

THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

Heather A. Dean

Digitally signed by Heather A. Dean
DN: E=hdean@benesch.com, CN=Heather A. Dean, OU=Tennessee, O=Alfred Benesch & Company, L=Glastonbury, S=Connecticut, C=US
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ALFRED BENESCH & COMPANY
574 FRANKLIN ROAD
SUITE 300
FRANKLIN, TN
HEATHER A. DEAN, P.E. NO. 109159

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.
SIGNATURE SHEET	ROADWAY-SIGN2
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS	1A
ESTIMATED ROADWAY QUANTITIES	2, 2-1
TABULATED QUANTITIES	2F, 2F1 – 2F2

YEAR	PROJECT NO.	SHEET NO.
2025	PROT-108(106)	ROADWAY-SIGN2

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

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SHEET NAME	SHEET NO.
SIGNATURE SHEET	ROADWAY-SIGN1
TITLE SHEET	1
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS	1A
STANDARD ROADWAY DRAWINGS	1A1
STANDARD STRUCTURE AND TRAFFIC OPERATIONS DRAWINGS	1A2
ESTIMATED ROADWAY QUANTITIES	2, 2-1
TYPICAL SECTIONS AND PAVEMENT SCHEDULE	2B, 2B1 – 2B3
GENERAL NOTES	2C, 2C1
SPECIAL NOTES	2D
ENVIRONMENTAL NOTES	2E
TABULATED QUANTITIES	2F, 2F1 – 2F2
DETAIL SHEETS	2G, 2G1 – 2G6
RIGHT-OF-WAY NOTES, UTILITY NOTES AND UTILITY OWNERS	3
PROPERTY MAP(S) AND RIGHT-OF-WAY ACQUISITION TABLE(S)	3A – 3B
PRESENT LAYOUT(S)	4 – 5
RIGHT-OF-WAY DETAILS	4A – 5A
PROPOSED LAYOUT(S)	4B – 5B
PROPOSED PROFILE(S)	4C – 5C
HAUL ROADS PROFILE(S)	6 – 6A
PRIVATE DRIVE, BUSINESS, AND FIELD ENTRANCE PROFILE(S)	7
DRAINAGE MAP(S)	8
CULVERT SECTION(S)	9 – 11
EROSION PREVENTION AND SEDIMENT CONTROL PLANS	12, 13 – 15A
ROADWAY CROSS SECTIONS	16 – 90
HAUL ROAD CROSS SECTIONS	91 – 99
TRAFFIC CONTROL PLANS	T1 – T8

YEAR	PROJECT NO.	SHEET NO.
2025	PROT-108(106)	ROADWAY-SIGN1

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

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Index Of Sheets
SEE SHEET NO. 1A

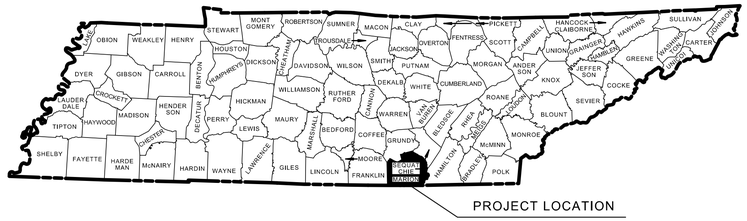
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

DOES THIS PROJECT QUALIFY FOR UTILITY CHAPTER 86	YES	NO X
WORK ZONE SIGNIFICANCE DETERMINATION		
SIGNIFICANT	YES	NO X

TENN.	YEAR	SHEET NO.
	2025	1
FED. AID PROJ. NO.	PROT-108(106)	
STATE PROJ. NO.	58S108-F3-002	

MARION COUNTY

SR-108 NEAR LM 2.8 (SLIDE REPAIR)



PS&E

GRADE, DRAIN, PAVE, GUARDRAIL, STRIPING AND RETAINING WALL

STATE HIGHWAY NO. 108 F.A.H.S. NO. N/A

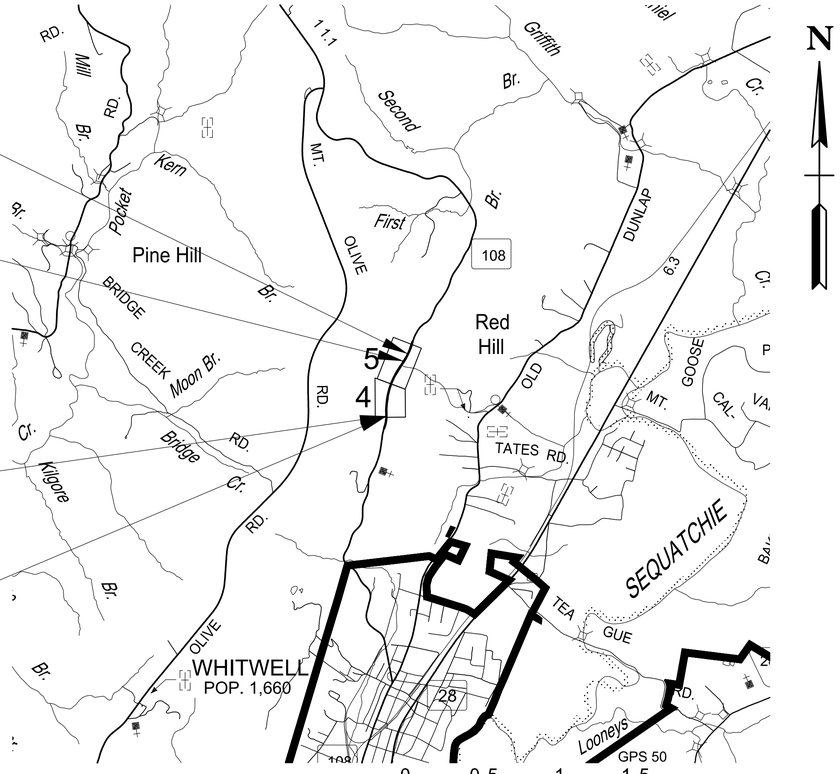
NO EXCLUSIONS

58S108-F3-002
END PROJECT NO. PROT-108(106) CONST.
STA. 32+00.00
N 327964.2536 E 2112710.3075

END PROJECT NO. 58S108-S2-002 R.O.W.
STA. 29+15.00
N 327716.6809 E 2112569.5153

BEGIN PROJECT NO. 58S108-S2-002 R.O.W.
STA. 8+59.94
N 325800.6189 E 2111956.6411

58S108-F3-002
BEGIN PROJECT NO. PROT-108(106) CONST.
STA. 8+50.00
N 325790.6790 E 2111956.6159



SCALE: 1"= 2640

R.O.W. LENGTH	0.389 MILES
ROADWAY LENGTH	0.445 MILES
BRIDGE LENGTH	0.000 MILES
BOX BRIDGE LENGTH	0.000 MILES
BOX BRIDGE LENGTH	0.000 MILES ▲
PROJECT LENGTH	0.445 MILES

▲ Not included in the project length (Non Riding Surface).

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2021 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT PROJECT MANAGER: ROB HOWARD
DESIGN FIRM : ALFRED BENESCH AND COMPANY
DESIGNER : HEATHER A. DEAN, P.E. CHECKED BY BRIAN N. GAFFNEY, P.E.
P.E. NO. 58013-1237-04 (DESIGN)
PIN NO. 130296.00

SEALED BY
HEATHER A. DEAN
LICENSED PROFESSIONAL ENGINEER
No. 0010918
STATE OF TENNESSEE
06/04/2025

APPROVED:
WILL REID, DEPUTY COMMISSIONER / CHIEF ENGINEER
DATE:

APPROVED:
HOWARD H. ELEY, DEPUTY GOVERNOR & COMMISSIONER

S.R. 108

SURVEY 06-25-20	TRAFFIC DATA	
UPDATE 12-20-20	ADT (2024)	2100
UPDATE 07-06-21	ADT (2044)	2310
UPDATE 12-10-21	DHV (2044)	300
UPDATE 04-11-22	D	65 - 35
UPDATE 06-02-22	T (ADT)	3 %
UPDATE 03-06-23	T (DHV)	2 %
UPDATE 09-07-23	V	50 MPH
UPDATE 01-11-24		
UPDATE 05-28-24		

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:
DIVISION ADMINISTRATOR DATE

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	1A
PS&E	2025	PROT-108(106)	1A

REV. 06-27-25 ADDED ROADWAY-SIGN2 TO INDEX

PS&E INDEX OF SHEETS

SHEET NAME	SHEET NO.
SIGNATURE SHEETS	ROADWAY-SIGN1,2
TITLE SHEET	1
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS	1A
STANDARD ROADWAY DRAWINGS	1A1
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DRAINAGE MAP(S)	8
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ROADWAY CROSS SECTIONS	16 – 90
HAUL ROAD CROSS SECTIONS	91 – 99
TRAFFIC CONTROL PLANS	T1 – T8
RETAINING WALL PLANS	R-1
STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PLANS	S-1
UTILITIES PLANS	U1-1

NOTE: THE ALPHABETICAL LETTERS “I”, “O” & “Q” ARE NOT USED IN THE NUMBERING OF SHEETS.

Footnotes:

① NO ENVIRONMENTAL COMMITMENT SHEET INCLUDED INTHIS PLAN SET.

10-100.00 STANDARD ROADWAY TITLE SHEET, ABBREVIATIONS, AND LEGENDS

DWG.	REV.	DESCRIPTION
RD-TP-1	10-01-24	STANDARD ROADWAY DRAWINGS TITLE SHEET
RD-A-1	02-20-20	STANDARD ABBREVIATIONS A THROUGH L
RD-A-2		STANDARD ABBREVIATIONS M THROUGH Z
RD-L-1	02-20-20	STANDARD LEGEND
RD-L-1A		STANDARD LEGEND
RD-L-2	02-20-20	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD-L-5	07-30-24	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-6	02-20-20	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-7	02-20-20	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-8	02-20-20	STANDARD LEGEND FOR NATURAL STREAM DESIGN

STANDARD ROADWAY DRAWINGS

10-101.00 ROADWAY DESIGN STANDARD

DWG.	REV.	DESCRIPTION
RD11-SE-1		TRANSITION AND CROSS SLOPE DETAILS
RD11-SE-2		SUPERELEVATION TRANSITION DETAILS FOR UNDIVIDED ROADWAYS
RD11-SE-2A		SUPERELEVATION TRANSITION SECTIONS FOR UNDIVIDED ROADWAYS
RD11-TS-3		DESIGN STANDARD FOR ARTERIAL HIGHWAYS (2-LANE)
RD11-LR-2		MINIMUM RUNOFF LENGTHS (LR) FOR RURAL HIGHWAYS
RD11-S-11		DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT
RD11-S-11A		ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION
RD11-S-11B		DESIGN AND CONSTRUCTION DETAILS FOR ROCK CUT SLOPE AND CATCHMENT
RD11-SD-1		INTERSECTION SIGHT DISTANCE DESIGN AND GENERAL NOTES
RD11-SD-3		INTERSECTION SIGHT DISTANCE 2-LANE ROADWAYS

10-102.00 PIPE CULVERTS AND ENDWALLS

DWG.	REV.	DESCRIPTION
D-PB-1	03-01-23	STANDARD DETAILS FOR CONCRETE PIPE INSTALLATION
D-PE-30A	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 30" PIPE WITH STEEL PIPE GRATE (FOR 3:1, 4:1 & 6:1 SLOPES)
D-PE-30B	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 30" PIPE, BILL OF STEEL AND PRECAST NOTES
D-SEW-1A	07-07-23	TYPE "SAFETY" SIDE ENDWALL WITH STEEL PIPE GRATE, FOR 15" THRU 48" PIPES, 6:1 SLOPE
D-PE-4	06-28-19	STRAIGHT CONCRETE ENDWALLS (PIPE SIZES 18" TO 30")
D-PEW-1		PROTECTED ENDWALLS FOR ROUND & OVAL PIPES (PIPE SIZES 18” TO 72”, ALL SKEWS, 2:1 & 3:1 SLOPES)
D-PEW-2		PROTECTED ENDWALLS FOR ROUND PIPES DETAILS & QUANTITIES (PIPE SIZES 18” TO 72”, ALL SKEWS, 2:1 & 3:1 SLOPES)
D-PEW-4		PROTECTED STRAIGHT ENDWALLS (PIPE SIZES 18” TO 30” & EQU. OVAL PIPES)

10-103.00 CATCH BASINS AND MANHOLES

DWG.	REV.	DESCRIPTION
D-CB-38SB	03-04-21	STANDARD 4' X 4' SQUARE CONCRETE NO. 38 CATCH BASIN
D-CB-41S	02-20-20	STANDARD 4' X 3' RECTANGULAR CONCRETE NO. 41 CATCH BASIN (FOR USE UNDER CONCRETE MEDIAN BARRIER WALL)
D-CB-51SC	02-20-20	STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 51 CATCH BASIN (FOR USE IN FRONT OF CONCRETE RETAINING WALL)
D-MH-2	02-20-20	STANDARD PRECAST NO. 3 MANHOLE
D-MH-5	02-20-20	STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 3 MANHOLE
D-MH-7	02-20-20	STANDARD 9' X 9' SQUARE CONCRETE NO. 3 MANHOLE

10-104.00 ROADWAY, PAVEMENT APPURTENANCES, AND FENCES

DWG.	REV.	DESCRIPTION
RP-R-1	10-16-20	STANDARD RAMP DETAILS FOR ROADWAYS AND DRIVEWAYS
W-SP-1	05-01-20	ROADWAY FEATURES AT SOLDIER PILE AND SOIL ANCHORED RETAINING WALLS
S-F-1	03-01-23	HIGH VISIBILITY FENCE
S-FG-11	07-30-24	STANDARD STOCK FENCE GATE
S-RP-2	06-28-19	STANDARD CONCRETE RIGHT-OF-WAY MARKERS

10-106.00 SAFETY DESIGN AND GUARDRAILS

DWG.	REV.	DESCRIPTION
S-CZ-1	06-28-19	CLEAR ZONE CRITERIA
S-PL-1	03-01-23	SAFETY PLAN FOR BARRIER LENGTH OF NEED
S-PL-1A	03-01-23	SAFETY PLAN FOR BARRIER LENGTH OF NEED (FOR RIGID OBJECTS)
S-PL-3	03-01-23	SAFETY PLAN MINIMUM INSTALLATION AT BRIDGE ENDS
S-PL-6	07-30-24	SAFETY PLAN SAFETY HARDWARE PLACEMENT ON OUTSIDE EDGE
S-GR31-1	03-13-25	GUARDRAIL DETAILS
S-GR31-1A	06-28-19	GUARDRAIL AND BLOCK-OUT DETAILS
S-GR31-1B		GUARDRAIL FASTENING HARDWARE
S-GR31-1C	07-07-23	GUARDRAIL GENERAL NOTES AND POST DETAILS
S-GR31-1D	03-01-23	GUARDRAIL POST PLACEMENT IN ROCK
S-GRS-2	01-28-22	SPECIAL CASE GUARDRAIL ATTACHMENT TO CONCRETE DECKS
S-GRT-2	06-28-19	TYPE 38 GUARDRAIL END TERMINAL
S-GRT-2P	10-16-20	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL
S-GRT-2R	06-28-19	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL (RETROFIT)
S-GRA-5	06-28-19	FLARED GUARDRAIL ANCHOR
S-SSMB-3	10-29-21	51” HALF SIZE SINGLE SLOPE CONCRETE BARRIER WALL
S-SSMB-6M		GUARDRAIL ATTACHMENT TO EXISTING SINGLE SLOPE CONCRETE BARRIER WALL

10-107.00 EROSION PREVENTION AND SEDIMENT CONTROL

DWG.	REV.	DESCRIPTION
EC-STR-3B	06-15-21	SILT FENCE
EC-STR-3C	03-01-23	SILT FENCE WITH WIRE BACKING
EC-STR-3E	04-01-08	SILT FENCE FABRIC JOINING DETAILS
EC-STR-8	06-10-14	FILTER SOCK
EC-STR-27	08-01-12	TEMPORARY SLOPE DRAIN AND BERM
EC-STR-34	05-04-22	EROSION CONTROL BLANKET FOR SLOPE INSTALLATION
EC-STR-6	11-30-20	ROCK CHECK DAM
EC-STR-6A	05-06-16	ENHANCED ROCK CHECK DAM
EC-STR-11	03-16-17	CULVERT PROTECTION TYPE 1

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	1A1
PS&E	2025	PROT-108(106)	1A1

STANDARD ROADWAY DRAWINGS (CONTINUED)

DWG.	REV.	DESCRIPTION
10-107.00 (CONT.)		**EROSION PREVENTION AND SEDIMENT CONTROL**
EC-STR-19	04-01-08	CATCH BASIN PROTECTION
EC-STR-39A	08-01-12	CURB INLET PROTECTION TYPE 3 & 4
EC-STR-25	08-01-12	TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD
EC-STR-32	08-01-12	TEMPORARY DIVERSION CULVERTS
EC-STR-36	05-04-22	TURF REINFORCEMENT MAT FOR CHANNEL INSTALLATION
10-108.00		**NATURAL STREAM DESIGN**
D-NSD-27	11-30-20	LOG AND BOULDER STEP POOLS
D-NSD-30	05-01-20	SUBSTRATE RESTORATION
D-NSD-33	05-01-20	COIR FIBER EROSION CONTROL BLANKET AND COIR FIBER ROLLS
D-NSD-34	05-01-20	LIVE STAKES AND LIVE SILTATION
D-NSD-37	05-01-20	SPECIAL NOTES FOR NATURAL STREAM DESIGN

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06/04/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD ROADWAY DRAWINGS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	1A2
PS&E	2025	PROT-108(106)	1A2

STANDARD TRAFFIC DESIGN DRAWINGS

DWG.	REV.	DESCRIPTION
10-200.00		**SIGN**
T-S-9	06-10-14	STANDARD LAYOUT GROUND MOUNTED SIGNS
T-S-10	04-04-12	STANDARD MOUNTING DETAILS FLAT SHEET SIGNS ALUMINUM-STEEL DESIGN
T-S-12	07-10-17	STANDARD STEEL GROUND MOUNTED SIGNS, BREAK-AWAY TYPE POST FOOTING DETAILS, SQUARE TUBES
T-S-16	07-02-15	GROUND MOUNTED ROADSIDE SIGN PLACEMENT DETAILS
T-S-17	07-11-17	STANDARD GROUND MOUNTED SIGN USING PERFORATED/KNOCKOUT SQUARE TUBE
T-S-19	06-12-20	STANDARD STEEL SIGN SUPPORTS
T-S-20	07-11-17	SIGN DETAILS
T-S-23C	07-02-15	BREAKAWAY POST SIGN SUPPORTS
10-204.00		**DESIGN - TRAFFIC CONTROL**
T-M-1	01-24-25	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-15A	01-24-25	ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR NON-ACCESS CONTROLLED RURAL ROUTES
T-M-16	01-24-25	RUMBLE STRIPE INSTALLATION LAYOUT
T-M-16A	01-24-25	RUMBLE STRIPE DETAILS FOR EDGE OF FAVEMENT AND CENTERLINE
T-WZ-32	03-26-25	TRAFFIC CONTROL PLAN SIGNAL LAYOUT FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-34	03-26-25	TRAFFIC CONTROL PLAN GENERAL NOTES FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-35	03-26-25	TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-PBR1	03-26-25	INTERCONNECTED PORTABLE BARRIER RAIL

STANDARD STRUCTURE DRAWINGS

DWG.	REV.	DESCRIPTION
10-301.00		**LRFD BOX CULVERTS**
STD-17-1		INDEX OF DRAWINGS
STD-17-2		TERMINOLOGY
STD-17-3		GENERAL NOTES
STD-17-4		DESIGN SECTION LIMITS
STD-17-5		TYPICAL SECTION AND DETAILS
STD-17-6		TYPICAL ELEVATIONS
STD-17-7		CURB, RAIL & EDGE BEAM DETAILS - SKEW NOT LESS THAN 45 DEG.
STD-17-8		EDGE BEAM DETAILS FOR FILLS GREATER THAN 3' - 6"
STD-17-9		INTERIOR WALL END TREATMENTS
STD-17-10		TYPICAL WINGWALL DETAILS AND NOTES
STD-17-11		WINGWALL DIMENSIONS AND QUANTITIES
STD-17-12		WINGWALL DIMENSIONS AND QUANTITIES
STD-17-17	06-01-11	BACKFILL AND DRAINAGE DETAILS
STD-17-18		BACKFILL DETAILS
STD-17-20		LOW FLOW CHANNEL CONSTRUCTION DETAILS FOR CULVERT INLET AND OUTLET
STD-17-28		END SECTION DETAILS
STD-17-29		PRECAST BOX CULVERT DETAILS
STD-17-72		BOX BRIDGE, 2 BARRELS AT 8', CLEAR HTS. 3' - 5', 0 - 60' FILL

SEALED BY

HEATHER A. DEW
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No.00109159
STATE OF TENNESSEE
06/04/2025

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD STRUCTURE & TRAFFIC OPERATIONS DRAWINGS

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ESTIMATED ROADWAY QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY 58S108-F3-002
	105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1
	201-01	CLEARING AND GRUBBING	LS	1
(7)	202-01	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
(35)	202-13	Water Well Abandonment	EACH	1
(5)(26)	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	101684
	203-02.01	BORROW EXCAVATION (GRADED SOLID ROCK)	TON	4709
	203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	9741
	203-04	PLACING AND SPREADING TOPSOIL	C.Y.	2904
	203-06	WATER	M.G.	47
	203-08	CHANNEL EXCAVATION (UNCLASSIFIED)	C.Y.	457
(12)	203-20.01	CHANNEL SUBSTRATE	C.Y.	59
(6)	203-50	CONSTRUCTION OF HAUL ROAD	LS	1
	204-08	FOUNDATION FILL MATERIAL	C.Y.	56
(20)	204-08.01	BACKFILL MATERIAL (FLOWABLE FILL)	C.Y.	195
(1)(3)	209-03.23	FILTER SOCK (24 INCH)	L.F.	7877
	209-03.36	STREAM MITIGATION-STEP POOL	EACH	18
(11)	209-03.99	PROTECTED AREA MARKER (WHITE WITH DECAL)	EACH	12
(1)(3)	209-05	SEDIMENT REMOVAL	C.Y.	135
(1)(3)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	7031
(1)(3)	209-08.07	ROCK CHECK DAM PER	EACH	39
(1)(3)	209-08.08	ENHANCED ROCK CHECK DAM	EACH	41
(1)(3)	209-08.09	FILTER SOCK CHECK DAM	EACH	67
(1)(3)	209-09.01	SANDBAGS	BAG	2500
(1)(3)	209-09.43	CURB INLET PROTECTION (TYPE 4)	EACH	14
(1)(3)	209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	3
	303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	2859
	303-01.01	GRANULAR BACKFILL (ROADWAY)	TON	465
(18)	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	3971
	307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING A	TON	419
	307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	591
	402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	7
(27)	402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	24
	403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	6
(32)	407-20.05	SAW CUTTING ASPHALT PAVEMENT	L.F.	349
	411-01.07	ACS MIX (PG64-22) GRADING E SHOULDER	TON	319
	411-01.10	ACS MIX(PG64-22) GRADING D	TON	499
	411-12.02	SCORING SHOULDERS (NON-CONTINUOUS) (16IN WIDTH)	L.M.	1
(34)	415-01.02	COLD PLANING BITUMINOUS PAVEMENT	S.Y.	5716
	604-01.01	CLASS A CONCRETE (ROADWAY)	C.Y.	98
	604-01.02	STEEL BAR REINFORCEMENT (ROADWAY)	LB.	19998
(35)	604-15.01	Portland Cement Grout	C.Y.	9
	607-03.02	18" CONCRETE PIPE CULVERT (CLASS III)	L.F.	357
	607-06.02	30" CONCRETE PIPE CULVERT (CLASS III)	L.F.	165
	607-13.03	72" CONCRETE PIPE CULVERT (CLASS III)	L.F.	74
	607-39.04	30" PIPE CULVERT (SIDE DRAIN)	L.F.	24
(16)(17)	610-12.01	HORIZONTAL DRAINS AND CASING	L.F.	200
(16)	610-12.02	HORIZONTAL DRAINS	L.F.	9900
	611-01.03	MANHOLES, > 8' - 12' DEPTH	EACH	1
	611-01.05	MANHOLES, > 16' - 20' DEPTH	EACH	1
	611-07.01	CLASS A CONCRETE (PIPE ENDWALLS)	C.Y.	38
	611-07.02	STEEL BAR REINFORCEMENT (PIPE ENDWALLS)	LB.	1887
	611-07.33	30IN ENDWALL (SIDE DRAIN)	EACH	2
	611-07.60	30IN ENDWALL (CROSS DRAIN) 3:1	EACH	2
	611-38.02	CATCH BASINS, TYPE 38, > 4' - 8' DEPTH	EACH	1
(21)	611-40.03	CATCH BASINS, TYPE 40, > 8' - 12' DEPTH	EACH	1
	611-41.02	CATCH BASINS, TYPE 41, > 4' - 8' DEPTH	EACH	5
	611-51.02	CATCH BASINS, TYPE 51, > 4' - 8' DEPTH	EACH	2
(1)(3)	621-03.02	18" TEMPORARY DRAINAGE PIPE	L.F.	495
(1)(3)	621-03.04	30" TEMPORARY DRAINAGE PIPE	L.F.	425
(1)(3)	621-03.05	36" TEMPORARY DRAINAGE PIPE	L.F.	125
(33)	621-05.10	TEMPORARY SHORING (SOIL NAIL WALL 11+95)	LS	1

ESTIMATED ROADWAY QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY 58S108-F3-002
(1)(3)	621-05.11	TEMPORARY SHORING (SOIL NAIL WALL 13+70)	LS	1
(1)(3)	621-05.12	TEMPORARY SHORING (SOIL NAIL WALL 16+00)	LS	1
(1)(3)	621-05.13	TEMPORARY SHORING (SOIL NAIL WALL 20+70)	LS	1
(33)	621-05.14	TEMPORARY SHORING (SOIL NAIL WALL 27+05)	LS	1
(31)	705-01.04	METAL BEAM GUARD FENCE	LF.	16
	705-04.09	EARTHPAD FOR TYPE 38 GR END TREATMENT	EACH	1
	705-06.20	TANGENT ENERGY ABSORBING TERM MASH TL-3	EACH	3
	705-06.25	THRIE BEAM BRIDGE TRANSITION MASH TL-3	EACH	3
	706-01	GUARDRAIL REMOVED	L.F.	1461
(30)	707-03.20	DRIVE GATE (STOCK FENCE) (MAINTENANCE ROAD)	EACH	1
	707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	2412
	708-02.01	MARKERS (CONCRETE R.O.W. POSTS)	EACH	32
(1)(3)(9)	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	234
(1)(3)(10)	709-05.06	MACHINED RIP-RAP (CLASS A-1)	TON	1824
(13)	709-05.08	MACHINED RIP-RAP (CLASS B)	TON	411
(22)	709-05.09	MACHINED RIP-RAP (CLASS C)	TON	539
(24)(25)	710-10.02	6" PERFORATED PLASTIC PIPE	L.F.	862
	710-13.03	FILTER CLOTH	S.Y.	702
(28)	711-05.65	CONCRETE GLARE SCREEN MEDIAN BARRIER (VARIABLE HEIGHT)	L.F.	294
	712-01	TRAFFIC CONTROL	LS	1
	712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	3915
(4)	712-02.60	TEMPORARY WORK ZONE CRASH CUSHION (MASH TL-3)	EACH	12
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	70
	712-04.50	BARRIER RAIL DELINEATOR	EACH	196
	712-05.01	WARNING LIGHTS (TYPE A)	EACH	70
	712-06	SIGNS (CONSTRUCTION)	S.F.	433
	712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)	L.F.	24
	712-09.08	REMOVABLE PAVEMENT MARKING (6" line)	L.F.	11210
	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2
	713-16.50	REMOVE AND REPLACE SIGN (W8-14, 36"X36" STA. 12+50)	LS	1
	716-01.21	SNOWPLOWABLE RAISED PAVEMENT MARKERS (BI-DIR) (1 COLOR)	EACH	30
	716-05.20	PAINTED PAVEMENT MARKING (6" LINE)	L.M.	2
	716-12.02	ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE)	L.M.	2
	717-01	MOBILIZATION	LS	1
(14)	730-40	TEMPORARY TRAFFIC SIGNAL SYSTEM	EACH	1
(1)(3)	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	1589
(23)	740-10.04	GEOTEXTILE (TYPE IV)(STABILIZATION)	S.Y.	1865
	801-01	SEEDING (WITH MULCH)	UNIT	270
	801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	810
(15)	801-01.38	NATIVE SEED MX FINAL STABILIZATION OF SLOPE	UNIT	183
	801-01.65	TEMPORARY MULCH	UNIT	600
	801-02	SEEDING (WITHOUT MULCH)	UNIT	23
(19)	801-02.08	TEMPORARY SEEDING (WITHOUT MULCH)	UNIT	67
(8)	801-03	WATER (SEEDING & SODDING)	M.G.	117
	802-02.30	CUTTINGS: SALIX NIGRA (18IN-24IN LENGTH)	EACH	331
	802-11.02	ACER RUBRUM (RED MAPLE 2-5FT CNTNR GRWN)	EACH	18
	802-11.11	CERCIS CANADENSIS (REDBUD 2-5FT CNTNR GRWN)	EACH	18
	802-11.18	LIQUIDAMBER STYRACIFLUA (SWEETGUM 2-5FT CNTNR GRWN)	EACH	18
	802-11.19	LIRIODENDRON TULIPIFERA (TULIP POPLAR 2-5FT CNTNR GRWN)	EACH	18
	802-11.29	QUERCUS ALBA (WHITE OAK 2-5FT CNTNR GRWN)	EACH	18
	802-11.33	QUERCUS MICHAUXII (SWMP CHSTNT OAK 2-5FT CNTNR GRWN)	EACH	18
	803-01	SODDING (NEW SOD)	S.Y.	263
(29)	805-01.01	TURF REINFORCEMENT MAT (CLASS I)	S.Y.	93
	805-12.03	EROSION CONTROL BLANKET (TYPE III)	S.Y.	2448
(1)(3)	805-12.08	700 GRAM COIR FIBER EROSION BLANKET	S.Y.	368
(2)	806-02.03	PROJECT MOWING	CYCL	2

TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	2
PS&E	2025	PROT-108(106)	2

REV. 06-27-2025 ADDED ITEM NO. 202-13 AND 604-15.01

SEALED BY

JENNIFER A. DEAN
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No.0010919
STATE OF TENNESSEE
06/27/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES

SHEET 1 OF 2

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FOOTNOTES

(1) SEE SUBSECTION 209-07 OF THE STANDARD SPECIFICATION FOR MAINTENANCE REPLACEMENT

(2) ITEM INCLUDES LITTER AND TRASH REMOVAL. THIS WORK WILL NOT BE MEASURED AND PAID DIRECTLY BUT WILL BE INCLUDED IN THE COST OF THE ITEM NO. 806-02.03, PROJECT MOWING, CYCL.

(3) ALL EROSION PREVENTION AND SEDIMENT CONTROL QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER.

(4) THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF AASHTO MASH FOR TEST LEVEL 3. THE PAY ITEM WILL INCLUDE FURNISHING AND INSTALLING ALL COMPONENTS AS SHOWN ON THE MANUFACTURER'S DRAWING.

(5) INCLUDES 682 C.Y. FOR FALLEN ROCK EXCAVATION.

(6) ITEM NUMBER 203-50 SHALL INCLUDE GEOTEXTILE (TYPE IV), BORROW EXCAVATION (GRADED SOLID ROCK) OR MACHINED RIP-RAP (CLASS A-1, CLASS B, OR CLASS C), MINERAL AGGREGATE (SIZE 57 OR TYPE A BASE, GRADING D), TEMPORARY DRAINAGE PIPE (IF APPLICABLE) AND EXCVATION (ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED). THE MINERAL AGGREGATE INCLUDES AN ADDITIONAL TEN (10) PERCENT FOR MAINTENANCE. ANY REMOVAL OR PARTIAL REMOVAL OF HAUL ROADS SHOULD ALSO BE INCLUDED IN ITEM NUMBER 203-50.

(7) SEE SHEET NO. 2F1 FOR LIST OF REMOVAL OF STRUCTURES.

(8) INCLUDES 117 THOUSAND GALLONS FOR EROSION PREVENTION AND SEDIMENT CONTROL.

(9) 234 TONS INCLUDED FOR EPSC TO BE USED AS DIRECTED BY THE ENGINEER.

(10) 775 TONS INCLUDED FOR EPSC TO BE USED AS DIRECTED BY THE ENGINEER , 70 TONS INCLUDED FOR DITCH STABILIZATION, 870 TONS FOR UNDERDRAINS AND 109 TONS FOR HORIZONTAL DRAIN SPLASH PAD.

(11) POSTS CAN BE ORDERED THROUGH VALMONT STRUCTURES, NEWBERRY SC. ITEM NUMBERS ARE 72" DUAL SIDED MARKER (CIB307201), CUSTOM PROTECTED AREA DECAL PRE-APPLIED ON BOTH SIDES (21374NM-A).

(12) 59 C.Y. INCLUDED FOR STREAM RELOCATIONS AT STR-1 AND STR-2. REFER TO STD. DWG. D-NSD-30 FOR CHANNEL SUBSTRATE MIXTURE COMPOSITION.

(13) 362 TONS INCLUDED FOR OUTLET STABILIZATION AND STREAM STABILIZATION TO BE USED AS DIRECTED BY THE ENGINEER AND 49 TONS INCLUDED FOR DITCH STABILIZATION.

(14) INCLUDES 5 RESIDENTIAL DRIVEWAY TEMPORARY SIGNALS. DEVICES SHALL MEET THE FHWA INTERIM APPROVAL GUIDANCE (IA-23)

(15) PERMANENT STABILIZATION WITH NATIVE OR NATURALIZED PERENNIAL VEGETATION IS REQUIRED IN ALL AREAS AUTHORIZED FOR TEMPORARY AND PERMANENT IMPACTS TO STREAMS AND RIPARIAN AREAS, INCLUDING ADJACENT BUFFER ZONES WITHIN 60 FT OF THE EDGE OF WATER. THE APPROPRIATE SEED MIXTURE FOR THE REGION AND SITE CONDITIONS SHALL BE SELECTED FROM TABLE 7.9-1 (PREFERRED SEED MIXES USING NATIVES OR NATURALIZED PLANTS AND PLANTING DATES) FOUND IN CHAPTER 7.9 (PERMANENT VEGETATION) OF THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK 4TH EDITION.

(16) SEE SPECIAL PROVISION 610HD.

(17) STEEL CASING IS REQUIRED WHEN HORIZONTAL DRAINS ARE INSTALLED THROUGH GRADED SOLID ROCK.

(18) 520 TONS INCLUDED FOR MAINTENANCE ROAD, 3367 TONS INCLUDED FOR UNDERDRAINS AND 84 TONS FOR EPSC CULVERT PROTECTION.

(19) TO BE USED IN CONJUNCTION WITH EROSION CONTROL BLANKET (TYPE III).

FOOTNOTES (CONT.)

(20) TO BE USED FOR ABANDONING PIPES.

(21) TO INCLUDE PROPOSED STAINLESS STEEL SMOOTH SURFACE BAR GRATING, 2 - 72" X 24" GRATE, WITH 19.1 SF CLEAR OPENING AREA TO CAP EXISTING MANHOLE NO. 4 AND PROPOSED STAINLESS STEEL SMOOTH SURFACE BAR GRATING, 5-120" X 24" GRATES, WITH 71.7 SF CLEAR OPENING AREA FOR MANHOLE NO. 5. GRATE UNITS SHALL MEET HS20 LOADING REQUIRMENT. CONTRACTOR SHALL VERIFY EXACT SIZE REQUIRED PROIR TO ORDERING GRATES.

(22) 46 TONS FOR CULVERT OUTLET PROTECTION AND STREAM STABILIZATION, 88 TONS FOR INLET PROECTION OF BOX CULVERT, AND 405 TONS FOR BERM ON SHEET 4B.

(23) FOR END OF WALL TRANSITION UNDER GRADED SOLID ROCK, SEE DETAIL SHEET 2G2 AND CROSS-SECTION SHEETS 24-25 AND 71-74 FOR DETAILS.

(24) INCLUDED FOR UNDERDRAINS. COST OF NON-PERFORATED PIPE FOR OUTLET PIPE WILL BE THE SAME AS FOR PERFORATED PIPE.

(25) PIPE TO BE CORRUGATED AND PERFORATED HDPE. (SEE DETAIL SHEET 2G)

(26) SEE GRADING SPECIAL NOTES ON SHEET 2D

(27) ITEM TO BE USED AS DIRECTED BY THE ENGINEER

(28) SEE SHEET 4B AND 5B FOR LOCATIONS.

(29) SEE SHEET 2G FOR LOCATIONS.

(30) SEE SHEET 4B FOR LOCATIONS.

(31) TO BE USED ON TOP OF 2 @ 8'X4' BOX CULVERT AT STA. 27+41.72

(32) SEE SHEET 4A AND 4B FOR SAW CUTTING ASPHALT PAVEMENT LOCATIONS AT BEGIN AND END OF FULL DEPTH ASPHALT PAVEMENT LIMITS

(33) SEE R-SHEETS FOR DETAILS

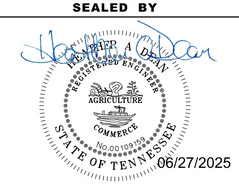
(34) REMOVAL OF ASPHALT IN FULL DEPTH LOCATIONS SHALL BE PAID AS 203-01 ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)

(35) FOR WELL ON TRACT 1

TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	2-1
PS&E	2025	PROT-108(106)	2-1

REV. 06-27-25 ADDED FOOTNOTE 35

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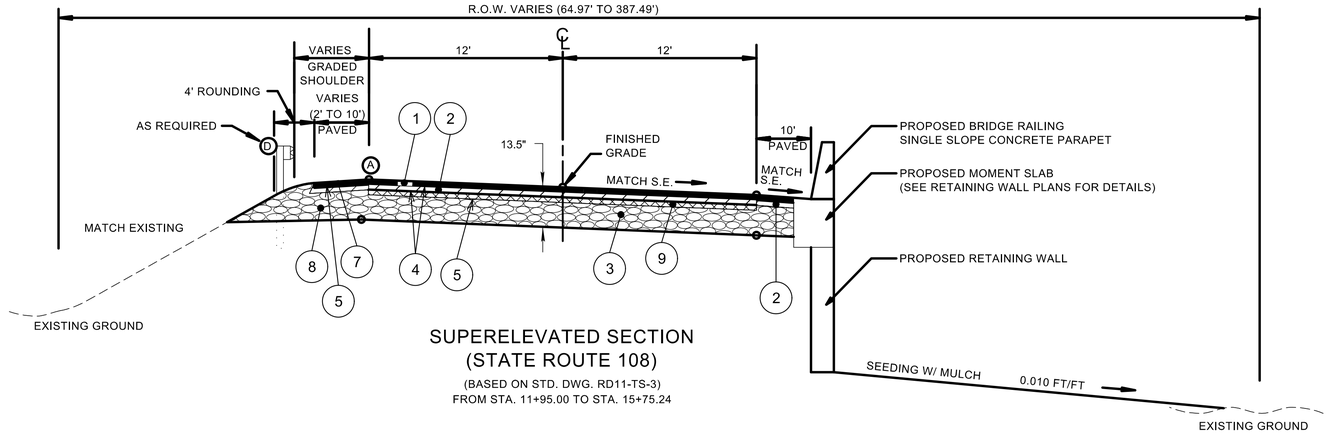
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES

SHEET 2 OF 2

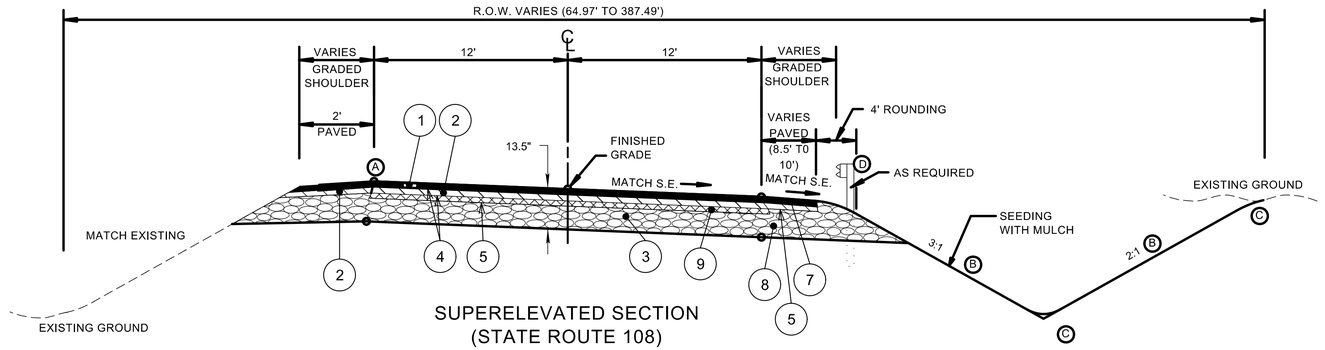
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2B
PIH	2024	PROT-108(106)	2B
PS&E	2025	PROT-108(106)	2B



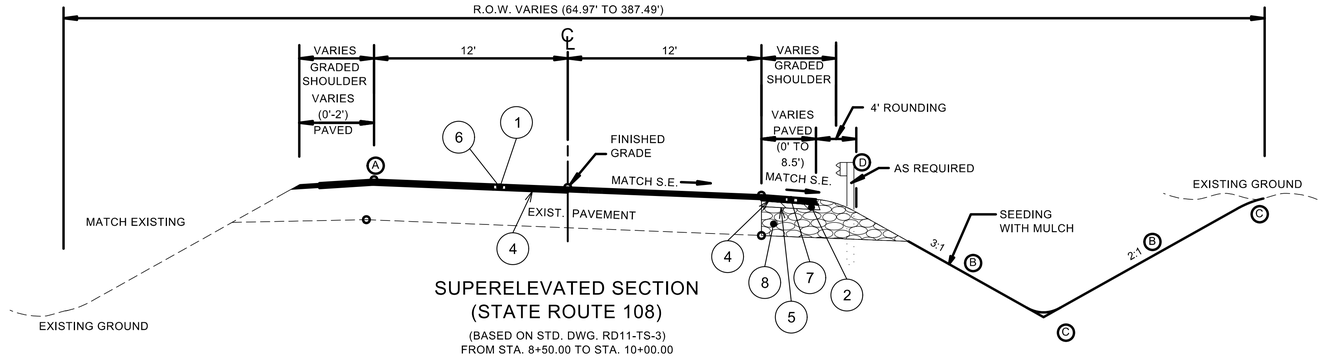
SUPERELEVATED SECTION
(STATE ROUTE 108)

(BASED ON STD. DWG. RD11-TS-3)
FROM STA. 11+95.00 TO STA. 15+75.24



SUPERELEVATED SECTION
(STATE ROUTE 108)

(BASED ON STD. DWG. RD11-TS-3)
FROM STA. 10+00.00 TO STA. 11+95.00



SUPERELEVATED SECTION
(STATE ROUTE 108)

(BASED ON STD. DWG. RD11-TS-3)
FROM STA. 8+50.00 TO STA. 10+00.00

Ⓐ THE SLOPE OF THE SHOULDER AND THE ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 7%.

Ⓑ SEE STANDARD DRAWINGS RD11-S-11 AND RD11-S-11B FOR FILL AND CUT SLOPE TABLES, ROUNDING ON TOP OF CUT SLOPES AND TOE OF FILL SLOPES, SPECIAL ROCK TREATMENT AND SUB GRADE ROUNDING IF APPLICABLE.

Ⓒ SEE STANDARD DRAWING RD11-S-11A FOR ROUNDING OF ROADSIDE DITCH SLOPES.

Ⓓ SEE STANDARD DRAWING S-PL-6 FOR TYPICAL GUARDRAIL PLACEMENT.

PROPOSED PAVEMENT SCHEDULE

① **ASPHALTIC CONCRETE SURFACE (HOT MIX) PG64-22 GRADING "D" SURFACE @ 1.25" THICK (APPROX. 132.5 LB./S.Y.)** 411-01.10 ACS MIX (PG64-22) GRADING "D"	④ **TACK COAT - BITUMINOUS MATERIAL FOR TACK COAT (TC)** 403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC), TON SEE 403.05 FOR DETERMINING APPLICATION RATE IN THE FIELD	⑦ **ASPHALTIC CONCRETE SURFACE (HOT MIX) PG64-22 GRADING "E" SHOULDERS @ 1.50" THICK (APPROX. 159 LB./S.Y.)** 411-01.07 ACS MIX (PG64-22) GRADING "E" SHOULDER
② **BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22 GRADING "B-M2" @ 2.25" THICK (APPROX. 254.25 LB./S.Y.)** 307-01.08 ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING "B-M2"	⑤ **PRIME COAT** 402-01 BITUMINOUS MATERIAL FOR PRIME COAT (PC) RATE = 0.30 - 0.35 GALLONS/S.Y. 402-02 AGGREGATE FOR COVER MATERIAL (PC) RATE = 8 - 12 LB./S.Y.	⑧ **MINERAL AGGREGATE 10" THICK** 303-01 MINERAL AGGREGATE, TYPE "A" BASE, GRADING "D"
③ **MINERAL AGGREGATE 8.00" THICK** 303-01 MINERAL AGGREGATE, TYPE "A" BASE, GRADING "D"	⑥ **COLD PLANING @ 1.25" THICK** 415-01.01 COLD PLANING BITUMINOUS PAVEMENT	⑨ **BITUMINOUS PLANT MIX BASE (HOT MIX) PG64-22 GRADING "A" @ 3.00" THICK (APPROX. 345 LB./S.Y.)** 307-01.01 ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING "A"

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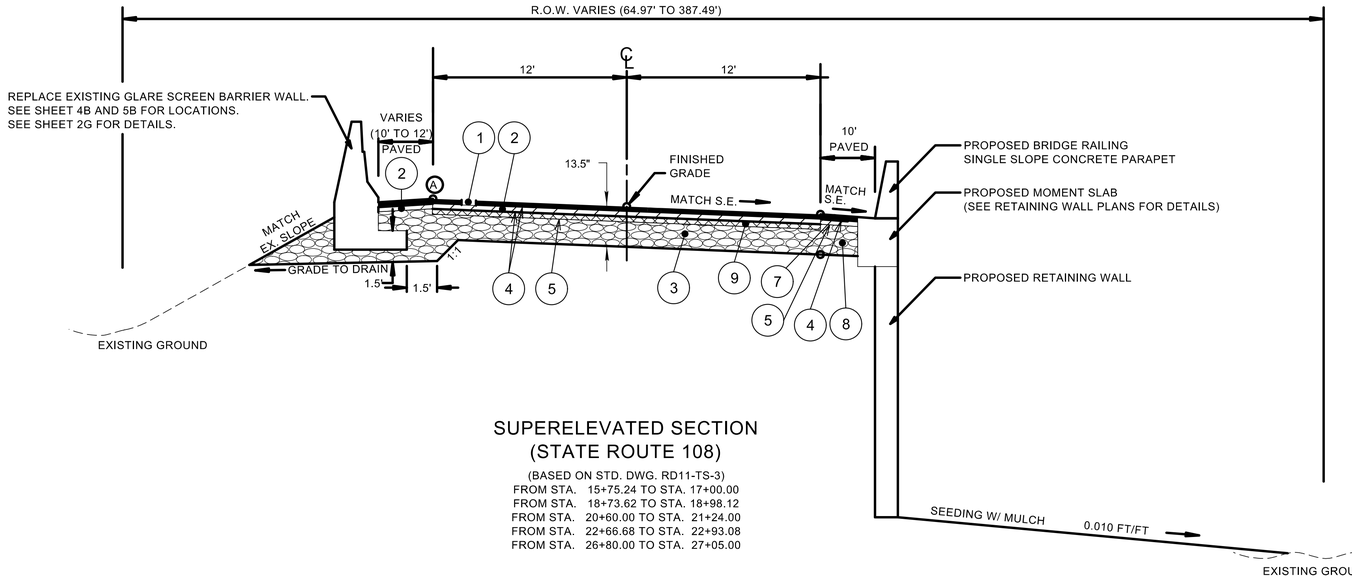


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS AND PAVEMENT SCHEDULE

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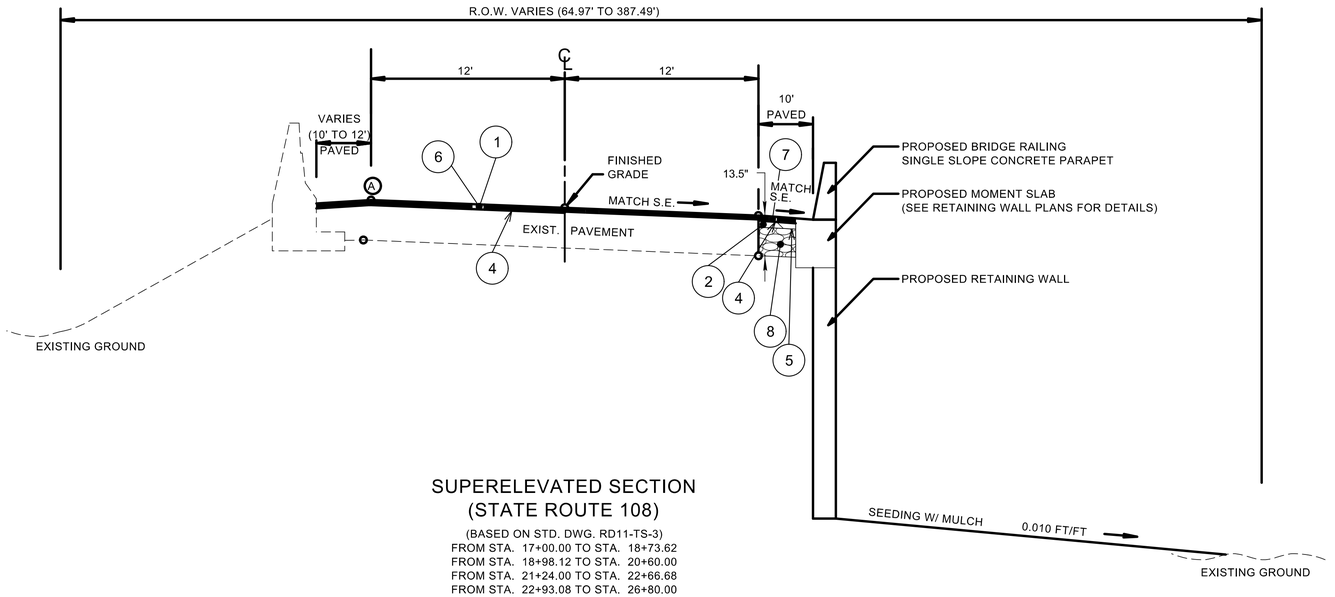
TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2B1
PIH	2024	PROT-108(106)	2B1
PS&E	2025	PROT-108(106)	2B1



SUPERELEVATED SECTION
(STATE ROUTE 108)

(BASED ON STD. DWG. RD11-TS-3)
FROM STA. 15+75.24 TO STA. 17+00.00
FROM STA. 18+73.62 TO STA. 18+98.12
FROM STA. 20+60.00 TO STA. 21+24.00
FROM STA. 22+66.68 TO STA. 22+93.08
FROM STA. 26+80.00 TO STA. 27+05.00

Ⓐ THE SLOPE OF THE SHOULDER AND THE ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 7%.



SUPERELEVATED SECTION
(STATE ROUTE 108)

(BASED ON STD. DWG. RD11-TS-3)
FROM STA. 17+00.00 TO STA. 18+73.62
FROM STA. 18+98.12 TO STA. 20+60.00
FROM STA. 21+24.00 TO STA. 22+66.68
FROM STA. 22+93.08 TO STA. 26+80.00

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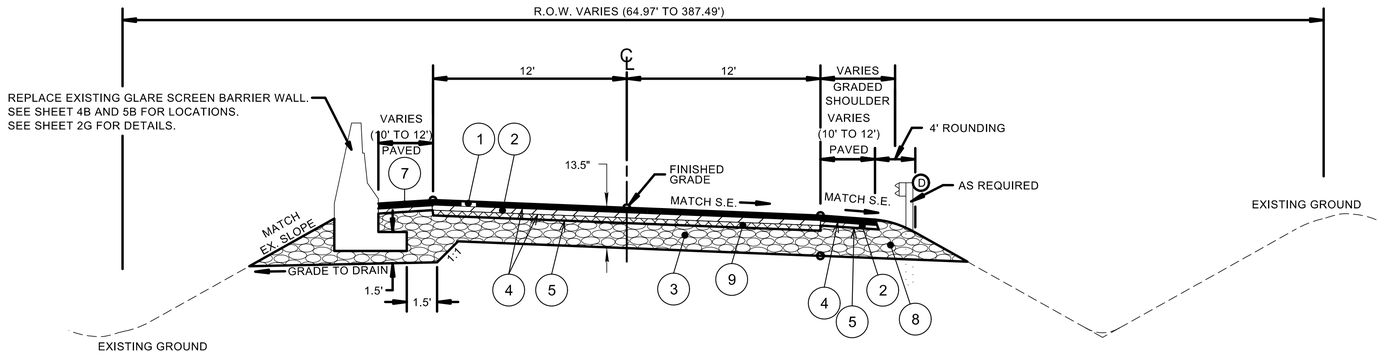
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

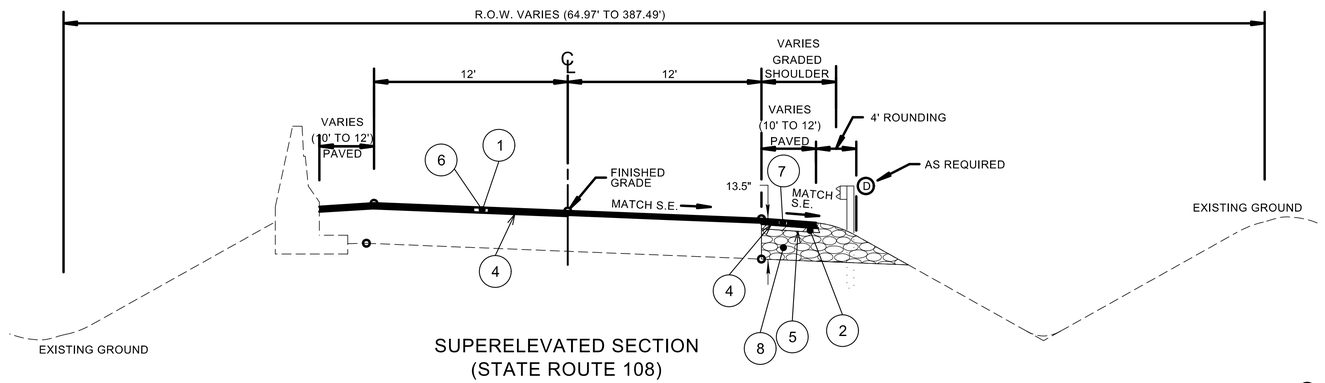
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2B2
PIH	2024	PROT-108(106)	2B2
PS&E	2025	PROT-108(106)	2B2



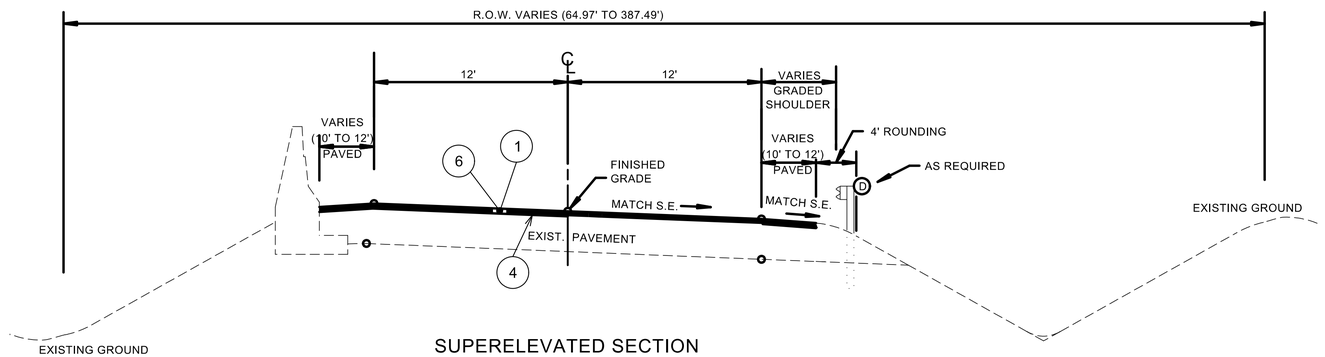
SUPERELEVATED SECTION
(STATE ROUTE 108)

(BASED ON STD. DWG. RD11-TS-3)
FROM STA. 27+05.00 TO STA. 27+75.00



SUPERELEVATED SECTION
(STATE ROUTE 108)

(BASED ON STD. DWG. RD11-TS-3)
FROM STA. 27+75.00 TO STA. 28+50.00



SUPERELEVATED SECTION
(STATE ROUTE 108)

(BASED ON STD. DWG. RD11-TS-3)
FROM STA. 28+50.00 TO STA. 32+00.00

Ⓓ SEE STANDARD DRAWING S-PL-6 FOR TYPICAL GUARDRAIL PLACEMENT.

SEALED BY

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STATE OF TENNESSEE
06/04/2025

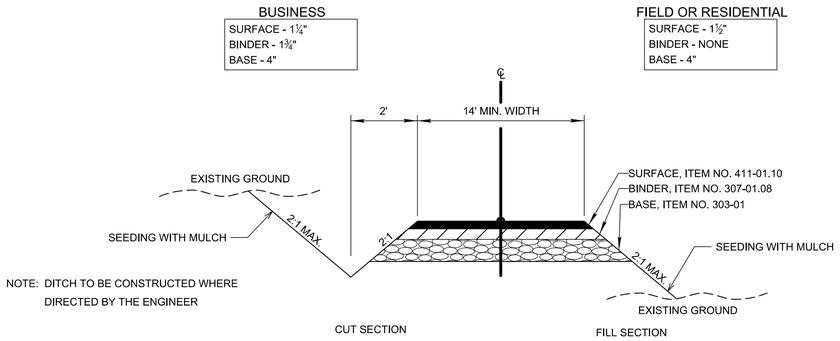
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

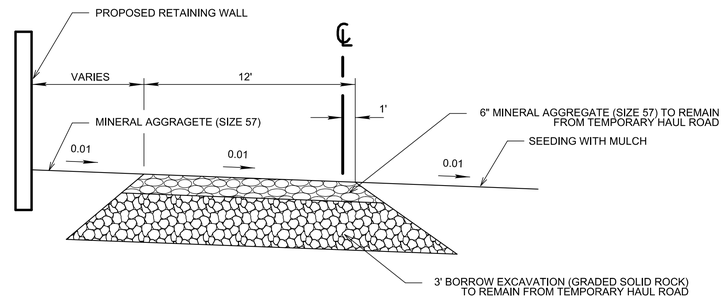
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2B3
PIH	2024	PROT-108(106)	2B3
PS&E	2025	PROT-108(106)	2B3

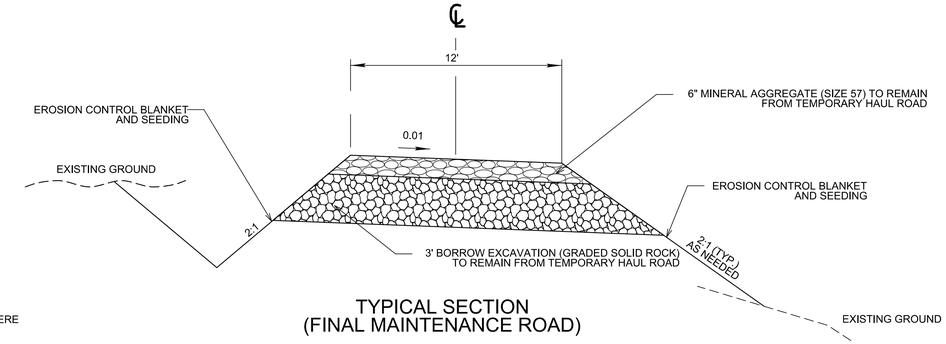
REV. 04-10-24: REVISED TYPICAL SECTION (TEMP. HAUL RD). ADDED HAUL ROAD 1.



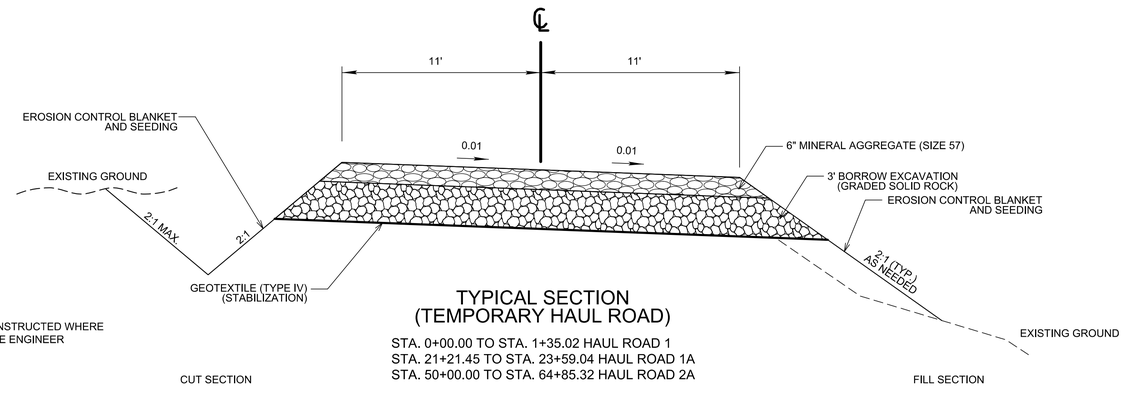
TYPICAL SECTION
PRIVATE DRIVE TO BUSINESS,
FIELD, OR RESIDENTIAL PROPERTY



TYPICAL SECTION
(FINAL MAINTENANCE ROAD)
STA. 50+49.30 TO STA. 64+53.98 HAUL ROAD 2A



TYPICAL SECTION
(FINAL MAINTENANCE ROAD)
STA. 21+28.58 TO STA. 23+59.04 HAUL ROAD 1A



TYPICAL SECTION
(TEMPORARY HAUL ROAD)
STA. 0+00.00 TO STA. 1+35.02 HAUL ROAD 1
STA. 21+21.45 TO STA. 23+59.04 HAUL ROAD 1A
STA. 50+00.00 TO STA. 64+85.32 HAUL ROAD 2A

NOTE:

1. IF CONSTRUCTION IN AREAS THAT ARE EITHER DRY OR UNSTATURATED, HAUL ROAD SHALL BE CONSTRUCTED OF BORROW EXCAVATION (GRADED SOLID ROCK). IF CONSTRUCTED IN WATER OR IN AN AREA WITHIN THE FLOODPLAIN IN THE CASE OF A 5 YEAR STORM EVENT, ONE OF THE FOLLOWING MATERIALS SHALL BE USED IN LIEU OF BORROW EXCAVATION (GRADED SOLID ROCK):
   - MACHINED RIP-RAP (CLASS A-1)
   - MACHINED RIP-RAP (CLASS B)
   - MACHINED RIP-RAP (CLASS C)

2. CONTRACTOR RESPONSIBLE FOR TEMPORARY SHORING AS REQUIRED.

3. HAUL ROAD TO INCLUDE ALL PHASES OF CONSTRUCTION, INCLUDING PHASES INDICATED IN THE RETAINING WALL PLANS, AND REMOVAL OF ANY AREA THAT IS NOT TO REMAIN AS THE MAINTENANCE ROAD.

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TYPICAL SECTIONS

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GENERAL NOTES

GRADING

(1) ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

(2) CERTIFICATION FOR ALL BORROW PITS MUST BE OBTAINED IN ACCORDANCE WITH SUBSECTION 107.06 OF THE STANDARD SPECIFICATIONS.

(3) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WITHOUT APPROVAL BY FEMA. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

SEEDING AND SODDING

(1) ALL EXISTING ROADS WITHIN THE RIGHT-OF-WAY AND NOT IN THE GRADED AREA THAT ARE TO BE ABANDONED SHALL BE SCARIFIED, OBLITERATED, TOPSOILED AND SEEDED. SCARIFYING AND OBLITERATING THE PAVEMENT WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS. TOPSOIL, IN ACCORDANCE WITH SECTION 203 OF THE STANDARD SPECIFICATIONS, WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 203-04. SEEDING, IN ACCORDANCE WITH SECTION 801 OF THE STANDARD SPECIFICATIONS, WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 801-01.

(2) SOD SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS TO PREVENT DAMAGE TO ADJACENT FACILITIES AND PROPERTY DUE TO EROSION ON ALL NEWLY GRADED CUT AND FILL SLOPES AS WORK PROGRESSES.

(3) ITEM NO. 801-02, SEEDING (WITHOUT MULCH) AND EROSION CONTROL BLANKET SHALL BE USED ON SLOPES 3:1 OR STEEPER AND OTHER AREAS AS INDICATED IN THE PLANS THAT ARE INACCESSIBLE FOR MOWING.

(4) ITEM NO. 801-01, SEEDING (WITH MULCH), SHALL BE USED WHERE EROSION CONTROL BLANKET OR SOD ARE NOT APPLIED.

(5) ITEM NO. 801-02, SEEDING (WITHOUT MULCH) AND EROSION CONTROL BLANKET, SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS AS WELL AS LOCATIONS DIRECTED BY THE ENGINEER.

GUARDRAIL

(1) THE CONTRACTOR SHALL NOT REMOVE ANY SECTIONS OF EXISTING GUARDRAIL TO REWORK SHOULDERS OR FLATTEN SLOPES UNTIL THE ENGINEER CONCURS IN THE NECESSITY OF REMOVAL DUE TO CONSTRUCTION REQUIREMENTS AND THE APPROPRIATE WARNING DEVICES ARE INSTALLED. THE PROPOSED GUARDRAIL, INCLUDING ANY ANCHOR SYSTEM, SHALL BE INSTALLED QUICKLY TO MINIMIZE TRAFFIC EXPOSURE TO ANY HAZARD. NO PAYMENT WILL BE MADE FOR A SECTION OF PROPOSED GUARDRAIL, INCLUDING ANCHORS, UNTIL IT IS COMPLETE IN PLACE.

(3) IF ANY APPROACH END OF A SECTION OF GUARDRAIL OR BRIDGE RAIL MUST TEMPORARILY BE LEFT INCOMPLETE AND EXPOSED TO TRAFFIC, THE CONTRACTOR SHALL USE TWO (2) TEMPORARY BARRICADES OR DRUMS WITH TYPE "A" LIGHTS AND ROUNDED END ELEMENTS AS MINIMUM MEASURES TO PROTECT TRAFFIC FROM THE HAZARD OF AN EXPOSED END. ALL COST OF FURNISHING AND INSTALLING TEMPORARY BARRICADES OR DRUMS WITH TYPE "A" LIGHTS TO DELINEATE GUARDRAIL END AND A TEMPORARY ROUNDED END ELEMENT SHALL BE INCLUDED IN THE COST OF THE PROPOSED GUARDRAIL END TERMINAL.

(4) GUARDRAIL IS TO BE COMPLETE IN PLACE BEFORE THE MAINLINE ROADWAY IS OPENED TO TRAFFIC.

DRAINAGE

(1) THE CONTRACTOR SHALL SHAPE DITCHES TO THE SPECIFIED DESIGN. THIS WORK WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS.

(3) CULVERT EXCAVATION FOR CONCRETE BOX OR SLAB TYPE CULVERTS OR BRIDGES WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS.

(4) THE CUTTING OF INLET AND OUTLET DITCHES WHERE SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER WILL BE MEASURED AND PAID FOR AS ITEM NO. 203-01 ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED).

(5) WHERE A CULVERT (PIPE, SLAB OR BOX) IS MOVED TO A NEW LOCATION OTHER THAN THAT SHOWN ON THE PLANS, INCREASING OR DECREASING THE AMOUNT OF CULVERT EXCAVATION WILL NOT RESULT IN AN INCREASE OR DECREASE IN THE AMOUNT OF PAYMENT THAT WILL BE MADE DUE TO SUCH CHANGE.

(6) DURING CONSTRUCTION OF DRAINAGE STRUCTURES ALL COST ASSOCIATED WITH MAINTAINING THE FLOW OF WATER AND TRAFFIC, AT THESE STRUCTURES, DURING THE PHASED CONSTRUCTION OF THIS PROJECT ARE TO BE INCLUDED IN THE UNIT PRICE OF THE DRAINAGE STRUCTURES AND TRAFFIC CONTROL ITEMS.

(7) ALL EXISTING PIPES AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER THAT ARE TO BE LEFT IN PLACE AND ABANDONED MUST BE BACKFILLED AND PLUGGED. ALL COST FOR THIS WORK SHALL BE INCLUDED IN ITEM NO. 204-08.01, BACKFILL MATERIAL (FLOWABLE FILL), C.Y.

MISCELLANEOUS

(2) THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND RESET MAILBOXES AND POSTS WHERE AND AS DIRECTED BY THE ENGINEER. COST TO BE INCLUDED IN PRICE BID FOR OTHER CONSTRUCTION ITEMS.

(3) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA.

PAVEMENT MARKINGS

TEMPORARY PAVEMENT MARKINGS ON INTERMEDIATE LAYERS

(2) TEMPORARY PAVEMENT LINE MARKINGS ON INTERMEDIATE LAYERS OF PAVEMENT SHALL BE REFLECTIVE TAPE OR REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.20, PAINTED PAVEMENT MARKING (6" LINE), L.M.

FINAL PAVEMENT MARKING

(8) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 6" ENHANCED FLATLINE THERMOPLASTIC INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-12.02, ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

DETOURS, LANE SHIFTS AND MEDIAN CROSS-OVERS

(16) THE PAVEMENT MARKING ON THE LANE SHIFT FOR CENTERLINE AND EDGELINES WILL BE INSTALLED AND MAINTAINED TO THE SAME STANDARDS AS FOR PERMANENT MARKINGS ON THE MAIN ROADWAY. THESE MARKINGS SHALL BE IN PLACE PRIOR TO ALLOWING TRAFFIC ONTO THE PAVEMENT. THESE PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.20, L.M.

(17) BEFORE OPENING THE LANE SHIFT TO TRAFFIC, THE TRANSITIONAL MARKINGS ON THE EXISTING ROADWAY MUST BE IN PLACE. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 712-09.08 AND 712-09.04 PER L.F. ALL EXISTING MARKINGS IN THE AREA OF THESE TRANSITIONAL MARKINGS SHALL BE OBLITERATED AND ALL EXISTING RAISED PAVEMENT MARKERS SHALL BE REMOVED TO ELIMINATE CONFLICTING MARKINGS. REMOVAL OF THE EXISTING CONFLICTING MARKINGS AND RAISED PAVEMENT MARKERS WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN ITEM NO. 712-01, TRAFFIC CONTROL, LUMP SUM.

SNOWPLOWABLE REFLECTIVE PAVEMENT MARKERS

(19) REMOVE EXISTING SNOWPLOWABLE MARKERS PRIOR TO PAVING AND/OR COLD PLANING. REMOVE ALL ADHESIVES PRIOR TO PAVING. PATCH ANY HOLES OR DIVOTS RESULTING FROM THE REMOVAL OF A MARKER IN A MANNER WHICH ENSURES A UNIFORM PAVED SURFACE. PATCH WORK SHALL BE INCLUDED WITH COST OF OTHER ITEMS OF CONSTRUCTION.

PAVEMENT

PAVING

(1) THE CONTRACTOR SHALL BE REQUIRED TO PAVE IN THE DIRECTION OF TRAFFIC.

(2) THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.

(3) THE CONTRACTOR SHALL ATTACH A DEVICE TO THE SCREED OF THE PAVER SUCH THAT MATERIAL IS CONFINED AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A CONSOLIDATED WEDGE-SHAPE PAVEMENT EDGE OF APPROXIMATELY 25 TO 30 DEGREES AS IT LEAVES THE PAVER (MEASURED FROM A LINE PARALLEL TO THE PAVEMENT SURFACE.) THE DEVICE SHALL MEET THE REQUIREMENTS THAT ARE CURRENTLY SET FORTH IN SPECIAL PROVISION 407SE.

RESURFACING

(4) WHERE DIRECTED BY THE TDOT ENGINEER, THE CONTRACTOR SHALL BE REQUIRED TO SHAPE PUBLIC SIDE ROADS, BUSINESS ENTRANCES, AND PRIVATE DRIVES, AS WELL AS CLEANING OF EXISTING DRAINS BEFORE PLACING MATERIALS. ALL COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

(6) PRIVATE DRIVEWAYS, FIELD ENTRANCES, AND BUSINESS ENTRANCES WILL BE RESURFACED A PAVER WIDTH (LANE WIDTH) AS A MINIMUM. A PAVEMENT TAPER TO TRANSITION THE NEW PAVEMENT SHALL BE REQUIRED, IT SHALL BE BASED ON AN ADDITIONAL ONE FOOT OF WIDTH PER ONE INCH DEPTH OF PAVEMENT. IF THE SHOULDER IS NARROW ENOUGH THAT THE SUM OF THE SHOULDER AND THE TRANSITION ARE LESS THAN A PAVER WIDTH, THE TRANSITION SHALL OCCUR WITHIN THE PAVER WIDTH. IF THE SUM OF THE SHOULDER AND THE TRANSITION IS GREATER THAN A PAVER WIDTH (LANE WIDTH), THE TRANSITION SHALL OCCUR OUTSIDE OF THE PAVER WIDTH.

(9) IN ALL CASES, THE LENGTH OF THE PAVEMENT TRANSITION, THE THICKNESS AND WIDTH OF THE RESURFACING AND ANY ADDITIONAL PAVEMENT MATERIALS SHALL BE AS DIRECTED BY THE TDOT ENGINEER.

GRADED SOLID ROCK

(1) THE ROCK FILL (GRADED SOLID ROCK) MATERIAL SHALL CONSIST OF SOUND, NON-DEGRADABLE LIMESTONE OR SANDSTONE WITH A MAXIMUM SIZE OF 3'-0". AT LEAST 50% (BY WEIGHT) OF THE ROCK SHALL BE UNIFORMLY DISTRIBUTED BETWEEN 1'-0" AND 3'-0" IN DIAMETER, AND NO GREATER THAN 10% (BY WEIGHT) SHALL BE LESS THAN 2" IN DIAMETER. THE MATERIAL SHALL BE ROUGHLY EQUIDIMENSIONAL; THIN, SLABBY MATERIALS WILL NOT BE ACCEPTED. THE CONTRACTOR SHALL BE REQUIRED TO PROCESS THE MATERIAL WITH AN ACCEPTABLE MECHANICAL MEANS (A SCREENING PROCESS CAPABLE OF PRODUCING THE REQUIRED GRADATION). THE ROCK SHALL BE APPROVED BY A REPRESENTATIVE OF THE DIVISION OF MATERIALS AND TESTS BEFORE USE.

(2) THIS GRADED SOLID ROCK MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING FIVE FEET IN DEPTH.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	2C
PS&E	2025	PROT-108(106)	2C

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GENERAL NOTES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	2C1
PS&E	2025	PROT-108(106)	2C1

GENERAL NOTES (CONTINUED)

SIGNING

(1) THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS, EXCEPT THAT CUT-OUT DIRECT APPLIED COPY SHALL BE USED ON ALL FLAT SHEET SIGNS WITH A GREEN BACKGROUND. THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL EXTRUDED PANEL SIGNS SHALL BE DIRECT APPLIED OR DEMOUNTABLE. ALL EXTRUDED PANEL SIGNS SHALL BE ATTACHED TO THE SIGN FACE, AS OUTLINED IN THE STANDARD SPECIFICATIONS. ALL SHIELDS ON GUIDE SIGNS SHALL BE DIRECT APPLIED OR DEMOUNTABLE AND ATTACHED TO THE SIGN FACE AS OUTLINED IN THE STANDARD SPECIFICATIONS.

(2) FOR ALL PERMANENT PANEL SIGNS WITH A SILVER-WHITE, YELLOW, RED, GREEN, BROWN, OR BLUE BACKGROUND, PROVIDE REFLECTIVE SHEETING THAT MEETS OR EXCEEDS AASHTO M268, TYPE D.

(3) THE LENGTHS OF ALL SIGN SUPPORTS SHOWN ON THE SIGN SCHEDULE ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THE LENGTHS WERE COMPUTED FROM THE CROSS-SECTIONS CONTAINED IN THE CONSTRUCTION PLANS. IN THE EVENT THE SUPPORT LENGTHS ARE 2 FEET SHORTER OR LONGER THAN SHOWN ON THE PLANS, THE ENGINEER SHALL VERIFY THE SUPPORT TYPE WITH THE TRAFFIC OPERATIONS DIVISION, SIGNING SECTION, TELEPHONE NO. (615)-741-0802. THE CONTRACTOR SHALL VERIFY ALL SUPPORT LENGTHS AT THE SITE PRIOR TO ORDERING MATERIAL.

(4) THE TOP OF THE SIGN FOOTINGS SHALL BE PLACED LEVEL WITH THE GROUND LINE.

(6) THE CONTRACTOR SHALL BE REQUIRED TO FURNISH LAYOUT DRAWINGS OF ALL EXTRUDED PANEL SIGNS WITH SPACING OF ALL LETTERS, NUMERALS, SHIELDS, AND ARROWS. ONE PDF SET OF THE LAYOUT DRAWINGS SHALL BE SENT TO THE TRAFFIC OPERATIONS DIVISION, SIGNING SECTION (TDOT.TrafficOps.Sign-Reviews@tn.gov) FOR REVIEW. ONE PDF SET OF THE LAYOUT DRAWINGS SHALL BE SENT TO THE REGIONAL SIGN DESIGNER FOR REVIEW.

(8) THE EXISTING FOOTINGS ARE TO BE REMOVED 6 INCHES BELOW GROUND LINE.

(12) ALL SIGNS WHICH INTERFERE WITH CONSTRUCTION WILL BE RELOCATED OUTSIDE LIMITS OF CONSTRUCTION BY THE CONTRACTOR. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR WILL RESTORE THE SIGNS TO ORIGINAL LOCATION. THE CONTRACTOR SHALL CHECK WITH THE REGIONAL TRAFFIC ENGINEER PRIOR TO MOVING ANY PERMANENT SIGNS.

(13) AFTER THE PERMANENT SIGN LOCATIONS HAVE BEEN STAKED, THERE SHALL BE A FIELD INSPECTION AND APPROVAL BY THE ONSTRUCTION FIELD OFFICE. PAYMENT FOR LOCATION AND STAKING SHOULD BE INCLUDED IN THE BID PRICE FOR OTHER ITEMS OF CONSTRUCTION. ANY RELOCATION REQUIRED, DUE TO THE SIGN NOT BEING INSTALLED IN THE CORRECT LOCATION, WILL BE DONE AT THE CONTRACTOR'S EXPENSE.

TRAFFIC CONTROL DIRECTIONAL SIGNING

(7) WHEN EXISTING "TOURIST ORIENTED DIRECTIONAL SIGNS" (TODS) ARE ON NON-ACCESS CONTROLLED CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THESE SIGNS IN FULL VIEW TO THE MOTORING PUBLIC DURING ALL PHASES OF CONSTRUCTION. ALL WORK IN MOVING THESE "TODS" AND TEMPORARY SUPPORTS ARE TO BE PAID FOR UNDER ITEM NO. 712-01, AS DIRECTED BY THE ENGINEER. NEW SUPPORTS AND SIGN FACE FOR FINAL LOCATION WILL BE PAID FOR UNDER OTHER ITEMS OF CONSTRUCTION.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

(1) ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.

(2) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO. 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.

(3) A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.

(4) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.

(5) USE OF BARRICADES, PORTABLE BARRIER RAILS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL INCREASE TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

(6) THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO PARK WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

(7) ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

(8) THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAKING CONSTRUCTION SIGNS. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM NO. 712-06, SIGNS (CONSTRUCTION), S.F.

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GENERAL NOTES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	2D
PS&E	2025	PROT-108(106)	2D

SPECIAL NOTES

GRADING

(1) THE GRADING TABULATIONS AND RESULTING EARTHWORK ASSOCIATED BID QUANTITIES WERE PREPARED UTILIZING AVAILABLE GEOTECHNICAL INFORMATION AND/OR REPORTS PREPARED FOR THIS PROJECT. THIS INFORMATION IS PROVIDED FOR GENERAL INFORMATION AND ESTIMATION GUIDANCE ONLY.

(2) BORING DEPICTIONS SHOWN ON THE FOUNDATION DATA SHEETS, SOILS SHEETS, PLANS, AND CROSS-SECTIONS INDICATE SOIL AND ROCK CONDITIONS AT THE SPECIFIC BORING LOCATIONS. ANY SOIL PROFILE AND/OR ROCK LINE IS INTERPRETIVE BASED ON THE JUDGMENT OF THE GEOTECHNICAL ENGINEER/GEOLOGIST. THE TRANSITION BETWEEN BORINGS AND LAYERS MAY VARY SIGNIFICANTLY DEPENDING ON THE GEOLOGIC FORMATIONS ENCOUNTERED.

(3) TO ASSIST IN BID PREPARATION FOR EARTHWORK AND FOUNDATION CONSTRUCTION, DETAIL ROCK AND SOIL DESCRIPTION AND ON SOME PROJECTS, ROCK CORE SAMPLES ARE AVAILABLE FOR INSPECTION AT THE MATERIALS AND TESTS HEADQUARTERS AT 6601 CENTENNIAL BOULEVARD, NASHVILLE, TN OR AT THE TDOT REGION 1 BUILDING IN KNOXVILLE, TN.

(4) THE CONTRACTOR SHALL UTILIZE ALL INFORMATION PROVIDED IN THE PLANS, CROSS-SECTIONS AND CONTRACT DOCUMENTS INCLUDING ANY SPECIAL PROVISIONS AS WELL AS UTILIZING HIS PAST EXPERIENCE WITH PROJECTS OF SIMILAR NATURE, SCOPE AND LOCATION IN PREPARATION OF HIS BID FOR EARTHWORK ITEMS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND PROVIDE EQUIPMENT AND MEANS NECESSARY TO CONDUCT THE EXCAVATION ACTIVITIES IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.

(5) EARTHWORK IS PAID FOR UNDER ITEM NO. 203-01, ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED). NO ADDITIONAL PAYMENT WILL BE MADE FOR EARTHWORK QUANTITIES BASED SOLELY ON A CLAIM THAT THE QUANTITIES SHOWN IN THE GRADING TABULATION OR ELSEWHERE IN THE PLANS ARE INACCURATE WITH RESPECT TO THE TYPE OF MATERIALS ENCOUNTERED DURING CONSTRUCTION EXCEPT AS PROVIDED FOR BY SECTION 104.02 IN THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OR AS AMENDED IN SUPPLEMENTAL SPECIFICATIONS.

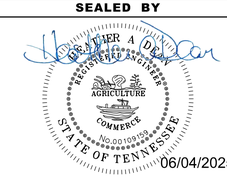
RETAINING WALLS

(1) THE (RIGHT-OF-WAY/EASEMENT) BETWEEN STATION 11+95.00 TO STATION 27+05.00 SHALL REMAIN CLEAR FOR THE CONSTRUCTION OF THE RETAINING WALL. NO UTILITY LINES MAY BE PLACED THERE WITHOUT APPROVAL FROM STRUCTURES DIVISION.

(2) THE OPTIONS FOR RETAINING WALL TYPES SHALL BE LIMITED TO THE APPROVED ALTERNATIVES AS SPECIFIED ON THE RETAINING WALL SHEET(S).

(4) COSTS FOR EXCAVATION OF THE WALL SHALL BE INCLUDED IN ITEM NO. 203-01, ROAD AND DRAINAGE EXCAVATION PER CUBIC YARD. END AREAS FOR EXCAVATION FOR THE WALL SHALL BE INCLUDED IN END AREA TOTALS ON CROSS-SECTIONS.

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06/04/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SPECIAL NOTES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2E
PIH	2024	PROT-108(106)	2E
PS&E	2025	PROT-108(106)	2E

ENVIRONMENTAL NOTES

ENVIRONMENTAL GENERAL NOTES

NATURAL RESOURCES

(1) SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. EPSC MEASURES TO PROTECT NATURAL RESOURCES AND WATER QUALITY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. APPROPRIATE EPSC MEASURES MUST BE INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG NATURAL RESOURCES IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS, WETLANDS OR OTHER NATURAL FEATURES IN ACCORDANCE WITH TDOT STANDARDS. EPSC MEASURES SHALL BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.

(2) NEW CHANNEL CONSTRUCTION SHALL BE COMPLETED IN THE DRY AND STABILIZED FOR AT LEAST 72 HOURS PRIOR TO DIVERTING WATER FROM THE EXISTING AND/OR TEMPORARY CHANNEL.

(3) INSTREAM EPSC DEVICES REQUIRE THE TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION REVIEW AND MUST BE PROCESSED BY THE PERMITS SECTION TO OBTAIN WATER QUALITY PERMITS.

(4) THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE/U.S., INCLUDING WETLANDS AND EPHEMERAL, INTERMITTENT, AND PERENNIAL STREAMS, IS NOT ALLOWED.

(5) THE WIDTH OF THE FILL ASSOCIATED WITH TEMPORARY CROSSINGS SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR THE ACTUAL CROSSING, NOT TO EXCEED THE WIDTH SPECIFIED IN THE STANDARD DRAWING.

(6) STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT. TEMPORARY CULVERT CROSSINGS SHALL BE LIMITED TO ONE POINT PER STREAM AND EPSC MEASURES SHALL BE USED WHERE THE STREAM BANKS ARE DISTURBED. WHERE THE STREAMBED IS NOT COMPOSED OF BEDROCK, A PAD OF CLEAN ROCK SHALL BE USED AT THE CROSSING POINT AND CULVERTED TO PREVENT THE IMPOUNDMENT OF WATER FLOW. CLEAN ROCK IS ROCK OF VARIOUS TYPE AND SIZE, DEPENDING UPON APPLICATION, WHICH CONTAINS NO FINES, SOILS, OR OTHER WASTES OR CONTAMINANTS. OTHER MATERIALS USED FOR ALL TEMPORARY FILLS SHALL BE COMPLETELY REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO PREEXISTING ELEVATIONS. ALL TEMPORARY CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. EC-STR-25 UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ALTERNATIVELY, PLACING A TEMPORARY BRIDGE (E.G. BAILEY BRIDGE OR EQUIVALENT, TIMBERS, ETC.) FROM TOP OF BANK TO TOP OF BANK OR THE APPROPRIATE USE OF BARGES AT THE CROSSING TO AVOID DISTURBANCE OF THE STREAMBED IS AN ACCEPTABLE OPTION.

(7) HEAVY EQUIPMENT WORKING IN WETLANDS WITH PERMITTED TEMPORARY IMPACTS SHALL BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE AND COMPACTION UNLESS SPECIFICALLY ADDRESSED IN THE CONSTRUCTION PLANS. ANY MATS AND OTHER MEASURES USED FOR HEAVY EQUIPMENT SHALL BE REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED. ALL AFFECTED AREAS SHOULD BE RETURNED TO PRE-EXISTING CONDITIONS.

(8) WETLANDS SHALL NOT BE USED AS EQUIPMENT STORAGE, STAGING, OR TRANSPORTATION AREAS, UNLESS SPECIFICALLY PROVIDED FOR IN THE CONSTRUCTION PLANS AND PERMITS.

(9) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS PRIOR TO ANY CONSTRUCTION AND MAINTENANCE ACTIVITIES TO ENSURE THAT ENVIRONMENTAL FEATURES (E.G., STREAMS, WETLANDS, SPRINGS, ETC.) ARE NOT IMPACTED BEYOND PERMITTED LOCATIONS. IF THE CONTRACTOR OR TDOT INSPECTOR IS UNSURE OF THE IDENTITY OF AN ENVIRONMENTAL FEATURE, THE INSPECTOR SHALL CONTACT THE TDOT REGION ENVIRONMENTAL TECH GROUP IMMEDIATELY.

SPECIES

(10) NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF THOSE SPECIES OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY. INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA.

(11) SHOULD CLIFF SWALLOW OR BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG AND ADULTS) BE PRESENT, THE CONTRACTOR SHALL CONTACT THE REGIONAL ECOLOGY OFFICE TO DETERMINE IF SEASONAL RESTRICTIONS WILL BE NECESSARY. GENERALLY, BIRDS, NESTS, AND EGGS MAY NOT BE DISTURBED BETWEEN APRIL 15 AND JULY 31. FROM AUGUST 1 TO APRIL 14, NESTS CAN BE REMOVED OR DESTROYED SO LONG AS BIRDS OR EGGS ARE NOT PRESENT, AND MEASURES IMPLEMENTED TO PREVENT FUTURE NEST BUILDING AT THE SITE (I.E., CLOSING OFF AREA USING NETTING).

(12) IF THE REMOVAL OF ANY TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) GREATER THAN 3 INCHES IS DEEMED NECESSARY THE TDOT SUPERVISOR SHALL CONTACT THE TDOT ENVIRONMENTAL DIVISION, ECOLOGY SECTION IMMEDIATELY.

PERMITS, PLANS & RECORDS

(13) THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND OBTAIN ANY NECESSARY ENVIRONMENTAL PERMITS OR APPROVALS, INCLUDING BUT NOT LIMITED TO ARCHAEOLOGY, ECOLOGY, HISTORICAL, HAZARDOUS MATERIALS, AIR AND NOISE, TDEC ARAP/401, USACE SECTION 404, TVA SECTION 26A, AND TDEC NPDES PERMITS, FROM FEDERAL, STATE AND/OR LOCAL AGENCIES REGARDING ANY MATERIAL AND STAGING AREAS AND THE OPERATION OF ANY PROJECT-DEDICATED ASPHALT AND/OR CONCRETE PLANTS TO BE USED. ANY SUCH PERMITS SHALL BE SUPPLIED TO THE TDOT PROJECT RESPONSIBLE PARTY PRIOR TO THE USE OF THE PERMITTED AREA(S).

(14) ANY DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, THE PROJECT AS CONSTRUCTED, AND THE PERMIT(S) ISSUED FOR THE PROJECT, SHALL BE BROUGHT TO THE ATTENTION OF THE TDOT PROJECT RESPONSIBLE PARTY. THE ENVIRONMENTAL DIVISION, DESIGN DIVISION, AND HEADQUARTERS CONSTRUCTION OFFICE SHALL BE CONTACTED IN THESE INSTANCES AND DECIDE WHICH HAS PRECEDENCE AND WHETHER PERMIT OR PLANS REVISIONS ARE NEEDED. IN GENERAL, PERMIT CONDITIONS WILL PREVAIL.

(15) IF A CHANGE IN PROJECT SCOPE OCCURS DURING CONSTRUCTION, INCLUDING VALUE ENGINEERING, THE TDOT PERMIT SECTION SHALL BE CONTACTED TO DETERMINE WHETHER PERMIT REVISIONS ARE NEEDED. THE ROADWAY DESIGN DIVISION SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.

(16) THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATE. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE TDOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.

(17) ALL WATER QUALITY PERMITS SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. THE NAME, COMPANY NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BRIEF DESCRIPTION OF THE PROJECT SHALL ALSO BE POSTED. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE, THE INFORMATION SHALL BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION NEAR WHERE THE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY. THIS LOCATION SHALL BE POSTED AT THE CONSTRUCTION SITE. ALL POSTINGS SHALL BE MAINTAINED IN LEGIBLE CONDITION.

SUPPORT ACTIVITIES

(18) MATERIALS AND STAGING AREAS SHALL NOT AFFECT ANY WATERS OF THE STATE/U.S. UNLESS THESE AREAS ARE SPECIFICALLY COVERED BY ENVIRONMENTAL PERMITS, OBTAINED SOLELY BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATES. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE TDOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.

STREAMS, WETLANDS & BUFFER ZONES

(19) ONCE WATER IS DIVERTED INTO A NEWLY CONSTRUCTED AND STABILIZED RELOCATED STREAM / CHANNEL, THE ECOLOGY SECTION SHALL BE NOTIFIED. THE STREAM NAME, STREAM NUMBER, AND DATE THE WATER WAS DIVERTED INTO THE NEWLY CONSTRUCTED STREAM / CHANNEL SHALL BE SUPPLIED WITH THE NOTIFICATION.

ENVIRONMENTAL

(20) EXCEPT AS OTHERWISE SPECIFIED, THERE ARE NO KNOWN SPECIAL ENVIRONMENTAL FACTORS PRESENT ON THIS PROJECT THAT INDICATE A NEED FOR SEASONAL LIMITATIONS ON THE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OPERATIONS OR ON THE TOTAL AREA OF EXPOSED SOIL.

ENVIRONMENTAL SPECIAL NOTES

ENVIRONMENTAL

(1) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE SHALL BE INVITED TO ALL PRE-CONSTRUCTION MEETINGS.

ECOLOGY

(2) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE SHALL ADVISE THE CONTRACTOR DURING THE PRE-CONSTRUCTION MEETING WHEN ENVIRONMENTAL DIVISION PERSONNEL OR A DESIGNATED CONSULTANT WILL NEED TO BE ONSITE FOR WORK BEING DONE WHICH COULD AFFECT WATERS OF THE STATE/U.S. OR SPECIES.

(3) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE SHALL ATTEND THE PRE-CONSTRUCTION MEETING FOR ALL PROJECTS WHICH HAVE THREATENED OR ENDANGERED SPECIES OR CRITICAL HABITAT PROXIMAL TO SCHEDULED WORK. THIS WILL PROVIDE THE OPPORTUNITY TO ENSURE THAT PERSONNEL INCLUDING THE CONTRACTOR'S PERSONNEL AND SUBCONTRACTORS ARE MADE AWARE OF THE NECESSARY PRECAUTIONS THAT MUST BE FOLLOWED.

(4) ALL PROJECTS WITH LEGALLY PROTECTED SPECIES OR CRITICAL HABITAT IDENTIFIED SHALL HAVE MEASURES IN PLACE TO CONTAIN CONCRETE DUST, CEMENT DUST AND ALL OTHER MATERIALS. THESE MATERIALS ARE NOT ALLOWED TO ENTER WATERS OF THE STATE/U.S.

SCOPE OF WORK

(6) THE GRADING, DRAINING, AND PAVING OF SR-108 WITHIN THE LIMITS OF THE PROJECT.

(7) THE CONSTRUCTION OF SOLDIER PILE WALL AND ANCHOR SYSTEM.

(8) THE CONSTRUCTION OF ALL DRIVES WITHIN THE PROJECT LIMITS.

(9) INSTALLATION AND MAINTENANCE OF ALL NECESSARY MEASURES TO MAINTAIN TRAFFIC THROUGHOUT CONSTRUCITON.

(10) INSTALLATION AND MAINTENANCE OF ALL NECESSARY MEARURES TO PROVIDE APPROPRIATE EROSION PREVENTION AND SEDIMENT CONTROL.

(11) THE CONSTRUCTION OF ALL HAUL ROADS REQUIRED TO CONSTRUCT THE PROJECT.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL NOTES

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ESTIMATED GRADING QUANTITIES

DESCRIPTION	UNADJUSTED VOLUMES (CY)		ADJUSTED VOLUMES (CY)
	EXC.	EMB.	EXC.
MAINLINE	92313	1021	78467
HAUL ROAD AND DRIVE (TRACT 2)	46	4611	40
PVT. DRIVES, BUSINESS AND FIELD ENTRANCES	184	4109	157
INDEPENDENT DITCHES	281	0	239
TEMPORARY CONSTRUCTION EXITS	0	0	
FALLEN ROCK EXCAVATION	682	0	580
TOPSOIL (EMB.)	3851		
TOPSOIL (EXC.)	4327		
TOPSOIL TOTALS (SEE TOPSOIL TABLE)			

ROCK (C.Y.)		TOTALS (C.Y.)				
EXC.	EMB.	EXC. (UNCL.)	EMB. (UNCL.)	EXC (COMMON)	EXC. (AVAIL.)	EXC. (ADJ.)
0	0	101684	9741	101684	93506	79481

BALANCE SUMMARY

SHRINK = 15 % SWELL = 15 %

EXC.		EMB.
79481	VS.	-9741
AVAILABLE	=	69740
WASTE MATERIAL	=	80201

TOPSOIL

IF EXISTING TOPSOIL IS SUITABLE FOR REUSE

PROPOSED SLOPE AREA S.F.	EXISTING TOPSOIL (EXC.)	EXISTING TOPSOIL (EMB.)	EXISTING TOPSOIL (TOTAL) C.Y.	REQUIRED TOPSOIL C.Y.	PLACING TOPSOIL 203-04 C.Y.	FURNISHED TOPSOIL 203-07 C.Y.	EXCESS TOPSOIL C.Y.
156794	3220	1107	4327	2904	2904	0	1423

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2F
PIH	2024	PROT-108(106)	2F
PS&E	2025	PROT-108(106)	2F

REV. 02-05-24 MODIFIED ROW MARKERS QUANTITY
REV. 04-10-24 MODIFIED ROW MARKERS QUANTITY AND MOVED SIDE DRAIN TABULATION AND SIDE DRAIN ENDWALLS TO SHEET 2F1

RIGHT OF WAY MARKERS

SHEET NO.	Item #: 708-02.01 QUANTITIES			
	"A"	"B"	"C"	TOTALS
4	2	8	9	19
5	2	6	5	13
TOTALS	4	14	14	32

PROPOSED GUARDRAIL

SHEET NO.	LOCATION	SIDE		STATIONS		TERMINAL EARTH PAD FOR TYPE 38 GR END TREATMENT 705-04.09 EACH	GUARDRAIL THRIE BEAM BRIDGE TRAN. MASH TL-3 (20.65') 705-06.25 EACH	TERMINAL ANCHORS TYPE 38 MASH TL3 (46.875') 705-06.20 (EACH)
		LT	RT	FROM	TO			
4B	STATE ROUTE 108		X	11+29.89	11+95.00		1	1
4B	STATE ROUTE 108	X		15+10.25	15+75.27	1	1	1
5B	STATE ROUTE 108		X	27+05.00	27+65.08		1	1
TOTALS						1	3	3

PROPOSED CONCRETE BARRIER WALL AND MEDIAN BARRIER WALL

SHEET NO.	LOCATION	SIDE		STATION		CONCRETE GLARE SCREEN BARRIER WALL 711-05.65 (L.F.)
		LT	RT	FROM	TO	
4B	SR-108	X		15+75.24	16+09.90	35
4B	SR-108	X		18+63.15	18+82.95	20
5B	SR-108	X		20+60.17	21+23.68	64
5B	SR-108	X		22+53.92	22+73.73	20
5B	SR-108	X		25+13.46	25+33.36	20
5B	SR-108	X		26+80.00	27+75.00	95
5B	SR-108	X		28+30.97	28+50.97	20
5B	SR-108	X		31+39.36	31+59.58	20
TOTALS						294

PAVEMENT QUANTITIES

LOCATION (ROADWAY)	TYPE - GRADE - PAY ITEM (TON)									
	MINERAL AGG.	BITUMINOUS PLANT MIX BASE (HOT MIX)				PRIME COAT		TACK COAT	ASPHALTIC CONCRETE SURFACE (HOT MIX)	
	D	A	A-S	B-M	B-M2				D	E
	303-01	307-01.01	307-01.20	307-01.07	307-01.08	402-01	402-02	403-01	411-01.10	411-01.07
STATE ROUTE 108	2640.0	419.0			591.0	6.7	23.2	4.8	421.0	319.0
PRIVATE DRIVES	219.0							0.3	78.0	
TOTALS	2859.0	419.0			591.0	6.7	23.2	5.1	499.0	319.0

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ALEXANDER A DEAN
REGISTERED ARCHITECT
AGRICULTURE COMMERCE
NO.00109159
STATE OF TENNESSEE
06/04/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TABULATED QUANTITIES

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REMOVAL OF STRUCTURES

SHEET NO.	STATION	LOCATION	DESCRIPTION	REMARKS
4	12+45	SR 108, 75' LT.	TRACT 1, 1S-F-RES.	
4	12+45	SR 108, 63' LT.	TRACT 1, WELL HOUSE	
4	12+95	SR 108, 75' LT.	TRACT 1, SHED	
4	13+81	SR 108, 23' LT.	CATCHBASIN	
4	15+10	SR 108, 40' RT.	2'X2'X5' STACKED STONE MONUMENT AND 6'X6'X4' CONCRETE PAD	
4	15+75	SR 108, 22' LT.	35 LF OF CONCRETE BARRIER	
4	18+75	SR 108, 22' LT.	20 LF OF CONCRETE BARRIER	
5	20+60	SR 108, 22' LT.	65 LF OF CONCRETE BARRIER	
5	22+50	SR 108, 22' LT.	20 LF OF CONCRETE BARRIER	
5	25+15	SR 108, 22' LT.	20 LF OF CONCRETE BARRIER	
5	26+80	SR 108, 22' LT.	95 LF OF CONCRETE BARRIER	
5	28+30	SR 108, 22' LT.	20 LF OF CONCRETE BARRIER	
5	31+40	SR 108, 22' LT.	20 LF OF CONCRETE BARRIER	

REMOVAL OF GUARDRAIL

SHEET NO.	STATION FROM	STATION TO	LOCATION	LENGTH
4	13+61	15+76	SR 108 (LT)	217
5	15+00	27+44	SR 108 (RT)	1244
TOTAL				1461

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2F1
PIH	2024	PROT-108(106)	2F1
PS&E	2025	PROT-108(106)	2F1

REV. 04-10-24: REMOVED REMOVAL OF BUILDINGS AND OBSTRUCTIONS DESCRIPTION BLOCK AND ADDED SIDE DRAIN TABULATION AND SIDE DRAIN ENDWALLS TO THIS SHEET.
REV. 06-27-25: ADDED ITEMS TO REMOVAL OF STRUCTURES TABLE

STORM DRAINAGE PIPES

SHEET NO.	INLET CODE NO.	INLET OUTLET ELEV.	OUTLET CODE NO.	OUTLET INLET ELEV.	% GRADE	REINFORCED CONCRETE PIPE - CLASS, ITEM NO., SIZE & LENGTH (FT.)						
							CLASS III 607-03.02 18"	CLASS III 607-05.02 24"	CLASS III 607-06.02 30"	CLASS III 607-07.02 36"	CLASS III 607-08.02 42"	
4B	4	1250.34	5	1250.23	0.50%		14'					
4B	9	1276.40	8	1275.85	0.50%		47'					
4B	8	1275.69	7	1275.63	1.06%		10'					
5B	15	1303.72	14	1302.50	2.38%		52'					
5B	14	1302.33	13	1302.26	0.50%		10'					
5B	16	1316.08	17	1315.82	2.59%		11'					
5B	18	1330.20	19	1330.10	0.57%		18'					
5B	20	1350.12	21	1350.03	0.59%		16'					
TOTALS							178'					

STORM DRAIN ENDWALLS

LOCATION \ SHEET NO.	STATION	OFFSET (FT.)	SKEW	CODE	TYPE	STANDARD DRAWING NO.	PROTECTED ENDWALLS CLASS "A" CONCRETE 611-07.01 (C.Y.)	PROTECTED ENDWALLS STEEL BAR REINFORCING 611-07.02 (LB.)
SR-108/4B	18+68.18	29.67	57°	7.0	ST	D-PE-4	1.0	45
SR-108/5B	22+58.69	28.53	51°	13.0	ST	D-PE-4	1.0	45
SR-108/5B	25+23.30	30.97	90°	17.0	ST	D-PE-4	1.0	45
SR-108/5B	28+25.70	32.97	90°	19.0	ST	D-PE-4	1.0	45
SR-108/5B	31+37.61	33.46	90°	21.0	ST	D-PE-4	1.0	45
TOTALS							5.0	225

CATCH BASINS AND MANHOLES

SHEET NO.	LOCATION	STATION	OFFSET (FT.)	DRAINAGE CODE	GRATE/ TOP ELEV.	INVERT ELEV.	DEPTH (FT.)	INSIDE DIM.	STANDARD DRAWING NO.	PAY ITEMS TYPE 3 611-01.03 8'-12'	TYPE 3 611-01.05 16'-20'	TYPE 40 611-40.03 8'-12'	TYPE 41 611-41.02 4'-8'	TYPE 51 611-51.02 4'-8'	TYPE 38 611-38.02 4'-8'
4B	SR-108	13+70.00	-25.33	1	1247.44	1243.6	3.84	4'X4'	D-CB-38SB						1
4B	SR-108	13+70.00	26.14	2	1246.55	1222.56	23.99	5'2"X5'2"	*						
4B	SR-108	16+00.00	-34.03	5	1258.27	1250.06	8.21	9'X9'	D-MH-7 **			1			
4B	SR-108	16+00.00	28.1	6	1257.76	1233.26	24.5	9'X9'	*						
4B	SR-108	18+73.07	-20.83	8	1279.59	1275.69	3.9	4'X3'	D-CB-41S				1		
4B	SR-108	19+00.00	22	9	1280.55	1276.4	4.15	5'2"X5'2"	D-CB-51SC					1	
5B	SR-108	20+70.00	26.46	11	1291.45	1252.37	39.08	5'2"X5'2"	*						
5B	SR-108	22+63.82	-20.93	14	1306.41	1302.33	4.08	4'X3'	D-CB-41S				1		
5B	SR-108	22+99.88	22	15	1307.77	1303.72	4.05	5'2"X5'2"	D-CB-51SC					1	
5B	SR-108	25+23.41	-20.94	16	1319.99	1316.08	3.91	4'X3'	D-CB-41S				1		
5B	SR-108	28+40.97	-20.83	18	1334.14	1330.2	3.94	4'X3'	D-CB-41S				1		
5B	SR-108	31+49.47	-20.83	20	1354.07	1350.12	3.95	4'X3'	D-CB-41S				1		
4B	DRIVE TRACT 2	2+31.90	11.7	24	1217.68	1199.56	18.12	5' DIA.	D-MH-2		1				
4B	DRIVE TRACT 2	3+55.01	11.57	27	1211.57	1202.15	9.42	5' DIA.	D-MH-2	1					
TOTALS										1	1	1	5	2	1

* SEE STRUCTURAL PLANS FOR DETAILS AND QUANTITIES.

** TO INCLUDE PROPOSED STAINLESS STEEL SMOOTH SURFACE BAR GRATING, 2 - 72" X 24" GRATE, WITH 19.1 SF CLEAR OPENING AREA TO CAP EXISTING MANHOLE NO. 4 AND PROPOSED STAINLESS STEEL SMOOTH SURFACE BAR GRATING, 5-120" X 24" GRATES, WITH 71.7 SF CLEAR OPENING AREA FOR MANHOLE NO. 5.

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JENNIFER A DEAN REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 001091 STATE OF TENNESSEE 06/27/2025

SIDE DRAIN TABULATION

STATION	LOCATION LT.	LOCATION RT.	DESCRIPTION	SURFACE WIDTH FT.	SKEW	RCP CLASS III (L.F.) FILL HEIGHT ≤ 10 FT. 607-39.04 30"	END TREATMENT INLET TYPE	END TREATMENT INLET DRAWING NO.	END TREATMENT OUTLET TYPE	END TREATMENT OUTLET DRAWING NO.	REMARKS
11+15.00	X		TRACT 5	14	90°	24	SAFETY	D-SEW-1A	SAFETY	D-SEW-1A	
TOTALS						24	Pipe Tabulation For Private Drives, Business & Field Entrances				

SIDE DRAIN ENDWALLS

LOCATION	DRIVE OR ENTRANCE STATION	OFFSET (FT.)	TYPE	STANDARD DRAWING NO.	SKEW	ENDWALLS 30" IN. 6:1 611-07.33 (EACH)
SR-108	11+15.00	24.27	SAFETY	D-SEW-1A	90°	2
TOTALS						2

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TABULATED QUANTITIES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2F2
PIH	2024	PROT-108(106)	2F2
PS&E	2025	PROT-108(106)	2F2

REV. 04-10-24: REVISED CROSS DRAIN TABULATION - ADDED SR-108 10+41.53 AND REMOVED BOTH SR-108 10+52.79. REVISED CROSS DRAIN/MEDIAN DRAIN ENDWALLS - REMOVED SR-108 10+73.18 AND ADDED SR-108 10+36.39.

BOX CULVERT \ BRIDGE TABULATION

STATION	LOCATION	TYPE		SKEW	NO. BARRELS	WIDTH	HEIGHT	LENGTH	DRAINAGE AREA ACRES	STANDARD DRAWING NO.	CULVERT ≤ 20 FT.		STD. DWG. STD-17-17 & 18		RIP-RAP CLASS "B" 709-05.08 TON	RIP-RAP CLASS "C" 709-05.09 TON	CHANNEL EXC. 203-08 CU. YD.	CULVERT EXC. 204-01 CU. YD.
		BOX	SLAB								CLASS "A" CONCRETE 604-01.01 CU. YD.	STEEL BAR REINF. 604-01.02 LB.	FOUNDATION FILL MATERIAL 204-08 CU. YD.	GRANULAR BACKFILL 303-01.01 TONS				
27+41.72	SR-108	X		75°	2	8	4	66	103	STD-17-72	97.70	19998	56	465	82	88	457	
TOTALS											97.70	19998	56	465	82	88	457	

CROSS DRAIN TABULATION

STATION	SKEW	RCP CLASS III FILL HEIGHT ≤16 FT. (L.F.) 607-03.02 THRU 607-13.03				END TREATMENT				REMARKS
						INLET		OUTLET		
		18"	30"	72"	78"	TYPE	DRAWING NO.	TYPE	DRAWING. NO.	
SR-108 10+41.53	80°		51			U	D-PE-30A & B	U	D-PE-30A & B	INLET EW CODE 29, OUTLET EW CODE 30
SR-108 13+70.00	90°	48								INLET CB CODE 1, OUTLET MH CODE 2
SR-108 13+70.00	90°	21						ST	D-PE-4	INLET MH CODE 2, OUTLET EW CODE 3
SR-108 16+00.00	90°			56						INLET MH CODE 5, OUTLET MH CODE 6
SR-108 16+00.00	90°			18				PEW	D-PEW-1 & 2	INLET MH CODE 6, OUTLET EW CODE 31
SR-108 20+70.00	90°		60			ST	D-PEW-4			INLET EW CODE 10, OUTLET MH CODE 11
SR-108 20+70.00	90°		25					ST	D-PEW-4	INLET MH CODE 11, OUTLET EW CODE 12
DRIVE TRACT 2 2+37.57	64°	73				ST	D-PEW-4			INLET EW CODE 23, OUTLET MH CODE 24
DRIVE TRACT 2 2+37.57	64°	37						ST	D-PEW-4	INLET MH CODE 24, OUTLET EW CODE 25
DRIVE TRACT 2 3+52.75	79°		21			ST	D-PEW-4			INLET EW CODE 26, OUTLET MH CODE 27
DRIVE TRACT 2 3+52.75	79°		8					ST	D-PEW-4	INLET MH CODE 27, OUTLET EW CODE 28
TOTALS		179	165	74						

Pipe Tabulation For Arterial Roadways

CROSS DRAIN \ MEDIAN DRAIN ENDWALLS

LOCATION	STATION	OFFSET (FT.)	SKEW	CODE	TYPE	STANDARD DRAWING NO.	RIP-RAP CLASS "B" 709-05.08 (TON)	RIP-RAP CLASS "C" 709-05.09 (TON)	PROTECTED ENDWALLS CLASS "A" CONCRETE 611-07.01 (C.Y.)	PROTECTED ENDWALLS STEEL BAR REINFORCING 611-07.02 (LB.)	SAFETY ENDWALLS 30" IN. 3:1 611-07.60 (EACH)
SR-108	10+45.00	-19.92	90°	29	U	D-PE-30A & B					1
SR-108	10+36.39	29.43	90°	30	U	D-PE-30A & B		46			1
SR-108	13+70.00	48.53	90°	3	ST	D-PE-4	10		1.0	45	
SR-108	16+00.00	42	90°	31	PEW	D-PEW-1 & 2	160		17.0	1115	
SR-108	20+70.00	-36.8	90°	10	ST	D-PEW-4			2.9	109	
SR-108	20+70.00	53	90°	12	ST	D-PEW-4	37		2.9	109	
DRIVE TRACT 2	2+64.22	-55.06	64°	23	ST	D-PEW-4			1.2	30	
DRIVE TRACT 2	2+14.89	46.85	64°	25	ST	D-PEW-4	29		1.2	30	
DRIVE TRACT 2	3+50.68	-10.57	79°	26	ST	D-PEW-4			3.0	112	
DRIVE TRACT 2	3+56.94	21.44	79°	28	ST	D-PEW-4	44		3.0	112	
TOTALS							280	46	32.2	1662	2

TABULATED UNDERDRAINS

SHEET NO.	LOCATION	SIDE		STATIONS		HDPE CORRUGATED & PERFORATED DRAIN PIPE 710-10.02	CORRUGATED HDPE DRAIN PIPE (OUTLET PIPE) 710-10.02	MINERAL AGGREGATE SIZE 57 STONE 303-10.01 (TON)	MACHINED RIP-RAP (CLASS A-1) 709-05.06 (TON)	FILTER CLOTH 710-13.03 (S.Y.)	REMARKS
		LT	RT	FROM	TO	6"	6"				
4B	SR 108	X		13+72	15+50	178		77	70	72	TIE TO PROPOSED CATCH BASIN NO. 1
5B	SR 108	X		20+70	20+97		27				TIE TO EXIST. 6" NON-PERFORATED PIPE AND TIE TO PROP. 30" RCP
5B	SR 108	X		27+57	27+84		27				TIE TO EXIST. 6" PERFORATED PIPE AND TIE TO EXIST. 2 @ 8' X 4' BOX CULVERT
4B - 5B	SR 108	X				630		3290	800	630	TO BE USED FOR SPECIAL DITCH REPAIR AS DIRECTED BY THE ENGINEER - THIS SHALL NOT BE CONSTRUCTED IN THE STREAM
TOTALS						808	54	3367	870	702	

NOTE. SEE SHEET 2G. DETAIL NO. 7 FOR ADDITIONAL DETAILS

HORIZONTIAL DRAINS TABULATION

LOCATION	STATION FROM	STATION TO	LENGTH LF.	HORIZONTAL DRAINS SPACING @ FT.	LENGTH OF HORIZ. DRAIN AT EACH LOCATION	HORIZONTAL DRAIN LF.	HORIZONTAL DRAIN AND CASING LF.
SR 108	14+50	26+95	1245	15	50	4200	
SR 108	12+00	27+00	1500	20	75	5700	
SR 108	12+00	12+40	40	20	40		80
SR 108	26+40	27+00	60	20	40		120
TOTAL						9900	200

SEE SHEET NO. 2G2 FOR DETAILS

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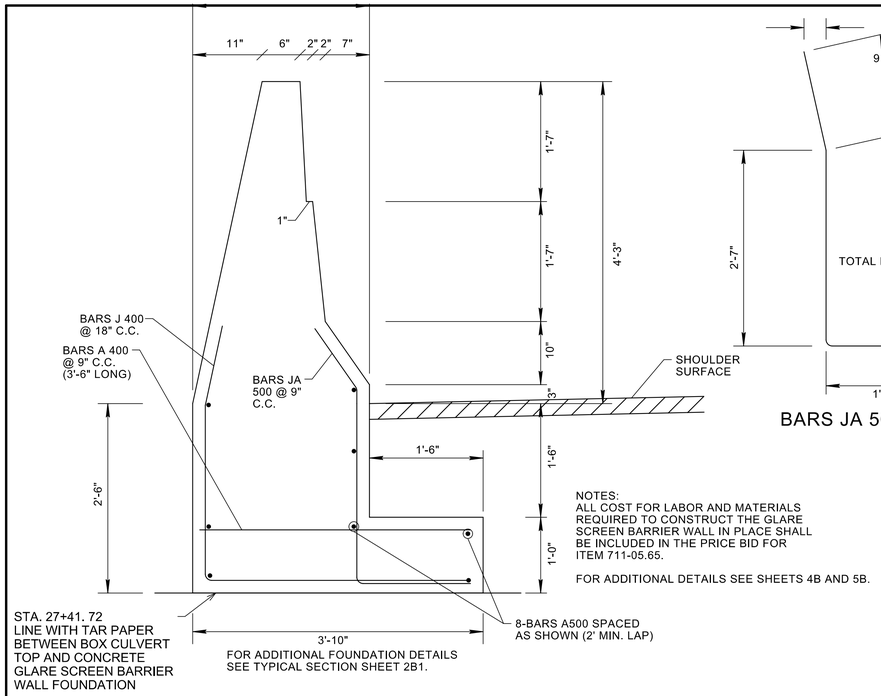
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

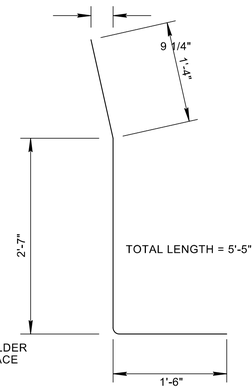
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2G
PIH	2024	PROT-108(106)	2G
PS&E	2025	PROT-108(106)	2G

REV. 04-10-24: REVISED SPECIAL DITCHES - ADDED DITCH SR-108 10+85.55.46 TO 10+41.93.

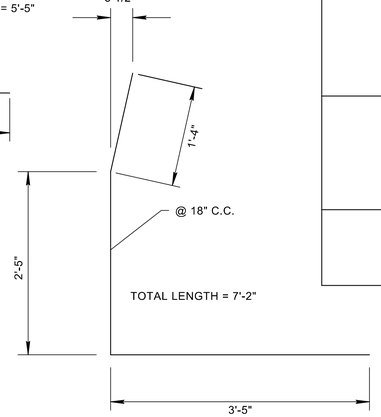




BARS JA 500

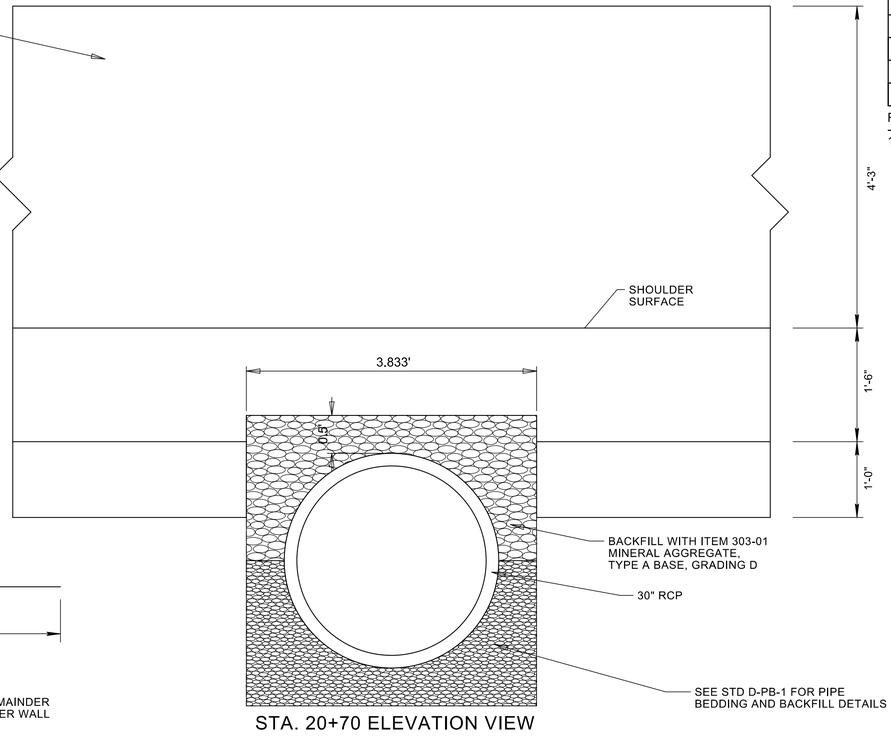
NOTES:
ALL COST FOR LABOR AND MATERIALS REQUIRED TO CONSTRUCT THE GLARE SCREEN BARRIER WALL IN PLACE SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 711-05.65.

FOR ADDITIONAL DETAILS SEE SHEETS 4B AND 5B.



BARS J 400

SEE STD. DW. S-MB-3 FOR REMAINDER OF REINFORCING STEEL IN BARRIER WALL



STA. 20+70 ELEVATION VIEW

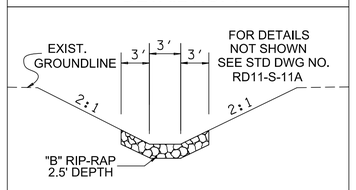
DETAILS CONCRETE GLARE SCREEN BARRIER WALL

N.T.S.

SPECIAL DITCHES

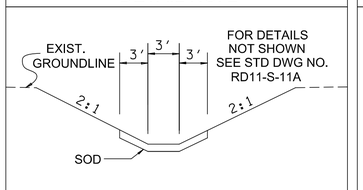
CULVERT CROSSING STA. (STREAM/ ROADWAY)	SPECIAL DITCH STATION		SLOPE			DETAIL NO.	TYPE
	FROM	TO	FORE (H:V)	BOTTOM WIDTH (FT.)	BACK (H:V)		
SR-108	10+28.46	10+45.00	3:1	V	2:1	3	SOD
SR-108	10+45.00	12+00.00	3:1	V	2:1	4	TRM CLASS I
SR-108	10+85.55	10+41.93	4:1	4	2:1	6	SOD
13+70.00	0+00.00	0+33.00	2:1	3	2:1	1	"B" RIP-RAP
13+70.00	0+33.00	1+73.97	2:1	3	2:1	2	SOD
SR-108	13+72.00	15+50.00	VARIES	2	VARIES	7	"A-1" RIP-RAP
SR-108	18+57.86	18+68.18	4:1	V	4:1	5	SOD
SR-108	22+53.84	22+58.69	4:1	V	4:1	5	SOD
SR-108	28+16.15	28+25.70	4:1	V	4:1	5	SOD
SR-108	31+28.64	31+37.63	4:1	V	4:1	5	SOD

DETAIL NO. 1



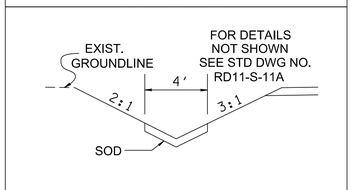
PROP. 3' FLAT BOTTOM RIP-RAP DITCH

DETAIL NO. 2



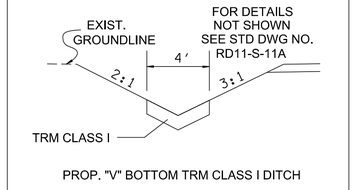
PROP. 3' FLAT BOTTOM SODDED DITCH

DETAIL NO. 3



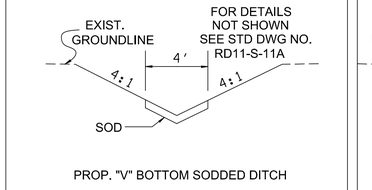
PROP. "V" BOTTOM SODDED DITCH

DETAIL NO. 4



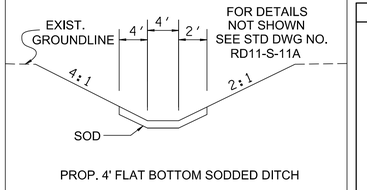
PROP. "V" BOTTOM TRM CLASS I DITCH

DETAIL NO. 5



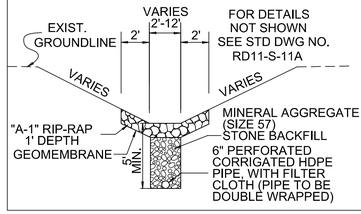
PROP. "V" BOTTOM SODDED DITCH

DETAIL NO. 6



PROP. 4' FLAT BOTTOM SODDED DITCH

DETAIL NO. 7



TYPICAL PERFORATED PIPE UNDERDRAIN

NOTES:
PERFORATED PIPE SHALL BE SLOPED TO DRAIN. OUTLET PIPE SHALL BE OF NON-PERFORAGED PIPE AND SHALL OUTLET INTO EXISTING CROSS DRAIN OR CATCH BASIN AS SHOWN ON THE PLANS. STONE BACKFILL NOT REQUIRED FOR NON-PERFORATED OUTLET PIPE.

THE METHOD FOR INSTALLING THE OUTLET OF THE PROPOSED UNDERDRAIN PIPE TO THE EXISTING DRAINAGE STRUCTURE SHALL BE TO CORE A 8-1/2" DIAMETER HOLE IN THE EXISTING STRUCTURE AT A LOCATION WHERE THE UNDERDRAIN OUTLET PIPE WILL DRAIN, AND INSERT THE UNDERDRAIN OUTLET PIPE PROJECTING 0.5" INTO THE EXISTING PIPE. GROUT SHALL BE APPLIED TO PROVIDE A WATERTIGHT SEAL. ALL COST TO BE INCLUDED IN THE PRICE BID FOR ITEM 710-10.02 6" PERFORATED PLASTIC PIPE. INSTALLATION SHALL BE AS DIRECTED BY THE ENGINEER. SEE PROPOSED LAYOUT FOR LOCATIONS.

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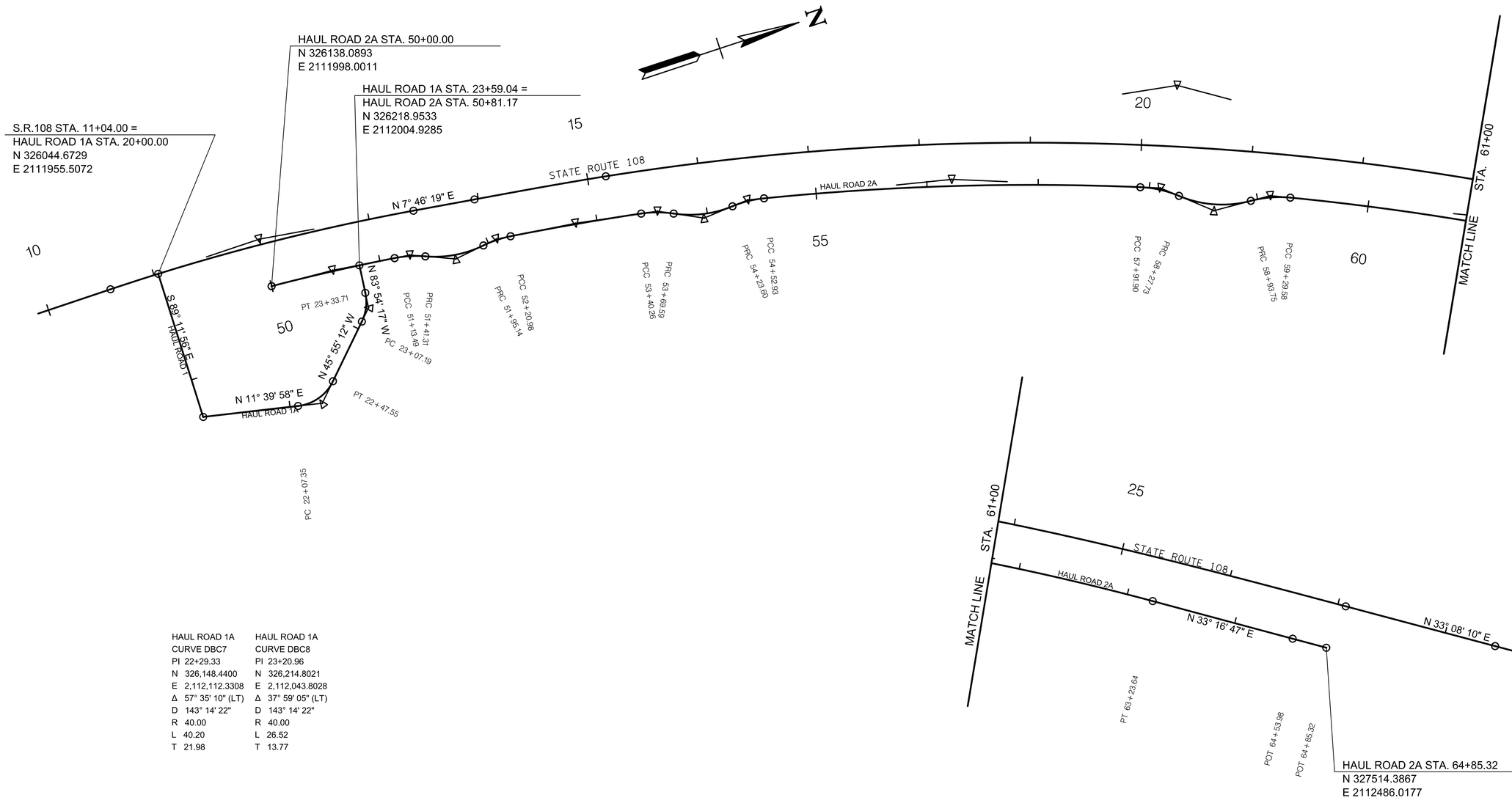
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DEPARTMENT OF TRANSPORTATION

DETAIL SHEET

SHEET 1 OF 7

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2G1
PIH	2024	PROT-108(106)	2G1
PS&E	2025	PROT-108(106)	2G1



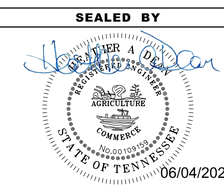
HAUL ROAD 2A STA. 64+85.32
N 327514.3867
E 2112486.0177

HAUL ROAD 1A	HAUL ROAD 1A
CURVE DBC7	CURVE DBC8
PI 22+29.33	PI 23+20.96
N 326,148.4400	N 326,214.8021
E 2,112,112.3308	E 2,112,043.8028
Δ 57° 35' 10" (LT)	Δ 37° 59' 05" (LT)
D 143° 14' 22"	D 143° 14' 22"
R 40.00	R 40.00
L 40.20	L 26.52
T 21.98	T 13.77

HAUL ROAD 2A	HAUL ROAD 2A	HAUL ROAD 2A	HAUL ROAD 2A	HAUL ROAD 2A	HAUL ROAD 2A	HAUL ROAD 2A
CURVE DBC9	CURVE DBC10	CURVE DBC11	CURVE DBC12	CURVE DBC13	CURVE DBC14	CURVE DBC15
PI 50+56.76	PI 51+27.49	PI 51+68.89	PI 52+08.13	PI 52+80.63	PI 53+55.03	PI 53+97.27
N 326,194.7299	N 326,264.9552	N 326,303.2384	N 326,343.4377	N 326,415.5463	N 326,488.8790	N 326,526.8335
E 2,112,001.6615	E 2,112,010.3463	E 2,112,026.5894	E 2,112,021.0454	E 2,112,029.8424	E 2,112,042.5257	E 2,112,061.5480
Δ 3° 21' 09" (RT)	Δ 15° 56' 27" (RT)	Δ 30° 50' 35" (LT)	Δ 14° 48' 28" (RT)	Δ 2° 51' 25" (RT)	Δ 16° 48' 25" (RT)	Δ 30° 56' 46" (LT)
D 2° 57' 15"	D 57° 17' 45"	D 57° 17' 45"	D 57° 17' 45"	D 2° 23' 43"	D 57° 17' 45"	D 57° 17' 45"
R 1,939.53	R 100.00	R 100.00	R 100.00	R 2,392.00	R 100.00	R 100.00
L 113.49	L 27.82	L 53.83	L 25.84	L 119.27	L 29.33	L 54.01
T 56.76	T 14.00	T 27.59	T 12.99	T 59.65	T 14.77	T 27.68

HAUL ROAD 2A	HAUL ROAD 2A	HAUL ROAD 2A	HAUL ROAD 2A	HAUL ROAD 2A	HAUL ROAD 2A
CURVE DBC16	CURVE DBC17	CURVE DBC18	CURVE DBC19	CURVE DBC20	CURVE DBC21
PI 54+38.37	PI 56+22.70	PI 58+10.01	PI 58+61.99	PI 59+11.86	PI 61+27.06
N 326,569.1672	N 326,749.3463	N 326,925.2122	N 326,964.6584	N 327,016.9425	N 327,214.1343
E 2,112,058.3452	E 2,112,098.2253	E 2,112,164.3277	E 2,112,198.7772	E 2,112,201.8001	E 2,112,288.9402
Δ 16° 48' 25" (RT)	Δ 8° 07' 09" (RT)	Δ 20° 31' 55" (RT)	Δ 37° 49' 21" (LT)	Δ 20° 31' 55" (RT)	Δ 9° 26' 20" (RT)
D 57° 17' 45"	D 2° 23' 43"	D 57° 17' 45"	D 57° 17' 45"	D 57° 17' 45"	D 2° 23' 43"
R 100.00	R 2,392.00	R 100.00	R 100.00	R 100.00	R 2,392.00
L 29.33	L 338.97	L 35.83	L 66.01	L 35.83	L 394.06
T 14.77	T 169.77	T 18.11	T 34.26	T 18.11	T 197.48

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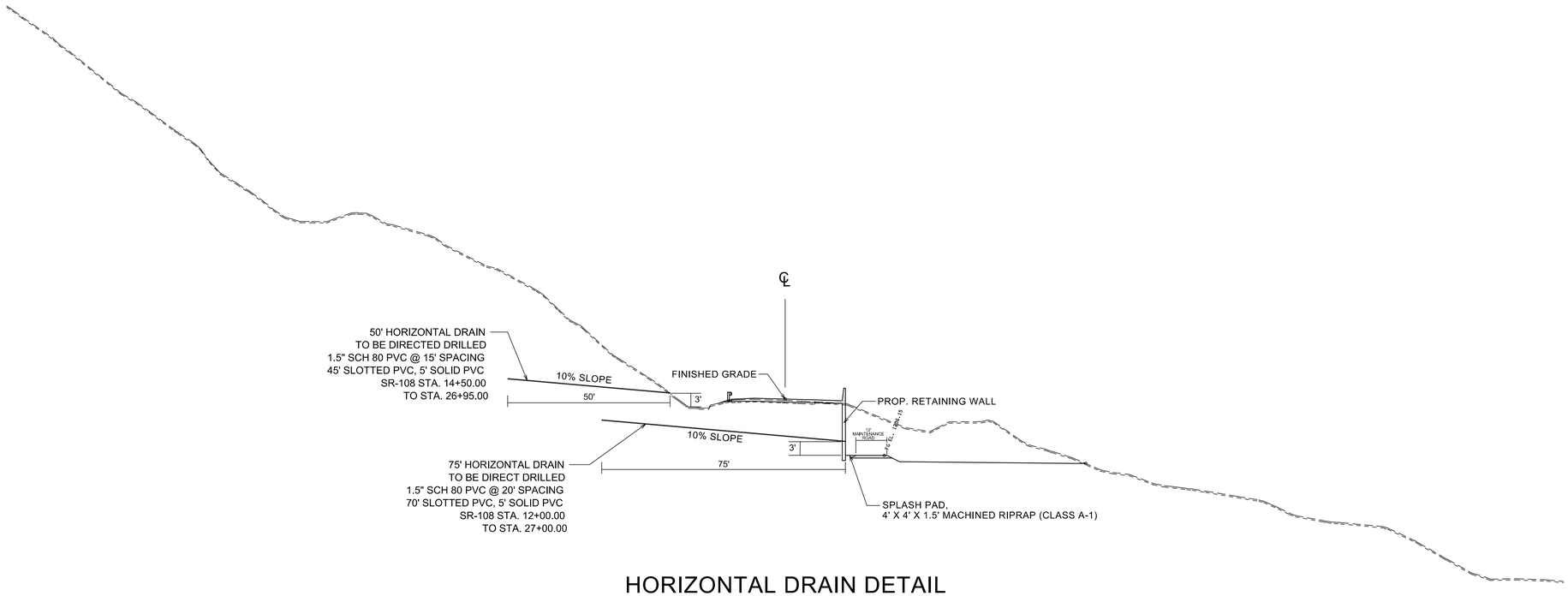
MAINTENANCE ROAD/ HAUL ROAD ALIGNMENTS

DETAIL SHEET

SHEET 2 OF 7

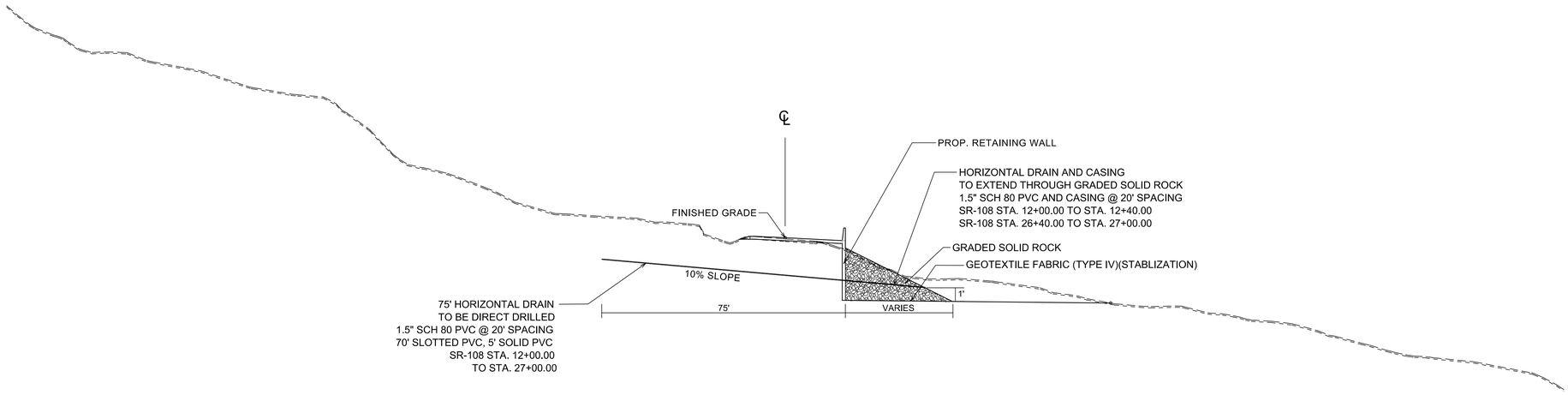
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2G2
PIH	2024	PROT-108(106)	2G2
PS&E	2025	PROT-108(106)	2G2



HORIZONTAL DRAIN DETAIL

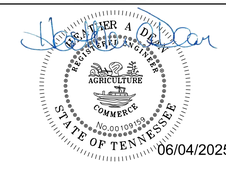
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HORIZONTAL DRAIN AND CASING DETAIL

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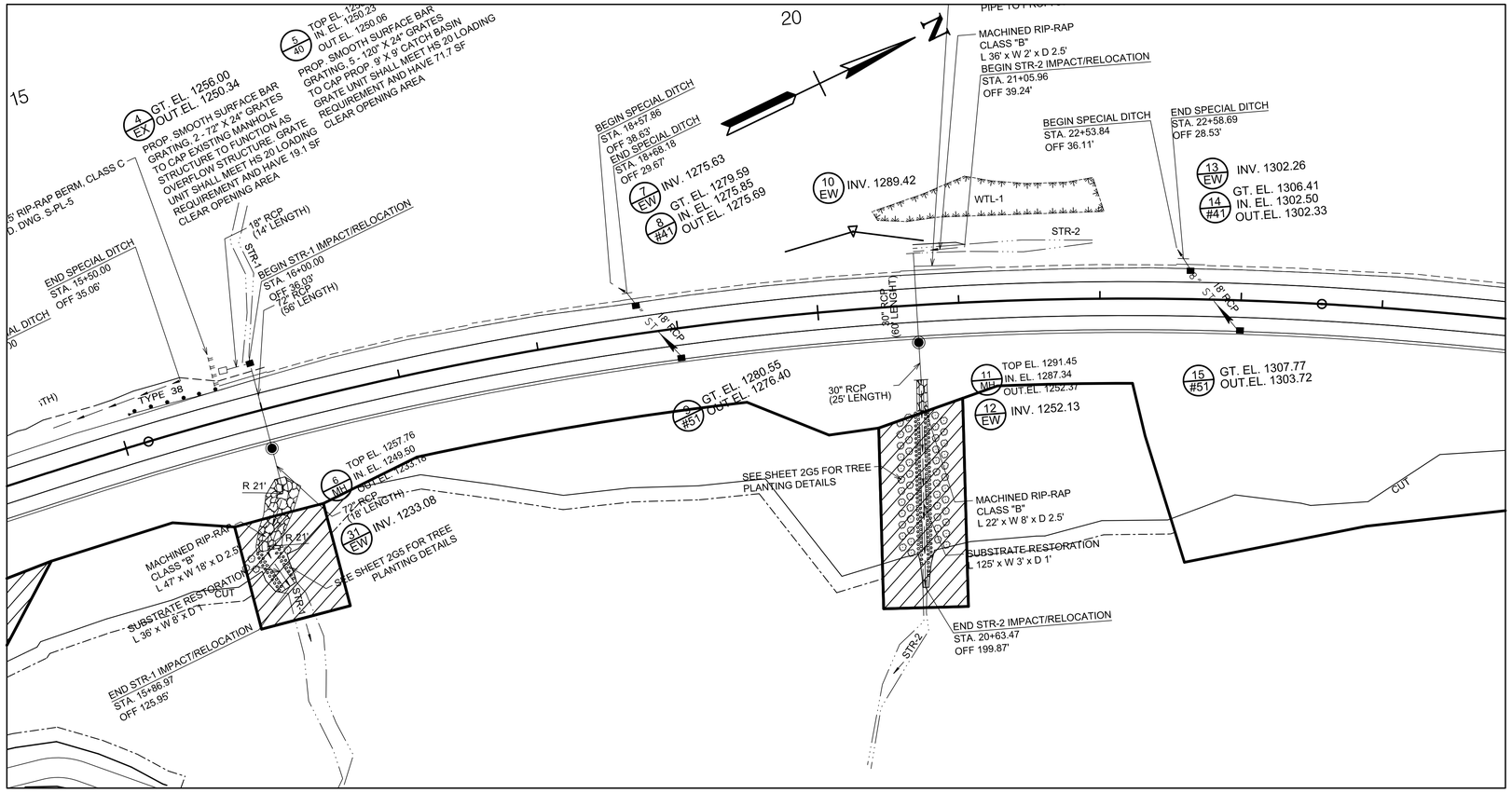
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

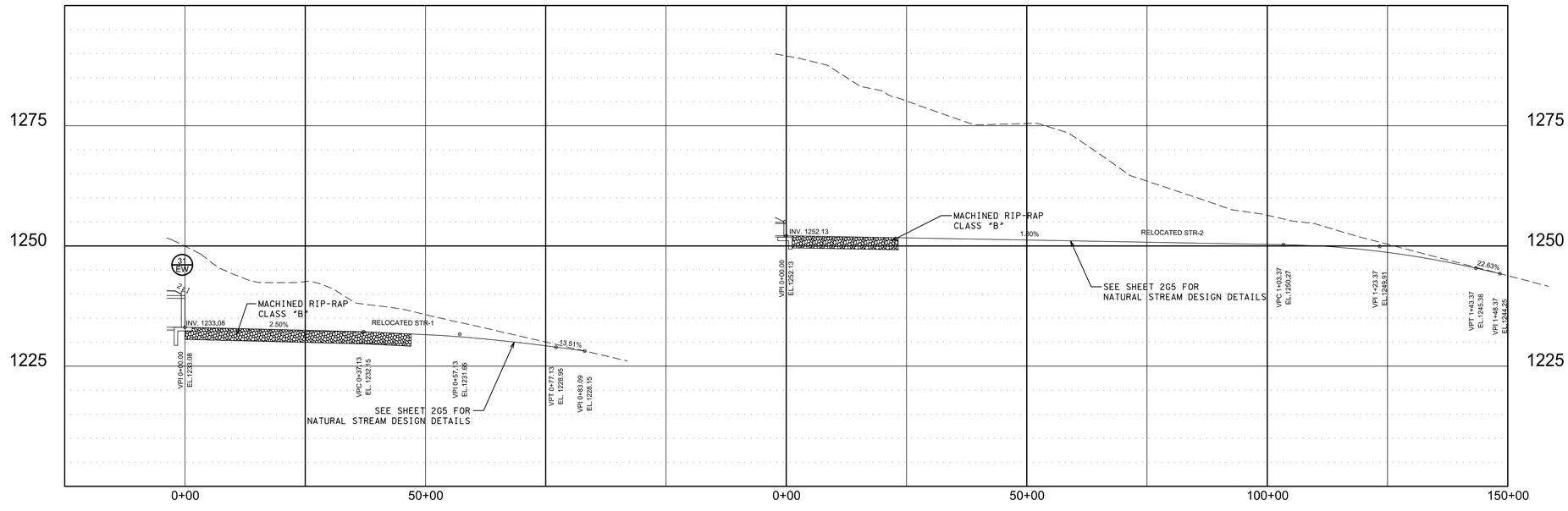
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SHEET 3 OF 7

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2G3
PIH	2024	PROT-108(106)	2G3
PS&E	2025	PROT-108(106)	2G3





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HEATHER A. DEW
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No.00109159
STATE OF TENNESSEE
06/04/2025

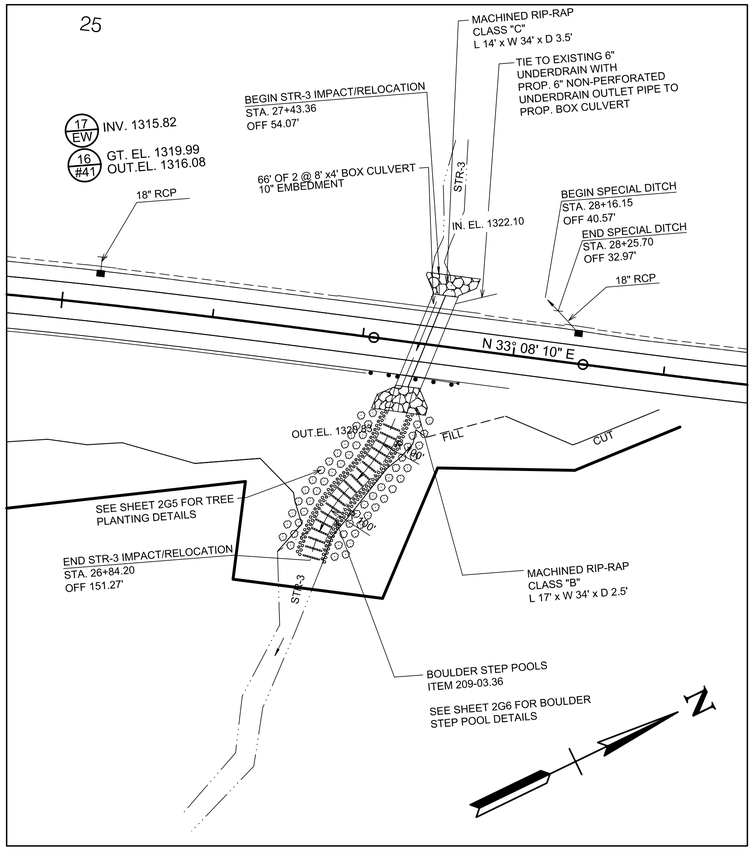
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DEPARTMENT OF TRANSPORTATION

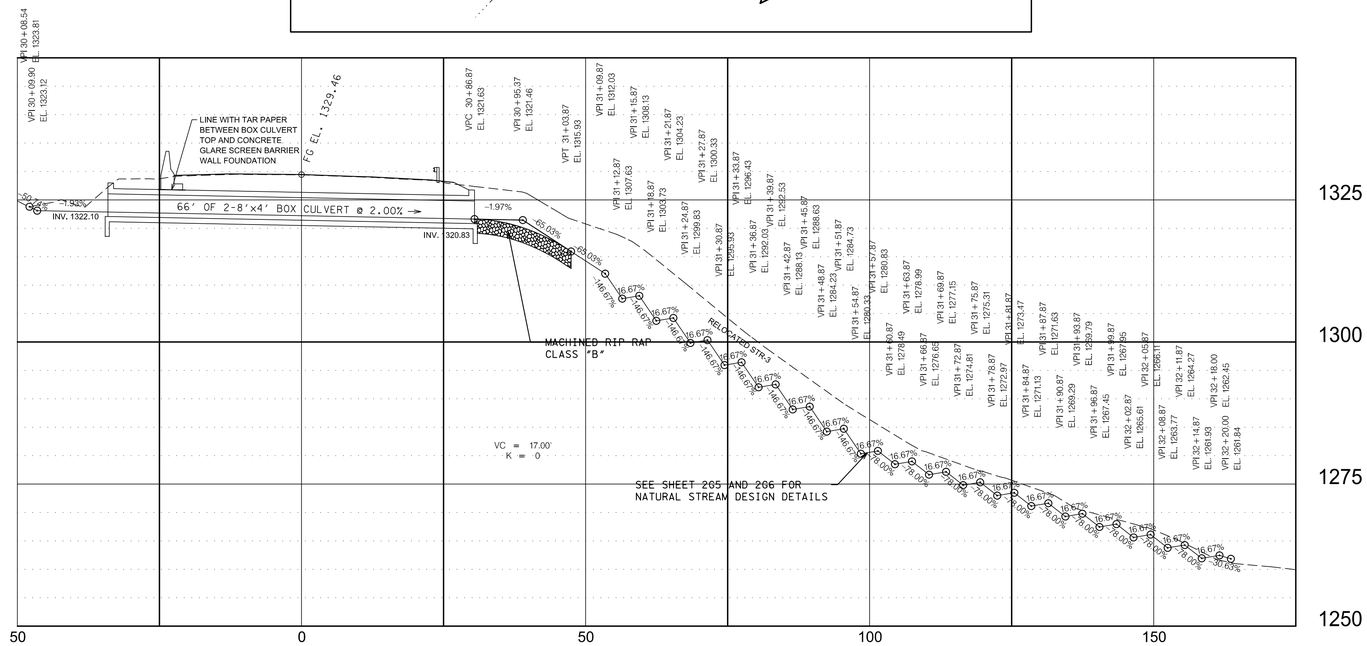
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SHEET 4 OF 7

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2G4
PIH	2024	PROT-108(106)	2G4
PS&E	2025	PROT-108(106)	2G4





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JENNIFER A DENT
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No.0010919
STATE OF TENNESSEE
06/04/2025

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DEPARTMENT OF TRANSPORTATION

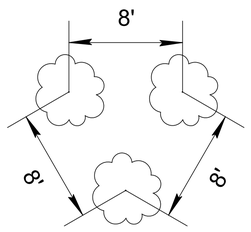
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SHEET 5 OF 7

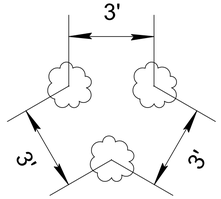
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CHANNEL RELOCATION SEQUENCE AND IMPLEMENTATION NOTES FOR RELOCATED STREAM CHANNELS

1. THE NEW CHANNEL SHALL BE EXCAVATED AND STABILIZED DURING A LOW-WATER PERIOD. RIP-RAP (ONLY AS SHOWN ON PLANS), SEEDING, AND SOD SHALL BE INSTALLED IMMEDIATELY FOLLOWING CHANNEL COMLETION. TREES SHALL BE INSTALLED IN THE FIRST PLANTING SEASON FOLLOWING CHANNEL EXCAVATION. WATER SHALL BE DIVERTED INTO THE NEW CHANNEL ONLY AFTER IT IS COMPLETELY STABILIZED, AND ONLY DURING A LOW-WATER PERIOD. STABILIZED MEANS THAT ALL SPECIFIED ROCK AND EROSION CONTROL BLANKET OR FLEXIBLE CHANNEL LINER IS IN PLACE AND SEEDING AND SOD ARE IN PLACE AND ESTABLISHED.
2. CHANNEL RELOCATION SEQUENCE
   A. FLAG EDGE OF THE NEW CHANNEL TOP BANK PRIOR TO CLEARING. DO NOT CLEAR LARGE TREES IN POSITION TO SHADE THE NEW CHANNEL. LEAVE AS MANY TREES AND SHRUBS AS POSSIBLE BETWEEN TOE OF THE NEW ROADWAY SLOPE AND THE STREAM.
   B. EXCAVATE THE NEW CHANNEL "IN THE DRY" BY LEAVING AREAS OF UNDISTURBED EARTH (DIVERSION BERMS) IN PLACE AT BOTH ENDS.
   C. SHAPE CHANNEL TO SPECIFICATIONS SHOWN. REMOVE LOOSE SOILS AND DEBRIS.
   D. PLACE TOPSOIL, EROSION CONTROL BLANKET OR FLEXIBLE CHANNEL LINER, SEED, AND SOD AS SPECIFIED.
   E. REMOVE DIVERSION BERMS, BEGINNING WITH THE MOST DOWNSTREAM. BANKS AND BOTTOM ELEVATION OF THE OLD CHANNEL SHOULD TRANSITION SMOOTHLY INTO THE NEW CHANNEL. THE ELEVATIONS OF THE NEW CHANNEL BOTTOM AT EACH END OF THE RELOCATION SEQUENCE SHOULD MATCH THE ELEVATIONS OF THE EXISTING CHANNEL, AND A STEADY PERCENT SLOPE SHOULD BE MAINTAINED THROUGHOUT THE RELOCATED CHANNEL CENTERLINE OR AS SPECIFIED.
   F. INSTALL TREES ACCORDING TO STANDARD SPECIFICATIONS SECTION 802.
3. ONLY RIP-RAP SHOWN ON PLANS SHOULD BE USED IN THE RELOCATED CHANNEL REACH. ANY OTHER PROPOSED RIP-RAP SHOULD BE COORDINATED WITH THE ENVIRONMENTAL DIVISION THROUGH THE TDOT HEADQUARTERS CONSTRUCTION OFFICE.
4. REQUESTS BY ANY AGENCY THAT WOULD REQUIRE THE MODIFICATION OF CHANNELS, DITCHES, ELEVATIONS, RIP-RAP OR ANY OTHER STREAM MITIGATION ITEMS ASSOCIATED WITH THE CHANNEL RELOCATIONS SHALL BE REFERRED TO THE TDOT ENVIRONMENTAL DIVISION VIA THE HEADQUARTERS CONSTRUCTION OFFICE FOR COORDINATION WITH ALL INVOLVED AGENCIES AND TDOT DIVISIONS.



TREE SPACING



LIVE WILLOW STAKE SPACING



NOTES:
1. THE PROTECTED AREA SIGN SHALL BE WHITE WITH BLACK LETTERING
2. PROTECTED AREA SIGN SHALL BE PAID FOR UNDER ITEM NO. 209-03.99, PROTECTED AREA SIGN PER EACH, AS SHOWN IN DETAIL ON THIS SHEET PAYMENT SHOULD INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO CONSTRUCT AS SHOWN IN DETAIL.
3. LOCATION AND NUMBER OF SIGNS TO BE PLACED AT LEAST EVERY 50 FT AND AT EVERY INFLECTION POINT.

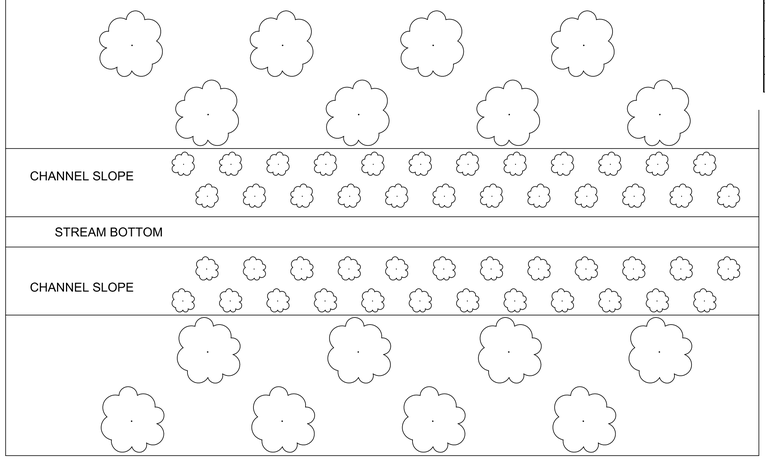
PROTECTED AREA SIGN TO BE 72" WHITE DUAL SIDED

CODE	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1	802-02.30	CUTTINGS: SALIX NIGRA (18IN-24IN LENGTH)	EACH	331
2	802-11.02	ACER RUBRUM (RED MAPLE 2-5FT CNTNR GRWN)	EACH	18
3	802-11.11	CERCIS CANADENSIS (REDBUD 2-5FT CNTNR GRWN)	EACH	18
4	802-11.18	LIQUIDAMBER STYRACIFLUA (SWEETGUM 2-5FT CNTNR GRWN)	EACH	18
5	802-11.19	LIRIODENDRON TJLIPIFERA (TULIP POPLAR 2-5FT CNTNR GRWN)	EACH	18
6	802-11.29	QUERCUS ALBA (WHITE OAK 2-5FT CNTNR GRWN)	EACH	18
7	802-11.33	QUERCUS MICHAUXII (SWMP CHSTNT OAK 2-5FT CNTNR GRWN)	EACH	18

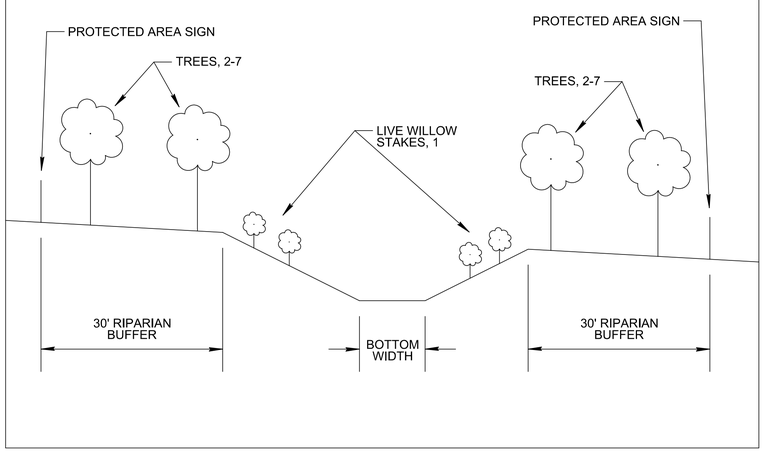
TREES

1. NO SUBSTITUTIONS OF TREE SPECIES OR SIZES SHALL BE ALLOWED WITHOUT THE WRITTEN APPROVAL OF TDOT ENVIRONMENTAL DIVISION. CONCERNING STREAM MITIGATION, TREES SHALL BE OF THE VARIETY REQUESTED AND FIRST QUALITY. CONCERNING TEMPORARY WETLAND MITIGATION, TREES SHALL BE OF THE VARIETY REQUESTED. WELL BRANCHED, BARE ROOT (ROOTS MUST BE KEPT MOIST AT ALL TIMES), AND FIRST QUALITY. NO CLONES OR CULTIVARS WILL BE ACCEPTED. ANY FOUND TO BE INCORRECT SPECIES, OR IMPROPERLY PLANTED, AT ANY TIME PRIOR TO TERMINATION OF THE CONTRACT SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. STAKES AND WIRES SHALL BE REMOVED IMMEDIATELY PRIOR TO CONTRACT TERMINATION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHOULD ARRANGE SEVERAL MONTHS AHEAD OF TIME TO OBTAIN THE CORRECT TREE SPECIES, AS SOME MAY REQUIRE SOME TIME TO LOCATE.
3. ALL TREES PLANTED SHALL BE WRAPPED AS PER SECTION 802.07 OF TDOT STANDARD SPECIFICATIONS FOR THE ROAD AND BRIDGE CONSTRUCTION.
4. TREES SHALL BE WATERED AS REQUIRED THROUGH THE PERIOD OF ESTABLISHMENT TO ENSURE SURVIVAL.

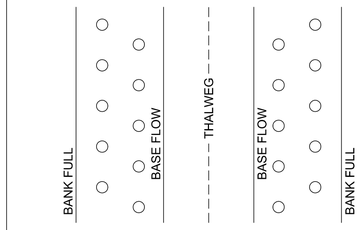
PLANTING PLAN VIEW:



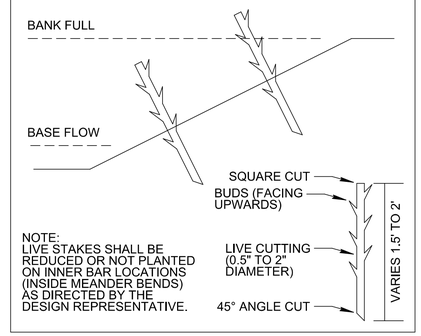
PLANTING CROSS SECTION VIEW:



LIVE STAKING PLAN VIEW:



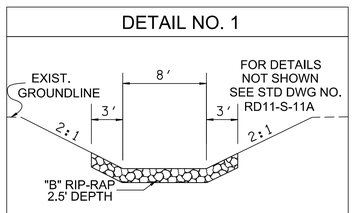
LIVE STAKING CROSS SECTION VIEW:



STREAM RELOCATION

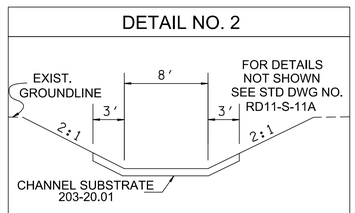
RELOCATED STREAM	RELOCATION STATION		SLOPE			DETAIL NO.	TYPE
	FROM	TO	FORE (H:V)	BOTTOM WIDTH (FT.)	BACK (H:V)		
STR-1	0+00.00	0+53.00	2:1	8	2:1	1	"B" RIP-RAP
STR-1	0+53.00	0+83.09	2:1	8	2:1	2	SUBSTRATE RESTORATION
STR-2	20+70.00	21+06.00	4:1	2	3:1	3	"B" RIP-RAP
STR-2	0+00.00	0+22.00	2:1	3	2:1	3	"B" RIP-RAP
STR-2	0+22.00	1+48.35	2:1	3	2:1	4	SUBSTRATE RESTORATION
STR-3	30+08.54	30+21.82	2:1	12	2:1	5	"B" RIP-RAP
STR-3	30+86.87	31+04.40	2:1	12	2:1	5	"B" RIP-RAP
STR-3	31+04.40	32+20.00	2:1	12	2:1	6	SUBSTRATE RESTORATION

DETAIL NO. 1



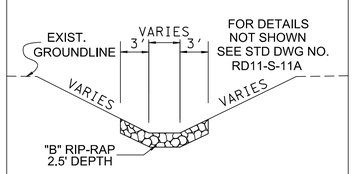
PROP. 8' FLAT BOTTOM RIP-RAP STREAM

DETAIL NO. 2



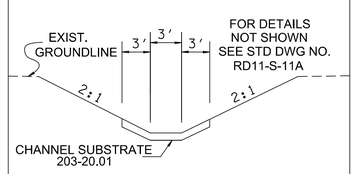
PROP. 8' FLAT BOTTOM STREAM

DETAIL NO. 3



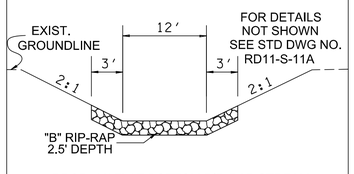
PROP. 3' FLAT BOTTOM RIP-RAP STREAM

DETAIL NO. 4



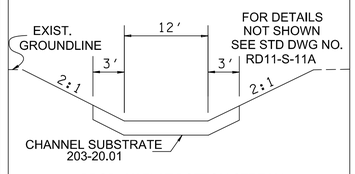
PROP. 3' FLAT BOTTOM STREAM

DETAIL NO. 5



PROP. 12' FLAT BOTTOM RIP-RAP STREAM

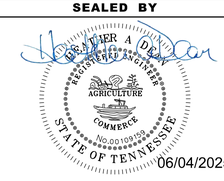
DETAIL NO. 6



PROP. 12' FLAT BOTTOM STREAM

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2G5
PIH	2024	PROT-108(106)	2G5
PS&E	2025	PROT-108(106)	2G5

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DETAIL SHEET

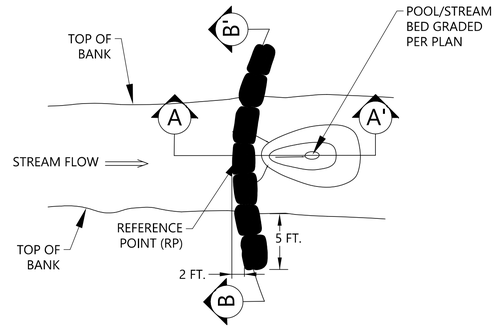
SHEET 6 OF 7

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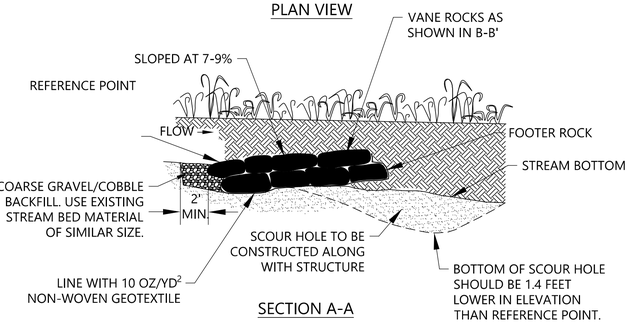
TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	2G6
PIH	2024	PROT-108(106)	2G6
PS&E	2025	PROT-108(106)	2G6

BOULDER STEP POOL NOTES

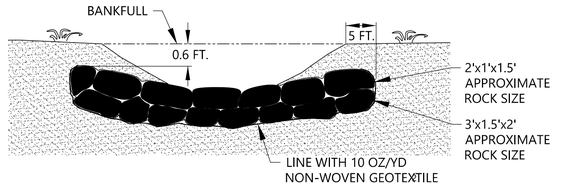
1. BOULDER STEP POOLS ARE HYDRAULIC AND GRADE CONTROL MEASURES THAT DROP FLOW OVER STEEP GRADIENTS, CONCENTRATE FLOWS INTO THE CENTER OF THE CHANNEL, AND ENHANCE HABITAT.
2. BOULDER STEP POOL SHOULD BE PLACED AT THE STATIONS, OFFSETS, ELEVATIONS, AND CONFIGURATION INDICATED ON THE STR-3 VERTICAL ALIGNMENT TABLE IN THE PROJECT PLANS, OR AS DIRECTED BY THE ENGINEER. AT A MINIMUM, THE BANKFULL WIDTH, MEDIAN BOULDER SIZE, VANE AND SILL LENGTHS WILL BE SPECIFIED IN THE DATA TABLE.
3. THE LOWEST POINT OF THE WEIR OF THE BOULDER STEP POOL IS TYPICALLY LOCATED IN THE CENTER OF THE SREAM CHANNEL. THE SURFACE BOULDERS COMPRISING THE WEIR ARE SET AT THE INVERT ELEVATION OF THE STRUCTURE.
4. A MIXTURE OF SELECT MATERIALS, AS SPECIFIED ON THE STREAM MITIGATION PLAN SHEETS, SHOULD BE USED FOR COARSE GRAVEL COBBLE BACKFILL AND TO FILL GAPS IN THE ARCH BOULDERS. COARSE ALLUVIUM EXCAVATED FROM THE EXISTING STREAM BED, WHICH MEETS THE SPECIFIED SIZE CLASSIFICATION, IS THE PREFERRED MATERIAL TO USE.
5. CONSTRUCT BOULDER STEP POOL STRUCTURES BY:
   A. FIRST SHAPE CHANNEL AND FLOODPLAIN TO THE SPECIFIED GRADE AND DIMENSIONS.
   B. NEXT, EXCAVATE ENOUGH BED MATERIAL TO PLACE THE BOULDERS, NON-WOVEN GEOTEXTILE FABRIC (TYPE III) AND SELECT MATERIAL FOR BACKFILL AND SUBSTRATE REPLACEMENT.
   C. PLACE FOOTER BOULDERS AND SURFACE BOULDERS AT THE CHANNEL INVERT AND THEN USE SURVEY EQUIPMENT TO CHECK THE ELEVATIONS OF THE INVERTS IN ACCORDANCE WITH THE STREAM MITIGATION PLANS.
   D. ONCE THE INVERTS HAVE BEEN ESTABLISHED, THE REMAINDER OF THE FOOTER AND SURFACE BOULDERS SHALL BE PLACED, MINIMIZING VOIDS.
   E. FILL THE VOIDS BETWEEN BOULDERS ON THE UPSTREAM SIDE OF THE STRUCTURE.
   F. PLACE NON-WOVEN GEOTEXTILE FABRIC (TYPE III) ALONG THE ENTIRE UPSTREAM FACE OF THE STRUCTURE, EXTENDING FROM THE BOTTOM OF THE FOOTER TO THE FINISHED GRADE ELEVATION. ONLY GEOTEXTILE FABIC (TYPE III) LISTED ON THE QUALIFIED PRODUCTS LIST SHALL BE USED.
   G. BACKFILL STRUCTURES AND NON-WOVEN GEOTEXTILE FABRIC (TYPE III) WITH EXCAVATED ON-SITE STREAM ALLUVIUM (IF AVAILABLE), OTHERWISE USE THE SPECIFIED SELECT MATERIAL. SOIL SHALL BE COMPACTED WELL AROUND BURIED PORTIONS OF THE STRUCTURE. TRIM ANY EXPOSED NON-WOVEN GEOTEXTILE FABRIC (TYPE III).
   H. ONCE THE STRUCTUE IS INSTALLED, EXCAVATE SCOUR POOL AND PLACE SELECT MATERIAL AS EREQUIRED.
   I. RE-DRESSING OF CHANNEL AND BANKFULL BENCH/FLOODPLAIN WILL LIKELY BE REQUIRED FOLLOWING INSTALLATION OF IN-STREAM STRUCTURES AND SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
6. THE SURFACE OF BOULDER STEP POOL SHALL BE FINISHED TO A SMOOTH AND COMPACT SURFACE IN ACCORDANCE WITH THE LINES, GRADES AND CROSS SECTIONS OR ELEVATIONS SHOWN ON THE PLANS. THE DEGREE OF FINISH FOR INVERT ELEVATIONS SHALL BE WITHIN 0.10 FOOT OF THE GRADES AND ELEVATIONS INDICATED, OR AS DIRECTED BY THE ENGINEER. ALL GAPS OR VOIDS SAHLL BE PLUGGED WITH SELECT MATERIAL TO FORM A TIGHT-FITTING SEAL.
7. ALL MATERIALS ARE TO BE REVIEWED BY ENGINEER OR ENGINEER'S ON-SITE CONSTUCTION OBSERVER.
8. BOULDER STEP POOL SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBER: 209-03.36 STREAM MITIGATION-STEP POOL PER EACH.



PLAN VIEW



SECTION A-A

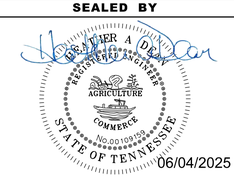


SECTION B-B

BOULDER STEP POOL

NOT TO SCALE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DETAIL SHEET

SHEET 7 OF 7

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	3
PIH	2024	PROT-108(106)	3
PS&E	2025	PROT-108(106)	3

RIGHT-OF-WAY

(1) IT IS INTENDED THAT ALL BUILDINGS AND/OR PORTIONS OF BUILDINGS THAT ARE WITHIN THE PROPOSED RIGHT-OF-WAY AND/OR EASEMENT LINES FOR THE PROJECT BE REMOVED THERE FROM IN THE PROCESS OF RIGHT-OF-WAY ACQUISITION. IF ANY SUCH BUILDINGS OR IMPROVEMENTS ARE NOT REMOVED IN THE COURSE OF RIGHT-OF-WAY ACQUISITION, THE CIVIL ENGINEERING MANAGER 2, PROJECT DEVELOPMENT DIVISION AND THE CIVIL ENGINEERING MANAGER 1, REGIONAL PROJECT DEVELOPMENT OFFICE, ARE TO BE NOTIFIED IN SUFFICIENT TIME TO PERMIT HAVING SUCH REMOVALS DESIGNATED AS A PART OF THE CONSTRUCTION CONTRACT.

(2) ALL RAMPS MUST CONFORM TO THE DEPARTMENT'S "POLICY ON FINANCING CONSTRUCTION OF PUBLIC ROAD INTERSECTIONS AND DRIVEWAYS ON HIGHWAY RESURFACING, RECONSTRUCTION AND CONSTRUCTION PROJECTS ON NEW LOCATIONS", THE MANUAL ON RULES AND REGULATIONS FOR CONSTRUCTING DRIVEWAYS ON STATE HIGHWAY RIGHT-OF-WAY, STANDARD DRAWING RP-R-1, AND OTHER ACCEPTED DESIGN AND SAFETY STANDARDS.

(3) EXISTING PAVED DRIVEWAY PER TRACT REMAINDER WILL BE REPLACED IN KIND TO A TOUCHDOWN POINT.

(4) WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY EXCEEDS 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED TO A TOUCHDOWN POINT OR UNTIL THE GRADE IS LESS THAN 7 PERCENT.

(5) WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY IS LESS THAN 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED A SHOULDER WIDTH FROM THE EDGE OF PAVEMENT AND THE REMAINDER OF THAT DRIVEWAY REPLACED IN KIND TO A TOUCHDOWN POINT.

(6) ANY NECESSARY PAVING OF DRIVEWAYS WILL BE DONE DURING PAVING OPERATIONS ON THE MAIN ROADWAY.

(8) NEW DRIVEWAYS PROVIDED IN THE PLANS WILL BE PAVED BASED ON THE 7 PERCENT CRITERIA. THOSE 7 PERCENT OR STEEPER IN GRADE WILL BE PAVED AND THOSE FLATTER THAN 7 PERCENT WILL BE COVERED WITH BASE STONE.

(9) ON PROJECTS WITHOUT CURB AND GUTTER THAT ARE ON STATE ROUTES, IT WILL BE THE RESPONSIBILITY OF THE OWNER TO SECURE A PERMIT AND TO CONSTRUCT ADDITIONAL DRIVEWAYS AND FIELD ENTRANCES OTHER THAN THOSE PROVIDED IN THE PLANS.

UTILITY

(1) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS, AND/OR MAPS PREPARED BY OTHERS. THEREFORE, RELIANCE UPON THE TYPE, SIZE, AND LOCATION OF UTILITIES SHOWN SHOULD BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTENCE, LOCATION, AND DEPTH SHOULD ALSO BE MADE PRIOR TO ANY DECISION RELATIVE THERETO IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. IN TENNESSEE, IT IS A REQUIREMENT, PER "THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT", THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNERS, NO LESS THAN THREE (3) OR NOT MORE THAN TEN (10) WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.

(2) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT. ON CONTRACTS WHERE CONSTRUCTION STAKES, LINES, AND GRADES ARE CONTRACT ITEMS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SLOPE STAKES, DITCH OR STREAM BED GRADES, OR OTHER ESSENTIAL SURVEY STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY, THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK AND AT ANY LOCATION ON THE PROJECT DIRECTED BY THE ENGINEER.

(3) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

(4) PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.

(5) THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC AT 1-800-351-1111 WILL BE REQUIRED.

UTILITY OWNERS

TELEPHONE:

AT&T

300 E MARTIN LUTHER KING BOULEVARD

5TH FLOOR

CHATTANOOGA, TN 37403

CONTACT: MR. JOE PERREL

OFFICE PHONE: 423 266 1566

CELL PHONE: 423 488 2825

EMAIL: JP1389@ATT.COM

ELECTRIC:

SEQUACHEE VALLEY ELECTRIC COOPERATIVE

512 CEDAR STREET

SOUTH PITTSBURG, TN 37380

CONTACT: MR. LUCAS MARSH

OFFICE PHONE: 423 837 8605

CELL PHONE: 423 326 5578

Email: LMARSH@SVALLEYEC.COM

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JENNIFER A DEAN
REGISTERED LANDSCAPE ARCHITECT
AGRICULTURE COMMERCE
NO.001091
STATE OF TENNESSEE

06/04/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY
NOTES,
UTILITY NOTES
AND
UTILITY OWNERS

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R.O.W. ACQUISITION TABLE

TRACT NO.	PROPERTY OWNERS	COUNTY RECORDS				TOTAL AREA (ACRES)			AREA TO BE ACQUIRED (ACRES)			AREA REMAINING (ACRES)		EASEMENT (ACRES)		
		TAX MAP NO.	PARCEL NO.	DEED DOCUMENT REFERENCE		LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	LEFT	RIGHT	PERMANENT DRAINAGE	SLOPE	CONSTRUCTION
				BOOK	PAGE											
01	BETTY JOAN ROLLINS, L.E, ESTHER VERGIE ROLLINS	028	065.01	9G	311	11.734		11.734	4018 S.F.		4018 S.F.	11.642				(3) 13476
02	DOUGLAS E. EAVES JR. ETUX MICHELLE C. EAVES	028	064.01	357	45		43.894	43.894		1.644	1.644		42.250	0.619 AC		(1) 63641
~~03~~	~~RGGS LAND AND MINERALS LTD.~~	~~034~~	~~002.00~~	~~338~~	~~1580~~	~~8913.000~~		~~8913.000~~				~~8913.000~~				
04	RGGS LAND AND MINERALS LTD.	034	002.00	338	1580		8913.900	8913.900		1.494	1.494		8912.406			
05	RANDY F. NUNLEY	028	065.06	8J	327	5.001		5.001				5.001				(2) 1173
06	CLETUS MCCOMBS JR.	028	065.00	454	185	0.523		0.523				0.523				(2) 1025
~~07~~	~~RANDY CURTIS PERKINS ETUX JANA L. PERKINS~~	~~028~~	~~064.00~~	~~020~~	~~760~~		~~18.490~~	~~18.490~~					~~18.490~~			
~~08~~	~~RANDY CURTIS PERKINS ETUX JANA L. PERKINS~~	~~028~~	~~064.00~~	~~020~~	~~760~~	~~4.000~~		~~4.000~~				~~4.000~~				
~~09~~	~~SCOTT DONAHUE AND SUZANNE DONAHUE~~	~~028~~	~~065.03~~	~~570~~	~~343~~		~~1.037~~	~~1.037~~					~~1.037~~			
10	MARION COUNTY TENNESSEE	028	065.07	304	343	0.147		0.147	196 S.F.		196 S.F.	0.142				
	ACQUISITION TOTALS (ACRES)															

(1) FOR DRIVEWAY CONSTRUCTION
(2) FOR DRIVEWAY CONSTRUCTION AND DRAINAGE DITCH
(3) DEMOLITION OF STRUCTURES

DISTURBED AREA

IN BETWEEN SLOPE LINES	7.13 (AC)
10 FOOT WIDE STRIP (OUT SIDE SLOPE LINES)	0.78 (AC)
TOTAL DISTURBED AREA	7.91 (AC)
PROJECT TOTAL AREA	13.78 (AC)

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	3A
PIH	2024	PROT-108(106)	3A
PS&E	2025	PROT-108(106)	3A

REV. 1-24-23: MODIFIED TRACT 1 PROPERTY OWNER
REV. 3-24-23: MODIFIED TRACT 5 PROPERTY OWNER, ADDED TRACT 10, MODIFIED TRACTS 1, 5, & 6 AREAS
REV. 6-14-23: MODIFIED TRACTS 2 & 4 AREAS, ADDED ROW AQUISTION TABLE FOOTNOTES
REV. 10-30-23: MODIFIED TRACTS 1 & 5 PROPERTY OWNERS AND TRACT 5 DEED BOOK AND PAGE
REV. 02-05-24: MODIFIED AREAS FOR ALL TRACTS PER SURVEY UPDATE
REV. 04-10-24: MODIFIED TRACT NOS. 1, 2, AND 10. REVISED ROW ACQUISTION TABLE AND FOOTNOTES.
REV. 06-04-25: TRACT 1 ADDED TEMP. CONSTRUCTION EASEMENT FOR DEMOLITION OF STRUCTURES

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY ACQUISITION TABLE

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	3B
PIH	2024	PROT-108(106)	3B
PS&E	2025	PROT-108(106)	3B

REV. 3-24-23: MODIFIED TRACT 5 PROPERTY OWNER, ADDED TRACT 10. MODIFIED TRACTS 1, 5, & 6 PER SURVEY UPDATE
REV. 6-14-23: MODIFIED TRACT 2 CONSTRUCTION EASEMENT AND REMOVED TRACT 2 SLOPE EASEMENT
REV. 02-05-24: MODIFIED PROPERTY LINES FOR ALL TRACTS EXCEPT TRACT 4 PER SURVEY UPDATE AND ADJUSTED ROW ACCORDINGLY
REV. 04-10-24: REVISED PROP. ROW ON TRACT NOS. 1, 2, AND 10. ADDED PROP. DRAINAGE EASEMENT AND CONSTRUCTION EASEMENTS ON TRACT NO. 2.
REV. 06-04-25: TRACT 1 ADDED TEMP. CONSTRUCTION EASEMENT FOR DEMOLITION OF STRUCTURES

58S108-F3-002
END PROJ. NO. PROT-108(106) CONST.
STA. 32+00.00
N 327964.2536
E 2112710.3075

END PROJ. NO. 58S108-S2-002 R.O.W.
STA. 29+15.00
N 327716.6809
E 2112569.5153

N

20 25 30 35 15

PRESENT R.O.W. (APPROXIMATE LOCATION 58013-4526-04)

PRESENT R.O.W.

WTL-1 STR-2

STR-3

N 33° 08' 10" E

STATE ROUTE 108

PRESENT R.O.W.

PRESENT R.O.W.

STR-2

STR-3

PROP. ROW

PROP. ROW

PROP. ROW

PROP. DRAINAGE EASEMENT

PROP. DRAINAGE EASEMENT

60' CONST. EASEMENT

10' CONST. EASEMENT

N 7° 46' 19" E

STATE ROUTE 108

N 0° 23' 27" W

CONST. EASEMENT

PROP. DRAINAGE EASEMENT

CONST. EASEMENT

PROP. DRAINAGE EASEMENT

TRACT 5 INSET (N.T.S.)

TRACT 8 INSET (N.T.S.)

TRACT 9 INSET (N.T.S.)

TRACT 7 INSET (N.T.S.)

TRACT 2 INSET (N.T.S.)

BEGIN PROJ. NO. 58S108-S2-002 R.O.W.
STA. 8+59.94
N 325800.6189
E 2111956.6411

58S108-F3-002
BEGIN PROJ. NO. PROT-108(106) CONST.
STA. 8+50.00
N 325790.6790
E 2111956.6159

SEALED BY

JENNIFER A. DEAN
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No.0010159
STATE OF TENNESSEE

06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPERTY MAP

STA. 8+35 TO STA. 32+00
SCALE: 1"=100'

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STATE ROUTE 108
CURVE DC100
PI 12+00.00
N 326,140.6711
E 2,111,954.3369
Δ 8° 09' 46" (RT)
D 2° 53' 47"
R 1,978.24
L 281.84
T 141.16
SE MATCH EXIST
DESIGN SPEED 50 MPH

STATE ROUTE 108
CURVE DC101
PI 20+07.73
N 326,941.4541
E 2,112,063.6329
Δs 25° 21' 50" (RT)
Θs IN 1° 24' 53"
Θs OUT 4° 07' 34"
Δc 19° 49' 23" (RT)
Dc 2° 21' 28"
Rc 2,430.00
Lc 840.72
Ts IN 611.20
Ts OUT 717.94
Ls IN 120.00
Ls OUT 350.00
SE MATCH EXIST
DESIGN SPEED 50 MPH

MARION COUNTY TENNESSEE

CONTROL POINTS					
POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S366	326185.9660	2111949.8590	1243.56	12+44.39	12.92' (LT)
S365	326357.5570	2112002.8200	1248.62	14+20.99	18.70' (LT)
S31	327323.5330	2112353.5160	1316.35	24+66.63	31.17' (RT)
S22	327405.0120	2112444.1670	1306.29	25+84.93	64.90' (RT)
S13	327503.1170	2112471.1080	1323.21	26+82.36	34.19' (RT)
S02	327827.4080	2112618.1560	1346.52	30+35.17	16.89' (LT)
S01	327943.4940	2112680.3690	1355.61	31+68.00	17.67' (LT)

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	4
PIH	2024	PROT-108(106)	4
PS&E	2025	PROT-108(106)	4

REV. 1-24-23: MODIFED TRACT 1 PROPERTY OWNER
REV. 3-24-23: MODIFIED TRACT 5 PROPERTY OWNER, ADDED TRACT 10, MODIFIED TRACTS 1, 5, & 6 PER SURVEY UPDATE
REV. 6-14-23: MODIFIED SLOPE LIMITS, MODIFIED CONSTRUCTION EASEMENT, AND REMOVED SLOPE EASEMENT ON TRACT 2
REV. 10-30-23: MODIFED TRACT 1 & 5 PROPERTY OWNERS AND ADDED TRACT 2 WATERLINE AND TRACT 10 SEPTIC TANK AND FIELD LINES
REV. 02-05-24: MODIFIED PROPERTY LINES FOR ALL TRACTS EXCEPT TRACT 4 PER SURVEY UPDATE AND ADJUSTED ROW ACCORDINGLY
REV. 04-10-24: REVISED PROP. ROW ON TRACT NOS. 1, 2 AND 10. ADDED PROP. DRAINAGE EASEMENT AND CONST. EASEMENTS ON TRACT 2.
REV. 07-18-24: UPDATED SURVEY ON TRACTS 2 AND 6. TRACT 6. ADDED NOTE NOT TO DISTURB WELL. REVISED TRACT 1 PROPERTY OWNER.
REV. 06-04-25: TRACT 1 ADDED TEMP. CONSTRUCTION EASEMENT FOR DEMOLITION OF STRUCTURES

8
~~RANDY CURTIS PERKINS~~
~~ETUX JANA L. PERKINS~~

RANDY F. NUNLEY
5
10

CLETUS MCCOMBS JR.
6
RUIN
OUTBLDG
WELL NO INFO
10' CONST. EASEMENT
EX. WELL NOT TO BE DISTURBED DURING CONSTRUCTION.
60' CONST. EASEMENT
APPROX. LOCATION
CAMPER
SHED
30" RCP (51' LENGTH)
INV-1215.67
INV-1216.81
DIRT
24"CMP CUT
FILL
30"CMP
TOP-1211.38
INV.-1207.53
BOT-1206.93
30" INV-1206.13
INV-1205.68
P/T
N 0° 23' 27" W
INV-1225.30
INV-1224.20
CUT
RIP-RAP
18" RCP (21' LENGTH)
INV-1227.08
FALLEN ROCKS
W8-14
36" x 36"
TPC
GRAV.
CUT
18" RCP (79' LENGTH)
18" RCP (37' LENGTH)
30" RCP (21' LENGTH)
CONST. EASEMENT
PC 10+58.84
PT 13+40.68
TS 13+96.53
30" RCP (8' LENGTH)
PROP. DRAINAGE EASEMENT
PROP. DRAINAGE EASEMENT
ROCK PILLARS
INV-1179.08
PORCH
YURT DECK
YURT DECK
GRAVEL
TRAIL
GRV.
SHED
1-MET-BLDG
GRAV.
STRUCTURE
GRAV.
BARN
RES.
SHED
1S-F-RES.
WELL HOUSE
SHED
PROP. R.O.W.
INV-1238.42
INV-1237.88
CHAIN LINK
GRV.
INV-1233.31
8"RCP
P/T/C
TOP-1246.77
INV.-1242.66
INV.-1240.70
BOT-1240.60
18" RCP (48' LENGTH)
CUT
FILL
RIP-RAP
12" ST (REMOVED)
INV-1251.48
12" ST
N 7° 46' 19" E
STATE ROUTE 108
(ABANDONED)
INV-1250.36
INV-1250.06
TO REMAIN
PRESENT R.O.W.
18" RCP (14' LENGTH)
STR-1
BEGIN STR-1 IMPACT/RELOCATION
STA. 16+00.00
OFF 36.03'
72" RCP (56' LENGTH)
RIP-RAP
RAIL ROAD
MAILBOX
INV-1221.24
INV-1233.01
ASPH
PROP. ROW
P/T
72" RCP (18' LENGTH)
RIP-RAP FILL UP CRACKS
PROP. ROW
PRESENT R.O.W.
RIP-RAP FILL UP CRACKS
END STR-1 IMPACT/RELOCATION
STA. 15+86.97
OFF 125.95'
SC 15+16.53
INV-1181.21
48"CMP
WATER TANK
PROP. DRAINAGE EASEMENT
WATER TANK
3/4" WATERLINE
CONST. EASEMENT
W
SEE SHEET NO. 5
MATCH LINE STA. 20+00
20
15
10
3

~~RGGS LAND & MINERALS LTD~~
~~MAP 034~~
~~PARCEL 002.00~~
~~D.B. 338, PG. 1580~~

BETTY JOAN ROLLINS, L.E.,
ESTHER VERGIE ROLLINS
1

~~RANDY CURTIS PERKINS~~
~~ETUX JANA L. PERKINS~~
7

DOUGLAS E. EAVES JR. ETUX
MICHELLE C. EAVES
2210 HWY. 108
WHITWELL, TN. 37397
MAP 028
PARCEL 064.01
D.B. 357, PG. 45
2

58S108-F3-002
BEGIN PROJ. NO. PROT-108(106) CONST.
STA. 8+50.00
N 325790.6790
E 2111956.6159

BEGIN PROJ. NO. 58S108-S2-002 R.O.W.
STA. 8+59.94
N 325800.6189
E 2111956.6411

NOTE:
SEE SHEET NO. 2G1 FOR GEOMETRIC LAYOUT DATA FOR HAUL ROAD 1A AND HAUL ROAD 2A.

SEE SHEET NOS. 6 AND 7 FOR PROFILE OF HAUL ROAD 1A AND HAUL ROAD 2A.

SEE SHEET NO. 2B2 FOR HAUL ROAD AND PROP. 12' MAINTENANCE ROAD TYPICAL SECTIONS.

ABANDONED PIPES TO BE BACKFILLED WITH FLOWABLE FILL, ITEM 204-08.01

SEALED BY
JENNIFER A. DEAN
REGISTERED ENGINEER
AGRICULTURE COMMERCE
NO.00109159
STATE OF TENNESSEE
06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA. 8+35 TO STA. 20+00
SCALE: 1"= 50'

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CONTROL POINTS					
POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S366	326185.9660	2111949.8590	1243.56	12+44.39	12.92' (LT)
S365	326357.5570	2112002.8200	1248.62	14+20.99	18.70' (LT)
S31	327323.5330	2112353.5160	1316.35	24+66.63	31.17' (RT)
S22	327405.0120	2112444.1670	1306.29	25+84.93	64.90' (RT)
S13	327503.1170	2112471.1080	1323.21	26+82.36	34.19' (RT)
SO2	327827.4080	2112618.1560	1346.52	30+35.17	16.89' (LT)
SO1	327943.4940	2112680.3690	1355.61	31+68.00	17.67' (LT)

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	4A
PIH	2024	PROT-108(106)	4A
PS&E	2025	PROT-108(106)	4A

REV. 1-24-23: MODIFIED TRACT 1 PROPERTY OWNER
REV. 3-24-23: MODIFIED TRACT 5 PROPERTY OWNER, ADDED TRACT 10, MODIFIED TRACTS 1, 5, & 6 PER SURVEY UPDATE
REV. 6-14-23: MODIFIED SLOPE LIMITS, MODIFIED CONSTRUCTION EASEMENT, AND REMOVED SLOPE EASMENT ON TRACT 2
REV. 10-30-23: MODIFIED TRACT 1 & 5 PROPERTY OWNERS
REV. 02-05-24: MODIFIED PROPERTY LINES FOR ALL TRACTS EXCEPT TRACT 4 PER SURVEY UPDATE AND ADJUSTED ROW ACCORDINGLY
REV. 04-10-24: REVISED PROP. ROW ON TRACT NOS. 1, 2 AND 10. ADDED PROP. DRAINAGE EASEMENT AND CONST. EASEMENTS ON TRACT 2.
REV. 07-18-24: REVISED TRACT 1 PROPERTY OWNER.
REV. 06-04-25: TRACT 1 ADDED TEMP. CONSTRUCTION EASEMENT FOR DEMOLITION OF STRUCTURES

8
RANDY CURTIS PERKINS
ETUX JANA L. PERKINS

RANDY F. NUNLEY
5
10

CLETUS MCCOMBS JR.
6

MARION COUNTY TENNESSEE

15

1
BETTY JOAN ROLLINS, L.E.,
ESTHER VERGIE ROLLINS

RGGS LAND & MINERALS LTD
MAP 034
PARCEL 002.00
D.B. 338, PG. 1580

3

20

SEE SHEET NO. 5A

7
RANDY CURTIS PERKINS
ETUX JANA L. PERKINS

2
DOUGLAS E. EAVES JR. ETUX
MICHELLE C. EAVES
2210 HWY. 108
WHITWELL, TN. 37397
MAP 028
PARCEL 064.01
D.B. 357, PG. 45

BEGIN PROJ. NO. 58S108-S2-002 R.O.W.
STA. 8+59.94
N 325800.6189
E 2111956.6411

58S108-F3-002
BEGIN PROJ. NO. PROT-108(106) CONST.
STA. 8+50.00
N 325790.6790
E 2111956.6159

MATCHLINE STA. 20+00

PRESENT R.O.W.
PROP. ROW
CONST. EASEMENT
PROP. DRAINAGE EASEMENT
CUT
FILL

SEALED BY
HEATHER A. DEW
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No.00109258
STATE OF TENNESSEE
06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY DETAILS

STA. 8+35 TO STA. 20+00
SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	4B
PIH	2024	PROT-108(106)	4B
PS&E	2025	PROT-108(106)	4B

REV. 04-10-24: ADDED HAUL ROAD 1 AND RELOCATED DRIVEWAY TO TRACT NO. 2

NOTE:
SEE SHEET NO. 2G1 FOR GEOMETRIC LAYOUT DATA FOR HAUL ROAD 1A AND HAUL ROAD 2A.

SEE SHEET NOS. 2G3 TO 2G6 FOR STREAM RELOCATION DETAILS.

SEE SHEET NOS. 6 AND 6A FOR PROFILE OF HAUL ROAD 1A AND HAUL ROAD 2A.

SEE SHEET NO. 2B2 FOR HAUL ROAD AND PROP. 12' MAINTENANCE ROAD TYPICAL SECTIONS.

NOTE:
RIP-RAP SHALL BE PLACED AS TO MIMIC THE EXISTING CONTOURS OF THE STREAM CHANNEL. THE TOP OF THE PROPOSED RIP-RAP SHALL BE AT GRADE WITH THE BOTTOM OF THE EXISTING STREAM CHANNEL. VOIDS WITHIN THE RIP-RAP SHALL BE FILLED WITH STREAM BED SUBSTRATE, IF AVAILABLE, TO PREVENT LOSS OF STREAM WITHIN RIP-RAP AREAS. STREAM BED SUBSTRATE CAN BE REMOVED FROM RIP-RAP EMBEDMENT AREA.

THE CONTRACTOR SHALL USE ANY MEASURES NECESSARY TO ENSURE THAT CONSTRUCTION EQUIPMENT WILL NOT ENTER ANY PORTION OF STR-1, STR-2, OR STR-3 AND THAT THE STREAM AND SURROUNDING VEGETATION WILL NOT BE DISTURBED AND ARE PROTECTED FROM SEDIMENT AND OTHER POLLUTANTS EXCEPT AT THE PERMITTED LOCATIONS.

BARRIER WALL REPLACEMENT

STATION FROM	STATION TO	LOCATION	LENGTH
15+75.24	16+09.90	SR 108 (LT)	35
18+63.15	18+82.95	SR 108 (LT)	20
			55

10

15

20

SR 108 STA. 11+04.00 =
HAUL ROAD 1 / DRIVEWAY STA. 0+00.00
N 326044.6729
E 2111955.5072

HAUL ROAD 1 / DRIVEWAY STA. 1+35.02 =
HAUL ROAD 1A STA. 21+21.45
N 326042.7848
E 2112090.5158

BEGIN PROJ. NO. 58S108-S2-002 R.O.W.
STA. 8+59.94
N 325800.6189
E 2111956.6411

58S108-F3-002
BEGIN PROJ. NO. PROT-108(106) CONST.
STA. 8+50.00
N 325790.6790
E 2111956.6159

MATCH LINE STA. 20+00

SEE SHEET NO. 5B

BEGIN MILL AND RESURFACE STA. 8+50.00
END MILL AND RESUR. BEGIN FULL DEPTH PAVE. STA. 10+00.00
STA. 8+50.00
STA. 9+00.00
50' SHOULDER TAPER
175' SHOULDER TAPER
LIMIT OF CONST. 0+50.00
STA. 10+20.37 14' PVT. DR. NO S.D. REQD.
STA. 11+15.00 14' PVT. DR. 24" OF 30" S.D. REQD.
BEGIN SPECIAL DITCH STA. 10+28.46 OFF 25.48'
V-SOD
29 EW INV. 1225.28
V-TRM CLASS I
30" RCP (51' LENGTH)
MATCH EX. VARIES (2'-10')
12' 12'
N 0° 23' 27" W
10'
TYPE 38
S 39° 11' 56" E
HAUL ROAD 1
30 EW OUT. EL. 1224.30
MACHINED RIP-RAP CLASS "C" L 17' x W 19.5' x D 3.5'
4' SOD
STA. 10+25.00
BEGIN SPECIAL DITCH STA. 10+82.55 OFF 40.01'
END SPECIAL DITCH STA. 10+41.93 OFF 161.58'
BEGIN GUARDRAIL STA. 11+29.89 OFF 22.82'
BEGIN PROP. RETAINING WALL STA. 11+95.00, OFF. 23.21' RT.
R 30'
18" RCP (73' LENGTH)
18" RCP (37' LENGTH)
30" RCP (21' LENGTH)
MACHINED RIP-RAP CLASS "B" L 11' x W 13.5' x D 2.5'
24 MH TOP EL. 1217.68 IN. EL. 1203.15 OUT.EL. 1199.56
25 EW INV. 1198.10
MACHINED RIP-RAP CLASS "B" L 17' x W 19.5' x D 2.5'
27 MH TOP EL. 1211.57 IN. EL. 1204.04 OUT.EL. 1202.15
28 EW INV. 1202.07
30" RCP (8' LENGTH)
LIMIT OF CONST. STA. 4+97.60
STA. 11+04.00 14' PVT. DR. SEE CULVERT SECTIONS
PROP. GATE
N 11° 39' 58" E
HAUL ROAD 1A
N 45° 55' 12" W 83.54'
END GUARDRAIL STA. 11+95.00 OFF 22.00'
23 EW INV. 1214.28
18" RCP (21' LENGTH)
R 50'
3' SOD
26 EW INV. 1207.72
END SPECIAL DITCH STA. 12+79.53 OFF 180.96'
END STR-1 IMPACT/RELOCATION STA. 15+86.97 OFF 125.95'
SUBSTRATE RESTORATION L 8' x W 7' x D 2.5' L 36' x W 8' x D 1
R 21'
STR-1
MACHINED RIP-RAP CLASS "B" L 47' x W 18' x D 2.5'
BEGIN SPECIAL DITCH STA. 13+70.00 OFF 48.53'
2 MH TOP EL. 1246.55 IN. EL. 1243.13 OUT.EL. 1222.56
3 EW INV. 1222.36
END SPECIAL DITCH STA. 12+00.00 OFF 21.27'
STA. 13+38.18 14" PVT. DR. NO S.D. REQD.
HAUL ROAD 1A STA. 23+59.04 = HAUL ROAD 2A STA. 50+81.17
BEGIN HAUL ROAD 2A STA. 50+00.00
BEGIN MAINTENANCE ROAD STA. 50+49.30
LIMIT OF CONST. 0+50.00
FALLEN ROCKS
PROP. 3.5' RIP-RAP BERM, CLASS C SEE STD. DWG. S-PL-5
W8-14 36" x 36"
END GUARDRAIL STA. 15+75.27 OFF 21.24'
END SPECIAL DITCH STA. 15+50.00 OFF 35.06'
BEGIN SPECIAL DITCH STA. 13+72.00 OFF 25.33'
BEGIN GUARDRAIL STA. 15+10.25 OFF 22.24'
1 #38 GT. EL. 1247.44 OUT.EL. 1243.60
18" RCP (48' LENGTH)
6" DSYL W/SRPM (BI-DIR) (1-COLOR)
2' A-1 RIP RAP
N 7° 46' 19" E
4 EX GT. EL. 1256.00 OUT.EL. 1250.34
PROP. SMOOTH SURFACE BAR GRATING, 2 - 72" X 24" GRATES TO CAP EXISTING MANHOLE STRUCTURE TO FUNCTION AS OVERFLOW STRUCTURE. GRATE UNIT SHALL MEET HS 20 LOADING REQUIREMENT AND HAVE 19.1 SF CLEAR OPENING AREA
5 40 TOP EL. 1258.27 IN. EL. 1250.23 OUT.EL. 1250.06
PROP. SMOOTH SURFACE BAR GRATING, 5 - 120" X 24" GRATES TO CAP PROP. 9' X 9' CATCH BASIN GRATE UNIT SHALL MEET HS 20 LOADING REQUIREMENT AND HAVE 71.7 SF CLEAR OPENING AREA
18" RCP (14' LENGTH)
STR-1
BEGIN STR-1 IMPACT/RELOCATION STA. 16+00.00 OFF 36.03'
72" RCP (56' LENGTH)
BEGIN MILL AND RESURFACE END FULL DEPTH PAVEMENT STA. 17+00.00
EX. BARRIER WALL TO REMAIN REPLACE AS NEEDED
6 MH TOP EL. 1257.76 IN. EL. 1249.50 OUT.EL. 1233.18
72" RCP (18' LENGTH)
31 EW INV. 1233.08
55 6" SSWL 16" RUMBLE STRIPS
MATCH EX. VARIES (2'-10')
BEGIN SPECIAL DITCH STA. 18+57.86 OFF 38.63'
END SPECIAL DITCH STA. 18+68.18 OFF 29.67'
7 EW INV. 1275.63
8 #41 GT. EL. 1279.59 IN. EL. 1275.85 OUT.EL. 1275.69
BEGIN MILL AND RESURFACE END FULL DEPTH PAVEMENT STA. 18+98.12
9 #51 GT. EL. 1280.55 OUT.EL. 1276.40
END MILL AND RESURFACE BEGIN FULL DEPTH PAVEMENT STA. 18+73.62
HAUL ROAD 2A
10'
12'

NOTE:
PROPER PREPARATIONS SHALL BE MADE TO THE EXISTING GROUND PER TDOT STANDARD SPECIFICATIONS SECTION 203 - EXCAVATION AND UNDERCUTTING AND SECTION 205 - EMBANKMENTS PRIOR TO THE START OF FILL ACTIVITIES.

NOTE:
CONTRACTOR TO COORDINATE WITH SEQUACHEE VALLEY ELECTRICAL COOPERATIVE TO RELOCATE ELECTRICAL POLES. 30 DAY NOTICE IS REQUIRED.

MAINTENANCE ROAD
FULL DEPTH PAVEMENT - SHOULDER
FULL DEPTH PAVEMENT - LANE

SSWL = SINGLE SOLID WHITE LINE
DSYL = DOUBLE SOLID YELLOW LINE
SRPM = SNOWPLOWABLE RAISED PAVEMENT MARKERS (80' SPACING)

SEALED BY

HEATHER A. DEAN
REGISTERED ENGINEER
STATE OF TENNESSEE
DEPARTMENT OF AGRICULTURE
DEPARTMENT OF COMMERCE
NO. 001102155
REGISTERED
STATE OF TENNESSEE
06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA. 8+35 TO STA. 20+00
SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	4C
PIH	2024	PROT-108(106)	4C
PS&E	2025	PROT-108(106)	4C

REV. 04-10-24: REVISED DRAINAGE PIPE AT 10+41.53.

MATCH EXISTING SUPER ELEVATION -.0352 | BEGIN TRANSITIONS -.0630 -.0590 | -.0520 -.0520 -.0520 -.0280 -.0200 -.0200 -.0200 -.0430 -.0430 -.0430 | END TRANSITIONS -.0430 -.0430 -.0520 | MATCH EXISTING SUPER ELEVATION

STA. 8+50.00 | STA. 10+00.00 | STA. 10+30.00 | STA. 12+15.00 | STA. 12+50.86 | STA. 13+30.68 | STA. 14+30.68 | STA. 14+36.53 | STA. 15+36.53 | STA. 15+96.53 | STA. 16+75.00 | STA. 17+00.00

PIPE CULVERT
STATION: 13+70.00
STRUCTURE: 48' OF 18" RCP CLASS III

SKEW	90	DEG.
DRAINAGE AREA	1.72	AC.
DESIGN DISCHARGE (Q50)	6.85	CFS
DESIGN DISCHARGE (Q100)	7.54	CFS
OVERTOPPING	1248.91	ELEV.
ALLOWABLE HEADWATER	1248.60	ELEV.
Q50 HEADWATER	1247.90	ELEV.
Q100 HEADWATER	1247.93	ELEV.
VELOCITY (Q50)	6.29	FT/S
VELOCITY (Q100)	6.43	FT/S
ENDWALLS REQUIRED:		
N/A		
STANDARD DRAWING NOS.:		
D-PB-1		
QUANTITIES:		
CLASS "A" CONCRETE	N/A	C.Y.
STEEL BAR REINFORCING	N/A	LB.
BEDDING MATERIAL	10.4	C.Y.
ENDWALL ITEM NOS.: N/A		

PIPE CULVERT
STATION: 13+70.00
STRUCTURE: 21' OF 18" RCP CLASS III

SKEW	90	DEG.
DRAINAGE AREA	1.72	AC.
DESIGN DISCHARGE (Q50)	6.85	CFS
DESIGN DISCHARGE (Q100)	7.54	CFS
OVERTOPPING	1248.91	ELEV.
ALLOWABLE HEADWATER	1248.60	ELEV.
Q50 HEADWATER	1247.90	ELEV.
Q100 HEADWATER	1247.93	ELEV.
VELOCITY (Q50)	6.16	FT/S
VELOCITY (Q100)	6.32	FT/S
ENDWALLS REQUIRED:		
1-STRAIGHT		
STANDARD DRAWING NOS.:		
D-PB-1, D-PE-4		
QUANTITIES:		
CLASS "A" CONCRETE	1.0	C.Y.
STEEL BAR REINFORCING	45.0	LB.
BEDDING MATERIAL	4.5	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

PIPE CULVERT
STATION: 10+41.53
STRUCTURE: 51' OF 30" RCP CLASS III

SKEW	80	DEG.
DRAINAGE AREA	8.1	AC.
DESIGN DISCHARGE (Q50)	32.08	CFS
DESIGN DISCHARGE (Q100)	35.32	CFS
OVERTOPPING	1230.15	ELEV.
ALLOWABLE HEADWATER	1228.98	ELEV.
Q50 HEADWATER	1228.63	ELEV.
Q100 HEADWATER	1228.98	ELEV.
VELOCITY (Q50)	10.78	FT/S
VELOCITY (Q100)	11.05	FT/S
ENDWALLS REQUIRED:		
2-TYPE "U"		
STANDARD DRAWING NOS.:		
D-PB-1, D-PE-30A & 30B		
QUANTITIES:		
CLASS "A" CONCRETE	N/A	C.Y.
STEEL BAR REINFORCING	N/A	LB.
BEDDING MATERIAL	14.4	C.Y.
ENDWALL ITEM NOS.: 611-07.30		

PIPE CULVERT
STATION: 16+00.00
STRUCTURE: 56' OF 72" RCP CLASS III

SKEW	90	DEG.
DRAINAGE AREA	90.21	AC.
DESIGN DISCHARGE (Q50)	282.90	CFS
DESIGN DISCHARGE (Q100)	331.76	CFS
OVERTOPPING	1261.78	ELEV.
ALLOWABLE HEADWATER	1261.78	ELEV.
Q50 HEADWATER	1260.77	ELEV.
Q100 HEADWATER	1260.89	ELEV.
VELOCITY (Q50)	16.16	FT/S
VELOCITY (Q100)	16.48	FT/S
ENDWALLS REQUIRED:		
N/A		
STANDARD DRAWING NOS.:		
D-PB-1		
QUANTITIES:		
CLASS "A" CONCRETE	N/A	C.Y.
STEEL BAR REINFORCING	N/A	LB.
BEDDING MATERIAL	36.1	C.Y.
ENDWALL ITEM NOS.: N/A		

PIPE CULVERT
STATION: 16+00.00
STRUCTURE: 18' OF 72" RCP CLASS III

SKEW	90	DEG.
DRAINAGE AREA	90.21	AC.
DESIGN DISCHARGE (Q50)	282.90	CFS
DESIGN DISCHARGE (Q100)	331.76	CFS
OVERTOPPING	1261.78	ELEV.
ALLOWABLE HEADWATER	1261.78	ELEV.
Q50 HEADWATER	1260.77	ELEV.
Q100 HEADWATER	1260.89	ELEV.
VELOCITY (Q50)	9.99	FT/S
VELOCITY (Q100)	11.00	FT/S
ENDWALLS REQUIRED:		
1-PROTECTED		
STANDARD DRAWING NOS.:		
D-PB-1, D-PEW-1 & D-PEW-2		
QUANTITIES:		
CLASS "A" CONCRETE	17.0	C.Y.
STEEL BAR REINFORCING	1115.0	LB.
BEDDING MATERIAL	13.7	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

7/EW INV. EL. 1275.63
8/#41 GT. EL. 1279.59 IN. EL. 1275.85 OUT.EL. 1275.69
9/#51 GT. EL. 1289.55 OUT.EL. 1276.40
PROPOSED FINISHED GRADE
0.64%
PROP. 18" RCP -1.14%
PROP. 18" RCP -0.53%
VPT 16+60.00 EL. 1264.91
VPT 18+57.86 EL. 1275.55
VPT 18+68.18 EL. 1275.64
VC = 280.00' K = 97
PROP TOP OF WALL
4/EX GT. EL. 1256.00 OUT.EL. 1250.34
(TO BE ABANDONED) STA 14+42.78 EXISTING 36"CMP SKEW 45° 00' 00" LT FLOWS RIGHT INLET 1251.48 OUTLET 1233.01
5/40 TOP EL. 1258.27 IN. EL. 1250.23 OUT.EL. 1250.06
6/MH TOP EL. 1257.76 IN. EL. 1249.50 OUT.EL. 1233.26
PROP 72" RCP CLASS III
VPI 15+50.00 EL. 1254.21
VPI 12+75.00 EL. 1245.21
VPC 13+80.00 EL. 1249.48
VPT 13+80.00 EL. 1249.48
VPI 13+72.00 EL. 1246.44
VPC 11+70.00 EL. 1238.49
SP. DITCH LT.
(TO BE ABANDONED) STA 15+78.14 EXISTING 60"STEEL SKEW 86° 21' 53" LT FLOWS RIGHT INLET 1250.08 OUTLET 1243.43
4.37%
4.0%
1/#38 GT. EL. 1247.44 OUT.EL. 1243.80
PROP 18" RCP CLASS III
PROF 18" RCP -0.79%
VPI 15+20.00 EL. 1255.18
6.40%
EXISTING GROUND
BEGIN PROJ. NO. 58S108-S2-002 R.O.W.
STA. 8+59.94
N 325800.6189
E 2111956.6411
SP. DITCH LT.
(TO BE ABANDONED) STA 13+81.14 EXISTING 24"CMP SKEW 90° 00' 00" LT FLOWS RIGHT INLET 1240.70 OUTLET 1227.08
VPI 12+00.00 EL. 1238.37
2/MH TOP EL. 1246.55 IN. EL. 1243.13 OUT.EL. 1222.56
PROP BOTTOM OF WALL GRADING
PROP 72" RCP CLASS III
31/EW INV. EL. 1233.08
SP. DITCH LT.
PROP. 30" RCP -1.96%
29/EW INV. EL. 1225.28
VPI 8+50.00 EL. 1218.01
9.42%
SP. DITCH LT.
PROP 30" RCP CLASS III
VC = 210.00' K = 90
VPI 10+28.46 EL. 1228.80
VPI 10+45.00 EL. 1225.68
VPI 11+07.00 EL. 1231.12
VPI 11+25.91 EL. 1231.70
(TO BE ABANDONED) STA 10+33.84 EXISTING 24"CMP SKEW 90° 00' 00" LT FLOWS RIGHT INLET 1225.30 OUTLET 1224.23
30/EW INV. EL. 1224.30
PROP 18" RCP CLASS III
PROP BOTTOM OF WALL
3/EW INV. EL. 1222.36
58S108-F3-002
BEGIN PROJ. NO. PROT-108(106) CONST.
STA. 8+50.00
N 325790.6790
E 2111956.6159

7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00

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SEALED BY

HEATHER A. DEW
REGISTERED ENGINEER
DEPARTMENT OF AGRICULTURE
DEPARTMENT OF COMMERCE
No.00109159
STATE OF TENNESSEE
06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0008 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

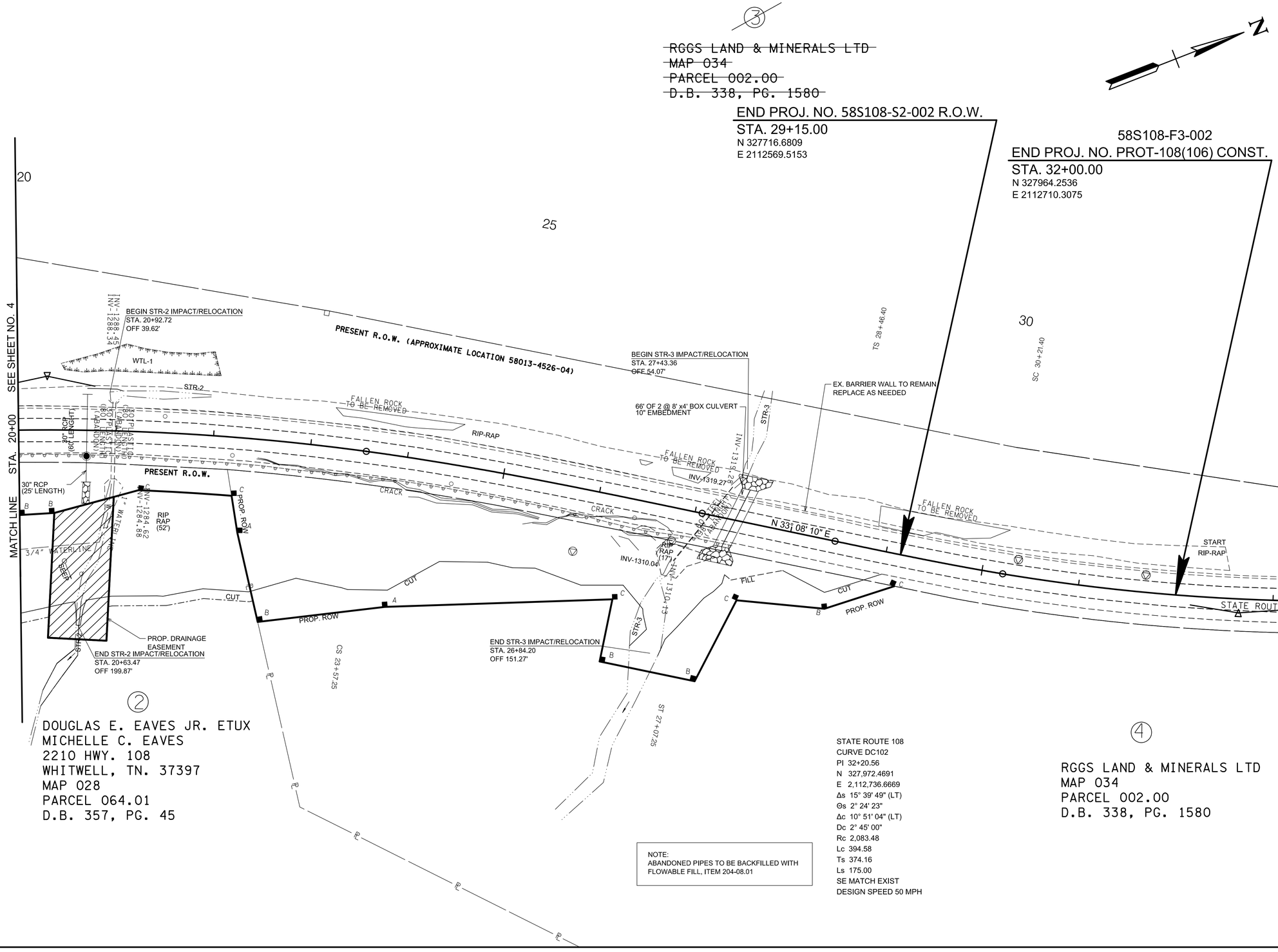
PROPOSED PROFILE

STA. 8+35 TO STA. 20+00

SCALE: 1"= 50' HORIZ.
1"= 5' VERT.

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	5
PIH	2024	PROT-108(106)	5
PS&E	2025	PROT-108(106)	5

REV. 10-30-23: ADDED TRACT 2 WATERLINE
REV. 02-05-24: MODIFIED PROPERTY LINES FOR ALL TRACTS EXCEPT TRACT 4 PER SURVEY UPDATE AND ADJUSTED ROW ACCORDINGLY
REV. 04-10-24: REVISED PROP. ROW ON TRACT NO. 2. ADDED PROP. DRAINAGE EASEMENT AND CONST. EASEMENT ON TRACT NO. 2.



② DOUGLAS E. EAVES JR. ETUX
MICHELLE C. EAVES
2210 HWY. 108
WHITWELL, TN. 37397
MAP 028
PARCEL 064.01
D.B. 357, PG. 45

④ RGGS LAND & MINERALS LTD
MAP 034
PARCEL 002.00
D.B. 338, PG. 1580

NOTE:
ABANDONED PIPES TO BE BACKFILLED WITH FLOWABLE FILL, ITEM 204-08.01

STATE ROUTE 108
CURVE DC102
PI 32+20.56
N 327,972.4691
E 2,112,736.6669
Δs 15° 39' 49" (LT)
Θs 2° 24' 23"
Δc 10° 51' 04" (LT)
Dc 2° 45' 00"
Rc 2,083.48
Lc 394.58
Ts 374.16
Ls 175.00
SE MATCH EXIST
DESIGN SPEED 50 MPH

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

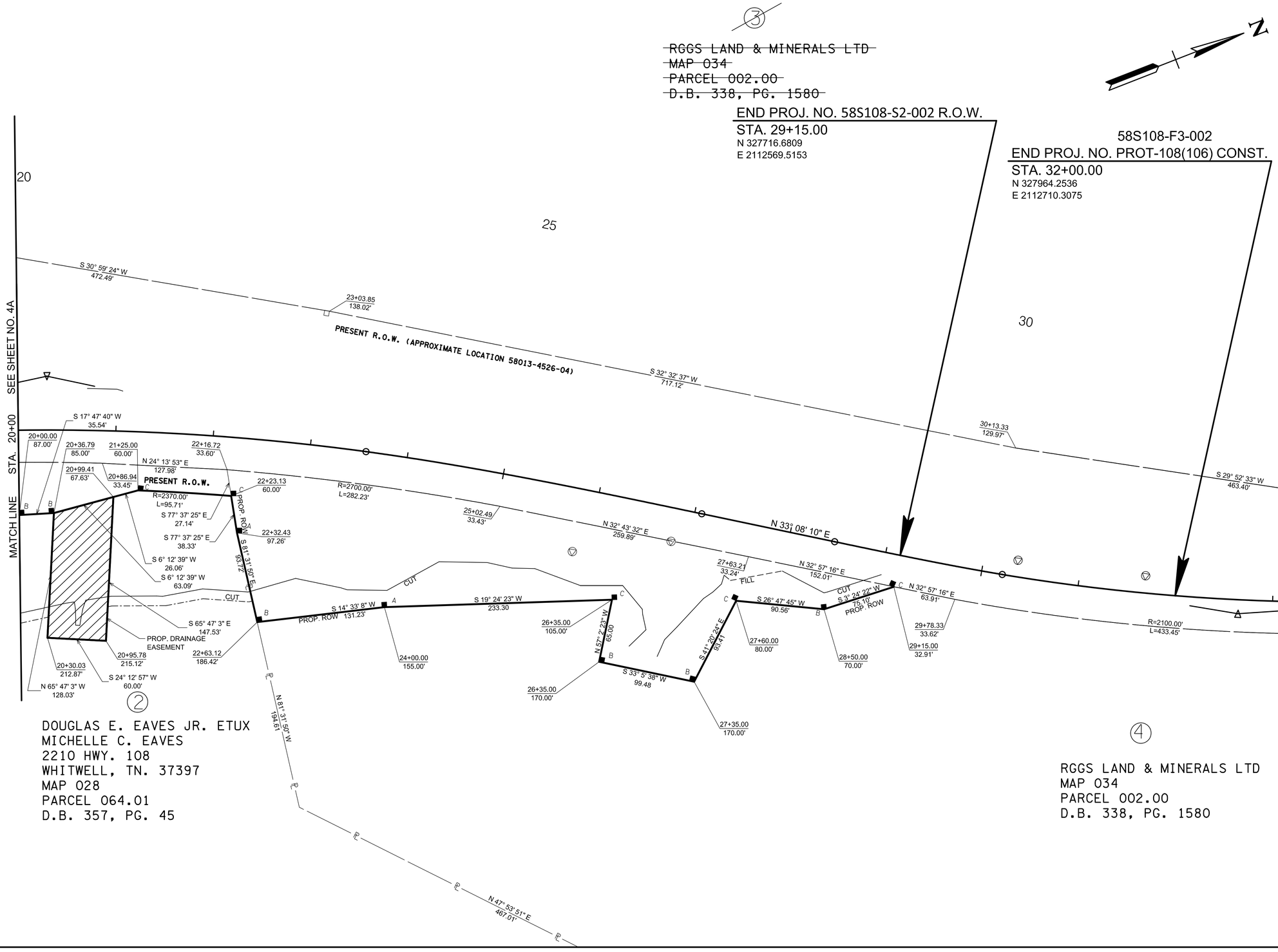
PRESENT LAYOUT

STA. 20+00 TO STA. 32+00
SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	5A
PIH	2024	PROT-108(106)	5A
PS&E	2025	PROT-108(106)	5A

REV. 02-05-24: MODIFIED PROPERTY LINES FOR ALL TRACTS EXCEPT TRACT 4 PER SURVEY UPDATE AND ADJUSTED ROW ACCORDINGLY
REV. 04-10-24: REVISED PROP. ROW ON TRACT NO. 2. ADDED PROP. DRAINAGE EASEMENT AND CONST. EASEMENT ON TRACT NO. 2.



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No. 00109159
STATE OF TENNESSEE
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY DETAILS

STA. 20+00 TO STA. 32+00
SCALE: 1"= 50'

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LEGEND	WETLAND IMPACTS (WTL-1)
	AREA OF PERMANENT IMPACT = 0 AC.
	VOLUME OF PERMANENT IMPACT = 0 C.Y.
	AREA OF TEMPORARY IMPACT = 0 AC.
	VOLUME OF TEMPORARY IMPACT = 0 C.Y.

NOTE:
SEE SHEET NO. 2G1 FOR GEOMETRIC LAYOUT DATA FOR HAUL ROAD 1A AND HAUL ROAD 2A.

SEE SHEET NOS. 2G3 TO 2G6 FOR STREAM RELOCATION DETAILS.

SEE SHEET NOS. 6 AND 6A FOR PROFILE OF HAUL ROAD 1A AND HAUL ROAD 2A.

SEE SHEET NO. 2B2 FOR HAUL ROAD AND PROP. 12' MAINTENANCE ROAD TYPICAL SECTIONS.

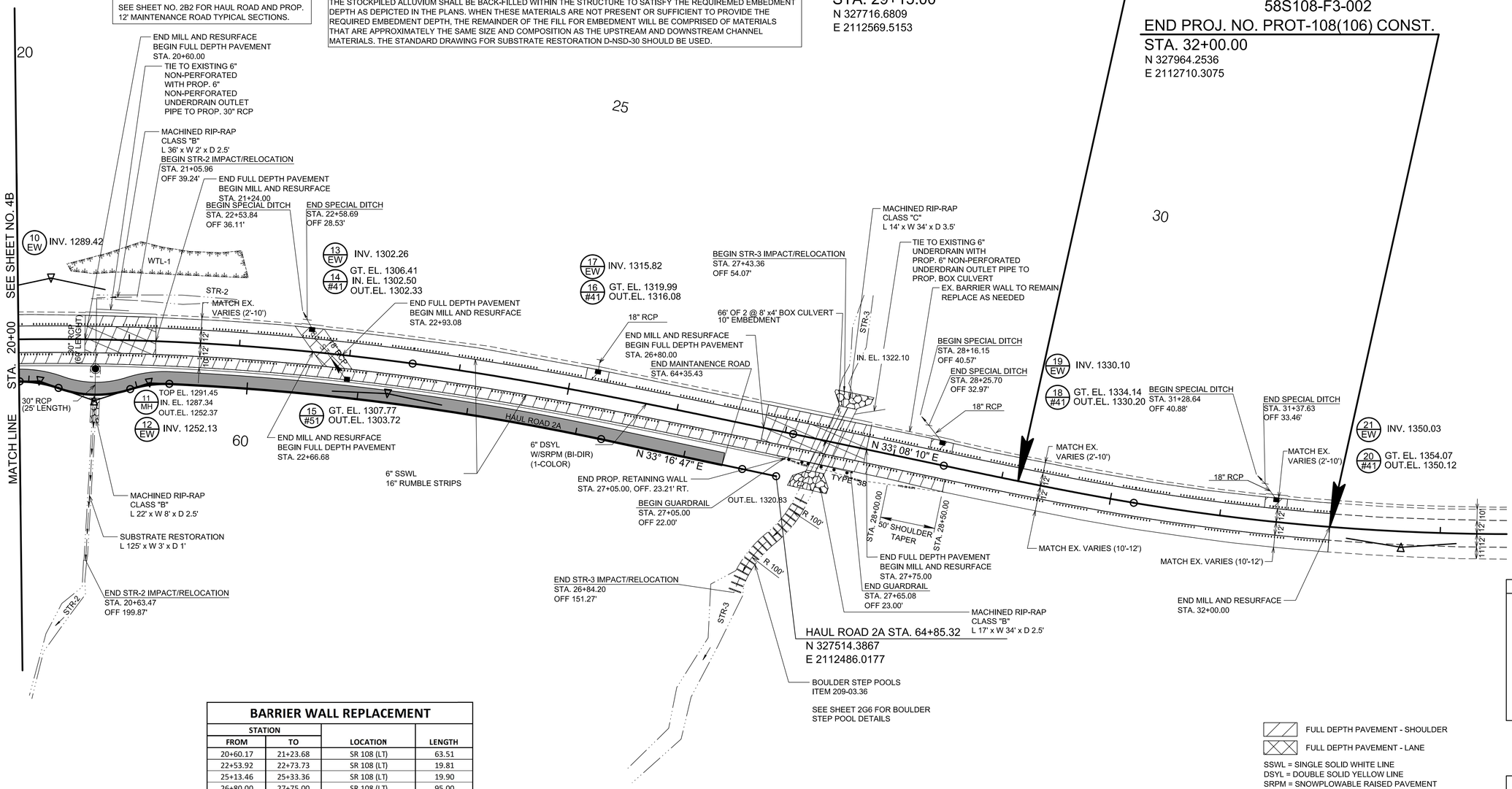
NOTE:
RIP-RAP SHALL BE PLACED AS TO MIMIC THE EXISTING CONTOURS OF THE STREAM CHANNEL. THE TOP OF THE PROPOSED RIP-RAP SHALL BE AT GRADE WITH THE BOTTOM OF THE EXISTING STREAM CHANNEL. VOIDS WITHIN THE RIP-RAP SHALL BE FILLED WITH STREAM BED SUBSTRATE, IF AVAILABLE, TO PREVENT LOSS OF STREAM WITHIN RIP-RAP AREAS. STREAM BED SUBSTRATE CAN BE REMOVED FROM RIP-RAP EMBEDMENT AREA.

THE CONTRACTOR SHALL USE ANY MEASURES NECESSARY TO ENSURE THAT CONSTRUCTION EQUIPMENT WILL NOT ENTER ANY PORTION OF WTL-1 AND THAT THE SURROUNDING VEGETATION WILL NOT BE DISTURBED AND ARE PROTECTED FROM SEDIMENT AND OTHER POLLUTANTS EXCEPT AT THE PERMITTED LOCATIONS.

NOTE:
"LOW FLOW" CHANNEL WITH MULTIPLE BARREL EMBEDDED STRUCTURE: THE STREAM CHANNEL SHALL BE CONSTRUCTED SO THAT IT ALIGNS WITH A SINGLE BARREL OF THE STREAM CONVEYANCE STRUCTURE. THE STREAM AT THE INLET AND OUTLET OF PROPOSED EMBEDDED STREAM CONVEYANCE STRUCTURES SHALL BE RESTORED TO THE PRECONSTRUCTION STREAM CHANNEL CROSS-SECTION MATCHING THE CHANNEL BOTTOM WIDTH WITH BANK BY USING THE EXCAVATED STREAM AND STREAM BANK MATERIALS, OR OTHER MATERIALS IF SPECIFIED, ONCE THE CONSTRUCTION OF THE STREAM CONVEYANCE STRUCTURE IS COMPLETE. ALL BARRELS SHALL BE BACKFILLED, SUCH AS DESCRIBED IN THE "EMBEDDING OF STRUCTURES" NOTE. WHEN RECONSTRUCTING THE STREAM BANK, USE A COIR FIBER ROLL AT THE TOE OF THE BANK TO PROVIDE BANK STABILITY WHILE NATIVE VEGETATION ESTABLISHES. STANDARD DRAWING D-NSD-33 MUST BE USED FOR COIR FIBER ROLL INSTALLATION. THE BANK HEIGHT SHOULD BE CONSTRUCTED ONE (1) FOOT HIGHER THAN THE STREAM BED AT THE CULVERT WITH THE ADDITIONAL FOOT OF MATERIAL INSTALLED IN THE BARREL(S) OF THE STRUCTURE THAT DO NOT CONVEY THE NORMAL STREAM FLOW. THE ADDITIONAL MATERIAL IN THE ADJACENT BARREL(S) WILL PREVENT NORMAL STREAM FLOW FROM ENTERING THE (THOSE) BARREL(S). TAPER THE ONE-FOOT BANK HEIGHT FROM THE CULVERT TO THE EXISTING BANK HEIGHT WITHIN 25 FEET OF BOTH ENDS OF THE STRUCTURE TO TIE BACK TO THE EXISTING STREAM CHANNEL BANK. STREAM BANK MATERIAL EXCAVATED DURING THE CONSTRUCTION OF THE STREAM CONVEYANCE STRUCTURE, OR OTHER MATERIALS IF SPECIFIED, SHOULD BE USED WHEN RECONSTRUCTING THE STREAM BANK ONCE THE STRUCTURE IS COPMLPLETE. NATIVE SEED MIXTURES AS SPECIFIED IN STANDARD DRAWING STD-17-20 SHALL BE PLANTED ONCE THE BANK CONSTRUCTION IS COMPLETE. IF NATURAL CHANNEL DESIGN IS PROPOSED AT THE STRUCTURE INLET, OUTLET, OR BOTH, IMPLEMENT THE DESIGN AS SHOWN IN THE NATURAL CHANNEL DESIGN PLANS INSTEAD OF RESTORING THE CHANNEL TO THE PRECONSTRUCTION COSS-SECTION.

EMBEDDING OF STRUCTURES: DURING CONSTRUCTION OF THE STREAM CONVEYANCE STRUCTURE, THE CONTRACTOR SHALL GATHER COARSE ALLUVIUM FROM PORTIONS OF THE STREAM CHANNEL THAT IS BEING EXCAVATED OR FILLED, AND STOCKPILE THE MATERIAL IN A NON-WETLAND/AQUATIC SITE. FOLLOWING THE INSTALLATION OF THE STRUCTURE, THE STOCKPILED ALLUVIUM SHALL BE BACK-FILLED WITHIN THE STRUCTURE TO SATISFY THE REQUIREMED EMBEDMENT DEPTH AS DEPICTED IN THE PLANS. WHEN THESE MATERIALS ARE NOT PRESENT OR SUFFICIENT TO PROVIDE THE REQUIRED EMBEDMENT DEPTH, THE REMAINDER OF THE FILL FOR EMBEDMENT WILL BE COMPRISED OF MATERIALS THAT ARE APPROXIMATELY THE SAME SIZE AND COMPOSITION AS THE UPSTREAM AND DOWNSTREAM CHANNEL MATERIALS. THE STANDARD DRAWING FOR SUBSTRATE RESTORATION D-NSD-30 SHOULD BE USED.

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	5B
PIH	2024	PROT-108(106)	5B
PS&E	2025	PROT-108(106)	5B



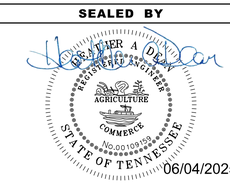
BARRIER WALL REPLACEMENT

STATION			
FROM	TO	LOCATION	LENGTH
20+60.17	21+23.68	SR 108 (LT)	63.51
22+53.92	22+73.73	SR 108 (LT)	19.81
25+13.46	25+33.36	SR 108 (LT)	19.90
26+80.00	27+75.00	SR 108 (LT)	95.00
28+30.97	28+50.97	SR 108 (LT)	20.00
31+39.36	31+59.58	SR 108 (LT)	20.22
			238.44

FULL DEPTH PAVEMENT - SHOULDER
FULL DEPTH PAVEMENT - LANE

SSWL = SINGLE SOLID WHITE LINE
DSYL = DOUBLE SOLID YELLOW LINE
SRPM = SNOWPLOWABLE RAISED PAVEMENT MARKERS (80' SPACING)

SEALED BY



COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA. 20+00 TO STA. 32+00
SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	5C
PIH	2024	PROT-108(106)	5C
PS&E	2025	PROT-108(106)	5C

PIPE CULVERT
STATION: 20+70.00
STRUCTURE: 60' OF 30" RCP CLASS III

SKEW	90	DEG.
DRAINAGE AREA	10.64	AC.
DESIGN DISCHARGE (Q50)	30.24	CFS
DESIGN DISCHARGE (Q100)	33.30	CFS
OVERTOPPING	1293.30	ELEV.
ALLOWABLE HEADWATER	1293.30	ELEV.
Q50 HEADWATER	1292.34	ELEV.
Q100 HEADWATER	1292.68	ELEV.
VELOCITY (Q50)	12.95	FT/S
VELOCITY (Q100)	13.21	FT/S
ENDWALLS REQUIRED:		
1-STRAIGHT		
STANDARD DRAWING NOS.:		
D-PB-1, D-PE-4		
QUANTITIES:		
CLASS "A" CONCRETE	2.9	C.Y.
STEEL BAR REINFORCING	109.0	LB.
BEDDING MATERIAL	17.0	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

PIPE CULVERT
STATION: 20+70.00
STRUCTURE: 25' OF 30" RCP CLASS III

SKEW	90	DEG.
DRAINAGE AREA	10.64	AC.
DESIGN DISCHARGE (Q50)	30.24	CFS
DESIGN DISCHARGE (Q100)	33.30	CFS
OVERTOPPING	1293.30	ELEV.
ALLOWABLE HEADWATER	1293.30	ELEV.
Q50 HEADWATER	1292.00	ELEV.
Q100 HEADWATER	1292.31	ELEV.
VELOCITY (Q50)	8.65	FT/S
VELOCITY (Q100)	8.89	FT/S
ENDWALLS REQUIRED:		
1-STRAIGHT		
STANDARD DRAWING NOS.:		
D-PB-1, D-PEW-4		
QUANTITIES:		
CLASS "A" CONCRETE	2.9	C.Y.
STEEL BAR REINFORCING	109.0	LB.
BEDDING MATERIAL	7.1	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

MATCH EXISTING SUPER ELEVATION

MATCH EXISTING SUPER ELEVATION

58S108-F3-002
END PROJ. NO. PROT-108(106) CONST.
STA. 32+00.00
N 327964.2536
E 2112710.3075

END PROJ. NO. 58S108-S2-002 R.O.W.
STA. 29+15.00
N 327716.6809
E 2112569.5153

VPI 32+00.00 EL. 1358.91

VPI 25+26.69 EL. 1320.06

VPI 23+41.68 EL. 1312.29

VPC 21+96.67 EL. 1299.43

VC = 300.00'
K = 113

VPT 29+51.17 EL. 1341.87

VPI 31+28.64 EL. 1339.86
VPI 31+37.63 EL. 1350.03

VPC 26+51.17 EL. 1325.29

VPI 22+53.84 EL. 1302.00
VPI 22+58.69 EL. 1302.26

VPI 28+16.15 EL. 1330.00
VPI 28+25.70 EL. 1330.10

VPI 28+01.17 EL. 1331.59

VC = 370.02'
K = 134

SEE BELOW

SEE ABOVE

MATCH LINE STA. 26+00

MATCH LINE STA. 26+00

PROPOSED FINISHED GRADE

EXISTING GROUND

PROP TOP OF WALL

PROP TOP OF WALL

PROP BOTTOM OF WALL GRADING

PROP BOTTOM OF WALL

PROP BOTTOM OF WALL

PROP BOTTOM OF WALL GRADING

PROP 30" RCP CLASS III

PROP 30" RCP CLASS III

PROP. 18" RCP -2.33%

PROP. 18" RCP -2.23%

PROP. 18" RCP -0.58%

PROP. 18" RCP -0.51%

PROP. 8" RCP -0.51%

SP. DITCH LT.

SP. DITCH LT.

SP. DITCH LT.

4.20%

6.99%

2.88%

6.85%

4.20%

0.80%

1.50%

31'

39'

(TO BE ABANDONED)
STA 20+95.84
EXISTING 30" HDPE
SKEW 89° 49' 23" RT
FLOWS RIGHT
INLET 1288.34
OUTLET 1284.62

(TO BE ABANDONED)
STA 20+99.04
EXISTING 30" HDPE
SKEW 89° 26' 55" RT
FLOWS RIGHT
INLET 1288.45
OUTLET 1284.88

(TO BE ABANDONED)
STA 27+16.06
EXISTING 60"STEEL
SKEW 62° 40' 26" LT
FLOWS RIGHT
INLET 1319.28
OUTLET 1310.13

10 EW INV. EL. 1289.42

11 MH TOP EL. 1291.45
IN. EL. 1287.34
OUT.EL. 1252.37

12 EW INV. EL. 1252.13

13 EW INV. EL. 1302.26

14 #41 GT. EL. 1306.41
IN. EL. 1302.5
OUT.EL. 1302.33

15 #51 GT. EL. 1307.77
OUT.EL. 1303.72

16 #41 GT. EL. 1319.99
OUT.EL. 1316.08

17 EW INV. EL. 1315.82

18 #41 GT. EL. 1334.14
OUT.EL. 1330.20

19 EW INV. EL. 1330.10

20 #41 GT. EL. 1354.07
OUT.EL. 1350.12

21 EW INV. EL. 1350.03

PROPOSED BOX CULVERT
STATION: 27+41.72
STRUCTURE: 66' OF 2 AT 8' X 4'

SKEW	75	DEG.
DRAINAGE AREA	102.98	AC.
DESIGN DISCHARGE (Q50)	341.38	CFS
DESIGN DISCHARGE (Q100)	369.49	CFS
OVERTOPPING ELEV.	1329.46	
ALLOWABLE HEADWATER ELEV.	1329.46	
Q50 HEADWATER ELEV.	1326.66	
Q100 HEADWATER ELEV.	1326.88	
VELOCITY (Q50)	9.45	FT/S
VELOCITY (Q100)	9.74	FT/S
INLET ELEVATION	1322.10	
OUTLET ELEVATION	1320.83	
STANDARD DRAWING NOS.: STD-17-1 THRU STD-17-12 STD-17-17 THRU STD-17-18, STD-17-28 THRU STD-17-29, STD-17-72		
QUANTITIES:		
CLASS "A" CONCRETE	97.7	C.Y.
STEEL BAR REINFORCING	19998.0	LB.
BACKFILL	464.9	TONS
FOUNDATION FILL MATERIAL	55.8	C.Y.
CLASS (B) RIP-RAP	118.0	TONS

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06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0008 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED PROFILE

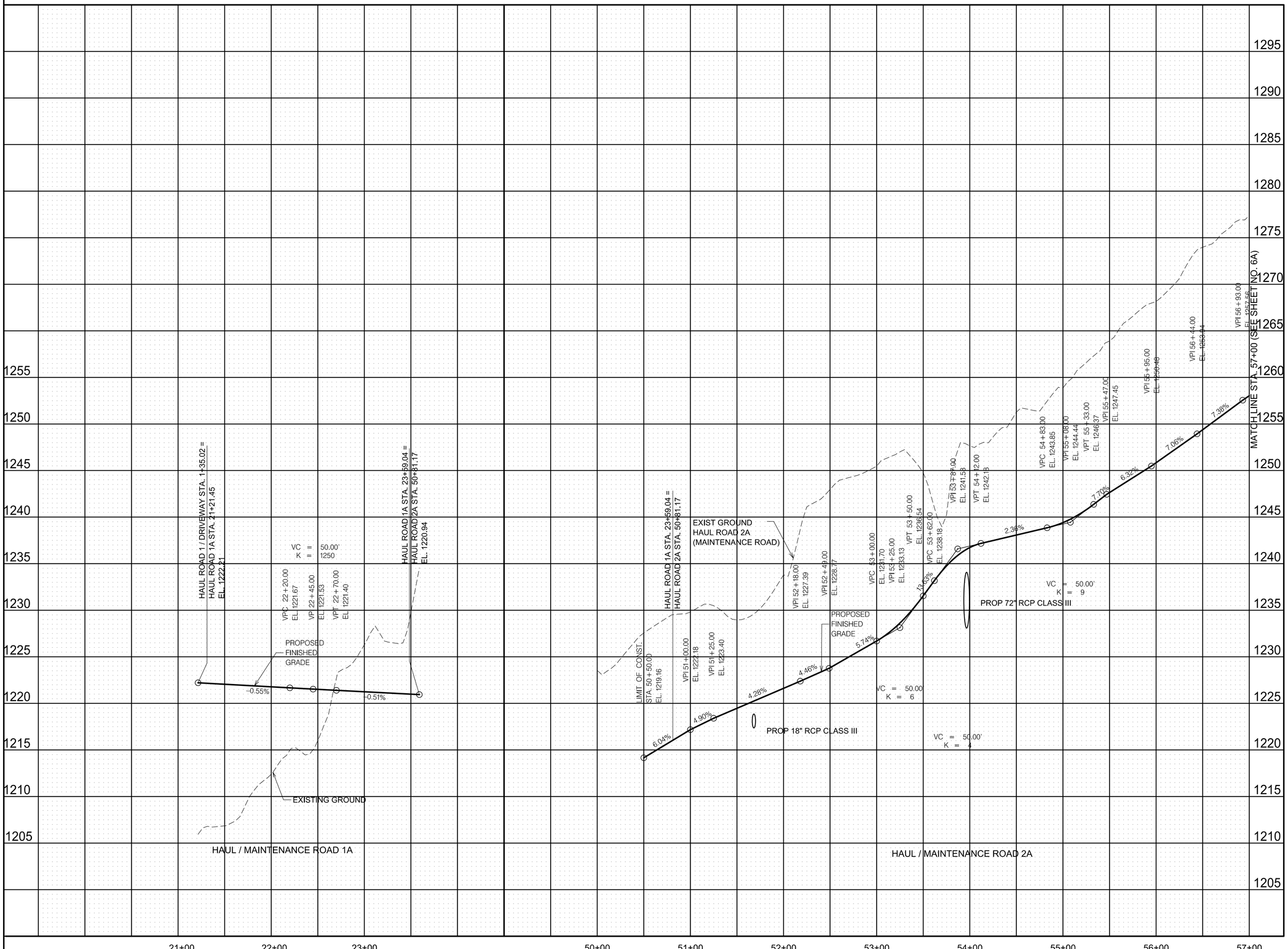
STA. 20+00 TO STA. 32+00

SCALE: 1"= 50' HORIZ.
1"= 5' VERT.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	6
PIH	2024	PROT-108(106)	6
PS&E	2025	PROT-108(106)	6

REV. 04-10-24: REVISED HAUL ROAD 1A.



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

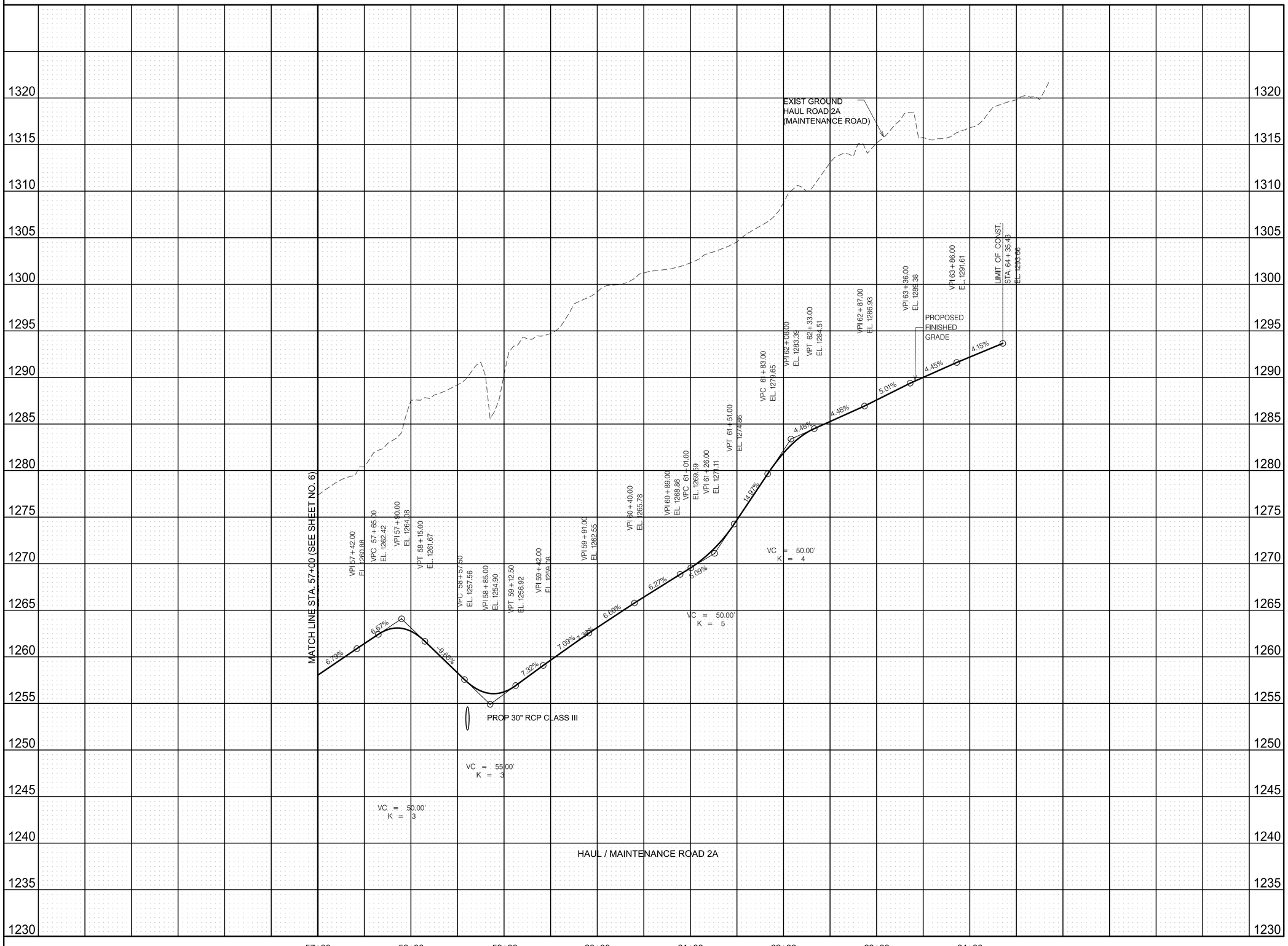
PROPOSED PROFILE

HAUL / MAINTENANCE ROAD

SCALE: 1"= 50' HORIZ.
1"= 5' VERT.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	6A
PIH	2024	PROT-108(106)	6A
PS&E	2025	PROT-108(106)	6A



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HEATHER A. DEW
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 00109159
STATE OF TENNESSEE

06/04/2025

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED PROFILE

HAUL / MAINTENANCE ROAD

SCALE: 1"= 50' HORIZ.
1"= 5' VERT.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	7
PIH	2024	PROT-108(106)	7
PS&E	2025	PROT-108(106)	7

REV. 04-10-25: REMOVED DRIVE AT STA. 10+50 AND ADDED DRIVE AT STA. 11+04.

NOTE:
HAUL ROAD 1 (0+00 TO 1+35.02) PROFILE IS THE SAME AS PROPOSED DRIVEWAY 11+04.

PIPE CULVERT
STATION: 3+52.75 DRIVEWAY TRACT 2
STRUCTURE: 21' OF 30" RCP CLASS III

SKEW	79	DEG.
DRAINAGE AREA	9.62	AC.
DESIGN DISCHARGE (Q50)	30.18	CFS
DESIGN DISCHARGE (Q100)	33.26	CFS
OVERTOPPING	1212.47	ELEV.
ALLOWABLE HEADWATER	1211.97	ELEV.
Q50 HEADWATER	1210.71	ELEV.
Q100 HEADWATER	1211.02	ELEV.
VELOCITY (Q50)	15.31	FT/S
VELOCITY (Q100)	15.57	FT/S
ENDWALLS REQUIRED:		
1-STRAIGHT		
STANDARD DRAWING NOS.:		
D-PB-1, D-PEW-4		
QUANTITIES:		
CLASS "A" CONCRETE	3.0	C.Y.
STEEL BAR REINFORCING	112.0	LB.
BEDDING MATERIAL	5.9	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

PIPE CULVERT
STATION: 3+52.75 DRIVEWAY TRACT 2
STRUCTURE: 8' OF 30" RCP CLASS III

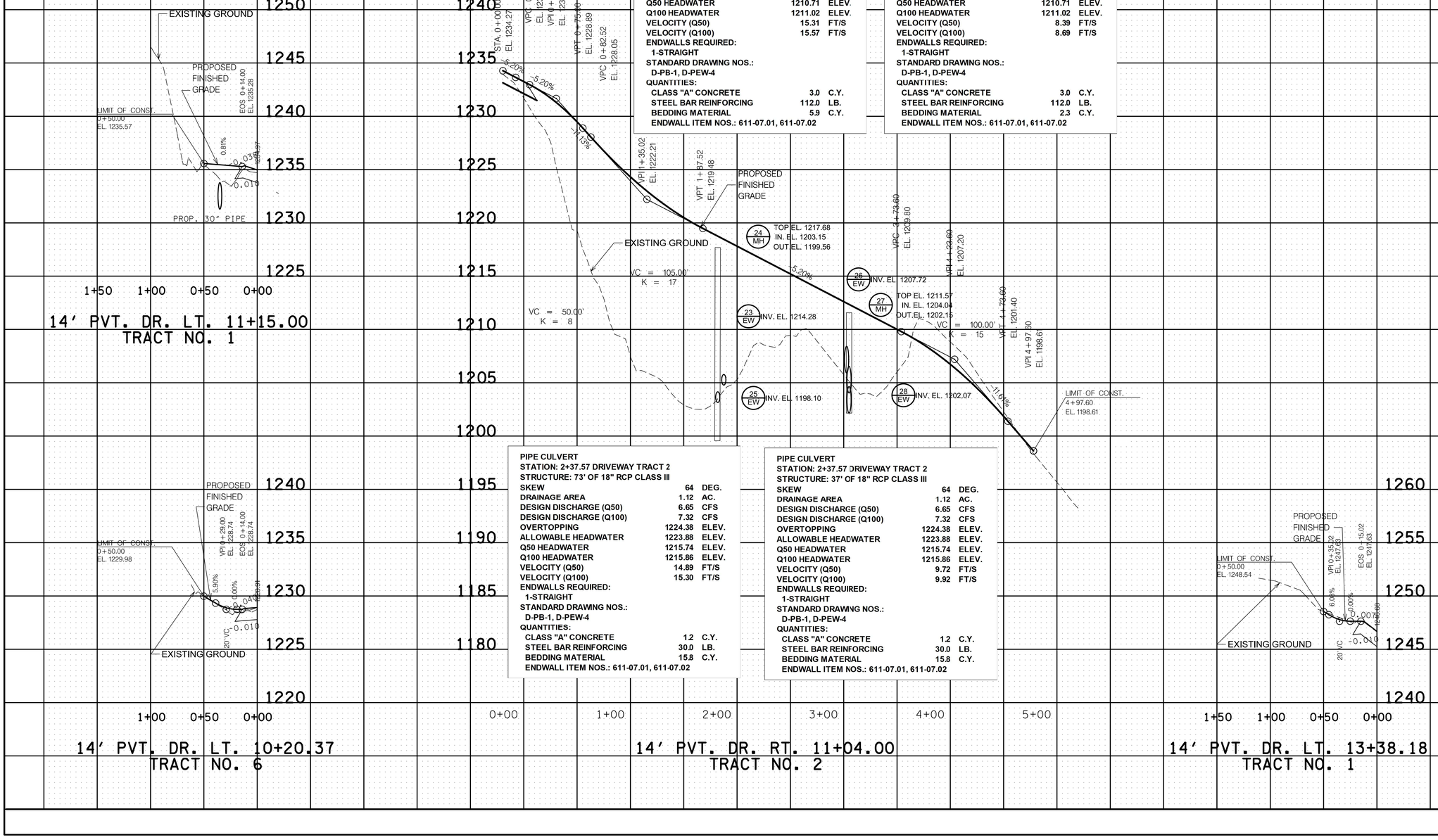
SKEW	79	DEG.
DRAINAGE AREA	9.62	AC.
DESIGN DISCHARGE (Q50)	30.18	CFS
DESIGN DISCHARGE (Q100)	33.26	CFS
OVERTOPPING	1212.47	ELEV.
ALLOWABLE HEADWATER	1211.97	ELEV.
Q50 HEADWATER	1210.71	ELEV.
Q100 HEADWATER	1211.02	ELEV.
VELOCITY (Q50)	8.39	FT/S
VELOCITY (Q100)	8.69	FT/S
ENDWALLS REQUIRED:		
1-STRAIGHT		
STANDARD DRAWING NOS.:		
D-PB-1, D-PEW-4		
QUANTITIES:		
CLASS "A" CONCRETE	3.0	C.Y.
STEEL BAR REINFORCING	112.0	LB.
BEDDING MATERIAL	2.3	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

PIPE CULVERT
STATION: 2+37.57 DRIVEWAY TRACT 2
STRUCTURE: 73' OF 18" RCP CLASS III

SKEW	64	DEG.
DRAINAGE AREA	1.12	AC.
DESIGN DISCHARGE (Q50)	6.65	CFS
DESIGN DISCHARGE (Q100)	7.32	CFS
OVERTOPPING	1224.38	ELEV.
ALLOWABLE HEADWATER	1223.88	ELEV.
Q50 HEADWATER	1215.74	ELEV.
Q100 HEADWATER	1215.86	ELEV.
VELOCITY (Q50)	14.89	FT/S
VELOCITY (Q100)	15.30	FT/S
ENDWALLS REQUIRED:		
1-STRAIGHT		
STANDARD DRAWING NOS.:		
D-PB-1, D-PEW-4		
QUANTITIES:		
CLASS "A" CONCRETE	1.2	C.Y.
STEEL BAR REINFORCING	30.0	LB.
BEDDING MATERIAL	15.8	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

PIPE CULVERT
STATION: 2+37.57 DRIVEWAY TRACT 2
STRUCTURE: 37' OF 18" RCP CLASS III

SKEW	64	DEG.
DRAINAGE AREA	1.12	AC.
DESIGN DISCHARGE (Q50)	6.65	CFS
DESIGN DISCHARGE (Q100)	7.32	CFS
OVERTOPPING	1224.38	ELEV.
ALLOWABLE HEADWATER	1223.88	ELEV.
Q50 HEADWATER	1215.74	ELEV.
Q100 HEADWATER	1215.86	ELEV.
VELOCITY (Q50)	9.72	FT/S
VELOCITY (Q100)	9.92	FT/S
ENDWALLS REQUIRED:		
1-STRAIGHT		
STANDARD DRAWING NOS.:		
D-PB-1, D-PEW-4		
QUANTITIES:		
CLASS "A" CONCRETE	1.2	C.Y.
STEEL BAR REINFORCING	30.0	LB.
BEDDING MATERIAL	15.8	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		



SEALED BY

HEATHER A. DEW
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COMMERCE
No. 00109259
STATE OF TENNESSEE
06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0008 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

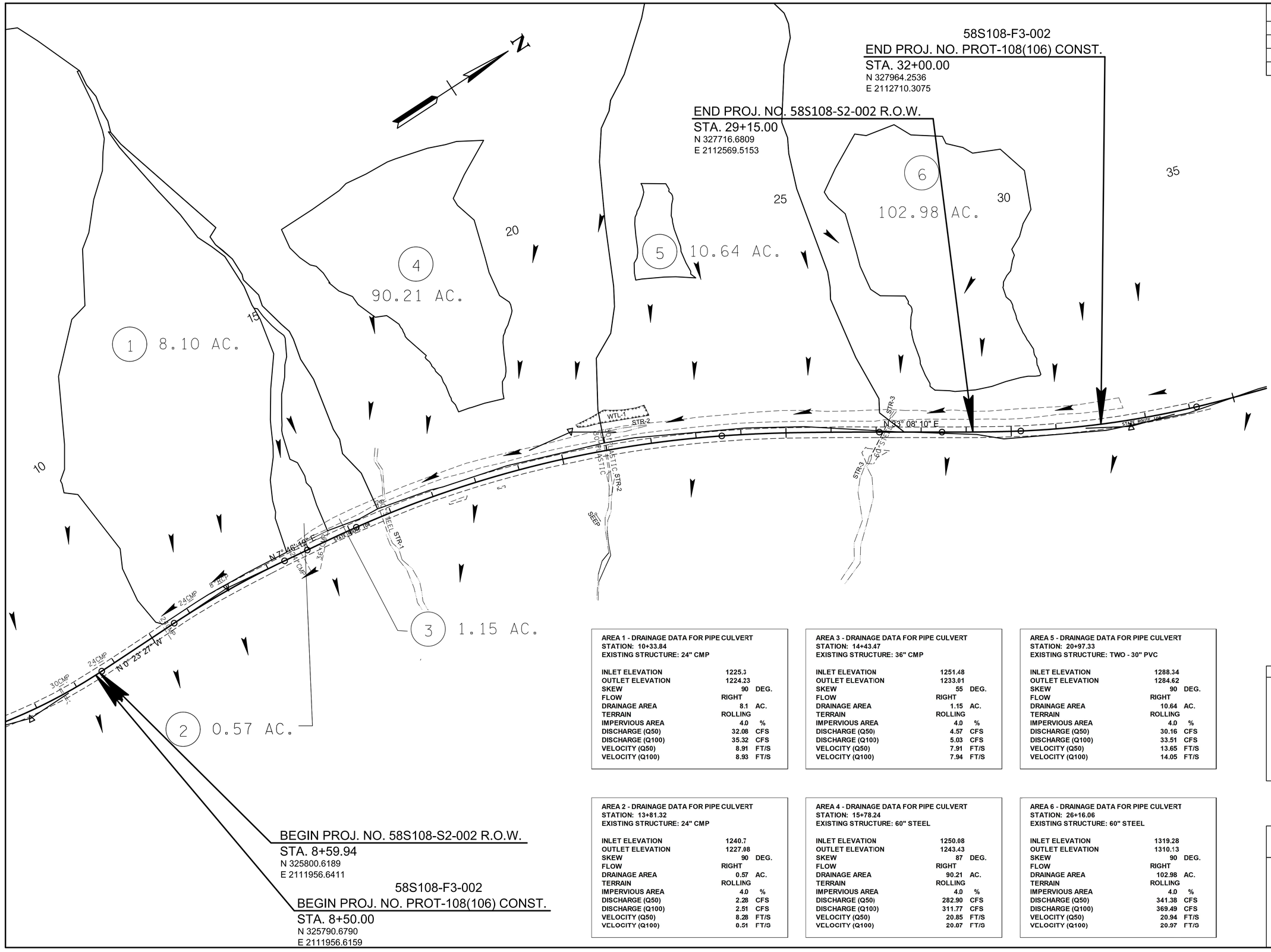
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRIVATE DRIVE, BUSINESS, AND FIELD ENTRANCE PROFILE

SCALE: 1"= 50' HORIZ.
1"= 5' VERT.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	8
PIH	2024	PROT-108(106)	8
PS&E	2025	PROT-108(106)	8



AREA 1 - DRAINAGE DATA FOR PIPE CULVERT
STATION: 10+33.84
EXISTING STRUCTURE: 24" CMP

INLET ELEVATION	1225.3	
OUTLET ELEVATION	1224.23	
SKEW	90	DEG.
FLOW	RIGHT	
DRAINAGE AREA	8.1	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	4.0	%
DISCHARGE (Q50)	32.08	CFS
DISCHARGE (Q100)	35.32	CFS
VELOCITY (Q50)	8.91	FT/S
VELOCITY (Q100)	8.93	FT/S

AREA 2 - DRAINAGE DATA FOR PIPE CULVERT
STATION: 13+81.32
EXISTING STRUCTURE: 24" CMP

INLET ELEVATION	1240.7	
OUTLET ELEVATION	1227.08	
SKEW	90	DEG.
FLOW	RIGHT	
DRAINAGE AREA	0.57	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	4.0	%
DISCHARGE (Q50)	2.28	CFS
DISCHARGE (Q100)	2.51	CFS
VELOCITY (Q50)	8.28	FT/S
VELOCITY (Q100)	8.51	FT/S

AREA 3 - DRAINAGE DATA FOR PIPE CULVERT
STATION: 14+43.47
EXISTING STRUCTURE: 36" CMP

INLET ELEVATION	1251.48	
OUTLET ELEVATION	1233.01	
SKEW	55	DEG.
FLOW	RIGHT	
DRAINAGE AREA	1.15	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	4.0	%
DISCHARGE (Q50)	4.57	CFS
DISCHARGE (Q100)	5.03	CFS
VELOCITY (Q50)	7.91	FT/S
VELOCITY (Q100)	7.94	FT/S

AREA 4 - DRAINAGE DATA FOR PIPE CULVERT
STATION: 15+78.24
EXISTING STRUCTURE: 60" STEEL

INLET ELEVATION	1250.08	
OUTLET ELEVATION	1243.43	
SKEW	87	DEG.
FLOW	RIGHT	
DRAINAGE AREA	90.21	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	4.0	%
DISCHARGE (Q50)	282.90	CFS
DISCHARGE (Q100)	311.77	CFS
VELOCITY (Q50)	20.85	FT/S
VELOCITY (Q100)	20.87	FT/S

AREA 5 - DRAINAGE DATA FOR PIPE CULVERT
STATION: 20+97.33
EXISTING STRUCTURE: TWO - 30" PVC

INLET ELEVATION	1288.34	
OUTLET ELEVATION	1284.62	
SKEW	90	DEG.
FLOW	RIGHT	
DRAINAGE AREA	10.64	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	4.0	%
DISCHARGE (Q50)	30.16	CFS
DISCHARGE (Q100)	33.51	CFS
VELOCITY (Q50)	13.65	FT/S
VELOCITY (Q100)	14.05	FT/S

AREA 6 - DRAINAGE DATA FOR PIPE CULVERT
STATION: 26+16.06
EXISTING STRUCTURE: 60" STEEL

INLET ELEVATION	1319.28	
OUTLET ELEVATION	1310.13	
SKEW	90	DEG.
FLOW	RIGHT	
DRAINAGE AREA	102.98	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	4.0	%
DISCHARGE (Q50)	341.38	CFS
DISCHARGE (Q100)	369.49	CFS
VELOCITY (Q50)	20.94	FT/S
VELOCITY (Q100)	20.97	FT/S

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DEANNER A. DEAN
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No.0010910
STATE OF TENNESSEE
06/04/2025

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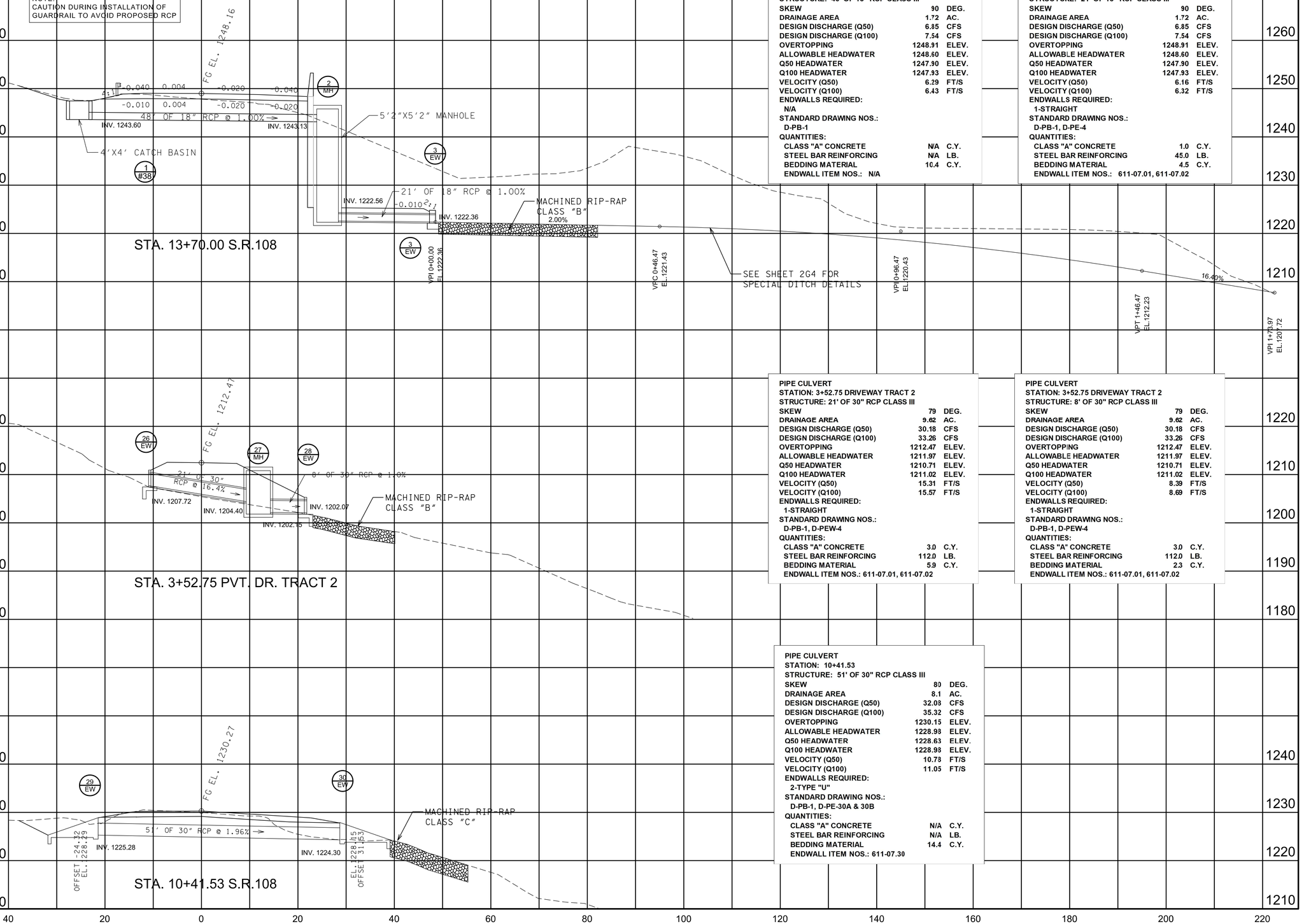
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DRAINAGE MAP

P.O.B. TO E.O.P.
SCALE: 1"=100'

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NOTE:
CAUTION DURING INSTALLATION OF GUARDRAIL TO AVOID PROPOSED RCP



PIPE CULVERT
STATION: 13+70.00
STRUCTURE: 48' OF 18" RCP CLASS III

SKEW	90	DEG.
DRAINAGE AREA	1.72	AC.
DESIGN DISCHARGE (Q50)	6.85	CFS
DESIGN DISCHARGE (Q100)	7.54	CFS
OVERTOPPING	1248.91	ELEV.
ALLOWABLE HEADWATER	1248.60	ELEV.
Q50 HEADWATER	1247.90	ELEV.
Q100 HEADWATER	1247.93	ELEV.
VELOCITY (Q50)	6.29	FT/S
VELOCITY (Q100)	6.43	FT/S

ENDWALLS REQUIRED:
N/A
STANDARD DRAWING NOS.:
D-PB-1

QUANTITIES:		
CLASS "A" CONCRETE	N/A	C.Y.
STEEL BAR REINFORCING	N/A	LB.
BEDDING MATERIAL	10.4	C.Y.
ENDWALL ITEM NOS.:	N/A	

PIPE CULVERT
STATION: 13+70.00
STRUCTURE: 21' OF 18" RCP CLASS III

SKEW	90	DEG.
DRAINAGE AREA	1.72	AC.
DESIGN DISCHARGE (Q50)	6.85	CFS
DESIGN DISCHARGE (Q100)	7.54	CFS
OVERTOPPING	1248.91	ELEV.
ALLOWABLE HEADWATER	1248.60	ELEV.
Q50 HEADWATER	1247.90	ELEV.
Q100 HEADWATER	1247.93	ELEV.
VELOCITY (Q50)	6.16	FT/S
VELOCITY (Q100)	6.32	FT/S

ENDWALLS REQUIRED:
1-STRAIGHT
STANDARD DRAWING NOS.:
D-PB-1, D-PE-4

QUANTITIES:		
CLASS "A" CONCRETE	1.0	C.Y.
STEEL BAR REINFORCING	45.0	LB.
BEDDING MATERIAL	4.5	C.Y.
ENDWALL ITEM NOS.:	611-07.01, 611-07.02	

PIPE CULVERT
STATION: 3+52.75 DRIVEWAY TRACT 2
STRUCTURE: 21' OF 30" RCP CLASS III

SKEW	79	DEG.
DRAINAGE AREA	9.62	AC.
DESIGN DISCHARGE (Q50)	30.18	CFS
DESIGN DISCHARGE (Q100)	33.26	CFS
OVERTOPPING	1212.47	ELEV.
ALLOWABLE HEADWATER	1211.97	ELEV.
Q50 HEADWATER	1210.71	ELEV.
Q100 HEADWATER	1211.02	ELEV.
VELOCITY (Q50)	15.31	FT/S
VELOCITY (Q100)	15.57	FT/S

ENDWALLS REQUIRED:
1-STRAIGHT
STANDARD DRAWING NOS.:
D-PB-1, D-PEW-4

QUANTITIES:		
CLASS "A" CONCRETE	3.0	C.Y.
STEEL BAR REINFORCING	112.0	LB.
BEDDING MATERIAL	5.9	C.Y.
ENDWALL ITEM NOS.:	611-07.01, 611-07.02	

PIPE CULVERT
STATION: 3+52.75 DRIVEWAY TRACT 2
STRUCTURE: 8' OF 30" RCP CLASS III

SKEW	79	DEG.
DRAINAGE AREA	9.62	AC.
DESIGN DISCHARGE (Q50)	30.18	CFS
DESIGN DISCHARGE (Q100)	33.26	CFS
OVERTOPPING	1212.47	ELEV.
ALLOWABLE HEADWATER	1211.97	ELEV.
Q50 HEADWATER	1210.71	ELEV.
Q100 HEADWATER	1211.02	ELEV.
VELOCITY (Q50)	8.39	FT/S
VELOCITY (Q100)	8.69	FT/S

ENDWALLS REQUIRED:
1-STRAIGHT
STANDARD DRAWING NOS.:
D-PB-1, D-PEW-4

QUANTITIES:		
CLASS "A" CONCRETE	3.0	C.Y.
STEEL BAR REINFORCING	112.0	LB.
BEDDING MATERIAL	2.3	C.Y.
ENDWALL ITEM NOS.:	611-07.01, 611-07.02	

PIPE CULVERT
STATION: 10+41.53
STRUCTURE: 51' OF 30" RCP CLASS III

SKEW	80	DEG.
DRAINAGE AREA	8.1	AC.
DESIGN DISCHARGE (Q50)	32.08	CFS
DESIGN DISCHARGE (Q100)	35.32	CFS
OVERTOPPING	1230.15	ELEV.
ALLOWABLE HEADWATER	1228.98	ELEV.
Q50 HEADWATER	1228.63	ELEV.
Q100 HEADWATER	1228.98	ELEV.
VELOCITY (Q50)	10.78	FT/S
VELOCITY (Q100)	11.05	FT/S

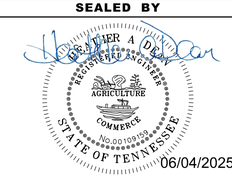
ENDWALLS REQUIRED:
2-TYPE "U"
STANDARD DRAWING NOS.:
D-PB-1, D-PE-30A & 30B

QUANTITIES:		
CLASS "A" CONCRETE	N/A	C.Y.
STEEL BAR REINFORCING	N/A	LB.
BEDDING MATERIAL	14.4	C.Y.
ENDWALL ITEM NOS.:	611-07.30	

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	9
PIH	2024	PROT-108(106)	9
PS&E	2025	PROT-108(106)	9

REV. 04-10-24: REVISED CULVERT SECTION FROM STA. 10+52.79 TO STA. 10+41.53

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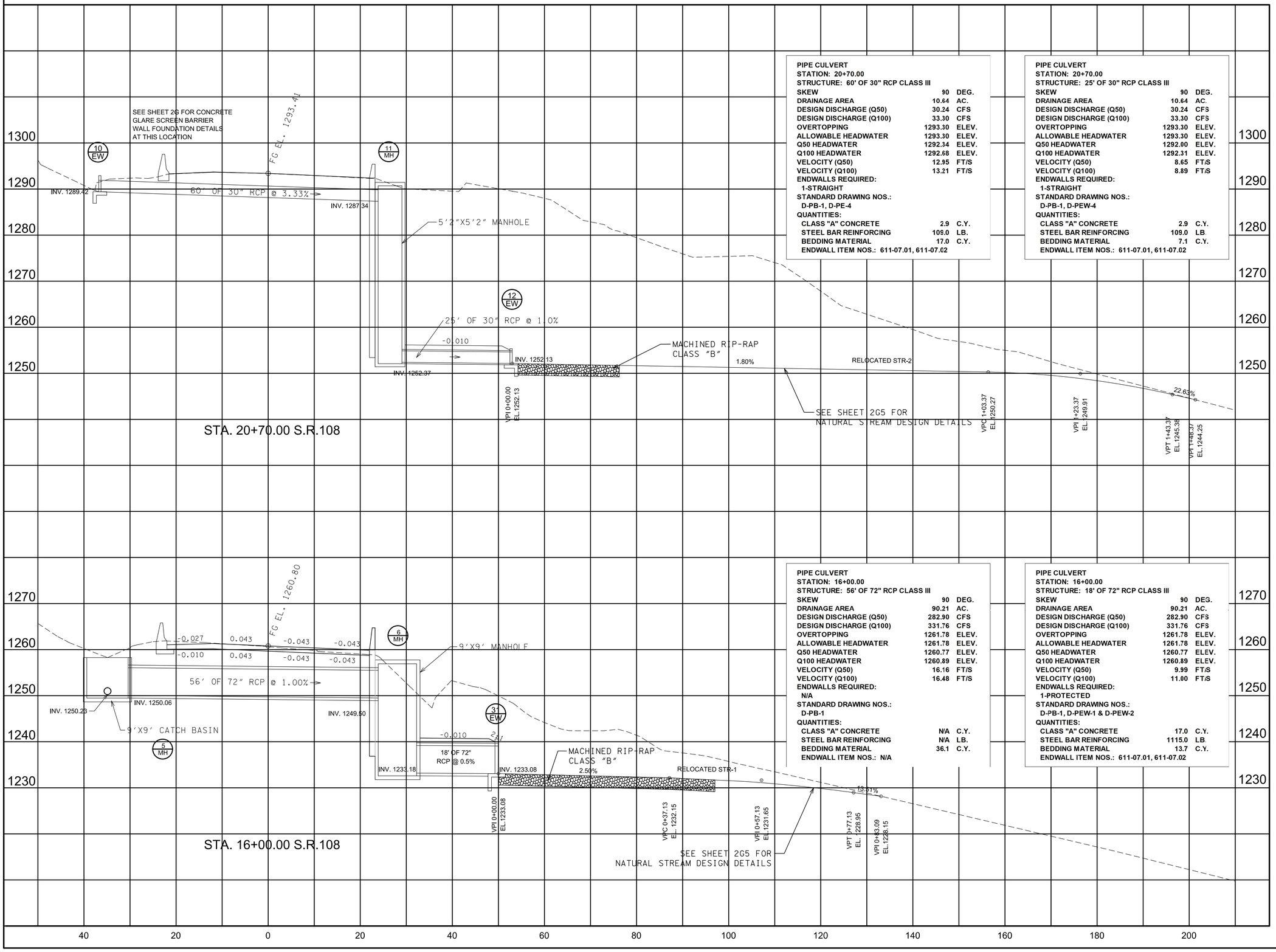
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CULVERT SECTION

SCALE: 1"= 10' HORIZ.
1"=10' VERT.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	10
PIH	2024	PROT-108(106)	10
PS&E	2025	PROT-108(106)	10



PIPE CULVERT
STATION: 20+70.00
STRUCTURE: 60' OF 30" RCP CLASS III

SKEW	90	DEG.
DRAINAGE AREA	10.64	AC.
DESIGN DISCHARGE (Q50)	30.24	CFS
DESIGN DISCHARGE (Q100)	33.30	CFS
OVERTOPPING	1293.30	ELEV.
ALLOWABLE HEADWATER	1293.30	ELEV.
Q50 HEADWATER	1292.34	ELEV.
Q100 HEADWATER	1292.68	ELEV.
VELOCITY (Q50)	12.95	FT/S
VELOCITY (Q100)	13.21	FT/S
ENDWALLS REQUIRED:		
1-STRAIGHT		
STANDARD DRAWING NOS.:		
D-PB-1, D-PE-4		
QUANTITIES:		
CLASS "A" CONCRETE	2.9	C.Y.
STEEL BAR REINFORCING	109.0	LB.
BEDDING MATERIAL	17.0	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

PIPE CULVERT
STATION: 20+70.00
STRUCTURE: 25' OF 30" RCP CLASS III

SKEW	90	DEG.
DRAINAGE AREA	10.64	AC.
DESIGN DISCHARGE (Q50)	30.24	CFS
DESIGN DISCHARGE (Q100)	33.30	CFS
OVERTOPPING	1293.30	ELEV.
ALLOWABLE HEADWATER	1293.30	ELEV.
Q50 HEADWATER	1292.00	ELEV.
Q100 HEADWATER	1292.31	ELEV.
VELOCITY (Q50)	8.65	FT/S
VELOCITY (Q100)	8.89	FT/S
ENDWALLS REQUIRED:		
1-STRAIGHT		
STANDARD DRAWING NOS.:		
D-PB-1, D-PEW-4		
QUANTITIES:		
CLASS "A" CONCRETE	2.9	C.Y.
STEEL BAR REINFORCING	109.0	LB.
BEDDING MATERIAL	7.1	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

PIPE CULVERT
STATION: 16+00.00
STRUCTURE: 56' OF 72" RCP CLASS III

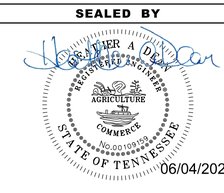
SKEW	90	DEG.
DRAINAGE AREA	90.21	AC.
DESIGN DISCHARGE (Q50)	282.90	CFS
DESIGN DISCHARGE (Q100)	331.76	CFS
OVERTOPPING	1261.78	ELEV.
ALLOWABLE HEADWATER	1261.78	ELEV.
Q50 HEADWATER	1260.77	ELEV.
Q100 HEADWATER	1260.89	ELEV.
VELOCITY (Q50)	16.16	FT/S
VELOCITY (Q100)	16.48	FT/S
ENDWALLS REQUIRED:		
N/A		
STANDARD DRAWING NOS.:		
D-PB-1		
QUANTITIES:		
CLASS "A" CONCRETE	N/A	C.Y.
STEEL BAR REINFORCING	N/A	LB.
BEDDING MATERIAL	36.1	C.Y.
ENDWALL ITEM NOS.: N/A		

PIPE CULVERT
STATION: 16+00.00
STRUCTURE: 18' OF 72" RCP CLASS III

SKEW	90	DEG.
DRAINAGE AREA	90.21	AC.
DESIGN DISCHARGE (Q50)	282.90	CFS
DESIGN DISCHARGE (Q100)	331.76	CFS
OVERTOPPING	1261.78	ELEV.
ALLOWABLE HEADWATER	1261.78	ELEV.
Q50 HEADWATER	1260.77	ELEV.
Q100 HEADWATER	1260.89	ELEV.
VELOCITY (Q50)	9.99	FT/S
VELOCITY (Q100)	11.00	FT/S
ENDWALLS REQUIRED:		
1-PROTECTED		
STANDARD DRAWING NOS.:		
D-PB-1, D-PEW-1 & D-PEW-2		
QUANTITIES:		
CLASS "A" CONCRETE	17.0	C.Y.
STEEL BAR REINFORCING	1115.0	LB.
BEDDING MATERIAL	13.7	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

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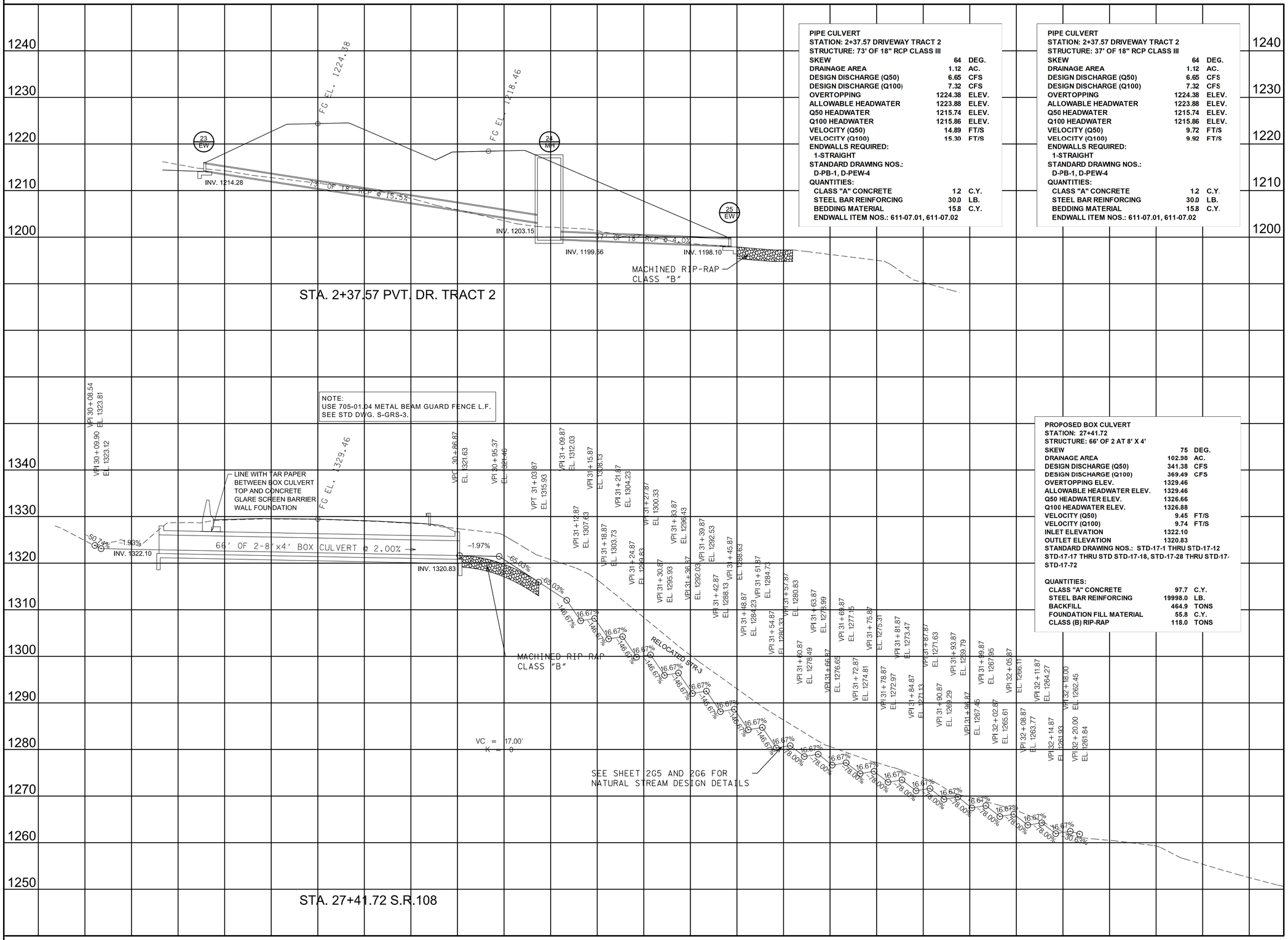
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CULVERT SECTION

SCALE: 1"= 10' HORIZ.
1"=10' VERT.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	11
PIH	2024	PROT-108(106)	11
PS&E	2025	PROT-108(106)	11



PIPE CULVERT
STATION: 2+37.57 DRIVEWAY TRACT 2
STRUCTURE: 73' OF 18" RCP CLASS III

SKEW	64	DEG.
DRAINAGE AREA	1.12	AC.
DESIGN DISCHARGE (Q50)	6.65	CFS
DESIGN DISCHARGE (Q100)	7.32	CFS
OVERTOPPING	1224.38	ELEV.
ALLOWABLE HEADWATER	1223.88	ELEV.
Q50 HEADWATER	1215.74	ELEV.
Q100 HEADWATER	1215.86	ELEV.
VELOCITY (Q50)	14.89	FT/S
VELOCITY (Q100)	15.30	FT/S
ENDWALLS REQUIRED: 1-STRAIGHT		
STANDARD DRAWING NOS.: D-PB-1, D-PEW-4		
QUANTITIES:		
CLASS "A" CONCRETE	1.2	C.Y.
STEEL BAR REINFORCING	30.0	LB.
BEDDING MATERIAL	15.8	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

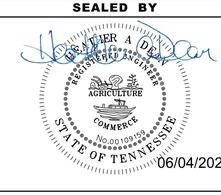
PIPE CULVERT
STATION: 2+37.57 DRIVEWAY TRACT 2
STRUCTURE: 37' OF 18" RCP CLASS III

SKEW	64	DEG.
DRAINAGE AREA	1.12	AC.
DESIGN DISCHARGE (Q50)	6.65	CFS
DESIGN DISCHARGE (Q100)	7.32	CFS
OVERTOPPING	1224.38	ELEV.
ALLOWABLE HEADWATER	1223.88	ELEV.
Q50 HEADWATER	1215.74	ELEV.
Q100 HEADWATER	1215.86	ELEV.
VELOCITY (Q50)	9.72	FT/S
VELOCITY (Q100)	9.92	FT/S
ENDWALLS REQUIRED: 1-STRAIGHT		
STANDARD DRAWING NOS.: D-PB-1, D-PEW-4		
QUANTITIES:		
CLASS "A" CONCRETE	1.2	C.Y.
STEEL BAR REINFORCING	30.0	LB.
BEDDING MATERIAL	15.8	C.Y.
ENDWALL ITEM NOS.: 611-07.01, 611-07.02		

PROPOSED BOX CULVERT
STATION: 27+41.72
STRUCTURE: 66' OF 2 AT 8' X 4'

SKEW	75	DEG.
DRAINAGE AREA	102.98	AC.
DESIGN DISCHARGE (Q50)	341.38	CFS
DESIGN DISCHARGE (Q100)	369.49	CFS
OVERTOPPING ELEV.	1329.46	
ALLOWABLE HEADWATER ELEV.	1329.46	
Q50 HEADWATER ELEV.	1326.66	
Q100 HEADWATER ELEV.	1326.88	
VELOCITY (Q50)	9.45	FT/S
VELOCITY (Q100)	9.74	FT/S
INLET ELEVATION	1322.10	
OUTLET ELEVATION	1320.83	
STANDARD DRAWING NOS.: STD-17-1 THRU STD-17-12 STD-17-17 THRU STD STD-17-18, STD-17-28 THRU STD-17-STD-17-72		
QUANTITIES:		
CLASS "A" CONCRETE	97.7	C.Y.
STEEL BAR REINFORCING	19998.0	LB.
BACKFILL	464.9	TONS
FOUNDATION FILL MATERIAL	55.8	C.Y.
CLASS (B) RIP-RAP	118.0	TONS

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CULVERT SECTION

SCALE: 1"= 10' HORIZ.
1"=10' VERT.

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EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES

INSPECTION, MAINTENANCE & REPAIR

(11) REFER TO THE STORM WATER POLLUTION AND PREVENTION PLAN SHEET SERIES (S-1) FOR SWPPP, PERMITS, AND RECORDS NOTES.

GOOD HOUSEKEEPING MEASURES & WASTE DISPOSAL

(29) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS SHALL BE REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFFSITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES. AFTER USE, MATERIALS USED FOR EPSC SHALL BE REMOVED FROM THE SITE.

(30) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION. APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED.

(31) CONTRACTORS SHALL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF CONTAINED, NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE, AND PROPERLY SIGNED. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS SHALL NOT BE PERMITTED ONSITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.

(32) WHEEL WASH WATER SHALL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER SHALL NOT BE DISCHARGED DIRECTLY INTO ANY STORMWATER SYSTEM OR STORMWATER TREATMENT SYSTEM.

(33) IF PORTABLE SANITARY FACILITIES ARE PROVIDED ON CONSTRUCTION SITES, SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY REGULATIONS. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF SANITARY WASTE.

(34) ONLY CONSTRUCTION PRODUCTS NEEDED SHALL BE STORED ONSITE BY THE CONTRACTOR. THE CONTRACTOR SHALL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR'S RESPONSIBLE PARTY SHALL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL.

(35) WHEN POSSIBLE, ALL PRODUCTS SHALL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFFSITE. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS SHALL BE FOLLOWED.

(36) ALL PAINT CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT SHALL BE DISPOSED OF ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE STATE AND LOCAL REGULATIONS.

(37) ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN A MANNER WHICH IS COMPLIANT WITH LOCAL OR STATE REGULATIONS. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF HAZARDOUS MATERIAL.

(38) OPEN BURNING IS PROHIBITED UNLESS IT IS SPECIFICALLY ALLOWED BY LAW. IF ALLOWED, NATURAL VEGETATION, TREES, AND UNTREATED LUMBER SHALL BE THE ONLY MATERIALS THAT CAN BE OPEN BURNED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE STATE AND LOCAL PERMITS PRIOR TO ANY BURNING.

(39) DISPOSAL OF ONSITE VEGETATION AND TREES BY CHIPPING THEM INTO MULCH IS PREFERABLE TO OPEN BURNING. THIS MULCH MAY BE USED AS AN ONSITE SOIL STABILIZATION MEASURE WHERE APPROPRIATE.

(40) WASTE MATERIAL (EARTH, ROCK, ASPHALT, CONCRETE, ETC.) NOT REQUIRED FOR THE CONSTRUCTION OF THE PROJECT WILL BE DISPOSED OF BY THE CONTRACTOR. IMPACTS TO WATERS OF THE STATE/U.S. SHALL BE AVOIDED IF POSSIBLE. IF UNAVOIDABLE, THE CONTRACTOR WILL OBTAIN ANY AND ALL NECESSARY PERMITS INCLUDING, BUT NOT LIMITED TO NPDES, AQUATIC RESOURCES ALTERATION PERMIT(S), CORPS OF ENGINEERS SECTION 404 PERMITS, AND TVA SECTION 26A PERMITS TO DISPOSE OF WASTE MATERIALS.

STREAMS, WETLANDS & BUFFER ZONES

(54) ANY WORK WITHIN THE STREAM CHANNEL AREA (E.G., PIER FOOTING, RIP-RAP PLACEMENT, CULVERT/BRIDGE CONSTRUCTION, ETC.) SHALL BE SEPARATED FROM FLOWING WATER OR EXPECTED FLOW PATH AND PERFORMED DURING LOW FLOW CONDITIONS. ALL ITEMS USED WITHIN THE STREAM CHANNEL AREA FOR DIVERSION OF FLOW (OR EXPECTED FLOW), UNLESS SPECIFIED IN THE PLANS, SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE COST OF OTHER ITEMS. THIS NOTE EXCLUDES ANY ITEMS SPECIFIED IN THE PLANS FOR THE TEMPORARY DIVERSION CHANNELS (EC-STR-31) AND TEMPORARY DIVERSION CULVERTS (EC STR-32) FOR SINGLE BARREL CULVERT CONSTRUCTION.

EPSC SEQUENCING NOTES

1. STAGE 1 – CLEARING AND GRUBBING
   - A. DETERMINE OUTFALL LOCATIONS AND INSTALL OUTLET PROTECTION
   - B. INSTALL INLET PROTECTION ON EXISTING CULVERTS
     - I. CULVERTS – EC-STR-11
   - C. INSTALL PERIMETER CONTROLS - SILT FENCE (SF)/SILT FENCE WITH BACKING (SFB), SEDIMENT TUBES
   - D. PROTECT EXISTING DRAINAGE FEATURES
     - I. STREAMS - LINE WITH SFB AND HIGH VISIBILITY FENCE
     - II. DITCHES – INSTALL ROCK CHECK DAMS AND ENHANCED ROCK DAMS
   - E. DIVERT RUN-ON - AS MUCH AS POSSIBLE WITH BERM OR SEDIMENT TUBE AND SLOPE DRAIN
   - F. INSTALL TEMPORARY CONSTRUCTION EXITS
2. STAGE 2 – INTERMEDIATE GRADING STAGE
   - A. MAINTAIN STAGE 1 BMPS
   - B. INSTALL TEMPORARY HAUL ROADS
   - C. CONSTRUCT CULVERTS PER NOTES ON SHEETS 14 AND 14A
   - D. INSTALL ROCK CHECK DAMS AND ENHANCED ROCK DAMS IN PROPOSED DRAINAGE DITCHES
   - E. ADD CULVERT PROTECTION AT PROPOSED CULVERTS
3. STAGE 3 – FINAL CONSTRUCTION – STABILIZATION
   - A. INSTALL EC BLANKET - 33% SLOPE
   - B. REMOVE PERIMETER CONTROLS
   - C. ADD SEDIMENT TUBES IN DITCHES
   - D. INSTALL RIPRAP OUTLET PROTECTION
   - E. INSTALL SEDIMENT TUBES TO BREAK UP LONG SLOPES

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND

SYMBOL	ITEM	STD. DWG.
✱ SFB✱ SFB✱ SFB✱	SILT FENCE WITH WIRE BACKING	EC-STR-3C
	ROCK CHECK DAM (V-DITCH)	EC-STR-6
	ROCK CHECK DAM (TRAPEZOIDAL DITCH)	EC-STR-6
	ENHANCED ROCK CHECK DAM (V-DITCH)	EC-STR-6A
	ENHANCED ROCK CHECK DAM (TRAPEZOIDAL DITCH)	EC-STR-6A
✱✱SOCK 24"✱✱SOCK 24"✱✱	24 INCH FILTER SOCK	EC-STR-8
	CULVERT PROTECTION (TYPE 1)	EC-STR-11
D	CATCH BASIN PROTECTION (TYPE D)	EC-STR-19
TCE	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
	TEMPORARY DIVERSION CULVERT (DESCRIBE NUMBER AND SIZE OF PIPES)	EC-STR-32
	EROSION CONTROL BLANKET	EC-STR-34
4	CURB INLET PROTECTION (TYPE 4)	EC-STR-39A
✱ HVF ✱ HVF ✱	HIGH VISIBILITY FENCE	S-F-1

EROSION PREVENTION AND SEDIMENT CONTROL QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
(1)	209-03.23	FILTER SOCK (24 INCH)	L.F.	7877
(1)	209-05	SEDIMENT REMOVAL	C.Y.	135
(1)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	7031
(1)	209-08.07	ROCK CHECK DAM	EACH	39
(1)	209-08.08	ENHANCED ROCK CHECK DAM	EACH	41
(1)	209-08.09	FILTER SOCK CHECK DAM	EACH	67
(1)(5)	209-09.01	SANDBAGS	BAG	2500
(1)	209-09.43	CURB INLET PROTECTION (TYPE 4)	EACH	14
(1)	209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	3
(1)(2)	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	84
(1)(5)	621-03.02	18" TEMPORARY DRAINAGE PIPE	L.F.	495
(1)(5)	621-03.04	30" TEMPORARY DRAINAGE PIPE	L.F.	425
(1)(5)	621-03.05	36" TEMPORARY DRAINAGE PIPE	L.F.	125
(1)(8)	621-05.11	TEMPORARY SHORING (SOIL NAIL WALL 13+70)	LS	1
(1)(8)	621-05.12	TEMPORARY SHORING (SOIL NAIL WALL 16+00)	LS	1
(1)(8)	621-05.13	TEMPORARY SHORING (SOIL NAIL WALL 20+70)	LS	1
(1)	707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	2412
(1)(4)	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	234
(1)(2)(6)	709-05.06	MACHINED RIP-RAP (CLASS A-1)	TON	775
(1)(2)(4)	740-10.03	GEOTEXTILE (TYPE III) (EROSION CONTROL)	S.Y.	1589
(1)	801-01	SEEDING (WITH MULCH)	UNIT	270
(1)	801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	810
(1)	801-02	SEEDING (WITHOUT MULCH)	UNIT	23
(1)(3)	801-02.08	TEMPORARY SEEDING (WITHOUT MULCH)	UNIT	67
(1)	801-03	WATER (SEEDING & SODDING)	M.G.	117
(1)(3)(7)	805-12.03	EROSION CONTROL BLANKET (TYPE III)	S.Y.	2448
(1)	805-12.08	700 GRAM COIR FIBER EROSION BLANKET	S.Y.	368

EPSC FOOTNOTES:	
(1)	SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATION FOR MAINTENANCE REPLACEMENT. ALL ITEMS ARE TO BE USED AS DIRECTED BY THE ENGINEER.
(2)	TO BE USED FOR CULVERT PROTECTION TYPE 1
(3)	TO BE USED ON ALL SLOPES GREATER THAN 3:1
(4)	TEMPORARY CONSTRUCTION EXITS TO BE INSTALLED AT DIRECTION OF THE ENGINEER
(5)	PIPE SIZE BASED ON EC-STR-32. TEMPORARY DIVERSION CULVERTS TO BE INSTALLED AT DIRECTION OF THE ENGINEER.
(6)	100 TONS TO BE USED AS DIRECTED BY THE ENGINEER.
(7)	THE USE OF MONOFILAMENT-TYPE EROSION CONTROL NETTING OR BLANKET IS PROHIBITED IN THE STREAM CHANNEL, STREAM BANKS, OR ANY DISTURBED RIPARIAN AREAS WITHIN 30 FEET OF TOP OF BANK.
(8)	SEE RETAINING WALL PLANS FOR ADDITIONAL DETAILS.

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	12
PIH	2024	PROT-108(106)	12
PS&E	2025	PROT-108(106)	12

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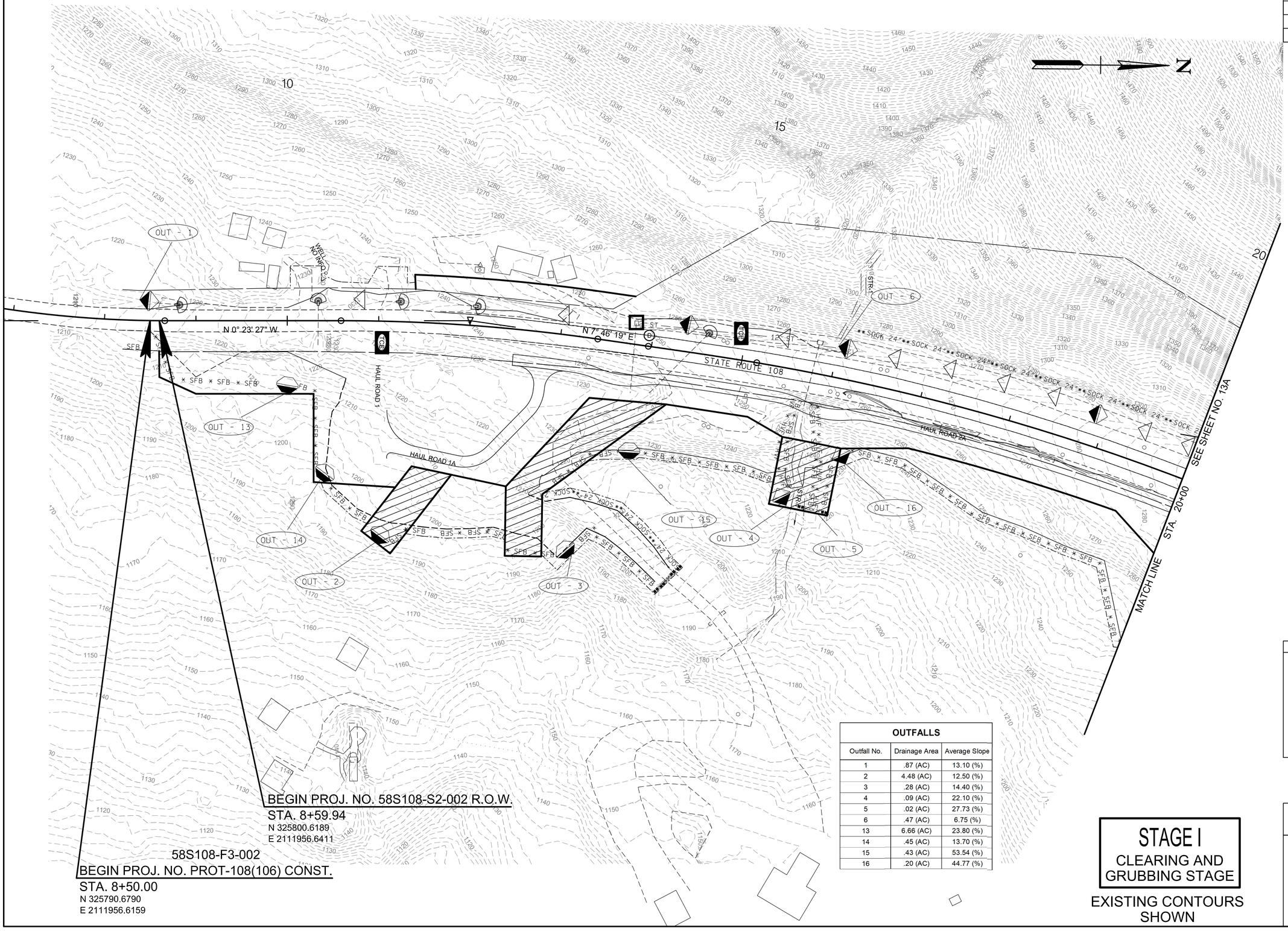
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) LEGEND & TABULATION

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	13
PIH	2024	PROT-108(106)	13
PS&E	2025	PROT-108(106)	13



BEGIN PROJ. NO. 58S108-S2-002 R.O.W.
STA. 8+59.94
N 325800.6189
E 2111956.6411

58S108-F3-002
BEGIN PROJ. NO. PROT-108(106) CONST.
STA. 8+50.00
N 325790.6790
E 2111956.6159

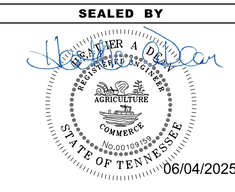
OUTFALLS

Outfall No.	Drainage Area	Average Slope
1	.87 (AC)	13.10 (%)
2	4.48 (AC)	12.50 (%)
3	.28 (AC)	14.40 (%)
4	.09 (AC)	22.10 (%)
5	.02 (AC)	27.73 (%)
6	.47 (AC)	6.75 (%)
13	6.66 (AC)	23.80 (%)
14	.45 (AC)	13.70 (%)
15	.43 (AC)	53.54 (%)
16	.20 (AC)	44.77 (%)

STAGE I
CLEARING AND GRUBBING STAGE

EXISTING CONTOURS SHOWN

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06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA. 8+35 TO STA. 20+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	13A
PIH	2024	PROT-108(106)	13A
PS&E	2025	PROT-108(106)	13A

END PROJ. NO. 58S108-S2-002 R.O.W.
STA. 29+15.00
N 327716.6809
E 2112569.5153

58S108-F3-002
END PROJ. NO. PROT-108(106) CONST.
STA. 32+00.00
N 327964.2536
E 2112710.3075

SEE SHEET NO. 13

STA. 20+00

MATCH LINE

WTL-1

STR-1

STR-2

STR-3

OUT - 7

OUT - 8

OUT - 9

OUT - 10

OUT - 11

OUT - 12

SOCK 24"

SFB

HVF

PROP. ROW

PROP. DRAINAGE EASEMENT

HAUL ROAD 2A

N 33° 08' 10" E

STATE ROUTE 108

TEMP. CULVERT 30" (425' LENGTH) DIVERTING 13.7 ACRES

20

25

30

OUTFALLS		
Outfall No.	Drainage Area	Average Slope
7	.36 (AC)	4.25 (%)
8	.47 (AC)	21.50 (%)
9	2.00 (AC)	13.10 (%)
10	.17 (AC)	27.80 (%)
11	.42 (AC)	25.50 (%)
12	.38 (AC)	6.10 (%)

STAGE I
CLEARING AND GRUBBING STAGE

EXISTING CONTOURS SHOWN

SEALED BY

HEATHER A. DEW
REGISTERED ENGINEER
No.0010919
STATE OF TENNESSEE
06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

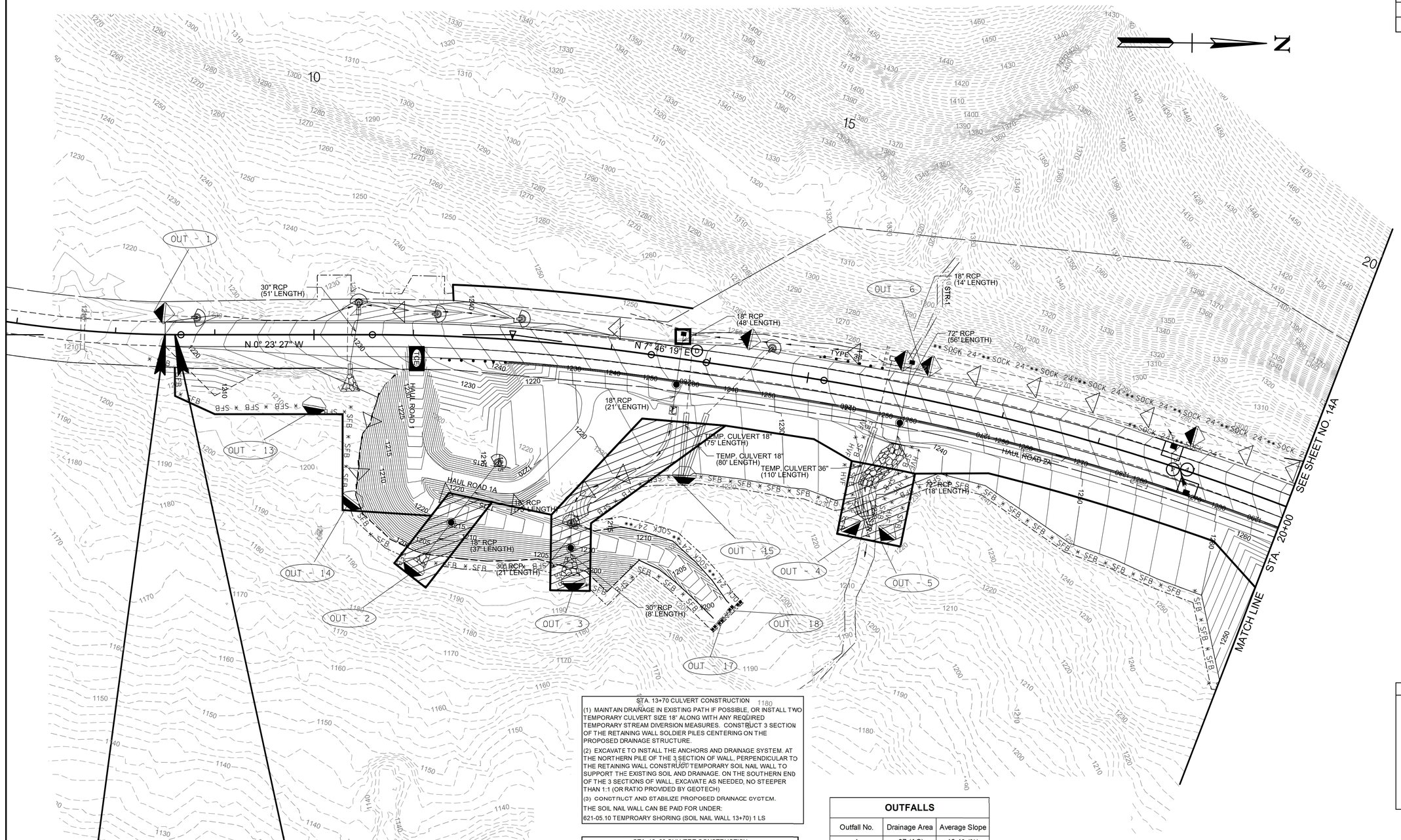
EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA. 20+00 TO STA. 32+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	14
PIH	2024	PROT-108(106)	14
PS&E	2025	PROT-108(106)	14



BEGIN PROJ. NO. 58S108-S2-002 R.O.W.
STA. 8+59.94
N 325800.6189
E 2111956.6411

58S108-F3-002

BEGIN PROJ. NO. PROT-108(106) CONST.
STA. 8+50.00
N 325790.6790
E 2111956.6159

STA. 13+70 CULVERT CONSTRUCTION

(1) MAINTAIN DRAINAGE IN EXISTING PATH IF POSSIBLE, OR INSTALL TWO TEMPORARY CULVERT SIZE 18" ALONG WITH ANY REQUIRED TEMPORARY STREAM DIVERSION MEASURES. CONSTRUCT 3 SECTION OF THE RETAINING WALL SOLDIER PILES CENTERING ON THE PROPOSED DRAINAGE STRUCTURE.

(2) EXCAVATE TO INSTALL THE ANCHORS AND DRAINAGE SYSTEM. AT THE NORTHERN PILE OF THE 3 SECTION OF WALL, PERPENDICULAR TO THE RETAINING WALL CONSTRUCT TEMPORARY SOIL NAIL WALL TO SUPPORT THE EXISTING SOIL AND DRAINAGE. ON THE SOUTHERN END OF THE 3 SECTIONS OF WALL, EXCAVATE AS NEEDED, NO STEEPER THAN 1:1 (OR RATIO PROVIDED BY GEOTECH)

(3) CONSTRUCT AND STABILIZE PROPOSED DRAINAGE SYSTEM.

THE SOIL NAIL WALL CAN BE PAID FOR UNDER:

621-05.10 TEMPROARY SHORING (SOIL NAIL WALL 13+70) 1 LS

STA. 16+00 CULVERT CONSTRUCTION

(1) MAINTAIN DRAINAGE IN EXISTING PATH IF POSSIBLE, OR INSTALL TEMPORARY CULVERT SIZE 36". CONSTRUCT 3 SECTION OF THE RETAINING WALL SOLDIER PILES CENTERING ON THE PROPOSED DRAINAGE STRUCTURE.

(2) EXCAVATE TO INSTALL THE ANCHORS. AT THE SOUTHERN PILE OF THE 3 SECTION OF WALL, PERPENDICULAR TO THE RETAINING WALL CONSTRUCT A TEMPORARY SOIL NAIL WALL TO SUPPORT THE EXISTING SOIL AND DRAINAGE. ON THE NORTHERN END OF THE 3 SECTIONS OF WALL, EXCAVATE AS NEEDED, NO STEEPER THAN 1:1 (OR RATIO PROVIDED BY GEOTECH)

(3) CONSTRUCT AND STABILIZE PROPOSED DRAINAGE SYSTEM.

THE SOIL NAIL WALL CAN BE PAID FOR UNDER:

621-05.11 TEMPROARY SHORING (SOIL NAIL WALL 16+00) 1 LS

OUTFALLS

Outfall No.	Drainage Area	Average Slope
1	.87 (AC)	13.10 (%)
2	1.46 (AC)	4.00 (%)
3	6.98 (AC)	16.40 (%)
4	.06 (AC)	22.10 (%)
5	.82 (AC)	13.60 (%)
6	.78 (AC)	6.75 (%)
13	.10 (AC)	36.20 (%)
14	.27 (AC)	52.10 (%)
15	3.80 (AC)	1.00 (%)
17	.02 (AC)	10.58 (%)
18	.07 (AC)	9.30 (%)

STAGE II
INTERMEDIATE STAGE

PROPOSED CONTOURS SHOWN

SEALED BY

CHRISTOPHER A. DEAN
REGISTERED ENGINEER
DEPARTMENT OF AGRICULTURE
DEPARTMENT OF COMMERCE
No. 0010705
REGISTERED ENGINEER
STATE OF TENNESSEE
06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

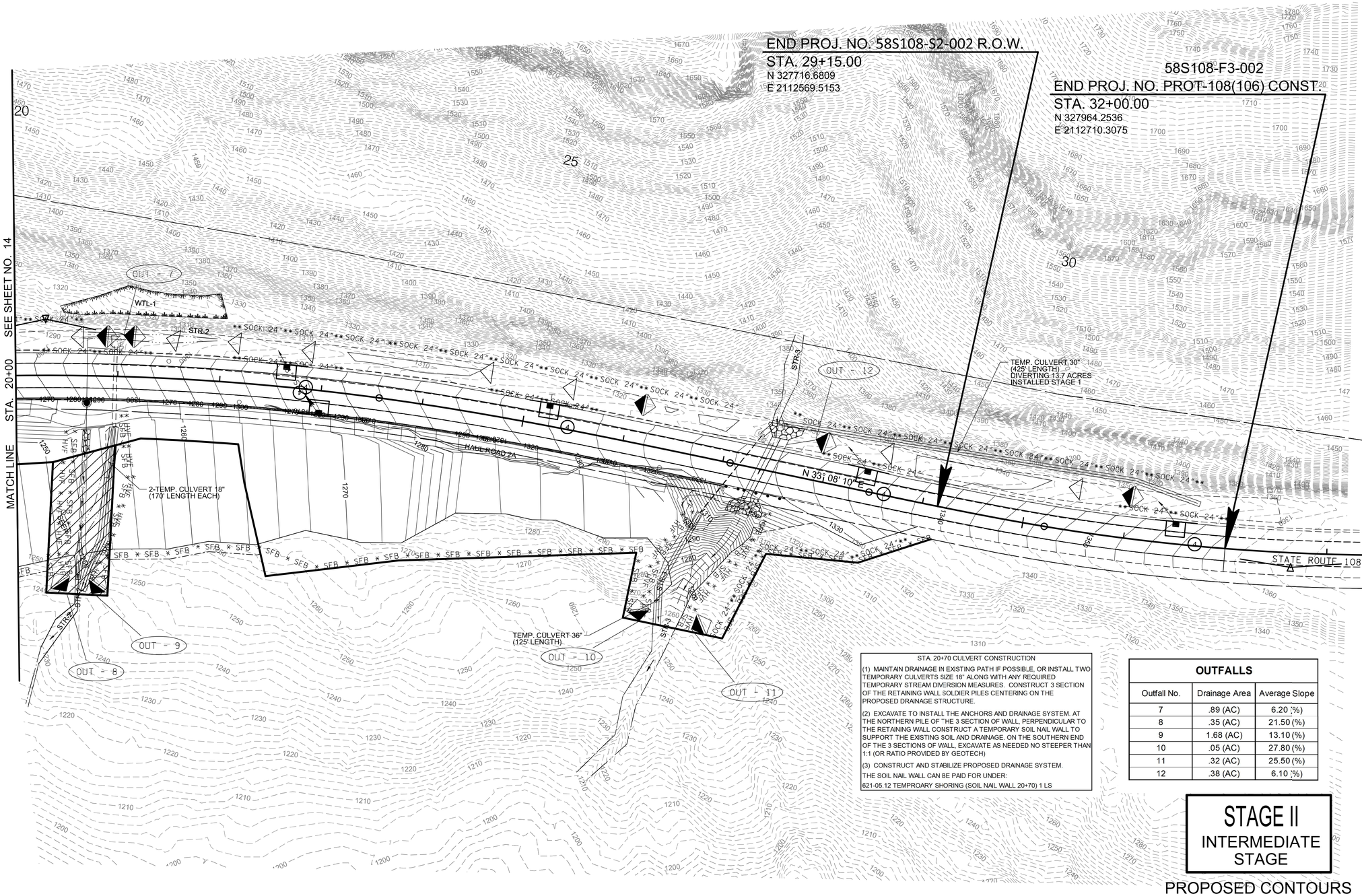
EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA. 08+35 TO STA. 20+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	14A
PIH	2024	PROT-108(106)	14A
PS&E	2025	PROT-108(106)	14A



STA. 20+70 CULVERT CONSTRUCTION

(1) MAINTAIN DRAINAGE IN EXISTING PATH IF POSSIBLE, OR INSTALL TWO TEMPORARY CULVERTS SIZE 18" ALONG WITH ANY REQUIRED TEMPORARY STREAM DIVERSION MEASURES. CONSTRUCT 3 SECTION OF THE RETAINING WALL SOLDIER PILES CENTERING ON THE PROPOSED DRAINAGE STRUCTURE.

(2) EXCAVATE TO INSTALL THE ANCHORS AND DRAINAGE SYSTEM. AT THE NORTHERN PILE OF THE 3 SECTION OF WALL, PERPENDICULAR TO THE RETAINING WALL CONSTRUCT A TEMPORARY SOIL NAIL WALL TO SUPPORT THE EXISTING SOIL AND DRAINAGE. ON THE SOUTHERN END OF THE 3 SECTIONS OF WALL, EXCAVATE AS NEEDED NO STEEPER THAN 1:1 (OR RATIO PROVIDED BY GEOTECH)

(3) CONSTRUCT AND STABILIZE PROPOSED DRAINAGE SYSTEM.

THE SOIL NAIL WALL CAN BE PAID FOR UNDER:

621-05.12 TEMPROARY SHORING (SOIL NAIL WALL 20+70) 1 LS

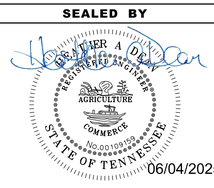
OUTFALLS

Outfall No.	Drainage Area	Average Slope
7	.89 (AC)	6.20 (%)
8	.35 (AC)	21.50 (%)
9	1.68 (AC)	13.10 (%)
10	.05 (AC)	27.80 (%)
11	.32 (AC)	25.50 (%)
12	.38 (AC)	6.10 (%)

STAGE II
INTERMEDIATE STAGE

PROPOSED CONTOURS SHOWN

SEALED BY



06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

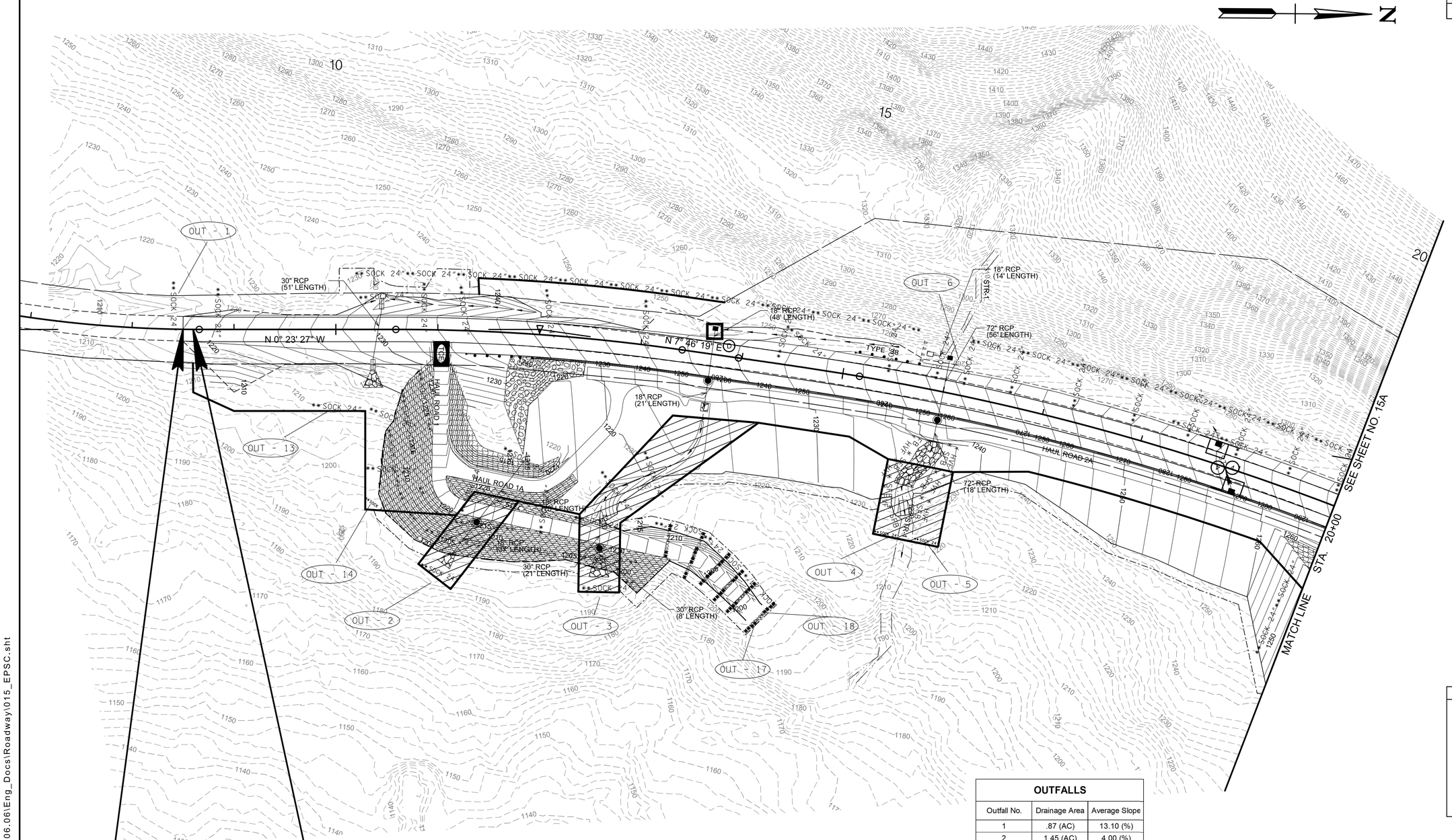
EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA. 20+00 TO STA. 32+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	15
PIH	2024	PROT-108(106)	15
PS&E	2025	PROT-108(106)	15



BEGIN PROJ. NO. 58S108-S2-002 R.O.W.
STA. 8+59.94
N 325800.6189
E 2111956.6411

58S108-F3-002
BEGIN PROJ. NO. PROT-108(106) CONST.
STA. 8+50.00
N 325790.6790
E 2111956.6159

OUTFALLS

Outfall No.	Drainage Area	Average Slope
1	.87 (AC)	13.10 (%)
2	1.45 (AC)	4.00 (%)
3	1.09 (AC)	5.50 (%)
4	.10 (AC)	22.10 (%)
5	1.21 (AC)	13.60 (%)
6	.78 (AC)	6.75 (%)
13	.10 (AC)	36.20 (%)
14	.28 (AC)	52.10 (%)
17	.02 (AC)	10.58 (%)
18	.07 (AC)	9.30 (%)

SEALED BY

JENNIFER A. DEAN
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 0010125
STATE OF TENNESSEE
06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STAGE III
FINAL CONSTRUCTION STAGE

PROPOSED CONTOURS SHOWN

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

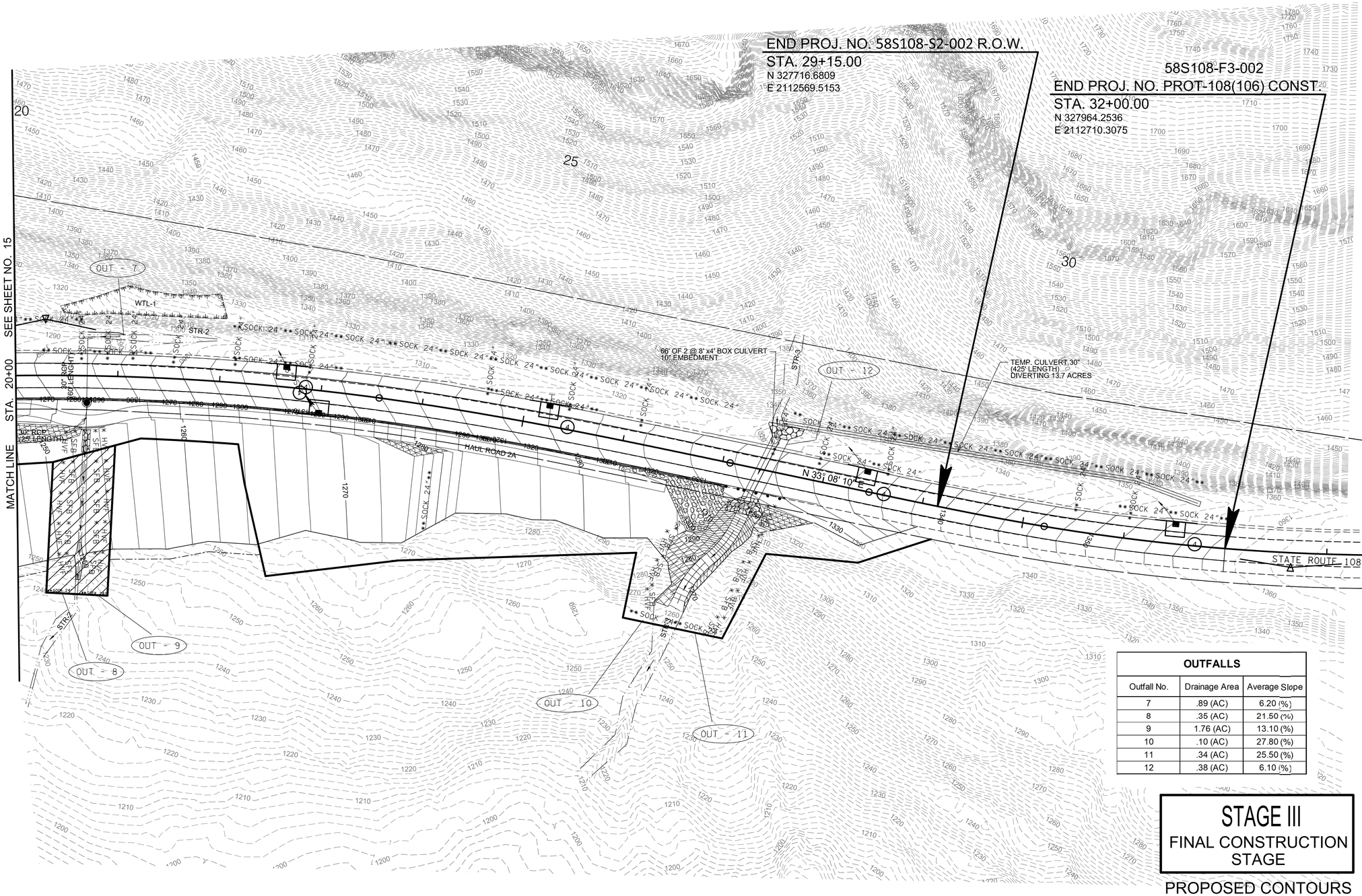
EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA. 8+35 TO STA. 20+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	15A
PIH	2024	PROT-108(106)	15A
PS&E	2025	PROT-108(106)	15A



OUTFALLS		
Outfall No.	Drainage Area	Average Slope
7	.89 (AC)	6.20 (%)
8	.35 (AC)	21.50 (%)
9	1.76 (AC)	13.10 (%)
10	.10 (AC)	27.80 (%)
11	.34 (AC)	25.50 (%)
12	.38 (AC)	6.10 (%)

STAGE III
FINAL CONSTRUCTION STAGE

PROPOSED CONTOURS SHOWN

SEALED BY



06/04/2025

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

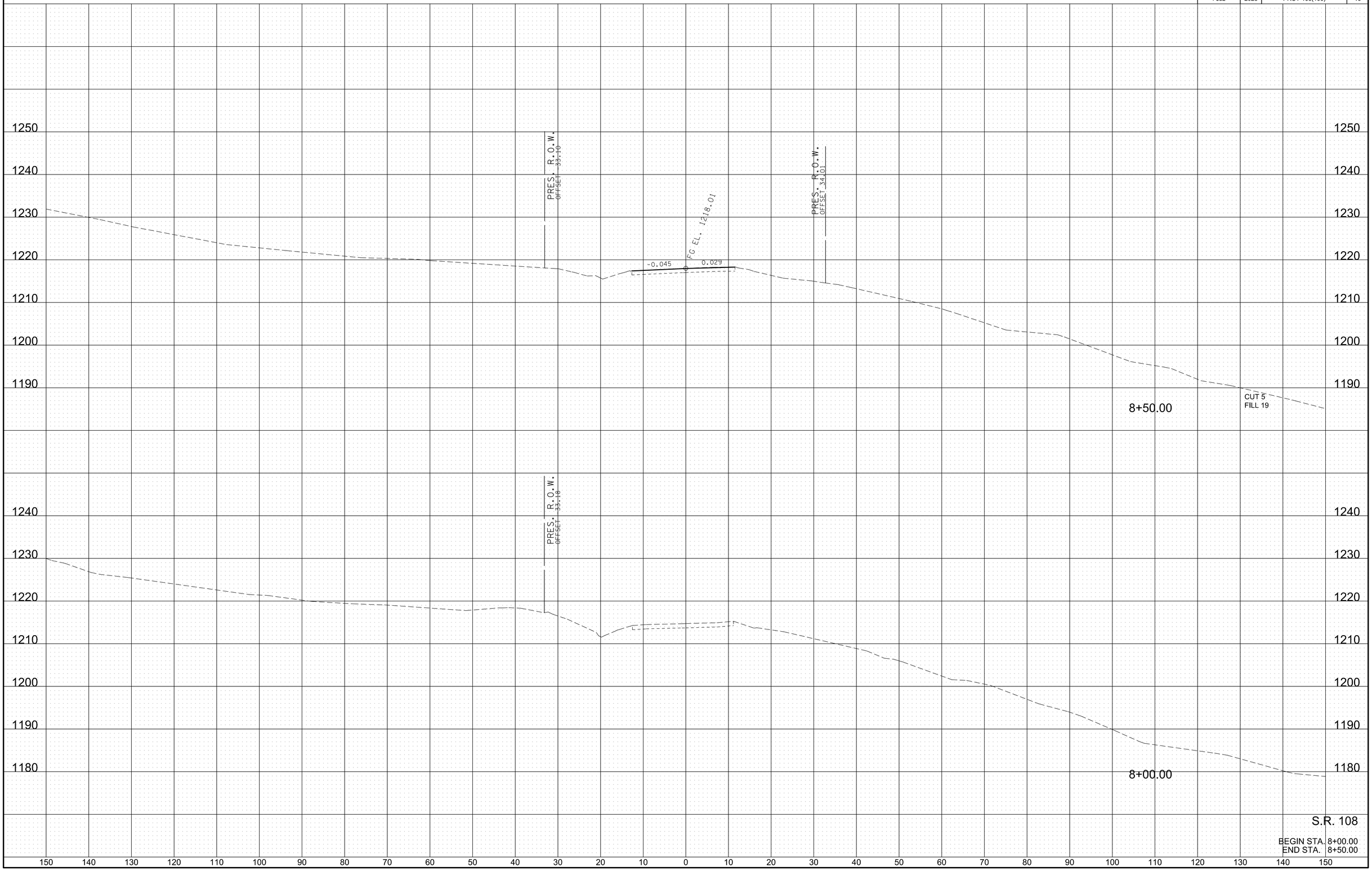
EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA. 20+00 TO STA. 32+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	16
PS&E	2025	PROT-108(106)	16

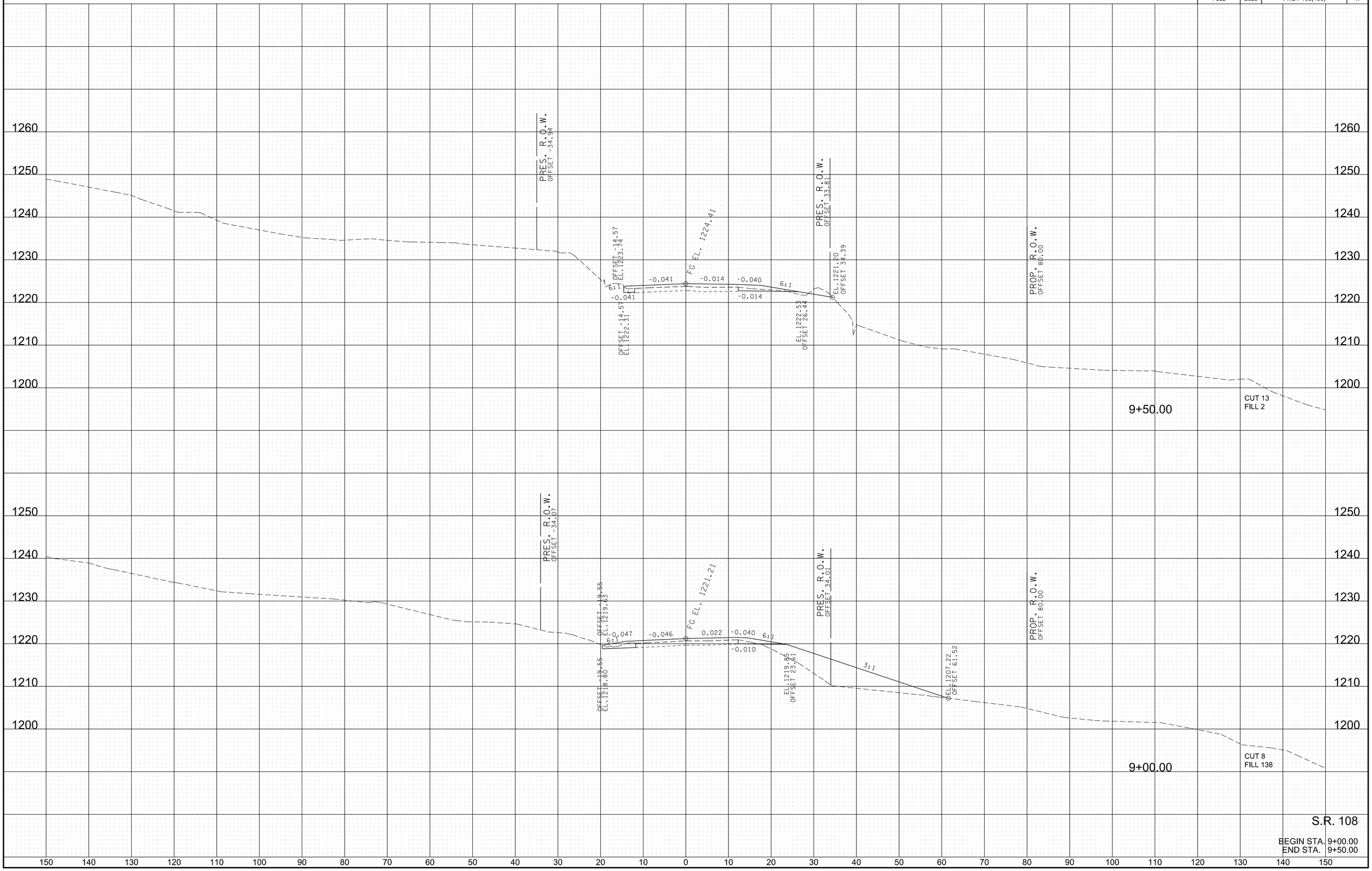


S.R. 108

BEGIN STA. 8+00.00
END STA. 8+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	17
PS&E	2025	PROT-108(106)	17

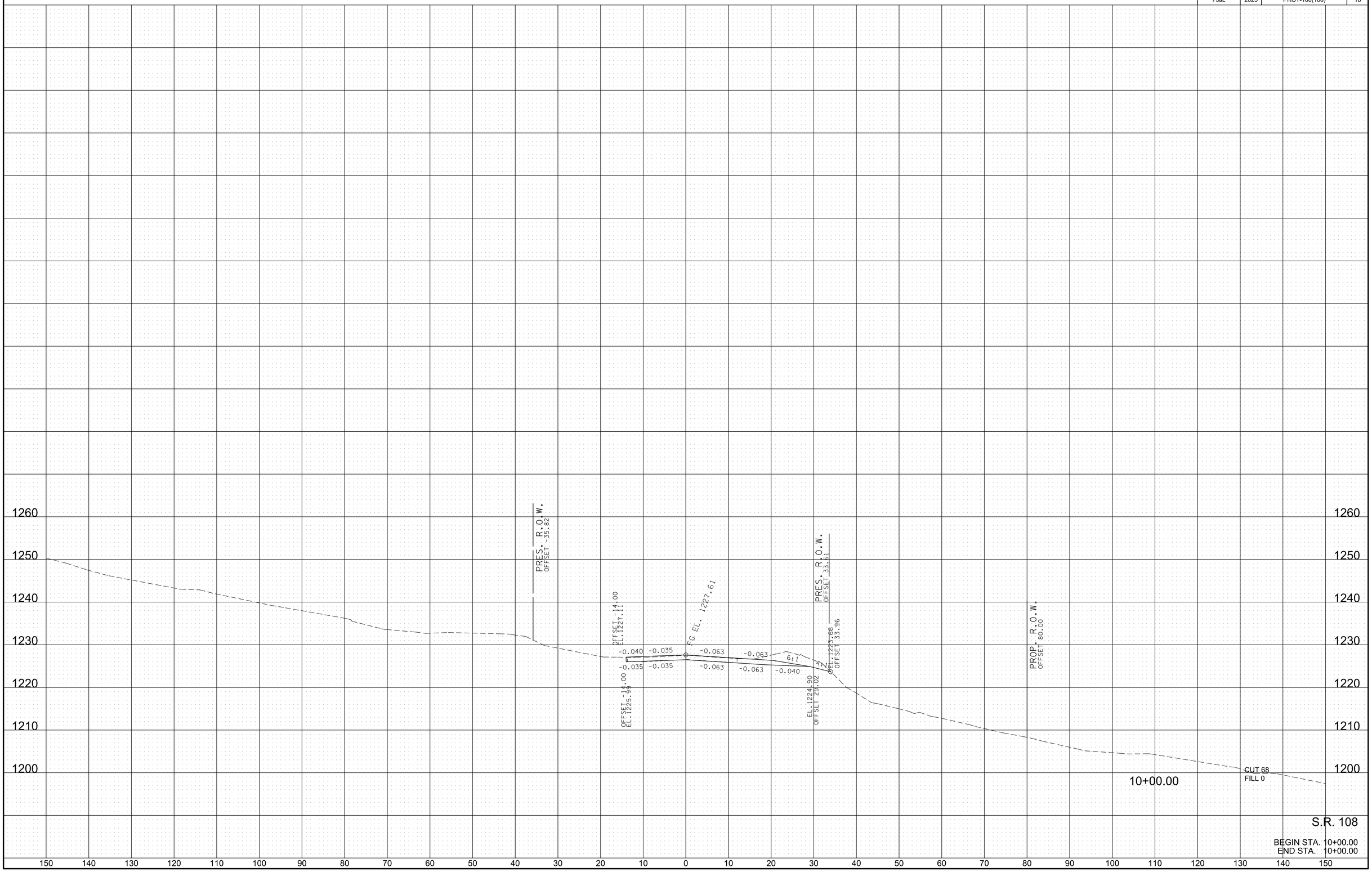


S.R. 108

BEGIN STA. 9+00.00
END STA. 9+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	18
PS&E	2025	PROT-108(106)	18

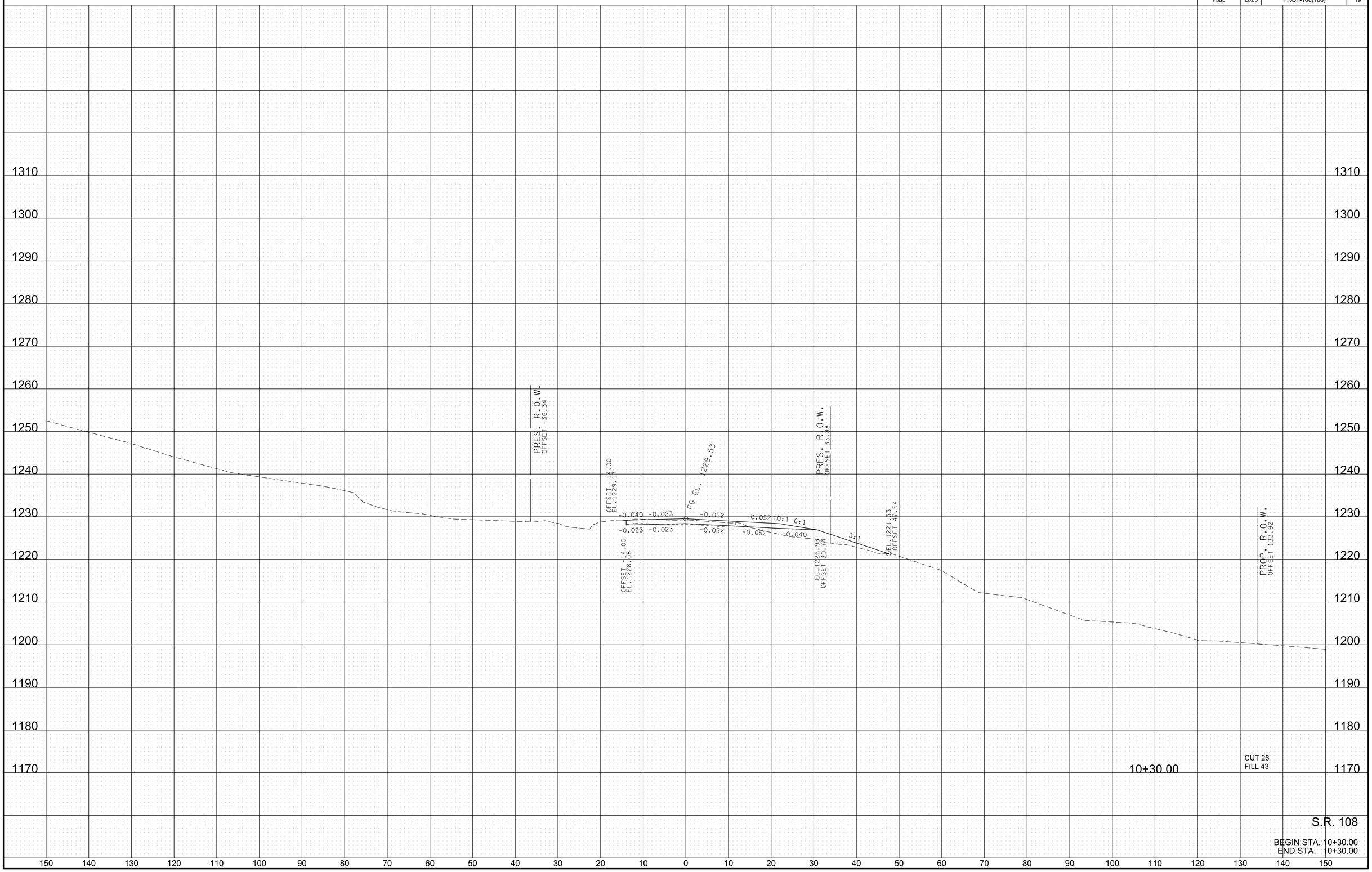


S.R. 108

BEGIN STA. 10+00.00
END STA. 10+00.00

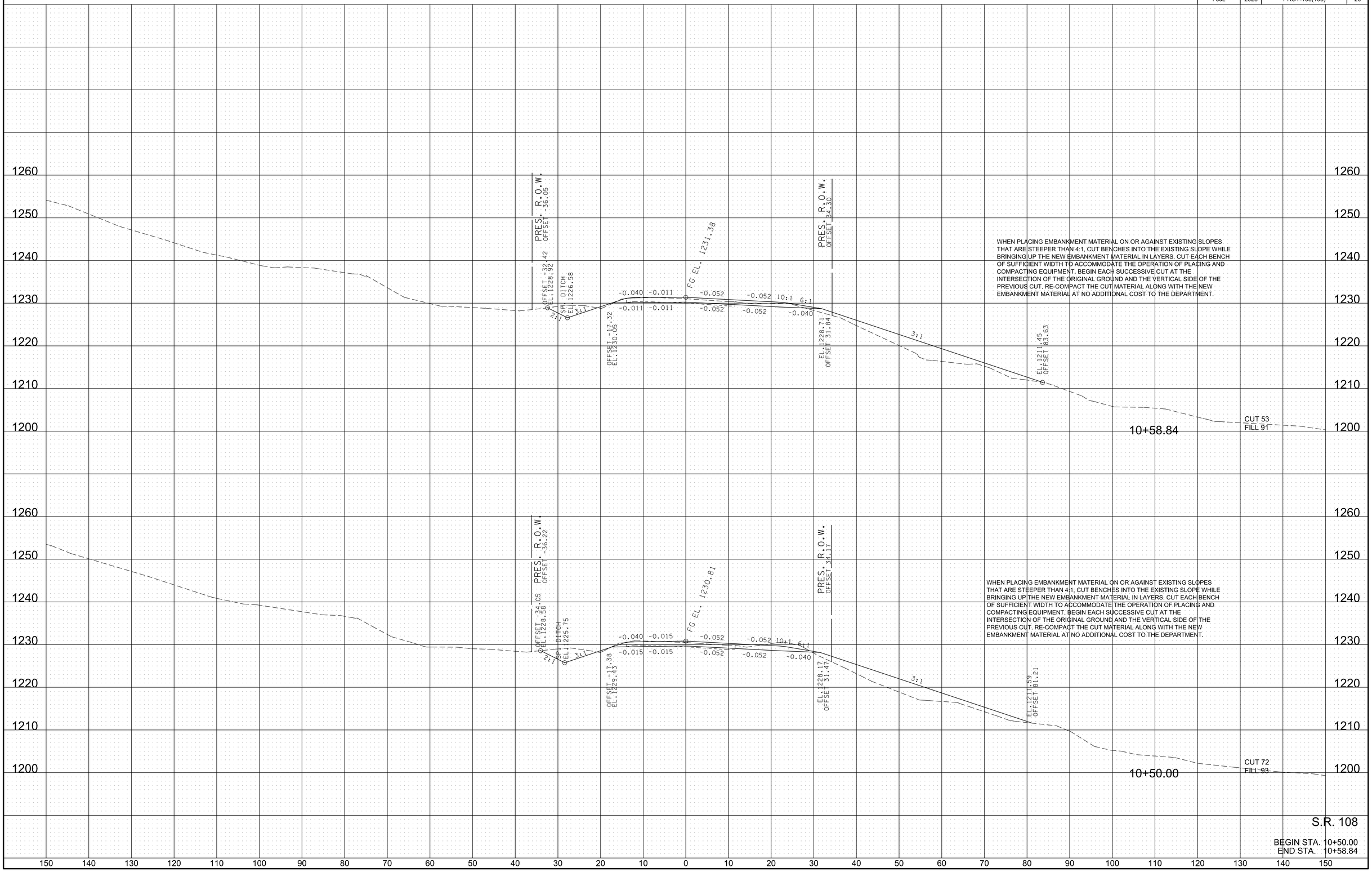
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	19
PS&E	2025	PROT-108(106)	19



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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	20
PS&E	2025	PROT-108(106)	20

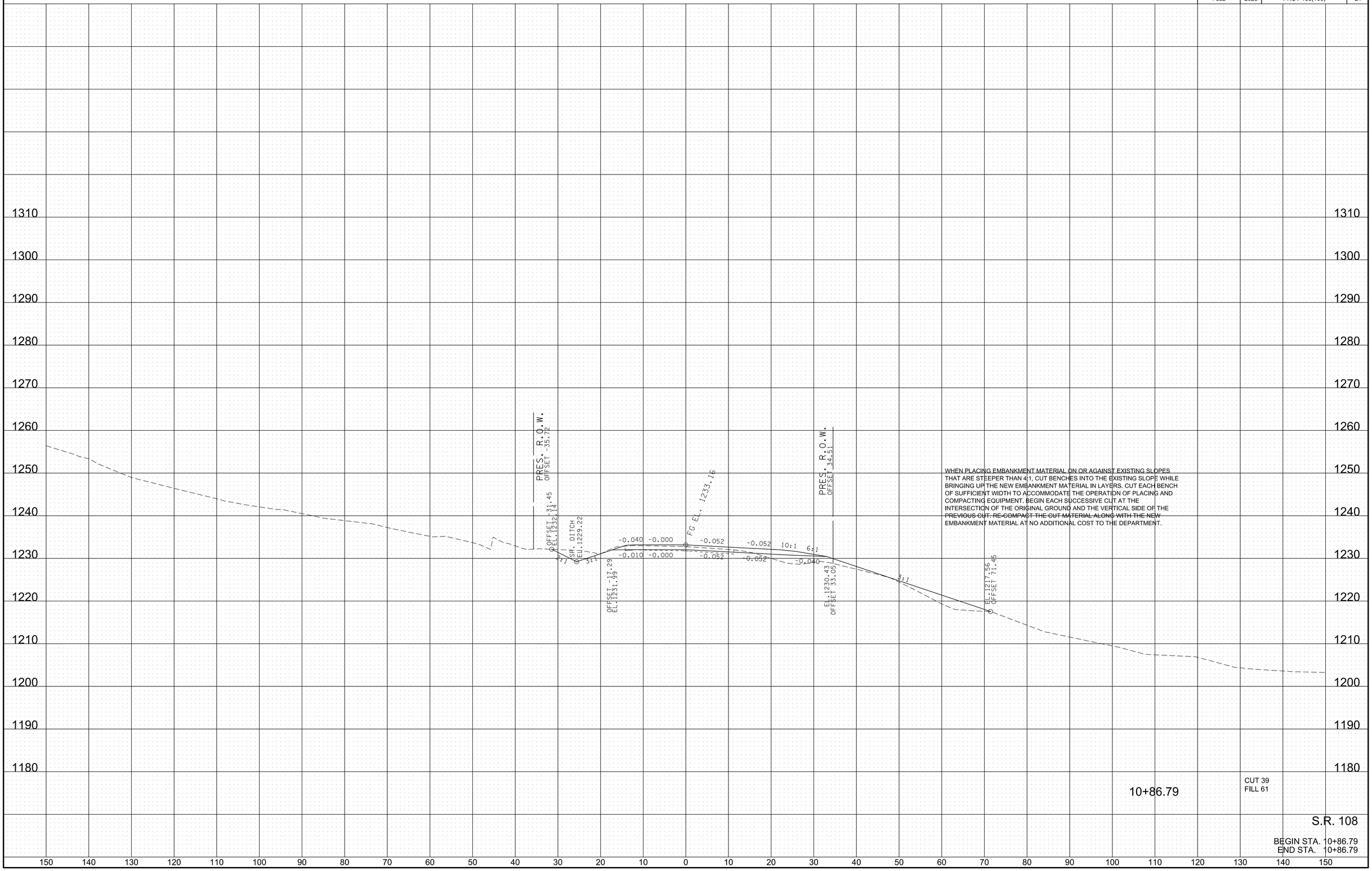


S.R. 108

BEGIN STA. 10+50.00
END STA. 10+58.84

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	21
PS&E	2025	PROT-108(106)	21



WHEN PLACING EMBANKMENT MATERIAL ON OR AGAINST EXISTING SLOPES THAT ARE STEEPER THAN 4:1, CUT BENCHES INTO THE EXISTING SLOPE WHILE BRINGING UP THE NEW EMBANKMENT MATERIAL IN LAYERS. CUT EACH BENCH OF SUFFICIENT WIDTH TO ACCOMMODATE THE OPERATION OF PLACING AND COMPACTING EQUIPMENT. BEGIN EACH SUCCESSIVE CUT AT THE INTERSECTION OF THE ORIGINAL GROUND AND THE VERTICAL SIDE OF THE PREVIOUS CUT. RE-COMPACT THE CUT MATERIAL ALONG WITH THE NEW EMBANKMENT MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT.

10+86.79

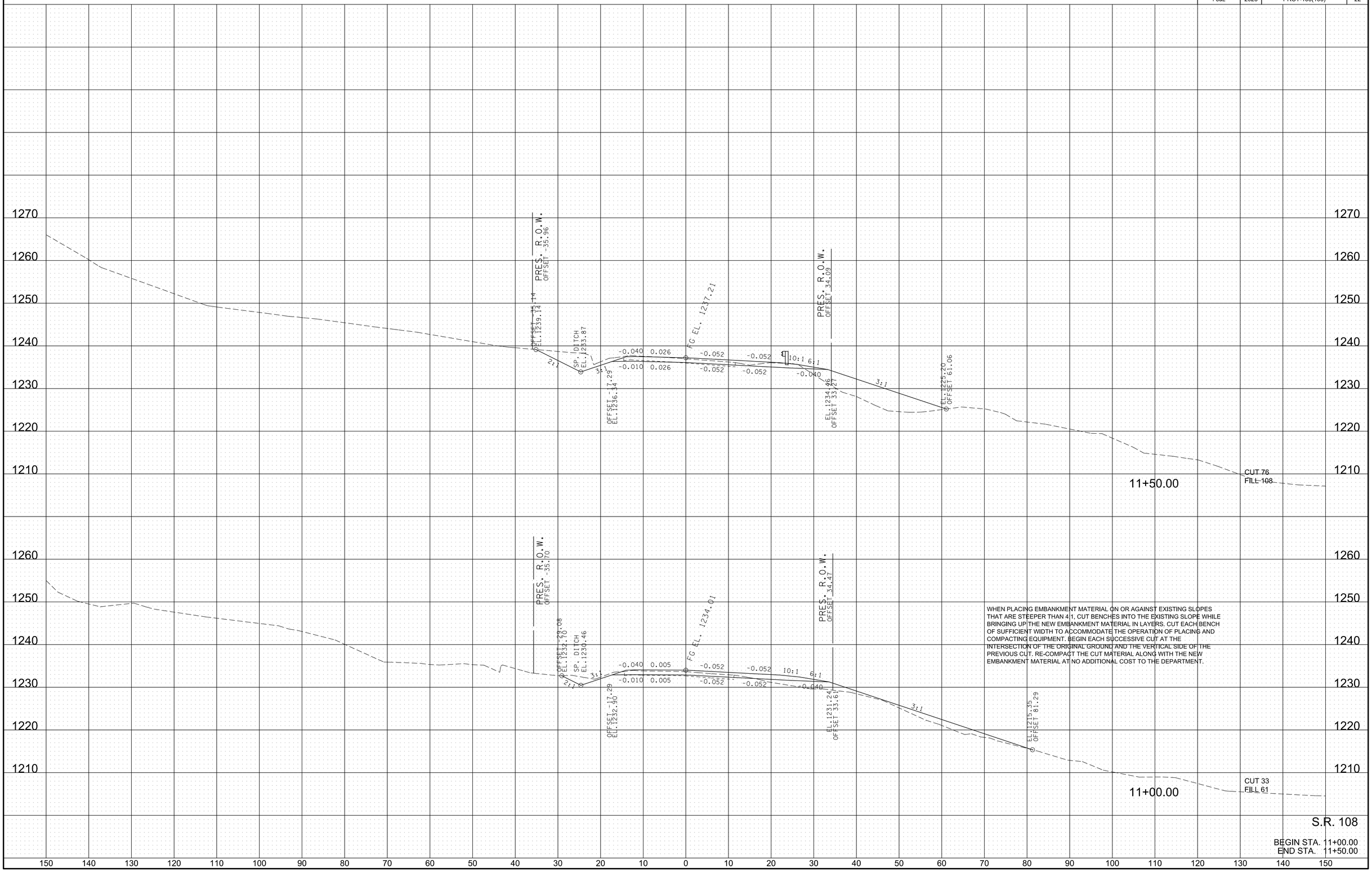
CUT 39
FILL 61

S.R. 108

BEGIN STA. 10+86.79
END STA. 10+86.79

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	22
PS&E	2025	PROT-108(106)	22



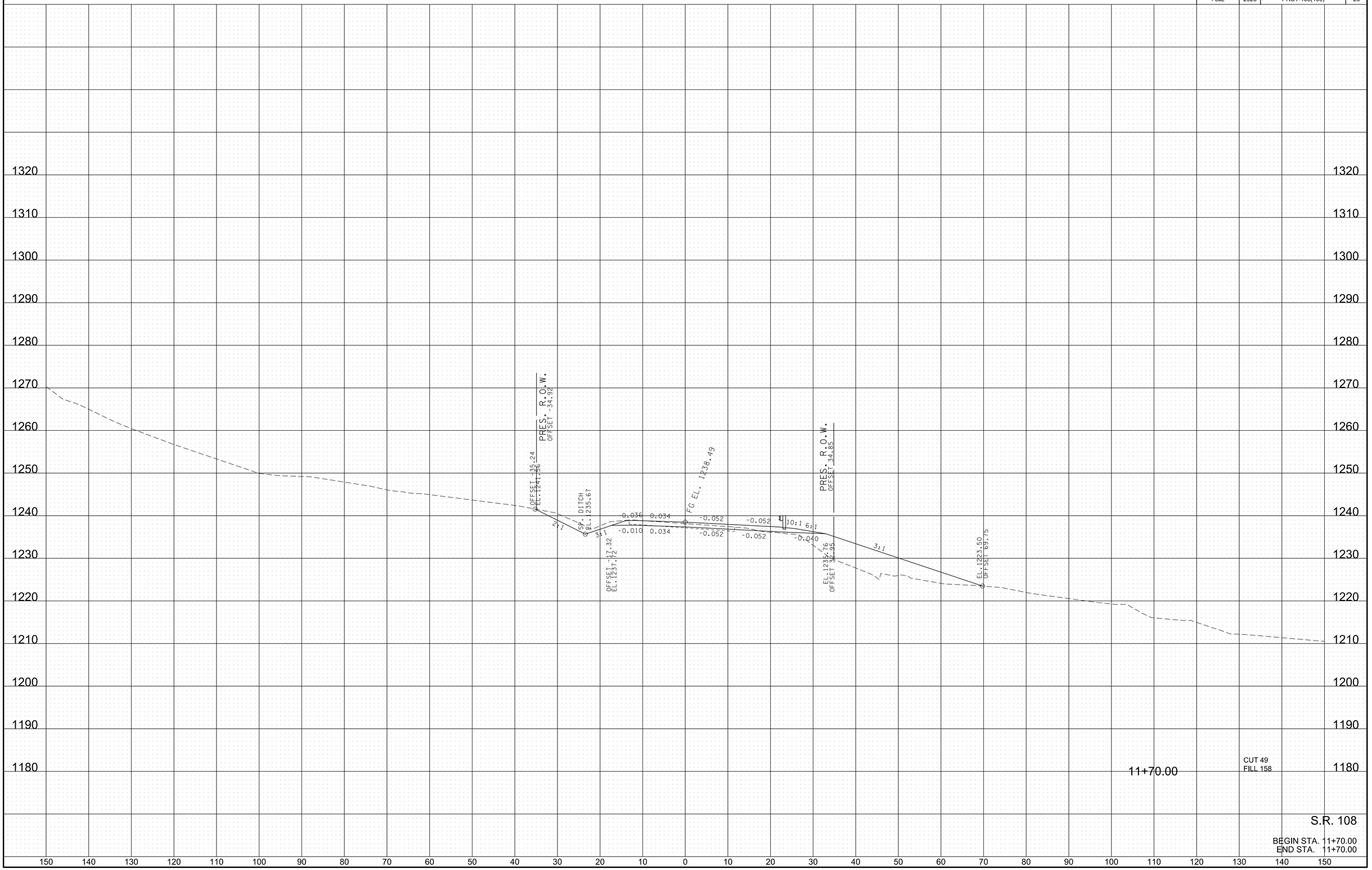
WHEN PLACING EMBANKMENT MATERIAL ON OR AGAINST EXISTING SLOPES THAT ARE STEEPER THAN 4:1, CUT BENCHES INTO THE EXISTING SLOPE WHILE BRINGING UP THE NEW EMBANKMENT MATERIAL IN LAYERS. CUT EACH BENCH OF SUFFICIENT WIDTH TO ACCOMMODATE THE OPERATION OF PLACING AND COMPACTING EQUIPMENT. BEGIN EACH SUCCESSIVE CUT AT THE INTERSECTION OF THE ORIGINAL GROUND AND THE VERTICAL SIDE OF THE PREVIOUS CUT. RE-COMPACT THE CUT MATERIAL ALONG WITH THE NEW EMBANKMENT MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT.

S.R. 108

BEGIN STA. 11+00.00
END STA. 11+50.00

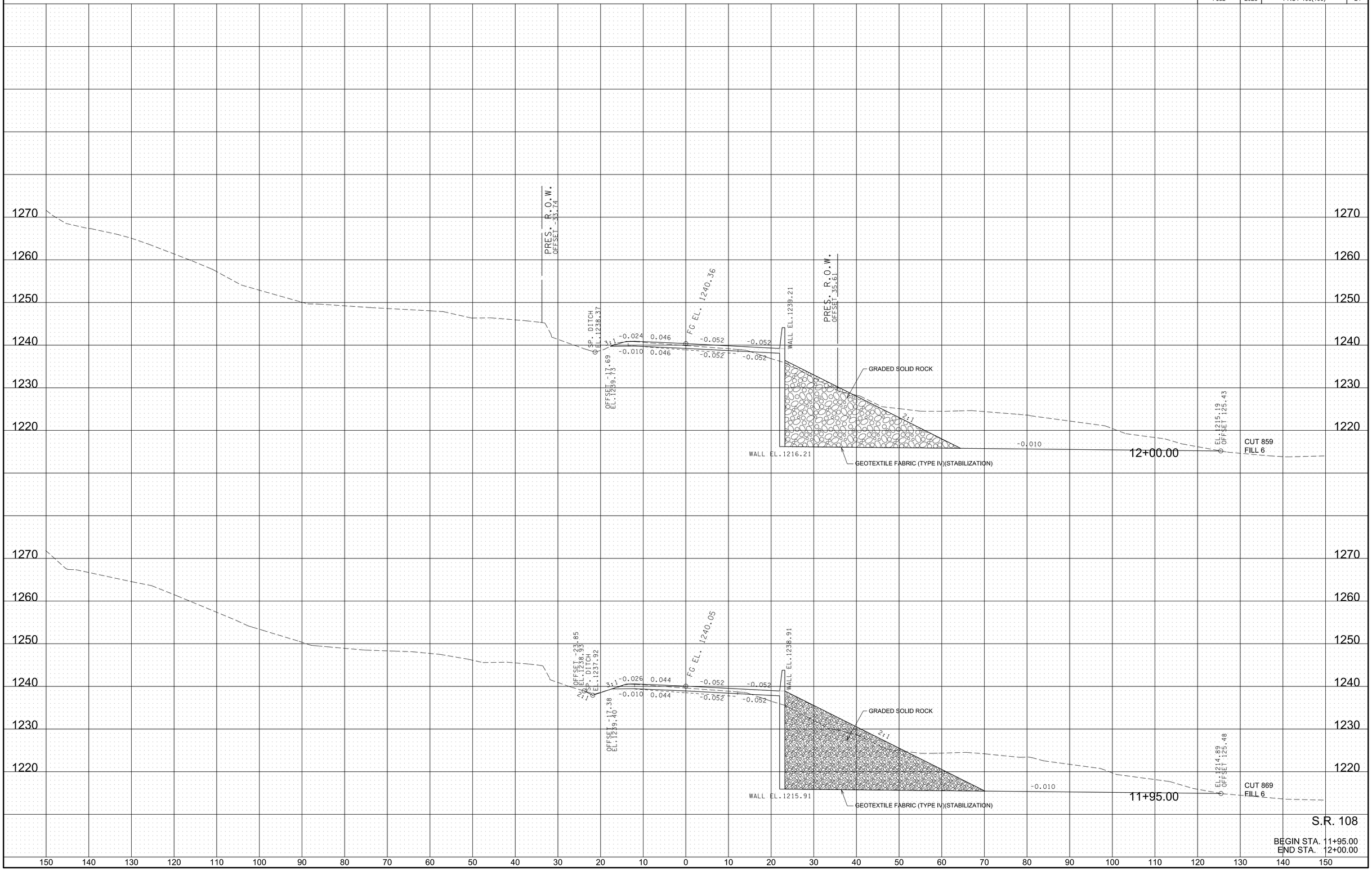
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	23
PS&E	2025	PROT-108(106)	23



5/12/2025 3:23:13 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	24
PS&E	2025	PROT-108(106)	24

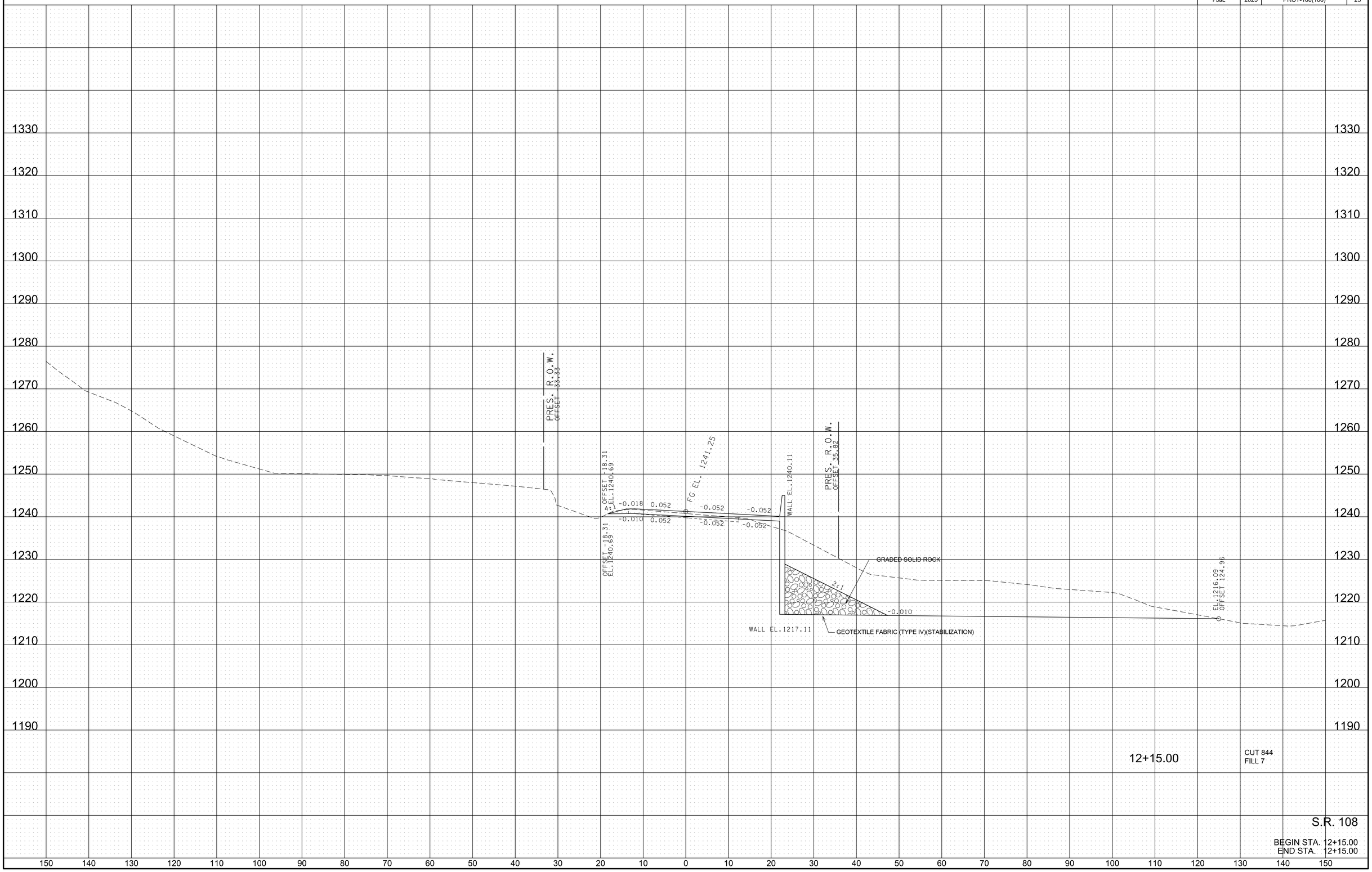


S.R. 108

BEGIN STA. 11+95.00
END STA. 12+00.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	25
PS&E	2025	PROT-108(106)	25



12+15.00

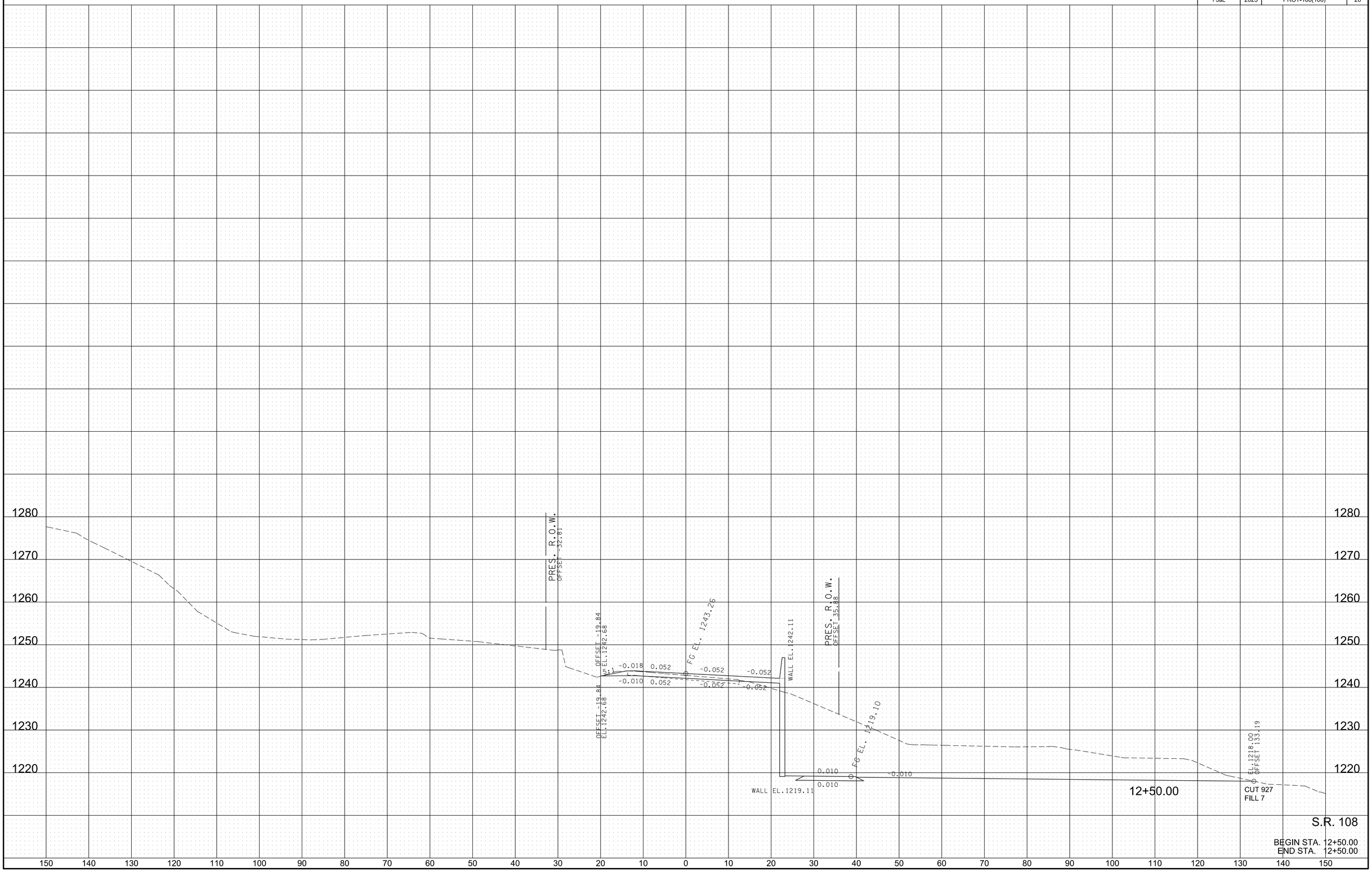
CUT 844
FILL 7

S.R. 108

BEGIN STA. 12+15.00
END STA. 12+15.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	26
PS&E	2025	PROT-108(106)	26

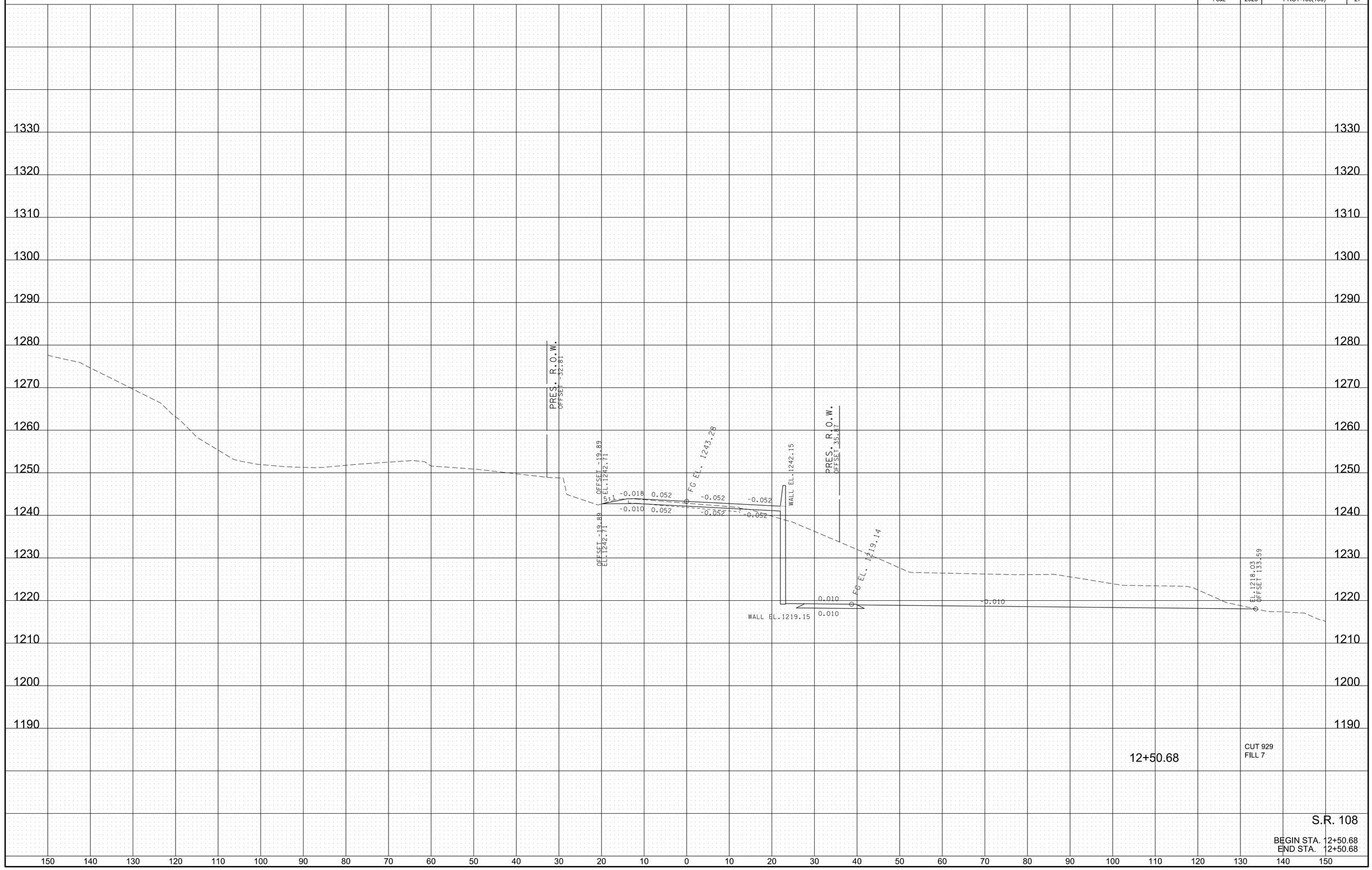


S.R. 108

BEGIN STA. 12+50.00
END STA. 12+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	27
PS&E	2025	PROT-108(106)	27



12+50.68

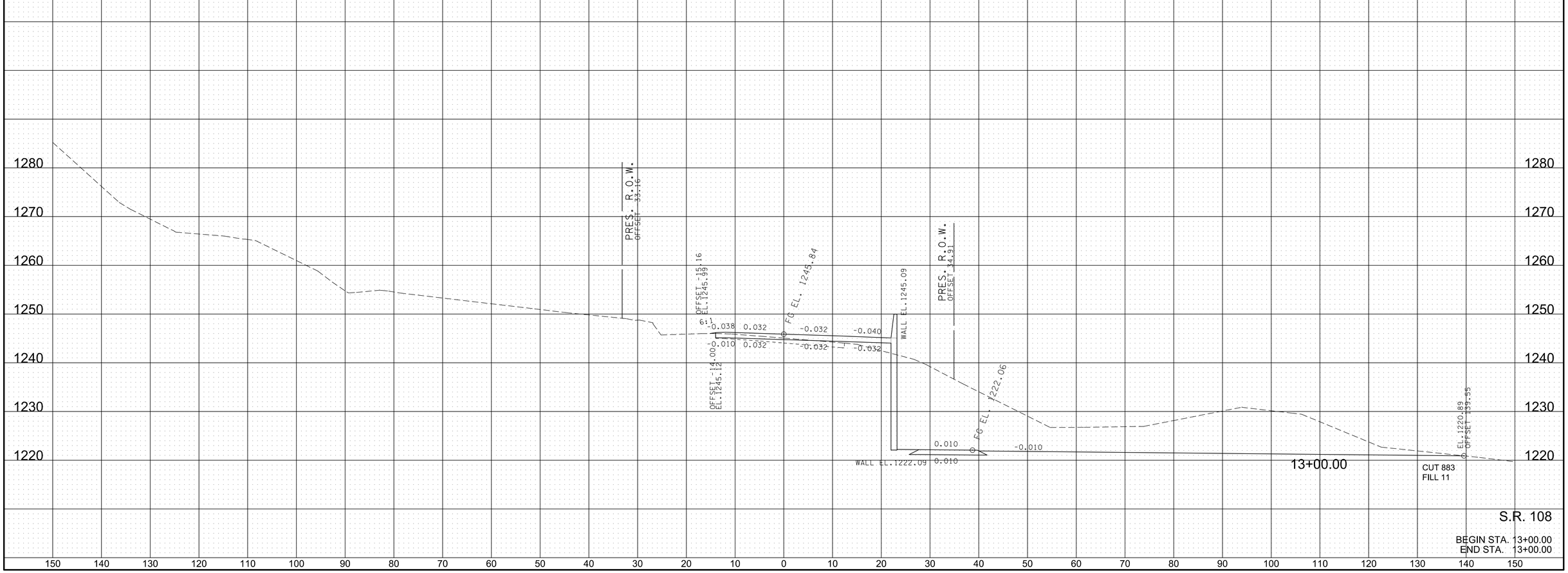
CUT 929
FILL 7

S.R. 108

BEGIN STA. 12+50.68
END STA. 12+50.68

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	28
PS&E	2025	PROT-108(106)	28

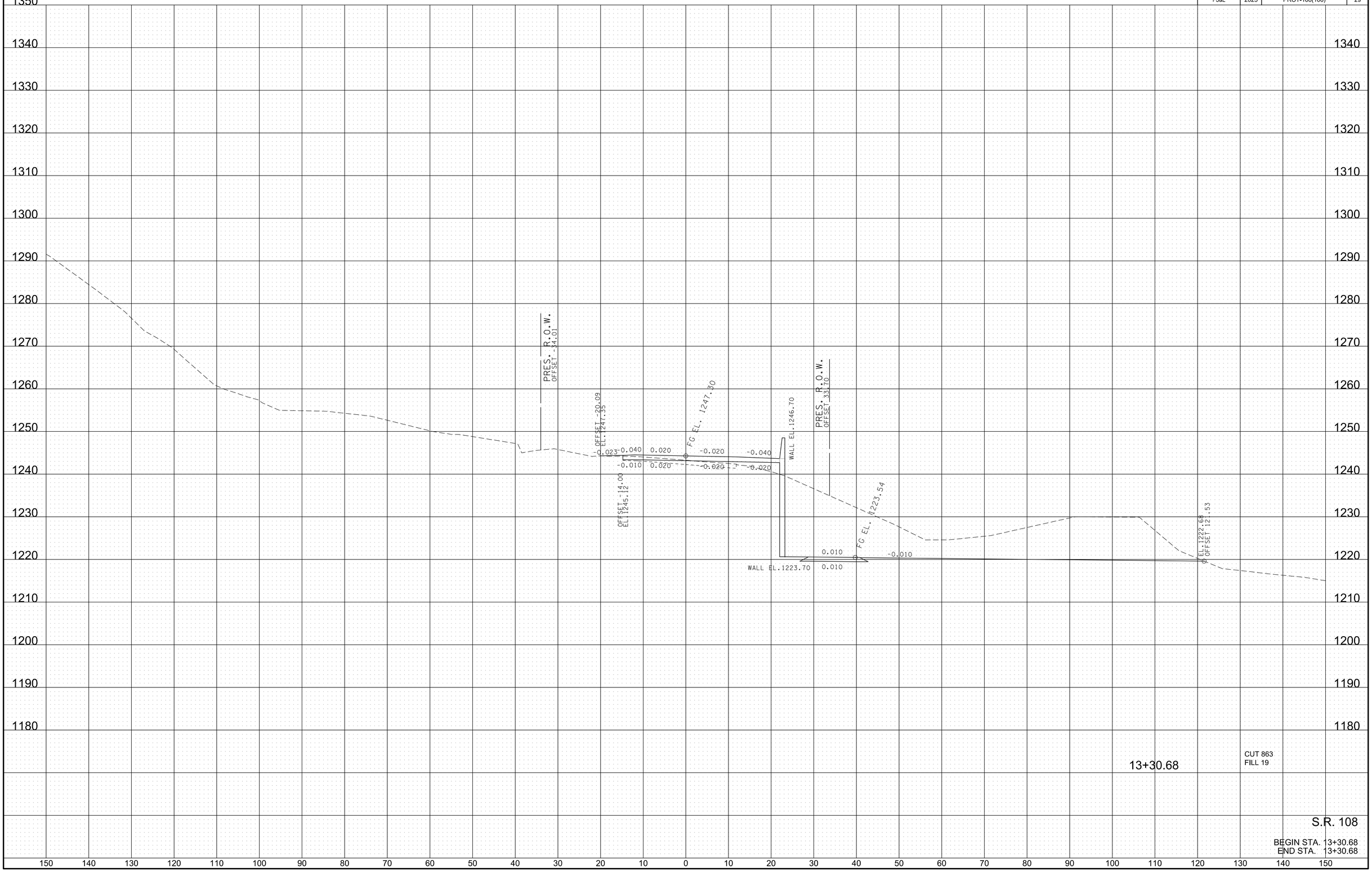


S.R. 108

BEGIN STA. 13+00.00
END STA. 13+00.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	29
PS&E	2025	PROT-108(106)	29



13+30.68

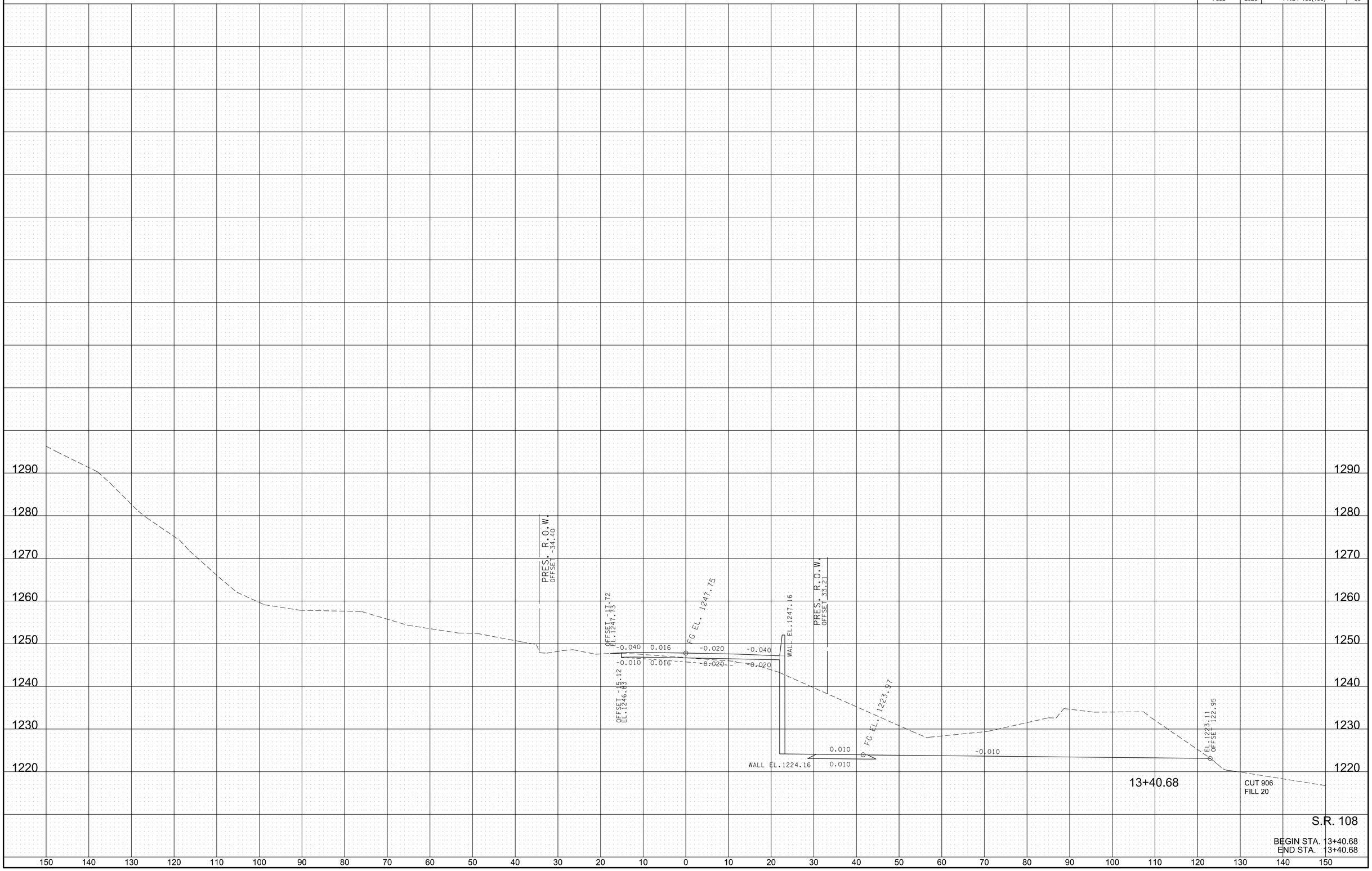
CUT 863
FILL 19

S.R. 108

BEGIN STA. 13+30.68
END STA. 13+30.68

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	30
PS&E	2025	PROT-108(106)	30

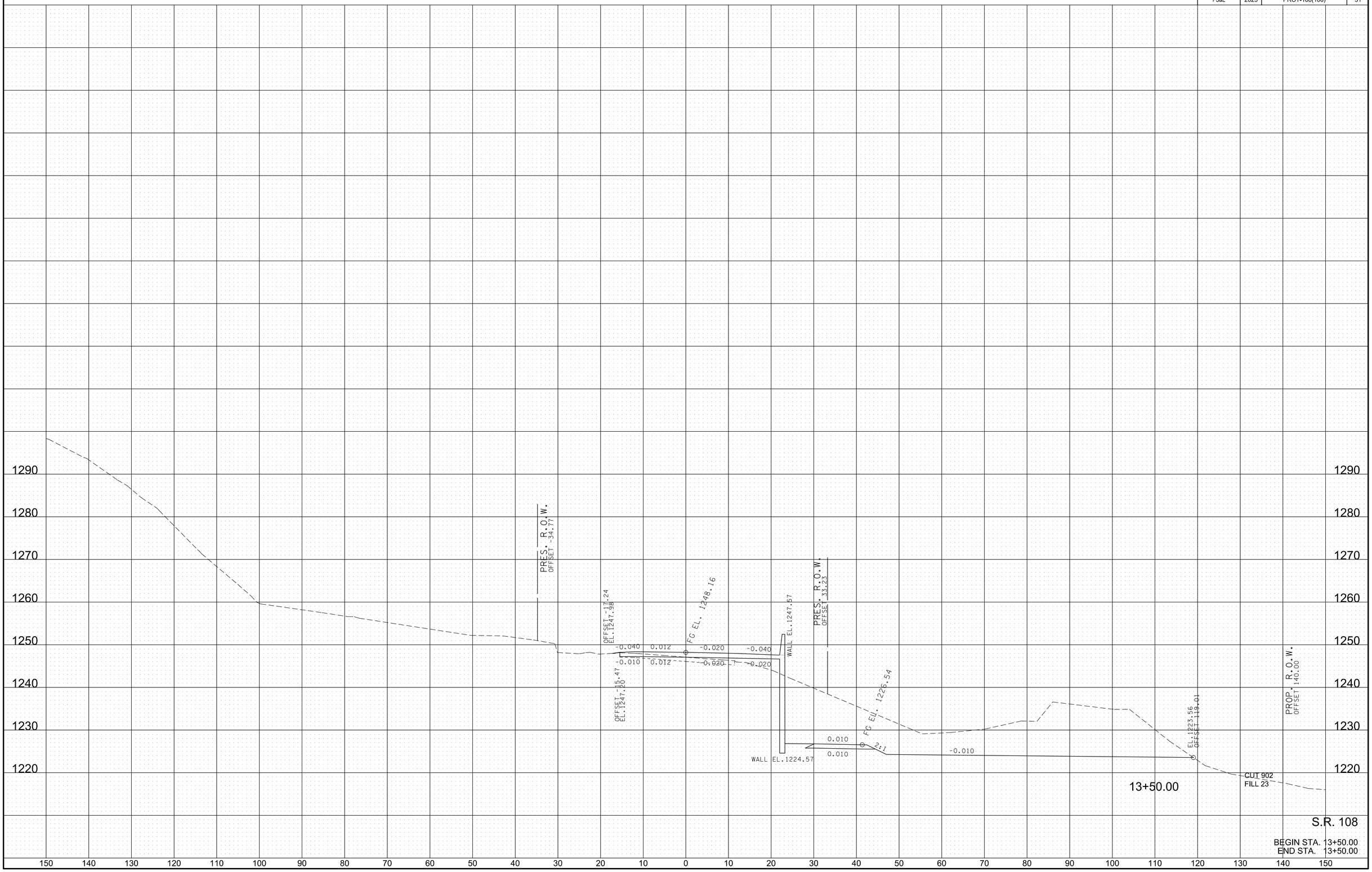


S.R. 108

BEGIN STA. 13+40.68
END STA. 13+40.68

5/12/2025 3:23:21 PM
Y:\Nashville\160190005\16019006.06\Eng_Docs\Roadway\MASR108MainlineXSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	31
PS&E	2025	PROT-108(106)	31

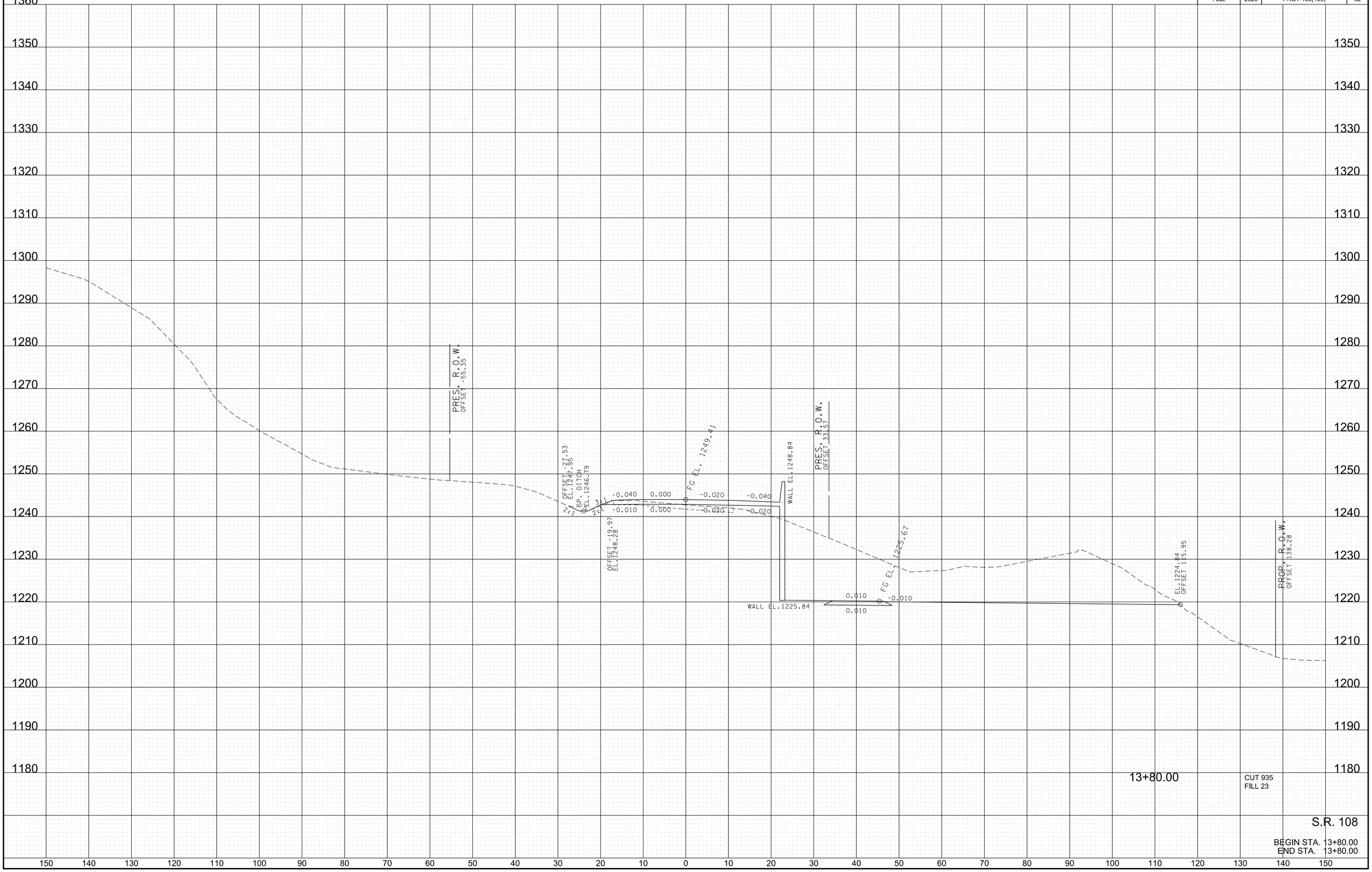


S.R. 108

BEGIN STA. 13+50.00
END STA. 13+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	32
PS&E	2025	PROT-108(106)	32



5/12/2025 3:23:23 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	33
PS&E	2025	PROT-108(106)	33

PRES. R.O.W.
OFFSET -55.86

OFFSET -27.64
EL.1247.98

SP. DITCH
EL.1246.82

OFFSET -20.02
EL.1248.31

-0.040 -0.000 -0.020 -0.040
-0.010 -0.000 -0.020 -0.020

FG EL. 1249.44

WALL EL.1248.87

PRES. R.O.W.
OFFSET 33.58

FG EL. 1225.70

WALL EL.1225.87

0.010
0.010

-0.010

EL.1224.87
OFFSET 115.83

PROP. R.O.W.
OFFSET 138.28

13+80.68

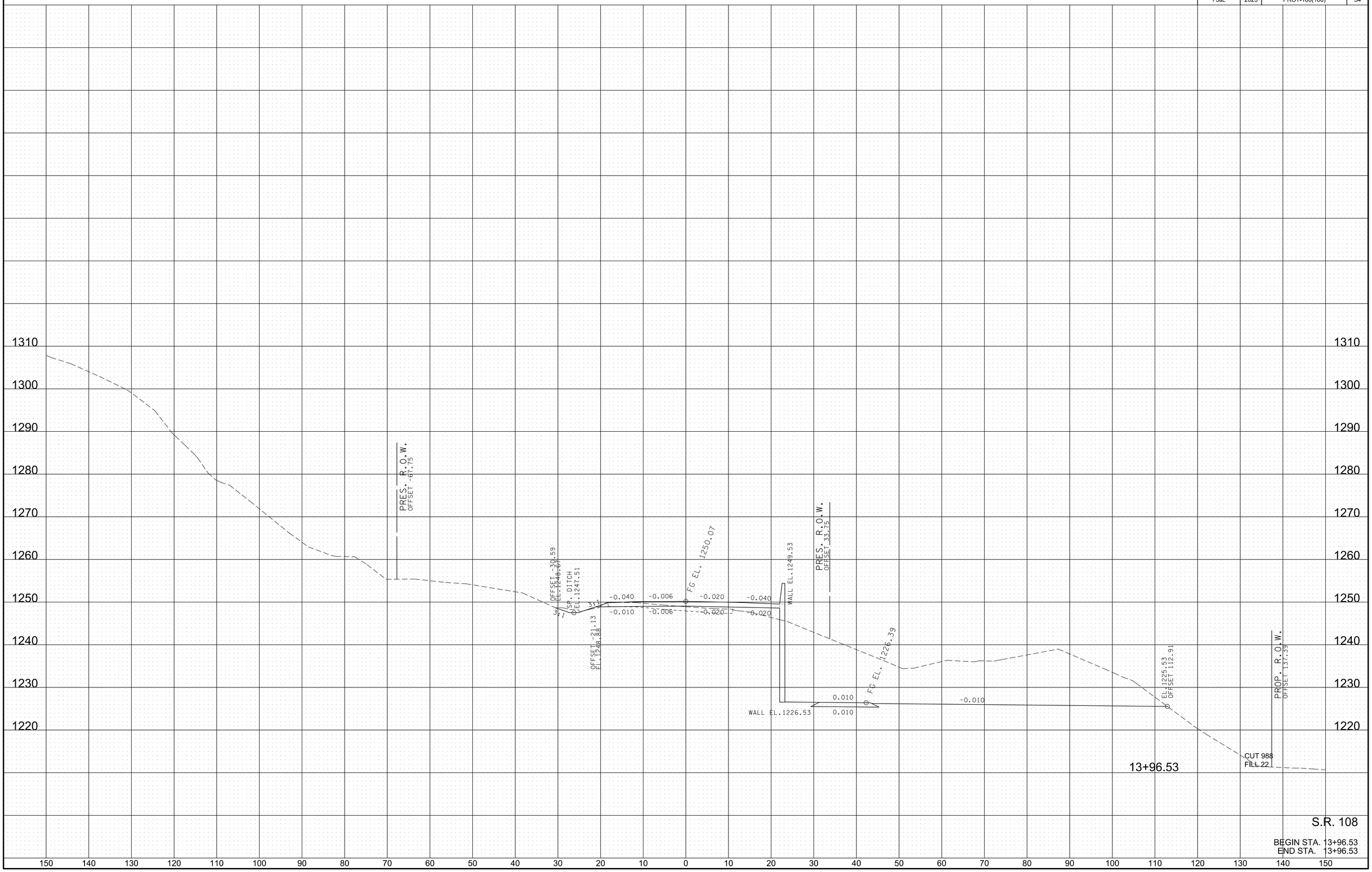
CUT 939
FILL 24

S.R. 108

BEGIN STA. 13+80.68
END STA. 13+80.68

5/12/2025 3:23:24 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	34
PS&E	2025	PROT-108(106)	34

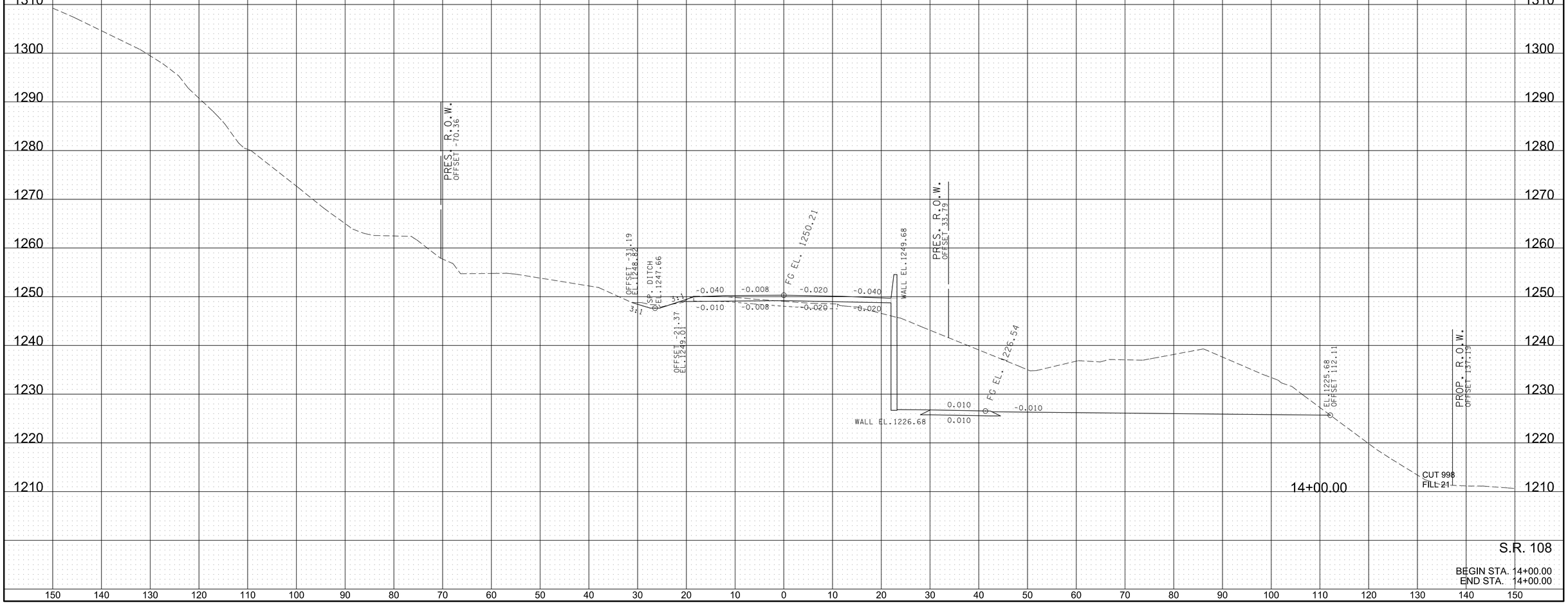


S.R. 108

BEGIN STA. 13+96.53
END STA. 13+96.53

5/12/2025 3:23:25 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	35
PS&E	2025	PROT-108(106)	35



S.R. 108

BEGIN STA. 14+00.00
END STA. 14+00.00

5/12/2025 3:23:26 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	36
PS&E	2025	PROT-108(106)	36

PRES. R.O.W.
OFFSET -93.55

OFFSET -34.78
EL. 1250.18

SP. DITCH
EL. 1249.00

OFFSET -24.55
EL. 1250.06

3:1

4:1

-0.040 -0.020 -0.020 -0.040

-0.020 -0.020 -0.020 -0.020

FG EL. 1251.50

WALL EL. 1251.04

PRES. R.O.W.
OFFSET 34.12

FG EL. 1227.88

0.010 -0.010

WALL EL. 1228.04 0.010

EL. 1226.97
OFFSET 112.14

PROP. R.O.W.
OFFSET 135.46

14+30.68

CUT 1283
FILL 10

S.R. 108

BEGIN STA. 14+30.68
END STA. 14+30.68

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	37
PS&E	2025	PROT-108(106)	37

PRES. R.O.W.
OFFSET -98.02

OFFSET -34.30
EL.1250.35

SP. DITCH
EL.1249.26

OFFSET -24.48
EL.1250.35

FG EL. 1251.76

-0.040 -0.020 -0.020 -0.040
-0.020 -0.020 -0.020 -0.020

WALL EL.1251.31

PRES. R.O.W.
OFFSET 34.17

FG EL. 1228.14

0.010 -0.010
WALL EL.1228.31 0.010

EL.1227.25
OFFSET 110.50

PROP. R.O.W.
OFFSET 135.13

14+36.53

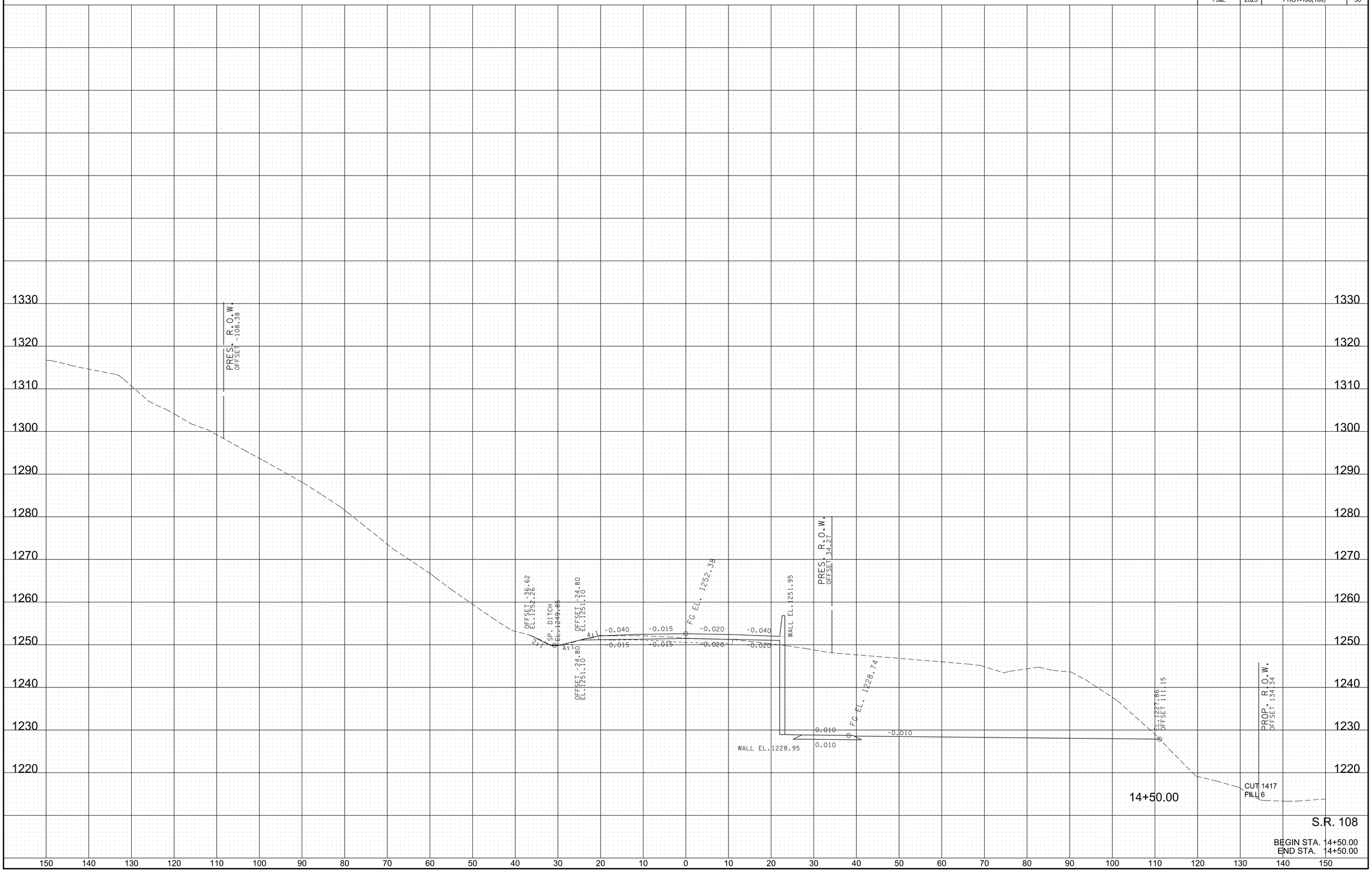
CUT 1328
FILL 9

S.R. 108

BEGIN STA. 14+36.53
END STA. 14+36.53

5/12/2025 3:23:28 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	38
PS&E	2025	PROT-108(106)	38



5/12/2025 3:23:29 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	39
PS&E	2025	PROT-108(106)	39

PRES. R.O.W.
OFFSET -137.81

OFFSET -35.31
EL.1242.24

SP. DITCH
EL.1251.48

3:1

10:1

OFFSET -24.34
EL.1253.20

-0.040 0.000 -0.020 -0.040
-0.010 0.000 -0.020 -0.020

FG EL. 1254.20

WALL EL.1253.81

PRES. R.O.W.
OFFSET 34.35

FG EL. 1230.85

0.010 -0.010
WALL EL.1230.81 0.010

EL.1229.72
OFFSET 107.71

PROP. R.O.W.
OFFSET 131.98

CUT 1357
FILL 4

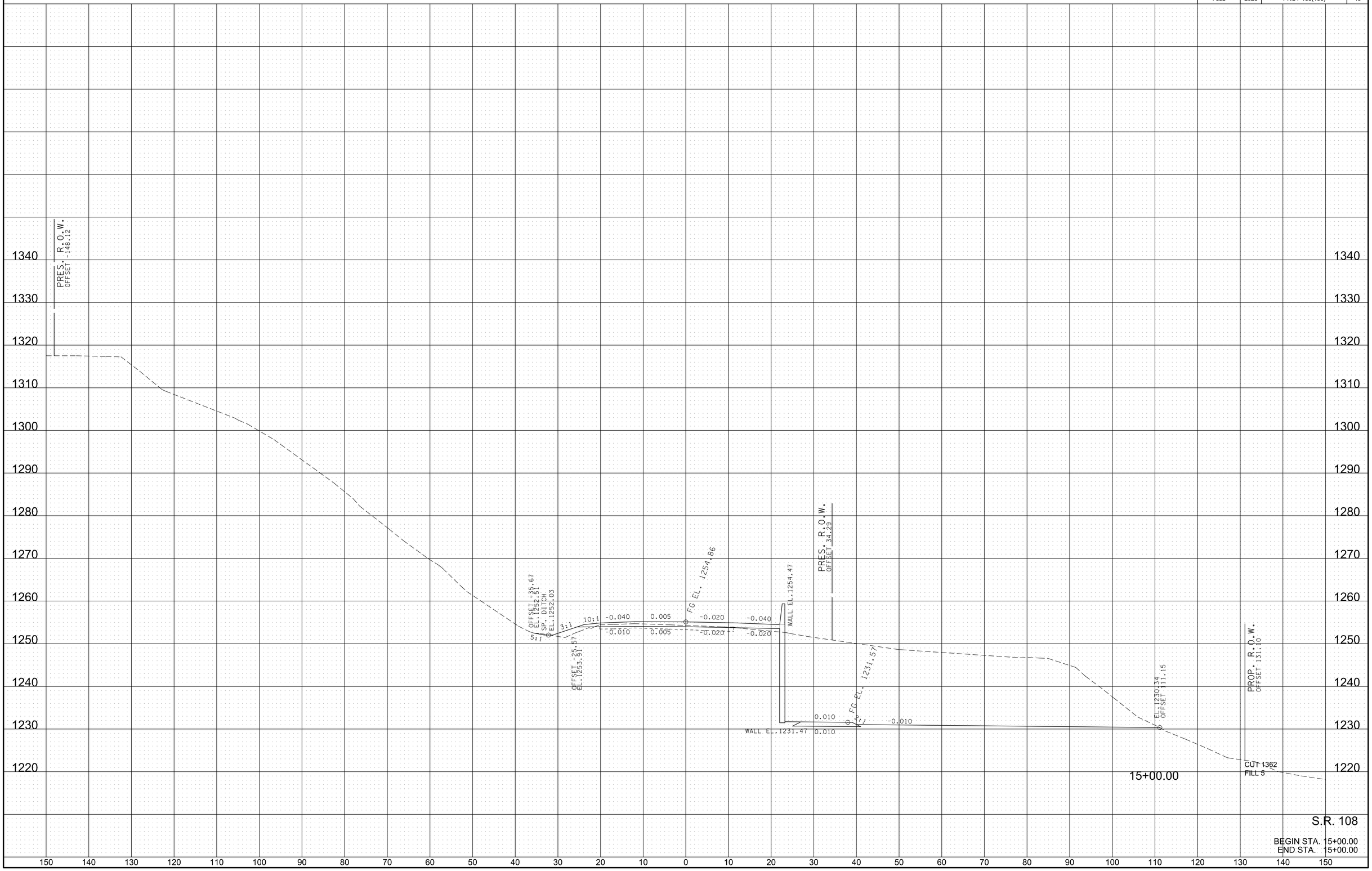
14+87.32

S.R. 108

BEGIN STA. 14+87.32
END STA. 14+87.32

5/12/2025 3:23:31 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	40
PS&E	2025	PROT-108(106)	40



S.R. 108

BEGIN STA. 15+00.00
END STA. 15+00.00

5/12/2025 3:23:32 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	41
PS&E	2025	PROT-108(106)	41

OFFSET -152.70

1350 1340 1330 1320 1310 1300 1290 1280 1270 1260 1250 1240 1230 1220

OFFSET -37.38
EL. 1253.48
℄ SP. DITCH
EL. 1252.76

3:1 10:1 5:1

OFFSET -25.42
EL. 1254.88

-0.040 0.012 -0.020 -0.040
-0.010 0.012 -0.020 -0.020

℄ FG EL. 1254.76

WALL EL. 1255.36

PRES. R.O.W.
OFFSET 34.12

℄ FG EL. 1232.66

0.010 -0.010
WALL EL. 1232.36 0.010

EL. 1231.26
OFFSET 109.16

PROP. R.O.W.
OFFSET 130.58

CUT 1362
FILL 4

15+16.53

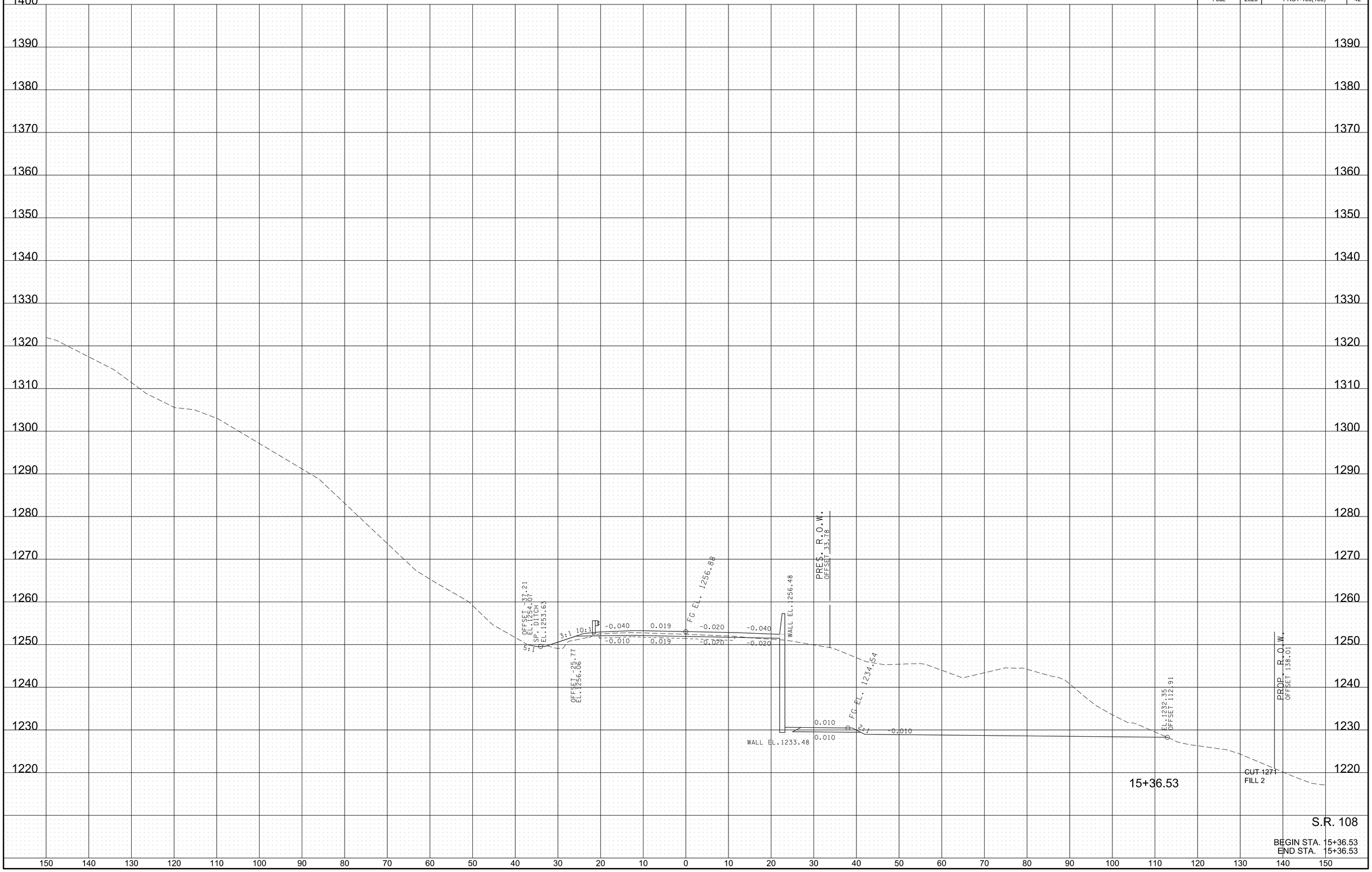
S.R. 108

BEGIN STA. 15+16.53
END STA. 15+16.53

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

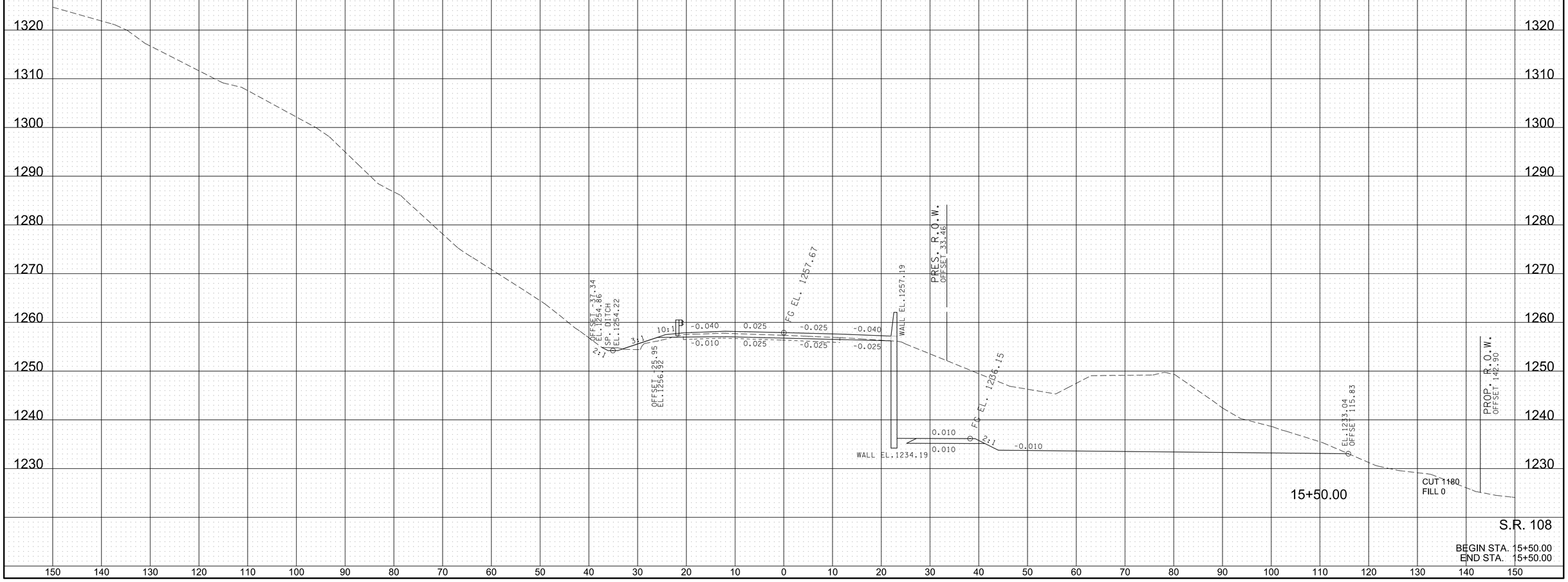
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	42
PS&E	2025	PROT-108(106)	42



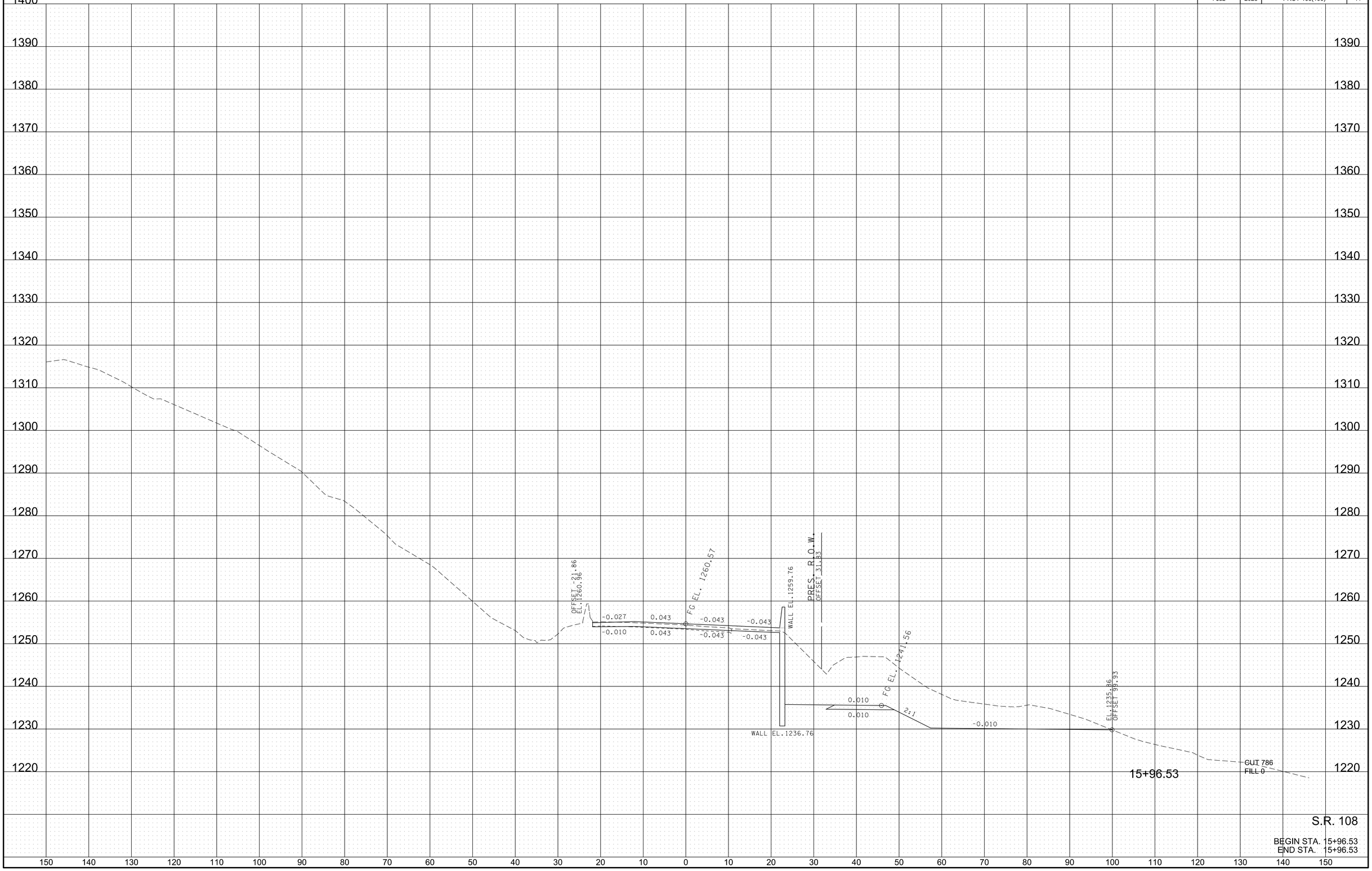
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	43
PS&E	2025	PROT-108(106)	43



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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	44
PS&E	2025	PROT-108(106)	44

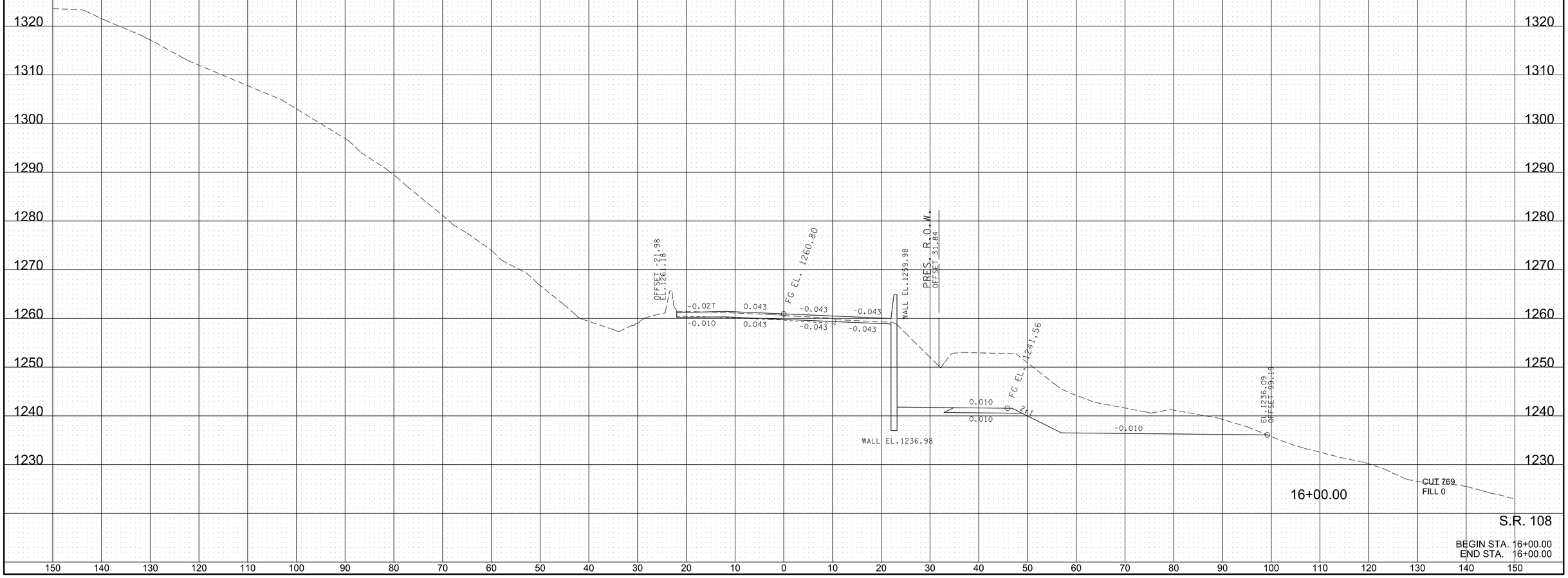


S.R. 108

BEGIN STA. 15+96.53
END STA. 15+96.53

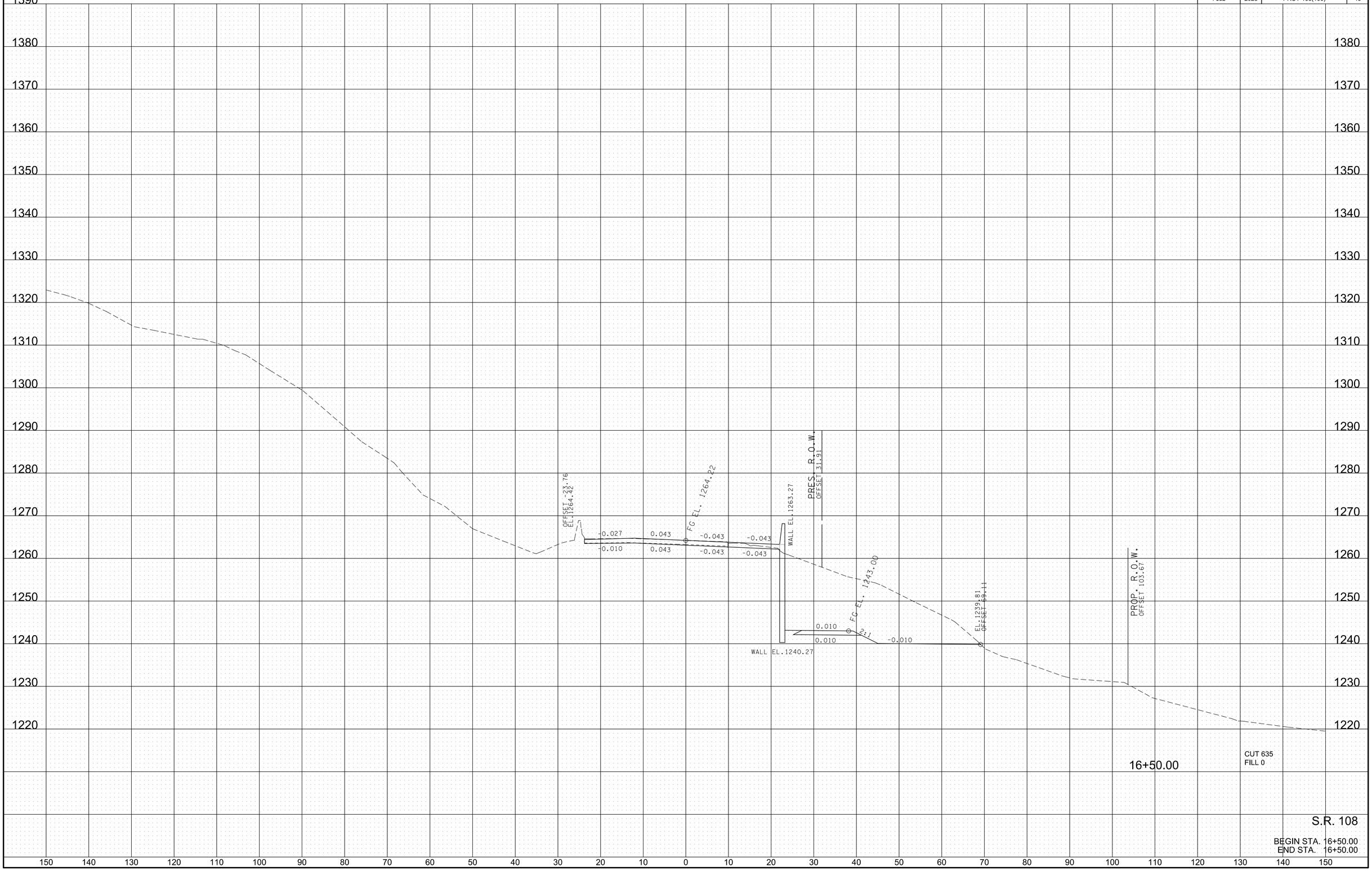
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	45
PS&E	2025	PROT-108(106)	45



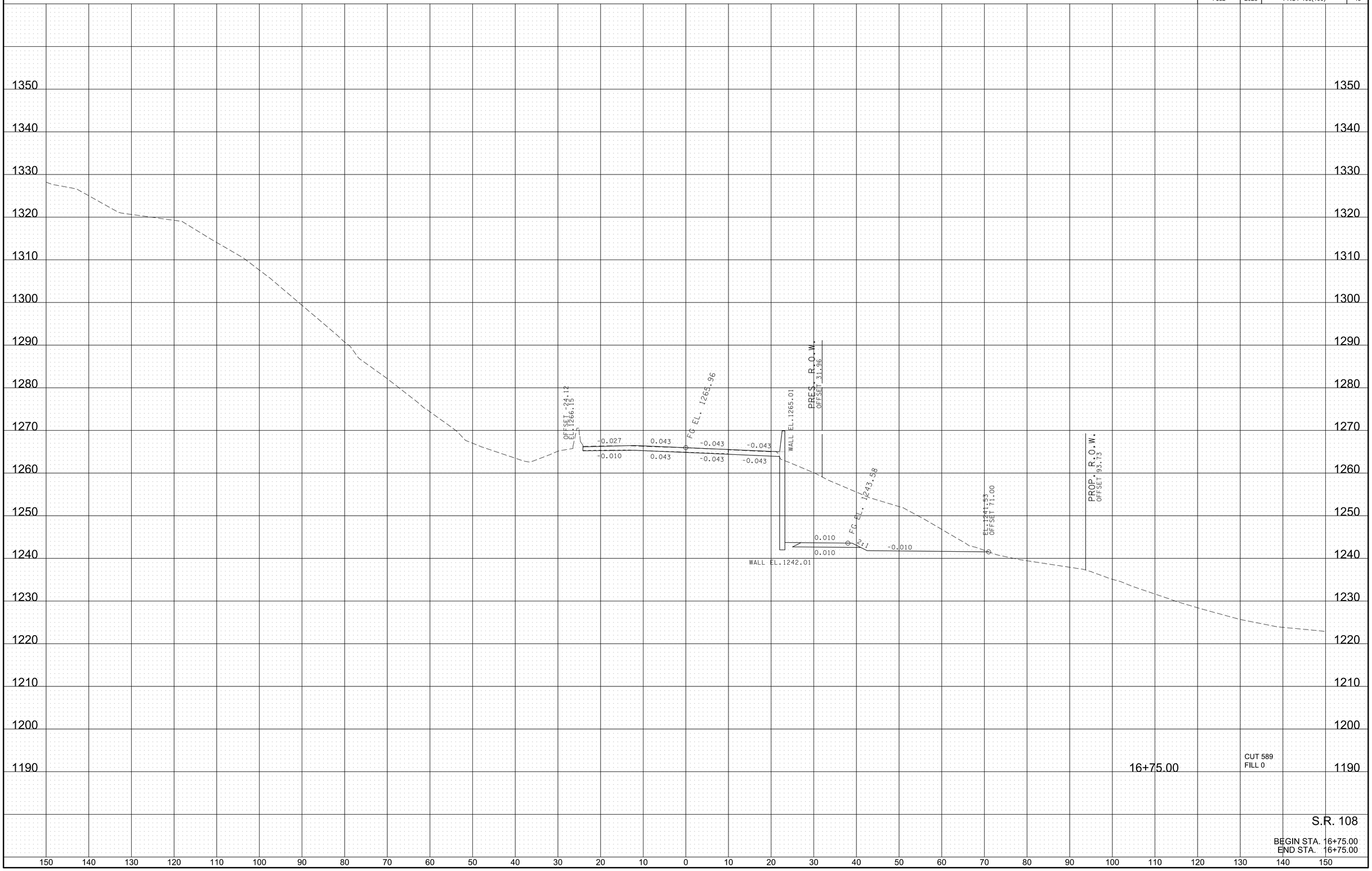
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	46
PS&E	2025	PROT-108(106)	46



5/12/2025 3:23:38 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	48
PS&E	2025	PROT-108(106)	48

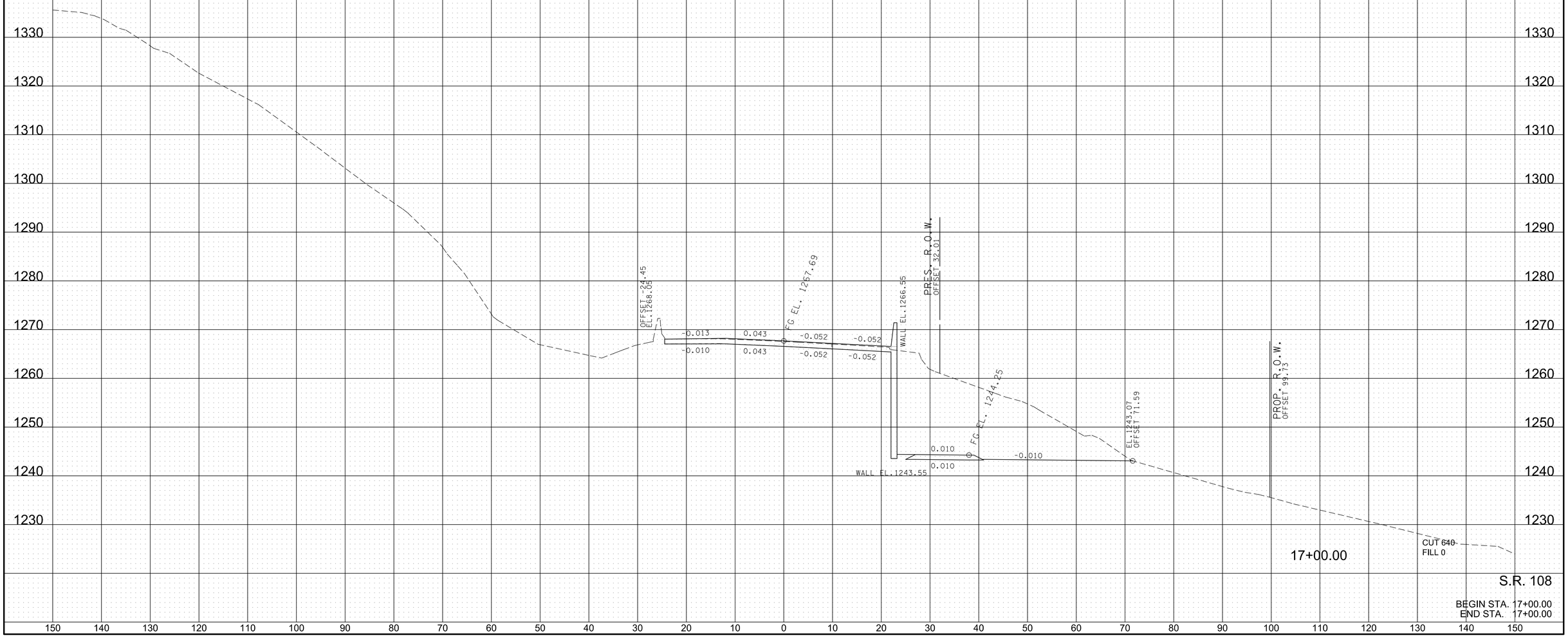


S.R. 108

BEGIN STA. 16+75.00
END STA. 16+75.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	49
PS&E	2025	PROT-108(106)	49

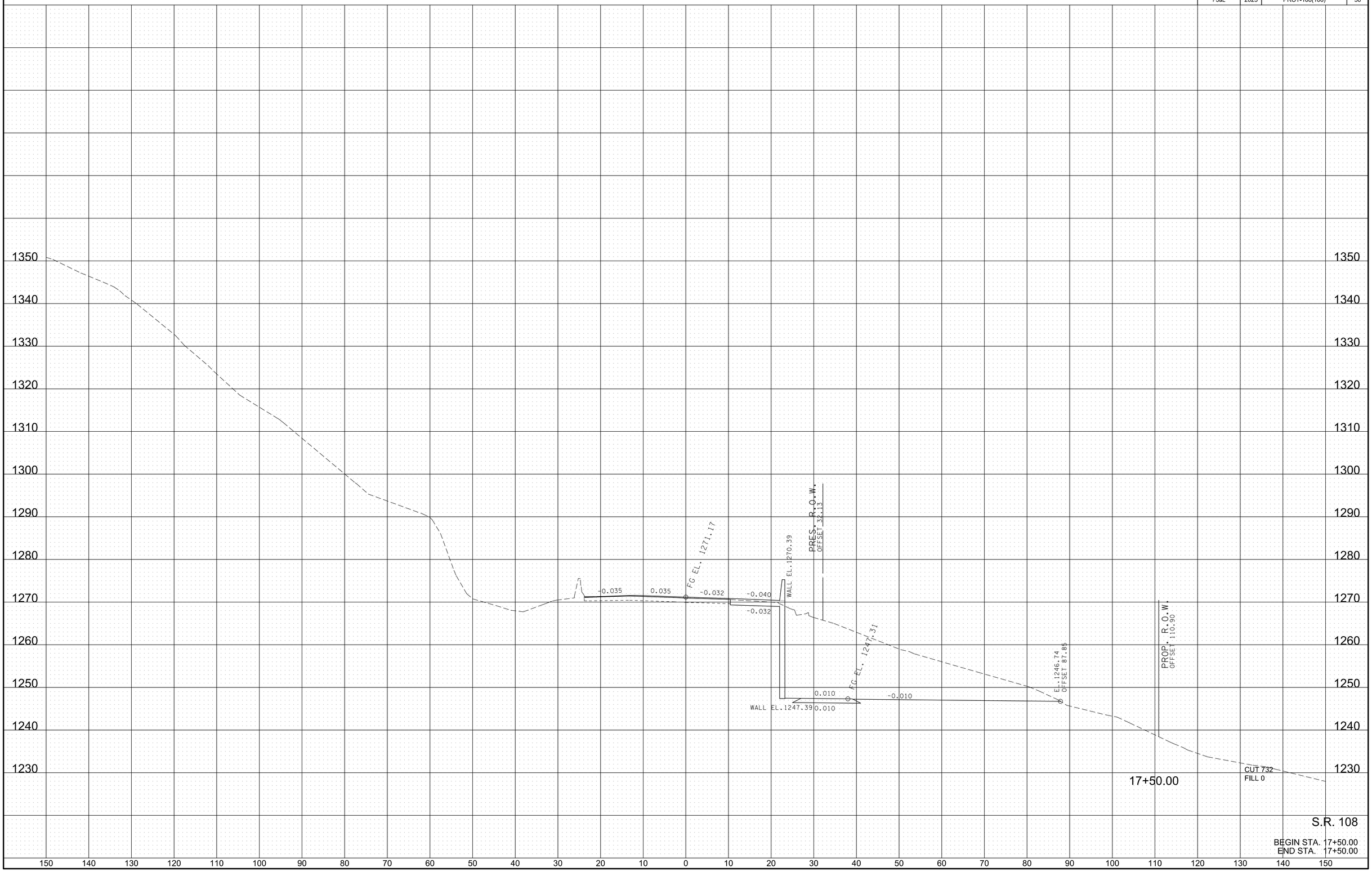


S.R. 108

BEGIN STA. 17+00.00
END STA. 17+00.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	50
PS&E	2025	PROT-108(106)	50

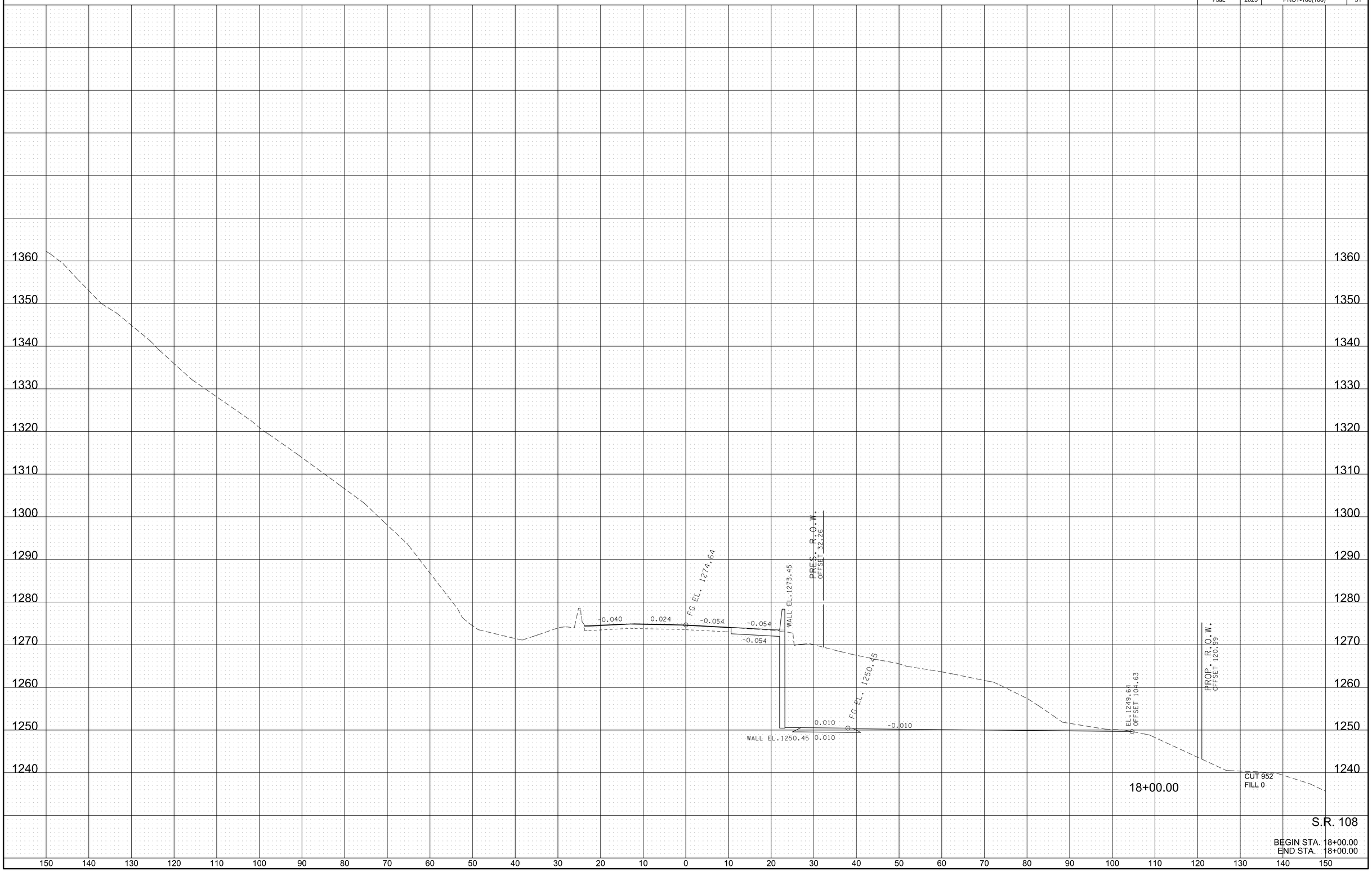


S.R. 108

BEGIN STA. 17+50.00
END STA. 17+50.00

5/12/2025 3:23:42 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	51
PS&E	2025	PROT-108(106)	51

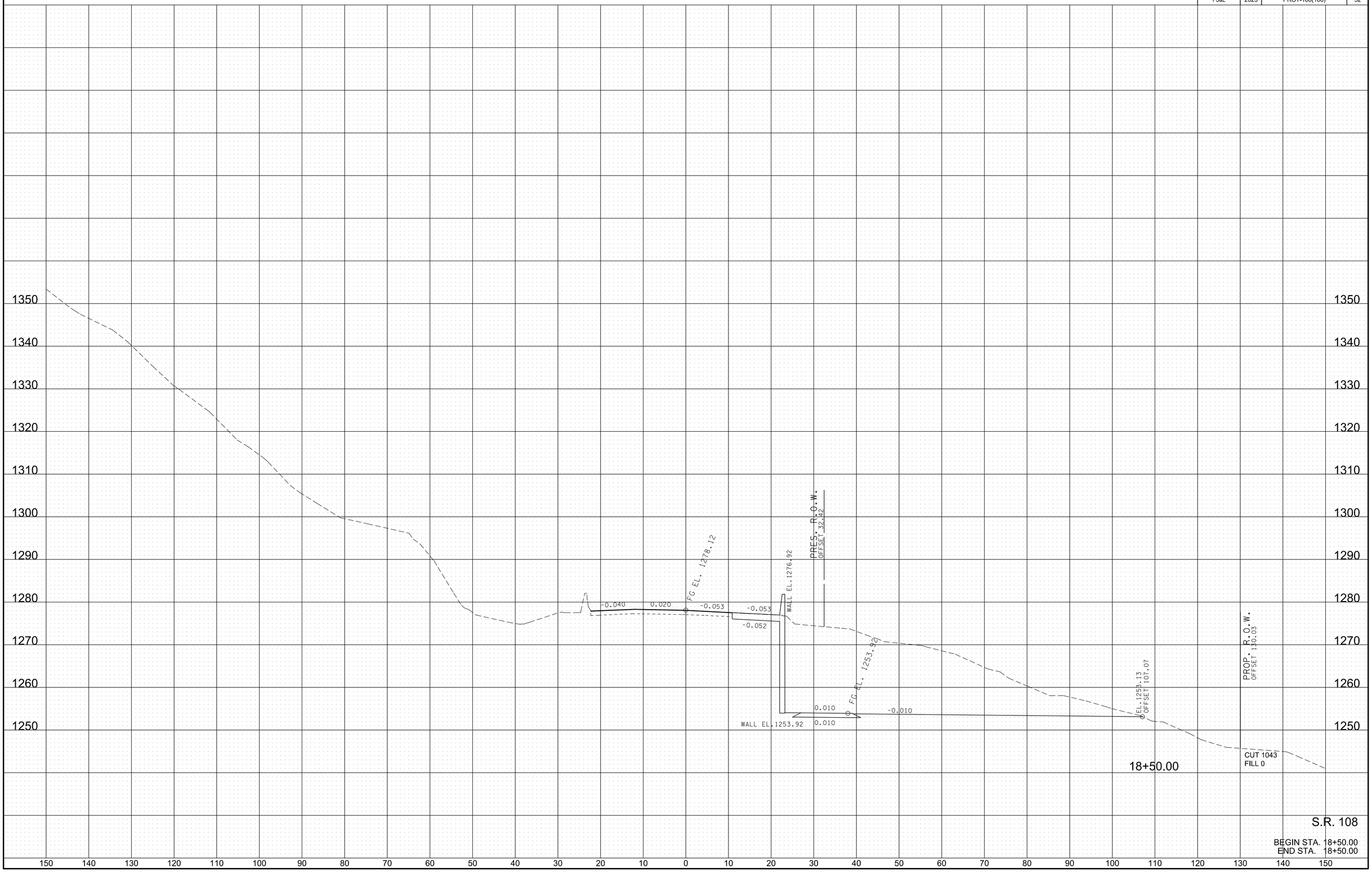


S.R. 108

BEGIN STA. 18+00.00
END STA. 18+00.00

5/12/2025 3:23:43 PM
Y:\Nashville\160190005\16019006.06\Eng_Docs\Roadway\MASR108MainlineXSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	52
PS&E	2025	PROT-108(106)	52

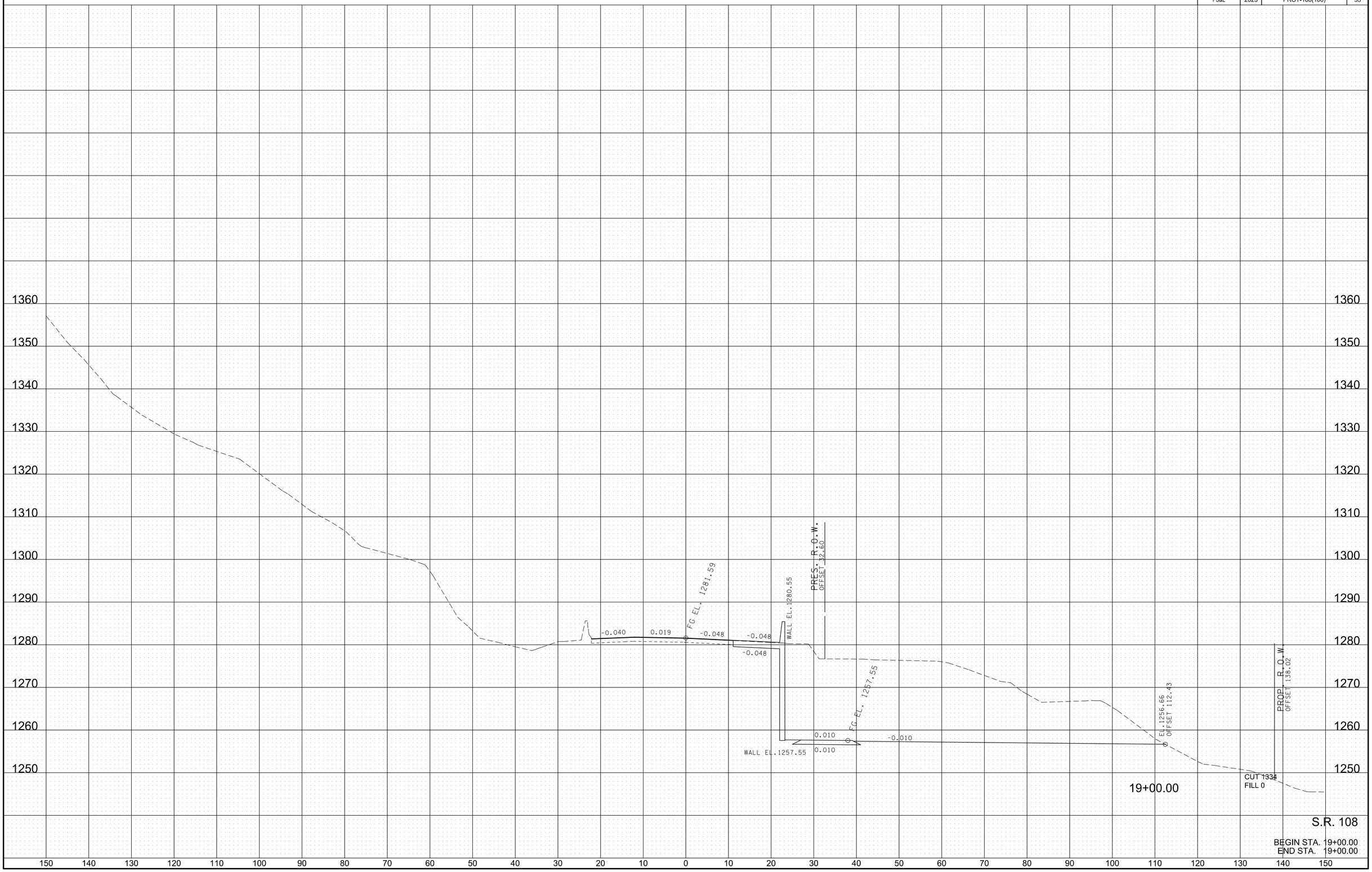


S.R. 108

BEGIN STA. 18+50.00
END STA. 18+50.00

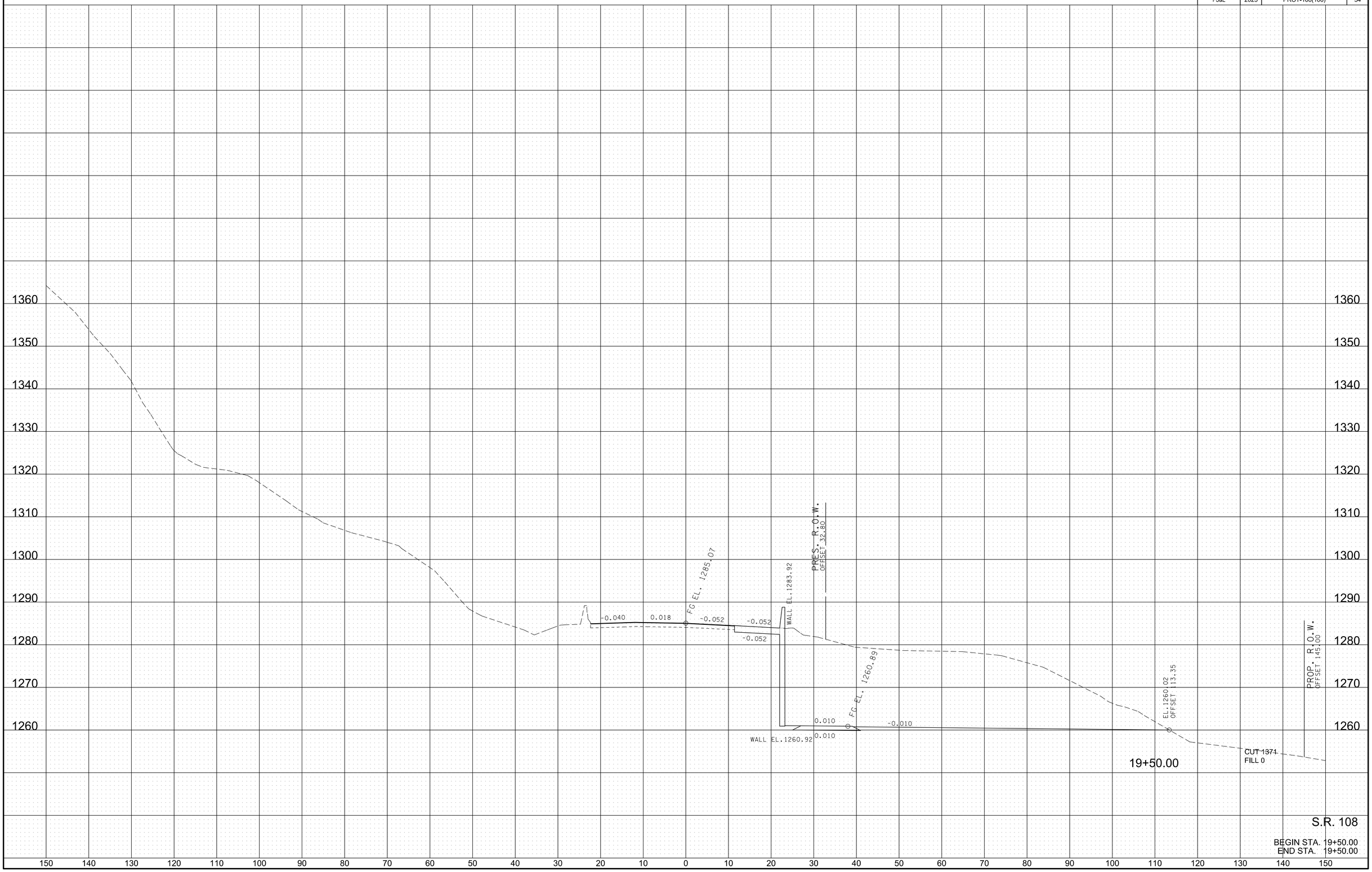
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	53
PS&E	2025	PROT-108(106)	53



5/12/2025 3:23:45 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	54
PS&E	2025	PROT-108(106)	54

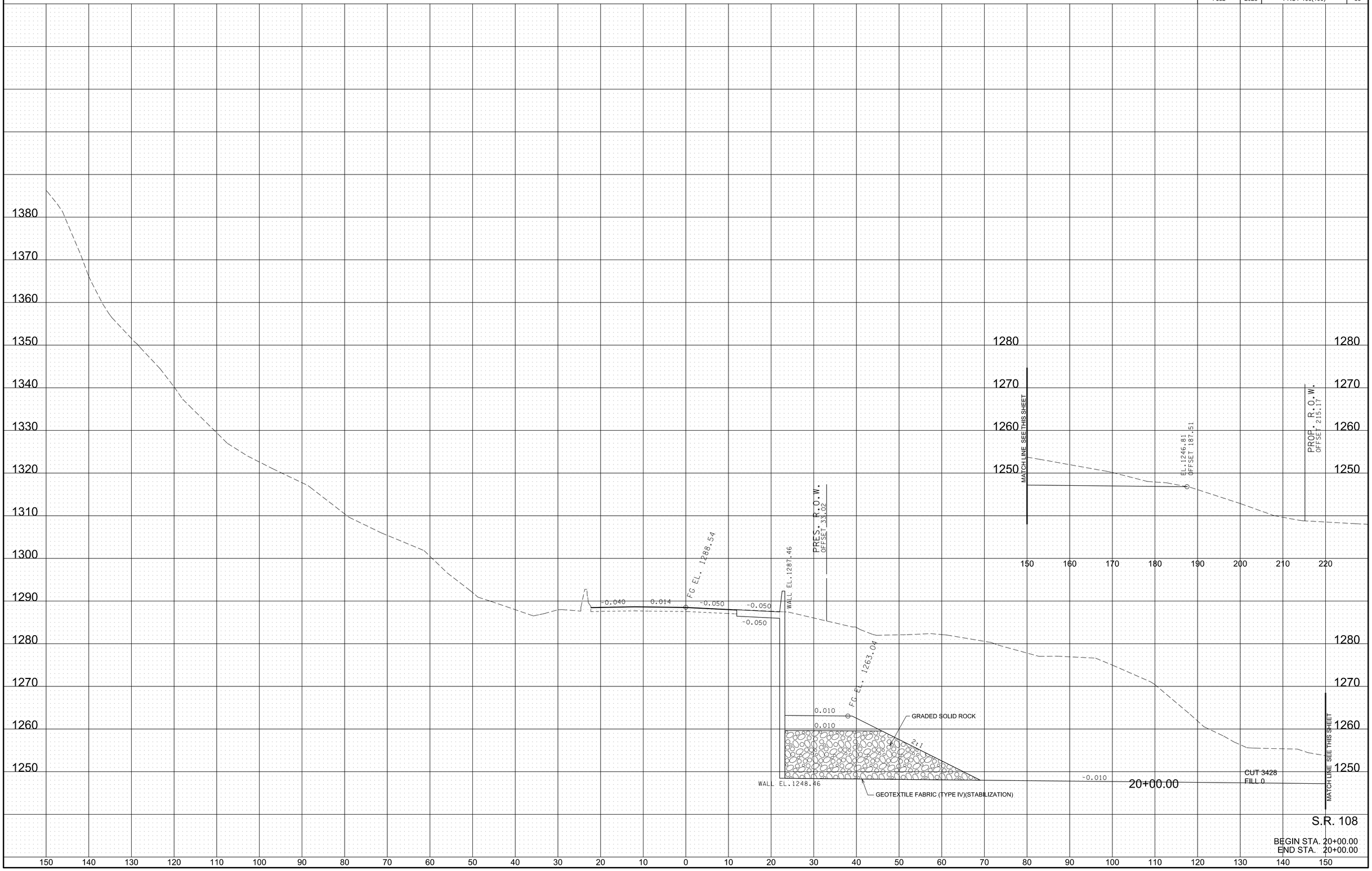


S.R. 108

BEGIN STA. 19+50.00
END STA. 19+50.00

5/12/2025 3:23:46 PM
Y:\Nashville\16019000S\16019006.06\Eng_Docs\Roadway\MASR108MainlineXSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	55
PS&E	2025	PROT-108(106)	55

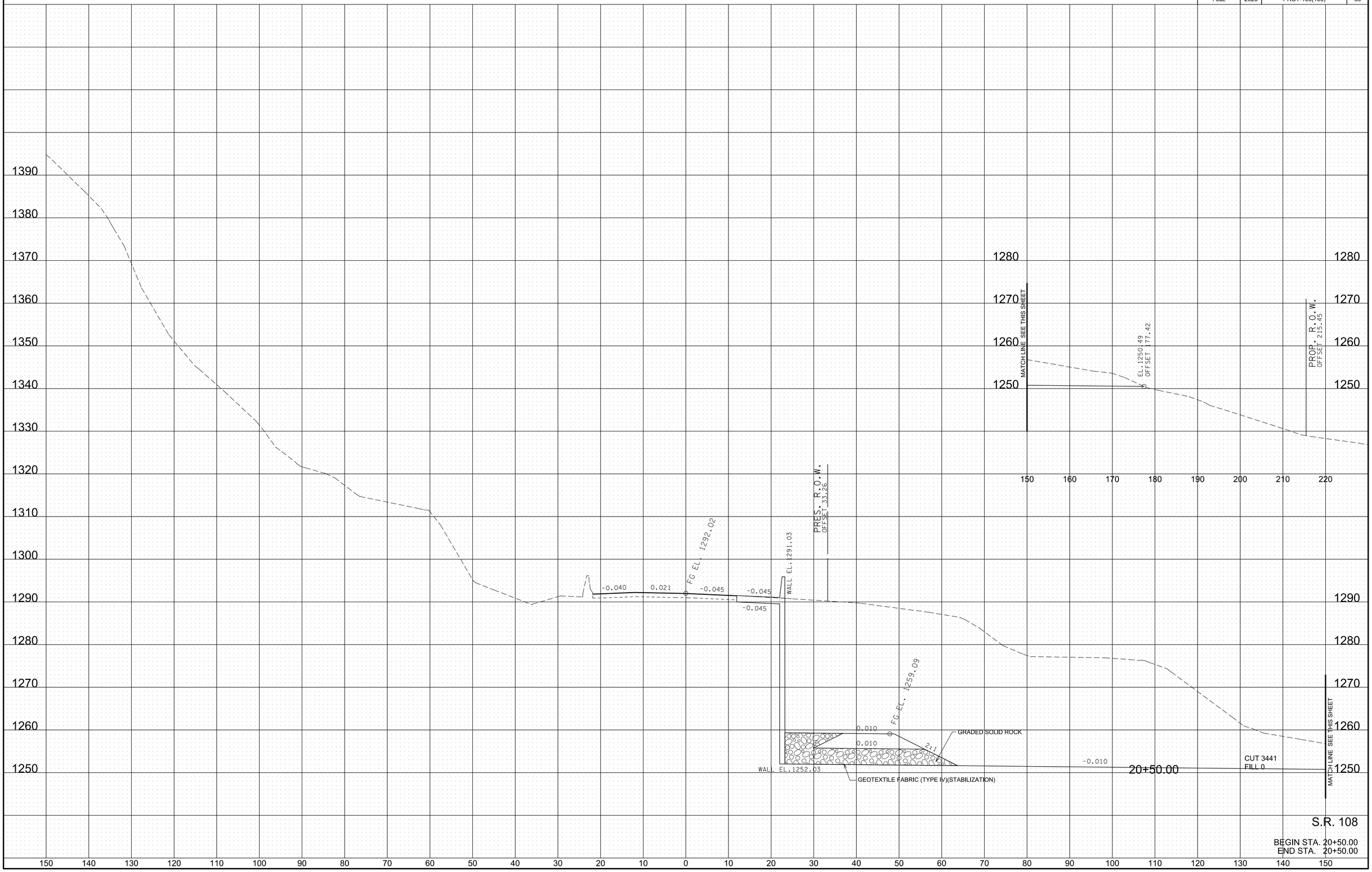


S.R. 108

BEGIN STA. 20+00.00
END STA. 20+00.00

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Y:\Nashville\16019005\16019006.06\Eng_Docs\Roadway\MASR108MainlineXSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	56
PS&E	2025	PROT-108(106)	56

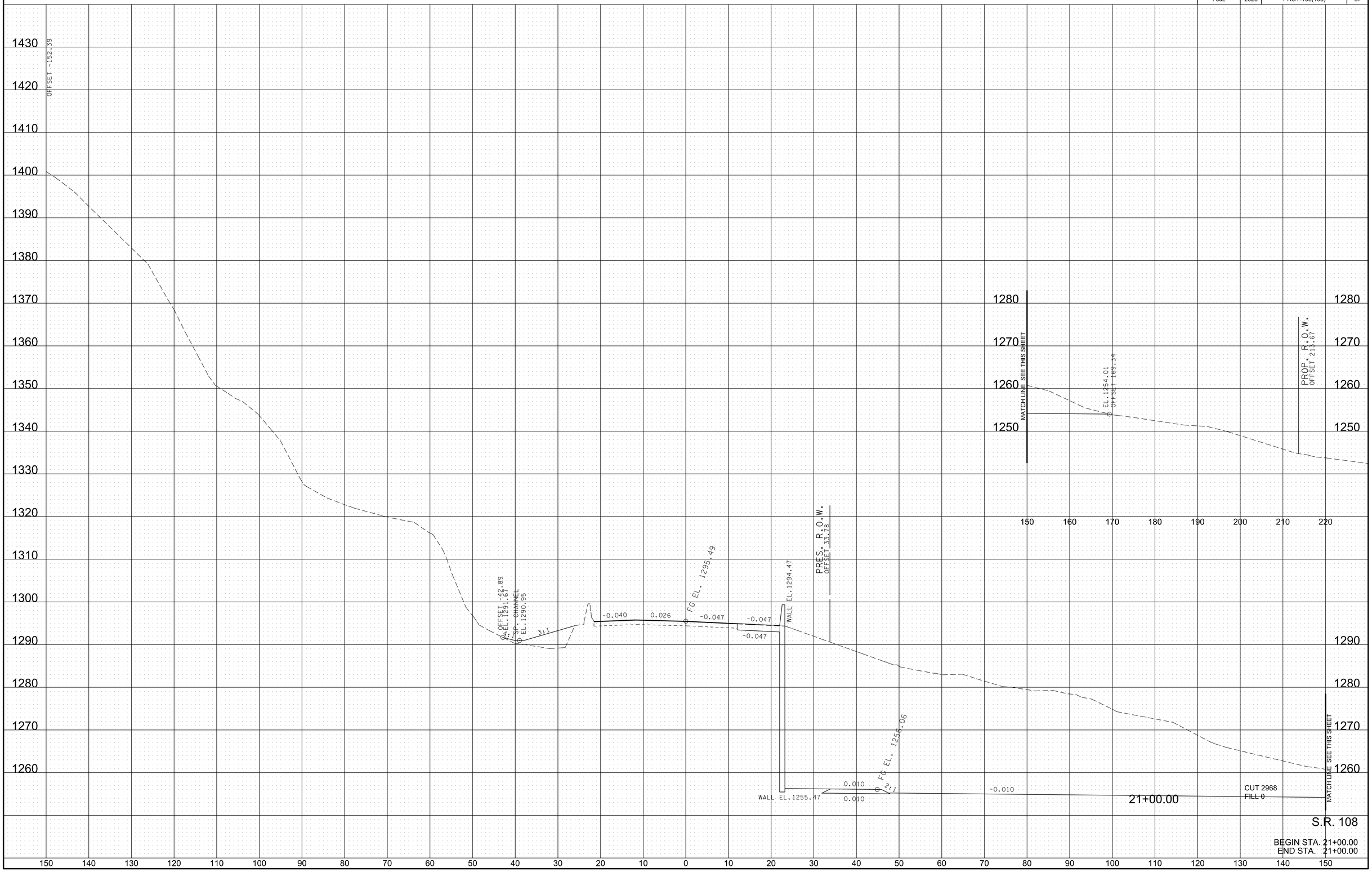


S.R. 108

BEGIN STA. 20+50.00
END STA. 20+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	57
PS&E	2025	PROT-108(106)	57



5/12/2025 3:23:49 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	58
PS&E	2025	PROT-108(106)	58

PRES. R.O.W.
OFFSET -145.10

PRES. R.O.W.
OFFSET 341.38

PROP. R.O.W.
OFFSET 206.45

FG EL. 1298.97

FG EL. 1259.03

WALL EL.1298.03

WALL EL.1259.03

-0.040 0.026 -0.043 -0.043 -0.043

0.010 0.010 -0.010

℄ EL.1257.59
OFFSET 167.22

MATCH LINE SEE THIS SHEET

MATCH LINE SEE THIS SHEET

21+50.00

CUT 3021
FILL 0

S.R. 108

BEGIN STA. 21+50.00
END STA. 21+50.00

5/12/2025 3:23:50 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	59
PS&E	2025	PROT-108(106)	59

PRES. R.O.W.
OFFSET -144.21

-0.040
0.026
-0.042
-0.042
-0.042

FG EL. 1299.43

WALL EL.1298.50

PRES. R.O.W.
OFFSET 34.38

FG EL. 1259.50

0.010
0.010

WALL EL.1259.50

-0.010

CUT 2991
FILL 0

21+56.68

MATCH LINE SEE THIS SHEET

EL. 1258.06
OFFSET 167.30

PROP. R.O.W.
OFFSET 205.42

MATCH LINE SEE THIS SHEET

S.R. 108

BEGIN STA. 21+56.68
END STA. 21+56.68

5/12/2025 3:23:51 PM
Y:\Nashville\16019000S\16019006.06\Eng_Docs\Roadway\MASR108MainlineXSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	60
PS&E	2025	PROT-108(106)	60

PRES. R.O.W.
OFFSET 138.93

MATCH LINE SEE THIS SHEET

EL. 1261.18
OFFSET 157.18

PROP. R.O.W.
OFFSET 198.24

PRES. R.O.W.
OFFSET 33.96

FG EL. 1302.37

EL. 1301.52
WALL

-0.040 0.026 -0.038 -0.040 -0.038

FG EL. 1262.52

0.010 -0.010 0.010

WALL EL. 1262.52

CUT 2886
FILL 0

22+00.00

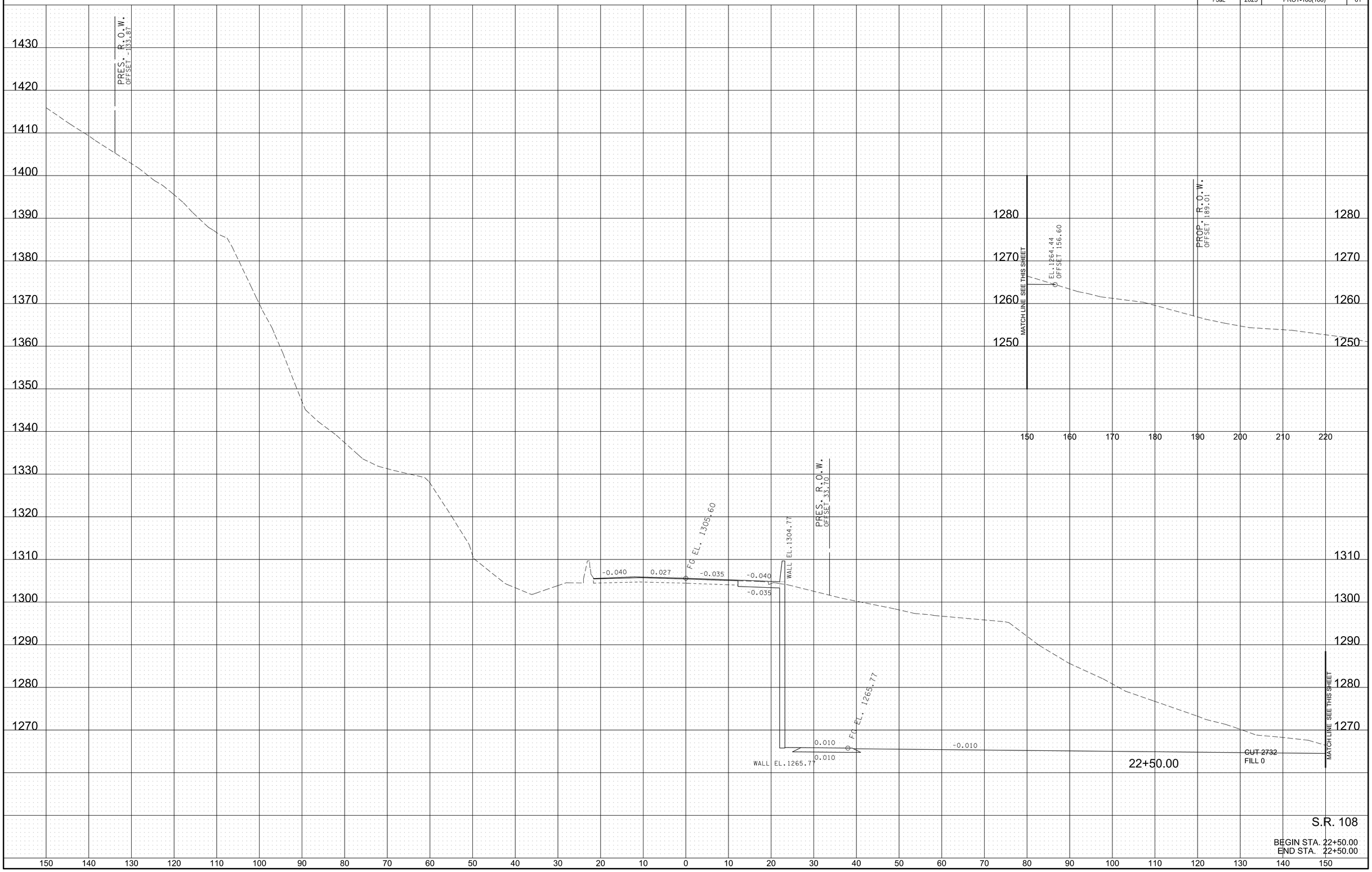
MATCH LINE SEE THIS SHEET

S.R. 108

BEGIN STA. 22+00.00
END STA. 22+00.00

5/12/2025 3:23:52 PM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	61
PS&E	2025	PROT-108(106)	61



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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	62
PS&E	2025	PROT-108(106)	62

PRES. R.O.W.
OFFSET -129.91

PRES. R.O.W.
OFFSET 33.15

FG EL. 1308.63

WALL EL.1301.86

0.040 0.030 -0.031 -0.040 -0.031

FG EL. 1268.86

0.010 0.010 -0.010

WALL EL.1268.86

EL.:1267.71
OFFSET 137.85

CUT 2544
FILL 0

23+00.00

S.R. 108

BEGIN STA. 23+00.00
END STA. 23+00.00

1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300 1290 1280 1270

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	63
PS&E	2025	PROT-108(106)	63

PRES. R.O.W.
OFFSET -126.61

FG EL. 1311.48

-0.018 0.022 -0.046 -0.046 -0.046

WALL EL.1310.46

PRES. R.O.W.
OFFSET 33.10

FG EL. 1273.09

0.010 2:1 -0.010

WALL EL.1271.46 0.010

CUT 2663
FILL 0

23+50.00

EL.1270.28
OFFSET 141.74

S.R. 108

BEGIN STA. 23+50.00
END STA. 23+50.00

1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300 1290 1280 1270

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	64
PS&E	2025	PROT-108(106)	64

PRES. R.O.W.
OFFSET -126.22

-0.040
0.023
FG EL. 1311.88
-0.045
-0.045
-0.045
WALL EL. 1310.87

PRES. R.O.W.
OFFSET 33.69

0.010
FG EL. 1274.04
2:1
0.010
-0.010
WALL EL.1271.87

23+57.25

CUT 2658
FILL 0

EL. 1270.69
OFFSET 142.91

S.R. 108

BEGIN STA. 23+57.25
END STA. 23+57.25

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	65
PS&E	2025	PROT-108(106)	65

PRES. R.O.W.
OFFSET -124.35

FG EL. 1314.14

-0.040 0.029 -0.040 -0.040 -0.040

WALL EL.1313.27

PRES. R.O.W.
OFFSET 33.55

FG EL. 1280.30

0.010 0.010 2:1 -0.010

WALL EL.1274.27

EL:1273.12
OFFSET 137.65

PROP. R.O.W.
OFFSET 185.00

CUT 2479
FILL 0

24+00.00

S.R. 108

BEGIN STA. 24+00.00
END STA. 24+00.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	66
PS&E	2025	PROT-108(106)	66

PRES. R.O.W.
OFFSET 123.05

-0.040
0.026
-0.035
-0.040
-0.035

FG EL. 1316.62

WALL EL.1315.81

PRES. R.O.W.
OFFSET 33.41

FG EL. 1284.68

0.010
0.010
-0.010

WALL EL.1284.81

EL. 1284.04
OFFSET 100.18

PROP. R.O.W.
OFFSET 145.97

CUT 1516
FILL 0

24+50.00

S.R. 108

BEGIN STA. 24+50.00
END STA. 24+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	67
PS&E	2025	PROT-108(106)	67

PRES. R.O.W.
OFFSET -122.54

PRES. R.O.W.
OFFSET 33.42

FG EL. 1318.91

WALL EL.1317.90

0.040 0.010 0.046 -0.046 -0.046

FG EL. 1286.90

-0.010

0.010

WALL EL.1286.90

EL.1286.20
OFFSET 92.41

PROP. R.O.W.
OFFSET 136.08

CUT 1419
FILL 0

25+00.00

S.R. 108

BEGIN STA. 25+00.00
END STA. 25+00.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	68
PS&E	2025	PROT-108(106)	68

PRES. R.O.W.
OFFSET 122.54

FG EL. 1320.06

-0.040 0.001 -0.033 -0.040 -0.033

WALL EL.1319.22

PRES. R.O.W.
OFFSET 33.78

FG EL. 1288.22

0.010 -0.010

WALL EL.1288.22 0.010

EL.1287.56
OFFSET 93.25

PROP. R.O.W.
OFFSET 130.50

CUT 1349
FILL 0

25+26.69

S.R. 108

BEGIN STA. 25+26.69
END STA. 25+26.69

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	69
PS&E	2025	PROT-108(106)	69

PRES. R.O.W.
OFFSET -122.66

FG EL. 1321.04

-0.040 -0.006 -0.022 -0.040

WALL EL.1320.38

-0.022

PRES. R.O.W.
OFFSET 34.01

FG EL. 1289.38

0.010 -0.010

WALL EL.1289.38 0.010

EL.1288.72
OFFSET 89.34

PROP. R.O.W.
OFFSET 125.46

CUT 1283
FILL 0

25+50.00

S.R. 108

BEGIN STA. 25+50.00
END STA. 25+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	70
PS&E	2025	PROT-108(106)	70

PRES. R.O.W.
OFFSET 123.25

PRES. R.O.W.
OFFSET 34.17

FG EL. 1323.14

WALL EL.1322.59

-0.040 -0.006 -0.012 -0.040

-0.013

FG EL. 1291.59

0.010 -0.010

0.010

WALL EL.1291.59

EL. 1290.85
OFFSET 97.29

PROP. R.O.W.
OFFSET 114.27

CUT 1392
FILL 0

26+00.00

S.R. 108

BEGIN STA. 26+00.00
END STA. 26+00.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	71
PS&E	2025	PROT-108(106)	71

PRES. R.O.W.
OFFSET -124.16

-0.040 -0.003 -0.015 -0.040 -0.015

FG EL. 1325.24

WALL EL 1324.66

PRES. R.O.W.
OFFSET 34.01

GRADED SOLID ROCK

2:1

-0.010

WALL EL.1293.66

GEOTEXTILE FABRIC (TYPE IV)(STABILIZATION)

EL.1293.02
OFFSET 87.14

26+50.00

CUT 1257
FILL 0

S.R. 108

BEGIN STA. 26+50.00
END STA. 26+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	72
PS&E	2025	PROT-108(106)	72

PRES. R.O.W.
OFFSET -124.18

PRES. R.O.W.
OFFSET 34.01

FG EL. 1325.29

WALL EL. 1324.71

-0.040 -0.003 -0.015 -0.040 -0.015

GRADED SOLID ROCK

2:1

-0.010

WALL EL. 1293.71

GEOTEXTILE FABRIC (TYPE IV)(STABILIZATION)

EL. 1293.07
OFFSET 86.93

26+51.17

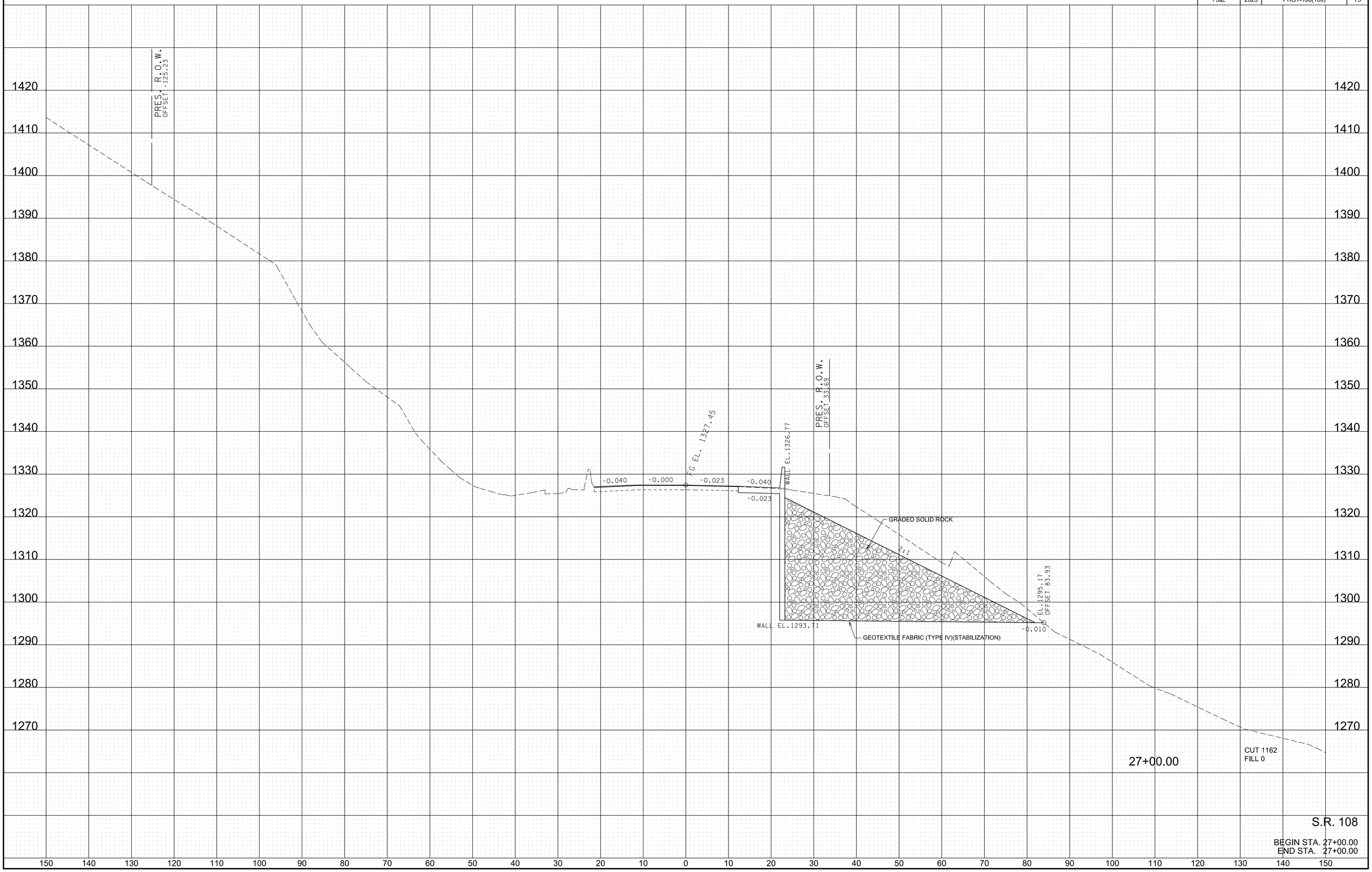
CUT 1261
FILL 0

S.R. 108

BEGIN STA. 26+51.17
END STA. 26+51.17

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	73
PS&E	2025	PROT-108(106)	73

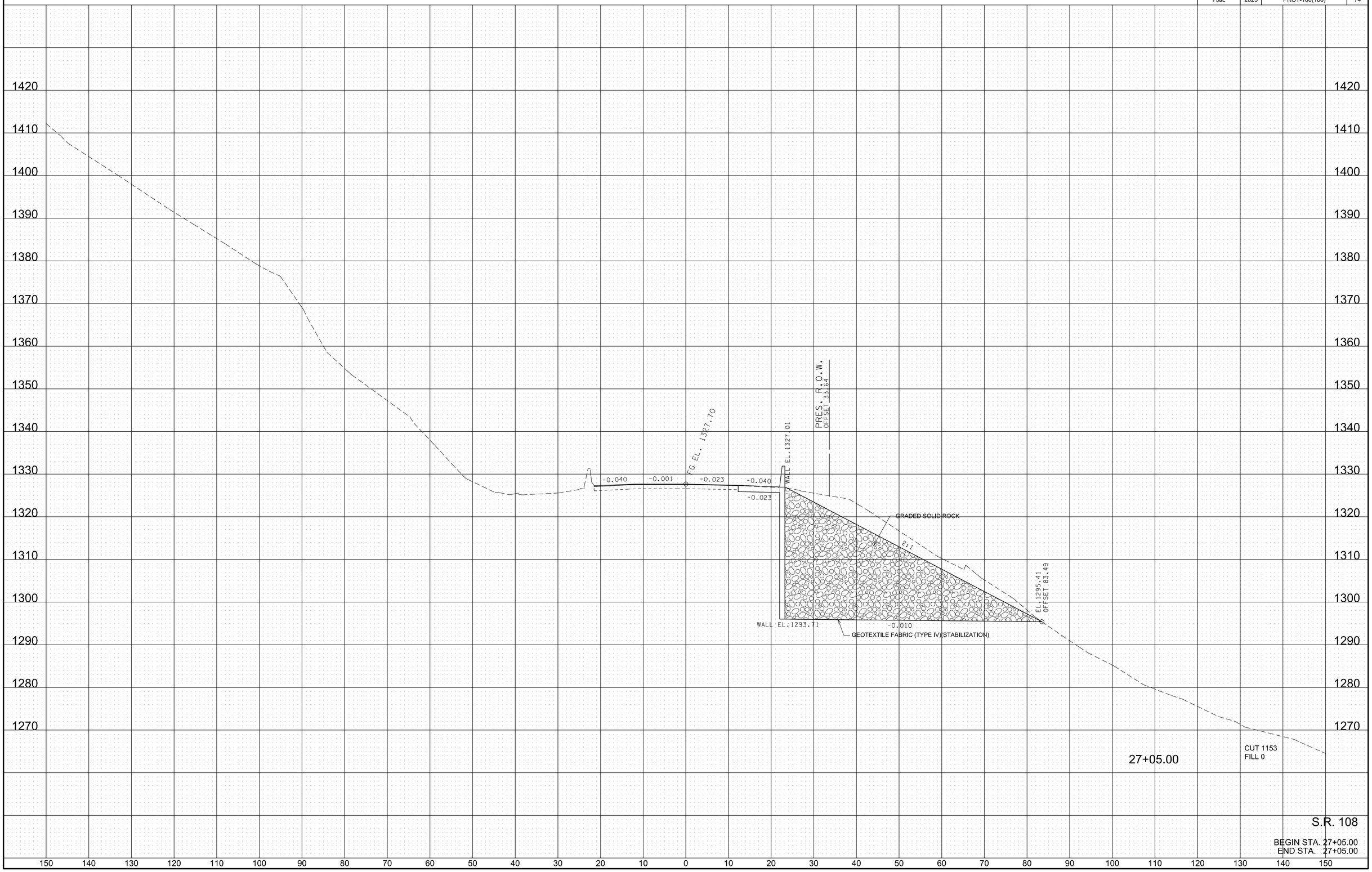


S.R. 108

BEGIN STA. 27+00.00
END STA. 27+00.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	74
PS&E	2025	PROT-108(106)	74



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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	75
PS&E	2025	PROT-108(106)	75

PRES. R.O.W.
OFFSET 123.38

PRES. R.O.W.
OFFSET 33.64

FG EL. 1327.78

-0.040 -0.001 -0.023 -0.040 -0.023

10:1 6:1 4:1

EL.1325.56
OFFSET 32.26

EL.1324.20
OFFSET 37.67

CUT 18
FILL 2

27+07.25

S.R. 108

BEGIN STA. 27+07.25
END STA. 27+07.25

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	76
PS&E	2025	PROT-108(106)	76

PRES. R.O.W.
OFFSET -126.32

PRES. R.O.W.
OFFSET 33.34

-0.040 -0.004 -0.022 -0.040 -0.022

FG EL. 1329.87

1:1 6:1 2:1

EL. 1327.64
OFFSET 33.36

EL. 1313.89
OFFSET 60.86

PROP. R.O.W.
OFFSET 125.00

CUT 17
FILL 30

27+50.00

WHEN PLACING EMBANKMENT MATERIAL ON OR AGAINST EXISTING SLOPES THAT ARE STEEPER THAN 4:1, CUT BENCHES INTO THE EXISTING SLOPE WHILE BRINGING UP THE NEW EMBANKMENT MATERIAL IN LAYERS. CUT EACH BENCH OF SUFFICIENT WIDTH TO ACCOMMODATE THE OPERATION OF PLACING AND COMPACTING EQUIPMENT. BEGIN EACH SUCCESSIVE CUT AT THE INTERSECTION OF THE ORIGINAL GROUND AND THE VERTICAL SIDE OF THE PREVIOUS CUT. RE-COMPACT THE CUT MATERIAL ALONG WITH THE NEW EMBANKMENT MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT.

S.R. 108

BEGIN STA. 27+50.00
END STA. 27+50.00

1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300 1290 1280 1270

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	77
PS&E	2025	PROT-108(106)	77

PRES. R.O.W.
OFFSET - 127.42

-0.040 -0.021 -0.019 -0.040 10:1 6:1 4:1 -0.019

FG EL. 1332.52

PRES. R.O.W.
OFFSET 33.12

EL. 1328.49
OFFSET 40.43

EL. 1330.41
OFFSET 32.77

PROP. R.O.W.
OFFSET 75.56

28+00.00

CUT 20
FILL 2

S.R. 108

BEGIN STA. 28+00.00
END STA. 28+00.00

1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300 1290 1280 1270

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	78
PS&E	2025	PROT-108(106)	78

PRES. R.O.W.
OFFSET -128.44

-0.040 -0.032 FG EL. 1335.17 -0.011 -0.040 10:1 6:1

-0.011

PRES. R.O.W.
OFFSET 32.98

EL. 1333.34
OFFSET 30.40

EL. 1329.49
OFFSET 53.53

PROP. R.O.W.
OFFSET 70.40

CUT 39
FILL 0

28+46.40

S.R. 108

BEGIN STA. 28+46.40
END STA. 28+46.40

1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300 1290

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	79
PS&E	2025	PROT-108(106)	79

PRES. R.O.W.
OFFSET -128.52

-0.040 -0.033 -0.010 -0.040 -0.010

FG EL. 1335.39

PRES. R.O.W.
OFFSET 32.97

EL. 1333.58
OFFSET 29.68

P:1

EL. 1330.19
OFFSET 51.80

PROP. R.O.W.
OFFSET 70.00

CUT 20
FILL 0

28+50.00

S.R. 108

BEGIN STA. 28+50.00
END STA. 28+50.00

1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300 1290

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	80
PS&E	2025	PROT-108(106)	80

PRES. ℄
OFFSET - 1

PRES. R.O.W.
OFFSET 32.88

PROP. R.O.W.
OFFSET 41.42

FG EL. 1338.48

-0.040 -0.036 0.009 -0.015

29+00.00

S.R. 108

BEGIN STA. 29+00.00
END STA. 29+00.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	81
PS&E	2025	PROT-108(106)	81

PRES. OFFSET

PRES. R.O.W. OFFSET 33.16

FG EL. 1341.79

-0.046 -0.046 0.021 -0.040

29+50.00

S.R. 108

BEGIN STA. 29+50.00
END STA. 29+50.00

1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	82
PS&E	2025	PROT-108(106)	82

PRES. OFFSET

PRES. R.O.W. OFFSET 33.17

FG EL. 1341.87

-0.046 -0.046 0.022 -0.018

29+51.17

S.R. 108

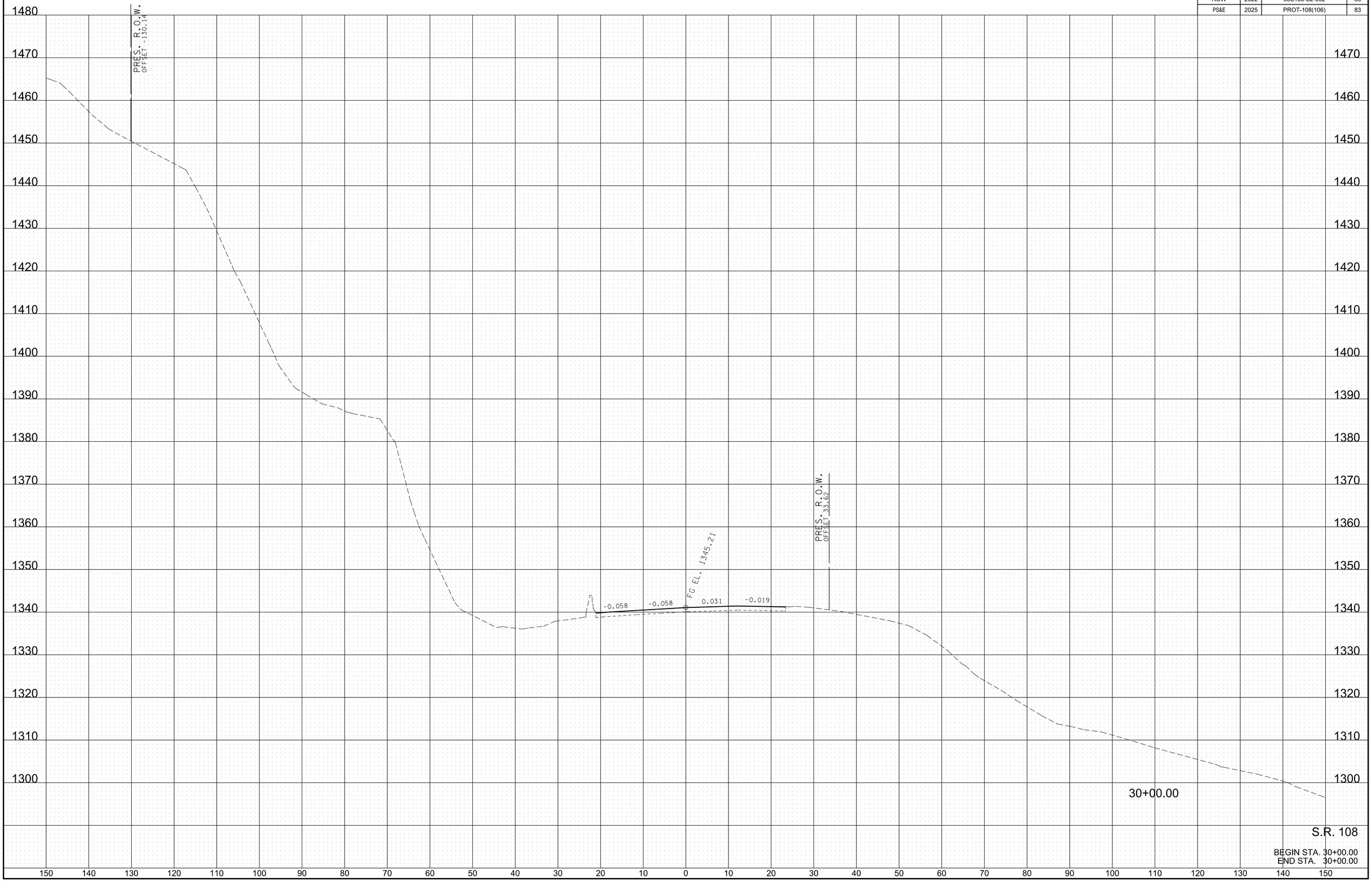
BEGIN STA. 29+51.17
END STA. 29+51.17

1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	83
PS&E	2025	PROT-108(106)	83



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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	84
PS&E	2025	PROT-108(106)	84

PRES. R.O.W.
OFFSET -130.10

PRES. R.O.W.
OFFSET 33.59

FG EL. 1346.68

-0.061 -0.061 0.033 -0.015

30+21.40

S.R. 108

BEGIN STA. 30+21.40
END STA. 30+21.40

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	85
PS&E	2025	PROT-108(106)	85

PRES. R.O.W.
OFFSET -130.32

PRES. R.O.W.
OFFSET 33.44

FG EL. 1348.64

-0.063 -0.063 0.034 -0.015

30+50.00

S.R. 108

BEGIN STA. 30+50.00
END STA. 30+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	86
PS&E	2025	PROT-108(106)	86

PRES. R.O.W.
OFFSET -129.81

PRES. R.O.W.
OFFSET 33.45

FG EL. 1352.06

-0.066 -0.066 0.032 -0.038

31+00.00

S.R. 108

BEGIN STA. 31+00.00
END STA. 31+00.00

1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310 1300

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	87
PS&E	2025	PROT-108(106)	87

PRES. R.O.W.
OFFSET 128.17

PRES. R.O.W.
OFFSET 33.35

FG EL. 1355.49

-0.082 -0.055 0.044 -0.008

31+50.00

S.R. 108

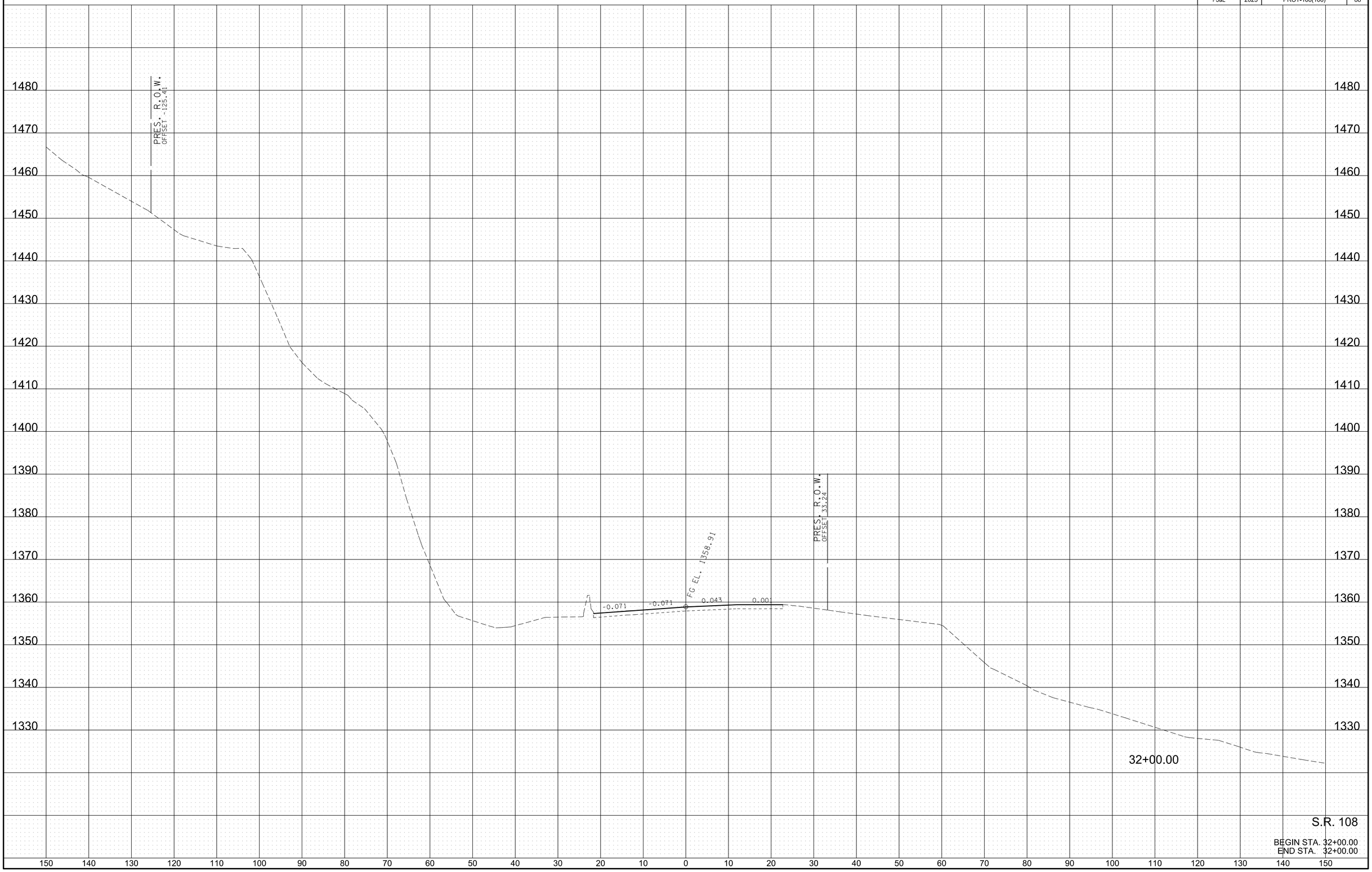
BEGIN STA. 31+50.00
END STA. 31+50.00

1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330 1320 1310

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	88
PS&E	2025	PROT-108(106)	88



S.R. 108

BEGIN STA. 32+00.00
END STA. 32+00.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	89
PS&E	2025	PROT-108(106)	89

PRES. R.O.W.
OFFSET -121.50

PRES. R.O.W.
OFFSET 33.12

32+50.00

S.R. 108

BEGIN STA. 32+50.00
END STA. 32+50.00

1480 1470 1460 1450 1440 1430 1420 1410 1400 1390 1380 1370 1360 1350 1340 1330

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	90
PS&E	2025	PROT-108(106)	90

PRES. R.O.W.
OFFSET- 116.45

PRES. R.O.W.
OFFSET 32.99

33+00.00

S.R. 108

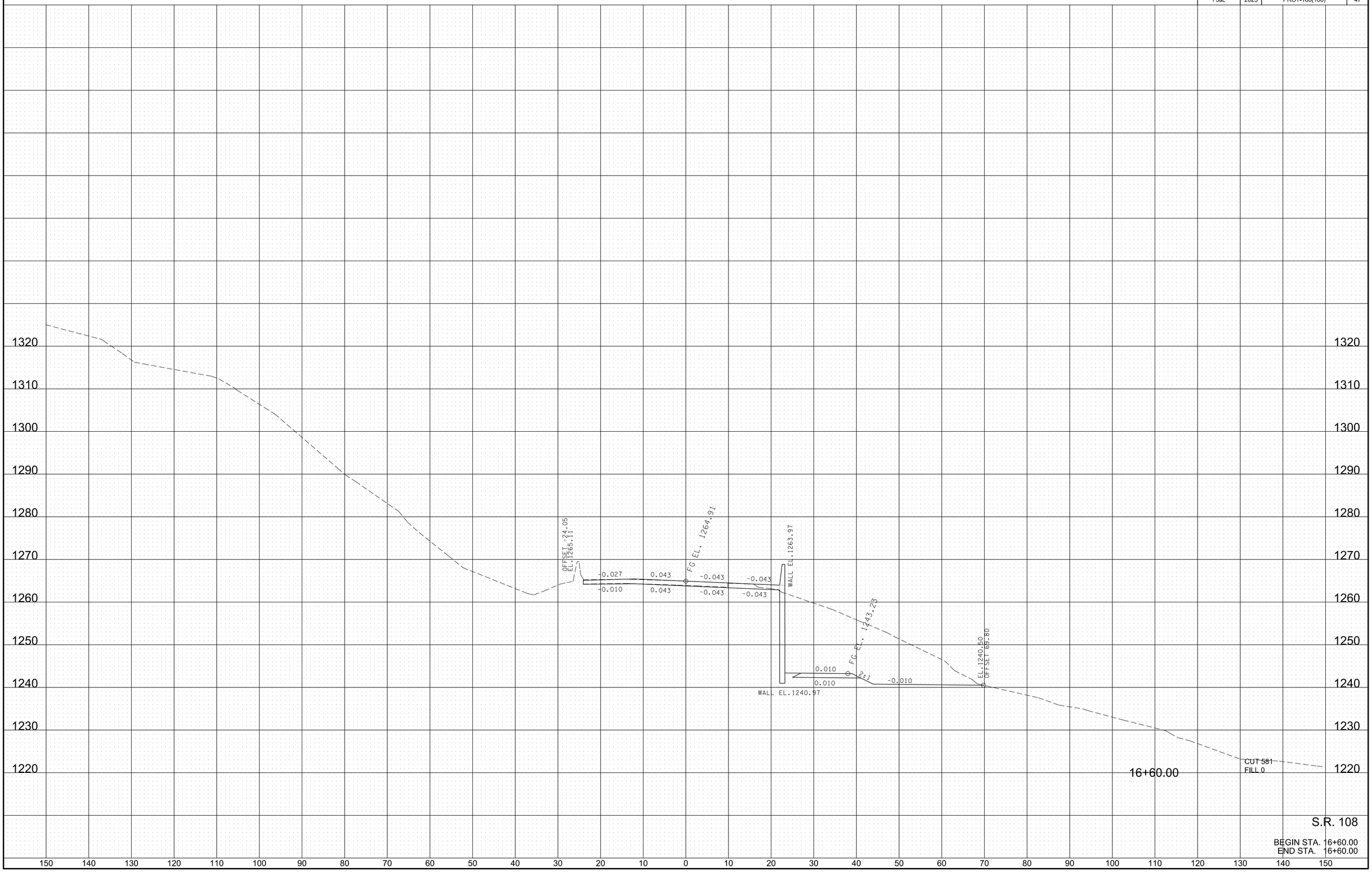
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END STA. 33+00.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	47
PS&E	2025	PROT-108(106)	47



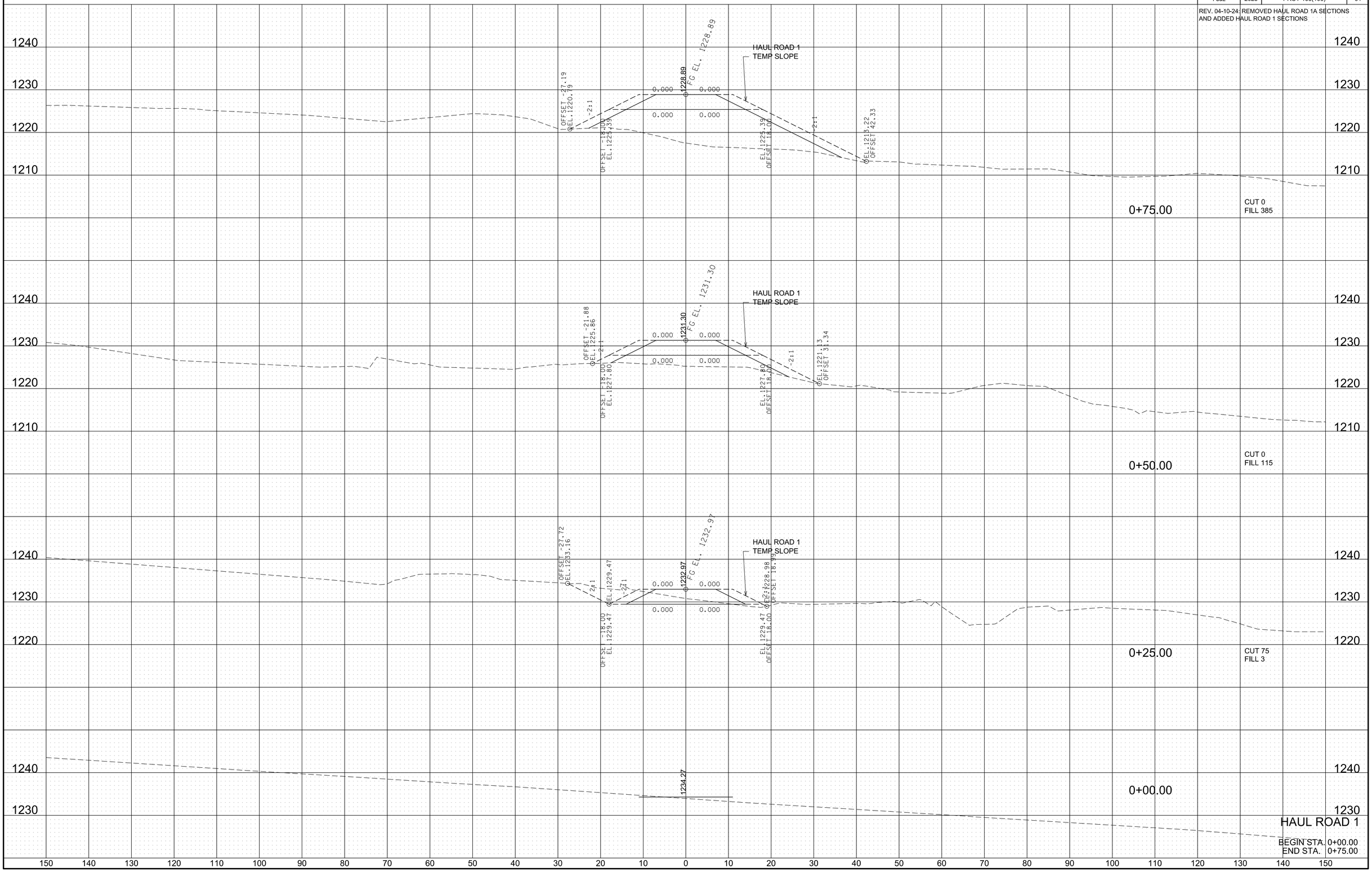
S.R. 108

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	91
PS&E	2025	PROT-108(106)	91

REV. 04-10-24: REMOVED HAUL ROAD 1A SECTIONS AND ADDED HAUL ROAD 1 SECTIONS



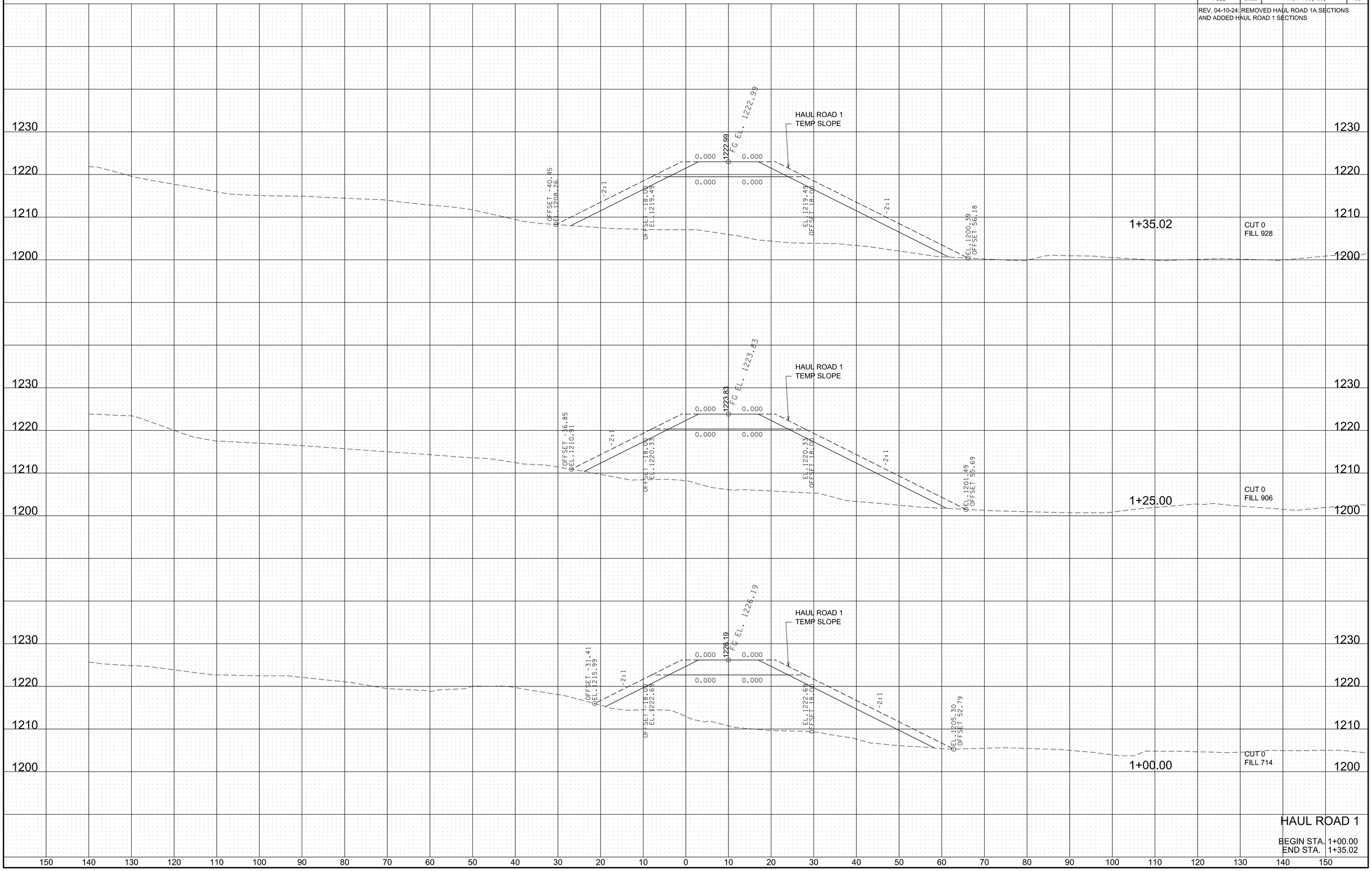
HAUL ROAD 1

BEGIN STA. 0+00.00
END STA. 0+75.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	92
PS&E	2025	PROT-108(106)	92

REV. 04-10-24: REMOVED HAUL ROAD 1A SECTIONS AND ADDED HAUL ROAD 1 SECTIONS



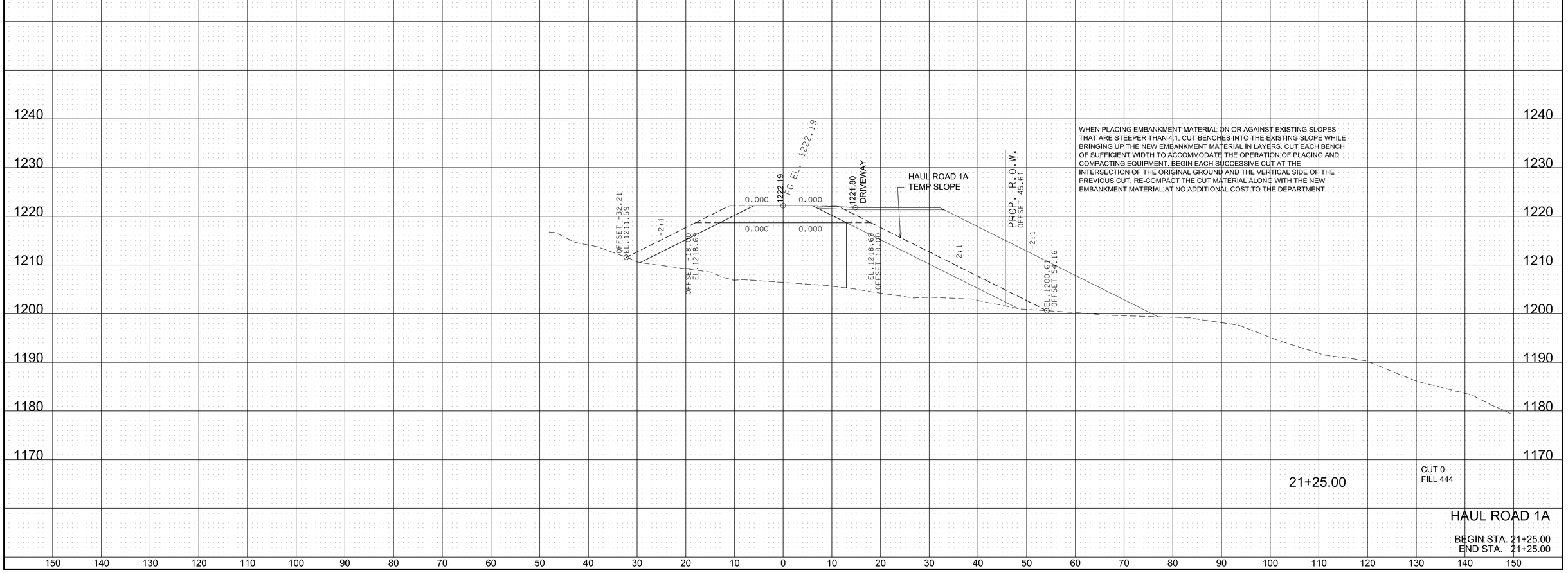
HAUL ROAD 1

BEGIN STA. 1+00.00
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	93
PIH	2025	58S108-S3-002	93

REV. 04-10-24: REVISED CROSS SECTION STA. 21+25.



WHEN PLACING EMBANKMENT MATERIAL ON OR AGAINST EXISTING SLOPES THAT ARE STEEPER THAN 4:1, CUT BENCHES INTO THE EXISTING SLOPE WHILE BRINGING UP THE NEW EMBANKMENT MATERIAL IN LAYERS. CUT EACH BENCH OF SUFFICIENT WIDTH TO ACCOMMODATE THE OPERATION OF PLACING AND COMPACTING EQUIPMENT. BEGIN EACH SUCCESSIVE CUT AT THE INTERSECTION OF THE ORIGINAL GROUND AND THE VERTICAL SIDE OF THE PREVIOUS CUT. RE-COMPACT THE CUT MATERIAL ALONG WITH THE NEW EMBANKMENT MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT.

21+25.00

CUT 0
FILL 444

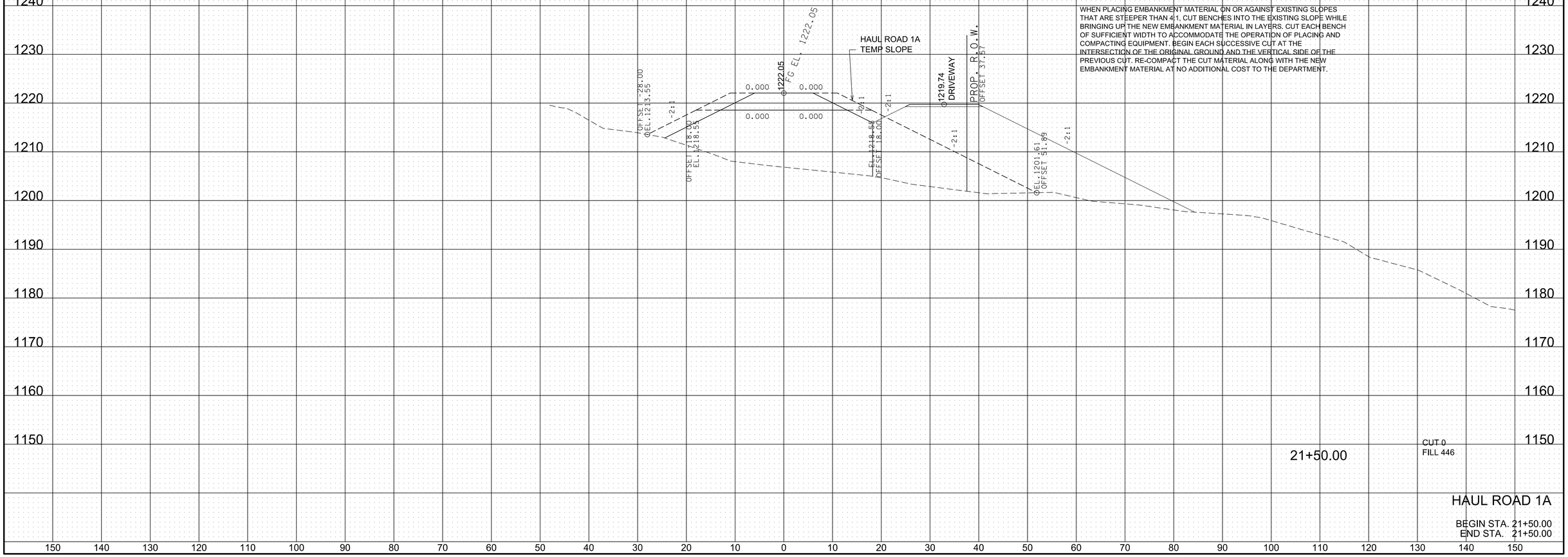
HAUL ROAD 1A

BEGIN STA. 21+25.00
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	94
PIH	2025	58S108-S3-002	94

REV. 04-10-24: REVISED CROSS SECTION STA. 21+50.



WHEN PLACING EMBANKMENT MATERIAL ON OR AGAINST EXISTING SLOPES THAT ARE STEEPER THAN 4:1, CUT BENCHES INTO THE EXISTING SLOPE WHILE BRINGING UP THE NEW EMBANKMENT MATERIAL IN LAYERS. CUT EACH BENCH OF SUFFICIENT WIDTH TO ACCOMMODATE THE OPERATION OF PLACING AND COMPACTING EQUIPMENT. BEGIN EACH SUCCESSIVE CUT AT THE INTERSECTION OF THE ORIGINAL GROUND AND THE VERTICAL SIDE OF THE PREVIOUS CUT. RE-COMPACT THE CUT MATERIAL ALONG WITH THE NEW EMBANKMENT MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT.

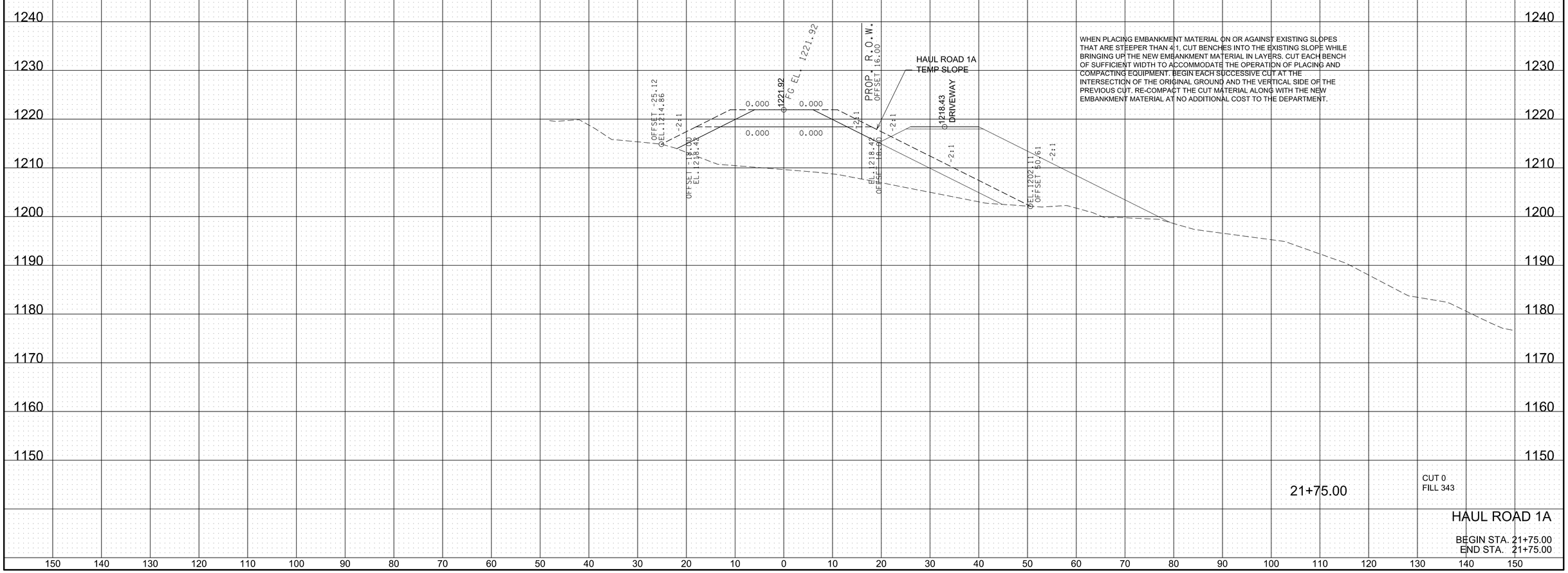
HAUL ROAD 1A

BEGIN STA. 21+50.00
END STA. 21+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	95
PIH	2025	58S108-S3-002	95

REV. 04-10-24: REVISED CROSS SECTION STA. 21+75.



WHEN PLACING EMBANKMENT MATERIAL ON OR AGAINST EXISTING SLOPES THAT ARE STEEPER THAN 4:1, CUT BENCHES INTO THE EXISTING SLOPE WHILE BRINGING UP THE NEW EMBANKMENT MATERIAL IN LAYERS. CUT EACH BENCH OF SUFFICIENT WIDTH TO ACCOMMODATE THE OPERATION OF PLACING AND COMPACTING EQUIPMENT. BEGIN EACH SUCCESSIVE CUT AT THE INTERSECTION OF THE ORIGINAL GROUND AND THE VERTICAL SIDE OF THE PREVIOUS CUT. RE-COMPACT THE CUT MATERIAL ALONG WITH THE NEW EMBANKMENT MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT.

21+75.00

CUT 0
FILL 343

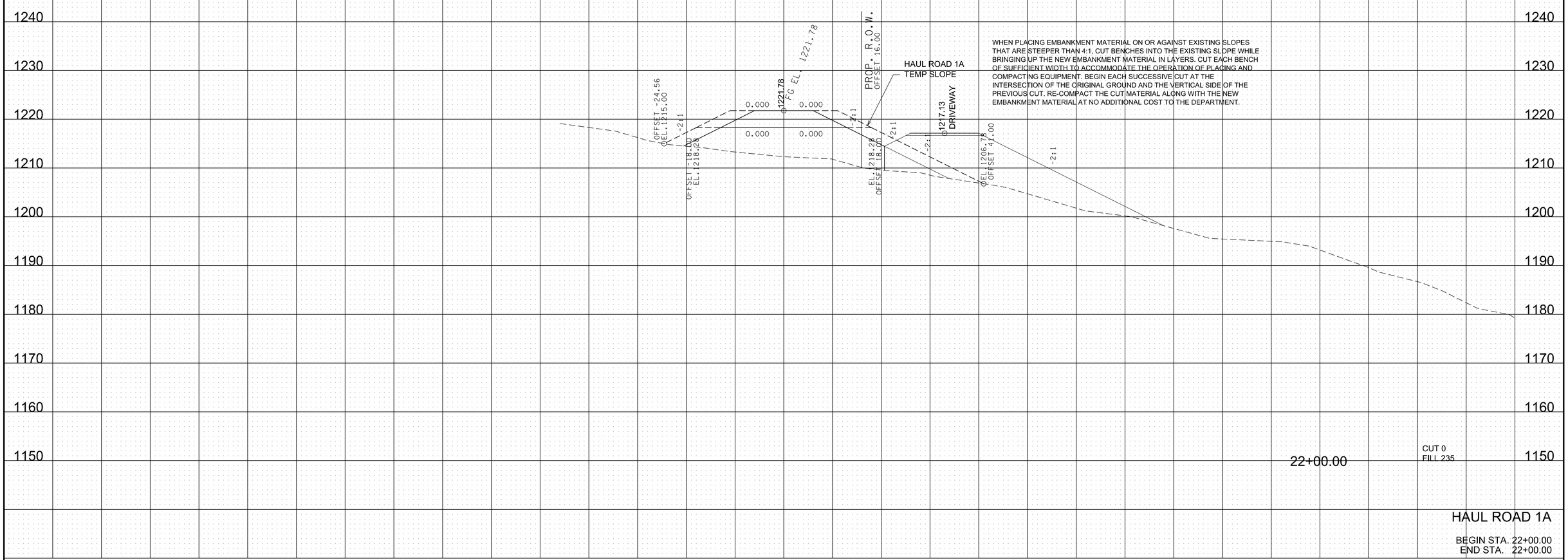
HAUL ROAD 1A

BEGIN STA. 21+75.00
END STA. 21+75.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	96
PIH	2025	58S108-S3-002	96

REV. 04-10-24 REVISED CROSS SECTION STA. 22+00.



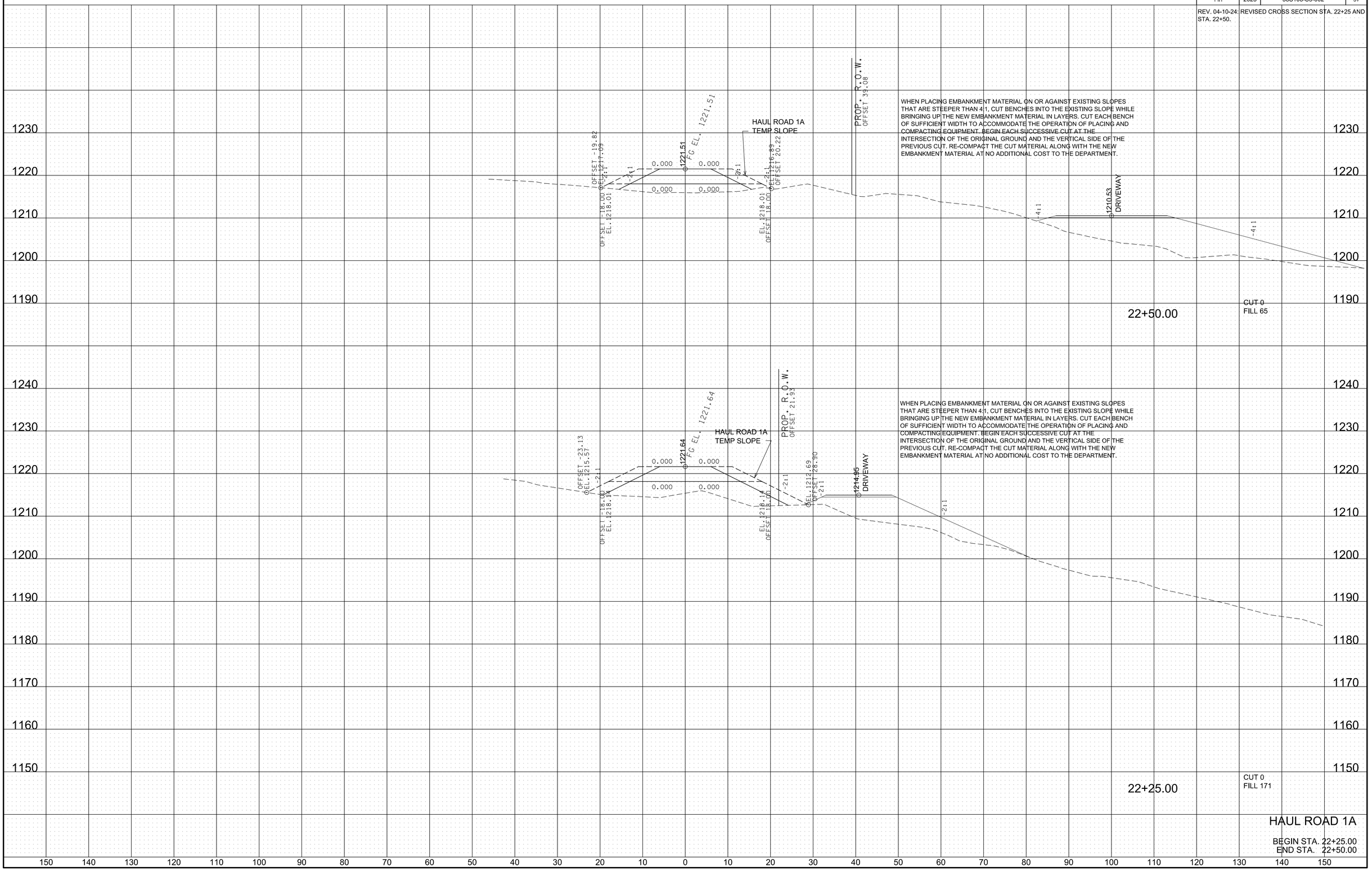
HAUL ROAD 1A

BEGIN STA. 22+00.00
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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	97
PIH	2025	58S108-S3-002	97

REV. 04-10-24: REVISED CROSS SECTION STA. 22+25 AND STA. 22+50.



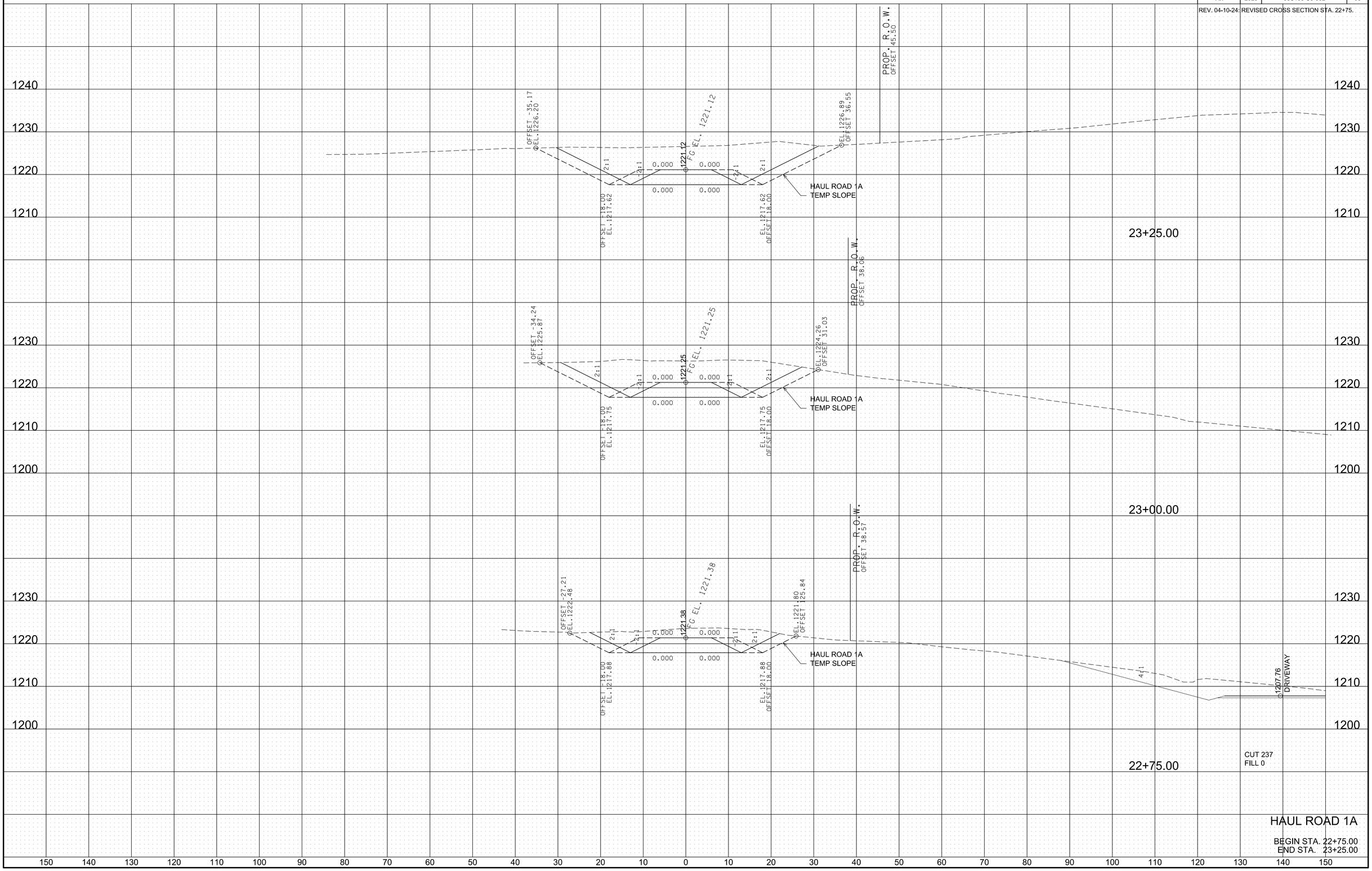
HAUL ROAD 1A

BEGIN STA. 22+25.00
END STA. 22+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	98
PIH	2025	58S108-S3-002	98

REV. 04-10-24: REVISED CROSS SECTION STA. 22+75.

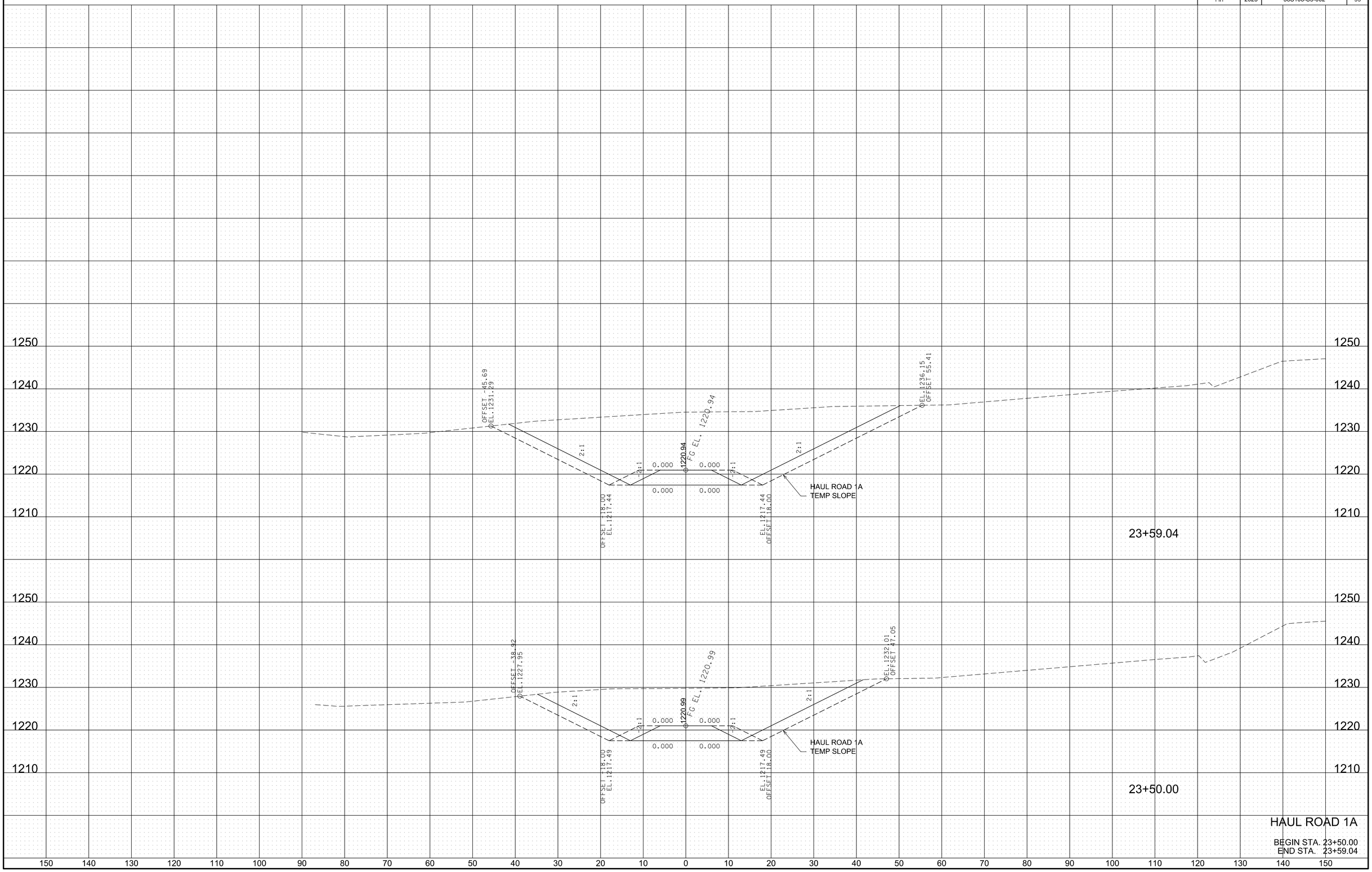


HAUL ROAD 1A

BEGIN STA. 22+75.00
END STA. 23+25.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
ROW	2022	58S108-S2-002	99
PIH	2025	58S108-S3-002	99



HAUL ROAD 1A

BEGIN STA. 23+50.00
END STA. 23+59.04

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	T1
PS&E	2025	PROT-108(106)	T1

PAVEMENT EDGE DROP-OFF TRAFFIC CONTROL NOTES

A. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES OR TRAFFIC LANE AND SHOULDER WHERE THE TRAFFIC LANE IS BEING USED BY TRAFFIC, CAUSED BY BASE, PAVING OR RESURFACING:

1. DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 0.75 INCH AND NOT EXCEEDING 1.75 INCHES:

   a. WARNING SIGNS, UNEVEN LANES (W8-11) AND/OR SHOULDER DROP-OFF WITH PLAQUE (W8-17 AND W8-17P), SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

   b. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES BEING UTILIZED BY TRAFFIC CAUSED BY ADDED PAVEMENT SHALL BE ELIMINATED WITHIN THREE WORKDAYS.

   c. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES BEING UTILIZED BY TRAFFIC CAUSED BY COLD PLANING SHALL BE ELIMINATED WITHIN THREE WORKDAYS.

   d. WHEN THE DIFFERENCE IN ELEVATION IS BETWEEN THE TRAFFIC LANE BEING UTILIZED BY TRAFFIC AND SHOULDER THE DIFFERENCE IN ELEVATION SHALL BE ELIMINATED WITHIN SEVEN WORKDAYS AFTER THE CONDITION IS CREATED.

2. DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 1.75 INCHES AND NOT EXCEEDING 6 INCHES, TRAFFIC IS NOT TO BE ALLOWED TO TRAVERSE THIS DIFFERENCE IN ELEVATION.

   a. SEPARATION SHALL BE ACCOMPLISHED BY DRUMS, BARRICADES OR OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:

      (1) WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.

      (2) WHERE POSTED SPEEDS ARE LESS THAN 50 MPH, THE MAXIMUM SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR OR 50 FEET, WHICHEVER SPACING IS GREATER.

   b. IF THE DIFFERENCE IN ELEVATION IS ELIMINATED OR DECREASED TO 2 INCHES OR LESS BY THE END OF EACH WORKDAY, CONES MAY BE USED DURING DAYLIGHT HOURS IN LIEU OF DRUMS, BARRICADES OR OTHER APPROVED PROTECTIVE DEVICES MENTIONED IN PARAGRAPH a, PROVIDED WARNING SIGNS ARE ERECTED. WARNING SIGNS (UNEVEN LANES AND/OR SHOULDER DROP-OFF) SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

   c. WHEN THE DIFFERENCE IN ELEVATION IS BETWEEN THE THROUGH TRAFFIC LANE AND THE SHOULDER AND THE ELEVATION DIFFERENCE IS LESS THAN 3.5 INCHES, THE CONTRACTOR MAY USE WARNING SIGNS AND/OR PROTECTIVE DEVICES AS APPLICABLE AND APPROVED BY THE ENGINEER. SEE PARAGRAPH a REGARDING USE OF DRUMS, BARRICADES OR OTHER APPROVED PROTECTIVE DEVICES. WARNING SIGNS (UNEVEN LANES AND/OR SHOULDER DROP-OFF) WILL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

   IN THESE SITUATIONS, THE CONTRACTOR SHALL LIMIT HIS OPERATIONS TO ONE WORK ZONE NOT EXCEEDING 2 MILES IN LENGTH UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER. ONCE THE CONTRACTOR BEGINS WORK IN A WORK ZONE, A CONTINUOUS OPERATION SHALL BE MAINTAINED UNTIL THE DIFFERENCE IN ELEVATION IS ELIMINATED. SIMULTANEOUS WORK ON SEPARATE ROADWAYS OF DIVIDED HIGHWAYS WILL BE CONSIDERED INDEPENDENTLY IN REGARD TO RESTRICTION OF WORK ZONE ACTIVITY.

3. DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 6 INCHES BUT NOT EXCEEDING 18 INCHES, THE CONTRACTOR, WITH THE ENGINEER'S APPROVAL, MAY UTILIZE ONE OF THE FOLLOWING:

   a. THE CONTRACTOR SHALL ACCOMPLISH SEPARATION BY DRUMS, BARRICADES OR OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:

      (1) WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.

      (2) WHERE POSTED SPEEDS ARE LESS THAN 50 MPH, THE MAXIMUM SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR OR 50 FEET, WHICHEVER SPACING IS GREATER.

   IN ORDER TO USE THIS METHOD, THE CONTRACTOR MUST REDUCE THE DIFFERENCE IN ELEVATION TO 6 INCHES OR LESS BY THE END OF THE WORKDAY THAT THE CONDITION IS CREATED.

   b. THE CONTRACTOR SHALL PROVIDE DRUMS, BARRICADES OR OTHER APPROVED SEPARATION DEVICES AS SPECIFIED IN PARAGRAPH a, AND CONSTRUCT A STONE WEDGE WITH A 4:1 SLOPE, OR FLATTER, TO ELIMINATE THE VERTICAL OFFSET IF THE LOWER ELEVATION IS AT OR BELOW SUBGRADE AT THE END OF EACH DAY.

   c. THE CONTRACTOR SHALL PROVIDE DRUMS, BARRICADES OR OTHER APPROVED SEPARATION DEVICES AS SPECIFIED IN PARAGRAPH a AND IF THE LOWER ELEVATION IS BASE STONE OR ASPHALT PAVEMENT, PLACEMENT OF SUBSEQUENT LAYERS OF PAVEMENT MUST BEGIN THE NEXT WORK DAY AND PROGRESS CONTINUOUSLY UNTIL THE DIFFERENCE IN ELEVATION IS ELIMINATED OR REDUCED TO SIX INCHES OR LESS.

   d. THE CONTRACTOR SHALL PROVIDE SEPARATION BY PORTABLE BARRIER RAIL.

   FOR PRECEDING CONDITIONS a, b, AND c, THE CONTRACTOR SHALL USE THE SHOULDER DROP-OFF WARNING SIGN WITH PLAQUE (W8-17 AND W8-17P). IT SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN THE SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. IN THESE SITUATIONS, THE CONTRACTOR SHALL LIMIT HIS OPERATIONS TO ONE WORK ZONE NOT EXCEEDING 1 MILE IN LENGTH UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER. ONCE THE CONTRACTOR BEGINS WORK IN A WORK ZONE, A CONTINUOUS OPERATION SHALL BE MAINTAINED UNTIL THE DIFFERENCE IS ELIMINATED. SIMULTANEOUS WORK ON SEPARATE ROADWAYS OF DIVIDED HIGHWAYS WILL BE CONSIDERED INDEPENDENTLY IN REGARD TO RESTRICTION OF WORK ZONE ACTIVITY.

4. FOR DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 18 INCHES.

   SEPARATION WILL BE PROVIDED BY USE OF PORTABLE BARRIER RAIL.

   IN THIS SITUATION THE CONTRACTOR SHALL LIMIT HIS OPERATIONS TO ONE WORK ZONE NOT EXCEEDING 1 MILE IN LENGTH UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER. ONCE THE CONTRACTOR BEGINS WORK IN A WORK ZONE, A CONTINUOUS OPERATION SHALL BE MAINTAINED UNTIL THE DIFFERENCE IN ELEVATION IS ELIMINATED. SIMULTANEOUS WORK ON SEPARATE ROADWAYS OF DIVIDED HIGHWAYS WILL BE CONSIDERED INDEPENDENTLY IN REGARD TO RESTRICTION OF WORK ZONE ACTIVITY.

B. IF THE DIFFERENCE IN ELEVATION IS WITHIN 30 FEET OF THE NEAREST TRAFFIC LANE BEING USED BY TRAFFIC CAUSED BY GRADING, EXCAVATION FOR UTILITIES, DRAINAGE STRUCTURES, UNDERCUTTING, ETC.:

1. IF THE DIFFERENCE IN ELEVATION IS WITHIN 8 FEET OF THE NEAREST TRAFFIC LANE WITH DIFFERENCE IN ELEVATION GREATER THAN 3/4 INCH AND NOT EXCEEDING 2 INCHES.

   a. WARNING SIGNS (UNEVEN LANES AND/OR SHOULDER DROP-OFF) SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

2. IF THE DIFFERENCE IN ELEVATION IS WITHIN 8 FEET OF THE NEAREST TRAFFIC LANE WITH DIFFERENCE IN ELEVATION GREATER THAN 2 INCHES AND NOT EXCEEDING 6 INCHES:

   a. SEPARATION SHALL BE ACCOMPLISHED BY DRUMS, BARRICADES OR OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:

      (1) WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.

      (2) WHERE POSTED SPEEDS ARE LESS THAN 50 MPH THE MAXIMUM SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR OR 50 FEET, WHICHEVER SPACING IS GREATER.

3. IF THE DIFFERENCE IN ELEVATION IS WITHIN 8 FEET OF THE NEAREST TRAFFIC LANE WITH DIFFERENCE IN ELEVATION GREATER THAN 6 INCHES:

   a. SEPARATION SHALL BE ACCOMPLISHED BY DRUMS, BARRICADES OR OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:

      (1) WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.

      (2) WHERE POSTED SPEEDS ARE LESS THAN 50 MPH THE MAXIMUM SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR OR 50 FEET, WHICHEVER SPACING IS GREATER.

   b. ELIMINATE VERTICAL OFFSET BY CONSTRUCTING A STONE WEDGE OR GRADING TO A 4:1 SLOPE, OR FLATTER, OR USE PORTABLE BARRIER RAIL.

   THE CONTRACTOR SHALL SCHEDULE THE WORK SO AS TO MINIMIZE THE TIME TRAFFIC IS EXPOSED TO AN ELEVATION DIFFERENCE. ONCE THE CONTRACTOR BEGINS AN ACTIVITY THAT CREATES AN ELEVATION DIFFERENCE WITHIN 8 FEET OF A TRAFFIC LANE, THE ACTIVITY SHALL BE PURSUED AS A CONTINUOUS OPERATION UNTIL THE ELEVATION DIFFERENCE IS ELIMINATED.

C. IF THE DIFFERENCE IN ELEVATION IS FARTHER THAN 8 FEET FROM THE NEAREST TRAFFIC LANE BUT NOT MORE THAN 30 FEET FROM THE NEAREST TRAFFIC LANE:

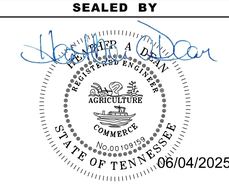
SEPARATION SHALL BE ACCOMPLISHED BY DRUMS, BARRICADES OR OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:

1. WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.

2. WHERE POSTED SPEEDS ARE LESS THAN 50 MPH, THE MAXIMUM SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR OR 50 FEET, WHICHEVER SPACING IS GREATER.

THE CONTRACTOR SHALL SCHEDULE THE WORK SO AS TO MINIMIZE THE TIME TRAFFIC IS EXPOSED TO AN ELEVATION DIFFERENCE. ONCE THE CONTRACTOR BEGINS AN ACTIVITY THAT CREATES AN ELEVATION DIFFERENCE, THE ACTIVITY SHALL BE PURSUED AS A CONTINUOUS OPERATION UNTIL THE ELEVATION DIFFERENCE IS ELIMINATED.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE
DROP-OFF NOTES
FOR
TRAFFIC CONTROL

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	T2
PS&E	2025	PROT-108(106)	T2

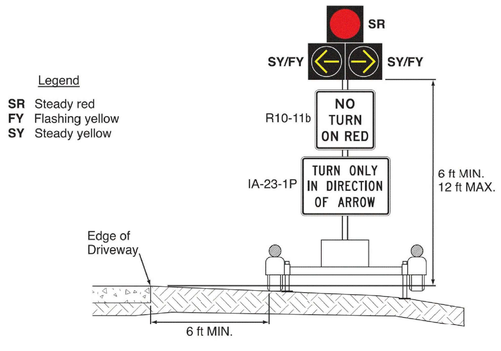
SR-108 TRAFFIC CONTROL NARRATIVE

1. TRAFFIC MAINTENANCE OVERVIEW
   A. THE FOLLOWING OUTLINES THE ANTICIPATED PROGRESSION OF PROVIDING CONTINUOUS TRAFFIC FLOW. SOME INTERRUPTION OF THE TRAFFIC IS EXPECTED FOR MOVING MATERIALS, EQUIPMENT, AND LABORERS AND FOR ACCIDENT REMEDIATION. WHERE LANE SHIFTS ARE KNOWN IN ADVANCE, THE PUBLIC SHOULD BE MADE AWARE OF SUCH.
   B. THE FOLLOWING DESCRIPTION OF ANTICIPATED SEQUENCING IS FOR PLANNING AND CALCULATION OF THE MATERIALS NEEDED.
   C. ACCESS TO BUSINESSES AND RESIDENCES SHALL BE MAINTAINED AT ALL TIMES.

2. PHASE 1
   A. CONTRACTOR SHALL MAINTAIN ONE 12-FOOT LANE WITH 2-FOOT SHOULDERS OF TRAFFIC ON EXISTING SR-108 SOUTHBOUND PAVEMENT USING TEMPORARY TRAFFIC SIGNAL PER TDOT STANDARD DRAWING NO. T-WZ-32, T-WZ-34, AND T-WZ-35.
   B. CONTRACTOR SHALL INSTALL CONSTRUCTION SIGNING AT THE BEGIN AND END OF PROJECT. THESE SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.
   C. THE CONTRACTOR SHALL CONSTRUCT THE HATCHED AREAS AS SHOWN IN THE PLANS INCLUDING:
      I. CONSTRUCT DRIVEWAY FOR TRACT 2.
      II. CONSTRUCT MAINTENANCE/HAUL ROADS.
      III. CONSTRUCT RETAINING WALL.
      IV. CONSTRUCT NORTHBOUND LANE AND SHOULDER.
      V. CONSTRUCT DRAINAGE STRUCTURES. (SEE EPSC PLANS FOR ADDITIONAL DETAILS)
      VI. CONSTRUCT NATURAL CHANNEL STREAM DESIGN.

3. PHASE 2
   A. CONTRACTOR SHALL MAINTAIN ONE 12-FOOT LANE WITH 2-FOOT SHOULDERS OF TRAFFIC ON SR-108 NORTHBOUND PAVEMENT USING TEMPORARY TRAFFIC SIGNAL PER TDOT STANDARD DRAWING NO. T-WZ-32, T-WZ-34, AND T-WZ-35.
   B. THE CONTRACTOR SHALL CONSTRUCT THE HATCHED AREAS AS SHOWN IN THE PLANS INCLUDING:
      I. CONSTRUCT DRIVEWAYS FOR TRACTS 1 AND 6.
      II. CONSTRUCT SOUTHBOUND LANE AND SHOULDER AS REQUIRED.
      III. CONSTRUCT GUARDRAIL AND BARRIER REPAIR.

Residential Driveway Temporary Signal



TRAFFIC CONTROL QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY	REMARKS
	712-01	TRAFFIC CONTROL	LS	1	
	712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	3915	
	712-02.60	TEMPORARY CRASH CUSHION (MASH TL-3)	EACH	12	
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	70	
	712-04.50	BARRIER RAIL DELINEATOR	EACH	196	
	712-05.01	WARNING LIGHTS (TYPE A)	EACH	70	
	712-06	SIGNS (CONSTRUCTION)	S.F.	433	
	712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)	L.F.	24	
	712-09.08	REMOVABLE PAVEMENT MARKING (6" LINE)	L.F.	11210	
	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2	
	716-05.20	PAINTED PAVEMENT MARKING (6"LINE)	L.M.	2	
(1)	730-40	TEMPORARY TRAFFIC SIGNAL SYSTEM	EACH	1	

(1) INCLUDES 5 RESIDENTAL DRIVEWAY TEMPORARY SIGNALS.
DEVICES SHALL MEET THE FHWA ITERMIN APPROVAL GUIDANCE (1A-23).

712-06 SIGNS (CONSTRUCTION)

M.U.T.C.D. NO.	DESCRIPTION	QUANTITY	SIZE	TOTAL (S.F.)
G20-2	END ROADWORK	2	48" X 24"	16.00
R10-6	STOP HERE ON RED	2	24" X 36"	12.00
R10-6(MOD)	STAY IN LANE TO EXTEND GREEN	2	30" X 42"	17.50
SPECIAL	MAXIMUM __ MINUTE RED	2	42" X 48"	28.00
SPEC_2	MAINTAIN __ MPH SPEED	10	48" X 36"	120.00
W1-4R	REVERSE CURVE	2	48" X 48"	32.00
W3-3	SIGNAL AHEAD	2	48" X 48"	32.00
W3-4	BE PREPARED TO STOP	3	48" X 48"	48.00
W8-17	SHOULDER DROP-OFF (SYMBOL)	2	48" X 48"	32.00
W8-17P	SHOULDER DROP-OFF (PLAQUE)	2	36" X 30"	15.00
W20-1	ROAD WORK 1 MILE	1	48" X 48"	16.00
W20-1	ROAD WORK 1/2 MILE	2	48" X 48"	32.00
W20-4	ONE LANE ROAD 1500 FT	2	48" X 48"	32.00
			TOTAL	432.50

TRAFFIC CONTROL LEGEND

SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
RSSWL	REMOVABLE SINGLE SOLID WHITE LINE
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL (WITH BARRIER RAIL DELINEATORS)
	TEMPORARY ATTENUATOR
	TEMPORARY TRAFFIC SIGNAL

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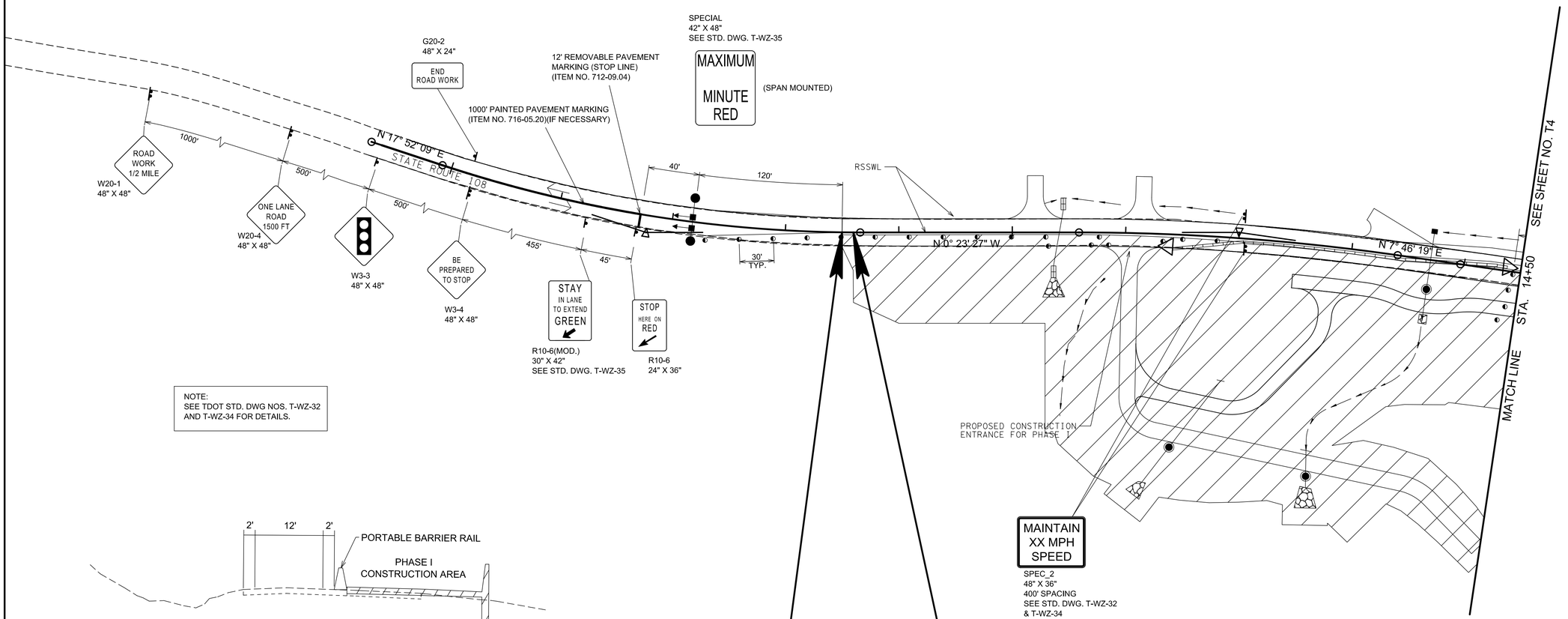


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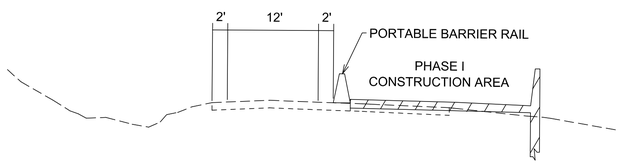
TRAFFIC CONTROL QUANTITIES AND LEGEND

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	T3
PS&E	2025	PROT-108(106)	T3



NOTE:
SEE TDOT STD. DWG NOS. T-WZ-32
AND T-WZ-34 FOR DETAILS.



TYPICAL SECTION

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JENNIFER A. DEAN
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No.0010126
STATE OF TENNESSEE
06/04/2025

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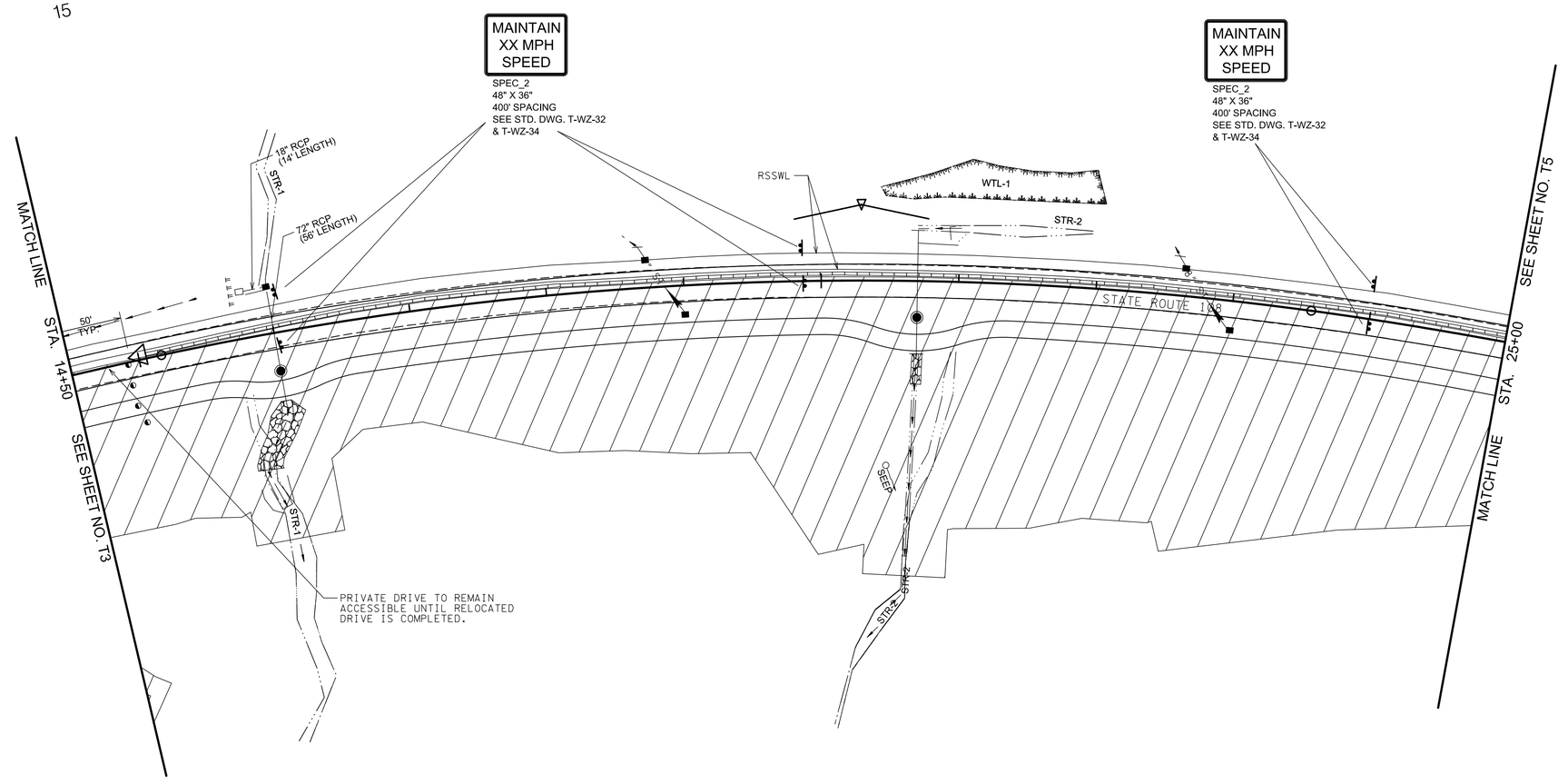
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DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PHASE I

P.O.B. TO STA. 14+50
SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	T4
PS&E	2025	PROT-108(106)	T4



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REGISTERED ENGINEER
LICENSED TO PRACTICE
AGRICULTURE
COMMERCE
No.001091258
STATE OF TENNESSEE

06/04/2025

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PHASE I

STA. 14+50 TO STA. 25+00
SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	T5
PS&E	2025	PROT-108(106)	T5

END PROJ. NO. 58S108-S2-002 R.O.W.
STA. 29+15.00
N 327716.6809
E 2112569.5153

58S108-F3-002
END PROJ. NO. PROT-108(106) CONST.
STA. 32+00.00
N 327964.2536
E 2112710.3075

N

5

30

35

MATCH LINE
STA. 25+00
SEE SHEET NO. T4

SPEC_2
48" X 36"
400' SPACING
SEE STD. DWG. T-WZ-32
& T-WZ-34

MAINTAIN
XX MPH
SPEED

STR-3

W1-4R
48" X 48"

RSSWL

N 33° 16' 47" E

N 33° 08' 10" E

PT 63+23.64

STR-3
POT 64+53.96

STR-3
POT 64+85.32

R10-6(MOD.)
30" X 42"
SEE STD. DWG. T-WZ-35

R10-6
24" X 36"
STOP
HERE ON
RED

STAY
IN LANE
TO EXTEND
GREEN

W3-4
48" X 48"
BE
PREPARED
TO STOP

W3-3
48" X 48"

W20-4
48" X 48"
ONE LANE
ROAD
1500 FT

W20-1
48" X 48"
ROAD
WORK
1/2 MILE

W20-1
48" X 48"
ROAD
WORK
1 MILE

45'
500'
500'
1140'
2640'

STATE ROUTE 108
N 17° 28' 21" E

120'
40'
500'

MAXIMUM
MINUTE
RED

(SPAN MOUNTED)

SPECIAL
42" X 48"
SEE STD. DWG. T-WZ-35

12' REMOVABLE PAVEMENT MARKING (STOP LINE)
(ITEM NO. 712-09.04)

END
ROAD WORK

G20-2
48" X 24"

1000' PAINTED PAVEMENT MARKING
(ITEM NO. 716-05.20)(IF NECESSARY)

W3-4
48" X 48"
BE
PREPARED
TO STOP

LOCATION OF SIGN TO BE
DETERMINED IN FIELD AS
DIRECTED BY ENGINEER

SEALED BY

JENNIFER A. DEAN
REGISTERED ENGINEER
No.001109159
STATE OF TENNESSEE
06/04/2025

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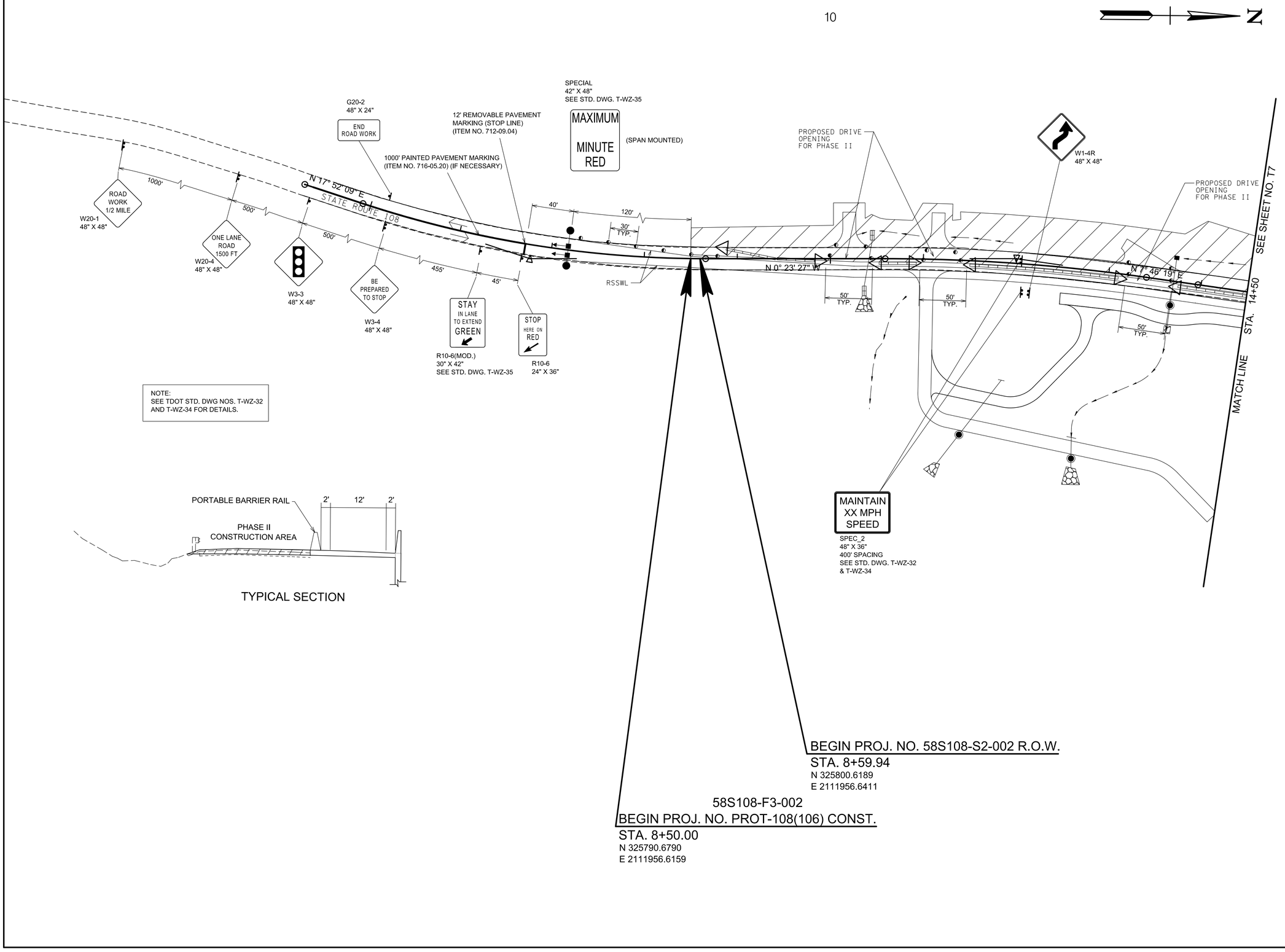
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TRAFFIC CONTROL
PHASE I

STA. 25+00 TO E.O.P.
SCALE: 1"= 50'

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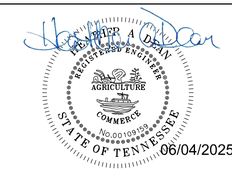
TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	T6
PS&E	2025	PROT-108(106)	T6



NOTE:
SEE TDOT STD. DWG NOS. T-WZ-32 AND T-WZ-34 FOR DETAILS.

TYPICAL SECTION

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DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PHASE II

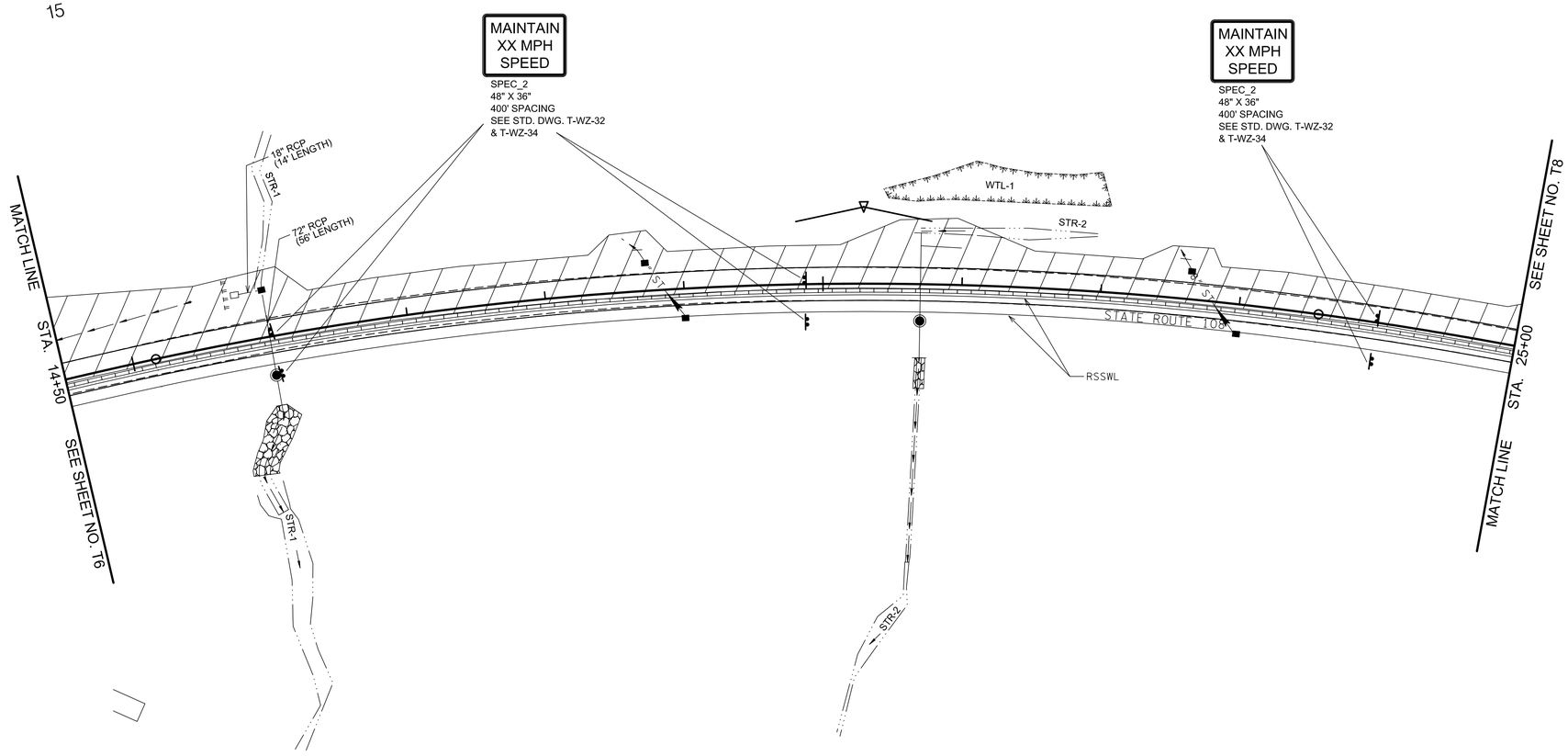
P.O.B. TO STA. 14+50
SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	T7
PS&E	2025	PROT-108(106)	T7

20

15



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JENNIFER A. DEAN
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No.001091258
STATE OF TENNESSEE
06/04/2025

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PHASE II

STA. 14+50 TO STA. 25+00
SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2024	PROT-108(106)	T8
PS&E	2025	PROT-108(106)	T8

END PROJ. NO. 58S108-S2-002 R.O.W.
STA. 29+15.00
N 327716.6809
E 2112569.5153

58S108-F3-002
END PROJ. NO. PROT-108(106) CONST.
STA. 32+00.00
N 327964.2536
E 2112710.3075

25 30 35

MATCH LINE STA. 25+00

SEE SHEET NO. T7

STR-3

STR-3

SPEC_2
48" X 36"
400' SPACING
SEE STD. DWG. T-WZ-32
& T-WZ-34

MAINTAIN XX MPH SPEED

N 33° 08' 10" E

RSSWL

30' TYP.

STATE ROUTE 108

N 17° 28' 21" E

R10-6
24" X 36"
STOP HERE ON RED

R10-6(MOD.)
30" X 42"
SEE STD. DWG. T-WZ-35
STAY IN LANE TO EXTEND GREEN

W3-4
48" X 48"
BE PREPARED TO STOP

W3-3
48" X 48"

W20-4
48" X 48"
ONE LANE ROAD 1500 FT

W20-1
48" X 48"
ROAD WORK 1/2 MILE

W20-1
48" X 48"
ROAD WORK 1 MILE

45'

500'

500'

1140'

2640'

120'

40'

500'

W3-4
48" X 48"
BE PREPARED TO STOP

LOCATION OF SIGN TO BE DETERMINED IN FIELD AS DIRECTED BY ENGINEER

END ROAD WORK
G20-2
48" X 24"

1000' PAINTED PAVEMENT MARKING
(ITEM NO. 716-05.20) (IF NECESSARY)

(SPAN MOUNTED)
MAXIMUM
MINUTE
RED
SPECIAL
42" X 48"
SEE STD. DWG. T-WZ-35

12' REMOVABLE PAVEMENT MARKING (STOP LINE)
(ITEM NO. 712-09.04)

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JENNIFER A. DEAN
REGISTERED ENGINEER
STATE OF TENNESSEE
DEPARTMENT OF AGRICULTURE
DEPARTMENT OF COMMERCE
No.0010975
06/04/2025

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TRAFFIC CONTROL PHASE II

STA. 25+00 TO E.O.P.
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401 CHURCH STREET
SUITE 1600
NASHVILLE, TN
CHRISTOPHER M. KELLEY, P.E. NO. 118392

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.
SIGNATURE SHEET	RETAINWALL-SIGN1
ESTIMATED QUANTITIES	U-50-292 (R-1)
GENERAL NOTES	U-50-293
GENERAL NOTES	U-50-294
LAYOUT	U-50-295
LAYOUT	U-50-296
LAYOUT	U-50-297
STAGED CONSTRUCTION DETAILS	U-50-298
PROFILE	U-50-299
PROFILE	U-50-300
PROFILE	U-50-301
TYPICAL REINFORCEMENT ZONE 1A & 1B	U-50-302
TYPICAL REINFORCEMENT ZONE 1C	U-50-303
TYPICAL REINFORCEMENT ZONE 1D & 1E	U-50-304
TYPICAL REINFORCEMENT ZONE 12	U-50-305
TYPICAL REINFORCEMENT ZONE 2A	U-50-306
TYPICAL REINFORCEMENT ZONE 23	U-50-307
TYPICAL REINFORCEMENT ZONE 3A	U-50-308
TYPICAL REINFORCEMENT ZONE 3B	U-50-309
PILE SCHEDULE	U-50-310
ANCHOR SCHEDULE	U-50-311
ANCHOR SCHEDULE	U-50-312
ANCHOR SCHEDULE	U-50-313
ANCHOR SCHEDULE	U-50-314
ANCHOR SCHEDULE	U-50-315
DRAINAGE STRUCTURE DETAILS	U-50-316
DRAINAGE STRUCTURE DETAILS	U-50-317
ANCHORED SOLDIER PILE WALL DETAILS	U-50-318
ANCHOR DETAILS	U-50-319
ANCHOR TESTING DETAILS	U-50-320
ANCHOR TESTING DETAILS	U-50-321
STEEL DETAILS	U-50-322
MOMENT SLAB DETAILS	U-50-323
BILL OF STEEL	U-50-324

YEAR	PROJECT NO.	SHEET NO.
2025	PROT-108(106)	RETAINWALL-SIGN1

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

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SHEET NAME	SHEET NO.
SIGNATURE SHEET	RETAINWALL-SIGN2
ESTIMATED QUANTITIES	U-50-292 (R-1)

YEAR	PROJECT NO.	SHEET NO.
2025	PROT-108(106)	RETAINWALL-SIGN2

REV. 06-27-25 ADDED SHEET

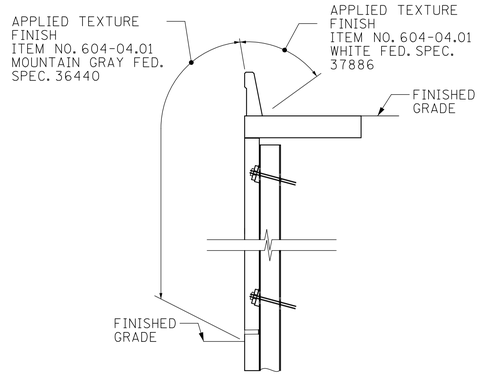
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SIGNATURE SHEET

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ESTIMATED QUANTITIES

FOOTNOTES	ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
(1)	203-40.14	TIE-BACK ANCHORS (5-STRAND UNCLASSIFIED)	L.F.	31191
(1)	203-40.15	TIE-BACK ANCHORS (6-STRAND UNCLASSIFIED)	L.F.	9507
	204-06.02	FLOWABLE FILL (EXCAVATABLE)	C.Y.	1235
(2)	204-14	CORE DRILLING FOR PILES(ROCK)	L.F.	6988
(2)	204-15	CORE DRILLING FOR PILES(SOIL)	L.F.	3494
(3)	602-02.01	STRUCTURAL STEEL (SOLDIER PILES)	LB.	1351214
(4)	602-02.02	STRUCTURAL STEEL (SOLDIER PILE SPLICES)	LB.	75290
(5)	602-02.10	STRUCTURAL STEEL (INSTALLATION OF SOLDIER PILES)	LS	1
(6)	604-02.03	EPOXY COATED REINFORCING STEEL	LB.	49780
(7)	604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	304670
	604-03.74	CLASS X CONCRETE	C.Y.	1939
	604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	5179
(8)	604-07.28	RETAINING WALL EXCAVATION	C.Y.	3142
(9)	604-09.10	CLASS A CONCRETE (MOMENT SLAB)	C.Y.	417
(10)(15)	604-15.01	PORTLAND CEMENT GROUT	C.Y.	619
	620-05.01	CONC PARAPET SINGLE SLOPE (STD-1-1SS)	L.F.	1510
(11)	621-05.02	TEMPORARY SHORING	LS	1
(12)	625-02.41	DRILLED SHAFT (SCC) CONCRETE	C.Y.	1516
(13)	710-09.02	6" PIPE UNDERDRAIN	L.F.	227
(14)	930-08.28	LOADING TEST (GROUTED ANCHORS)	EACH	29
	930-08.29	PROOF LOADING TEST (GROUTED ANCHOR)	EACH	533
	930-08.30	EXTENDED CREEP LOADING TEST (GROUTED ANCHOR)	EACH	3



APPLIED FINISH SKETCH

FOOTNOTES:

(1) ESTIMATED QUANTITY IS THE SUM OF MINIMUM UNBONDED AND BONDED LENGTHS INCREASED BY 10% TO ACCOUNT FOR VARIATIONS IN DEPTH TO ROCK. INCLUDES LABOR AND MATERIAL FOR ANCHOR DRILLING, ANCHOR STRAND, ANCHOR HEAD, ANCHOR BEARING PLATE, TRUMPET PIPE, WEDGE PLATES, SUPPORT PLATES, POST-GROUTING, AND ANY OTHER MATERIALS NECESSARY FOR INSTALLATION OF THE ANCHOR SYSTEM EXCEPT PRIMARY GROUT. UNCLASSIFIED SHALL BE DEFINED AS ALL MATERIALS ENCOUNTERED DURING INSTALLATION. QUANTITIES WILL NOT BE PAID FOR ANCHORS WHICH DO NOT PASS THE PERFORMANCE, PROOF, OR CREEP TEST.

(2) INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO DRILL THE SOLDIER PILE FOUNDATIONS AND PROVIDE TEMPORARY SUPPORT FOR THE EXCAVATION PRIOR TO THE INSTALLATION OF THE SOLDIER PILE AND FOUNDATION CONCRETE, EXCEPT THAT IT DOES NOT INCLUDE COST OF EXCAVATABLE FLOWABLE FILL. ASSUME DRILLING THROUGH IN-PLACE ROCK AND BOULDERS REQUIRED FOR INSTALLATION.

(3) INCLUDES COST OF MATERIAL, FABRICATION AND GALVANIZING OF STRUCTURAL STEEL FOR THE SOLDIER PILES AND SOLDIER PILE EXTENSIONS IF REQUIRED, INCLUDING ROLLED SHAPES, TIE PLATES, AND HEADED STUDS. PAYMENT WILL BE BASED ON INSTALLED LENGTH OF PILE. DOES NOT INCLUDE COST OF SPLICE PLATES AND BOLTS. INCLUDES A CONTINGENCY EQUAL TO 5 FEET OF PILE EXTENSION ADDED TO 25% OF ALL PILES.

(4) INCLUDES COST OF MATERIAL, FABRICATION, GALVANIZING, AND INSTALLATION OF STRUCTURAL STEEL FOR THE SOLDIER PILE SPLICES, INCLUDING PLATES AND BOLTS. SPLICES ARE ASSUMED TO BE NEEDED AT 114 LOCATIONS. PAYMENT WILL ONLY BE MADE FOR FIELD SPLICES THAT ARE APPROVED BY THE OWNER, AND A MAXIMUM OF ONE FIELD SPLICE PER EACH PILE WILL BE COUNTED FOR PAYMENT. QUANTITY MAY BE INCREASED, DECREASED, OR ELIMINATED DEPENDING ON CONDITIONS ENCOUNTERED IN FIELD. DOES NOT INCLUDE COST OF PILES OR PILE EXTENSIONS.

(5) INCLUDES ALL LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY FOR THE INSTALLATION OF SOLDIER PILES AS DETAILED IN THE CONTRACT PLANS. THIS DOES NOT INCLUDE THE COST OF THE WORK ITEMS AND MATERIALS INCLUDED IN ITEM 602-02.01, 204-14, OR 204-15.

(6) INCLUDES REBAR REQUIRED FOR MOMENT SLAB. INCLUDES ALL LABOR AND MATERIALS REQUIRED FOR INSTALLATION. ALL REBAR REQUIRED FOR THIS ITEM SHALL BE ASTM A615 GRADE 60.

(7) INCLUDES REBAR REQUIRED FOR RETAINING WALL FACING AND DRAINAGE STRUCTURES. INCLUDES ALL LABOR AND MATERIALS REQUIRED FOR INSTALLATION. ALL REBAR REQUIRED FOR THIS ITEM SHALL BE ASTM A615 GRADE 60.

(8) INCLUDES VOLUME OF SOIL TO BE EXCAVATED FOR INSTALLATION OF WALL FACING, I.E. FROM FRONT FACE OF SLAB TO BACK FACE OF TIMBER LAGGING, AND FOR MOMENT SLAB. DOES NOT INCLUDE ANY EXCAVATION IN FRONT OF WALL FACE.

(9) INCLUDES ALL LABOR AND MATERIALS NECESSARY FOR INSTALLATION OF CONCRETE REQUIRED FOR CONSTRUCTION OF MOMENT SLAB.

(10) INCLUDES COST ASSOCIATED WITH MIXING, TESTING, AND PLACING GROUT REQUIRED FOR CONSTRUCTION OF THE ANCHORS. ESTIMATED QUANTITY IS 300% OF THE CALCULATED NEAT LINE, WHICH IS BASED ON A 6" DIAMETER ANCHOR AND MINIMUM ANCHOR LENGTH STATED IN PLANS. ONCE THE INSTALLATION OF ANCHORS BEGINS, THE CONTRACTOR SHALL PROVIDE WEEKLY STATUS REPORTS TO TDOT REGARDING USAGE FOR THIS ITEM. THIS REPORT SHALL INCLUDE A LISTING OF THE ANCHOR INSTALLED, THE TOTAL GROUT INSTALLED TO DATE, THE GROUT USED PER ANCHOR, AND THE PERCENTAGE OF GROUT USED AS COMPARED TO THE NEAT LINE. PAYMENT WILL BE BASED ON ACTUAL QUANTITY INSTALLED. METHOD OF VERIFICATION FOR GROUT QUANTITY SHALL BE AGREED TO BY THE CONTRACTOR AND TDOT AT THE PRE-CON. QUANTITIES WILL NOT BE PAID FOR ANCHORS WHICH DO NOT PASS THE PERFORMANCE, PROOF, OR CREEP TEST.

(11) INCLUDES ALL TIMBER LAGGING, ATTACHMENT CLIPS, CONTINUOUS VERTICAL DRAIN, DRAINAGE GATE, PVC DRAIN PIPE, AND ANY OTHER MATERIALS NECESSARY FOR INSTALLATION OF THE TIMBER LAGGING. ALSO INCLUDES COST OF STONE FILL PLACED IN ANNULAR SPACE BETWEEN LAGGING AND SOIL FACE.

(12) INCLUDES ALL CONCRETE AND COST OF INSTALLATION OF CONCRETE FOR THE SOLDIER PILE FOUNDATIONS BELOW THE BOTTOM OF WALL ELEVATION IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. FOOTING CONCRETE SHALL BE CLASS "SCC" AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI. DOES NOT INCLUDE COST OF EXCAVATABLE FLOWABLE FILL.

(13) INCLUDES COST OF PVC PIPES, FITTINGS, FORMED EXCAVATABLE FLOWABLE FILL PIPE ENCASEMENT, AND ANY OTHER INCIDENTALS ASSOCIATED WITH THE CONSTRUCTION OF THE SUPPLEMENTAL WALL DRAINS.

(14) INCLUDES ALL LABOR AND MATERIAL REQUIRED FOR ANCHOR PERFORMANCE TESTING IN ACCORDANCE WITH PROVISIONS OF THESE PLANS.

(15) COMPRESSIVE STRENGTH OF GROUT CYLINDERS WILL BE FOR INFORMATION ONLY TO DETERMINE IF ADDITIONAL PERFORMANCE TESTING IS REQUIRED. THE COST OF ANY ADDITIONAL TESTING REQUIRED BASED ON INSUFICIENT COMPRESSIVE STRENGTH WILL NOT BE PAID.

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CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-1

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	06/27/25	CMK	UPDATED DRILLED SHAFT CONC. ITEM



06/27/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ESTIMATED QUANTITIES
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

6/27/2025 8:30:02 AM
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PIN: 130296.00

GENERAL NOTES

(1) CONSTRUCTION SPECIFICATIONS: TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 1, 2021 EDITION).

(2) DESIGN SPECIFICATIONS: 9TH EDITION (2020) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND THE 2ND EDITION (2021) AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN WITH INTERIMS.

(3) LOADING: GLOBAL STABILITY DEMANDS, APPARENT EARTH PRESSURE, AND LIVE LOAD SURCHARGE IN ACCORDANCE WITH AASHTO.

(4) THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS AS REQUIRED BY APPLICABLE REGULATIONS.

(5) PRIOR TO BEGINNING WORK, THE DEPARTMENT SHALL PROVIDE UTILITY LOCATION PLANS TO THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING A UTILITY LOCATION SERVICE TO VERIFY THE LOCATION OF UNDERGROUND UTILITIES BEFORE STARTING WORK. THE CONTRACTOR SHALL SURVEY THE CONDITION OF ADJOINING PROPERTIES AND MAKE RECORDS AND PHOTOGRAPHS OF ANY EVIDENCE OF SETTLEMENT OR CRACKING OF ANY ADJACENT STRUCTURES. THE CONTRACTOR'S REPORT OF THIS SURVEY SHALL BE DELIVERED TO THE DEPARTMENT BEFORE WORK BEGINS.

(6) CONCRETE TO BE CLASS X (CAST-IN-PLACE) EXCEPT AS NOTED OTHERWISE. CLASS X CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI AND SHALL MEET ALL OTHER CRITERIA FOR CLASS A CONCRETE AS SPECIFIED IN SECTIN 604 OF THE STANDARD SPECIFICATIONS.

(7) REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS.

(8) REGARDING CONSTRUCTION SLOPES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE EXCAVATION IN ACCORDANCE WITH OHSA AND OTHER APPLICABLE STATE AND LOCAL REGULATIONS REGARDING CONSTRUCTION SLOPES AND TRENCHES. IN ADDITION TO FOLLOWING APPLICABLE REGULATORY REQUIREMENTS, AS A MINIMUM REQUIREMENT, ALL TEMPORARY CONSTRUCTION SLOPES SHALL BE PLACED AT A MAXIMUM OF 1:1 SLOPE IN SOIL AND SHALL NOT BE LEFT OPEN WITHOUT SHORING FOR ANY LONGER THAN ABSOLUTELY NECESSARY. THE CONTRACTOR BUILDING THE WALL SHALL ENSURE THAT THESE TEMPORARY BACK SLOPES ARE NOT AND DO NOT BECOME UNSTABLE. IF SLOPE IS UNSTABLE, BECOMES UNSTABLE, IS CUT STEEPER THAN A 1:1 SLOPE OR IS UNACCEPTABLE FOR ANOTHER REASON, THEN TEMPORARY SHORING SHALL BE USED. ANY UNUSUAL SOIL CONDITIONS OTHER THAN THOSE ASSUMED SHOULD BE REPORTED TO THE PROJECT ENGINEER.

(9) THE CONTRACTOR SHALL VERIFY WALL LOCATION COORDINATES PRIOR TO CONSTRUCTION.

(10) ALL EXPOSED SURFACES OF RETAINING WALL SHALL BE STAINED SO THAT ALL SURFACES APPEAR UNIFORM IN COLOR. THE COLOR SHALL BE MOUNTAIN GRAY, AMS-STD-595A, COLOR NO. 36440. COST OF MATERIALS TO BE INCLUDED IN THE UNIT PRICE BID FOR APPLIED TEXTURE FINISH (NEW STRUCTURES), ITEM NO. 604-04.01.

(11) FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 OF THE STANDARD SPECIFICATIONS. A CLASS I FINISH FOLLOWED BY AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. THE APPLIED TEXTURE FINISH SHALL BE MEASURED AND PAID FOR UNDER ITEM NO. 604-04.01.

(12) OTHER THAN TEMPORARY STRUCTURES OR ENGINEERED FILL FACING SURFACES, NO PNEUMATIC CONCRETE WILL BE ALLOWED ON THIS PROJECT.

(13) UNLESS OTHERWISE NOTED, CONCRETE CURING SHALL BE IN ACCORDANCE WITH SECTION 604.23 OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

(14) APPROVAL OF MATERIALS: NO FABRICATION SHALL BE STARTED UNTIL THE MATERIALS INVOLVED HAVE BEEN APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS, WITH A COPY OF THE TEST REPORTS GOING TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS.

(15) IDENTITY OF MAIN MATERIALS: SEE SECTION 602 OF THE STANDARD SPECIFICATIONS.

(16) MATERIALS, CONSTRUCTION, AND WORKMANSHIP WILL BE IN ACCORDANCE WITH STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS (CURRENT EDITION).

(17) SHOP DRAWINGS: SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS.

(18) PIPE AND PERFORATED PIPE: PIPE AND PERFORATED PIPE SHALL CONFORM TO SECTION 610 OF THE STANDARD SPECIFICATIONS.

SOLDIER PILE WALL NOTES

(19) STEEL SOLDIER BEAMS SHALL BE OF THE TYPE AND WEIGHT INDICATED ON THE APPROVED WORKING DRAWINGS. STEEL SOLDIER BEAMS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 223 (ASTM A 572) UNLESS OTHERWISE SPECIFIED AND SHALL BE GALVANIZED

(20) TEMPORARY TIMBER LAGGING SHALL BE CONSTRUCTION GRADE ROUGH CUT AND SHALL BE A MINIMUM OF 5 INCHES THICK. WHERE NECESSARY, THE CONTRACTOR SHALL PROVIDE CERTIFICATION THAT THE TIMBER CONFORMS TO THE GRADE, SPECIES, AND OTHER SPECIFIED REQUIREMENTS. IF THE TIMBER IS TO BE TREATED WITH A PRESERVATIVE, A CERTIFICATE OF COMPLIANCE SHALL BE FURNISHED.

(21) STEEL STRUCTURES: SEE TENNESSEE STANDARD SPECIFICATIONS SECTION 602 AND NOTES IN PLANS.

(22) SOLDIER BEAM INSTALLATION IN PRE-DRILLED HOLES:

I. EXCAVATIONS REQUIRED FOR SOLDIER BEAM PLACEMENT SHALL BE PERFORMED TO THE DIMENSIONS AND ELEVATIONS ON THE APPROVED WORKING DRAWINGS. THE METHODS AND EQUIPMENT USED SHALL BE SELECTED BY THE CONTRACTOR.

II. THE CONTRACTOR SHALL ENSURE THAT THE SIDEWALLS OF THE PRE-DRILLED HOLES (I.E. SHAFTS) DO NOT COLLAPSE DURING DRILLING. UNCASED SHAFTS MAY BE USED WHERE THE SIDES AND THE BOTTOM OF THE SHAFT ARE STABLE AND MAY BE VISUALLY INSPECTED PRIOR TO PLACING THE SOLDIER BEAM AND CONCRETE. CASING OR DRILLING MUDS SHALL BE USED WHERE THE SIDES OF THE SHAFT REQUIRE ADDITIONAL SUPPORT.

III. THE CONTRACTOR SHALL PROVIDE EQUIPMENT FOR CHECKING THE DIMENSIONS AND ALIGNMENT OF EACH SHAFT EXCAVATION. THE DIMENSIONS AND ALIGNMENT SHALL BE DETERMINED BY THE CONTRACTOR BUT SHALL BE OBSERVED BY THE INSPECTOR. THE INSPECTOR WILL CHECK THE ALIGNMENT OF THE DRILLING EQUIPMENT AT THE BEGINNING OF SHAFT CONSTRUCTION AND PERIODICALLY THEREAFTER. FINAL SHAFT DEPTH SHALL BE MEASURED AFTER FINAL CLEANING BY THE CONTRACTOR.

IV. LOOSE MATERIAL SHALL BE REMOVED FROM THE BOTTOM OF THE SHAFT. NO MORE THAN 2 FEET OF STANDING WATER SHALL BE LEFT IN THE BOTTOM OF THE SHAFT PRIOR TO BEGINNING SOLDIER BEAM INSTALLATION.

V. THE SOLDIER BEAM SHALL BE PLACED IN THE SHAFT WITHOUT DIFFICULTY AND ALIGNED PRIOR TO GENERAL PLACEMENT OF CONCRETE. THE CONTRACTOR MAY PLACE UP TO 2 FEET OF CONCRETE AT THE BOTTOM OF THE SHAFT TO ASSIST IN ALIGNING THE SOLDIER BEAM. THE SOLDIER BEAM SHALL BE BLOCKED OR CLAMPED IN PLACE AT THE GROUND SURFACE, PRIOR TO PLACEMENT OF CONCRETE.

VI. FOR SHAFTS CONSTRUCTED WITHOUT CASING OR DRILLING MUDS, CONCRETE MAY BE PLACED BY FREE-FALLING THE CONCRETE FROM THE GROUND SURFACE DOWN THE SHAFT AND AROUND THE SOLDIER BEAM. IF CASING IS USED, THE PLACEMENT OF CONCRETE SHALL BEGIN PRIOR TO CASING REMOVAL. REMOVE THE CASING WHILE THE CONCRETE REMAINS WORKABLE.

(23) ASSUME DRILLING THROUGH IN-PLACE ROCK AND BOULDERS REQUIRED FOR INSTALLATION OF SOLDIER PILES.

(24) SPLICING OF SOLDIER BEAMS SHALL NOT BE PERMITTED, UNLESS APPROVED BY THE DEPARTMENT. ALL STRUCTURAL WELDING OF STEEL AND STEEL REINFORCEMENT SHALL BE PERFORMED BY CERTIFIED WELDERS QUALIFIED TO PERFORM THE TYPE OF WELDING SHOWN ON THE SHOP DRAWINGS. ALL SOLDIER BEAMS SHALL BE CUTOFF TO A TRUE PLANE AT THE ELEVATIONS SHOWN ON THE APPROVED WORKING DRAWINGS. ALL CUTOFF LENGTHS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED.

(25) WALL TOLERANCES:

I. SOLDIER BEAMS SHALL BE PLACED AT THE LOCATIONS SHOWN ON THE APPROVED WORKING DRAWINGS AND SHALL NOT DEVIATE BY MORE THAN 3 INCH ALONG THE HORIZONTAL ALIGNMENT OF THE WALL. THE WALL SHALL NOT DEVIATE FROM THE VERTICAL ALIGNMENT SHOWN OF THE CONTRACT DRAWINGS BY MORE THAN 3 INCHES IN EACH PLANE.

II. THE SOLDIER BEAM SHALL BE INSTALLED TO WITHIN 1 FOOT OF THE SPECIFIED TIP ELEVATION SHOWN IN THE PLANS, OR TO WITHIN 1 FOOT OF THE ELEVATION REQUIRED TO ACHIEVE THE SPECIFIED MINIMUM EMBEDMENT IN ROCK.

III. WHENEVER A SOLDIER BEAM DEVIATES IN LOCATION OR PLUMBNESS BY MORE THAN THE TOLERANCE GIVEN IN THESE GUIDELINES, THE CONTRACTOR, AT HIS OPTION, MAY PROVIDE CORRECTIVE MEASURES FOR REVIEW BY THE ENGINEER SUCH AS 1) REBUILDING SOLDIER BEAMS; 2) REDESIGNING SOLDIER BEAM; 3) ADJUST SOLDIER BEAM SPACING BY ADDING ADDITIONAL SOLDIER BEAMS; 4) REDESIGNING CONCRETE FACING; 5) BUILDING UP THE SOLDIER BEAM SECTION, OR 6) OTHER METHODS APPROVED BY THE ENGINEER.

(26) PREFORMED PERMEABLE GEOCOMPOSITE DRAINS - THE PREFORMED PERMEABLE GEOCOMPOSITE DRAINS SHALL BE CONTINUOUS AND A MINIMUM OF ONE (1) FOOT WIDE. THE DRAINS SHALL BE PLACED IN SECTIONS WITH A MINIMUM OVERLAP OF ONE (1) FOOT AND BE SPLICED TO ASSURE CONTINUOUS DRAINAGE.

I. THE CONTRACTOR SHALL HANDLE PREFORMED PERMEABLE GEOCOMPOSITE DRAINS IN SUCH A MANNER AS TO ENSURE THE GEOCOMPOSITE DRAIN IS NOT DAMAGED IN ANY WAY. CARE SHALL BE TAKEN DURING PLACEMENT OF THE GEOCOMPOSITE DRAIN NOT TO ENTRAP DIRT OR EXCESSIVE DUST IN THE GEOCOMPOSITE DRAIN THAT COULD CAUSE CLOGGING OF THE DRAINAGE SYSTEM. DELIVERY, STORAGE, AND HANDLING OF THE GEOCOMPOSITE DRAINS SHALL BE AS PROVIDED IN THE PLANS OR BASED ON MANUFACTURER'S RECOMMENDATIONS.

II. DRAINAGE GEOCOMPOSITE STRIPS SHALL BE PLACED AND SECURED TIGHTLY AGAINST THE TIMBER LAGGING WITH THE FABRIC FACING THE LAGGING. A CONTINUOUS SHEET OF DRAINAGE GEOCOMPOSITE THAT SPANS BETWEEN ADJACENT SOLDIER BEAMS SHALL NOT BE ALLOWED. SEAMS AND OVERLAPS BETWEEN ADJACENT COMPOSITES SHALL BE MADE ACCORDING TO THE SPECIAL PROVISIONS OR MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS. REPAIRS SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE DEPARTMENT AND SHALL CONFORM TO THE PLANS OR MANUFACTURER'S RECOMMENDATION.

(27) WELDING: SEE CURRENT EDITION OF THE AASHTO/AWS D1.5 BRIDGE WELDING CODE. CONTRACTOR IS TO SUBMIT WELDING PROCEDURE SPECIFICATIONS (BASED ON SUCCESSFUL TEST RESULTS AS RECORDED IN A PROCEDURE QUALIFICATION TEST RECORD, SEE AASHTO/AWS D1.5 SECTION 1.9 AND SECTION 5 (QUALIFICATION) AND WELDER QUALIFICATIONS TO THE ENGINEER FOR REVIEW BEFORE WELDING WILL BE ALLOWED. WELDER QUALIFICATION SHALL INCLUDE PROOF OF CONTINUOUS WORK USING THE SPECIFIED WELDING PROCESS. WELDING PROCEDURE SPECIFICATIONS ARE NOT REQUIRED FOR TEMPORARY WELDS. THE WELDING PROCEDURE SPECIFICATIONS SHOULD BE ON SITE FOR WELDER AND INSPECTOR REVIEW. WELDING IS TO BE DONE BY QUALIFIED WELDER. SUPERVISION OF NON-QUALIFIED WELDER IS NOT PERMITTED. TDOT HAS THE OPTION OF HAVING THE WELDER RECERTIFIED IF QUESTIONABLE WORK IS OBSERVED. COST OF THIS REQUALIFICATION IS TO BE PAID FOR BY THE CONTRACTOR. WELDER QUALIFICATION POSITIONS FOR FILLET AND GROOVE WELDS: FLAT (F), HORIZONTAL (H), VERTICAL (V), OVERHEAD (OH). SEE FIG 5.4 OR FIG 5.5 IN AASHTO/AWS D1.5 FOR POSITION LIMITS.

(28) SHEAR STUD CONNECTORS SHALL CONFORM TO AASHTO M169 (ASTM A108).

(29) CONCRETE FACING: CONTRACTION JOINTS SHALL BE SPACED AT 30 FOOT MAXIMUM. EXPANSION JOINTS SHALL BE SPACED AT 90 FOOT MAXIMUM. SEE DETAILS ON DWG. NO. R-27. JOINT MATERIALS SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATIONS SECTION 904 AND 905. FOOTING AND FOOTING REINFORCEMENT SHALL BE CONTINUOUS. COST OF MATERIALS AND LABOR NECESSARY FOR THE INSTALLATION OF THE CONTRACTION/EXPANSION JOINTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "A" CONCRETE (ITEM NO. 604-09.10) AND CLASS X CONCRETE (ITEM NO. 604-03.74).

(30) FOUR INCH DIAMETER WEEP HOLES SHALL BE LOCATED EVERY TEN FEET FOR THE ENTIRE LENGTH OF THE WALL UNLESS OTHERWISE NOTED. COST OF THE MATERIAL AND LABOR NECESSARY FOR THE INSTALLATION OF THE WEEPHOLES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CLASS X CONCRETE (ITEM NO. 604-03.74).

(31) ANY COMPACTION OF BACKFILL WITHIN 10' OF WALL (ON FILL SIDE) SHALL UTILIZE WALK-BEHIND COMPACTION EQUIPMENT AND NOT HEAVY MACHINERY IN ORDER TO AVOID OVERLOADING THE WALL OR DAMAGING THE UPPER ROW OF TIEBACK ANCHORS.

(32) VALUE ENGINEERING ALTERNATE WALL DESIGN CRITERIA: ALTERNATE WALL DESIGN PROPOSALS WILL NOT BE ACCEPTED.

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-2

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118332
STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
GENERAL NOTES
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

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U-50-293

ANCHOR NOTES

(33) DETAILED SHOP DRAWINGS OF THE GROUTED ANCHORS AND THEIR COMPONENTS SHALL BE PREPARED IN ACCORDANCE WITH SECTION 105.02 OF THE STANDARD SPECIFICATIONS AND SUBMITTED TO TDOT FOR REVIEW AND APPROVAL PRIOR TO STARTING FABRICATION.

(34) TENDON BOND LENGTH PROTECTION FOR ENCAPSULATED TENDONS (CLASS I)

A) A GROUT-FILLED, CORRUGATED PLASTIC ENCAPSULATION OR A GROUT-FILLED, DEFORMED STEEL TUBE SHALL BE USED. THE PRESTRESSING STEEL CAN BE GROUTED INSIDE THE ENCAPSULATION PRIOR TO BEING PLACED.

B) CENTRALIZERS OR GROUTING TECHNIQUES SHALL ENSURE A MINIMUM OF 0.5 INCH OF GROUT COVER OVER THE ENCAPSULATION.

(35) TENDON UNBONDED LENGTH PROTECTION FOR ENCAPSULATED TENDONS (CLASS I):

A) CORROSION PROTECTION OF THE UNBONDED LENGTH SHALL BE PROVIDED BY A COMBINATION OF SHEATHS, SHEATH FILLED WITH A CORROSION INHIBITING COMPOUND OR GROUT, OR A HEAT SHRINKABLE TUBE INTERNALLY COATED WITH A MASTIC COMPOUND, DEPENDING ON THE TENDON CLASS. THE CORROSION INHIBITING COMPOUND SHALL COMPLETELY COAT THE TENDON ELEMENTS, FILL THE VOID BETWEEN THEM AND THE SHEATH, AND FILL THE INTERSTICES BETWEEN THE WIRES OF 7-WIRE STRANDS. PROVISIONS SHALL BE MADE TO RETAIN THE COMPOUND WITHIN THE SHEATH.

B) THE CORROSION PROTECTIVE SHEATH SURROUNDING THE UNBONDED LENGTH OF THE TENDON SHALL BE LONG ENOUGH TO EXTEND INTO THE TRUMPET, BUT SHALL NOT COME INTO CONTACT WITH THE STRESSING ANCHORAGE DURING TESTING. ANY EXCESSIVE PROTECTION LENGTH SHALL BE TRIMMED OFF.

C) FOR PRE-GROUTED ENCAPSULATIONS AND ALL CLASS I TENDONS, A SEPARATE BOND BREAKER OR COMMON SHEATH SHALL BE PROVIDED FOR SUPPLEMENTAL CORROSION PROTECTION OR TO PREVENT THE TENDON FROM BONDING TO THE GROUT SURROUNDING THE UNBONDED LENGTH.

(36) THE TRANSITION BETWEEN THE CORROSION PROTECTION FOR THE BONDED AND UNBONDED LENGTHS SHALL BE DESIGNED AND FABRICATED TO ENSURE CONTINUOUS PROTECTION FROM CORROSIVE ATTACK.

(37) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE PLANS, GEOTECHNICAL REPORT, AND BORING LOGS TO BECOME FAMILIAR WITH THE SUBSURFACE CONDITIONS PERTINENT TO THE ASSOCIATED WORK TO BE CONDUCTED BY THE CONTRACTOR. THE CONTRACTOR SHALL ALSO CONSIDER THEIR EXPERIENCE IN THE PROJECT'S GEOLOGIC AND SUBSURFACE SETTING AND THEIR EXPERIENCE IN DEALING WITH VARIABLE SUBSURFACE CONDITIONS ACROSS A PROJECT SITE TO BASE THEIR BID UPON AND DECISIONS REGARDING APPROPRIATE EQUIPMENT TO BE UTILIZED.

(38) THE ANCHOR STRANDS SHALL BE SUPPLIED WITH A CLASS 1 CORROSION PROTECTION SYSTEM.

(39) LOAD TESTING OF THE GROUND ANCHORS IS REQUIRED. SEE CONTRACT PLAN SHEETS R-29 AND R-30 FOR DETAILS.

(40) THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING GROUND ANCHORS THAT WILL DEVELOP THE LOAD-CARRYING CAPACITY INDICATED IN THE CONTRACT PLANS AND AT THE ANCHOR LOCATION, INCLINATION, MINIMUM UNBONDED LENGTH, AND MINIMUM ANCHOR BOND LENGTH FOR EACH ANCHOR AS SHOWN IN THE CONTRACT PLANS.

(41) THE CONTRACTOR SHALL SELECT THE DRILLING METHOD AS NECESSARY TO INSTALL THE GROUND ANCHORS SPECIFIED. HOWEVER, THE METHOD OF DRILLING USED SHALL BE THAT WHICH PREVENTS THE LOSS OF GROUND ABOVE THE DRILLED HOLE. CASING FOR ANCHOR HOLES SHALL BE TEMPORARY AND SHALL BE REMOVED UPON COMPLETE PRIMARY GROUT PLACEMENT. EXCESSIVE AMOUNTS OF WATER SHALL NOT BE USED IN THE DRILLING OPERATION.

(42) THE CONTRACTOR SHALL SELECT THE GROUND ANCHOR GROUTING METHOD AND GROUT PRESSURES, DETERMINE THE GROUND ANCHOR CAPACITY, BOND LENGTH, AND ANCHOR DIAMETER. THE BOND LENGTH OF A SINGLE ANCHOR SHALL NOT EXCEED 36' AND SHALL NOT BE LESS THAN 15'.

(43) TOTAL ANCHOR LENGTH MEASURED FROM FRONT FACE OF PILE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MONITOR INSTALLATION LENGTH. IN NO CASE SHALL ANCHORS EXTEND BEYOND RIGHT OF WAY OR PERMANENT SUBSURFACE EASEMENT LIMITS.

(44) NO ADDITIONAL PAYMENT WILL BE MADE FOR POST-GROUTING. IN THE EVENT AN ANCHOR FAILS TO SATISFY TESTING REQUIREMENTS, CONTRACTOR MAY ELECT TO POST-GROUT AND RE-TEST THE ANCHOR. NO ADDITIONAL PAYMENT WILL BE MADE FOR ADDITIONAL TESTS RESULTING FROM ANCHOR FAILURE.

(45) THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW MILL TEST REPORTS FOR THE PRESTRESSING STEEL AND THE BEARING PLATE STEEL. THE ENGINEER MAY REQUIRE THE CONTRACTOR TO PROVIDE SAMPLES OF ANY GROUND ANCHOR MATERIAL INTENDED FOR USE ON THE PROJECT. THE PRESTRESSING STEEL AND BEARING PLATES SHALL NOT BE INCORPORATED IN THE WORK WITHOUT THE ENGINEER'S APPROVAL.

(46) THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW CALIBRATION DATA FOR EACH TEST JACK, LOAD CELL, PRIMARY PRESSURE GAUGE AND REFERENCE PRESSURE GAUGE TO BE USED. TESTING CANNOT COMMENCE UNTIL THE ENGINEER HAS APPROVED THESE CALIBRATIONS.

(47) THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER WITHIN TEN CALENDAR DAYS AFTER THE COMPLETION OF EACH GROUND ANCHOR TEST A REPORT CONTAINING THE FOLLOWING:

A) PRESTRESSING STEEL MANUFACTURER'S MILL TEST REPORTS FOR THE TENDONS INCORPORATED IN THE INSTALLATION

B) GROUTING RECORDS INDICATING THE CEMENT TYPE, QUANTITY INJECTED AND THE GROUT PRESSURES

C) GROUND ANCHOR TEST RESULTS

D) AS-BUILT DRAWINGS SHOWING THE LOCATION AND ORIENTATION OF EACH GROUND ANCHOR, ANCHOR CAPACITY, TENDON TYPE, TOTAL ANCHOR LENGTH, BOND LENGTH, UNBONDED LENGTH, AND TENDON BOND LENGTH AS INSTALLED

(48) TENDONS SHALL BE HANDLED AND STORED IN SUCH A MANNER AS TO AVOID DAMAGE OR CORROSION. DAMAGE TO THE PRESTRESSING STEEL OR THE CORROSION PROTECTION AS A RESULT OF ABRASIONS, CUTS, NICKS, WELDS OR WELD SPLATTER WILL BE CAUSE FOR REJECTION BY THE ENGINEER. THE PRESTRESSING STEEL SHALL BE PROTECTED IF WELDING IS TO BE PERFORMED IN THE VICINITY. GROUNDING OF WELDING LEADS TO THE PRESTRESSING STEEL IS FORBIDDEN. PRESTRESSING STEEL SHALL BE PROTECTED FROM DIRT, RUST, OR OTHER DELETERIOUS SUBSTANCES. A LIGHT COATING OF RUST ON THE STEEL IS ACCEPTABLE. IF HEAVY CORROSION OR PITTING IS NOTED, THE ENGINEER SHALL REJECT THE AFFECTED TENDONS.

(49) THE CONTRACTOR SHALL USE CARE IN HANDLING AND STORING THE TENDONS AT THE SITE. PRIOR TO INSERTING A TENDON IN THE DRILL HOLE, THE CONTRACTOR AND THE INSPECTOR SHALL EXAMINE THE TENDON FOR DAMAGE TO THE ENCAPSULATION AND THE SHEATHING. IF, IN THE OPINION OF THE INSPECTOR, THE ENCAPSULATION IS DAMAGED, THE CONTRACTOR SHALL REPAIR THE ENCAPSULATION IN ACCORDANCE WITH THE TENDON SUPPLIER'S RECOMMENDATIONS. IF, IN THE OPINION OF THE INSPECTOR, THE SMOOTH SHEATHING HAS BEEN DAMAGED, THE CONTRACTOR SHALL REPAIR IT WITH ULTRA-HIGH MOLECULAR WEIGHT POLYETHYLENE TAPE. THE TAPE SHOULD BE SPIRAL WOUND AROUND THE TENDON TO COMPLETELY SEAL THE DAMAGED AREA. THE PITCH OF THE SPIRAL SHALL ENSURE A DOUBLE THICKNESS AT ALL POINTS.

(50) BANDING FOR FABRICATED TENDONS SHALL BE PADDED TO AVOID DAMAGE TO THE TENDON CORROSION PROTECTION. UPON DELIVERY, THE FABRICATED ANCHORS OR THE PRESTRESSING STEEL FOR FABRICATION OF THE TENDONS ON SITE AND ALL HARDWARE SHALL BE STORED AND HANDLED IN SUCH A MANNER TO AVOID MECHANICAL DAMAGE, CORROSION, AND CONTAMINATION WITH DIRT OR DELETERIOUS SUBSTANCES.

(51) HOLES FOR ANCHORS SHALL BE DRILLED AT THE LOCATIONS AND TO THE LENGTH, INCLINATION AND DIAMETER SHOWN ON THE APPROVED WORKING DRAWINGS. THE DRILL BIT OR CASING CROWN SHALL NOT BE MORE THAN 0.12 INCH SMALLER THAN THE SPECIFIED HOLE DIAMETER. AT THE GROUND SURFACE THE DRILL HOLE SHALL BE LOCATED WITHIN 1 FOOT OF THE LOCATION SHOWN ON THE APPROVED WORKING DRAWINGS. THE DRILL HOLE SHALL BE LOCATED SO THE LONGITUDINAL AXIS OF THE DRILL HOLE AND THE LONGITUDINAL AXIS OF THE TENDON ARE PARALLEL. IN PARTICULAR, THE GROUND ANCHOR HOLE SHALL NOT BE DRILLED IN A LOCATION THAT REQUIRES THE TENDON TO BE BENT IN ORDER TO ENABLE THE BEARING PLATE TO BE CONNECTED TO THE SUPPORTED STRUCTURE. AT THE POINT OF ENTRY THE GROUND ANCHOR SHALL BE INSTALLED WITHIN PLUS/MINUS THREE (3) DEGREES OF THE INCLINATION FROM HORIZONTAL SHOWN ON THE APPROVED WORKING DRAWINGS. AT THE POINT OF ENTRY THE HORIZONTAL ANGLE MADE BY THE GROUND ANCHOR AND THE STRUCTURE SHALL BE WITHIN PLUS/MINUS THREE (3) DEGREES OF A LINE DRAWN PERPENDICULAR TO THE PLANE OF THE STRUCTURE UNLESS OTHERWISE SHOWN ON THE APPROVED WORKING DRAWINGS. THE GROUND ANCHORS SHALL NOT EXTEND BEYOND THE RIGHT-OF-WAY OR EASEMENT LIMITS SHOWN ON THE CONTRACT DRAWINGS.

(52) TENDONS SHALL BE PLACED IN ACCORDANCE WITH THE APPROVED WORKING DRAWINGS AND DETAILS AND THE RECOMMENDATIONS OF THE TENDON MANUFACTURER OR SPECIALIST ANCHOR CONTRACTOR. THE TENDON SHALL BE INSERTED INTO THE DRILL HOLE TO THE DESIRED DEPTH WITHOUT DIFFICULTY.

(53) EACH ANCHOR TENDON SHALL BE INSPECTED BY DEPARTMENT FIELD PERSONNEL DURING INSTALLATION INTO THE DRILL HOLE OR CASING. DAMAGE TO THE CORROSION PROTECTION SYSTEM SHALL BE REPAIRED, OR THE TENDON REPLACED IF NOT REPAIRABLE. LOOSE SPACERS OR CENTRALIZERS SHALL BE RECONNECTED TO PREVENT SHIFTING DURING INSERTION. IF THE PATCH IS NOT ALLOWED TO CURE PRIOR TO INSERTING THE TENDON IN THE DRILL HOLE, THE PATCHED AREA SHALL BE PROTECTED BY TAPE OR OTHER SUITABLE MEANS.

(54) THE RATE OF PLACEMENT OF THE TENDON INTO THE HOLE SHALL BE CONTROLLED SUCH THAT THE SHEATHING, COATING, AND GROUT TUBES ARE NOT DAMAGED DURING INSTALLATION OF THE TENDON. ANCHOR TENDONS SHALL NOT BE SUBJECTED TO SHARP BENDS. THE BOTTOM END OF THE TENDON SHALL BE FITTED WITH A CAP OR BULLNOSE TO AID ITS INSERTION INTO THE HOLE.

(55) THE CONTRACTOR SHALL USE A NEAT CEMENT GROUT. THE CEMENT SHALL NOT CONTAIN LUMPS OR OTHER INDICATIONS OF HYDRATION. ADMIXTURES, IF USED, SHALL BE MIXED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

(56) THE GROUTING EQUIPMENT SHALL PRODUCE A GROUT FREE OF LUMPS AND UNDISPERSED CEMENT. A POSITIVE DISPLACEMENT GROUT PUMP SHALL BE USED. THE PUMP SHALL BE EQUIPPED WITH A PRESSURE GAUGE TO MONITOR PRESSURES. THE PRESSURE GAUGE SHALL BE CAPABLE OF MEASURING PRESSURES OF AT LEAST 145 PSI OR TWICE THE ACTUAL GROUT PRESSURE USED BY THE CONTRACTOR, WHICHEVER IS GREATER. THE GROUTING EQUIPMENT SHALL BE SIZED TO ENABLE THE GROUT TO BE PUMPED IN ONE CONTINUOUS OPERATION. THE MIXER SHOULD BE CAPABLE OF CONTINUOUSLY AGITATING THE GROUT.

(57) THE GROUT SHALL BE INJECTED FROM THE LOWEST POINT OF THE DRILL HOLE. THE GROUT SHALL BE PUMPED THROUGH GROUT TUBES. THE GROUT CAN BE PLACED BEFORE OR AFTER INSERTION OF THE TENDON. THE QUANTITY OF THE GROUT AND THE GROUT PRESSURES SHALL BE RECORDED. THE GROUT PRESSURES AND GROUT TAKES SHALL BE CONTROLLED TO PREVENT EXCESSIVE HEAVE.

(58) AFTER THE TENDON IS INSTALLED, THE DRILL HOLE MAY BE FILLED IN ONE CONTINUOUS GROUTING OPERATION EXCEPT THAT PRESSURE GROUTING SHALL NOT BE USED IN THE FREE LENGTH ZONE. THE GROUT AT THE TOP OF THE DRILL HOLE SHALL NOT CONTACT THE BACK OF THE STRUCTURE OR THE BOTTOM OF THE TRUMPET.

(59) THE GROUT TUBE MAY REMAIN IN THE HOLE ON COMPLETION OF GROUTING IF THE TUBE IS FILLED WITH GROUT.

(60) AFTER GROUTING, THE TENDON SHALL NOT BE LOADED FOR A MINIMUM OF THREE (3) DAYS.

(61) THE ANCHOR BEARING PLATE AND THE ANCHOR HEAD OR NUT SHALL BE INSTALLED PERPENDICULAR TO THE TENDON, WITHIN PLUS/MINUS THREE (3) DEGREES AND CENTERED ON THE BEARING PLATE, WITHOUT BENDING OR KINKING OF THE PRESTRESSING STEEL ELEMENTS. WEDGE HOLES AND WEDGES SHALL BE FREE OF RUST, GROUT AND DIRT.

(62) THE STRESSING TAIL SHALL BE CLEANED AND PROTECTED FROM DAMAGE UNTIL FINAL TESTING AND LOCK-OFF. AFTER THE ANCHOR HAS BEEN ACCEPTED BY THE ENGINEER, THE STRESS TAIL SHALL BE CUT TO ITS FINAL LENGTH ACCORDING TO THE TENDON MANUFACTURER'S RECOMMENDATIONS.

(63) THE CORROSION PROTECTION SURROUNDING THE UNBONDED LENGTH OF THE TENDON SHALL EXTEND UP BEYOND THE BOTTOM SEAL OF THE TRUMPET OR 4 INCHES INTO THE TRUMPET IF NO TRUMPET SEAL IS PROVIDED. IF THE PROTECTION DOES NOT EXTEND BEYOND THE SEAL OR SUFFICIENTLY FAR ENOUGH INTO THE TRUMPET, THE CONTRACTOR SHALL EXTEND THE CORROSION PROTECTION OR LENGTHEN THE TRUMPET.

(64) THE CORROSION PROTECTION SURROUNDING THE UNBONDED LENGTH OF THE TENDON SHALL NOT CONTACT THE BEARING PLATE OR THE ANCHOR HEAD DURING TESTING AND STRESSING. IF THE PROTECTION IS TOO LONG, THE CONTRACTOR SHALL TRIM THE CORROSION PROTECTION TO PREVENT CONTACT.

(65) LIFTING OF THE PRE-GROUTED TENDONS SHALL NOT CAUSE EXCESSIVE BENDING, WHICH CAN DEBOND THE PRESTRESSING STEEL FROM THE SURROUNDING GROUT.

(66) PRESTRESSING STEEL SHALL NOT BE EXPOSED TO EXCESSIVE HEAT (I.E. MORE THAN 446 DEGREES F).

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-3

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

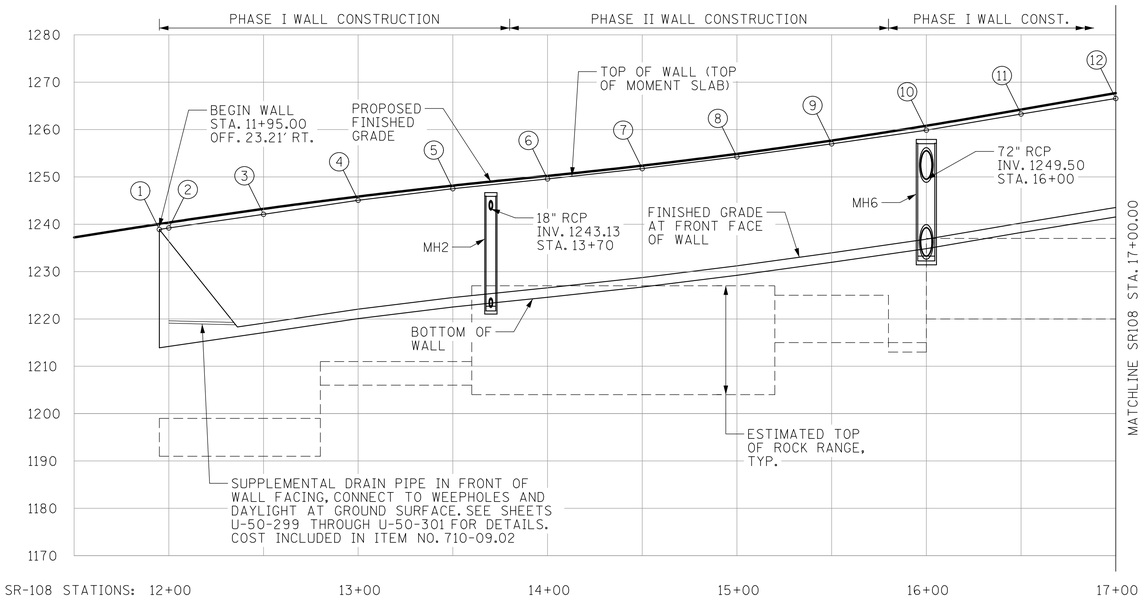
CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
AT
AGRICULTURE
COMMERCE
No. 118392
STATE OF TENNESSEE
05/19/25

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
GENERAL NOTES
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

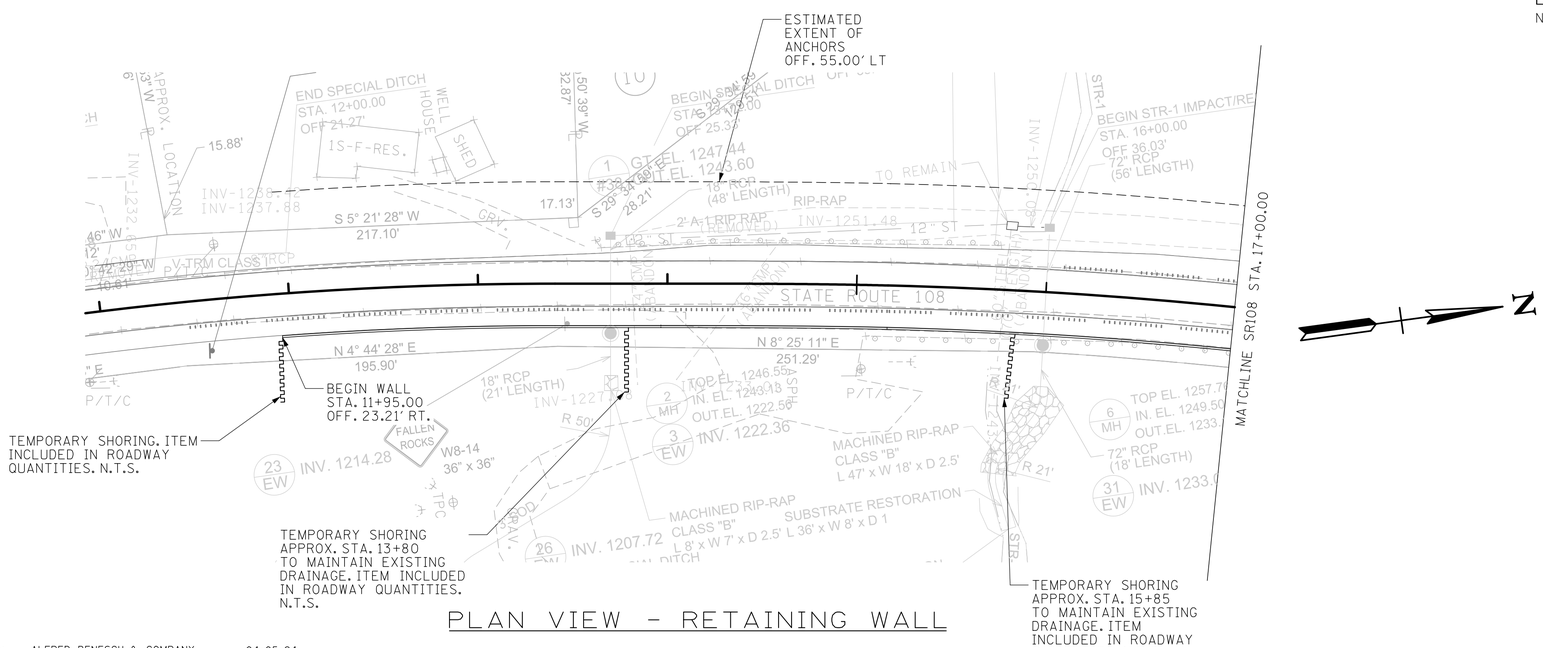
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PROFILE VIEW - RETAINING WALL

LOOKING AT FRONT FACE OF WALL
BARRIER RAIL NOT SHOWN FOR CLARITY



PLAN VIEW - RETAINING WALL

DESIGNED BY	ALFRED BENESCH & COMPANY	DATE	04-05-24
DRAWN BY	ANDREW TILTON, P.E.	DATE	04-05-24
SUPERVISED BY	JACOB WILLIAMS, P.E.	DATE	04-05-24
CHECKED BY	CHRIS KELLEY, P.E.	DATE	04-05-24

NOTES:

1. PHASING: EXISTING DRAINAGE PATHS MUST BE MAINTAINED WHILE NEW DRAINAGE STRUCTURES ARE CONSTRUCTED. TO ACCOMPLISH THIS, IT IS ANTICIPATED THAT THE WALL WILL BE CONSTRUCTED IN PHASES. LIMITS OF PHASING SHOWN ON RETAINING WALL LAYOUT SHEETS ARE MEANT TO ILLUSTRATE THE CONSTRAINTS PRESENTED BY DRAINAGE, AND SHOULD BE CONSIDERED OPTIONAL. CONTRACTOR SHALL DETERMINE ACTUAL SEQUENCE OF CONSTRUCTION.

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-4

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

TABLE OF ELEVATIONS

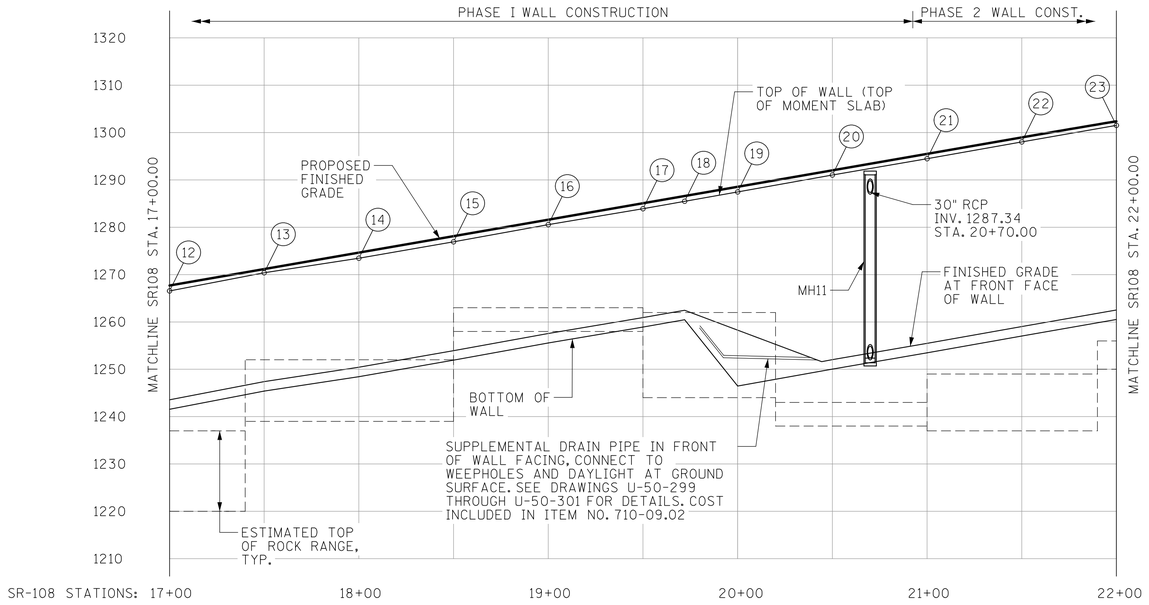
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1	11+95.00	100+00.00	23.21	1238.91	1213.91
2	12+00.00	100+04.94	23.21	1239.21	1214.21
3	12+50.00	100+54.36	23.21	1242.11	1217.11
4	13+00.00	101+03.77	23.21	1245.09	1220.09
5	13+50.00	101+53.29	23.21	1247.57	1222.57
6	14+00.00	102+03.29	23.21	1249.68	1224.68
7	14+50.00	102+53.06	23.21	1251.95	1226.95
8	15+00.00	103+02.81	23.21	1254.47	1229.47
9	15+50.00	103+52.40	23.21	1257.16	1232.16
10	16+00.00	104+01.92	23.21	1259.98	1234.98
11	16+50.00	104+51.45	23.21	1263.27	1238.27
12	17+00.00	105+00.97	23.21	1266.55	1241.55

NOTE: OFFSETS ARE MEASURED TO FRONT FACE OF WALL (I.E. EXPOSED FACE OF CONCRETE FACING)

CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 113392
STATE OF TENNESSEE
05/19/25

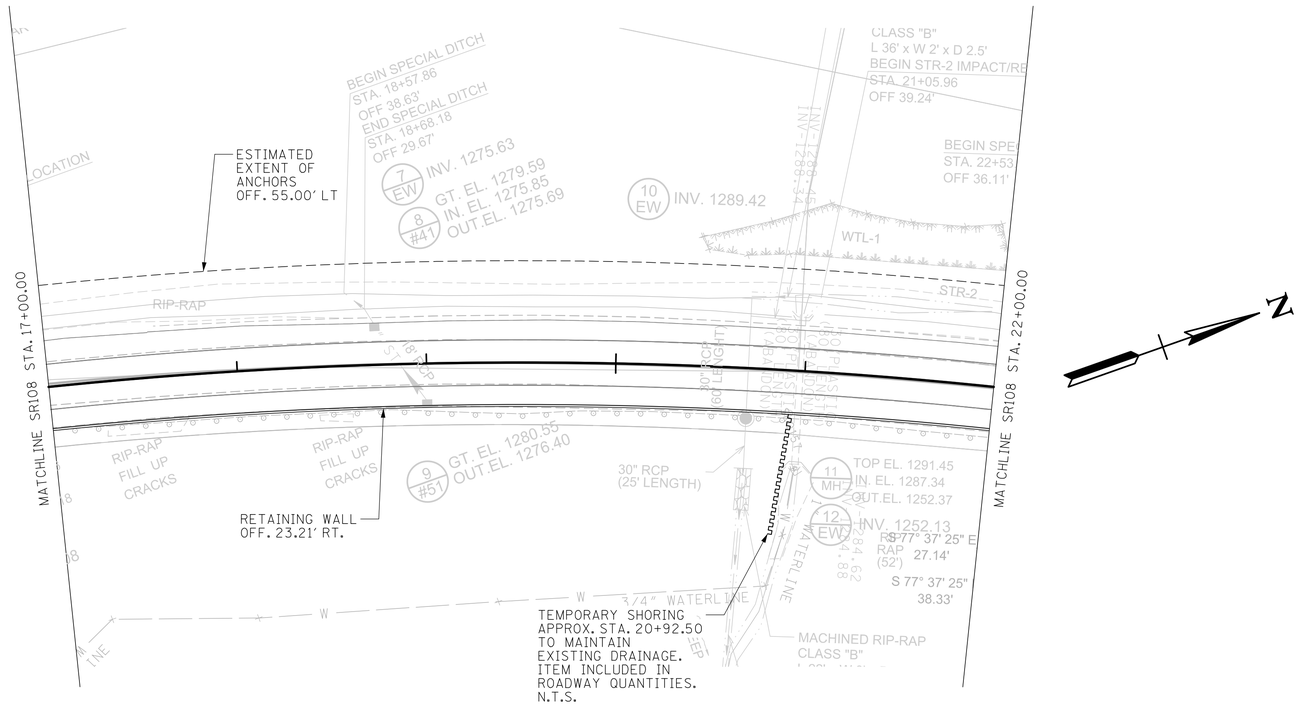
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
LAYOUT
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

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PROFILE VIEW - RETAINING WALL

LOOKING AT FRONT FACE OF WALL
BARRIER RAIL NOT SHOWN FOR CLARITY



PLAN VIEW - RETAINING WALL

NOTES:

1. PHASING: EXISTING DRAINAGE PATHS MUST BE MAINTAINED WHILE NEW DRAINAGE STRUCTURES ARE CONSTRUCTED. TO ACCOMPLISH THIS, IT IS ANTICIPATED THAT THE WALL WILL BE CONSTRUCTED IN PHASES. LIMITS OF PHASING SHOWN ON RETAINING WALL LAYOUT SHEETS ARE MEANT TO ILLUSTRATE THE CONSTRAINTS PRESENTED BY DRAINAGE, AND SHOULD BE CONSIDERED OPTIONAL. CONTRACTOR SHALL DETERMINE ACTUAL SEQUENCE OF CONSTRUCTION.

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-5

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

TABLE OF ELEVATIONS

NO.	ROADWAY SR-108 STATION	WALL STATION	ROADWAY OFFSET (RT)	TOP OF WALL ELEVATION	BOTTOM OF WALL ELEVATION
12	17+00.00	105+00.97	23.21	1266.55	1241.55
13	17+50.00	105+50.49	23.21	1270.39	1245.39
14	18+00.00	106+00.01	23.21	1273.45	1248.45
15	18+50.00	106+49.54	23.21	1276.92	1251.92
16	19+00.00	106+99.06	23.21	1280.55	1255.55
17	19+50.00	107+48.58	23.21	1283.92	1258.92
18	19+71.97	107+70.34	23.21	1285.48	1260.48
19	20+00.00	107+98.10	23.21	1287.46	1246.46
20	20+50.00	108+47.63	23.21	1291.03	1250.03
21	21+00.00	108+97.15	23.21	1294.47	1253.47
22	21+50.00	109+46.67	23.21	1298.03	1257.03
23	22+00.00	109+96.19	23.21	1301.52	1260.52

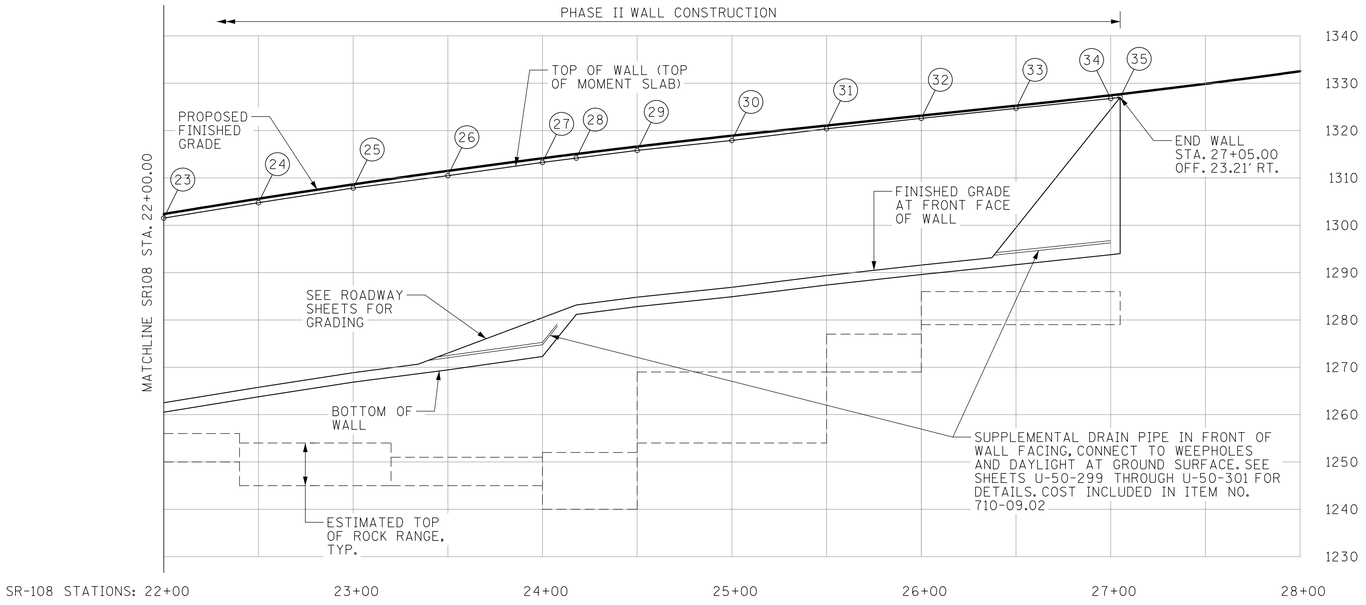
NOTE: OFFSETS ARE MEASURED TO FRONT FACE OF WALL (I.E. EXPOSED FACE OF CONCRETE FACING)

CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118992
STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
LAYOUT
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

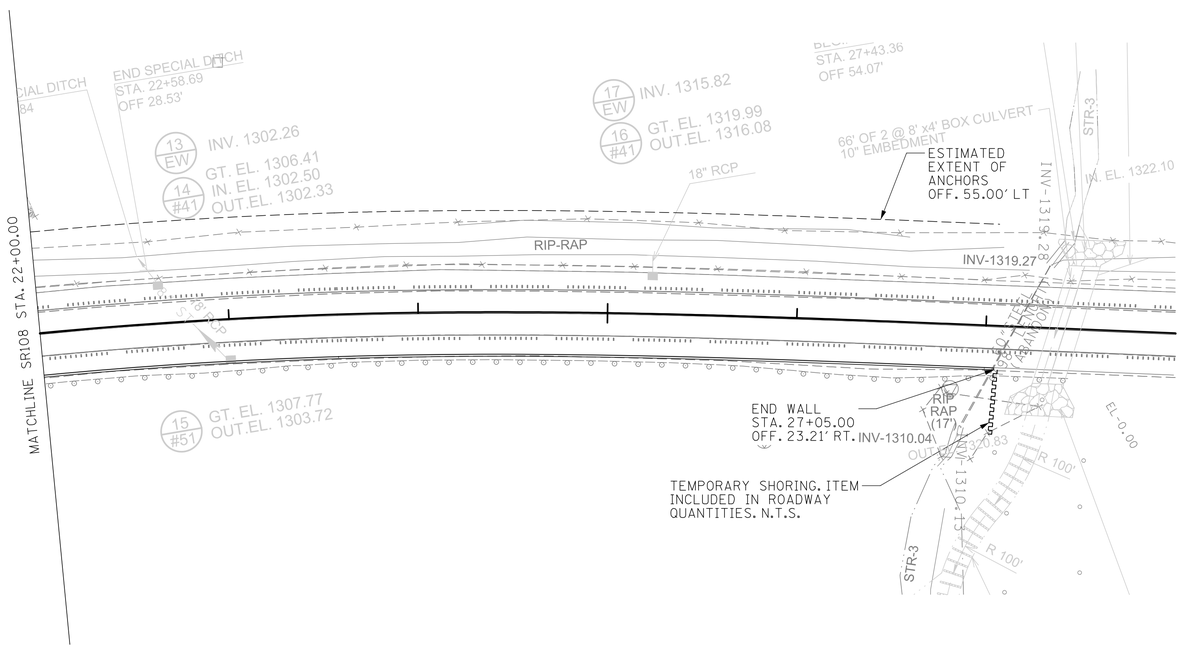
DESIGNED BY	ALFRED BENESCH & COMPANY	DATE 04-05-24
DRAWN BY	ANDREW TILTON, P.E.	DATE 04-05-24
SUPERVISED BY	JACOB WILLIAMS, P.E.	DATE 04-05-24
CHECKED BY	CHRIS KELLEY, P.E.	DATE 04-05-24

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PROFILE VIEW - RETAINING WALL

LOOKING AT FRONT FACE OF WALL
BARRIER RAIL NOT SHOWN FOR CLARITY



PLAN VIEW - RETAINING WALL

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-6

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

NOTES:

1. PHASING: EXISTING DRAINAGE PATHS MUST BE MAINTAINED WHILE NEW DRAINAGE STRUCTURES ARE CONSTRUCTED. TO ACCOMPLISH THIS, IT IS ANTICIPATED THAT THE WALL WILL BE CONSTRUCTED IN PHASES. LIMITS OF PHASING SHOWN ON RETAINING WALL LAYOUT SHEETS ARE MEANT TO ILLUSTRATE THE CONSTRAINTS PRESENTED BY DRAINAGE, AND SHOULD BE CONSIDERED OPTIONAL. CONTRACTOR SHALL DETERMINE ACTUAL SEQUENCE OF CONSTRUCTION.

TABLE OF ELEVATIONS

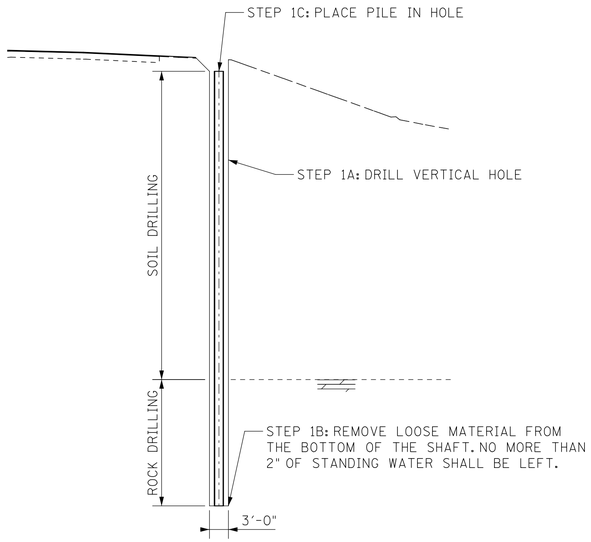
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23	22+00.00	109+96.19	23.21	1301.52	1260.52
24	22+50.00	110+45.72	23.21	1304.77	1263.77
25	23+00.00	110+95.24	23.21	1307.86	1266.86
26	23+50.00	111+44.76	23.21	1310.46	1269.46
27	24+00.00	111+94.45	23.21	1313.27	1272.27
28	24+17.81	112+12.17	23.21	1314.17	1281.17
29	24+50.00	112+44.21	23.21	1315.81	1282.81
30	25+00.00	112+93.97	23.21	1317.90	1284.90
31	25+50.00	113+43.73	23.21	1320.38	1287.38
32	26+00.00	113+93.48	23.21	1322.59	1289.59
33	26+50.00	114+43.24	23.21	1324.66	1291.66
34	27+00.00	114+93.03	23.21	1326.77	1293.77
35	27+05.00	114+98.00	23.21	1327.01	1294.01

NOTE: OFFSETS ARE MEASURED TO FRONT FACE OF WALL (I.E. EXPOSED FACE OF CONCRETE FACING)

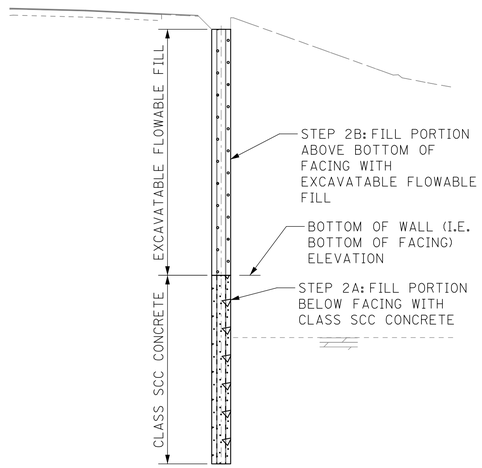
CHRISTOPHER M. KELLEY REGISTERED ENGINEER AGRICULTURE COMMERCE No. 118392 STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
LAYOUT
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

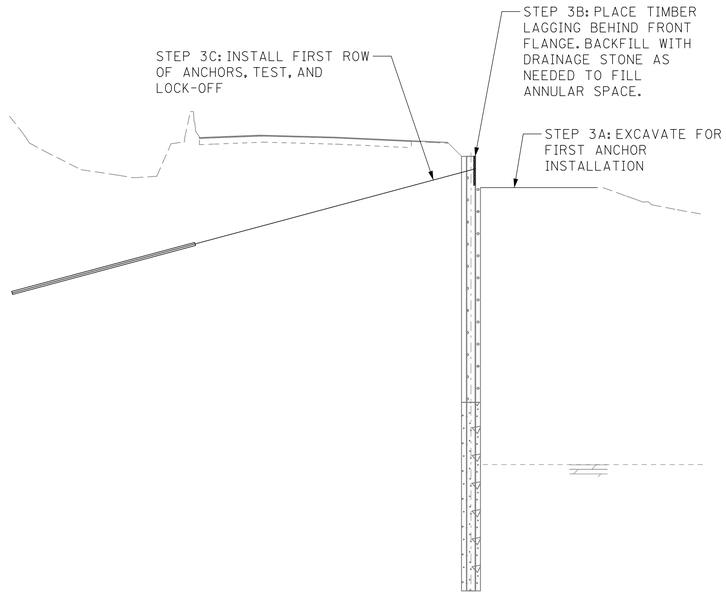
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STAGE 1
N.T.S.



STAGE 2
N.T.S.



STAGE 3
N.T.S.

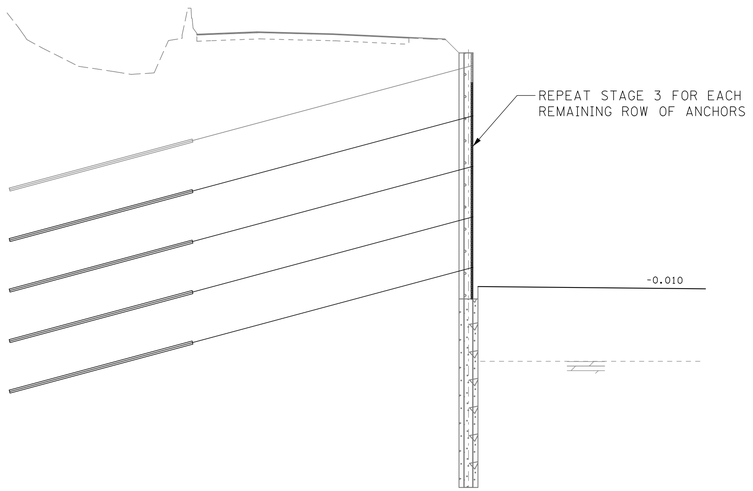
CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-7

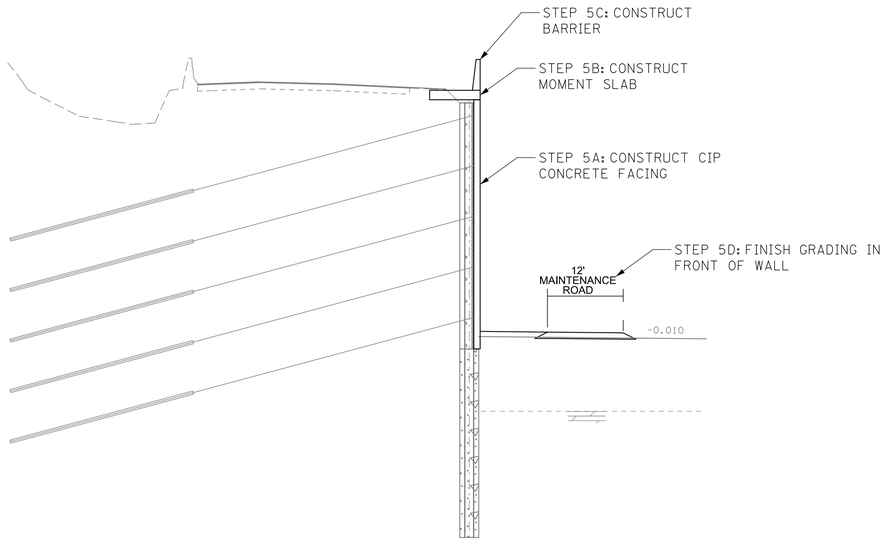
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

NOTES:
1. THE INTENT OF THIS SHEET IS TO SHOW BASIC INTENDED SEQUENCE OF WALL CONSTRUCTION. NOT ALL ELEMENTS ARE SHOWN.



STAGE 4
N.T.S.



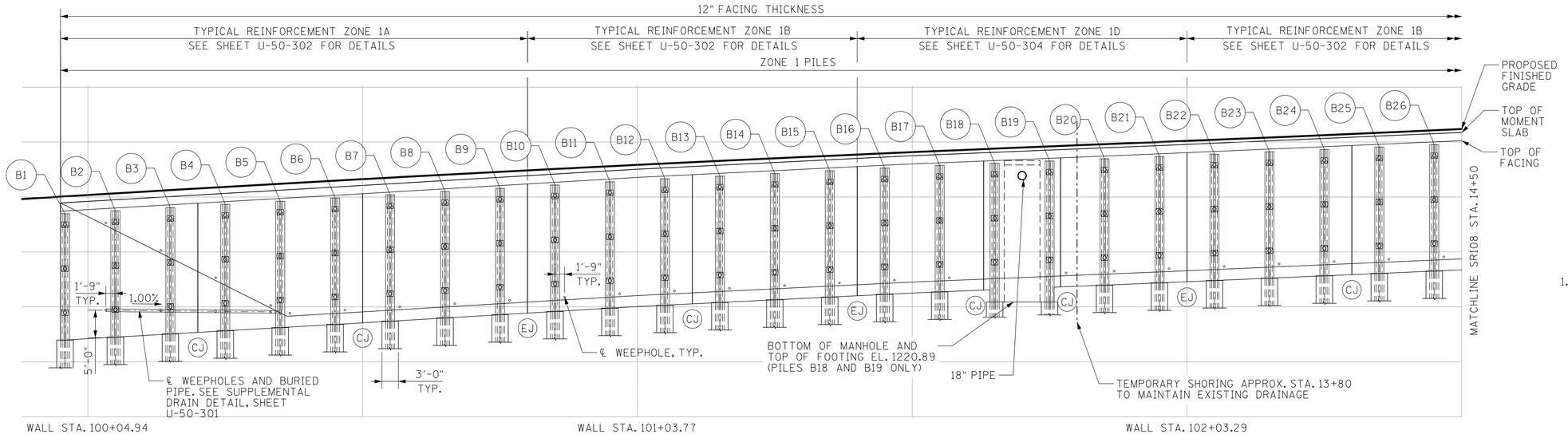
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STAGED CONSTRUCTION DETAILS
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

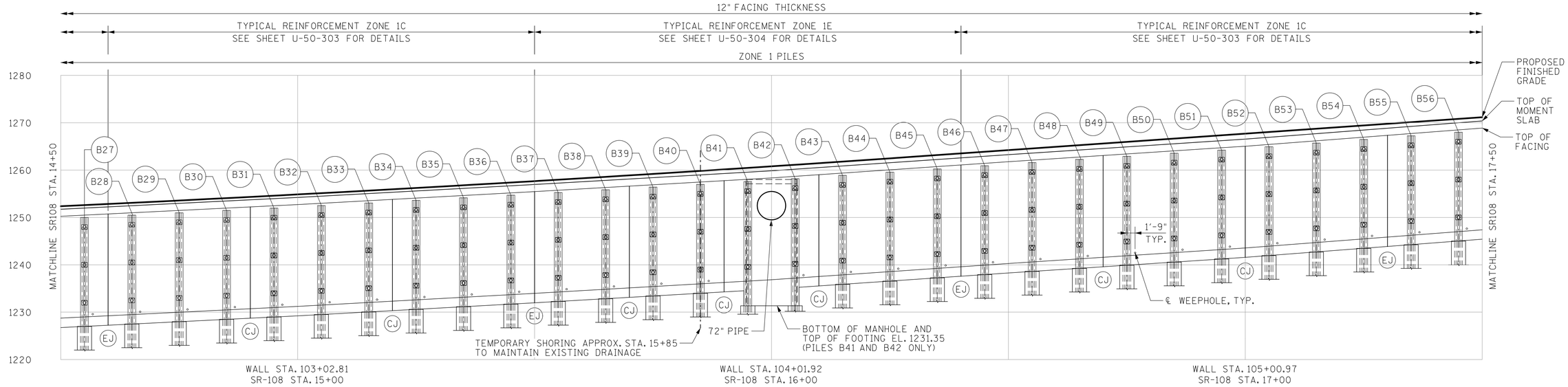
DESIGNED BY	ALFRED BENESCH & COMPANY	DATE	04-05-24
DRAWN BY	ANDREW TILTON, P.E.	DATE	04-05-24
SUPERVISED BY	JACOB WILLIAMS, P.E.	DATE	04-05-24
CHECKED BY	CHRIS KELLEY, P.E.	DATE	04-05-24

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PROFILE VIEW - RETAINING WALL NO.1

(LOOKING AT FRONT FACE OF WALL)



PROFILE VIEW - RETAINING WALL NO. 1

(LOOKING AT FRONT FACE OF WALL)

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-8

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

NOTES:

1. PILES ARE LAID OUT AT 10' INTERVALS ALONG ROADWAY ALIGNMENT, WHICH RESULTS IN VARYING PILE SPACING WHEN MEASURED ALONG WALL FACE DUE TO HORIZONTAL CURVATURE.

(CJ) DENOTES: CONSTRUCTION JOINT

(EJ) DENOTES: EXPANSION JOINT

JOINT DATA TABLE

JT. TYPE	WALL STA.	JT. TYPE	WALL STA.	JT. TYPE	WALL STA.
CJ	100+25.00	EJ	102+03.29	CJ	103+92.02
CJ	100+54.00	CJ	102+33.01	CJ	104+11.54
EJ	100+84.00	EJ	102+63.01	EJ	104+41.54
CJ	101+13.32	CJ	102+93.01	CJ	104+71.54
EJ	101+43.32	CJ	103+22.40	CJ	105+00.68
CJ	101+66.29	EJ	103+52.40	EJ	105+30.68
CJ	101+80.29	CJ	103+72.21		

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

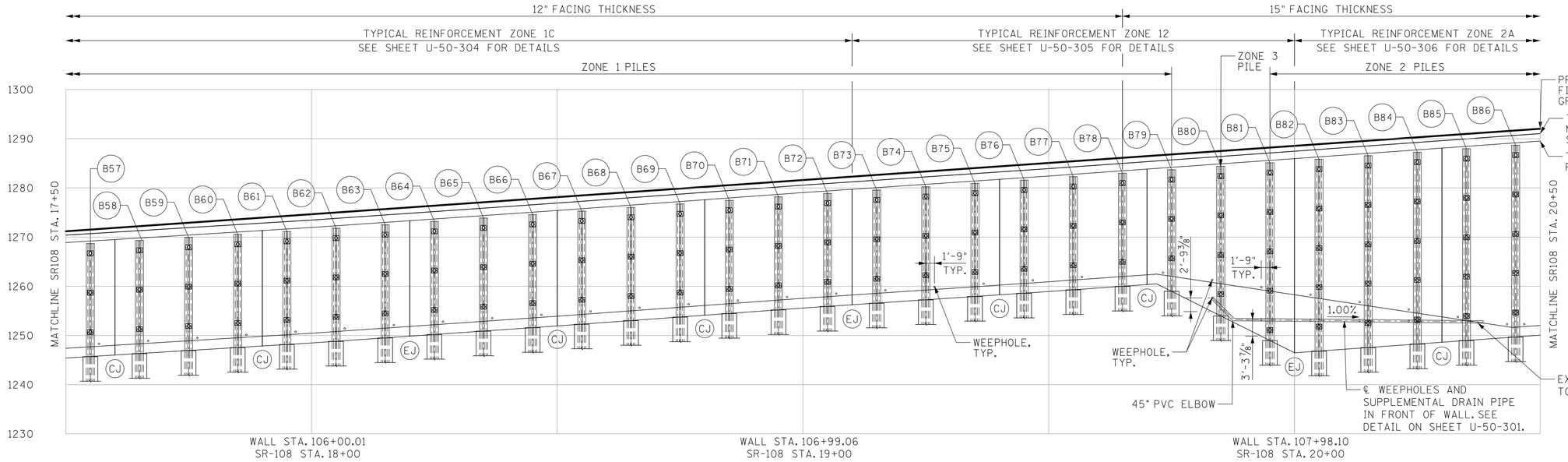
CHRISTOPHER M. KELLEY REGISTERED ENGINEER No. 118392 STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PROFILE
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

U-50-299

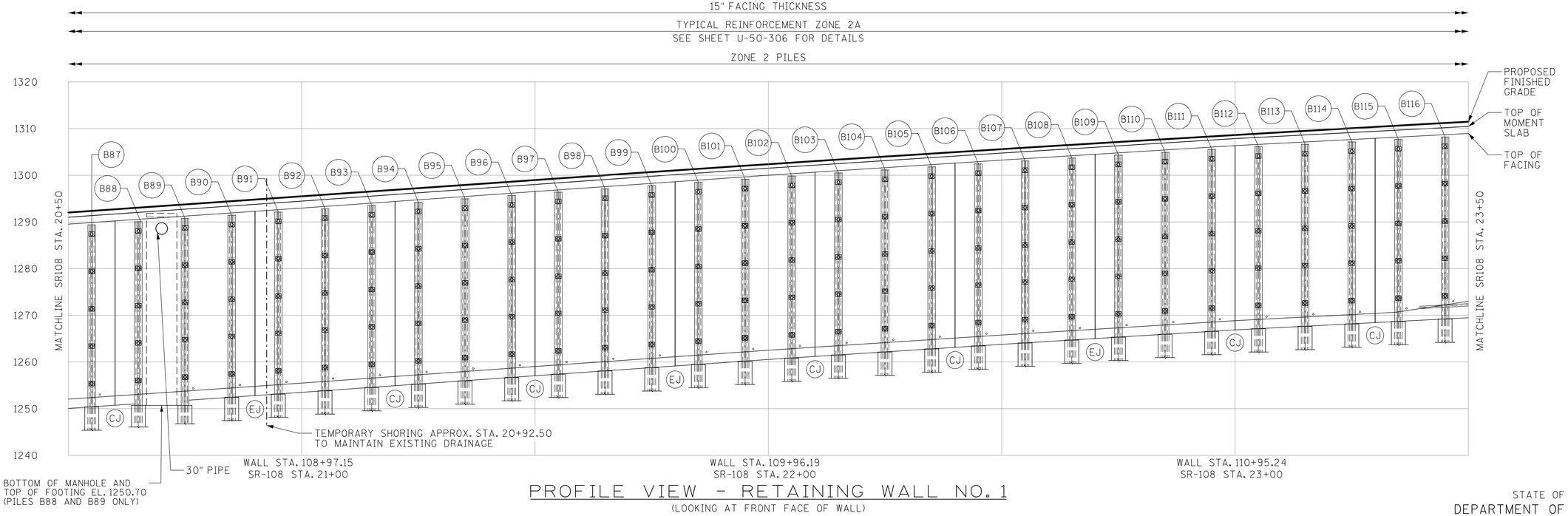
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PIN: 130296.00



PROFILE VIEW - RETAINING WALL NO. 1

(LOOKING AT FRONT FACE OF WALL)



PROFILE VIEW - RETAINING WALL NO. 1

(LOOKING AT FRONT FACE OF WALL)

(CJ) DENOTES: CONSTRUCTION JOINT

(EJ) DENOTES: EXPANSION JOINT

JOINT DATA TABLE

JT. TYPE	WALL STA.	JT. TYPE	WALL STA.	JT. TYPE	WALL STA.
CJ	105+60.68	CJ	107+38.96	CJ	109+46.38
CJ	105+89.82	CJ	107+68.10	EJ	109+76.38
EJ	106+19.82	EJ	107+98.10	CJ	110+06.38
CJ	106+49.82	CJ	108+28.10	CJ	110+35.52
CJ	106+78.96	CJ	108+57.24	EJ	110+65.52
EJ	107+08.96	EJ	108+87.24	CJ	110+95.52
CJ	107+38.96	CJ	109+17.24	CJ	111+24.66

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118332
STATE OF TENNESSEE
05/19/25

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-9

REVISIONS

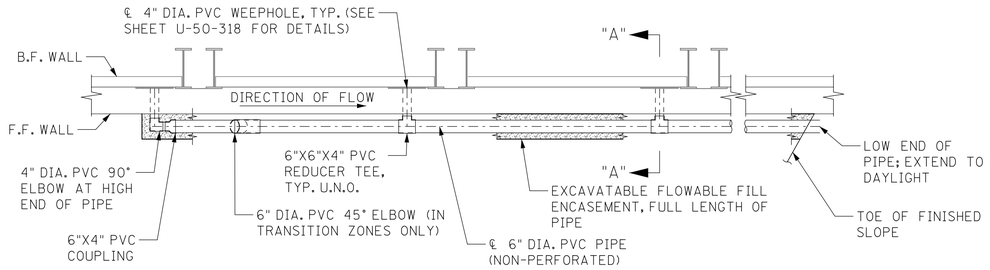
NO.	DATE	BY	BRIEF DESCRIPTION

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PROFILE
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

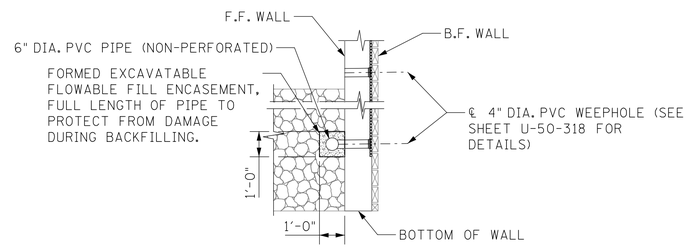
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PIN: 130296.00



PLAN



SECTION "A"-"A"

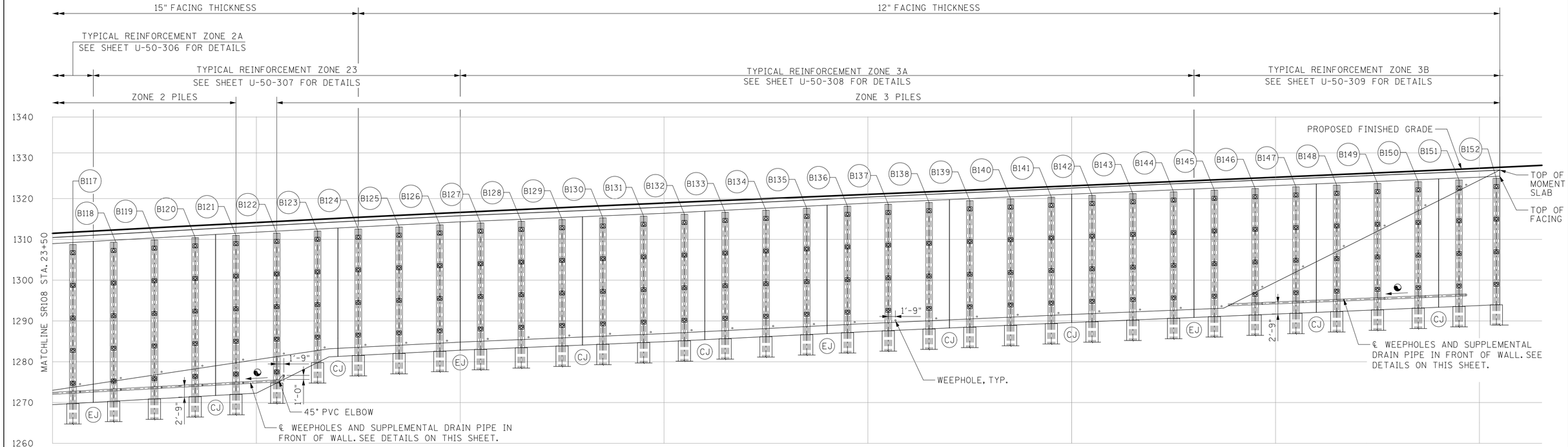
CONST. NO.	58S108-F3-002	
PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-10

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

SUPPLEMENTAL WALL DRAIN DETAILS

TO BE USED AT BEGINNING AND END OF WALL, AND IN WALL-HEIGHT TRANSITION ZONES AS INDICATED ON WALL PROFILE SHEETS
DETAIL SHOWN WITH HIGH END OF PIPE AT LEFT; WHERE HIGH END OF PIPE IS AT RIGHT, DETAIL SHALL BE MIRRORED
REINFORCEMENT, ANCHORS, SHEAR STUDS, AND OTHER WALL ELEMENTS NOT SHOWN FOR CLARITY



PROFILE VIEW - RETAINING WALL NO. 1

(LOOKING AT FRONT FACE OF WALL)

(CJ) DENOTES: CONSTRUCTION JOINT

(EJ) DENOTES: EXPANSION JOINT

◔ DENOTES: SLOPE OF SUPPLEMENTAL WALL DRAIN TO FOLLOW BOTTOM OF WALL PROFILE.

JOINT DATA TABLE

JT. TYPE	WALL STA.	JT. TYPE	WALL STA.	JT. TYPE	WALL STA.
EJ	111+54.66	CJ	112+74.20	CJ	113+93.34
CJ	111+84.66	CJ	113+03.77	EJ	114+23.34
CJ	112+14.20	EJ	113+33.77	CJ	114+53.34
EJ	112+44.20	CJ	113+63.77	CJ	114+83.00

CHRISTOPHER M. KELLEY — REGISTERED ENGINEER — No. 118392 — STATE OF TENNESSEE — TDOT — TDA — TDEC — TDOC
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PROFILE
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY	ALFRED BENESCH & COMPANY	DATE 04-05-24
DRAWN BY	ANDREW TILTON, P.E.	DATE 04-05-24
SUPERVISED BY	JACOB WILLIAMS, P.E.	DATE 04-05-24
CHECKED BY	CHRIS KELLEY, P.E.	DATE 04-05-24

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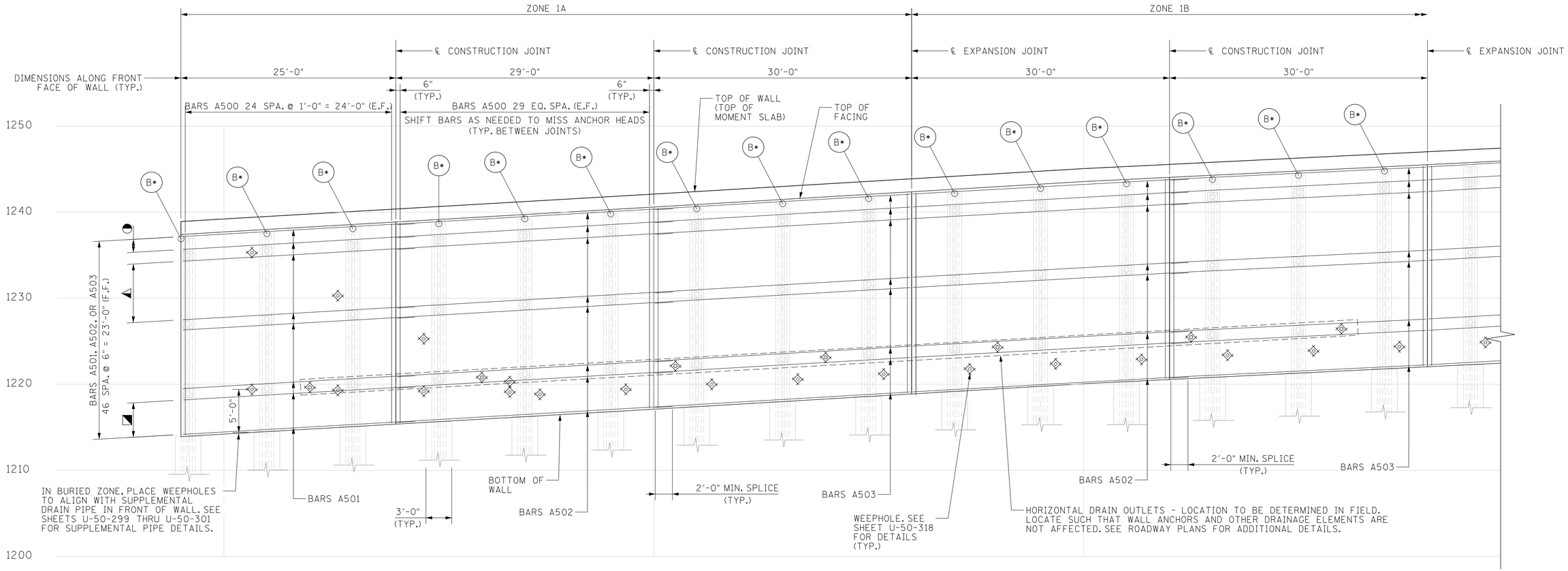
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CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-11

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



PROFILE VIEW - TYPICAL REINFORCEMENT ZONE 1A AND 1B

LOOKING AT WALL FRONT FACE

◭ DENOTES: BARS A501, A502, OR A503 @ 15 EQ. SPA. = 6'-9" (B.F.) (TYP. BTWN. ANCHORS)

◑ DENOTES: BARS A501, A502, OR A503 3 SPA. @ 6" = 1'-6" (B.F.)

◪ DENOTES: BARS A501, A502, OR A503 8 SPA. @ 6" = 4'-0" (B.F.)

B* DENOTES: PILE NOS. B1-B15 & B22-B27 IN TYPICAL REINFORCEMENT ZONE 1A AND 1B

CHRISTOPHER M. KELLEY REGISTERED ENGINEER No. 118392 STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TYPICAL REINFORCEMENT ZONE 1A & 1B
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

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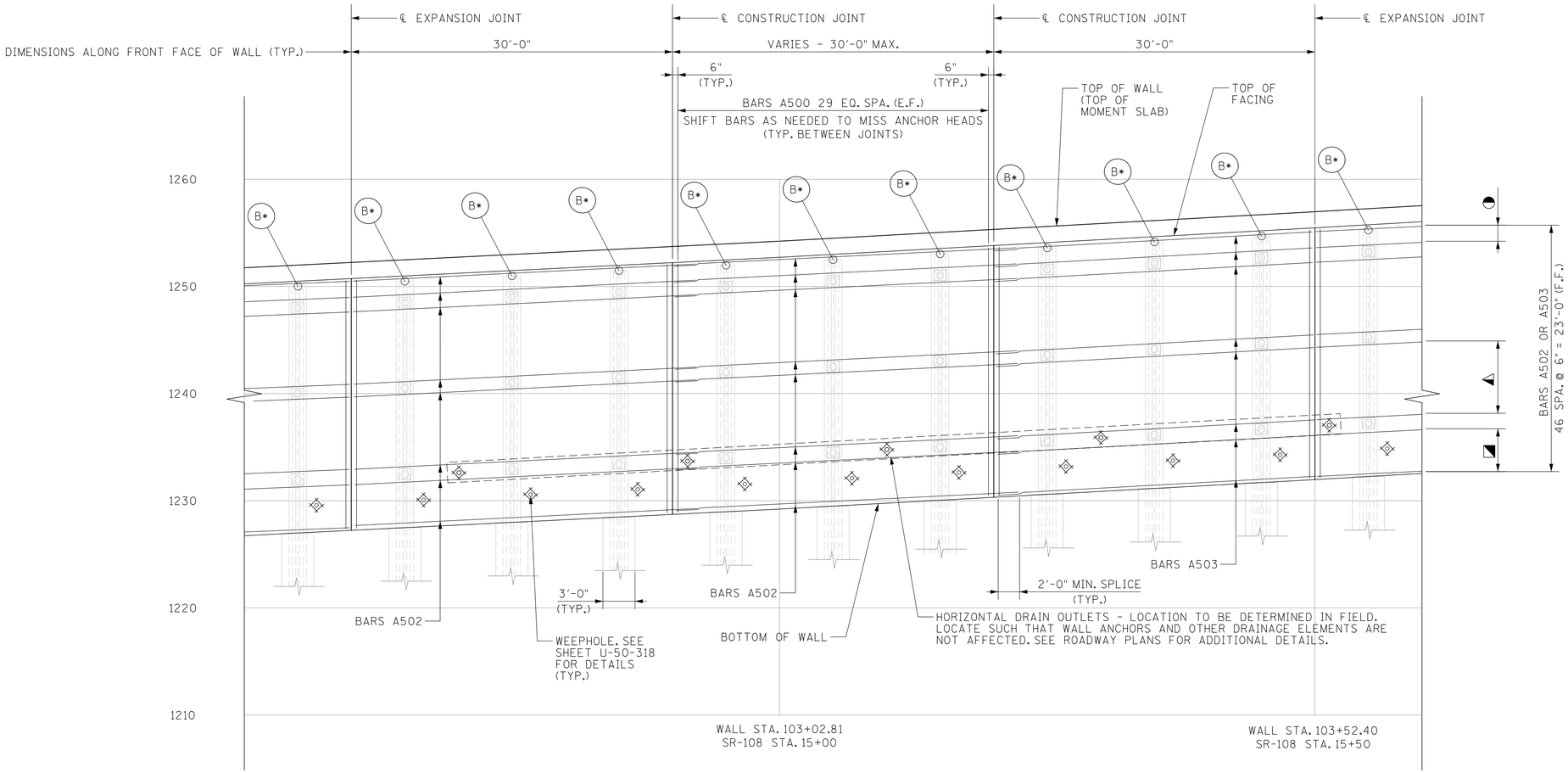
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CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-12

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



PROFILE VIEW - TYPICAL REINFORCEMENT ZONE 1C

LOOKING AT WALL FRONT FACE

◭ DENOTES: BARS A502 OR A503 @ 15 EQ. SPA. = 6'-9" (B.F.) (TYP. BTWN. ANCHORS)

◑ DENOTES: BARS A502 OR A503 3 SPA. @ 6" = 1'-6" (B.F.)

◪ DENOTES: BARS A502 OR A503 8 SPA. @ 6" = 4'-0" (B.F.)

B* DENOTES: PILE NOS. B28-B36 & B46-B72 IN TYPICAL REINFORCEMENT ZONE 1C

CHRISTOPHER M. KELLEY — REGISTERED ENGINEER — No. 118392 — STATE OF TENNESSEE

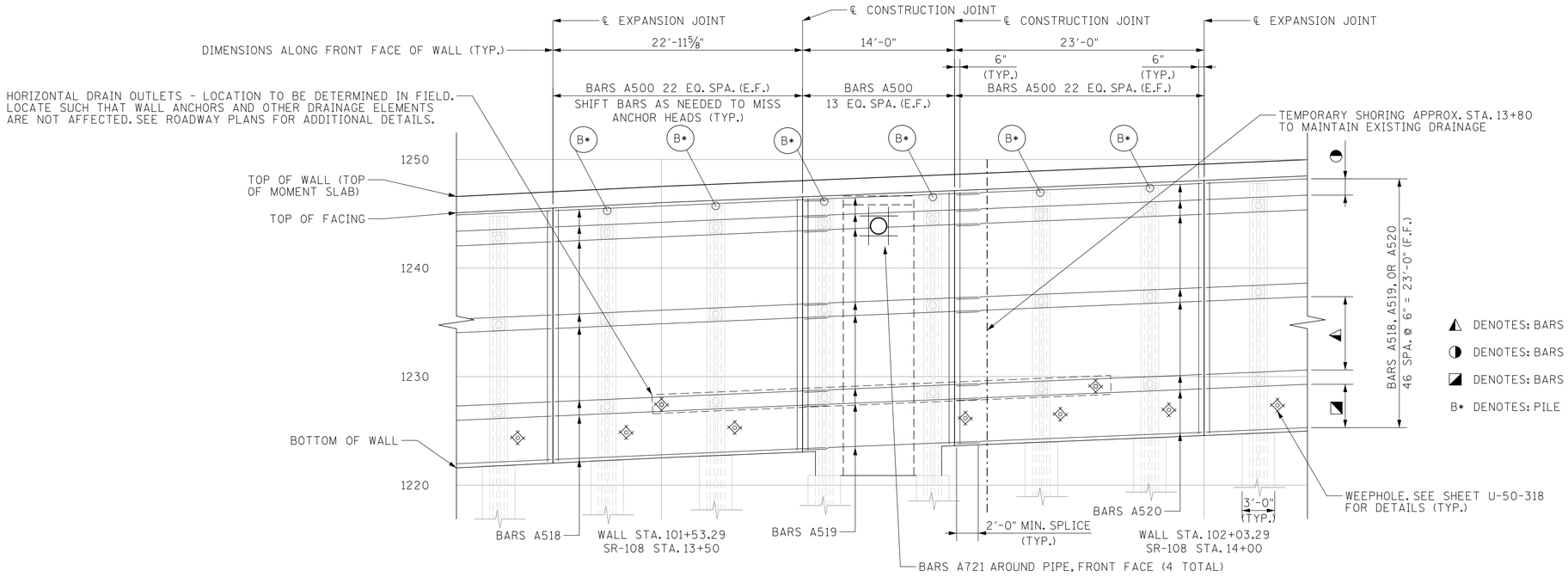
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TYPICAL REINFORCEMENT ZONE 1C
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

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PIN: 130296.00



PROFILE VIEW - TYPICAL REINFORCEMENT ZONE 1D

LOOKING AT WALL FRONT FACE

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-13

REVISIONS

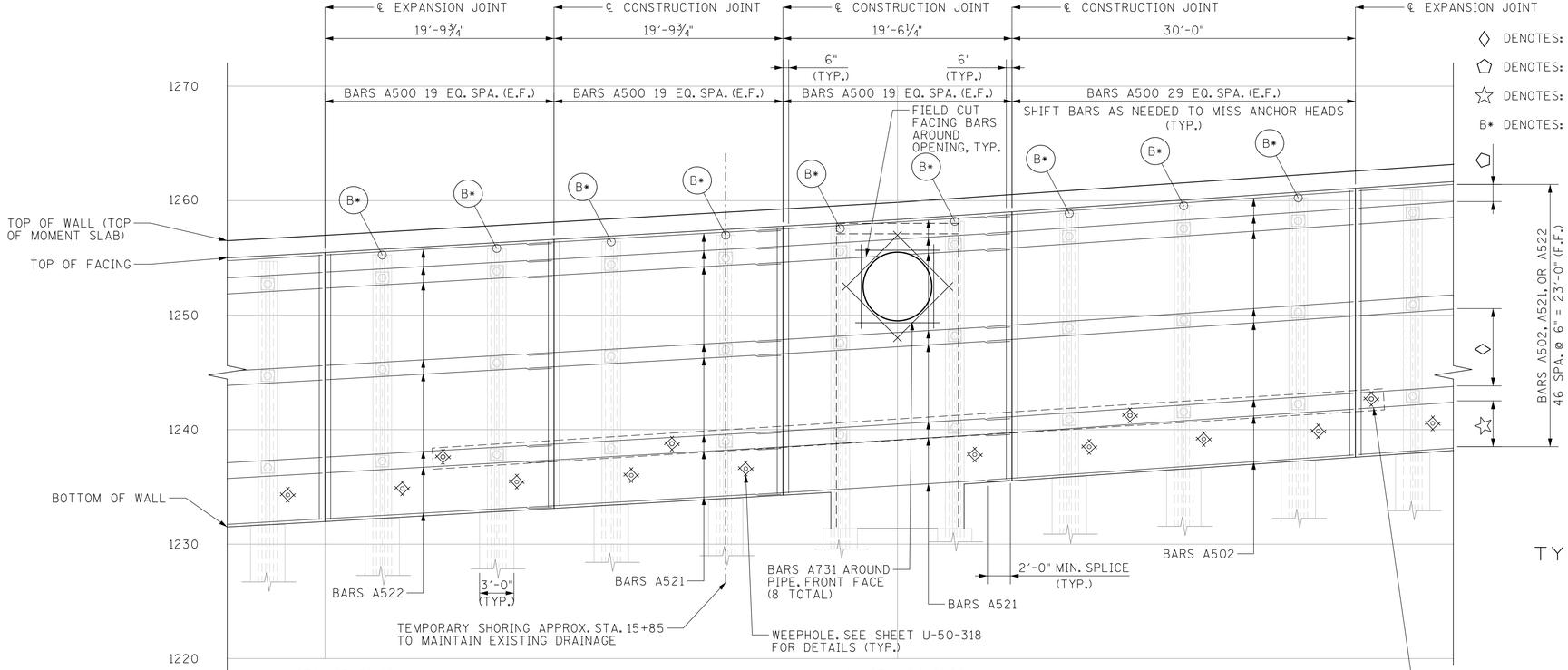
NO.	DATE	BY	BRIEF DESCRIPTION

△ DENOTES: BARS A518, A519, OR A520 @ 15 EQ. SPA. = 6′-9" (B.F.) (TYP. BTWN. ANCHORS)

◑ DENOTES: BARS A518, A519, OR A520 3 SPA. @ 6" = 1′-6" (B.F.)

◪ DENOTES: BARS A518, A519, OR A520 8 SPA. @ 6" = 4′-0" (B.F.)

B* DENOTES: PILE NOS. B16-B21 IN TYPICAL REINFORCEMENT ZONE 1D



PROFILE VIEW - TYPICAL REINFORCEMENT ZONE 1E

LOOKING AT WALL FRONT FACE

◇ DENOTES: BARS A502, A521, OR A522 @ 15 EQ. SPA. = 6′-9" (B.F.) (TYP. BTWN. ANCHORS)

⬠ DENOTES: BARS A502, A521, OR A522 3 SPA. @ 6" = 1′-6" (B.F.)

☆ DENOTES: BARS A502, A521, OR A522 8 SPA. @ 6" = 4′-0" (B.F.)

B* DENOTES: PILE NOS. B37-B45 IN TYPICAL REINFORCEMENT ZONE 1E

HORIZONTAL DRAIN OUTLETS - LOCATION TO BE DETERMINED IN FIELD. LOCATE SUCH THAT WALL ANCHORS AND OTHER DRAINAGE ELEMENTS ARE NOT AFFECTED. SEE ROADWAY PLANS FOR ADDITIONAL DETAILS.

CHRISTOPHER M. KELLEY REGISTERED ENGINEER No. 118392 STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TYPICAL REINFORCEMENT ZONE 1D & 1E
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY	ALFRED BENESCH & COMPANY	DATE	04-05-24
DRAWN BY	ANDREW TILTON, P.E.	DATE	04-05-24
SUPERVISED BY	JACOB WILLIAMS, P.E.	DATE	04-05-24
CHECKED BY	CHRIS KELLEY, P.E.	DATE	04-05-24

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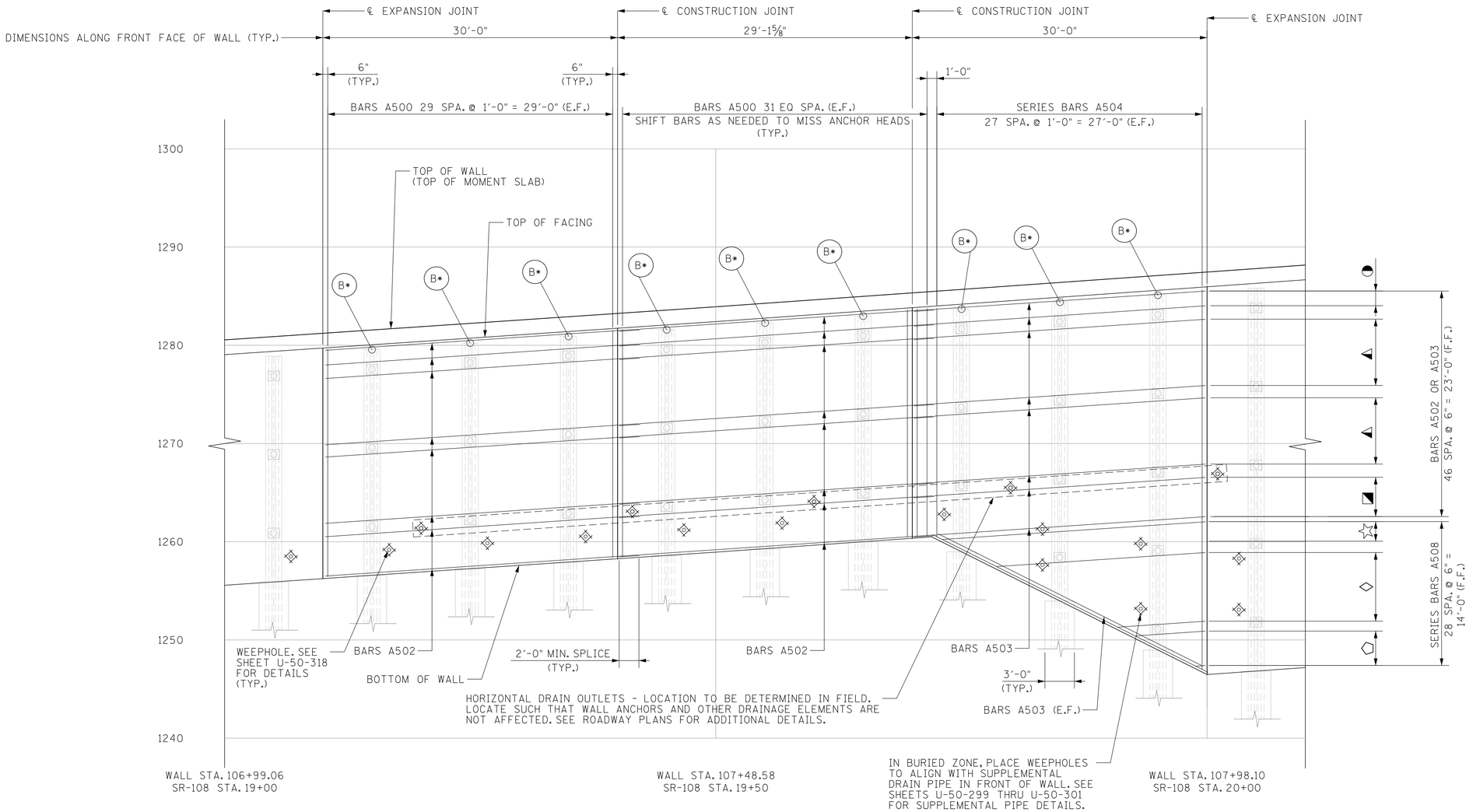
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CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-14

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



PROFILE VIEW - TYPICAL REINFORCEMENT ZONE 12

LOOKING AT WALL FRONT FACE

◭ DENOTES: BARS A502 OR A503 @ 15 EQ. SPA. = 6'-9" (B.F.)

◑ DENOTES: BARS A502 OR A503 3 SPA. @ 6" = 1'-6" (B.F.)

◪ DENOTES: BARS A502 OR A503 8 SPA. @ 6" = 4'-0" (B.F.)

☆ DENOTES: SERIES BARS A505 4 SPA. @ 6" = 2'-0" (B.F.)

◇ DENOTES: SERIES BARS A506 15 SPA. @ 6" = 7'-0" (B.F.)

⬠ DENOTES: SERIES BARS A507 7 SPA. @ 6" = 3'-6" (B.F.)

B* DENOTES: PILE NOS. B73-B81 IN TYPICAL REINFORCEMENT ZONE 12

CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118394
STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TYPICAL REINFORCEMENT ZONE 12
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

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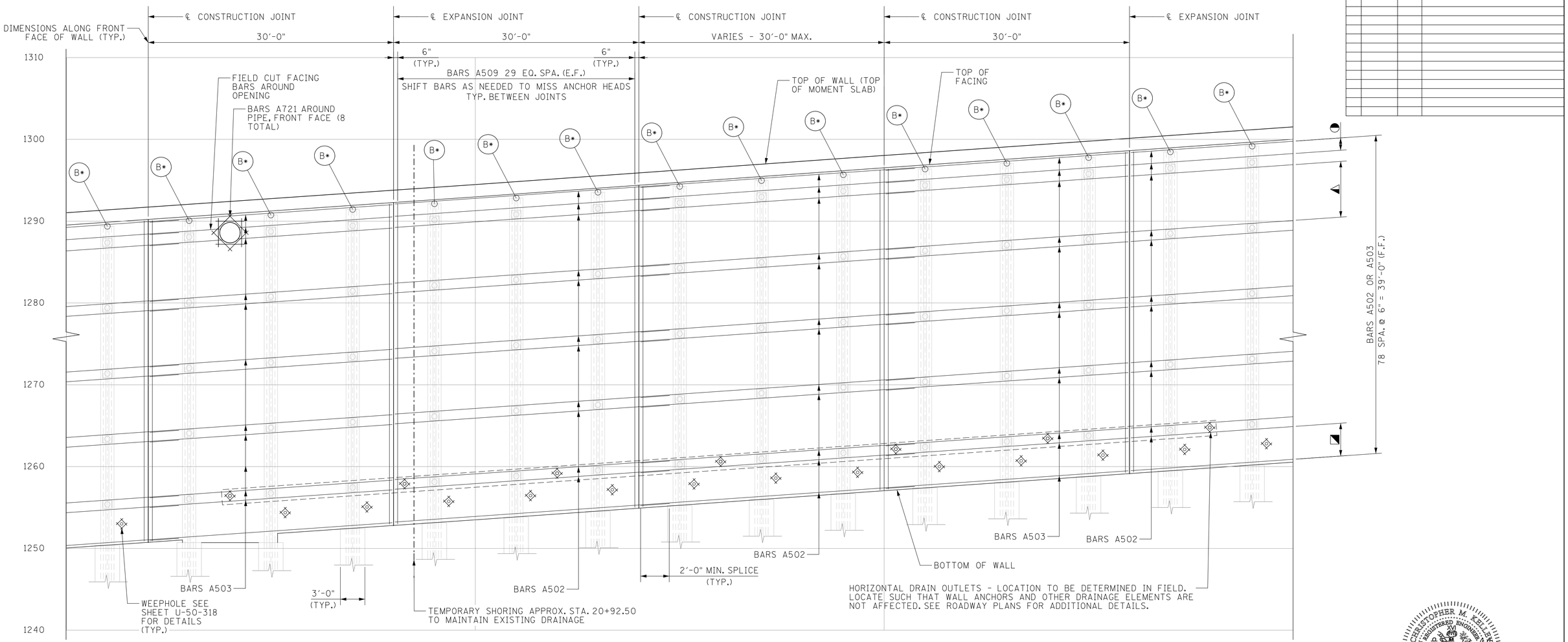
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CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-15

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118392
STATE OF TENNESSEE
05/19/25

PROFILE VIEW - TYPICAL REINFORCEMENT ZONE 2A

LOOKING AT WALL FRONT FACE

◭ DENOTES: BARS A502 OR A503 @ 15 EQ. SPA. = 6'-9" (B.F.) (TYP. BTWN. ANCHORS)

◑ DENOTES: BARS A502 OR A503 3 SPA. @ 6" = 1'-6" (B.F.)

◪ DENOTES: BARS A502 OR A503 8 SPA. @ 6" = 4'-0" (B.F.)

B* DENOTES: PILE NOS. B82-B117 IN TYPICAL REINFORCEMENT ZONE 2A

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TYPICAL REINFORCEMENT ZONE 2A
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY	ALFRED BENESCH & COMPANY	DATE	04-05-24
DRAWN BY	ANDREW TILTON, P.E.	DATE	04-05-24
SUPERVISED BY	JACOB WILLIAMS, P.E.	DATE	04-05-24
CHECKED BY	CHRIS KELLEY, P.E.	DATE	04-05-24

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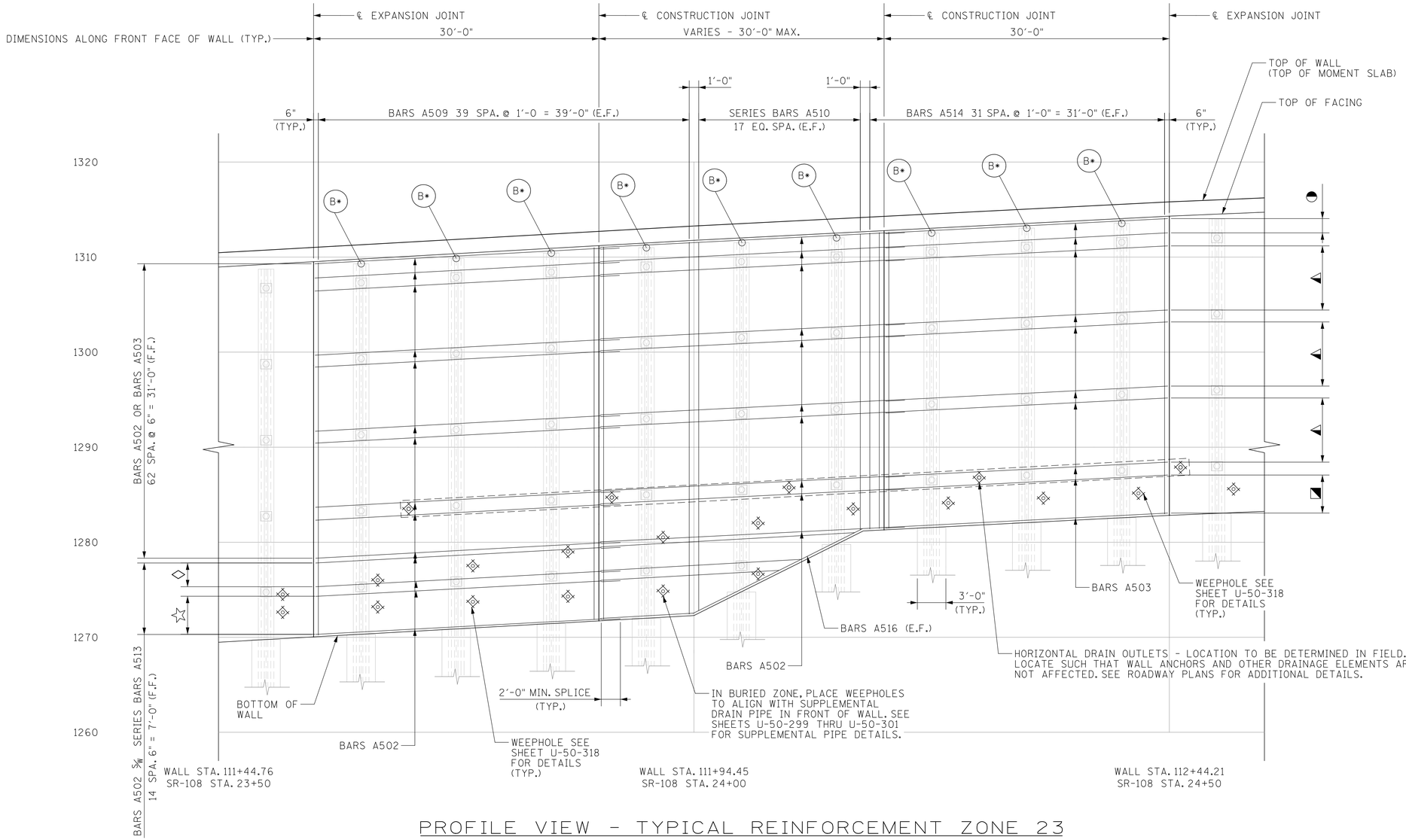
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CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-16

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



PROFILE VIEW - TYPICAL REINFORCEMENT ZONE 23

LOOKING AT WALL FRONT FACE

◭ DENOTES: BARS A502 OR A503 @ 15 EQ. SPA. = 6'-9" (B.F.)

◑ DENOTES: BARS A502 OR A503 3 SPA. @ 6" = 1'-6" (B.F.)

◪ DENOTES: BARS A502 OR A503 8 SPA. @ 6" = 4'-0" (B.F.)

☆ DENOTES: BARS A502 5/8" SERIES BARS A511 8 SPA. @ 6" = 4'-0" (B.F.)

◇ DENOTES: BARS A502 5/8" SERIES BARS A512 5 SPA. @ 6" = 2'-6" (B.F.)

B* DENOTES: PILE NOS. B118-B126 IN TYPICAL REINFORCEMENT ZONE 23

CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118394
STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TYPICAL REINFORCEMENT ZONE 23
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

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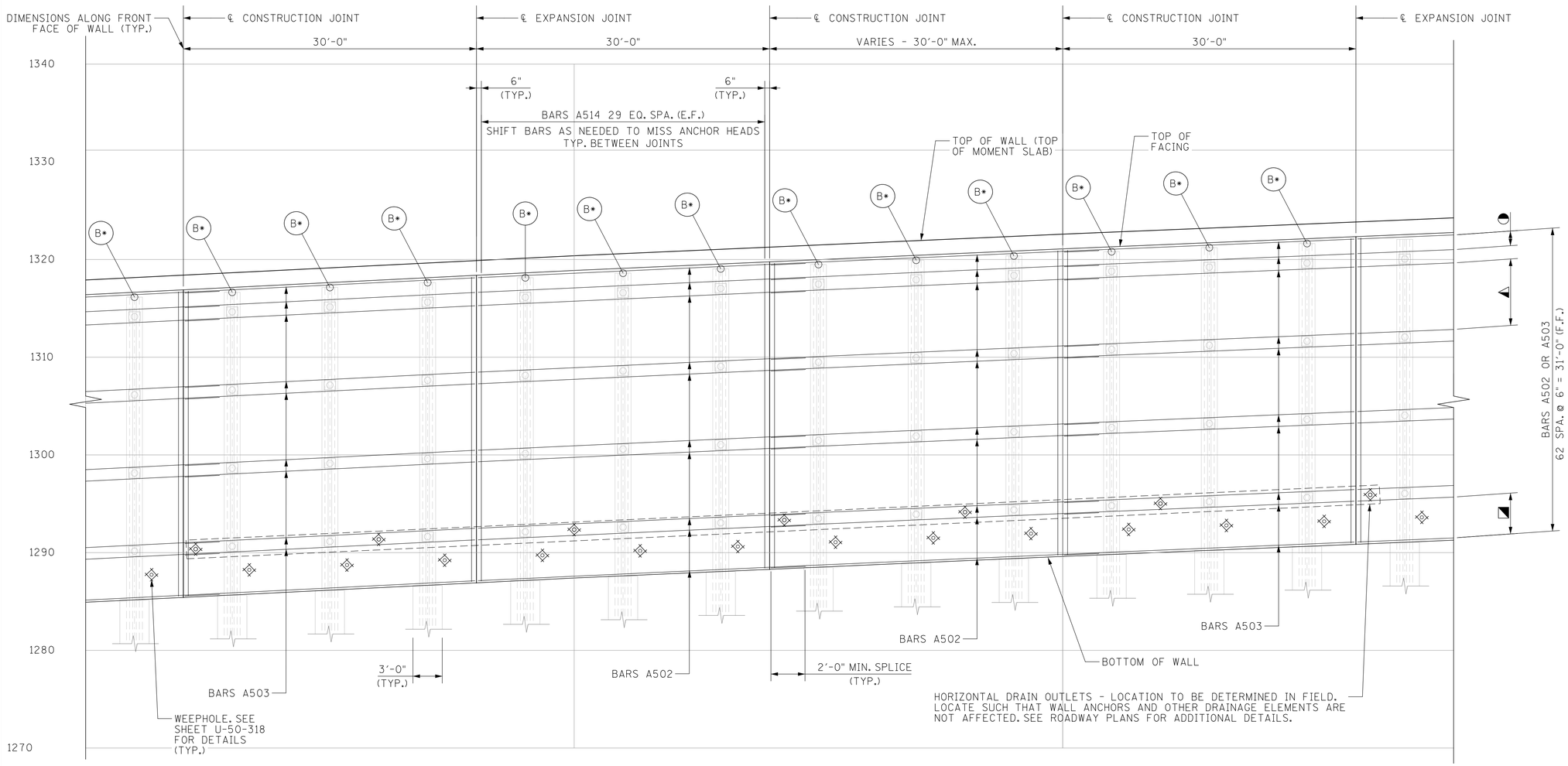
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CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-17

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118392
STATE OF TENNESSEE
05/19/25

PROFILE VIEW - TYPICAL REINFORCEMENT ZONE 3A

LOOKING AT WALL FRONT FACE

◭ DENOTES: BARS A502 OR A503 @ 15 EQ. SPA. = 6'-9" (B.F.) (TYP. BTWN. ANCHORS)

◑ DENOTES: BARS A502 OR A503 3 SPA. @ 6" = 1'-6" (B.F.)

◪ DENOTES: BARS A502 OR A503 8 SPA. @ 6" = 4'-0" (B.F.)

B* DENOTES: PILE NOS. B127-B144 IN TYPICAL REINFORCEMENT ZONE 3A

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TYPICAL REINFORCEMENT ZONE 3A
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY	ALFRED BENESCH & COMPANY	DATE 04-05-24
DRAWN BY	ANDREW TILTON, P.E.	DATE 04-05-24
SUPERVISED BY	JACOB WILLIAMS, P.E.	DATE 04-05-24
CHECKED BY	CHRIS KELLEY, P.E.	DATE 04-05-24

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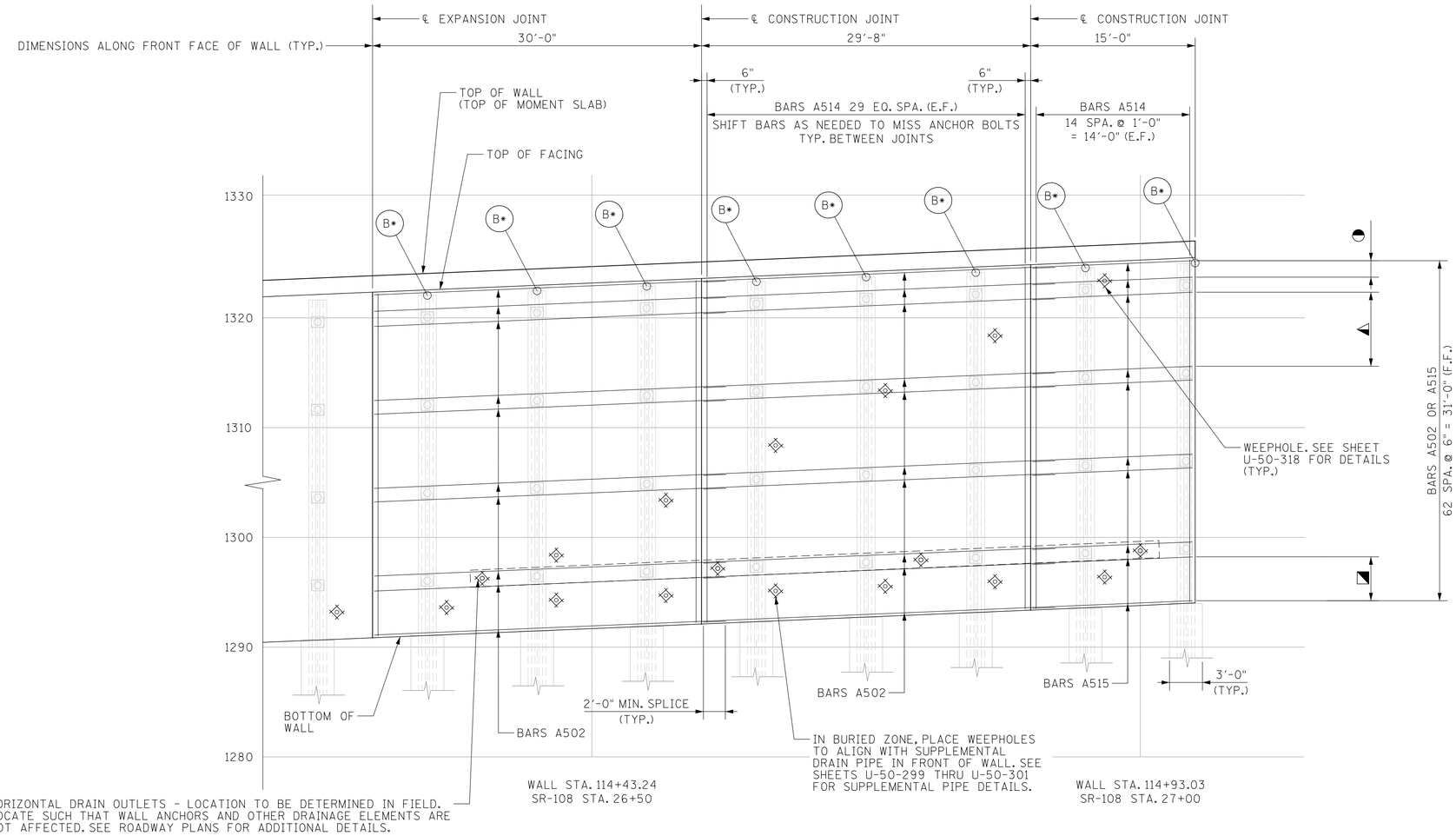
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CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-18

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



PROFILE VIEW - TYPICAL REINFORCEMENT ZONE 3B

LOOKING AT WALL FRONT FACE

◭ DENOTES: BARS A502 OR A515 @ 15 EQ. SPA. = 6'-9" (B.F.) (TYP. BTWN. ANCHORS)

◑ DENOTES: BARS A502 OR A515 3 SPA. @ 6" = 1'-6" (B.F.)

◪ DENOTES: BARS A502 OR A515 8 SPA. @ 6" = 4'-0" (B.F.)

B* DENOTES: PILE NOS. B145-B152 IN TYPICAL REINFORCEMENT ZONE 3B

CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118392
STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TYPICAL REINFORCEMENT ZONE 3B
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY	ALFRED BENESCH & COMPANY	DATE	04-05-24
DRAWN BY	ANDREW TILTON, P.E.	DATE	04-05-24
SUPERVISED BY	JACOB WILLIAMS, P.E.	DATE	04-05-24
CHECKED BY	CHRIS KELLEY, P.E.	DATE	04-05-24

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SOLDIER PILE SCHEDULE

NO.	ROADWAY STATION	WALL STATION	ROADWAY OFFSET (RT)	TOP OF PILE ELEV.	BOT OF WALL ELEV.	EST. TOP OF ROCK ELEV.	MIN. ROCK EMBED (FT)	EST. TOT. BEAM LENGTH (FT)	MIN. TIP ELEV.
B1	11+95.83	100+00.81	22.21	1236.96	1213.96	1191 TO 1199	20.00	65.96	1171.00
B2	12+05.00	100+09.88	22.21	1237.50	1214.50		20.00	66.50	1171.00
B3	12+15.00	100+19.77	22.21	1238.08	1215.08		20.00	67.08	1171.00
B4	12+25.00	100+29.65	22.21	1238.66	1215.66		20.00	67.66	1171.00
B5	12+35.00	100+39.53	22.21	1239.24	1216.24		20.00	68.24	1171.00
B6	12+45.00	100+49.41	22.21	1239.82	1216.82		20.00	68.82	1171.00
B7	12+55.00	100+59.30	22.21	1240.41	1217.41		20.00	69.41	1171.00
B8	12+65.00	100+69.18	22.21	1241.00	1218.00		20.00	70.00	1171.00
B9	12+75.00	100+79.06	22.21	1241.60	1218.60		20.00	70.60	1171.00
B10	12+85.00	100+88.94	22.21	1242.20	1219.20	1206 TO 1211	20.00	56.20	1186.00
B11	12+95.00	100+98.83	22.21	1242.79	1219.79		20.00	56.79	1186.00
B12	13+05.00	101+08.71	22.21	1243.34	1220.34		20.00	57.34	1186.00
B13	13+15.00	101+18.59	22.21	1243.83	1220.83		20.00	57.83	1186.00
B14	13+25.00	101+28.47	22.21	1244.33	1221.33		20.00	58.33	1186.00
B15	13+35.00	101+38.36	22.21	1244.83	1221.83		20.00	58.83	1186.00
B16	13+45.00	101+48.29	22.21	1245.32	1222.32		20.00	59.32	1186.00
B17	13+55.00	101+58.29	22.21	1245.78	1222.78		20.00	59.78	1186.00
B18	13+65.00	101+68.29	22.21	1246.20	1223.20	1204 TO 1227	20.00	62.20	1184.00
B19	13+75.00	101+78.29	22.21	1246.62	1223.62		20.00	62.62	1184.00
B20	13+85.00	101+88.29	22.21	1247.05	1224.05		20.00	63.05	1184.00
B21	13+95.00	101+98.29	22.21	1247.47	1224.47		20.00	63.47	1184.00
B22	14+05.00	102+08.29	22.21	1247.91	1224.91		20.00	63.91	1184.00
B23	14+15.00	102+18.24	22.21	1248.36	1225.36		20.00	64.36	1184.00
B24	14+25.00	102+28.19	22.21	1248.81	1225.81		20.00	64.81	1184.00
B25	14+35.00	102+38.14	22.21	1249.27	1226.27		20.00	65.27	1184.00
B26	14+45.00	102+48.09	22.21	1249.72	1226.72		20.00	65.72	1184.00
B27	14+55.00	102+58.04	22.21	1250.20	1227.20		20.00	66.20	1184.00
B28	14+65.00	102+67.98	22.21	1250.71	1227.71		20.00	66.71	1184.00
B29	14+75.00	102+77.93	22.21	1251.21	1228.21		20.00	67.21	1184.00
B30	14+85.00	102+87.88	22.21	1251.71	1228.71		20.00	67.71	1184.00
B31	14+95.00	102+97.83	22.21	1252.22	1229.22		20.00	68.22	1184.00
B32	15+05.00	103+07.78	22.21	1252.74	1229.74		20.00	68.74	1184.00
B33	15+15.00	103+17.73	22.21	1253.28	1230.28		20.00	69.28	1184.00
B34	15+25.00	103+27.64	22.21	1253.81	1230.81	1215 TO 1225	20.00	58.81	1195.00
B35	15+35.00	103+37.54	22.21	1254.35	1231.35		20.00	59.35	1195.00
B36	15+45.00	103+47.45	22.21	1254.89	1231.89		20.00	59.89	1195.00
B37	15+55.00	103+57.35	22.21	1255.44	1232.44		20.00	60.44	1195.00
B38	15+65.00	103+67.25	22.21	1256.01	1233.01		20.00	61.01	1195.00
B39	15+75.00	103+77.16	22.21	1256.57	1233.57		20.00	61.57	1195.00
B40	15+85.00	103+87.06	22.21	1257.13	1234.13	1213 TO 1215	20.00	64.13	1193.00
B41	15+95.00	103+96.97	22.21	1257.70	1234.70		20.00	64.70	1193.00
B42	16+05.00	104+06.87	22.21	1258.31	1235.31	1220 TO 1237	20.00	58.31	1200.00
B43	16+15.00	104+16.78	22.21	1258.97	1235.97		20.00	58.97	1200.00
B44	16+25.00	104+26.68	22.21	1259.62	1236.62		20.00	59.62	1200.00
B45	16+35.00	104+36.59	22.21	1260.28	1237.28		20.00	60.28	1200.00
B46	16+45.00	104+46.49	22.21	1260.94	1237.94		20.00	60.94	1200.00
B47	16+55.00	104+56.40	22.21	1261.60	1238.60		20.00	61.60	1200.00
B48	16+65.00	104+66.30	22.21	1262.25	1239.25		20.00	62.25	1200.00
B49	16+75.00	104+76.20	22.21	1262.91	1239.91		20.00	62.91	1200.00
B50	16+85.00	104+86.11	22.21	1263.57	1240.57		20.00	63.57	1200.00
B51	16+95.00	104+96.01	22.21	1264.22	1241.22		20.00	64.22	1200.00
B52	17+05.00	105+05.92	22.21	1264.93	1241.93		20.00	64.93	1200.00
B53	17+15.00	105+15.82	22.21	1265.70	1242.70		20.00	65.70	1200.00
B54	17+25.00	105+25.73	22.21	1266.47	1243.47		20.00	66.47	1200.00
B55	17+35.00	105+35.63	22.21	1267.24	1244.24		20.00	67.24	1200.00
B56	17+45.00	105+45.54	22.21	1268.01	1245.01	1239 TO 1252	20.00	49.01	1219.00
B57	17+55.00	105+55.44	22.21	1268.70	1245.70		20.00	49.70	1219.00
B58	17+65.00	105+65.34	22.21	1269.31	1246.31		20.00	50.31	1219.00
B59	17+75.00	105+75.25	22.21	1269.92	1246.92		20.00	50.92	1219.00

SOLDIER PILE SCHEDULE

NO.	ROADWAY STATION	WALL STATION	ROADWAY OFFSET (RT)	TOP OF PILE ELEV.	BOT OF WALL ELEV.	EST. TOP OF ROCK ELEV.	MIN. ROCK EMBED (FT)	EST. TOT. BEAM LENGTH (FT)	MIN. TIP ELEV.
B60	17+85.00	105+85.15	22.21	1270.53	1247.53	1239 TO 1252	20.00	51.53	1219.00
B61	17+95.00	105+95.06	22.21	1271.14	1248.14		20.00	52.14	1219.00
B62	18+05.00	106+04.96	22.21	1271.80	1248.80		20.00	52.80	1219.00
B63	18+15.00	106+14.87	22.21	1272.49	1249.49		20.00	53.49	1219.00
B64	18+25.00	106+24.77	22.21	1273.18	1250.18		20.00	54.18	1219.00
B65	18+35.00	106+34.68	22.21	1273.88	1250.88		20.00	54.88	1219.00
B66	18+45.00	106+44.58	22.21	1274.57	1251.57		20.00	55.57	1219.00
B67	18+55.00	106+54.48	22.21	1275.28	1252.28	1258 TO 1263	20.00	43.00	1232.28
B68	18+65.00	106+64.39	22.21	1276.01	1253.01		20.00	43.00	1233.01
B69	18+75.00	106+74.29	22.21	1276.73	1253.73		20.00	43.00	1233.73
B70	18+85.00	106+84.20	22.21	1277.46	1254.46		20.00	43.00	1234.46
B71	18+95.00	106+94.10	22.21	1278.19	1255.19		20.00	43.00	1235.19
B72	19+05.00	107+04.01	22.21	1278.89	1255.89		20.00	43.00	1235.89
B73	19+15.00	107+13.91	22.21	1279.56	1256.56		20.00	43.00	1236.56
B74	19+25.00	107+23.82	22.21	1280.23	1257.23		20.00	43.00	1237.23
B75	19+35.00	107+33.72	22.21	1280.91	1257.91		20.00	43.00	1237.91
B76	19+45.00	107+43.63	22.21	1281.58	1258.58		20.00	43.58	1238.00
B77	19+55.00	107+53.53	22.21	1282.27	1259.27	1244 TO 1262	20.00	58.27	1224.00
B78	19+65.00	107+63.43	22.21	1282.98	1259.98		20.00	58.98	1224.00
B79	19+75.00	107+73.34	21.96	1283.69	1258.97		20.00	59.69	1224.00
B80	19+85.00	107+83.24	21.96	1284.40	1253.96		20.00	60.40	1224.00
B81	19+95.00	107+93.15	21.96	1285.11	1248.96		20.00	61.11	1224.00
B82	20+05.00	108+03.05	21.96	1285.82	1246.82		20.00	61.82	1224.00
B83	20+15.00	108+12.96	21.96	1286.53	1247.53		20.00	62.53	1224.00
B84	20+25.00	108+22.86	21.96	1287.24	1248.24	1238 TO 1243	20.00	69.24	1218.00
B85	20+35.00	108+32.77	21.96	1287.96	1248.96		20.00	69.96	1218.00
B86	20+45.00	108+42.67	21.96	1288.67	1249.67		20.00	70.67	1218.00
B87	20+55.00	108+52.57	21.96	1289.37	1250.37		20.00	71.37	1218.00
B88	20+65.00	108+62.48	21.96	1290.06	1251.06		20.00	72.06	1218.00
B89	20+75.00	108+72.38	21.96	1290.75	1251.75		20.00	72.75	1218.00
B90	20+85.00	108+82.29	21.96	1291.44	1252.44		20.00	73.44	1218.00
B91	20+95.00	108+92.19	21.96	1292.13	1253.13		20.00	74.13	1218.00
B92	21+05.00	109+02.10	21.96	1292.83	1253.83	1237 TO 1249	20.00	75.83	1217.00
B93	21+15.00	109+12.00	21.96	1293.54	1254.54		20.00	76.54	1217.00
B94	21+25.00	109+21.91	21.96	1294.25	1255.25		20.00	77.25	1217.00
B95	21+35.00	109+31.81	21.96	1294.96	1255.96		20.00	77.96	1217.00
B96	21+45.00	109+41.72	21.96	1295.67	1256.67		20.00	78.67	1217.00
B97	21+55.00	109+51.62	21.96	1296.38	1257.38		20.00	79.38	1217.00
B98	21+65.00	109+61.52	21.96	1297.08	1258.08		20.00	80.08	1217.00
B99	21+75.00	109+71.43	21.96	1297.77	1258.77		20.00	80.77	1217.00
B100	21+85.00	109+81.33	21.96	1298.47	1259.47		20.00	81.47	1217.00
B101	21+95.00	109+91.24	21.96	1299.17	1260.17	1250 TO 1256	20.00	69.17	1230.00
B102	22+05.00	110+01.14	21.96	1299.84	1260.84		20.00	69.84	1230.00
B103	22+15.00	110+11.05	21.96	1300.49	1261.49		20.00	70.49	1230.00
B104	22+25.00	110+20.95	21.96	1301.14	1262.14		20.00	71.14	1230.00
B105	22+35.00	110+30.86	21.96	1301.79	1262.79		20.00	71.79	1230.00
B106	22+45.00	110+40.76	21.96	1302.44	1263.44	1245 TO 1254	20.00	77.44	1225.00
B107	22+55.00	110+50.66	21.96	1303.08	1264.08		20.00	78.08	1225.00
B108	22+65.00	110+60.57	21.96	1303.70	1264.70		20.00	78.70	1225.00
B109	22+75.00	110+70.47	21.96	1304.31	1265.31		20.00	79.31	1225.00
B110	22+85.00	110+80.38	21.96	1304.93	1265.93		20.00	79.93	1225.00
B111	22+95.00	110+90.28	21.96	1305.55	1266.55		20.00	80.55	1225.00
B112	23+05.00	111+00.19	21.96	1306.12	1267.12		20.00	81.12	1225.00
B113	23+15.00	111+10.09	21.96	1306.64	1267.64		20.00	81.64	1225.00
B114	23+25.00	111+20.00	21.96	1307.16	1268.16	1245 TO 1251	20.00	82.16	1225.00
B115	23+35.00	111+29.90	21.96	1307.68	1268.68		20.00	82.68	1225.00
B116	23+45.00	111+39.80	21.96	1308.20	1269.20		20.00	83.20	1225.00
B117	23+55.00	111+49.71	21.96	1308.74	1269.74		20.00	83.74	1225.00
B118	23+65.00	111+59.61	21.96	1309.30	1270.30		20.00	84.30	1225.00

NOTES:

1. SOLDIER PILES MUST BE INSTALLED TO A TIP ELEVATION AT OR BELOW THE MINIMUM TIP ELEVATION SHOWIN IN THE SOLDIER PILE SCHEDULE. IN THE EVENT THAT ROCK IS ENCOUNTERED ABOVE THE ESTIMATED TOP OF ROCK ELEVATION RANGE SHOWN IN THE SOLDIER PILE DATA TABLE, THE SOLDIER PILE MUST STILL BE INSTALLED TO THE MINIMUM TIP ELEVATION. IN THE EVENT THAT ROCK IS ENCOUNTERED BELOW THE LOWER-BOUND OF THE ESTIMATED TOP OF ROCK ELEVATION RANGE, THE SOLDIER PILE MUST BE DRILLED AND INSTALLED TO A SUFFICIENT DEPTH BELOW THE ENCOUNTERED TOP OF ROCK SURFACE SO AS TO RESULT IN A MINIMUM 20 FEET OF EMBEDMENT IN CONTINUOUS ROCK. SEE GEOTECH REPORT FOR DEFINITION OF CONTINUOUS ROCK.
2. ROADWAY OFFSET SHOWN IN PILE SCHEDULE IS MEASURED TO FACE OF PILE I.E. WORK POINT AS SHOWN ON SHEET R-27.
3. ALL PILES SHALL BE DOUBLE W18X65. SEE SHEET R-31 FOR DETAILS.

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-19

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

SOLDIER PILE SCHEDULE

NO.	ROADWAY STATION	WALL STATION	ROADWAY OFFSET (RT)	TOP OF PILE ELEV.	BOT OF WALL ELEV.	EST. TOP OF ROCK ELEV.	MIN. ROCK EMBED (FT)	EST. TOT. BEAM LENGTH (FT)	MIN. TIP ELEV.
B119	23+75.00	111+69.57	21.96	1309.86	1270.86	1245 TO 1251	20.00	84.86	1225.00
B120	23+85.00	111+79.52	21.96	1310.43	1271.43		20.00	85.43	1225.00
B121	23+95.00	111+89.47	21.96	1310.99	1271.99		20.00	85.99	1225.00
B122	24+05.00	111+99.42	21.96	1311.52	1274.77	1240 TO 1252	20.00	91.52	1220.00
B123	24+15.00	112+09.37	21.96	1312.03	1279.76		20.00	92.03	1220.00
B124	24+25.00	112+19.32	22.21	1312.54	1281.54		20.00	92.54	1220.00
B125	24+35.00	112+29.28	22.21	1313.05	1282.05		20.00	93.05	1220.00
B126	24+45.00	112+39.23	22.21	1313.56	1282.56		20.00	93.56	1220.00
B127	24+55.00	112+49.18	22.21	1314.02	1283.02	1254 TO 1269	20.00	80.02	1234.00
B128	24+65.00	112+59.13	22.21	1314.44	1283.44		20.00	80.44	1234.00
B129	24+75.00	112+69.08	22.21	1314.85	1283.85		20.00	80.85	1234.00
B130	24+85.00	112+79.04	22.21	1315.27	1284.27		20.00	81.27	1234.00
B131	24+95.00	112+88.99	22.21	1315.69	1284.69		20.00	81.69	1234.00
B132	25+05.00	112+98.94	22.21	1316.15	1285.15		20.00	82.15	1234.00
B133	25+15.00	113+08.89	22.21	1316.64	1285.64		20.00	82.64	1234.00
B134	25+25.00	113+18.84	22.21	1317.14	1286.14		20.00	83.14	1234.00
B135	25+35.00	113+28.79	22.21	1317.64	1286.64		20.00	83.64	1234.00
B136	25+45.00	113+38.75	22.21	1318.13	1287.13		20.00	84.13	1234.00
B137	25+55.00	113+48.70	22.21	1318.60	1287.60	1269 TO 1277	20.00	69.60	1249.00
B138	25+65.00	113+58.65	22.21	1319.04	1288.04		20.00	70.04	1249.00
B139	25+75.00	113+68.60	22.21	1319.48	1288.48		20.00	70.48	1249.00
B140	25+85.00	113+78.55	22.21	1319.93	1288.93		20.00	70.93	1249.00
B141	25+95.00	113+88.50	22.21	1320.37	1289.37		20.00	71.37	1249.00
B142	26+05.00	113+98.46	22.21	1320.80	1289.80	1279 TO 1286	20.00	61.80	1259.00
B143	26+15.00	114+08.41	22.21	1321.21	1290.21		20.00	62.21	1259.00
B144	26+25.00	114+18.36	22.21	1321.62	1290.62		20.00	62.62	1259.00
B145	26+35.00	114+28.31	22.21	1322.04	1291.04		20.00	63.04	1259.00
B146	26+45.00	114+38.26	22.21	1322.45	1291.45		20.00	63.45	1259.00
B147	26+55.00	114+48.21	22.21	1322.87	1291.87		20.00	63.87	1259.00
B148	26+65.00	114+58.17	22.21	1323.29	1292.29		20.00	64.29	1259.00
B149	26+75.00	114+68.12	22.21	1323.71	1292.71		20.00	64.71	1259.00
B150	26+85.00	114+78.07	22.21	1324.14	1293.14		20.00	65.14	1259.00
B151	26+95.00	114+88.02	22.21	1324.56	1293.56		20.00	65.56	1259.00
B152	27+04.16	114+97.19	22.21	1324.97	1293.97		20.00	65.97	1259.00

CHRISTOPHER M. KELLEY REGISTERED ENGINEER P.E. AGRICULTURE COMMERCE No. 118392 STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PILE SCHEDULE
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

5/19/2025 11:00:10 AM
Y:\Nashville\6090005\6090006.06\Eng_Docs\Structures\DGN\SR108 Pile Schedule.sht

PIN: 130296.00

ANCHOR SCHEDULE

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B1	A	1234.96	176	235	5	45	30
	B	1226.96	176	235	5	35	30
	C	1218.96	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B2	A	1235.50	176	235	5	45	30
	B	1227.50	176	235	5	35	30
	C	1219.50	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B3	A	1236.08	176	235	5	45	30
	B	1228.08	176	235	5	35	30
	C	1220.08	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B4	A	1236.66	176	235	5	45	30
	B	1228.66	176	235	5	35	30
	C	1220.66	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B5	A	1237.24	176	235	5	45	30
	B	1229.24	176	235	5	35	30
	C	1221.24	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B6	A	1237.82	176	235	5	45	30
	B	1229.82	176	235	5	35	30
	C	1221.82	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B7	A	1238.41	176	235	5	45	30
	B	1230.41	176	235	5	35	30
	C	1222.41	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B8	A	1239.00	176	235	5	45	30
	B	1231.00	176	235	5	35	30
	C	1223.00	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B9	A	1239.60	176	235	5	45	30
	B	1231.60	176	235	5	35	30
	C	1223.60	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B10	A	1240.20	176	235	5	45	30
	B	1232.20	176	235	5	35	30
	C	1224.20	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B11	A	1240.79	176	235	5	45	30
	B	1232.79	176	235	5	35	30
	C	1224.79	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-

ANCHOR SCHEDULE CONT'D

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B12	A	1241.34	176	235	5	45	30
	B	1233.34	176	235	5	35	30
	C	1225.34	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B13	A	1241.83	176	235	5	45	30
	B	1233.83	176	235	5	35	30
	C	1225.83	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B14	A	1242.33	176	235	5	45	30
	B	1234.33	176	235	5	35	30
	C	1226.33	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B15	A	1242.83	176	235	5	45	30
	B	1234.83	176	235	5	35	30
	C	1226.83	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B16	A	1243.32	176	235	5	45	30
	B	1235.32	176	235	5	35	30
	C	1227.32	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B17	A	1243.78	176	235	5	45	30
	B	1235.78	176	235	5	35	30
	C	1227.78	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B18	A	1244.20	178.8	238	6	45	30
	B	1236.20	178.1	237	6	35	30
	C	1228.20	177.4	236	6	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B19	A	1244.62	178.8	238	6	45	30
	B	1236.62	178.1	237	6	35	30
	C	1228.62	177.4	236	6	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B20	A	1245.05	176	235	5	45	30
	B	1237.05	176	235	5	35	30
	C	1229.05	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B21	A	1245.47	176	235	5	45	30
	B	1237.47	176	235	5	35	30
	C	1229.47	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B22	A	1245.91	176	235	5	45	30
	B	1237.91	176	235	5	35	30
	C	1229.91	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B23	A	1246.36	176	235	5	45	30
	B	1238.36	176	235	5	35	30
	C	1230.36	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-

ANCHOR SCHEDULE CONT'D

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B24	A	1246.81	176	235	5	45	30
	B	1238.81	176	235	5	35	30
	C	1230.81	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B25	A	1247.27	176	235	5	45	30
	B	1239.27	176	235	5	35	30
	C	1231.27	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B26	A	1247.72	176	235	5	45	30
	B	1239.72	176	235	5	35	30
	C	1231.72	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B27	A	1248.20	176	235	5	45	30
	B	1240.20	176	235	5	35	30
	C	1232.20	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B28	A	1248.71	176	235	5	45	30
	B	1240.71	176	235	5	35	30
	C	1232.71	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B29	A	1249.21	176	235	5	45	30
	B	1241.21	176	235	5	35	30
	C	1233.21	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B30	A	1249.71	176	235	5	45	30
	B	1241.71	176	235	5	35	30
	C	1233.71	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B31	A	1250.22	176	235	5	45	30
	B	1242.22	176	235	5	35	30
	C	1234.22	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B32	A	1250.74	176	235	5	45	30
	B	1242.74	176	235	5	35	30
	C	1234.74	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B33	A	1251.28	176	235	5	45	30
	B	1243.28	176	235	5	35	30
	C	1235.28	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B34	A	1251.81	176	235	5	45	30
	B	1243.81	176	235	5	35	30
	C	1235.81	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B35	A	1252.35	176	235	5	45	30
	B	1244.35	176	235	5	35	30
	C	1236.35	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-

NOTES:

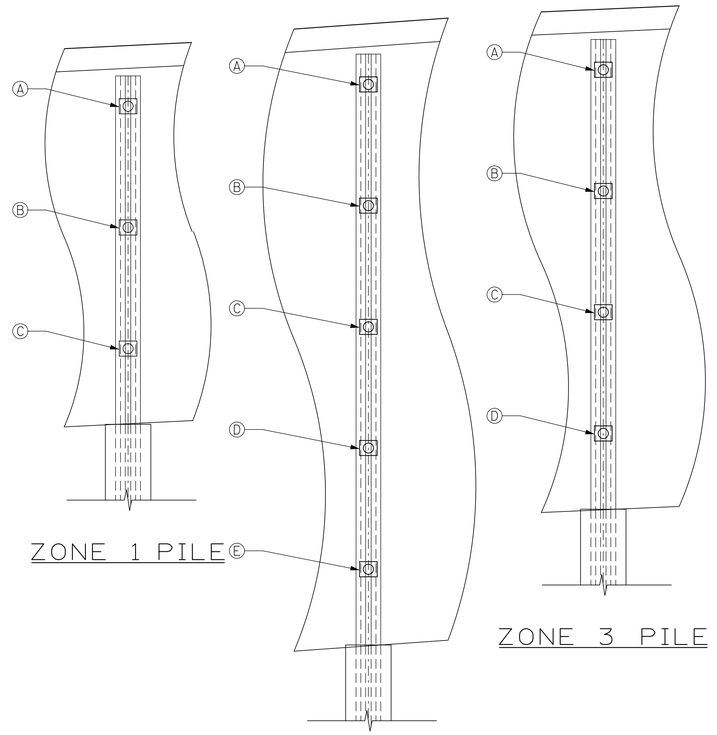
1. ANCHOR ELEVATION IS THE ELEVATION OF THE ANCHOR AT THE FACE OF THE PILE (WORK POINT). SEE SECTION VIEW AT PILE DETAIL ON SHEET R-27 FOR WORK POINT LOCATION DETAIL.
2. IN ADDITION TO SATISFYING THE MINIMUM ANCHOR FREE LENGTH SPECIFIED IN THE ANCHOR SCHEDULE, THE BOND ZONE SHALL OCCUR BELOW THE TOP OF ROCK SURFACE.

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-20

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



ZONE 1 PILE

ZONE 2 PILE

ZONE 3 PILE



05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ANCHOR SCHEDULE
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

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ANCHOR SCHEDULE

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B36	A	1252.89	176	235	5	45	30
	B	1244.89	176	235	5	35	30
	C	1236.89	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B37	A	1253.44	176	235	5	45	30
	B	1245.44	176	235	5	35	30
	C	1237.44	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B38	A	1254.01	176	235	5	45	30
	B	1246.01	176	235	5	35	30
	C	1238.01	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B39	A	1254.57	176	235	5	45	30
	B	1246.57	176	235	5	35	30
	C	1238.57	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B40	A	1255.13	176	235	5	45	30
	B	1247.13	176	235	5	35	30
	C	1239.13	176	235	5	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B41	A	1255.70	189.2	252	6	45	31
	B	1247.70	185.8	248	6	35	30
	C	1239.70	182.4	243	6	30	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B42	A	1256.31	189.2	252	6	45	31
	B	1248.31	185.8	248	6	35	30
	C	1240.31	182.4	243	6	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B43	A	1256.97	176	235	5	45	30
	B	1248.97	176	235	5	35	30
	C	1240.97	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B44	A	1257.62	176	235	5	45	30
	B	1249.62	176	235	5	35	30
	C	1241.62	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B45	A	1258.28	176	235	5	45	30
	B	1250.28	176	235	5	35	30
	C	1242.28	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B46	A	1258.94	176	235	5	45	30
	B	1250.94	176	235	5	35	30
	C	1242.94	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-

ANCHOR SCHEDULE CONT'D

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B47	A	1259.60	176	235	5	45	30
	B	1251.60	176	235	5	35	30
	C	1243.60	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B48	A	1260.25	176	235	5	45	30
	B	1252.25	176	235	5	35	30
	C	1244.25	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B49	A	1260.91	176	235	5	45	30
	B	1252.91	176	235	5	35	30
	C	1244.91	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B50	A	1261.57	176	235	5	45	30
	B	1253.57	176	235	5	35	30
	C	1245.57	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B51	A	1262.22	176	235	5	45	30
	B	1254.22	176	235	5	35	30
	C	1246.22	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B52	A	1262.93	176	235	5	45	30
	B	1254.93	176	235	5	35	30
	C	1246.93	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B53	A	1263.70	176	235	5	45	30
	B	1255.70	176	235	5	35	30
	C	1247.70	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B54	A	1264.47	176	235	5	45	30
	B	1256.47	176	235	5	35	30
	C	1248.47	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B55	A	1265.24	176	235	5	45	30
	B	1257.24	176	235	5	35	30
	C	1249.24	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B56	A	1266.01	176	235	5	45	30
	B	1258.01	176	235	5	35	30
	C	1250.01	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B57	A	1266.70	176	235	5	45	30
	B	1258.70	176	235	5	35	30
	C	1250.70	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B58	A	1267.31	176	235	5	45	30
	B	1259.31	176	235	5	35	30
	C	1251.31	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-

ANCHOR SCHEDULE CONT'D

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B59	A	1267.92	176	235	5	45	30
	B	1259.92	176	235	5	35	30
	C	1251.92	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B60	A	1268.53	176	235	5	45	30
	B	1260.53	176	235	5	35	30
	C	1252.53	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B61	A	1269.14	176	235	5	45	30
	B	1261.14	176	235	5	35	30
	C	1253.14	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B62	A	1269.80	176	235	5	45	30
	B	1261.80	176	235	5	35	30
	C	1253.80	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B63	A	1270.49	176	235	5	45	30
	B	1262.49	176	235	5	35	30
	C	1254.49	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B64	A	1271.18	176	235	5	45	30
	B	1263.18	176	235	5	35	30
	C	1255.18	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B65	A	1271.88	176	235	5	45	30
	B	1263.88	176	235	5	35	30
	C	1255.88	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B66	A	1272.57	176	235	5	45	30
	B	1264.57	176	235	5	35	30
	C	1256.57	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B67	A	1273.28	176	235	5	45	30
	B	1265.28	176	235	5	35	30
	C	1257.28	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B68	A	1274.01	176	235	5	45	30
	B	1266.01	176	235	5	35	30
	C	1258.01	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B69	A	1274.73	176	235	5	45	30
	B	1266.73	176	235	5	35	30
	C	1258.73	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B70	A	1275.46	176	235	5	45	30
	B	1267.46	176	235	5	35	30
	C	1259.46	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-

NOTES:

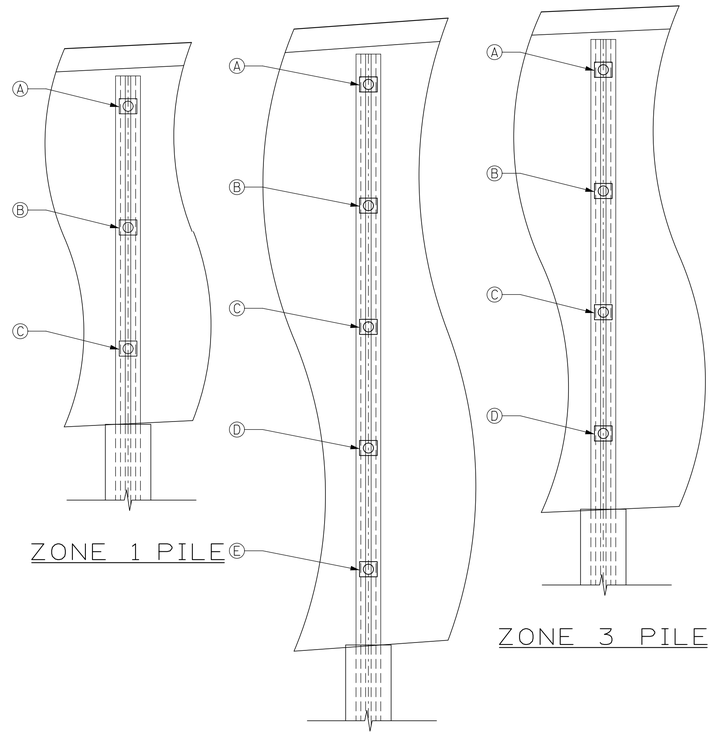
1. ANCHOR ELEVATION IS THE ELEVATION OF THE ANCHOR AT THE FACE OF THE PILE (WORK POINT). SEE SECTION VIEW AT PILE DETAIL ON SHEET R-27 FOR WORK POINT LOCATION DETAIL.
2. IN ADDITION TO SATISFYING THE MINIMUM ANCHOR FREE LENGTH SPECIFIED IN THE ANCHOR SCHEDULE, THE BOND ZONE SHALL OCCUR BELOW THE TOP OF ROCK SURFACE.

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-21

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



ZONE 1 PILE

ZONE 2 PILE

ZONE 3 PILE

CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118392
STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ANCHOR SCHEDULE
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

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ANCHOR SCHEDULE

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B71	A	1276.19	176	235	5	45	30
	B	1268.19	176	235	5	35	30
	C	1260.19	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B72	A	1276.89	176	235	5	45	30
	B	1268.89	176	235	5	35	30
	C	1260.89	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B73	A	1277.56	176	235	5	45	30
	B	1269.56	176	235	5	35	30
	C	1261.56	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B74	A	1278.23	176	235	5	45	30
	B	1270.23	176	235	5	35	30
	C	1262.23	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B75	A	1278.91	176	235	5	45	30
	B	1270.91	176	235	5	35	30
	C	1262.91	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B76	A	1279.58	176	235	5	45	30
	B	1271.58	176	235	5	35	30
	C	1263.58	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B77	A	1280.27	176	235	5	45	30
	B	1272.27	176	235	5	35	30
	C	1264.27	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B78	A	1280.98	176	235	5	45	30
	B	1272.98	176	235	5	35	30
	C	1264.98	176	235	5	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B79	A	1281.69	176	235	5	45	30
	B	1273.69	176	235	5	35	30
	C	1265.69	187.8	250	6	20	30
	D	-	-	-	-	-	-
	E	-	-	-	-	-	-
B80	A	1282.40	176	235	5	45	30
	B	1274.40	176	235	5	40	30
	C	1266.40	187.8	250	6	30	30
	D	1258.40	187.8	250	6	30	30
	E	-	-	-	-	-	-
B81	A	1283.11	176	235	5	45	30
	B	1275.11	176	235	5	40	30
	C	1267.11	187.8	250	6	30	30
	D	1259.11	187.8	250	6	30	30
	E	1251.11	206.8	276	6	20	33

ANCHOR SCHEDULE CONT'D

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B82	A	1283.82	176	235	5	45	30
	B	1275.82	176	235	5	40	30
	C	1267.82	187.8	250	6	30	30
	D	1259.82	187.8	250	6	30	30
	E	1251.82	206.8	276	6	20	33
B83	A	1284.53	176	235	5	45	30
	B	1276.53	176	235	5	40	30
	C	1268.53	187.8	250	6	30	30
	D	1260.53	187.8	250	6	30	30
	E	1252.53	206.8	276	6	20	33
B84	A	1285.24	176	235	5	45	30
	B	1277.24	176	235	5	40	30
	C	1269.24	187.8	250	6	30	30
	D	1261.24	187.8	250	6	30	30
	E	1253.24	206.8	276	6	20	33
B85	A	1285.96	176	235	5	45	30
	B	1277.96	176	235	5	40	30
	C	1269.96	187.8	250	6	30	30
	D	1261.96	187.8	250	6	30	30
	E	1253.96	206.8	276	6	20	33
B86	A	1286.67	176	235	5	45	30
	B	1278.67	176	235	5	40	30
	C	1270.67	187.8	250	6	30	30
	D	1262.67	187.8	250	6	30	30
	E	1254.67	206.8	276	6	20	33
B87	A	1287.37	176	235	5	45	30
	B	1279.37	176	235	5	40	30
	C	1271.37	187.8	250	6	30	30
	D	1263.37	187.8	250	6	30	30
	E	1255.37	206.8	276	6	20	33
B88	A	1288.06	178.4	238	6	45	30
	B	1280.06	178	237	6	40	30
	C	1272.06	189.3	252	6	30	31
	D	1264.06	177.2	236	6	30	30
	E	1256.06	207.6	277	6	20	34
B89	A	1288.75	178.4	238	6	45	30
	B	1280.75	178	237	6	40	30
	C	1272.75	189.3	252	6	30	31
	D	1264.75	177.2	236	6	30	30
	E	1256.75	207.6	277	6	20	34
B90	A	1289.44	176	235	5	45	30
	B	1281.44	176	235	5	40	30
	C	1273.44	187.8	250	6	30	30
	D	1265.44	187.8	250	6	30	30
	E	1257.44	206.8	276	6	20	33
B91	A	1290.13	176	235	5	45	30
	B	1282.13	176	235	5	40	30
	C	1274.13	187.8	250	6	30	30
	D	1266.13	187.8	250	6	30	30
	E	1258.13	206.8	276	6	20	33
B92	A	1290.83	176	235	5	45	30
	B	1282.83	176	235	5	40	30
	C	1274.83	187.8	250	6	30	30
	D	1266.83	187.8	250	6	30	30
	E	1258.83	206.8	276	6	20	33
B93	A	1291.54	176	235	5	45	30
	B	1283.54	176	235	5	40	30
	C	1275.54	187.8	250	6	30	30
	D	1267.54	187.8	250	6	30	30
	E	1259.54	206.8	276	6	20	33

ANCHOR SCHEDULE CONT'D

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B94	A	1292.25	176	235	5	45	30
	B	1284.25	176	235	5	40	30
	C	1276.25	187.8	250	6	30	30
	D	1268.25	187.8	250	6	30	30
	E	1260.25	206.8	276	6	20	33
B95	A	1292.96	176	235	5	45	30
	B	1284.96	176	235	5	40	30
	C	1276.96	187.8	250	6	30	30
	D	1268.96	187.8	250	6	30	30
	E	1260.96	206.8	276	6	20	33
B96	A	1293.67	176	235	5	45	30
	B	1285.67	176	235	5	40	30
	C	1277.67	187.8	250	6	30	30
	D	1269.67	187.8	250	6	30	30
	E	1261.67	206.8	276	6	20	33
B97	A	1294.38	176	235	5	45	30
	B	1286.38	176	235	5	40	30
	C	1278.38	187.8	250	6	30	30
	D	1270.38	187.8	250	6	30	30
	E	1262.38	206.8	276	6	20	33
B98	A	1295.08	176	235	5	45	30
	B	1287.08	176	235	5	40	30
	C	1279.08	187.8	250	6	30	30
	D	1271.08	187.8	250	6	30	30
	E	1263.08	206.8	276	6	20	33
B99	A	1295.77	176	235	5	45	30
	B	1287.77	176	235	5	40	30
	C	1279.77	187.8	250	6	30	30
	D	1271.77	187.8	250	6	30	30
	E	1263.77	206.8	276	6	20	33
B100	A	1296.47	176	235	5	45	30
	B	1288.47	176	235	5	40	30
	C	1280.47	187.8	250	6	30	30
	D	1272.47	187.8	250	6	30	30
	E	1264.47	206.8	276	6	20	33
B101	A	1297.17	176	235	5	45	30
	B	1289.17	176	235	5	40	30
	C	1281.17	187.8	250	6	30	30
	D	1273.17	187.8	250	6	30	30
	E	1265.17	206.8	276	6	20	33
B102	A	1297.84	176	235	5	45	30
	B	1289.84	176	235	5	40	30
	C	1281.84	187.8	250	6	30	30
	D	1273.84	187.8	250	6	30	30
	E	1265.84	206.8	276	6	20	33
B103	A	1298.49	176	235	5	45	30
	B	1290.49	176	235	5	40	30
	C	1282.49	187.8	250	6	30	30
	D	1274.49	187.8	250	6	30	30
	E	1266.49	206.8	276	6	20	33
B104	A	1299.14	176	235	5	45	30
	B	1291.14	176	235	5	40	30
	C	1283.14	187.8	250	6	30	30
	D	1275.14	187.8	250	6	30	30
	E	1267.14	206.8	276	6	20	33
B105	A	1299.79	176	235	5	45	30
	B	1291.79	176	235	5	40	30
	C	1283.79	187.8	250	6	30	30
	D	1275.79	187.8	250	6	30	30
	E	1267.79	206.8	276	6	20	33

NOTES:

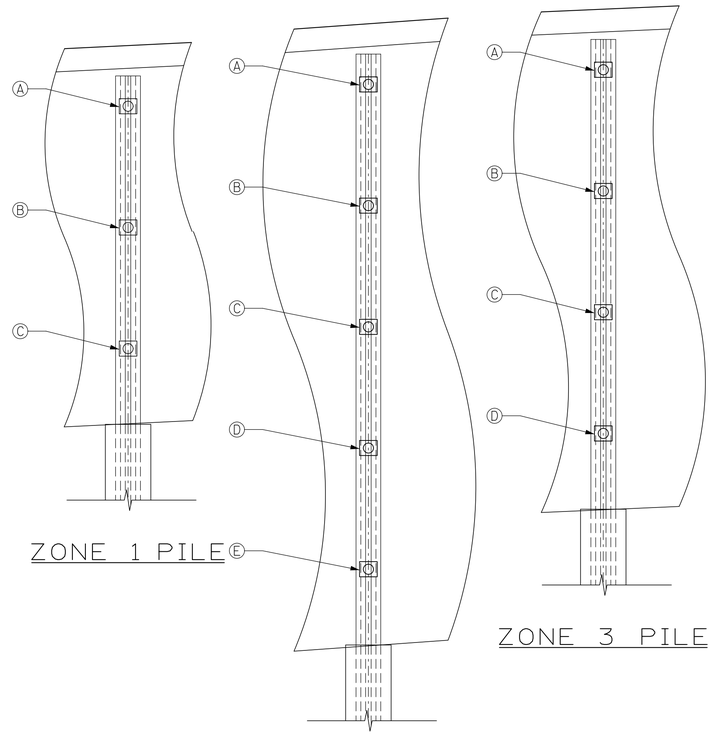
1. ANCHOR ELEVATION IS THE ELEVATION OF THE ANCHOR AT THE FACE OF THE PILE (WORK POINT). SEE SECTION VIEW AT PILE DETAIL ON SHEET R-27 FOR WORK POINT LOCATION DETAIL.
2. IN ADDITION TO SATISFYING THE MINIMUM ANCHOR FREE LENGTH SPECIFIED IN THE ANCHOR SCHEDULE, THE BOND ZONE SHALL OCCUR BELOW THE TOP OF ROCK SURFACE.

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-22

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



ZONE 1 PILE

ZONE 2 PILE

ZONE 3 PILE

CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118392
STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ANCHOR SCHEDULE
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

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ANCHOR SCHEDULE

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B106	A	1300.44	176	235	5	45	30
	B	1292.44	176	235	5	40	30
	C	1284.44	187.8	250	6	30	30
	D	1276.44	187.8	250	6	30	30
	E	1268.44	206.8	276	6	20	33
B107	A	1301.08	176	235	5	45	30
	B	1293.08	176	235	5	40	30
	C	1285.08	187.8	250	6	30	30
	D	1277.08	187.8	250	6	30	30
	E	1269.08	206.8	276	6	20	33
B108	A	1301.70	176	235	5	45	30
	B	1293.70	176	235	5	40	30
	C	1285.70	187.8	250	6	30	30
	D	1277.70	187.8	250	6	30	30
	E	1269.70	206.8	276	6	20	33
B109	A	1302.31	176	235	5	45	30
	B	1294.31	176	235	5	40	30
	C	1286.31	187.8	250	6	30	30
	D	1278.31	187.8	250	6	30	30
	E	1270.31	206.8	276	6	20	33
B110	A	1302.93	176	235	5	45	30
	B	1294.93	176	235	5	40	30
	C	1286.93	187.8	250	6	30	30
	D	1278.93	187.8	250	6	30	30
	E	1270.93	206.8	276	6	20	33
B111	A	1303.55	176	235	5	45	30
	B	1295.55	176	235	5	40	30
	C	1287.55	187.8	250	6	30	30
	D	1279.55	187.8	250	6	30	30
	E	1271.55	206.8	276	6	20	33
B112	A	1304.12	176	235	5	45	30
	B	1296.12	176	235	5	40	30
	C	1288.12	187.8	250	6	30	30
	D	1280.12	187.8	250	6	30	30
	E	1272.12	206.8	276	6	20	33
B113	A	1304.64	176	235	5	45	30
	B	1296.64	176	235	5	40	30
	C	1288.64	187.8	250	6	30	30
	D	1280.64	187.8	250	6	30	30
	E	1272.64	206.8	276	6	20	33
B114	A	1305.16	176	235	5	45	30
	B	1297.16	176	235	5	40	30
	C	1289.16	187.8	250	6	30	30
	D	1281.16	187.8	250	6	30	30
	E	1273.16	206.8	276	6	20	33
B115	A	1305.68	176	235	5	45	30
	B	1297.68	176	235	5	40	30
	C	1289.68	187.8	250	6	30	30
	D	1281.68	187.8	250	6	30	30
	E	1273.68	206.8	276	6	20	33
B116	A	1306.20	176	235	5	45	30
	B	1298.20	176	235	5	40	30
	C	1290.20	187.8	250	6	30	30
	D	1282.20	187.8	250	6	30	30
	E	1274.20	206.8	276	6	20	33

ANCHOR SCHEDULE CONT'D

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B117	A	1306.74	176	235	5	45	30
	B	1298.74	176	235	5	40	30
	C	1290.74	187.8	250	6	30	30
	D	1282.74	187.8	250	6	30	30
	E	1274.74	206.8	276	6	20	33
B118	A	1307.30	176	235	5	45	30
	B	1299.30	176	235	5	40	30
	C	1291.30	187.8	250	6	30	30
	D	1283.30	187.8	250	6	30	30
	E	1275.30	206.8	276	6	20	33
B119	A	1307.86	176	235	5	45	30
	B	1299.86	176	235	5	40	30
	C	1291.86	187.8	250	6	30	30
	D	1283.86	187.8	250	6	30	30
	E	1275.86	206.8	276	6	20	33
B120	A	1308.43	176	235	5	45	30
	B	1300.43	176	235	5	40	30
	C	1292.43	187.8	250	6	30	30
	D	1284.43	187.8	250	6	30	30
	E	1276.43	206.8	276	6	20	33
B121	A	1308.99	176	235	5	45	30
	B	1300.99	176	235	5	40	30
	C	1292.99	187.8	250	6	30	30
	D	1284.99	187.8	250	6	30	30
	E	1276.99	206.8	276	6	20	33
B122	A	1309.52	176	235	5	45	30
	B	1301.52	176	235	5	40	30
	C	1293.52	187.8	250	6	30	30
	D	1285.52	187.8	250	6	30	30
	E	1277.52	206.8	276	6	20	33
B123	A	1310.03	176	235	5	45	30
	B	1302.03	176	235	5	40	30
	C	1294.03	187.8	250	6	30	30
	D	1286.03	187.8	250	6	30	30
	E	-	-	-	-	-	-
B124	A	1310.54	176	235	5	45	30
	B	1302.54	176	235	5	40	30
	C	1294.54	176	235	5	30	30
	D	1286.54	176	235	5	30	30
	E	-	-	-	-	-	-
B125	A	1311.05	176	235	5	45	30
	B	1303.05	176	235	5	40	30
	C	1295.05	176	235	5	30	30
	D	1287.05	176	235	5	30	30
	E	-	-	-	-	-	-
B126	A	1311.56	176	235	5	45	30
	B	1303.56	176	235	5	40	30
	C	1295.56	176	235	5	30	30
	D	1287.56	176	235	5	30	30
	E	-	-	-	-	-	-
B127	A	1312.02	176	235	5	45	30
	B	1304.02	176	235	5	40	30
	C	1296.02	176	235	5	30	30
	D	1288.02	176	235	5	30	30
	E	-	-	-	-	-	-
B128	A	1312.44	176	235	5	45	30
	B	1304.44	176	235	5	40	30
	C	1296.44	176	235	5	30	30
	D	1288.44	176	235	5	30	30
	E	-	-	-	-	-	-

ANCHOR SCHEDULE CONT'D

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B129	A	1312.85	176	235	5	45	30
	B	1304.85	176	235	5	40	30
	C	1296.85	176	235	5	30	30
	D	1288.85	176	235	5	30	30
	E	-	-	-	-	-	-
B130	A	1313.27	176	235	5	45	30
	B	1305.27	176	235	5	40	30
	C	1297.27	176	235	5	30	30
	D	1289.27	176	235	5	30	30
	E	-	-	-	-	-	-
B131	A	1313.69	176	235	5	45	30
	B	1305.69	176	235	5	40	30
	C	1297.69	176	235	5	30	30
	D	1289.69	176	235	5	30	30
	E	-	-	-	-	-	-
B132	A	1314.15	176	235	5	45	30
	B	1306.15	176	235	5	40	30
	C	1298.15	176	235	5	30	30
	D	1290.15	176	235	5	30	30
	E	-	-	-	-	-	-
B133	A	1314.64	176	235	5	45	30
	B	1306.64	176	235	5	40	30
	C	1298.64	176	235	5	30	30
	D	1290.64	176	235	5	30	30
	E	-	-	-	-	-	-
B134	A	1315.14	176	235	5	45	30
	B	1307.14	176	235	5	40	30
	C	1299.14	176	235	5	30	30
	D	1291.14	176	235	5	30	30
	E	-	-	-	-	-	-
B135	A	1315.64	176	235	5	45	30
	B	1307.64	176	235	5	40	30
	C	1299.64	176	235	5	30	30
	D	1291.64	176	235	5	30	30
	E	-	-	-	-	-	-
B136	A	1316.13	176	235	5	45	30
	B	1308.13	176	235	5	40	30
	C	1300.13	176	235	5	30	30
	D	1292.13	176	235	5	30	30
	E	-	-	-	-	-	-
B137	A	1316.60	176	235	5	45	30
	B	1308.60	176	235	5	40	30
	C	1300.60	176	235	5	30	30
	D	1292.60	176	235	5	30	30
	E	-	-	-	-	-	-
B138	A	1317.04	176	235	5	45	30
	B	1309.04	176	235	5	40	30
	C	1301.04	176	235	5	30	30
	D	1293.04	176	235	5	30	30
	E	-	-	-	-	-	-
B139	A	1317.48	176	235	5	45	30
	B	1309.48	176	235	5	40	30
	C	1301.48	176	235	5	30	30
	D	1293.48	176	235	5	30	30
	E	-	-	-	-	-	-
B140	A	1317.93	176	235	5	45	30
	B	1309.93	176	235	5	40	30
	C	1301.93	176	235	5	30	30
	D	1293.93	176	235	5	30	30
	E	-	-	-	-	-	-

NOTES:

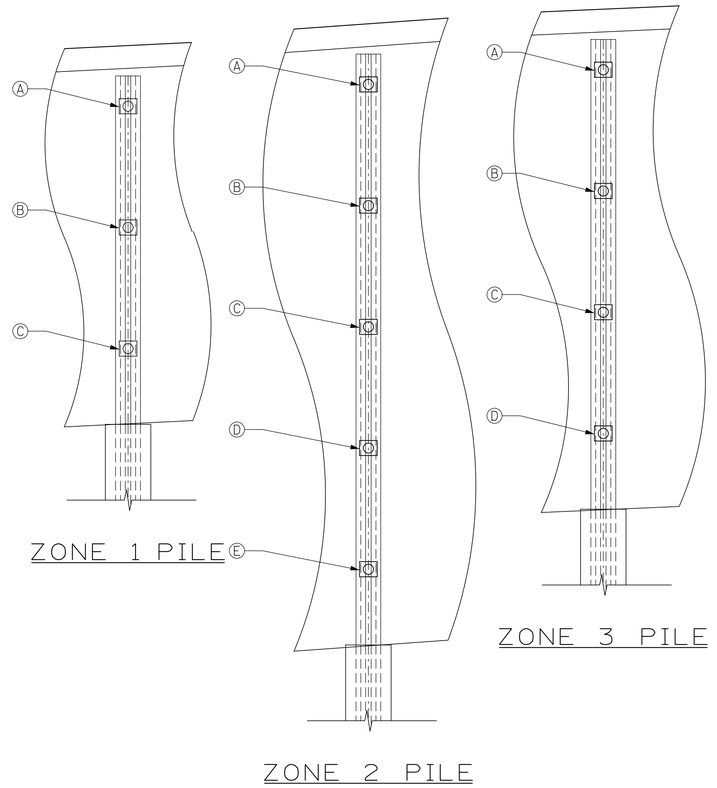
1. ANCHOR ELEVATION IS THE ELEVATION OF THE ANCHOR AT THE FACE OF THE PILE (WORK POINT). SEE SECTION VIEW AT PILE DETAIL ON SHEET R-27 FOR WORK POINT LOCATION DETAIL.
2. IN ADDITION TO SATISFYING THE MINIMUM ANCHOR FREE LENGTH SPECIFIED IN THE ANCHOR SCHEDULE, THE BOND ZONE SHALL OCCUR BELOW THE TOP OF ROCK SURFACE.

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-23

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118392
STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ANCHOR SCHEDULE
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

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ANCHOR SCHEDULE

PILE NO.	ANCHOR POSITION	ANCHOR ELEVATION (SEE NOTE 1)	DESIGN LOAD (KIP)	TEST LOAD (KIP)	NO. OF STRANDS PER ANCHOR	MIN. FREE LENGTH (FT)	MIN. BOND LENGTH (FT)
B141	A	1318.37	176	235	5	45	30
	B	1310.37	176	235	5	40	30
	C	1302.37	176	235	5	30	30
	D	1294.37	176	235	5	30	30
	E	-	-	-	-	-	-
B142	A	1318.80	176	235	5	45	30
	B	1310.80	176	235	5	40	30
	C	1302.80	176	235	5	30	30
	D	1294.80	176	235	5	30	30
	E	-	-	-	-	-	-
B143	A	1319.21	176	235	5	45	30
	B	1311.21	176	235	5	40	30
	C	1303.21	176	235	5	30	30
	D	1295.21	176	235	5	30	30
	E	-	-	-	-	-	-
B144	A	1319.62	176	235	5	45	30
	B	1311.62	176	235	5	40	30
	C	1303.62	176	235	5	30	30
	D	1295.62	176	235	5	30	30
	E	-	-	-	-	-	-
B145	A	1320.04	176	235	5	45	30
	B	1312.04	176	235	5	40	30
	C	1304.04	176	235	5	30	30
	D	1296.04	176	235	5	30	30
	E	-	-	-	-	-	-
B146	A	1320.45	176	235	5	45	30
	B	1312.45	176	235	5	40	30
	C	1304.45	176	235	5	30	30
	D	1296.45	176	235	5	30	30
	E	-	-	-	-	-	-
B147	A	1320.87	176	235	5	45	30
	B	1312.87	176	235	5	40	30
	C	1304.87	176	235	5	30	30
	D	1296.87	176	235	5	30	30
	E	-	-	-	-	-	-
B148	A	1321.29	176	235	5	45	30
	B	1313.29	176	235	5	40	30
	C	1305.29	176	235	5	30	30
	D	1297.29	176	235	5	30	30
	E	-	-	-	-	-	-
B149	A	1321.71	176	235	5	45	30
	B	1313.71	176	235	5	40	30
	C	1305.71	176	235	5	30	30
	D	1297.71	176	235	5	30	30
	E	-	-	-	-	-	-
B150	A	1322.14	176	235	5	45	30
	B	1314.14	176	235	5	40	30
	C	1306.14	176	235	5	30	30
	D	1298.14	176	235	5	30	30
	E	-	-	-	-	-	-
B151	A	1322.56	176	235	5	45	30
	B	1314.56	176	235	5	40	30
	C	1306.56	176	235	5	30	30
	D	1298.56	176	235	5	30	30
	E	-	-	-	-	-	-
B152	A	1322.97	176	235	5	45	30
	B	1314.97	176	235	5	40	30
	C	1306.97	176	235	5	30	30
	D	1298.97	176	235	5	30	30
	E	-	-	-	-	-	-

NOTES:

1. ANCHOR ELEVATION IS THE ELEVATION OF THE ANCHOR AT THE FACE OF THE PILE (WORK POINT). SEE SECTION VIEW AT PILE DETAIL ON SHEET R-27 FOR WORK POINT LOCATION DETAIL.

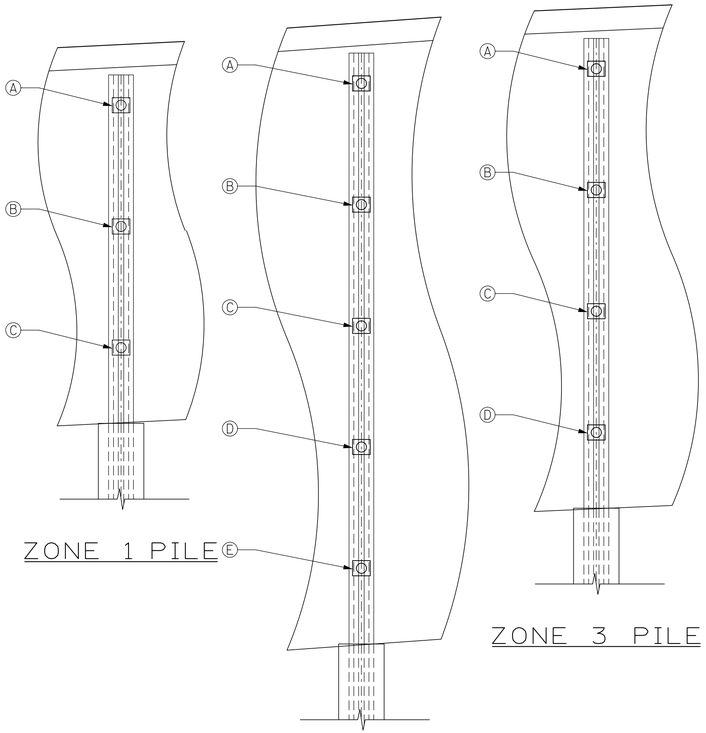
2. IN ADDITION TO SATISFYING THE MINIMUM ANCHOR FREE LENGTH SPECIFIED IN THE ANCHOR SCHEDULE, THE BOND ZONE SHALL OCCUR BELOW THE TOP OF ROCK SURFACE.

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-24

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



ZONE 1 PILE

ZONE 3 PILE

ZONE 2 PILE

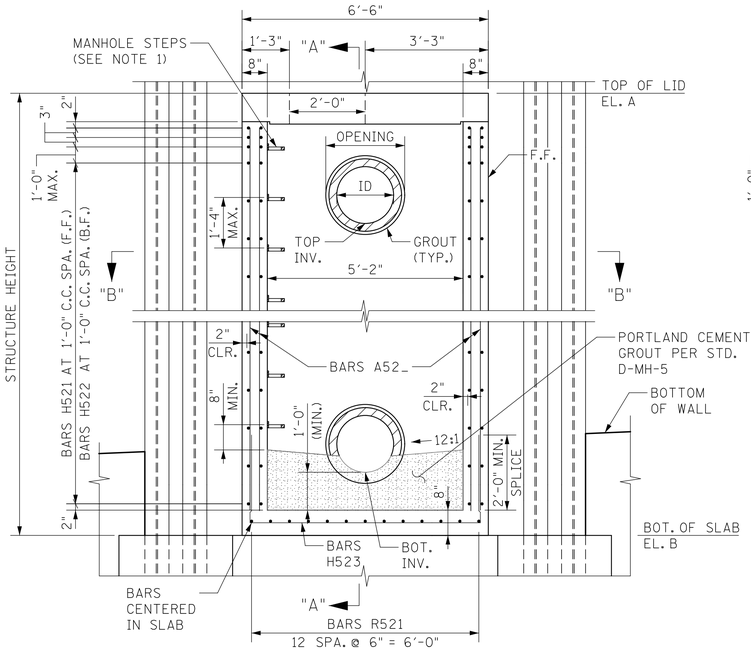
CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118392
STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ANCHOR SCHEDULE
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

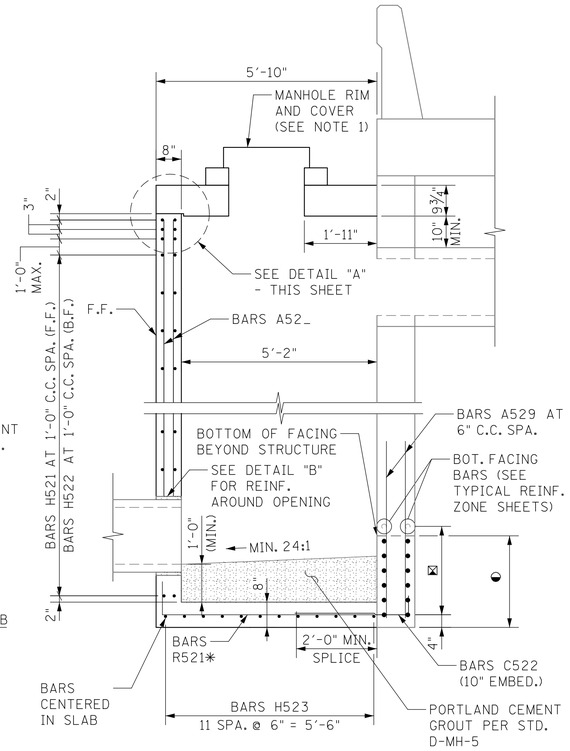
DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

5/19/2025 11:00:19 AM
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PIN: 130296.00



ELEVATION



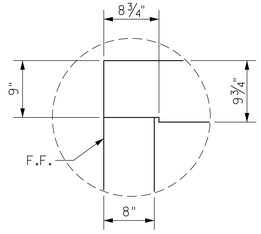
SECTION "A"-"A"

(WALL REINFORCEMENT NOT SHOWN FOR CLARITY)

✳ DENOTES: BARS TO BE CUT TO MAINTAIN 2" CLEARANCE AROUND OPENING.

⊠ DENOTES: BARS A528 6 EQ. SPA. FROM BOT. FACING BARS (MH2) BARS A528 1 SPA. FROM BOT. FACING BARS (MH11)

◐ DENOTES: FACING EXTENSION VARIES FROM 2'-2½" TO 2'-8" (MH2) FACING EXTENSION VARIES FROM 4" TO 1'-2" (MH11)



DETAIL "A"

NOTES:

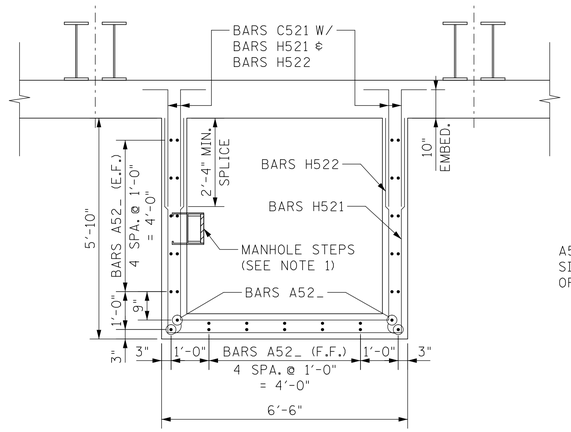
1. THE COST OF CASTINGS FOR COVERS AND RIMS AND OF MANHOLE STEPS FOR MANHOLE SHALL BE INCLUDED IN THE BID PRICE FOR CLASS "X" CONCRETE. REFER TO STANDARD DRAWING D-MH-4 FOR MANHOLE CASTINGS AND STEPS DETAILS.

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-25

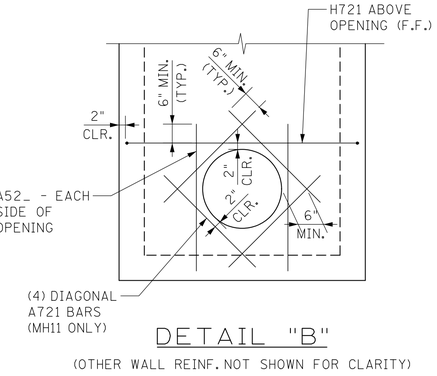
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



SECTION "B"-"B"

(GROUND ANCHORS AND WALL REINFORCEMENT NOT SHOWN FOR CLARITY)

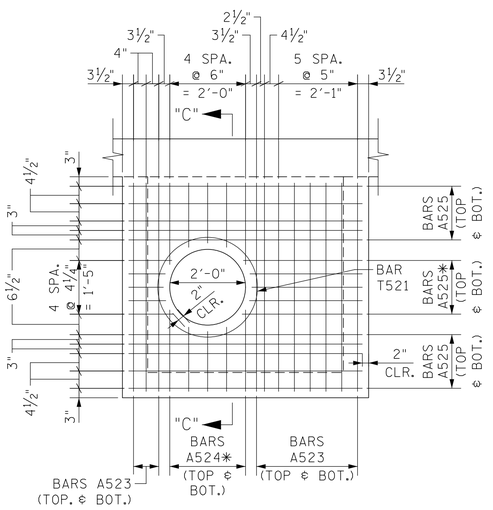


DETAIL "B"

(OTHER WALL REINF. NOT SHOWN FOR CLARITY)

DRAINAGE STRUCTURES

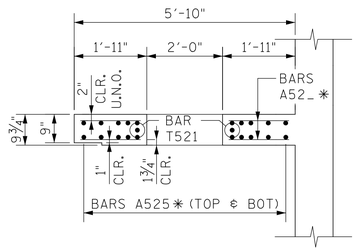
STRUCTURE	HEIGHT	INSIDE DIAMETER (ID)	OPENING	TOP INV. EL.	BOT. INV. EL.	EL. A	EL. B
MH2	25'-9"	18"	25"	1243.13	1222.56	1246.64	1220.89
MH11	41'-2"	30"	39"	1287.34	1252.37	1291.87	1250.70



LID REINFORCING

(WALL REINFORCEMENT NOT SHOWN FOR CLARITY)

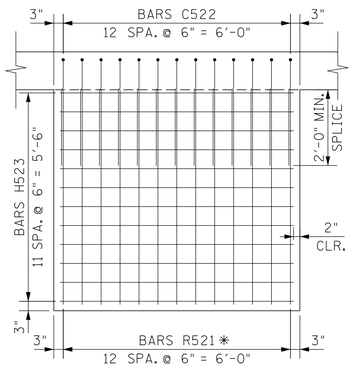
✳ DENOTES: BARS TO BE CUT TO MAINTAIN 2" CLEARANCE AROUND OPENING.



SECTION "C"-"C"

(WALL REINFORCEMENT NOT SHOWN FOR CLARITY)

✳ DENOTES: BARS TO BE CUT TO MAINTAIN 2" CLEARANCE AROUND OPENING.



BASE SLAB REINFORCING

(WALL REINFORCEMENT NOT SHOWN FOR CLARITY)

ESTIMATED QUANTITIES

STRUCTURE MH2		STRUCTURE MH11	
ITEM NO. 604-03.74 CLASS "X" CONCRETE (C.Y.)	ITEM NO. 604-03.02 STEEL BAR REINFORCEMENT (BRIDGES) (LB.)	ITEM NO. 604-03.74 CLASS "X" CONCRETE (C.Y.)	ITEM NO. 604-03.02 STEEL BAR REINFORCEMENT (BRIDGES) (LB.)
13	3,330	19	4,560

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

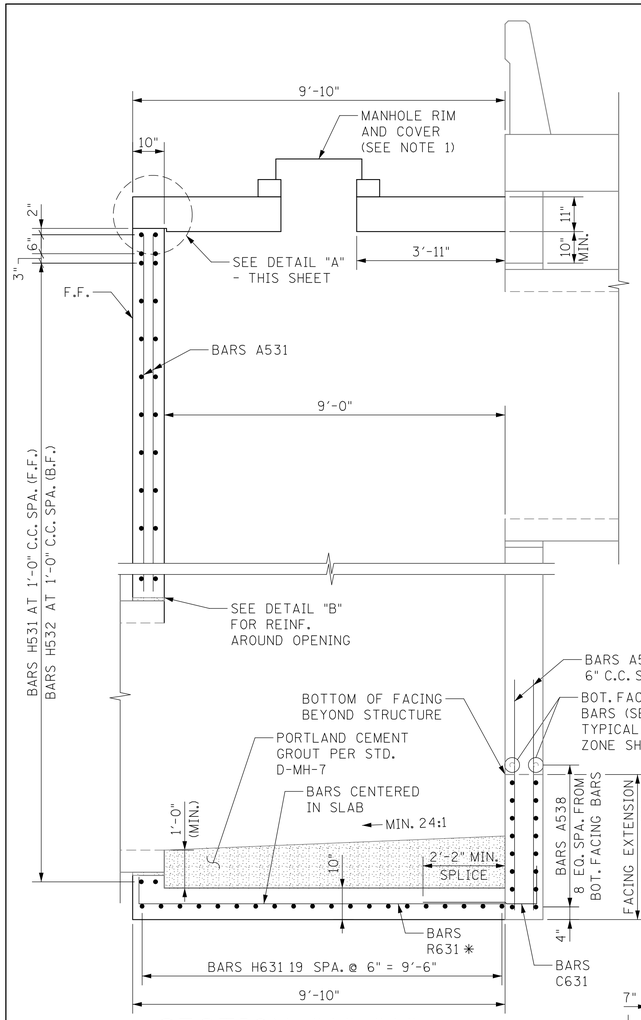
CHRISTOPHER M. KELLEY REGISTERED ENGINEER No. 118332 STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
DRAINAGE STRUCTURE DETAILS
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

U-50-316

5/19/2025 11:00:20 AM
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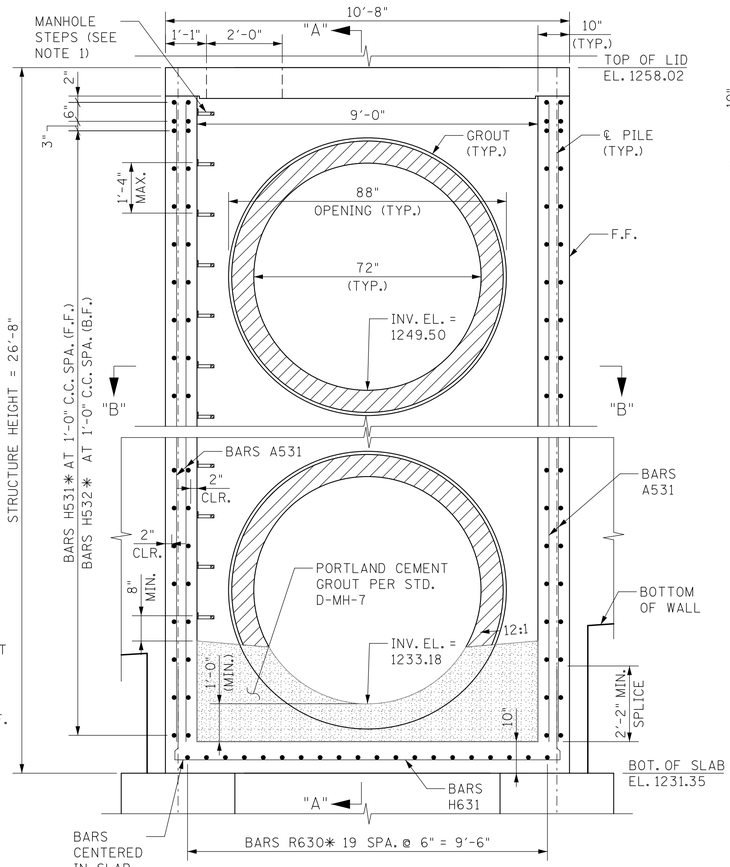
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SECTION "A"-"A"

(WALL REINFORCEMENT NOT SHOWN FOR CLARITY)

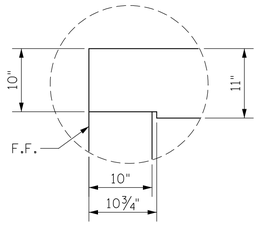
* DENOTES: BARS TO BE CUT TO MAINTAIN 2" CLEARANCE AROUND OPENING.



ELEVATION

(PILES NOT SHOWN FOR CLARITY)

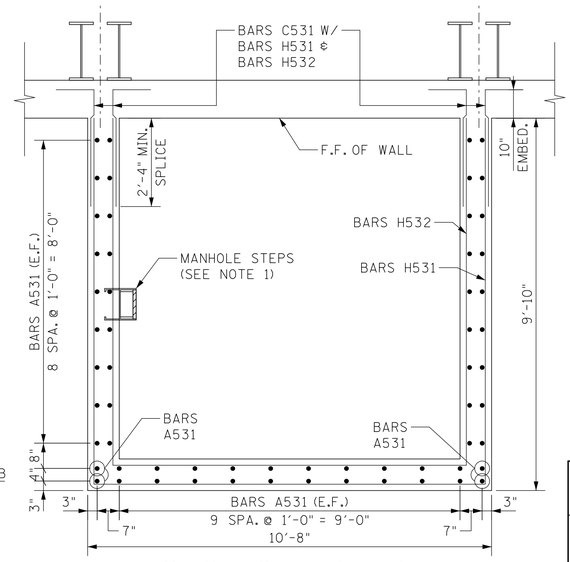
* DENOTES: BARS TO BE CUT TO MAINTAIN 2" CLEARANCE AROUND OPENING.



DETAIL "A"

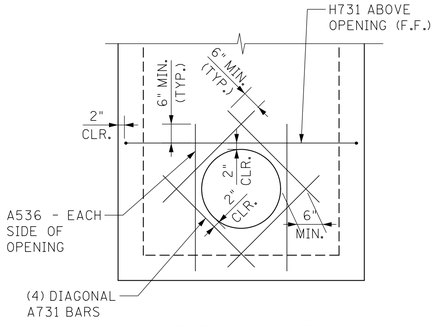
NOTES:

1. THE COST OF CASTINGS FOR COVERS AND RIMS AND OF MANHOLE STEPS FOR MANHOLE SHALL BE INCLUDED IN THE BID PRICE FOR CLASS "X" CONCRETE. REFER TO STANDARD DRAWING D-MH-4 FOR MANHOLE CASTINGS AND STEPS DETAILS.



SECTION "B"-"B"

(GROUND ANCHORS AND WALL REINFORCEMENT NOT SHOWN FOR CLARITY)



DETAIL "B"

(WALL REINF. NOT SHOWN FOR CLARITY)

ESTIMATED QUANTITIES

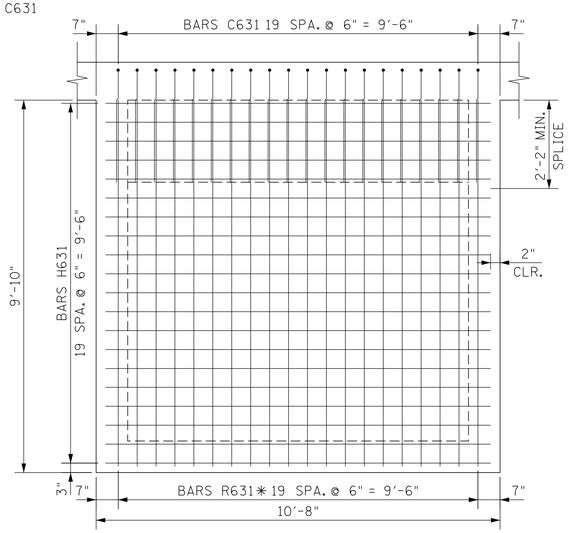
STRUCTURE MH6

ITEM NO. 604-03.74 CLASS "X" CONCRETE (C.Y.)	ITEM NO. 604-03.02 STEEL BAR REINFORCEMENT (BRIDGES) (LB.)
28	6,080

SECTION "C"-"C"

(WALL REINFORCEMENT NOT SHOWN FOR CLARITY)

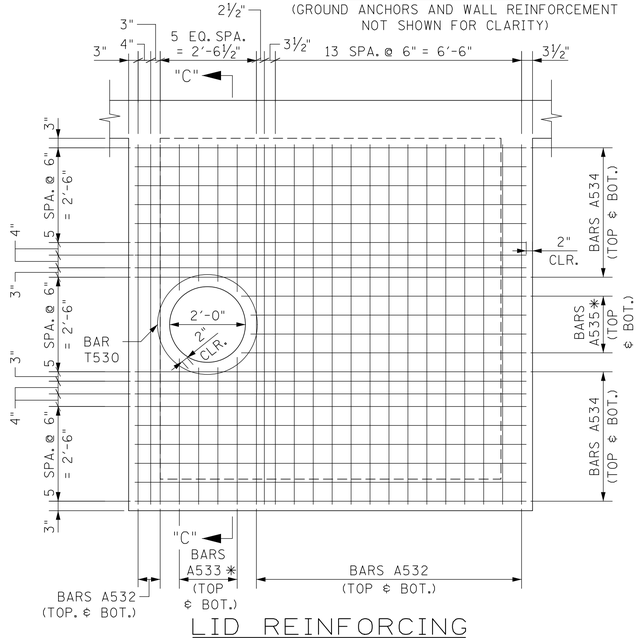
* DENOTES: BARS TO BE CUT TO MAINTAIN 2" CLEARANCE AROUND OPENING.



BASE SLAB REINFORCING

(WALL REINFORCEMENT NOT SHOWN FOR CLARITY)

* DENOTES: BARS TO BE CUT TO MAINTAIN 2" CLEARANCE AROUND OPENING.



LID REINFORCING

(WALL REINFORCEMENT NOT SHOWN FOR CLARITY)

* DENOTES: BARS TO BE CUT TO MAINTAIN 2" CLEARANCE AROUND OPENING.

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-26

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

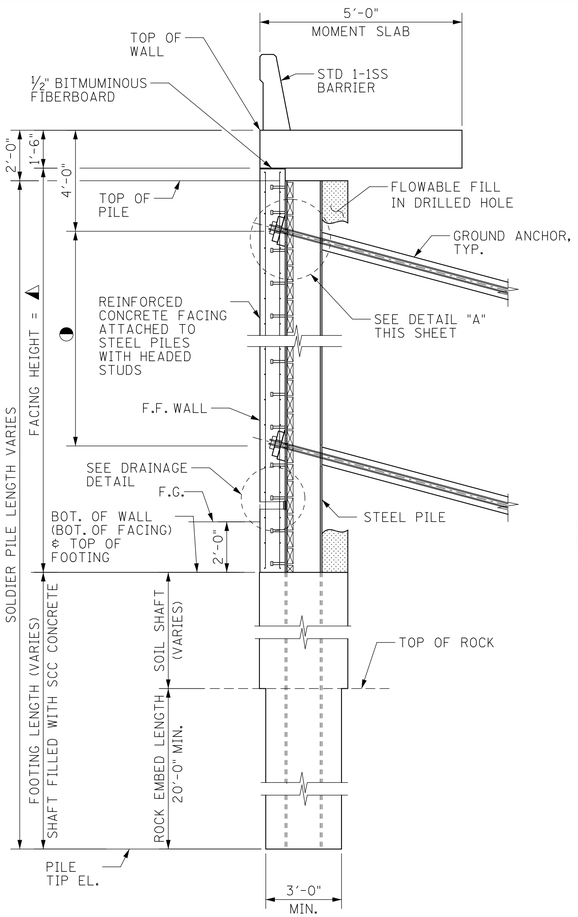


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
DRAINAGE STRUCTURE DETAILS RETAINING WALL STATE ROUTE 108 LM 2.8 SLIDE REPAIR MARION COUNTY 2025

DESIGNED BY	ALFRED BENESCH & COMPANY	DATE 04-05-24
DRAWN BY	ANDREW TILTON, P.E.	DATE 04-05-24
SUPERVISED BY	JACOB WILLIAMS, P.E.	DATE 04-05-24
CHECKED BY	CHRIS KELLEY, P.E.	DATE 04-05-24

5/19/2025 11:00:22 AM
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U-50-317

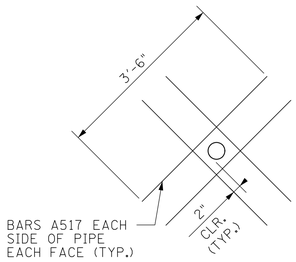


GROUTED ANCHOR SOLDIER PILE TYPICAL SECTION

N.T.S.

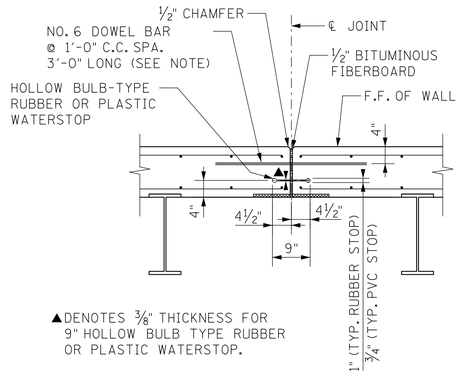
▲ DENOTES: SEE SHEETS U-50-295 THROUGH U-50-297 FOR WALL HEIGHTS.

◑ DENOTES: SEE ANCHOR SCHEDULE ON SHEETS U-50-311 TO U-50-315 FOR ANCHOR ELEVATIONS AND NUMBER PER PILE.



HOLE REINFORCEMENT DETAIL

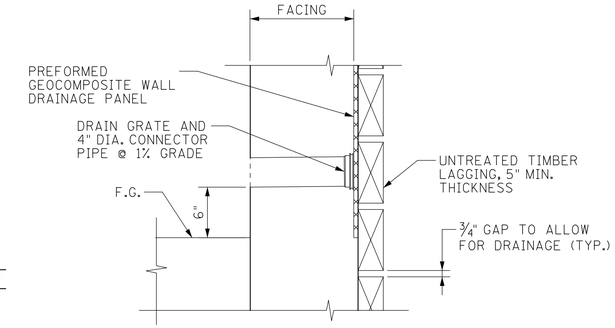
WEEPHOLE SHOWN AND DRAIN OUTLET PASS-THROUGH SIMILAR



▲DENOTES ⅜" THICKNESS FOR 9" HOLLOW BULB TYPE RUBBER OR PLASTIC WATERSTOP.

EXPANSION JOINT

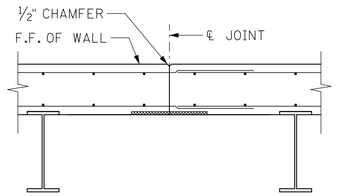
N.T.S.



DRAINAGE DETAIL

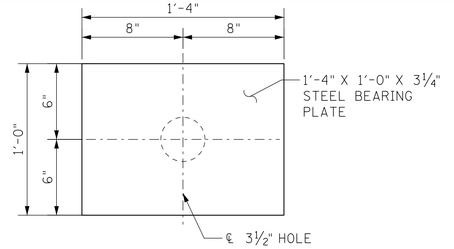
N.T.S.

REBAR NOT SHOWN FOR CLARITY



CONSTRUCTION JOINT

N.T.S.

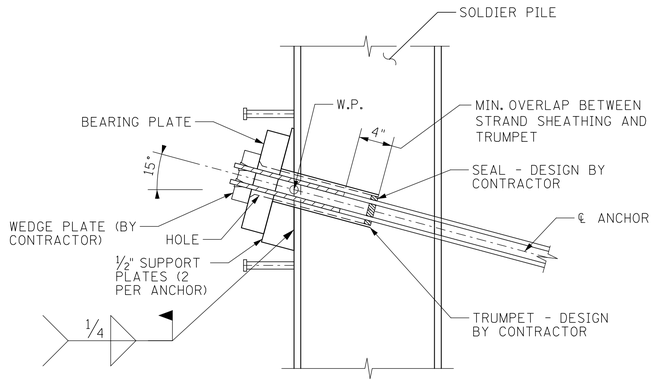


BEARING PLATE DETAIL

CONST. NO. 58S108-F3-002		
PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-27

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



DETAIL "A"

N.T.S.

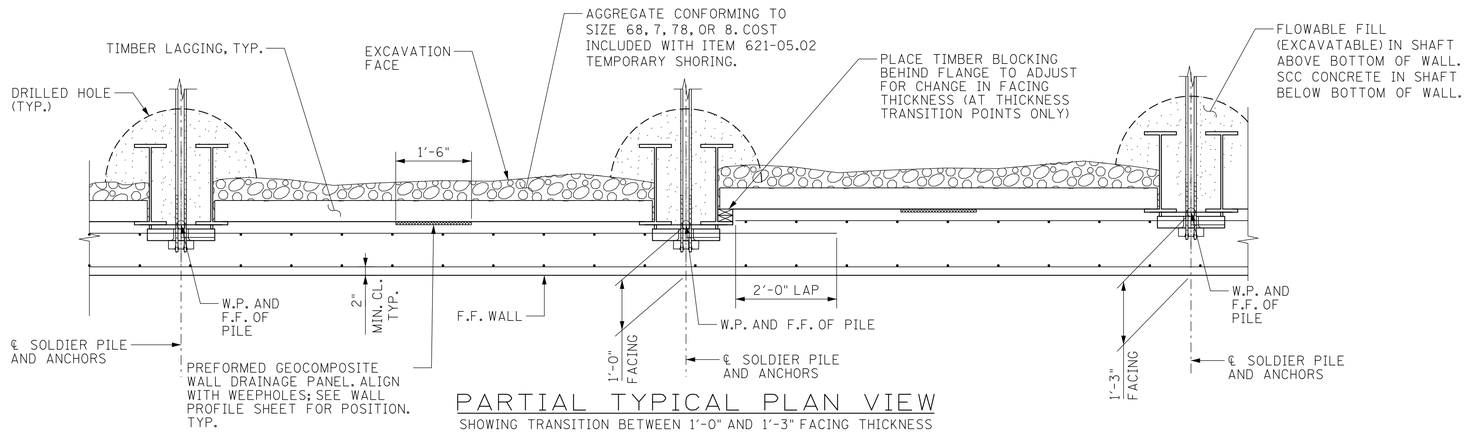
WALL JOINT NOTES

EXPANSION JOINTS SHALL BE INSTALLED AT INTERVALS NOT TO EXCEED 90 FEET. THE EXPANSION JOINTS SHALL BE USED IN THE WALL ONLY AND NOT CARRIES THROUGH THE FOOTING. NO WALL REINFORCEMENT SHALL PASS THROUGH THE EXPANSION JOINT. ONE END OF THE DOWELS SHALL BE WRAPPED IN A LAYER OF TARPAPER WITH A TARPAPER CAP OVER THE END. COST SHALL BE INCLUDED WITH CLASS X CONCRETE.

CONSTRUCTION JOINTS SHALL BE SPACED AT A MAXIMUM OF 30 FT. THE CONSTRUCTION JOINTS CLOSEST TO THE END OF THE WALL SHALL OCCUR NO FURTHER THAN 30 FEET FROM THE END OF THE WALL.

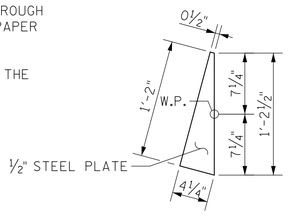
JOINT MATERIAL SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATIONS NUMBERS 904 AND 905.

SEE PROFILE SHEETS FOR LOCATIONS OF CONSTRUCTION AND EXPANSION JOINTS IN WALL FACING.



PARTIAL TYPICAL PLAN VIEW

SHOWING TRANSITION BETWEEN 1'-0" AND 1'-3" FACING THICKNESS
FACING THICKNESS MEASURED FROM F.F. OF WALL TO F.F. OF PILE
SEE PROFILE SHEETS FOR REBAR SIZE AND SPACING
SHEAR CONNECTORS NOT SHOWN FOR CLARITY
N.T.S.



SUPPORT PLATE DETAIL

NOTES:

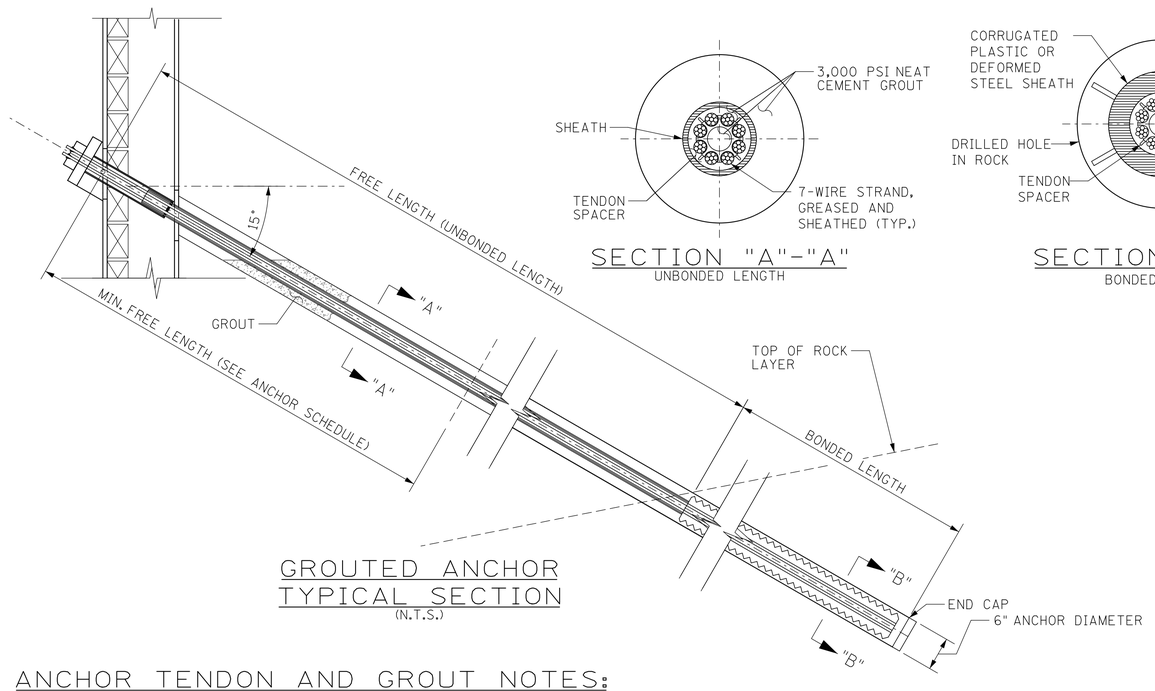
1. SEE ROADWAY SHEETS FOR DETAILS OF HORIZONTAL DRAINS TO BE DRILLED INTO FILL. WHERE HORIZONTAL DRILLED DRAINS PENETRATE WALL, DETAIL SHALL BE SIMILAR TO WEEPHOLE DETAIL SHOWN HERE.
2. CONCRETE FOR WALL FACING SHALL BE CLASS "X" WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
3. SEE SHEET R-19 FOR PILE ELEVATION AND LENGTH DATA.
4. SEE SHEET R-31 FOR ADDITIONAL STEEL DETAILS.
5. SEE SHEET R-28 FOR ADDITIONAL ANCHOR DETAILS.
6. SEE SHEET R-32 FOR MOMENT SLAB DETAILS.
7. ABBREVIATIONS KEY:
   N.T.S = NOT TO SCALE
   F.F. = FRONT FACE
   W.P. = WORK POINT FOR PILE AND ANCHOR INSTALLATION
8. ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL BE GALVANIZED.

CHRISTOPHER M. KELLEY — REGISTERED ENGINEER — No. 118392 — STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ANCHORED SOLDIER PILE WALL DETAILS
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

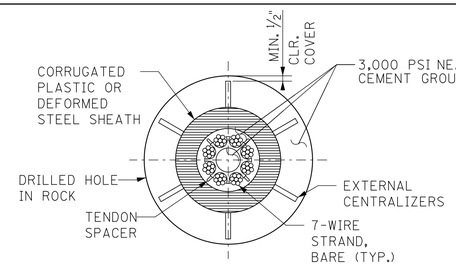
DESIGNED BY	ALFRED BENESCH & COMPANY	DATE	04-05-24
DRAWN BY	ANDREW TILTON, P.E.	DATE	04-05-24
SUPERVISED BY	JACOB WILLIAMS, P.E.	DATE	04-05-24
CHECKED BY	CHRIS KELLEY, P.E.	DATE	04-05-24

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GROUTED ANCHOR
TYPICAL SECTION
(N.T.S.)

SECTION "A"-"A"
UNBONDED LENGTH



SECTION "B"-"B"
BONDED LENGTH

ANCHOR TENDON AND GROUT NOTES:

1. STRESSING ANCHORAGES SHALL BE A COMBINATION STEEL BEARING PLATE WITH WEDGE PLATE AND WEDGES. THE STEEL BEARING AND WEDGE PLATE MAY ALSO BE COMBINED INTO A SINGLE ELEMENT. ANCHORAGE DEVICES SHALL BE CAPABLE OF DEVELOPING 95 PERCENT OF THE SPECIFIED MINIMUM ULTIMATE TENSILE STRENGTH OF THE PRESTRESSING STEEL TENDON. THE ANCHORAGE DEVICES SHALL CONFORM TO THE STATIC STRENGTH REQUIREMENTS OF SECTION 3.1.6 (1) AND SECTION 3.1.8 (1) AND (2) OF THE LATEST EDITION OF THE PTI "GUIDE SPECIFICATIONS FOR POST- TENSIONING MATERIALS."

2. THE BEARING PLATE SHALL BE FABRICATED FROM STEEL CONFORMING TO AASHTO M 183 OR M 222 SPECIFICATIONS, OR EQUIVALENT, OR MAY BE A DUCTILE IRON CASTING CONFORMING TO ASTM A 536.

3. THE TRUMPET SHALL BE FABRICATED FROM A STEEL PIPE OR TUBE. STEEL PIPE OR TUBE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 53 FOR PIPE OR ASTM A 500 FOR TUBING. STEEL TRUMPETS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.1 INCH FOR DIAMETERS UP TO 4 INCHES AND 0.2 INCH FOR LARGER DIAMETERS.

4. ANCHORAGE COVERS SHALL BE FABRICATED FROM STEEL WITH A MINIMUM THICKNESS OF 0.1 INCH. THE JOINT BETWEEN THE COVER AND THE BEARING PLATE SHALL BE WATERTIGHT.

5. WEDGES SHALL BE DESIGNED TO PRECLUDE PREMATURE FAILURE OF THE PRESTRESSING STEEL DUE TO NOTCH OR PINCHING EFFECTS UNDER STATIC AND DYNAMIC STRENGTH REQUIREMENTS OF SECTION 3.1.8 (1) AND 3.1.8 (2) OF THE PTI "POST TENSIONING MANUAL." WEDGES SHALL NOT BE REUSED.

6. GROUND ANCHOR TENDONS SHALL BE FABRICATED FROM SINGLE OR MULTIPLE ELEMENTS OF ONE OF THE FOLLOWING PRESTRESSING STEELS:

   A) SEVEN-WIRE, LOW RELAXATION STRANDS CONFORMING TO AASHTO M 203

   B) COMPACT, SEVEN-WIRE, LOW-RELAXATION STRANDS CONFORMING TO ASTM A 779

7. CENTRALIZERS SHALL BE PROVIDED AT MAXIMUM INTERVALS OF 10 FEET WITH THE DEEPEST CENTRALIZER LOCATED 1 FOOT FROM THE END OF THE ANCHOR AND THE UPPER CENTRALIZER FOR THE BOND ZONE LOCATED NO MORE THAN 5 FEET FROM THE TOP OF THE TENDON BOND LENGTH. SPACERS SHALL BE USED TO SEPARATE THE STEEL STRANDS OF STRAND TENDONS. SPACERS SHALL BE PROVIDED AT MAXIMUM INTERVALS OF 10 FEET AND MAY BE COMBINED WITH CENTRALIZERS.

8. CENTRALIZERS SHALL BE FABRICATED FROM PLASTIC, STEEL OR MATERIAL, WHICH IS NON-DETRIMENTAL TO THE PRESTRESSING STEEL. WOOD SHALL NOT BE USED. THE CENTRALIZER SHALL BE ABLE TO SUPPORT THE TENDON IN THE DRILL HOLE AND POSITION THE TENDON SO A MINIMUM OF 2 INCHES OF GROUT COVER IS PROVIDED AND SHALL PERMIT GROUT TO FREELY FLOW AROUND THE TENDON AND UP THE DRILL HOLE.

9. SPACERS SHALL BE USED TO SEPARATE ELEMENTS OF A MULTI-ELEMENT TENDON AND SHALL PERMIT GROUT TO FREELY FLOW AROUND THE TENDON AND UP THE DRILL HOLE. SPACERS SHALL BE FABRICATED FROM PLASTIC, STEEL OR MATERIAL, WHICH IS NON-DETRIMENTAL TO THE PRESTRESSING STEEL. WOOD SHALL NOT BE USED.

10. TENDON BOND LENGTH ENCAPSULATION SHALL BE FABRICATED FROM ONE OF THE FOLLOWING:

    A) HIGH DENSITY CORRUGATED POLYETHYLENE TUBING CONFORMING TO THE REQUIREMENTS OF AASHTO M 252 AND HAVING A MINIMUM WALL THICKNESS OF 0.06 INCH EXCEPT PRE-GROUTED TENDONS, WHICH MAY HAVE A MINIMUM WALL THICKNESS OF 0.04 INCH.

    B) DEFORMED STEEL TUBING OR PIPES CONFORMING TO ASTM A 52 OR A 500 WITH A MINIMUM WALL THICKNESS OF 0.2 INCH.

    C) CORRUGATED, POLYVINYL CHLORIDE TUBES MANUFACTURED FROM RIGID PVC COMPOUNDS CONFORMING TO ASTM D 1784, CLASS 13464- B.

11. HEAT SHRINKABLE SLEEVES SHALL BE FABRICATED FROM A RADIATION CROSS-LINKED POLYOLEFIN TUBE INTERNALLY COATED WITH AN ADHESIVE SEALANT. PRIOR TO SHRINKING, THE TUBE SHALL HAVE A NOMINAL WALL THICKNESS OF 0.025 INCH. THE ADHESIVE SEALANT INSIDE THE HEAT SHRINKABLE TUBE SHALL HAVE A NOMINAL THICKNESS OF 0.02 INCH.

12. A SHEATH SHALL BE USED AS PART OF THE CORROSION PROTECTION SYSTEM FOR THE UNBONDED LENGTH PORTION OF THE TENDON. THE SHEATH SHALL BE FABRICATED FROM ONE OF THE FOLLOWING:

    A) A POLYETHYLENE TUBE PULLED OR PUSHED OVER THE PRESTRESSING STEEL. THE POLYETHYLENE SHALL BE TYPE II, III OR IV AS DEFINED BY ASTM D 1248 (OR APPROVED EQUAL). THE TUBING SHALL HAVE A MINIMUM WALL THICKNESS OF 0.06 INCH.

    B) A HOT-MELT EXTRUDED POLYPROPYLENE TUBE. THE POLYPROPYLENE SHALL BE CELL CLASSIFICATION B55542-11 AS DEFINED BY ASTM D 4101 (OR APPROVED EQUAL). THE TUBING SHALL HAVE A MINIMUM WALL THICKNESS OF 0.06 INCH.

    C) A HOT-MELT EXTRUDED POLYETHYLENE TUBE. THE POLYETHYLENE SHALL BE HIGH DENSITY TYPE III AS DEFINED BY ASTM D 1248 (OR APPROVED EQUAL). THE TUBING SHALL HAVE A MINIMUM WALL THICKNESS OF 0.06 INCH.

    D) STEEL TUBING CONFORMING TO ASTM A 500. THE TUBING SHALL HAVE A MINIMUM WALL THICKNESS OF 0.2 INCH.

    E) STEEL PIPE CONFORMING TO ASTM A 53. THE PIPE SHALL HAVE A MINIMUM WALL THICKNESS OF 0.2 INCH.

    F) PLASTIC PIPE OR TUBE OF PVC CONFORMING TO ASTM D 1784 CLASS 13464-B. THE PIPE OR TUBE SHALL BE SCHEDULE 40 AT A MINIMUM.

    G) A CORRUGATED TUBE CONFORMING TO THE REQUIREMENT OF THE TENDON BOND LENGTH ENCAPSULATION

13. THE BONDBREAKER SHALL BE FABRICATED FROM A SMOOTH PLASTIC TUBE OR PIPE HAVING THE FOLLOWING PROPERTIES: (1) RESISTANT TO CHEMICAL ATTACK FROM AGGRESSIVE ENVIRONMENTS, GROUT, OR CORROSION INHIBITING COMPOUND; (2) RESISTANT TO AGING BY ULTRAVIOLET LIGHT; (3) FABRICATED FROM MATERIAL NON-DETRIMENTAL TO THE TENDON; (4) CAPABLE OF WITHSTANDING ABRASION, IMPACT, AND BENDING DURING HANDLING AND INSTALLATION; (5) ENABLE THE TENDON TO ELONGATE DURING TESTING AND STRESSING; AND (6) ALLOW THE TENDON TO REMAIN UNBONDED AFTER LOCKOFF.

14. TYPE I, II, III OR V PORTLAND CEMENT CONFORMING TO AASHTO M 85 SHALL BE USED FOR GROUT. THE GROUT SHALL BE A PUMPABLE NEAT MIXTURE OF CEMENT AND WATER AND SHALL BE STABLE (BLEED LESS THAN 2 PERCENT), AND FLUID.

15. ADMIXTURES WHICH CONTROL BLEED, IMPROVE FLOWABILITY, REDUCE WATER CONTENT, AND RETARD SET MAY BE USED IN THE GROUT SUBJECT TO THE APPROVAL OF THE ENGINEER. ADMIXTURES, IF USED, SHALL BE COMPATIBLE WITH THE PRESTRESSING STEELS AND MIXED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. EXPANSIVE ADMIXTURES MAY ONLY BE ADDED TO THE GROUT USED FOR FILLING SEALED ENCAPSULATIONS, TRUMPETS, AND ANCHORAGE COVERS. ACCELERATORS SHALL NOT BE PERMITTED.

16. WATER FOR MIXING GROUT SHALL BE POTABLE, CLEAN, AND FREE OF INJURIOUS QUANTITIES OF SUBSTANCES KNOWN TO BE HARMFUL TO PORTLAND CEMENT OR PRESTRESSING STEEL.

17. THE CORROSION INHIBITING COMPOUND PLACED IN EITHER THE FREE LENGTH OR THE TRUMPET AREAS SHALL BE AN ORGANIC COMPOUND (I.E. GREASE OR WAX) WITH APPROPRIATE POLAR MOISTURE DISPLACING, CORROSION INHIBITING ADDITIVES AND SELF-HEALING PROPERTIES. THE COMPOUND SHALL PERMANENTLY STAY VISCOUS AND BE CHEMICALLY STABLE AND NONREACTIVE WITH THE PRESTRESSING STEEL, THE SHEATHING MATERIAL, AND ANCHOR GROUT.

18. GROUT TUBES SHALL HAVE AN ADEQUATE INSIDE DIAMETER TO ENABLE THE GROUT TO BE PUMPED TO THE BOTTOM OF THE DRILL HOLE. GROUT TUBES SHALL BE STRONG ENOUGH TO WITHSTAND A MINIMUM GROUTING PRESSURE OF 145 PSI. POST-GROUT TUBES SHALL BE STRONG ENOUGH TO WITHSTAND POST-GROUTING PRESSURES.

19. PRESTRESSING STEEL SHALL BE CUT WITH AN ABRASIVE SAW OR, WITH THE WRITTEN APPROVAL OF THE PRESTRESSING STEEL SUPPLIER, AN OXYACETYLENE TORCH.

20. ALL OF THE TENDON BOND LENGTH, ESPECIALLY FOR STRAND, MUST BE FREE OF DIRT, MANUFACTURER'S LUBRICANTS, CORROSION-INHIBITIVE COATINGS, OR OTHER DELETERIOUS SUBSTANCES THAT MAY SIGNIFICANTLY AFFECT THE GROUT- TO-TENDON BOND OR THE SERVICE LIFE OF THE TENDON.

21. PRE-GROUTING OF ENCAPSULATED TENDONS SHALL BE DONE ON AN INCLINED, RIGID FRAME OR BED BY INJECTING THE GROUT FROM THE LOW END OF THE TENDON.

22. ALL STRESSING ANCHORAGES SHALL RECEIVE A COVER FILLED WITH CORROSION INHIBITING COMPOUND.

23. THE TRUMPET SHALL BE SEALED TO THE BEARING PLATE AND SHALL OVERLAP THE UNBONDED LENGTH CORROSION PROTECTION BY AT LEAST 4 INCHES. THE TRUMPET SHALL BE LONG ENOUGH TO ACCOMMODATE MOVEMENTS OF THE STRUCTURE AND THE TENDON DURING TESTING AND STRESSING. ON STRAND TENDONS, THE TRUMPET SHALL BE LONG ENOUGH TO ENABLE THE TENDON TO MAKE A TRANSITION FROM THE DIAMETER OF THE TENDON ALONG THE UNBONDED LENGTH TO THE DIAMETER OF THE TENDON AT THE WEDGE PLATE WITHOUT DAMAGING THE ENCAPSULATION.

24. THE TRUMPET SHALL BE COMPLETELY FILLED WITH GROUT, EXCEPT RE-STRESSABLE ANCHORAGES MUST USE CORROSION INHIBITING COMPOUNDS. COMPOUNDS MAY BE PLACED ANY TIME DURING CONSTRUCTION. COMPOUND FILLED TRUMPETS SHALL HAVE A PERMANENT SEAL BETWEEN THE TRUMPET AND THE UNBONDED LENGTH CORROSION PROTECTION. GROUT MUST BE PLACED AFTER THE GROUND ANCHOR HAS BEEN TESTED AND STRESSED TO THE LOCK-OFF LOAD. TRUMPETS FILLED WITH GROUT SHALL HAVE EITHER A TEMPORARY SEAL BETWEEN THE TRUMPET AND THE UNBONDED LENGTH CORROSION PROTECTION OR THE TRUMPET SHALL FIT TIGHTLY OVER THE UNBONDED LENGTH CORROSION PROTECTION FOR A MINIMUM OF 4 INCHES.

25. THE WORKING DRAWINGS SUBMISSION SHALL INCLUDE THE FOLLOWING:
    A. GROUND ANCHOR SCHEDULE GIVING:
       - GROUND ANCHOR NUMBER
       - GROUND ANCHOR DESIGN LOAD
       - TYPE AND SIZE OF TENDON
       - MINIMUM TOTAL ANCHOR LENGTH
       - MINIMUM BOND LENGTH
       - MINIMUM TENDON BOND LENGTH
       - MINIMUM UNBONDED LENGTH
    B. DRAWING OF THE GROUND ANCHOR TENDON AND CORROSION PROTECTION SYSTEM INCLUDING DETAILS FOR THE FOLLOWING:
       - SPACERS AND THEIR LOCATIONS
       - CENTRALIZERS AND THEIR LOCATION
       - UNBONDED LENGTH CORROSION PROTECTION SYSTEM
       - BOND LENGTH CORROSION PROTECTION SYSTEM
       - ANCHORAGE AND TRUMPET
       - ANCHORAGE CORROSION PROTECTION SYSTEM
    C. CERTIFICATES OF COMPLIANCE FOR THE FOLLOWING MATERIALS, IF USED.
       - PRESTRESSING STEEL STRAND
       - PORTLAND CEMENT
       - PRESTRESSING HARDWARE
       - BEARING PLATES
       - CORROSION PROTECTION SYSTEM

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
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REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

NOTES:

1. ANCHOR SHALL BE SUPPLIED WITH A CLASS 1 CORROSION PROTECTION SYSTEM.
2. SEE SHEET R-27 FOR ADDITIONAL ANCHORAGE DETAILS.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ANCHOR DETAILS
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

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PERFORMANCE TEST PROCEDURE:

1. THE PERFORMANCE TEST SHALL BE MADE BY INCREMENTALLY LOADING AND UNLOADING THE GROUND ANCHORS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE.

AL	0.50DL	AL	0.25DL
0.25DL	0.75DL	0.25DL	0.50DL
AL	AL	0.50DL	0.75DL
0.25DL	0.25DL	0.75DL	1.00DL
0.50DL	0.5DL	1.00DL	1.20DL
AL	0.75DL	1.20DL	1.33DL TEST LOAD
0.25DL	1.00DL	AL	AL (NOT OPTIONAL)
			INCREASE TO LOCK-OFF LOAD

WHERE: AL - ALIGNMENT LOAD
DL - ANCHOR DESIGN LOAD (SHOWN IN THE GROUND ANCHOR SCHEDULE)

2. THE ANCHOR MOVEMENTS SHALL BE MEASURED FROM THE INITIAL ALIGNMENT LOAD AND RECORDED TO THE NEAREST 0.001 INCHES WITH RESPECT TO AN INDEPENDENT FIXED REFERENCE POINT AT SUBSEQUENT ALIGNMENT LOADS AND AT EACH INCREMENT OF LOAD. THE ALIGNMENT LOAD IS A NOMINAL LOAD MAINTAINED ON THE GROUND ANCHOR TO KEEP THE TESTING EQUIPMENT IN POSITION.

3. THE TEST LOAD SHALL BE MONITORED WITH A PRESSURE GAUGE. A MASTER GAUGE SHALL BE PLACED IN SERIES WITH THE PRESSURE GAUGE DURING EACH PERFORMANCE TEST. IF THE MASTER PRESSURE GAUGE AND THE PRESSURE GAUGE READINGS DIFFER BY MORE THAN 10 PERCENT: THE JACK, PRESSURE GAUGE, AND MASTER GAUGE SHALL BE RECALIBRATED. AT LOAD INCREMENTS OTHER THAN THE MAXIMUM LOAD, THE LOAD SHALL BE HELD JUST LONG ENOUGH TO OBTAIN THE MOVEMENT READING, BUT NO MORE THAN ONE MINUTE.

4. THE PUMP SHALL BE CAPABLE OF APPLYING EACH LOAD INCREMENT IN LESS THAN 60 SECONDS.

5. THE MAXIMUM LOAD IN A PERFORMANCE TEST SHALL BE HELD FOR 10 MINUTES. THE ANCHOR MOVEMENT WITH RESPECT TO A FIXED REFERENCE SHALL BE MEASURED AND RECORDED AT 1 MINUTE, 2, 3, 4, 5, 6, AND 10 MINUTES. IF THE ANCHOR MOVEMENT BETWEEN 1 MINUTE AND 10 MINUTES EXCEEDS 0.04 INCHES, THE MAXIMUM TEST LOAD SHALL BE HELD FOR AN ADDITIONAL 50 MINUTES. IF THE LOAD HOLD IS EXTENDED, THE ANCHOR MOVEMENT SHALL BE RECORDED AT 15 MINUTES, 20, 25, 30, 45, AND 60 MINUTES. THE LOAD HOLD TIME SHALL BEGIN WHEN THE PUMP STARTS TO RAISE THE LOAD FROM THE 1.20DL LOAD INCREMENT TO THE 1.33DL LOAD INCREMENT.

6. LOCK-OFF THE LOAD AT 100% OF THE DESIGN LOAD.

7. PLOT THE ANCHOR MOVEMENT VERSUS LOAD FOR EACH LOAD INCREMENT.

8. A PERFORMANCE TESTED GROUND ANCHOR WITH A 10 MINUTE HOLD IS ACCEPTABLE IF:
   A. THE ANCHOR WILL CARRY THE MAXIMUM TEST LOAD WITH LESS THAN 0.04 INCHES OF MOVEMENT BETWEEN 1 MINUTE AND 10 MINUTES, AND
   B. THE TOTAL ELASTIC MOVEMENT OBTAINED FROM A TEST LOAD EXCEEDS 80 PERCENT OF THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED LENGTH AND IS LESS THAN THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED LENGTH PLUS 50 PERCENT OF THE BONDED LENGTH.

9. A PERFORMANCE TESTED GROUND ANCHOR WITH A 60 MINUTE HOLD IS ACCEPTABLE IF:
   A. THE CREEP RATE DOES NOT EXCEED 0.08 INCHES/LOG CYCLE DURING THE FINAL LOG CYCLE OF THE PERFORMANCE TEST REGARDLESS OF TENDON LENGTH AND LOAD, AND
   B. THE TOTAL ELASTIC MOVEMENT OBTAINED FROM A TEST LOAD EXCEEDS 80 PERCENT OF THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED LENGTH AND IS LESS THAN THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED LENGTH PLUS 50 PERCENT OF THE BONDED LENGTH.

10. 29 GROUND ANCHORS, SELECTED BY THE ENGINEER, SHALL BE PERFORMANCE TESTED IN ACCORDANCE WITH THE ABOVE PROCEDURE. THE REMAINING ANCHORS SHALL BE TESTED IN ACCORDANCE WITH THE PROOF TEST PROCEDURE OR THE EXTENDED CREEP TEST PROCEDURE.

PROOF TEST PROCEDURE:

1. THE PROOF TEST SHALL BE MADE BY INCREMENTALLY LOADING AND UNLOADING THE GROUND ANCHORS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE.

PROOF TEST SCHEDULE

AL
0.25DL
0.50DL
0.75DL
1.00DL
1.20DL
1.33DL
AL (NOT OPTIONAL)
INCREASE TO LOCK-OFF LOAD
WHERE: AL - ALIGNMENT LOAD
DL - ANCHOR DESIGN LOAD (SHOWN IN THE GROUND ANCHOR SCHEDULE)

2. THE ANCHOR MOVEMENTS SHALL BE MEASURED FROM THE INITIAL ALIGNMENT LOAD AND RECORDED TO THE NEAREST 0.001 INCHES WITH RESPECT TO AN INDEPENDENT FIXED REFERENCE POINT AT EACH INCREMENT OF LOAD. THE ALIGNMENT LOAD IS A NOMINAL LOAD MAINTAINED ON THE GROUND ANCHOR TO KEEP THE TESTING EQUIPMENT IN POSITION.

3. THE TEST LOAD SHALL BE MONITORED WITH A PRESSURE GAUGE. AT LOAD INCREMENTS OTHER THAN THE MAXIMUM LOAD, THE LOAD SHALL BE HELD JUST LONG ENOUGH TO OBTAIN THE MOVEMENT READING, BUT NO MORE THAN ONE MINUTE.

4. THE PUMP SHALL BE CAPABLE OF APPLYING EACH LOAD INCREMENT IN LESS THAN 60 SECONDS.

5. THE MAXIMUM LOAD IN A PROOF TEST SHALL BE HELD FOR 10 MINUTES. THE ANCHOR MOVEMENT WITH RESPECT TO A FIXED REFERENCE SHALL BE MEASURED AND RECORDED AT 1 MINUTE, 2, 3, 4, 5, 6, AND 10 MINUTES. IF THE ANCHOR MOVEMENT BETWEEN 1 MINUTE AND 10 MINUTES EXCEEDS 0.04 INCHES, THE MAXIMUM TEST LOAD SHALL BE HELD FOR AN ADDITIONAL 50 MINUTES. IF THE LOAD HOLD IS EXTENDED, THE ANCHOR MOVEMENT SHALL BE RECORDED AT 15 MINUTES, 20, 25, 30, 45, AND 60 MINUTES. THE LOAD HOLD TIME SHALL BEGIN WHEN THE PUMP STARTS TO RAISE THE LOAD FROM THE 1.20DL LOAD INCREMENT TO THE 1.33DL LOAD INCREMENT.

6. LOCK-OFF THE LOAD AT 100% OF THE DESIGN LOAD.

7. PLOT THE ANCHOR MOVEMENT VERSUS LOAD FOR EACH LOAD INCREMENT.

8. A PROOF TESTED GROUND ANCHOR WITH A 10 MINUTE HOLD IS ACCEPTABLE IF:
   A. THE ANCHOR WILL CARRY THE MAXIMUM TEST LOAD WITH LESS THAN 0.04 INCHES OF MOVEMENT BETWEEN 1 MINUTE AND 10 MINUTES, AND
   B. THE TOTAL ELASTIC MOVEMENT OBTAINED FROM A TEST LOAD EXCEEDS 80 PERCENT OF THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED LENGTH AND IS LESS THAN THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED LENGTH PLUS 50 PERCENT OF THE BONDED LENGTH.

9. A PROOF TESTED GROUND ANCHOR WITH A 60 MINUTE HOLD IS ACCEPTABLE IF:
   A. THE CREEP RATE DOES NOT EXCEED 0.08 INCHES/LOG CYCLE DURING THE FINAL LOG CYCLE OF THE PERFORMANCE TEST REGARDLESS OF TENDON LENGTH AND LOAD, AND
   B. THE TOTAL ELASTIC MOVEMENT OBTAINED FROM A TEST LOAD EXCEEDS 80 PERCENT OF THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED LENGTH AND IS LESS THAN THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED LENGTH PLUS 50 PERCENT OF THE BONDED LENGTH.

10. 533 GROUND ANCHORS, SELECTED BY THE ENGINEER, SHALL BE PROOF TESTED IN ACCORDANCE WITH THE ABOVE PROCEDURE.

ANCHOR NO.: _____
DESIGN LOAD: _____

PERFORMANCE TEST DATA

% DL	PRESSURE	LOAD	MOVEMENT	% DL	PRESSURE	LOAD	MOVEMENT
AL				AL			
25				25			
AL				50			
25				75			
50				100			
AL				120			
25				AL			
50				25			
75				50			
AL				75			
25				100			
50				120			
75				133			
100				AL			
				L.O.			

< AL NOT OPTIONAL

PERFORMANCE TEST REMARKS:

ANCHOR NO.: _____
DESIGN LOAD: _____

PROOF TEST DATA

% DL	PRESSURE	LOAD	MOVEMENT
AL			
25			
50			
75			
100			
120			
133			
AL			
L.O.			

< AL NOT OPTIONAL

PROOF TEST REMARKS:

NOTES:

1. SEE ANCHOR SCHEDULE FOR DESIGN LOADS.

CONST. NO. 58S108-F3-002

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REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118392
STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ANCHOR TESTING DETAILS
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY	ALFRED BENESCH & COMPANY	DATE 04-05-24
DRAWN BY	ANDREW TILTON, P.E.	DATE 04-05-24
SUPERVISED BY	JACOB WILLIAMS, P.E.	DATE 04-05-24
CHECKED BY	CHRIS KELLEY, P.E.	DATE 04-05-24

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PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-30

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

EXTENDED CREEP TEST PROCEDURE:

1. THE EXTENDED CREEP TEST SHALL BE MADE BY INCREMENTALLY LOADING AND UNLOADING THE GROUND ANCHOR IN ACCORDANCE WITH THE FOLLOWING SCHEDULE

   EXTENDED CREEP TEST SCHEDULE

LOAD	OBSERVATION PERIOD (MIN)
AL	
0.25DL	10
0.50DL	30
0.75DL	30
1.00DL	45
1.20DL	60
1.33DL	300

   REDUCE TO LOCK-OFF LOAD
   WHERE: AL - ALIGNMENT LOAD
   DL - ANCHOR DESIGN LOAD (SHOWN IN THE GROUND ANCHOR SCHEDULE)

2. AT THE END OF EACH LOADING CYCLE, THE LOAD SHALL BE HELD CONSTANT FOR THE OBSERVATION PERIOD INDICATED IN THE CREEP TEST SCHEDULE. THE TIMES FOR READING AND RECORDING THE GROUND ANCHOR MOVEMENT DURING EACH OBSERVATION PERIOD SHALL BE 1, 2, 3, 4, 5, 6, 10, 15, 20, 25, 30, 45, 60, 75, 90, 100, 120, 150, 180, 210, 240, 270 AND 300 MINUTES AS APPROPRIATE FOR THE LOAD INCREMENT. EACH LOAD-HOLD PERIOD SHALL START AS SOON AS THE TEST LOAD IS APPLIED. IN A CREEP TEST, THE PRIMARY PRESSURE GAUGE AND REFERENCE PRESSURE GAUGE WILL BE USED TO MEASURE THE APPLIED LOAD AND THE LOAD CELL WILL BE USED TO MONITOR SMALL CHANGES IN LOAD DURING CONSTANT LOAD-HOLD PERIODS. THE JACK SHALL BE ADJUSTED AS NECESSARY IN ORDER TO MAINTAIN A CONSTANT LOAD.

3. THE CONTRACTOR SHALL PLOT THE GROUND ANCHOR MOVEMENT AND THE RESIDUAL MOVEMENT MEASURED IN AN EXTENDED CREEP TEST. THE CONTRACTOR SHALL ALSO PLOT THE CREEP MOVEMENT FOR EACH LOAD HOLD AS A FUNCTION OF THE LOGARITHM OF TIME.

4. THE STRESSING EQUIPMENT SHALL BE CAPABLE OF MEASURING AND MAINTAINING THE HYDRAULIC PRESSURE WITHIN 50 PSI.

5. A GROUND ANCHOR SUBJECTED TO EXTENDED CREEP TESTING IS ACCEPTABLE IF THE: (1) GROUND ANCHOR RESISTS THE MAXIMUM TEST LOAD WITH A CREEP RATE THAT DOES NOT EXCEED 0.08 INCH IN THE LAST LOG CYCLE OF TIME; AND (2) TOTAL ELASTIC MOVEMENT AT THE MAXIMUM TEST LOAD EXCEEDS 80 PERCENT OF THE THEORETICAL ELASTIC ELONGATION OF THE UNBONDED LENGTH.

6. AT EACH WALL LOCATION, ONE (1) GROUND ANCHOR, SELECTED BY THE ENGINEER, SHALL BE SUBJECTED TO EXTENDED CREEP TESTING IN ACCORDANCE WITH THE ABOVE PROCEDURE.

ANCHOR LOCK-OFF

A) AFTER TESTING HAS BEEN COMPLETED, THE LOAD IN THE TENDON SHALL BE SUCH THAT AFTER SEATING LOSSES (I.E. WEDGE SEATING); THE SPECIFIED LOCK-OFF LOAD HAS BEEN APPLIED TO THE ANCHOR TENDON.

B) THE MAGNITUDE OF THE LOCK-OFF LOAD SHALL BE 100% OF THE DESIGN LOAD.

C) THE WEDGES SHALL BE SEATED AT A MINIMUM LOAD OF 50% FPU. IF THE LOCK-OFF LOAD IS LESS THAN 50% FPU, SHIMS SHALL BE USED UNDER THE WEDGE PLATE AND THE WEDGES SEATED AT 50% FPU. THE SHIMS SHALL THEN BE REMOVED TO REDUCE THE LOAD IN THE TENDON TO THE DESIRED LOCK-OFF LOAD.

PROCEDURES FOR ANCHORS FAILING ACCEPTANCE CRITERIA

A) ANCHORS THAT DO NOT SATISFY THE MINIMUM APPARENT FREE LENGTH CRITERIA SHALL BE REJECTED AND REPLACED AT NO ADDITIONAL COST TO THE DEPARTMENT.

B) RE-GROUTABLE ANCHORS WHICH SATISFY THE MINIMUM APPARENT FREE LENGTH CRITERIA BUT WHICH FAIL THE EXTENDED CREEP TEST AT THE TEST LOAD MAY BE POST GROUTED AND SUBJECTED TO AN ENHANCED CREEP CRITERION. THIS ENHANCE CRITERION REQUIRES A CREEP MOVEMENT OF NOT MORE THAN 0.04 INCH BETWEEN 1 AND 60 MINUTES AT TEST LOAD. ANCHORS WHICH SATISFY THE ENHANCED CREEP CRITERION SHALL BE LOCKED OFF AT THE DESIGN LOCK-OFF LOAD. ANCHORS WHICH CANNOT BE POST GROUTED OR REGROUTABLE ANCHORS THAT DO NOT SATISFY THE ENHANCED CREEP CRITERION SHALL BE REJECTED AND REPLACED AT NO ADDITIONAL COST TO THE DEPARTMENT. THE MAXIMUM ACCEPTABLE TEST LOAD WITH RESPECT TO CREEP SHALL CORRESPOND TO THAT WHERE ACCEPTABLE CREEP MOVEMENTS ARE MEASURED OVER THE FINAL LOG CYCLE OF TIME.

C) IN THE EVENT THAT THE ANCHOR FAILS, THE CONTRACTOR SHALL MODIFY THE DESIGN AND/OR CONSTRUCTION PROCEDURES. THESE MODIFICATIONS MAY INCLUDE, BUT ARE NOT LIMITED TO, INSTALLING ADDITIONAL ANCHORS, MODIFYING THE INSTALLATION METHODS, REDUCING THE ANCHOR DESIGN LOAD BY INCREASING THE NUMBER OF ANCHORS, INCREASING THE ANCHOR LENGTH, OR CHANGING THE ANCHOR TYPE. ANY MODIFICATION OF DESIGN OR CONSTRUCTION PROCEDURES SHALL BE AT NO CHANGE IN THE CONTRACT PRICE. A DESCRIPTION OF ANY PROPOSED MODIFICATIONS MUST BE SUBMITTED TO THE ENGINEER IN WRITING. PROPOSED MODIFICATIONS SHALL NOT BE IMPLEMENTED UNTIL THE CONTRACTOR RECEIVES WRITTEN APPROVAL FROM THE ENGINEER.

ANCHOR LIFT-OFF TEST

A) AFTER TRANSFERRING THE LOAD TO THE ANCHORAGE, AND PRIOR TO REMOVING THE JACK, A LIFT-OFF TEST SHALL BE CONDUCTED TO CONFIRM THE MAGNITUDE OF THE LOAD IN THE ANCHOR TENDON. THIS LOAD IS DETERMINED BY REAPPLYING LOAD TO THE TENDON TO LIFT OFF THE WEDGE PLATE (OR ANCHOR NUT) WITHOUT UNSEATING THE WEDGES (OR TURNING THE ANCHOR NUT). THIS MOMENT REPRESENTS ZERO TIME FOR ANY LONG-TERM MONITORING.

TESTING EQUIPMENT

A) A DIAL OR VERNIER SCALE CAPABLE OF MEASURING TO THE NEAREST .001 INCH SHALL BE USED TO MEASURE THE GROUND ANCHOR MOVEMENT. THE MOVEMENT MEASURING DEVICE SHALL HAVE A MINIMUM TRAVEL EQUAL TO THE THEORETICAL ELASTIC ELONGATION OF THE TOTAL ANCHOR LENGTH AT THE MAXIMUM TEST LOAD AND IT SHALL HAVE ADEQUATE TRAVEL SO THE GROUND ANCHOR MOVEMENT CAN BE MEASURED WITHOUT RESETTING THE DEVICE AT AN INTERIM POINT.

B) A HYDRAULIC JACK AND PUMP SHALL BE USED TO APPLY THE TEST LOAD. THE JACK AND A CALIBRATED PRIMARY PRESSURE GAUGE SHALL BE USED TO MEASURE THE APPLIED LOAD. THE JACK AND PRIMARY PRESSURE GAUGE SHALL BE CALIBRATED BY AN INDEPENDENT FIRM AS A UNIT. THE CALIBRATION SHALL HAVE BEEN PERFORMED WITHIN FORTY-FIVE (45) WORKING DAYS OF THE DATE WHEN THE CALIBRATION SUBMITTALS ARE PROVIDED TO THE ENGINEER. TESTING CANNOT COMMENCE UNTIL THE ENGINEER HAS APPROVED THE CALIBRATION. THE PRIMARY PRESSURE GAUGE SHALL BE GRADUATED IN 50 PSI INCREMENTS OR LESS. THE RAM TRAVEL SHALL BE AT LEAST 6 INCHES AND PREFERABLY NOT BE LESS THAN THE THEORETICAL ELONGATION OF THE TENDON AT THE MAXIMUM TEST LOAD. IF ELONGATIONS GREATER THAN 6 INCHES ARE REQUIRED, RE-STROKING CAN BE ALLOWED.

C) A CALIBRATED REFERENCE PRESSURE GAUGE SHALL ALSO BE KEPT AT THE SITE TO PERIODICALLY CHECK THE PRODUCTION (I.E. PRIMARY PRESSURE) GAUGE. THE REFERENCE GAUGE SHALL BE CALIBRATED WITH THE TEST JACK AND PRIMARY PRESSURE GAUGE. THE REFERENCE PRESSURE GAUGE SHALL BE STORED INDOORS AND NOT SUBJECTED TO ROUGH TREATMENT.

D) THE CONTRACTOR SHALL PROVIDE AN ELECTRICAL RESISTANCE LOAD CELL AND READOUT TO BE USED WHEN PERFORMING AN EXTENDED CREEP TEST.

E) THE STRESSING EQUIPMENT SHALL BE PLACED OVER THE GROUND ANCHOR TENDON IN SUCH A MANNER THAT THE JACK, BEARING PLATES, LOAD CELLS AND STRESSING ANCHORAGE ARE AXIALLY ALIGNED WITH THE TENDON AND THE TENDON IS CENTERED WITHIN THE EQUIPMENT.

F) THE STRESSING EQUIPMENT, THE SEQUENCE OF STRESSING AND THE PROCEDURE TO BE USED FOR EACH STRESSING OPERATION SHALL BE DETERMINED AT THE PLANNING STAGE OF THE PROJECT. THE EQUIPMENT SHALL BE USED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S OPERATING INSTRUCTIONS.

G) STRESSING EQUIPMENT SHALL PREFERABLY BE CAPABLE OF STRESSING THE WHOLE TENDON IN ONE STROKE TO THE SPECIFIED TEST LOAD AND THE EQUIPMENT SHALL BE CAPABLE OF STRESSING THE TENDON TO THE MAXIMUM SPECIFIED TEST LOAD WITHIN 75 PERCENT OF THE RATED CAPACITY. THE PUMP SHALL BE CAPABLE OF APPLYING EACH LOAD INCREMENT IN LESS THAN 60 SECONDS.

H) THE EQUIPMENT SHALL PERMIT THE TENDON TO BE STRESSED IN INCREMENTS SO THAT THE LOAD IN THE TENDON CAN BE RAISED OR LOWERED IN ACCORDANCE WITH THE TEST SPECIFICATIONS, AND ALLOW THE ANCHOR TO BE LIFT-OFF TESTED TO CONFIRM THE LOCK OFF LOAD.

I) STRESSING EQUIPMENT SHALL HAVE BEEN CALIBRATED, WITHIN AN ACCURACY OF PLUS OR MINUS TWO (2) PERCENT, A MAXIMUM OF 45 DAYS PRIOR TO USE. THE CALIBRATION CERTIFICATE AND GRAPH SHALL BE AVAILABLE ON SITE AT ALL TIMES. THE CALIBRATION SHALL BE TRACEABLE TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST).

LOAD TEST SETUP

A) DIAL GAUGES SHALL BEAR ON THE PULLING HEAD OF THE JACK AND THEIR STEMS SHALL BE COAXIAL WITH THE TENDON DIRECTION. THE GAUGES SHALL BE SUPPORTED ON AN INDEPENDENT, FIXED FRAME, SUCH AS A TRIPOD, WHICH WILL NOT MOVE AS A RESULT OF STRESSING OR OTHER CONSTRUCTION ACTIVITIES DURING THE OPERATION.

B) PRIOR TO SETTING THE DIAL GAUGES, THE ALIGNMENT LOAD (AL) SHALL BE ACCURATELY PLACED ON THE TENDON. THE MAGNITUDE OF THE AL DEPENDS ON THE TYPE AND LENGTH OF THE TENDON.

C) RE-GRIPPING OF STRANDS, WHICH WOULD CAUSE OVERLAP WEDGE BITES, OR WEDGE BITES ON THE TENDON BELOW THE ANCHOR HEAD, SHALL BE AVOIDED.

D) STRESSING AND TESTING OF MULTIPLE ELEMENT TENDONS WITH SINGLE ELEMENT JACKS IS NOT PERMITTED.

E) STRESSING SHALL NOT BEGIN UNTIL THE GROUT HAS REACHED ADEQUATE STRENGTH.

EXTENDED CREEP TEST DATA

% DL	PRESSURE	LOAD	MOVEMENT (INTERVALS IN MINUTES)																		
			1	2	6	10	15	20	25	30	45	60	75	90	100	120	150	180	210	240	270	300
AL																						
25																						
50																						
75																						
100																						
120																						
133																						
L.O.																						

EXTENDED CREEP TEST REMARKS:

ANCHOR NO.: _____
DESIGN LOAD: _____

NOTES:

1. SEE ANCHOR SCHEDULE FOR DESIGN LOADS.

CHRISTOPHER M. KELLEY
REGISTERED ENGINEER
No. 118397
STATE OF TENNESSEE
05/19/25

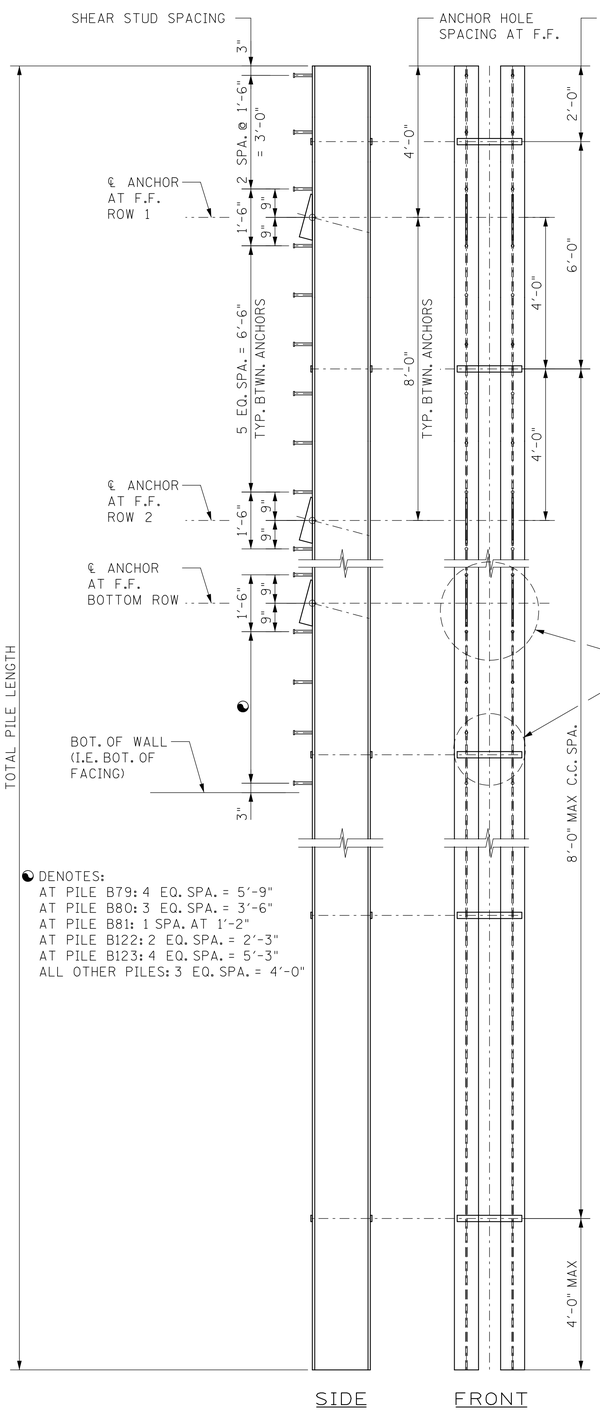
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ANCHOR TESTING DETAILS
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

U-50-321

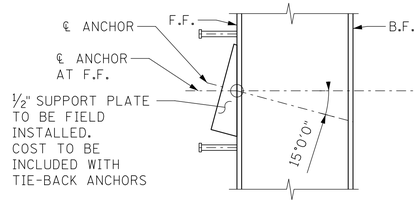
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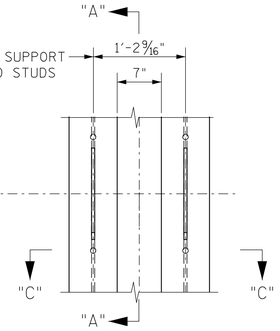


TYPICAL PILE DETAIL

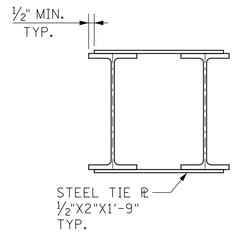
● DENOTES:
AT PILE B79: 4 EQ. SPA. = 5'-9"
AT PILE B80: 3 EQ. SPA. = 3'-6"
AT PILE B81: 1 SPA. AT 1'-2"
AT PILE B122: 2 EQ. SPA. = 2'-3"
AT PILE B123: 4 EQ. SPA. = 5'-3"
ALL OTHER PILES: 3 EQ. SPA. = 4'-0"



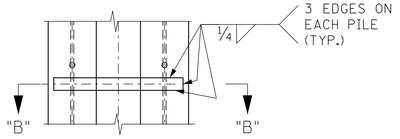
SECTION "A"-"A"



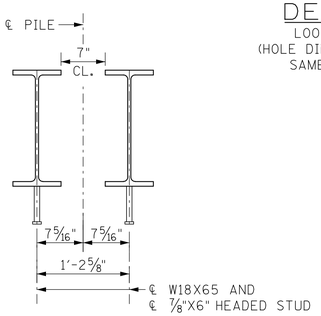
DETAIL A
LOOKING AT F.F.
(HOLE DIMENSIONS AT B.F. SAME AS AT F.F.)



SECTION "B"-"B"



DETAIL B
LOOKING AT F.F.



SECTION "C"-"C"

NOTES:

1. SEE PILE SCHEDULE ON SHEET R-19 FOR ESTIMATED PILE LENGTHS.
2. SEE ANCHOR SCHEDULE ON SHEET R-20 FOR NUMBER OF ANCHORS REQUIRED AT EACH PILE.
3. SEE ANCHORED WALL DETAILS SHEET R-27 FOR DETAILS OF SUPPORT PLATES.
4. HEADED STUDS SHALL BE SHOP APPLIED WITH PILE IN HORIZONTAL POSITION PRIOR TO GALVANIZING.
5. ALL STEEL PLATES SHALL BE GRADE 50.
6. ALL BOLTS SHALL CONFORM TO ASTM F3125, GRADE A325 U.N.O.
7. ALL STEEL SHAPES, PLATES, BOLTS AND ACCOMPANYING HARDWARE SHALL BE GALVANIZED.
8. FAYING SURFACES TO BE GALVANIZED SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111 (ASTM A123). NO SUBSEQUENT TREATMENT OF THE GALVANIZED SURFACE IS REQUIRED.

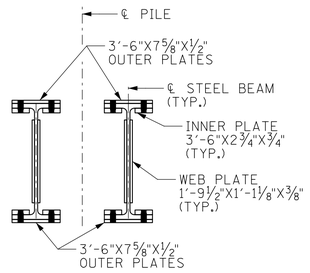
FIELD SPLICE NOTES:

FIELD SPLICE DETAILS ARE PROVIDED TO ADDRESS THE POSSIBILITY OF PILE EXTENSIONS BEING NEEDED DUE TO UNEXPECTED VARIATIONS IN REQUIRED EMBEDMENT LENGTH, OR MAXIMUM SHIPPING LENGTH CONSTRAINTS. IT IS NOT EXPECTED THAT FIELD SPLICES WILL BE REQUIRED AT ALL PILE LOCATIONS, AND USE OF FIELD SPLICE DETAIL WILL BE SUBJECT OWNER'S APPROVAL ON A CASE-BY-CASE BASIS.

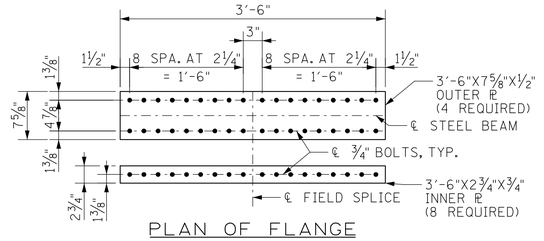
FIELD SPLICE LOCATION: CENTERLINE OF SPLICE SHALL BE A MINIMUM OF 20 FEET BELOW TOP OF CONCRETE FOOTING, I.E. 20 FEET BELOW BOTTOM OF WALL FACING.

FIELD SPLICE IS DESIGNED TO PROVIDE 100% OF PILE SHEAR CAPACITY AND 100% OF PILE PLASTIC MOMENT CAPACITY. COST OF FIELD SPLICE (I.E. PLATES AND BOLTS) TO BE INCLUDED IN ITEM 602-02.02 STRUCTURAL STEEL (SOLDIER PILE SPLICES).

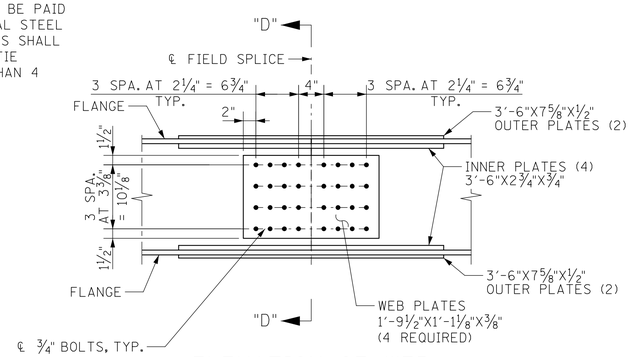
PILE EXTENSIONS SHALL BE COMPRISED OF THE SAME MATERIALS AS THE MAIN PILE SEGMENTS, AND WILL BE PAID AT THE UNIT PRICE ITEM NO. 602-02.01 STRUCTURAL STEEL (SOLDIER PILES). AT LEAST ONE SET OF TIE PLATES SHALL BE PROVIDED PER 8 FEET OF EXTENSION LENGTH. TIE PLATES MAY BE OMITTED FOR EXTENSIONS LESS THAN 4 FEET IN LENGTH.



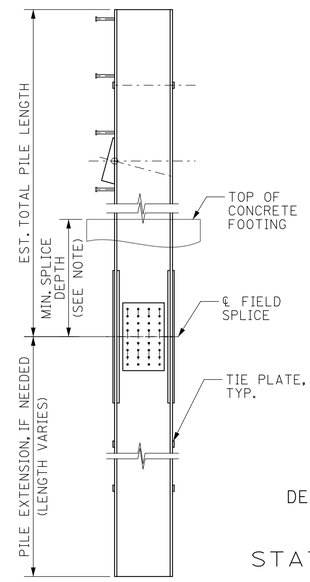
SECTION "D"-"D"



PLAN OF FLANGE SPLICE PLATES



ELEVATION OF WEB SPLICE PLATE



PILE EXTENSION DETAIL

ESTIMATED QUANTITIES

STRUCTURAL STEEL (SOLDIER PILES) ITEM NO. 602-02.01, LBS.	STRUCTURAL STEEL (SOLDIER PILES SPLICES) ITEM NO. 602-02.02, LBS.
1,351,214	75,290

CHRISTOPHER M. KELLEY — REGISTERED ENGINEER — No. 118392 — STATE OF TENNESSEE — AGRICULTURE — COMMERCE
05/19/25

CONST. NO. 58S108-F3-002

PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-31

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

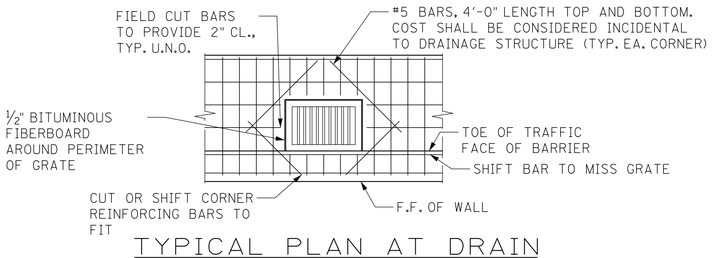
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STEEL DETAILS
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

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PILE FIELD SPLICE DETAILS

U-50-322



TYPICAL PLAN AT DRAIN

N.T.S.

NOTES:

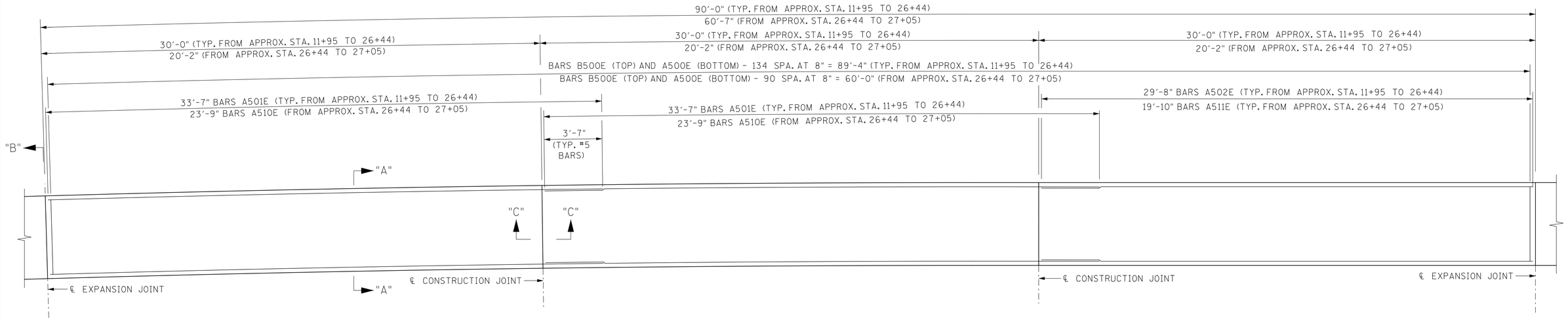
1. CONCRETE FOR MOMENT SLAB SHALL BE CLASS A.
2. PARTIAL PLAN ON THIS SHEET REPRESENTS A GENERIC TYPICAL SECTION ALONG THE LENGTH OF THE SLAB. ACTUAL SLAB ALIGNMENT WILL FOLLOW WALL AND ROADWAY ALIGNMENT.
3. WHERE DIMENSIONS ARE PROVIDED PARALLEL TO ALIGNMENT, MEASUREMENTS ARE TAKEN ALONG EDGE OF SLAB NEAREST TO ROADWAY CENTERLINE.

CONST. NO. 58S108-F3-002

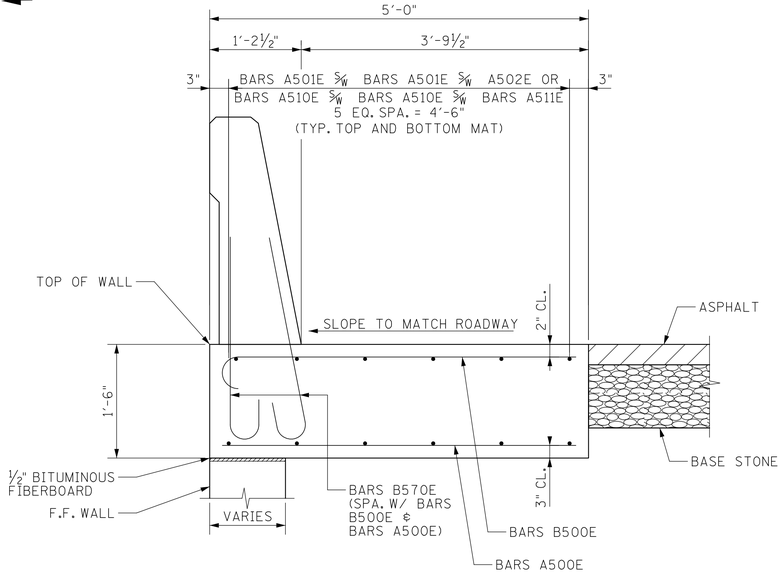
PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-32

REVISIONS

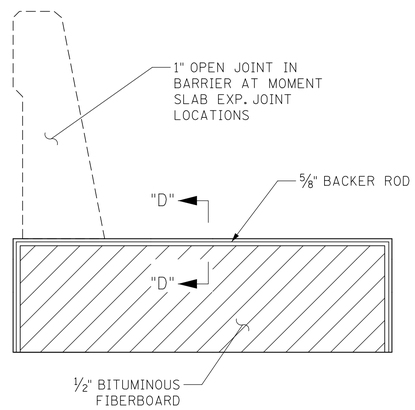
NO.	DATE	BY	BRIEF DESCRIPTION



PARTIAL PLAN - MOMENT SLAB

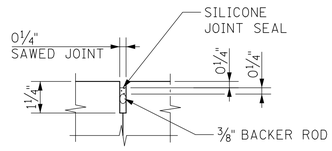


SECTION "A"-"A"



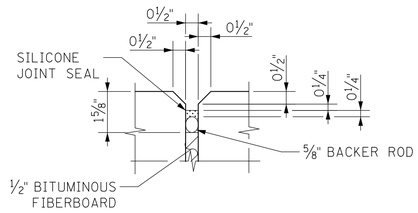
SECTION "B"-"B"

EXPANSION JOINT



SECTION "C"-"C"

CONSTRUCTION JOINT
ALL DIMENSIONS ARE ±1/16"



SECTION "D"-"D"

EXPANSION JOINT
ALL DIMENSIONS ARE ±1/16"

ESTIMATED QUANTITIES

ITEM NO. 604-09.10 CLASS "A" CONCRETE (C.Y.)	ITEM NO. 604-02.03 EPOXY COATED REINFORCING STEEL (LB.)
417	49780

CHRISTOPHER M. KELLEY — REGISTERED ENGINEER — No. 118392 — STATE OF TENNESSEE
05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
MOMENT SLAB DETAILS
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
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CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

5/19/2025 11:00:37 AM
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WALL NO. 1

BAR	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS A	B	C	D	TOTAL LENGTH
A500	WALL	5	1554	23'-0"				23'-0"
A501	WALL	5	94	27'-0"				27'-0"
A502	WALL	5	3590	32'-0"				32'-0"
A503	WALL	5	1749	29'-8"				29'-8"
SERIES	WALL	5	2	*				866'-10"
A504				LENGTH VARIES FROM 23'-3"				
				TO 38'-8" IN INC. OF 6-7/8" (28 BARS)				
SERIES	WALL	5	1	*				125'-6"
A505				LENGTH VARIES FROM 23'-4"				
				TO 26'-10" IN INC. OF 10-5/8" (5 BARS)				
SERIES	WALL	5	1	*				226'-11"
A506				LENGTH VARIES FROM 9'-0"				
				TO 21'-4" IN INC. OF 10-5/8" (15 BARS)				
SERIES	WALL	5	1	*				32'-7"
A507				LENGTH VARIES FROM 0'-6"				
				TO 7'-2" IN INC. OF 10-5/8" (8 BARS)				
SERIES	WALL	5	1	*				444'-10"
A508				LENGTH VARIES FROM 1-3"				
				TO 26'-10" IN INC. OF 10-5/8" (29 BARS)				
A509	WALL	5	800	39'-0"				39'-0"
SERIES	WALL	5	2	*				628'-9"
A510				LENGTH VARIES FROM 31'-1"				
				TO 38'-9" IN INC. OF 5-3/8" (18 BARS)				
SERIES	WALL	5	1	*				128'-9"
A511				LENGTH VARIES FROM 9'-10"				
				TO 18'-10" IN INC. OF 13-1/2" (9 BARS)				
SERIES	WALL	5	1	*				143'-9"
A512				LENGTH VARIES FROM 21'-2"				
				TO 26'-9" IN INC. OF 13-1/2" (6 BARS)				
SERIES	WALL	5	1	*				292'-11"
A513				LENGTH VARIES FROM 9'-10"				
				TO 21'-9" IN INC. OF 13-1/2" (15 BARS)				
A514	WALL	5	574	31'-0"				31'-0"
A515	WALL	5	124	14'-7"				14'-7"
A516	WALL	5	2	20'-0"				20'-0"
A517	WEEPHOLE/DRAIN	5	1792	3'-6"				3'-6"
A518	WALL	5	94	25'-0"				25'-0"
A519	WALL	5	94	16'-0"				16'-0"
A520	WALL	5	94	22'-8"				22'-8"
A521	WALL	5	188	21'-10"				21'-10"
A522	WALL	5	94	19'-6"				19'-6"
A721	OPENING	7	12	4'-5"				4'-5"
A722	OPENING	7	8	8'-11"				8'-11"

MOMENT SLAB (EPOXY)

BAR	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS A	B	C	D	TOTAL LENGTH
A500E	SLAB	5	2251	4'-8"				4'-8"
A501E	SLAB	5	384	33'-7"				33'-7"
A502E	SLAB	5	192	29'-8"				29'-8"
A510E	SLAB	5	24	23'-9"				23'-9"
A511E	SLAB	5	12	19'-10"				19'-10"
B500E	SLAB	5	2251	4'-8"				5'-3"
B570E	SLAB/PARAPET	5	2251	2'-1"				2'-8"

MANHOLE 2

BAR	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS A	B	C	D	TOTAL LENGTH
A521	VERT. WALLS	5	34	24'-8"				24'-8"
A523	LID	5	22	5'-6"				5'-6"
A524	LID	5	20	2'-2"				2'-2"
A525	LID	5	30	6'-2"				6'-2"
A526	OPENING	5	2	3'-11"				3'-11"
A528	FACING EXTENSION	5	12	11'-3"				11'-3"
A529	FACING EXTENSION	5	46	4'-11"				4'-11"
C521	WALL DOWEL	5	108	3'-2"				3'-10"
C522	SLAB DOWEL	5	13	2'-10"				3'-6"
H521	HORIZ. WALLS	5	27	6'-2"	5'-8"			17'-6"
H522	HORIZ. WALLS	5	27	5'-6"	5'-4"			16'-2"
H523	BASE SLAB	5	12	6'-1"	2'-4"			10'-9"
H721	OPENING	7	1	6'-2"	1'-0"			8'-2"
R521	BASE SLAB	5	13	5'-8"	2'-4"			8'-0"
T520	LID OPENING	5	1	2'-6"	3'-0"			10'-10"

MANHOLE 6

BAR	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS A	B	C	D	TOTAL LENGTH
A531	VERT. WALLS	5	60	25'-6"				25'-6"
A532	LID	5	38	9'-6"				9'-6"
A533	LID	5	16	3'-10"				3'-10"
A534	LID	5	36	10'-4"				10'-4"
A535	LID	5	8	7'-7"				7'-7"
A536	OPENING	5	2	8'-11"				8'-11"
A537	FACING EXTENSION	5	46	6'-1"				6'-1"
A538	FACING EXTENSION	5	16	11'-3"				11'-3"
A731	OPENING	7	4	8'-11"				8'-11"
C531	WALL DOWEL	5	108	3'-2"				3'-10"
C631	SLAB DOWEL	6	20	2'-10"				3'-7"
H531	HORIZ. WALLS	5	27	10'-4"	9'-8"			29'-8"
H532	HORIZ. WALLS	5	27	9'-4"	9'-2"			27'-8"
H631	BASE SLAB	6	20	10'-2"	2'-7"			15'-4"
H731	OPENING	7	1	10'-4"	1'-0"			12'-4"
R631	BASE SLAB	6	20	9'-8"	2'-7"			12'-3"
T530	LID OPENING	5	1	2'-6"	3'-0"			10'-10"

CONST. NO. 58S108-F3-002

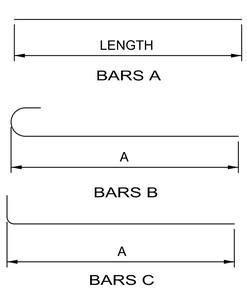
PROJECT NO.	YEAR	SHEET NO.
PROT-108(106)	2025	R-33

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

MANHOLE 11

BAR	LOCATION	SIZE	NO. REQ'D.	BENDING DIMENSIONS A	B	C	D	TOTAL LENGTH
A522	VERT. WALLS	5	34	40'-1"				40'-1"
A523	LID	5	22	5'-6"				5'-6"
A524	LID	5	20	2'-2"				2'-2"
A525	LID	5	30	6'-2"				6'-2"
A527	OPENING	5	2	5'-0"				5'-0"
A528	FACING EXTENSION	5	2	11'-3"				11'-3"
A529	FACING EXTENSION	5	46	4'-11"				4'-11"
A721	OPENING	7	4	4'-5"				4'-5"
C521	WALL DOWEL	5	168	3'-2"				3'-10"
C522	SLAB DOWEL	5	13	2'-10"				3'-6"
H521	HORIZ. WALLS	5	42	6'-2"	5'-8"			17'-6"
H522	HORIZ. WALLS	5	42	5'-6"	5'-4"			16'-2"
H523	BASE SLAB	5	12	6'-1"	2'-4"			10'-9"
H721	OPENING	7	1	6'-2"	1'-0"			8'-2"
R521	BASE SLAB	5	13	5'-8"	2'-4"			8'-0"
T520	LID OPENING	5	1	2'-6"	3'-0"			10'-10"





05/19/25

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BILL OF STEEL
RETAINING WALL
STATE ROUTE 108 LM 2.8
SLIDE REPAIR
MARION COUNTY
2025

DESIGNED BY ALFRED BENESCH & COMPANY DATE 04-05-24
DRAWN BY ANDREW TILTON, P.E. DATE 04-05-24
SUPERVISED BY JACOB WILLIAMS, P.E. DATE 04-05-24
CHECKED BY CHRIS KELLEY, P.E. DATE 04-05-24

5/19/2025 11:00:39 AM
Y:\Nashville\16090005\16090006.06\Eng_Docs\Structures\DGN\SR108_Bill of Steel.dgn

TENNESSEE D.O.T. | DESIGN DIVISION | FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2025	58S108-F3-002	S-1

SWPPP INDEX OF SHEETS

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NOTE: CITATIONS IN PARENTHESIS INDICATE SECTIONS OF THE CURRENT CGP.

1. SWPPP REQUIREMENTS (5.0.)

1.1. HAS THE SWPPP TEMPLATE BEEN PREPARED BY AN INDIVIDUAL THAT HAS THE FOLLOWING LICENSING AND/OR CERTIFICATIONS (5.2)?

☒ YES (CHECK ALL THAT APPLY BELOW) OR ☐ NO

- ☒ CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC)
- ☒ A TN LICENSED PROFESSIONAL ENGINEER OR LANDSCAPE ARCHITECT
- ☒ HAS SUCCESSFULLY COMPLETED TDEC LEVEL II COURSE

1.2. DO THE EPSC PLANS INVOLVE STRUCTURAL DESIGN, HYDRAULIC, HYDROLOGIC OR OTHER ENGINEERING CALCULATIONS FOR EPSC STRUCTURAL MEASURES (E.G. SEDIMENT BASINS) (5.2.)? YES ☐ NO ☒

IF YES, HAVE THE EPSC PLANS BEEN PREPARED, STAMPED AND CERTIFIED BY A TN LICENSED PROFESSIONAL ENGINEER OR LANDSCAPE ARCHITECT? ☐ YES ☐ NO

1.3. DO THE PROJECT STORMWATER OUTFALLS DISCHARGE INTO THE FOLLOWING (6.4.1.)? ☐ YES (CHECK ALL THAT APPLY BELOW) ☒ NO

- ☐ WATERS WITH UNAVAILABLE PARAMETERS (303d FOR SILTATION)
- ☐ EXCEPTIONAL TENNESSEE WATERS (ETW)

2. SITE DESCRIPTION (5.5.1.)

2.1. PROJECT LIMITS (5.5.1.f): REFER TO TITLE SHEET

2.2. TOTAL PROJECT AREA (5.5.1.b): 13.78 ACRES

2.3. TOTAL AREA TO BE DISTURBED (5.5.1.b): 7.91 ACRES

2.4. PROJECT DESCRIPTION (5.5.1.a):

TITLE: SR-108 NEAR L.M. 2.8 (SLIDE REPAIR)
COUNTY: MARION
PIN: 130296.00

2.5. SITE MAP(S) (3.2.2.): REFER TO TITLE SHEET

2.6. DESCRIPTION OF EXISTING SITE TOPOGRAPHY (5.5.1.c): REFER TO EXISTING CONTOURS SHEET(S) 13 & 13A, DRAINAGE MAP SHEET(S) 8, USGS QUAD MAP, AND THE OUTFALL TABLE IN SECTION 4.2.

2.7. MAJOR SOIL DISTURBING ACTIVITIES (5.5.1.a) (CHECK ALL THAT APPLY):

- ☒ CLEARING AND GRUBBING
- ☒ EXCAVATION
- ☒ CUTTING AND FILLING
- ☒ FINAL GRADING AND SHAPING
- ☐ UTILITIES
- ☐ OTHER (DESCRIBE): _____

2.8. NO MORE THAN 50 ACRES OF ACTIVE SOIL DISTURBANCE IS ALLOWED AT ANY TIME DURING THE CONSTRUCTION OF THE PROJECT.

2.9. ARE THERE ANY SEASONAL LIMITATIONS ON WORK? ☐ YES ☒ NO

IF YES, LIST THE CORRESPONDING PLAN SHEET: _____

2.10. WAS ROW FINALIZED PRIOR TO FEBRUARY 1, 2010 (4.1.2.2)?

☐ YES _____ (DATE) ☒ NO

IF ROW WAS FINALIZED PRIOR TO FEBRUARY 1, 2010, THIS PROJECT IS CONSIDERED A PRE-APPROVED SITE (4.1.2.2)

2.11. SOIL PROPERTIES (5.5.1.d, 5.5.3.3.d, 5.5.3.6.b).

SOIL PROPERTIES FOR THE PRIMARY SOILS ARE LISTED IN THE TABLE BELOW.

SOIL PROPERTIES			
PRIMARY SOIL NAME	**HSG**	**% OF SITE**	**ERODIBILITY (k value)**
BOULDERY COLLUVIUM, ALLEN SOIL MATERIAL (BOULDIN)	A	48.3%	0.05
ROCK OUTCROP-RAMSEY COMPLEX, 12 TO 60 PERCENT SLOPES	-	51.7%	-

2.12. IS ACID PRODUCING ROCK (APR) (i.e. PYRITE) LOCATED WITHIN THE PROJECT LIMITS? ☐ YES ☒ NO

2.12.1. IF YES TO SECTION 2.13, HAVE APR LOCATIONS BEEN IDENTIFIED WITHIN THE CONSTRUCTION PLANS AND/OR THE GEOTECHNICAL REPORT? ☐ YES ☐ NO; AND

2.12.2. IF YES TO SECTION 2.12.1, HAS A SPECIAL HANDLING PLAN AND/OR ADAPTIVE MANAGEMENT PLAN (AMP) BEEN PREPARED FOR THE PROJECT? ☐YES ☐ NO ☐ N/A (TDOT SP107L WILL BE APPLIED.)

2.13. PROJECT RUNOFF COEFFICIENTS AND AREA PERCENTAGES (5.5.3.6.a).

RUNOFF COEFFICIENTS FOR EXISTING CONDITIONS			
AREA TYPE	**AREA(AC)**	**PERCENTAGE OF TOTAL AREA (%)**	**C FACTOR**
CONCRETE OR STREET ASPHALT PAVEMENT	2.76	20%	0.85
GRAVEL ROADWAYS OR SHOULDER	0.69	5%	0.50
STEEP GRASSED AREAS	0.00	0%	0.60
BARE EARTH (ROCK)	3.45	25%	0.70
DECIDUOUS FOREST	6.88	50%	0.52
WEIGHTED C-FACTOR =			0.63

RUNOFF COEFFICIENTS FOR POST-CONSTRUCTION CONDITIONS			
AREA TYPE	**AREA(AC)**	**PERCENTAGE OF TOTAL AREA (%)**	**C FACTOR**
CONCRETE OR STREET ASPHALT PAVEMENT	3.45	25%	0.85
GRAVEL ROADWAYS AND SHOULDERS	0.69	5%	0.50
STEEP GRASSED AREAS	4.82	35%	0.60
BARE EARTH (ROCK)	1.38	10%	0.70
DECIDUOUS FOREST	3.44	25%	0.52
WEIGHTED C-FACTOR =			0.65

3. ORDER OF CONSTRUCTION ACTIVITIES (5.5.1.a)

CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO: MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION. NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF THEIR OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT EPSC MEASURES, HAS BEEN ACCEPTED BY THE ENGINEER. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE ORDER OF CONSTRUCTION ACTIVITIES AND THE BASIC EPSC DEVICES DEPICTED ON THE EPSC PLAN CONTAINED WITHIN THE APPROVED SWPPP.

3.1. SPECIAL SEQUENCING REQUIREMENTS (SEE SHEETS N/A)

3.2. INSTALL STABILIZED CONSTRUCTION EXITS.

3.3. INSTALL PERIMETER PROTECTION WHERE RUNOFF SHEET FLOWS FROM THE SITE.

3.4. INSTALL INITIAL EPSC MEASURES BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CULVERT OR BRIDGE CONSTRUCTION, CUTTING, FILLING, OR ANY OTHER EARTHWORK OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.

3.5. PERFORM CLEARING AND GRUBBING (NOT MORE THAN TWO WEEKS PRIOR TO GRADING OR EARTH-MOVING. REFER TO THE STABILIZATION PRACTICES BELOW.).

3.6. REMOVE AND STORE TOPSOIL.

3.7. STABILIZE DISTURBED AREAS WITHIN 2 WEEKS OF COMPLETING ANY STAGE AND/OR PHASE OF ACTIVITY (STEEP SLOPES SHALL BE STABILIZED WITHIN 1 WEEK AFTER CONSTRUCTION ACTIVITY HAS TEMPORARY OR PERMANENTLY CEASED).

3.8. INSTALL UTILITIES, STORM SEWERS, CULVERTS, STREAM RELOCATIONS, AND RETAINING WALLS.

3.9. INSTALL INLET AND CULVERT PROTECTION ONCE STRUCTURES ARE IN PLACE AND CAPABLE OF INTERCEPTING FLOW.

3.10. PERFORM FINAL GRADING AND INSTALL BASE STONE.

3.11. COMPLETE FINAL PAVING AND SEALING OF CONCRETE.

3.12. INSTALL TRAFFIC CONTROL AND PROTECTION DEVICES.

3.13. COMPLETE PERMANENT STABILIZATION (TOPSOIL, SEEDING, MULCH, EROSION CONTROL BLANKET, SOD, ETC.)

3.14. REMOVE TEMPORARY EROSION CONTROLS AND ACCUMULATED SEDIMENT FROM AREAS THAT HAVE ESTABLISHED AT LEAST 70 PERCENT UNIFORM PERMANENT VEGETATIVE COVER.

3.15. RE-STABILIZE AREAS DISTURBED BY REMOVAL ACTIVITIES.

4. STREAM, OUTFALL, WETLAND, TMDL AND ECOLOGY INFORMATION

4.1. STREAM INFORMATION (5.5.1.h, 5.5.1.i)

4.1.1. WILL CONSTRUCTION AND/OR EROSION PREVENTION AND SEDIMENT CONTROLS IMPACT ANY STREAMS WITHIN THE PROJECT LIMITS? ☒ YES ☐ NO

IF YES, THE IMPACT(S) HAVE BEEN INCLUDED IN THE TOTAL PROJECT IMPACTS AND HAVE BEEN INCLUDED IN THE WATER QUALITY PERMITS.

4.1.2. HAVE ANY OF THE RECEIVING STATE WATERS LESS THAN OR EQUAL TO 1 FLOW MILE DOWN GRADIENT OF THE PROJECT LIMITS BEEN CLASSIFIED BY TDEC AS FOLLOWS (CHECK ALL THAT APPLY):

- ☐ 303d WITH UNAVAILABLE PARAMETERS FOR SILTATION
- ☐ EXCEPTIONAL TENNESSEE WATERS (ETW)

4.1.3. RECEIVING WATERS OF THE STATE (5.5.1.h, 5.5.1.j, 5.5.1.k).

RECEIVING WATERS OF THE STATE INFORMATION					
TDOT STATE WATER LABEL FROM EBR	NAME OF RECEIVING STATE WATER	303d WITH UNAVAILABLE PARAMETERS FOR SILTATION (YES OR NO)	ETW (YES OR NO)	LOCATED WITHIN PROJECT LIMITS (YES OR NO)	LOCATED WITHIN ≤ 1 FLOW MILE DOWN GRADIENT OF PROJECT LIMITS (YES OR NO)
STR-1	UNNAMED TRIBUTARY TO SEQUATCHIE RIVER	NO	NO	YES	YES
STR-2	UNNAMED TRIBUTARY TO SEQUATCHIE RIVER	NO	NO	YES	YES
STR-3	UNNAMED TRIBUTARY TO SEQUATCHIE RIVER	NO	NO	YES	YES

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STORMWATER POLLUTION PREVENTION PLAN

TENNESSEE D.O.T. | DESIGN DIVISION | FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2025	58S108-F3-002	S-2

4.1.4. RECEIVING WATERS OF THE US (NON STATE WATERS) (4.1.2). LIST ANY FEATURE THAT IS IDENTIFIED AS A WET WEATHER CONVEYANCE (TDEC) AND IDENTIFIED AS WATERS OF THE US BY THE ARMY CORPS OF ENGINEERS.

WET WEATHER CONVEYANCES THAT ARE WATERS OF THE US		
TDOT STATE WATER LABEL FROM EBR	LOCATED WITHIN PROJECT LIMITS (YES OR NO)	LOCATED WITHIN ≤ 1 FLOW MILE DOWN GRADIENT OF PROJECT LIMITS (YES OR NO)
NO WWC WITHIN PROJECT LIMITS		

4.1.5. ARE THERE ANY WATER QUALITY RIPARIAN BUFFER ZONES REQUIRED FOR WATERS OF THE STATE? (5.5.1.l, 6.4.2.)

☒ YES ☐ NO

BUFFER ZONE REQUIREMENTS ARE NOT REQUIRED FOR PRE-APPROVED SITES (4.1.2.2.)

IF YES, THEY HAVE BEEN INCLUDED ON PLAN SHEET(S) N/A.

IF YES, CHECK THE APPROPRIATE BOX BELOW FOR SIZE OF BUFFER.

☐ 60-FEET FOR WATERS WITH UNAVAILABLE PARAMETERS AND EXCEPTIONAL TENNESSEE WATERS (ETW) (AVERAGE WIDTH PER SIDE WITH A MINIMUM OF 30-FEET).

A 60 FOOT NATURAL WATER QUALITY RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STATE STREAM WITH THIS DESIGNATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE DURING CONSTRUCTION ACTIVITIES AT THE SITE. THE 60 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 30 FEET AT ANY MEASURED LOCATION. IF THE CONSTRUCTION SITE ENCOMPASSES BOTH SIDES OF A STREAM, BUFFER AVERAGING CAN BE APPLIED TO BOTH SIDES, BUT MUST BE APPLIED INDEPENDENTLY.

☒ 30-FEET FOR ALL OTHER STREAMS (AVERAGE WIDTH PER SIDE WITH A MINIMUM OF 15-FEET).

A 30 FOOT NATURAL WATER QUALITY RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STATE STREAM SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE DURING CONSTRUCTION ACTIVITIES AT THE SITE. THE 30 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 15 FEET AT ANY MEASURED LOCATION. IF THE CONSTRUCTION SITE ENCOMPASSES BOTH SIDES OF A STREAM, BUFFER AVERAGING CAN BE APPLIED TO BOTH SIDES, BUT MUST BE APPLIED INDEPENDENTLY.

☐ 15-FEET FOR ANY WET WEATHER CONVEYANCES IDENTIFIED AS WATERS OF THE US BY THE US ARMY CORPS OF ENGINEERS.

4.1.6. ARE THERE ANY WATER QUALITY RIPARIAN BUFFER ZONES NOT REQUIRED FOR STATE WATERS DUE TO A TDEC ARAP? (1.5.2.)

☒ YES ☐ NO

4.1.7. ARE THERE WATER QUALITY RIPARIAN BUFFER ZONE EXEMPTIONS? (4.1.2.1.) ☐ YES ☒ NO

IF YES, EXISTING CONDITIONS DESCRIPTION:_____

4.1.8. EVERY ATTEMPT SHOULD BE MADE FOR CONSTRUCTION ACTIVITIES TO NOT TAKE PLACE WITHIN THE WATER QUALITY RIPARIAN BUFFER ZONE AND FOR EXISTING FORESTED AREAS TO BE PRESERVED. (4.1.2., 6.4.2.)

4.1.9. BECAUSE OF HEAVY SEDIMENT LOAD ASSOCIATED WITH CONSTRUCTION SITE RUNOFF, WATER QUALITY RIPARIAN BUFFER ZONES ARE NOT SEDIMENT CONTROL MEASURES AND SHOULD NOT BE RELIED UPON AS PRIMARY SEDIMENT CONTROL MEASURES. THE WATER QUALITY RIPARIAN BUFFER ZONE SHALL BE ESTABLISHED BETWEEN THE TOP OF THE STREAM BANK AND THE DISTURBED CONSTRUCTION AREA.

4.1.10. WHERE IT IS NOT PRACTICABLE TO MAINTAIN A FULL WATER QUALITY RIPARIAN BUFFER, BEST MANAGEMENT PRACTICES (BMPS) PROVIDING EQUIVALENT PROTECTION AS THE NATURAL RIPARIAN ZONE MUST BE USED. A JUSTIFICATION FOR USE AND DESIGN EQUIVALENCY SHALL BE DOCUMENTED WITHIN THE SWPPP. THE ENVIRONMENTAL AND ROADWAY DESIGN DIVISIONS SHALL REVIEW AND APPROVE THIS REVISION OF THE SWPPP BEFORE DISTURBANCE OF THE SITE PROCEEDS, UNLESS PREVIOUSLY EXEMPT IN THE NPDES CGP. WHERE ISSUED, ARAP/401 REQUIREMENTS WILL PREVAIL IF IN CONFLICT WITH THESE BUFFER ZONE REQUIREMENTS.

4.2. OUTFALL INFORMATION

4.2.1. OUTFALL TABLE (5.5.1.c). SEE SWPPP SHEET S-8 FOR OUTFALL INFORMATION.

4.2.2. HAVE ALL OUTFALLS BEEN LABELED ON THE EPSC PLAN SHEETS (5.5.1.f)? ☒ YES ☐ NO

4.2.3. HAVE ALL OUTFALLS BEEN LABELED ON A USGS TOPOGRAPHIC MAP INCLUDED IN THE "DOCUMENTATION AND PERMITS" BINDER (3.2.2.)? ☒YES ☐ NO

4.2.4. WHERE POSSIBLE, HAS NON-PROJECT RUN-ON BEEN DIVERTED AROUND OR THROUGH THE PROJECT TO ELIMINATE CONTACT WITH DISTURBED AREAS OF THE PROJECT AND SEPARATE IT FROM PROJECT RUN-OFF THEREBY REDUCING THE DRAINAGE AREA OF TO THE OUTFALLS IN THIS AREA?

☒ YES ☐ NO ☐ N/A

4.2.5. ARE EQUIVALENT MEASURES BEING SUBSTITUTED FOR A SEDIMENT BASIN(S) OR SEDIMENT TRAP(S)? (5.5.3.5.)

☐ YES ☐ NO ☒ N/A

4.2.6. A SEDIMENT BASIN, OR EQUIVALENT MEASURE(S) WILL BE PROVIDED FOR ANY OUTFALL IN A DRAINAGE AREA:

OF TEN ACRES OR MORE FOR AN OUTFALL(S) THAT DOES NOT DISCHARGE TO A STATE STREAM WITH UNAVAILABLE PARAMETERS OR EXCEPTIONAL TENNESSEE WATERS (ETW). A TEMPORARY (OR PERMANENT) SEDIMENT BASIN OR EQUIVALENT CONTROL MEASURES THAT PROVIDES STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A MINIMUM 2-YEAR/ 24-HOUR STORM EVENT, SHALL BE PROVIDED UNTIL PERMANENT STABILIZATION OF THE SITE. (5.5.3.5)

OR

OF FIVE ACRES OR MORE FOR AN OUTFALL(S) THAT DISCHARGES TO A STATE STREAM WITH UNAVAILABLE PARAMETERS OR EXCEPTIONAL TENNESSEE WATERS (ETW). A TEMPORARY (OR PERMANENT) SEDIMENT BASIN THAT PROVIDES STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A 5-YEAR/ 24-HOUR STORM EVENT AND RUNOFF FROM EACH ACRE DRAINED, OR EQUIVALENT CONTROL MEASURES, SHALL BE PROVIDED UNTIL PERMANENT STABILIZATION OF THE SITE. (6.4.1.e).

ALL CALCULATIONS RELATED TO DRAINAGE AREAS, RUNOFF COEFFICIENTS, BASIN VOLUMES AND EQUIVALENT CONTROL MEASURES MUST BE PROVIDED IN THE SWPPP (5.5.3.5.)

4.2.7. A SEDIMENT TRAP, OR EQUIVALENT MEASURE(S) WILL BE PROVIDED FOR ANY OUTFALL IN A DRAINAGE AREA:

OF 3.5 - 4.9 ACRES FOR AN OUTFALL(S) THAT DISCHARGES TO A STATE STREAM WITH UNAVAILABLE PARAMETERS (303d SILTATION) OR EXCEPTIONAL TENNESSEE WATERS (ETW). A SEDIMENT TRAP THAT PROVIDES STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A 5-YEAR/24-HOUR STORM EVENT AND RUNOFF FROM EACH ACRE DRAINED, OR EQUIVALENT CONTROL MEASURES, SHALL BE PROVIDED UNTIL PERMANENT STABILIZATION OF THE SITE. (6.4.1.f).

IN BOTH INSTANCES, THE ENVIRONMENTAL AND ROADWAY DESIGN DIVISIONS MAY BE CONTACTED TO REVIEW AND CONCUR WITH ANY REVISION OF THE SWPPP BEFORE DISTURBANCE OF THE OUTFALL PROCEEDS.

4.2.8. SEDIMENT STRUCTURES TREATING DRAINAGE AREAS IN EXCESS OF 25 ACRES REQUIRE A SITE-SPECIFIC DESIGN THAT ACCURATELY DEFINES THE SITE HYDROLOGY, SITE-SPECIFIC SEDIMENT LOADING, HYDRAULICS OF THE SITE, AND ADHERES TO ALL TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK DESIGN RECOMMENDATIONS FOR SEDIMENT BASINS. (5.5.3.5.)

4.3. WETLAND INFORMATION

WILL CONSTRUCTION AND/OR EROSION AND SEDIMENT CONTROLS IMPACT ANY WETLANDS? ☐ YES ☒ NO

IF YES, THE STRUCTURAL EPSC MEASURES HAVE BEEN INCLUDED IN THE TOTAL PROJECT IMPACTS AND IN THE WATER QUALITY PERMITS.

WETLAND INFORMATION				
TDOT WETLAND LABEL	FROM STATION LT OR RT	TO STATION LT OR RT	TEMPORARY IMPACTS (AC)	PERMANENT IMPACTS (AC)
WTL-1	20+30 LT	22+00 LT	0	0

4.4. TOTAL MAXIMUM DAILY LOADS (TMDL) INFORMATION (1.3.j)

4.4.1. IS THIS PROJECT LOCATED IN A HUC-8 WATERSHED THAT MAINTAINS AN EPA APPROVED TMDL FOR SILTATION AND HABITAT ALTERATION?

☐YES ☒ NO

4.4.2. IF YES, IS THIS PROJECT LOCATED WITHIN A HUC-12 SUBWATERSHED WITH A WASTE LOAD ALLOCATION (WLA)?

☐ YES ☐ NO

4.4.3. IF YES, DOES THE PROJECT HAVE A DIRECT DISCHARGE TO A 303(d) LISTED STREAM FOR SILTATION?

☐ YES ☐ NO

IF YES, SWPPP INCORPORATES MEASURES OR CONTROLS CONSISTENT WITH THE ASSUMPTIONS AND REQUIREMENTS OF THE TMDL.

4.5. ECOLOGY INFORMATION (3.5.5.e)

DOES THE TDOT ENVIRONMENTAL BOUNDARIES REPORT SPECIFY SPECIAL NOTES TO BE ADDED TO THE PLAN SHEETS?

☐ YES ☒ NO

IF YES, THEY HAVE BEEN INCLUDED ON PLAN SHEET(S) _____.

4.6. ENVIRONMENTAL COMMITMENTS

ARE THERE ANY NOTES ON THE ENVIRONMENTAL COMMITMENT SHEET?

☐ YES ☒ NO

IF YES, THEY HAVE BEEN INCLUDED ON PLAN SHEET(S) _____.

5. EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES (5.5.3.)

5.1. EPSC MEASURES MUST BE DESIGNED, INSTALLED AND MAINTAINED TO CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE EROSION (4.1.1).

5.2. EPSC MEASURES MUST CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOWS AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS, STREAM CHANNELS, AND STREAM BANKS. (4.1.1)

5.3. HAVE THE CONTROL MEASURES BEEN DESIGNED PER THE SIZE AND SLOPE OF THE DISTURBED DRAINAGE AREA (5.5.3.5.)?

☒YES ☐ NO

5.4. THE CONTROL MEASURES HAVE, AT A MINIMUM, BEEN DESIGNED FOR THE 5-YEAR, 24 HOUR STORM EVENT (5.5.3.5., 6.4.1.b).

5.5. ARE THE LIMITS OF DISTURBANCE CLEARLY MARKED ON THE EPSC PLANS (5.5.1.f)? ☒ YES ☐ NO

5.6. AREAS TO BE UNDISTURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.

5.7. UNLESS OTHERWISE NOTED IN THE PLANS, THE CONTRACTOR SHALL NOT CLEAR/DISTURB ANY AREA BEYOND 15 FEET FROM SLOPE LINES OR ROW/ EASEMENT LINE, WHICHEVER IS LESSER.

5.8. CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION, INCLUDING STREAM AND WETLAND BUFFERS (UNLESS PERMITTED), SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.

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5.9. HAS A THREE STAGED EPSC PLAN BEEN PREPARED FOR THE PROJECT (5.5.2.)?

YES ☒ NO ☐

PLEASE NOTE THAT A THREE STAGED EPSC PLAN IS REQUIRED FOR ALL TDOT PROJECTS FOR WHICH AN NPDES PERMIT IS REQUIRED.

5.10. STEEP SLOPES ARE DEFINED AS A NATURAL OR CREATED SLOPE OF 35% GRADE OR GREATER REGARDLESS OF HEIGHT. HAVE STEEP SLOPES BEEN MINIMALLY DISTURBED AND/OR PROTECTED BY CONVEYING RUNOFF NON-EROSIVELY AROUND OR OVER THE SLOPE (5.5.3.4.) (10. "STEEP SLOPE")? ☒ YES ☐ NO ☐ N/A

5.11. THE STRUCTURAL EPSC MEASURES HAVE BEEN INCLUDED IN THE TOTAL PROJECT IMPACTS AND HAVE BEEN INCLUDED IN THE AQUATIC RESOURCE ALTERATION (ARAP) PERMIT OR SECTION 401 CERTIFICATION (5.5.1.h). REFER TO THE LIST OF APPLICABLE ENVIRONMENTAL PERMITS LOCATED ON SWPPP SHEET S-7. ALL PERMITS WILL BE MAINTAINED ON SITE WITHIN THE "DOCUMENTATION AND PERMITS" BINDER.

5.12. THE EPSC CONTROL MEASURES LISTED IN THE QUANTITIES TABLE ON SHEET 2 & 12 HAVE BEEN SELECTED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS AND GOOD ENGINEERING PRACTICES (5.1., 5.5.3.1.b, 5.5.3.5.).

5.13. EPSC MEASURES SHALL BE INSTALLED PER TDOT STANDARDS (i.e. STANDARD DRAWINGS) AND SHALL BE FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS.

5.14. EPSC MEASURES WILL NOT BE INSTALLED WITHIN A STREAM WITHOUT FIRST OBTAINING APPROVAL FROM THE PERMITS SECTION.

5.15. TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REINSTALLED AT THE END OF THE WORKDAY OR BEFORE A PRECIPITATION EVENT.

5.16. EPSC MEASURES LOCATED IN WOTUS (EPHEMERAL STREAMS) MUST BE CONSIDERED TEMPORARY AND SHALL BE REMOVED AT THE END OF CONSTRUCTION.

5.17. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFF-SITE MIGRATION OR DEPOSIT OF SEDIMENT OFF THE PROJECT LIMITS (E.G. R.O.W., EASEMENTS, ETC.), INTO WATERS OF THE STATE/U.S., OR ONTO ROADWAYS USED BY THE PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED TO A LEVEL SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS (E.G., FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN A STREET MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE SETTLED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT. SEDIMENT THAT MIGRATES INTO WATERS OF THE STATE/US SHALL NOT BE REMOVED WITHOUT GUIDANCE FROM TDOT ENVIRONMENTAL PERSONNEL.

5.18. OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION EXIT (A POINT OF ENTRANCE/EXIT TO THE CONSTRUCTION PROJECT) SHALL BE PROVIDED TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.

5.19. THE QUANTITIES REQUIRED FOR STABILIZED CONSTRUCTION EXITS PER TDOT STANDARDS HAVE BEEN SPECIFIED ON SHEET 2 & 12 (5.5.3.1.j).

5.20. DISCHARGES FROM DEWATERING ACTIVITIES ARE PROHIBITED UNLESS MANAGED BY APPROPRIATE CONTROLS THAT PROVIDE THE LEVEL OF TREATMENT (FILTRATION) NECESSARY TO COMPLY WITH PERMIT REQUIREMENTS. (4.1.3.).

5.21. SETTLING BASINS AND SEDIMENT TRAPS SHALL BE PROPERLY DESIGNED PER THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE OR WELL VEGETATED OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT.

5.22. DISCHARGES FROM SEDIMENT BASINS AND IMPOUNDMENTS SHALL UTILIZE OUTLET STRUCTURES THAT ONLY WITHDRAW WATER FROM NEAR THE SURFACE OF THE BASIN OR IMPOUNDMENT. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE, WELL- VEGETATED AND/OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT. (5.5.3.5.).

5.23. THE DEWATERING OF WORK AREAS, TRENCHES, FOUNDATIONS, EXCAVATIONS, ETC. THAT HAVE COLLECTED STORMWATER, WATER FROM VEHICLE WASH AREAS, OR GROUNDWATER SHALL BE EITHER HELD IN SETTLING BASINS OR TREATED BY FILTRATION AND/OR CHEMICAL TREATMENT PRIOR TO ITS DISCHARGE. ALL CHEMICAL TREATMENTS MUST BE APPLIED PER SECTION 6 FLOCCULANTS.

5.24. WATER DISCHARGED FROM DEWATERING ACTIVITIES SHALL NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITHIN THE RECEIVING NATURAL RESOURCE. WATER MUST BE HELD WITHIN SETTLING BASINS UNTIL IT IS AT LEAST AS CLEAR AS THE RECEIVING WATERS.

5.25. DEWATERING STRUCTURES, SEDIMENT FILTER BAGS, SEDIMENT BASINS AND TRAPS SHALL NOT BE LOCATED CLOSER THAN 30 FEET (60 FEET DESIRABLE VEGETATIVE BUFFER) FOR WATERS WITH UNAVAILABLE PARAMETERS AND EXCEPTIONAL TENNESSEE WATERS (ETW) AND 15 FEET (30 FEET DESIRABLE VEGETATIVE BUFFER) FOR ALL OTHER FEATURES FROM THE TOP BANK OF A STREAM, WOTUS (EPHEMERAL), WETLAND OR OTHER NATURAL RESOURCE AND SHALL BE PROPERLY DESIGNED PER THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED.

5.26. STABILIZATION PRACTICES: PRE-CONSTRUCTION VEGETATIVE COVER WILL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 2 WEEKS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA WILL BE SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER IS INSTALLED (5.5.3.5.f).

5.27. STABILIZATION MEASURES WILL BE INITIATED AS SOON AS POSSIBLE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY OR PERMANENT STABILIZATION WILL BE COMPLETED WITHIN 2 WEEKS AFTER ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IN THAT AREA. PERMANENT STABILIZATION WILL REPLACE TEMPORARY MEASURES AS SOON AS PRACTICABLE (5.5.3.4.).

5.28. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS. UNPACKED GRAVEL CONTAINING FINES (SILT AND CLAY SIZED PARTICLES) OR CRUSHER-RUN WILL NOT BE CONSIDERED A NON-ERODIBLE SURFACE

5.29. DELAYING THE PLANTING OF COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED, IF POSSIBLE.

5.30. STEEP SLOPES SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 1 WEEK AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. (5.5.3.4.).

6. FLOCCULANTS (3.5.3.1.b)

IS ADDITIONAL PHYSICAL OR CHEMICAL TREATMENT OF STORMWATER RUNOFF NECESSARY (5.5.3.5.)? ☐ YES ☒ NO

IF YES, THE FOLLOWING NOTES APPLY:

6.1. ENSURE THE FLOCCULANT EMULSIONS AND POWDERS ARE OF THE ANIONIC TYPE (5.5.3.5.). AND MEET THE FOLLOWING REQUIREMENTS:

6.1.1. MEETS THE EPA AND FDA ACRYLAMIDE MONOMER LIMITS OF EQUAL TO OR GREATER THAN 0.005% ACRYLAMIDE MONOMER.

6.1.2. HAS A DENSITY OF 10% TO 55% BY WEIGHT AND A MOLECULAR WEIGHT OF 16 TO 24 MG/MOLE (MILLIGRAM PER MOLE).

6.1.3. MIXTURE IS NON-COMBUSTIBLE.

6.1.4. CONTAINS ONLY MANUFACTURER'S RECOMMENDED ADDITIVES.

6.2. FLOCCULANT SHALL BE MIXED AND APPLIED IN ACCORDANCE WITH ALL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) MATERIAL SAFETY DATA SHEET REQUIREMENTS AND THE MANUFACTURER'S RECOMMENDATIONS FOR THE SPECIFIED USES CONFORMING TO ALL FEDERAL, STATE, AND LOCAL LAWS, RULES, AND REGULATIONS.

6.3. ALL VENDORS AND SUPPLIERS OF FLOCCULANT BLENDS SHALL PRESENT OR SUPPLY A WRITTEN TOXICITY REPORT WHICH VERIFIES ACCEPTABLE TOXICITY PARAMETERS WHICH MEET OR EXCEED THE EPS REQUIREMENTS FOR THE STATE AND FEDERAL WATER QUALITY STANDARDS. WHOLE EFFLUENT TESTING DOES NOT MEET THIS REQUIREMENT AS PRIMARY REACTIONS HAVE OCCURRED AND TOXIC POTENTIALS HAVE BEEN REDUCED. CATIONIC FORMS OF FLOCCULANTS ARE NOT ALLOWED UNDER THIS SECTION DUE TO HIGH LEVELS OF TOXICITY TO AQUATIC ORGANISMS. FLOCCULANT EMULSIONS SHALL NEVER BE APPLIED DIRECTLY TO STORMWATER RUNOFF OR RIPARIAN WATERS DUE TO SURFACTANT TOXICITY. THE CONTRACTOR MUST SEEK THE APPROVAL OF THE EPSC DESIGN ENGINEER AND TDOT IF CHITOSAN IS PROPOSED FOR THIS PROJECT.

6.4. ALL VENDORS AND SUPPLIERS OF FLOCCULANT BLENDS SHALL SUPPLY WRITTEN "SITE SPECIFIC" TESTING RESULTS DEMONSTRATING A PERFORMANCE OF 95% OR GREATER REDUCTION OF NTU OR TSS FROM STORMWATER DISCHARGES.

6.5. EMULSION BATCHES SHALL BE MIXED FOLLOWING RECOMMENDATIONS OF THE TESTING LABORATORY THAT DETERMINES THE PROPER PRODUCT AND RATE TO MEET SITE REQUIREMENTS. APPLICATION METHODS SHALL ENSURE UNIFORM COVERAGE TO THE TARGET AREA. EMULSIONS SHALL NEVER BE APPLIED DIRECTLY TO STORMWATER RUNOFF OR RIPARIAN BUFFERS.

6.6. FLOCCULANT POWDER MAY BE APPLIED BY A HAND OR MECHANICAL SPREADER. MIXING OF THE FLOCCULANT POWDER WITH DRY SILICA SAND WILL AID IN SPREADING.

6.7. PREMIXING OF FLOCCULANT POWDER INTO FERTILIZER, SEED, OR OTHER SOIL AMENDMENTS IS ALLOWED WHEN SPECIFIED IN THE DESIGN PLAN. APPLICATION METHOD SHALL ENSURE UNIFORM COVERAGE TO THE TARGET AREA.

6.8. FLOCCULANT LOGS OR BLOCKS SHALL BE APPLIED FOLLOWING SITE TESTING RESULTS TO ENSURE PROPER PLACEMENT AND PERFORMANCE AND SHALL MEET OR EXCEED STATE AND FEDERAL WATER QUALITY REQUIREMENTS.

6.9. DO NOT APPLY FLOCCULANTS DIRECTLY TO, OR WITHIN 60 FEET, OF ANY STREAMS, WETLANDS, OR OTHER NATURAL WATER RESOURCE LOCATED ON OR ADJACENT TO THE CONSTRUCTION SITE. DO NOT APPLY FLOCCULANTS DIRECTLY INTO WATERS CONTAINED WITHIN SEDIMENT PONDS OR TO SLOPES THAT PRODUCE RUNOFF DIRECTLY INTO A STREAM, WETLAND, OR OTHER NATURAL WATER RESOURCE. DO NOT APPLY FLOCCULANTS IMMEDIATELY AT A STORMWATER OUTFALL WHERE RUNOFF LEAVES THE PROJECT LIMITS.

7. UTILITY RELOCATION

ARE UTILITIES INCLUDED IN THE CONTRACT? ☐ YES ☒ NO

IF YES, THE FOLLOWING APPLY:

7.1. STORMWATER WHICH COLLECTS IN THE UTILITY TRENCH SHALL BE PUMPED INTO A DEWATERING STRUCTURE OR SEDIMENT FILTER BAG AND TREATED PRIOR TO DISCHARGE.

7.2. SILT FENCE SHALL BE INSTALLED ON THE DOWNGRADIENT SIDE OF STOCKPILED SOIL. ANY TRENCHING ACROSS WET WEATHER CONVEYANCES SHALL BE DONE DURING DRY CONDITIONS, REMOVED AND STABILIZED BY THE END OF THE WORK DAY.

7.3. UTILITY CROSSINGS IN ENVIRONMENTAL FEATURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH TDOT STANDARDS AND NO WORK SHALL BE CONDUCTED IN FLOWING WATERS. ENVIRONMENTAL PERMITS APPLY TO UTILITIES IN THIS PROJECT. THE STATE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE PERMITS.

7.4. IT IS THE RESPONSIBILITY OF THE STATE UTILITY CONTRACTOR TO PROTECT EXPOSED EARTH FROM EROSION AND TO PROVIDE FOR CONTAINMENT OF SEDIMENT THAT MAY RESULT FROM THEIR WORK. PRIOR TO BEGINNING WORK, ADEQUATE EPSC MEASURES MUST BE IN PLACE TO TRAP ANY SEDIMENT THAT MAY TRAVEL OFF-SITE IN THE EVENT OF RAIN. DURING THE PROGRESSION OF THEIR WORK, EXPOSED EARTH AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE TO PREVENT EROSION. AT NO TIME, SHALL EXPOSED EARTH RESULTING FROM THEIR OPERATIONS HAVE UNPROTECTED ACCESS TO FLOWING OFF-SITE AND ENTERING WATERS OF THE STATE/U.S.

7.5. FOR THE INSTALLATION OF BURIED UTILITIES (PIPES AND CABLES), TRENCHES SHALL BE BACKFILLED DAILY AS CONSTRUCTION PROCEEDS. BACKFILLED TRENCHES SHALL BE SEEDED AND MULCHED OR SODDED DAILY IF POSSIBLE, BUT NO LATER THAN FOURTEEN DAYS AFTER BEING BACKFILLED. ANY TEMPORARY SPOILS OF EXCAVATED EARTH SHALL BE LOCATED WITHIN TDOT EPSC MEASURES OR RECEIVE SEPARATE EPSC MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EPSC MEASURES WILL BE INSTALLED BY THE STATE UTILITY CONTRACTOR UNTIL THE TRENCH IS BACKFILLED.

7.6. IN REGARDS TO EPSC, TDEC REGULATIONS APPLY TO THE STATE UTILITY CONTRACTORS ON THIS PROJECT. THE STATE CONTRACTOR IS RESPONSIBLE FOR EPSC MEASURES RELATED TO UTILITY CONSTRUCTION INCLUDED IN THE STATE CONTRACT.

7.7. TRENCHES FORMED FOR THE INSTALLATION OF BURIED UTILITIES MAY CAUSE STORMWATER RUNOFF TO CONCENTRATE AT THE TRENCH LINE. ADDITIONAL EPSC MEASURES MAY BE REQUIRED TO BE INSTALLED AS APPROVED BY THE TDOT PROJECT ENGINEER.

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7.8. FOR THE INSTALLATION OF UNDERGROUND UTILITIES OUTSIDE OF THE TDOT RIGHT-OF-WAY, EPSC MEASURES SHALL BE INSTALLED PRIOR TO CLEARING (TRENCHING AND ASSOCIATED BLASTING) IN THOSE AREAS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION AREA. THESE EPSC MEASURES SHALL REMAIN UNTIL THE BACKFILLED TRENCH IS STABILIZED WITH PERMANENT VEGETATIVE COVER.

7.9. THE UTILITY CONTRACTOR SHALL RESTORE ALL AFFECTED WET WEATHER CONVEYANCES TO THE EXISTING TOPOGRAPHIC CONDITIONS AS APPROVED BY THE TDOT RESPONSIBLE PARTY.

7.10. THE UTILITY CONTRACTOR WILL PROVIDE APPROPRIATE EPSC MEASURES TO REPLACE ONSITE EPSC MEASURES REMOVED TO FACILITATE THE INSTALLATION OF UTILITIES. REPLACEMENT OF EPSC MEASURES WILL BE COORDINATED WITH THE TDOT ENGINEER BEFORE COMMENCING WORK.

7.11. FOR UTILITY CROSSINGS THAT UTILIZE HORIZONTAL DIRECTIONAL DRILLING THE FOLLOWING SHALL APPLY:

7.11.1. THE ENTRY AND EXIT POINTS SHALL BE AT LEAST 50 FEET FROM THE STREAM BANK OR WETLAND BOUNDARY.

7.11.2. THE DEPTH OF BORE BELOW THE STREAMBED IS SUFFICIENT TO PREVENT RELEASE OF DRILLING FLUID, BASED ON THE PARENT MATERIAL.

7.11.3. A SITE-SPECIFIC CONTINGENCY AND CONTAINMENT PLAN FOR INADVERTENT RELEASE OF DRILLING FLUID SHALL BE ESTABLISHED PRIOR TO COMMENCEMENT OF WORK. THIS PLAN SHALL BE SUBMITTED TO THE TDOT PROJECT ENGINEER AND THE TDOT ENVIRONMENTAL DIVISION PERMITS AND/OR COMPLIANCE AND FIELD SERVICES OFFICE FOR REVIEW AND APPROVAL.

8. MAINTENANCE AND INSPECTION

8.1. INSPECTION PRACTICES (5.5.3.9.)

8.1.1. PROJECT EPSC INSPECTORS AND ENGINEERS (INCLUDING TDOT STAFF, CONSULTANTS AND CONTRACTOR STAFF) RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE. AND/OR REPAIR OF EPSC MEASURES SHALL MEET ONE OF THE FOLLOWING REQUIREMENTS (5.5.3.10.):

8.1.1.1. SUCCESSFULLY COMPLETED THE TDOT EPSC INSPECTIONS TRAINING AND ANY RECERTIFICATION COURSE AS REQUIRED.

8.1.1.2. SUCCESSFULLY COMPLETED THE TDEC “LEVEL I - FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL” COURSE AND ANY RECERTIFICATION COURSES AS REQUIRED.

8.1.1.3. BE A CURRENT TN LICENSED PROFESSIONAL ENGINEER OR LANDSCAPE ARCHITECT.

8.1.1.4. BE A CURRENT CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC).

8.1.1.5. SUCCESSFULLY COMPLETED TDEC “LEVEL II – DESIGN PRINCIPLES FOR EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES” COURSE AND ANY RECERTIFICATION COURSE AS REQUIRED.

8.1.2. THE TDOT CONSTRUCTION ENGINEER (OR THEIR DULY AUTHORIZED REPRESENTATIVE) AND THE CONTRACTOR’S SITE SUPERINTENDENT ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE TDOT CONSTRUCTION ENGINEER OR THEIR DULY AUTHORIZED REPRESENTATIVE SHALL COMPLETE THE EPSC INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.

8.1.3. THE INSPECTOR SHALL CONDUCT PRE-CONSTRUCTION INSPECTIONS TO VERIFY AREAS THAT ARE NOT TO BE DISTURBED HAVE BEEN MARKED IN THE SWPPP AND IN THE FIELD BEFORE LAND DISTURBANCE ACTIVITIES BEGIN AND INITIAL MEASURES HAVE BEEN INSTALLED (10 “INSPECTOR”) (5.5.1.f).

8.1.4. EPSC CONTROLS SHALL BE INSPECTED TO VERIFY MEASURES HAVE BEEN INSTALLED AND MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS, SPECIFICATIONS, AND GOOD ENGINEERING PRACTICES. EPSC INSPECTIONS SHALL BE DOCUMENTED ON THE TDOT EPSC INSPECTION REPORT FORM AND THE TDEC CONSTRUCTION STORMWATER INSPECTION CERTIFICATION (TWICE-WEEKLY INSPECTIONS) FORM.

8.1.5. OUTFALL POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING EROSION AND CONTROLLING SEDIMENT INCLUDING SIGNIFICANT IMPACTS TO SURROUNDING STATE WATERS, WOTUS (EPHEMERAL), WETLANDS, OTHER NATURAL RESOURCES AND ADJACENT PROPERTY OWNERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWN GRADIENT LOCATIONS SHALL BE INSPECTED. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE ROADWAY SEDIMENT TRACKING.

8.1.6. INSPECTIONS WILL BE CONDUCTED AT LEAST TWICE EVERY CALENDAR WEEK AND AT LEAST 72 HOURS APART (5.5.3.11.a). A CALENDAR WEEK IS DEFINED AS SUNDAY THROUGH SATURDAY. QUALITY ASSURANCE INSPECTIONS OF TDOT EPSC, NPDES AND WATER QUALITY PERMIT REQUIREMENTS SHALL BE PERFORMED PER THE TDOT ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE.

8.1.7. THE FREQUENCY OF EPSC INSPECTIONS MAY BE REDUCED TO ONCE A MONTH WHERE SITES OR PORTIONS OF SITES HAVE BEEN TEMPORARILY STABILIZED UNTIL CONSTRUCTION ACTIVITIES RESUME WITH WRITTEN NOTIFICATION BY THE TDOT REGIONAL ENGINEER TO TDEC NASHVILLE CENTRAL OFFICE AND SUBSEQUENT TDEC APPROVAL. WRITTEN NOTIFICATION MUST INCLUDE THE INTENT TO CHANGE FREQUENCY AND JUSTIFICATION (5.5.3.11.a).

8.1.8. ALL DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN PERMANENTLY STABILIZED, AREAS USED FOR MATERIAL STORAGE THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE, AND EACH OUTFALL WILL BE INSPECTED (5.5.3.11.b).

8.1.9. THE INSPECTOR WILL OVERSEE THE REQUIREMENTS OF OTHER CONSTRUCTION-RELATED WATER QUALITY PERMITS (I.E. TDEC ARAP, USACE SECTION 404, AND TVA SECTION 26a PERMITS) FOR CONSTRUCTION ACTIVITIES AROUND WATERS OF THE STATE (10 “INSPECTOR”).

8.1.10. THE SWPPP WILL BE REVISED AS NECESSARY BASED ON THE RESULTS OF THE INSPECTION. REVISION(S) WILL BE RECORDED WITHIN 1 WEEK OF THE INSPECTION. REVISION(S) WILL BE IMPLEMENTED WITHIN 2 WEEKS OF THE INSPECTION (5.5.3.11.e AND 5.5.3.11.f).

8.1.11. DOCUMENTATION OF INSPECTIONS WILL BE MAINTAINED ON SITE IN THE “DOCUMENTATION AND PERMITS” BINDER. REPORTS WILL BE SUBMITTED TO THE TDOT PROJECT ENGINEER PER THE CONTRACT.

8.1.12. THESE INSPECTION REQUIREMENTS DO NOT APPLY TO DEFINABLE AREAS OF THE SITE THAT HAVE MET PERMANENT STABILIZATION REQUIREMENTS AND HAVE BEEN NOTED IN THE SWPPP.

8.1.13. TRAINED CERTIFIED INSPECTORS SHALL COMPLETE INSPECTION TO THE BEST OF THEIR ABILITY. FALSIFYING INSPECTION RECORDS OR OTHER DOCUMENTATION OR FAILURE TO COMPLETE INSPECTION DOCUMENTATION SHALL RESULT IN A VIOLATION OF THIS PERMIT AND ANY OTHER APPLICABLE ACTS OR RULES (5.5.3.11.h).

8.2. DULY AUTHORIZED REPRESENTATIVE (8.7.3.)

THE PROJECT ENGINEER MAY DELEGATE AN INDIVIDUAL AND/OR CONSULTANT TO SIGN EPSC INSPECTIONS REPORTS. FOR SATISFYING SIGNATORY REQUIREMENTS FOR EPSC INSPECTION REPORTS, THE PROJECT ENGINEER AND NEWLY AUTHORIZED INDIVIDUAL ACCEPTING RESPONSIBILITY MUST COMPLETE AND SIGN THE TDOT CONSTRUCTION DIVISION EPSC DELEGATION OF AUTHORITY.

8.3. MAINTENANCE PRACTICES (5.1 AND 8.13.)

8.3.1. ALL CONTROLS WILL BE MAINTAINED IN GOOD AND EFFECTIVE OPERATING ORDER AND IN ACCORDANCE WITH TDOT STANDARD DRAWINGS AND GOOD ENGINEERING PRACTICES. (5.1. AND 5.5.3.1.b)

8.3.2. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

8.3.3. UPON CONCLUSION OF THE INSPECTIONS, EPSC MEASURES FOUND TO BE INEFFECTIVE SHALL BE REPAIRED, REPLACED, OR MODIFIED BEFORE THE NEXT RAIN EVENT, IF POSSIBLE, BUT IN NO CASE, MORE THAN 24 HOURS AFTER THE INSPECTION OR WHEN THE CONDITION IS IDENTIFIED. IF THE REPAIR, REPLACEMENT OR MODIFICATION IS NOT PRACTICAL WITHIN THE 24-HOUR TIMEFRAME, WRITTEN DOCUMENTATION PROVIDED BY THE CONTRACTOR SHALL BE PLACED IN THE FIELD DIARY AND EPSC INSPECTION REPORT. AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION. (5.5.3.11.e).

8.3.4. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES (SEDIMENT TRAPS, SILT FENCE, SEDIMENT BASINS, OTHER CONTROLS, ETC.) WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). (5.5.3.1.d).

8.3.5. DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE STEPS TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE EPSC MEASURES AT THE CONTRACTOR'S OWN EXPENSE.

8.3.6. CHECK DAMS WILL BE INSPECTED FOR STABILITY. SEDIMENT WILL BE REMOVED WHEN DEPTH REACHES ONE-HALF (½) THE HEIGHT OF THE DAM.

8.3.7. SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS, DOES NOT MIGRATE INTO FEATURES REMOVED FROM, AND DOES NOT MIGRATE ONTO ADJACENT PROPERTIES AND/OR INTO WATERS OF THE STATE/U.S.

8.3.8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER WILL BE PICKED UP AND REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFF THE SITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES. AFTER USE, MATERIALS USED FOR EROSION CONTROL WILL BE REMOVED (5.5.3.7.a).

8.3.9. ALL SEEDED AREAS WILL BE CHECKED FOR BARE SPOTS, EROSION WASHOUTS, AND VIGOROUS GROWTH FREE OF SIGNIFICANT WEED INFESTATIONS.

9. SITE ASSESSMENTS (5.5.3.8.)

QUALITY ASSURANCE SITE ASSESSMENTS OF EROSION PREVENTION AND SEDIMENT CONTROLS SHALL BE PERFORMED PER THE TDOT ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE GUIDELINES.

10. STORMWATER MANAGEMENT (5.5.3.11.h)

10.1. STORMWATER MANAGEMENT WILL BE HANDLED BY TEMPORARY CONTROLS OUTLINED IN THIS SWPPP AND ANY PERMANENT CONTROLS NEEDED TO MEET PERMANENT STORMWATER MANAGEMENT NEEDS IN THE POST CONSTRUCTION PERIOD. PERMANENT CONTROLS WILL BE DEPICTED ON THE PLANS AND NOTED AS PERMANENT.

10.2. DESCRIBE ANY SPECIFIC POST-CONSTRUCTION MEASURES THAT WILL CONTROL VELOCITY, POLLUTANTS, AND/OR EROSION (5.5.3.6.c): N/A

10.3. OTHER ITEMS NEEDING CONTROL (5.5.3.7.)

CONSTRUCTION MATERIALS: THE FOLLOWING MATERIALS OR SUBSTANCES ARE EXPECTED TO BE PRESENT ON THE SITE DURING THE CONSTRUCTION PERIOD. (CHECK ALL THAT APPLY).

☒ LUMBER, GUARDRAIL, TRAFFIC CONTROL DEVICES
☒ CONCRETE WASHOUT
☒ PIPE CULVERTS (I.E. CONCRETE, CORRUGATED METAL, HDPE, ETC.)
☒ MINERAL AGGREGATES, ASPHALT
☒ EARTH
☒ LIQUID TRAFFIC STRIPING MATERIALS, PAINT
☒ ROCK
☒ CURING COMPOUND
☒ EXPLOSIVES
☐ OTHER _____

THESE MATERIALS WILL BE HANDLED AS NOTED IN THIS SWPPP.

10.4. WASTE MATERIALS (5.5.3.7.c)

WASTE MATERIAL (EARTH, ROCK, ASPHALT, CONCRETE, ETC.) NOT REQUIRED FOR THE CONSTRUCTION OF THE PROJECT WILL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH THE TDOT CONSTRUCTION CONTRACT AND FEDERAL AND STATE REGULATIONS. IMPACTS TO WATERS OF THE STATE/U.S. SHALL BE AVOIDED IF POSSIBLE. IF UNAVOIDABLE, THE CONTRACTOR WILL OBTAIN ALL NECESSARY PERMITS INCLUDING, BUT NOT LIMITED TO NPDES, AQUATIC RESOURCES

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ALTERATION PERMIT(S) CORPS OF ENGINEERS SECTION 404 PERMITS, AND TVA SECTION 26A PERMITS TO DISPOSE OF WASTE MATERIALS.

10.5. HAZARDOUS WASTE (5.5.3.7.c) (8.8)

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN A MANNER WHICH IS COMPLIANT WITH LOCAL OR STATE REGULATIONS. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR'S ON-SITE REPRESENTATIVE WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED. THE CONTRACTOR WILL OBTAIN ALL NECESSARY PERMITS TO DISPOSE OF HAZARDOUS MATERIAL.

10.6. SANITARY WASTE (5.5.3.7.b)

PORTABLE SANITARY FACILITIES WILL BE PROVIDED ON ALL CONSTRUCTION SITES. SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY LOCAL REGULATIONS. THE CONTRACTOR WILL OBTAIN ALL NECESSARY PERMITS TO DISPOSE OF SANITARY WASTE.

10.7. OTHER MATERIALS

THE FOLLOWING MATERIALS OR SUBSTANCES ARE EXPECTED TO BE PRESENT ON THE SITE DURING THE CONSTRUCTION PERIOD. (CHECK ALL THAT APPLY).

☒ FERTILIZERS AND LIME

☒ PESTICIDES AND/OR HERBICIDES

☒ DIESEL AND GASOLINE

☒ MACHINERY LUBRICANTS (OIL AND GREASE)

THESE MATERIALS WILL BE HANDLED AS NOTED IN THIS SWPPP.

11. NON-STORMWATER DISCHARGES (5.5.3.12.)

11.1. THE FOLLOWING NON-STORMWATER DISCHARGES ARE ANTICIPATED DURING THE CONSTRUCTION OF THIS PROJECT (CHECK ALL THAT APPLY):

☒ DEWATERING OF WORK AREAS OF COLLECTED STORMWATER AND GROUND WATER.

☒ WATERS USED TO WASH VEHICLES (OF DUST AND SOIL) WHERE DETERGENTS ARE NOT USED AND DETENTION AND/OR FILTERING IS PROVIDED BEFORE THE WATER LEAVES THE SITE.

☒ WATER USED TO CONTROL DUST. (3.5.3.1.n)

☐ POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHING FROM WHICH CHLORINE HAS BEEN REMOVED TO THE MAXIMUM EXTENT PRACTICABLE.

☒ UNCONTAMINATED GROUNDWATER OR SPRING WATER.

☒ FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH POLLUTANTS.

☐ OTHER: _____

11.2. ALL ALLOWABLE NON-STORMWATER DISCHARGES WILL BE DIRECTED TO STABLE DISCHARGE STRUCTURES PRIOR TO LEAVING THE SITE. FILTERING OR CHEMICAL TREATMENT MAY BE NECESSARY PRIOR TO DISCHARGE. ALL CHEMICAL TREATMENTS MUST BE APPLIED PER SECTION 6 FLOCCULANTS.

11.3. THE DESIGN OF ALL IMPACTED EPSC MEASURES RECEIVING FLOW FROM ALLOWABLE NON-STORMWATER DISCHARGES MUST BE DESIGNED TO HANDLE THE VOLUME OF THE NON-STORMWATER COMPONENT.

11.4. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS WILL NOT BE PERMITTED ON-SITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.

11.5. ARE ANY DISCHARGES ASSOCIATED WITH INDUSTRIAL (NON-CONSTRUCTION STORMWATER) ACTIVITY EXPECTED (5.5.1.g)?

☐ YES ☒ NO

IF YES, SPECIFY THE LOCATION OF THE ACTIVITY AND ITS PERMIT NUMBER: _____

12. SPILL PREVENTION, MANAGEMENT AND NOTIFICATION (5.5.3.7.c, 6.1)

12.1. SPILL PREVENTION (5.5.3.7.c)

12.1.1. CONTRACTOR'S BULK FUEL AND PETROLEUM PRODUCTS STORED ON-SITE OR ADJACENT TO THE R.O.W. IN ABOVE GROUND STORAGE TANKS WITH AGGREGATE STORAGE CAPACITY IN EXCESS OF 1,320 GALLONS SHALL HAVE SECONDARY CONTAINMENT.

12.1.2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN AS REQUIRED BY TDOT SPECIAL PROVISION 107FP (REGARDING WATER QUALITY AND STORM WATER PERMITS) AND THE LAW PRIOR TO STORING 1320 GALLONS ON SITE.

12.1.3. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR OBTAINING ANY NECESSARY LOCAL, STATE, AND FEDERAL PERMITS. THE SPCC PLAN AND/OR PERMITS SHALL BE KEPT ON-SITE AND A COPY PROVIDED TO THE TDOT CONSTRUCTION ENGINEER.

12.2. MATERIAL MANAGEMENT

12.2.1. HOUSEKEEPING

ONLY CONSTRUCTION PRODUCTS NEEDED SHALL BE STORED ON-SITE BY THE CONTRACTOR. EXCEPT FOR BULK MATERIALS THE CONTRACTOR WILL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING WILL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHEN POSSIBLE, ALL PRODUCTS WILL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFF SITE. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS WILL BE FOLLOWED. THE CONTRACTOR'S SITE SUPERINTENDENT WILL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL. DUST GENERATED WILL BE CONTROLLED IN AN ENVIRONMENTALLY SAFE MANNER. VEGETATION AREAS NOT ESSENTIAL TO THE CONSTRUCTION PROJECT WILL BE PRESERVED AND MAINTAINED AS NOTED ON THE PLANS.

12.2.2. HAZARDOUS MATERIALS

PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS UNLESS THE CONTAINER IS NOT RE-SEALABLE. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHEETS WILL BE RETAINED IN A SAFE PLACE TO RELAY IMPORTANT PRODUCT INFORMATION. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S LABEL DIRECTIONS FOR DISPOSAL WILL BE FOLLOWED. MAINTENANCE AND REPAIR OF ALL EQUIPMENT AND VEHICLES INVOLVING OIL CHANGES, HYDRAULIC SYSTEM DRAIN DOWN, DE-GREASING OPERATIONS, FUEL TANK DRAIN DOWN AND REMOVAL, AND OTHER ACTIVITIES WHICH MAY RESULT IN THE ACCIDENTAL RELEASE OF CONTAMINANTS WILL BE CONDUCTED ON AN IMPERVIOUS SURFACE AND UNDER COVER DURING WET WEATHER TO PREVENT THE RELEASE OF CONTAMINANTS ONTO THE GROUND. WHEEL WASH WATER WILL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER WILL NOT BE DISCHARGED DIRECTLY INTO ANY STORMWATER SYSTEM OR STORMWATER TREATMENT SYSTEM. POTENTIAL pH-MODIFYING MATERIALS SUCH AS: BULK CEMENT, CEMENT KILN DUST, FLY ASH, NEW CONCRETE WASHINGS AND CURING WATERS, CONCRETE PUMPING, AND MIXER WASHOUT WATERS WILL BE COLLECTED ON SITE AND MANAGED TO PREVENT CONTAMINATION OF STORMWATER RUNOFF.

12.3. PRODUCT SPECIFIC PRACTICES

12.3.1. PETROLEUM PRODUCTS: ALL ON-SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED.

12.3.2. FERTILIZERS: FERTILIZERS WILL BE APPLIED ONLY IN THE AMOUNTS SPECIFIED BY TDOT. ONCE APPLIED, FERTILIZERS WILL BE WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORMWATER. FERTILIZERS WILL BE STORED IN AN ENCLOSED AREA UNDER COVER. THE CONTENTS OF PARTIALLY USED FERTILIZER BAGS WILL BE TRANSFERRED TO SEALABLE CONTAINERS TO AVOID SPILLS.

12.3.3. PAINTS: ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. THE EXCESS WILL BE DISPOSED OF PER THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE STATE AND LOCAL REGULATIONS.

12.3.4. CONCRETE TRUCKS: CONTRACTORS WILL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF CONTAINED AND NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE, AND PROPERLY SIGNED. UPON COMPLETION OF CONSTRUCTION WASHOUT AREAS WILL BE PROPERLY STABILIZED.

12.4. SPILL MANAGEMENT

IN ADDITION TO THE PREVIOUS HOUSEKEEPING AND MANAGEMENT PRACTICES, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP IF NECESSARY:

12.4.1. ALL ONSITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANGE OF LEAKAGE AND SPILLS.

12.4.2. FOR ALL HAZARDOUS MATERIALS STORED ON SITE, THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEAN UP WILL BE CLEARLY POSTED. SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF THE INFORMATION AND CLEANUP SUPPLIES.

12.4.3. APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT WILL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ON-SITE AND UNDER COVER. SPILL RESPONSE EQUIPMENT SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.

12.4.4. ALL SPILLS SHALL BE CLEANED IMMEDIATELY AFTER DISCOVERY AND THE MATERIALS DISPOSED OF PROPERLY. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

12.4.5. THE CONTRACTOR'S RESPONSIBLE PARTY WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SITE SUPERINTENDENT HAS HAD APPROPRIATE TRAINING FOR HAZARDOUS MATERIALS HANDLING, SPILL MANAGEMENT, AND CLEANUP.

12.4.6. IF SPILLS REPRESENT AN IMMINENT THREAT OF ESCAPING THE SITE AND ENTERING RECEIVING WATERS, PERSONNEL WILL RESPOND IMMEDIATELY TO CONTAIN THE RELEASE AND NOTIFY THE SUPERINTENDENT AFTER THE SITUATION HAS BEEN STABILIZED.

12.4.7. IF AN OIL SHEEN IS OBSERVED ON SURFACE WATER (E.G. SETTLING PONDS, DETENTION PONDS, SWALES), ACTION WILL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR WILL USE APPROPRIATE MATERIALS TO CONTAIN AND ABSORB THE SPILL. THE SOURCE OF THE OIL SHEEN WILL ALSO BE IDENTIFIED AND REMOVED OR REPAIRED AS NECESSARY TO PREVENT FURTHER RELEASES.

12.4.8. IF A SPILL OCCURS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO THE TDOT PROJECT RESPONSIBLE PARTY. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.

12.5. SPILL NOTIFICATION (6.1)

WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO, OR MORE THAN A REPORTABLE QUANTITY ESTABLISHED UNDER EITHER 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24 HOUR PERIOD:

12.5.1. THE TDOT PROJECT ENGINEER IS RESPONSIBLE FOR NOTIFYING THE REGIONAL PROJECT DEVELOPMENT OFFICE (E.G. TRANSPORTATION ENVIRONMENTAL STUDIES SPECIALIST) AS SOON AS HE OR SHE HAS KNOWLEDGE OF THE DISCHARGE.

12.5.2. THE TDOT REGIONAL PROJECT DEVELOPMENT OFFICE WILL NOTIFY THE LOCAL TDEC ENVIRONMENTAL FIELD OFFICE AND ANY OTHER APPLICABLE REGULATORY AGENCIES WITHIN 24 HOURS OF THE SPILL.

12.5.3. IN ADDITION TO ANY FOLLOW UP NOTIFICATIONS REQUIRED BY FEDERAL LAW, A WRITTEN DESCRIPTION OF THE RELEASE, DATE OF RELEASE AND CIRCUMSTANCES LEADING TO THE RELEASE, WHAT ACTIONS WERE TAKEN TO MITIGATE EFFECTS OF THE RELEASE, AND STEPS TAKEN TO MINIMIZE THE CHANCE OF FUTURE OCCURRENCES WILL BE SUBMITTED TO THE APPROPRIATE TDEC ENVIRONMENTAL FIELD OFFICE WITHIN 2 WEEKS OF KNOWLEDGE OF THE RELEASE.

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12.5.4. THE SWPPP MUST BE MODIFIED WITHIN 2 WEEKS OF KNOWLEDGE OF THE RELEASE PROVIDING A DESCRIPTION OF THE RELEASE, CIRCUMSTANCES LEADING TO THE RELEASE, AND THE DATE OF RELEASE. THE SWPPP WILL BE REVIEWED AND MODIFIED AS NECESSARY TO IDENTIFY MEASURES TO PREVENT THE REOCCURRENCE OF SUCH RELEASES AND TO RESPOND TO SUCH RELEASES.

13. RECORD-KEEPING

13.1. REQUIRED RECORDS

TDOT OR THEIR DULY AUTHORIZED REPRESENTATIVE WILL MAINTAIN AT THE SITE THE FOLLOWING RECORDS OF CONSTRUCTION ACTIVITIES (7.2.1.) (7.2.1.):

13.1.1. THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR.

13.1.2. THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE.

13.1.3. THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

13.1.4. RECORDS EPSC INSPECTION REPORTS AND CORRECTIVE MEASURES.

13.1.5. RECORDS OF QUALITY ASSURANCE SITE ASSESSMENTS.

13.1.6. COPY OF SITE EPSC INSPECTOR'S CERTIFICATION AND/OR LICENSING

13.1.7. A COPY OF ANY REGULATORY CORRESPONDENCE REGARDING THE EFFECTIVENESS OF THE SWPPP OR EPSC CONTROLS.

13.2. RAINFALL MONITORING PLAN (7.2.1.):

13.2.1. EQUIPMENT

AT A MINIMUM, THE CONTRACTOR WILL INSTALL A FENCE POST TYPE RAIN GAUGE TO MEASURE RAINFALL. THE STANDARD FENCE POST RAIN GAUGE WILL BE A WEDGE-SHAPED GAUGE THAT MEASURES UP TO 6 INCHES OF RAINFALL. AN ENGLISH SCALE WILL BE PROVIDED ON ONE FACE, WITH A METRIC SCALE ON THE OTHER FACE. GRADUATION WILL BE PERMANENTLY MOLDED IN DURABLE WEATHER-RESISTANT PLASTIC. THE MINIMUM GRADUATION WILL BE 0.01 INCH (OR 0.1MM). AN ALUMINUM BRACKET WITH SCREWS MAY BE USED TO MOUNT THE GAUGE ON A WOODEN SUPPORT.

13.2.2. LOCATION

THE RAIN GAUGE WILL BE LOCATED AT OR ALONG THE PROJECT SITE, AS DEFINED IN THE NOI OF THE NPDES PERMIT, IN AN OPEN AREA SUCH THAT THE MEASUREMENT WILL NOT BE INFLUENCED BY OUTSIDE FACTORS (I.E. OVERHANGS, GUTTER, TREES, ETC.). AT LEAST ONE RAIN GAUGE PER LINEAR MILE IS REQUIRED ALONG (AS MEASURED ALONG THE CENTERLINE OF THE PRIMARY ALIGNMENT) THE PROJECT WHERE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING IS ACTIVELY PERFORMED, OR EXPOSED SOIL HAS NOT YET BEEN PERMANENTLY STABILIZED.

13.2.3. METHODS

RAINFALL MONITORING WILL BE INITIATED PRIOR TO CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING, OR FILLING, EXCEPT AS SUCH MINIMAL CLEARING MAY BE NECESSARY TO INSTALL A RAIN GAUGE IN AN OPEN AREA. THE RAIN GAUGE WILL BE CHECKED FOR OPERATIONAL SOUNDNESS DAILY (DURING NORMAL BUSINESS HOURS) IN WET TIMES AND WEEKLY IN DRY TIMES. GAUGES WILL BE REPAIRED OR REPLACED ON THE SAME DAY IF FOUND TO BE NON-OPERATIONAL OR MISSING.

13.2.4. EACH RAIN GAUGE WILL BE READ (FOR DETAILED RECORDS OF RAINFALL) AND EMPTIED AFTER EVERY RAINFALL EVENT OCCURRING ON THE PROJECT SITE AT APPROXIMATELY THE SAME TIME OF THE DAY (DURING NORMAL BUSINESS HOURS). DURING PERIODS OF DRY CONDITIONS, IT WILL NOT BE NECESSARY TO READ THE RAIN GAUGE EVERY DAY. IN LIEU OF THIS REQUIREMENT ON WEEKENDS AND ON STATE HOLIDAYS, THE RAIN GAUGES CAN BE EMPTIED THE NEXT BUSINESS DAY AND A REFERENCE SITE USED FOR A RECORD OF DAILY AMOUNT OF PRECIPITATION FOR THOSE DAYS. A REFERENCE SITE IS THE DOCUMENTATION FROM THE CLOSEST GAUGE WITHIN PROXIMITY OF THE PROJECT FROM A RECOGNIZED SOURCE SUCH AS THE NOAA NATIONAL WEATHER SERVICE.

13.2.5. DETAILED RECORDS WILL BE RECORDED OF RAINFALL EVENTS INCLUDE DATES, AMOUNTS OF RAINFALL, AND THE APPROXIMATE DURATION (OR THE STARTING AND ENDING TIMES). THE RAINFALL RECORDS SHALL BE RECORDED ON THE TDOT RAINFALL RECORD SHEET AND SHALL BE MAINTAINED IN THE "DOCUMENTATION AND PERMITS" BINDER.

13.2.6. IF THE RAINFALL EVENT IS STILL IN PROGRESS AT THE DAILY RECORDING TIME, THE GAUGE WILL BE EMPTIED AND THE RECORD WILL INDICATE THAT THE STORM EVENT WAS STILL IN PROGRESS.

13.2.7. RAIN GAUGE INFORMATION (DETAILED RECORDS), INCLUDING THE LOCATION OF THE NEAREST OUTFALL, WILL BE RECORDED ON THE EPSC INSPECTION REPORT FORMS AT THE TIME OF MEASUREMENT.

13.3. KEEPING PLANS CURRENT (5.4.)

13.3.1. THE EPSC PLAN IS TO SERVE AS AN INITIAL GUIDE FOR SITE PERSONNEL AS THE CONSTRUCTION PROCESS DEVELOPS. IT MUST BE AMENDED, MODIFIED, AND UPDATED WHENEVER EPSC INSPECTIONS INDICATE, OR WHERE STATE OR FEDERAL REGULATORY OFFICIALS DETERMINE EPSC MEASURES ARE PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES OR ARE OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORMWATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY.

13.3.2. THE STAGES DEPICTED WITHIN THE EPSC PLANS MAY NOT COINCIDE WITH THE ACTUAL STAGES OF CONSTRUCTION ESTABLISHED BY THE CONTRACTOR DURING CONSTRUCTION, THUS MODIFICATIONS WILL BE REQUIRED TO ENSURE THE EPSC PLAN IS MAINTAINED TO DEPICT CURRENT SITE CONDITIONS. IT SHOULD BE MAINTAINED SUCH THAT IT WILL ALWAYS REFLECT THE MEASURES THAT ARE INSTALLED DURING THE VARIOUS STAGES OF CONSTRUCTION. IT IS IMPRACTICAL TO DETERMINE ALL THE INTERMEDIATE STAGES OF CONSTRUCTION THAT WILL OCCUR, THUS THESE DOCUMENTS MUST BE UPDATED THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT.

13.3.3. THE TDOT EPSC INSPECTOR OR THEIR DULY AUTHORIZED REPRESENTATIVE WILL MODIFY AND UPDATE THE SWPPP WHEN ANY OF THE FOLLOWING CONDITIONS APPLY:

13.3.3.1. WHENEVER THERE IS A CHANGE IN THE SCOPE OF THE PROJECT THAT WOULD BE EXPECTED TO HAVE A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO THE WATERS OF THE STATE AND WHICH HAS NOT OTHERWISE BEEN ADDRESSED IN THE SWPPP;

13.3.3.2. WHENEVER INSPECTIONS OR INVESTIGATIONS BY SITE OPERATORS, LOCAL, STATE, OR FEDERAL OFFICIALS INDICATE THE SWPPP IS PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS FROM CONSTRUCTION ACTIVITY SOURCES, OR IS OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY; WHERE LOCAL, STATE, OR FEDERAL OFFICIALS DETERMINE THAT THE SWPPP IS INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES, A COPY OF ANY CORRESPONDENCE TO THAT EFFECT MUST BE RETAINED IN THE SWPPP;

13.3.3.3. WHEN ANY NEW OPERATOR AND/OR SUB-OPERATOR IS ASSIGNED OR RELIEVED OF THEIR RESPONSIBILITY TO IMPLEMENT A PORTION OF THE SWPPP;

13.3.3.4. TO PREVENT A NEGATIVE IMPACT TO LEGALLY PROTECTED STATE OR FEDERALLY LISTED OR PROPOSED THREATENED OR ENDANGERED AQUATIC FAUNA;

13.3.3.5. WHEN THERE IS A CHANGE IN CHEMICAL TREATMENT METHODS INCLUDING: USE OF DIFFERENT TREATMENT CHEMICALS, DIFFERENT DOSAGE OR APPLICATION RATES OR A DIFFERENT AREA OF APPLICATION NOT SPECIFIED ON THE EPSC PLANS.

13.3.3.6. ALL SWPPP REVISION(S) SHALL BE RECORDED WITHIN 1 WEEK BY THE PROJECT EPSC INSPECTOR.

13.3.3.7. WHEN A TMDL IS DEVELOPED FOR THE RECEIVING WATERS FOR A POLLUTANT OF CONCERN (SILTATION AND/OR HABITAT ALTERATION), CONSTRUCTION SHALL NOTIFY THE PERMITS SECTION FOR PROPER COORDINATION.

13.4. MAKING PLANS ACCESSIBLE

13.4.1. TDOT WILL RETAIN A COPY OF THIS SWPPP (INCLUDING A COPY OF THE "DOCUMENTATION AND PERMITS" BINDER AT THE CONSTRUCTION SITE (OR OTHER LOCATION ACCESSIBLE TO TDEC AND THE PUBLIC) FROM THE DATE CONSTRUCTION COMMENCES TO THE DATE OF PERMANENT STABILIZATION. TDOT WILL HAVE A COPY OF THE SWPPP AVAILABLE AT THE LOCATION WHERE WORK IS OCCURRING ON-SITE FOR THE USE OF OPERATORS AND THOSE IDENTIFIED AS HAVING RESPONSIBILITIES UNDER THE SWPPP WHENEVER THEY ARE ON THE CONSTRUCTION SITE (7.2.).

13.4.2. PRIOR TO THE INITIATION OF LAND DISTURBING ACTIVITIES AND UNTIL THE SITE HAS MET THE PERMANENT STABILIZATION CRITERIA, TDOT OR THEIR DULY AUTHORIZED REPRESENTATIVE WILL POST A NOTICE NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE WITH THE FOLLOWING INFORMATION (5.3.4.) (7.2.1.):

13.4.2.1. A COPY OF THE NOTICE OF COVERAGE (NOC) WITH THE NPDES PERMIT NUMBER FOR THE PROJECT;

13.4.2.2. THE INDIVIDUAL NAME, COMPANY NAME, E-MAIL ADDRESS (IF APPLICABLE) AND TELEPHONE NUMBER OF THE LOCAL PROJECT SITE OWNER AND OPERATOR CONTACT;

13.4.2.3. A BRIEF DESCRIPTION OF THE PROJECT; AND

13.4.2.4. THE LOCATION OF THE SWPPP.

13.4.3. ALL INFORMATION DESCRIBED IN SECTION 13.4.2 MUST BE MAINTAINED IN LEGIBLE CONDITION. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE DUE TO SAFETY CONCERNS, THE NOTICE SHALL BE POSTED IN A LOCAL BUILDING. THE NOTICE MUST BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION WHERE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY.

13.5. NOTICE OF TERMINATION (9.0.)

13.5.1. WHEN ALL STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES THAT ARE AUTHORIZED BY THE PERMIT ARE ELIMINATED BY PERMANENT STABILIZATION, THE TDOT REGIONAL ENGINEER WILL SUBMIT A NOTICE OF TERMINATION (NOT) THAT IS SIGNED IN ACCORDANCE WITH THE PERMIT TO THE TDEC CENTRAL OFFICE IN NASHVILLE, TN.

13.5.2. FOR THE PURPOSES OF THE CERTIFICATION REQUIRED BY THE NOT, THE ELIMINATION OF STORMWATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY MEANS THE

13.5.2.1. ALL EARTH-DISTURBING ACTIVITIES ON THE SITE ARE COMPLETED AND ALL DISTURBED SOILS AT THE PORTION OF THE CONSTRUCTION SITE WHERE THE OPERATOR HAD CONTROL HAVE BEEN PERMANENTLY STABILIZED; AND

13.5.2.2. ALL CONSTRUCTION MATERIALS, WASTE AND WASTE HANDLING DEVICES, AND ALL EQUIPMENT, AND VEHICLES THAT WERE USED DURING CONSTRUCTION HAVE BEEN REMOVED AND PROPERLY DISPOSED; AND

13.5.2.3. ALL STORMWATER CONTROLS THAT WERE INSTALLED AND MAINTAINED DURING CONSTRUCTION, EXCEPT THOSE THAT ARE INTENDED FOR LONG-TERM USE FOLLOWING TERMINATION OF PERMIT COVERAGE, HAVE BEEN REMOVED; AND

13.5.2.4. ALL POTENTIAL POLLUTANTS AND POLLUTANT GENERATING ACTIVITIES ASSOCIATED WITH CONSTRUCTION HAVE BEEN REMOVED; AND

13.5.2.5. THE PERMITTEE HAS IDENTIFIED WHO IS RESPONSIBLE FOR ONGOING MAINTENANCE OF ANY STORMWATER CONTROLS LEFT ON THE SITE FOR LONG-TERM USE FOLLOWING TERMINATION OF PERMIT COVERAGE; AND

13.5.2.6. TEMPORARY EPSC MEASURES HAVE BEEN OR WILL BE REMOVED AT AN APPROPRIATE TIME TO ENSURE PERMANENT STABILIZATION IS MAINTAINED; AND

13.5.2.7. ALL STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES FROM THE IDENTIFIED SITE THAT ARE AUTHORIZED BY A NPDES GENERAL PERMIT HAVE OTHERWISE BEEN ELIMINATED FROM THE PORTION OF THE CONSTRUCTION SITE WHERE THE OPERATOR HAD CONTROL.

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TENNESSEE D.O.T.	DESIGN DIVISION	FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2025	58S108-F3-002	S-7

13.6. RETENTION OF RECORDS (7.1.)

TDOT WILL RETAIN COPIES OF THE SWPPP, ALL REPORTS REQUIRED BY THE PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT FOR THE PROJECT FOR A PERIOD OF AT LEAST THREE (3) YEARS FROM THE DATE THE NOT WAS FILED.

14. SITE WIDE/PRIMARY PERMITTEE CERTIFICATION (8.7.5.)

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED BY ME, OR UNDER MY DIRECTION OR SUPERVISION. THE SUBMITTED INFORMATION IS TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. AS SPECIFIED IN TENNESSEE CODE ANNOTATED SECTION 39-16-702(a)(4), THIS DECLARATION IS MADE UNDER PENALTY OF PERJURY.

Scott Medlin

Digitally signed by Scott Medlin
Date: 2024.06.25 11:55:13 -04'00'

AUTHORIZED TDOT PERSONNEL SIGNATURE (5.3.3.)

Scott Medlin

PRINTED NAME

TDOT Manager

TITLE

6/25/2024

DATE

15. SECONDARY PERMITTEE (OPERATOR) CERTIFICATION (8.7.6.)

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE REVIEWED THIS DOCUMENT, ANY ATTACHMENTS, AND THE SWPPP REFERENCED ABOVE. BASED ON MY INQUIRY OF THE CONSTRUCTION SITE OWNER/DEVELOPER IDENTIFIED ABOVE AND/OR MY INQUIRY OF THE PERSON DIRECTLY RESPONSIBLE FOR ASSEMBLING THIS NOI AND SWPPP, I BELIEVE THE INFORMATION SUBMITTED IS ACCURATE. I AM AWARE THAT THIS NOI, IF APPROVED, MAKES THE ABOVE-DESCRIBED CONSTRUCTION ACTIVITY SUBJECT TO NPDES PERMIT NUMBER TNR100000, AND THAT CERTAIN OF MY ACTIVITIES ONSITE ARE THEREBY REGULATED. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS, AND FOR FAILURE TO COMPLY WITH THESE PERMIT REQUIREMENTS. AS SPECIFIED IN TENNESSEE CODE ANNOTATED SECTION 39-16-702(a)(4), THIS DECLARATION IS MADE UNDER PENALTY OF PERJURY.

AUTHORIZED CONTRACTOR PERSONNEL SIGNATURE (5.3.3.)

PRINTED NAME

TITLE

DATE

16. ENVIRONMENTAL PERMITS (1.5.2.)

LIST ALL ENVIRONMENTAL PERMITS AND EXPIRATION DATES FOR PROJECT **(TO BE COMPLETED AT THE ENVIRONMENTAL PRECONSTRUCTION MEETING BY TDOT CONSTRUCTION OR THEIR DULY AUTHORIZED REPRESENTATIVE)**:

ENVIRONMENTAL PERMITS			
PERMIT	**YES OR NO**	**PERMIT OR TRACKING NO.**	**EXPIRATION DATE***
TDEC ARAP			
CORPS OF ENGINEERS (USACE)			
TVA 26A			
TDEC CGP			
OTHER:			

*THE TDOT ENVIRONMENTAL DIVISION MUST BE NOTIFIED SIX MONTHS PRIOR TO PERMIT EXPIRATION DATE.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STORMWATER POLLUTION PREVENTION PLAN

TENNESSEE D.O.T. | DESIGN DIVISION | FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2025	58S108-F3-002	S-8

17. OUTFALL TABLE (5.5.1.c, 6.4.1.e, 6.4.1.f)

OUTFALL LABEL	SUB OUT-FALL	STATION CL, LT OR RT	SLOPE WITHIN ROW (%)	STAGE 1 DRAINAGE AREA (AC)	STAGE 2 DRAINAGE AREA (AC)	STAGE 3 DRAINAGE AREA (AC)	SEDIMENT BASIN OR EQUIVALENT MEASURE(S) (YES, NO OR N/A)	SEDIMENT TRAP OR EQUIVALENT MEASURE(S) (YES, NO OR N/A)	RECEIVING RESOURCE (TDOT EBR LABEL) OR OTHER	COMMENTS
1		8+40 LT	13.10%	0.87	0.87	0.87	N/A	N/A	UNNAMED TRIBUTARY TO THE SEQUATCHIE RIVER	
2		11+10 RT	12.50%	4.48	1.46	1.45	N/A	N/A	UNNAMED TRIBUTARY TO THE SEQUATCHIE RIVER	
3		13+00 RT	14.40%	0.28	6.98	1.09	N/A	N/A	STR-1	
4		15+75 RT	22.10%	0.09	0.06	0.10	N/A	N/A	STR-1	
5		16+10 RT	27.73%	0.02	0.82	1.21	N/A	N/A	STR-1	
6		16+10 LT	6.75%	0.47	0.78	0.78	N/A	N/A	STR-1	
7		22+00 LT	4.25%	0.36	0.89	0.89	N/A	N/A	STR-2	
8		20+50 RT	21.50%	0.47	0.35	0.35	N/A	N/A	STR-2	
9		20+75 RT	13.10%	2.00	1.68	1.68	N/A	N/A	STR-2	
10		26+50 RT	27.80%	0.17	0.05	0.05	N/A	N/A	STR-3	
11		27+10 RT	25.50%	0.42	0.32	0.32	N/A	N/A	STR-3	
12		27+25 LT	6.10%	0.38	0.38	0.38	N/A	N/A	STR-3	
13		10+00 RT	23.80%	6.66	0.10	0.10	N/A	N/A	UNNAMED TRIBUTARY TO THE SEQUATCHIE RIVER	
14		10+40 RT	13.70%	0.45	0.27	0.28	N/A	N/A	UNNAMED TRIBUTARY TO THE SEQUATCHIE RIVER	
15		13+90 RT	53.54%	0.43	3.80		N/A	N/A	STR-1	
16		16+25 RT	44.77%	0.20			N/A	N/A	STR-1	
17		14+50 RT	10.58%		0.02	0.02	N/A	N/A	STR-1	
18		14+60 RT	9.30%		0.07	0.07	N/A	N/A	STR-1	

ALL UNUSED FIELDS WITHIN THE OUTFALL TABLE ARE TO BE SHADED, HATCHED, OR REMOVED TO INDICATE THEIR NON-USAGE.

STATE OF TENNESSEE
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STORMWATER POLLUTION PREVENTION PLAN

Index Of Sheets	
SHEET NAME	SHEET NUMBER
UTILITIES INDEX, UTILITIES OWNERS, GENERAL NOTES AND UTILITY SHEETS	U1-1 TO U1-2

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2025	PROT - 108 (106)	U1-1
		58S108 - F3- 002	
		PIN 130296.00	

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

MARION COUNTY

STATE ROUTE 108; SLIDE REPARS LM 2.8 TO 3.1

SPECIAL NOTES

UTILITIES ARE MOVING AT NO COST TO THE STATE.

LOCATIONS ARE APPROXIMATE AND FOR REFERENCE ONLY

UTILITY OWNERS AND CONTACTS:

ELECTRIC/FIBER:	SEQUACHEE VALLEY ELECTRIC COOPERATIVE P O BOX 31 SOUTH PITTSBURG, TN 37380 MR. LUCAS MARSH LMARSH@SVALLEYEC.COM (423) 326-5578	TELEPHONE/FIBER:	BELLSOUTH DBA AT&T 300 E MARTIN LUTHER KING BLVD, 5TH FL CHATTANOOGA, TN 37403 MR. JOE PERREL JP1389@ATT.COM (615) 488-2825

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UTILITY REFERENCE

$$$$$SYTIME$$$$$$$
$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
P S & E	2025	PROT - 108 (106)	U1-2
		58S108 - F3 - 002	
		PIN 130296.00	

LEGEND

CONSTRUCTION OF NEW ALIGNMENT (Note 1)

REMOVAL OF EXISTING ALIGNMENT (Note 2)

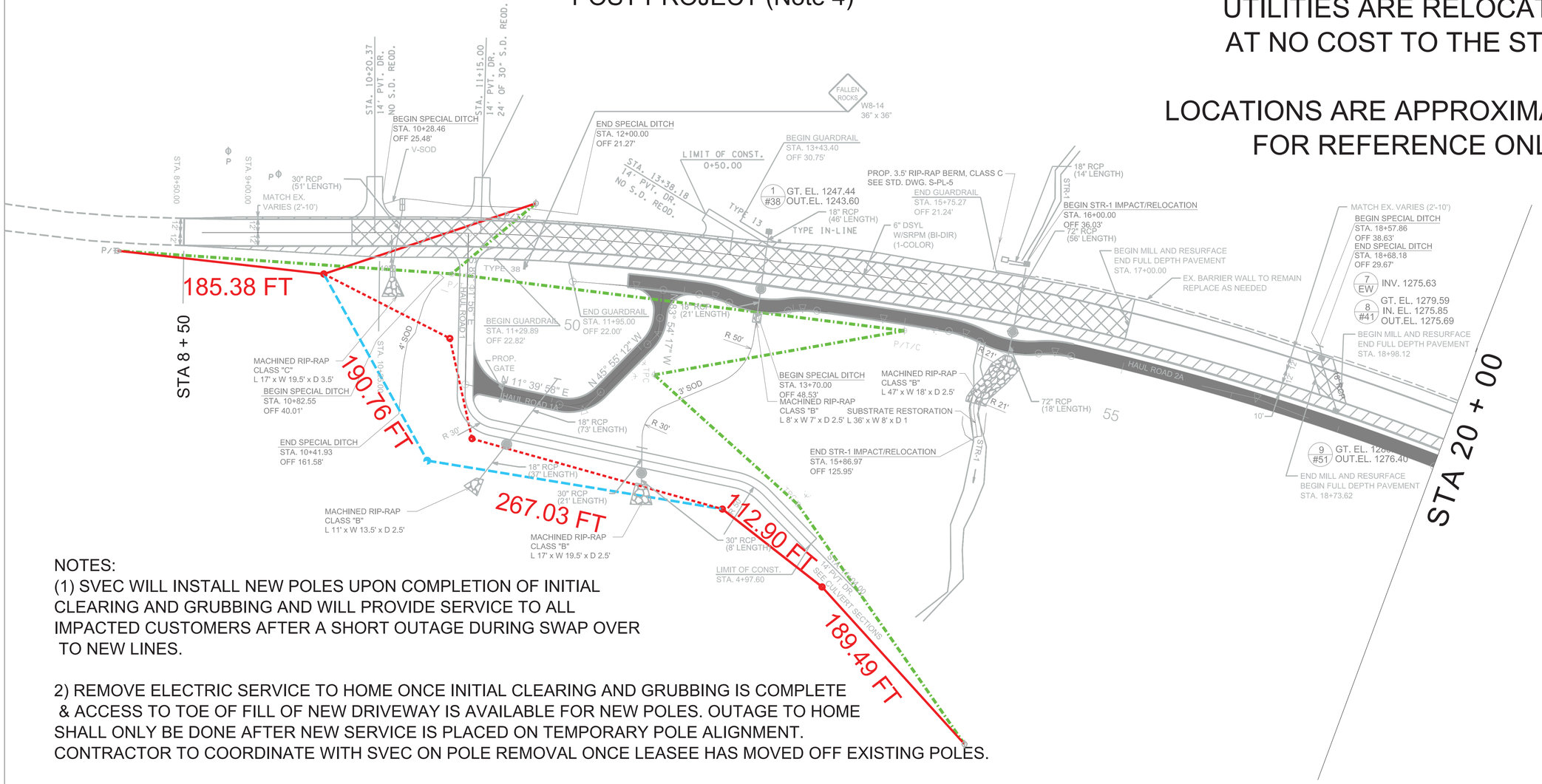
CONSTRUCTION OF TEMP POLES AND LINES (Note 3)

CONSTRUCTION OF OPTIONAL FINAL ALIGNMENT

POST PROJECT (Note 4)

UTILITIES ARE RELOCATING AT NO COST TO THE STATE

LOCATIONS ARE APPROXIMATE AND FOR REFERENCE ONLY



NOTES:

(1) SVEC WILL INSTALL NEW POLES UPON COMPLETION OF INITIAL CLEARING AND GRUBBING AND WILL PROVIDE SERVICE TO ALL IMPACTED CUSTOMERS AFTER A SHORT OUTAGE DURING SWAP OVER TO NEW LINES.

2) REMOVE ELECTRIC SERVICE TO HOME ONCE INITIAL CLEARING AND GRUBBING IS COMPLETE & ACCESS TO TOE OF FILL OF NEW DRIVEWAY IS AVAILABLE FOR NEW POLES. OUTAGE TO HOME SHALL ONLY BE DONE AFTER NEW SERVICE IS PLACED ON TEMPORARY POLE ALIGNMENT. CONTRACTOR TO COORDINATE WITH SVEC ON POLE REMOVAL ONCE LEASEE HAS MOVED OFF EXISTING POLES.

(3)POLES CARRYING UTILITIES WILL BE SET TO STAY OUT OF CONSTRUCTION ZONE - HEAVY EQUIPMENT WILL BE USING FIRST SECTION OF DRIVEWAY TO GET TO HAUL ROAD

(4) UPON COMPLETION OF PROJECT SVEC MAY CHOOSE TO LEAVE TEMP POLES OR MOVE THEM TO HIGHER ON THE DRIVEWAY SLOPE FOR BETTER FUTURE ACCESS.

SEALED BY

COORDINATES ARE NAD 83(X), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 12B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITY REFERENCE STA 8 +50 TO STA 20 + 00

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M:\Reg 2 ROW Utilities\Relocation Projects\MARION\130296.00 Slide Repair near LM 2.8\Microstation Files\Utility Base folder\U1-2 try new method in sheet.sht