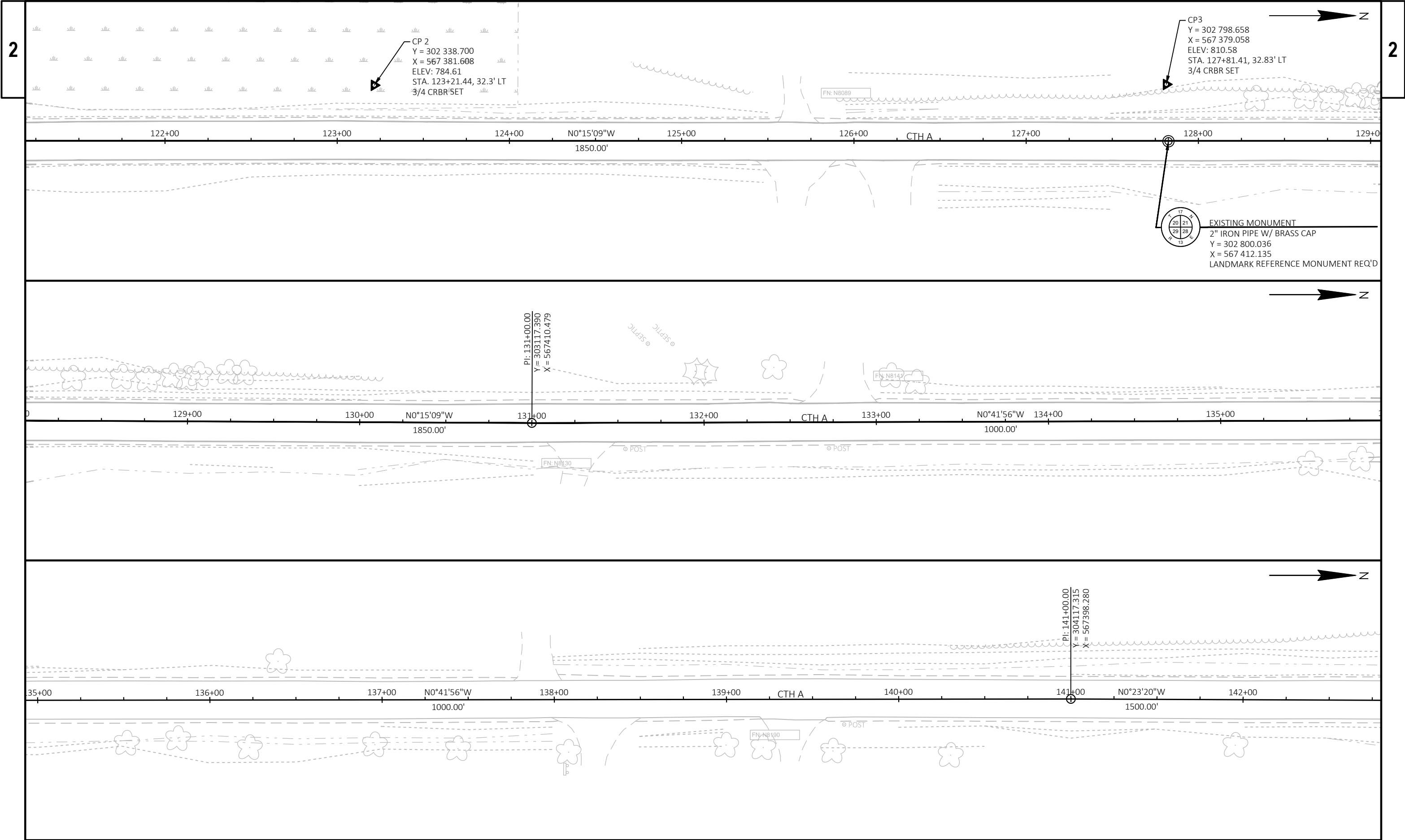
* ADJUST CENTERLINE MARKING BASED ON "LOCATING NO-PASSING ZONES" RESULTS.



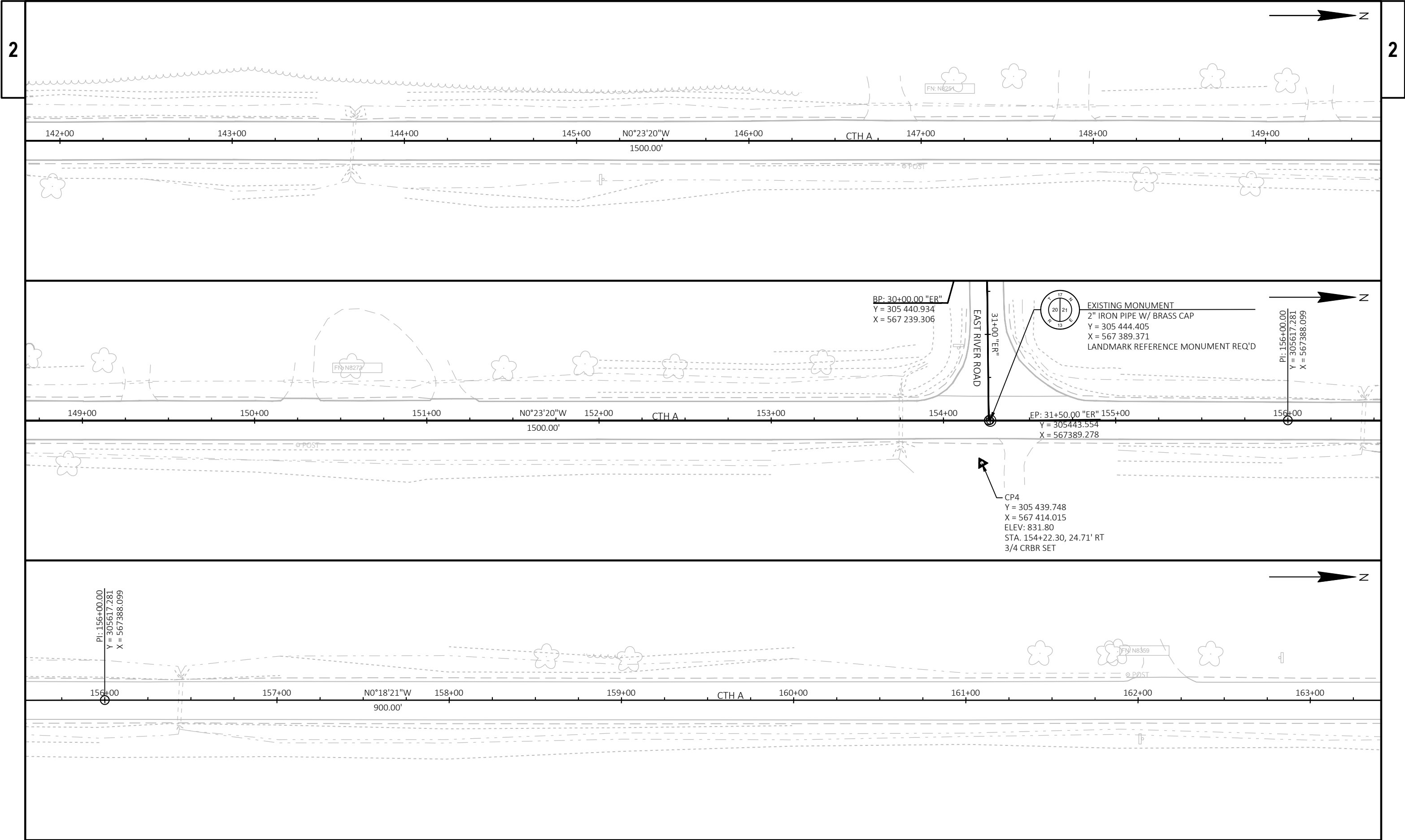


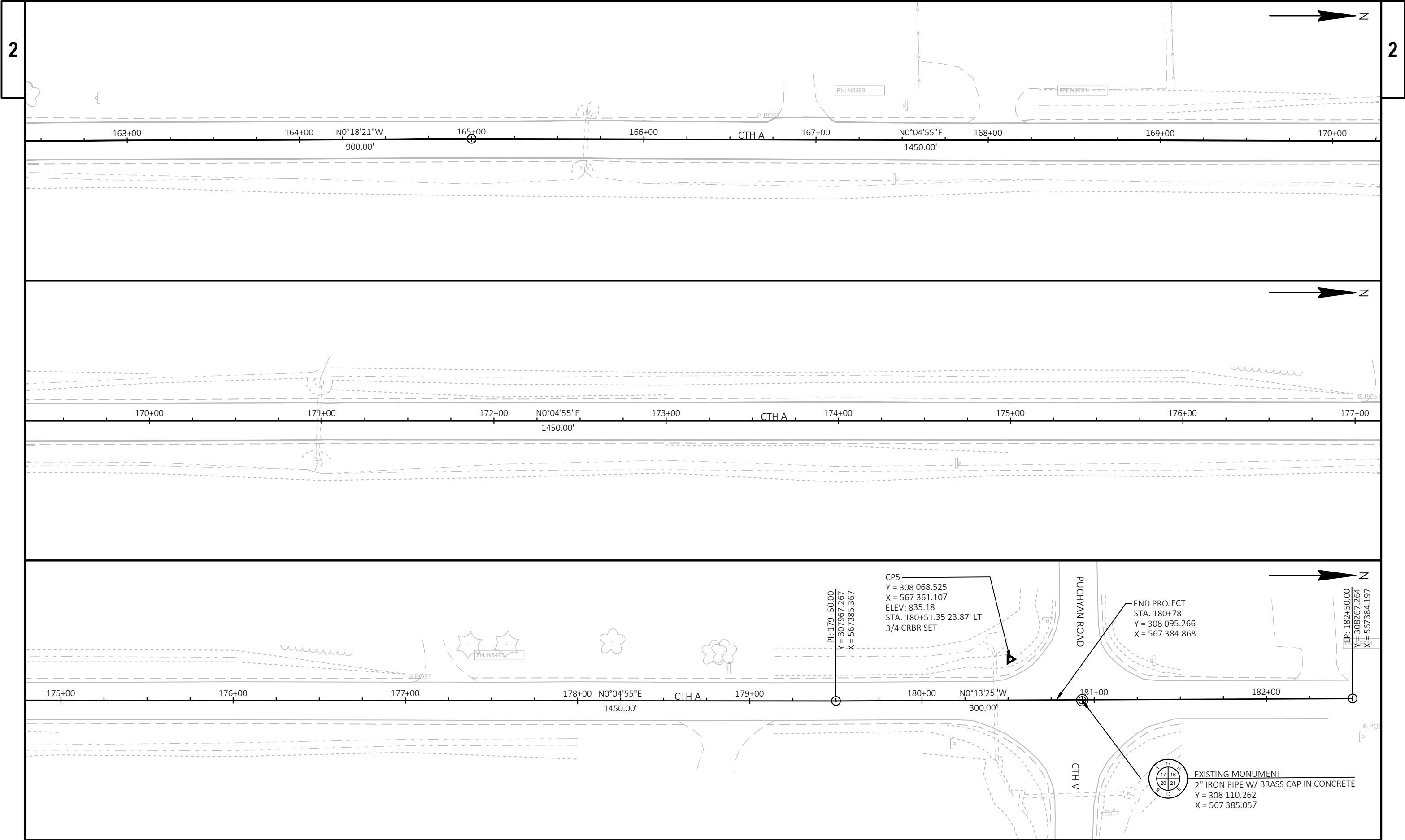






PROJECT NO: 6536-03-74	HWY: CTH A	COUNTY: GREEN LAKE	ALIGNMENT DETAILS	SHEET 12	E
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Estimate Of Quantities

6536-03-74

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	13.000	13.000
0004	204.0110	Removing Asphaltic Surface	SY	241.000	241.000
0006	205.0100	Excavation Common	CY	1,910.000	1,910.000
0008	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 6536-03-74	EACH	1.000	1.000
0010	213.0100	Finishing Roadway (project) 01. 6536-03-74	EACH	1.000	1.000
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	3,820.000	3,820.000
0014	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,640.000	3,640.000
0016	305.0500	Shaping Shoulders	STA	161.000	161.000
0018	325.0100	Pulverize and Relay	SY	25,000.000	25,000.000
0020	374.1020.S	QMP Pulverize and Relay Compaction	SY	25,000.000	25,000.000
0022	455.0605	Tack Coat	GAL	1,002.000	1,002.000
0024	460.2000	Incentive Density HMA Pavement	DOL	2,880.000	2,880.000
0026	460.5224	HMA Pavement 4 LT 58-28 S	TON	4,490.000	4,490.000
0028	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	30.000	30.000
0030	520.1012	Apron Endwalls for Culvert Pipe 12-Inch	EACH	12.000	12.000
0032	520.1015	Apron Endwalls for Culvert Pipe 15-Inch	EACH	12.000	12.000
0034	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	2.000	2.000
0036	520.4112	Culvert Pipe Class IV 12-Inch	LF	194.000	194.000
0038	520.4115	Culvert Pipe Class IV 15-Inch	LF	158.000	158.000
0040	520.4118	Culvert Pipe Class IV 18-Inch	LF	26.000	26.000
0042	522.0418	Culvert Pipe Reinforced Concrete Class IV 18-Inch	LF	32.000	32.000
0044	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	2.000	2.000
0046	522.2419	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	LF	104.000	104.000
0048	522.2424	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	LF	72.000	72.000
0050	522.2619	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	EACH	6.000	6.000
0052	522.2624	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch	EACH	4.000	4.000
0054	618.0100	Maintenance and Repair of Haul Roads (project) 01. 6536-03-74	EACH	1.000	1.000
0056	619.1000	Mobilization	EACH	1.000	1.000
0058	624.0100	Water	MGAL	175.000	175.000
0060	625.0500	Salvaged Topsoil	SY	16,400.000	16,400.000
0062	628.1504	Silt Fence	LF	1,960.000	1,960.000
0064	628.1520	Silt Fence Maintenance	LF	3,920.000	3,920.000
0066	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0068	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0070	628.2008	Erosion Mat Urban Class I Type B	SY	16,400.000	16,400.000
0072	628.7504	Temporary Ditch Checks	LF	372.000	372.000
0074	628.7555	Culvert Pipe Checks	EACH	145.000	145.000
0076	629.0210	Fertilizer Type B	CWT	22.000	22.000
0078	630.0130	Seeding Mixture No. 30	LB	1,600.000	1,600.000
0080	630.0200	Seeding Temporary	LB	970.000	970.000
0082	630.0500	Seed Water	MGAL	800.000	800.000
0084	633.5200	Markers Culvert End	EACH	10.000	10.000
0086	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	5.000	5.000
0088	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	7.000	7.000
0090	638.2102	Moving Signs Type II	EACH	12.000	12.000
0092	642.5001	Field Office Type B	EACH	1.000	1.000
0094	643.0420	Traffic Control Barricades Type III	DAY	472.000	472.000
0096	643.0705	Traffic Control Warning Lights Type A	DAY	944.000	944.000
0098	643.0900	Traffic Control Signs	DAY	1,180.000	1,180.000

Estimate Of Quantities

6536-03-74

Line	Item	Item Description	Unit	Total	Qty
0100	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0102	643.5000	Traffic Control	EACH	1.000	1.000
0104	646.1005	Marking Line Paint 4-Inch	LF	30,745.000	30,745.000
0106	648.0100	Locating No-Passing Zones	MI	1.510	1.510
0108	650.6000	Construction Staking Pipe Culverts	EACH	19.000	19.000
0110	650.8000	Construction Staking Resurfacing Reference	LF	8,025.000	8,025.000
0112	650.9911	Construction Staking Supplemental Control (project) 01. 6536-03-74	EACH	1.000	1.000
0114	650.9920	Construction Staking Slope Stakes	LF	8,025.000	8,025.000
0116	680.0100	Public Land Survey Monument Verify and Reset	EACH	2.000	2.000
0118	690.0150	Sawing Asphalt	LF	335.000	335.000
0120	740.0440	Incentive IRI Ride	DOL	3,018.000	3,018.000
0122	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0124	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000

3

REMOVING SMALL PIPE CULVERTS

203.0100				
STATION	LOCATION	EACH	REMARKS	
105+44	CTH A, RT	1	FE, CMCP 15-INCHJ	
112+34	CTH A, RT	1	FE, CMCP 18-INCH	
131+26	CTH A, RT	1	PE, CPCPE 12-INCH	
143+70	CTH A	1	CROSS DRAIN, CMCP 18-INCH	
146+79	CTH A, LT	1	PE, CMCP 15-INCH	
147+89	CTH A, LT	1	FE, CMCP 15-INCH	
149+32	CTH A, LT	1	FE, CMCP 15-INCH	
150+29	CTH A, LT	1	PE, CMCP 15-INCH	
151+14	CTH A, LT	1	PE, CMCP 15-INCH	
153+75	CTH A	1	CROSS DRAIN, CMCP 24-INCH	
156+44	CTH A	1	CROSS DRAIN, CMCP 24-INCH	
165+67	CTH A	1	CROSS DRAIN, CMCP 24-INCH	
170+98	CTH A	1	CROSS DRAIN, CM PIPE ARCH 24X35-INCH	
TOTAL		13		

DRIVEWAYS

* 204.0110 305.0120 465.0120 REMOVING BASE ASPHALTIC SURFACE ASPHALTIC AGGREGATE DENSE DRIVEWAYS SURFACE 1 1/4-INCH AND FIELD ENTRANCES						
STATION	LOCATION	SY	TON	TON	REMARKS	
105+44	RT	---	14	---	FIELD ENTRANCE	
110+28	LT	---	22	---	PRIVATE ENTRANCE	
112+35	RT	---	17	---	FIELD ENTRANCE	
125+64	RT	---	15	---	FIELD ENTRANCE	
125+65	LT	---	7	---	FIELD ENTRANCE	
126+22	RT	---	18	---	FIELD ENTRANCE	
131+26	RT	---	14	---	PRIVATE ENTRANCE	
132+81	LT	---	18	---	PRIVATE ENTRANCE	
137+90	LT	---	12	---	FIELD ENTRANCE	
138+24	RT	---	15	---	PRIVATE ENTRANCE	
139+70	RT	40	14	5	PRIVATE ENTRANCE	
146+79	LT	45	15	6	PRIVATE ENTRANCE	
147+88.5	LT	---	14	---	FIELD ENTRANCE	
149+32	LT	---	10	---	FIELD ENTRANCE	
150+28.5	LT	25	9	3	PRIVATE ENTRANCE	
151+14	LT	27	9	3	PRIVATE ENTRANCE	
154+41	RT	---	10	---	PRIVATE ENTRANCE	
162+12	LT	30	10	4	PRIVATE ENTRANCE	
166+90	LT	41	14	5	PRIVATE ENTRANCE	
168+06	LT	---	12	---	PRIVATE ENTRANCE	
177+21	LT	33	11	4	PRIVATE ENTRANCE	
178+83	RT	---	20	---	PRIVATE ENTRANCE	
TOTAL		241	300	30		

*ADDITIONAL QUANTITIES LOCATED ELSEWHERE IN PLANS

DIVISION	FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON (1)	EXISTING SHOULDER MATERIAL (3)	AVAILABLE MATERIAL (4)	UNEXPANDED FILL	EXPANDED FILL (5)	MASS ORDINATE +/- (7)	WASTE
			CUT (2)				FACTOR (6) 1.25		
CATEGORY 0010									
CTH A	101+08.00/180+78.00	MAINLINE	1,907	1,048	2,955	1,218	1,523	1,433	1,433
EAST RIVER RD	30+84.69/31+49.99	SIDEROAD	3	6	9	0	0	9	9
GRAND TOTAL									
	TOTAL COMMON EXC		1,910						

NOTES:
(1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EXCLUDES EXISTING SHOULDER MATERIAL. ITEM NUMBER 205.0100
(2) EXISTING SHOULDER MATERIAL AND PULVERIZED AND RELAYED MATERIAL ARE EXCLUDED FROM THE CUT.
(3) REMOVAL/BLADING OUT OF EXISTING SHOULDER MATERIAL PAID AS SHAPING SHOULDERS.
(4) AVAILABLE MATERIAL = CUT+EXISTING SHOULDER MATERIAL
(5) EXPANDED FILL FACTOR = .00
EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK) * FILL FACTOR
(6) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.
(7) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

3

PREPARE FOUNDATION FOR ASPHALTIC PAVING

211.0101.01				
STATION	TO	STATION	LOCATION	EACH
101+08	-	180+78	CTH A	1
TOTAL				1

SHAPING SHOULDERS

305.0500				
STATION	TO	STATION	LOCATION	STA
101+08	-	180+78	CTH A, RT	80
101+08	-	153+80	CTH A, LT	53
154+90	-	180+78	CTH A, LT	26
30+85 "ER"	-	31+39 "ER"	EAST RIVER RD, RT	1
30+85 "ER"	-	31+39 "ER"	EAST RIVER RD, LT	1
TOTAL				161

BASE AGGREGATE

* 305.0110 305.0120 624.0100 BASE BASE AGGREGATE AGGREGATE DENSE DENSE 3/4-INCH 1 1/4-INCH WATER							
STATION	TO	STATION	LOCATION	TON	TON	MGAL	REMARKS
101+08	-	154+26	CTH A	2,530	2,190	48	BOP TO EAST RIVER RD
154+26	-	180+78	CTH A	1,250	1,110	24	EAST RIVER RD TO EOP
30+85 "ER"	-	31+39 "ER"	EAST RIVER RD	40	40	1	
TOTAL				3,820	3,340	73	

*ADDITIONAL QUANTITIES LOCATED ELSEWHERE IN PLANS

PULVERIZE AND RELAY

* 325.0100 374.1020.S 624.0100 PULVERIZE QMP AND RELAY PULVERIZE SY AND RELAY COMPACTION SY						
STATION	TO	STATION	LOCATION	SY	SY	WATER MGAL
101+08	-	154+26	CTH A	16,600	16,600	66
154+26	-	180+78	CTH A	8,300	8,300	34
30+85 "ER"	-	31+36 "ER"	EAST RIVER RD	100	100	2
TOTAL				25,000	25,000	102

*ADDITIONAL QUANTITIES LOCATED ELSEWHERE IN PLANS

HMA PAVEMENT

455.0605 460.5224 TACK HMA PAVEMENT COAT 4 LT 58-28 S						
STATION	TO	STATION	LOCATION	GAL	TON	REMARKS
101+08	-	154+26	CTH A	658	2,950	BOP TO EAST RIVER RD
154+26	-	180+78	CTH A	332	1,490	EAST RIVER RD TO EOP
30+85 "ER"	-	31+39 "ER"	EAST RIVER RD	12	50	
TOTAL				1,002	4,490	

ALL ITEMS CATEGORY 0010 UNLESS NOTED OTHERWISE.

3

3

CULVERT PIPE SUMMARY

		520.1012	520.1015	520.1018	520.4112	520.4115	520.4118	522.0418	522.1018	522.2419	522.2424	522.2619	522.2624	650.6000					
STATION	LOCATION	APRON ENDWALLS FOR CULVERT PIPE	APRON ENDWALLS FOR CULVERT PIPE	APRON ENDWALLS FOR CULVERT PIPE	CULVERT PIPE	CULVERT PIPE	CULVERT PIPE	CULVERT PIPE	APRON ENDWALLS FOR CULVERT PIPE	CULVERT PIPE	CULVERT PIPE	APRON ENDWALLS	APRON ENDWALLS	CONSTRUCTION	*	STEEL	**	**	
		12-INCH EACH	15-INCH EACH	18-INCH EACH	CLASS IV 12-INCH LF	CLASS IV 15-INCH LF	CLASS IV 18-INCH LF	CLASS IV 18-INCH LF	18-INCH EACH	REINFORCED CONCRETE CLASS HE-IV 19X30-INCH LF	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH LF	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH LF	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH EACH	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH EACH	PIPE CULVERTS EACH	JOINT TIES EACH	THICKNESS INCHES	INLET ELEVATION	OUTLET ELEVATION
105+44	CTH A, RT	---	2	---	---	34	---	---	---	---	---	---	---	1	---	0.064	843.08	841.82	
112+34.5	CTH A, LT	---	---	---	---	---	---	---	---	---	32	---	2	1	6	---	798.15	797.12	
131+26	CTH A, RT	2	---	---	34	---	---	---	---	---	---	---	---	1	---	0.064	831.27	829.27	
132+81	CTH A, LT	2	---	---	36	---	---	---	---	---	---	---	---	1	---	0.064	838.50	837.01	
137+90	CTH A, LT	2	---	---	24	---	---	---	---	---	---	---	---	1	---	0.064	853.11	852.30	
138+24	CTH A, RT	2	---	---	34	---	---	---	---	---	---	---	---	1	---	0.064	855.11	853.66	
143+70	CTH A	---	---	---	---	---	---	32	2	---	---	---	---	1	6	---	850.27	849.97	
146+79	CTH A, LT	---	2	---	---	30	---	---	---	---	---	---	---	1	---	0.064	849.02	848.69	
147+89	CTH A, LT	---	2	---	---	28	---	---	---	---	---	---	---	1	---	0.064	847.29	846.73	
149+32	CTH A, LT	---	2	---	---	24	---	---	---	---	---	---	---	1	---	0.064	843.84	843.08	
150+29	CTH A, LT	---	2	---	---	20	---	---	---	---	---	---	---	1	---	0.064	840.21	839.38	
151+14	CTH A, LT	---	2	---	---	22	---	---	---	---	---	---	---	1	---	0.064	836.77	835.88	
153+75	CTH A	---	---	---	---	---	---	---	---	32	---	2	---	1	6	---	828.83	828.52	
154+41	CTH A, RT	---	---	2	---	---	26	---	---	---	---	---	---	1	---	0.064	829.68	829.53	
156+44	CTH A	---	---	---	---	---	---	---	---	32	---	2	---	1	6	---	827.54	827.40	
165+67	CTH A	---	---	---	---	---	---	---	---	40	---	2	---	1	6	---	829.26	829.11	
166+90	CTH A, LT	2	---	---	26	---	---	---	---	---	---	---	---	1	---	0.064	831.49	830.81	
170+98	CTH A	---	---	---	---	---	---	---	---	---	40	---	2	1	6	---	832.78	832.22	
178+83	CTH A, RT	2	---	---	40	---	---	---	---	---	---	---	---	1	---	0.064	838.57	837.60	
TOTAL		12	12	2	194	158	26	32	2	104	72	6	4	19	36				

* NON-BID ITEM. FOR INFORMATION ONLY
** PIPE INVERT AT END OF PIPE. FOR INFORMATION ONLY. FIELD VERIFY.

625 FINISHING ITEMS									
STATION	TO	STATION	LOCATION	625.0500	628.2008	629.0210	630.0130	630.0200	630.0500
				SALVAGED TOPSOIL SY	EROSION MAT URBAN CLASS I TYPE B SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 30 LB	SEEDING TEMPORARY LB	SEED WATER MGAL
101+08	-	154+26	CTH A, LT	4,130	4,130	6	410	250	210
101+08	-	154+26	CTH A, RT	4,680	4,680	6	440	270	220
154+26	-	180+78	CTH A, LT	1,830	1,830	3	200	120	100
154+26	-	180+78	CTH A, RT	2,530	2,530	3	240	140	120
UNDISTRIBUTED				3,230	3,230	4	310	190	150
TOTAL				16,400	16,400	22	1,600	970	800

TEMPORARY DITCH CHECKS				
STATION	TO	STATION	LOCATION	628.7504 LF
102+95	-	108+50	CTH A, LT	60
102+95	-	104+55	CTH A, RT	18
106+20	-	112+00	CTH A, RT	114
112+45	-	116+85	CTH A, LT	36
113+00	-	120+10	CTH A, RT	48
127+60	-	132+40	CTH A, LT	96
129+25	-	130+95	CTH A, RT	30
131+65	-	137+60	CTH A, RT	66
133+70	-	137+25	CTH A, LT	30
138+45	-	139+15	CTH A, RT	6
138+75	-	145+60	CTH A, LT	42
141+00	-	153+75	CTH A, RT	96
148+10	-	149+15	CTH A, LT	6
149+50	-	150+15	CTH A, LT	6
150+50	-	151+00	CTH A, LT	6
151+25	-	153+75	CTH A, LT	24
155+00	-	178+00	CTH A, RT	114
157+25	-	161+00	CTH A, LT	30
167+10	-	167+80	CTH A, LT	6
169+00	-	177+00	CTH A, LT	30
178+00	-	180+00	CTH A, RT	18
179+25	-	180+25	CTH A, LT	6
TOTAL				372

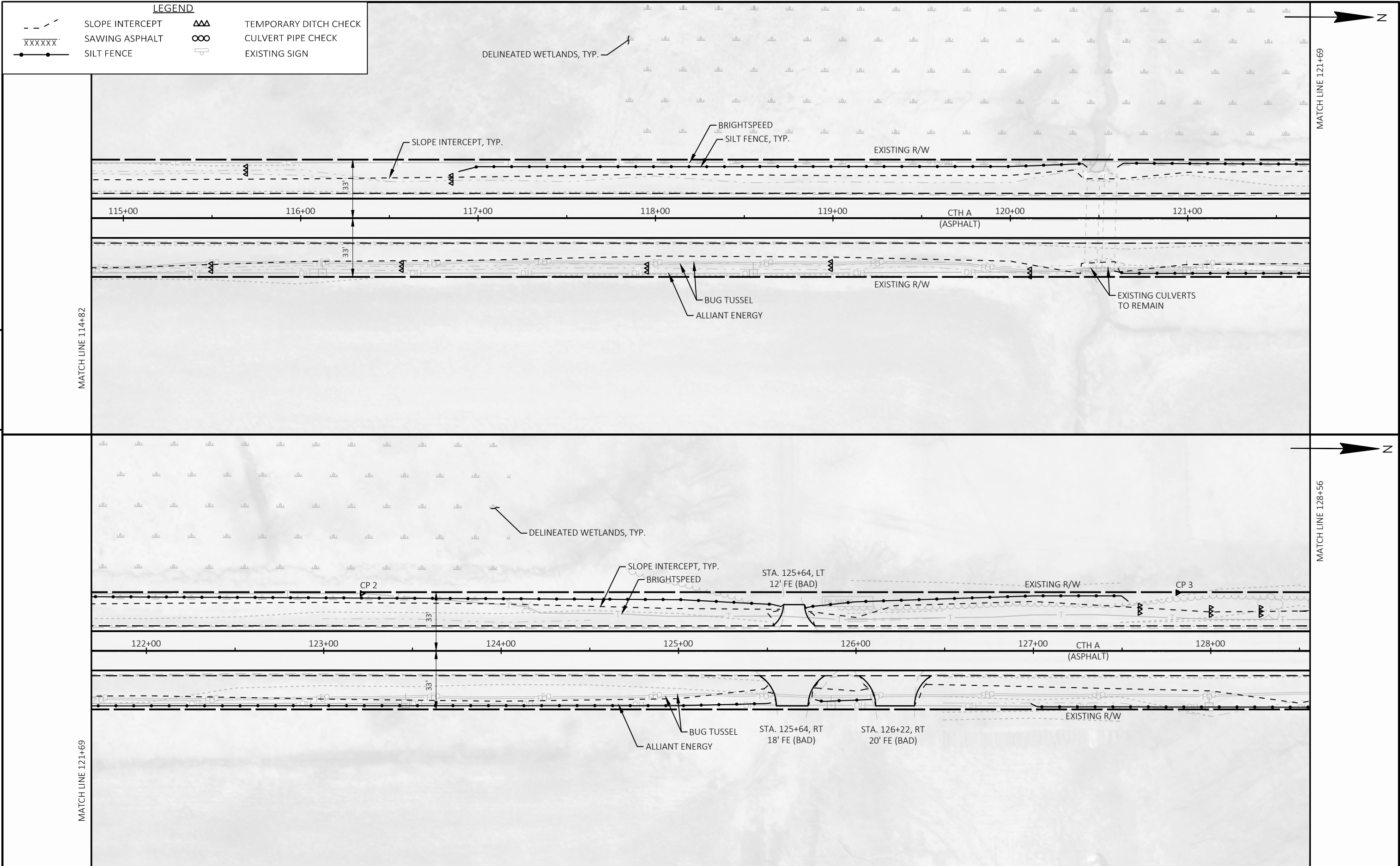
CULVERT PIPE CHECKS		
STATION	LOCATION	628.7555 EACH
105+44	CTH A, RT	6
112+34	CTH A, LT	10
131+26	CTH A, RT	4
132+81	CTH A, LT	2
137+90	CTH A, LT	2
138+24	CTH A, RT	2
143+70	CTH A	6
146+79	CTH A, LT	6
147+89	CTH A, LT	6
149+32	CTH A, LT	6
150+29	CTH A, LT	6
151+14	CTH A, LT	6
153+75	CTH A	9
154+41	CTH A, RT	3
156+44	CTH A	9
165+67	CTH A	9
166+90	CTH A, LT	2
170+98	CTH A	13
178+83	CTH A, RT	2
UNDISTRIBUTED		36
TOTAL		145

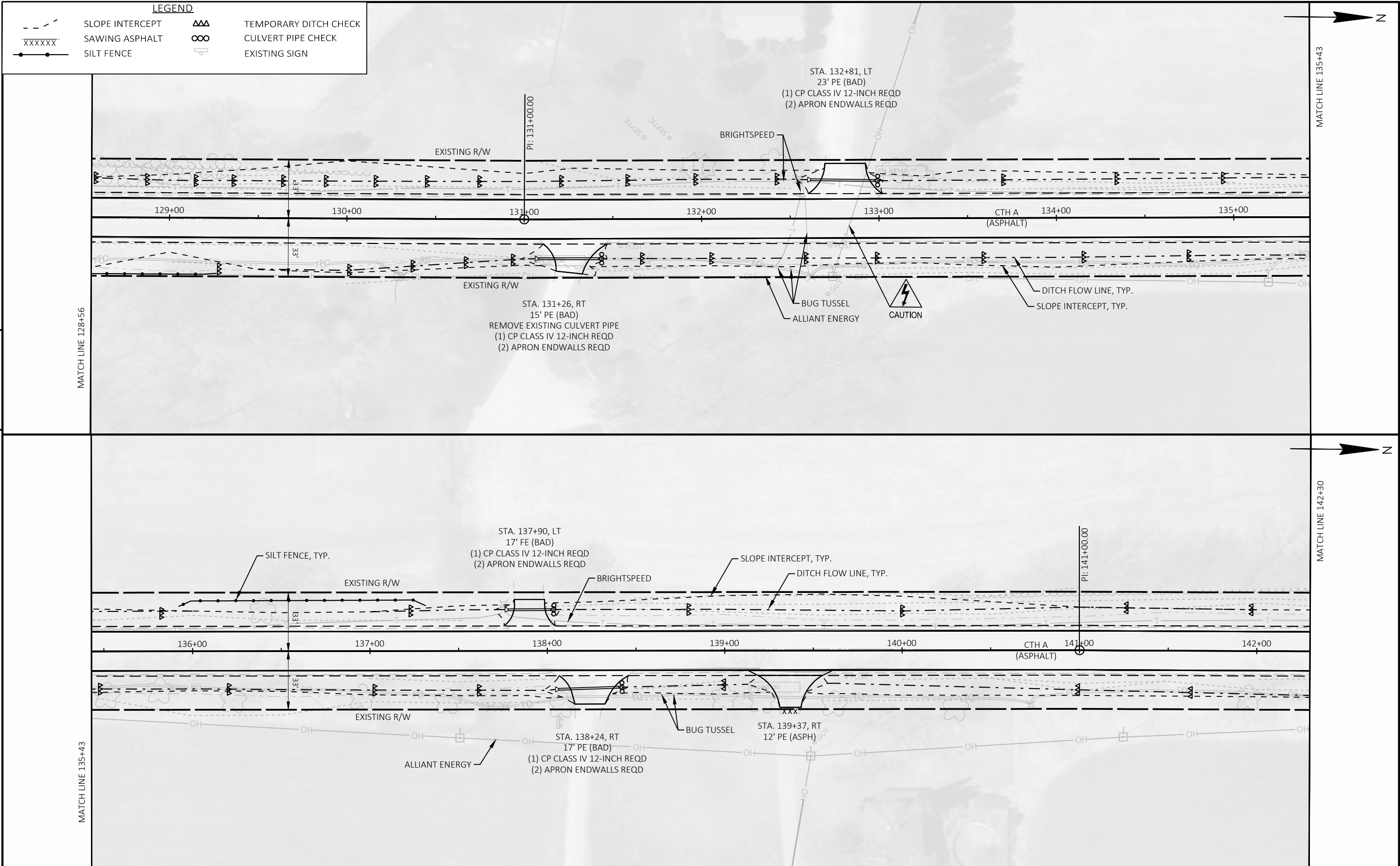
SILT FENCE					
STATION	TO	STATION	LOCATION	628.1504	628.1520
				SILT FENCE LF	SILT FENCE MAINTENANCE LF
108+26	-	110+06	CTH A, LT	180	360
109+25	-	112+13	CTH A, RT	300	600
110+48	-	111+66	CTH A, LT	120	240
116+89	-	120+45	CTH A, LT	360	720
120+60	-	125+55	CTH A, LT	500	1,000
120+60	-	125+55	CTH A, RT	500	1,000
125+70	-	127+54	CTH A, LT	190	380
125+77	-	126+09	CTH A, RT	30	60
126+98	-	129+27	CTH A, RT	230	460
135+92	-	137+32	CTH A, LT	140	280
154+60	-	157+60	CTH A, LT	300	600
160+94	-	162+03	CTH A, LT	110	220
162+23	-	166+31	CTH A, LT	410	820
UNDISTRIBUTED				830	---
TOTAL				1,960	3,920

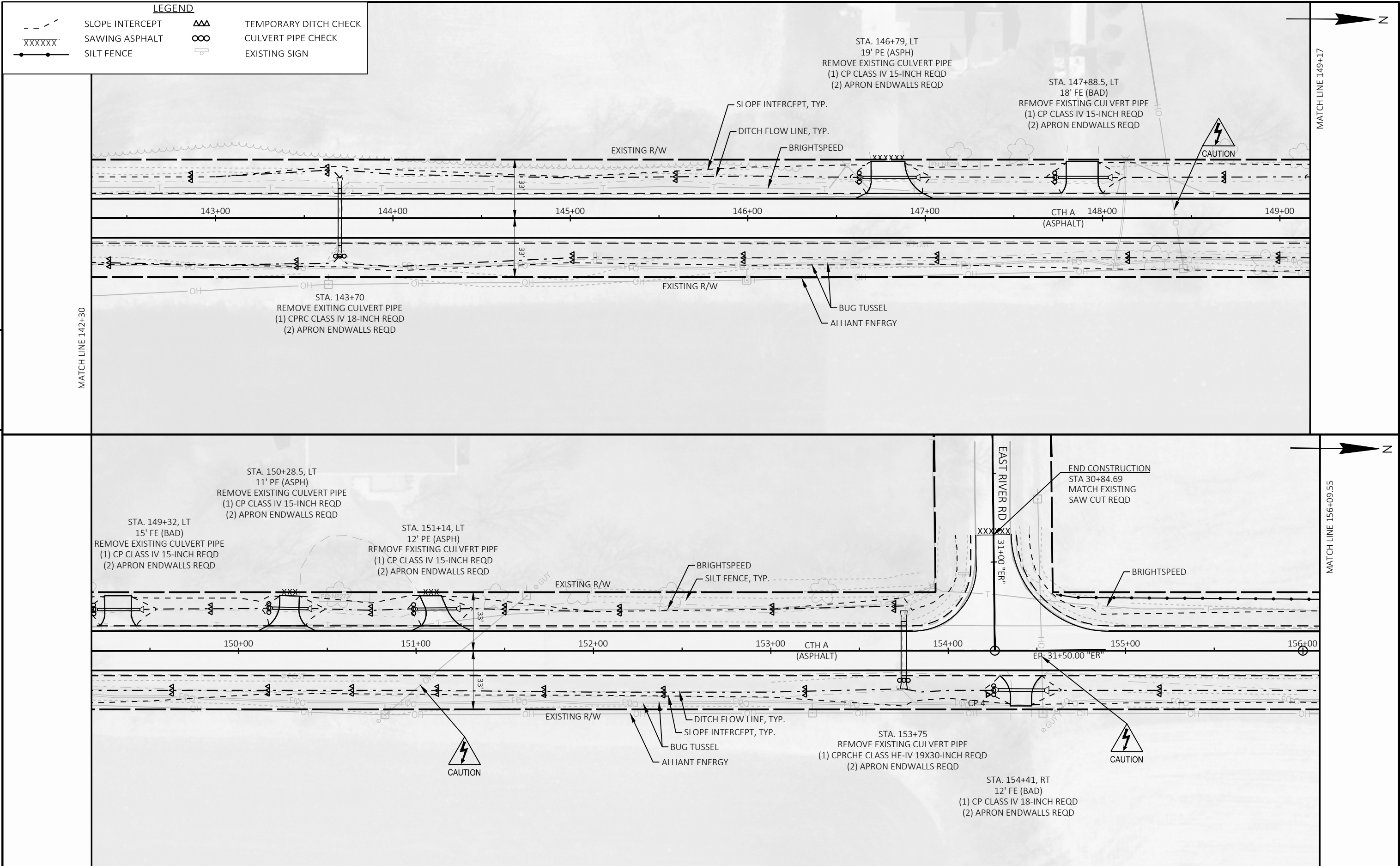
ALL ITEMS CATEGORY 0010 UNLESS NOTED OTHERWISE.

3

<u>MOBILIZATION EROSION CONTROL</u>			<u>MARKERS CULVERT END</u>			<u>SIGNING</u>						



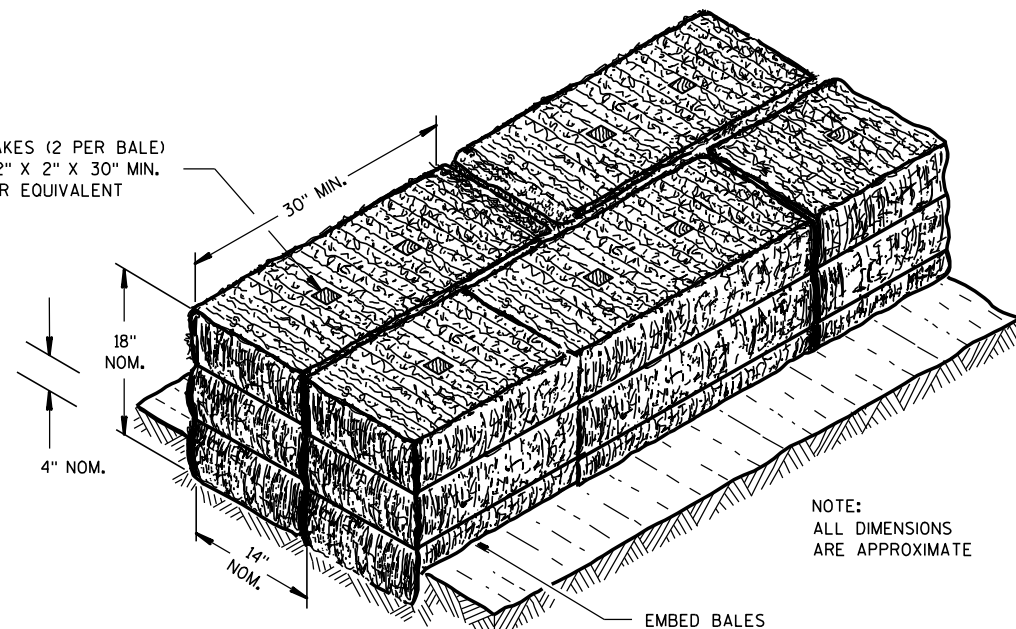




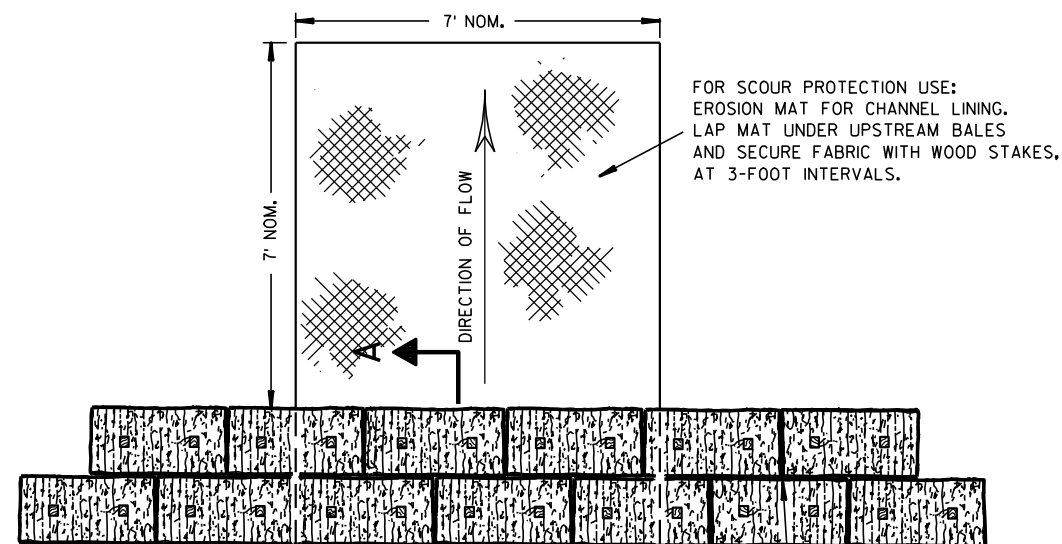
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A15-01	DRIVEWAYS WITHOUT CURB AND GUTTER RESURFACING PROJECTS RURAL
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-10A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-10B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-11B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)

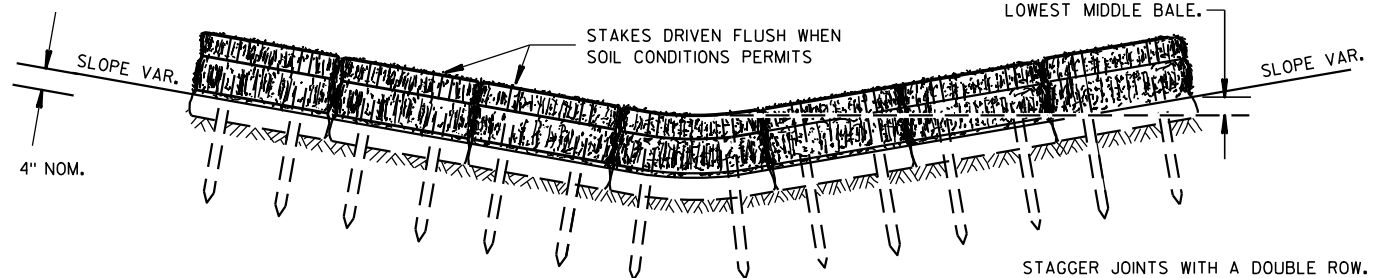
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



SECTION A-A



PLAN VIEW



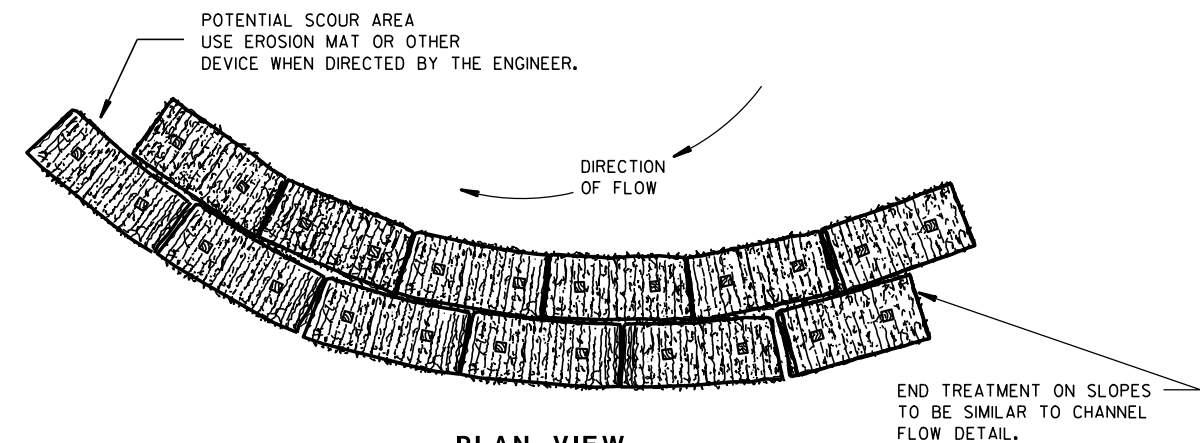
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

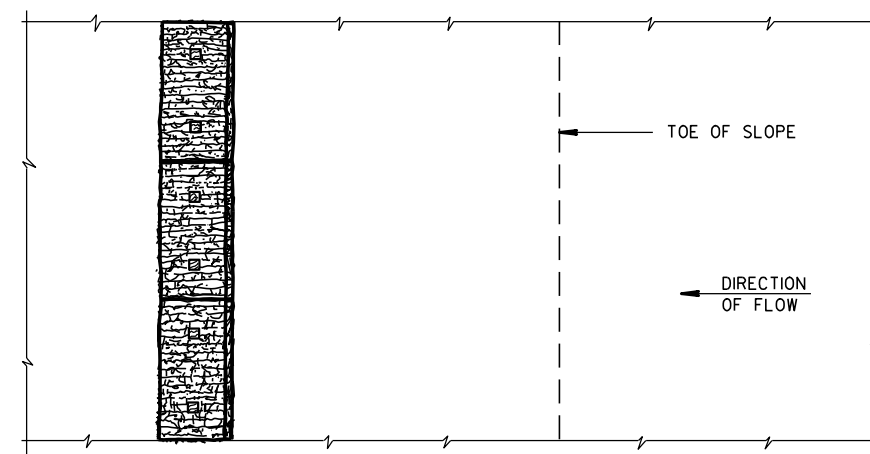
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

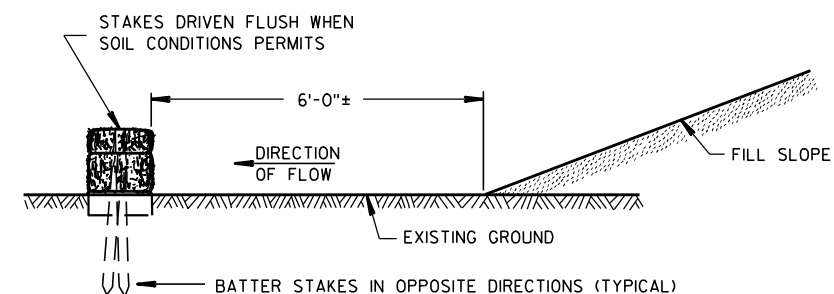


PLAN VIEW

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

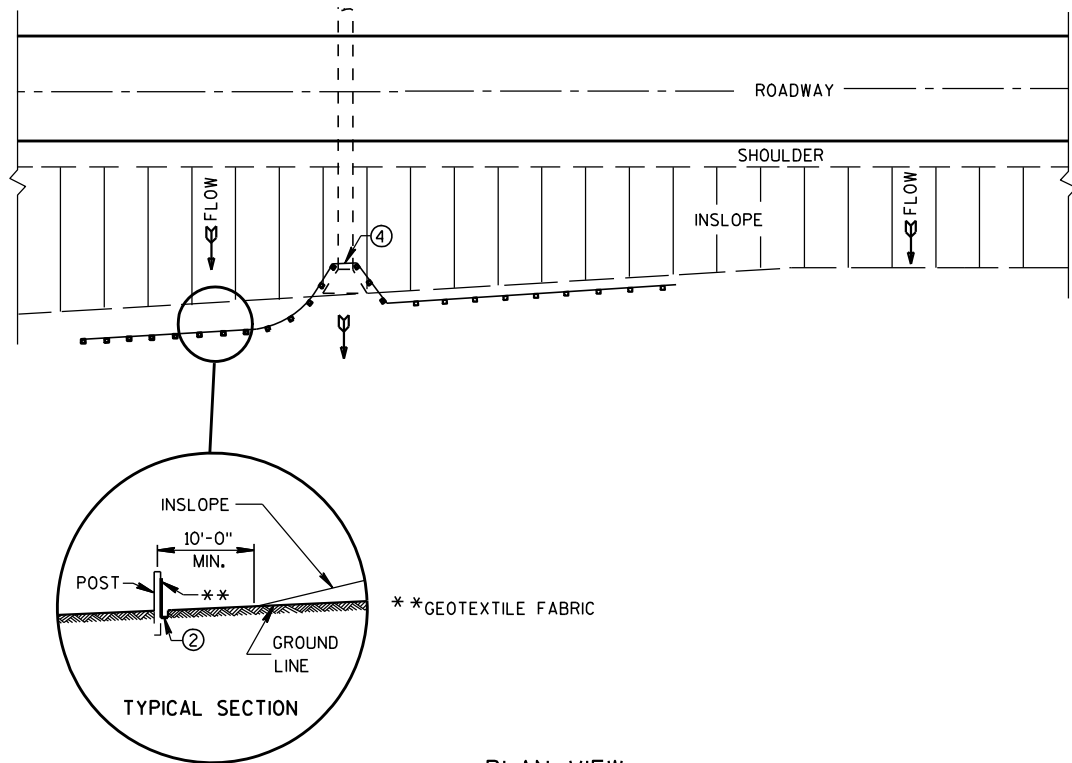
APPROVED

6/04/02
DATE

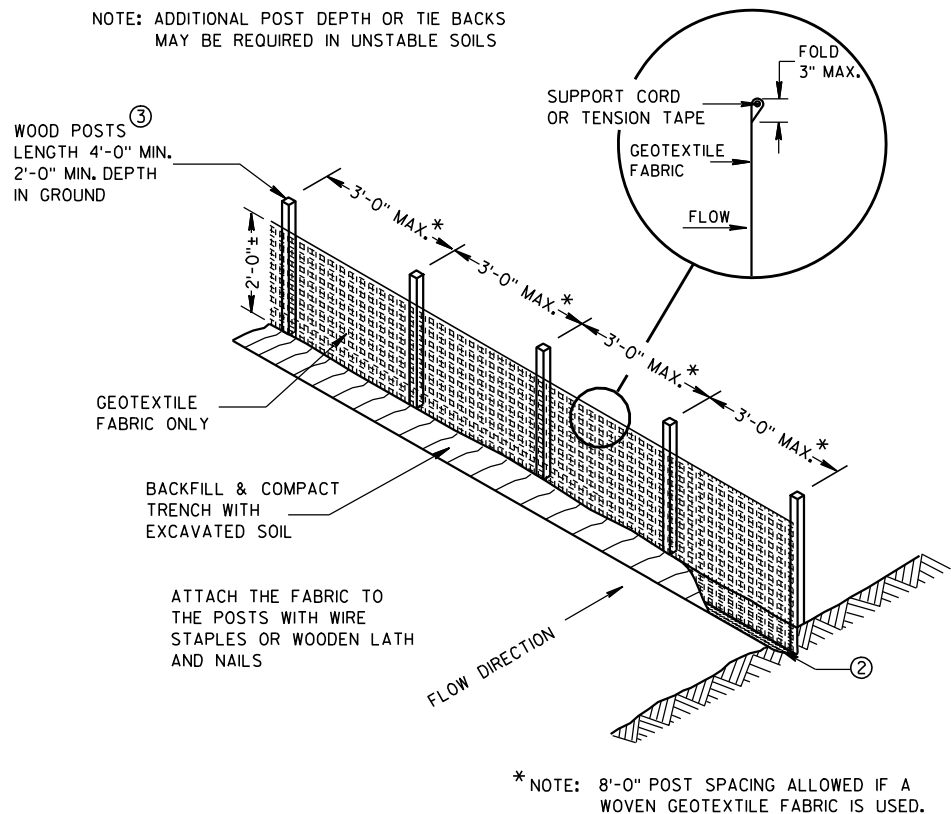
/S/ Beth Connors
CHIEF ROADWAY DEVELOPER

ENGINEER

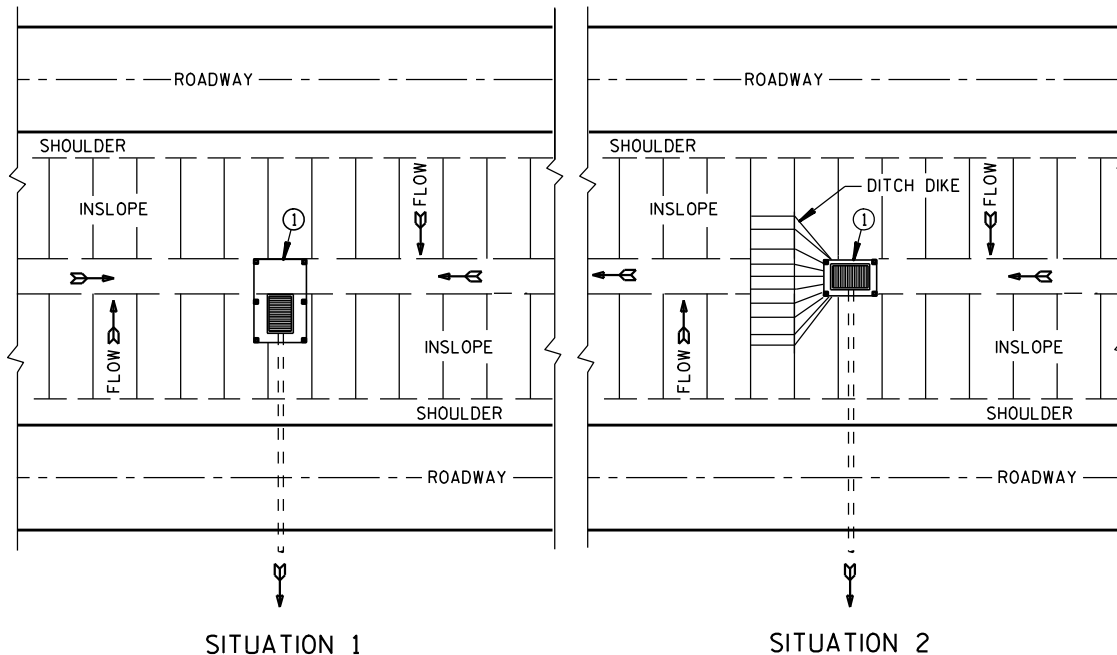
FHWA



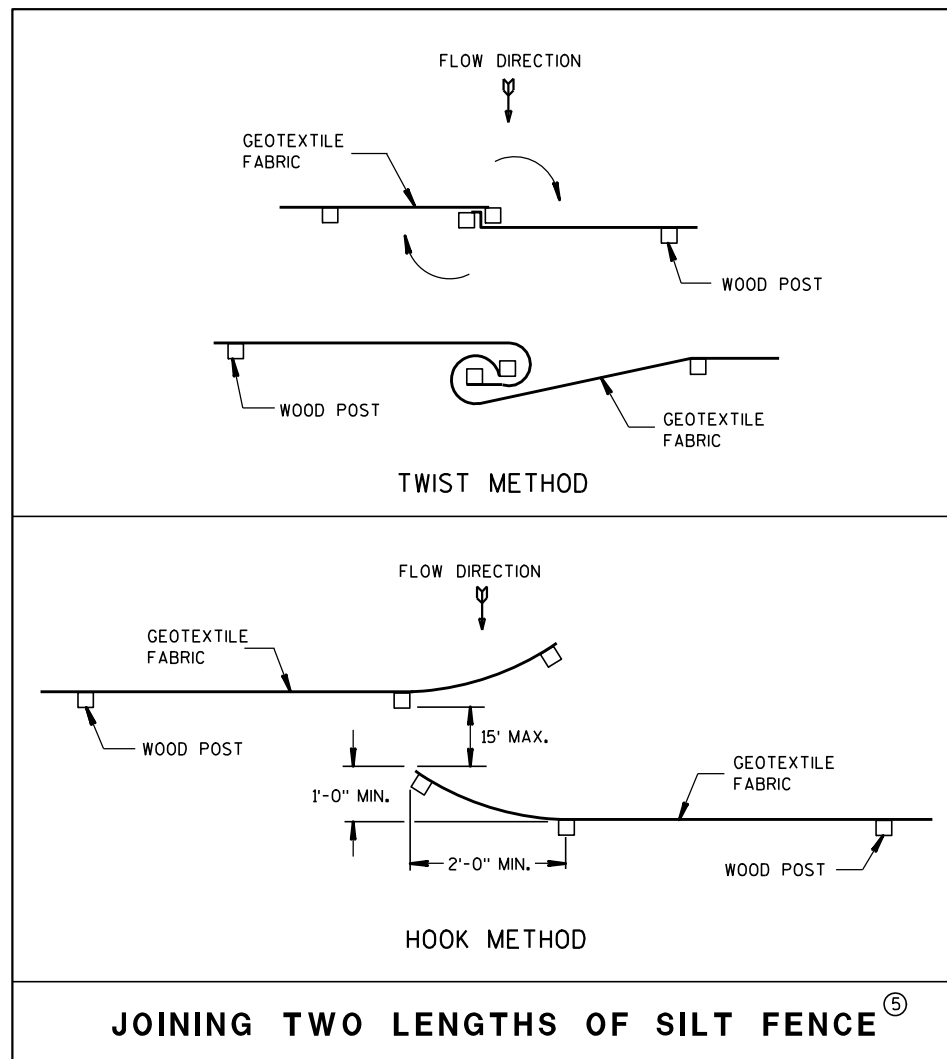
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

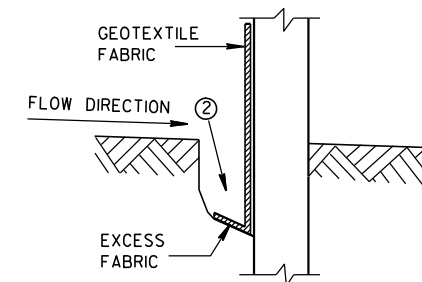


JOINING TWO LENGTHS OF SILT FENCE (5)

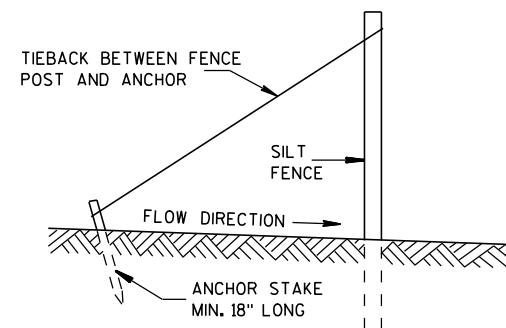
GENERAL NOTES

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 1/8" X 1 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.

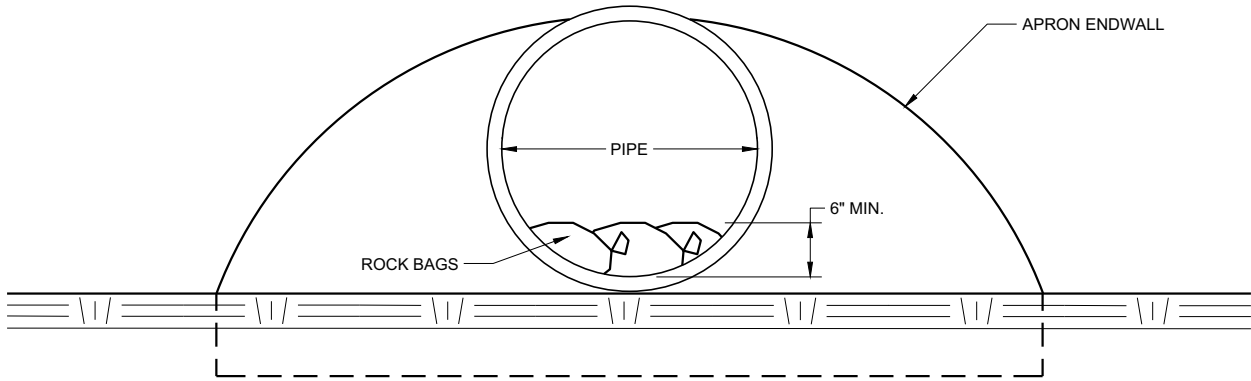


TRENCH DETAIL

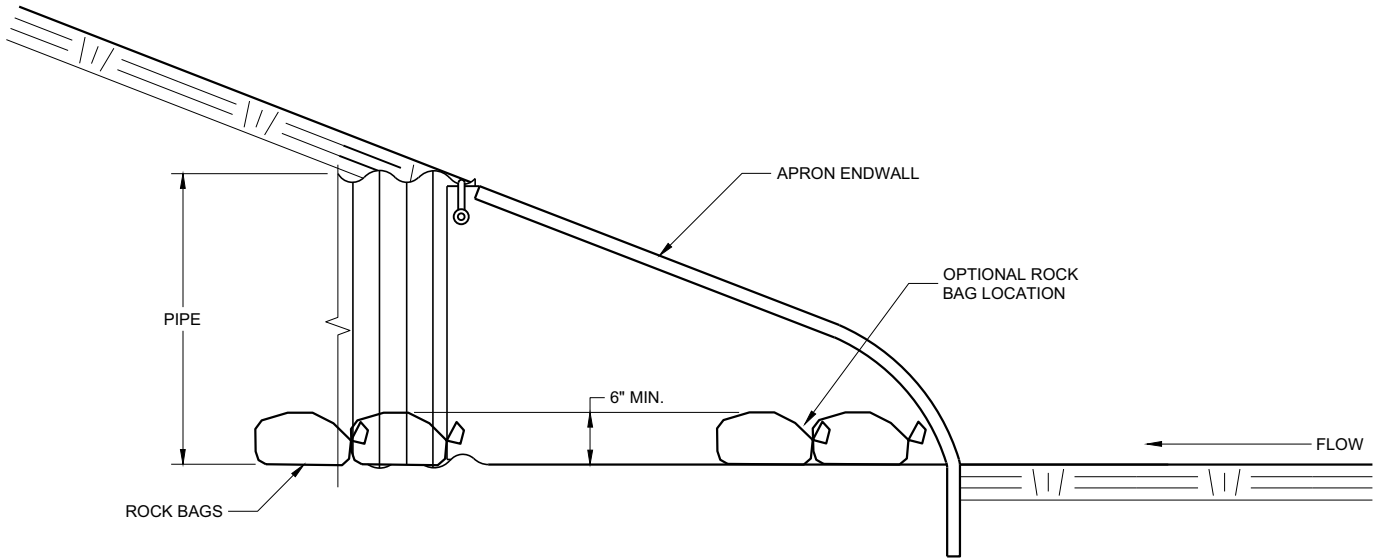


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Conn CHIEF ROADWAY DEVELOPER 28 ENGINEER
FHWA	



END VIEW



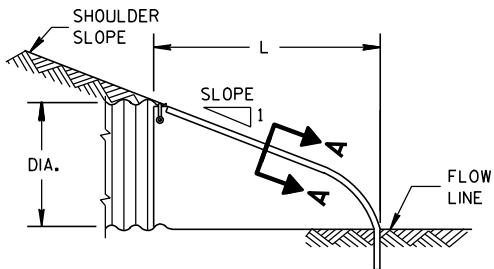
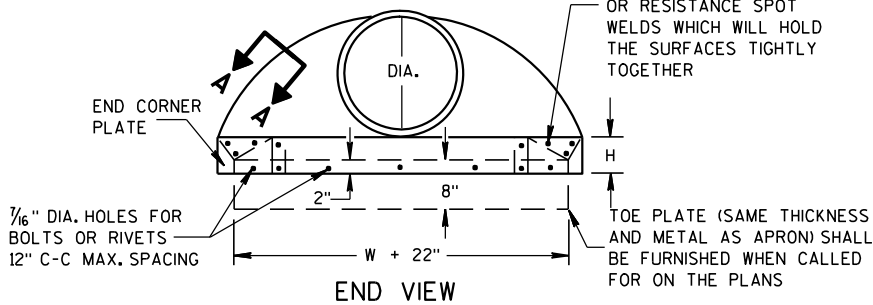
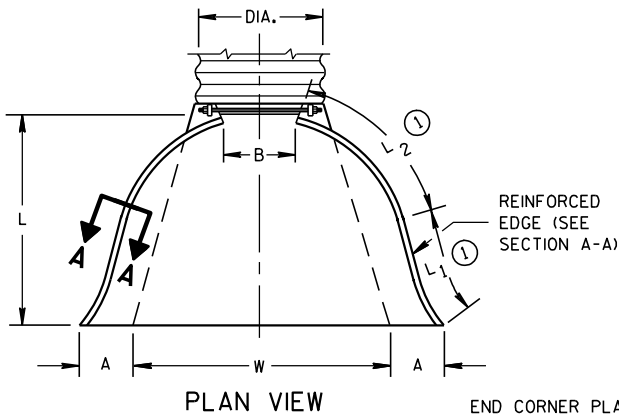
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI 29
FHWA	

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

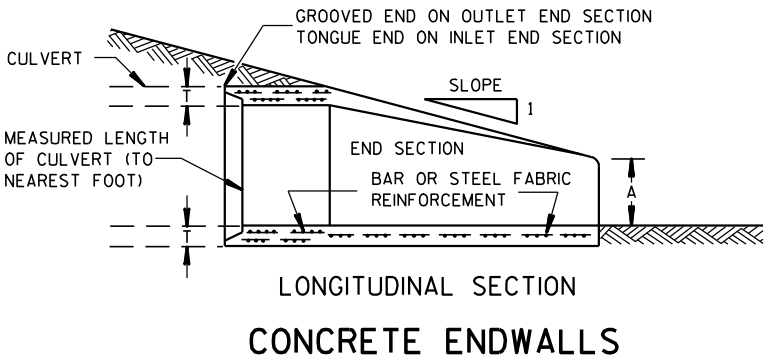
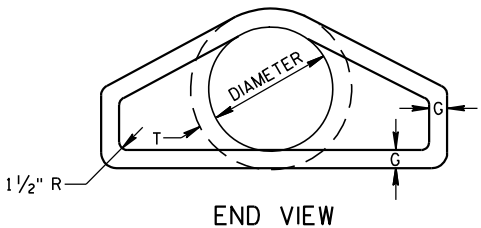
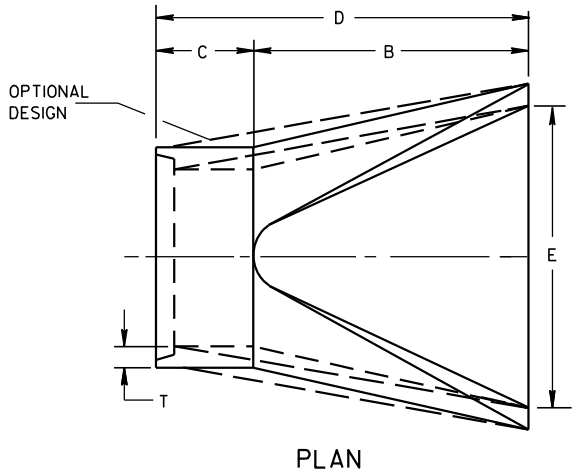
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



SIDE ELEVATION
METAL ENDWALLS

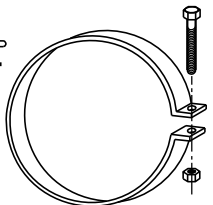
REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1			
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1			
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1			
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1			
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1			
48	5	24	72	26	98	84	5	3 to 1			
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 1/2 to 1			
60	6	30-35	60	39	99	96	5	2 to 1			
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1			
72	7	24-36	78	21	99	108	6	2 to 1			
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1			
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1			
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1			

* MINIMUM
** MAXIMUM

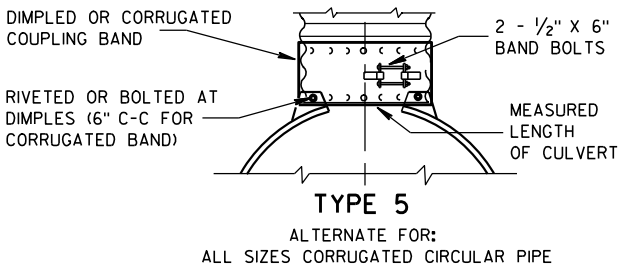
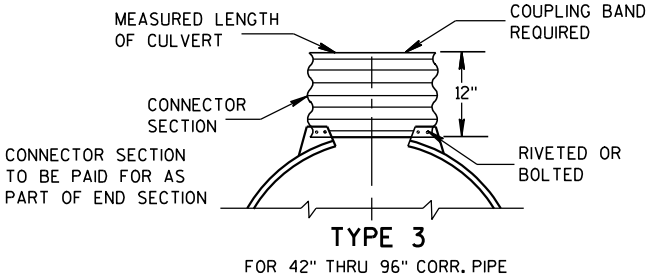
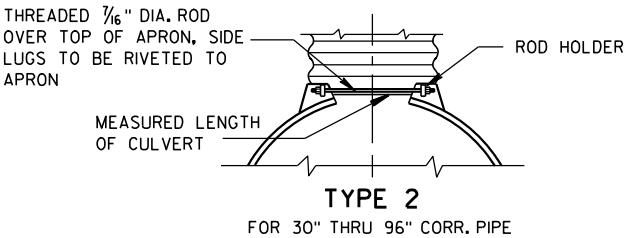
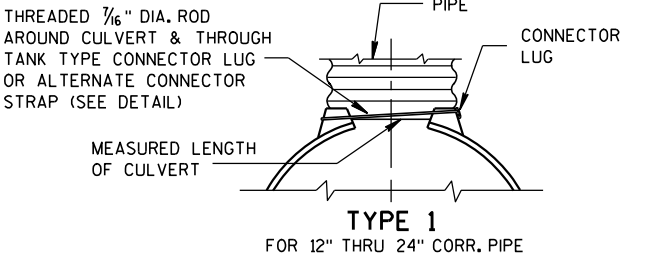


LONGITUDINAL SECTION
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



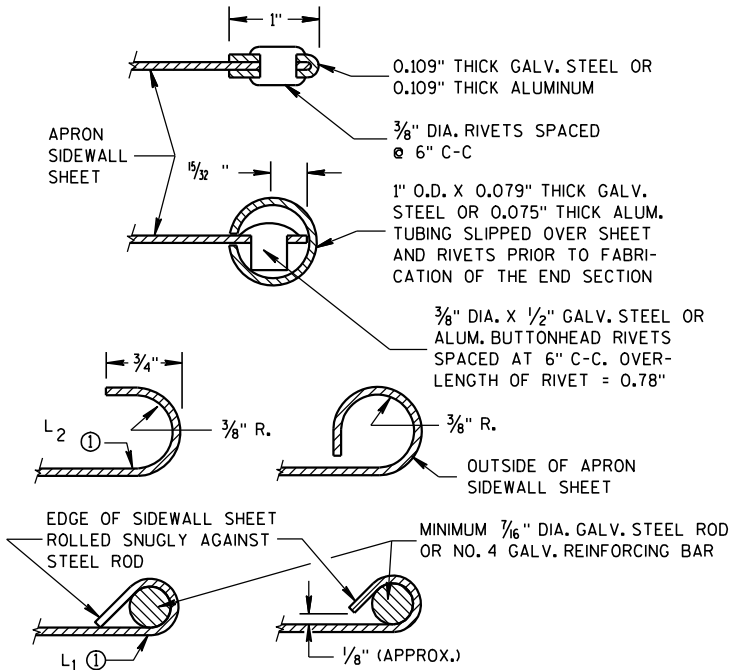
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

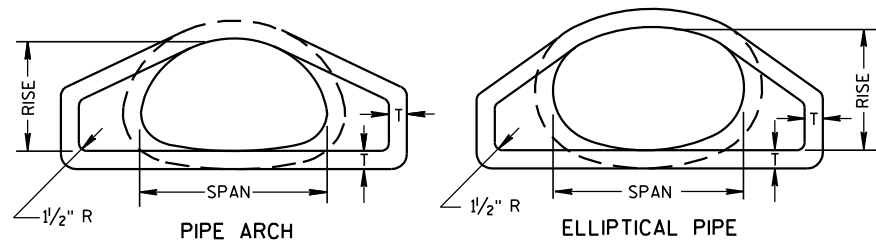
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

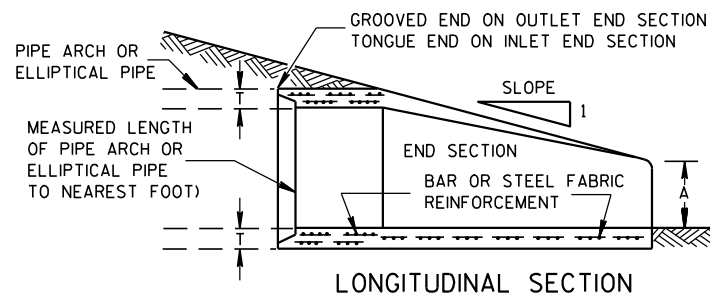
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinehart CHIEF ROADWAY DEVELOP 30 NEER
FHWA	

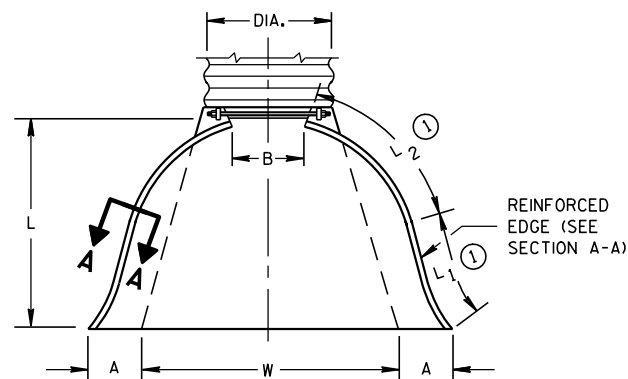


END VIEW



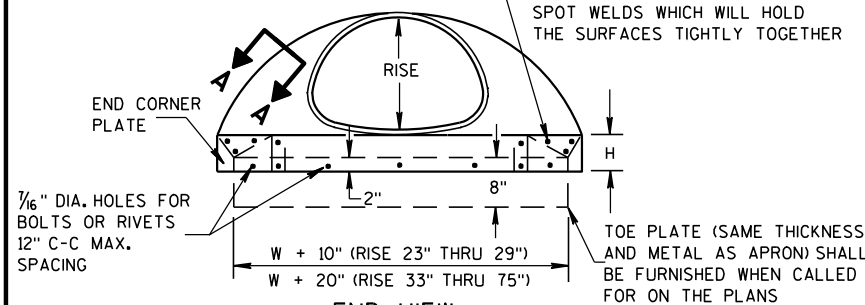
LONGITUDINAL SECTION

CONCRETE ENDWALLS

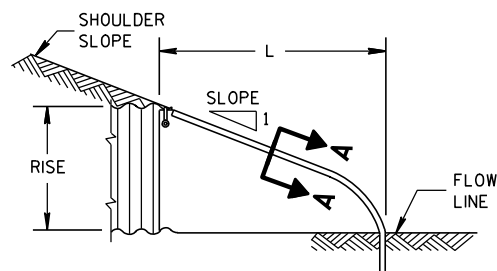
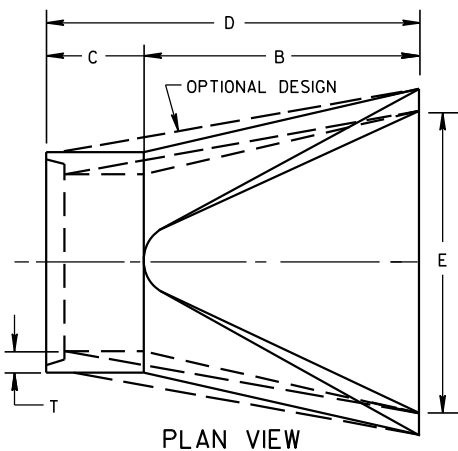


PLAN VIEW

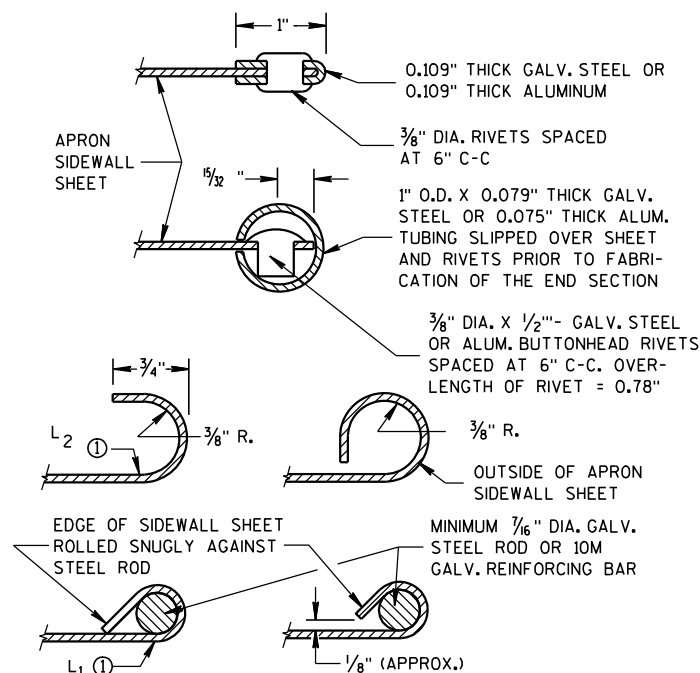
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW

SIDE ELEVATION
METAL ENDWALLS

PLAN VIEW

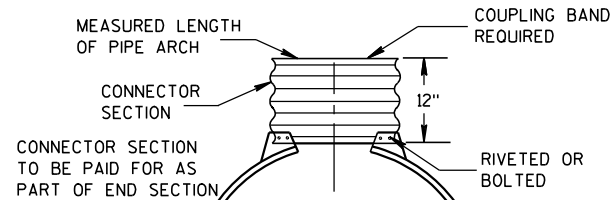


SECTION A-A



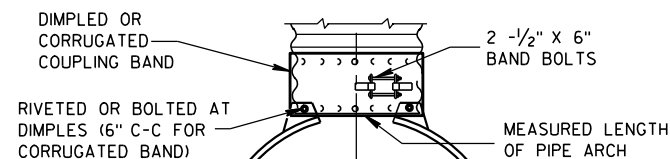
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:
ALL SIZES CORRUGATED PIPE ARCHESNOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2 1/2 to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1 1/2 to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES

REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
24	29	18	3	8 1/2	39	33	72	48	3 to 1
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1
36	44	27	4	11 1/8	60	36	96	72	3 to 1
42	51	31	4 1/2	15 1/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5 1/2	25 1/2	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28 1/2	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1
42	53	34	5	15 1/4	60	36	96	78	2 1/2 to 1
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1

**NOMINAL SIZE

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.

CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPESTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94

DATE

FHWA

/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOPER

ENGINEER



- ① CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.
- ⑦ EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

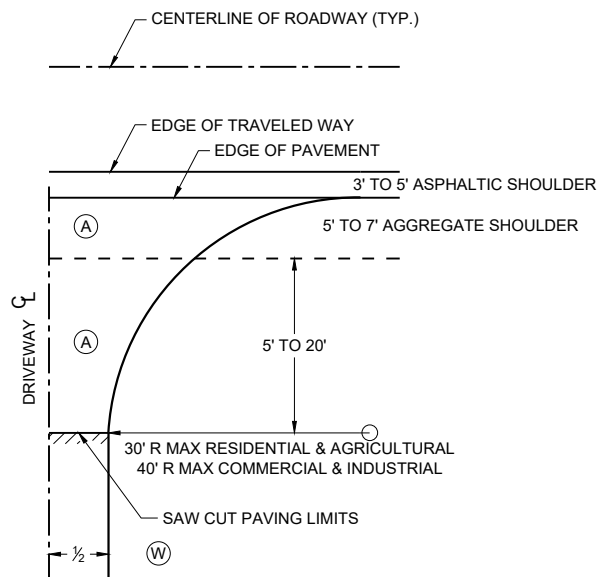


ADJUSTABLE TIE ROD (ALTERNATE NO. 3)

APPROVED
November 2021
DATE

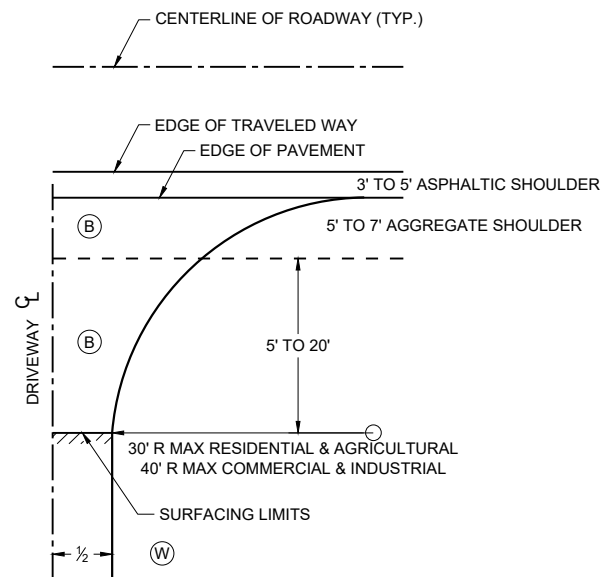
/s/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

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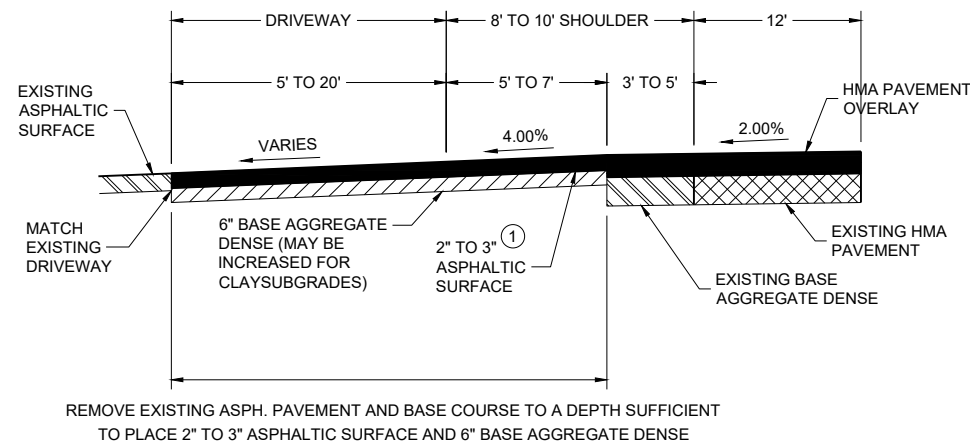


**PLAN VIEW
HALF SECTION**

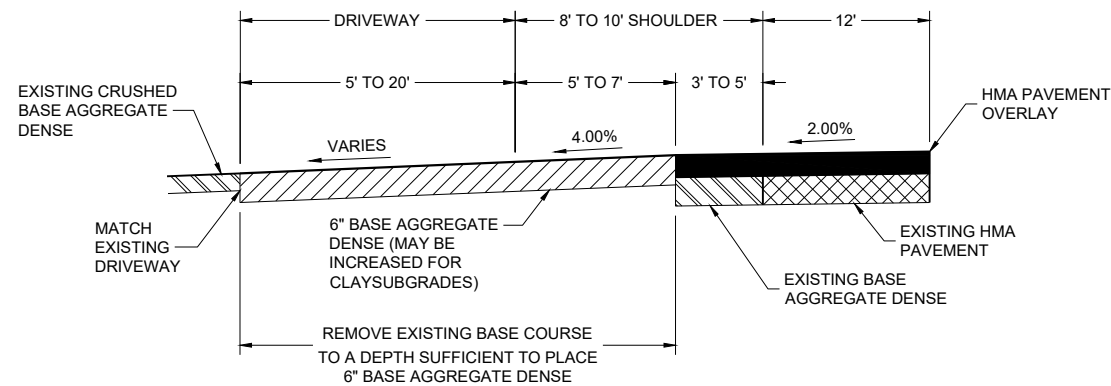
- (A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS
AND FIELD ENTRANCES. (TON)
- (B) : PAID FOR AS BASE AGGREGATE DENSE 1 1/4" (TON)
- (W) : DRIVEWAY WIDTHS (MEASURED AT ROW LINE)
~ COMMERCIAL & INDUSTRIAL 16' MIN. - 35' MAX.
~ RESIDENTIAL & AGRICULTURAL 16' MIN. - 24' MAX.
(NONCOMMERCIAL)



**PLAN VIEW
HALF SECTION**



**PROFILE VIEW
RURAL ENTRANCE
WITH ASPHALTIC SURFACE
RESURFACING PROJECTS**



**PROFILE VIEW
RURAL ENTRANCE
WITH AGGREGATE SURFACE
6" BASE AGGREGATE DENSE
RESURFACING PROJECTS**

GENERAL NOTES

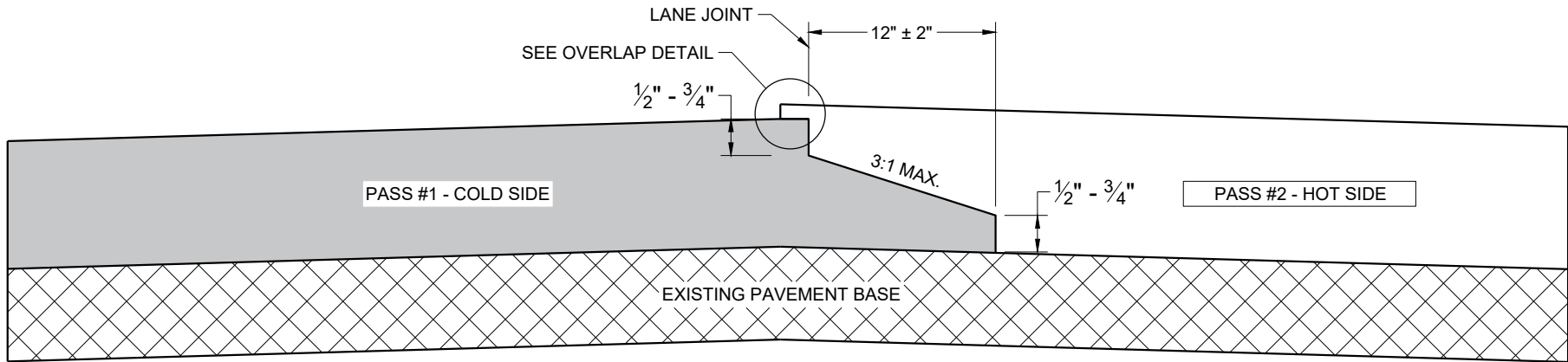
- ① DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS
BASED ON TYPE OF USAGE AND LOADINGS.

DRIVEWAYS WITHOUT CURB AND GUTTER RESURFACING PROJECTS RURAL

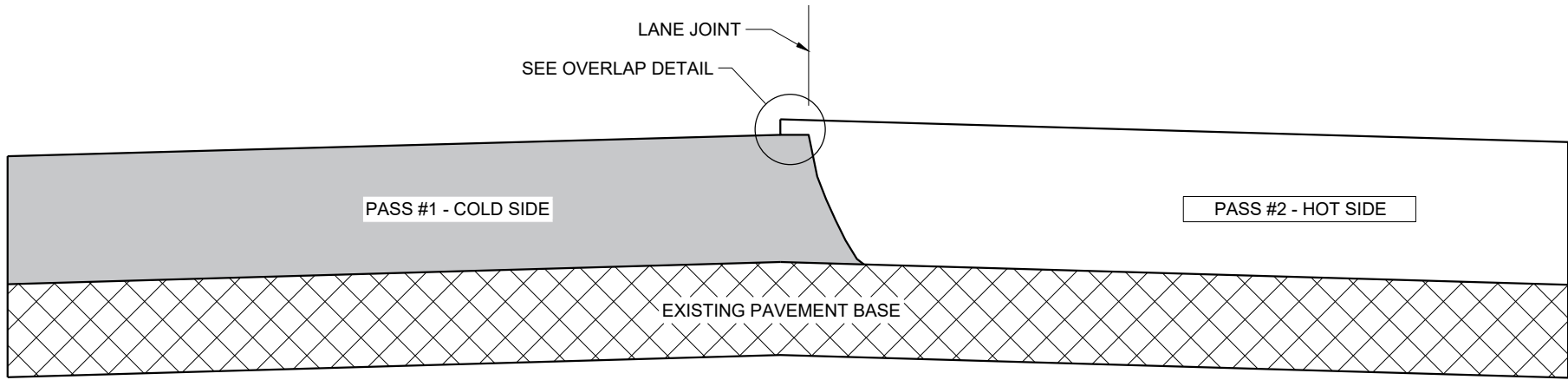
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

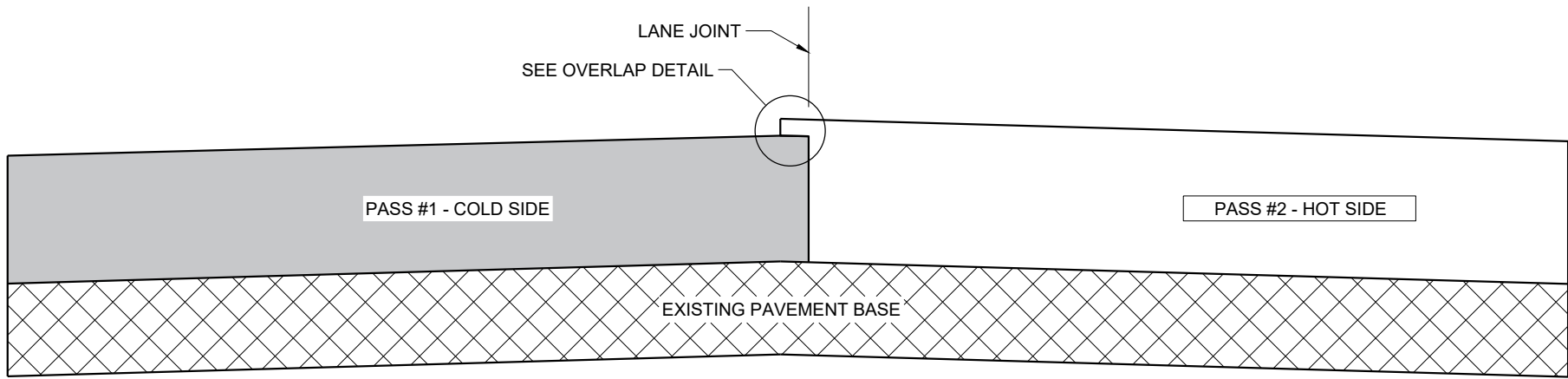
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

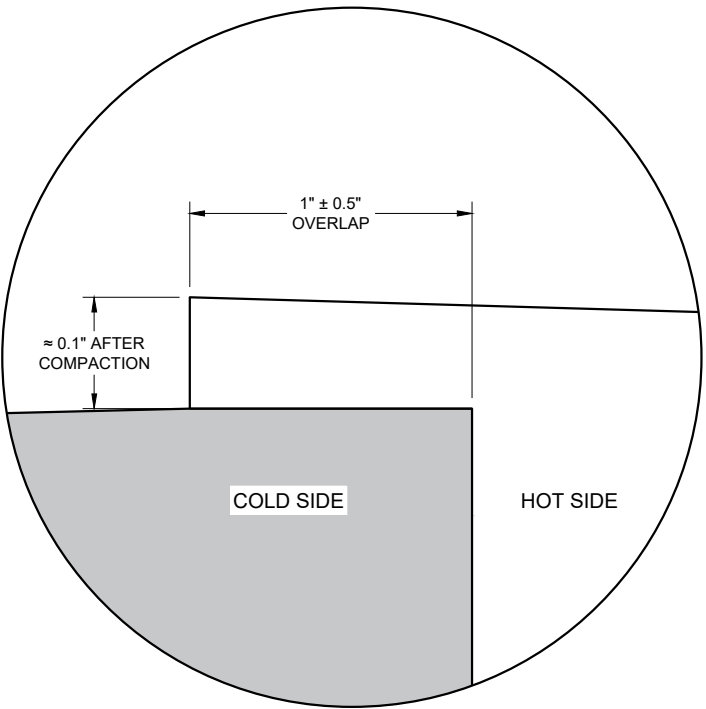
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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 THE AS THE ENGINEER DIRECTS.

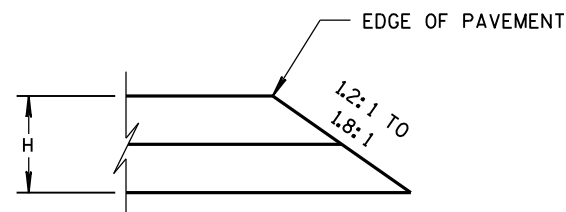


OVERLAP DETAIL (TYPICAL)

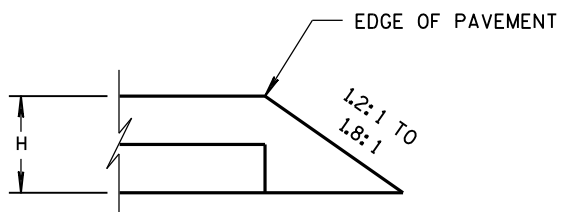
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

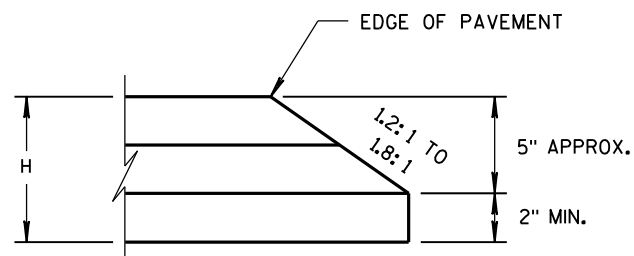
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 34
FHWA



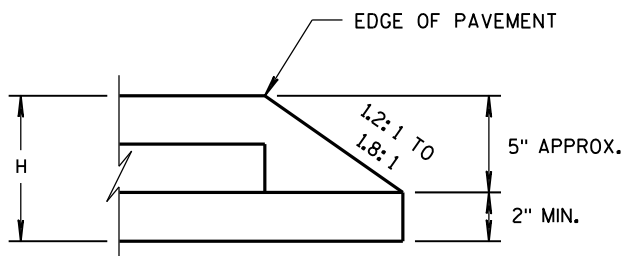
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

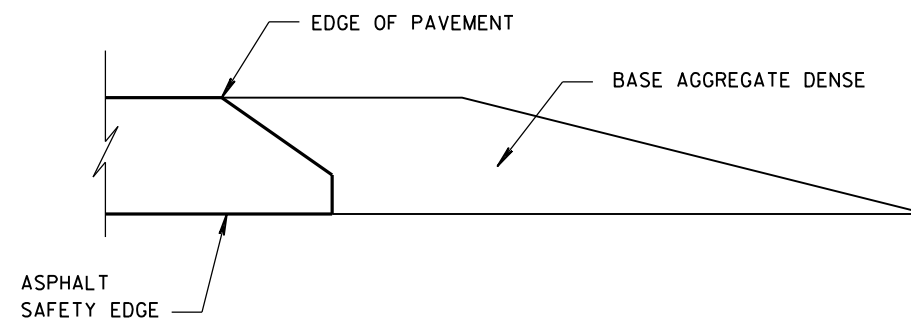


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



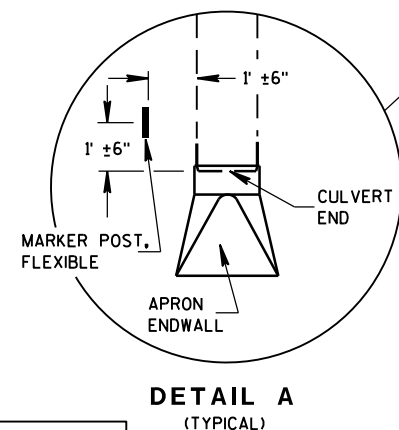
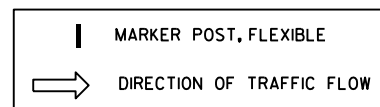
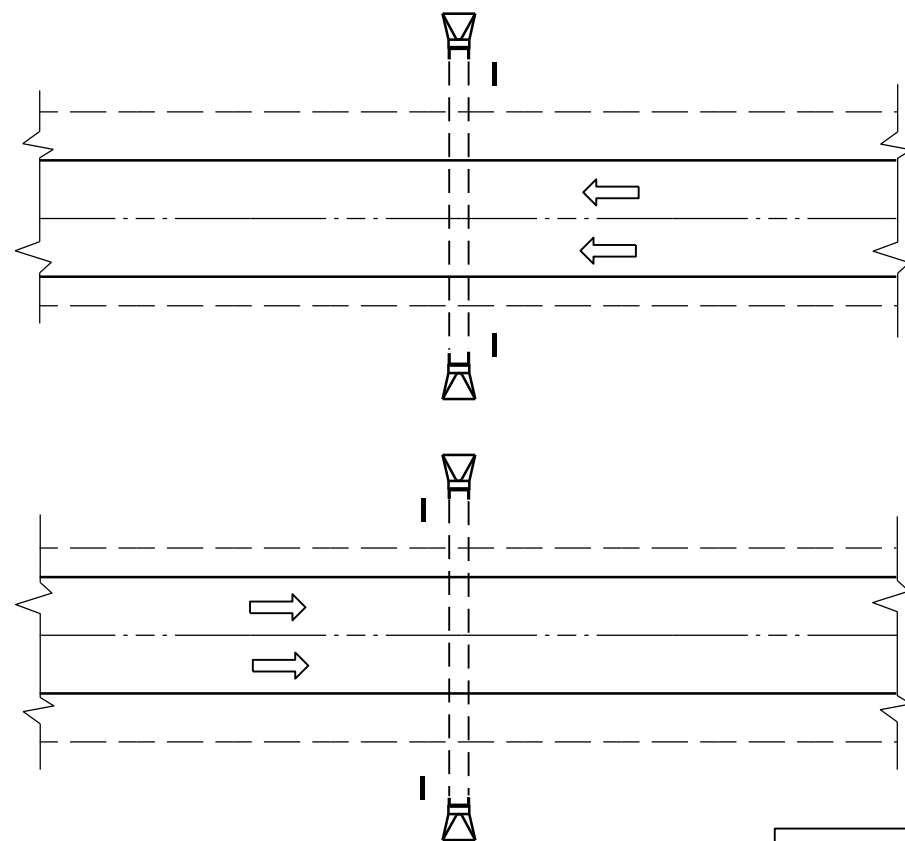
FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

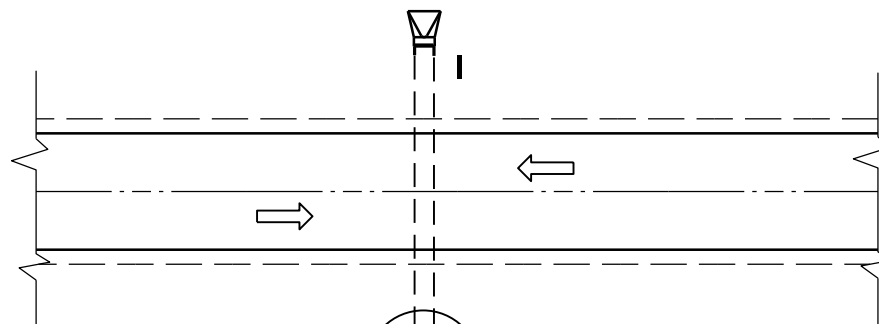
APPROVED
DATE 11/30/2012
ROADWAY STANDARDS ENGINEER /S/ Jerry H. Zoaga
35 ENT
FHWA

PLAN VIEW
DIVIDED HIGHWAY



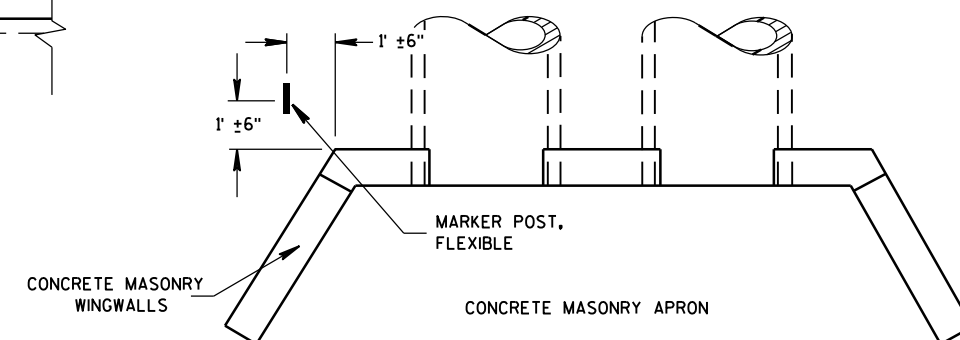
DETAIL A
(TYPICAL)

PLAN VIEW
UNDIVIDED HIGHWAY



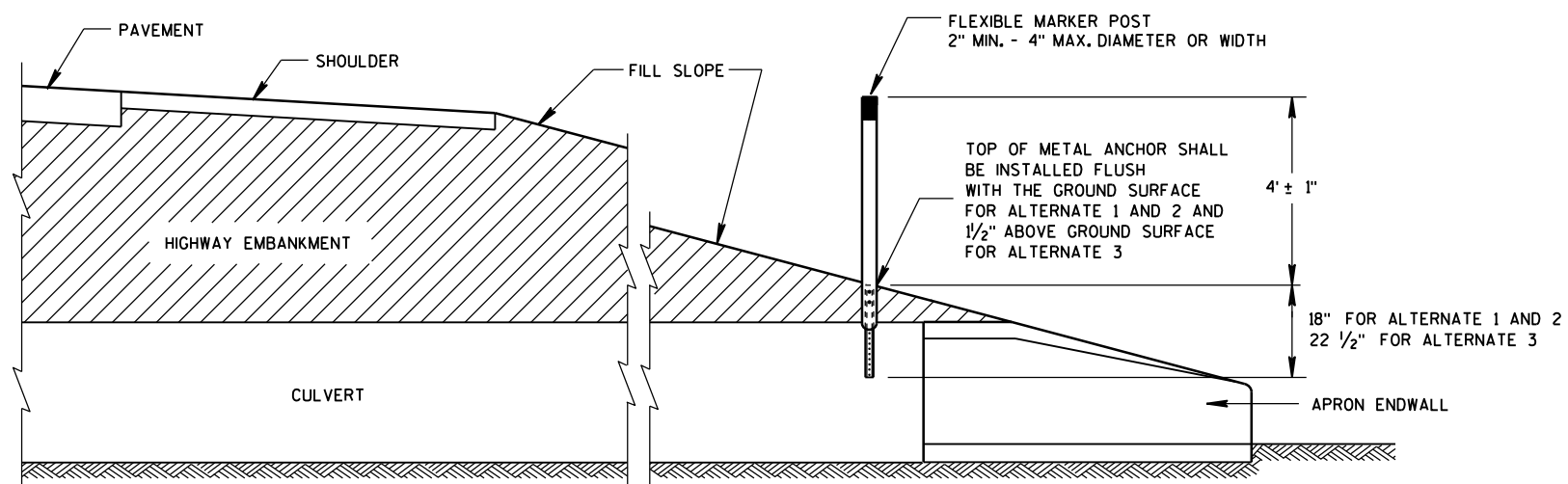
GENERAL NOTES

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.



PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH

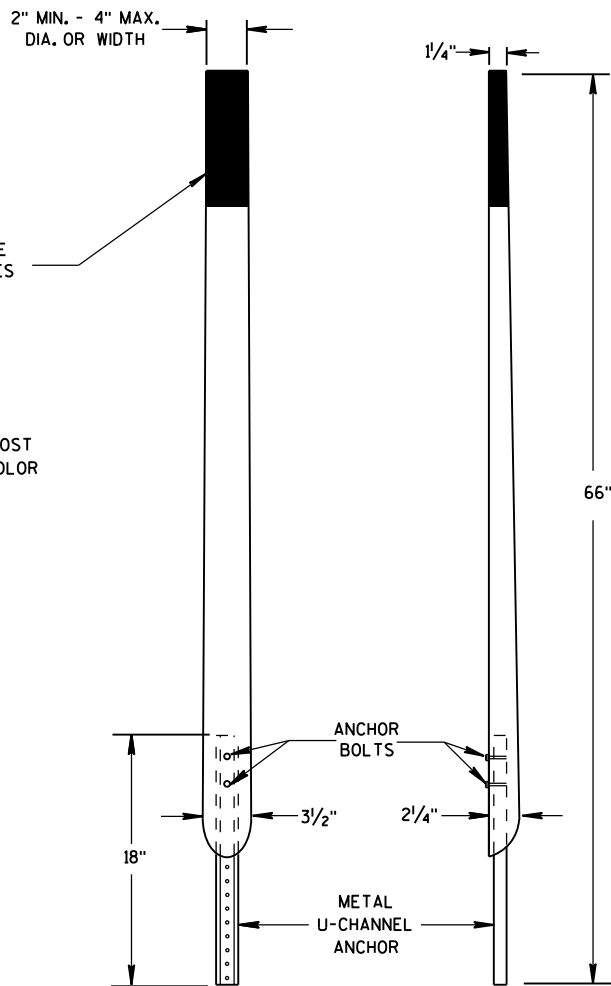
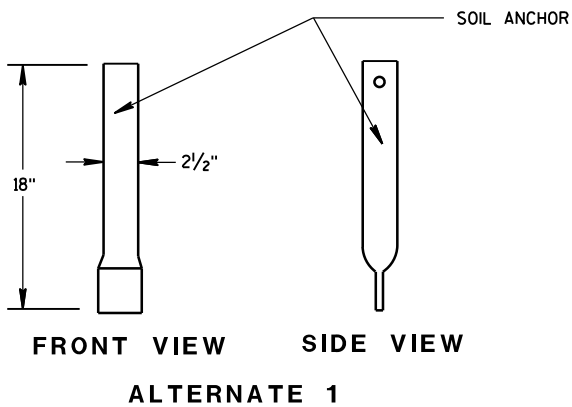
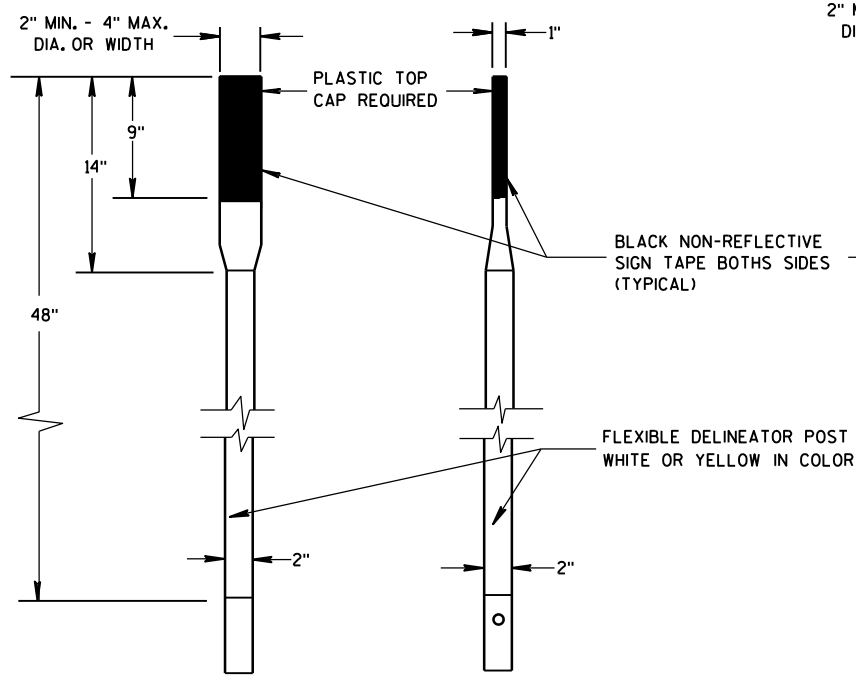
FLEXIBLE MARKER POST LOCATION



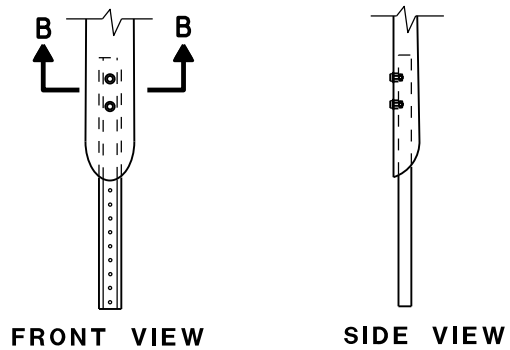
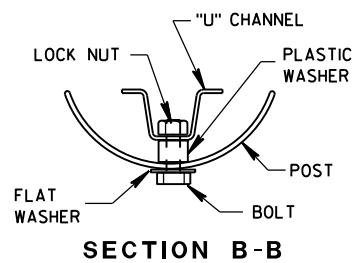
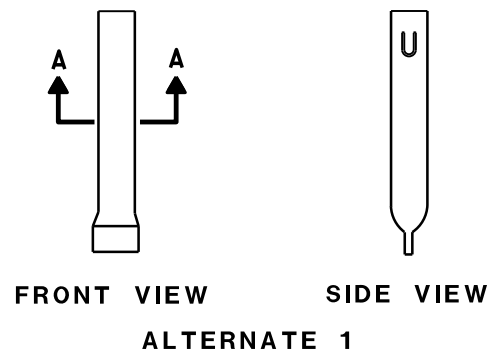
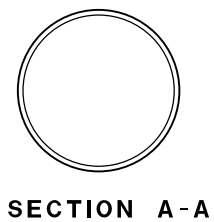
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

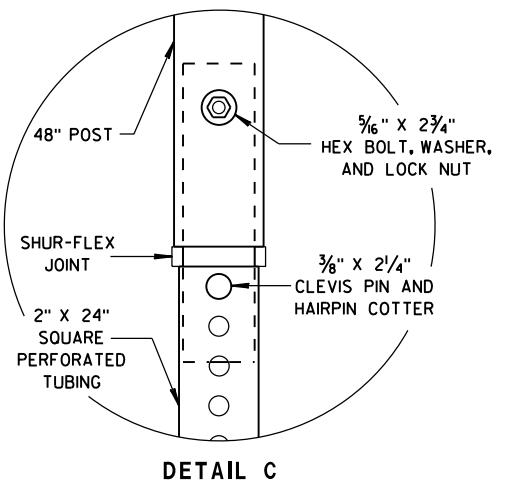
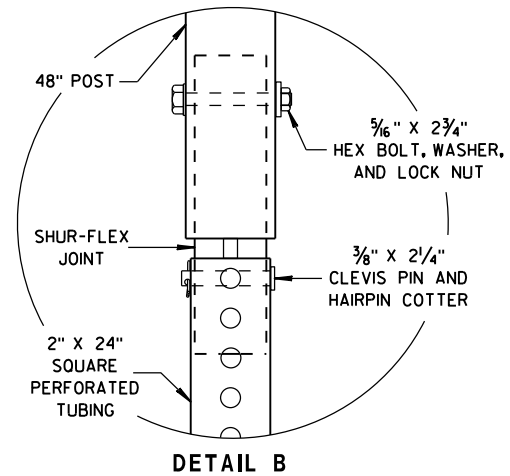
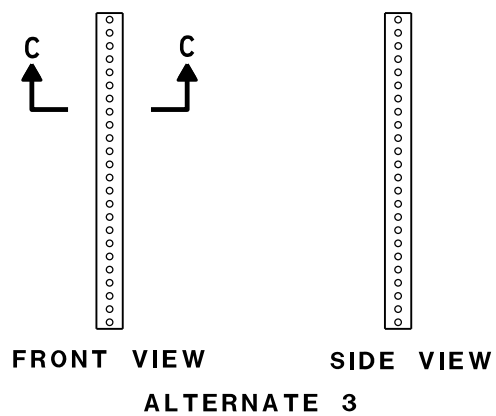
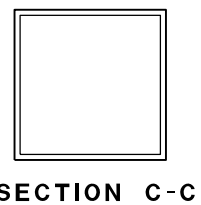
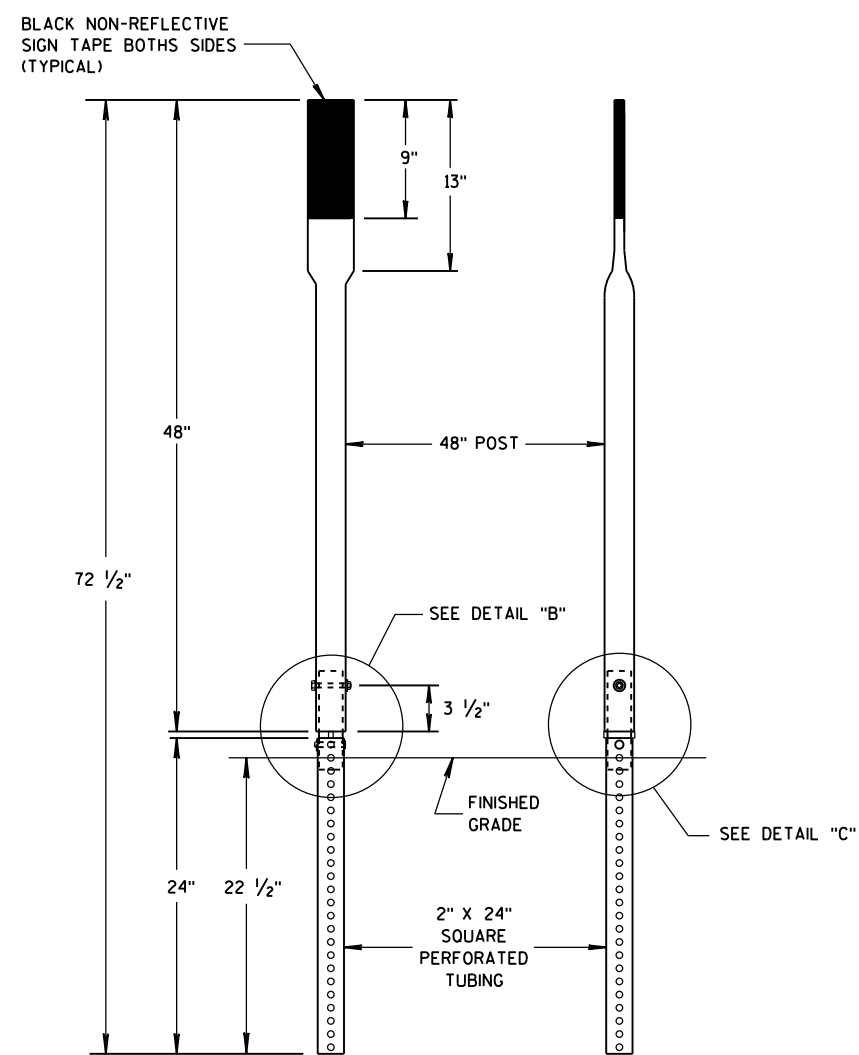
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



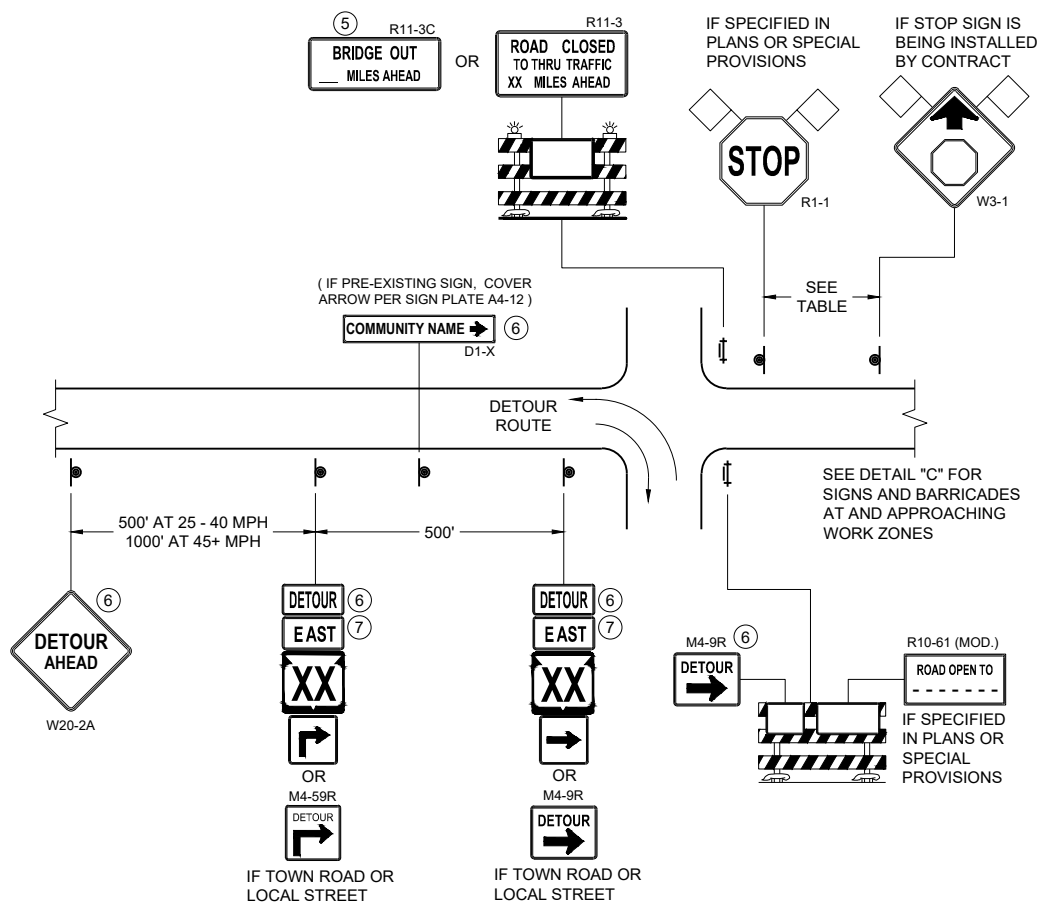
FLEXIBLE MARKER POSTS



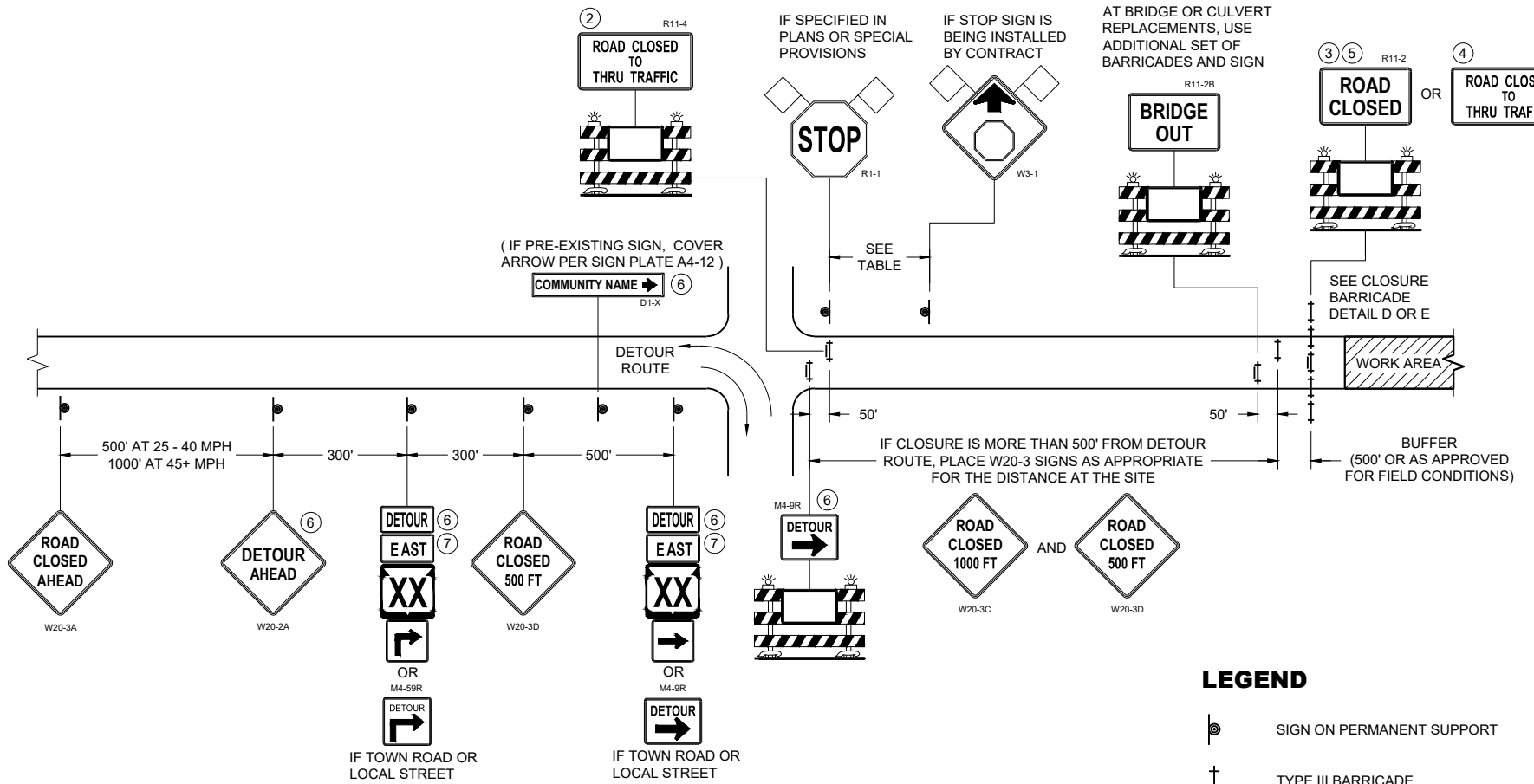
FLEXIBLE MARKER POST ANCHORS



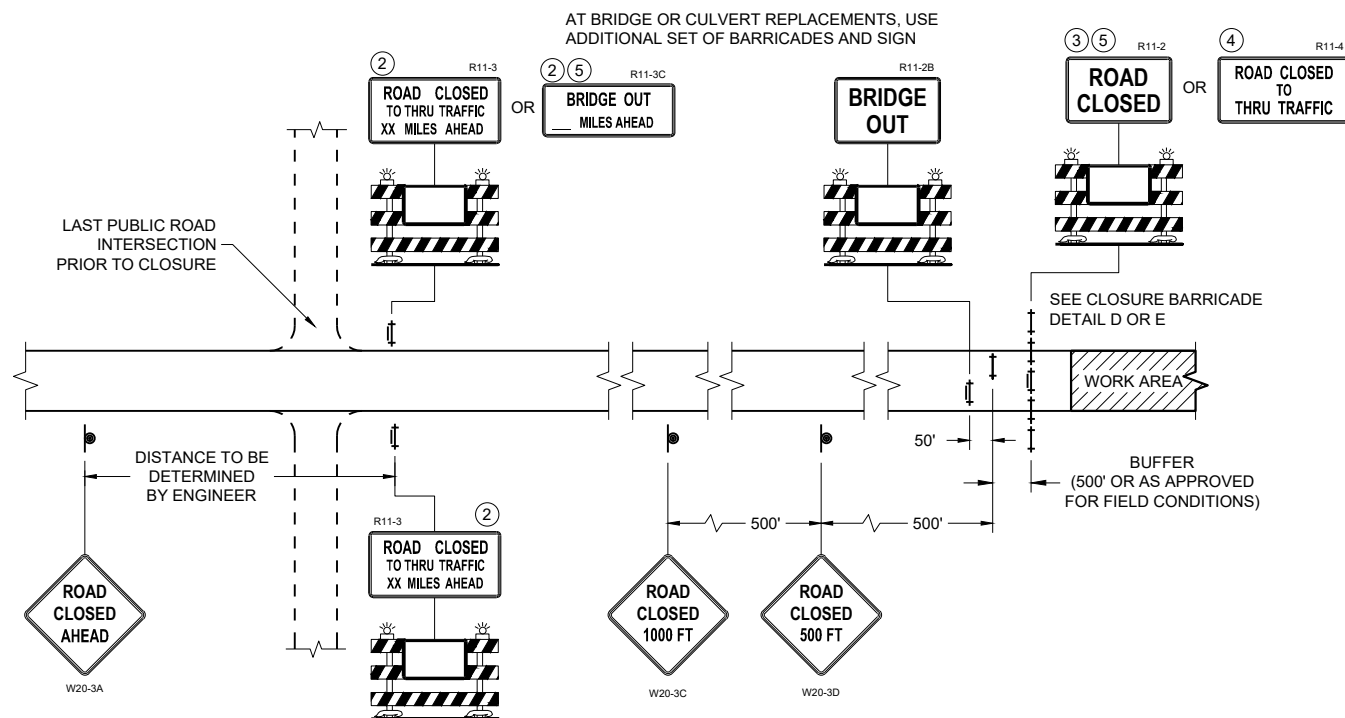
FLEXIBLE MARKER POST FOR CULVERT END		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER 37	IGN
FHWA		



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

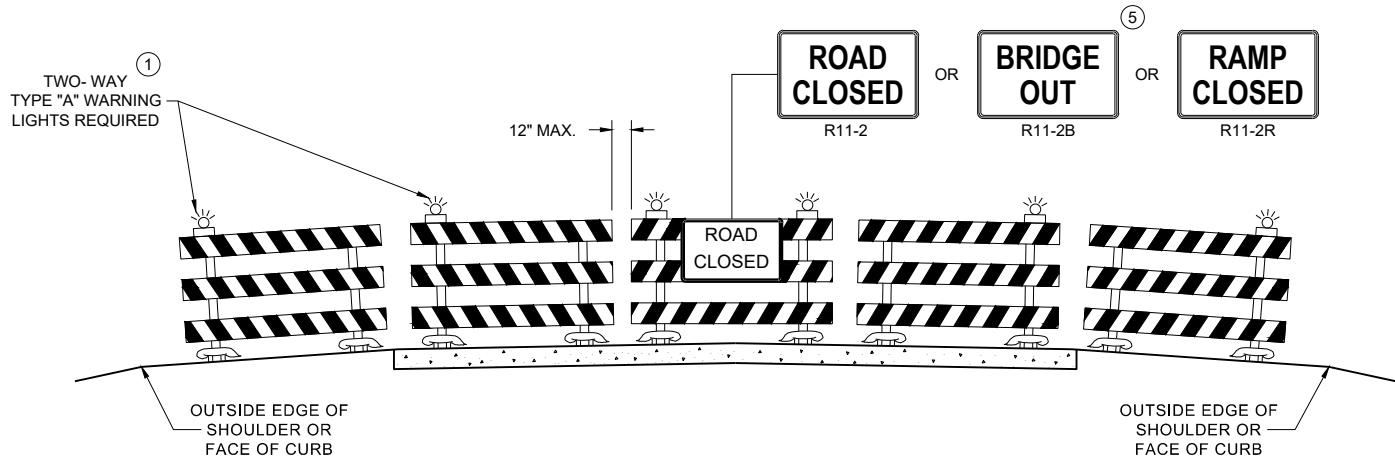
LEGEND

- 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)
- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY M1 - 5A
- M05 - 1 OR M06 - 1

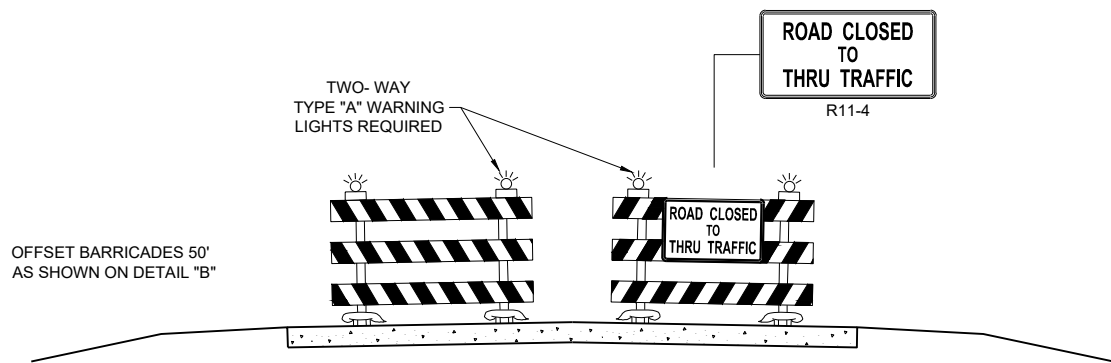
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

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.

PARTIAL NUMBERS ON SIGNS SHALL BE DISPLAYED AS A WHOLE NUMBER(AS NEEDED) FOLLOWED BY A FRACTION. SIGNS SHALL NOT DISPLAY NUMBERS IN DECIMAL FORM.

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

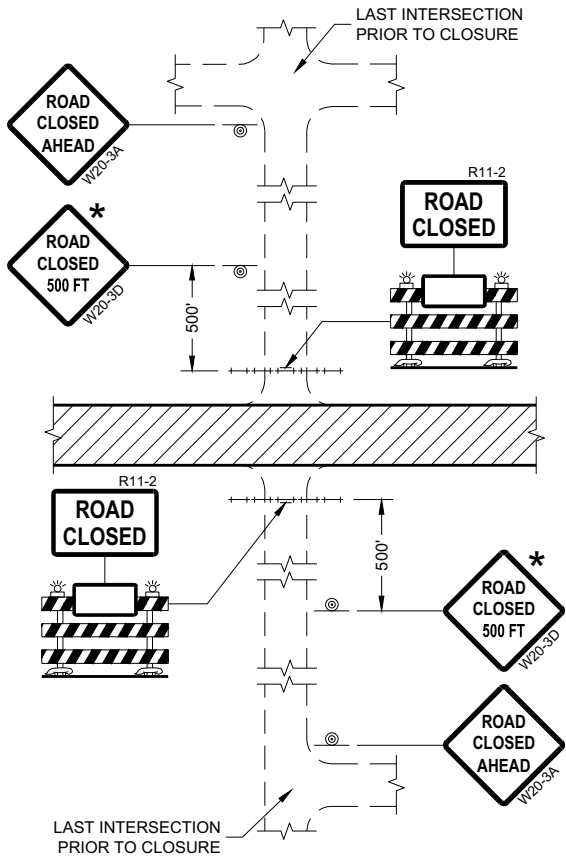
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- 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)
- MO5 - 1 AND MO6 - 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"

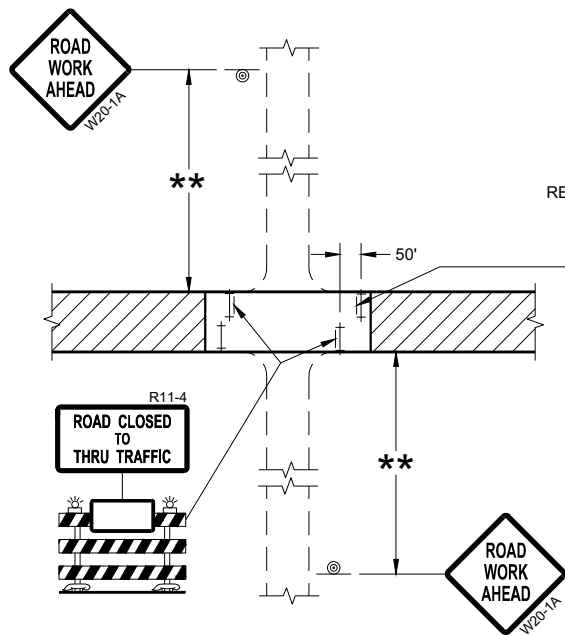
SIGNS PLACED ON TYPE III BARRICADES THAT ARE SIZES OTHER THAN 48"X30" SHALL HAVE A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE.

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

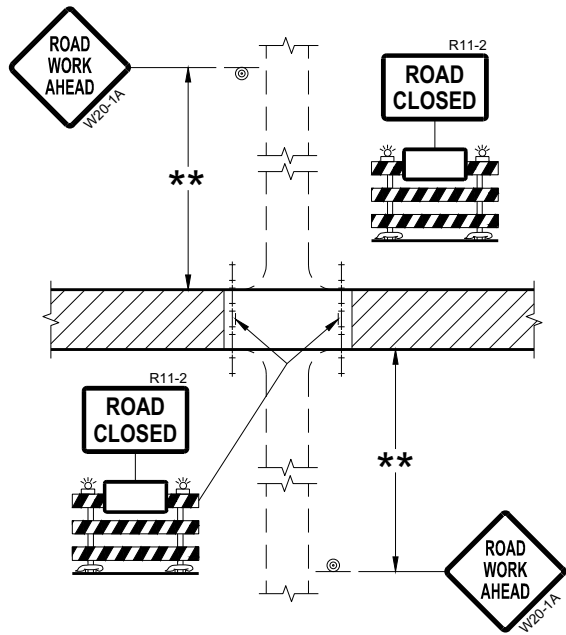
BARRICADES AND SIGNS FOR VARIOUS CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2025 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	39



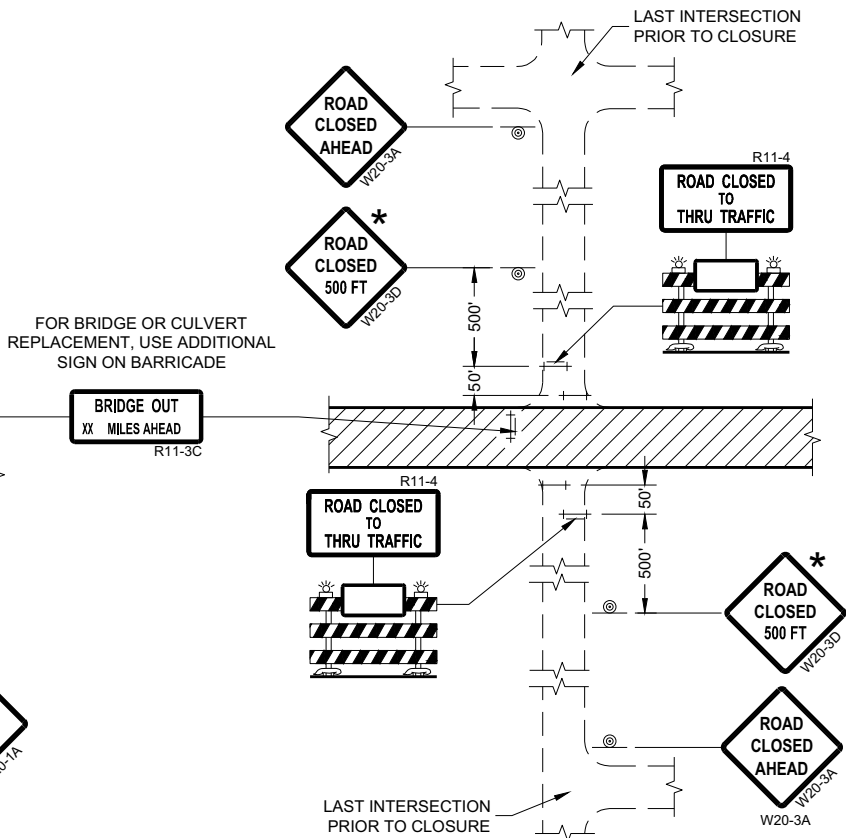
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

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 (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

- * OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

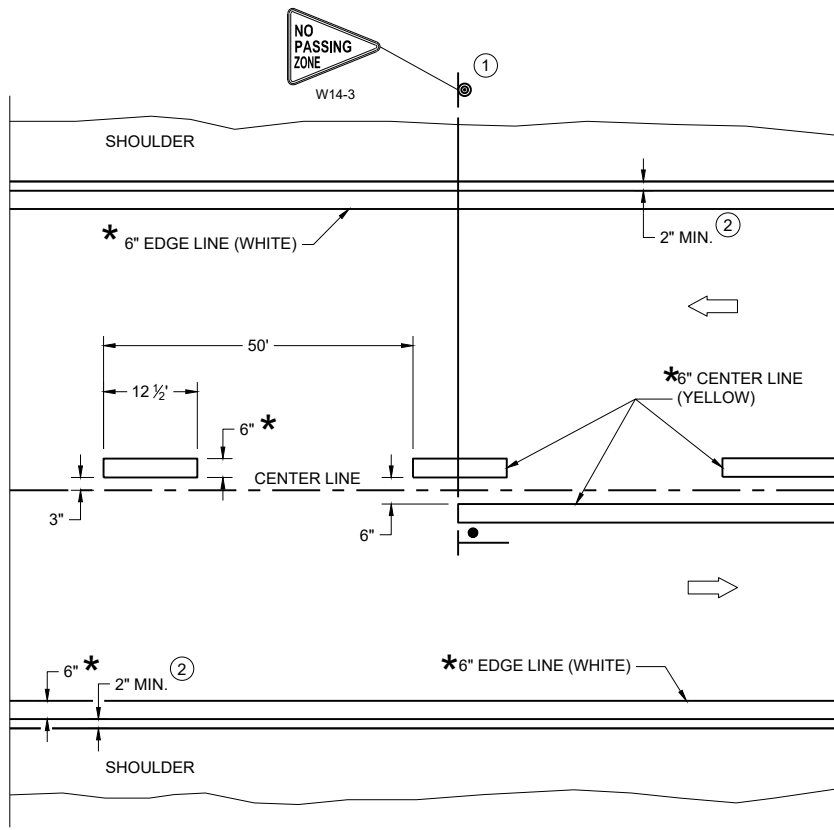
LEGEND

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

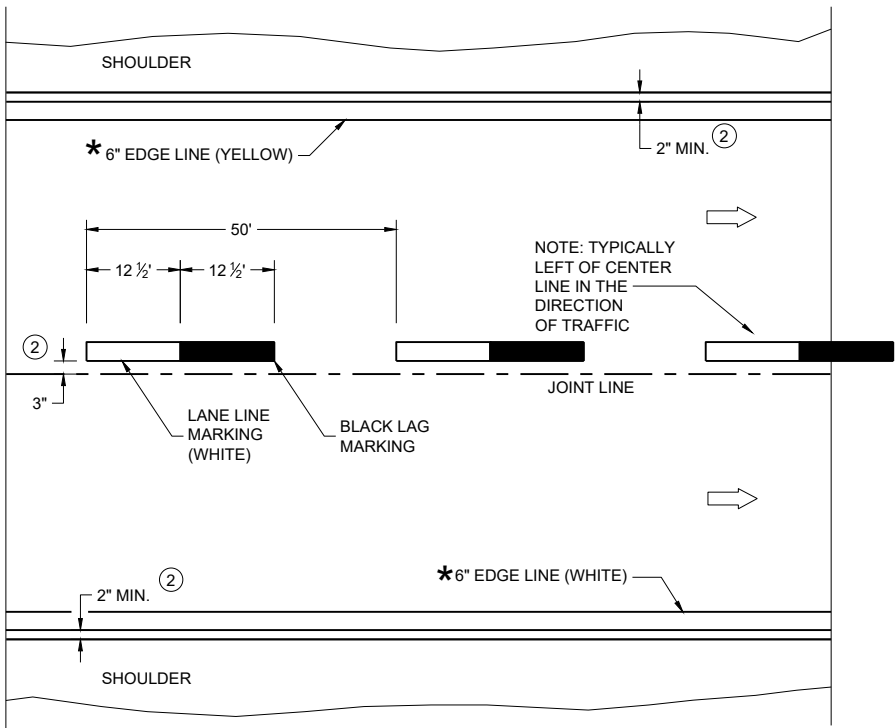
**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 40
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

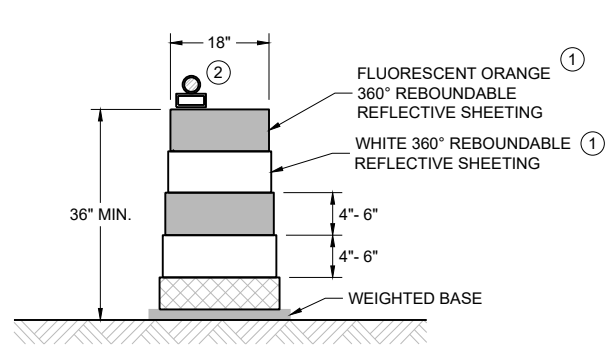
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

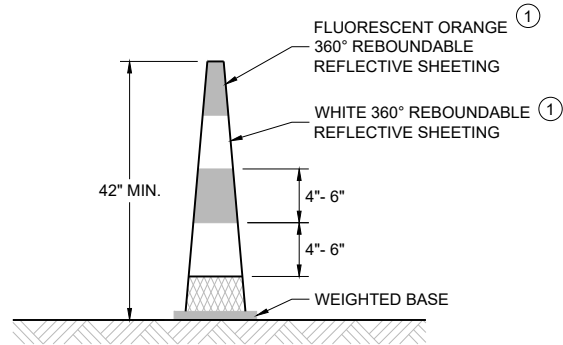
LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

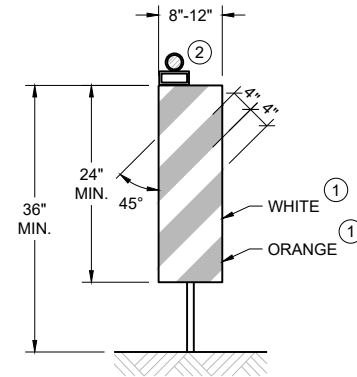
PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA 41	



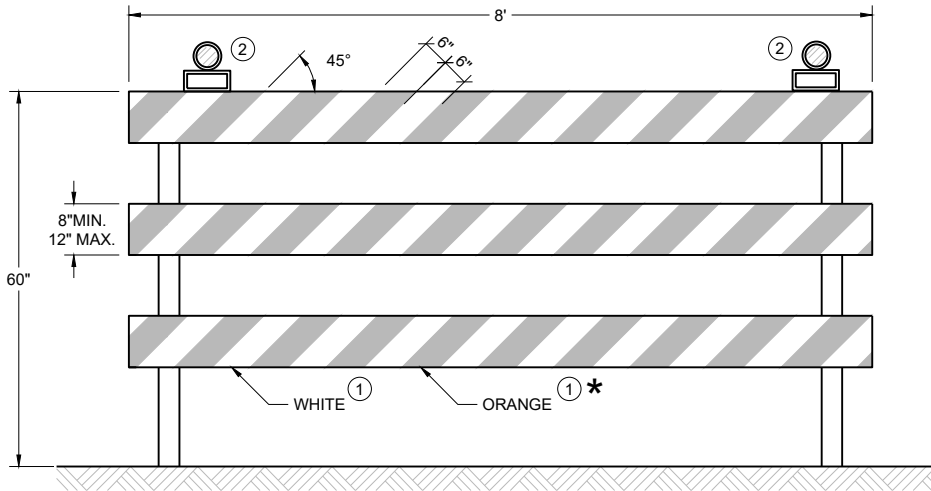
DRUM
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE
DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



VERTICAL PANEL
THE 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 February 2026 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

LEGEND

- 
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- 
- TEMPORARY PORTABLE RUMBLE STRIP ARRAY
- 
- DIRECTION OF TRAFFIC
- 
- WORK AREA
- 
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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.

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.

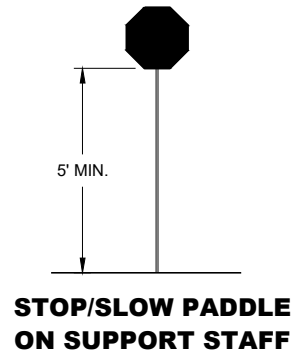
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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.

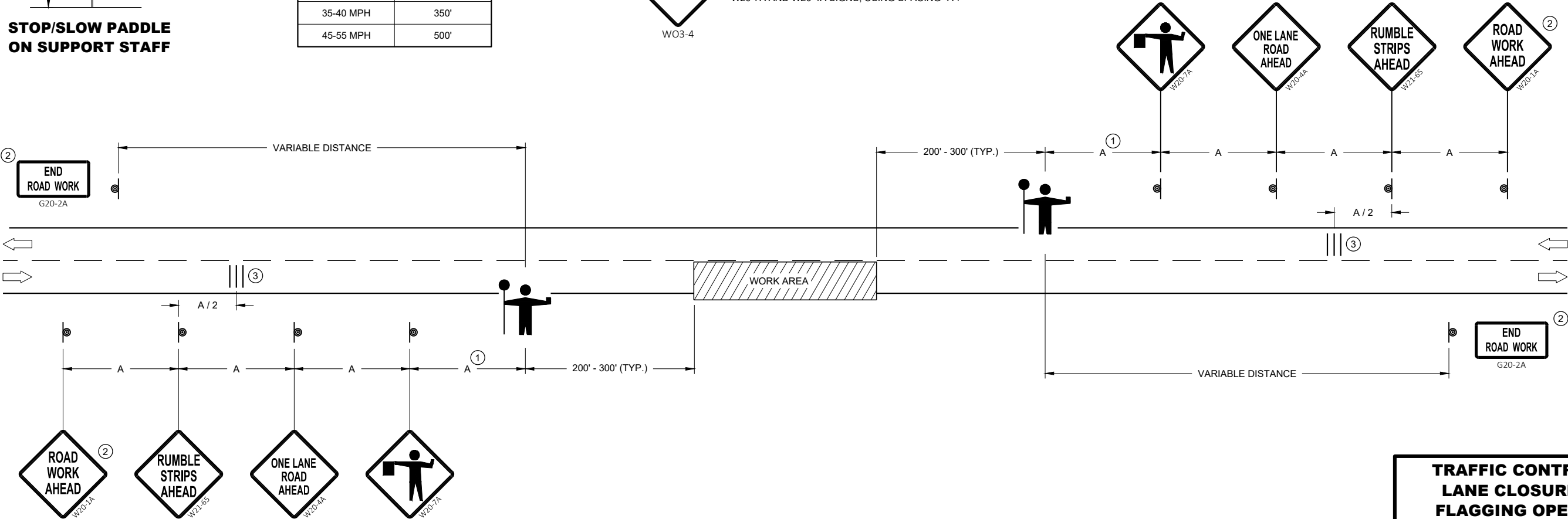


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

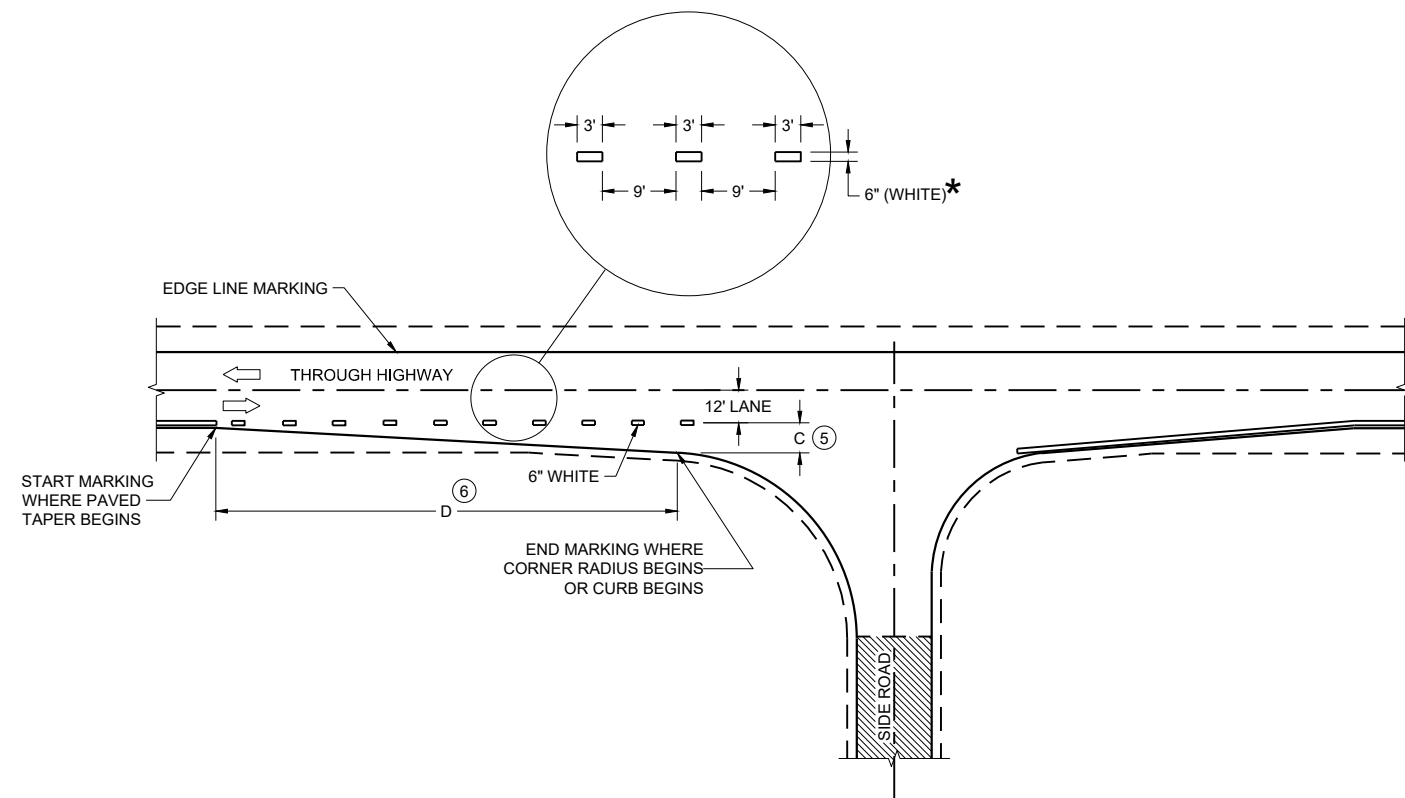
SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



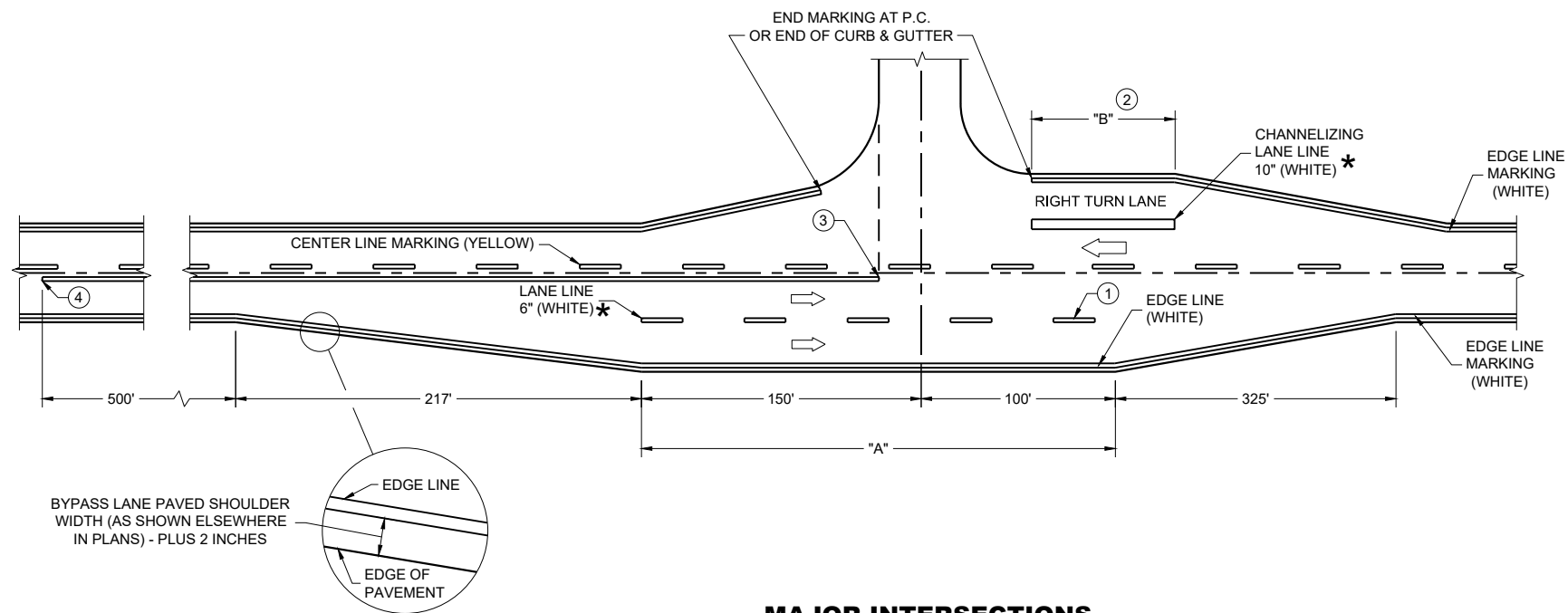
USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER 43
FHWA	



MINOR INTERSECTION



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

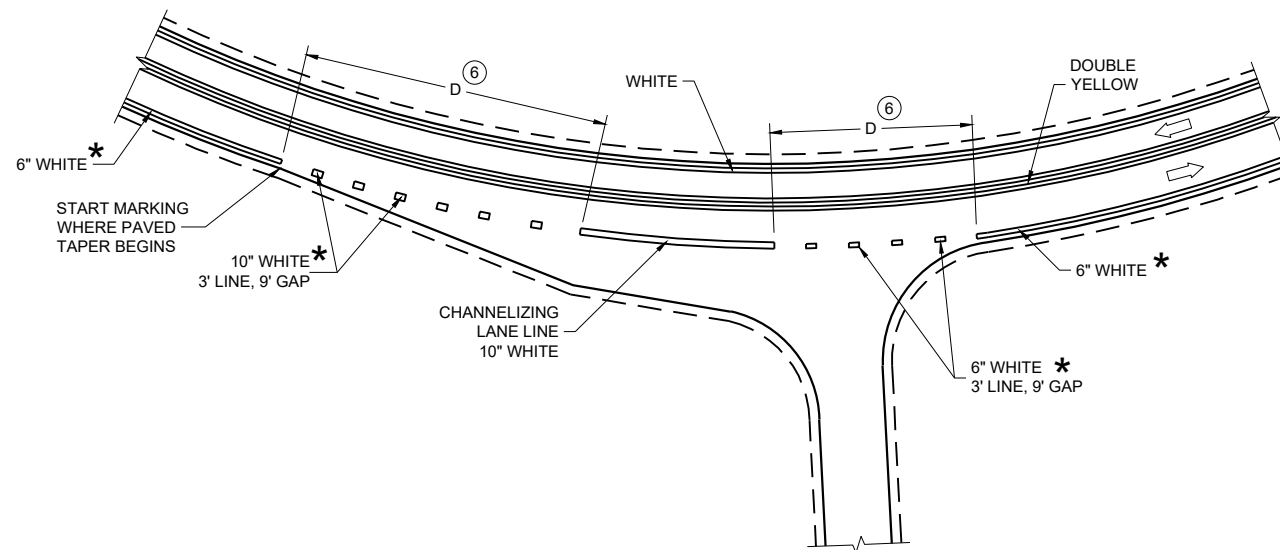
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
- ⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

➡ DIRECTION OF TRAVEL

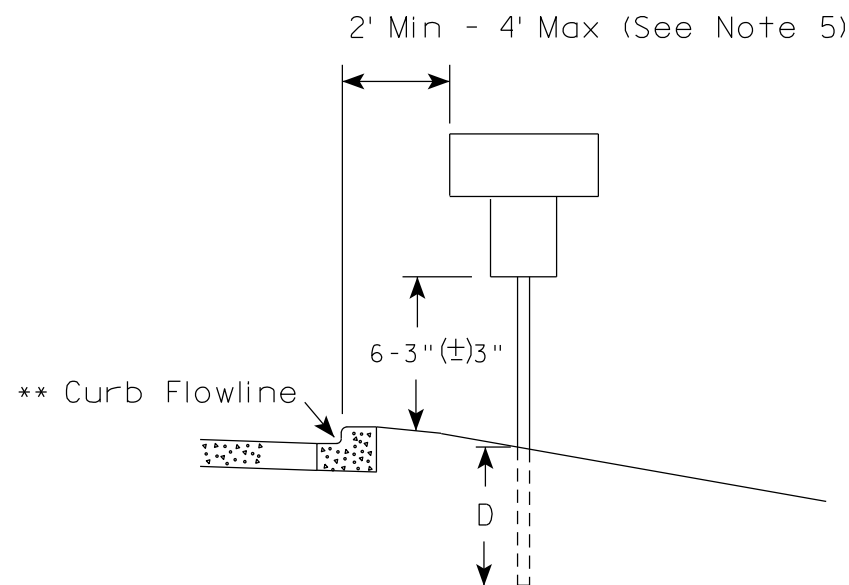
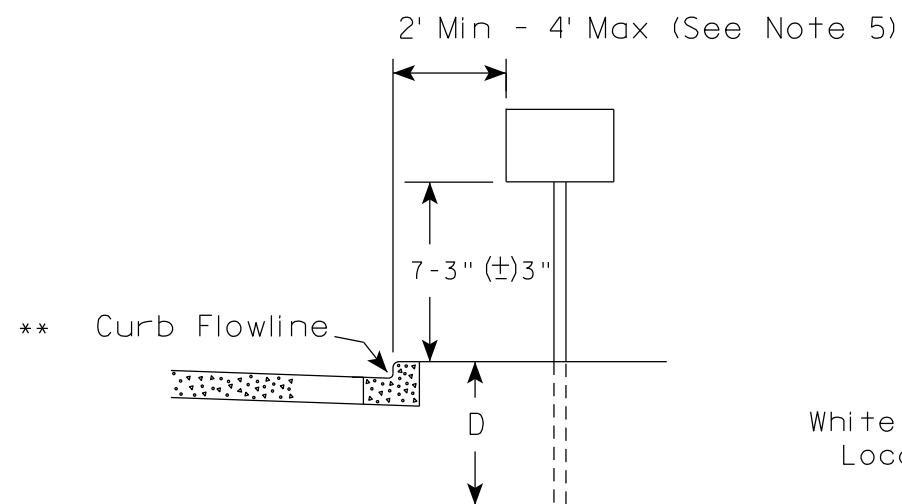


INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

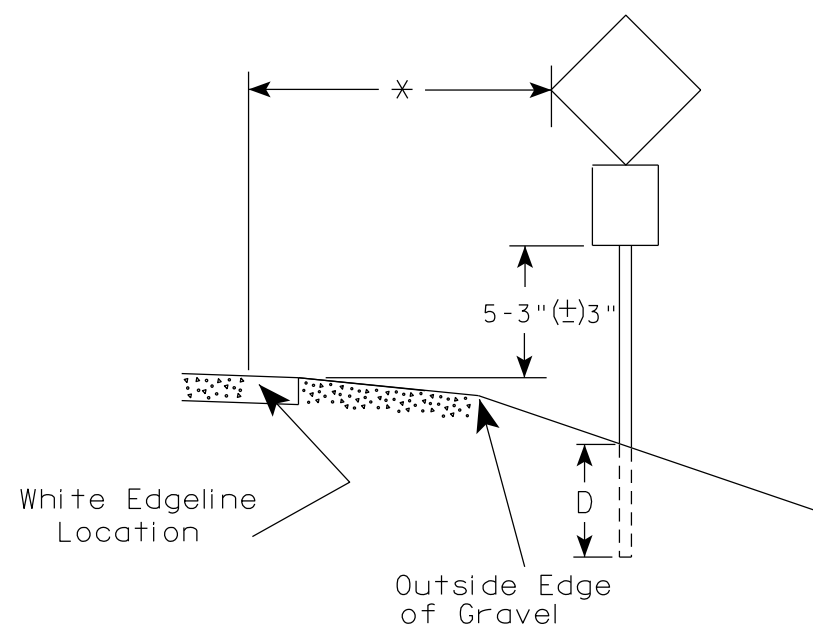
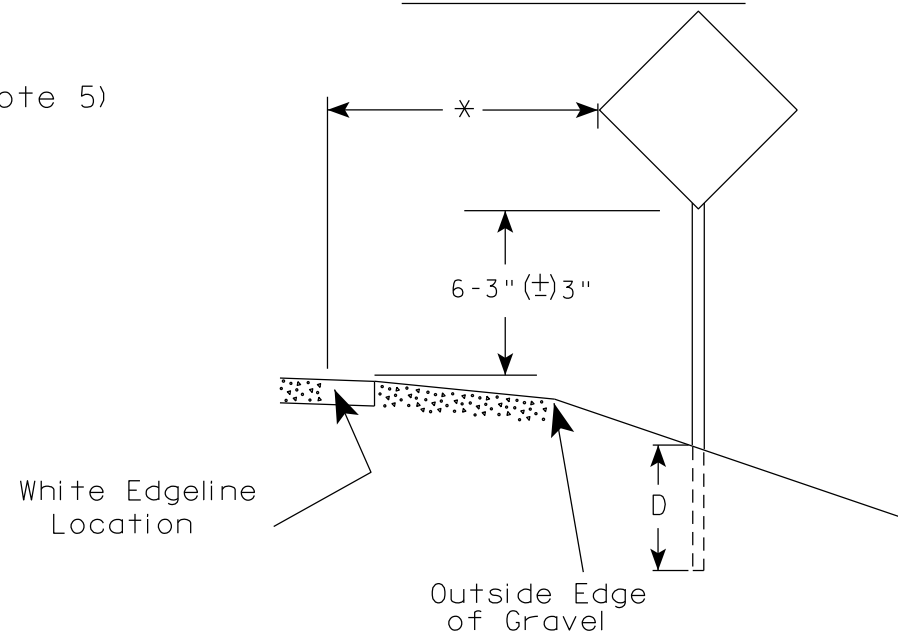
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

URBAN AREA



* * 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.

RURAL AREA (See Note 2)



* 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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

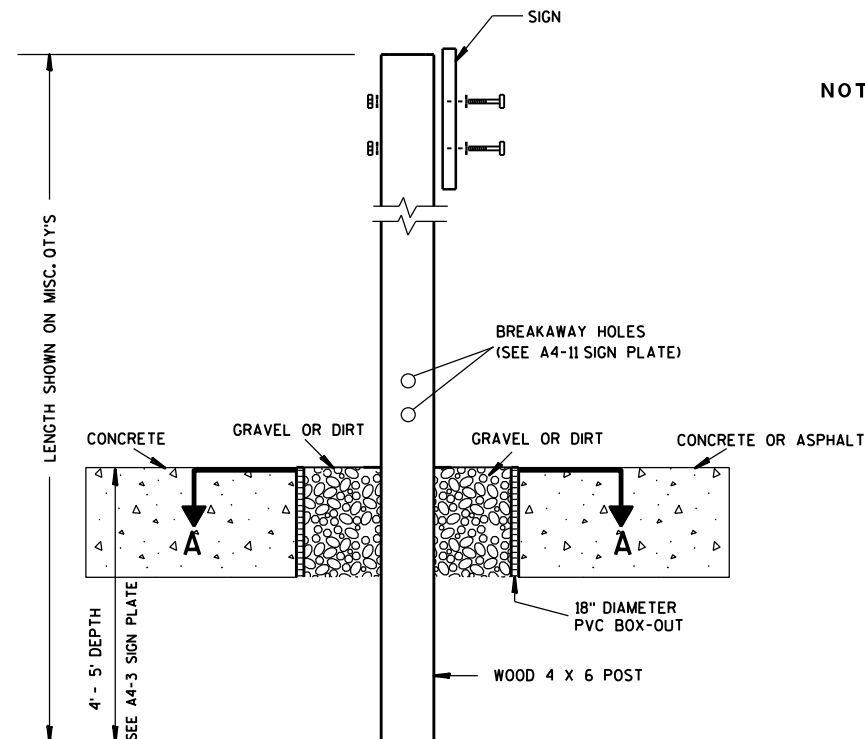
- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (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".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- 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" (±) 3" or as directed by the Engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

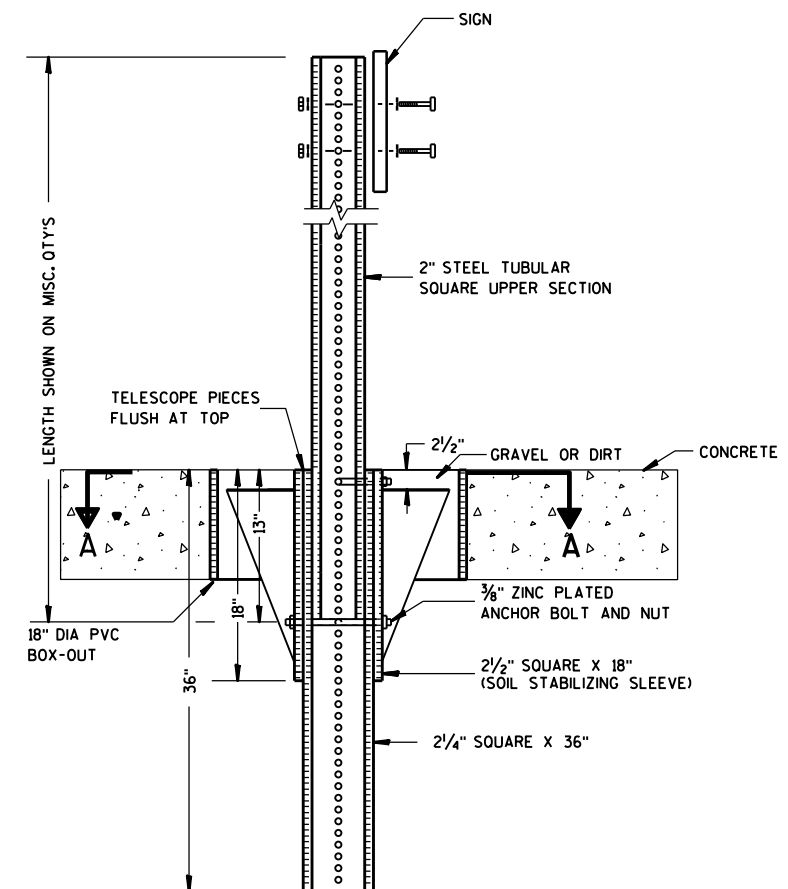
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

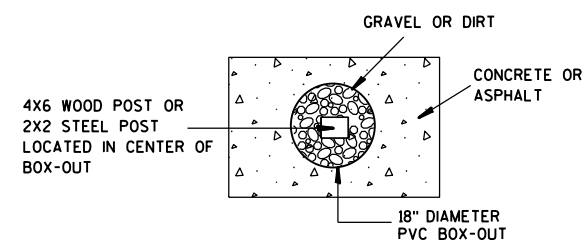
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 46 A4-3B.1

PROJECT NO:

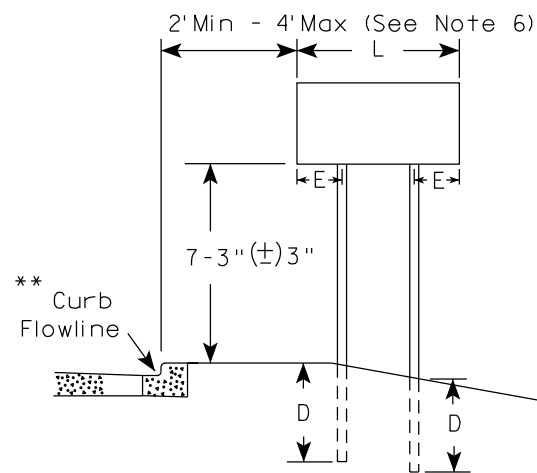
HWY:

COUNTY:

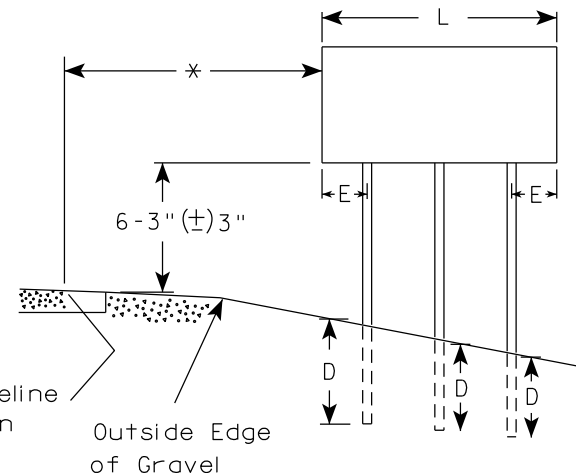
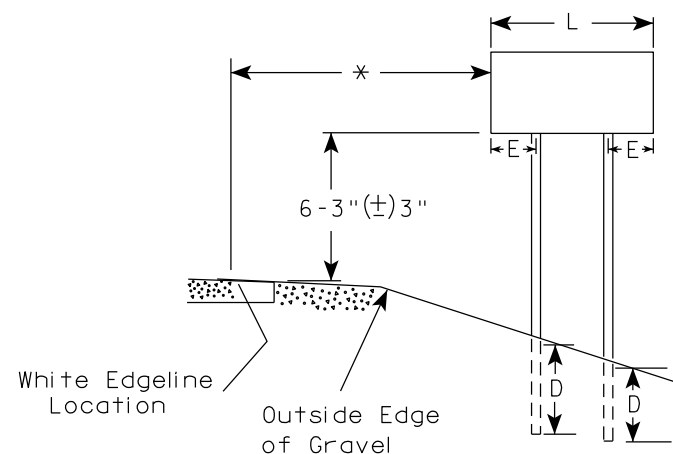
SHEET NO:

E

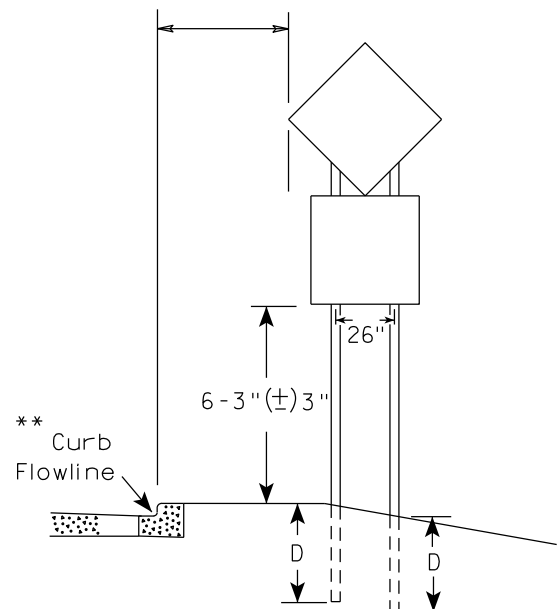
URBAN AREA



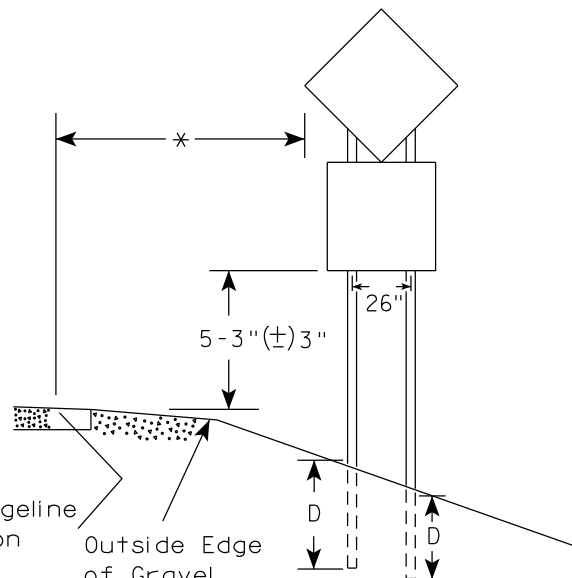
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
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

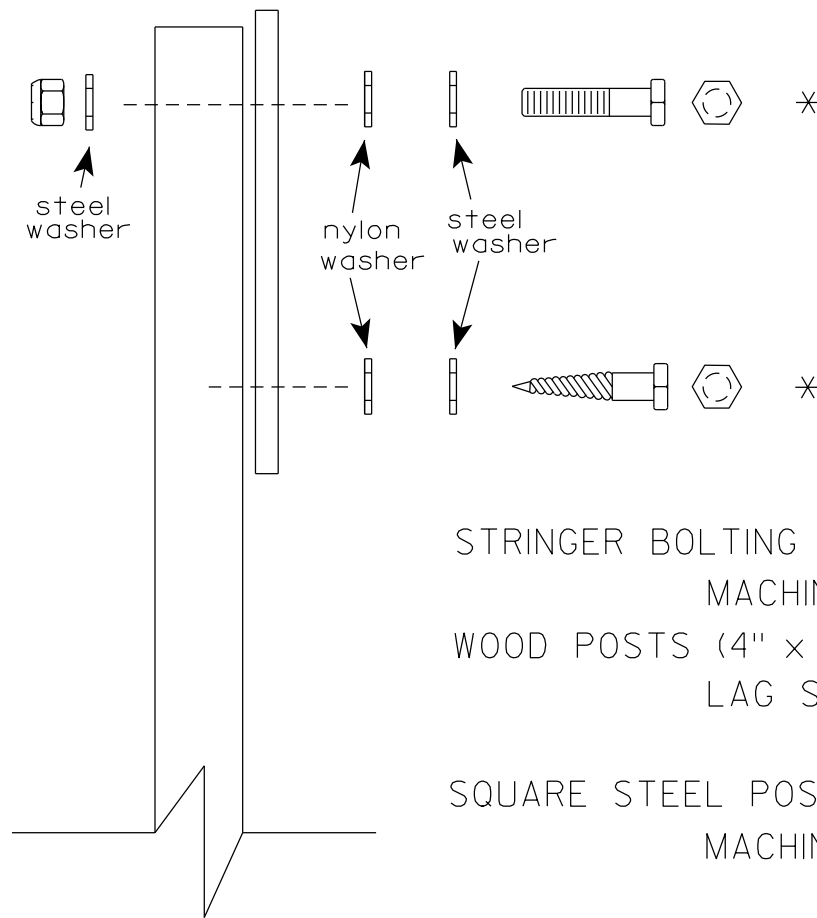
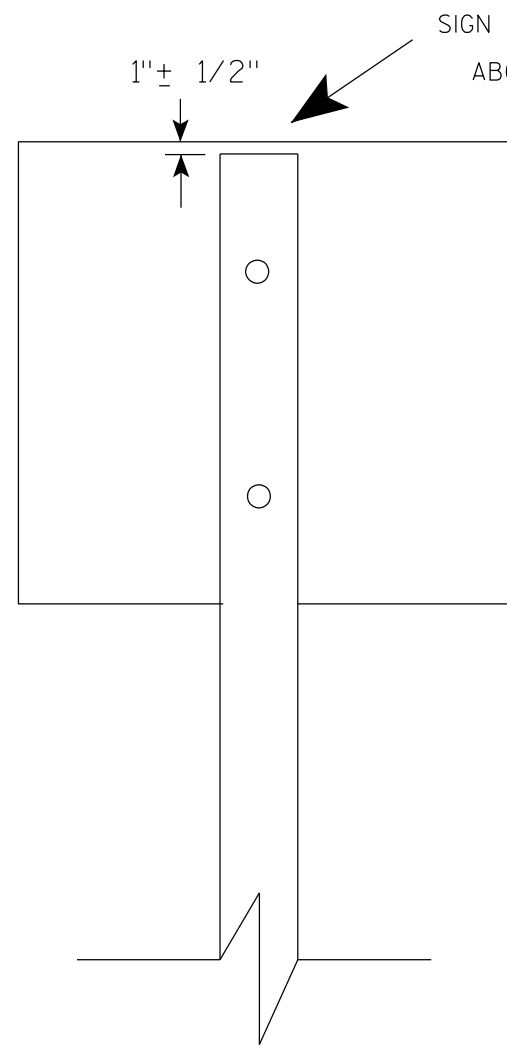
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 47

E



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.

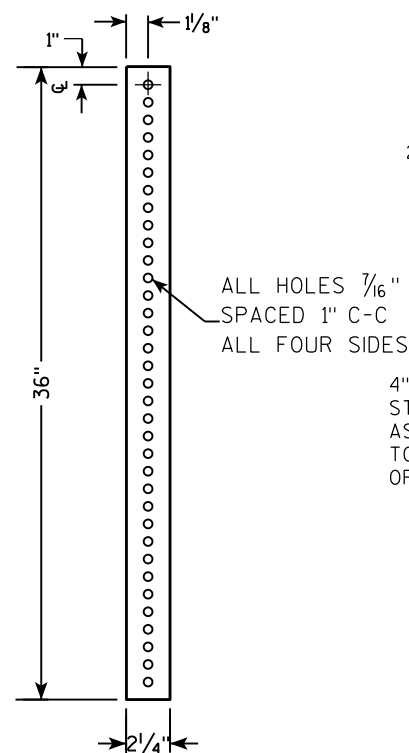
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- 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

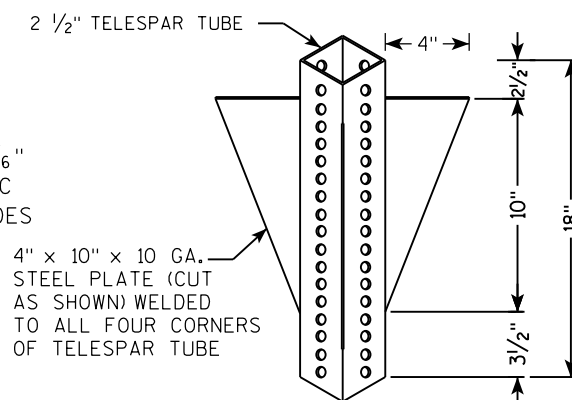
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



TECHNICAL DRAWING OF A VERTICAL SIGNPOST ASSEMBLY.

Dimensions and Components:

- Vertical Dimensions:**
 - Overall height: 36"
 - Section height: 18"
 - Section width: 13"
- Horizontal Dimensions:**
 - Section width: 18"
- Materials and Components:**
 - 2" STEEL TUBULAR SQUARE UPPER SECTION
 - ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES
 - 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
 - 2 1/2" GRAVEL OR DIRT
 - 3/8" ZINC PLATED ANCHOR BOLT AND NUT
 - 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 - 2 1/4" SQUARE X 36"
 - 18" DIA SCHEDULE 40 PVC BOX-OUT
 - TELESCOPE PIECES FLUSH AT TOP
 - SIGN
 - SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Dimensions:

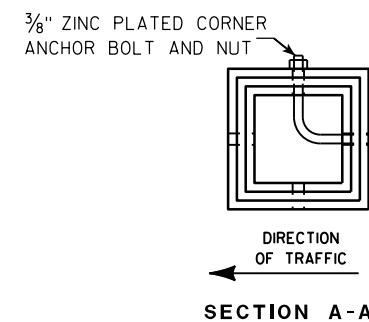
- Overall height: LENGTH SHOWN ON MISC. QTYS.
- Top section height: 18"
- Lower section height: 12"
- Total height from ground: 36"

End View Dimensions:

- Top section width: 2"
- Lower section width: 2 1/2"
- Ground level offset: 1"

Labels and Specifications:

- SIGN
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- 2" STEEL TUBULAR SQUARE UPPER SECTION
- ALL HOLES 7/16" SPACED 1" C-C
- ALL FOUR SIDES
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- TELESCOPE PIECES FLUSH AT TOP
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- 2 1/4" SQUARE X 36"



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 R Rauch

for State Traffic Engineer

DATE 2/05/15 PLATI₄₉ 14-9.9

PROJECT NO:

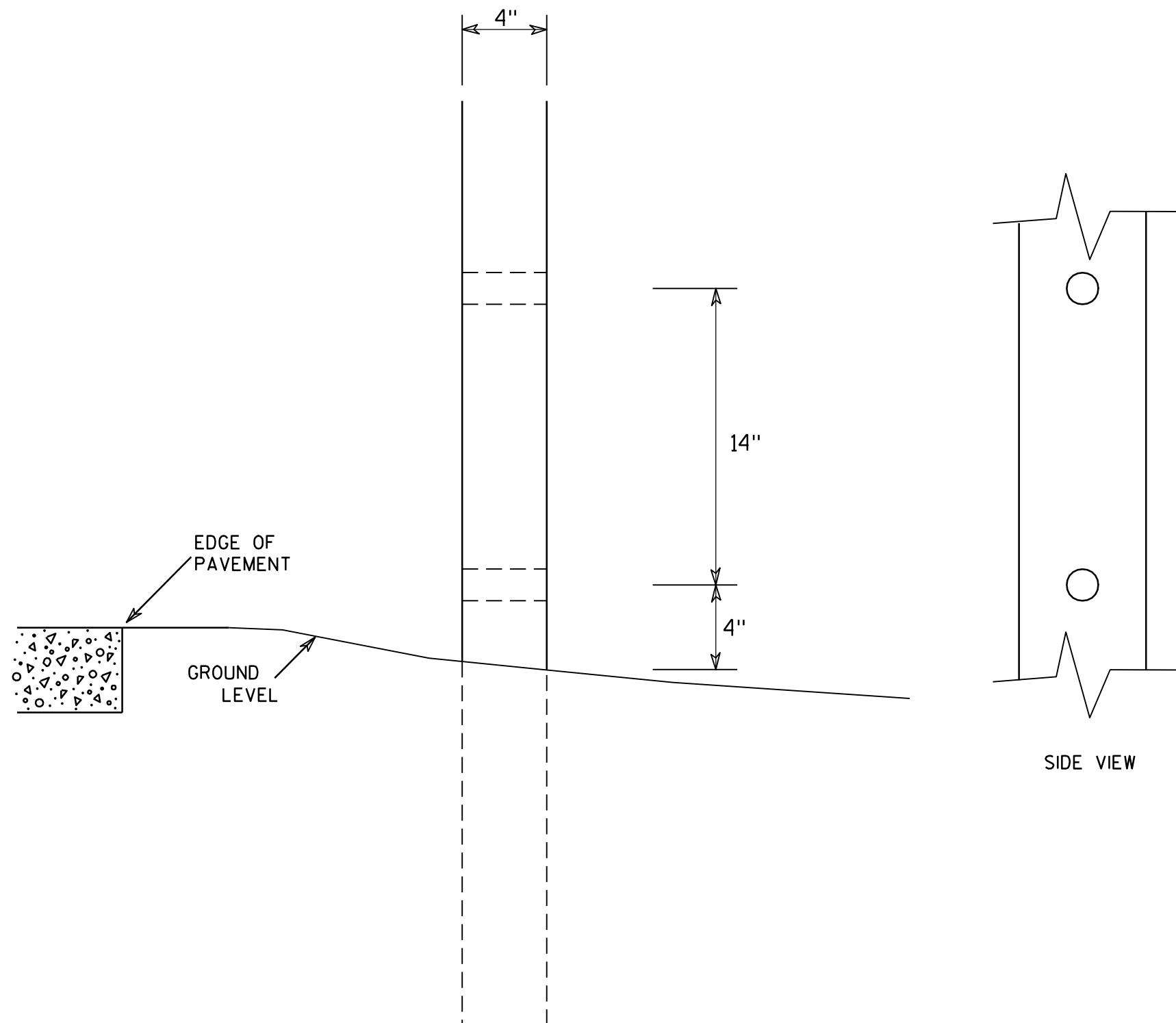
HWY:

COUNTY:

SHEET NO:

E

7



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

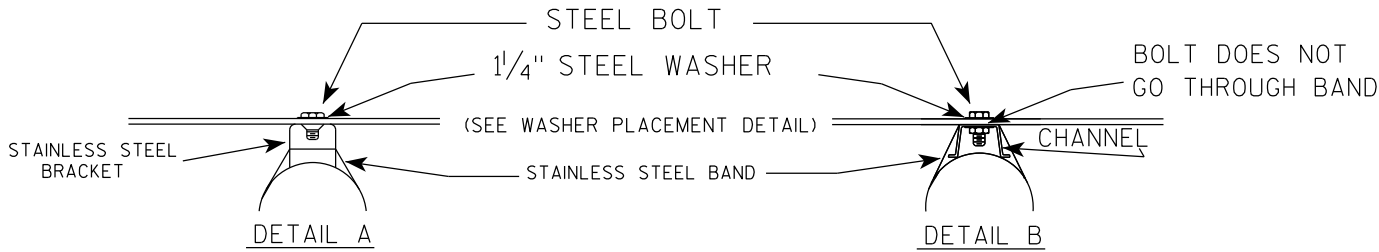
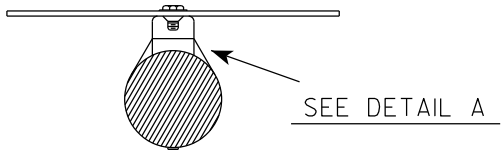
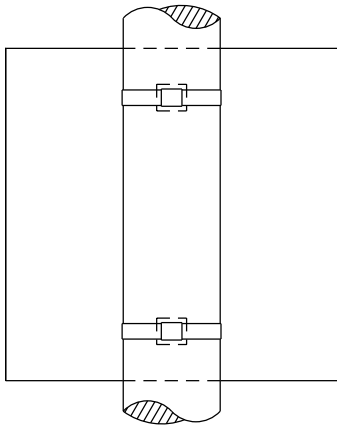
COUNTY:

SHEET NO: 50

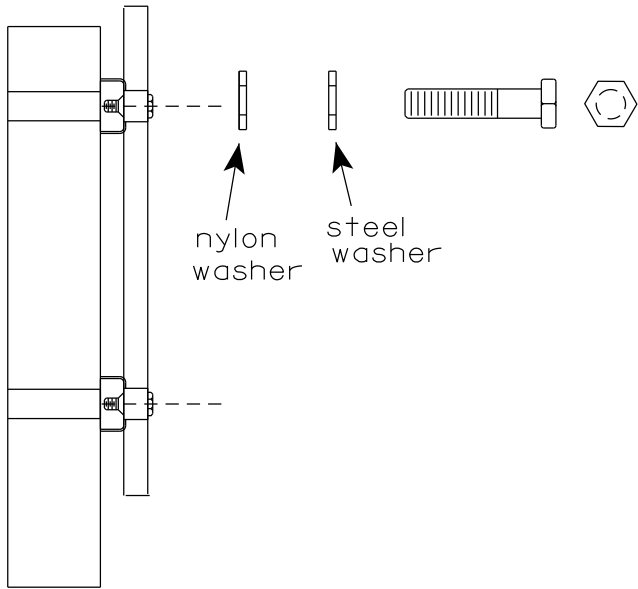
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

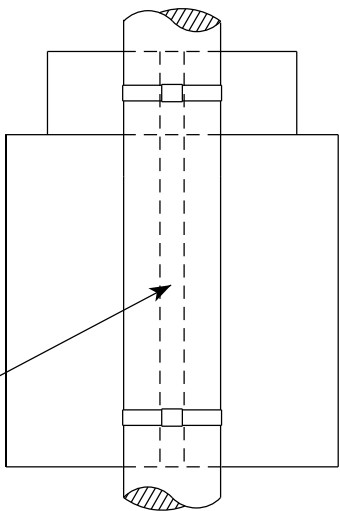


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

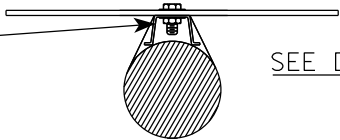
GENERAL NOTES

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 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

"J" ASSEMBLY



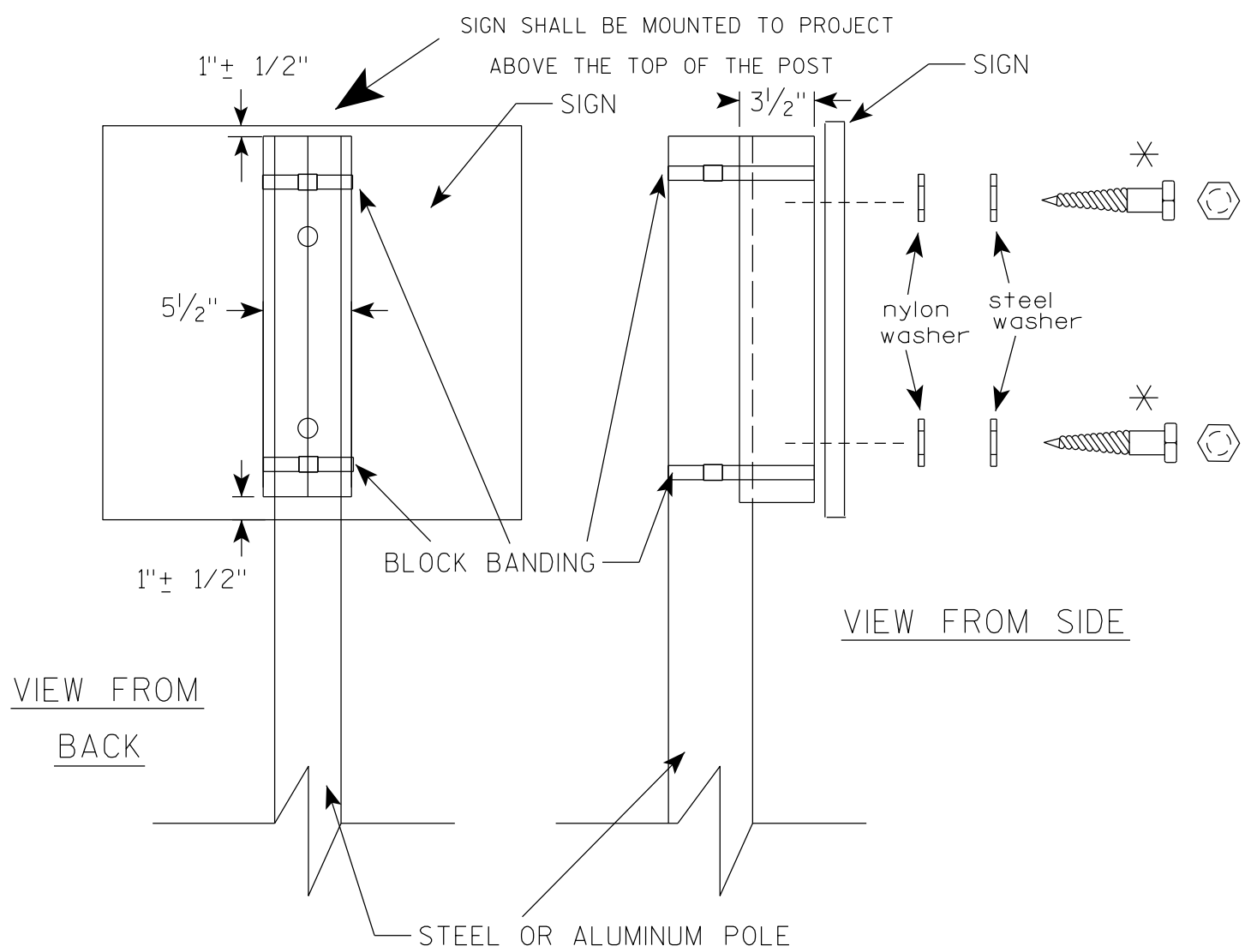
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

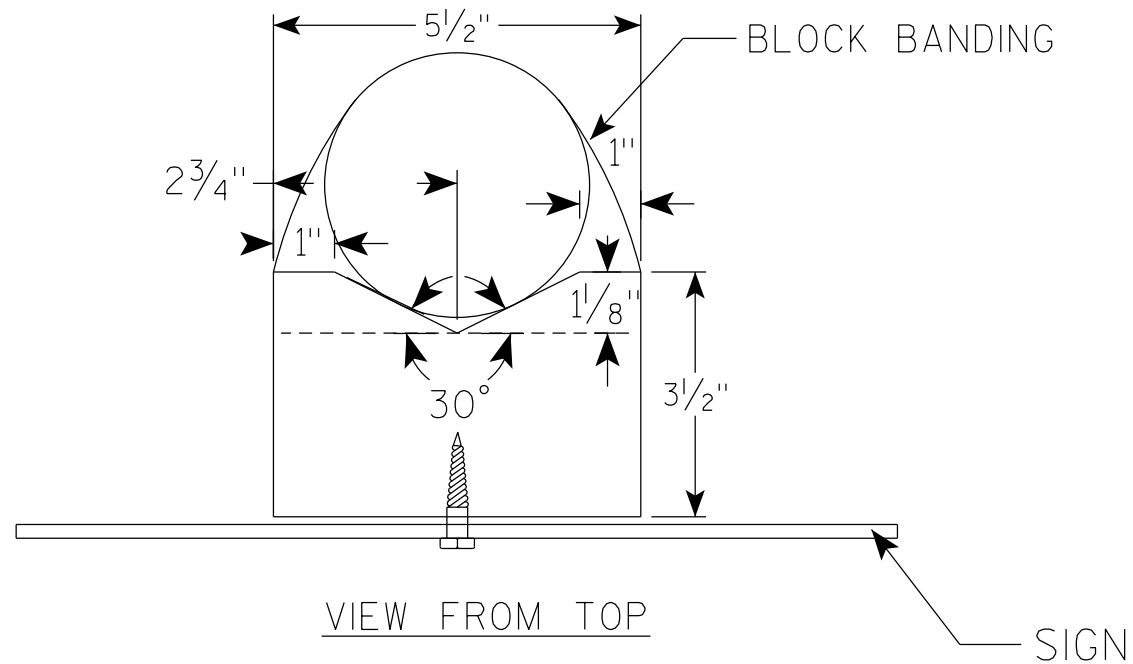
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

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 $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " 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

PROJECT NO:

SHEET NO: 52

E

CTH A CONT.

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	EXISTING SHOULDER MATERIAL	FILL	CUT	EXISTING SHOULDER MATERIAL	FILL	CUT	EXPANDED FILL 1.25	MASS ORDINATE
			NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 4
154+20.00	15420.00	5.00	18.35	1.77	0.00	3	0	0	1139	1314	525
154+26.27	15426.27	6.27	19.11	1.77	0.00	4	0	0	1143	1314	529
154+30.00	15430.00	3.73	19.40	1.77	0.00	3	0	0	1146	1314	532
154+35.00	15435.00	5.00	19.54	1.77	0.00	4	0	0	1150	1314	536
154+40.00	15440.00	5.00	19.92	1.77	0.00	4	0	0	1154	1314	540
154+45.00	15445.00	5.00	19.31	1.77	0.00	4	0	0	1158	1314	544
154+50.00	15450.00	5.00	18.58	1.77	0.00	4	0	0	1162	1314	548
154+55.00	15455.00	5.00	16.92	3.54	0.00	3	0	0	1165	1314	551
154+60.00	15460.00	5.00	17.21	3.54	1.43	3	1	0	1168	1314	555
154+65.00	15465.00	5.00	17.02	3.54	1.40	3	1	0	1171	1314	559
154+70.00	15470.00	5.00	16.83	3.54	0.97	3	1	0	1174	1314	563
154+75.00	15475.00	5.00	16.33	3.54	1.04	3	1	0	1177	1314	567
154+80.00	15480.00	5.00	15.61	3.54	1.08	3	1	0	1180	1314	571
154+85.00	15485.00	5.00	14.40	3.54	0.57	3	1	0	1183	1314	575
154+90.57	15490.57	5.57	12.69	3.54	0.61	3	1	0	1186	1314	579
155+00.00	15500.00	9.43	9.07	3.54	0.86	4	1	0	1190	1314	584
156+00.00	15600.00	100.00	6.98	3.54	1.30	30	13	4	1220	1319	622
156+44.00	15644.00	44.00	6.49	3.54	17.42	11	6	15	1231	1338	621
157+00.00	15700.00	56.00	3.58	3.54	2.17	10	7	20	1241	1363	613
158+00.00	15800.00	100.00	2.91	3.54	1.20	12	13	6	1253	1370	630
159+00.00	15900.00	100.00	15.18	3.54	0.00	34	13	2	1287	1373	675
160+00.00	16000.00	100.00	11.74	3.54	0.00	50	13	0	1337	1373	738
161+00.00	16100.00	100.00	7.62	3.54	0.03	36	13	0	1373	1373	787
162+00.00	16200.00	100.00	5.58	3.54	0.16	24	13	0	1397	1373	824
162+12.00	16212.00	12.00	7.76	3.54	0.00	3	2	0	1400	1373	829
163+00.00	16300.00	88.00	5.25	3.54	0.83	21	12	1	1421	1374	860
164+00.00	16400.00	100.00	5.99	3.54	0.52	21	13	2	1442	1376	892
165+00.00	16500.00	100.00	3.75	3.54	1.75	18	13	4	1460	1381	918
165+67.00	16567.00	67.00	2.71	3.54	19.16	8	9	26	1468	1414	902
166+00.00	16600.00	33.00	3.95	3.54	1.13	4	4	12	1472	1429	895
166+50.00	16650.00	50.00	7.03	3.54	0.54	10	7	2	1482	1431	910
166+90.00	16690.00	40.00	8.65	3.54	0.00	12	5	0	1494	1431	927
167+00.00	16700.00	10.00	7.97	3.54	0.00	3	1	0	1497	1431	931
167+25.00	16725.00	25.00	9.15	3.54	0.00	8	3	0	1505	1431	942
167+50.00	16750.00	25.00	6.26	3.54	0.00	7	3	0	1512	1431	952
167+75.00	16775.00	25.00	5.39	3.54	0.00	5	3	0	1517	1431	960
168+00.00	16800.00	25.00	5.75	3.54	0.00	5	3	0	1522	1431	968
168+06.00	16806.00	6.00	5.56	3.54	0.00	1	1	0	1523	1431	970
168+50.00	16850.00	44.00	5.29	3.54	0.00	9	6	0	1532	1431	985
169+00.00	16900.00	50.00	8.18	3.54	0.00	12	7	0	1544	1431	1004
170+00.00	17000.00	100.00	3.66	3.54	1.92	22	13	4	1566	1436	1034
170+98.00	17098.00	98.00	0.14	3.54	8.18	7	13	18	1573	1459	1031
172+00.00	17200.00	102.00	11.80	3.54	0.14	23	13	16	1596	1479	1047
173+00.00	17300.00	100.00	15.95	3.54	1.25	51	13	3	1647	1483	1108
174+00.00	17400.00	100.00	4.77	3.54	3.99	38	13	10	1685	1495	1146
175+00.00	17500.00	100.00	7.01	3.54	3.12	22	13	13	1707	1511	1165
176+00.00	17600.00	100.00	7.13	3.54	0.91	26	13	7	1733	1520	1195
177+00.00	17700.00	100.00	5.99	3.54	0.00	24	13	2	1757	1523	1230
177+21.00	17721.00	21.00	5.64	3.54	0.00	5	3	0	1762	1523	1238
178+00.00	17800.00	79.00	13.16	3.54	0.00	28	10	0	1790	1523	1276

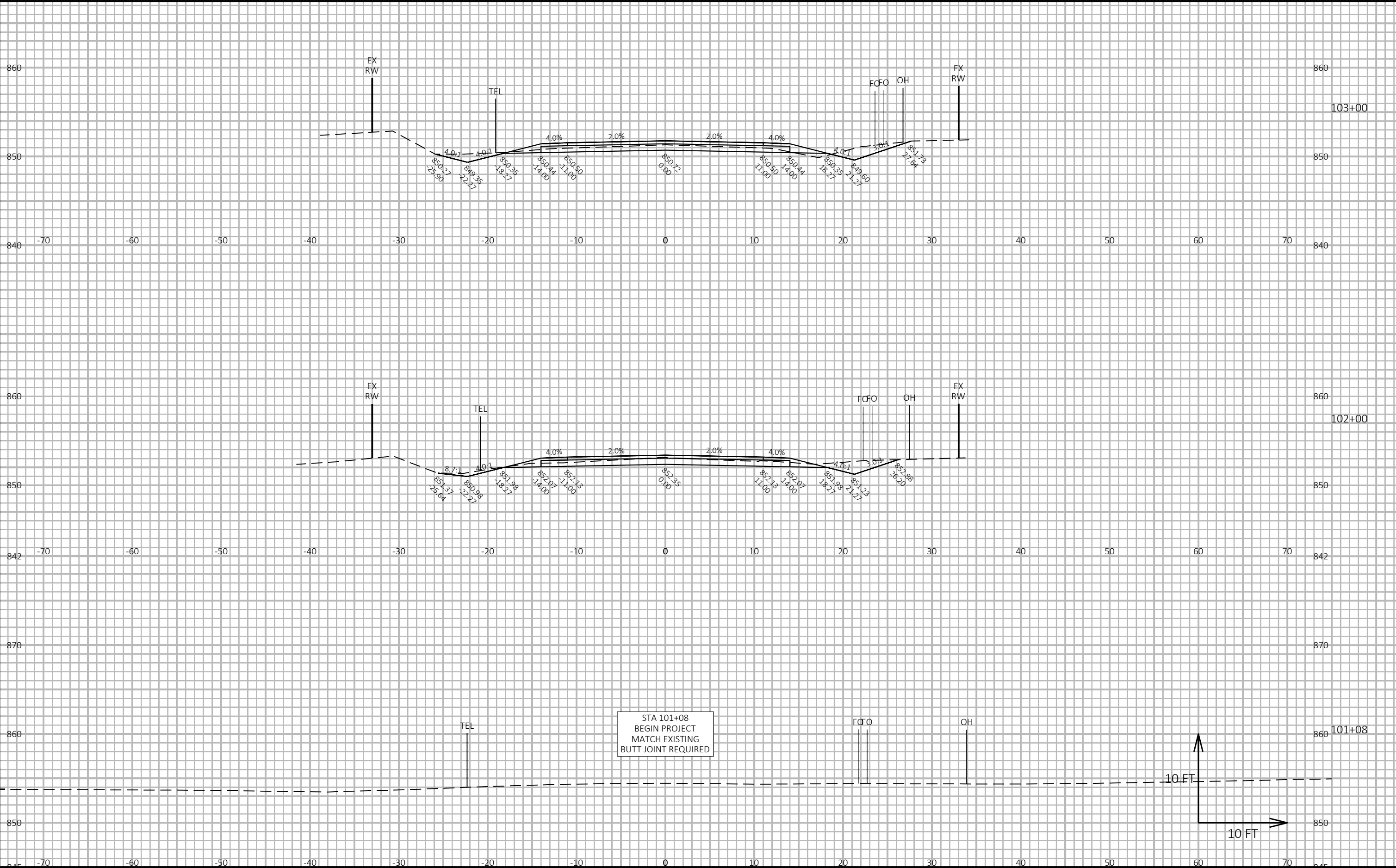
NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - EXISTING SHOULDER MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS. REMOVAL PAID AS SHAPING SHOULDERS.
3 - FILL	DOES NOT INCLUDE EXISTING SHOULDER MATERIAL
4 - MASS ORDINATE	[CUT + EXISTING SHOULDER MATERIAL - (FILL * FILL FACTOR)]

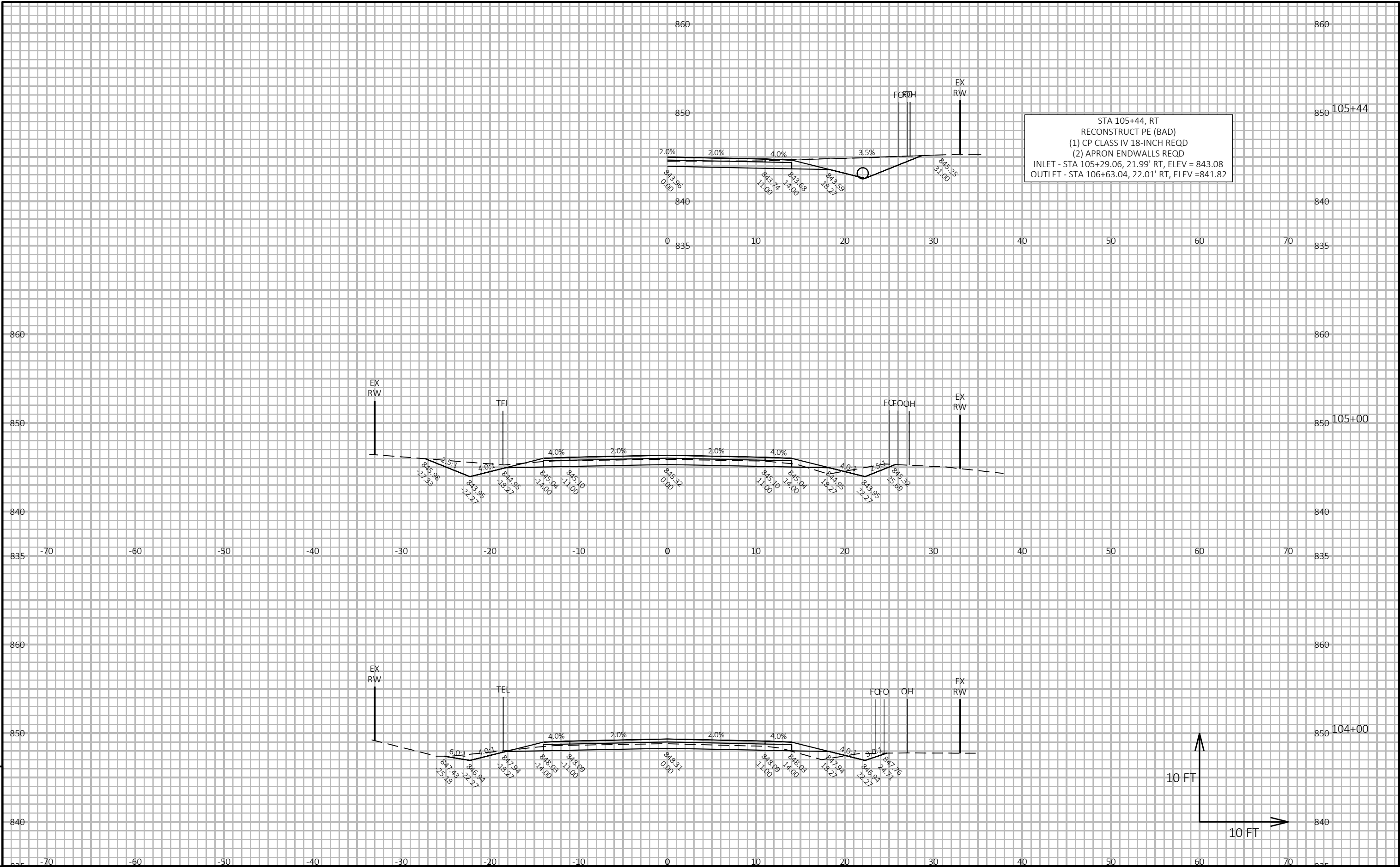
CTH A CONT.

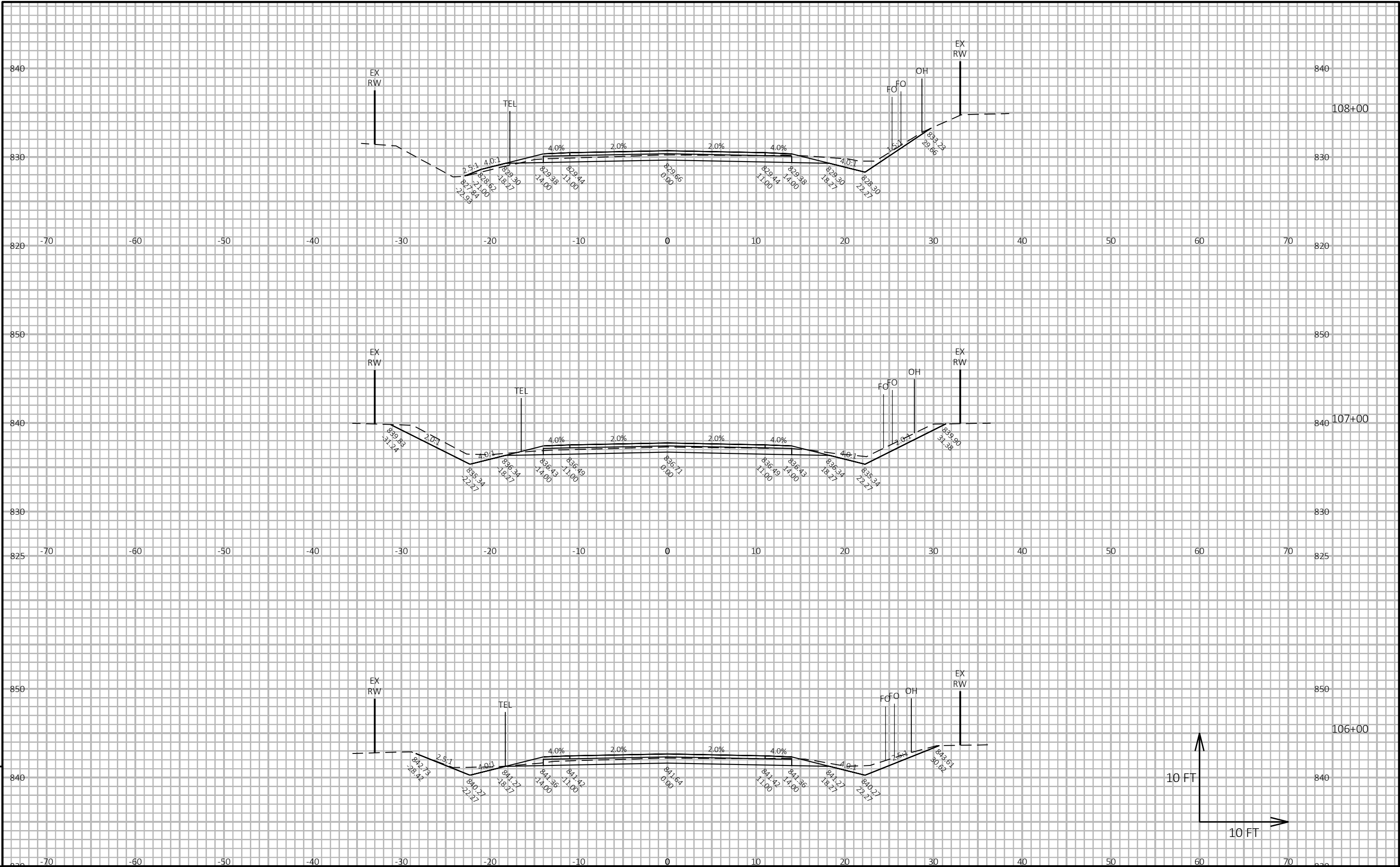
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	EXISTING SHOULDER MATERIAL	FILL	CUT	EXISTING SHOULDER MATERIAL	FILL	CUT	EXPANDED FILL 1.25	MASS ORDINATE
			NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 4
178+50.00	17850.00	50.00	13.15	3.54	0.00	24	7	0	1814	1523	1307
178+83.00	17883.00	33.00	13.71	3.54	0.02	16	4	0	1830	1523	1327
179+00.00	17900.00	17.00	12.50	3.54	0.41	8	2	0	1838	1523	1337
179+50.00	17950.00	50.00	9.85	3.54	0.03	21	7	0	1859	1523	1365
180+00.00	18000.00	50.00	4.91	3.54	0.04	14	7	0	1873	1523	1386
180+19.08	18019.08	19.08	11.08	3.54	0.00	6	3	0	1879	1523	1395
180+25.00	18025.00	5.92	12.93	3.54	0.00	3	1	0	1882	1523	1399
180+30.00	18030.00	5.00	14.78	3.54	0.00	3	1	0	1885	1523	1403
180+35.00	18035.00	5.00	18.58	3.54	0.01	3	1	0	1888	1523	1407
180+40.00	18040.00	5.00	15.70	3.54	0.00	3	1	0	1891	1523	1411
180+45.00	18045.00	5.00	10.68	3.54	0.00	2	1	0	1893	1523	1414
180+50.00	18050.00	5.00	10.65	3.54	0.00	2	1	0	1895	1523	1417
180+55.00	18055.00	5.00	8.88	3.54	0.00	2	1	0	1897	1523	1420
180+60.00	18060.00	5.00	13.02	3.54	0.00	2	1	0	1899	1523	1423
180+65.00	18065.00	5.00	15.00	3.54	0.00	3	1	0	1902	1523	1427
180+70.00	18070.00	5.00	16.40	3.54	0.00	3	1	0	1905	1523	1431
180+75.00	18075.00	5.00	0.00	0.00	0.00	2	0	0	1907	1523	1433
180+78.00	18078.00	3.00	0.00	0.00	0.00	0	0	0	1907	1523	1433
TOTALS						1,907	1,048	1,218			

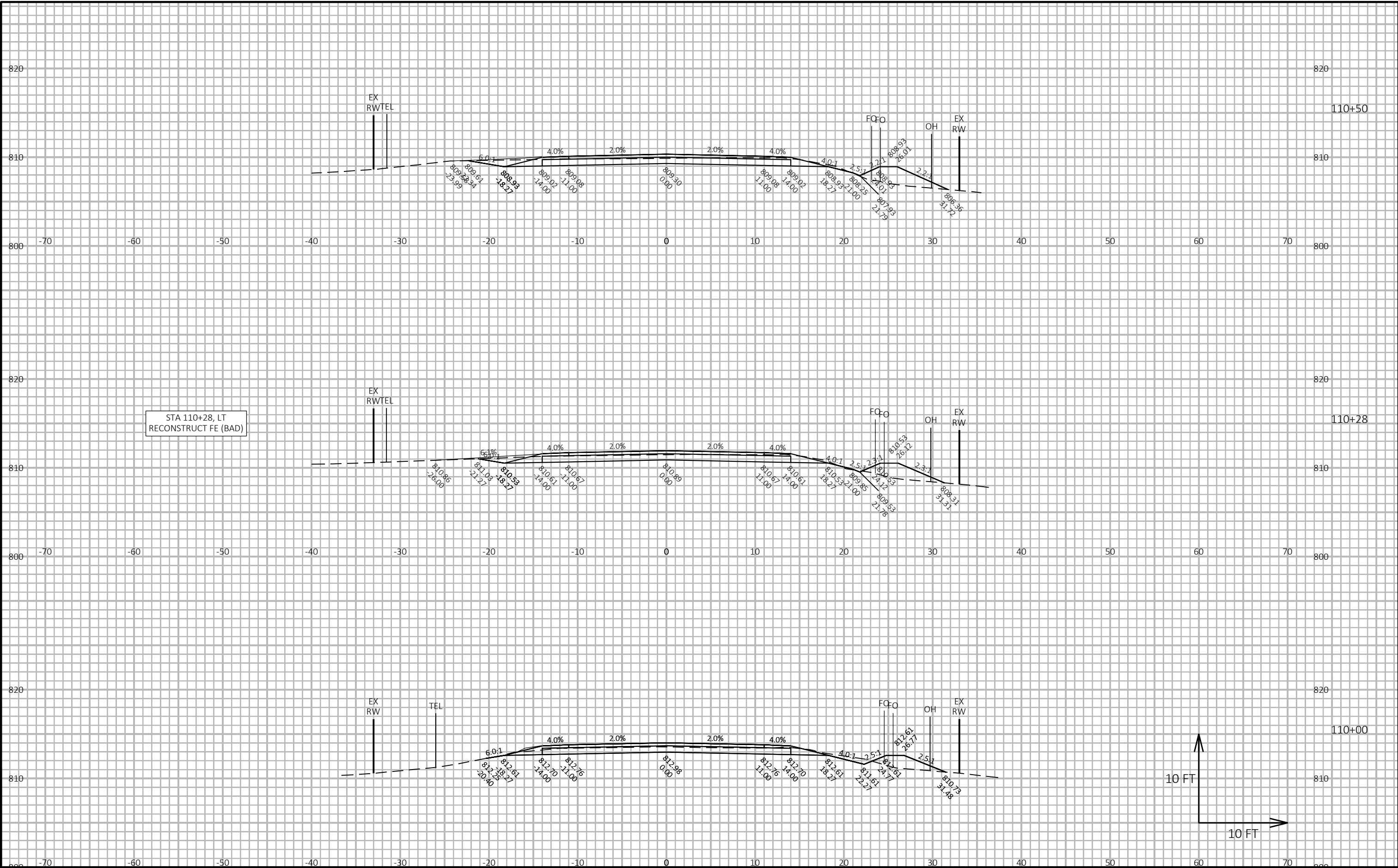
EAST RIVER ROAD

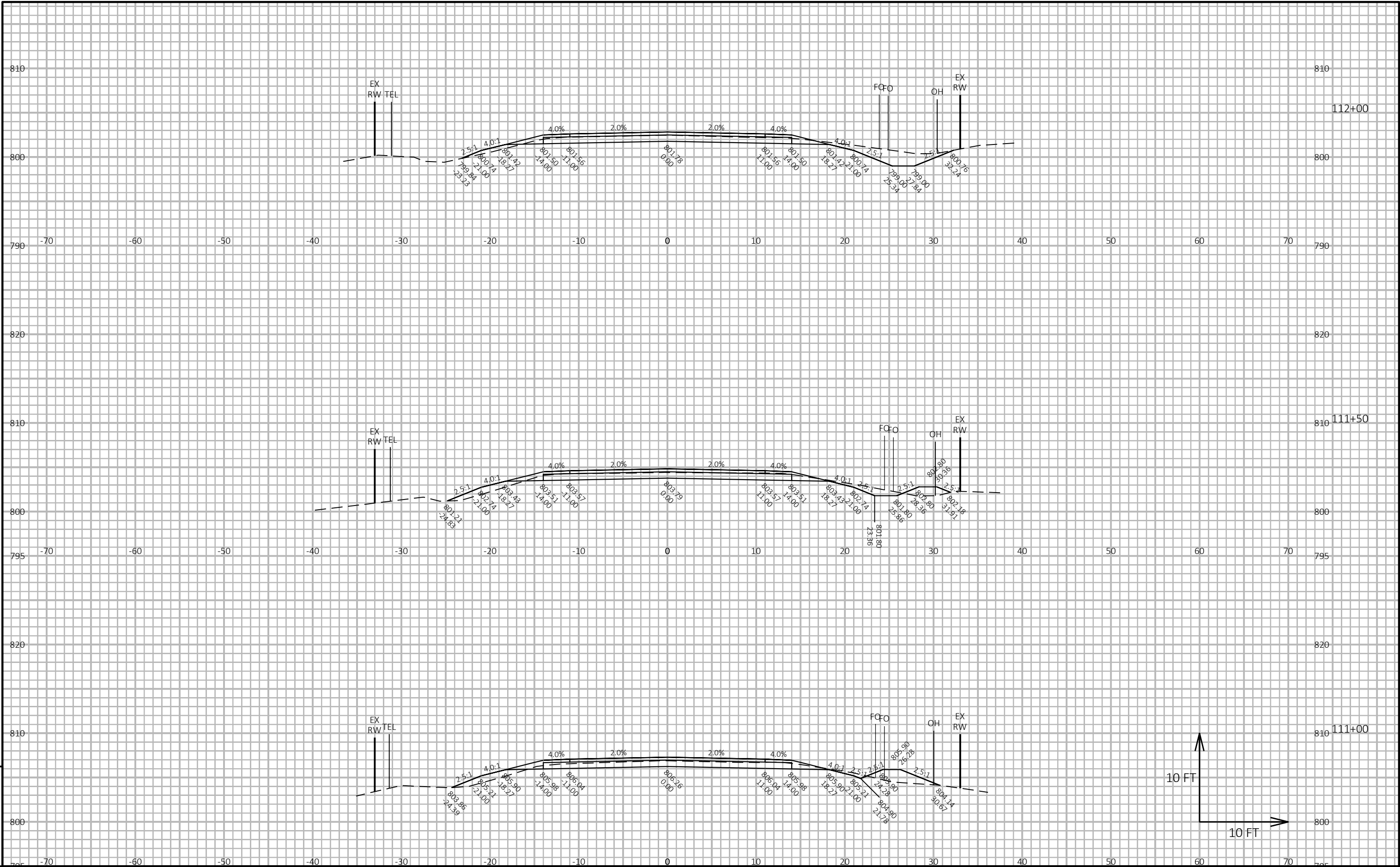
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	EXISTING SHOULDER MATERIAL	FILL	CUT	EXISTING SHOULDER MATERIAL	FILL	CUT	EXPANDED FILL 1.25	MASS ORDINATE
			NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 4
30+84.69	3084.69	0.00	5.89	3.54	0.00	0	0	0	0	0	0
30+90.00	3090.00	5.31	4.88	3.54	0.01	1	1	0	1	0	2
30+95.00	3095.00	5.00	3.54	3.54	0.05	1	1	0	2	0	4
31+00.00	3100.00	5.00	2.07	3.54	0.55	1	1	0	3	0	6
31+05.00	3105.00	5.00	1.06	3.54	1.03	0	1	0	3	0	7
31+10.00	3110.00	5.00	0.00	3.54	1.07	0	1	0	3	0	8
31+15.00	3115.00	5.00	0.00	3.54	2.06	0	1	0	3	0	9
31+18.00	3118.00	3.00	0.00	3.54	1.60	0	0	0	3	0	9
31+20.00	3120.00	2.00	0.00	3.54	0.03	0	0	0	3	0	9
31+25.00	3125.00	5.00	0.00	0.00	0.00	0	0	0	3	0	9
31+30.00	3130.00	5.00	0.00	0.00	0.00	0	0	0	3	0	9
31+35.00	3135.00	5.00	0.00	0.00	0.00	0	0	0	3	0	9
31+40.00	3140.00	5.00	0.00	0.00	0.00	0	0	0	3	0	9
31+45.00	3145.00	5.00	0.00	0.00	0.00	0	0	0	3	0	9
31+49.99	3149.99	4.99	0.00	0.00	0.00	0	0	0	3	0	9
TOTAL						3	6	0			
PROJECT TOTAL						1,910	1,054	1,218			

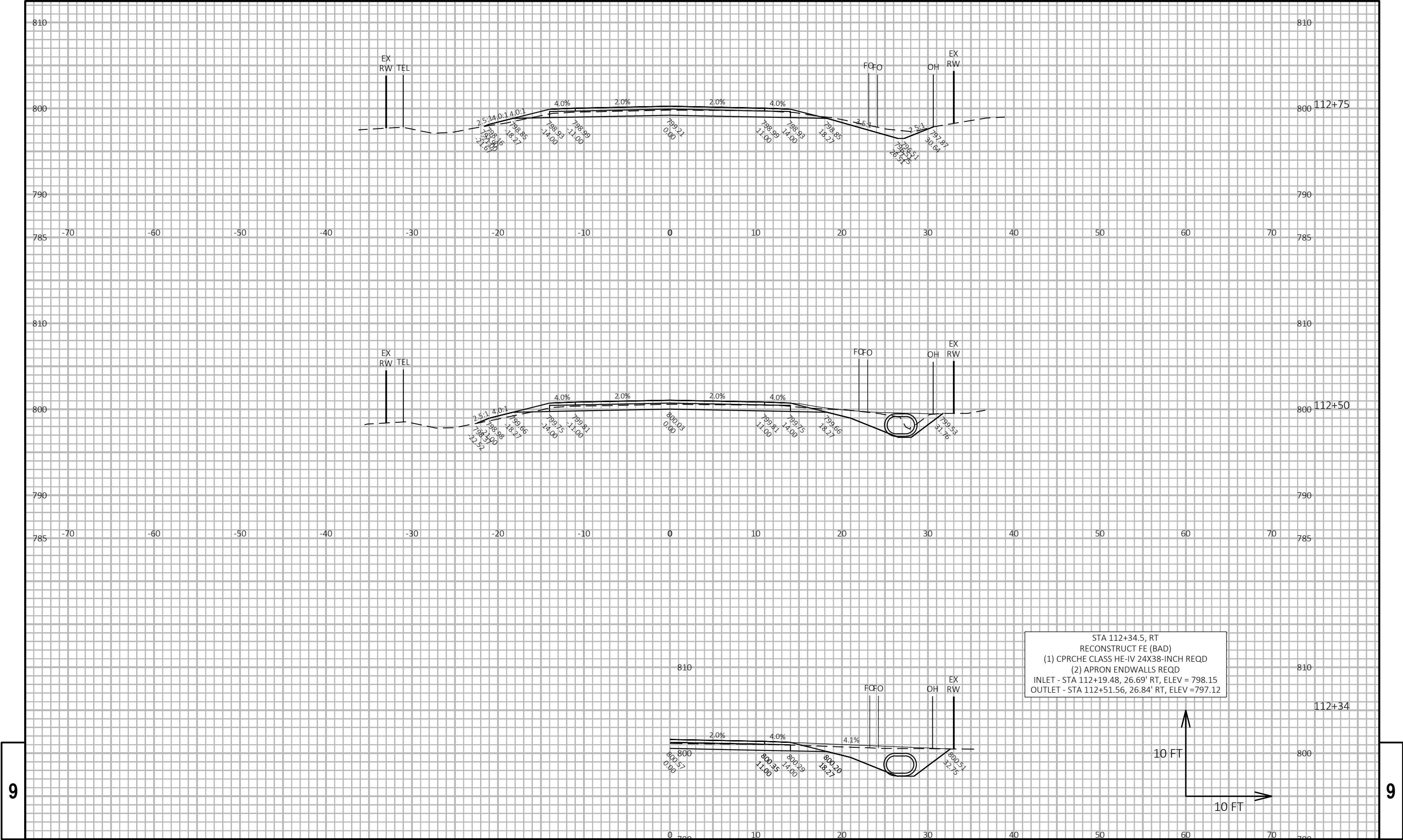






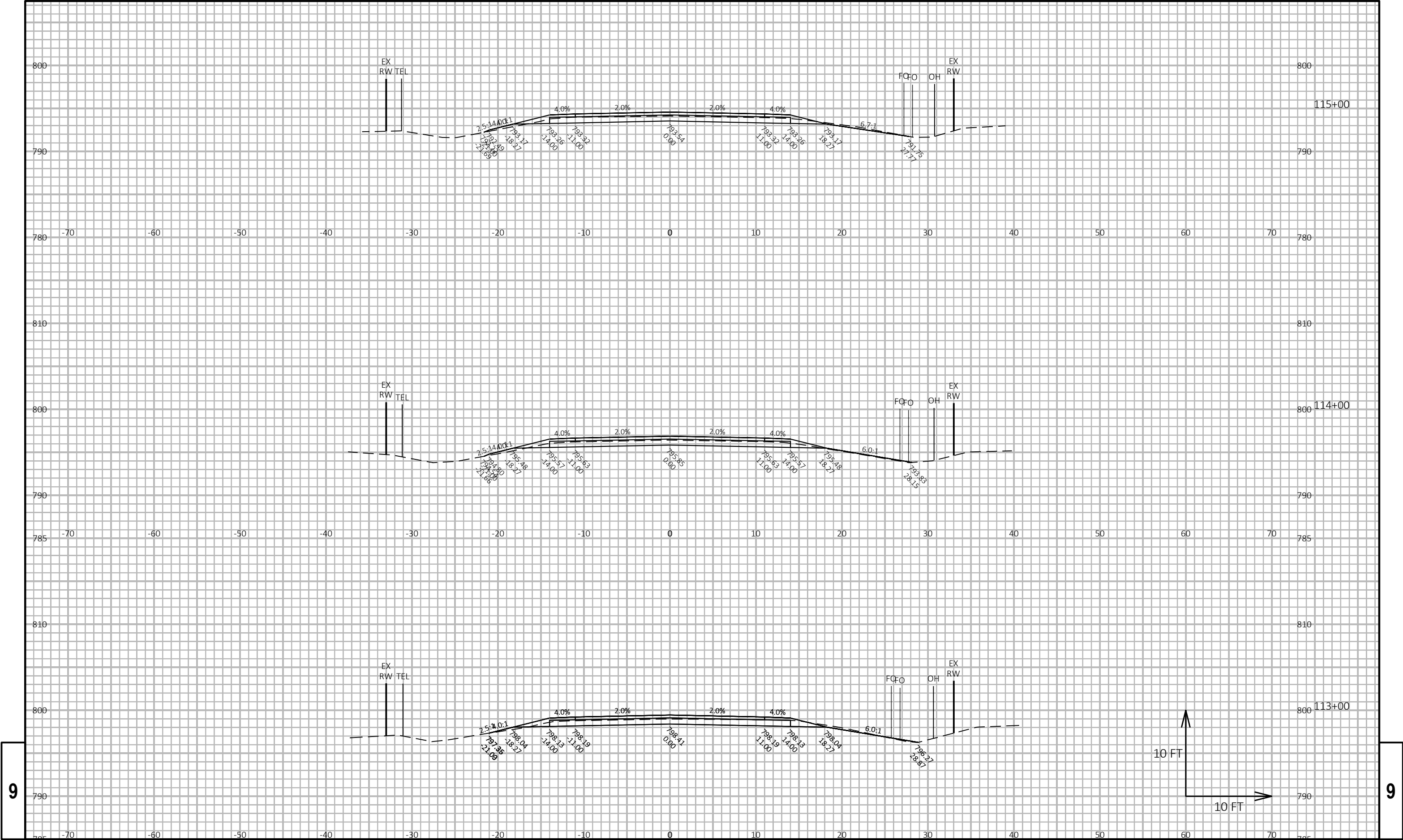






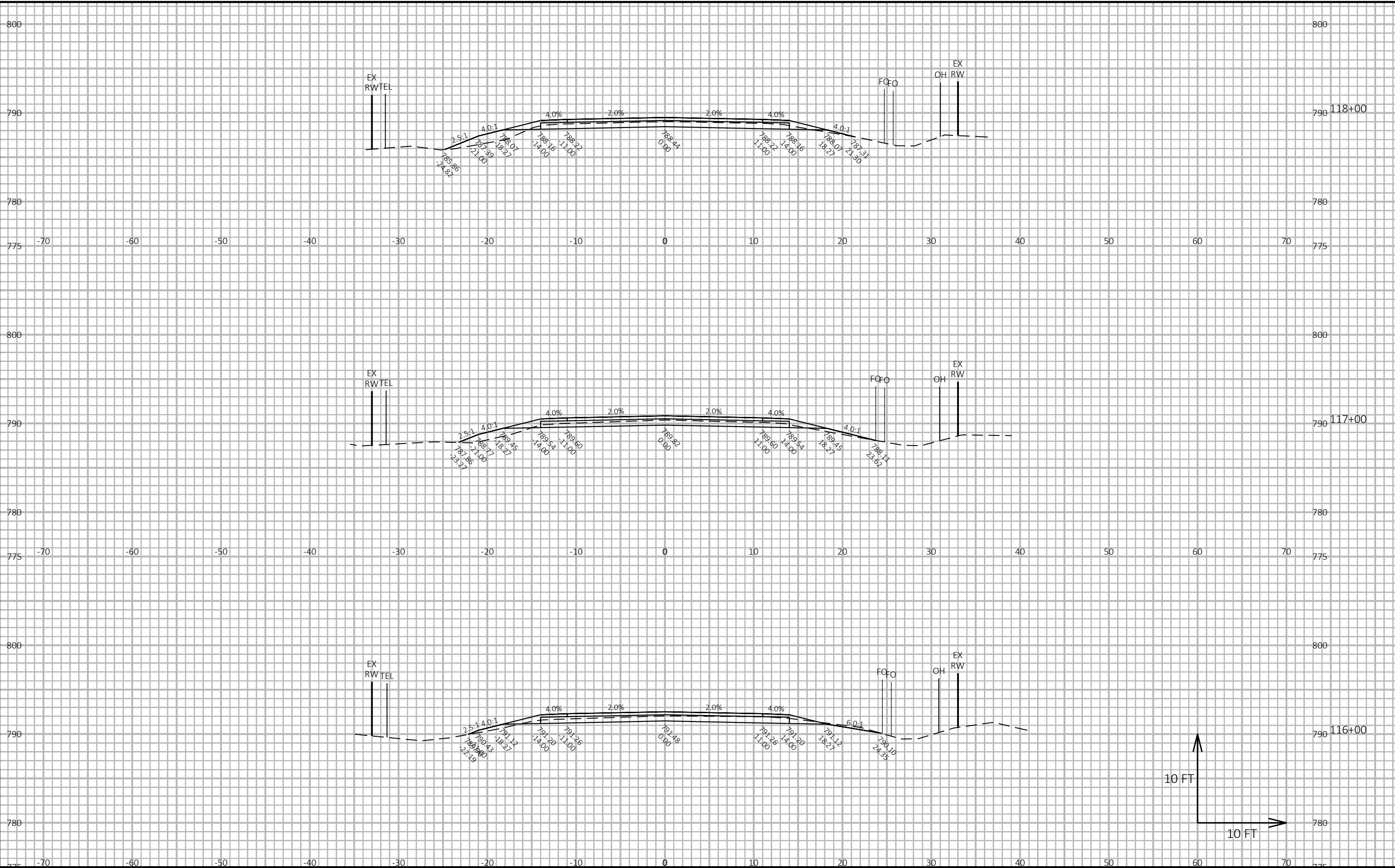
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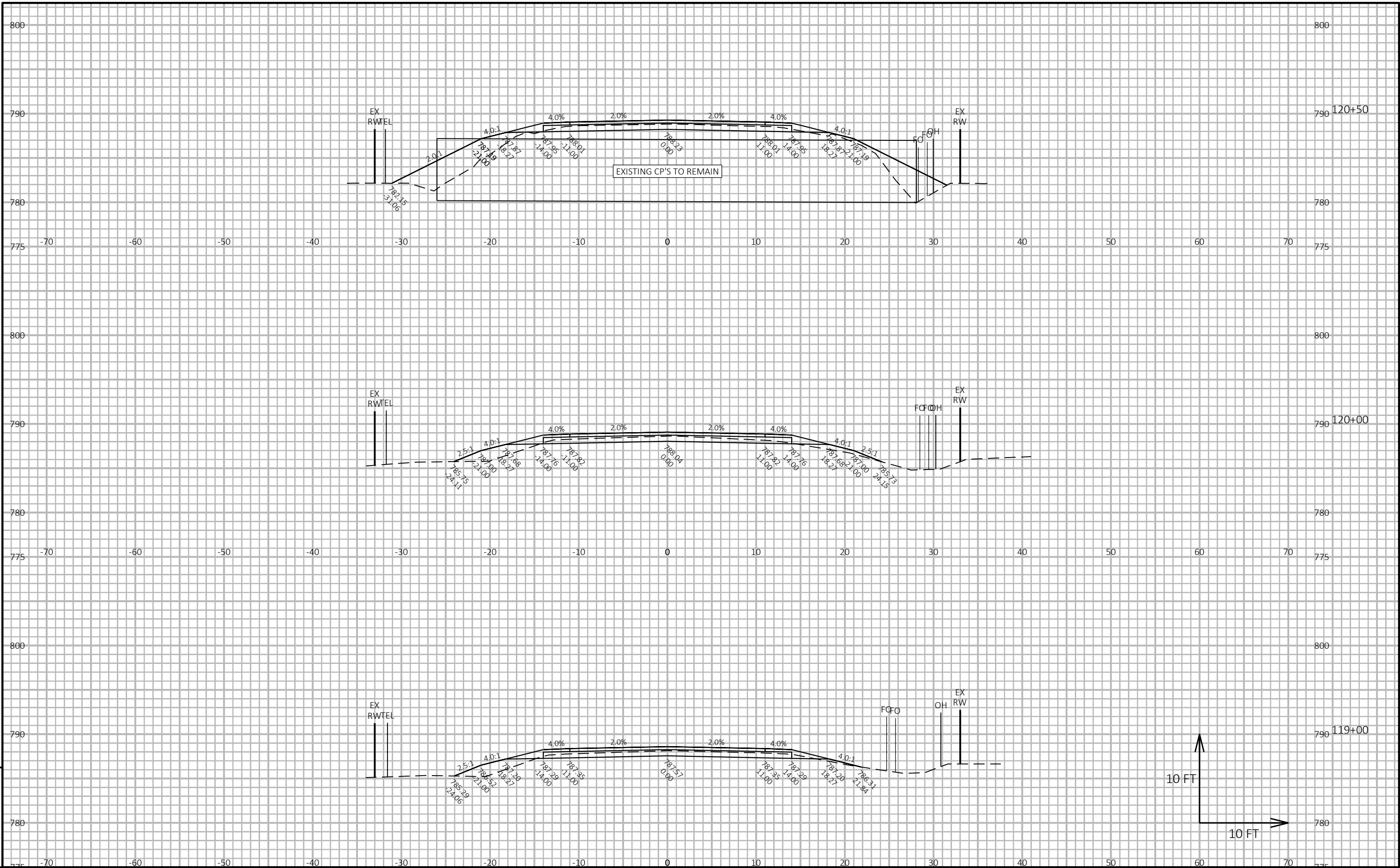
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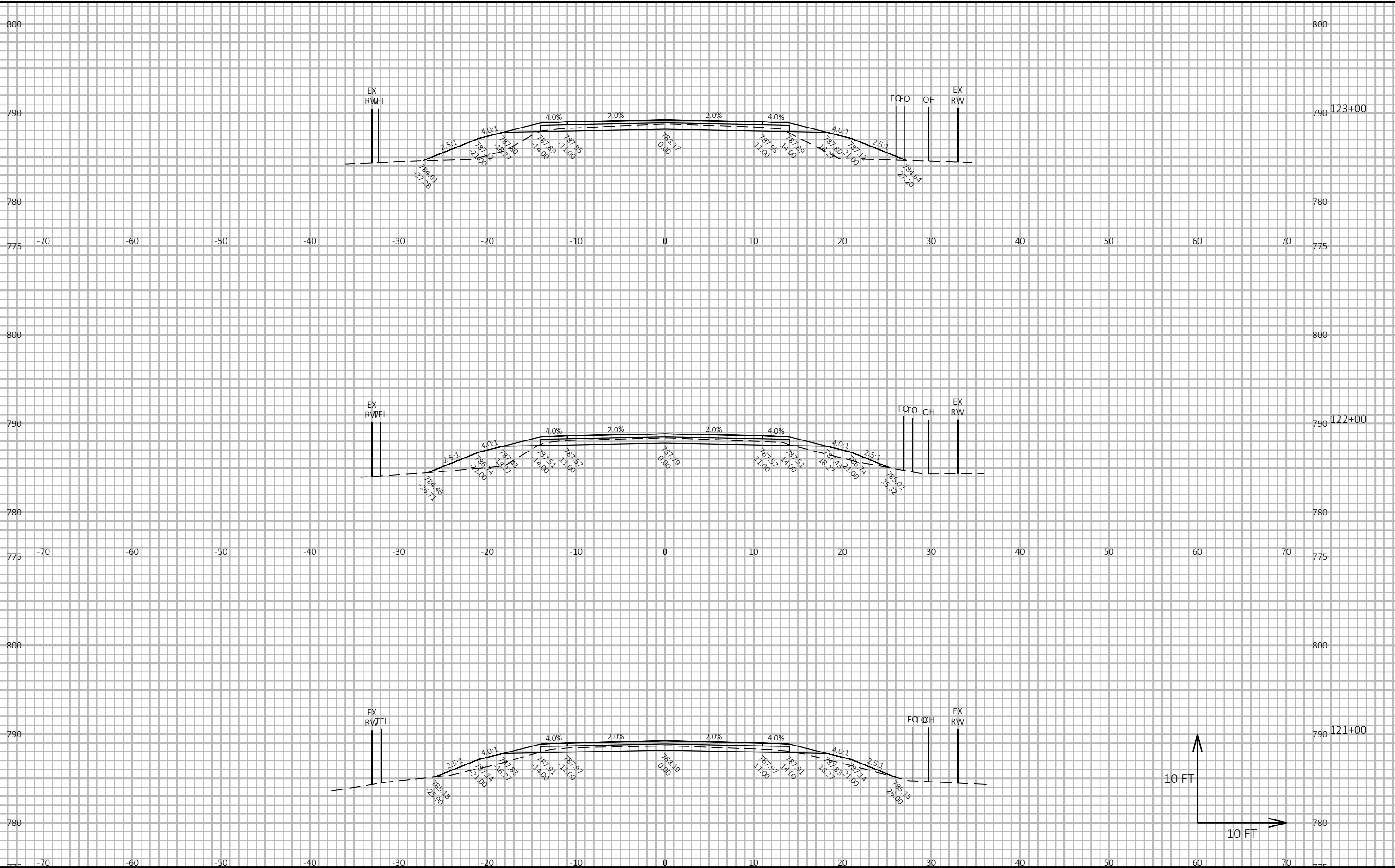


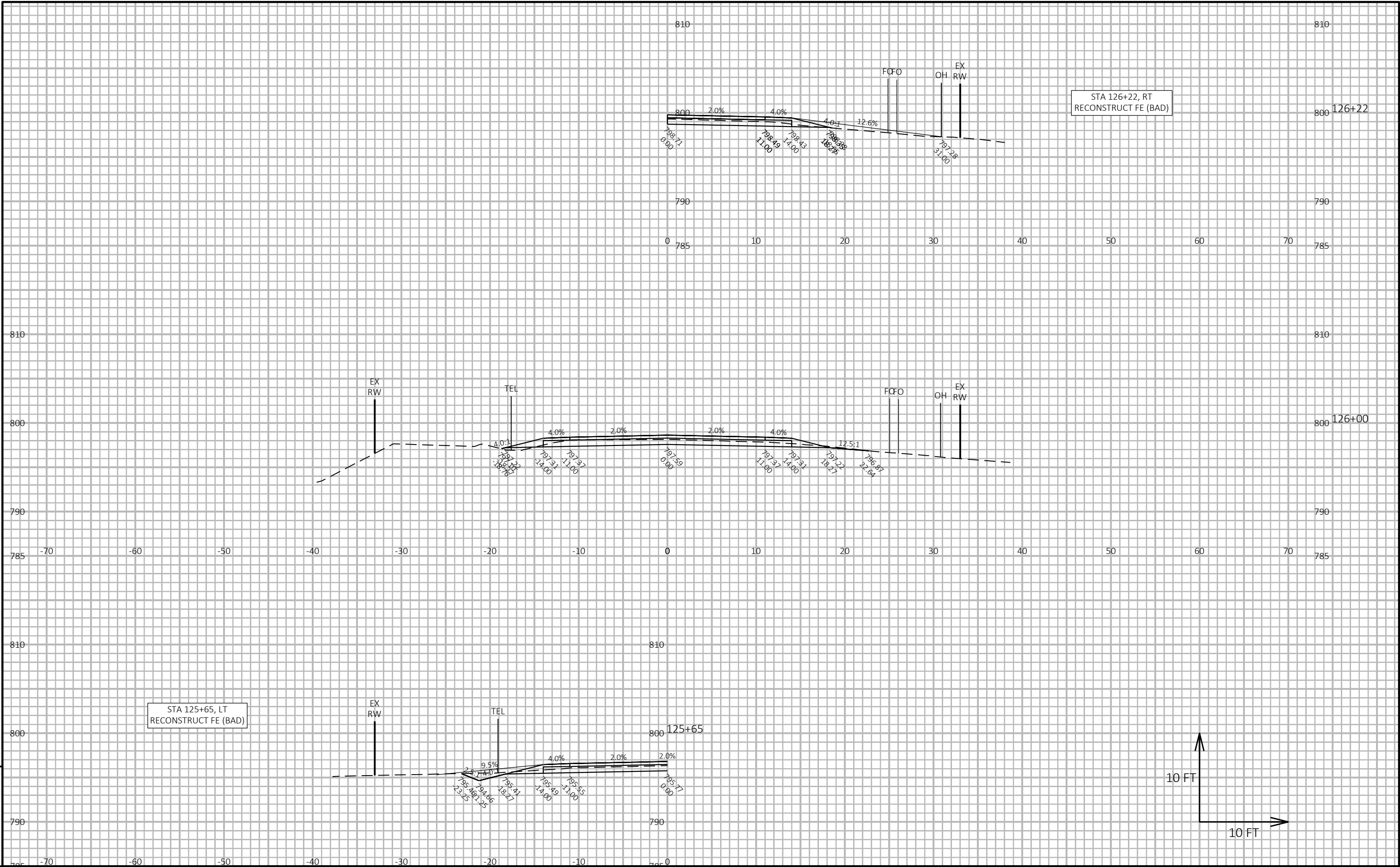
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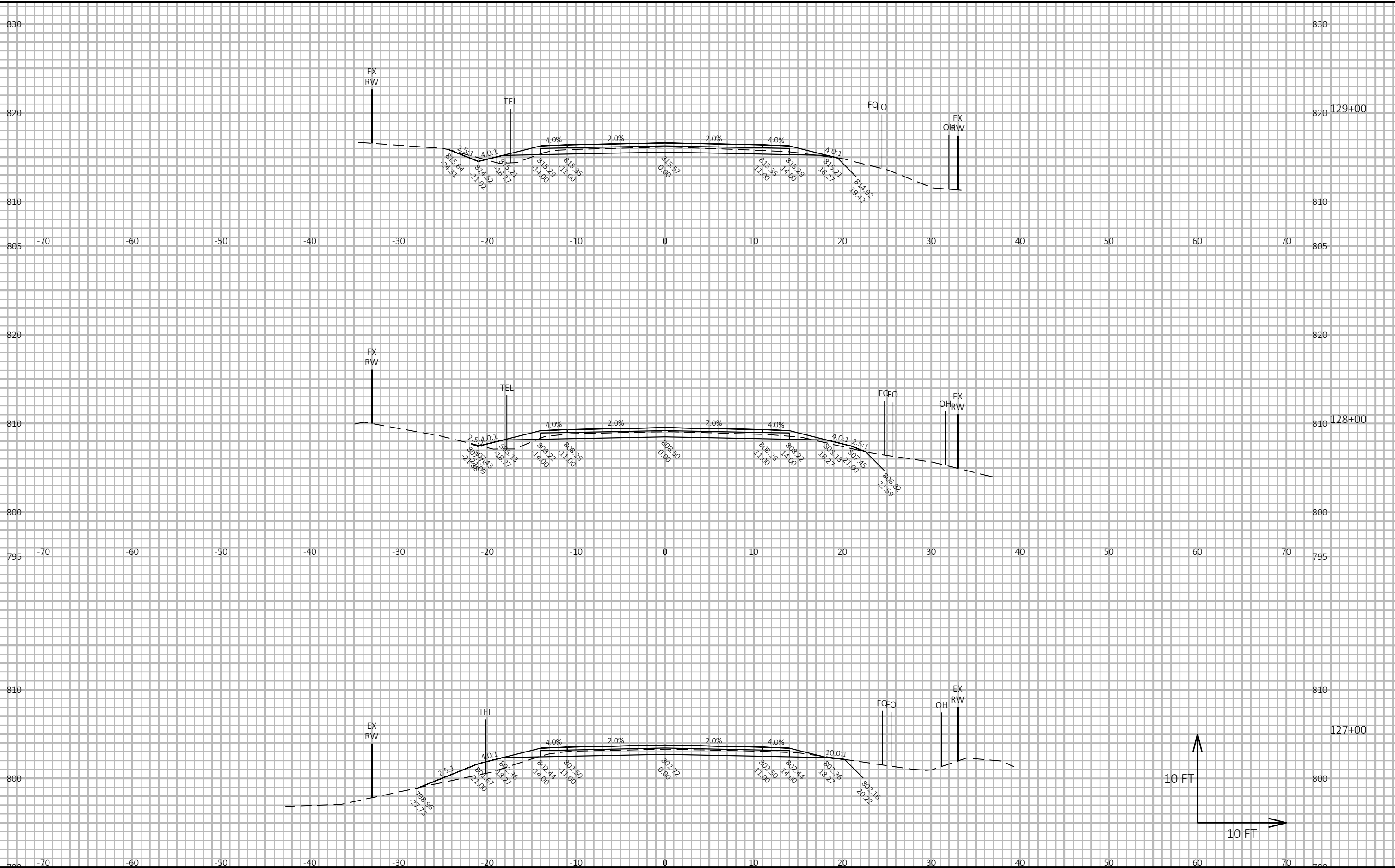
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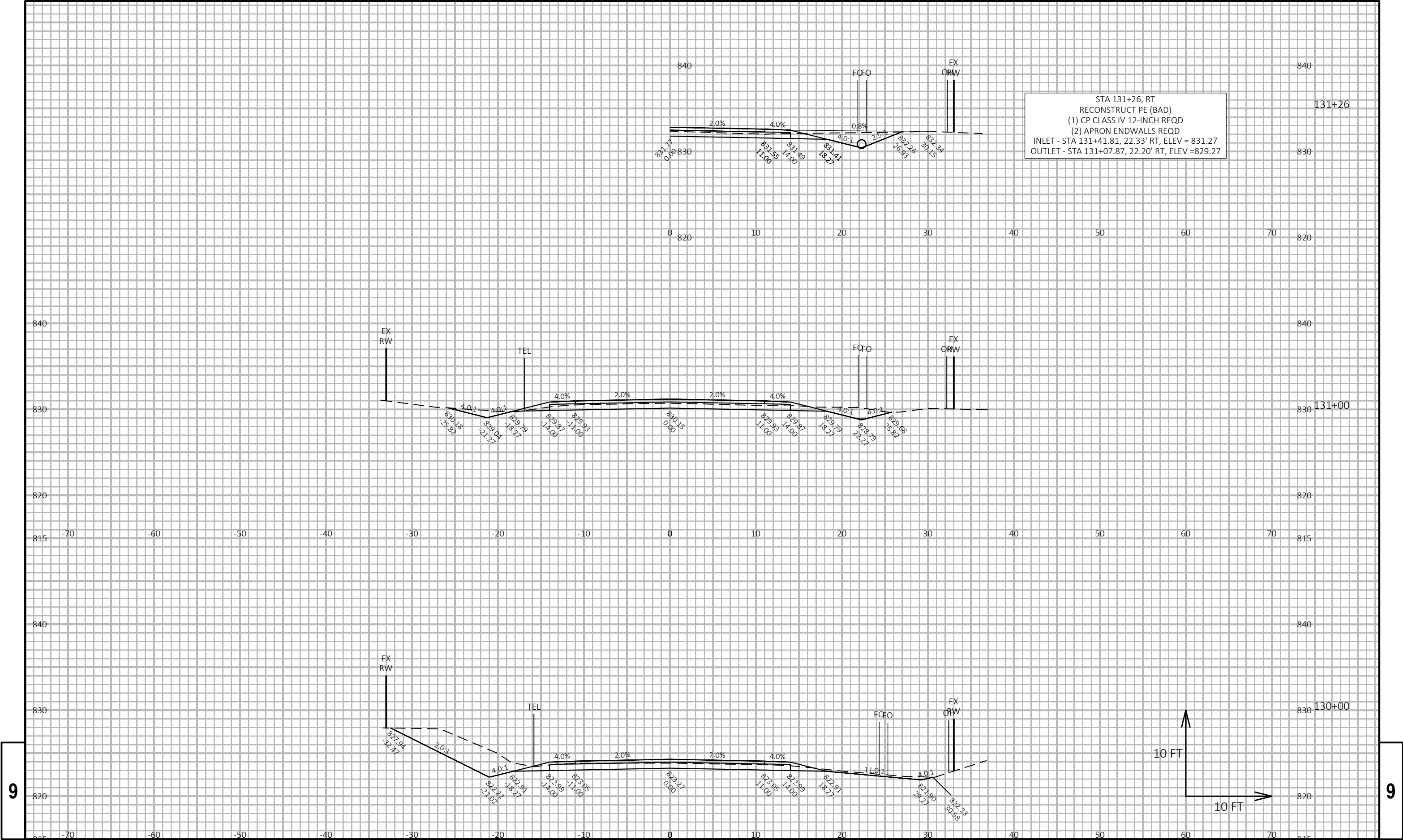






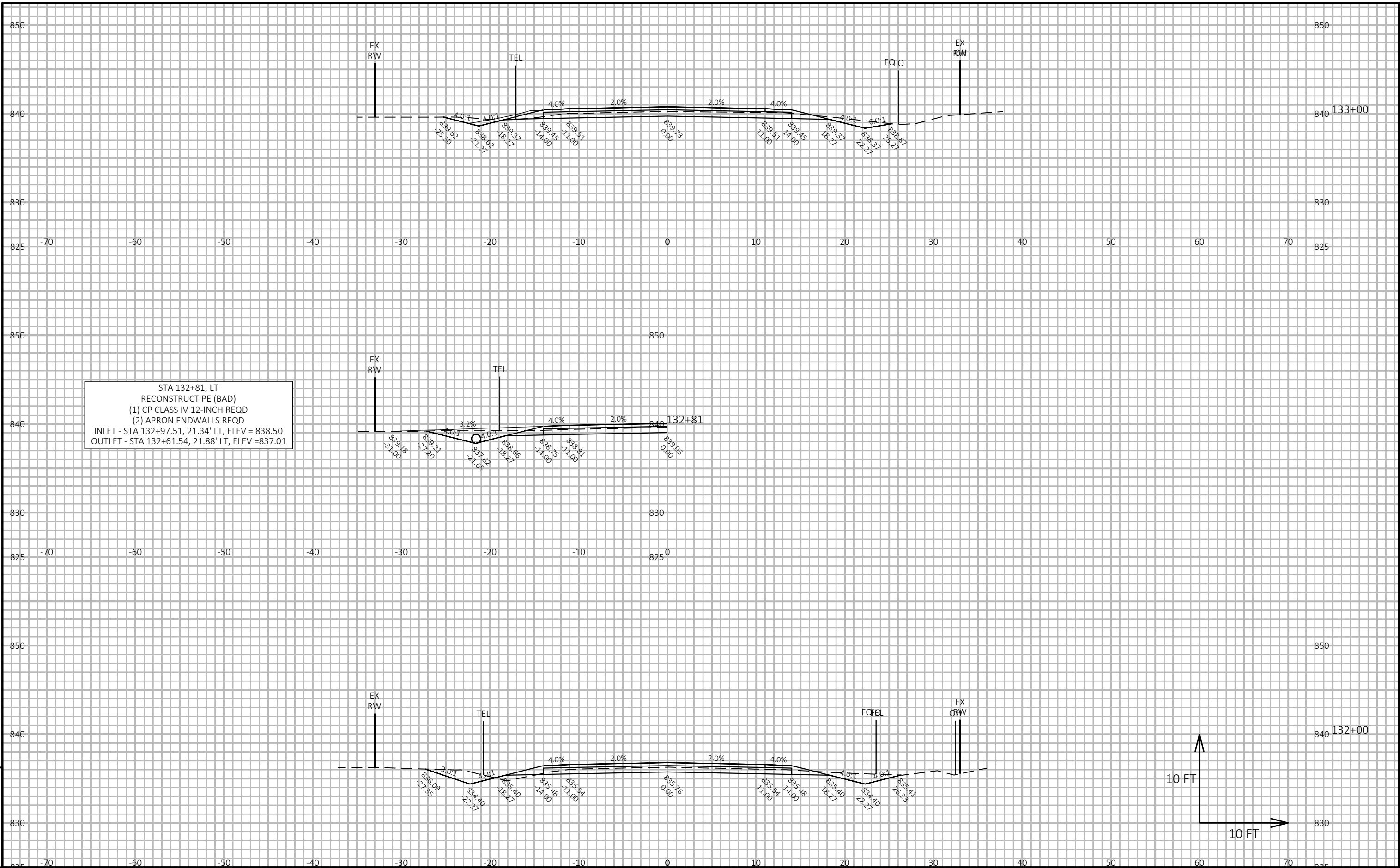


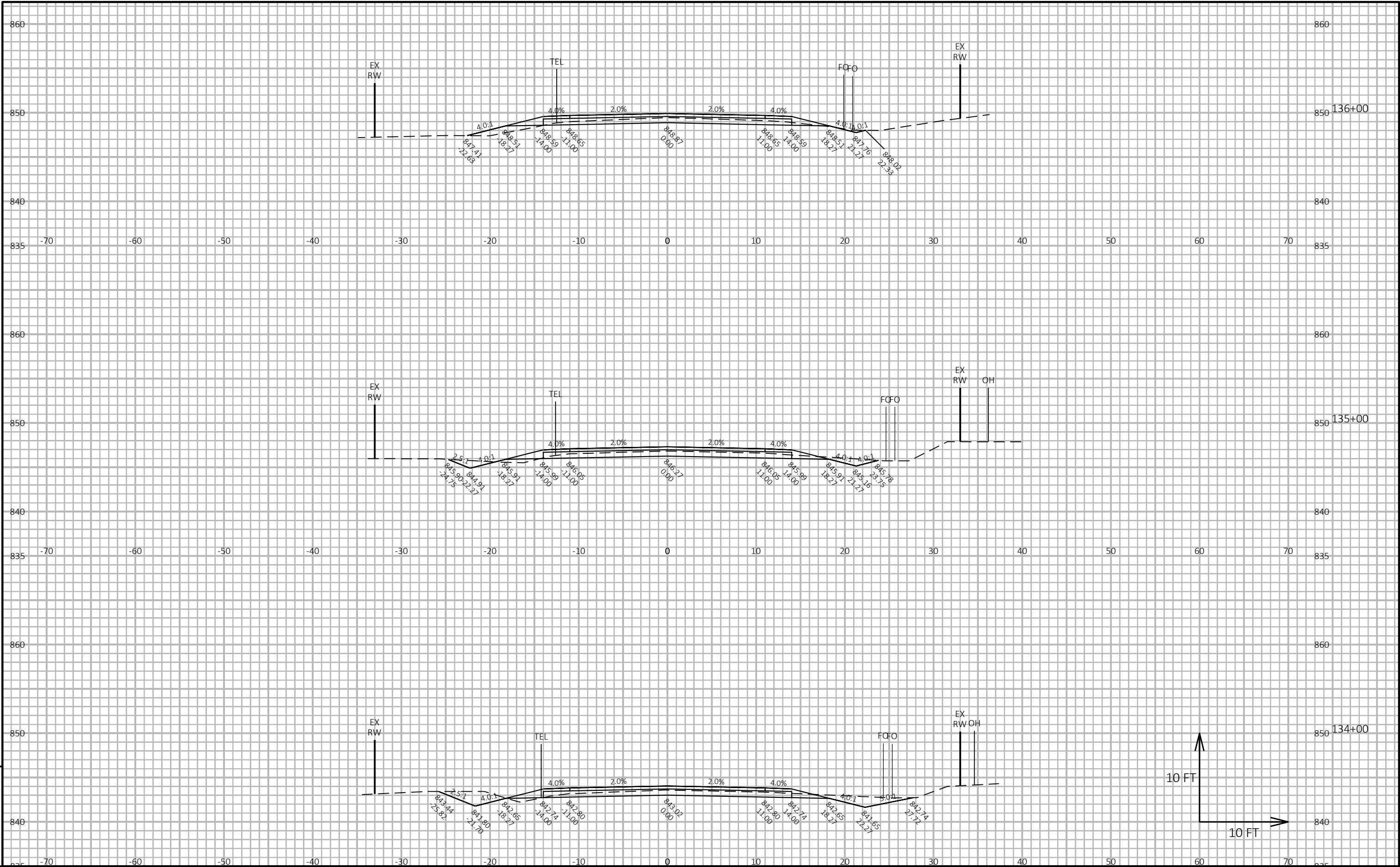


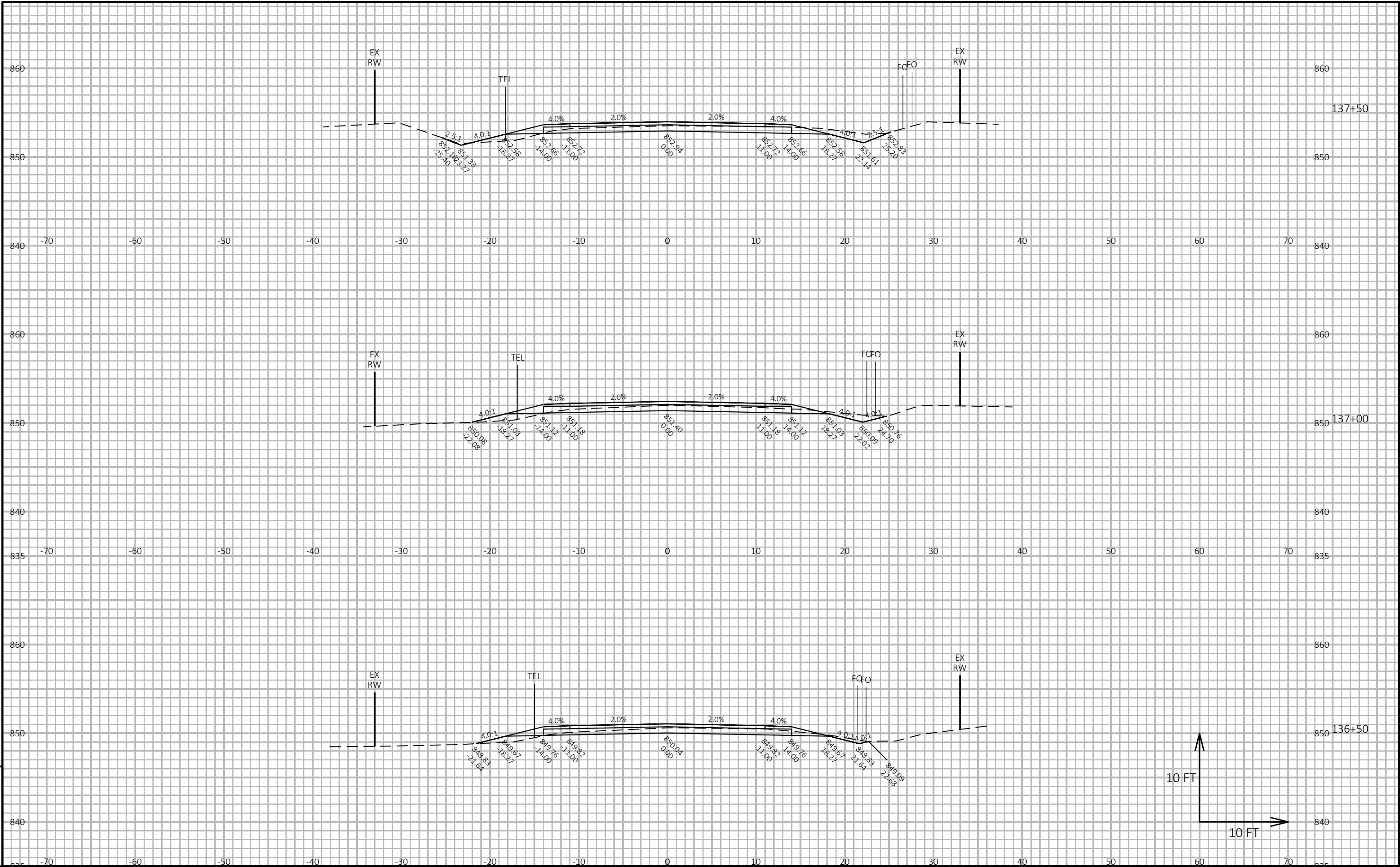


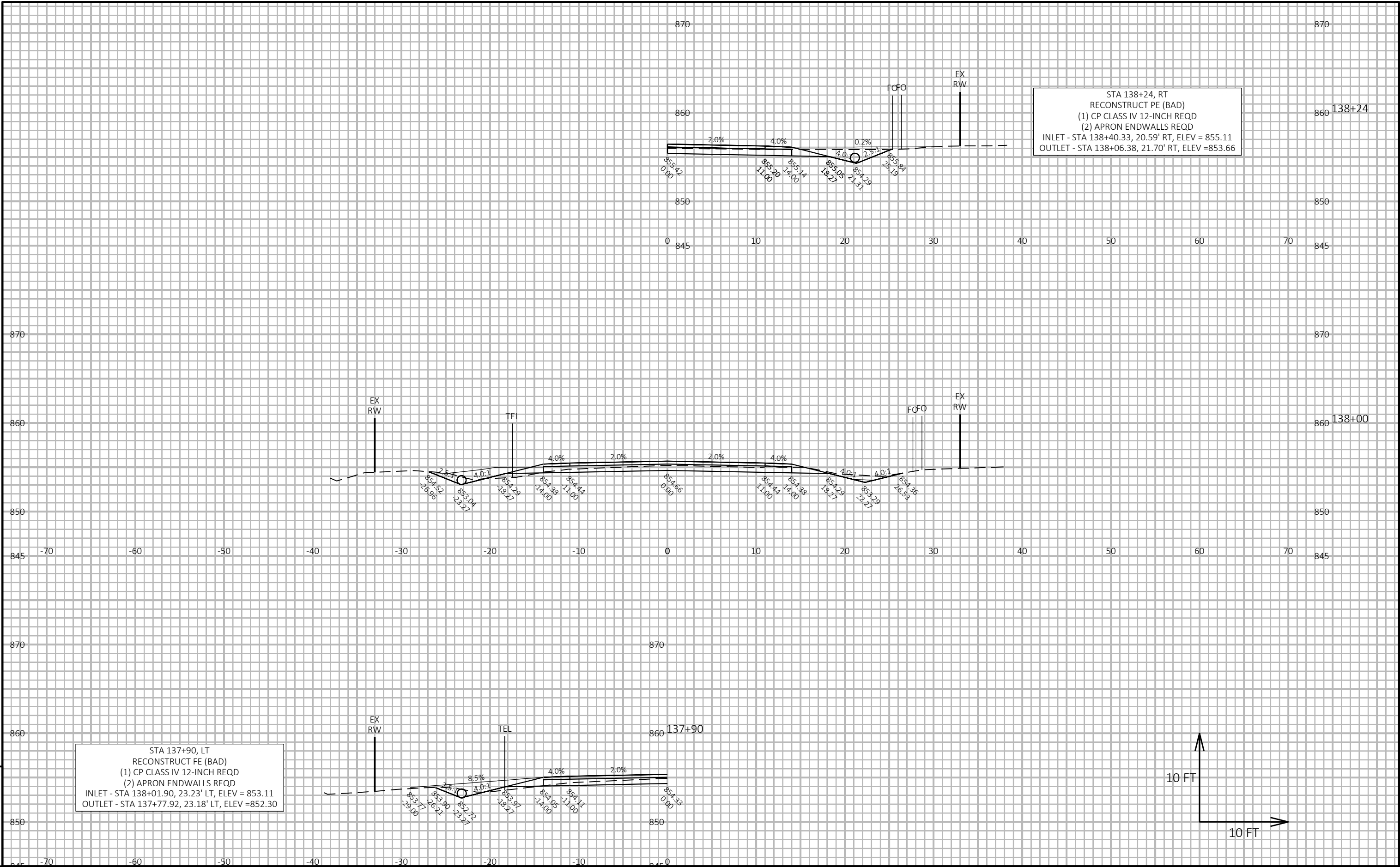
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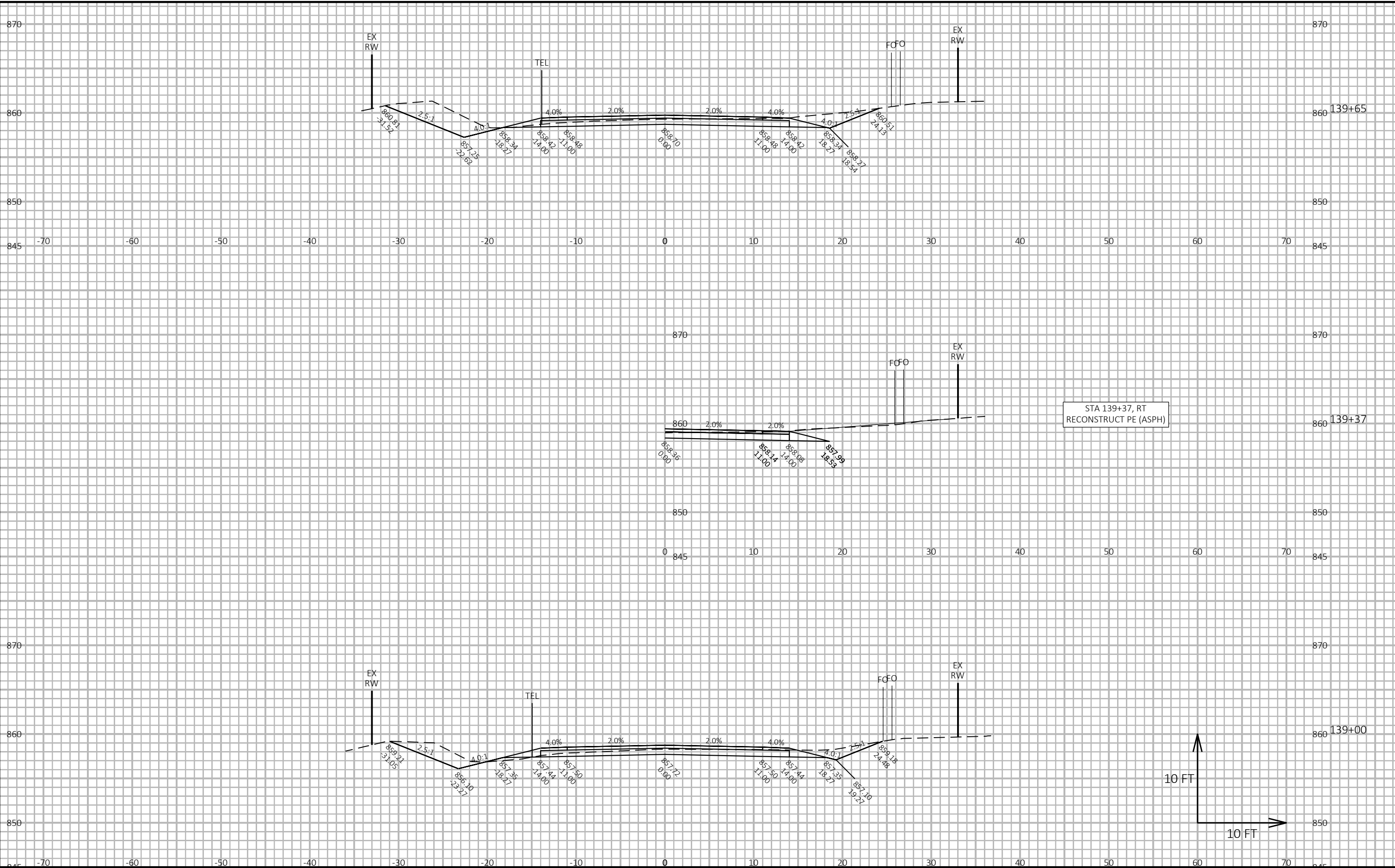
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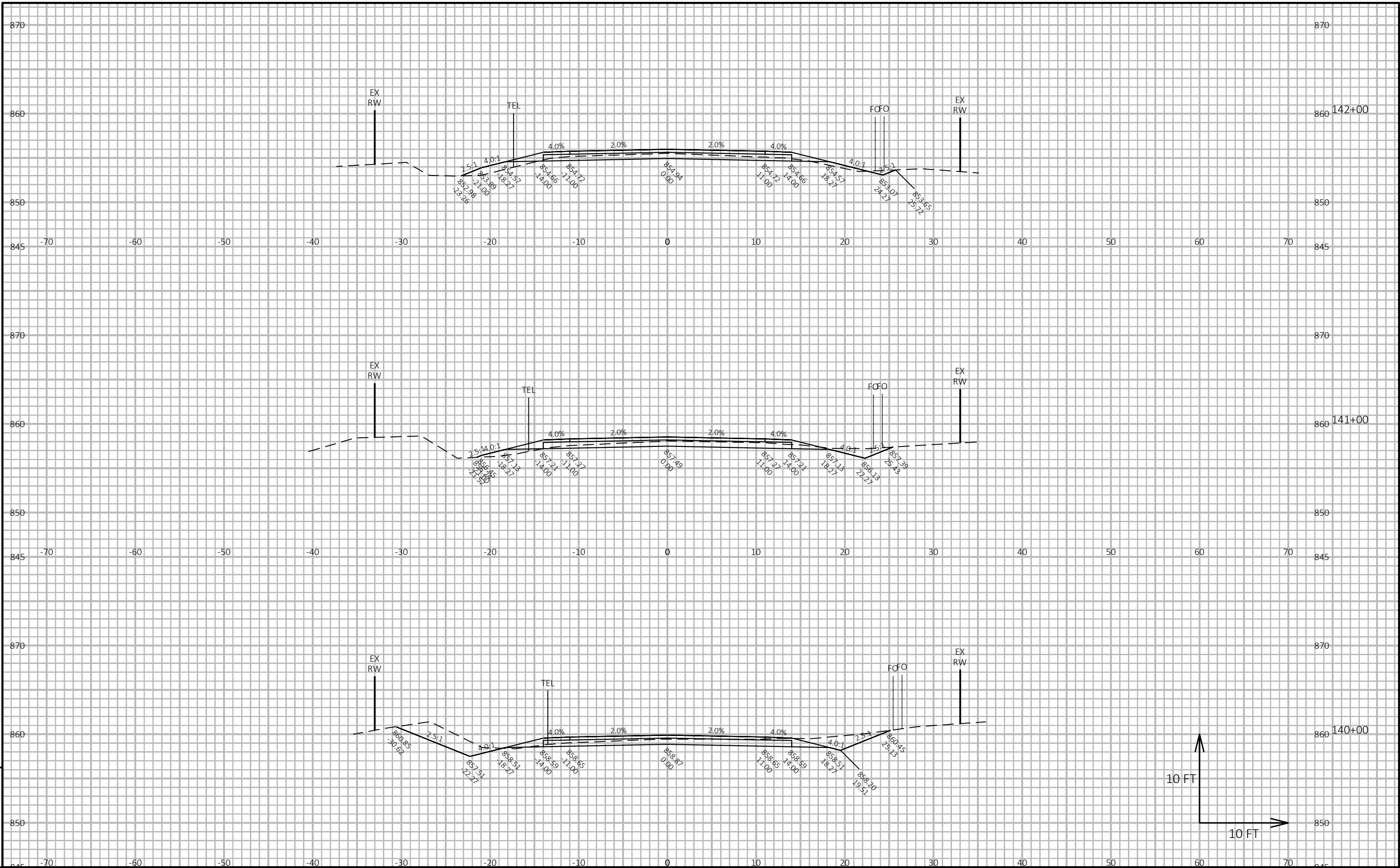


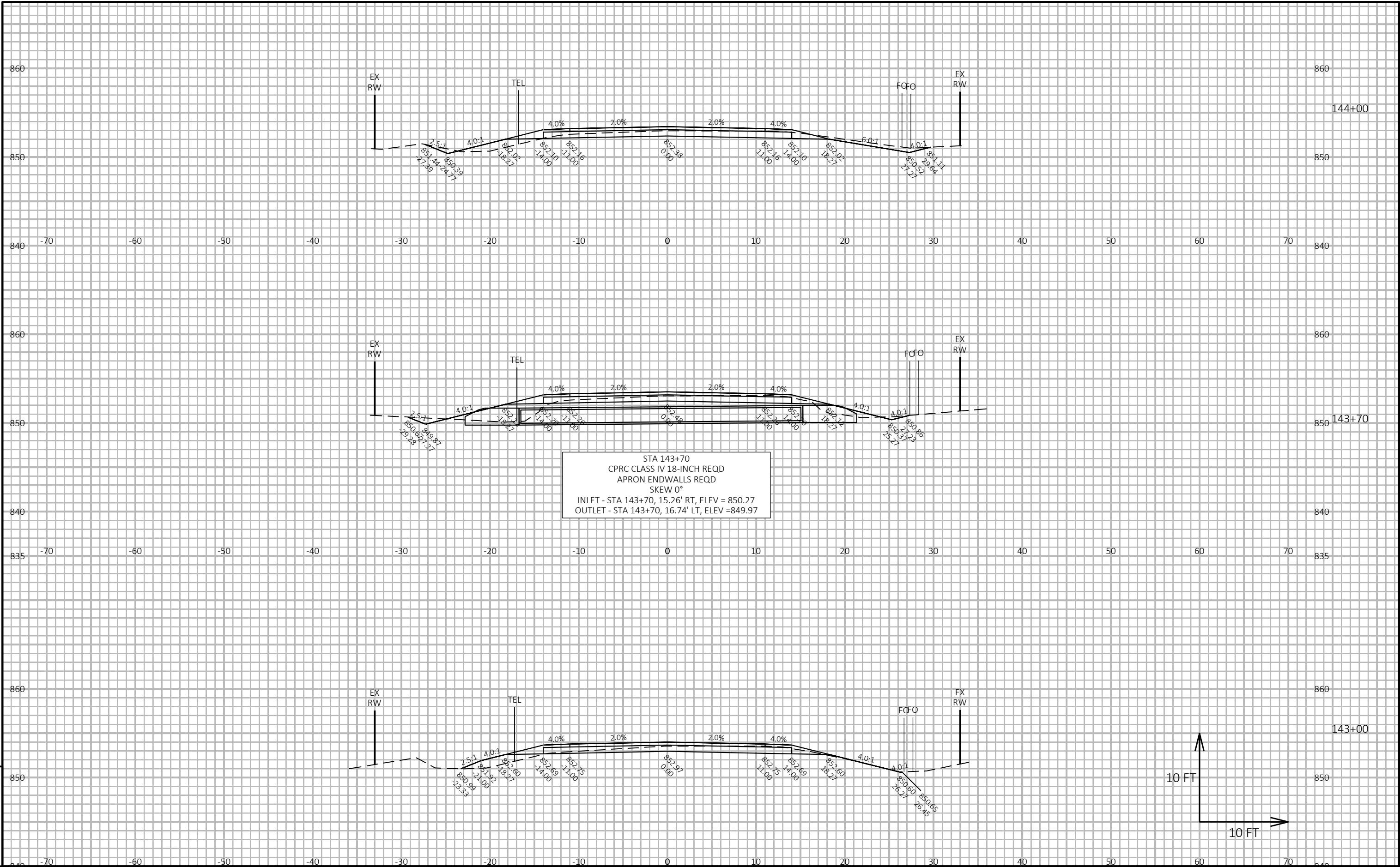




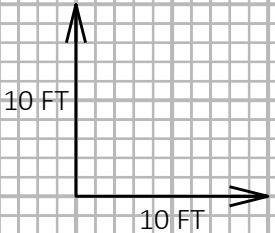
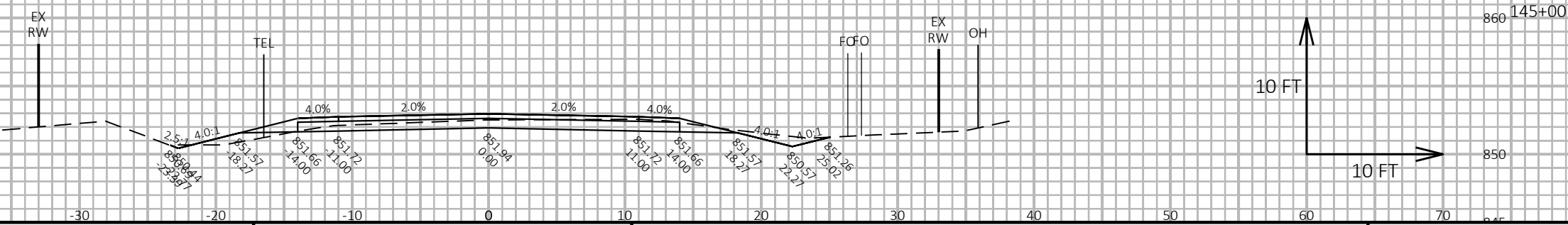
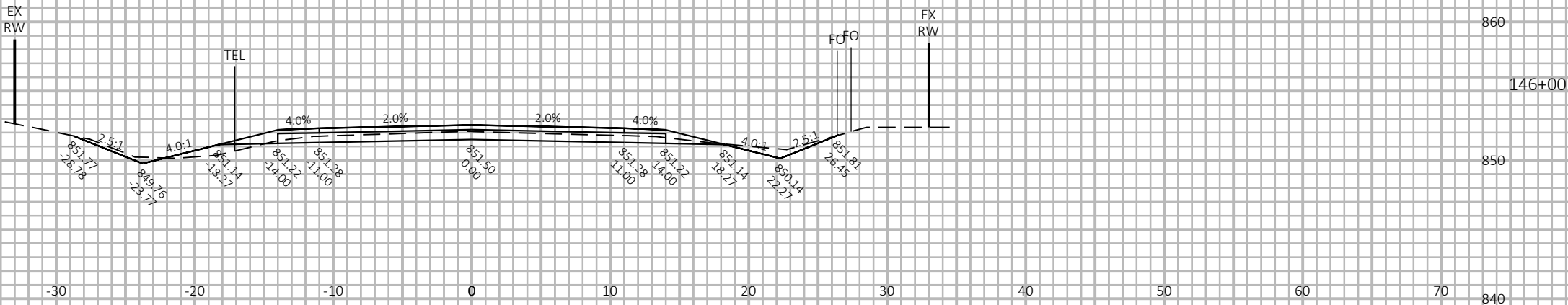
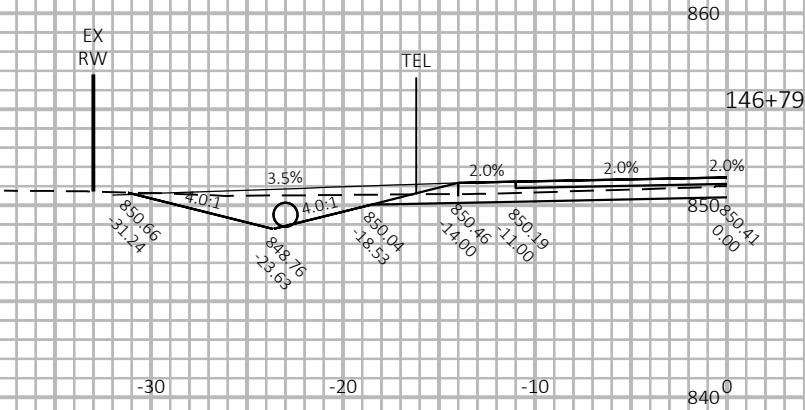


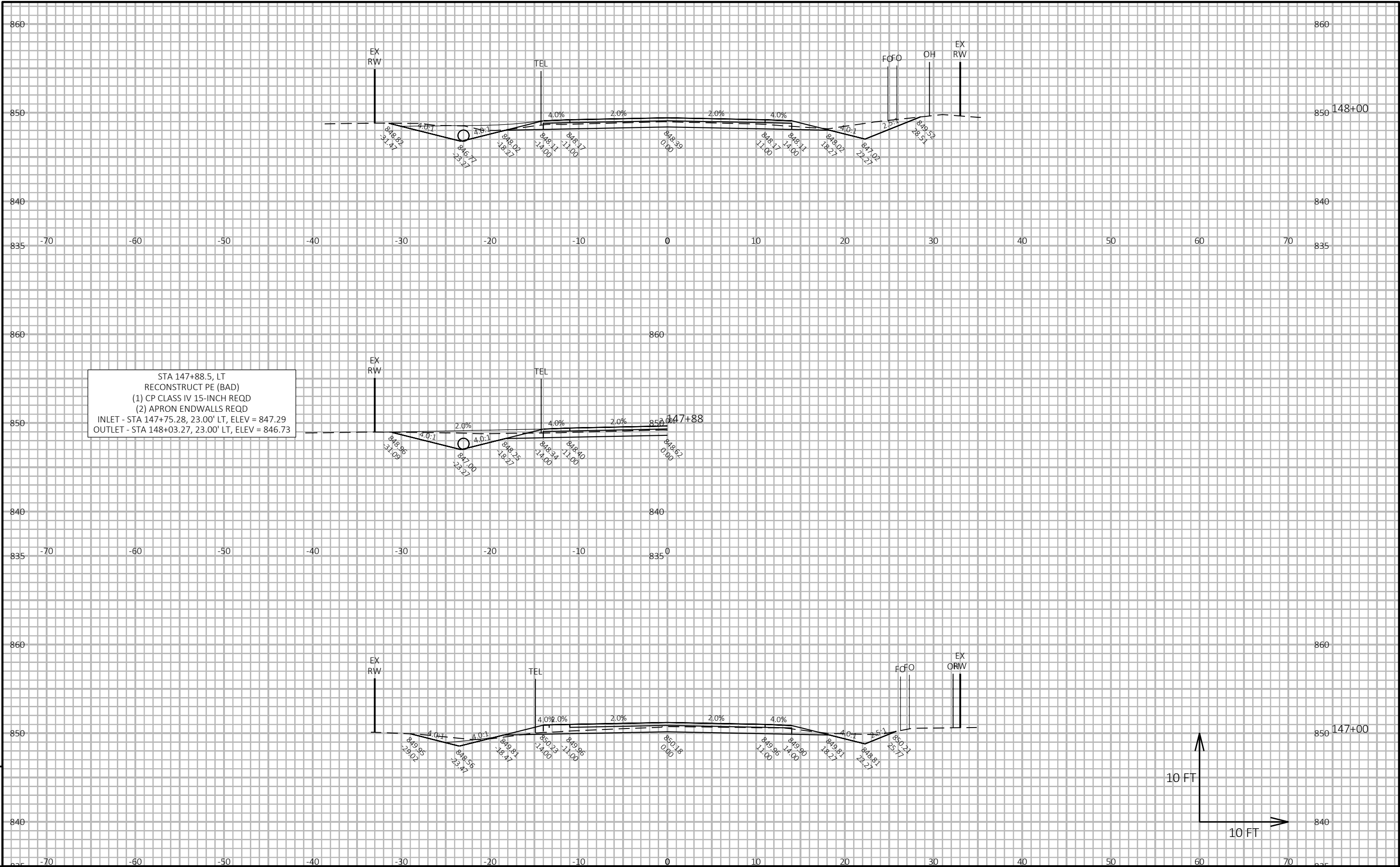


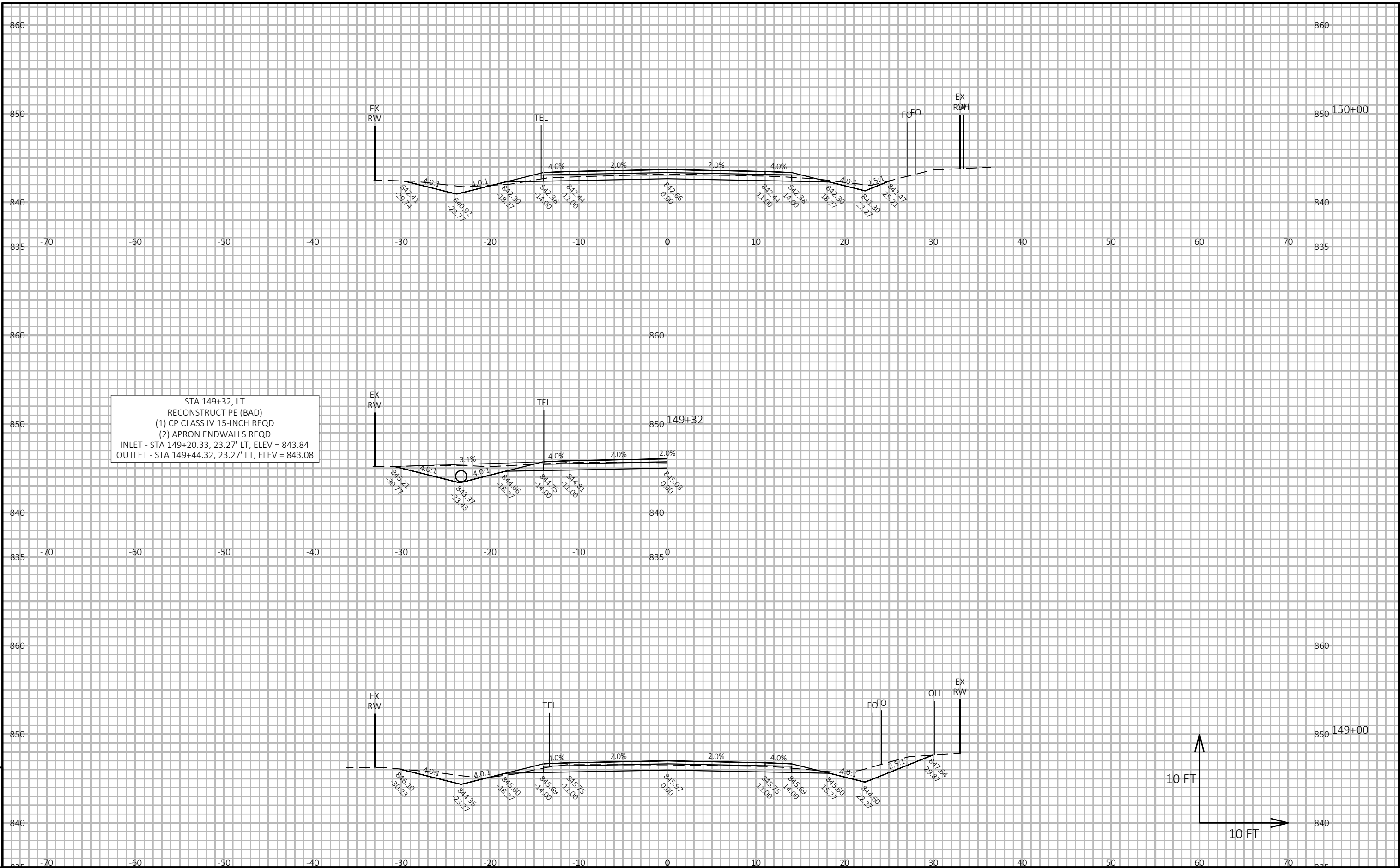




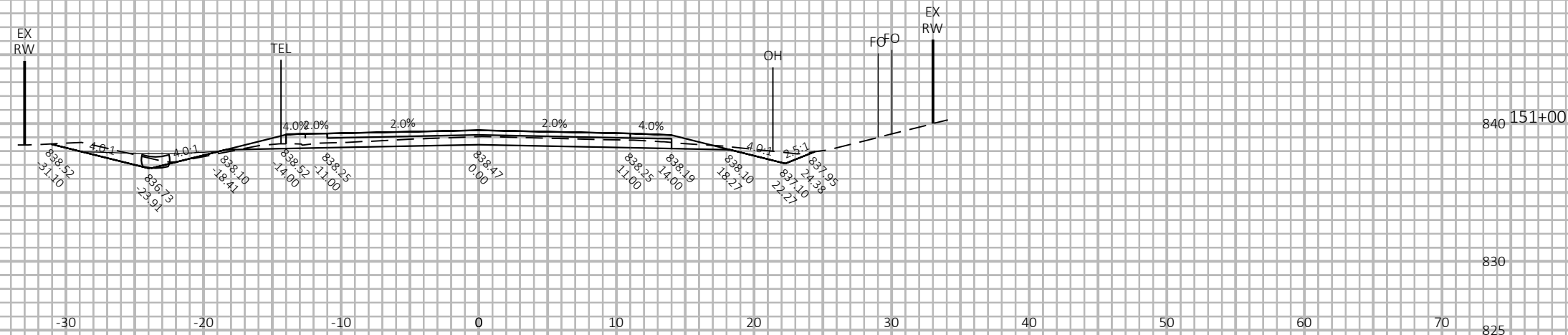
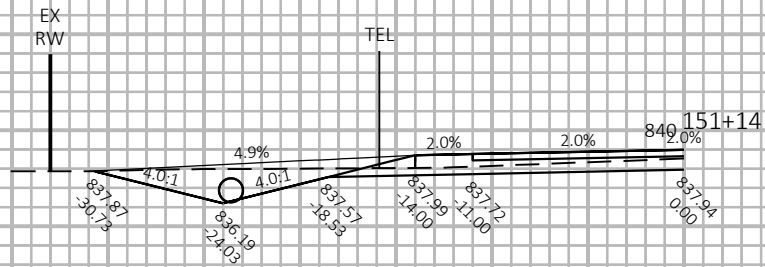
STA 146+79, LT
RECONSTRUCT PE (ASPH)
(1) CP CLASS IV 15-INCH REQD
(2) APRON ENDWALLS REQD
INLET - STA 146+64.99, 23.00' LT, ELEV = 849.02
OUTLET - STA 146+94.99, 23.00' LT, ELEV = 848.69



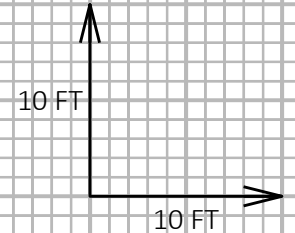
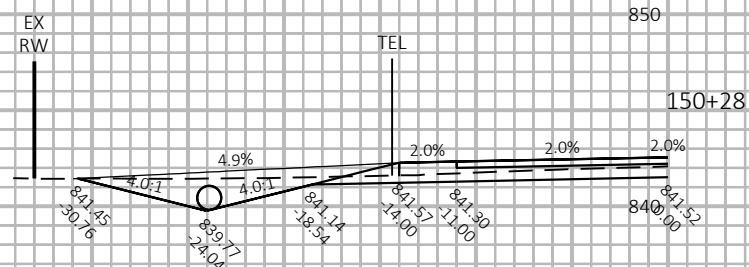


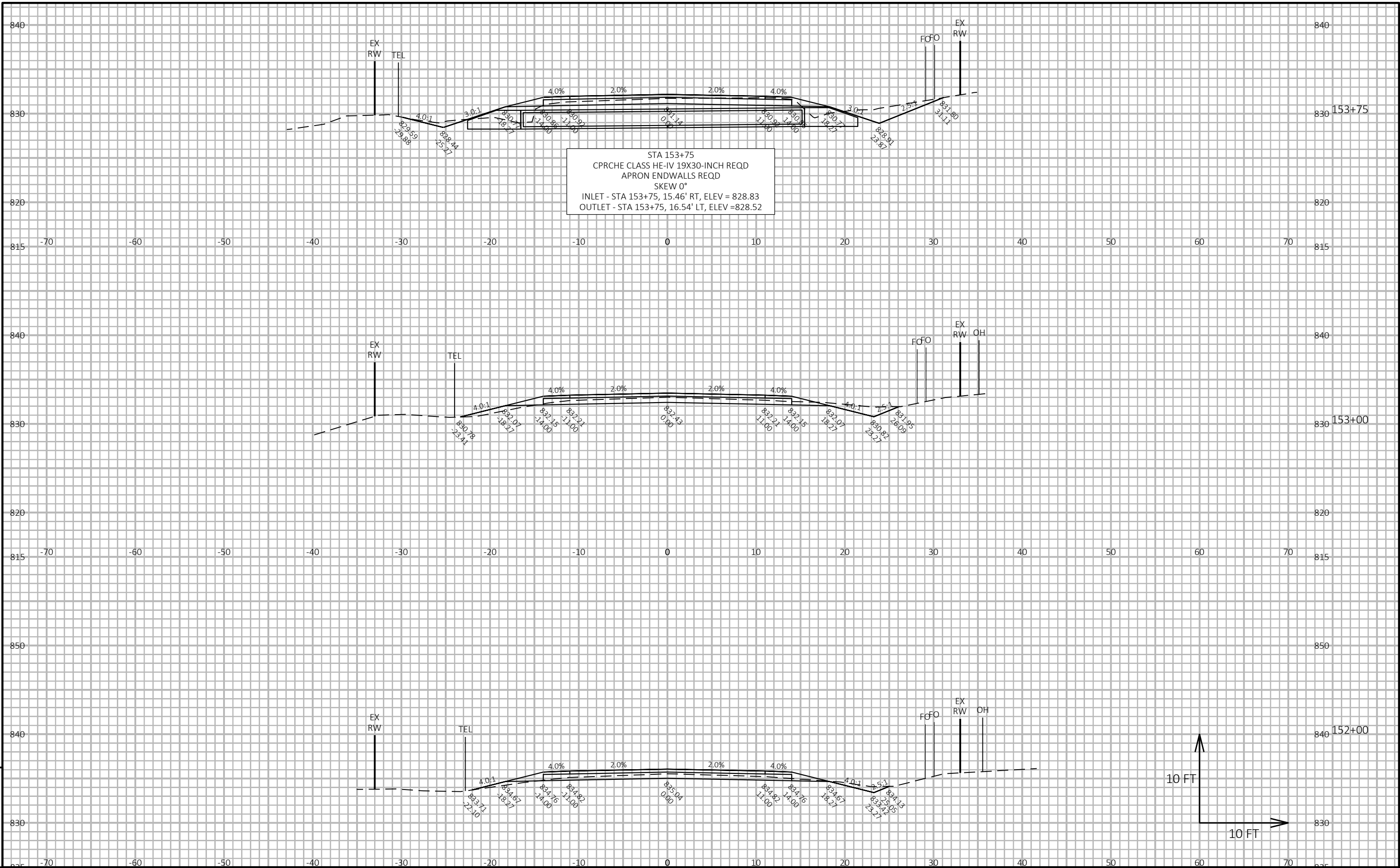


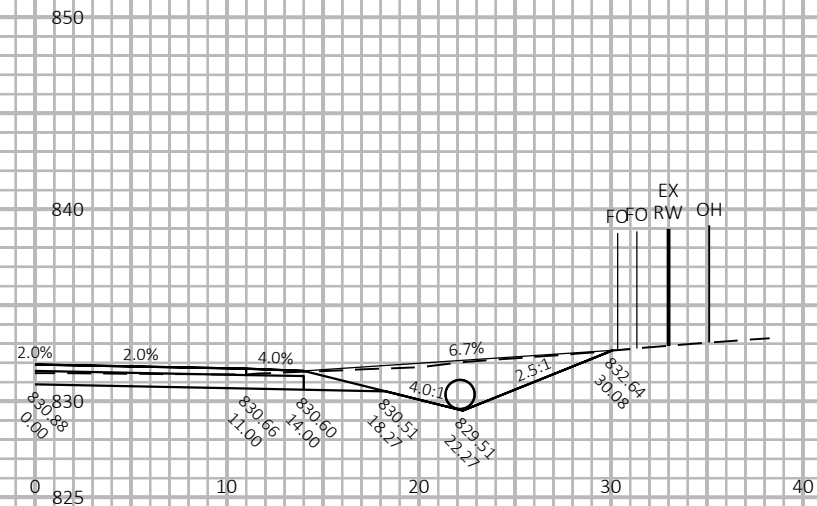
STA 151+14, LT
RECONSTRUCT PE (ASPH)
(1) CP CLASS IV 15-INCH REQD
(2) APRON ENDWALLS REQD
INLET - STA 151+00.74, 23.50' LT, ELEV = 836.77
OUTLET - STA 151+22.72, 23.69' LT, ELEV = 8



STA 150+28.5, LT
RECONSTRUCT PE (ASPH)
(1) CP CLASS IV 15-INCH REQD
(2) APRON ENDWALLS REQD
INLET - STA 150+19.11, 24.04' LT, ELEV = 840.21
OUTLET - STA 150+39.09, 23.75' LT, ELEV = 839.38

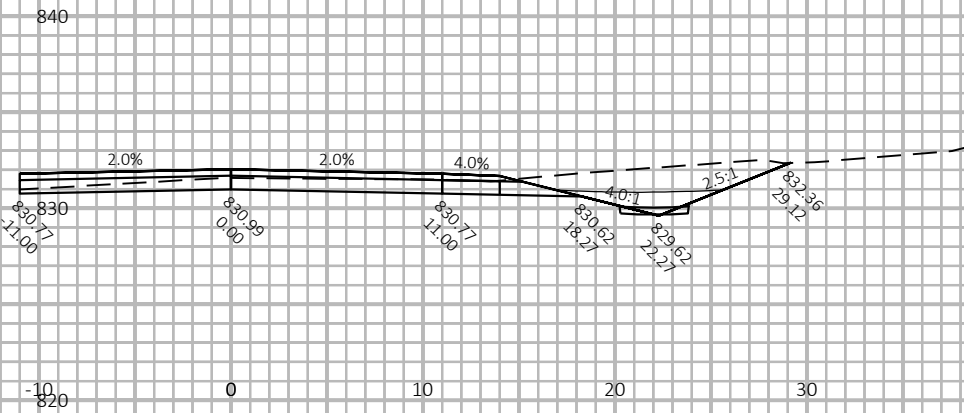




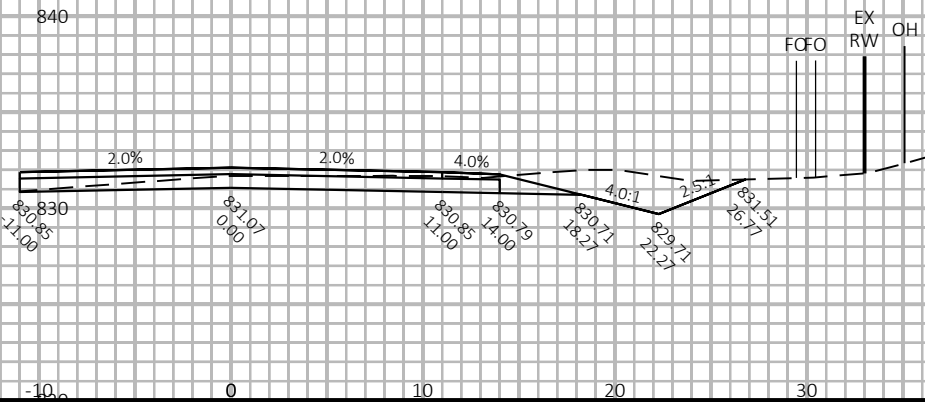


STA 154+41, RT
RECONSTRUCT PE (BAD)
(1) CP CLASS IV 18-INCH REQD
(2) APRON ENDWALLS REQD
INLET - STA 154+28.22, 22.05' RT, ELEV = 829.68
OUTLET - STA 154+54.22, 22.20' LT, ELEV = 829.53

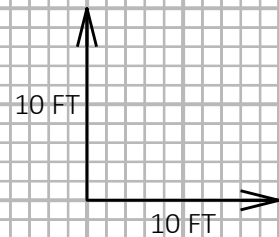
154+41



154+26

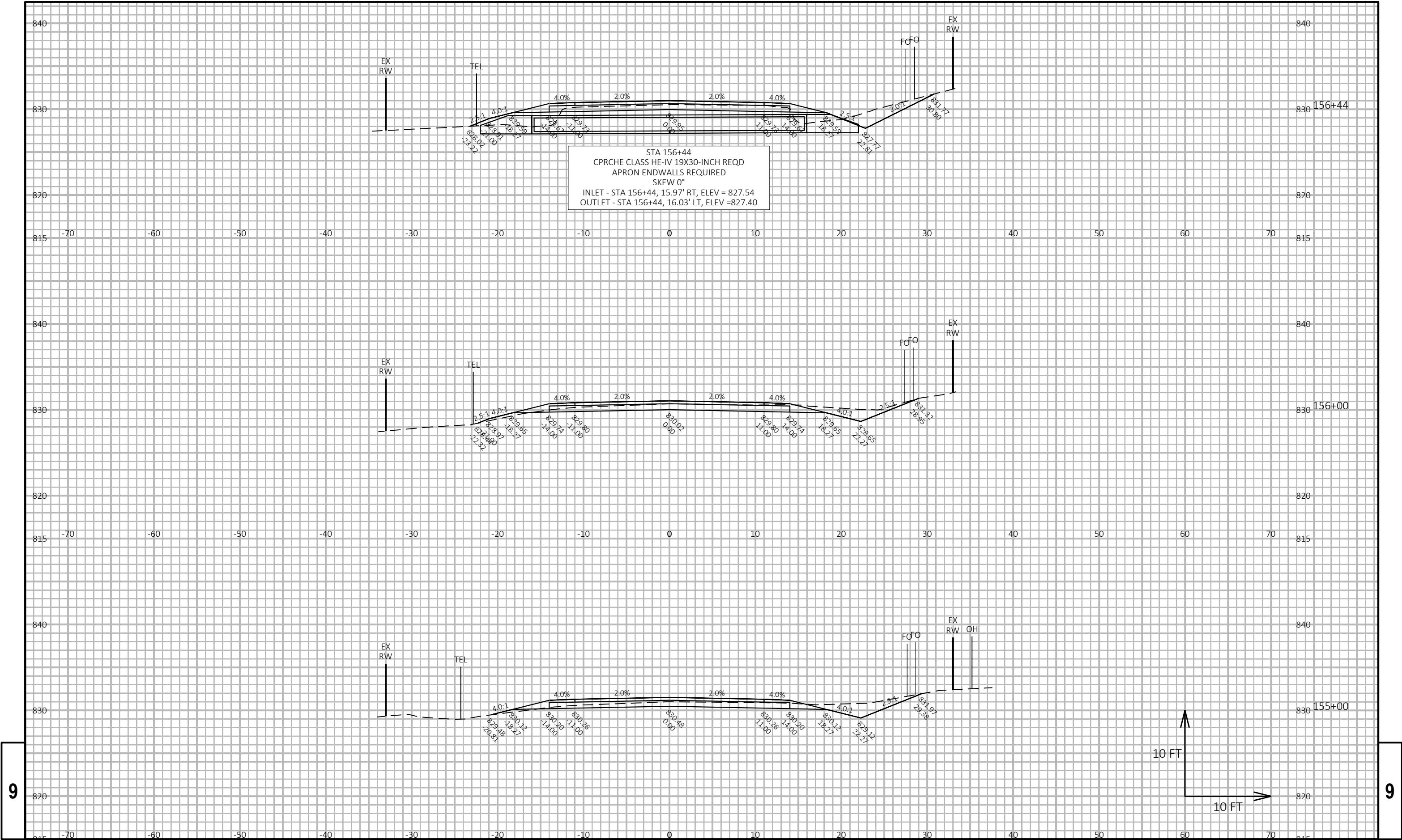


154+00



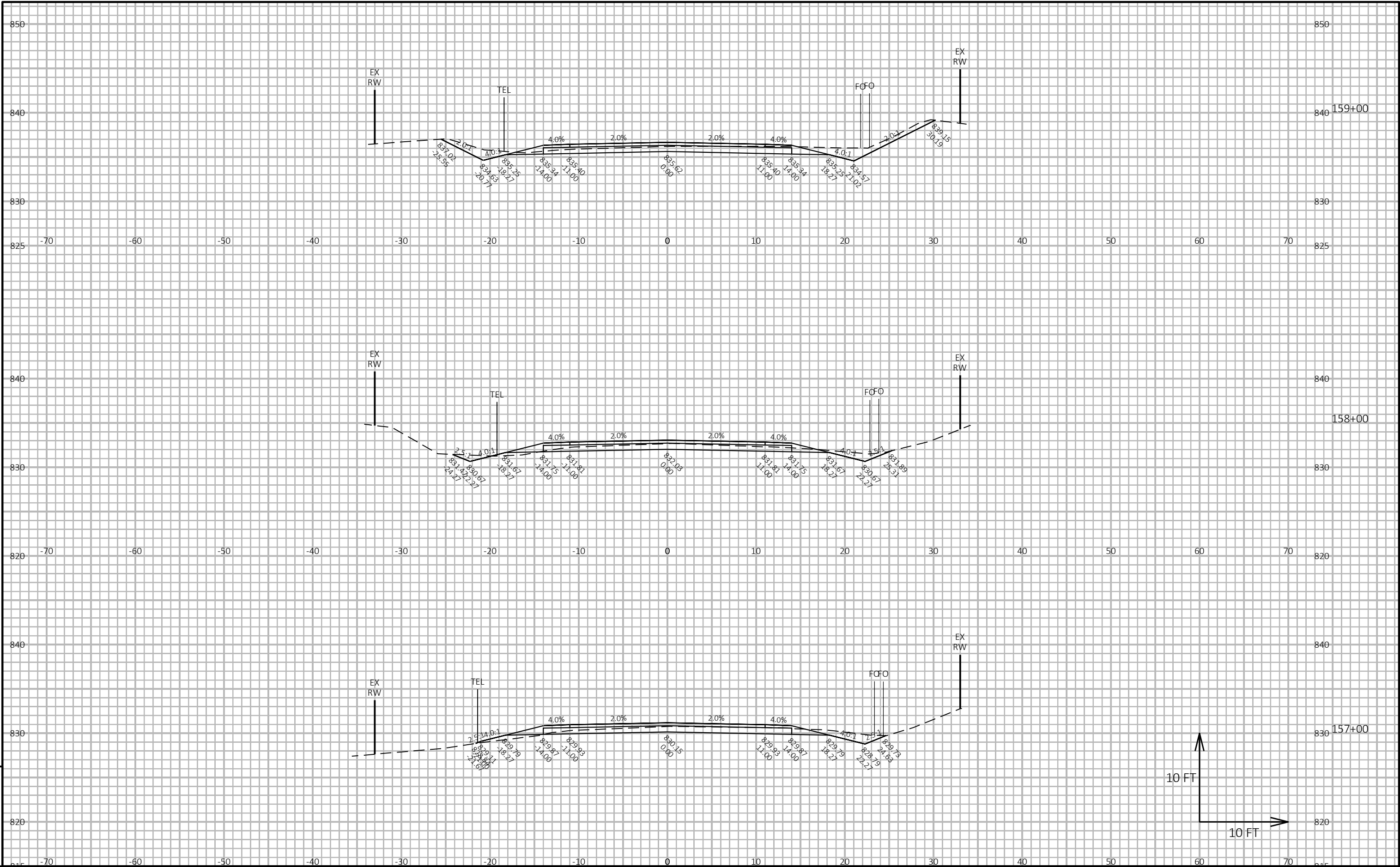
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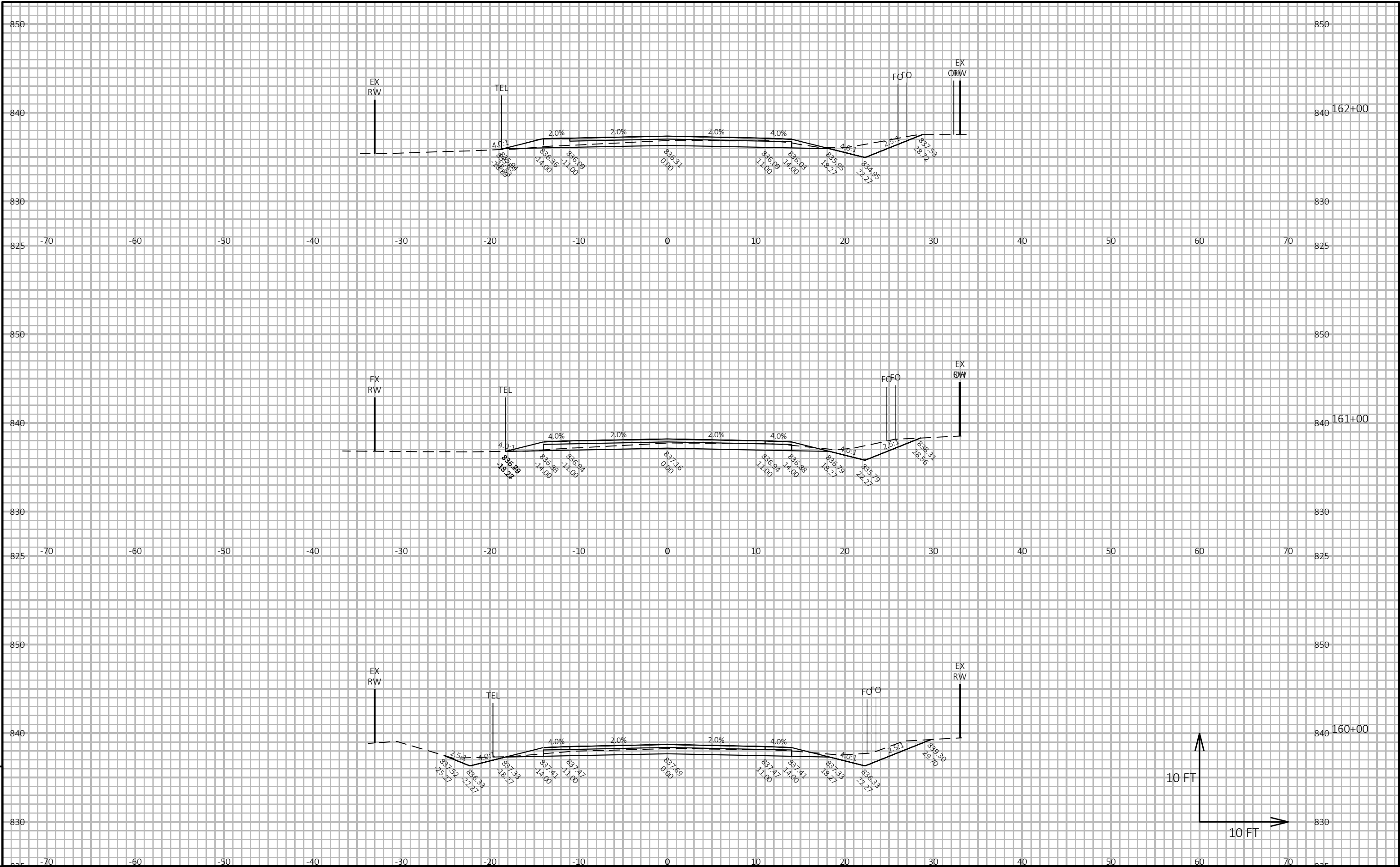
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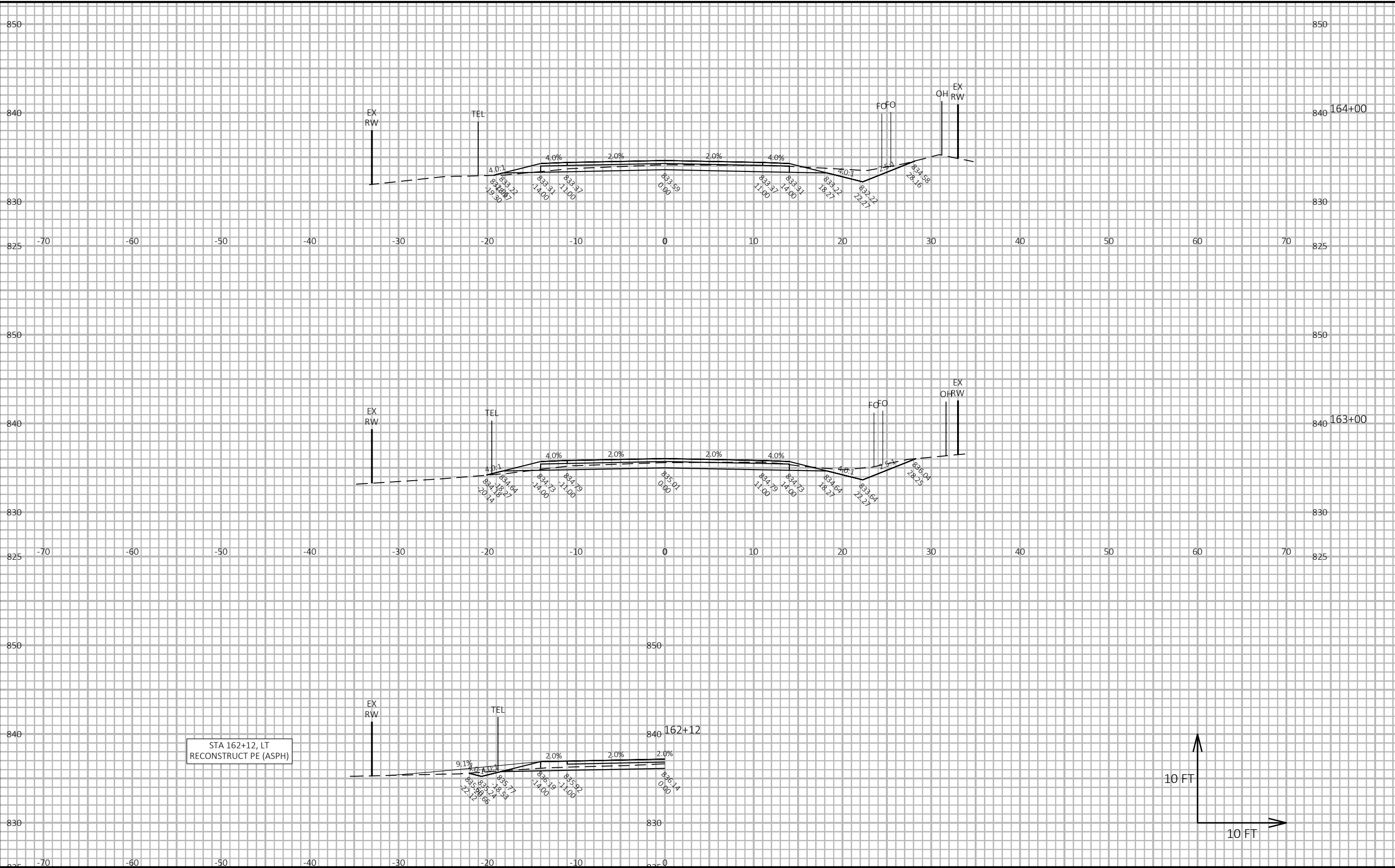


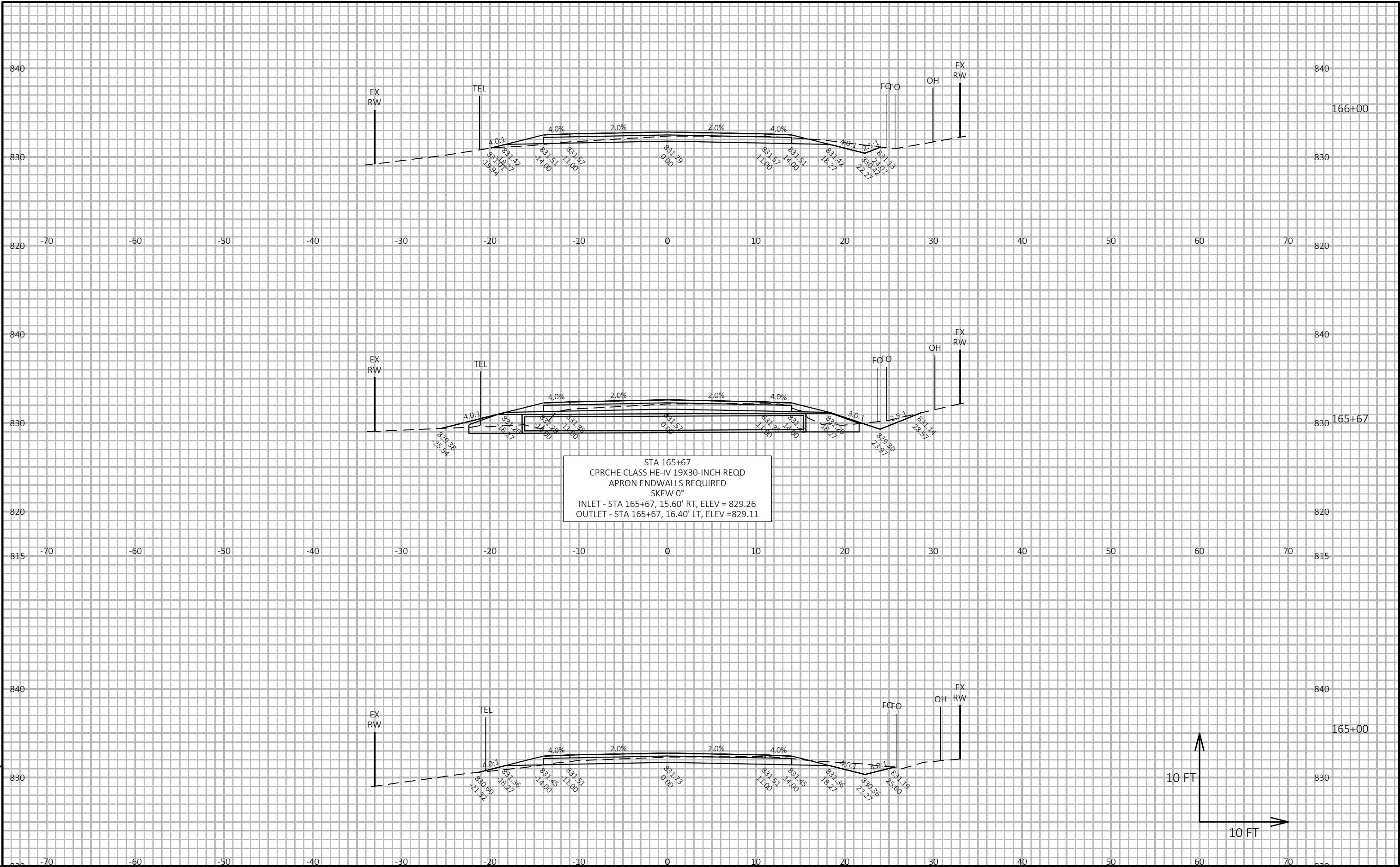
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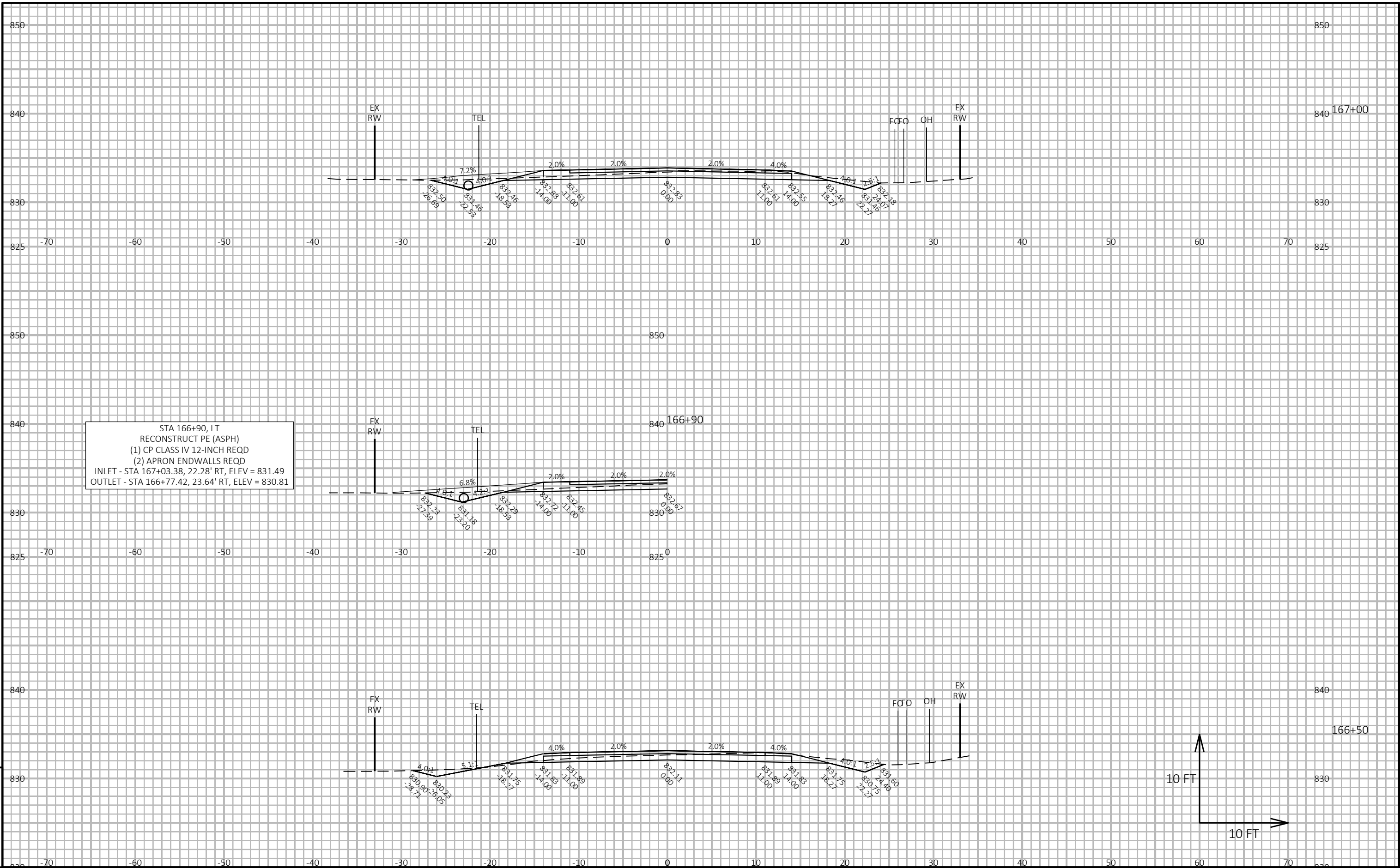
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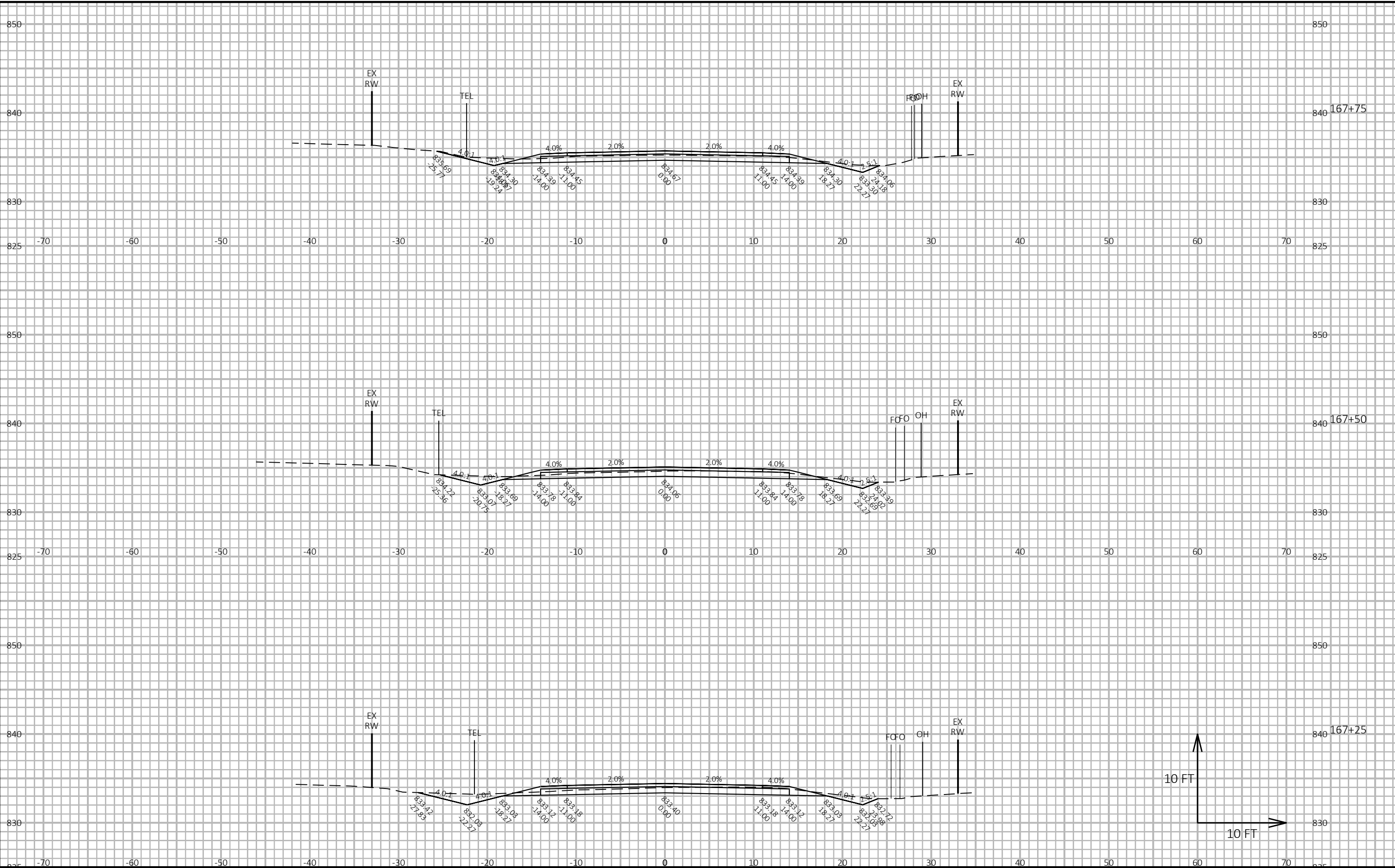


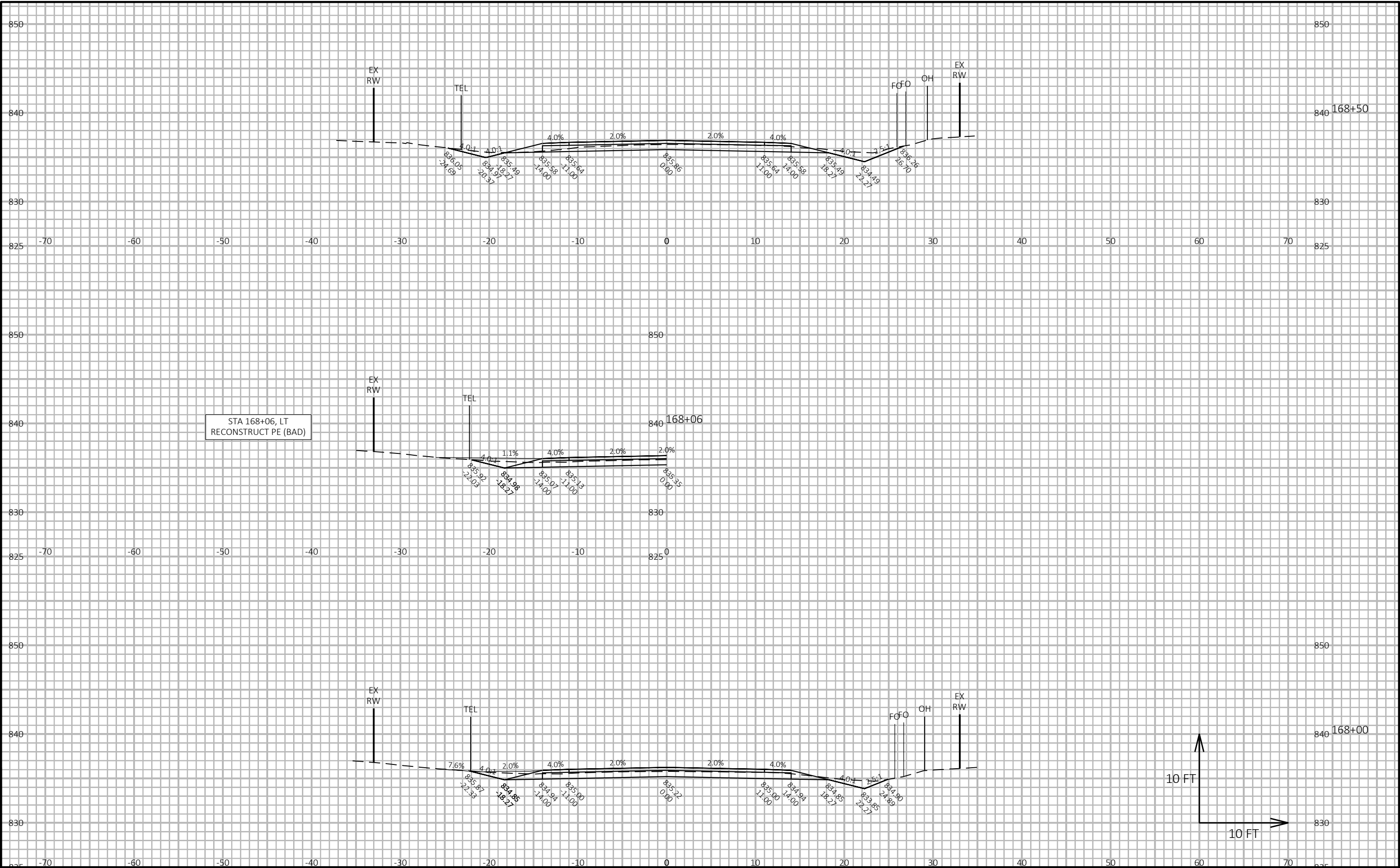


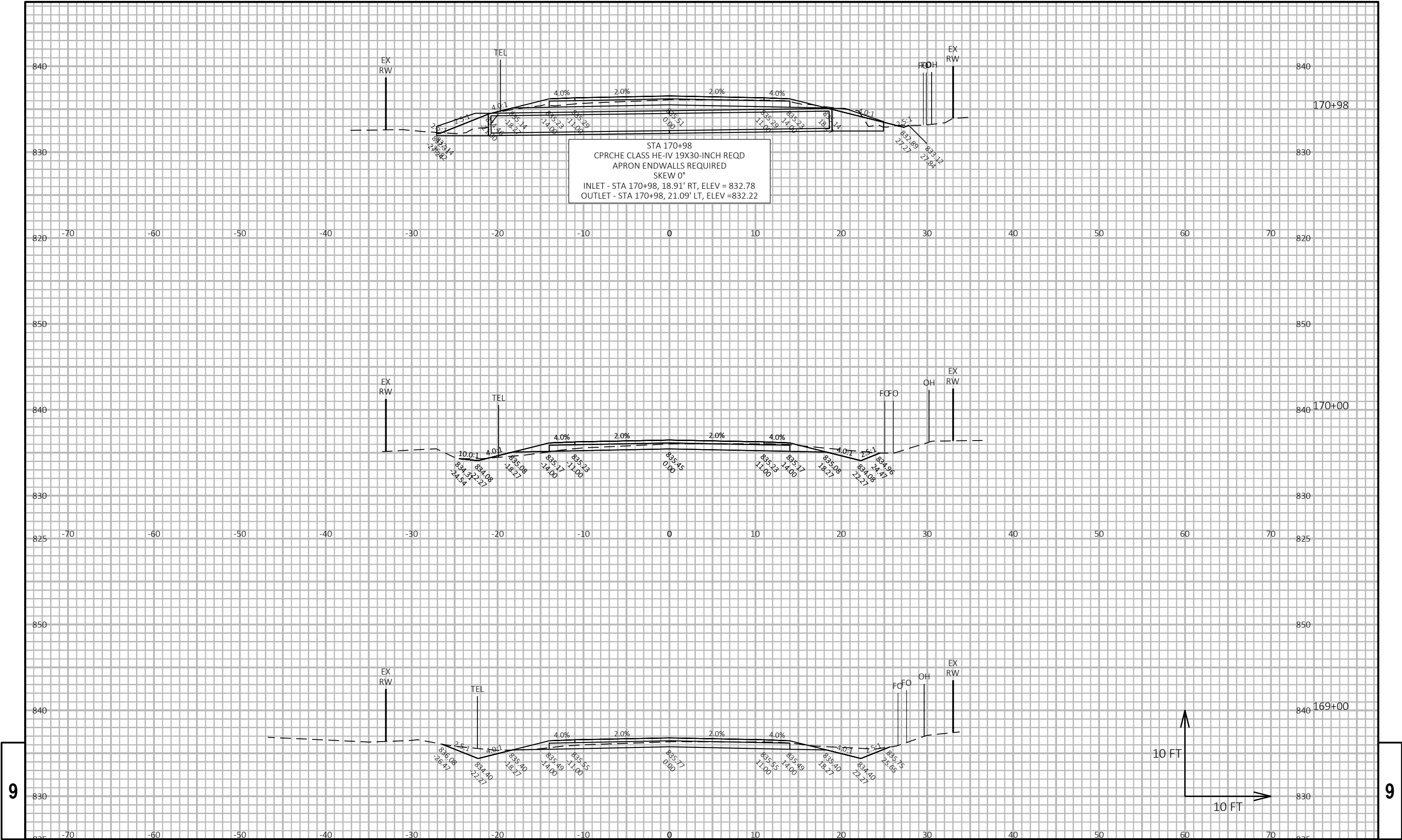






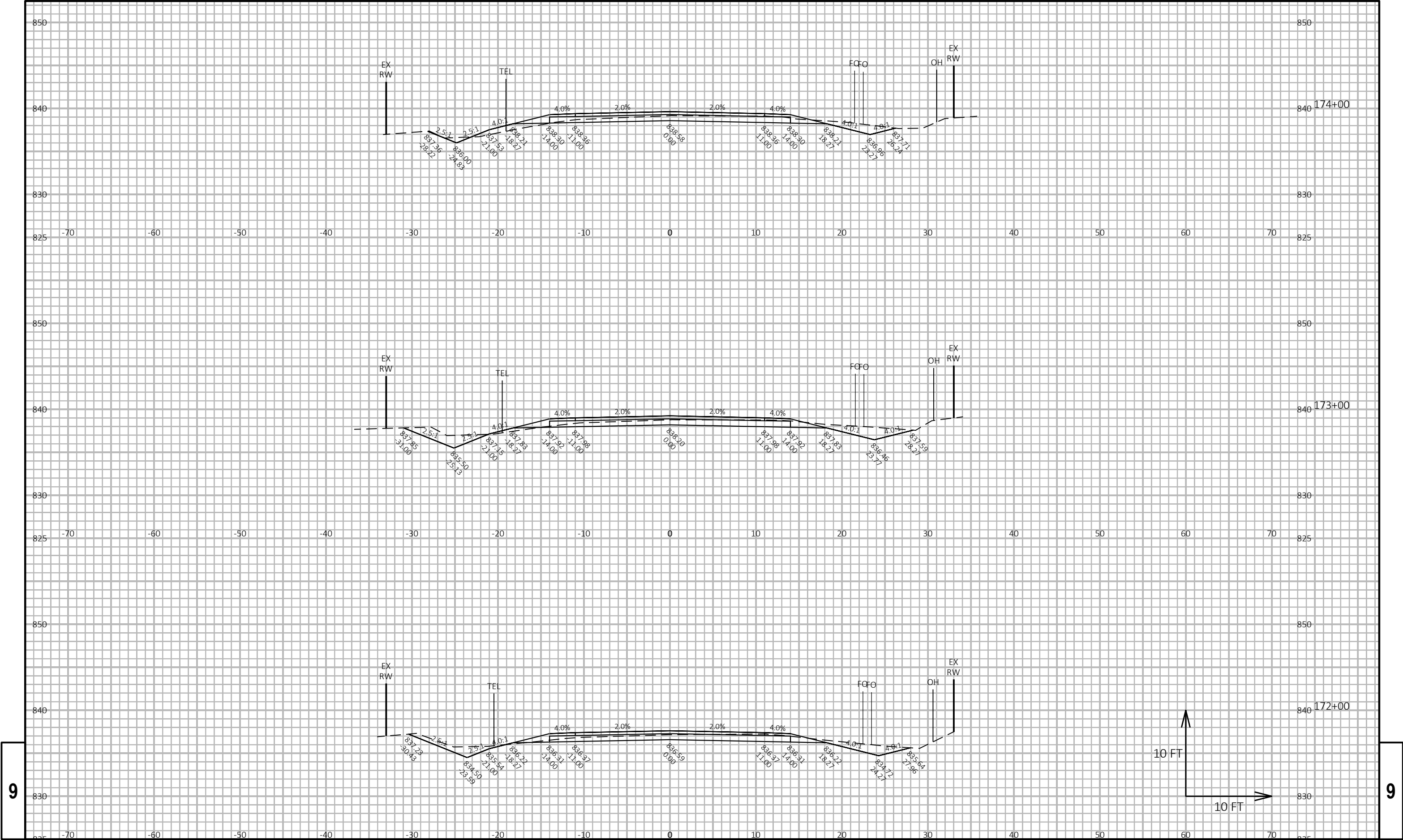






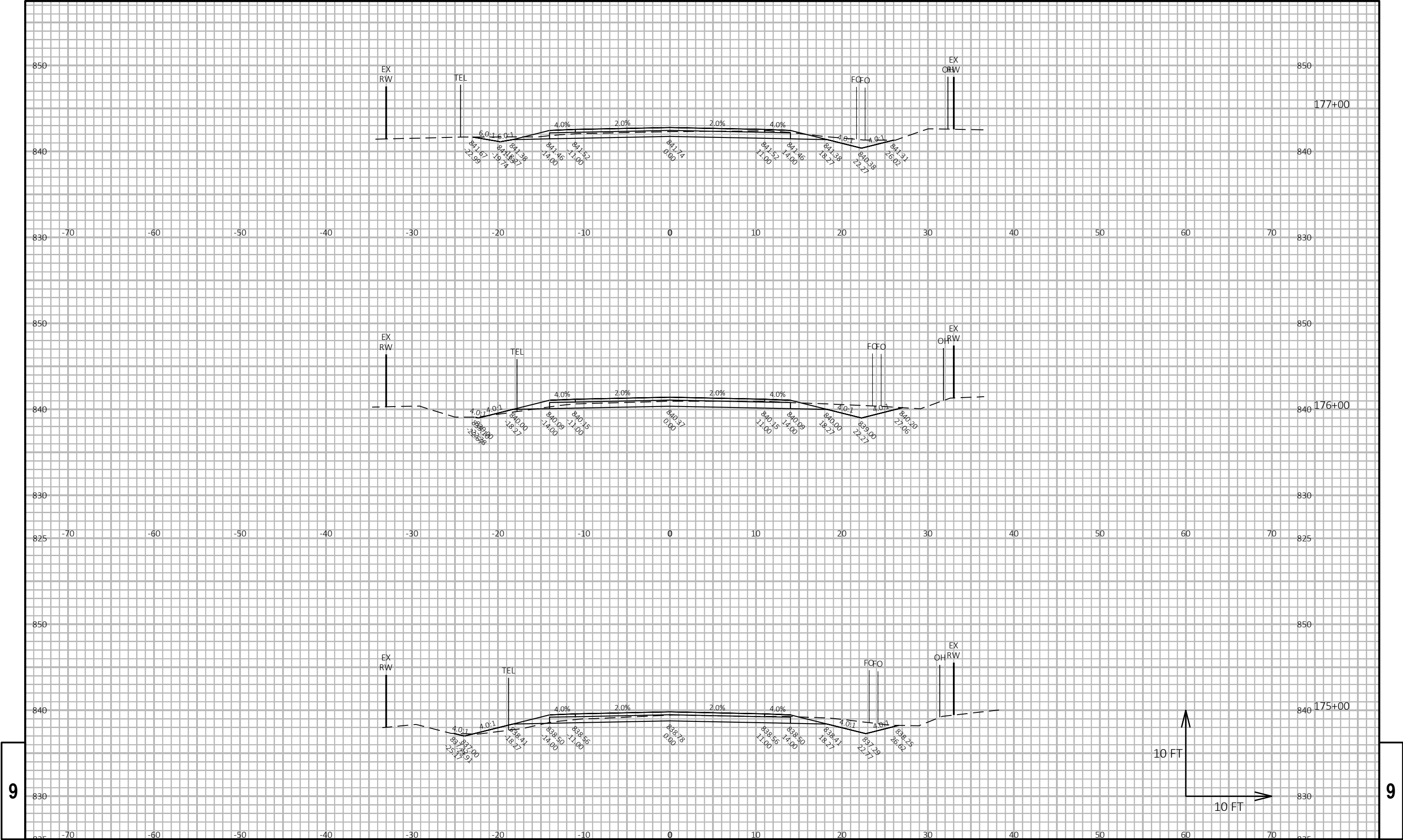
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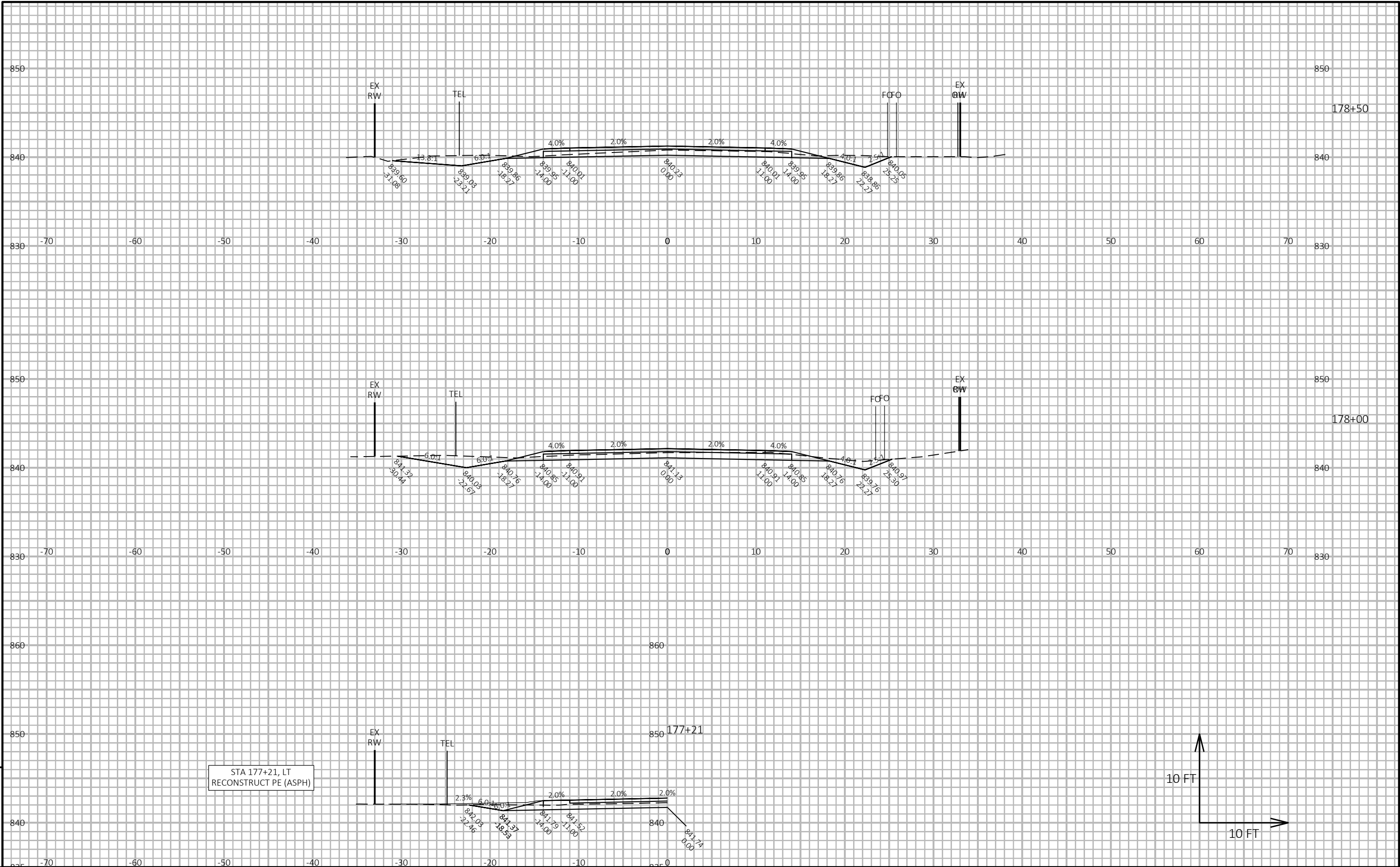
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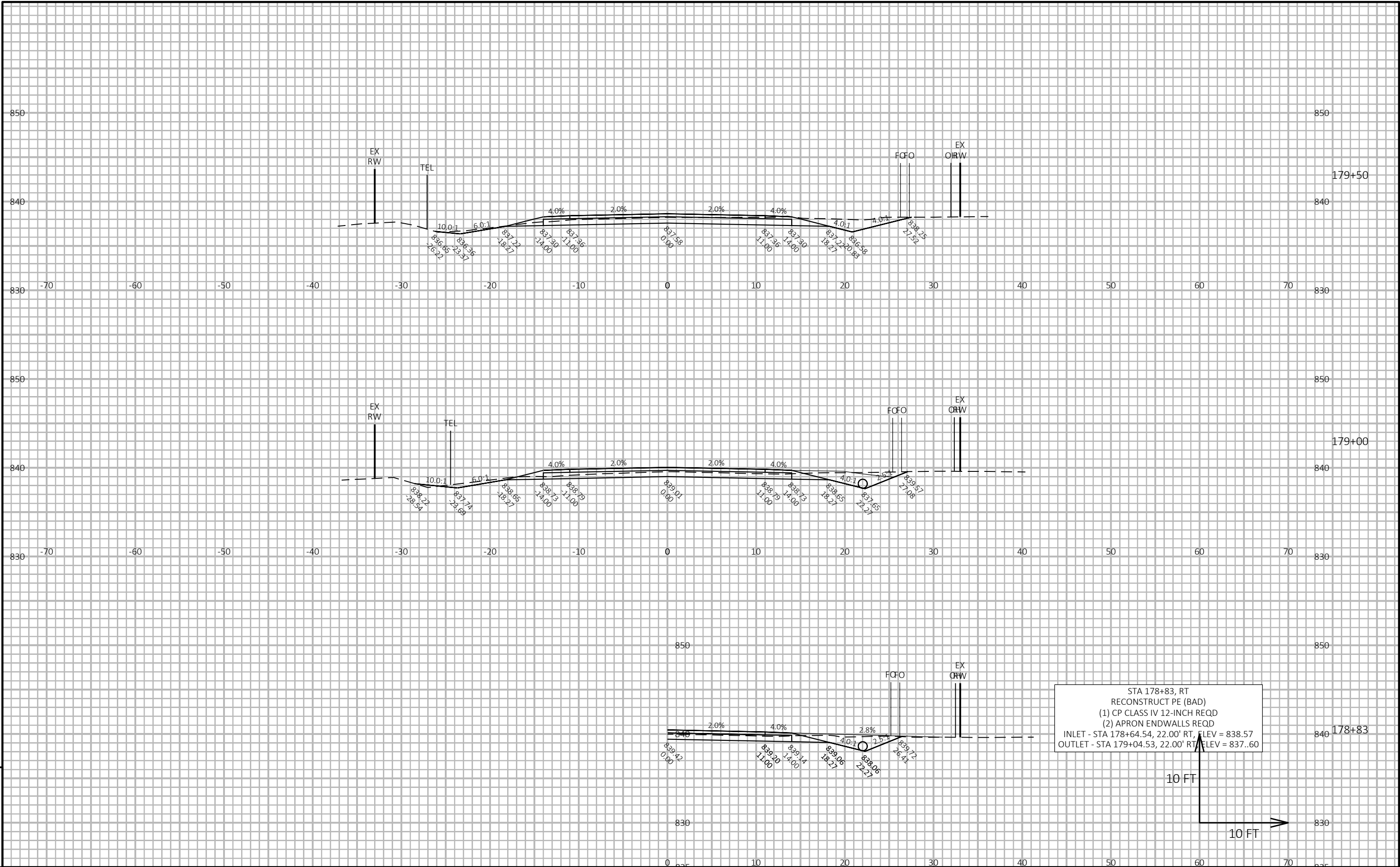


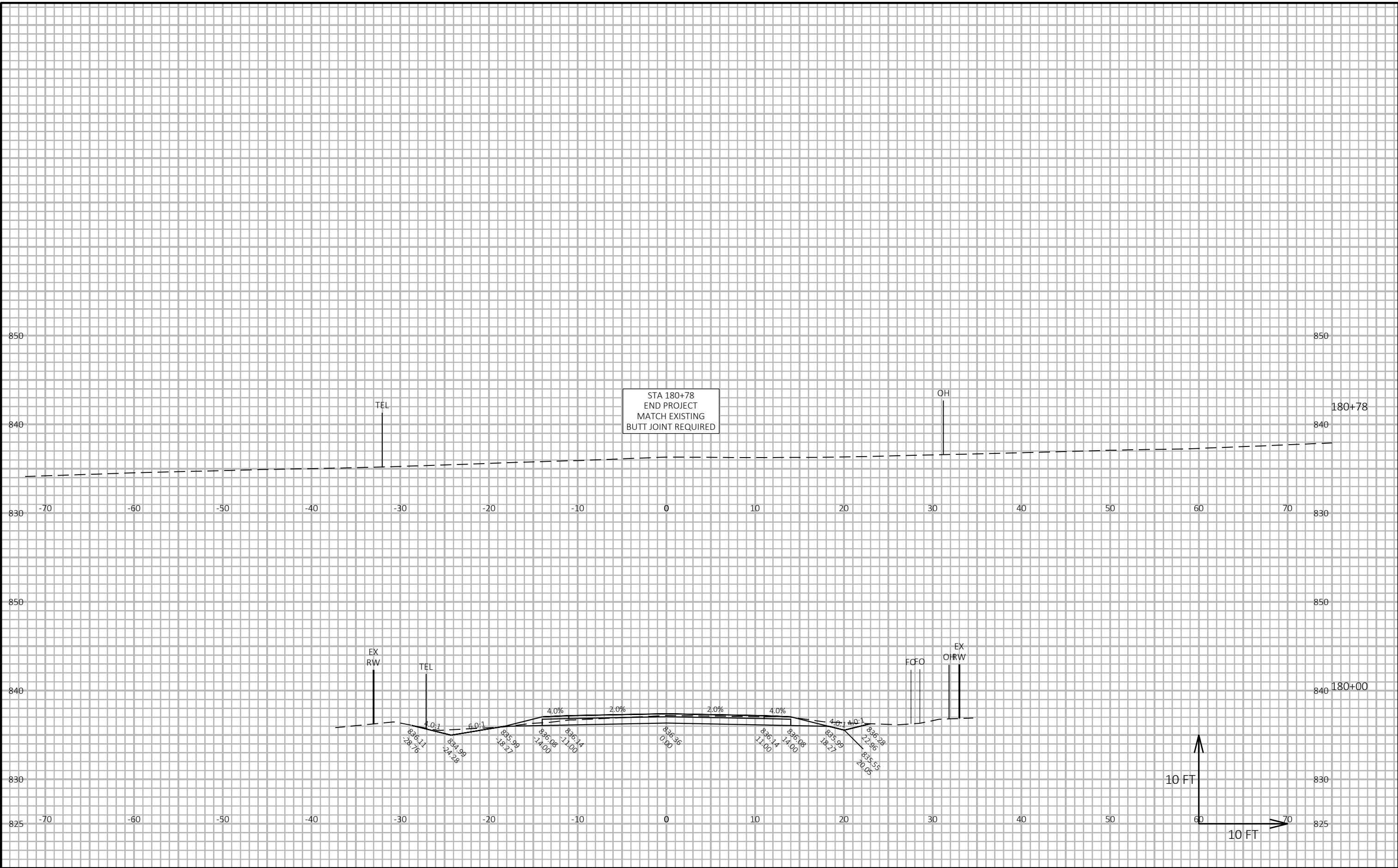
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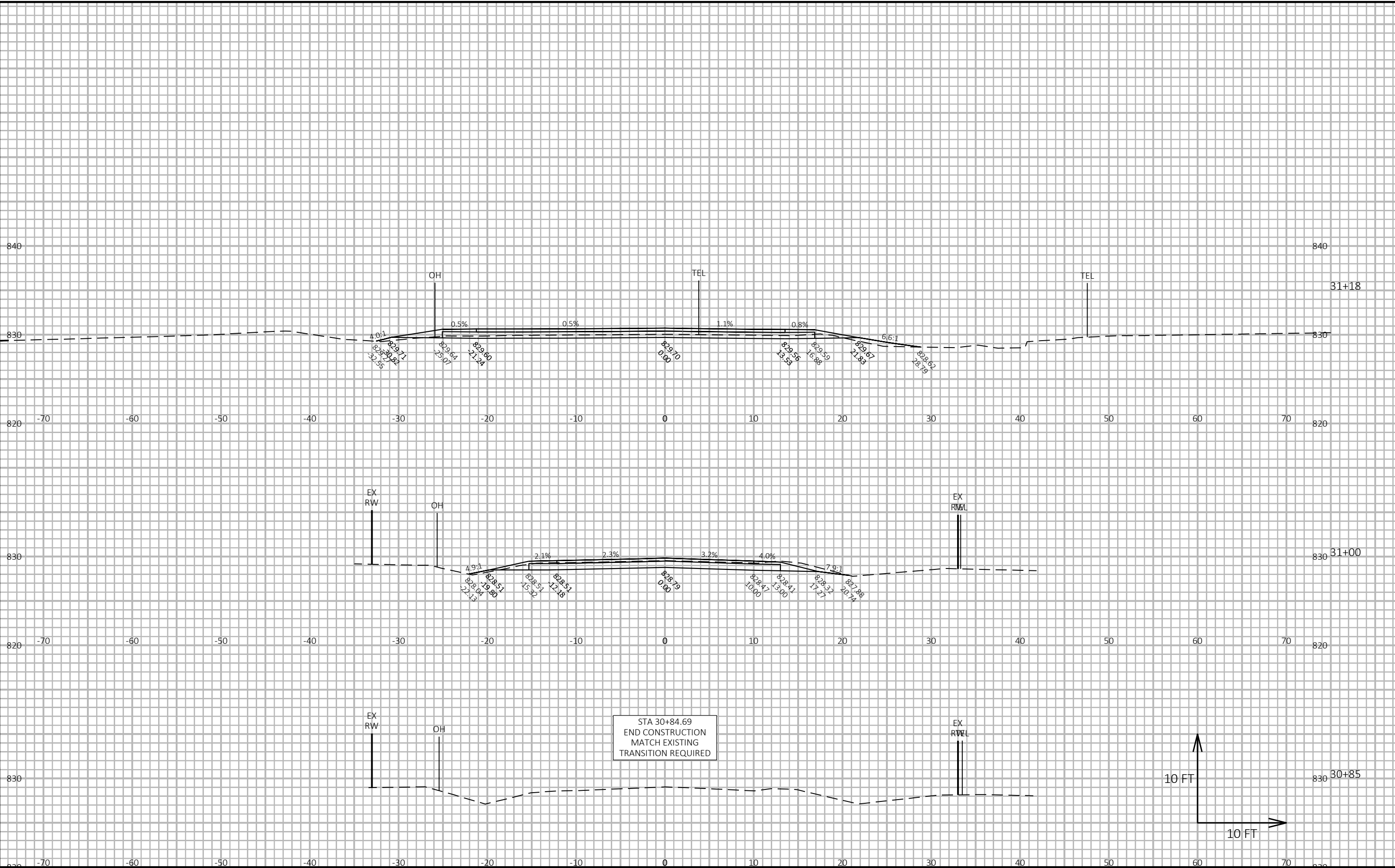
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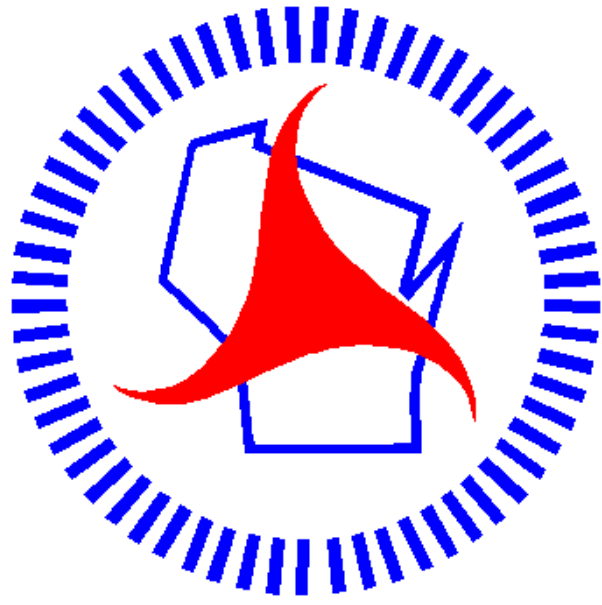








Notes



Wisconsin Department of Transportation

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