THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

Jeffery P. Karafa

Digitally signed by Jeffery P. Karafa
DN: C=US, E=jkarafa@ssr-inc.com, O="SSR, Inc.", CN=Jeffery P. Karafa
Date: 2026.07.23 12:45:01-05'00'

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST BE VERIFIED ON THE ELECTRONIC DOCUMENTS.

SMITH SECKMAN REID, INC.
2650 THOUSAND OAKS BLVD.
SUITE 4200
MEMPHIS, TN 38118
JEFFERY P. KARAFA, PE. NO. 117910

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

PS&E INDEX OF SHEETS

TITLE SHEET 1
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS 1A
PROJECT COMMITMENTS 1B
ESTIMATED ROADWAY QUANTITIES. 2
TYPICAL SECTIONS AND PAVEMENT SCHEDULE 2B
GENERAL NOTES 2C
SPECIAL NOTES 2D
ENVIRONMENTAL NOTES 2E
TABULATED QUANTITIES 2F
NOTES, UTILITY NOTES AND UTILITY OWNERS 3
RIGHT-OF-WAY ACQUISITION TABLE AND PROPERTY MAPS (S) 3A
PRESENT LAYOUTS ..... 4 - 6
RIGHT-OF-WAY DETAILS ..... 4A - 6A
PROPOSED LAYOUTS ..... 4B - 6B
EROSION PREVENTION AND SEDIMENT CONTROL PLANS ..... 7, 8, 9 - 11B
ROADWAY CROSS SECTIONS ..... 12 – 67
TRAFFIC CONTROL PLANS ..... T1 – T5

YEAR	PROJECT NO.	SHEET NO.
2026	STP/PROT-24(70)	ROADWAY-SIGN1

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

7/20/2026 12:41:35 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\0001ROADWAY-SIGN.sht

Index Of Sheets

See Sheet No. 1A for Index

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

SMITH COUNTY

SR-24 (US-70N) from near Waggoner Street to near Cedar Street in South Carthage (Rockfall Mitigation) (IA)

CONSTRUCTION
ROCKFALL MITIGATION

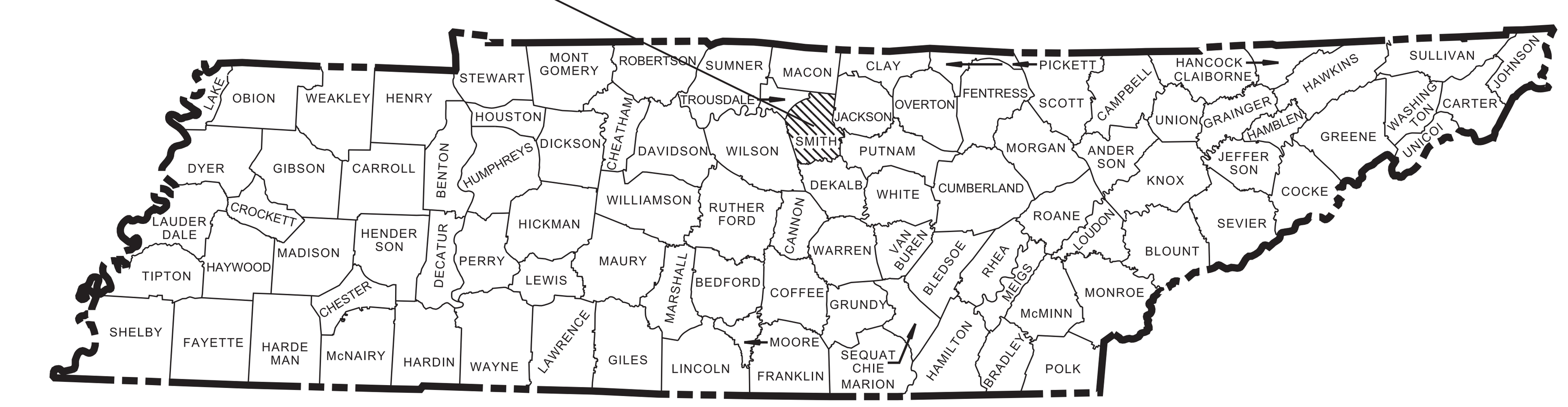
STATE HIGHWAY NO. 24 U.S. ROUTE NO. 70N

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

TENN.	YEAR	SHEET NO.
	2026	1
FED. AID PROJ. NO.	STP/PROT-24(70)	
STATE PROJ. NO.	80002-3263-14	

REV. 02/18/2021: CORRECTED PROJECT TERMINUS.

PROJECT LOCATION



80002-2263-14 R.O.W.
80002-3263-14
BEGIN PROJECT NO. STP/PROT-24(70) CONST.
STA. 21+00.00 LOG MILE 9.88
N 698694.5028 E 1980610.0248

PROJECT OF LIMITED SCOPE

80002-2263-14 R.O.W.
80002-3263-14
END PROJECT NO. STP/PROT-24(70) CONST.
STA. 51+50.00 LOG MILE 10.46
N 696116.8815 E 1981672.3325

SCALE: 1"= 5280'

0 1 2 3 MILES

N

NO EXCLUSIONS

ROAD TO BE CLOSED DURING CONSTRUCTION

NO DESIGN EXCEPTIONS

SEALED BY

07-23-26

APPROVED:

SHANE HESTER, CHIEF ENGINEER

DATE:

APPROVED:

WILL REID, COMMISSIONER

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 APRIL 1, 2026 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT PROJ. MANAGER : SCOTT JOHNSON, PE
DESIGNED BY : SMITH SECKMAN REID, INC.
DESIGNER : JEFFERY P. KARAFA, PE, PTP CHECKED BY CARL LAYNE DAWSON, PE
P.E. NO. 80002-3263-14 (DESIGN)
PIN NO. 125386.00

R.O.W. LENGTH	0.578 MILES
ROADWAY LENGTH	0.578 MILES
BRIDGE LENGTH	0.000 MILES
BOX BRIDGE LENGTH	0.000 MILES
BOX BRIDGE LENGTH	0.000 MILES ▲
PROJECT LENGTH	0.578 MILES

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

SURVEY 02-01-18	TRAFFIC DATA	
	ADT (2026)	7280
	ADT (2046)	9460
	DHV (2046)	1041
	D	65 - 35
	T (ADT)	4 %
	T (DHV)	3 %
	V	30/40 MPH

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

7/23/2026 12:31:21 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\001.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	STP-24(70)	1A
P.I.H.	2026	STP-24(70)	1A
PS&E	2026	STP/PROT-24(70)	1A

ROADWAY INDEX

SHEET NAME	SHEET NO.
TITLE SHEET	1
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS	1A
PROJECT COMMITMENTS	1B
ESTIMATED ROADWAY QUANTITIES	2
TYPICAL SECTIONS AND PAVEMENT SCHEDULE	2B
GENERAL NOTES	2C
SPECIAL NOTES	2D
ENVIRONMENTAL NOTES	2E
TABULATED QUANTITIES	2F
RIGHT-OF-WAY NOTES, UTILITY NOTES AND UTILITY OWNERS	3
PROPERTY MAP AND RIGHT-OF-WAY ACQUISITION TABLE	3A
PRESENT LAYOUTS	4 – 6
RIGHT-OF-WAY DETAILS	4A – 6A
PROPOSED LAYOUTS	4B – 6B
EROSION PREVENTION AND SEDIMENT CONTROL PLANS	7, 8, 9 - 11B
ROADWAY CROSS SECTIONS	12 – 67
TRAFFIC CONTROL PLANS	T-1 – T-5
GEOTECHNICAL PLANS	G-1 – G-47
UTILITY PLANS	U1-1

STANDARD ROADWAY DRAWINGS

ROADWAY DESIGN STANDARDS

DWG.	REV.	DESCRIPTION
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
RD11-S-11B		DESIGN AND CONSTRUCTION DETAILS FOR ROCK CUT SLOPE AND CATCHMENT

ROADWAY, PAVEMENT APPURTENANCES, AND FENCES

DWG.	REV.	DESCRIPTION
S-F-1	03-01-23	HIGH VISIBILITY FENCE

SAFETY DESIGN AND GUARDRAILS

DWG.	REV.	DESCRIPTION
S-CZ-1	06-28-19	CLEAR ZONE CRITERIA
S-PL-6	04-30-26	SAFETY PLAN SAFETY HARDWARE PLACEMENT ON OUTSIDE EDGE
S-GR31-1	10-31-25	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-4	05-04-22	SPECIAL CASE GUARDRAIL HEIGHT TRANSITION DETAIL
S-GRT-2P	10-16-20	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL
S-GRT-3	06-28-19	TYPE 21 GUARDRAIL END TERMINAL
S-GRA-4	01-30-25	IN-LINE GUARDRAIL ANCHOR
S-GR28-2M	06-28-19	GUARDRAIL HARDWARE DETAILS

DESIGN - TRAFFIC CONTROL

DWG.	REV.	DESCRIPTION
T-M-1	01-24-25	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-2	01-24-25	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
T-M-4	01-24-25	STANDARD INTERSECTION PAVEMENT MARKINGS
T-M-16	01-24-25	RUMBLE STRIPE INSTALLATION LAYOUT
T-M-16A	01-24-25	RUMBLE STRIPE DETAILS FOR EDGE OF PAVEMENT AND CENTERLINE
T-M-18A	01-24-25	DELINEATOR MOUNTING DETAILS

EROSION PREVENTION AND SEDIMENT CONTROL

DWG.	REV.	DESCRIPTION
EC-STR-8	06-10-14	FILTER SOCK
EC-STR-6	11-30-20	ROCK CHECK DAM
EC-STR-6A	05-06-16	ENHANCED ROCK CHECK DAM
EC-STR-19	04-01-08	CATCH BASIN PROTECTION
EC-STR-25	08-01-12	TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD

SEALED BY

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS

7/20/2026 12:41:42 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\001A.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	1B
CONST.	2022	STP-24(70)	1B
P.I.H.	2026	STP-24(70)	1B
PS&E	2026	STP/PROT-24(70)	1B

PROJECT COMMITMENTS

COMMITMENT ID	SOURCE DIVISON	DESCRIPTION	STATION / LOCATION
EDHS001	ENVIRONMENTAL DIVISION, HISTORIC	THE FOLLOWING PRECAUTIONS ARE NECESSARY TO ENSURE PROTECTION OF THE HISTORIC CORDELL HULL BRIDGE AS THE PROJECT PROCEEDS THROUGH THE DESIGN PROCESS: 1) PERFORM PRE-BLAST SURVEY OF BRIDGE 2) INSTALL SEISMOGRAPH AT BRIDGE TO RECORD VIBRATIONS 3) MONITOR SEISMOGRAPH, ADJUST BLAST CHARGES AS REQUIRED 4) USE SUITABLE MEAUSURES TO PREVENT FLYROCK (E.G. BLASTING MATS OR ROCKFALL DRAPERY) 5) PERFORM POST-BLAST SURVEY OF BRIDGE.	CORDELL HULL BRIDGE
ETRS3001	ENVIRONMENTAL TECH OFFICE, REGION 3	DUE TO THE PROXIMITY OF THE CUMBERLAND RIVER, THE CONTRACTOR SHALL CONTACT TENNESSEE WILDLIFE RESOURCES AGENCY (TWRA) LAW ENFORCEMENT TO INFORM THE AGENCY OF BLASTING DATES, SHOULD IT BE DETERMINED THAT BOATER SAFETY WOULD BE AN ISSUE DURING BLASTING.	ENTIRE PROJECT

SEALED BY

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROJECT COMMITMENTS

7/20/2026 12:42:25 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\001B.sht

ESTIMATED ROADWAY QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY 80002-3263-14
	105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1
(13)	201-01	CLEARING AND GRUBBING	LS	1
(1)	202-01.50	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	EACH	4
(2)(3)	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	6574
(3)	203-11	SCALING AND TRIMMING	S.Y.	46844
(3)	203-40.17	ROCK DOWEL	L.F.	1345
(4)	209-03.21	FILTER SOCK (12 INCH)	L.F.	3031
	209-05	SEDIMENT REMOVAL	C.Y.	421
(4)	209-08.07	ROCK CHECK DAM	EACH	6
(4)	209-08.08	ENHANCED ROCK CHECK DAM	EACH	3
(4)	209-40.30	CATCH BASIN PROTECTION (TYPE A)	EACH	4
	403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	3
	411-01.10	ACS MIX(PG64-22) GRADING D	TON	675
	411-12.03	SCORING FOR RUMBLE STRIPE (NON-CONTINUOUS) (8IN WIDTH)	L.M.	1.2
	415-01.02	COLD PLANING BITUMINOUS PAVEMENT	S.Y.	10186
	705-06.01	W BEAM GR (TYPE 2) MASH TL3	L.F.	2150
	705-06.30	GR TERMINAL (ENERGY ABSORBING) MASH TL2	EACH	3
(5)	706-01	GUARDRAIL REMOVED	L.F.	2276
(3)	707-02.44	ROCK ANCHOR, TYPE II	L.F.	4520
	707-06.01	REMOVAL OF FENCE (CHAIN LINK)	L.F.	576
	707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	259
(3)	707-10.06	ROCKFALL DRAPE (TYPE II)	S.Y.	46500
	708-02.01	MARKERS (CONCRETE R.O.W. POSTS)	EACH	9
(6)	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	100
(7)	712-01	TRAFFIC CONTROL	LS	1
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	100
	712-05.01	WARNING LIGHTS (TYPE A)	EACH	6
	712-06	SIGNS (CONSTRUCTION)	S.F.	659
	712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	152
(12)	712-09.33	MODIFY EXISTING OVERHEAD SIGNS	EACH	4
	713-15.02	REMOVAL & RELOCATION OF SIGN & SUPPORT	EACH	13
	713-15.36	REMOVE SIGN, SUPPORT & FOOTING	EACH	9
	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	10
(8)	713-16.20	SIGNS (W8-14)	EACH	5
(8)	713-16.21	SIGNS (W3-1)	EACH	1
(8)	713-16.22	SIGNS (D9-2)	EACH	1
(8)	713-16.23	SIGNS (M6-1L)	EACH	1
(8)	713-16.24	SIGNS (R1-1)	EACH	1
(8)	713-16.25	SIGNS (R1-3P)	EACH	1
	716-01.21	SNOWPLOWABLE RAISED PAVEMENT MARKERS (BI-DIR) (1 COLOR)	EACH	39
	716-01.30	REMOVAL OF SNOWPLOWABLE REFLECTIVE MARKER	EACH	39
	716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	60
	716-12.02	ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE)	L.M.	2.3
	717-01	MOBILIZATION	LS	1
(9)	730-01.01	REMOVE & RELOCATE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
(6)	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	172
(10)	801-01	SEEDING (WITH MULCH)	UNIT	381
(11)	801-03	WATER (SEEDING & SODDING)	M.G.	39
	801-08	FERTILIZER (SUPPLEMENTAL APPLICATION)	TON	5

FOOTNOTES

(1) SEE SHEET 2F FOR DESCRIPTION OF STRUCTURES TO BE REMOVED.

(2) INCLUDES 6.560 CY PROVIDED BY TDOT GEOTECHNICAL DIVISION AND 14 CY FOR CONSTRUCTION OF THE TEMPORARY CONSTRUCTION EXITS. SEE GRADING SPECIAL NOTES ON SHEET 2D.

(3) SEE TDOT GEOTECHNICAL ENGINEERING SECTION'S G SHEET SERIES.

(4) ALL EROSION PREVENTION AND SEDIMENTATION CONTROL QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER. SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT.

(5) INCLUDES THE REMOVAL OF THREE (3) TERMINALS.

(6) QUANTITY TO BE USED IN TEMPORARY CONSTRUCTION EXITS.

(7) ITEM INCLUDES MODIFICATION TO FOUR (4) OVERHEAD SIGNS FOR DETOUR. MODIFICATION CONSISTS OF PLACING TEMPORARY GUIDE AND DETOUR SIGNS ON EXISTING OVERHEAD SIGNS.

(8) ITEM INCLUDES PAYMENT FOR ALL POLES, BASE & HARDWARE NEEDED FOR SIGN INSTALLATION.

(9) FLASHING RED BEACON AND STRAIN WIRE AT THE INTERSECTION OF OLD SR-25 AND SR-24 ARE TO BE REMOVED DURING CONSTRUCTION. EXISTING STRAIN POLE SHALL REMAIN IN PLACE. SIGNAL TO BE REINSTALLED BEFORE PHASE II TRAFFIC CONTROL IS REMOVED.

(10) SEEDING QUANTITY ESTIMATED AS AREA ABOVE CLIFF WITHIN R.O.W. AND CONST. EASEMENTS. PROJECT IS ESTIMATED TO NEED ONE (1) ROUND OF SEEDING.

(11) INCLUDES 39 THOUSAND GALLONS FOR EROSION PREVENTION AND SEDIMENT CONTROL.

(12) SEE SHEETS T3, T3B & T3C FOR OVERHEAD SIGN MODIFICATIONS.

(13) CLEARING & GRUBBING ACTIVITIES SHALL BE LIMITED TO AREAS NEEDED TO PERFORM CONSTRUCTION ACTIVITIES AND SHALL NOT BE EXTENDED TO R.O.W. LIMITS UNLESS NECESSARY.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	2A
CONST.	2022	STP-24(70)	2
P.I.H.	2026	STP-24(70)	2
PS&E	2026	STP/PROT-24(70)	2

SEALED BY

07-23-26

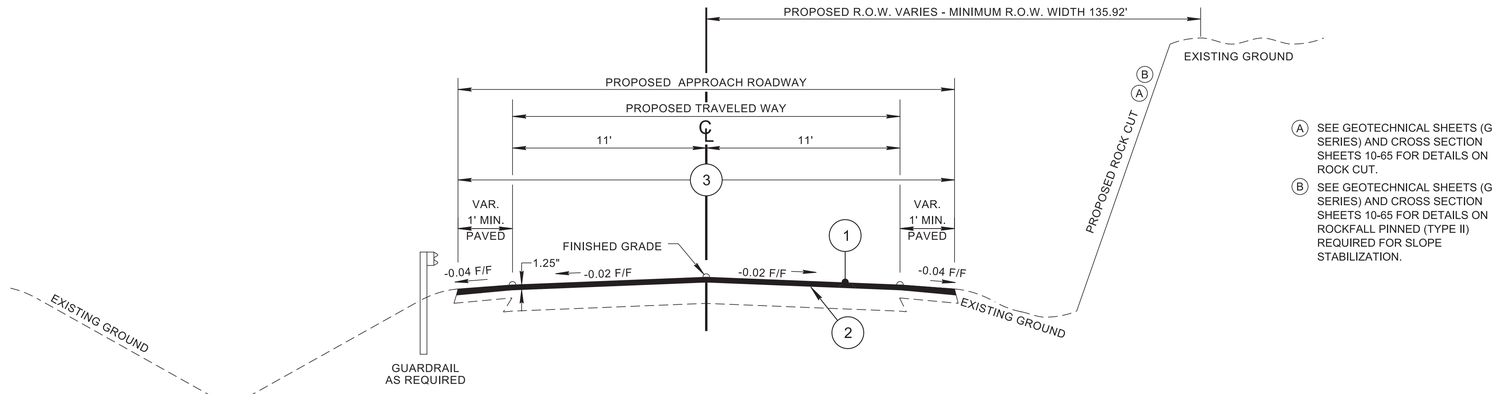
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES

SHEET 1 OF 1

7/23/2026 12:31:27 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\002.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	2B
CONST.	2022	STP-24(70)	2B
P.I.H.	2026	STP-24(70)	2B
PS&E	2026	STP/PROT-24(70)	2B



TANGENT SECTION
(SR-24)
(BASED ON EX. ROADWAY)
FROM STA. 21+00.00 TO STA. 51+50.00

(A) SEE GEOTECHNICAL SHEETS (G SERIES) AND CROSS SECTION SHEETS 10-65 FOR DETAILS ON ROCK CUT.

(B) SEE GEOTECHNICAL SHEETS (G SERIES) AND CROSS SECTION SHEETS 10-65 FOR DETAILS ON ROCKFALL PINNED (TYPE II) REQUIRED FOR SLOPE STABILIZATION.

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"

(2) TACK COAT

403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC).
SEE 403-05 FOR DETERMINING APPLICATION RATE IN FIELD.

(3) COLD PLANING @ 1.25" THICK (APPROX. 131.25 LB./S.Y.)

415-01.02 COLD PLANING BITUMINOUS PAVEMENT

SEALED BY

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS AND PAVEMENT SCHEDULE

7/20/2026 12:43:11 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\002B.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	STP-24(70)	2C
P.I.H.	2026	STP-24(70)	2C
PS&E	2026	STP/PROT-24(70)	2C

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) 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.

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.

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

FENCING

(1) THE CONTRACTOR SHALL GIVE THE AFFECTED PROPERTY OWNERS A TWO-WEEK NOTICE PRIOR TO CUTTING FENCES.

MISCELLANEOUS

(1) 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.

ROAD CLOSURE

(1) NO LESS THAN SEVEN (7) DAYS PRIOR TO THE CLOSURE OF THE ROAD, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES COMPLETELY DESCRIBING THE AFFECTED ROADS AND THE APPROXIMATE DURATION OF THE CONSTRUCTION: THESE PARTIES INCLUDE, BUT ARE NOT LIMITED TO: (1) LOCAL LAW ENFORCEMENT OFFICE, (2) LOCAL FIRE DEPARTMENT, (3) AMBULANCE SERVICE, (4) LOCAL SCHOOL SUPERINTENDENT, (5) UNITED STATES POSTAL SERVICE, AND (6) LOCAL ROAD SUPERINTENDENT.

PAVEMENT MARKINGS

FINAL PAVEMENT MARKING

(1) 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.

SNOWPLOWABLE REFLECTIVE PAVEMENT MARKERS

(1) 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

RESURFACING

(1) 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.

(2) ALL PUBLIC SIDE ROADS SHALL BE PAVED ONE PAVER WIDTH THROUGH THE INTERSECTION AS A MINIMUM. A SATISFACTORY TRANSITION FROM THE NEW PAVEMENT TO THE EXISTING GRADE OF THE INTERSECTING PUBLIC ROAD OR BUSINESS ENTRANCE SHALL BE PROVIDED. SHOULD THE PAVEMENT OF THE INTERSECTING PUBLIC ROAD BE DISTRESSED, THE RESURFACING WIDTH MAY BE INCREASED TO THE NORMAL RIGHT OF WAY LINE.

(3) 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.

(4) 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.

SIGNING

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

(2) AFTER THE SIGN LOCATIONS HAVE BEEN STAKED, BUT PRIOR TO ORDERING ANY MATERIAL FOR THE SUPPORTS, THERE SHALL BE A FIELD INSPECTION AND APPROVAL BY THE REGIONAL OPERATIONS OFFICE.

(3) ALL SIGNS MARKED "TO BE REMOVED" ARE TO BE REMOVED BY THE CONTRACTOR AND PAID FOR UNDER ITEM NO. 713-15.36 AND BECOME THE PROPERTY OF THE CONTRACTOR.

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

(5) THE LENGTHS OF ALL SIGN SUPPORTS SHOWN ON THE SIGN SCHEDULE ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL SUPPORT LENGTHS AT THE SITE PRIOR TO ERECTION.

(6) THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS.

(7) 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.

(8) AFTER THE PERMANENT SIGN LOCATIONS HAVE BEEN STAKED, THERE SHALL BE A FIELD INSPECTION AND APPROVAL BY THE CONSTRUCTION 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.

SIGNALIZATION

(1) EQUIPMENT AND INSTALLATION OF TRAFFIC SIGNALS SHALL COMPLY WITH TDOT STANDARD SPECIFICATIONS, SECTION 730.

(2) SALVAGEABLE EQUIPMENT SHALL BECOME THE PROPERTY OF THE TOWN OF SOUTH CARTHAGE AND SHALL BE STOCKPILED AT A LOCATION DESIGNATED BY THE ENGINEER FOR PICKUP BY THE TOWN OF SOUTH CARTHAGE.

(3) ANY SIGNAL HEADS, WHEN VISIBLE TO DRIVERS BUT NOT OPERATIONAL, SHALL BE COMPLETELY COVERED.

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) ALL DETOURS SHALL BE PAVED, STRIPED, SIGNED, AND FLEXIBLE DRUMS ARE TO BE IN PLACE BEFORE IT IS OPENED TO TRAFFIC.

(9) 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.

SEALED BY

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

7/20/2026 12:43:12 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\002C.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	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.

DEMOLITION

DEMOLITION OF BUILDINGS

(1) IF THE ASBESTOS SURVEY AND ABATEMENT IS NOT PART OF THE CONTRACT, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE TDOT HAZARDOUS MATERIALS OFFICE TO VERIFY THAT AN ASBESTOS SURVEY HAS BEEN COMPLETED FOR ANY BUILDING TO BE REMOVED. IN THE CASE THAT NO SURVEY HAS BEEN COMPLETED THE CONTRACTOR SHALL COORDINATE WITH THE HAZARDOUS MATERIAL OFFICE IN SCHEDULING A SURVEY.

(2) ASBESTOS-CONTAINING MATERIALS (ACM) ABATEMENT SHALL BE COMPLETED PRIOR TO ANY DEMOLITION ACTIVITIES FOR BUILDINGS INCLUDED IN THE PROJECT. ABATEMENT SHOULD BE ACCOMPLISHED PER SP202ACM SPECIAL PROVISION REGARDING REMOVAL OF ASBESTOS-CONTAINING MATERIALS. STATE OF TENNESSEE ASBESTOS ACCREDITATION REQUIREMENTS (TCA 1200-01-20) MANDATE THAT ACM ABATEMENT WORK BE PERFORMED BY AN ACCREDITED FIRM (CONTRACTOR) USING ACCREDITED ABATEMENT WORKERS AND SUPERVISORS.

(3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A NOTICE TO THE TDEC, DIVISION OF AIR POLLUTION CONTROL TEN (10) DAYS IN ADVANCE OF ANY ACM ABATEMENT, DEMOLITION, OR MAJOR REPAIR INVOLVING THE REMOVAL/REPLACEMENT OF A STRUCTURAL COMPONENT.

HISTORICAL

(1) THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING AND COORDINATING WITH THE TDOT REGIONAL SIGN SHOP FOR STORING HISTORIC MARKER(S). AT THE TIME THE MARKER(S) IS TAKEN DOWN, LINDA WYNN WITH THE TENNESSEE HISTORICAL COMMISSION SHOULD BE NOTIFIED AT (615)-770-1093. AT THE END OF CONSTRUCTION, MARKER(S) WILL BE RESET BY THE SIGN SHOP AT THE DIRECTION OF THE REGIONAL TRAFFIC ENGINEER. IF THE MARKER CANNOT BE RESET OUTSIDE OF THE CLEAR ZONE, THE REGIONAL TRAFFIC ENGINEER WILL CONTACT THE TENNESSEE HISTORIC COMMISSION AND RETURN THE MARKER(S).

SIGNALIZATION

(1) THE DESIGN OF TRAFFIC SIGNAL SUPPORT POLES, MAST ARMS, STRAIN POLES, ETC. SHALL BE IN CONFORMANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, CURRENT EDITION. OVERHEAD CANTILEVERED TRAFFIC SIGNAL STRUCTURES SHALL BE DESIGNED FOR FATIGUE CATEGORY 1.

SEALED BY

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SPECIAL NOTES

7/20/2026 12:44:21 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\002D.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	STP-24(70)	2E
P.I.H.	2026	STP-24(70)	2E
PS&E	2026	STP/PROT-24(70)	2E

ENVIRONMENTAL NOTES

SUBSECTION 1 – ENVIRONMENTAL GENERAL 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.

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.

SUBSECTION 2 – ENVIRONMENTAL SPECIAL NOTES

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.

PROJECT COMMITMENTS

(5) SEE PROJECT COMMITMENTS, SHEET 1B, FOR DETAILS RELATING TO SPECIAL ENVIRONMENTAL COMMITMENTS REQUIRED BY THIS PROJECT.

SCOPE OF WORK

(6) ROCKFALL MITIGATION ON SR-24, AT L.M. 9.9 IN SOUTH CARTHAGE, TN.

SEALED BY

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL NOTES

7/20/2026 12:44:57 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\002E.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	2E
CONST.	2022	STP-24(70)	2F
P.I.H.	2026	STP-24(70)	2F
PS&E	2026	STP/PROT-24(70)	2F

REV. 07/28/21: CHANGED BUILDING REMOVAL DESCRIPTION, TRACT 3.

PAVEMENT QUANTITIES

LOCATION (ROADWAY)	TACK COAT	ASPHALTIC CONCRETE SURFACE (HOT MIX)			COLD-PLANING
		D			(S.Y.)
	403-01	411-01.10			415-01.02
SR-24	3.1	674.8			10186.0
TOTALS	3.1	674.8			10186.0

REMOVAL OF BUILDINGS AND OBSTRUCTIONS DESCRIPTION BLOCK

PAY ITEM	TRACT NO.	DESCRIPTION
202-01.50	2	SHED
202-01.50	4	SHED
202-01.50	4	1-S-VINYL RES.
202-01.50	4	SHED

NO ADDITIONAL COMPENSATION WILL BE MADE FOR THESE REMOVALS.

PROPOSED GUARDRAIL

SHEET NO.	LOCATION	SIDE		STATIONS		GUARDRAIL				TERMINAL ANCHORS					GUARDRAIL FOOTING		CABLE BARRIER		REMARKS
		LT	RT	FROM	TO	THRIE BEAM BRIDGE TRAN. MASH TL-3 (20.65') 705-06.25 EACH	METAL BEAM GUARD FENCE 705-01.04 (L.F.)	THRIE BEAM BRIDGE TRAN. MASH TL-2 (20.65') 705-06.26 EACH	W BEAM GR (TYPE 2) MASH TL3 705-06.01 (L.F.)	TYPE 12 VARIES 705-04.02 (EACH)	TYPE 13 MASH TL3 (9.375') 705-06.10 (EACH)	IN-LINE MASH TL3 705-06.11 (EACH)	TYPE 38 MASH TL3 (46.875') 705-06.20 (EACH)	TYPE 21 MASH TL2 (21.875') 705-06.30 (EACH)	CLASS A CONCRETE (ROADWAY) 604-01.01 (C.Y.)	STEEL BAR REINF. (ROADWAY) 604-01.02 (LB.)	LONG-ITUDINAL 705-80.01 (L.F.)	TERMINAL 705-80.18 (EACH)	
4B/5B	SR-24	x		26+09.11	32+31.91				580					2					
5B/6B	SR-24	x		34+15.34	44+35.71				975					1					Southeast end ties to existing.
6B	SR-24	x		45+19.63	51+50.00				595										Both ends tie to existing.
TOTALS									2150					3					

RIGHT OF WAY MARKERS

SHEET NO.	QUANTITIES			
	"A"	"B"	"C"	TOTALS
4	1	2	2	5
5	3			3
6	1			1
TOTALS	5	2	2	9

SEALED BY

JEFFERY P. KARL REGISTERED ENGINEER No. 119518 STATE OF TENNESSEE

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TABULATED QUANTITIES

SHEET 1 OF 1

7/20/2026 12:45:59 PM
Z:\17Proj\64117640710\Constructs\Civil\Sheets\002F.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	3
CONST.	2022	STP-24(70)	3
P.I.H.	2026	STP-24(70)	3
PS&E	2026	STP/PROT-24(70)	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 PROJECT MANAGER AND PRECONSTRUCTION OFFICE ARE TO BE NOTIFIED IN SUFFICIENT TIME TO PERMIT HAVING SUCH REMOVALS DESIGNATED AS A PART OF THE CONSTRUCTION CONTRACT.

(2) 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.

(6) NO WORK SHALL OCCUR IN THE AREA MARKED ON THE PLANS AS STREAM/WETLAND MITIGATION RIGHT-OF-WAY OR MITIGATION AREA. NO UTILITY RELOCATION OR OTHER LAND DISTURBANCE IS AUTHORIZED. ONLY ACTIVITIES PERTAINING TO THE CONSTRUCTION OR MANAGEMENT OF THE STREAM/WETLAND MITIGATION SITE MAY OCCUR, WHICH WILL BE INDICATED ON THE STREAM MITIGATION PLANS. ANY VIOLATIONS OF THE ABOVE MENTIONED WILL RESULT IN NON-COMPLIANCE WITH THE ENVIRONMENTAL PERMIT REQUIREMENTS.

(7) CONTRACTOR TO CONTACT UPPER CUMBERLAND ELECTRIC MEMBERSHIP CORP. (UCEMC) SEVEN (7) DAYS PRIOR TO ACCESSING CLIFFTOP BENEATH EXISTING UTILITY EASEMENT. HEIGHT RESTRICTIONS ESTABLISHED BY UCEMC ARE TO BE ADHERED TO THROUGHOUT LIFE OF PROJECT.

UTILITY OWNERS

ELECTRIC:

UPPER CUMBERLAND ELECTRIC MEMBERSHIP CORP.
138 Gordonsville Highway
Carthage, TN 37030
CONTACT: Richard McClanahan
OFFICE PHONE: 615 735 2940 Ext: 235
CELL PHONE:
Email: rmcclanahan@ucemc.com

TELEPHONE:

AT&T
116 S Cannon Ave
Murfreesboro, TN 37129
CONTACT: Kim Bean
OFFICE PHONE: 615 848 9459
CELL PHONE:
Email: Kb1078@att.net

TELEPHONE:

DTC COMMUNICATIONS
P.O. Box 247
Alexandria, TN 37012
CONTACT: Brent Adcock/Jim Sherrell
OFFICE PHONE: 615 464 2801
CELL PHONE:
Email: brenta@dtccom.net, jims@dtccom.net

WATER:

SMITH UTILITY DISTRICT
136 S. Main Street
Carthage, TN 37030
CONTACT: Mack Gann
OFFICE PHONE: 615 735 2793
CELL PHONE: 615 516 5333
Email: smithud@dtccom.net

SEWER:

TOWN OF CARTHAGE, SEWER
106 S. Main Street
Carthage, TN 37030
CONTACT: Randy Thompson/Jerry Warren
OFFICE PHONE: 615 735 2727
CELL PHONE: 615 489 3772
Email: sccityhall@dtccom.net

SEWER:

TOWN OF GORDONSVILLE
63 E. Main Street
Gordonsville, TN 38563
CONTACT: Tony Fowler/Drew Gentry
OFFICE PHONE: 615 683 8282
CELL PHONE: 615 683 7952
Email: gordsewer@dtccom.net

SEALED BY

JEFFERY P. KARAS
REGISTERED ENGINEER
No. 119983
STATE OF TENNESSEE

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

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

7/20/2026 12:46:19 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\003.sht

NOTE: CONTRACTOR SHALL MAINTAIN OSHA/TOSHA
SAFE WORKING CLEARANCE FROM ALL ELECTRIC LINES.

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT
	DEMOLITION EASEMENT

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	4
CONST.	2022	STP-24(70)	4
P.I.H.	2026	STP-24(70)	4
PS&E	2026	STP/PROT-24(70)	4

REV. 02/18/2021: CHANGED PROPERTY OWNER INFORMATION FOR TRACT NO. 3, 4, AND 5.

REV. 07/28/2021: ADDED CONST. ESMT. TO TRACT 2. ADJUSTED BLDG. & CONST. ESMT. ON TRACT 3.

REV. 09/30/2021: ADDED EX. IMPROVEMENTS TO TRACT 5.

REV. 02/04/2022: CHANGED PROPERTY OWNER INFORMATION FOR TRACT NO. 1, 2, AND 5.

REV. 09/03/2025: ADDED DEMOLITION ESMT. & TRACT 3S.

CURVE ML3
PI 21+35.85
N 698,933.2401
E 1,980,627.6537
Δ 4° 56' 44" (RT)
D 2° 00' 00"
R 2,864.79
L 247.28
T 123.72
SE EX.
DESIGN SPEED EX.
TRANS. LENGTH EX.

CURVE ML4
PI 27+36.42
N 698,377.5286
E 1,980,855.8081
Δ 8° 00' 34" (RT)
D 1° 15' 00"
R 4,583.66
L 640.76
T 320.90
SE EX.
DESIGN SPEED EX.
TRANS. LENGTH EX.

20 25 30

BEGIN PROJ. NO. 80002-2263-14 R.O.W.
80002-3363-14 CONST.
STA. 21+00.00 STP/PROT-24(70)
N 698964.5028
E 1980610.0248

POT 20+00.00
LIMIT OF RESURFACING 21+00.00
WOODS
2-GW
2 LANES @ 11' = 22'
W2-2L
P/T
INV-496.86
ASP.
E.O.T.W.
SHLD.
S 22° 19' 16" E
S 27° 16' 01" E
INV-498.90
TN-15
INV-500.14
TN-43
49 L.F. OF 18" CMP (TO REMAIN)
REMOVE EX. G.R. STA. 26+07.05 - 32+34.10
EX. G.R.
SR-24 (US 70N)
MM10
INV-501.83
SEE SHEET NO. 5
STA. 31+50
MATCH LINE
51 L.F. OF 18" CMP (TO REMAIN)
REMOVE EX. FENCE
CHAIN LINK FENCE
SHED
EX. R.O.W.
PROP. R.O.W.
EX. & PROP. R.O.W.
1-S-B RES.
2-S-VINYL/BRICK-RES
1-S-VINYL RES.
LAWN
CONC.
1-S-BL
1-S-VINYL
CONC. STEPS
CONC. STEPS AWNING
CONC. STEPS S.W.
STONE RET. WALL
1/2" REBAR
EIP
1" PIPE
CONST. ESMT.
JOHN C WAGGONER JR. & WIFE RETTA M. WAGGONER
PC 20+12.13
PT 22+59.42
PC 24+15.52
PT 30+56.28
1 2 3 3S 4 5 6

(1) DONALD E. CARTER AND WIFE, BETTY STOUT CARTER, FOR AND DURING THEIR NATURAL LIFETIME, HEREINAFTER THE REMAINDER INTEREST IN SAID LANDS BEING CONVEYED TO DONNA K. COWAN AND STEPHANIE R.

(2) DONALD E. CARTER AND WIFE, BETTY STOUT CARTER, FOR AND DURING THEIR NATURAL LIFETIME, HEREINAFTER THE REMAINDER INTEREST IN SAID LANDS BEING CONVEYED TO DONNA K. COWAN AND STEPHANIE R.

(3) STEPHANIE LYNN STINSON, HER HEIRS AND ASSIGNS

(3S) STEPHANIE LYNN STINSON, HER HEIRS AND ASSIGNS

(4) DAVID ALAN STARLING, SR. AND TERESA STARLING

(5) BILLY LEE MARKHAM, JR.

NOTE: TRACTS 2-5 SERVED BY SANITARY SEWER ALONG BACK STREETS AWAY FROM SR-24

CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STA.	OFFSET	DESCRIPTION
S12	699530.0350	1980225.2622	502.8080	Off Chain	Off Chain	80-24-12
S13	699201.7096	1980451.6261	502.5720	Off Chain	Off Chain	80-24-13
S14	696773.7124	1981390.3579	537.1520	44+32.93	-18.0143	80-24-14
S15	696681.1730	1981427.3420	538.0520	45+32.41	-15.5683	80-24-15
S16	695792.4123	1981947.5749	512.9870	Off Chain	Off Chain	80-24-16
S17	695543.2658	1982221.1839	508.9250	Off Chain	Off Chain	80-24-17

SEALED BY

JEFFERY P. KARAD REGISTERED ENGINEER AGRICULTURE No. 117640 STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.21+00 TO STA.31+50
SCALE: 1"=50'

7/20/2026 12:47:06 PM
Z:\17Proj\641\17640710\Constructs\Civil\Sheets\004.sht

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT
	DEMOLITION EASEMENT

R.O.W. BEARING/DISTANCE TABLE		
SYMBOL	BEARING	DISTANCE
R1	S 15° 30' 4" E	36.87'
R2	S 15° 30' 4" E	25.61'

EASEMENT BEARING/DISTANCE TABLE		
SYMBOL	BEARING	DISTANCE
3A	N 32° 35' 33" W	11.80'
3B	N 13° 57' 22" W	15.50'
3C	S 51° 7' 20" E	15.67'
3D	S 33° 6' 20" E	33.46'
3E	N 57° 26' 2" E	28.09'
4A	N 74° 29' 56" E	24.45'
4B	S 74° 29' 56" W	43.95'
4C	N 18° 24' 7" W	26.31'
4D	N 53° 0' 55" E	10.67'
4E	S 39° 48' 48" W	24.58'
4F	N 41° 25' 50" E	5.80'
4G	N 47° 46' 55" W	10.23'
4H	N 18° 24' 7" W	18.73'

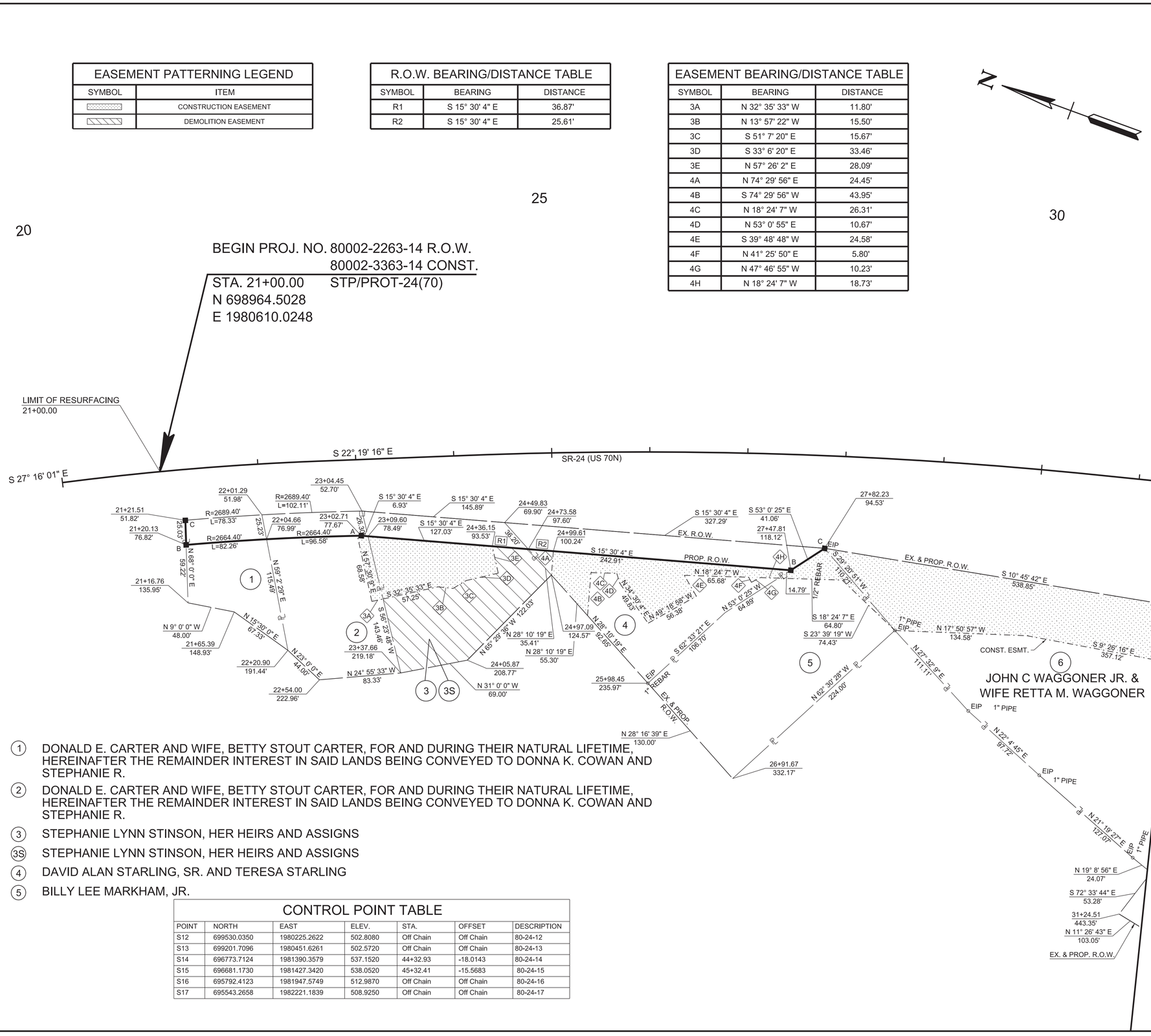
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	4A
CONST.	2022	STP-24(70)	4A
P.I.H.	2026	STP-24(70)	4A
PS&E	2026	STP/PROT-24(70)	4A

REV. 02/18/2021: CHANGED PROPERTY OWNER INFORMATION FOR TRACT NO. 3, 4, AND 5.

REV. 07/28/2021: ADDED CONST. ESMT. TO TRACT 2. ADJUSTED CONST. ESMT. ON TRACT 3.

REV. 02/04/2022: CHANGED PROPERTY OWNER INFORMATION FOR TRACT NO. 1, 2, AND 5.

REV. 09/03/2025: ADDED DEMOLITION ESMT. & TRACT 3S.



(1) DONALD E. CARTER AND WIFE, BETTY STOUT CARTER, FOR AND DURING THEIR NATURAL LIFETIME, HEREINAFTER THE REMAINDER INTEREST IN SAID LANDS BEING CONVEYED TO DONNA K. COWAN AND STEPHANIE R.

(2) DONALD E. CARTER AND WIFE, BETTY STOUT CARTER, FOR AND DURING THEIR NATURAL LIFETIME, HEREINAFTER THE REMAINDER INTEREST IN SAID LANDS BEING CONVEYED TO DONNA K. COWAN AND STEPHANIE R.

(3) STEPHANIE LYNN STINSON, HER HEIRS AND ASSIGNS

(3S) STEPHANIE LYNN STINSON, HER HEIRS AND ASSIGNS

(4) DAVID ALAN STARLING, SR. AND TERESA STARLING

(5) BILLY LEE MARKHAM, JR.

CONTROL POINT TABLE						
POINT	NORTH	EAST	ELEV.	STA.	OFFSET	DESCRIPTION
S12	699530.0350	1980225.2622	502.8080	Off Chain	Off Chain	80-24-12
S13	699201.7096	1980451.6261	502.5720	Off Chain	Off Chain	80-24-13
S14	696773.7124	1981390.3579	537.1520	44+32.93	-18.0143	80-24-14
S15	696681.1730	1981427.3420	538.0520	45+32.41	-15.5683	80-24-15
S16	695792.4123	1981947.5749	512.9870	Off Chain	Off Chain	80-24-16
S17	695543.2658	1982221.1839	508.9250	Off Chain	Off Chain	80-24-17

SEALED BY

JEFFERY P. KARLE
REGISTERED ENGINEER
STATE OF TENNESSEE
No. 117511

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

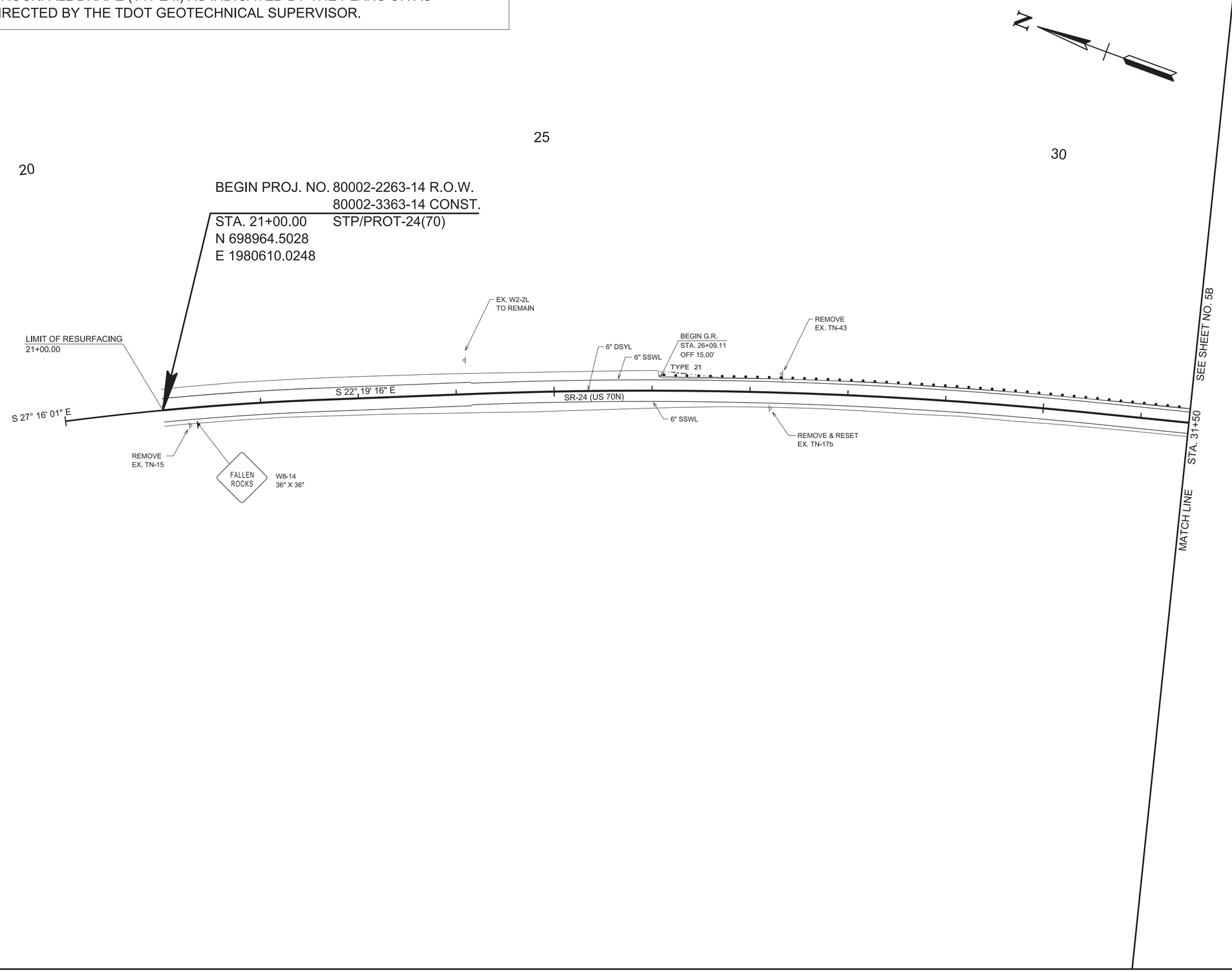
RIGHT OF WAY DETAILS

STA.21+00 TO STA.31+50
SCALE: 1"=50'

7/20/2026 12:47:07 PM
Z:\17Proj\641\17640710\Constructs\Civil\Sheets\004A.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	4B
CONST.	2022	STP-24(70)	4B
P.I.H.	2026	STP-24(70)	4B
PS&E	2026	STP/PROT-24(70)	4B

THIS LOCATION INCLUDES TRIMMING, SCALING, AND THE INSTALLATION OF A ROCKFALL DRAPE (TYPE II) AS INDICATED BY THE PLANS OR AS DIRECTED BY THE TDOT GEOTECHNICAL SUPERVISOR.



SEALED BY

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.21+00 TO STA.31+50
SCALE: 1"=50'

7/20/2026 12:47:08 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\004B.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	5
CONST.	2022	STP-24(70)	5
P.I.H.	2026	STP-24(70)	5
PS&E	2026	STP/PROT-24(70)	5

REV. 09/30/2021: CORRECTED BEARING/DISTANCE ON NE CORNER OF TRACT 8. CORRECTED BEARING/DISTANCE ON NW CORNER OF TRACT 9.

REV. 11/29/2021: ADDED NOTE 2.

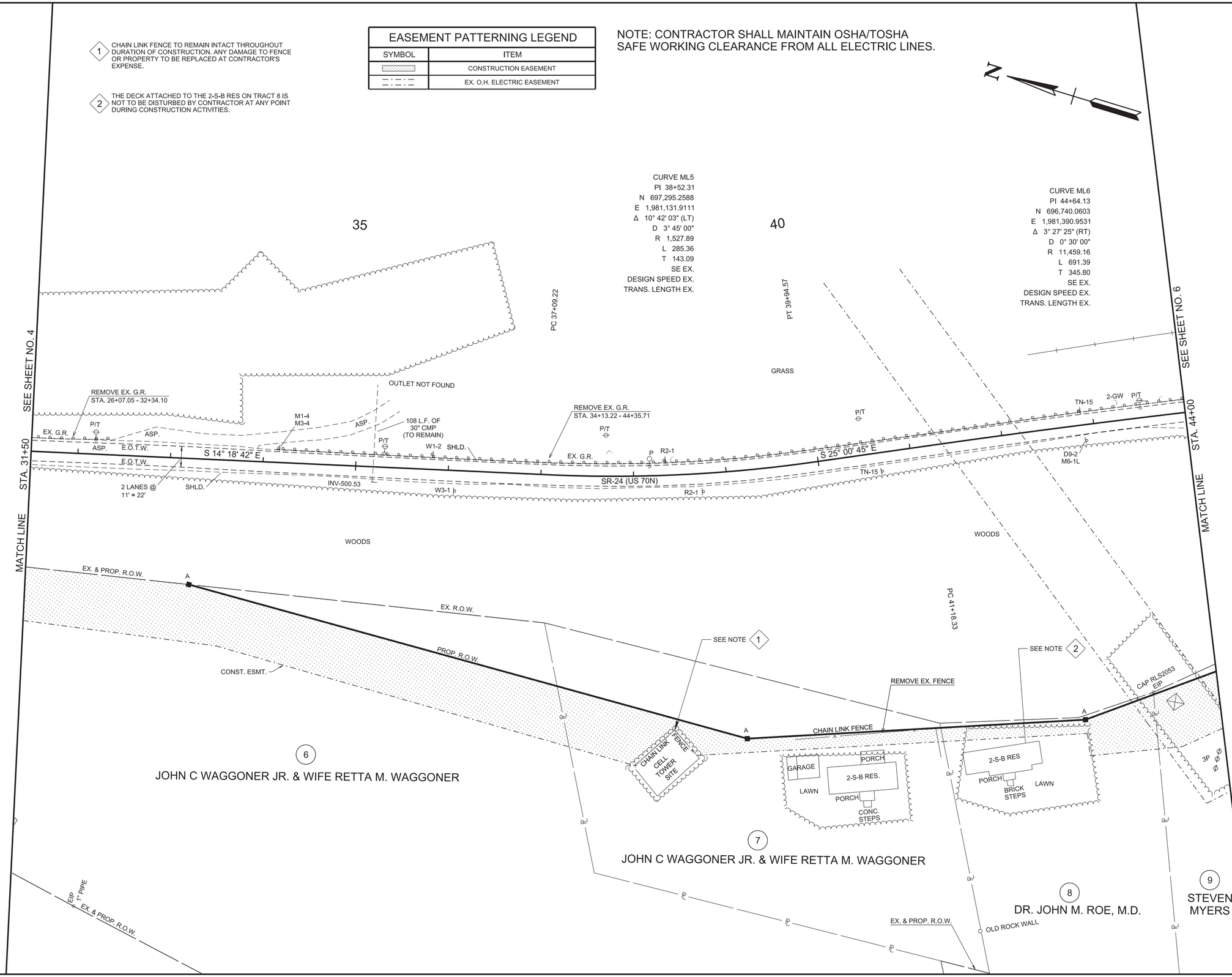
REV. 07/05/2022: ADJUSTED CONST. ESMT. ON TRACT 7.

1 CHAIN LINK FENCE TO REMAIN INTACT THROUGHOUT DURATION OF CONSTRUCTION. ANY DAMAGE TO FENCE OR PROPERTY TO BE REPLACED AT CONTRACTOR'S EXPENSE.

2 THE DECK ATTACHED TO THE 2-S-B RES ON TRACT 8 IS NOT TO BE DISTURBED BY CONTRACTOR AT ANY POINT DURING CONSTRUCTION ACTIVITIES.

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT
	EX. O.H. ELECTRIC EASEMENT

NOTE: CONTRACTOR SHALL MAINTAIN OSHA/TOSHA SAFE WORKING CLEARANCE FROM ALL ELECTRIC LINES.



SEALED BY

JEFFREY P. KARAFA REGISTERED ENGINEER AGRICULTURE NO. 117910 STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.31+50 TO STA.44+00
SCALE: 1"=50'

7/20/2026 12:47:09 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\005.sht

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT
	EX. O.H. ELECTRIC EASEMENT

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	5A
CONST.	2022	STP-24(70)	5A
P.I.H.	2026	STP-24(70)	5A
PS&E	2026	STP/PROT-24(70)	5A

REV. 09/30/2021: CORRECTED BEARING/DISTANCE ON NE CORNER OF TRACT 8. CORRECTED BEARING/DISTANCE ON NW CORNER OF TRACT 9.

REV. 07/05/2022: ADJUSTED CONST. ESMT. ON TRACT 7.

N

35

40

MATCH LINE STA. 31+50

SEE SHEET NO. 4A

S 14° 18' 42" E

SR-24 (US 70N)

S 25° 00' 45" E

SEE SHEET NO. 6A

STA. 44+00 MATCH LINE

75' ESMT UCEMC

N 36° 44' 0" E
STA. 41+34.96

N 36° 44' 0" E
STA. 42+20.35

75' ESMT UCEMC

33+25.85
135.92'

A

EX. & PROP. R.O.W.
538.85'

S 10° 45' 42" E
386.10'

EX. R.O.W.

N 9° 26' 16" W
357.12'

S 1° 29' 34" E
412.30'

PROP. R.O.W.

37+11.02
159.83'

69.59'

CONST. ESMT.

S 0° 57' 47" E
396.66'

37+25.45
227.50'

66.80'

S 1° 29' 34" E
212.91'

39+00.00
288.78'

S 2° 40' 39" E
440.03'

A

S 20° 7' 17" E
209.01'

5.06'

40+90.17
298.07'

S 20° 7' 17" E
266.48'

15.15'

S 20° 7' 17" E
155.48'

S 20° 7' 17" E
156.49'

S 19° 14' 7" E
149.94'

42+42.75
312.51'

S 37° 11' 52" E
78.36'

S 35° 37' 7" E
85.18'

A

S 65° 38' 45" W
24.23'

43+28.52
295.61'

S 37° 11' 52" E
71.91'

S 53° 22' 42" E
37.39'

44+00.00
281.48'

S 41° 29' 55" E
107.50'

2" CAP RLS2033
EIP

43+28.44
298.05'

42+50.00
315.73'

N 22° 33' 18" W
74.20'

N 22° 33' 18" W
25.24'

59.06'

S 41° 11' 11" E
314.81'

N 0° 57' 47" W
73.66'

S 58° 35' 19" E
57.78'

N 32° 2' 58" E
36.26'

N 61° 50' 0" E
138.01'

40+90.45
303.12'

N 61° 50' 50" E
254.85'

S 67° 49' 3" W
364.42'

6

JOHN C WAGGONER JR. & WIFE RETTA M. WAGGONER

7

JOHN C WAGGONER JR. & WIFE RETTA M. WAGGONER

8

DR. JOHN M. ROE, M.D.

9

STEVEN MYERS

N 19° 8' 56" E
24.07'

S 72° 33' 44" E
53.28'

N 11° 26' 43" E
103.05'

EIP 1" PIPE

EX. & PROP. R.O.W. N 10° 50' 5" E
270.48'

S 2° 40' 0" E
385.95'

EX. & PROP. R.O.W.

40+55.24
552.17'

N 2° 40' 0" W
54.05'

S 61° 2' 30" W
435.37'

OLD ROCK WALL

41+05.24
572.72'

N 61° 53' 28" E
224.07'

SEALED BY

JEFFERY P. KARAS
REGISTERED ENGINEER
No. 119181
STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

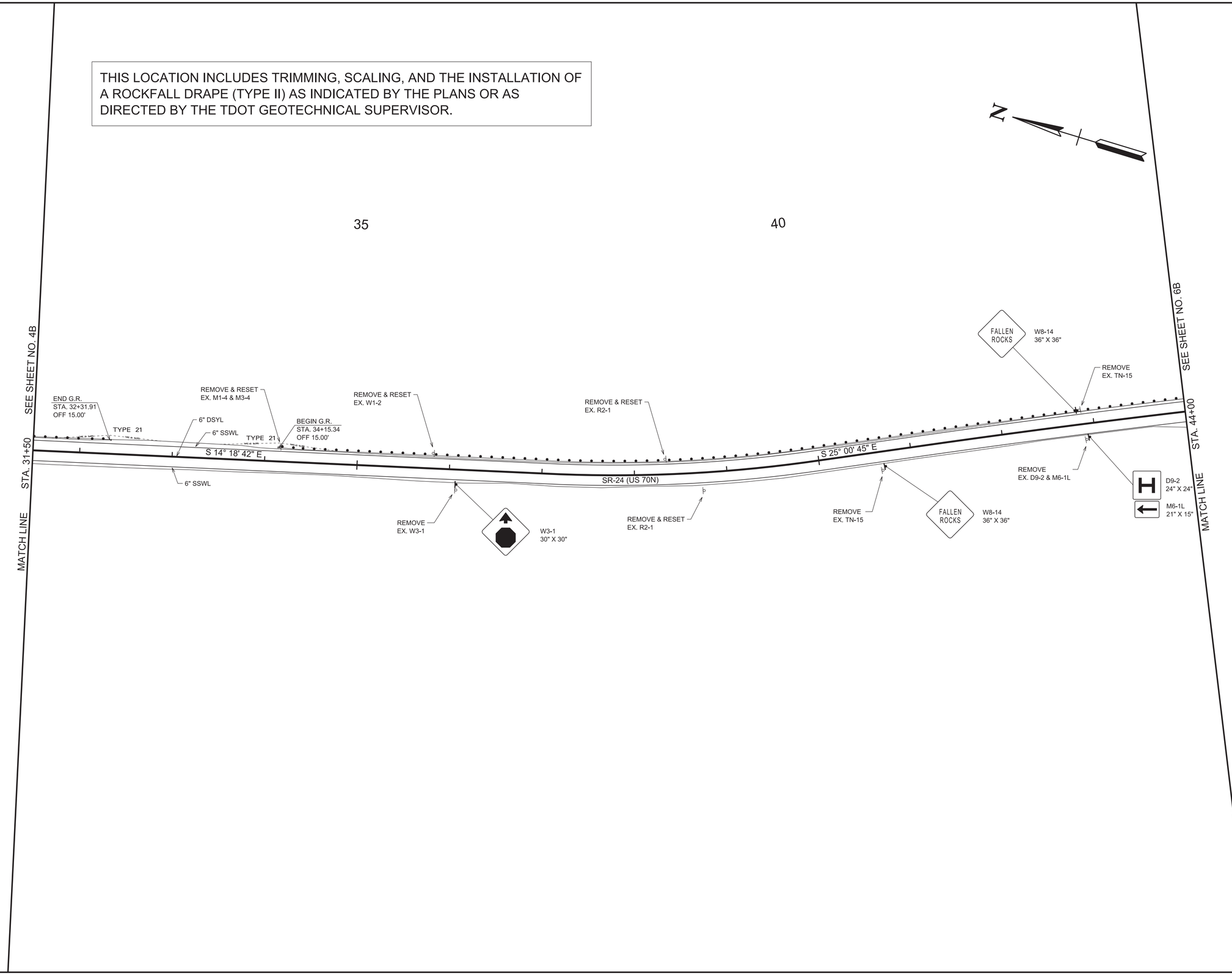
RIGHT OF WAY DETAILS

STA.31+50 TO STA.44+00
SCALE: 1"=50'

7/20/2026 12:47:10 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\005A.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	5B
CONST.	2022	STP-24(70)	5B
P.I.H.	2026	STP-24(70)	5B
PS&E	2026	STP/PROT-24(70)	5B

THIS LOCATION INCLUDES TRIMMING, SCALING, AND THE INSTALLATION OF A ROCKFALL DRAPE (TYPE II) AS INDICATED BY THE PLANS OR AS DIRECTED BY THE TDOT GEOTECHNICAL SUPERVISOR.



SEALED BY

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.31+50 TO STA.44+00
SCALE: 1"=50'

7/20/2026 12:47:11 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\005B.sht

NOTE: CONTRACTOR SHALL MAINTAIN OSHA/TOSHA
SAFE WORKING CLEARANCE FROM ALL ELECTRIC LINES.

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT
	EX. O.H. ELECTRIC EASEMENT

1. CONTRACTOR TO INSTALL HIGH-VISIBILITY FENCING (ITEM NO. 707-08.11) AS SHOWN ON TRACT 11 TO AVOID INCURSION OUTSIDE OF PROPOSED CONSTRUCTION EASEMENT.
2. CONTRACTOR MUST MAINTAIN USEABLE DRIVEWAY ACCESS ON TRACT 11 AT ALL TIMES DURING CONSTRUCTION.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	6
CONST.	2022	STP-24(70)	6
P.I.H.	2026	STP-24(70)	6
PS&E	2026	STP/PROT-24(70)	6

REV. 02/18/2021: CHANGED PROPERTY OWNER INFORMATION FOR TRACT NO. 10.

REV. 09/30/2021: ADDED PROPERTY DETAILS FOR TRACT NO. 9.

REV. 11/29/2021: ADDED DRIVEWAY TO TRACT NO . 11.

REV. 02/04/2022: ADDED NOTE 2.

CURVE ML6
PI 44+64.13
N 696,740.0603
E 1,981,390.9531
Δ 3° 27' 25" (RT)
D 0° 30' 00"
R 11,459.16
L 691.39
T 345.80
SE EX.
DESIGN SPEED EX.
TRANS. LENGTH EX.

45

CURVE ML7
PI 50+50.31
N 696,194.6850
E 1,981,606.3942
Δ 18° 24' 14" (LT)
D 7° 00' 00"
R 818.51
L 262.91
T 132.60
SE EX.
DESIGN SPEED EX.
TRANS. LENGTH EX.

50

END PROJ. NO. 80002-2263-14 R.O.W.
80002-3363-14 CONST.
STA. 51+50.00 STP/PROT-24(70)
N 696116.8815
E 1981672.3325

PC 49+17.71
PT 48+09.73
PT 51+80.62
POT 53+41.80

SEE SHEET NO. 5
MATCH LINE
STA. 44+00

LIMIT OF RESURFACING
51+50.00

CP-S14
80-24-14
EL-537.15

CP-S15
80-24-15
EL-538.05

CP-S16
80-24-16

OVERHEAD BUCKLE

OUTLET NOT FOUND

99 L.F. OF 30" CMP (TO REMAIN)

REMOVE EX. G.R.
STA. 45+19.63 - 51+50.00

REMOVE EX. G.R.
STA. 34+13.22 - 44+35.72

2 LANES @ 11' = 22'

SR-24 (US 70N)

S 21° 33' 20" E

S 39° 57' 34" E

INV-516.77

STONE RET. WALL

GRAVEL

WOODEN DECK

T.S.T.R. BASE

GATE

CHAINLINK W/BARBWIRE

NO DEEDED EASEMENT FOUND FOR UTILITY POLES LOCATED ON SOUTH SIDE OF TRACT 11

WOODS

LOW BRUSH

EX. & PROP. R.O.W.

EX. R.O.W.

PROP. R.O.W.

CONST. ESMT.

CAP RLS2053

EIP

CAP RLS1213

DISTURBED RKWALL

SHED

CONC. PAD

AWNING

2-S-VINYL

CONC. STEPS

GR.

WELL HOUSE

STAKE FOUND NO IP

9
STEVEN MYERS

10
CROCKETT DENNIS AND RAY DENNIS

11
DEBORAH WHEELER

PROP. DETAILS

INSET OF TRACT 9
SCALE: 1"=200'

PROP. DETAILS
TRACT 9
SCALE: 1"=50'

SEALED BY

JEFFERY P. KANAGA
REGISTERED ENGINEER
No. 119435
STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.44+00 TO STA.51+50
SCALE: 1"=50'

7/20/2026 12:47:12 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\006.sht

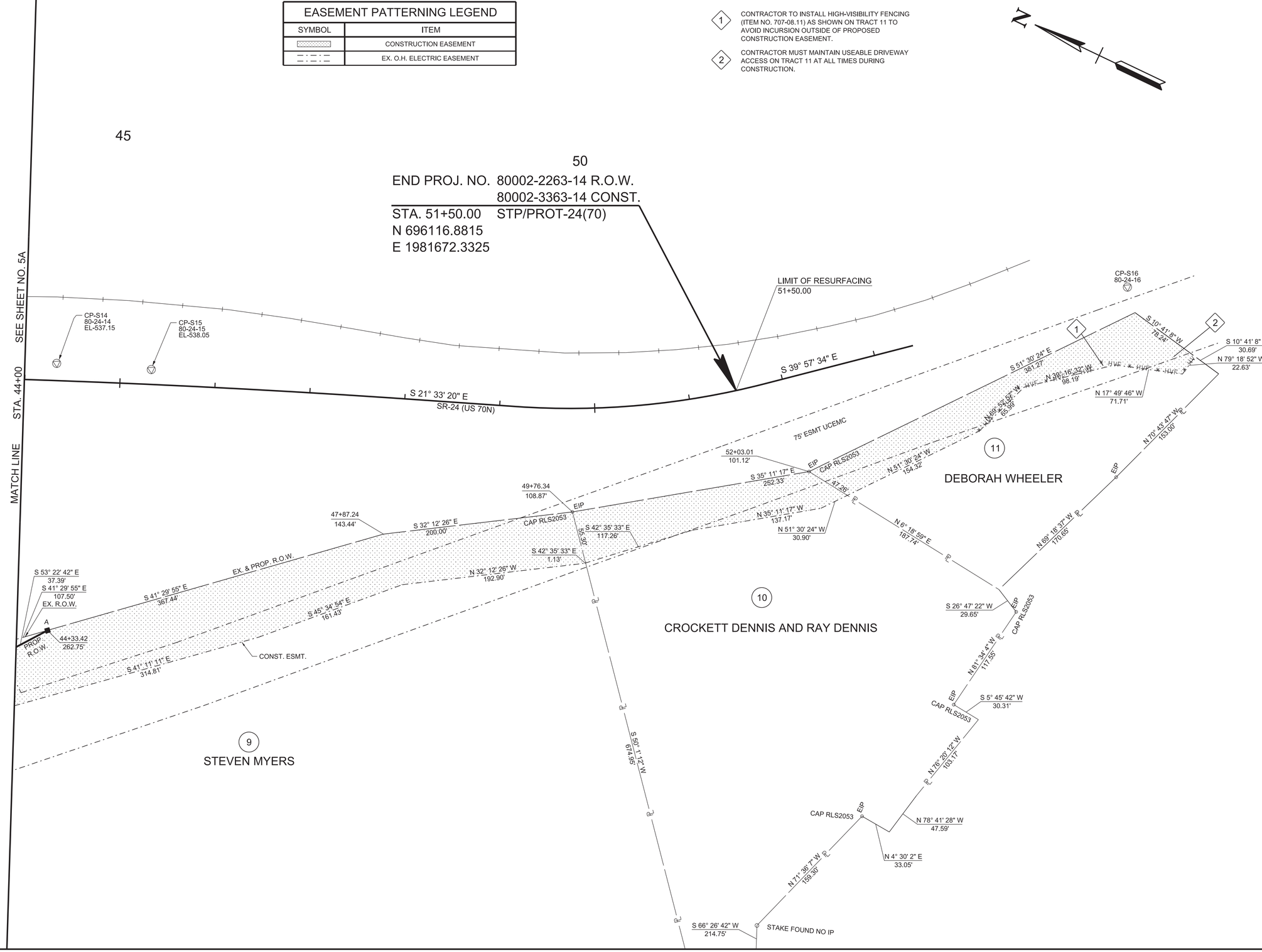
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	6A
CONST.	2022	STP-24(70)	6A
P.I.H.	2026	STP-24(70)	6A
PS&E	2026	STP/PROT-24(70)	6A

REV. 02/18/2021: CHANGED PROPERTY OWNER INFORMATION FOR TRACT NO. 10.

REV. 02/04/2022: ADDED NOTE 2.

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT
	EX. O.H. ELECTRIC EASEMENT

1. CONTRACTOR TO INSTALL HIGH-VISIBILITY FENCING (ITEM NO. 707-08.11) AS SHOWN ON TRACT 11 TO AVOID INCURSION OUTSIDE OF PROPOSED CONSTRUCTION EASEMENT.
2. CONTRACTOR MUST MAINTAIN USEABLE DRIVEWAY ACCESS ON TRACT 11 AT ALL TIMES DURING CONSTRUCTION.



SEALED BY

JEFFERY P. KARAFA
REGISTERED ENGINEER
AGRICULTURE
NO. 117910
STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

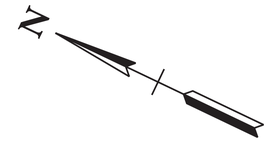
RIGHT OF WAY DETAILS

STA.44+00 TO STA.51+50
SCALE: 1"=50'

7/20/2026 12:47:13 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\006A.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	6B
CONST.	2022	STP-24(70)	6B
P.I.H.	2026	STP-24(70)	6B
PS&E	2026	STP/PROT-24(70)	6B

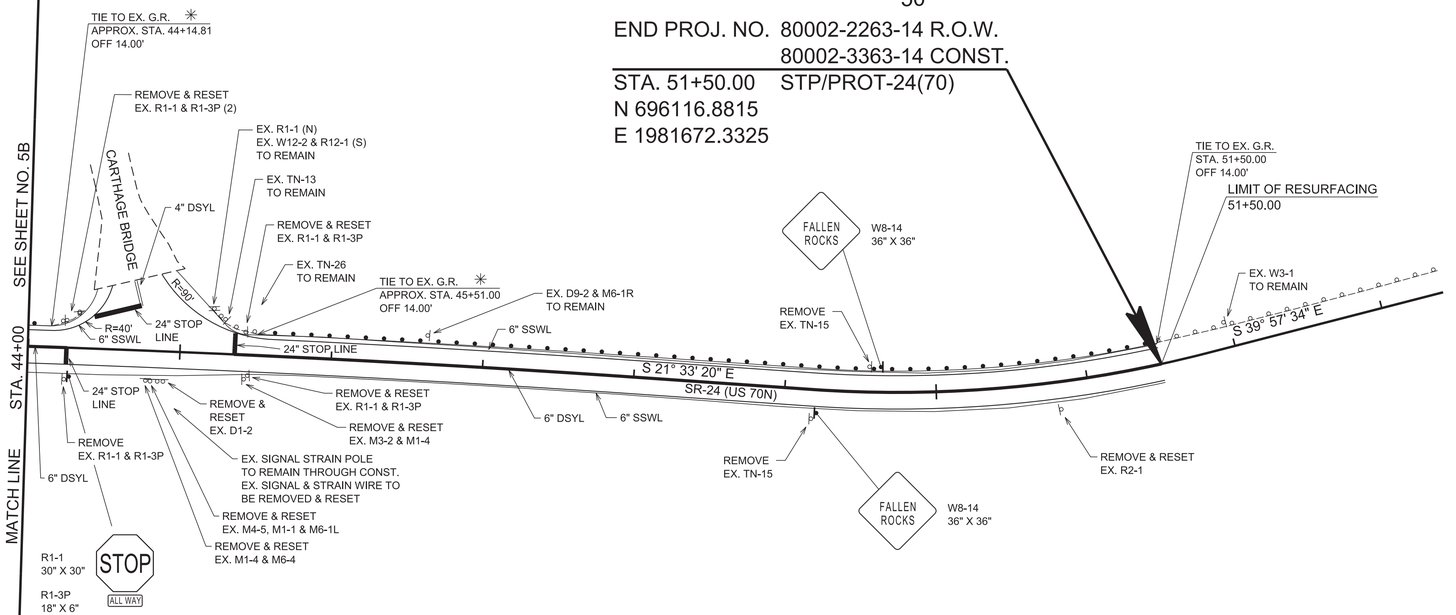
✳ BRIDGE AND WALL MOUNTED GUARDRAIL IS NOT TO BE DISTURBED OR REMOVED. PROPOSED GUARDRAIL SHALL BEGIN AND/OR END AT THE EXISTING WALL MOUNTED GUARDRAIL.



45

50

END PROJ. NO. 80002-2263-14 R.O.W.
80002-3363-14 CONST.
STA. 51+50.00 STP/PROT-24(70)
N 696116.8815
E 1981672.3325



SEALED BY

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.44+00 TO STA.51+50
SCALE: 1"=50'

7/20/2026 12:47:14 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\006B.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	STP-24(70)	7
P.I.H.	2026	STP-24(70)	7
PS&E	2026	STP/PROT-24(70)	7

ENVIRONMENTAL NOTES

SUBSECTION 3 – EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES

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.

SEALED BY

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL NOTES

7/20/2026 12:47:15 PM
Z:\17Proj\64\17640710\Constructs\CivilSheets\007.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	7
CONST.	2022	STP-24(70)	8
P.I.H.	2026	STP-24(70)	8
PS&E	2026	STP/PROT-24(70)	8

TABULATED EPSC QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY 80002-3263-14
(2)	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	14
(1)	209-03.21	FILTER SOCK (12 INCH)	L.F.	3031
	209-05	SEDIMENT REMOVAL	C.Y.	421
(1)	209-08.07	ROCK CHECK DAM	EACH	6
(1)	209-08.08	ENHANCED ROCK CHECK DAM	EACH	3
(1)	209-40.30	CATCH BASIN PROTECTION (TYPE A)	EACH	4
	707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	259
(2)	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	100
(2)	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	172
(3)	801-01	SEEDING (WITH MULCH)	UNIT	381
(4)	801-03	WATER (SEEDING & SODDING)	M.G.	39
	801-08	FERTILIZER (SUPPLEMENTAL APPLICATION)	TON	5

EPSC FOOTNOTES

(1) ALL QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER.
(2) QUANTITY TO BE USED IN TEMPORARY CONSTRUCTION EXITS.
(3) SEEDING QUANTITY ESTIMATED AS AREA ABOVE CLIFF WITHIN R.O.W. AND CONST. EASEMENTS. PROJECT IS ESTIMATED TO NEED ONE (1) ROUND OF SEEDING.
(4) INCLUDES 39 THOUSAND GALLONS FOR EROSION PREVENTION AND SEDIMENT CONTROL.

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND

SYMBOL	ITEM	STD. DWG.
	ROCK CHECK DAM (V-DITCH)	EC-STR-6
	ENHANCED ROCK CHECK DAM (V-DITCH)	EC-STR-6A
SOCK 12" SOCK 12"	12 INCH FILTER SOCK	EC-STR-8
A	CATCH BASIN PROTECTION (TYPE A)	EC-STR-19
TCE	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
HVF HVF	HIGH VISIBILITY FENCE	S-F-1
	SEEDING WITH MULCH	

SEALED BY

07-23-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

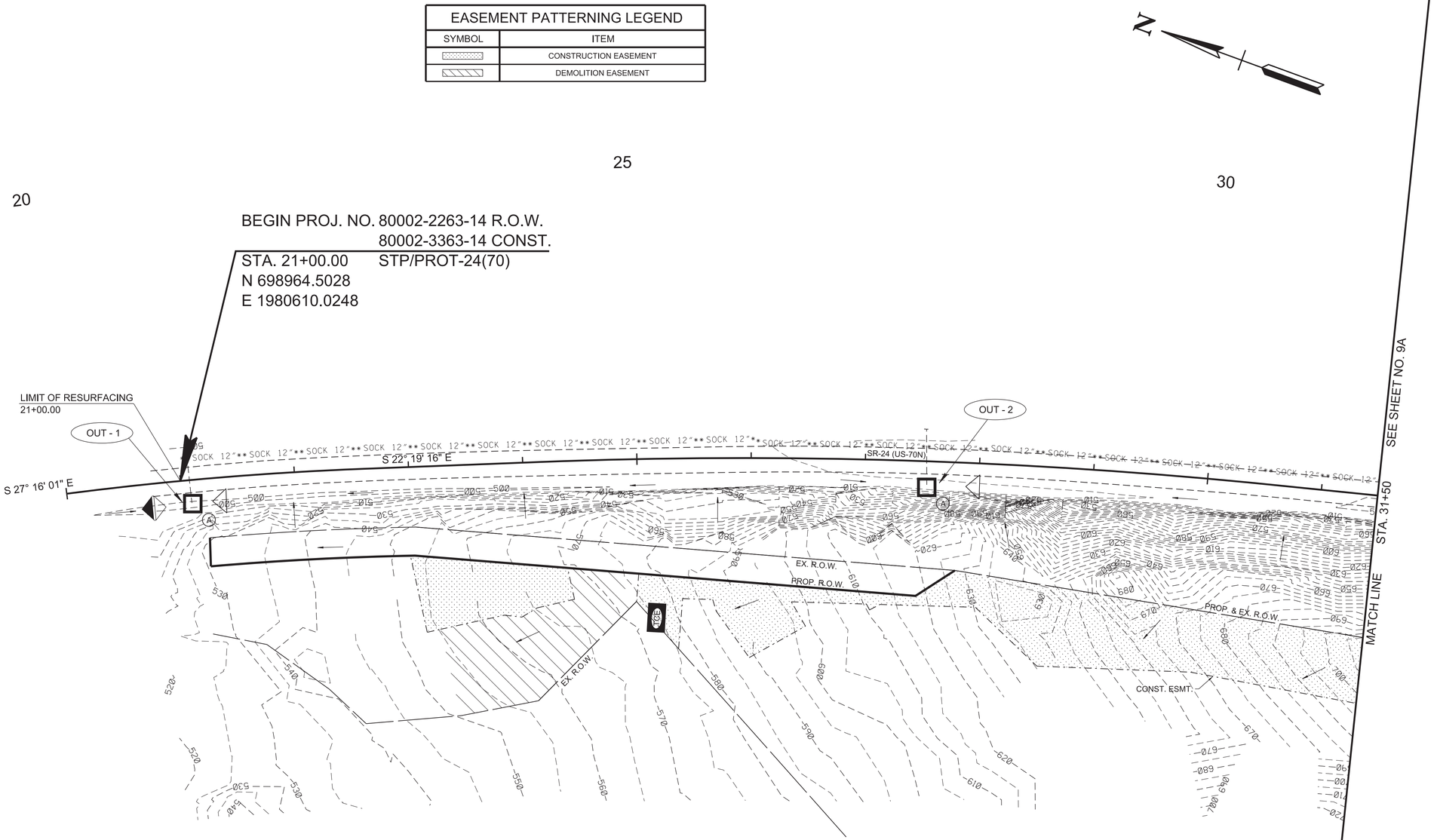
EROSION PREVENTION & SEDIMENT CONTROL (EPSC) LEGEND & TABULATION

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	8
CONST.	2022	STP-24(70)	9
P.I.H.	2026	STP-24(70)	9
PS&E	2026	STP/PROT-24(70)	9

REV. 07/28/2021: ADDED CONST. ESMT. TO TRACT 2. ADJUSTED CONST. ESMT. ON TRACT 3.

REV. 09/03/2025: ADDED DEMOLITION ESMT.

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT
	DEMOLITION EASEMENT



OUTFALL	D.A.	SLOPE
1	0.508 AC.	0.61%
2	1.304 AC.	1.79%
3	4.821 AC.	3.15%
4	3.043 AC.	3.96%
5	0.874 AC.	0.60%

SEALED BY

JEFFERY P. KARAFA
REGISTERED ENGINEER
AGRICULTURE
NO. 117910
STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING CONTOURS

STAGE I

EROSION PREVENTION AND SEDIMENT CONTROL PLANS

STA.21+00 TO STA.31+50

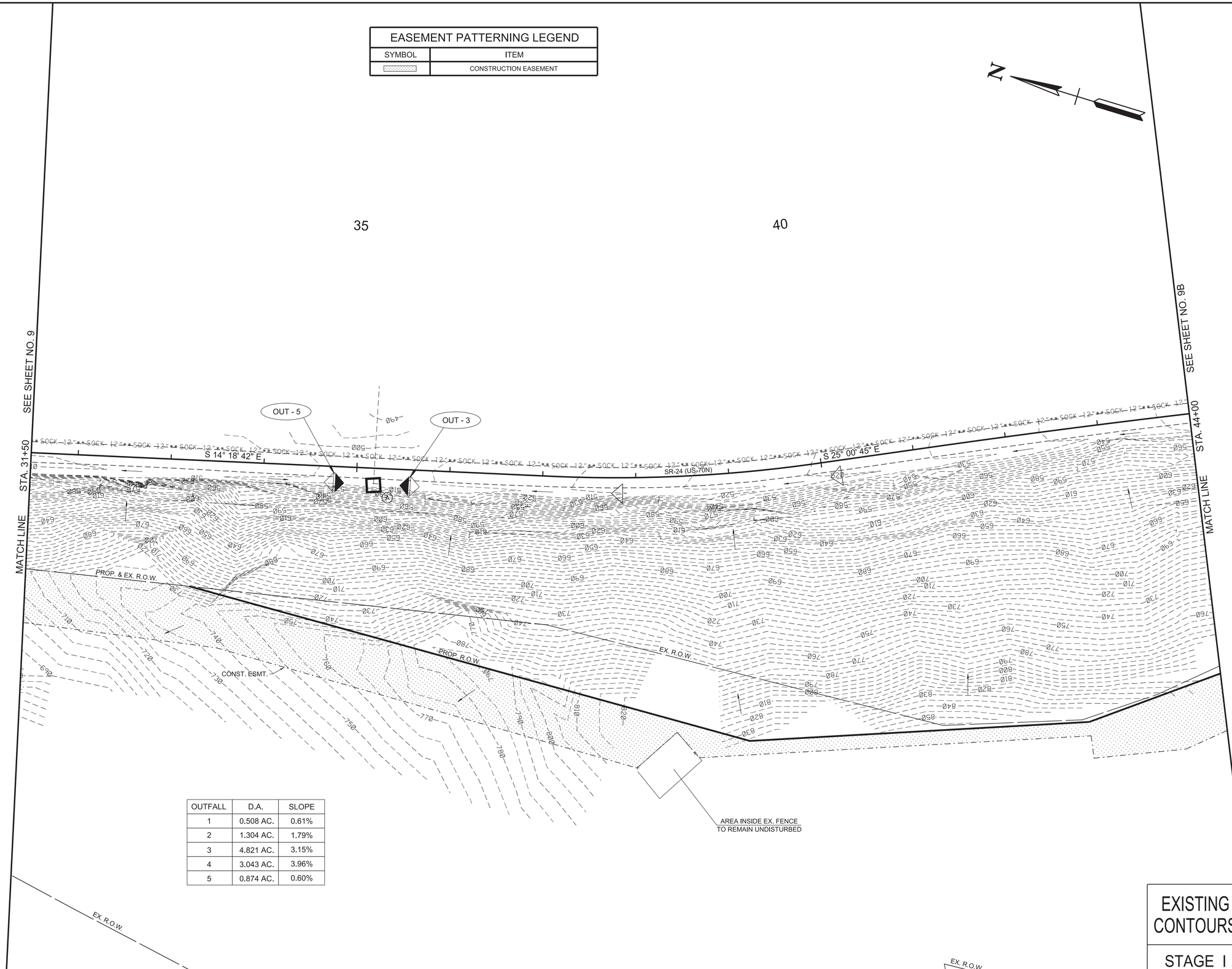
SCALE: 1"=50'

7/20/2026 12:48:10 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\009.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	8A
CONST.	2022	STP-24(70)	9A
P.I.H.	2026	STP-24(70)	9A
PS&E	2026	STP/PROT-24(70)	9A

REV. 07/05/2022: ADJUSTED CONST. ESMT. ON TRACT 7.

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT



OUTFALL	D.A.	SLOPE
1	0.508 AC.	0.61%
2	1.304 AC.	1.79%
3	4.821 AC.	3.15%
4	3.043 AC.	3.96%
5	0.874 AC.	0.60%

SEALED BY

JEFFERY P. KARAFA
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 117910
STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING CONTOURS

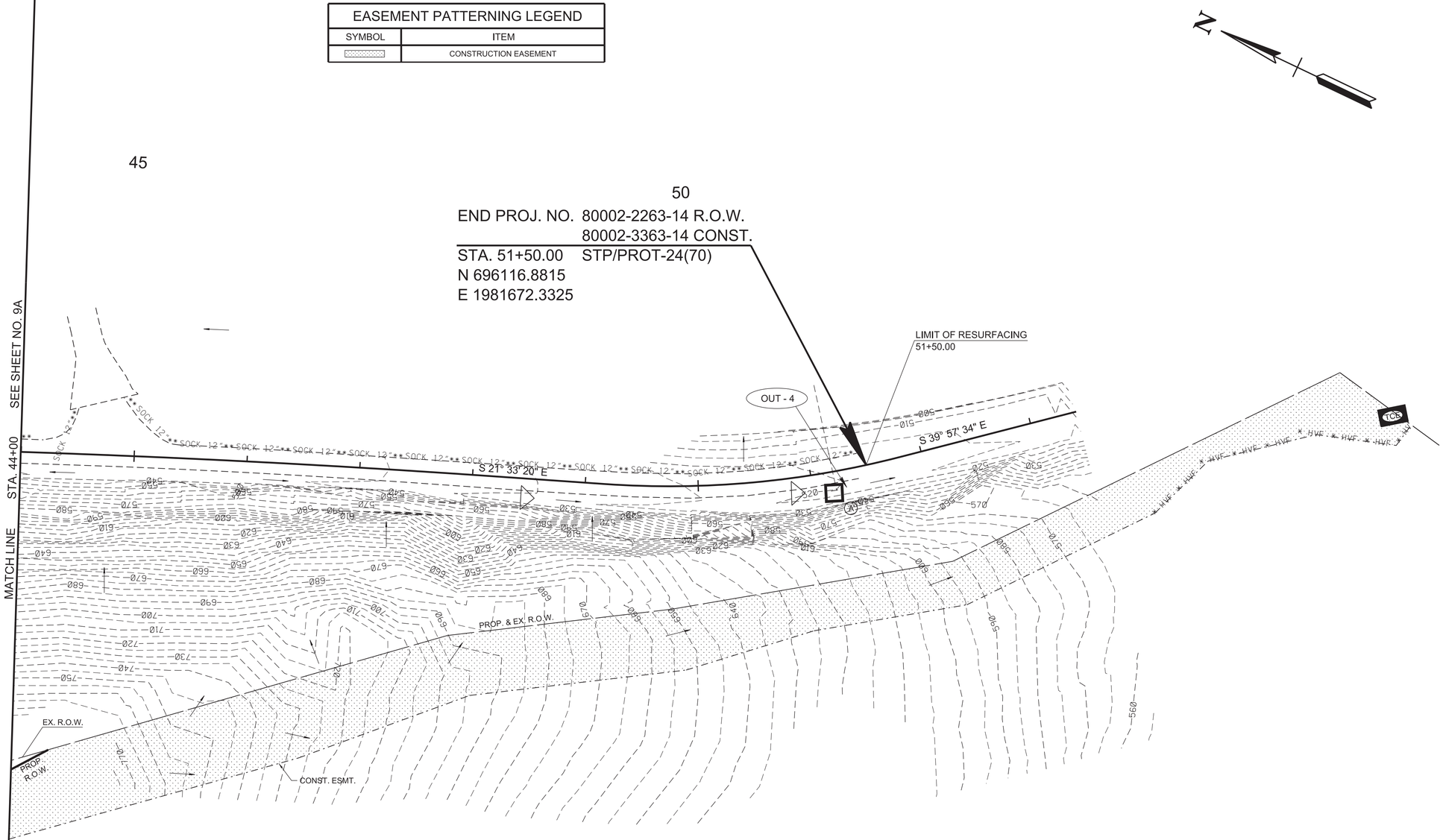
STAGE I

EROSION PREVENTION AND SEDIMENT CONTROL PLANS
STA.31+50 TO STA.44+00
SCALE: 1"=50'

7/20/2026 12:48:11 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\009A.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	8B
CONST.	2022	STP-24(70)	9B
P.I.H.	2026	STP-24(70)	9B
PS&E	2026	STP/PROT-24(70)	9B

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT



OUTFALL	D.A.	SLOPE
1	0.508 AC.	0.61%
2	1.304 AC.	1.79%
3	4.821 AC.	3.15%
4	3.043 AC.	3.96%
5	0.874 AC.	0.60%

SEALED BY

JEFFERY P. KARAFA
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 117910
STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING CONTOURS

STAGE I

EROSION PREVENTION AND SEDIMENT CONTROL PLANS

STA.44+00 TO STA.51+50

SCALE: 1"=50'

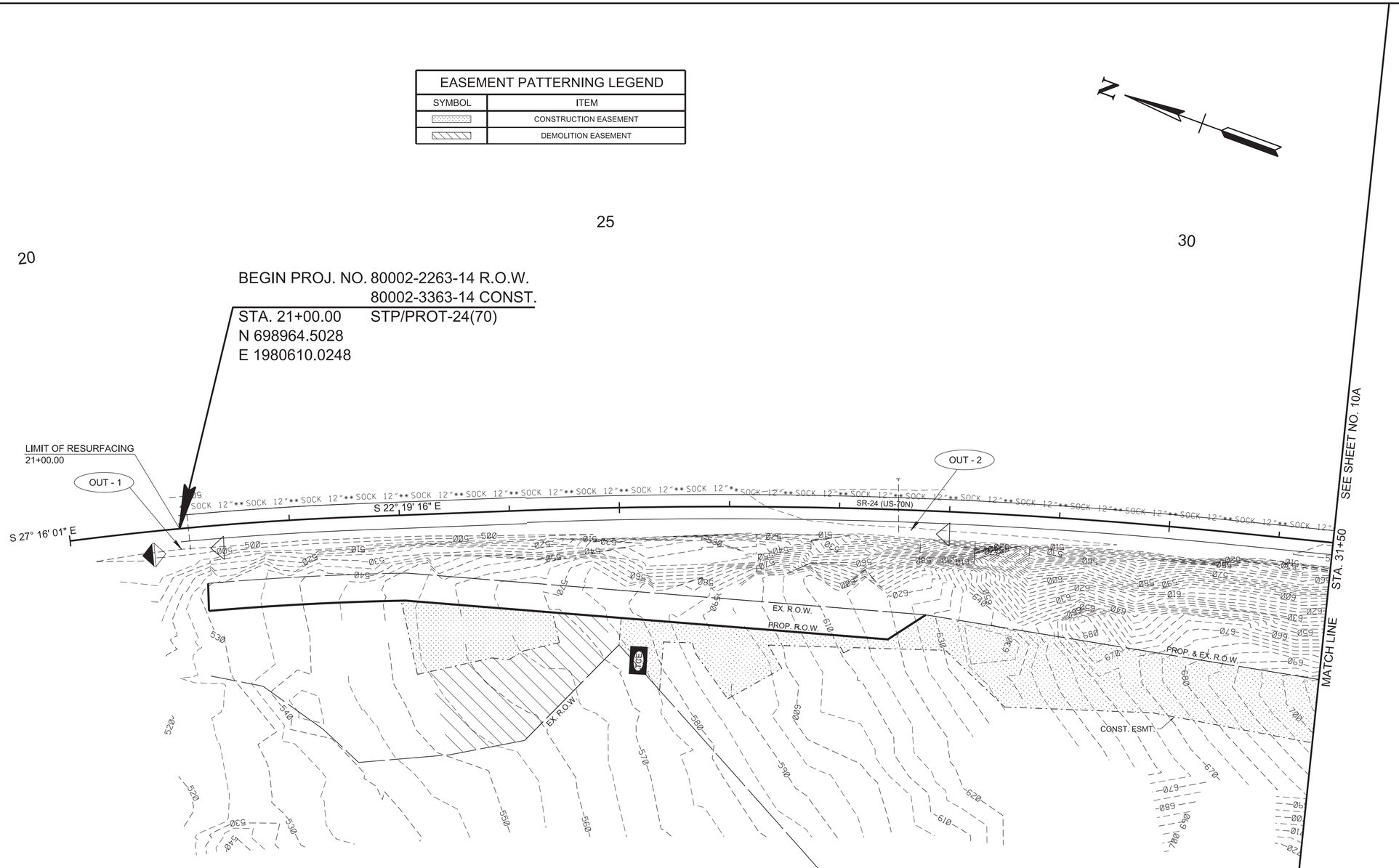
7/20/2026 12:48:12 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\009B.sht

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT
	DEMOLITION EASEMENT

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	9
CONST.	2022	STP-24(70)	10
P.I.H.	2026	STP-24(70)	10
PS&E	2026	STP/PROT-24(70)	10

REV. 07/28/2021: ADDED CONST. ESMT. TO TRACT 2. ADJUSTED CONST. ESMT. ON TRACT 3.

REV. 09/03/2025: ADDED DEMOLITION ESMT.



OUTFALL	D.A.	SLOPE
1	0.508 AC.	0.61%
2	1.304 AC.	1.79%
3	4.821 AC.	3.15%
4	3.043 AC.	3.96%
5	0.874 AC.	0.60%

SEALED BY

JEFFERY P. KARR
REGISTERED ENGINEER
AGRICULTURE
No. 119814
STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING CONTOURS

STAGE II

EROSION PREVENTION AND SEDIMENT CONTROL PLANS

STA.21+00 TO STA.31+50

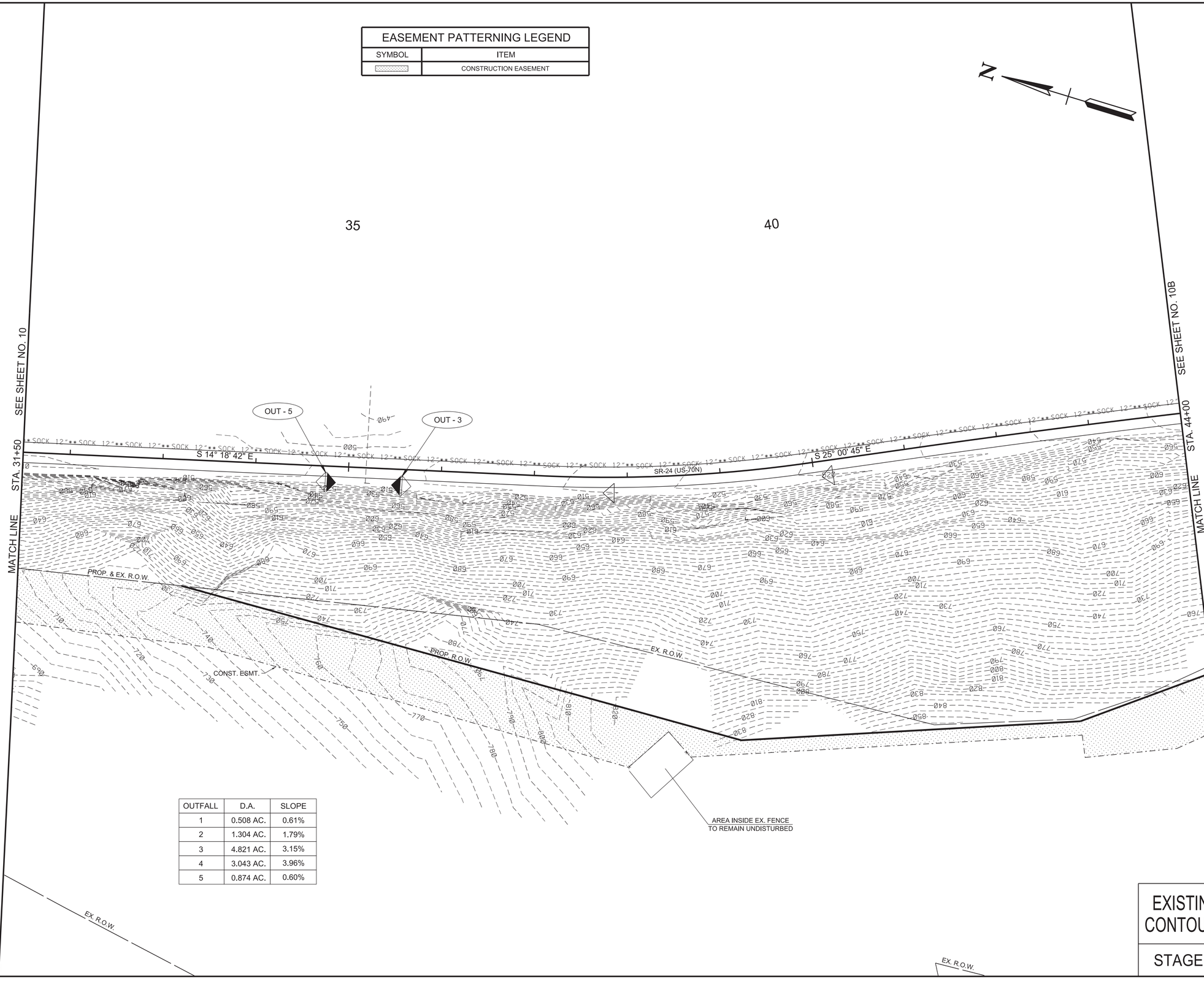
SCALE: 1"=50'

7/20/2026 12:48:13 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\010.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	9A
CONST.	2022	STP-24(70)	10A
P.I.H.	2026	STP-24(70)	10A
PS&E	2026	STP/PROT-24(70)	10A

REV. 07/05/2022: ADJUSTED CONST. ESMT. ON TRACT 7.

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT



OUTFALL	D.A.	SLOPE
1	0.508 AC.	0.61%
2	1.304 AC.	1.79%
3	4.821 AC.	3.15%
4	3.043 AC.	3.96%
5	0.874 AC.	0.60%

SEALED BY

JEFFERY P. KARAFA
REGISTERED ENGINEER
AGRICULTURE
NO. 117910
STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING CONTOURS

STAGE II

EROSION PREVENTION AND SEDIMENT CONTROL PLANS

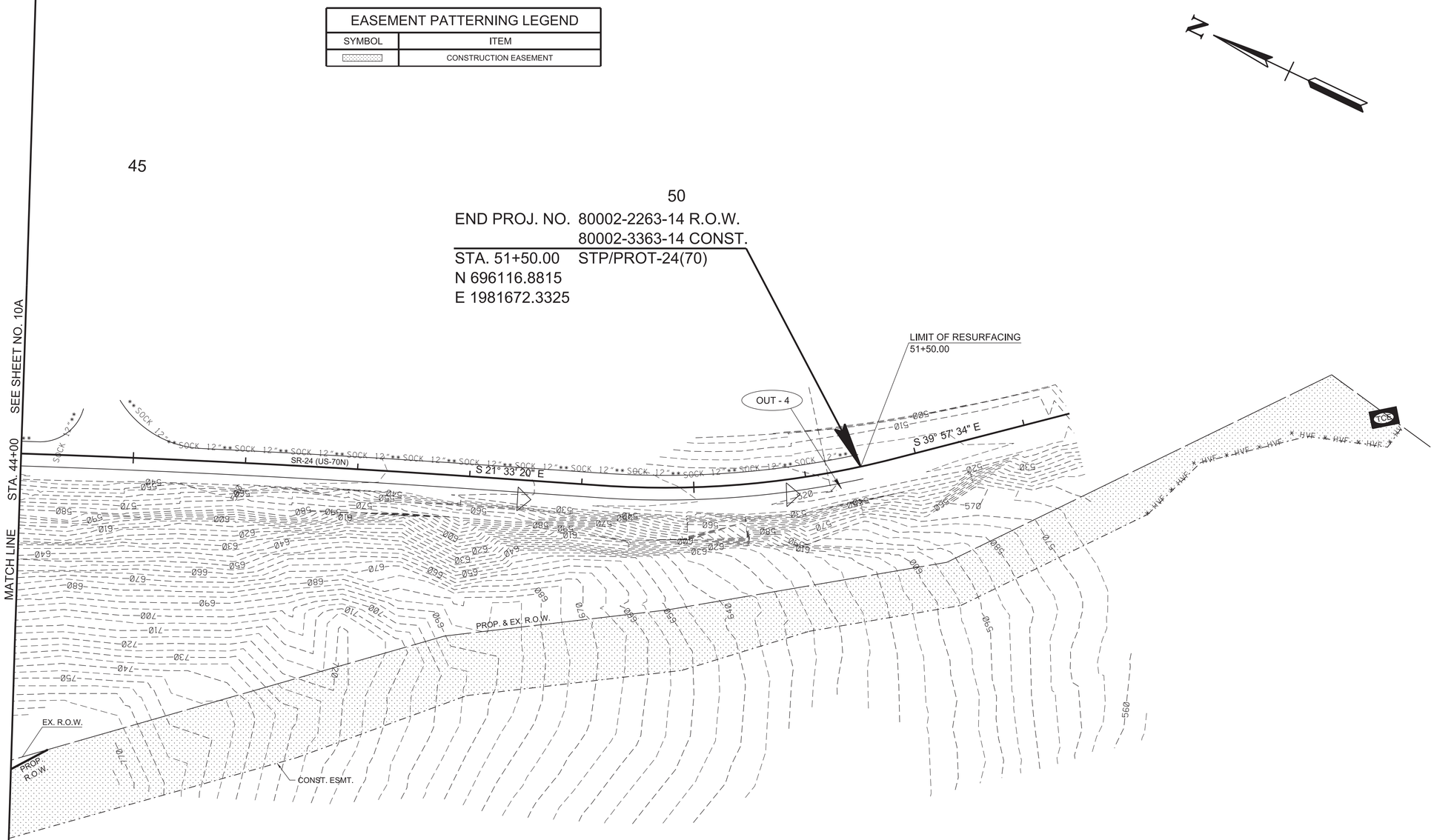
STA.31+50 TO STA.44+00

SCALE: 1"=50'

7/20/2026 12:48:14 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\010A.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	9B
CONST.	2022	STP-24(70)	10B
P.I.H.	2026	STP-24(70)	10B
PS&E	2026	STP/PROT-24(70)	10B

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT



OUTFALL	D.A.	SLOPE
1	0.508 AC.	0.61%
2	1.304 AC.	1.79%
3	4.821 AC.	3.15%
4	3.043 AC.	3.96%
5	0.874 AC.	0.60%

SEALED BY

JEFFERY P. KARAFA
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 117916
STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING CONTOURS

STAGE II

EROSION PREVENTION AND SEDIMENT CONTROL PLANS

STA.44+00 TO STA.51+50

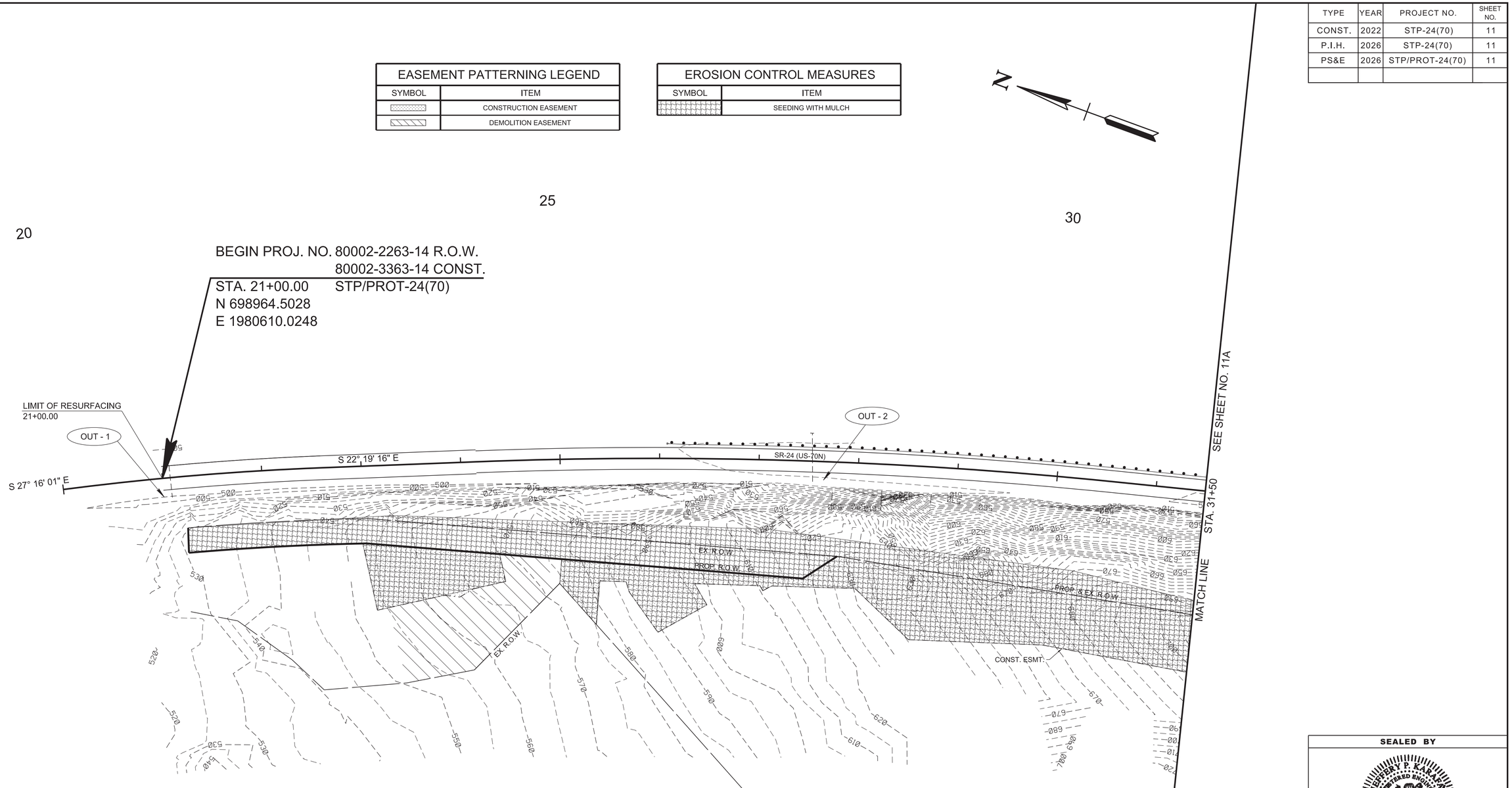
SCALE: 1"=50'

7/20/2026 12:48:16 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\010B.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	STP-24(70)	11
P.I.H.	2026	STP-24(70)	11
PS&E	2026	STP/PROT-24(70)	11

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT
	DEMOLITION EASEMENT

EROSION CONTROL MEASURES	
SYMBOL	ITEM
	SEEDING WITH MULCH



OUTFALL	D.A.	SLOPE
1	0.508 AC.	0.61%
2	1.304 AC.	1.79%
3	4.821 AC.	3.15%
4	3.043 AC.	3.96%
5	0.874 AC.	0.60%

SEALED BY

JEFFERY P. KARAM
REGISTERED ENGINEER
STATE OF TENNESSEE
NUMBER NO. 117915

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING CONTOURS

STAGE III

EROSION PREVENTION AND SEDIMENT CONTROL PLANS

STA.21+00 TO STA.31+50

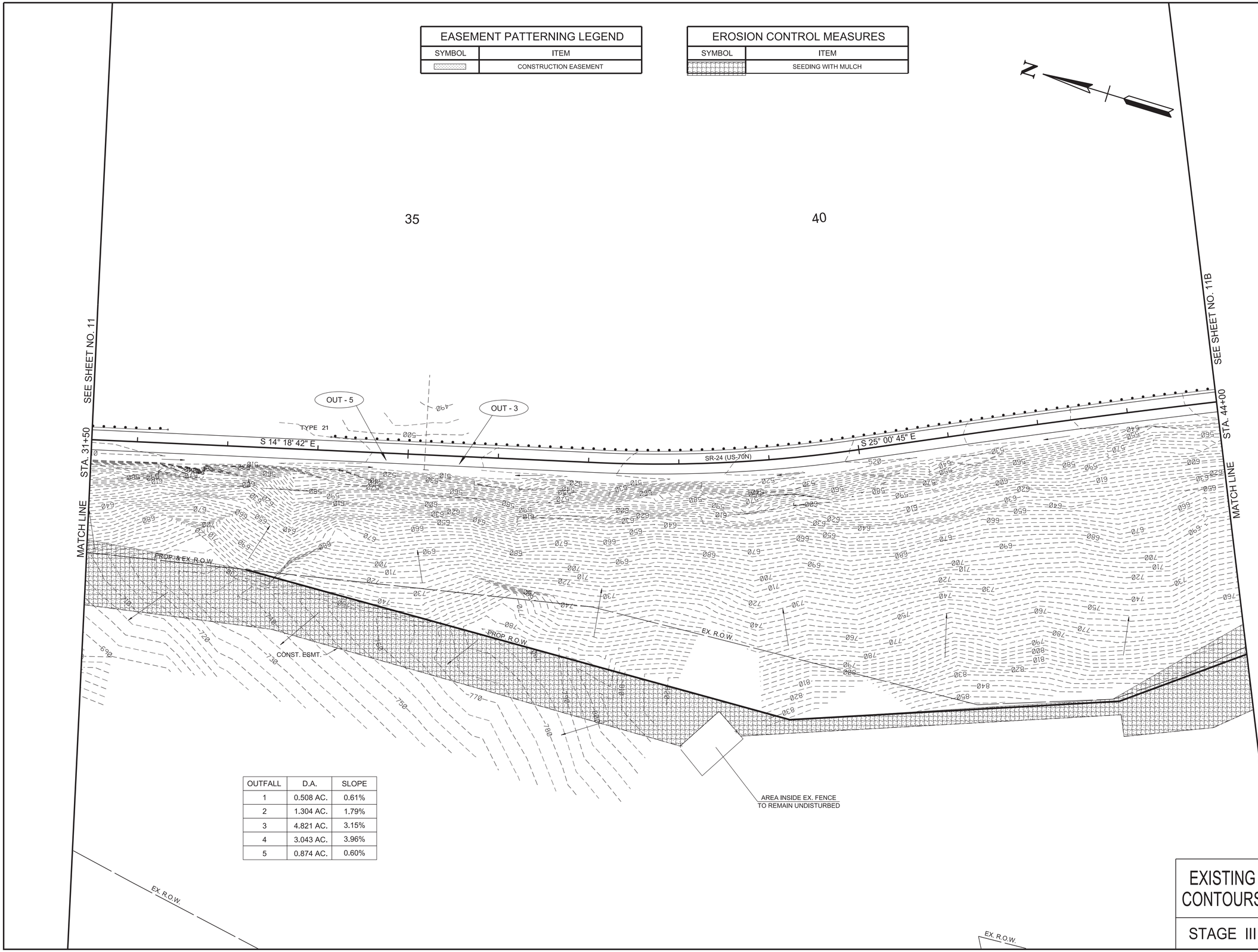
SCALE: 1"=50'

7/20/2026 12:48:17 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\011.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	STP-24(70)	11A
P.I.H.	2026	STP-24(70)	11A
PS&E	2026	STP/PROT-24(70)	11A

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT

EROSION CONTROL MEASURES	
SYMBOL	ITEM
	SEEDING WITH MULCH



OUTFALL	D.A.	SLOPE
1	0.508 AC.	0.61%
2	1.304 AC.	1.79%
3	4.821 AC.	3.15%
4	3.043 AC.	3.96%
5	0.874 AC.	0.60%

SEALED BY

JEFFERY P. KARAFA
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 117910
STATE OF TENNESSEE

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING CONTOURS

STAGE III

EROSION PREVENTION AND SEDIMENT CONTROL PLANS

STA.31+50 TO STA.44+00

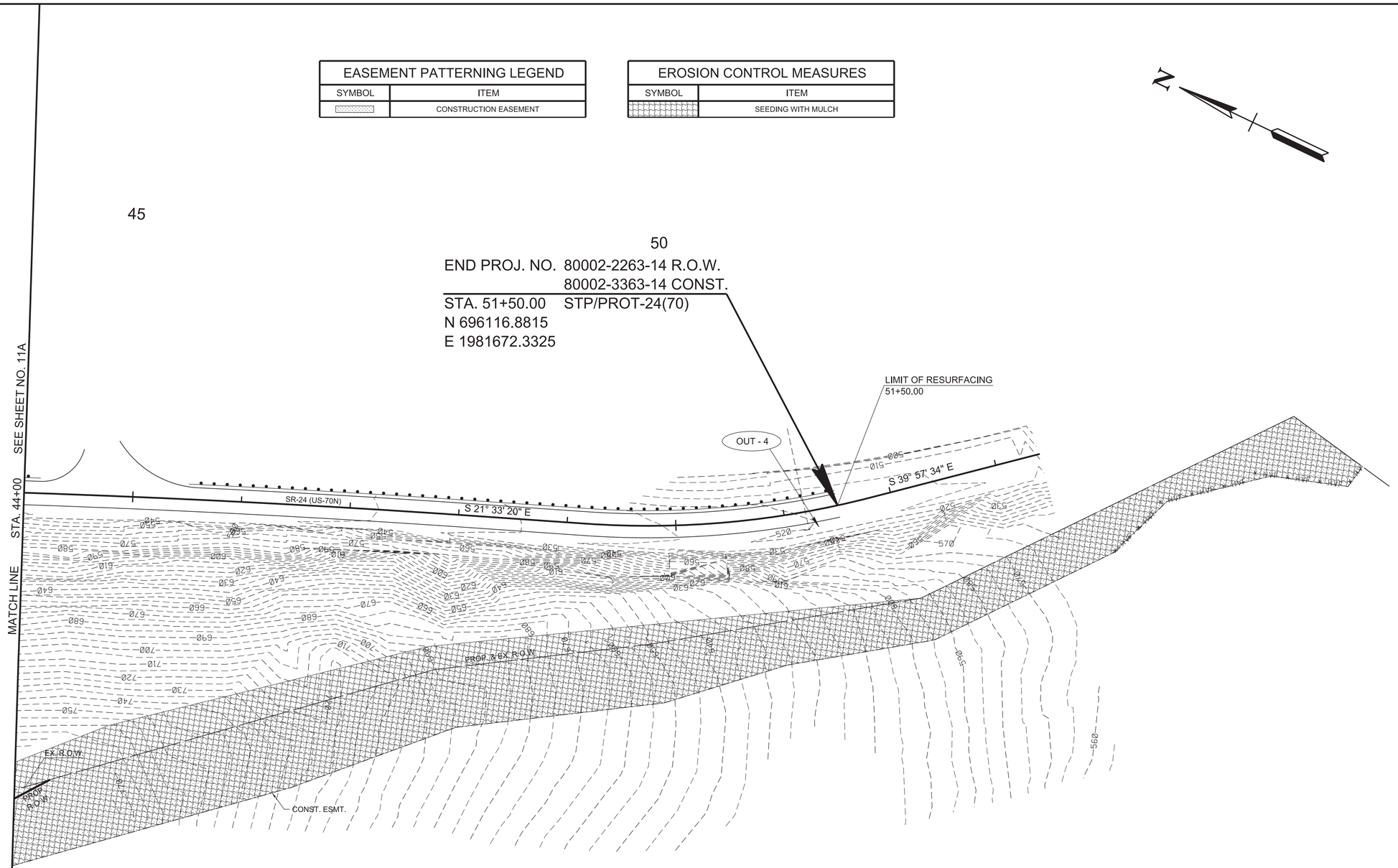
SCALE: 1"=50'

7/20/2026 12:48:19 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\011A.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	STP-24(70)	11B
P.I.H.	2026	STP-24(70)	11B
PS&E	2026	STP/PROT-24(70)	11B

EASEMENT PATTERNING LEGEND	
SYMBOL	ITEM
	CONSTRUCTION EASEMENT

EROSION CONTROL MEASURES	
SYMBOL	ITEM
	SEEDING WITH MULCH



OUTFALL	D.A.	SLOPE
1	0.508 AC.	0.61%
2	1.304 AC.	1.79%
3	4.821 AC.	3.15%
4	3.043 AC.	3.96%
5	0.874 AC.	0.60%

SEALED BY

07-10-26

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00004 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING CONTOURS

STAGE III

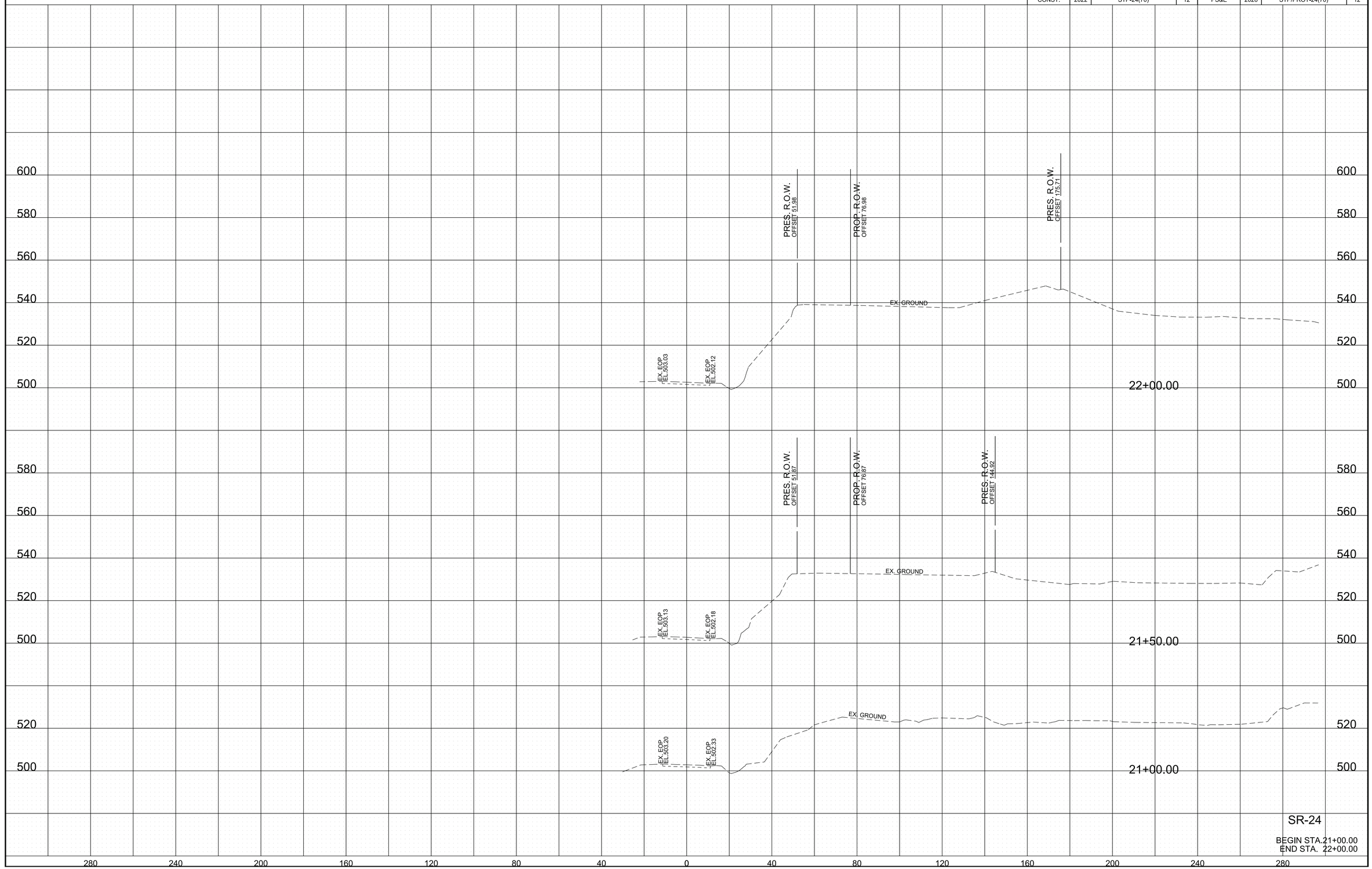
EROSION PREVENTION AND SEDIMENT CONTROL PLANS

STA.44+00 TO STA.51+50

SCALE: 1"=50'

7/20/2026 12:48:22 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\011B.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	10	P.I.H.	2026	STP-24(70)	12
CONST.	2022	STP-24(70)	12	PS&E	2026	STP/PROT-24(70)	12

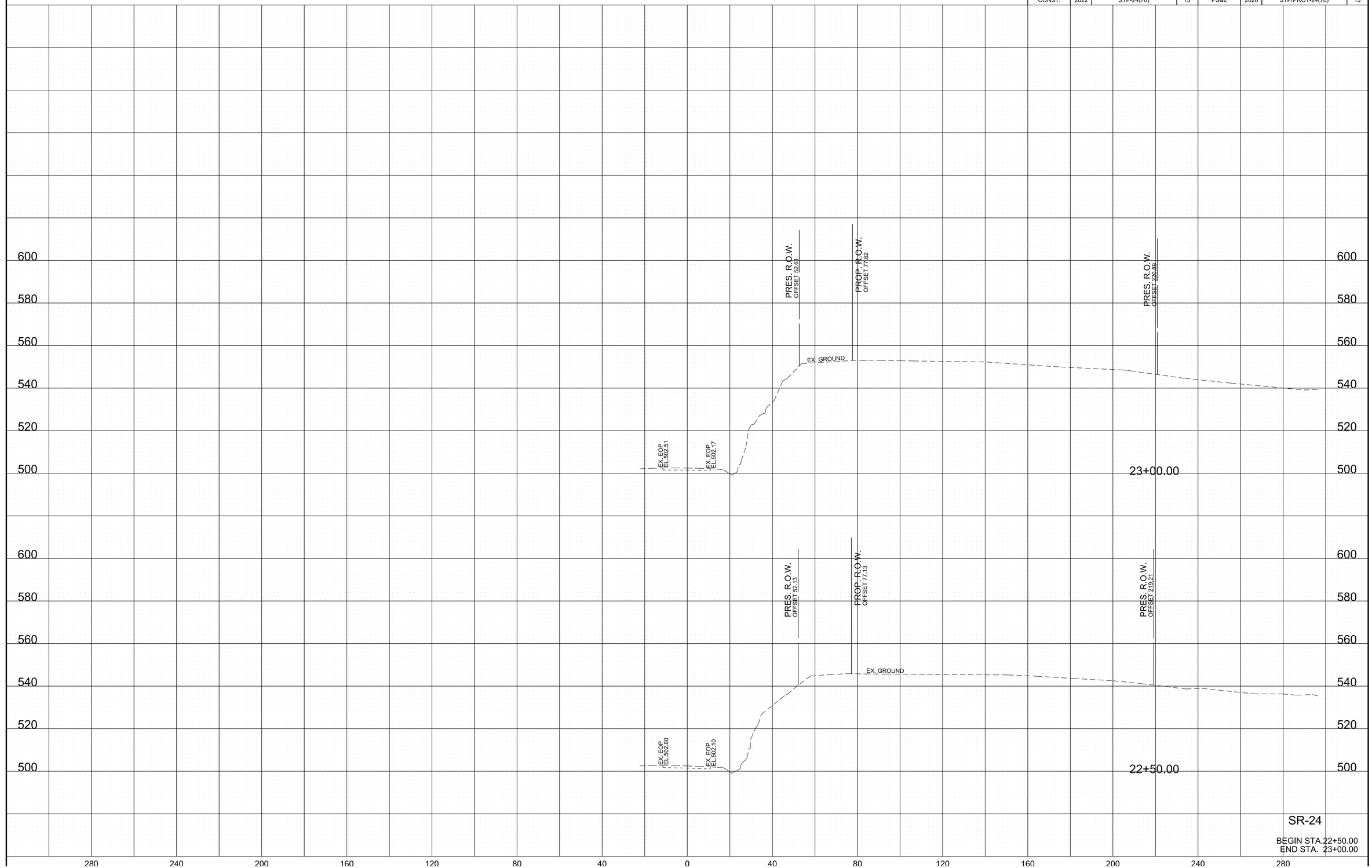


SR-24

BEGIN STA. 21+00.00
END STA. 22+00.00

7/20/2026 12:48:32 PM
Z:\17Proj\641\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	11	P.I.H.	2026	STP-24(70)	13
CONST.	2022	STP-24(70)	13	PS&E	2026	STP/PROT-24(70)	13

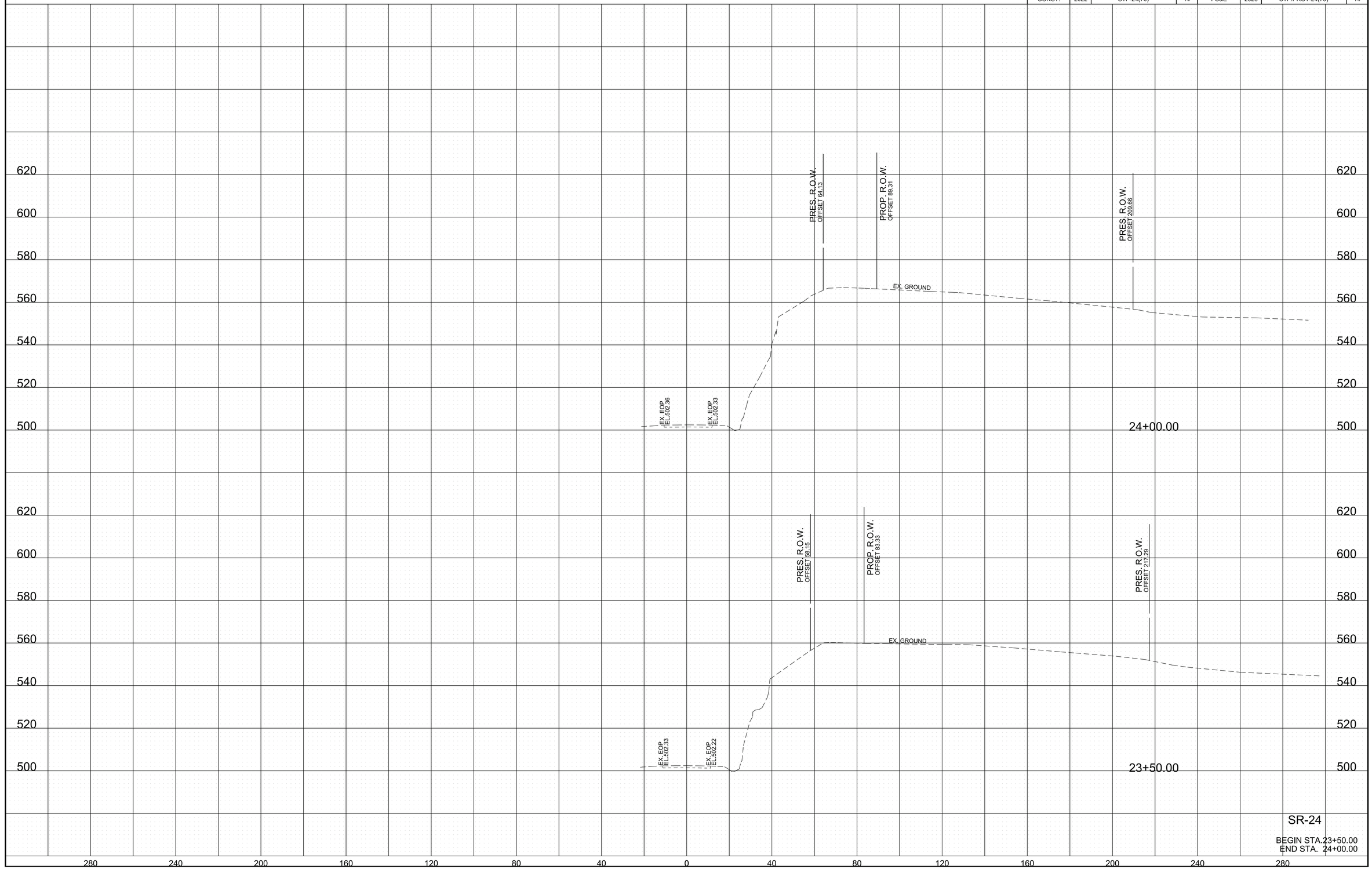


SR-24

BEGIN STA. 22+50.00
END STA. 23+00.00

7/20/2026 12:48:33 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	12	P.I.H.	2026	STP-24(70)	14
CONST.	2022	STP-24(70)	14	PS&E	2026	STP/PROT-24(70)	14



SR-24

BEGIN STA.23+50.00
END STA. 24+00.00

7/20/2026 12:48:35 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	13	P.I.H.	2026	STP-24(70)	15
CONST.	2022	STP-24(70)	15	PS&E	2026	STP/PROT-24(70)	15

25+00.00

PRES. R.O.W. OFFSET 75.16
PROP. R.O.W. OFFSET 100.28
PRES. R.O.W. OFFSET 127.88
EX. GROUND
EX. EOP EL.503.27
EX. EOP EL.503.17

24+50.00

PRES. R.O.W. OFFSET 69.92
PROP. R.O.W. OFFSET 95.07
PRES. R.O.W. OFFSET 160.43
EX. GROUND
EX. EOP EL.502.70
EX. EOP EL.502.63

640 620 600 580 560 540 520 500

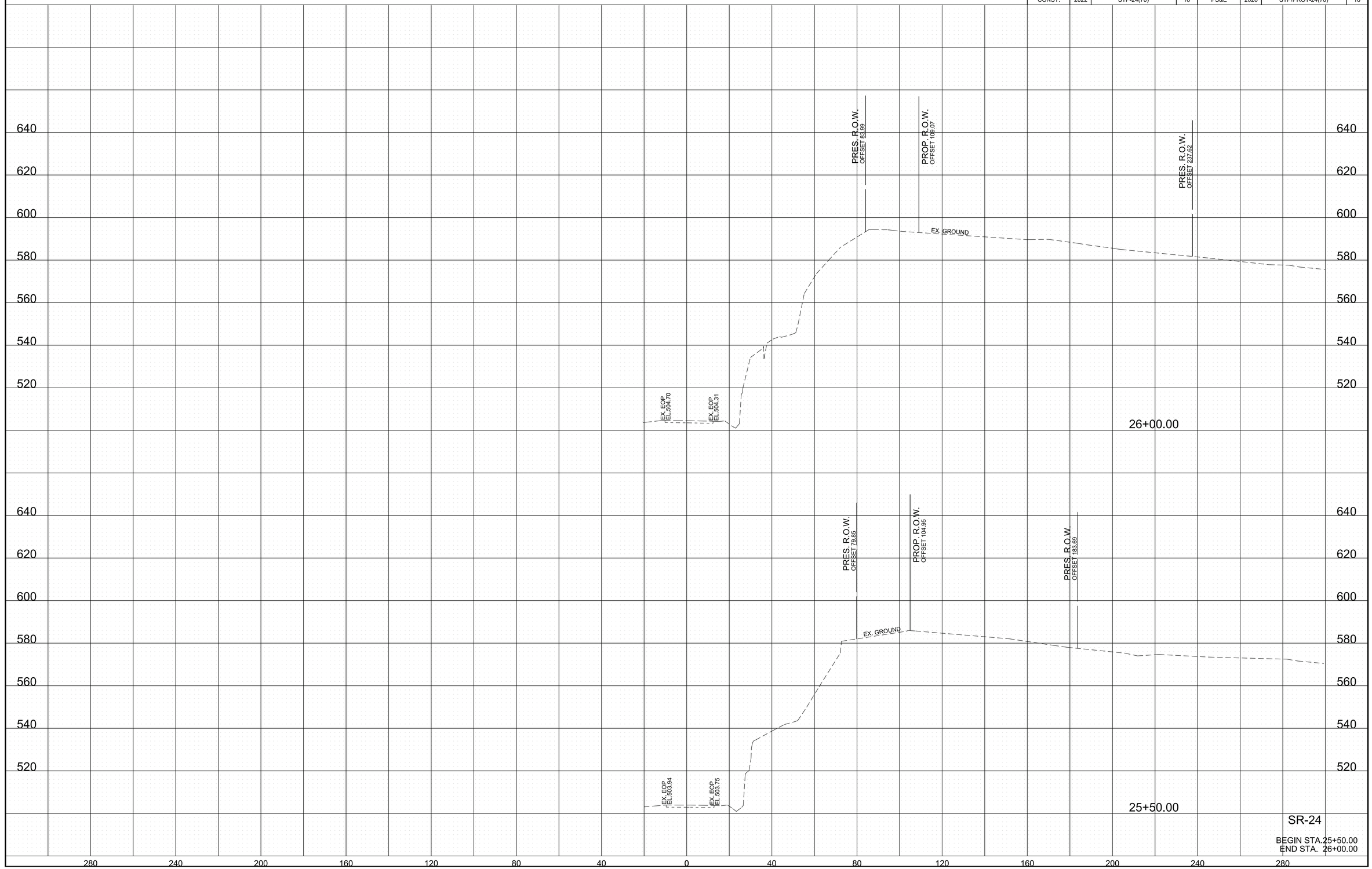
280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

SR-24

BEGIN STA.24+50.00
END STA. 25+00.00

7/20/2026 12:48:36 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	14	P.I.H.	2026	STP-24(70)	16
CONST.	2022	STP-24(70)	16	PS&E	2026	STP/PROT-24(70)	16

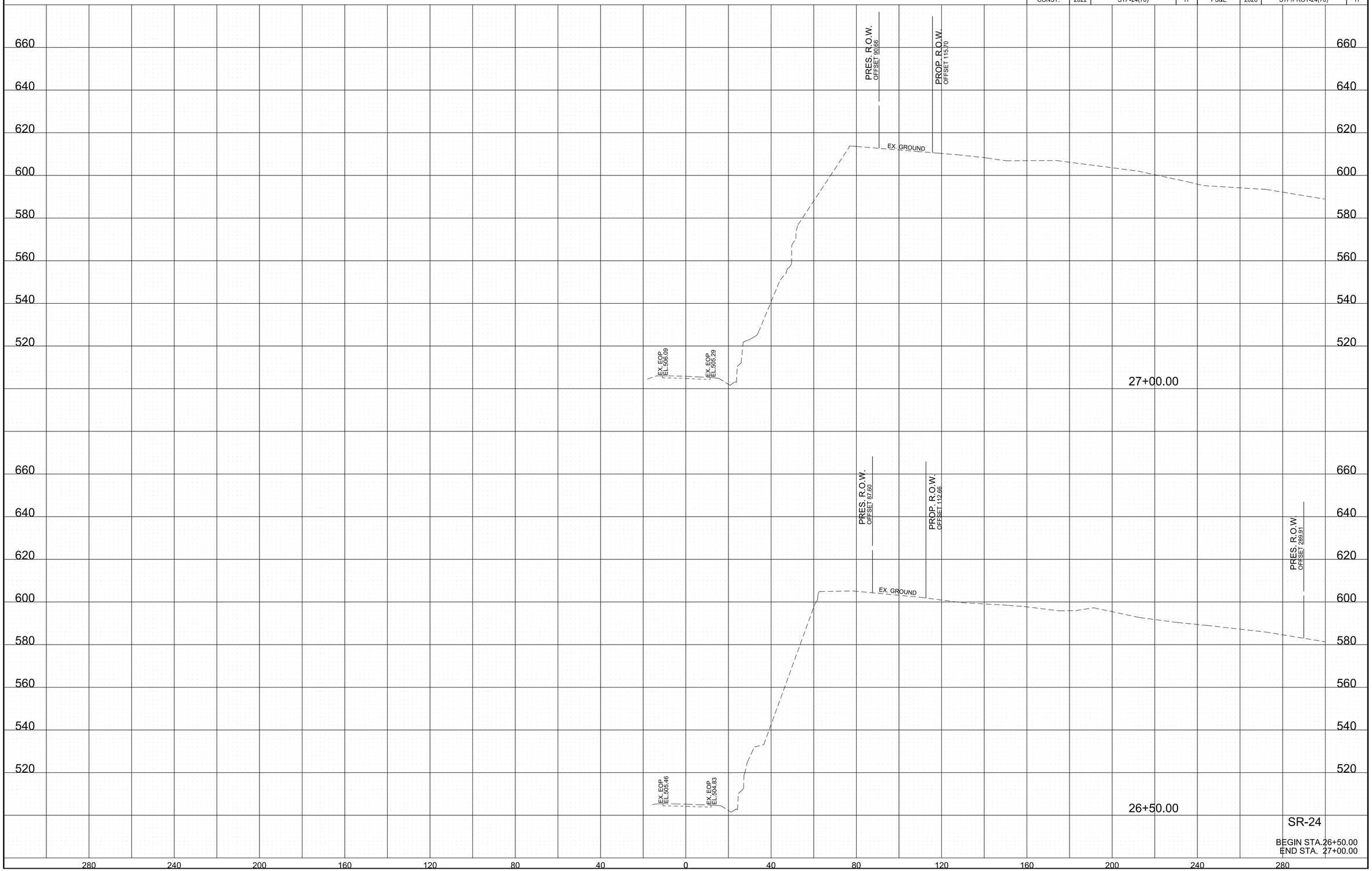


SR-24

BEGIN STA. 25+50.00
END STA. 26+00.00

7/20/2026 12:48:38 PM
Z:\17Proj\641\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	15	P.I.H.	2026	STP-24(70)	17
CONST.	2022	STP-24(70)	17	PS&E	2026	STP/PROT-24(70)	17

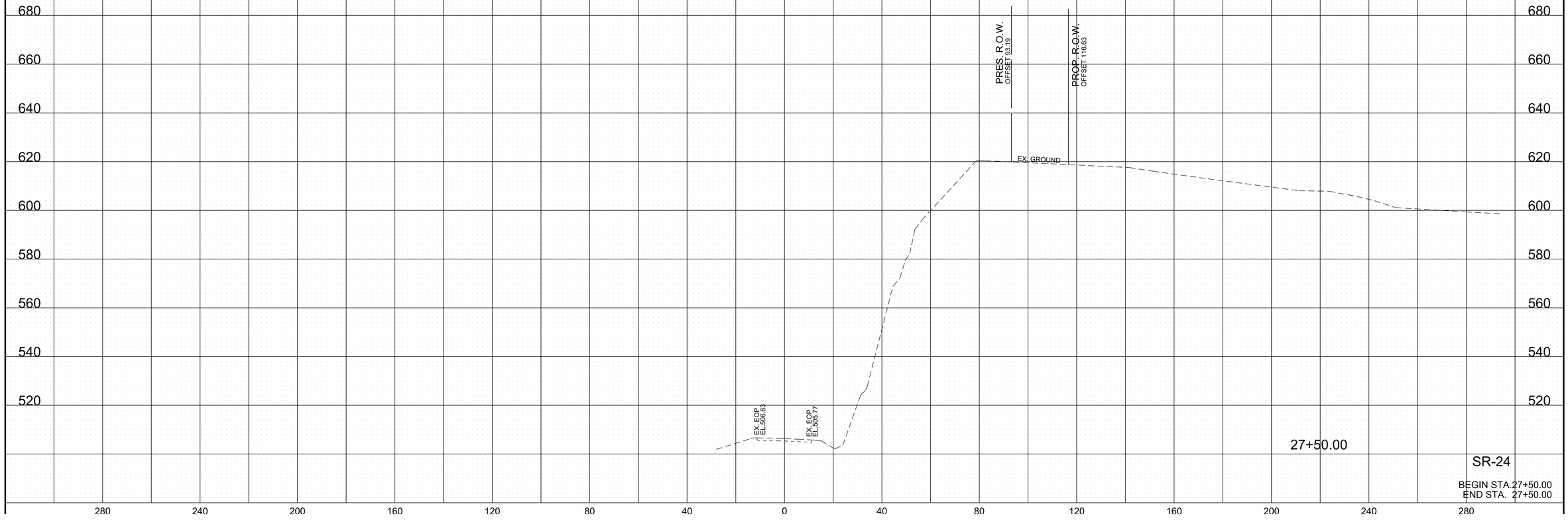


SR-24

BEGIN STA.26+50.00
END STA. 27+00.00

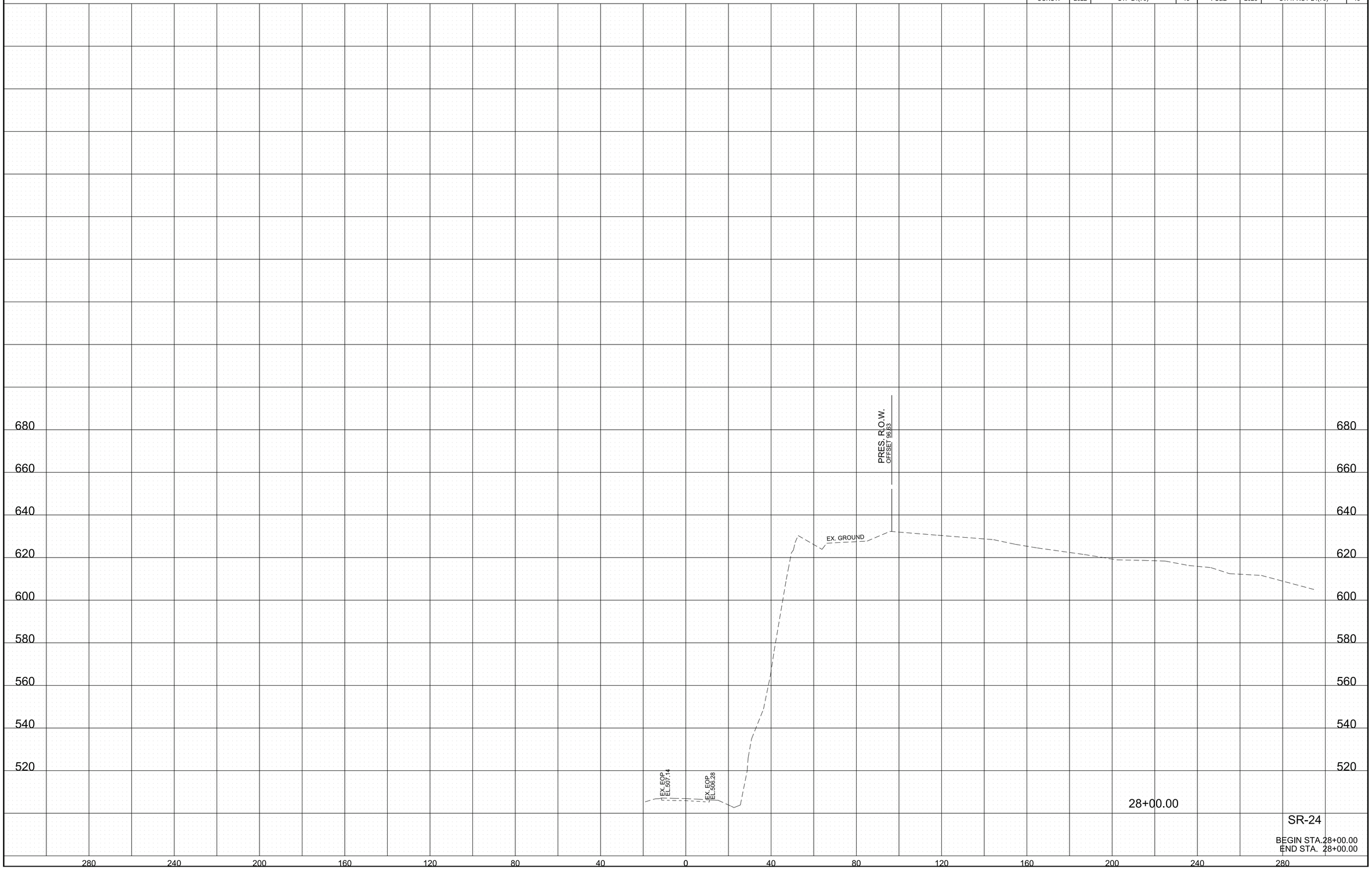
7/20/2026 12:48:39 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	16	P.I.H.	2026	STP-24(70)	18
CONST.	2022	STP-24(70)	18	PS&E	2026	STP/PROT-24(70)	18



7/20/2026 12:48:40 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	17	P.I.H.	2026	STP-24(70)	19
CONST.	2022	STP-24(70)	19	PS&E	2026	STP/PROT-24(70)	19



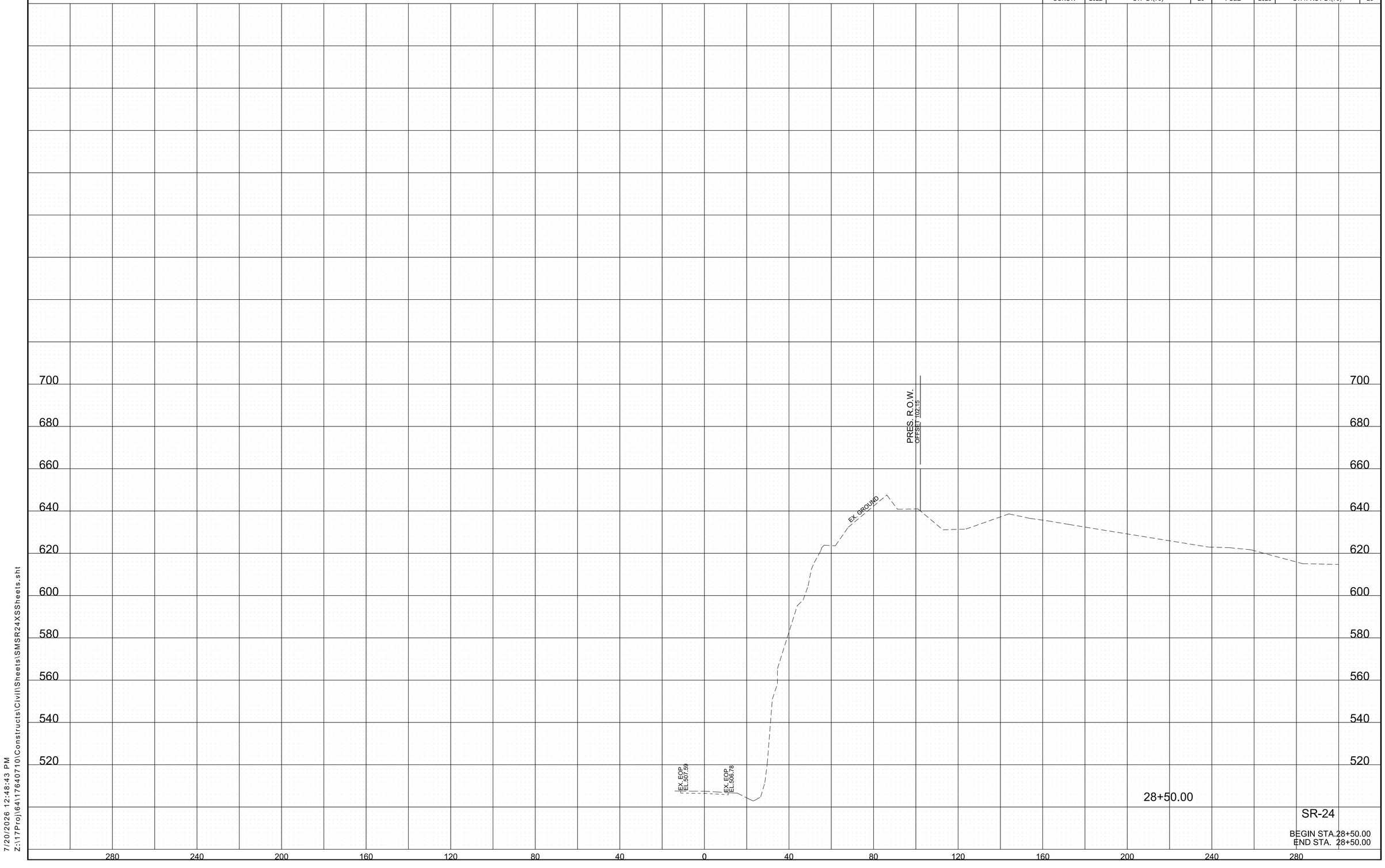
28+00.00

SR-24

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

7/20/2026 12:48:42 PM
Z:\17Proj\641176407 10\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	18	P.I.H.	2026	STP-24(70)	20
CONST.	2022	STP-24(70)	20	PS&E	2026	STP/PROT-24(70)	20



7/20/2026 12:48:43 PM
Z:\17Proj\641\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	19	P.I.H.	2026	STP-24(70)	21
CONST.	2022	STP-24(70)	21	PS&E	2026	STP/PROT-24(70)	21

700
680
660
640
620
600
580
560
540
520

PRES. R.O.W.
OFFSET 107.13

EX. GROUND

EX. EOP
EL. 508.16

EX. EOP
EL. 507.30

29+00.00

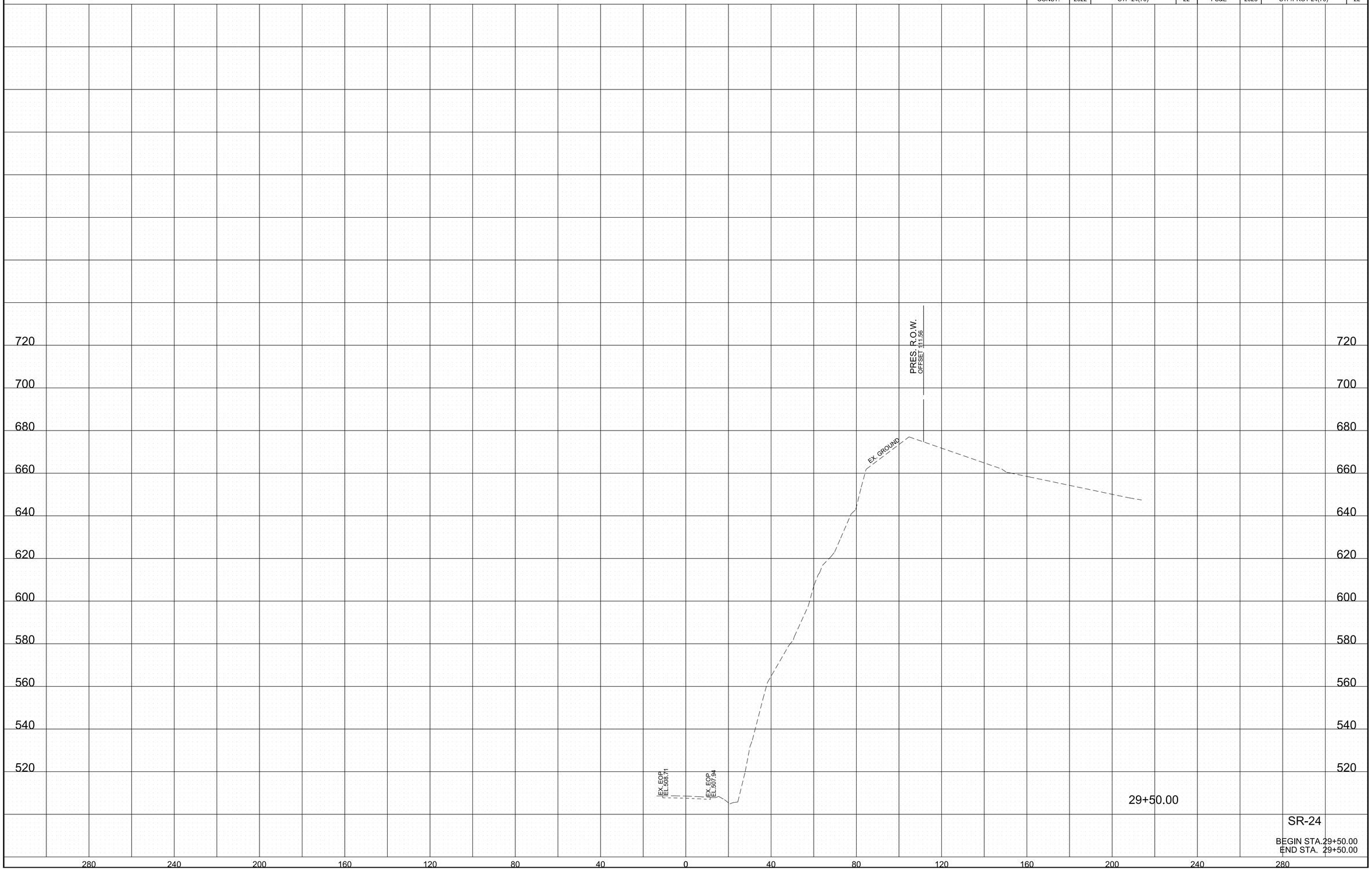
SR-24

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

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

7/20/2026 12:48:44 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	20	P.I.H.	2026	STP-24(70)	22
CONST.	2022	STP-24(70)	22	PS&E	2026	STP/PROT-24(70)	22



SR-24

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

7/20/2026 12:48:46 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	21	P.I.H.	2026	STP-24(70)	23
CONST.	2022	STP-24(70)	23	PS&E	2026	STP/PROT-24(70)	23

720
700
680
660
640
620
600
580
560
540
520

PRES. R.O.W.
OFFSET 115.46

EX. GROUND

EX. EOP
EL. 508.99

EX. EOP
EL. 508.66

30+00.00

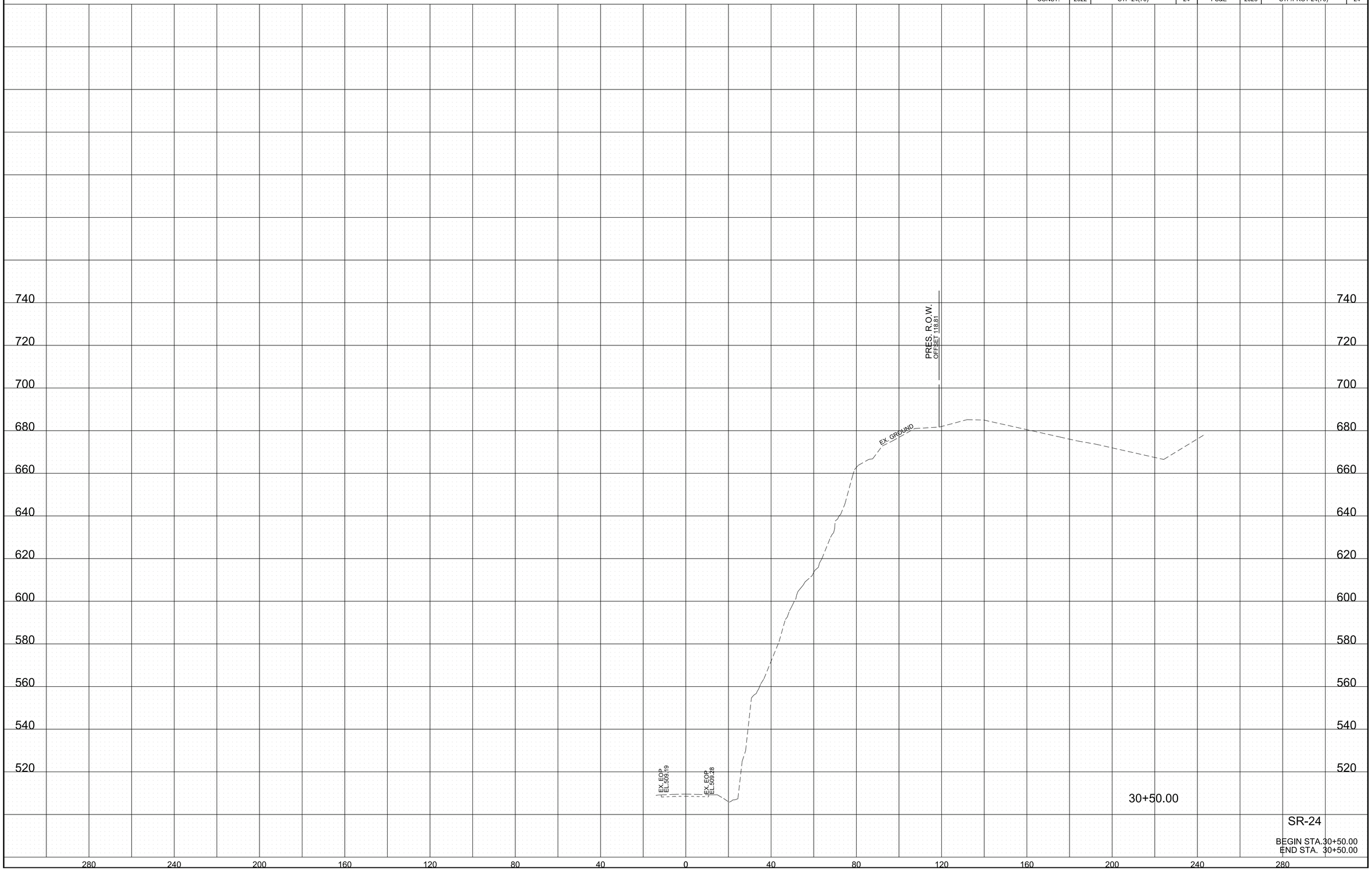
SR-24

BEGIN STA.30+00.00
END STA. 30+00.00

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

7/20/2026 12:48:47 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	22	P.I.H.	2026	STP-24(70)	24
CONST.	2022	STP-24(70)	24	PS&E	2026	STP/PROT-24(70)	24

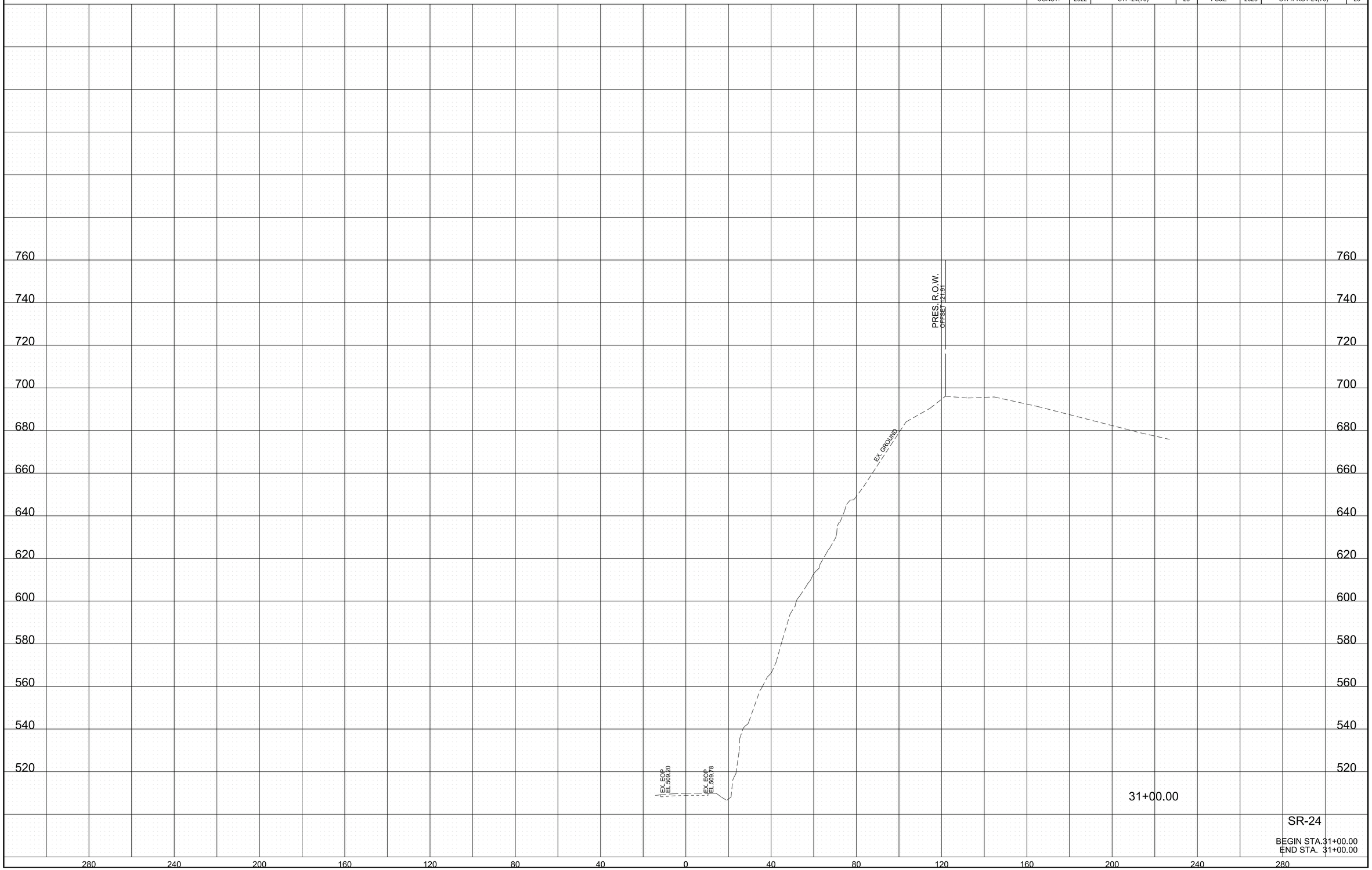


SR-24

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

7/20/2026 12:48:49 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	23	P.I.H.	2026	STP-24(70)	25
CONST.	2022	STP-24(70)	25	PS&E	2026	STP/PROT-24(70)	25

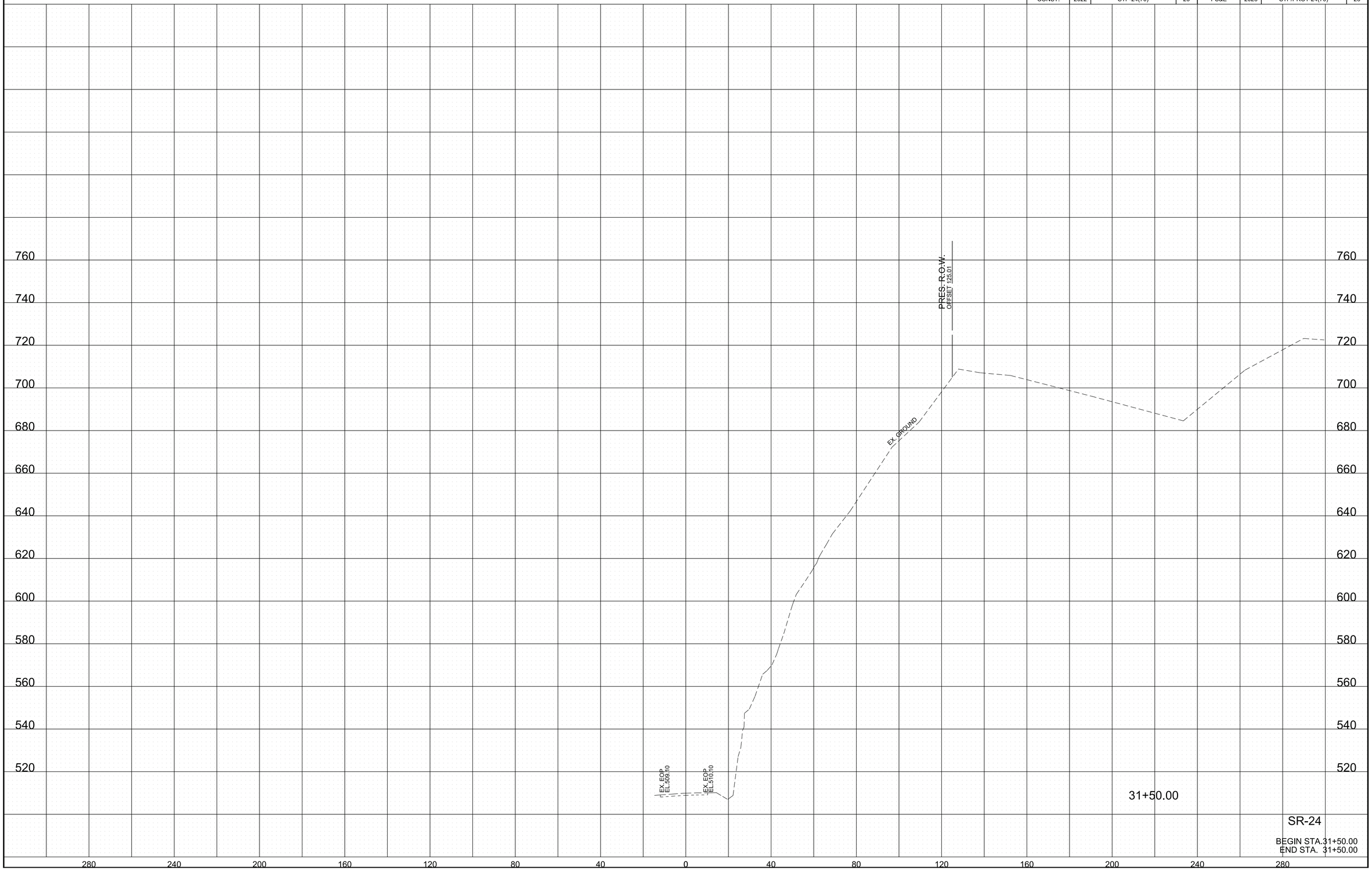


SR-24

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

7/20/2026 12:48:50 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	24	P.I.H.	2026	STP-24(70)	26
CONST.	2022	STP-24(70)	26	PS&E	2026	STP/PROT-24(70)	26

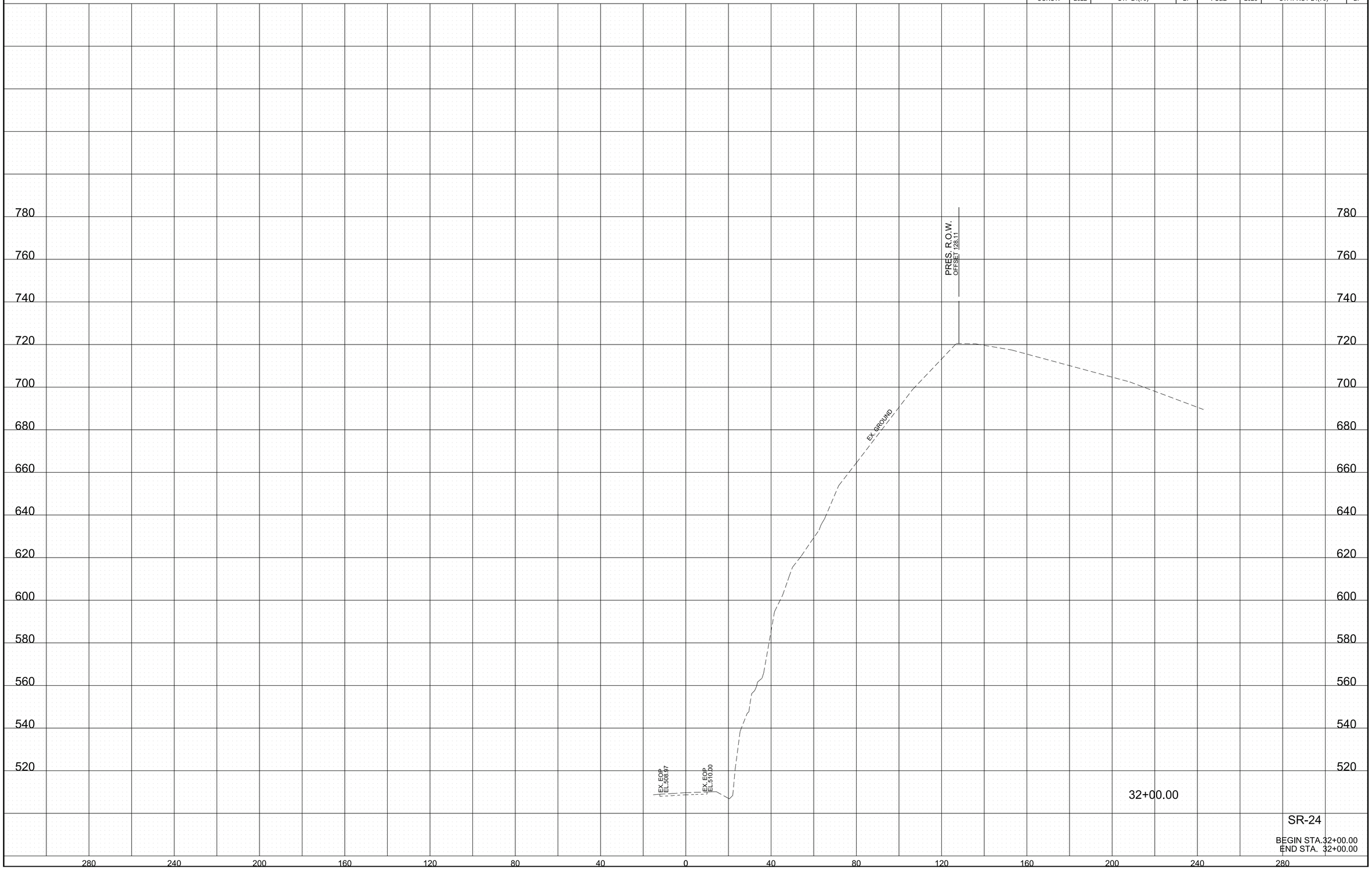


SR-24

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

7/20/2026 12:48:51 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	25	P.I.H.	2026	STP-24(70)	27
CONST.	2022	STP-24(70)	27	PS&E	2026	STP/PROT-24(70)	27

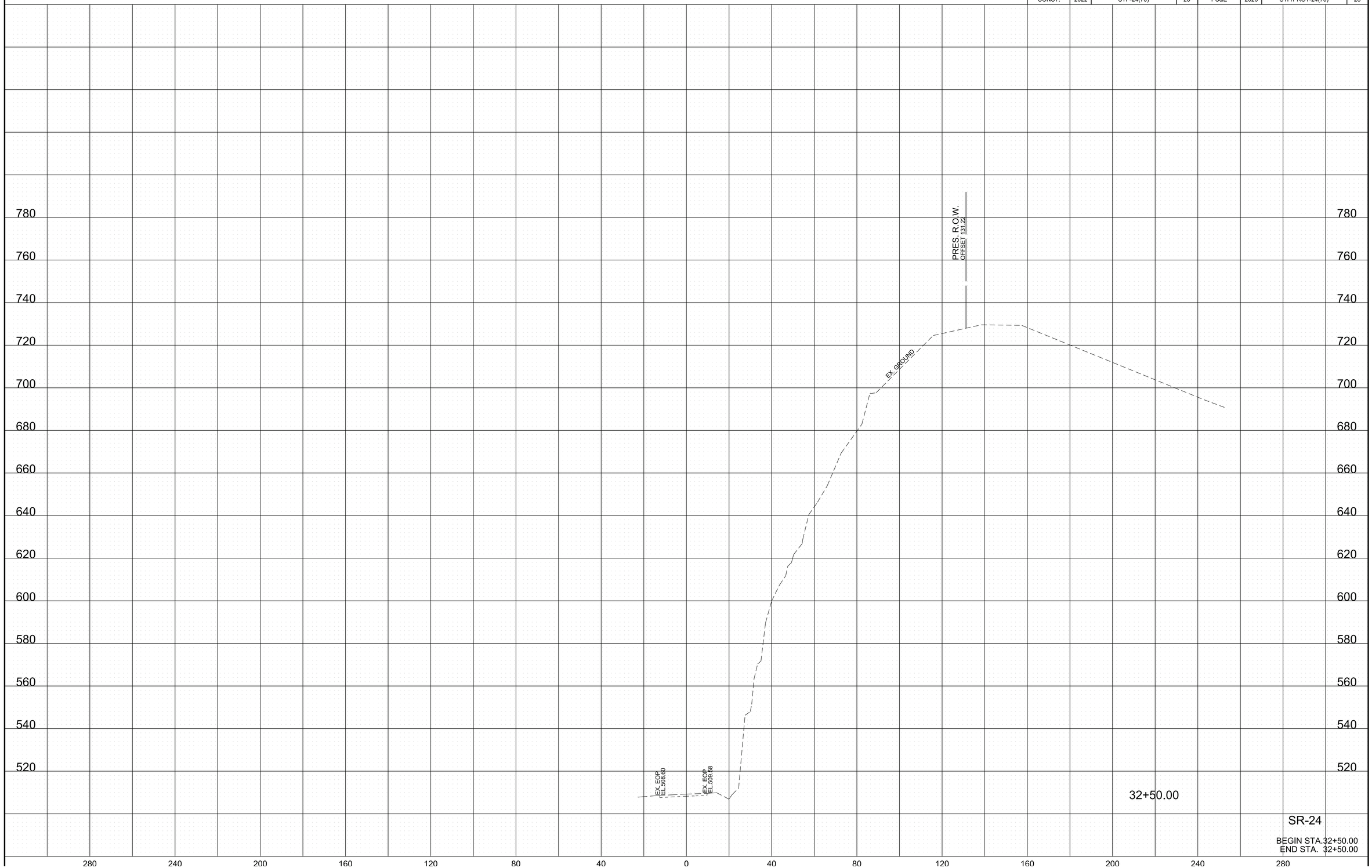


SR-24

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

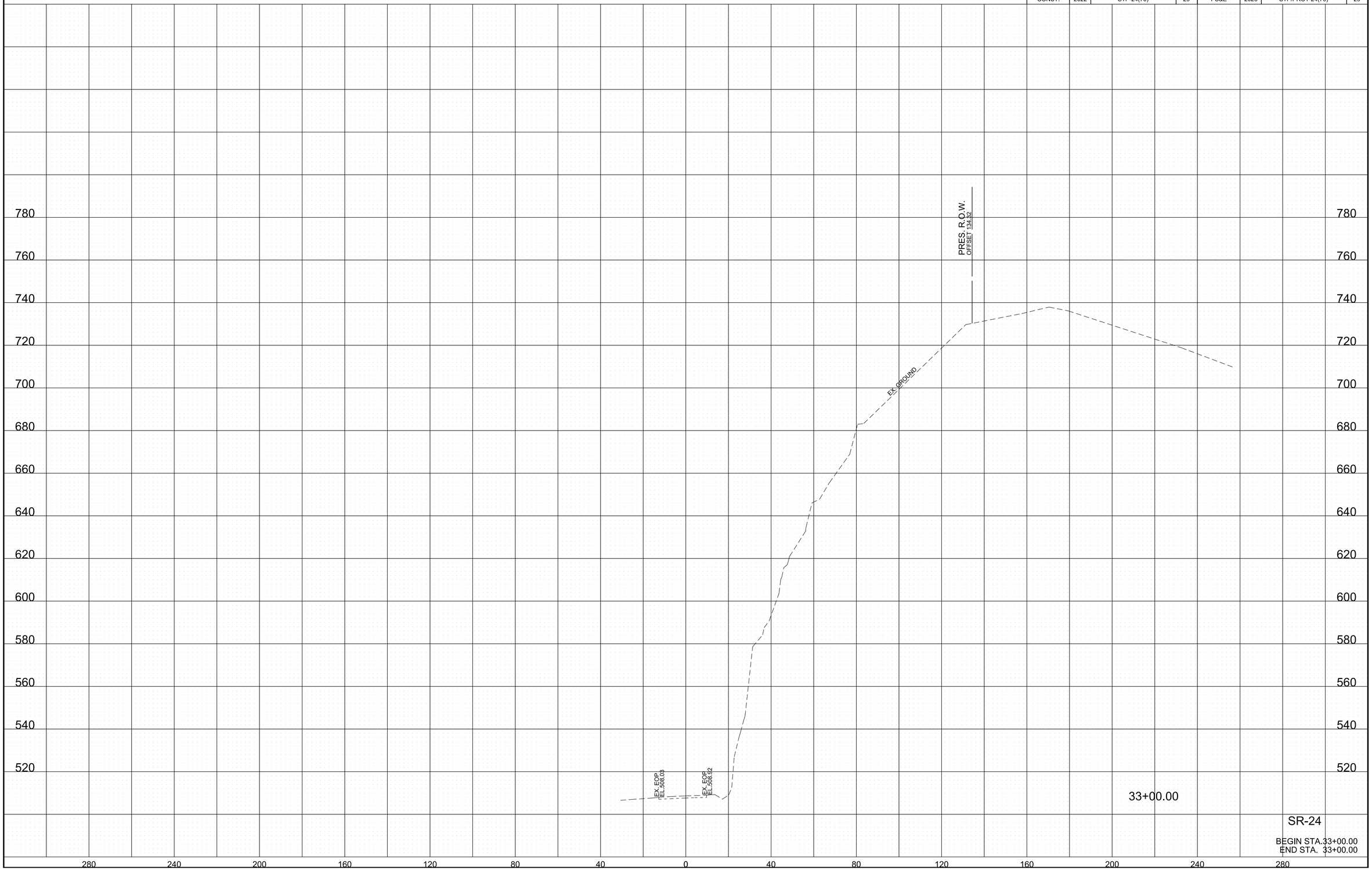
7/20/2026 12:48:53 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	26	P.I.H.	2026	STP-24(70)	28
CONST.	2022	STP-24(70)	28	PS&E	2026	STP/PROT-24(70)	28



7/20/2026 12:48:54 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	27	P.I.H.	2026	STP-24(70)	29
CONST.	2022	STP-24(70)	29	PS&E	2026	STP/PROT-24(70)	29

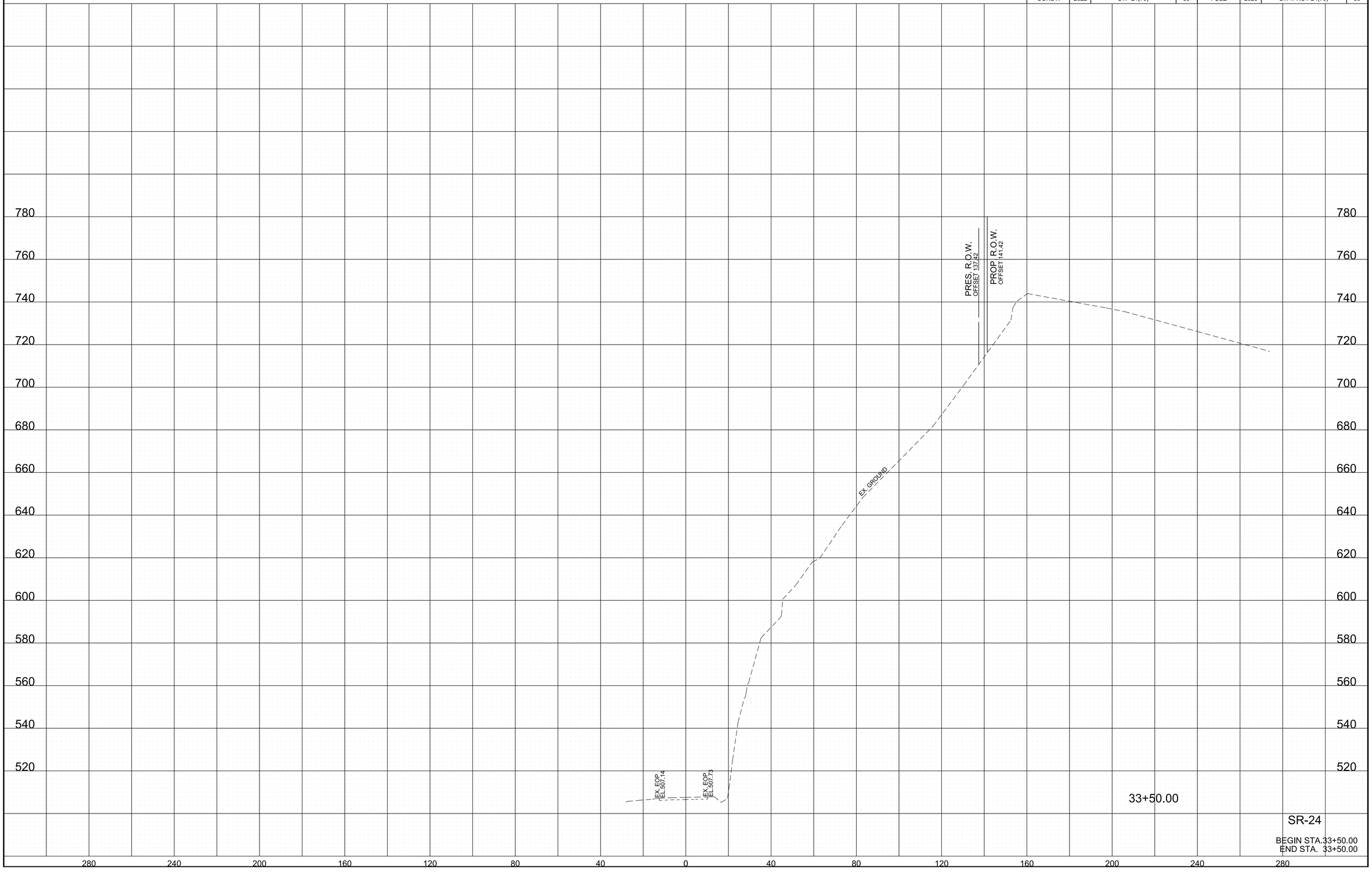


SR-24

BEGIN STA. 33+00.00
END STA. 33+00.00

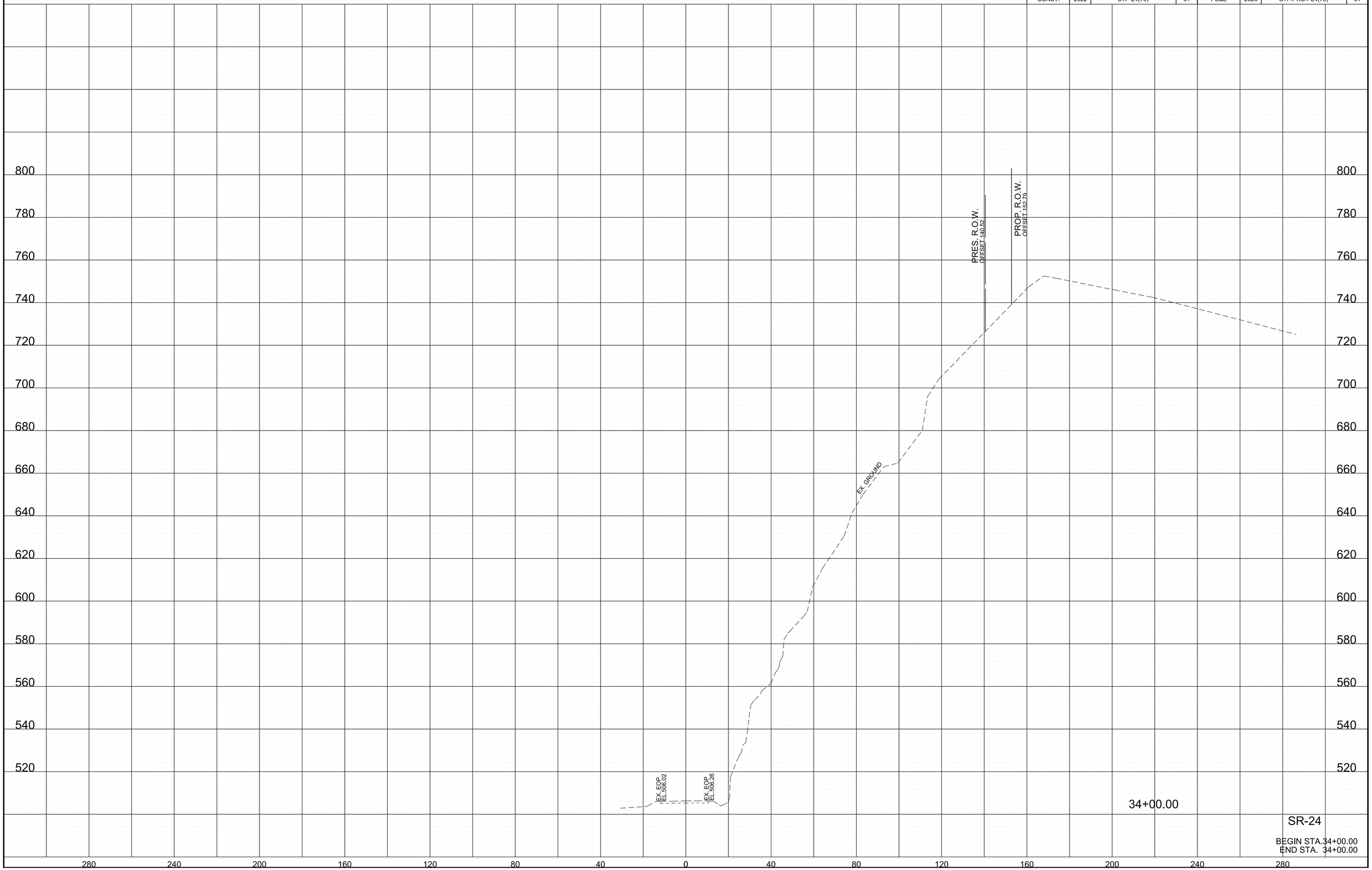
7/20/2026 12:48:55 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	28	P.I.H.	2026	STP-24(70)	30
CONST.	2022	STP-24(70)	30	PS&E	2026	STP/PROT-24(70)	30



7/20/2026 12:48:57 PM
Z:\17Proj\641\17640710\Constructs\CivilSheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	29	P.I.H.	2026	STP-24(70)	31
CONST.	2022	STP-24(70)	31	PS&E	2026	STP/PROT-24(70)	31

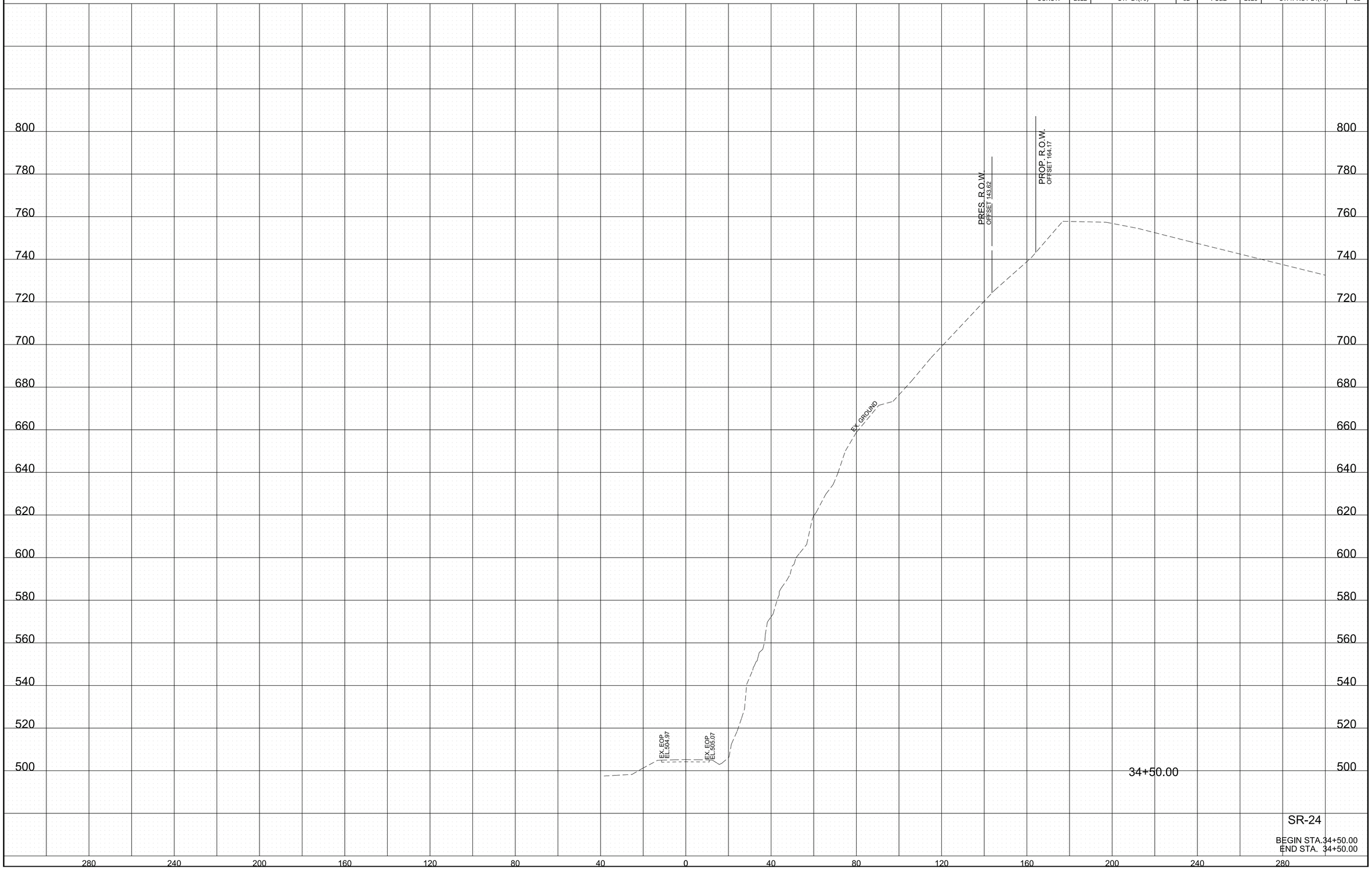


SR-24

BEGIN STA. 34+00.00
END STA. 34+00.00

7/20/2026 12:48:58 PM
Z:\17Proj\64\176407 10\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	30	P.I.H.	2026	STP-24(70)	32
CONST.	2022	STP-24(70)	32	PS&E	2026	STP/PROT-24(70)	32

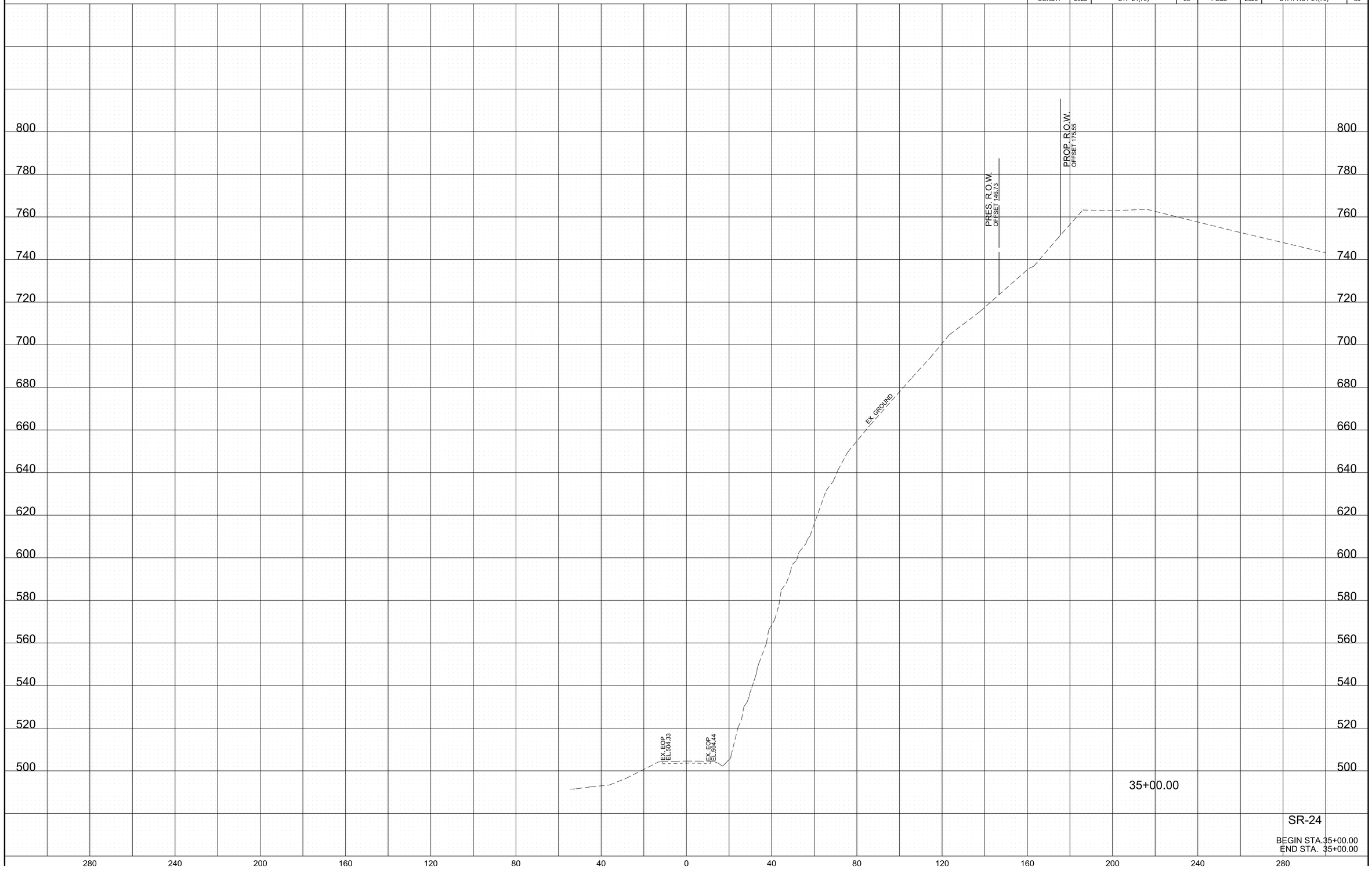


SR-24

BEGIN STA. 34+50.00
END STA. 34+50.00

7/20/2026 12:48:59 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	31	P.I.H.	2026	STP-24(70)	33
CONST.	2022	STP-24(70)	33	PS&E	2026	STP/PROT-24(70)	33



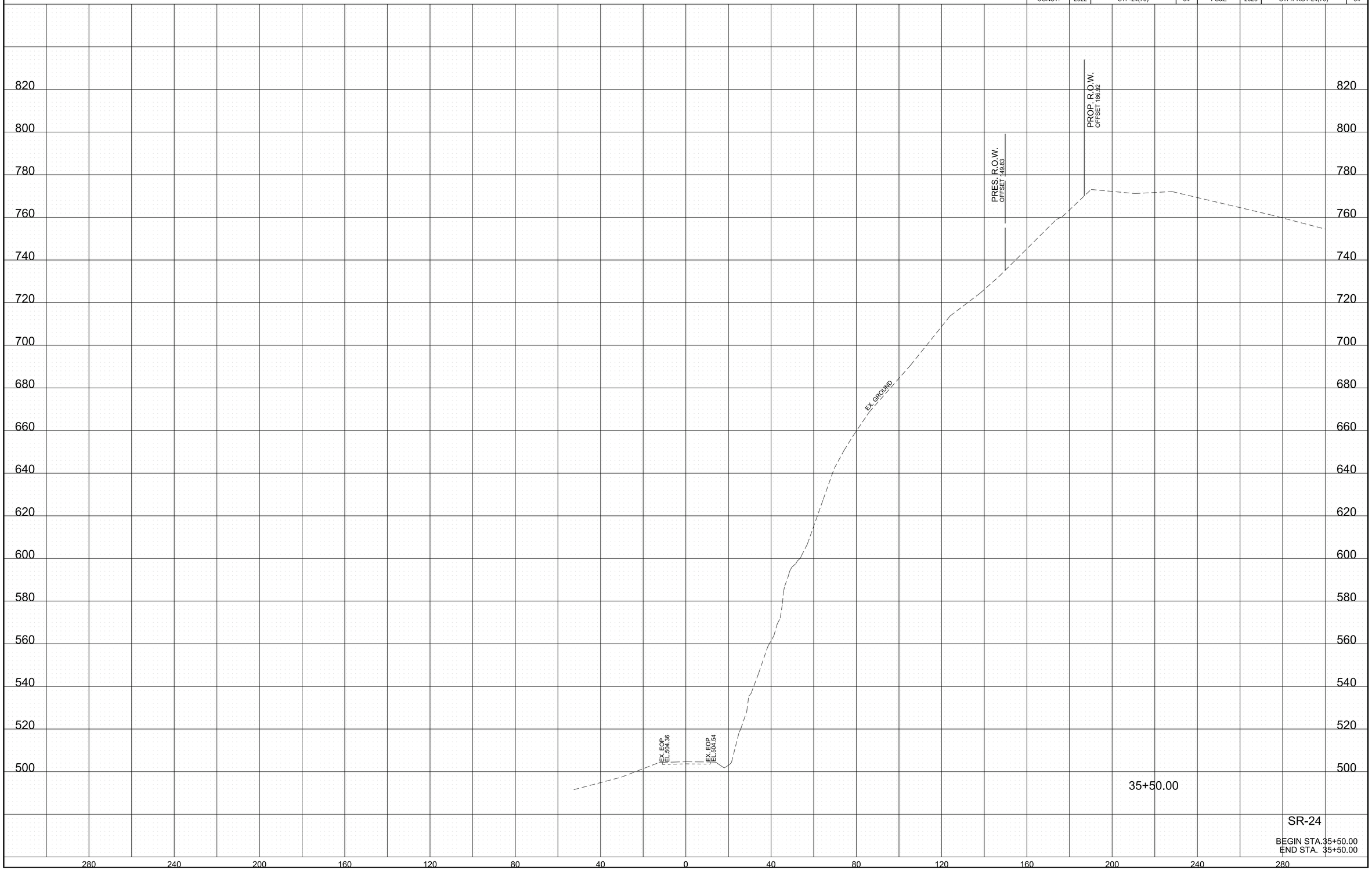
35+00.00

SR-24

BEGIN STA.35+00.00
END STA. 35+00.00

7/20/2026 12:49:01 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	32	P.I.H.	2026	STP-24(70)	34
CONST.	2022	STP-24(70)	34	PS&E	2026	STP/PROT-24(70)	34

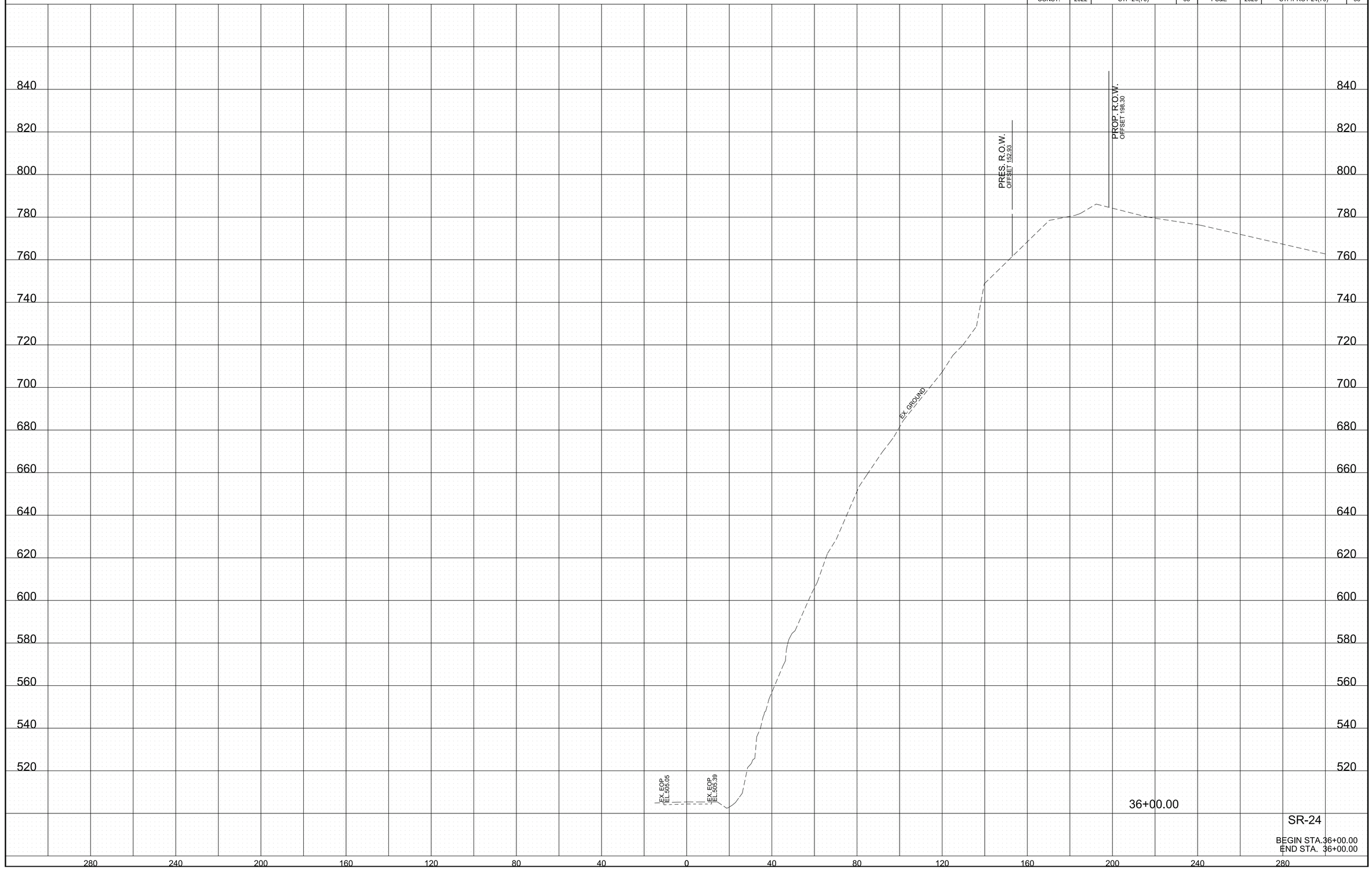


SR-24

BEGIN STA. 35+50.00
END STA. 35+50.00

7/20/2026 12:49:02 PM
Z:\17Proj\64\176407 10\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	33	P.I.H.	2026	STP-24(70)	35
CONST.	2022	STP-24(70)	35	PS&E	2026	STP/PROT-24(70)	35

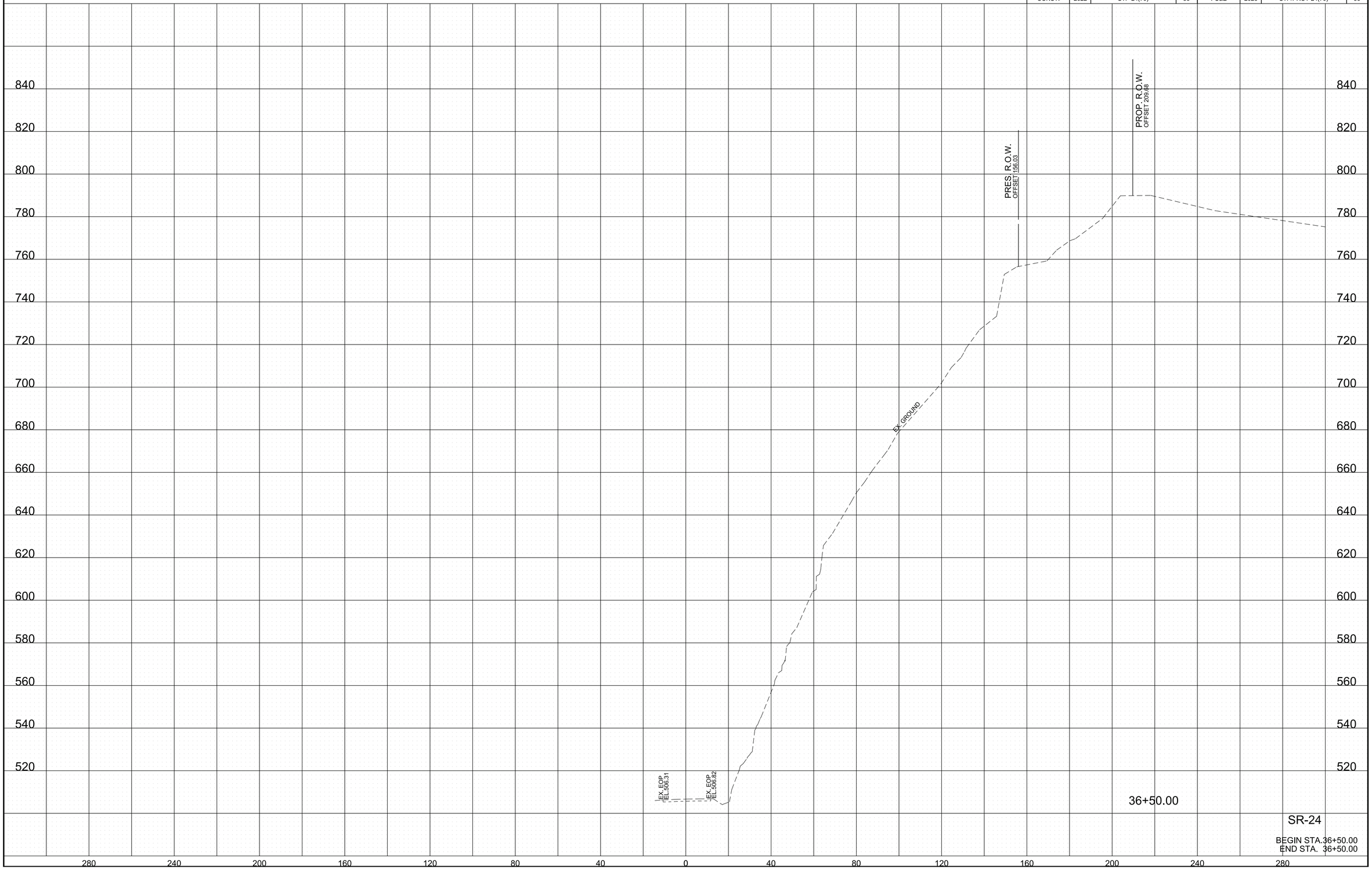


SR-24

BEGIN STA.36+00.00
END STA. 36+00.00

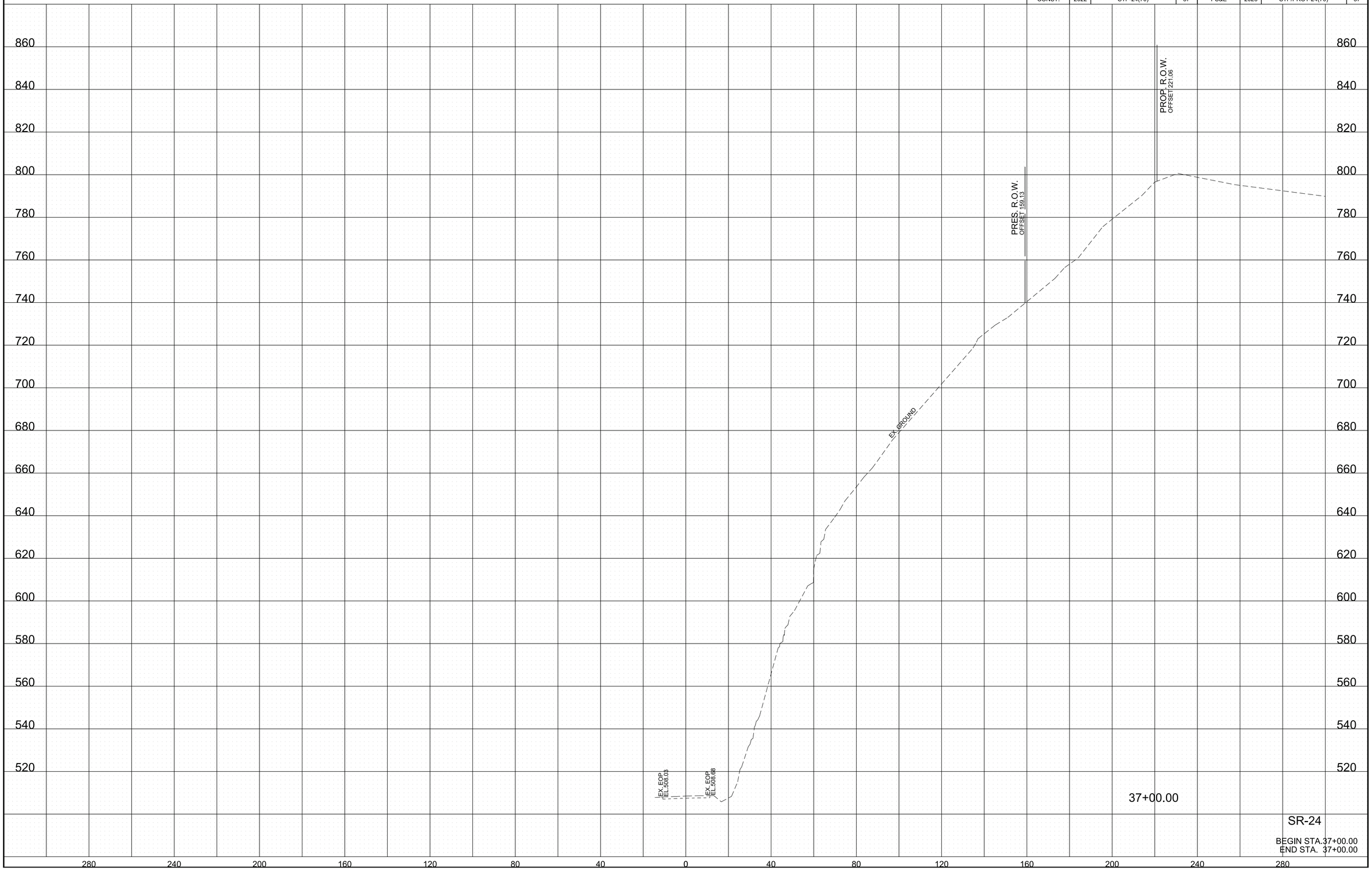
7/20/2026 12:49:03 PM
Z:\17Proj\64\176407\10\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	34	P.I.H.	2026	STP-24(70)	36
CONST.	2022	STP-24(70)	36	PS&E	2026	STP/PROT-24(70)	36



7/20/2026 12:49:05 PM
Z:\17Proj\641176407 10\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	35	P.I.H.	2026	STP-24(70)	37
CONST.	2022	STP-24(70)	37	PS&E	2026	STP/PROT-24(70)	37

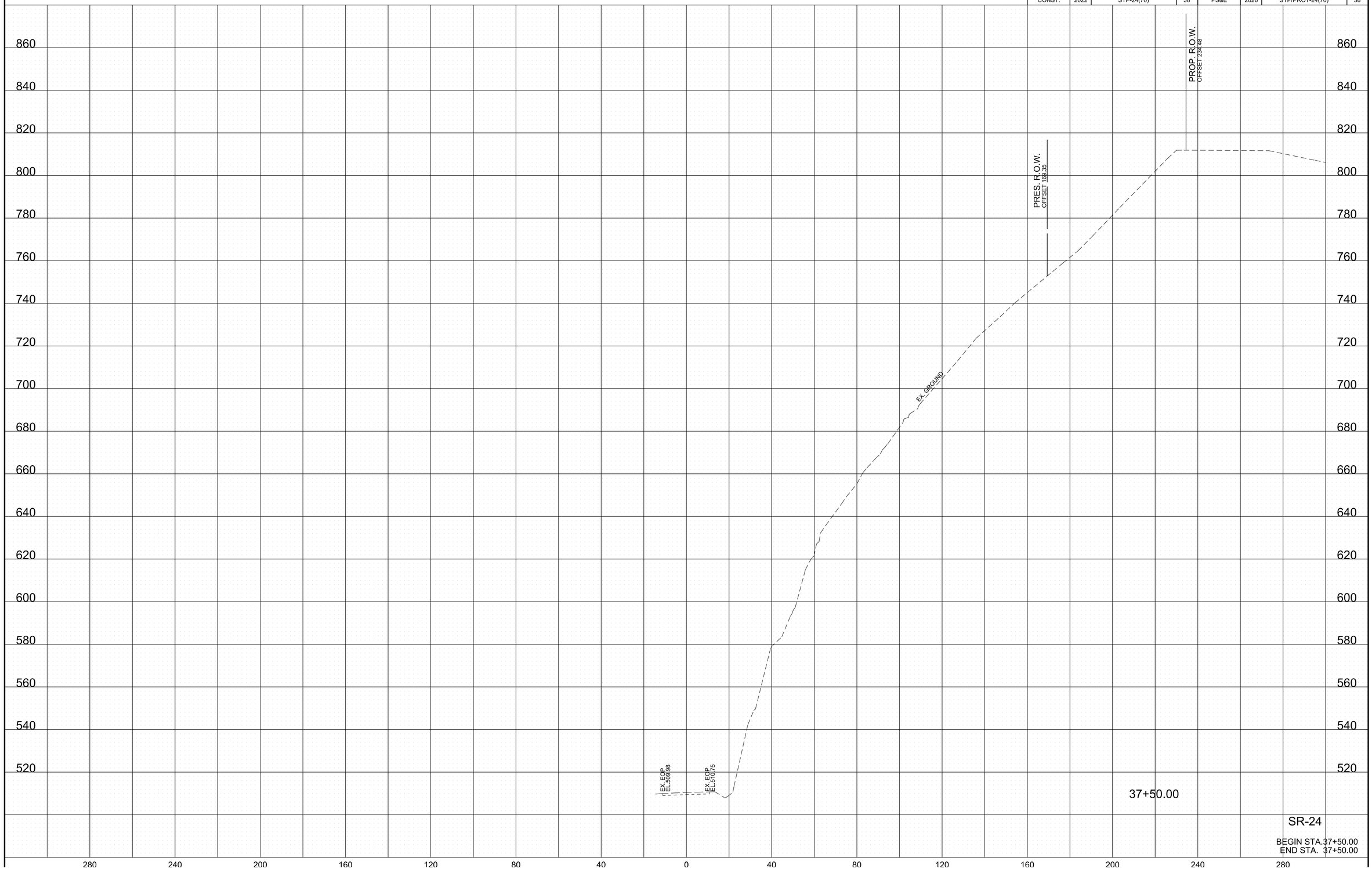


SR-24

BEGIN STA.37+00.00
END STA. 37+00.00

7/20/2026 12:49:06 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	36	P.I.H.	2026	STP-24(70)	38
CONST.	2022	STP-24(70)	38	PS&E	2026	STP/PROT-24(70)	38



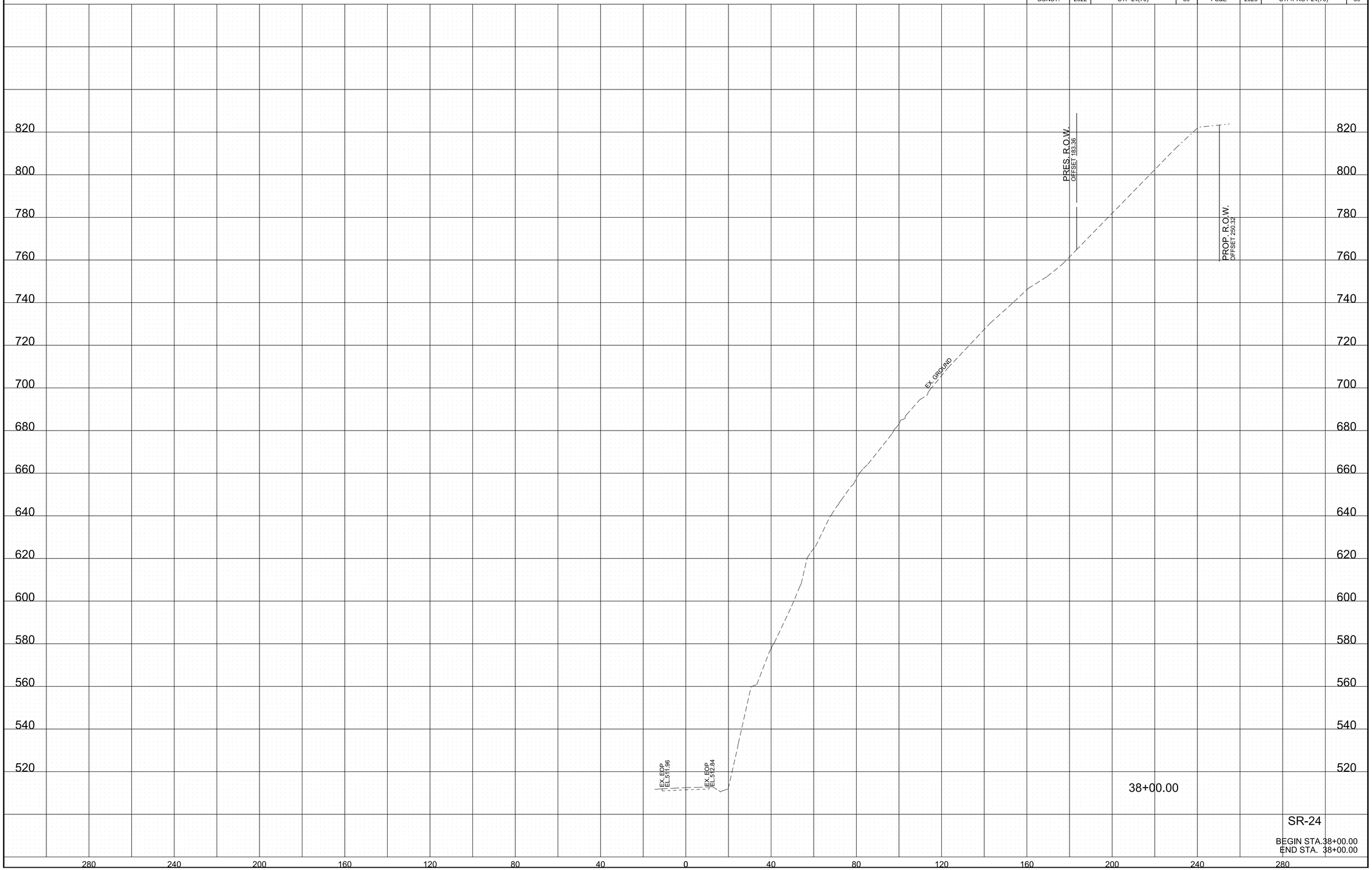
37+50.00

SR-24

BEGIN STA. 37+50.00
END STA. 37+50.00

7/20/2026 12:49:07 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	37	P.I.H.	2026	STP-24(70)	39
CONST.	2022	STP-24(70)	39	PS&E	2026	STP/PROT-24(70)	39

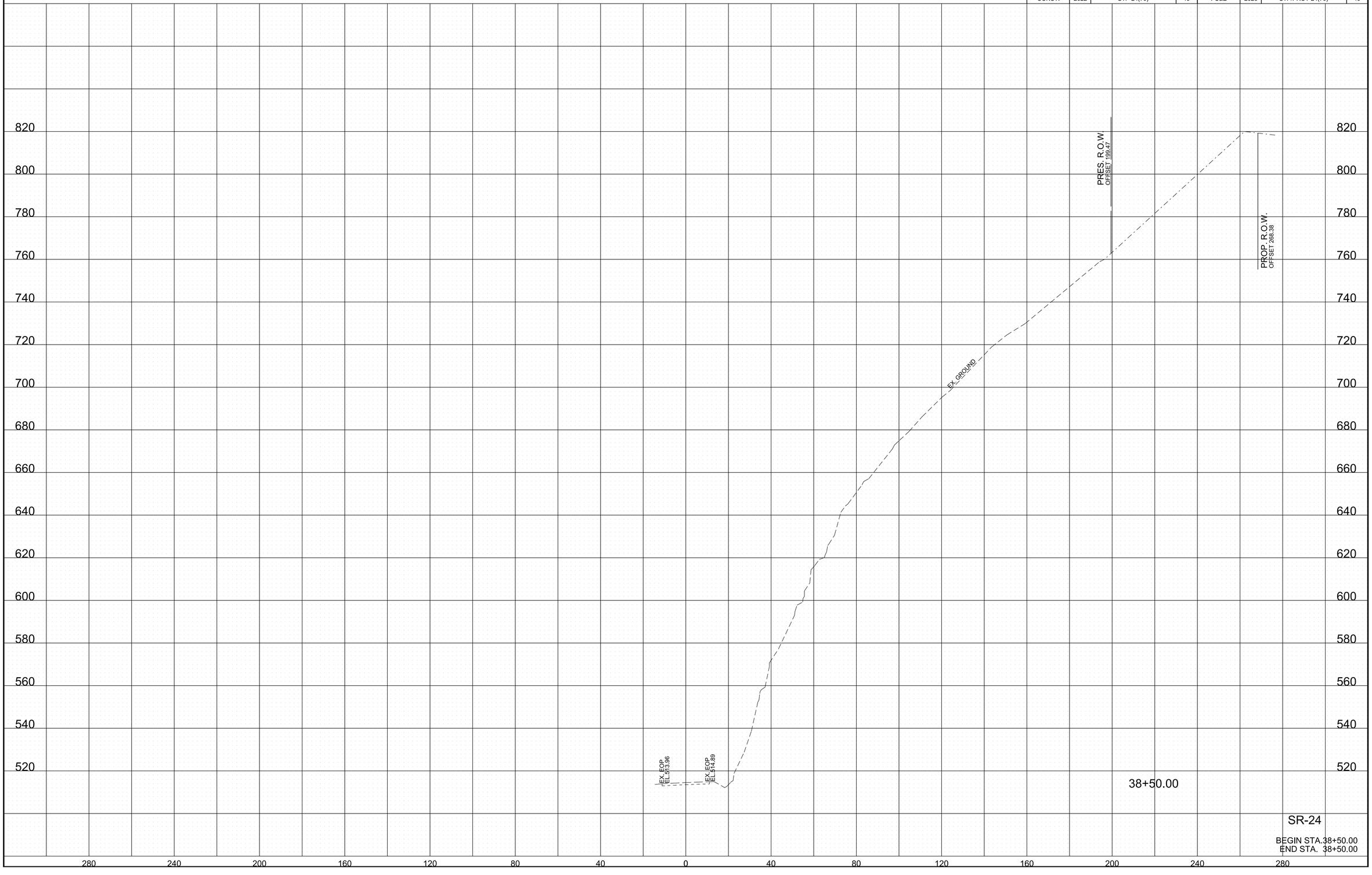


SR-24

BEGIN STA.38+00.00
END STA. 38+00.00

7/20/2026 12:49:09 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	38	P.I.H.	2026	STP-24(70)	40
CONST.	2022	STP-24(70)	40	PS&E	2026	STP/PROT-24(70)	40

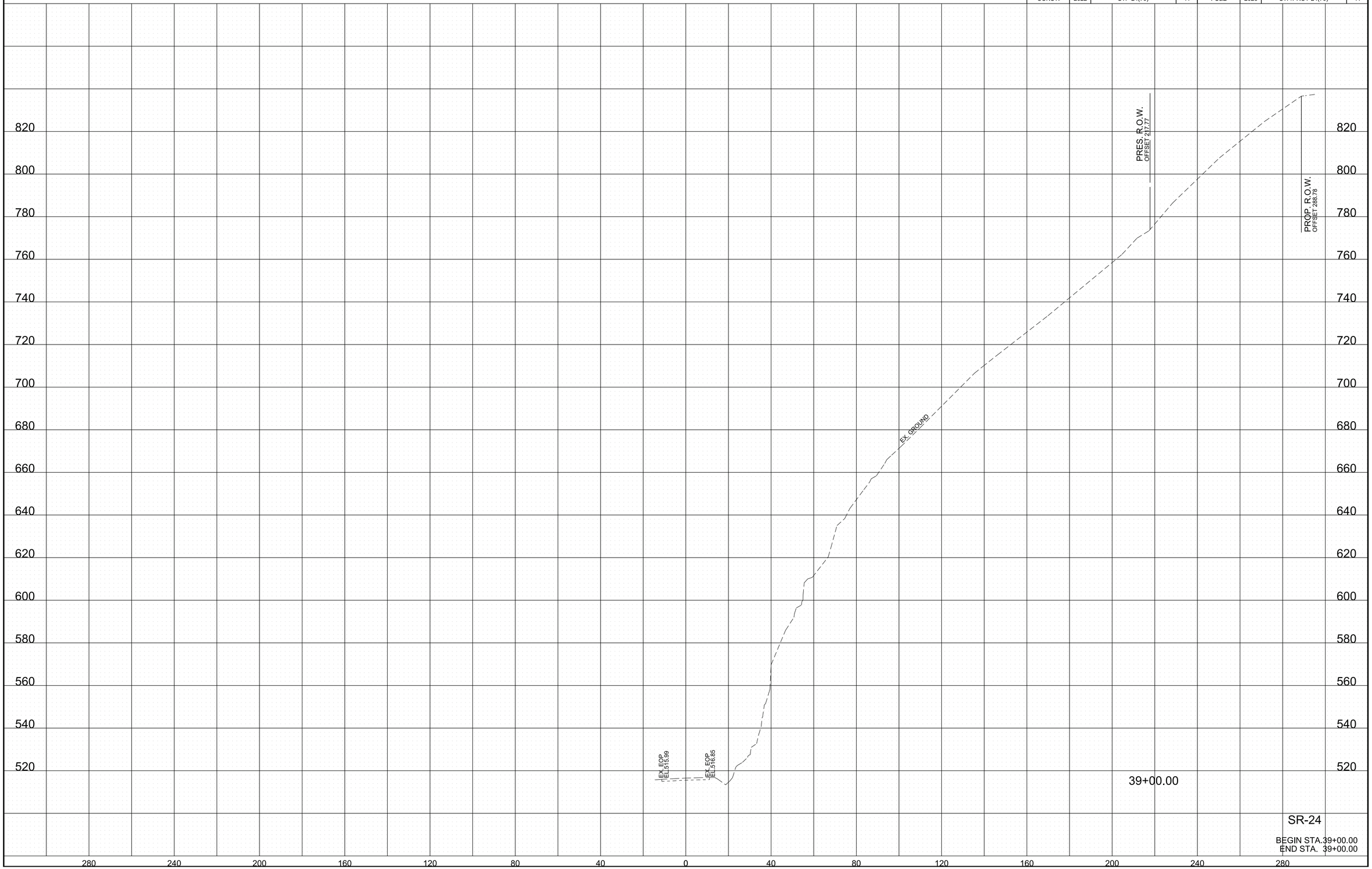


SR-24

BEGIN STA.38+50.00
END STA. 38+50.00

7/20/2026 12:49:10 PM
Z:\17Proj\641\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	39	P.I.H.	2026	STP-24(70)	41
CONST.	2022	STP-24(70)	41	PS&E	2026	STP/PROT-24(70)	41

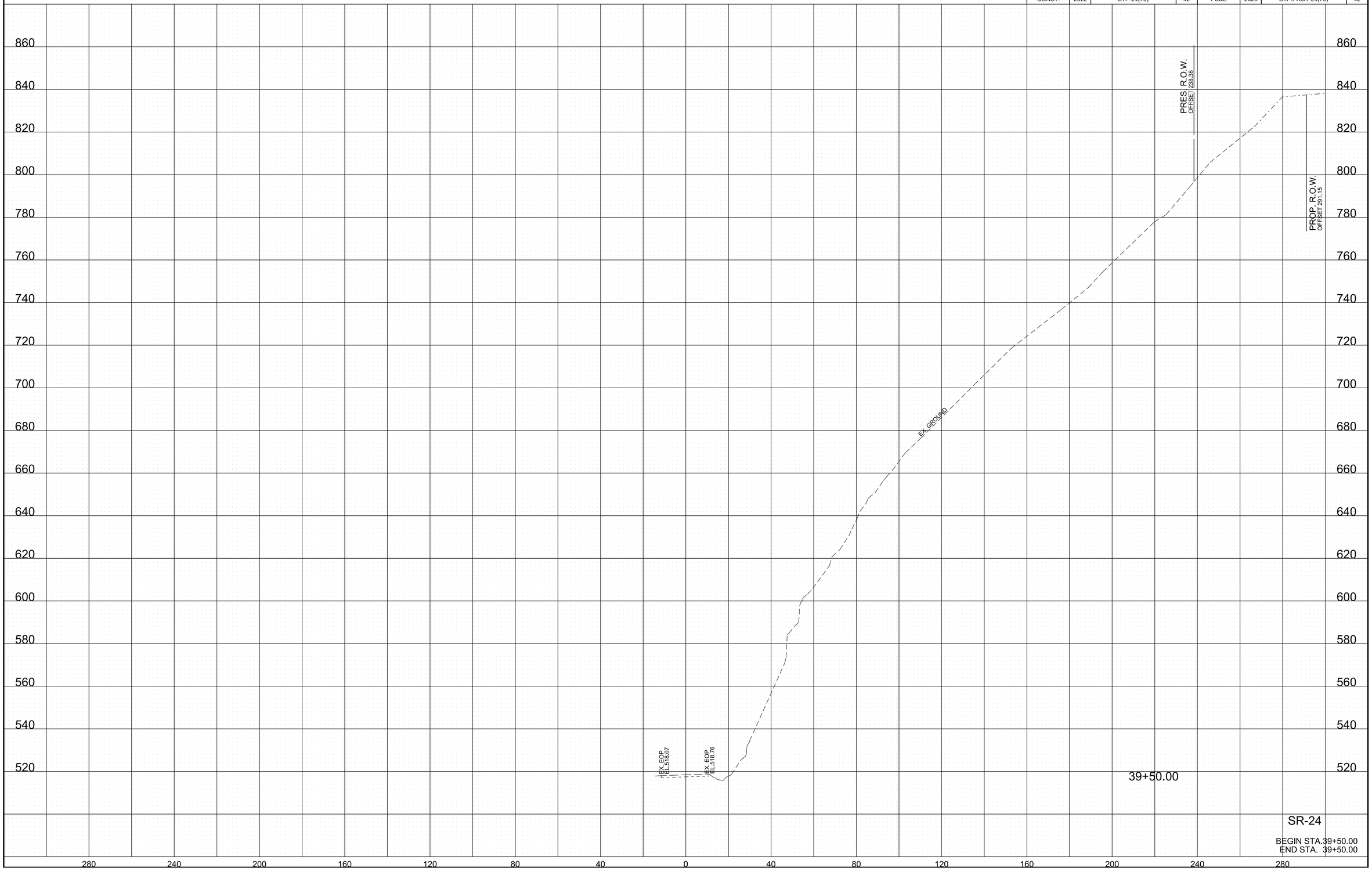


SR-24

BEGIN STA. 39+00.00
END STA. 39+00.00

7/20/2026 12:49:11 PM
Z:\17Proj\641176407 10\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	40	P.I.H.	2026	STP-24(70)	42
CONST.	2022	STP-24(70)	42	PS&E	2026	STP/PROT-24(70)	42

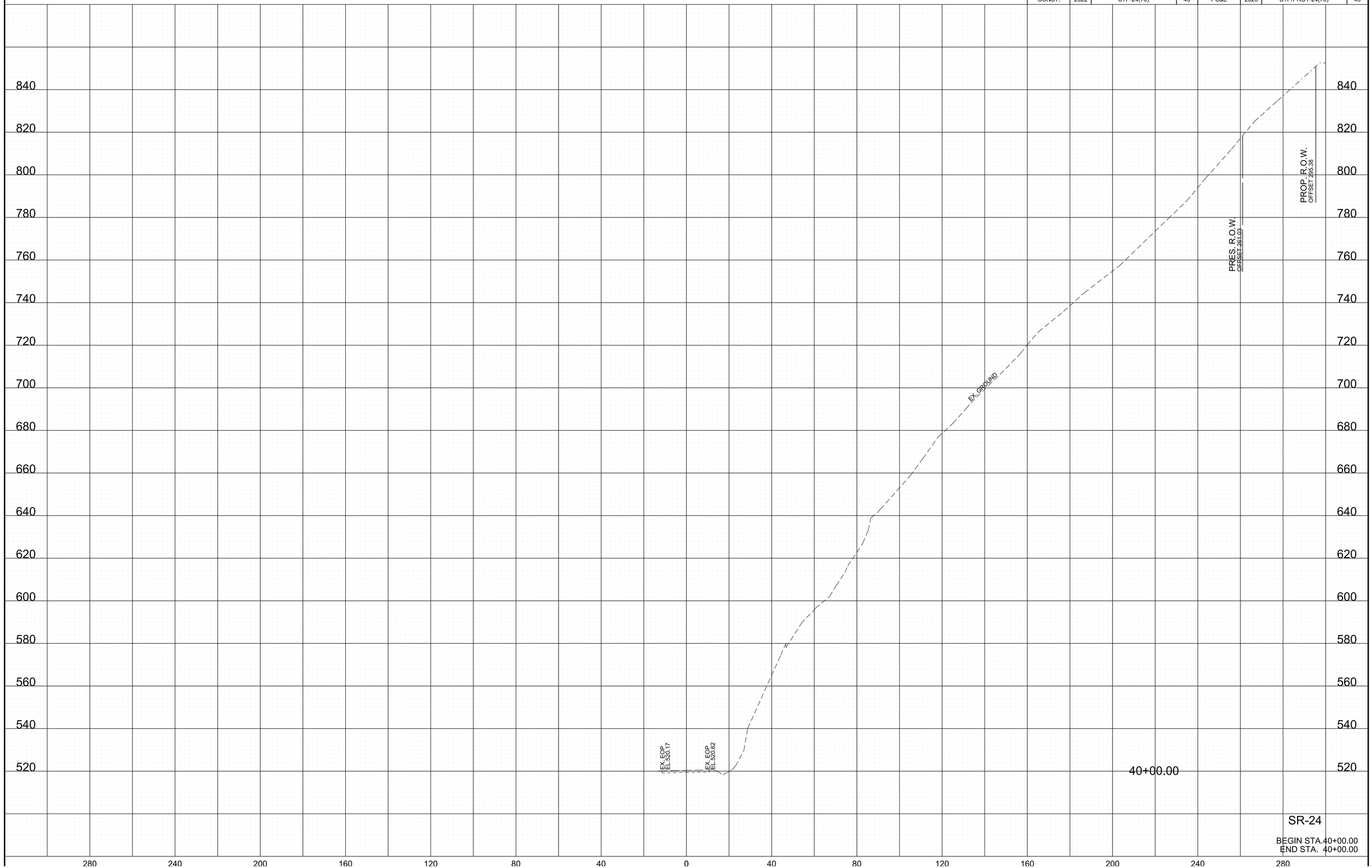


SR-24

BEGIN STA. 39+50.00
END STA. 39+50.00

7/20/2026 12:49:13 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	41	P.I.H.	2026	STP-24(70)	43
CONST.	2022	STP-24(70)	43	PS&E	2026	STP/PROT-24(70)	43

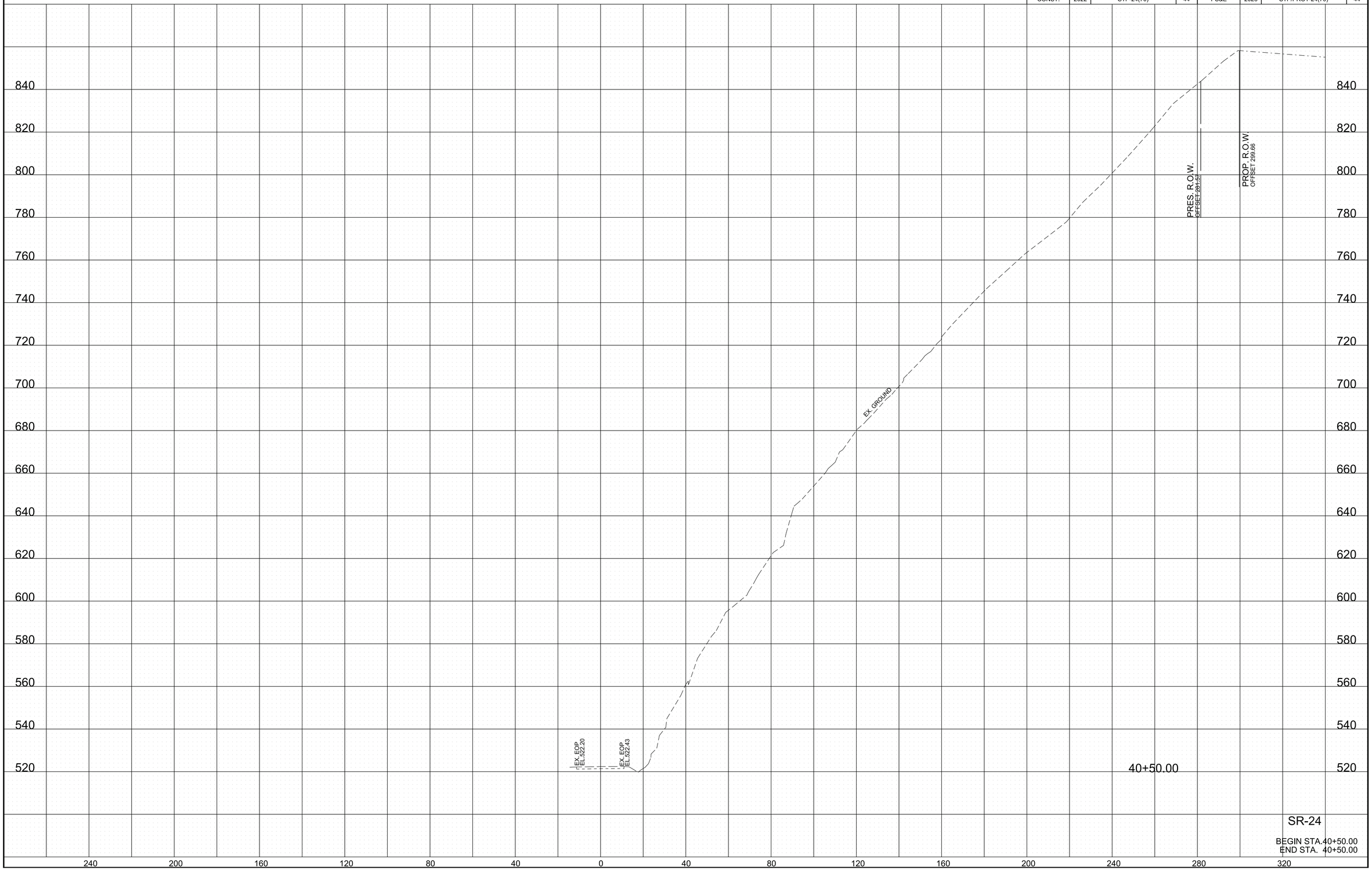


SR-24

BEGIN STA.40+00.00
END STA. 40+00.00

7/20/2026 12:49:14 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	42	P.I.H.	2026	STP-24(70)	44
CONST.	2022	STP-24(70)	44	PS&E	2026	STP/PROT-24(70)	44

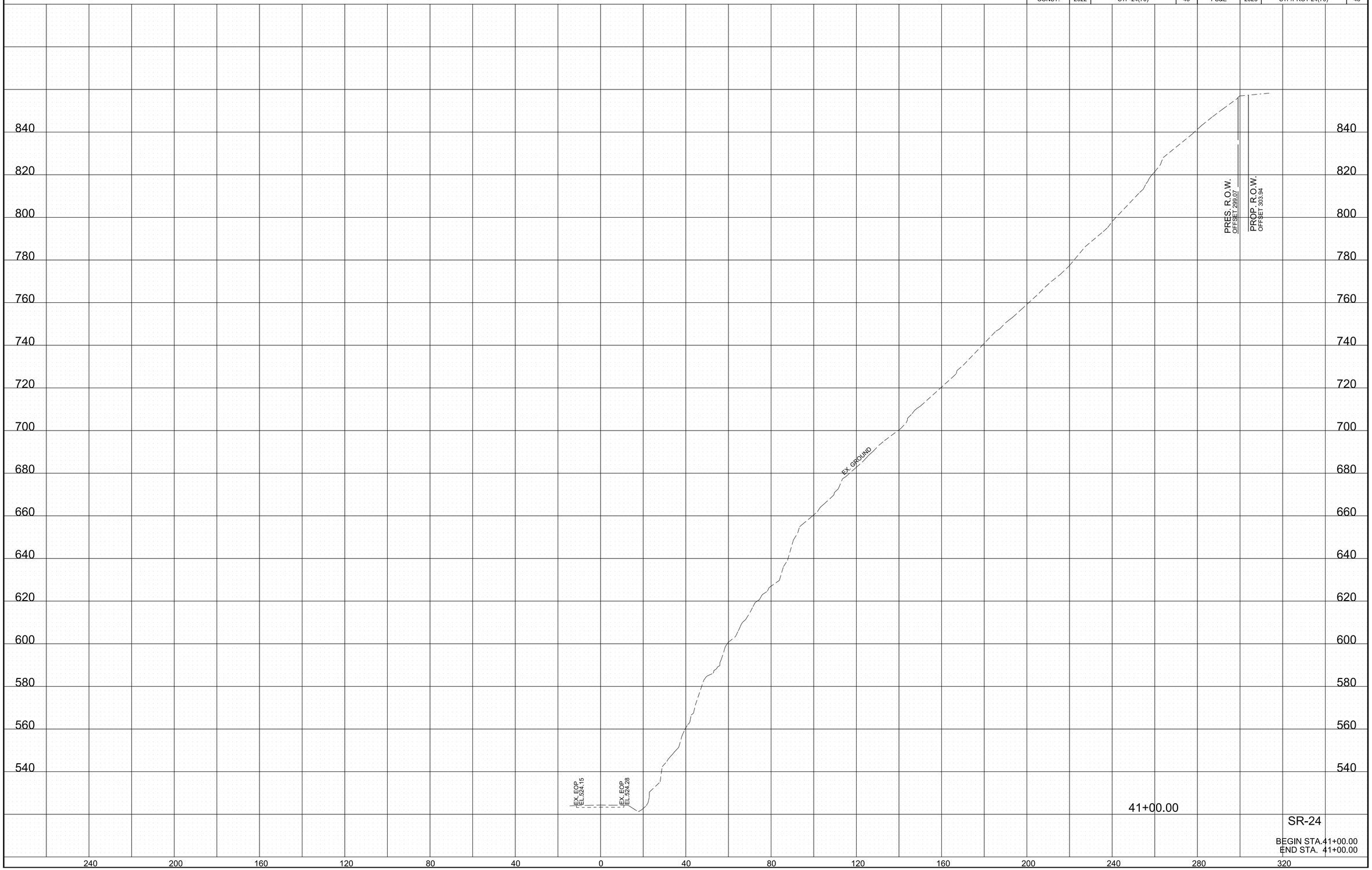


SR-24

BEGIN STA.40+50.00
END STA. 40+50.00

7/20/2026 12:49:15 PM
Z:\17Proj\64\176407\10\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	43	P.I.H.	2026	STP-24(70)	45
CONST.	2022	STP-24(70)	45	PS&E	2026	STP/PROT-24(70)	45



SR-24

BEGIN STA.41+00.00
END STA. 41+00.00

7/20/2026 12:49:17 PM
Z:\17Proj\64\176407\10\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	44	P.I.H.	2026	STP-24(70)	46
CONST.	2022	STP-24(70)	46	PS&E	2026	STP/PROT-24(70)	46

840
820
800
780
760
740
720
700
680
660
640
620
600
580
560
540

PRES. R.O.W.
OFFSET 304.09

PROP. R.O.W.
OFFSET 308.10

EX. GROUND

EX. EOP
EL. 526.17

EX. EOP
EL. 526.21

41+50.00

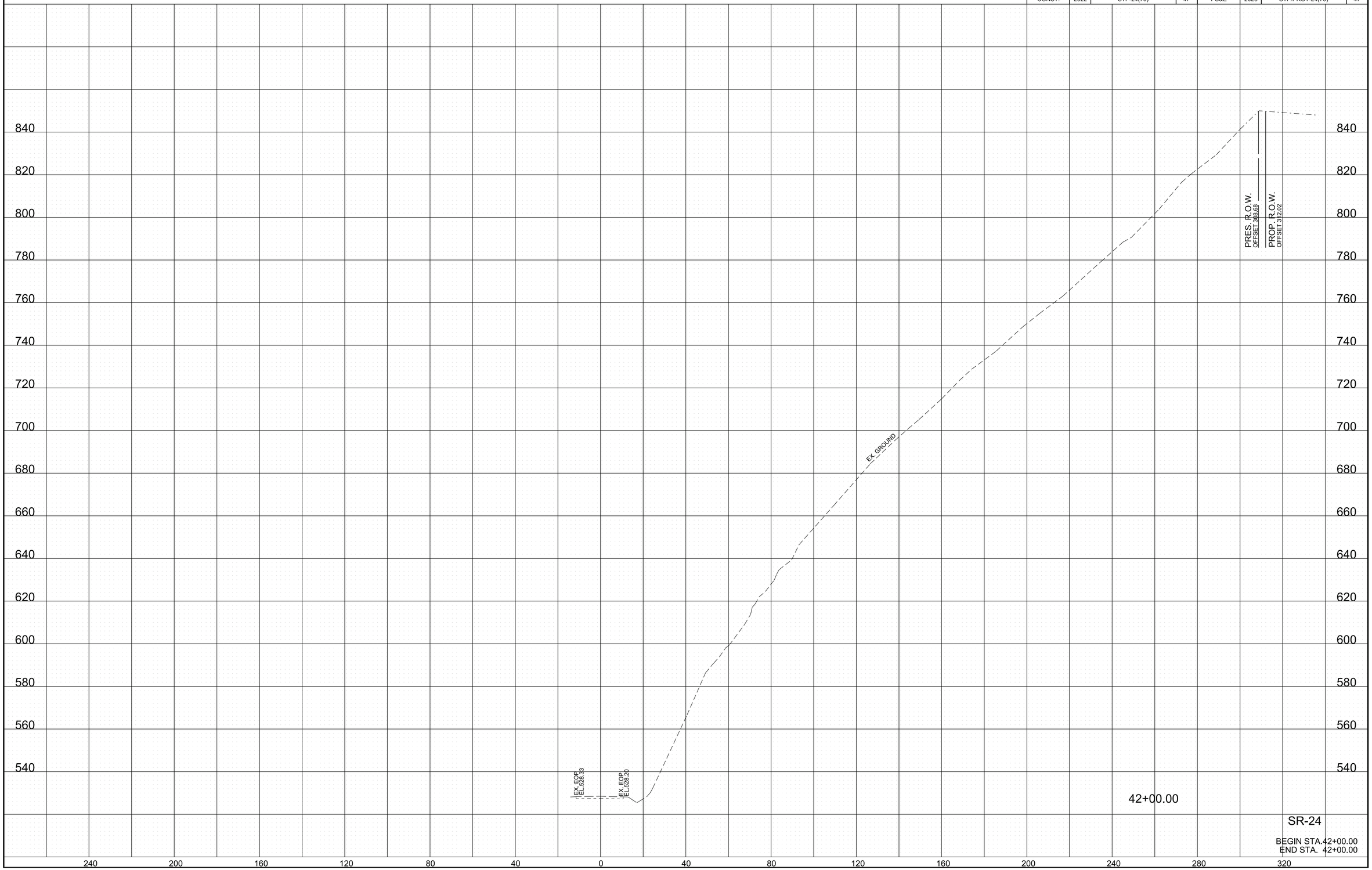
SR-24

BEGIN STA.41+50.00
END STA. 41+50.00

240 200 160 120 80 40 0 40 80 120 160 200 240 280 320

7/20/2026 12:49:18 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	45	P.I.H.	2026	STP-24(70)	47
CONST.	2022	STP-24(70)	47	PS&E	2026	STP/PROT-24(70)	47



SR-24

BEGIN STA. 42+00.00
END STA. 42+00.00

7/20/2026 12:49:19 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	46	P.I.H.	2026	STP-24(70)	48
CONST.	2022	STP-24(70)	48	PS&E	2026	STP/PROT-24(70)	48

840
820
800
780
760
740
720
700
680
660
640
620
600
580
560
540

PRES. R.O.W.
OFFSET 311.11

PROP. R.O.W.
OFFSET 316.73

EX. GROUND

EX. EOP
EL. 530.56

EX. EOP
EL. 530.15

42+50.00

SR-24

BEGIN STA.42+50.00
END STA. 42+50.00

240 200 160 120 80 40 0 40 80 120 160 200 240 280 320

7/20/2026 12:49:20 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	47	P.I.H.	2026	STP-24(70)	49
CONST.	2022	STP-24(70)	49	PS&E	2026	STP/PROT-24(70)	49

880
860
840
820
800
780
760
740
720
700
680
660
640
620
600
580
560
540

PRES. R.O.W.
OFFSET 301.30

PROP. R.O.W.
OFFSET 304.55

EX. GROUND

EX. EOP
EL. 532.72

EX. EDP
EL. 532.06

43+00.00

SR-24

BEGIN STA.43+00.00
END STA. 43+00.00

240 200 160 120 80 40 0 40 80 120 160 200 240 280 320

7/20/2026 12:49:22 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	48	P.I.H.	2026	STP-24(70)	50
CONST.	2022	STP-24(70)	50	PS&E	2026	STP/PROT-24(70)	50

880
860
840
820
800
780
760
740
720
700
680
660
640
620
600
580
560
540

PRES. R.O.W.
OFFSET 293.97

PROF. R.O.W.
OFFSET 293.13

EX. GROUND

EX. EOP
EL. 534.56

EX. EOP
EL. 534.04

43+50.00

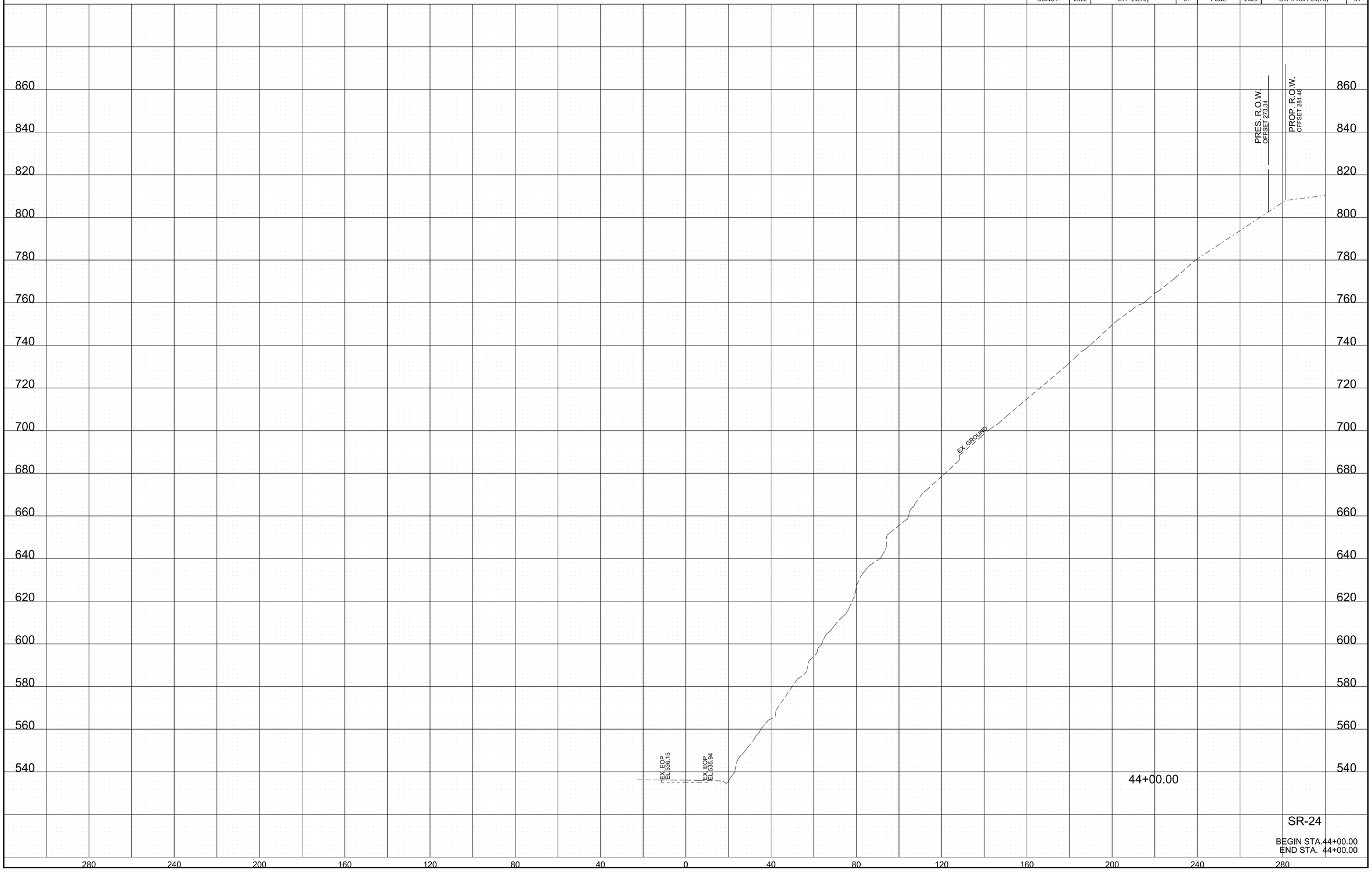
SR-24

BEGIN STA. 43+50.00
END STA. 43+50.00

240 200 160 120 80 40 0 40 80 120 160 200 240 280 320

7/20/2026 12:49:23 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	49	P.I.H.	2026	STP-24(70)	51
CONST.	2022	STP-24(70)	51	PS&E	2026	STP/PROT-24(70)	51

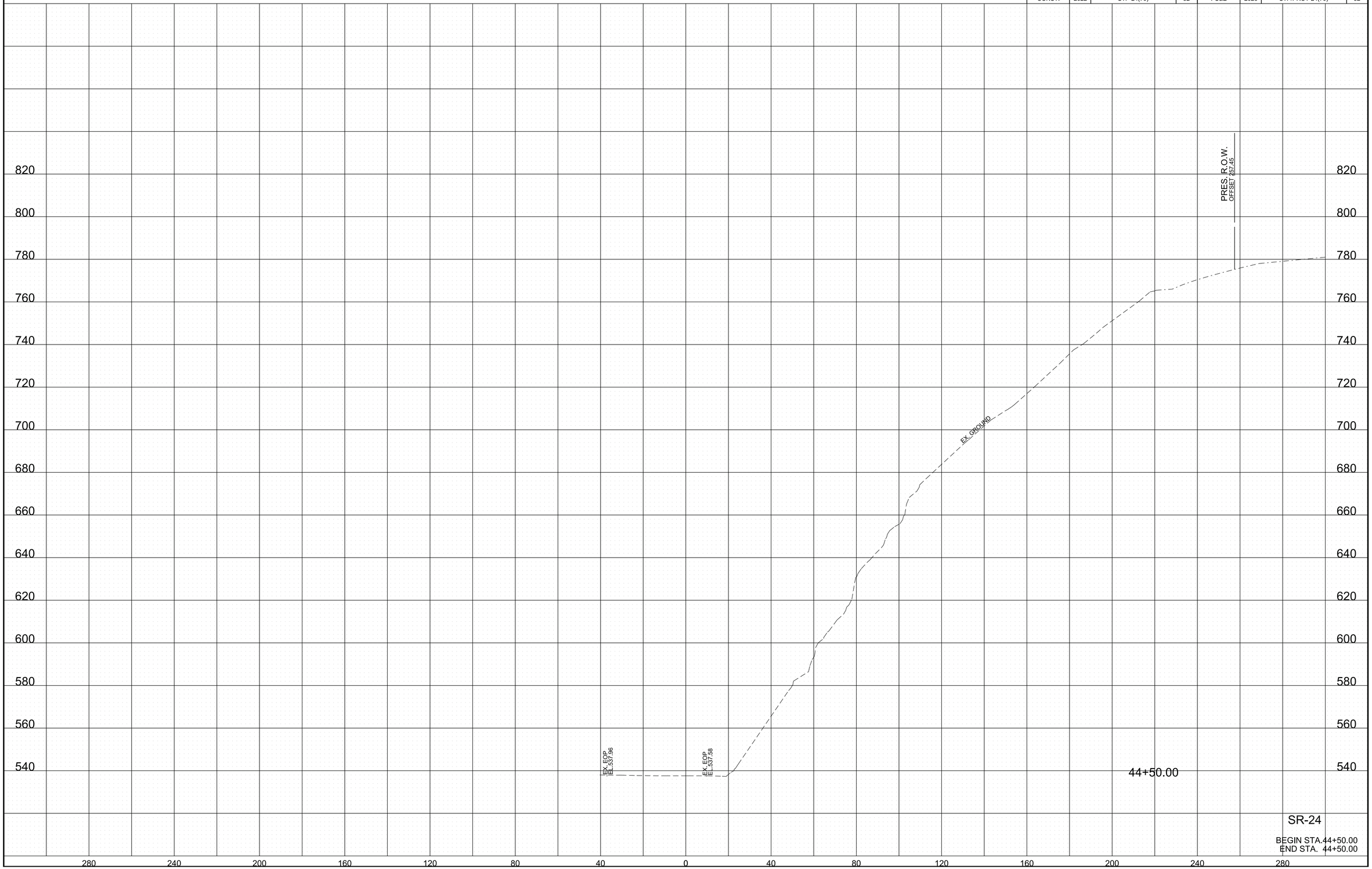


SR-24

BEGIN STA.44+00.00
END STA. 44+00.00

7/20/2026 12:49:24 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	50	P.I.H.	2026	STP-24(70)	52
CONST.	2022	STP-24(70)	52	PS&E	2026	STP/PROT-24(70)	52



SR-24

BEGIN STA. 44+50.00
END STA. 44+50.00

7/20/2026 12:49:26 PM
Z:\17Proj\641176407 10\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	51	P.I.H.	2026	STP-24(70)	53
CONST.	2022	STP-24(70)	53	PS&E	2026	STP/PROT-24(70)	53

820
800
780
760
740
720
700
680
660
640
620
600
580
560
540

PRES. R.O.W.
OFFSET 44.31'

Ex. GROUND

EX. EOP
EL.537.91

EX. EOP
EL.538.42

45+00.00

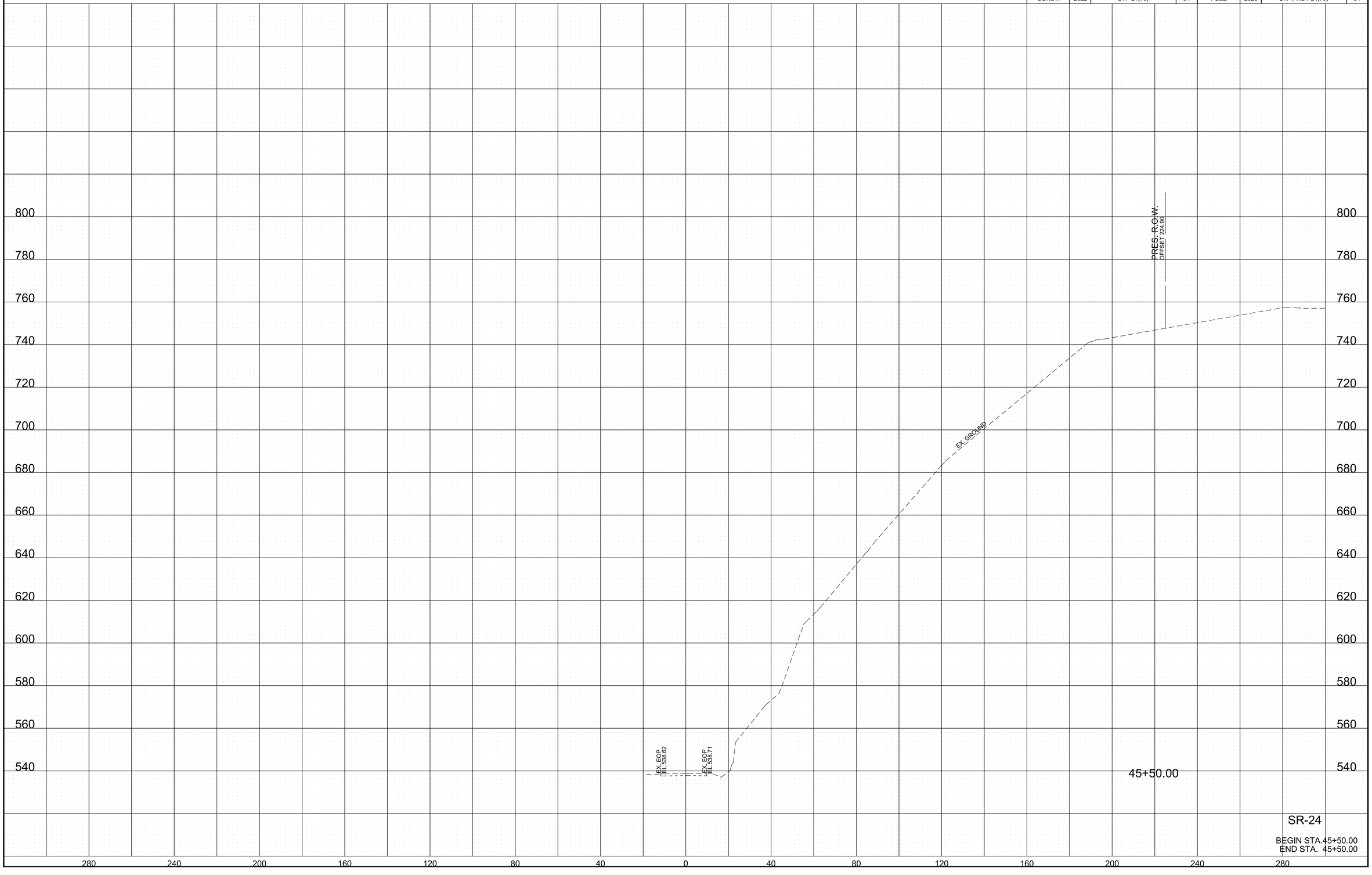
SR-24

BEGIN STA.45+00.00
END STA. 45+00.00

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

7/20/2026 12:49:27 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	52	P.I.H.	2026	STP-24(70)	54
CONST.	2022	STP-24(70)	54	PS&E	2026	STP/PROT-24(70)	54

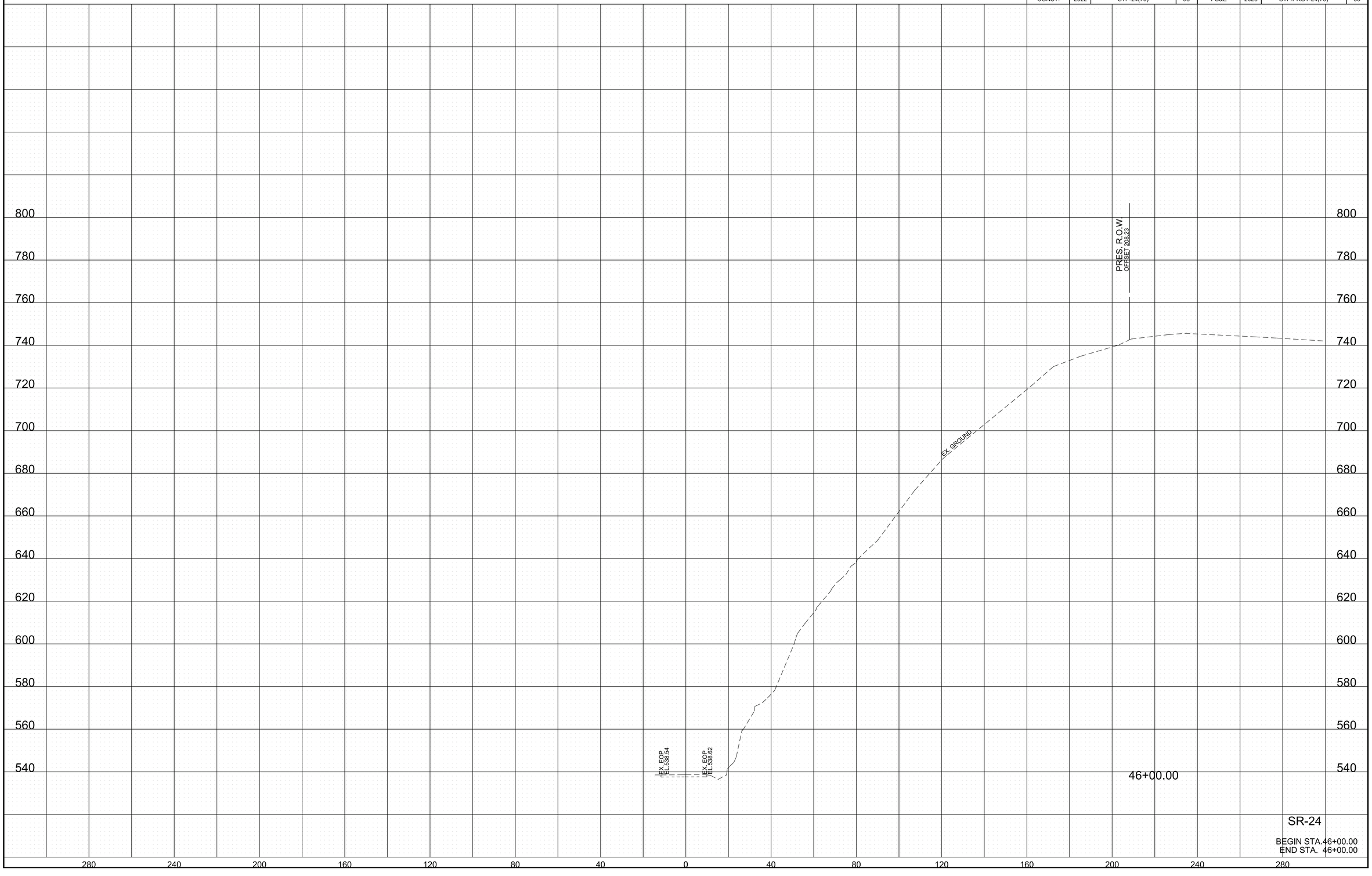


SR-24

BEGIN STA.45+50.00
END STA. 45+50.00

7/20/2026 12:49:28 PM
Z:\17Proj\641\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	53	P.I.H.	2026	STP-24(70)	55
CONST.	2022	STP-24(70)	55	PS&E	2026	STP/PROT-24(70)	55

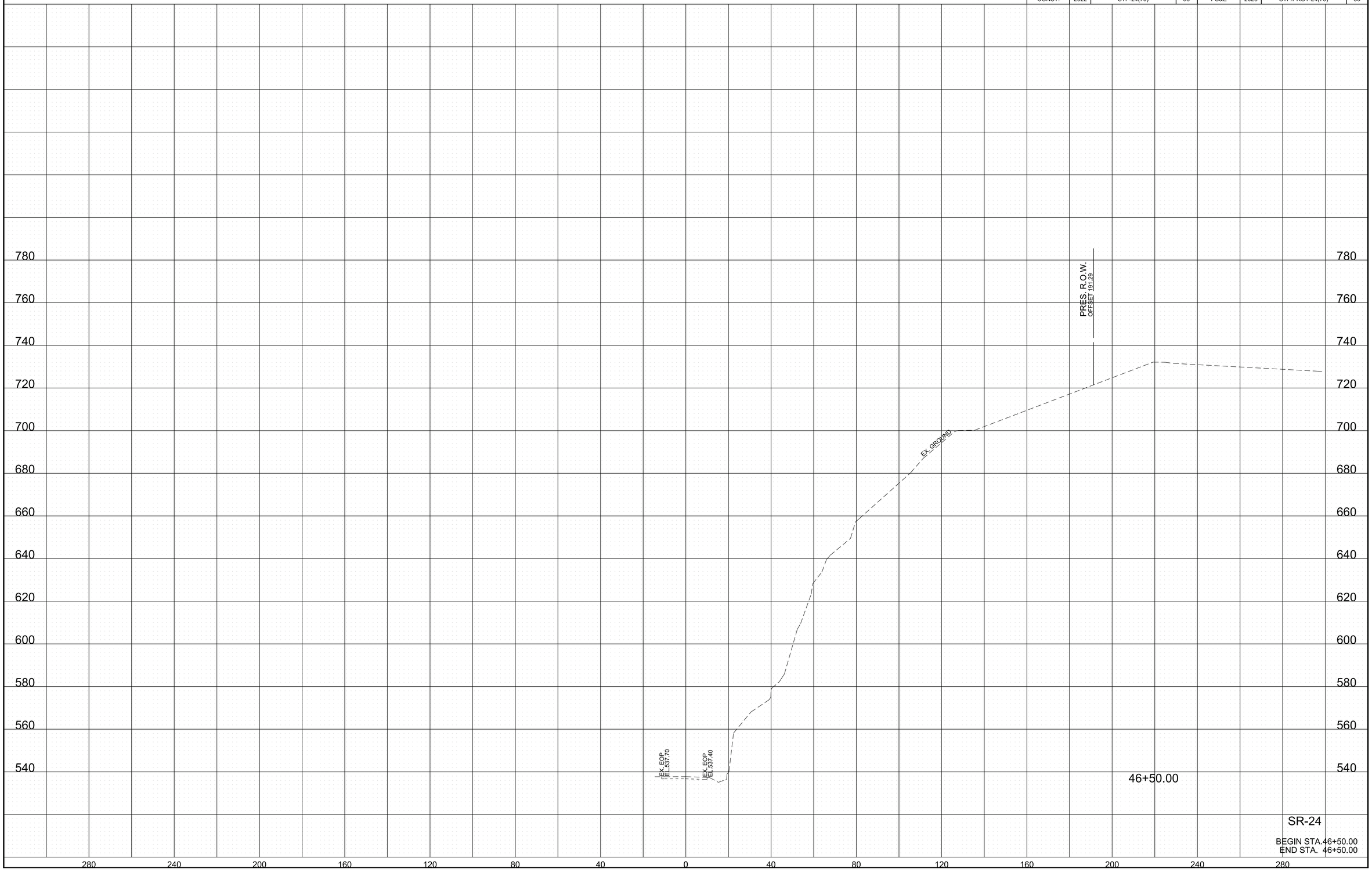


SR-24

BEGIN STA.46+00.00
END STA. 46+00.00

7/20/2026 12:49:29 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	54	P.I.H.	2026	STP-24(70)	56
CONST.	2022	STP-24(70)	56	PS&E	2026	STP/PROT-24(70)	56

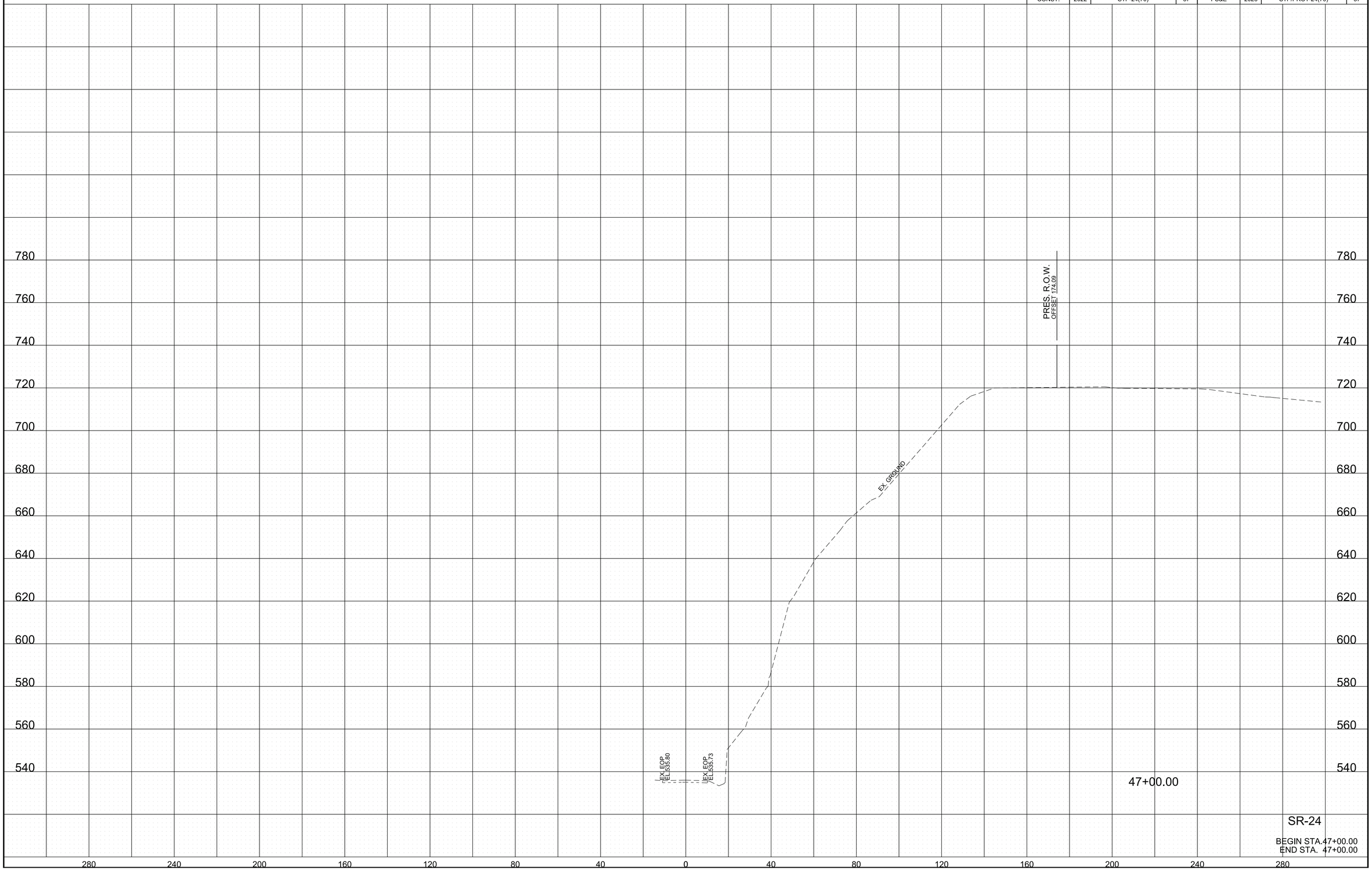


SR-24

BEGIN STA.46+50.00
END STA. 46+50.00

7/20/2026 12:49:31 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	55	P.I.H.	2026	STP-24(70)	57
CONST.	2022	STP-24(70)	57	PS&E	2026	STP/PROT-24(70)	57



SR-24

BEGIN STA.47+00.00
END STA. 47+00.00

7/20/2026 12:49:32 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	56	P.I.H.	2026	STP-24(70)	58
CONST.	2022	STP-24(70)	58	PS&E	2026	STP/PROT-24(70)	58

760
740
720
700
680
660
640
620
600
580
560
540

PRES. R.O.W.
OFFSET 19682

EX. GROUND

EX. EOP
EL. 553.88

EX. EOP
EL. 553.84

47+50.00

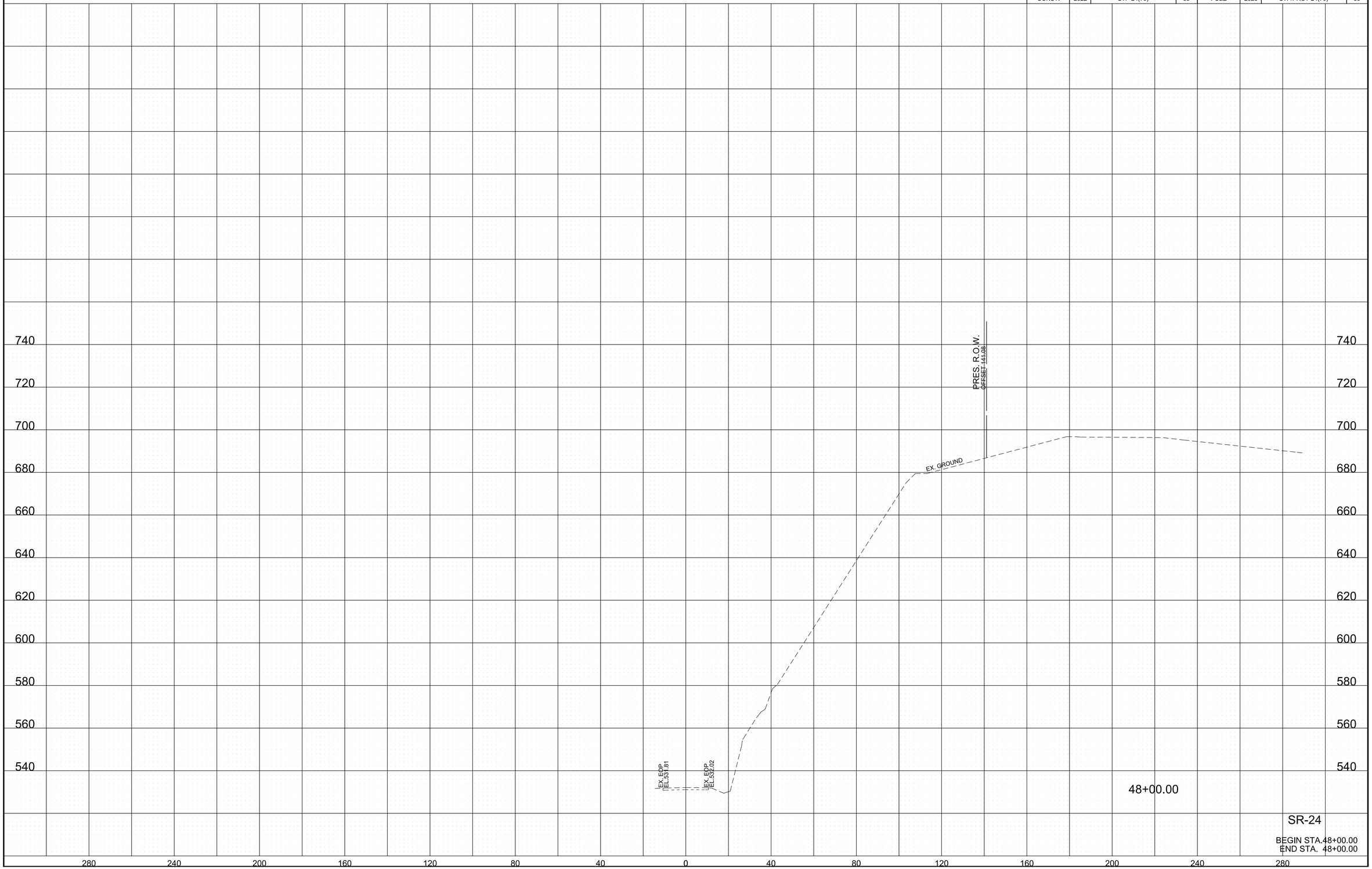
SR-24

BEGIN STA.47+50.00
END STA. 47+50.00

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

7/20/2026 12:49:33 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	57	P.I.H.	2026	STP-24(70)	59
CONST.	2022	STP-24(70)	59	PS&E	2026	STP/PROT-24(70)	59

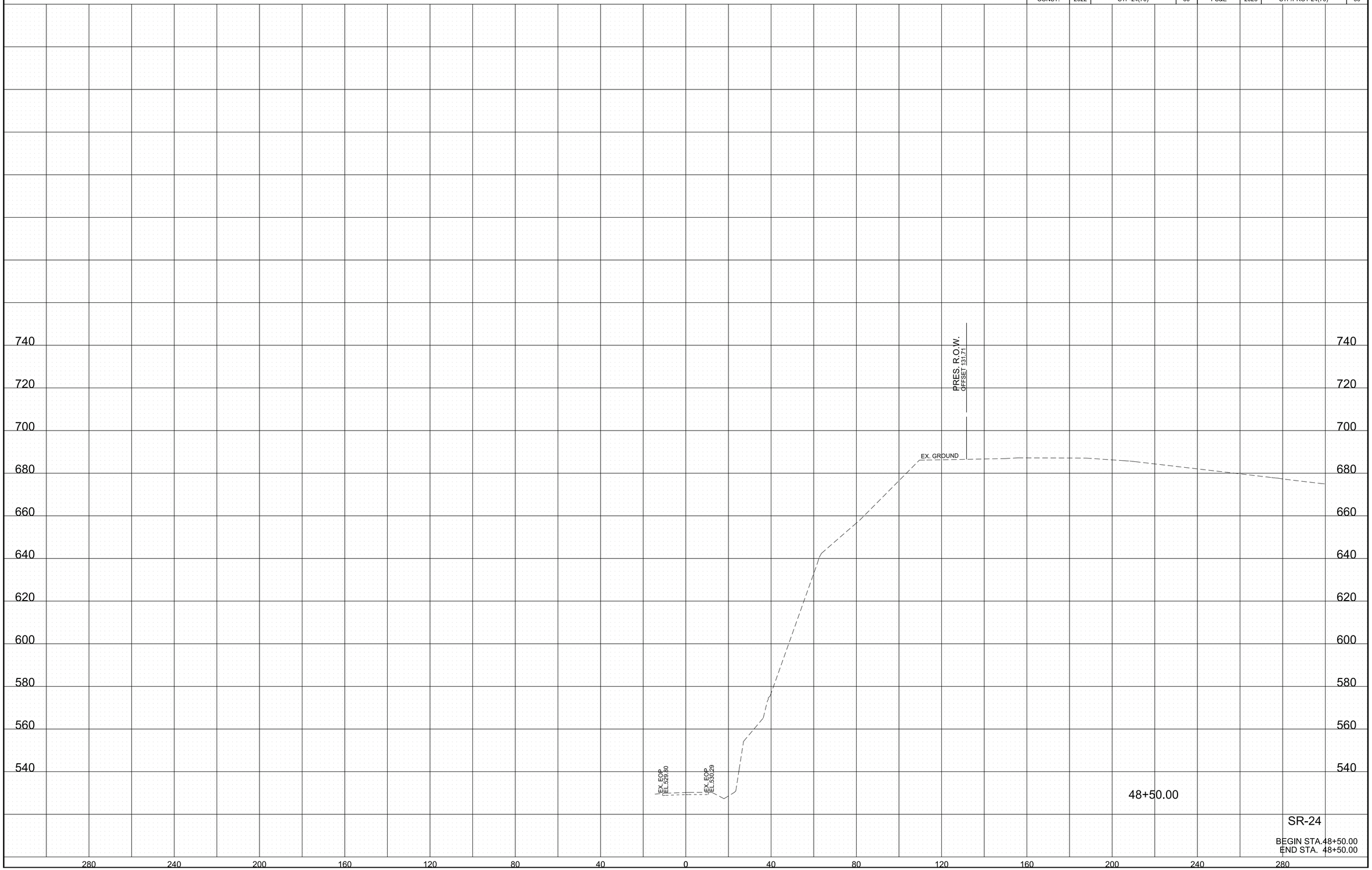


SR-24

BEGIN STA.48+00.00
END STA. 48+00.00

7/20/2026 12:49:35 PM
Z:\17Proj\641176407 10\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	58	P.I.H.	2026	STP-24(70)	60
CONST.	2022	STP-24(70)	60	PS&E	2026	STP/PROT-24(70)	60

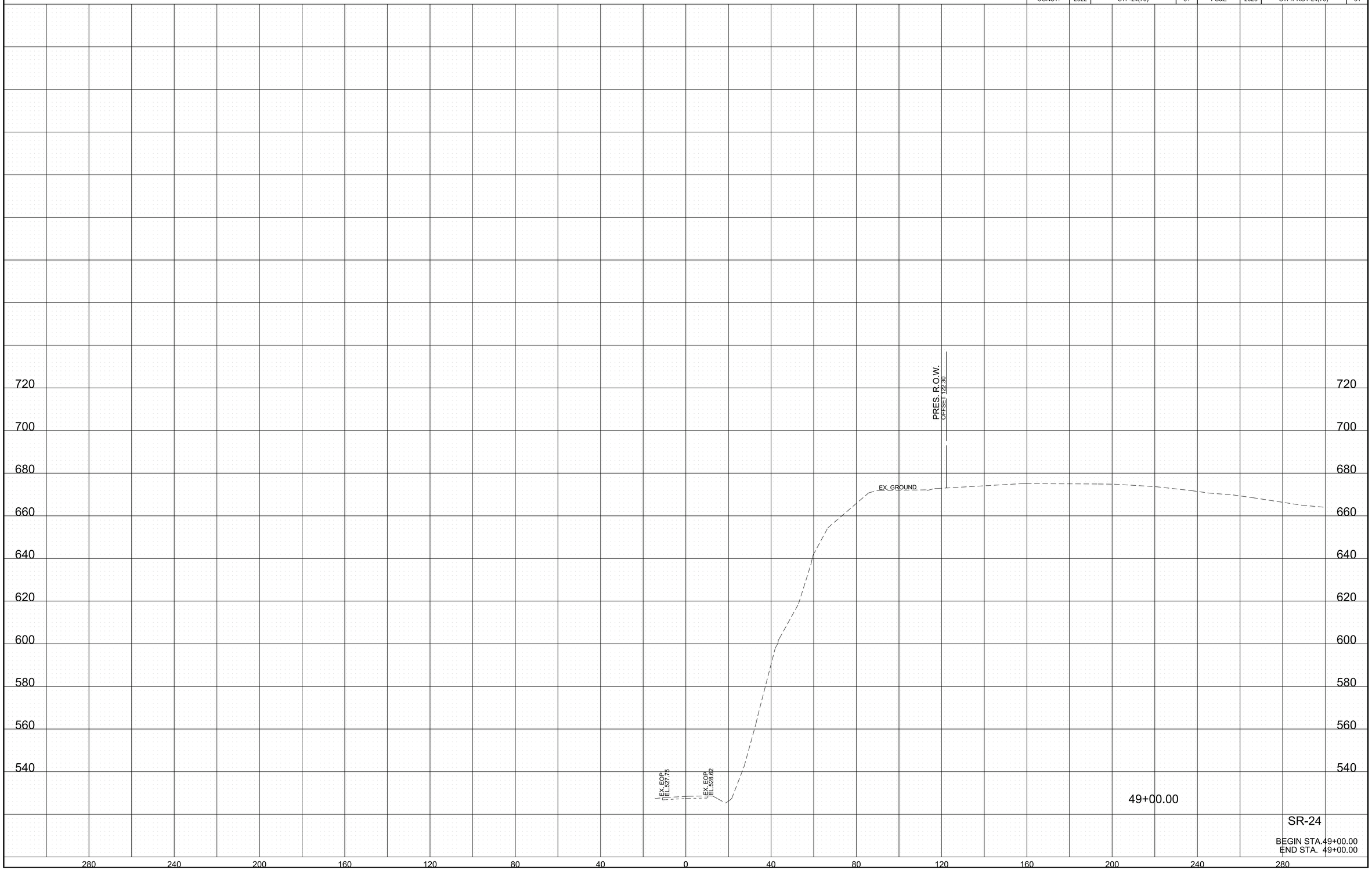


SR-24

BEGIN STA. 48+50.00
END STA. 48+50.00

7/20/2026 12:49:36 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	59	P.I.H.	2026	STP-24(70)	61
CONST.	2022	STP-24(70)	61	PS&E	2026	STP/PROT-24(70)	61



SR-24

BEGIN STA.49+00.00
END STA. 49+00.00

7/20/2026 12:49:37 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	60	P.I.H.	2026	STP-24(70)	62
CONST.	2022	STP-24(70)	62	PS&E	2026	STP/PROT-24(70)	62

720
700
680
660
640
620
600
580
560
540

PROP. R.O.W.
OFFSET 112.79

EX. GROUND

EX. EOP
EL.526.82

EX. EOP
EL.526.97

49+50.00

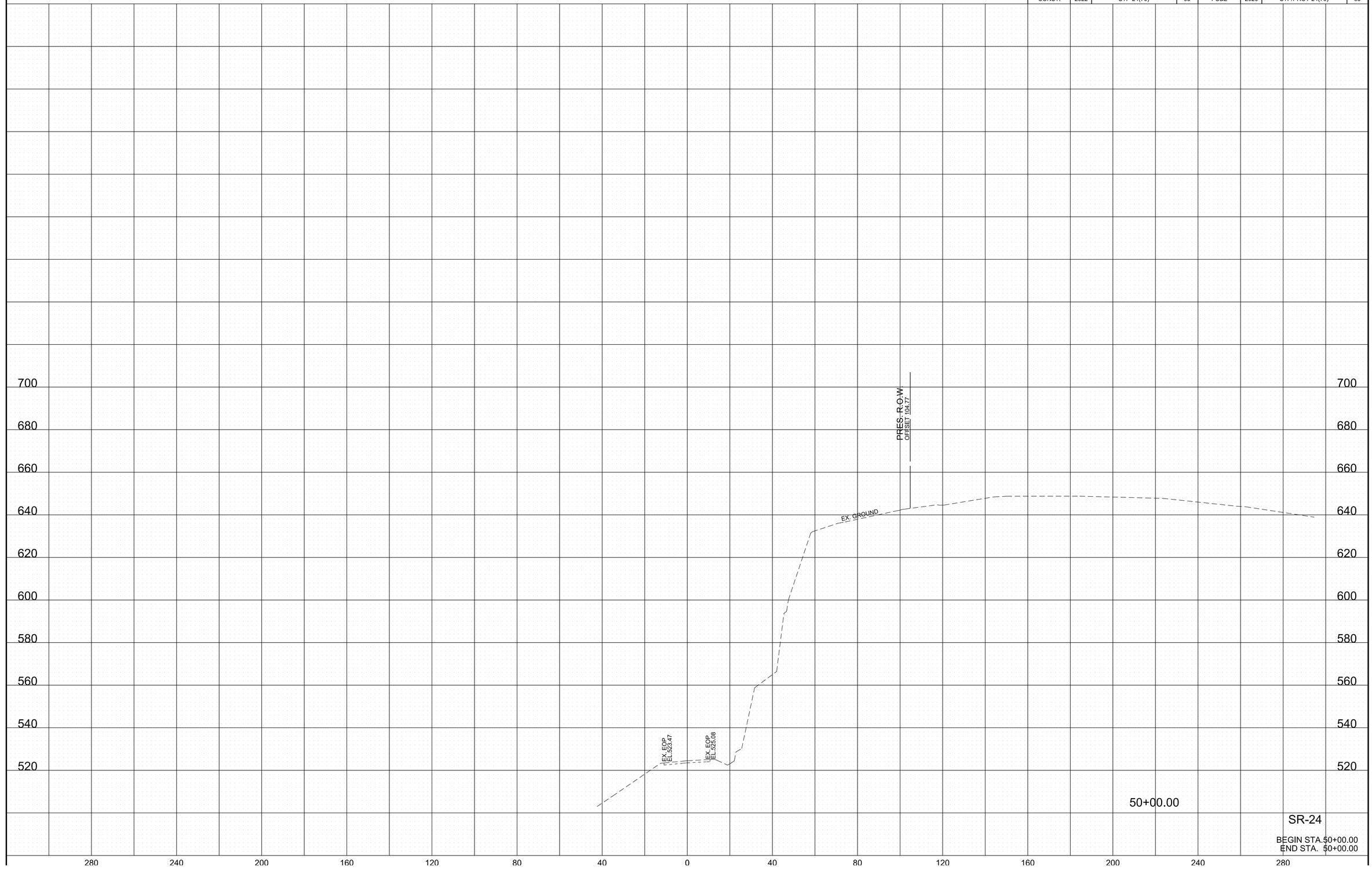
SR-24

BEGIN STA.49+50.00
END STA. 49+50.00

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

7/20/2026 12:49:38 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	61	P.I.H.	2026	STP-24(70)	63
CONST.	2022	STP-24(70)	63	PS&E	2026	STP/PROT-24(70)	63



SR-24

BEGIN STA.50+00.00
END STA. 50+00.00

7/20/2026 12:49:40 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	62	P.I.H.	2026	STP-24(70)	64
CONST.	2022	STP-24(70)	64	PS&E	2026	STP/PROT-24(70)	64

680
660
640
620
600
580
560
540
520
500

PRES. R.O.W.
OFFSET 98.74

EX. GROUND

EX. EOP
EL. 521.39

EX. EOP
EL. 523.00

50+50.00

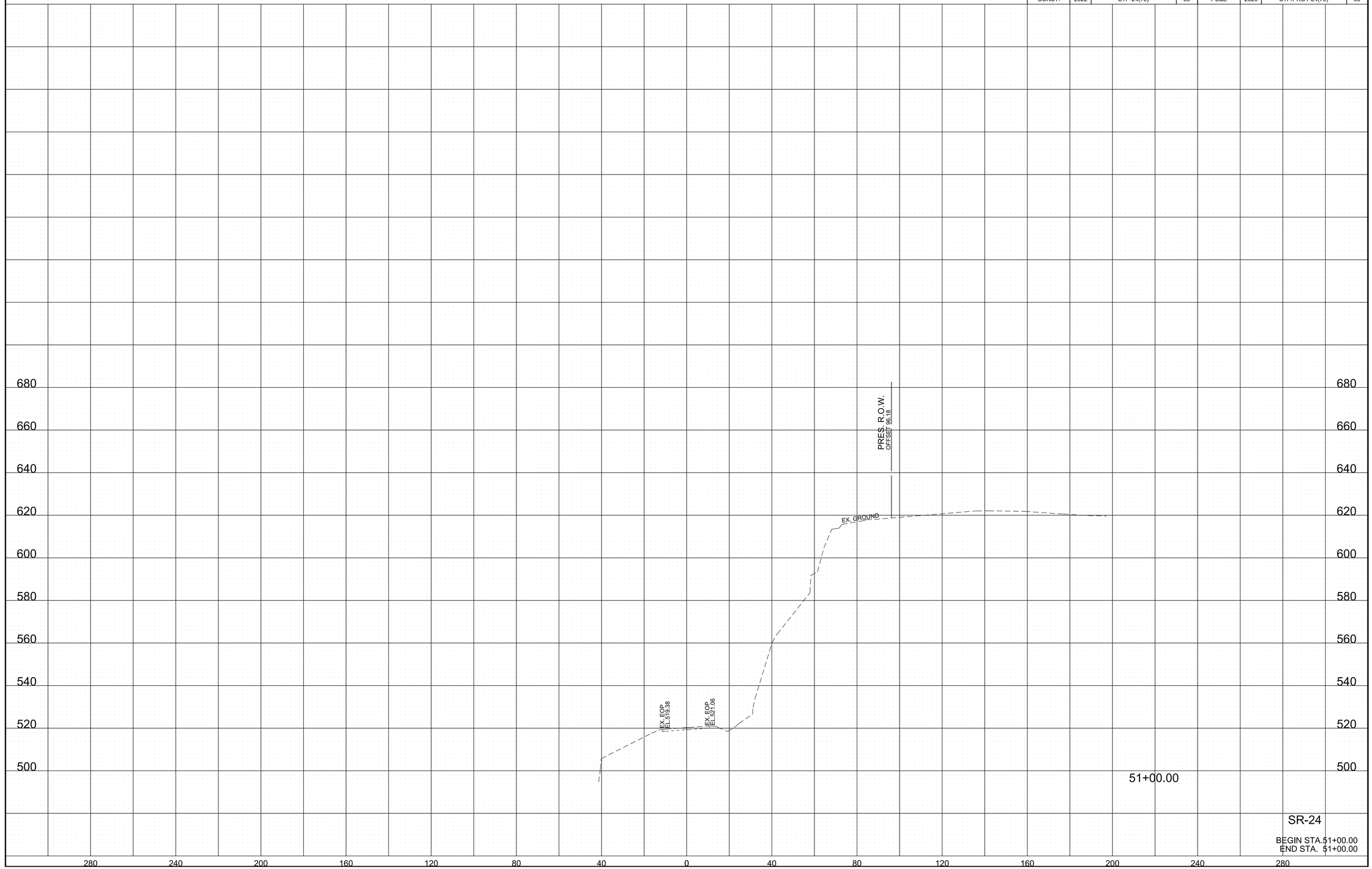
SR-24

BEGIN STA. 50+50.00
END STA. 50+50.00

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

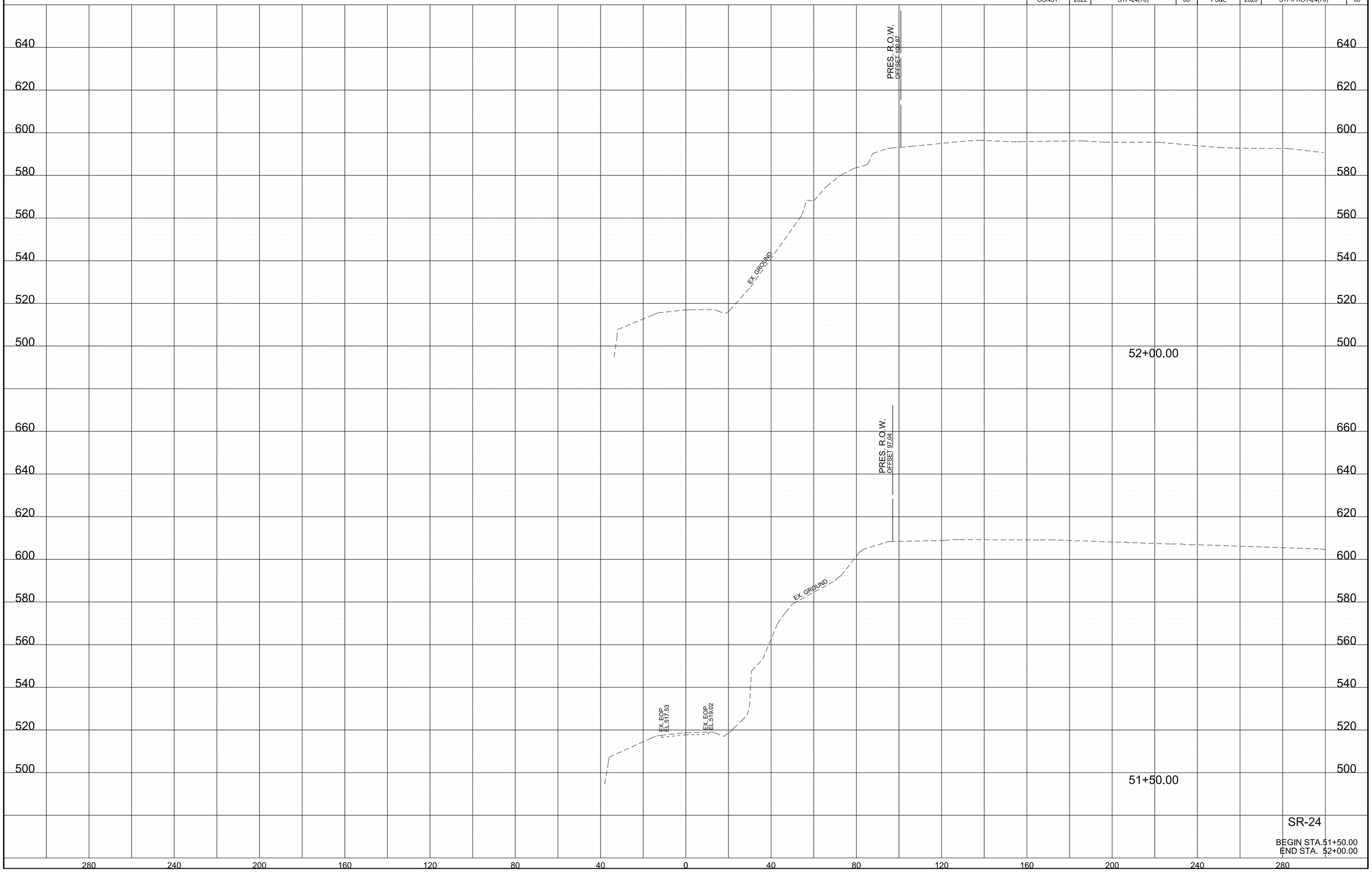
7/20/2026 12:49:41 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	63	P.I.H.	2026	STP-24(70)	65
CONST.	2022	STP-24(70)	65	PS&E	2026	STP/PROT-24(70)	65



7/20/2026 12:49:42 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	64	P.I.H.	2026	STP-24(70)	66
CONST.	2022	STP-24(70)	66	PS&E	2026	STP/PROT-24(70)	66

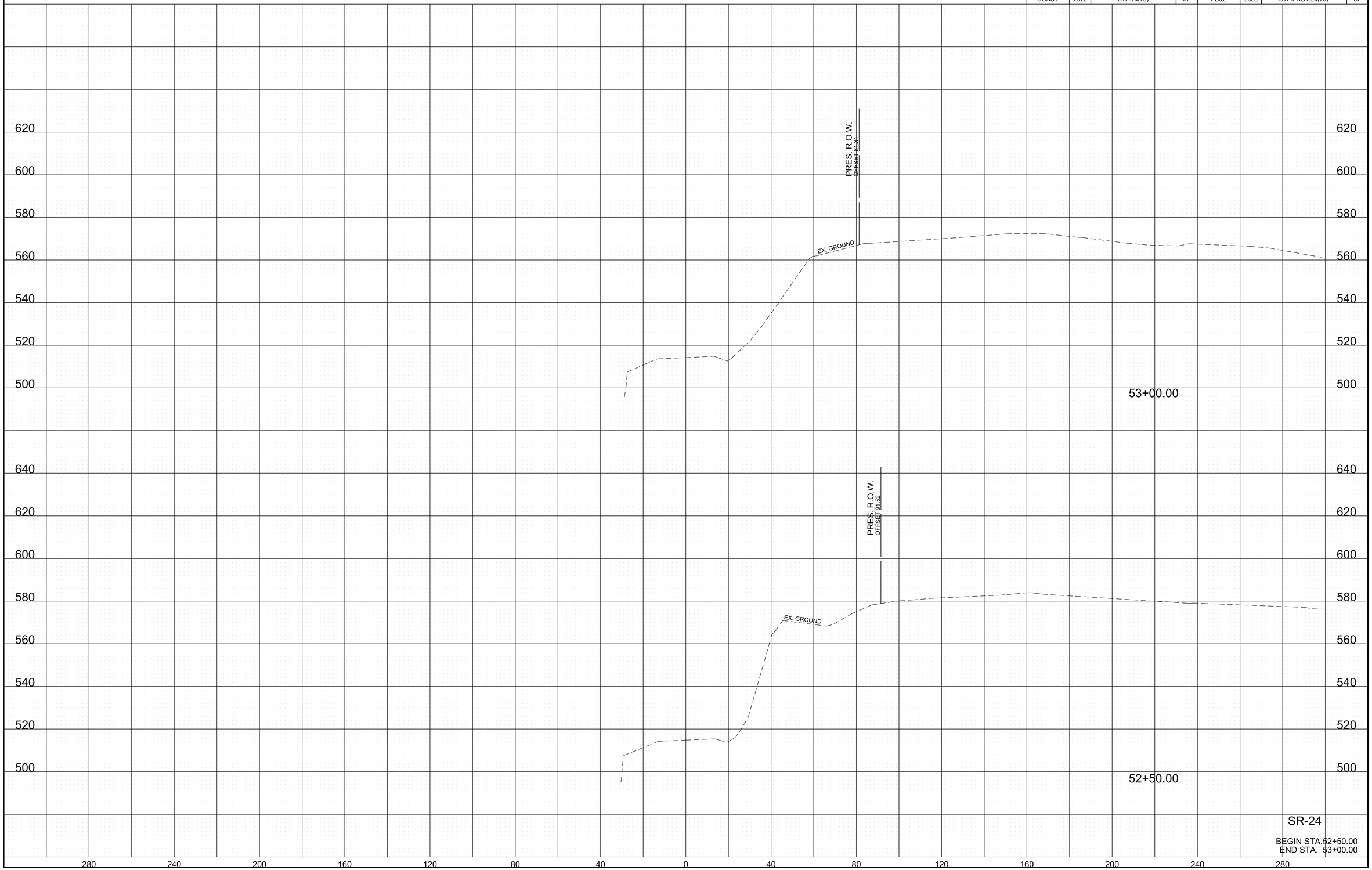


SR-24

BEGIN STA. 51+50.00
END STA. 52+00.00

7/20/2026 12:49:43 PM
Z:\17Proj\641176407\10\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.	TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	65	P.I.H.	2026	STP-24(70)	67
CONST.	2022	STP-24(70)	67	PS&E	2026	STP/PROT-24(70)	67



SR-24

BEGIN STA.52+50.00
END STA. 53+00.00

7/20/2026 12:49:45 PM
Z:\17Proj\641\17640710\Constructs\Civil\Sheets\SMSR24XSSheets.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	T1
CONST.	2022	STP-24(70)	T1
P.I.H.	2026	STP-24(70)	T1
PS&E	2026	STP/PROT-24(70)	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

JEFFERY P. KARAS REGISTERED ENGINEER AGRICULTURE STATE OF TENNESSEE

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE DROP-OFF NOTES FOR TRAFFIC CONTROL

7/20/2026 12:50:18 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\T1.sht

TRAFFIC CONTROL SIGN TABULATION

M.U.T.C.D. SIGN NO.	LEGEND	SIZE IN INCHES L	X	W	S.F.	NO. REQUIRED PHASE I	NO. REQUIRED PHASE II	TOTAL NO. REQUIRED	ITEM NO. 712-06 S.F.	STANDARD DRAWING NO.	REMARKS
CUSTOM	CARTHAGE BRIDGE CLOSED	36"		36"	9		1	1	9.00		BACKGROUND-ORANGE(RETROREFLECTIVE); LEGEND-BLACK
M1-4	70N	30"		24"	5	24	24	24	120.00	T-S-7	
M1-4	70N	45"		36"	11	10	10	10	112.50	T-S-7	
M3-2	EAST	24"		12"	2	13	13	13	26.00		
M3-2	EAST	36"		18"	5	5	5	5	22.50		
M3-4	WEST	24"		12"	2	9	9	9	18.00		
M3-4	WEST	36"		18"	5	5	5	5	22.50		
M4-8	DETOUR	24"		12"	2	34	34	34	68.00		
M4-8	DETOUR	30"		15"	3	10	10	10	31.25		
M4-8A	END DETOUR	24"		18"	3	1	1	1	3.00		
M4-10L	DETOUR	48"		18"	6	1		1	6.00		
M5-1L	ADVANCE ARROW - 90 DEGREES LEFT	21"		15"	2	1	1	1	2.19		
M5-1R	ADVANCE ARROW - 90 DEGREES RIGHT	21"		15"	2	1	1	1	2.19		
M6-1L	DIRECTIONAL ARROW - LEFT	21"		15"	2	5	5	5	10.94		
M6-2R	DIRECTIONAL ARROW - 45 DEGREES RIGHT	21"		15"	2	1	1	1	2.19		
M6-3	DIRECTIONAL ARROW - STRAIGHT	21"		15"	2	9	9	9	19.69		
M6-3	DIRECTIONAL ARROW - STRAIGHT	30"		21"	4	10	10	10	43.75		
R11-2	ROAD CLOSED	48"		30"	10	3	2	3	30.00		
R11-3A	ROAD CLOSED 1/2 MILE AHEAD	60"		30"	13	1	1	1	12.50		
R11-3A	ROAD CLOSED 19 MILES AHEAD	60"		30"	13	1	1	1	12.50		
R11-4	ROAD CLOSED TO THRU TRAFFIC	60"		30"	13	1		1	12.50		
W20-2	DETOUR 500 FT	36"		36"	9	1	1	1	9.00		
W20-3	ROAD CLOSED 1000 FEET	36"		36"	9	2	2	2	18.00		
W20-3	ROAD CLOSED 11 MILES	36"		36"	9	1	1	1	9.00		
W20-3	ROAD CLOSED 13 MILES	36"		36"	9	1	1	1	9.00		
W20-3	ROAD CLOSED 500 FEET	36"		36"	9	2	2	2	18.00		
W20-3	ROAD CLOSED 8 MILES	36"		36"	9	1	1	1	9.00		
								TOTAL	659	S.F.	

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	T2
CONST.	2022	STP-24(70)	T2
P.I.H.	2026	STP-24(70)	T2
PS&E	2026	STP/PROT-24(70)	T2

TRAFFIC CONTROL LEGEND

SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	SIGN (CONSTRUCTION) (2-POST)
→	TRAFFIC FLOW
	CHANGEABLE MESSAGE SIGN
	CHANGEABLE MESSAGE SIGN
	TEMPORARY BARRICADE (TYPE III)
A	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

TABULATED TRAFFIC CONTROL QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY 80002-3263-14
	712-01	TRAFFIC CONTROL	LS	1
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	100
	712-05.01	WARNING LIGHTS (TYPE A)	EACH	6
	712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	152
(1)	712-09.33	MODIFY EXISTING OVERHEAD SIGNS	EACH	4
	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	10

FOOTNOTES

(1) SEE SHEETS T3, T3B & T3C FOR OVERHEAD SIGN MODIFICATIONS.

PHASE I CONSTRUCTION PHASING NOTES

1. Phase I construction work zone to extend from Sta. 21+00 – 46+50.
2. Old SR-25 (Carthage Bridge) to be closed during Phase I. The traffic signal at the intersection of Old SR-25 and Upper Ferry Rd./Main St. N. shall be set to flashing yellow for the duration of Phase I construction activities (contractor to coordinate with the City of Carthage).
3. Flashing red beacon at the intersection of Old SR-25 and SR-24 shall be removed and stored to avoid damage for the duration of project.
4. Access to wastewater treatment plant (entrance ~ Sta. 33+00) to be maintained throughout Phase I construction. A single 10' lane shall be provided using flexible drums (Item No. 712-04.01).
5. Equipment shall not be staged on Carthage Bridge. Staging of equipment should occur between Sta. 33+00 and Sta. 45+50.
6. Resurfacing of Phase I to occur prior to switching to Phase II.
7. Existing signs on western side of SR-24 to be removed during construction to avoid damage. Signs to be reinstalled shall be stored on site and placed prior to commencing Phase II activities. Signs to be removed to be disposed of by contractor.

PHASE II CONSTRUCTION PHASING NOTES

1. Phase II construction work zone to extend from Sta. 46+50 – 51+50.
2. Existing signs on western side of SR-24 to be removed during construction to avoid damage. Signs to be reinstalled shall be stored on site and placed at the conclusion of Phase II construction. Signs to be removed to be disposed of by contractor.
3. Flashing red beacon at the intersection of Old SR-25 and SR-24 to be reinstalled at the conclusion of Phase II construction and before Phase II traffic control is removed.

SEALED BY

JEFFERY P. KARL REGISTERED ENGINEER I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION NUMBER 119161 STATE OF TENNESSEE

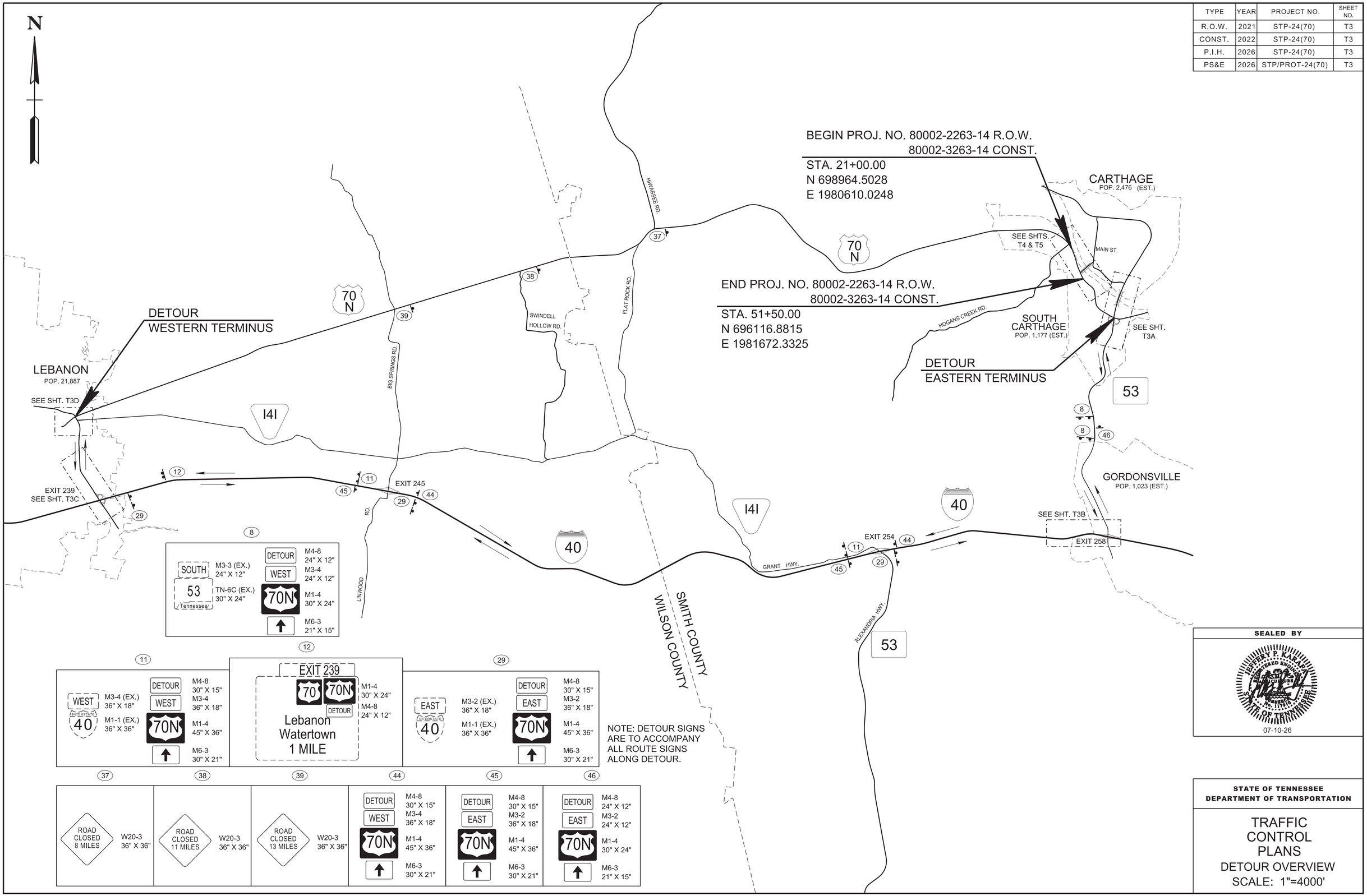
07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PHASING NOTES, LEGEND AND TABULATION

7/20/2026 12:50:55 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\T2.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	T3
CONST.	2022	STP-24(70)	T3
P.I.H.	2026	STP-24(70)	T3
PS&E	2026	STP/PROT-24(70)	T3



SEALED BY

JEFFREY P. KARAFA
REGISTERED ENGINEER
STATE OF TENNESSEE
07-10-26

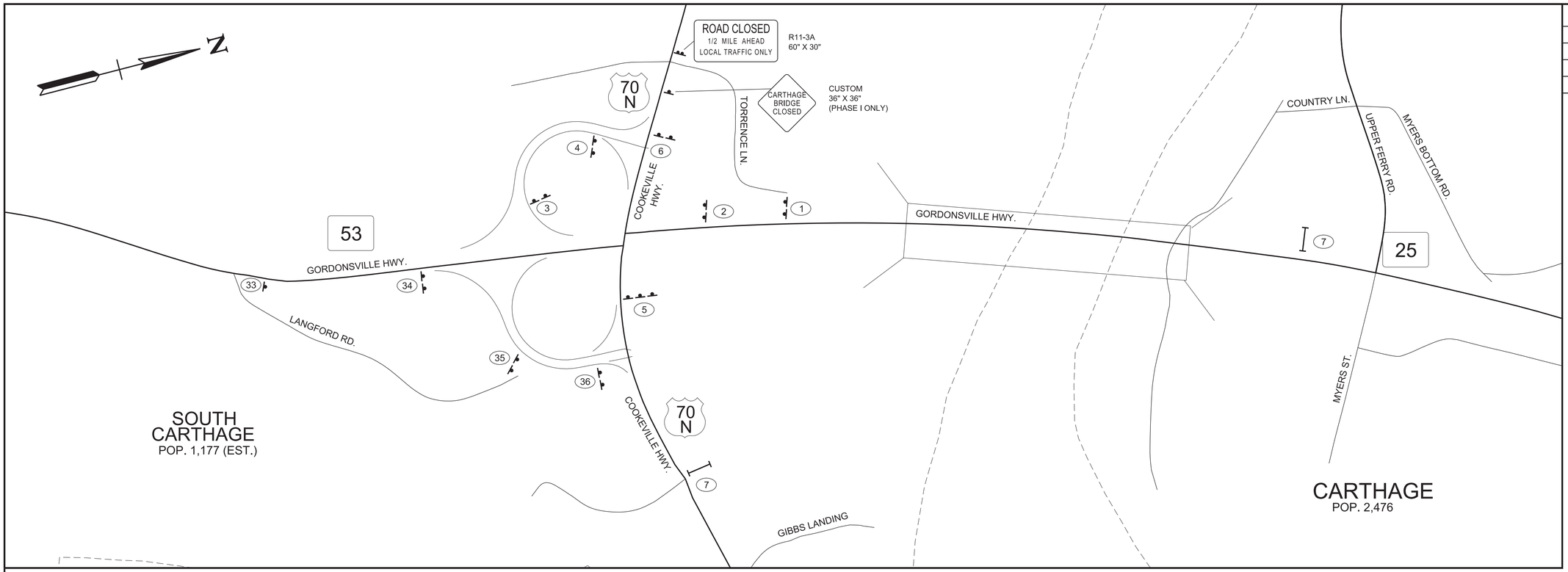
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS

DETOUR OVERVIEW

SCALE: 1"=4000'

7/20/2026 12:51:24 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\T3.sht



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	T3A
CONST.	2022	STP-24(70)	T3A
P.I.H.	2026	STP-24(70)	T3A
PS&E	2026	STP/PROT-24(70)	T3A

1

DETOUR — M4-8* 24" X 12"
WEST — M3-4* 24" X 12"
70N — M1-4* 30" X 24"
SOUTH — M3-3 (EX.) 24" X 12"
53 Tennessee — TN-6C (EX.) 30" X 24"
M6-3 (EX.) 21" X 15"

EAST — M3-2* 24" X 12"
70N — M1-4 (EX.) 30" X 24"
NORTH — M3-1 (EX.) 24" X 12"
53 Tennessee — TN-6C (EX.) 30" X 24"
M5-1R (EX.) 21" X 15"

2

DETOUR — M4-8* 24" X 12"
WEST — M3-4* 24" X 12"
70N — M1-4* 30" X 24"
SOUTH — M3-3 (EX.) 24" X 12"
53 Tennessee — TN-6C (EX.) 30" X 24"
M6-3 (EX.) 21" X 15"

EAST — M3-2* 24" X 12"
70N — M1-4 (EX.) 30" X 24"
M6-1R (EX.) 21" X 15"
53 Tennessee — TN-6C (EX.) 30" X 24"
NORTH — M3-1 (EX.) 24" X 12"

3

WEST — M3-4** (EX.) 24" X 12"
70N — M1-4** (EX.) 30" X 24"
M5-1L** (EX.) 21" X 15"

EAST — M3-2 (EX.) 24" X 12"
53 Tennessee — TN-6C (EX.) 30" X 24"
NORTH — M3-1 (EX.) 24" X 12"
70N — M1-4 (EX.) 30" X 24"
M5-2R (EX.) 21" X 15"

4

WEST — M3-4** (EX.) 24" X 12"
70N — M1-4** (EX.) 30" X 24"
M6-1L** (EX.) 21" X 15"

EAST — M3-2 (EX.) 24" X 12"
53 Tennessee — TN-6C (EX.) 30" X 24"
NORTH — M3-1 (EX.) 24" X 12"
70N — M1-4 (EX.) 30" X 24"
M6-2R (EX.) 21" X 15"

5

SOUTH — M3-3 (EX.) 24" X 12"
53 Tennessee — TN-6C (EX.) 30" X 24"
M5-1L (EX.) 21" X 15"

TO — M4-5 (EX.) 24" X 12"
INTERSTATE 40 — M1-1 (EX.) 24" X 24"
M5-1L (EX.) 21" X 15"

DETOUR — M4-8 24" X 12"
WEST — M3-4 24" X 12"
70N — M1-4 30" X 24"
M5-1L 21" X 15"

6

SOUTH — M3-3 (EX.) 24" X 12"
53 Tennessee — TN-6C (EX.) 30" X 24"
M6-1L (EX.) 21" X 15"

DETOUR — M4-8* 24" X 12"
WEST — M3-4 (EX.) 24" X 12"
70N — M1-4 (EX.) 30" X 24"
M6-1L (COVER EX. M6-3) 21" X 15"

7

FLASHING MESSAGE BOARD
48" X 96"
"US 70N WEST CLOSED,
FOLLOW DETOUR"

33

DETOUR — M4-8* 24" X 12"
70N — M1-4 (EX.) 30" X 24"
NORTH — M3-1 (EX.) 24" X 12"
53 Tennessee — TN-6C (EX.) 30" X 24"
M5-2R (EX.) 21" X 15"

34

WEST — M3-4 (EX.) 24" X 12"
25 Tennessee — TN-6C (EX.) 30" X 24"
M6-3 (EX.) 21" X 15"

DETOUR — M4-8* 24" X 12"
EAST — M3-2 (EX.) 36" X 18"
70N — M1-4 (EX.) 30" X 24"
NORTH — M3-1 (EX.) 24" X 12"
53 Tennessee — TN-6C (EX.) 30" X 24"
M6-2R (EX.) 21" X 15"

35

WEST — M3-4 (EX.) 24" X 12"
70N — M1-4 (EX.) 30" X 24"
M5-1L (EX.) 21" X 15"

NORTH — M3-1 (EX.) 24" X 12"
53 Tennessee — TN-6C (EX.) 30" X 24"
EAST — M3-2 (EX.) 36" X 18"
70N — M1-4 (EX.) 30" X 24"
M5-2R (EX.) 21" X 15"
DETOUR — M4-8 24" X 12"

36

WEST — M3-4 (EX.) 24" X 12"
70N — M1-4 (EX.) 30" X 24"
M6-1L (EX.) 21" X 15"

NORTH — M3-1 (EX.) 24" X 12"
53 Tennessee — TN-6C (EX.) 30" X 24"
EAST — M3-2 (EX.) 36" X 18"
70N — M1-4 (EX.) 30" X 24"
M5-2R (EX.) 21" X 15"
END DETOUR — M4-8A 24" X 18"

* ATTACH AN EXTENSION TO EXISTING U-POST TO INSTALL PROPOSED SIGN.
** COVER EXISTING SIGNS FOR DURATION OF DETOUR.

SEALED BY

JEFFERY P. KARAS — REGISTERED ENGINEER — 115111 — STATE OF TENNESSEE

07-10-26

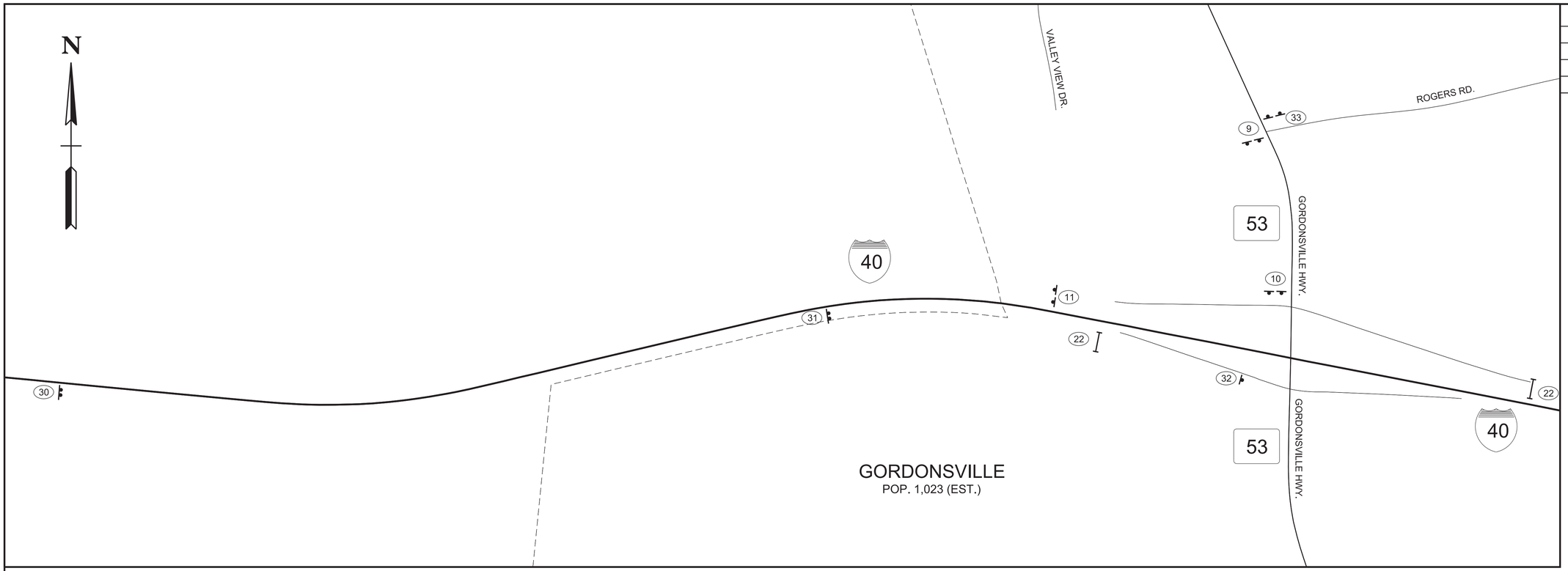
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

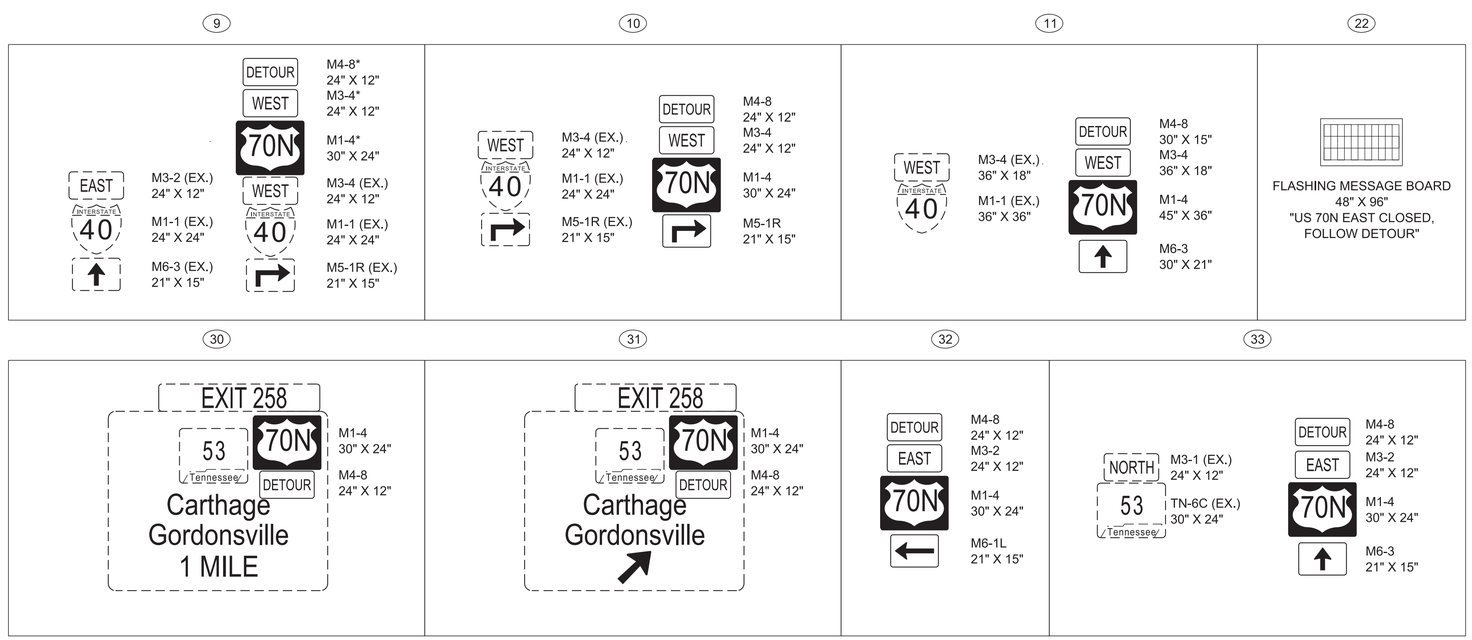
TRAFFIC CONTROL PLANS

SCALE: 1"=1000'

7/20/2026 12:51:24 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\T3A.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	T3B
CONST.	2022	STP-24(70)	T3B
P.I.H.	2026	STP-24(70)	T3B
PS&E	2026	STP/PROT-24(70)	T3B





* ATTACH AN EXTENSION TO EXISTING U-POST TO INSTALL PROPOSED SIGN.

SEALED BY

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

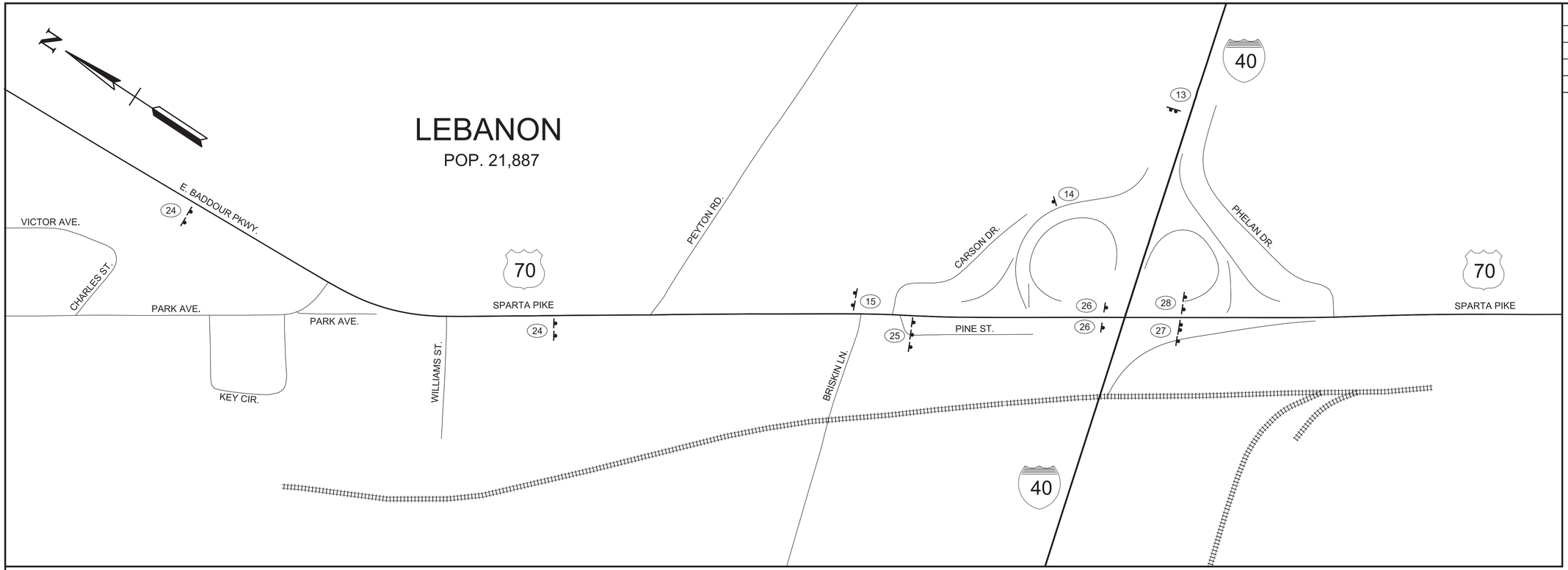
TRAFFIC CONTROL PLANS

SCALE: 1"=1000'

7/20/2026 12:51:25 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\T3B.sht

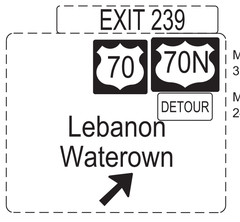
LEBANON

POP. 21,887



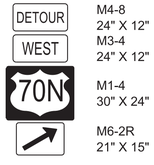
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	T3C
CONST.	2022	STP-24(70)	T3C
P.I.H.	2026	STP-24(70)	T3C
PS&E	2026	STP/PROT-24(70)	T3C

(13)



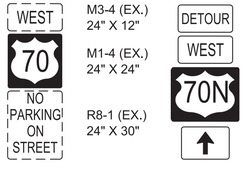
M1-4 30" X 24"
M4-8 24" X 12"

(14)



M4-8 24" X 12"
M3-4 24" X 12"
M1-4 30" X 24"
M6-2R 21" X 15"

(15)

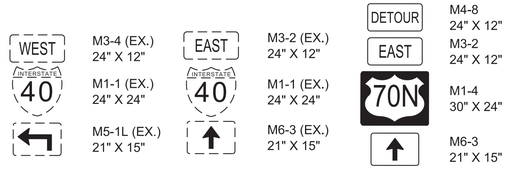


M3-4 (EX.) 24" X 12"
M1-4 (EX.) 24" X 24"
R8-1 (EX.) 24" X 30"
M4-8 24" X 12"
M3-4 24" X 12"
M1-4 30" X 24"
M6-3 21" X 15"

(24)

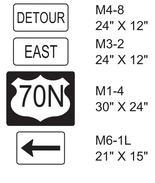
M3-2 (EX.) 24" X 12"
M1-4 (EX.) 24" X 24"
M4-8 24" X 12"
M3-2 24" X 12"
M1-4 30" X 24"
M6-3 21" X 15"

(25)



M3-4 (EX.) 24" X 12"
M1-1 (EX.) 24" X 24"
M5-1L (EX.) 21" X 15"
M3-2 (EX.) 24" X 12"
M1-1 (EX.) 24" X 24"
M6-3 (EX.) 21" X 15"
M4-8 24" X 12"
M3-2 24" X 12"
M1-4 30" X 24"
M6-3 21" X 15"

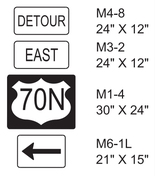
(26)



M4-8 24" X 12"
M3-2 24" X 12"
M1-4 30" X 24"
M6-1L 21" X 15"

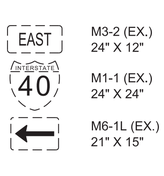
(27)

E6-2 (EX.)



M4-8 24" X 12"
M3-2 24" X 12"
M1-4 30" X 24"
M6-1L 21" X 15"

(28)



M3-2 (EX.) 24" X 12"
M1-1 (EX.) 24" X 24"
M6-1L (EX.) 21" X 15"
M4-8 24" X 12"
M3-2 24" X 12"
M1-4 30" X 24"
M6-1L 21" X 15"

SEALED BY

07-10-26

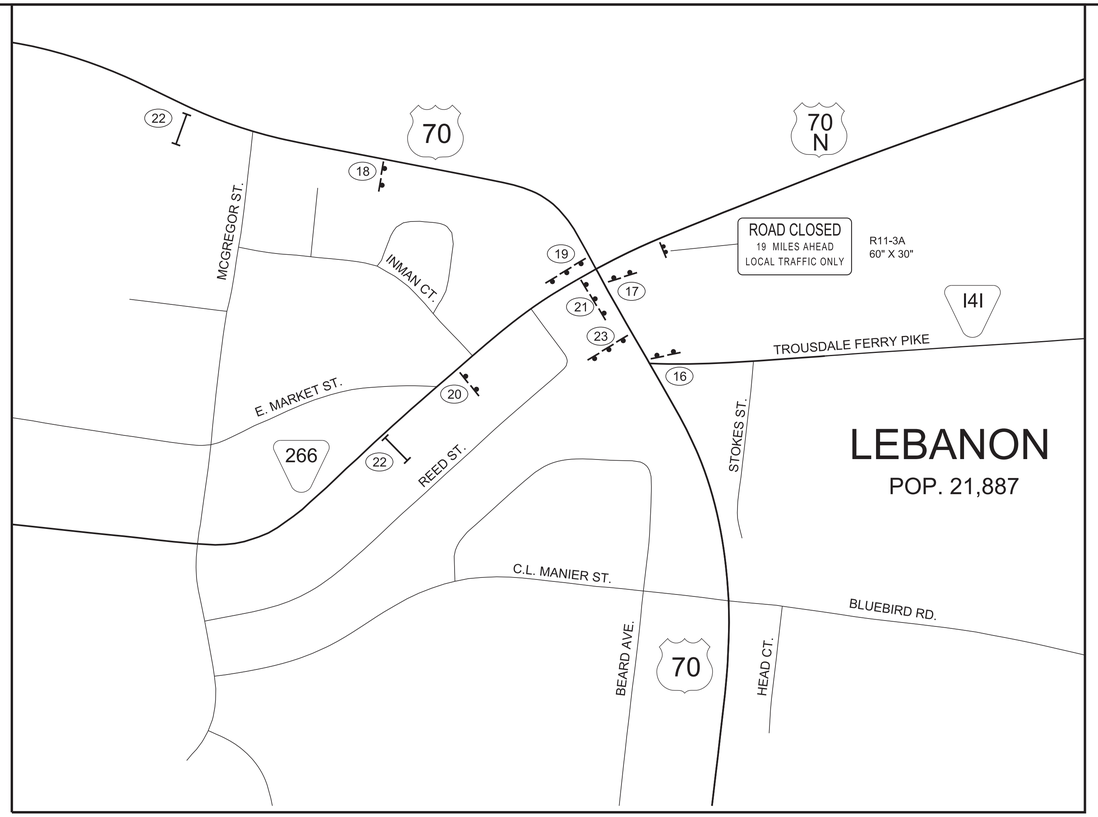
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

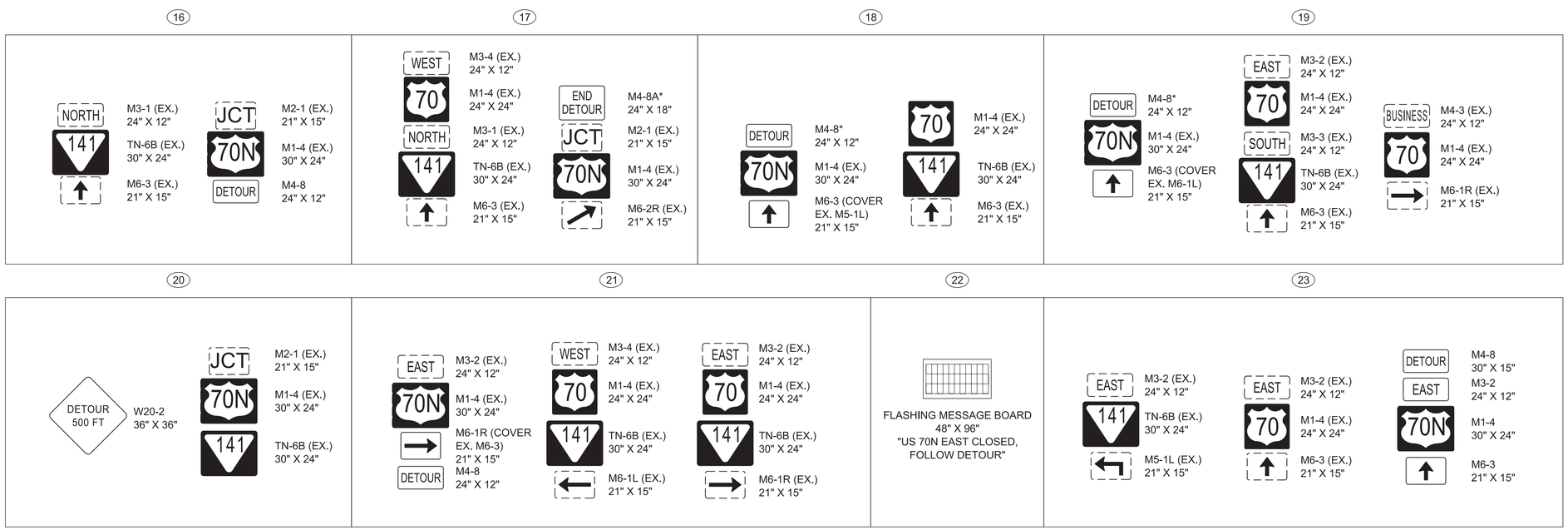
TRAFFIC CONTROL PLANS

SCALE: 1"=1000'

7/20/2026 12:51:26 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\T3C.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	T3D
CONST.	2022	STP-24(70)	T3D
P.I.H.	2026	STP-24(70)	T3D
PS&E	2026	STP/PROT-24(70)	T3D





* ATTACH AN EXTENSION TO EXISTING U-POST TO INSTALL PROPOSED SIGN.

SEALED BY

07-10-26

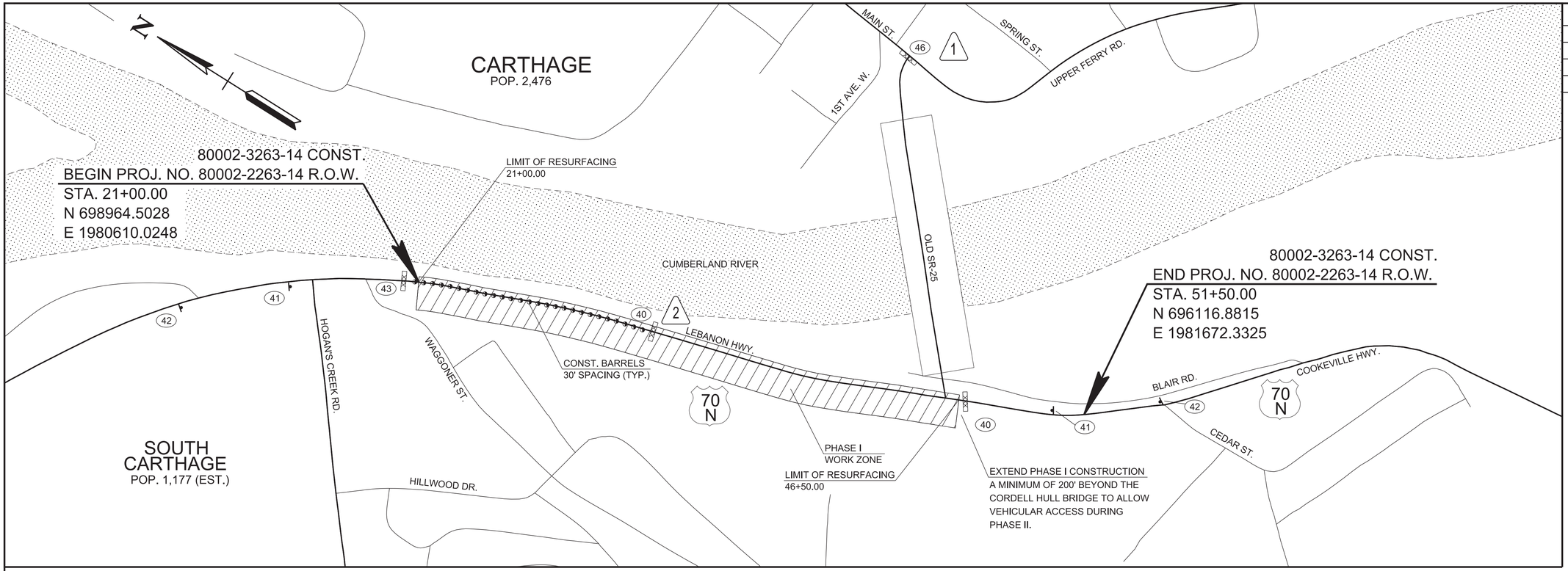
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC
CONTROL
PLANS

SCALE: 1"=1000'

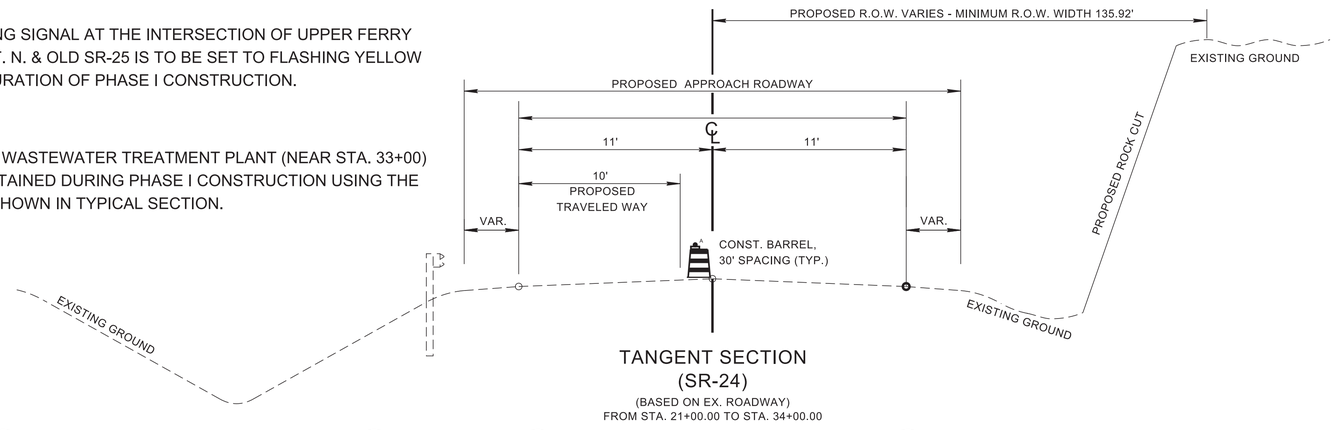
7/20/2026 12:51:27 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\T3D.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	T4
CONST.	2022	STP-24(70)	T4
P.I.H.	2026	STP-24(70)	T4
PS&E	2026	STP/PROT-24(70)	T4



1 THE EXISTING SIGNAL AT THE INTERSECTION OF UPPER FERRY RD./MAIN ST. N. & OLD SR-25 IS TO BE SET TO FLASHING YELLOW FOR THE DURATION OF PHASE I CONSTRUCTION.

2 ACCESS TO WASTEWATER TREATMENT PLANT (NEAR STA. 33+00) TO BE MAINTAINED DURING PHASE I CONSTRUCTION USING THE METHODS SHOWN IN TYPICAL SECTION.



TANGENT SECTION
(SR-24)
(BASED ON EX. ROADWAY)
FROM STA. 21+00.00 TO STA. 34+00.00

(40)

TYPE III BARRICADE ROAD CLOSURE
w/ TYPE A
WARNING LIGHTS

(41)

W20-3
36" X 36"

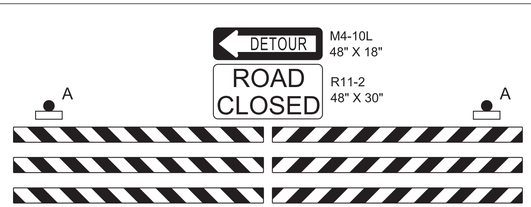
(42)

W20-3
36" X 36"

(43)

TYPE III BARRICADE ROAD CLOSURE
w/ TYPE A
WARNING LIGHTS

(46)



TYPE III BARRICADE ROAD CLOSURE
w/ TYPE A
WARNING LIGHTS

SEALED BY

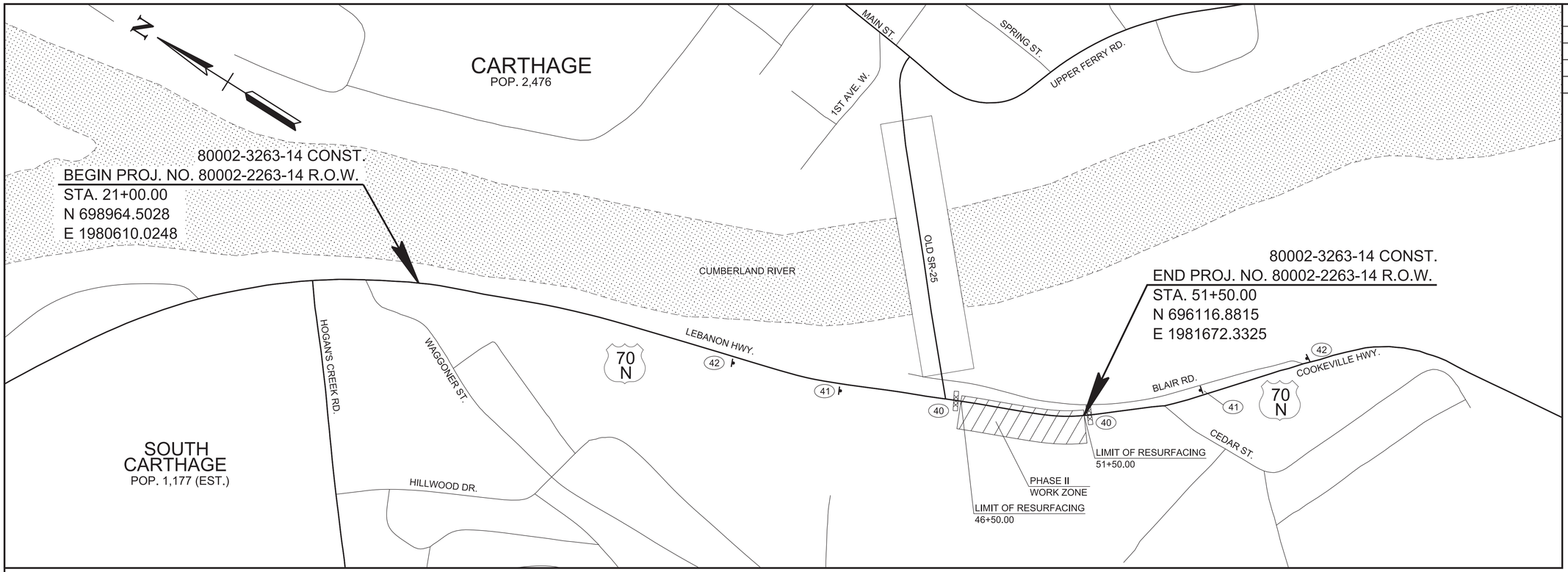
JEFFERY P. KARAS
REGISTERED ENGINEER
No. 119161
STATE OF TENNESSEE

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS
PHASE I
SCALE: 1"=250'

7/20/2026 12:51:28 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\T4.sht



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2021	STP-24(70)	T5
CONST.	2022	STP-24(70)	T5
P.I.H.	2026	STP-24(70)	T5
PS&E	2026	STP/PROT-24(70)	T5

(40)

TYPE III BARRICADE ROAD CLOSURE
w/ TYPE A
WARNING LIGHTS

(41)

W20-3
36" X 36"

(42)

W20-3
36" X 36"

SEALED BY

07-10-26

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS

PHASE II

SCALE: 1"=250'

7/20/2026 12:51:29 PM
Z:\17Proj\64\17640710\Constructs\Civil\Sheets\T5.sht

THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

ROBERT DALE JOWERS

Digitally signed by ROBERT DALE JOWERS
Date: 2026.07.20 16:02:51 -05'00'

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST BE VERIFIED ON THE ELECTRONIC DOCUMENTS.

TENNESSEE DEPARTMENT OF TRANSPORTATION
MATERIALS & TESTS DIVISION- GEOTECHNICAL ENGINEERING SECTION
6601 CENTENNIAL BLVD.
NASHVILLE, TN 37243
ROBERT JOWERS, P.E. NO. 103066

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	GEOTECH-SIGN1
GEOTECHNICAL PLANS	G-1 – G-47

YEAR	PROJECT NO.	SHEET NO.
2026	STP/PROT-24(70)	GEOTECH-SIGN1

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-1

GEOTECHNICAL INDEX

SHEET NAME **SHEET NO.**

GEOTECHNICAL INDEX G-1

GEOTECHNICAL NOTES AND TABULATED QUANTITIES G-2

GEOTECHNICAL STABILIZATION LAYOUTS.....G-3 – G-5

GEOTECHNICAL ROCK SLOPE ORTHO VIEWS .....G-6 – G-17

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS.....G-18 – G-35

GEOTECHNICAL TYPICAL SECTIONS.....G-36 – G-39

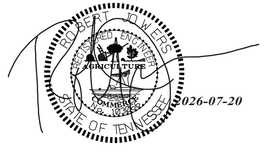
GEOTECHNICAL STANDARD DRAPE TYPICAL DETAILS.. .....G-40

GEOTECHNICAL ELEVATED DRAPE TYPICAL DETAILS.....G-41 – G-43

GEOTECHNICAL ELEVATED ROCKFALL DRAPE NOTES .....G-44 – G-45

GEOTECHNICAL DOWELING NOTES AND DETAILS .....G-46 – G-47

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL INDEX

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-2

GENERAL NOTES

1) CONTRACTOR SHOP DRAWING SUBMITTAL REQUIREMENTS CONTAINED IN *SPECIAL PROVISION* 707D REGARDING ROCKFALL DRAPE SHALL INCLUDE PROJECT SPECIFIC STATIONING, ELEVATIONS, AND INSTALLATION LOCATION.

2) ALL COSTS OF ANCHOR INSTALLATION SHALL BE INCLUDED IN 707-02.44 ROCK ANCHOR, TYPE II (ROCK/SOIL). NO ADDITIONAL PAYMENT SHALL BE MADE REGARDING HOLE CAVING, GROUT LOSS, GROUT OVERRUNS, ETC.

3) GROUT SHALL MEET ALL REQUIREMENTS AND SPECIFICATIONS PER THE SPECIAL PROVISIONS AND GEOTECHNICAL SHEETS' NOTES.

4) MATERIAL SHALL NOT BE STOCKPILED IN THE OUTER LANE OR SHOULDER OF STATE ROUTE 24.

5) TEMPORARY ROCKFALL BARRIER REQUIREMENTS:

- CAPABLE OF WITHSTANDING REPEATED IMPACTS OF 75 FT-TON (200 KILOJOULES IMPACT RATING) WITHOUT EXCESSIVE COMPONENT DAMAGE.
- INTENDED TO BE MOUNTED ON 1 INCH THICK STEEL PLATES, RIGIDLY CONNECTED, AND MOVABLE BETWEEN DESIRED WORK AREAS.
- MINIMUM LENGTH 100 FEET AND MINIMUM HEIGHT 12 FEET.
- SUPPORT POSTS SHALL BE S12X35 I BEAMS MINIMUM, SPACED NO MORE THAN 15' APART (OR AS REQUIRED TO SUPPORT THE ROCKFALL NETTING MATERIAL).
- ROCKFALL NET MATERIAL ALLOWED SHALL COMPLY WITH ROCKFALL FENCE (TYPE 1) PER *SPECIAL PROVISION 707H REGARDING ROCKFALL BARRIER SYSTEMS.*
- THE ROCKFALL NET MATERIAL SHALL RETAIN ROCK PARTICLE SIZES GREATER THAN 4 INCHES.
- ROCKFALL NET MATERIAL SHALL BE FULLY INTERCONNECTED TO ITSELF AND CONNECTED TO SUPPORT POSTS PER MANUFACTURER'S SPECIFICATIONS.
- THE 1 INCH STEEL PLATES SHALL BE ANCHORED UTILIZING ANCHORS THAT PROVIDE AT LEAST 3,000 LBF IN TENSION AND 7,500 LBF IN SHEAR.

6) ABOVE THE ANCHORED DRAPE SYSTEM, ONLY CLEAR AND SCALE WHAT IS DEEMED NECESSARY FOR INSTALLATION OF THE DRAPE SYSTEM. WORK HERE SHALL BE CONSIDERED INCIDENTAL TO THE ROCKFALL DRAPE INSTALLATION COST.

7) GENERAL SCALING IS THE REMOVAL OF LOOSE AND UNSTABLE ROCK AND DEBRIS FROM AN EXISTING SLOPE BY USING MANUAL DEVICES SUCH AS HANDHELD PRY-BARS OR REMOVAL BY HAND BY WORKERS SUSPENDED FROM ROPES OR WORKING OUT OF A CRANE OR LIFT BASKET. THIS INCLUDES THE REMOVAL OF TREES, SHRUBS/BUSHES, AND OTHER VEGETATION THAT WOULD INTERFERE WITH THE PROPER INSTALLATION OF OTHER MITIGATION MEASURES (I.E. DRAPED MESH, ELEVATED MESH, ETC.)

8) HEAVY SCALING IS AN INTENSIVE FORM OF GENERAL SCALING THAT UTILIZES PORTABLE AIR PILLOWS, PNEUMATIC OR OTHER JACKS, HYDRAULIC WEDGES, EXPANSIVE GROUT OR MATERIALS TO REMOVE OR BREAK SPECIFIC ROCK BLOCKS OR LESS COMPETENT ROCK MASS AREAS. THE USE OF BLASTING TECHNIQUES IS NOT ALLOWED. THE USE OF EXCAVATING EQUIPMENT IS NOT ALLOWED UNLESS APPROVED BY THE ENGINEER IN WRITING. THE USE OF WATER OR OTHER SCALING TECHNIQUES (I.E. SUSPENDED DOZER TRACKS, SLUSHERS, ETC.) IS NOT ACCEPTABLE.

9) SCALE SLOPES FROM THE TOP, WORKING DOWN TOWARD THE ROAD, REMOVING LOOSE, DETACHED, AND IDENTIFIED BLOCKS/AREAS OF ROCK AS THE WORK PROGRESSES.

10) REMOVE ALL TREES AND OTHER VEGETATION ON THE SLOPE AND 10 FEET ABOVE THE CREST OF THE SLOPE AND AS DETAILED IN THE PLANS. CUT TREES FLUSH WITH THE SLOPE BUT LEAVE ROOT WADS INTACT. REMOVE SCALED ROCK BLOCKS THAT HANG UP ON SLOPES DURING SCALING OPERATIONS. REMOVE ADDITIONAL ROCK BLOCKS AS DIRECTED BY THE ENGINEER.

11) CONTINUOUSLY MONITOR THE SLOPE STABILIZATION SITE AND THE PROTECTED ROADWAY AREAS WHILE PERFORMING ON-SLOPE WORK. IMMEDIATELY HALT SLOPE STABILIZATION OPERATIONS AND ADJUST THE TEMPORARY ROCKFALL PROTECTION (TRP) MEASURES IF ROCKS FALL OR ROLL BEYOND THE CONTAINMENT MEASURES OR PASS THROUGH OR BOUNCE OVER THE TEMPORARY PROTECTION DEVICES.

12) SCALING AREAS WILL BE INSPECTED BY THE ENGINEER TO DETERMINE IF THE SLOPE HAS BEEN SCALED SUFFICIENTLY. IF ADDITIONAL WORK IS IDENTIFIED WITHIN PROJECT LIMITS, CONTINUE TO SCALE THE SLOPE UNTIL IT HAS BEEN COMPLETED TO THE SATISFACTION OF THE ENGINEER.

13) REMOVE ALL ROCK, DEBRIS, AND FALLEN TREES PRODUCED DURING THE SCALING OPERATION AND PRE-EXISTING ACCUMULATED DEBRIS FROM THE BENCHES AND ROADSIDE DITCHES AND DISPOSE OF THIS MATERIAL AT AN ACCEPTED OFFSITE LOCATION OR AS DIRECTED BY THE ENGINEER.

TABULATED GEOTECHNICAL QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
②	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	6,560
③④⑦	203-11	SCALING AND TRIMMING	S.Y.	46,844
⑧	203-40.17	ROCK DOWEL	L.F.	1,345
⑤⑥	707-02.44	ROCK ANCHOR, TYPE II	L.F.	4,520
⑤⑥	707-10.06	ROCKFALL DRAPE (TYPE II)	S.Y.	46,500

① QUANTITIES TABULATED HEREIN ARE REPLICATED IN THE ROADWAY ESTIMATED QUANTITIES SHEETS LOCATED IN THE TWO SHEET SERIES.

FOOTNOTES

② INCLUDES 3640 CY FOR GENERAL SCALING AND TRIMMING OPERATION, 1800 CY FOR HEAVY SCALING AREA, AND 1120 CY FOR DITCH CLEAN OUT. *SEE SPECIAL PROVISION 203E REGARDING SCALING AND TRIMMING.*

③ WORK SHALL BE IN ACCORDANCE WITH *SPECIAL PROVISION 203E REGARDING SCALING AND TRIMMING.*

④ WORK SHALL BE PERFORMED BY A ROCKFALL MITIGATION SPECIALTY CONTRACTOR USING MANUAL SCALING DEVICES ONLY. MECHANICAL MEANS\METHODS OF SCALING, SUCH AS BUT NOT LIMITED TO "SLUSHERS" OR "DOZER TRACKS" SHALL BE DISALLOWED. BLASTING SHALL BE DISALLOWED. SEE GENERAL NOTES ON THIS SHEET FOR ADDITIONAL INFORMATION.

⑤ INSTALL IN ACCORDANCE WITH *SPECIAL PROVISION 707D REGARDING ROCKFALL SLOPE DRAPE MESH.*

⑥ INCLUDES 500 L.F. FOR ANCHORS INSTALLED USING "STANDARD" ROCKFALL DRAPE TYPICAL DETAILS, 2960 L.F. FOR ANCHORS INSTALLED USING "ELEVATED" ROCKFALL DRAPE TYPICAL DETAILS, AND 1060 L.F. FOR POSTS INSTALLED USING "ELEVATED" ROCKFALL DRAPE TYPICAL DETAILS.

- "STANDARD" ROCKFALL DRAPE AND ANCHORS FROM BEGIN PROJECT STA. 21+00 TO STA. 28+00, AND FROM STA. 49+00 TO END PROJECT STA. 51+50. SEE GEOTECHNICAL TYPICAL DETAILS SHEETS.
- "ELEVATED" ROCKFALL DRAPE AND ANCHORS AND POSTS FROM STA. 28+00 TO STA. 49+00. COST FOR POST EXTENSION (FIVE FEET ABOVE GROUND SURFACE) IS INCIDENTAL TO ROCK ANCHORS. SEE GEOTECHNICAL TYPICAL DETAILS SHEETS.

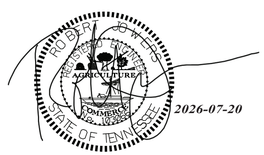
⑦ IN ACCORDANCE WITH *SP203E REGARDING SCALING AND TRIMMING*, TEMPORARY ROCKFALL BARRIER(S) SHALL BE REQUIRED. ALL MATERIALS AND LABOR COSTS SHALL BE INCIDENTAL TO ITEM NO. 203-11 SCALING AND TRIMMING. DETAILS OF CONSTRUCTION ARE CONTAINED IN GENERAL NOTES. SEE GENERAL NOTES ON THIS SHEET FOR ADDITIONAL INFORMATION.

⑧ FOR MATERIALS AND LABOR NECESSARY TO INSTALL ROCK DOWELS SHOWN IN PLANS IN ACCORDANCE WITH NOTES AND SPECIFICATIONS. SEE GEOTECHNICAL DOWELING NOTES AND DETAILS SHEET.

SEQUENCING NOTES

1) PROVIDE ALL REQUIRED SUBMITTALS. DO NOT START ANY WORK ITEM UNTIL THE DEPARTMENT HAS APPROVED THE SUBMITTALS IN WRITING.
2) COMPLETE TEMPORARY ROCKFALL PROTECTION (TRP) INSTALLATION PRIOR TO PERFORMING ANY ON SLOPE WORK ITEMS AND MAINTAIN UNTIL ALL ON-SLOPE ACTIVITIES HAVE BEEN COMPLETED.
3) PERFORM SCALING BEFORE ANY OTHER SLOPE STABILIZATION WORK OR PERMANENT ROCKFALL MITIGATION MEASURES ARE IMPLEMENTED.
4) COMPLETE GENERAL AND HEAVY SCALING PRIOR TO INSTALLATION OF ROCK DOWELS.
5) COMPLETE INSTALLATION OF ALL ROCK DOWELS PRIOR TO THE INSTALLATION OF THE ROCKFALL DRAPE.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL NOTES & TAB. QTYS.

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-3

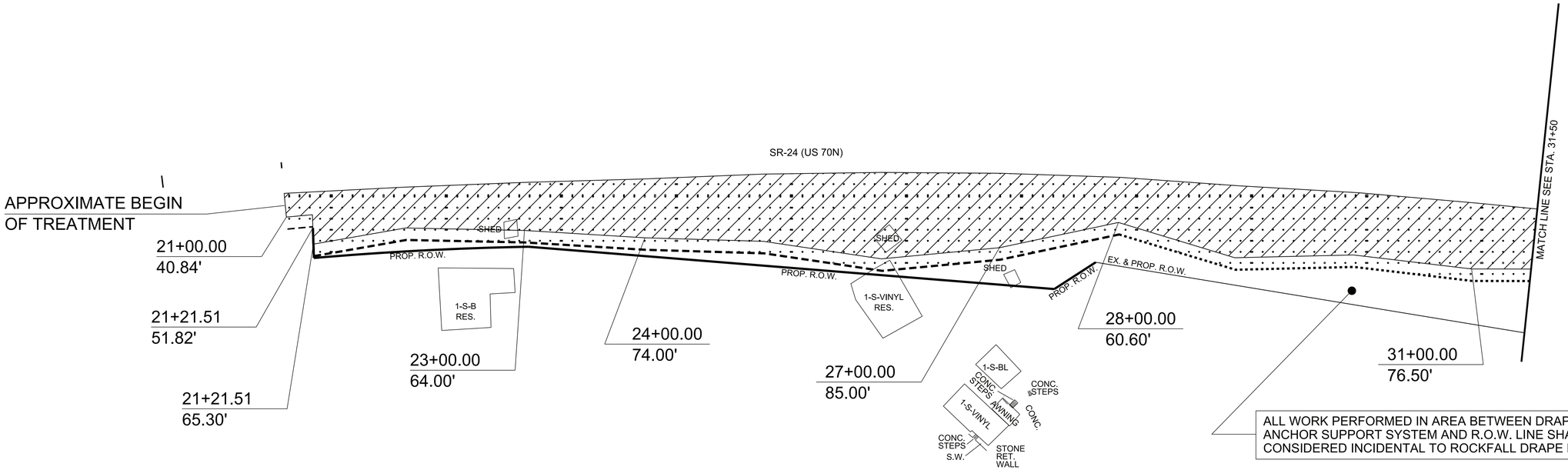
LEGEND

APPROX. LIMITS OF UPPER DRAPE SUPPORT ANCHOR FOR "STANDARD" ROCKFALL DRAPE. SEE G SHEET TYPICAL SECTIONS AND TYPICAL DETAILS

APPROX. LIMITS OF UPPER DRAPE SUPPORT ANCHOR FOR "ELEVATED" ROCKFALL DRAPE. SEE G SHEET TYPICAL SECTIONS AND TYPICAL DETAILS

APPROX. LOCATION OF SCALING AND TRIMMING

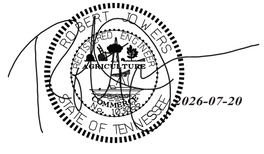
APPROX. LOCATION AND EXTENSION OF ROCKFALL DRAPE (TYPE II)



ALL WORK PERFORMED IN AREA BETWEEN DRAPE ANCHOR SUPPORT SYSTEM AND R.O.W. LINE SHALL BE CONSIDERED INCIDENTAL TO ROCKFALL DRAPE PAY ITEM.

R.O.W. LINES FURNISHED FOR VISUAL PURPOSES ONLY.
SEE R.O.W. SHEETS FOR CURRENT AND COMPLETE DETAILS.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

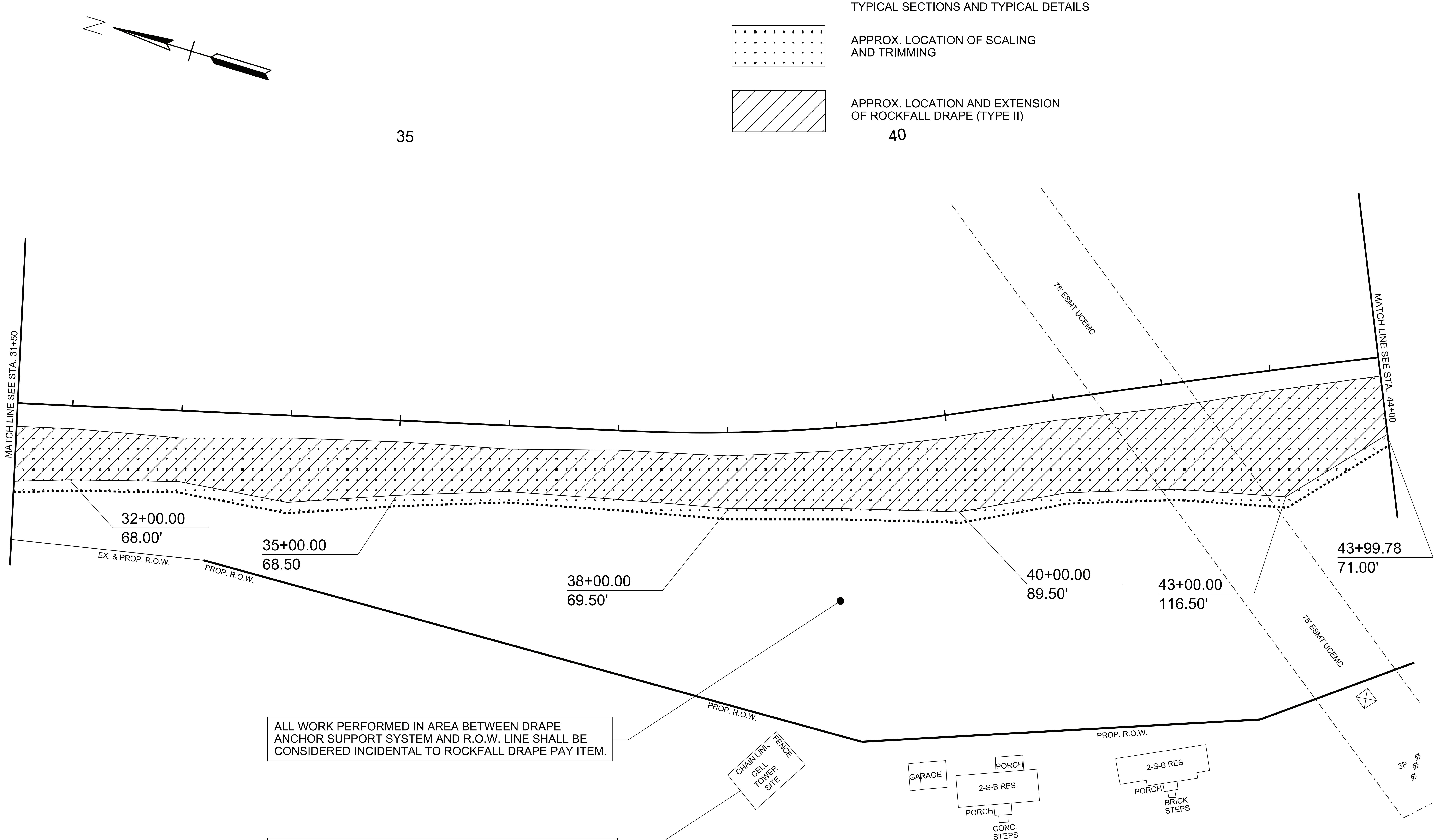
GEOTECHNICAL STABILIZATION LAYOUT

$$$$$SYTIME$$$$$$$
$$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-4

LEGEND

- (dotted line) APPROX. LIMITS OF UPPER DRAPE SUPPORT ANCHOR FOR "ELEVATED" ROCKFALL DRAPE. SEE G SHEET TYPICAL SECTIONS AND TYPICAL DETAILS
- (dot pattern) APPROX. LOCATION OF SCALING AND TRIMMING
- (hatch pattern) APPROX. LOCATION AND EXTENSION OF ROCKFALL DRAPE (TYPE II)



R.O.W. LINES FURNISHED FOR VISUAL PURPOSES ONLY.
SEE R.O.W. SHEETS FOR CURRENT AND COMPLETE DETAILS.

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 103266
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL STABILIZATION LAYOUT

$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-5

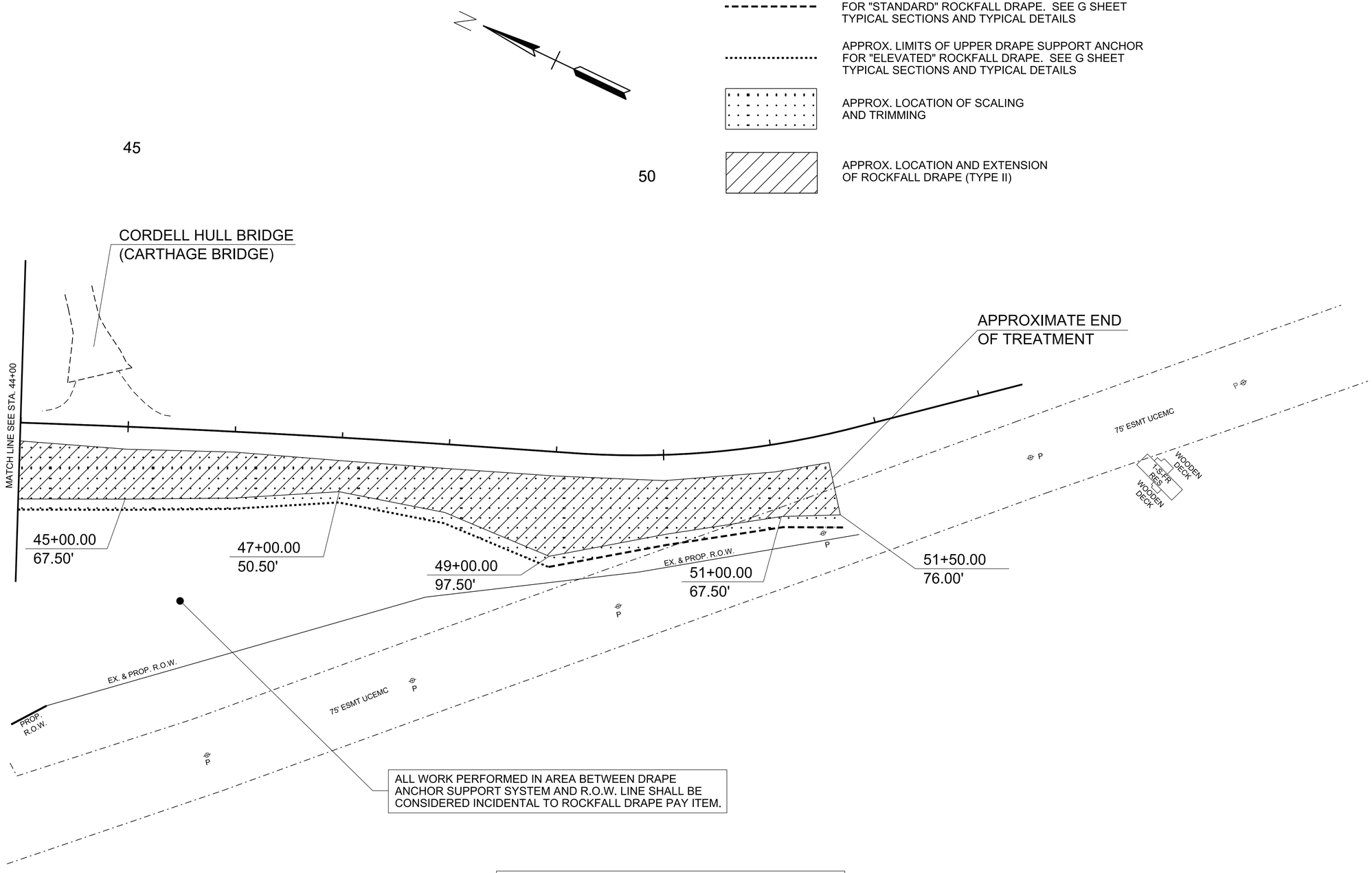
LEGEND

APPROX. LIMITS OF UPPER DRAPE SUPPORT ANCHOR FOR "STANDARD" ROCKFALL DRAPE. SEE G SHEET TYPICAL SECTIONS AND TYPICAL DETAILS

APPROX. LIMITS OF UPPER DRAPE SUPPORT ANCHOR FOR "ELEVATED" ROCKFALL DRAPE. SEE G SHEET TYPICAL SECTIONS AND TYPICAL DETAILS

APPROX. LOCATION OF SCALING AND TRIMMING

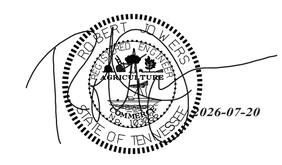
APPROX. LOCATION AND EXTENSION OF ROCKFALL DRAPE (TYPE II)



ALL WORK PERFORMED IN AREA BETWEEN DRAPE ANCHOR SUPPORT SYSTEM AND R.O.W. LINE SHALL BE CONSIDERED INCIDENTAL TO ROCKFALL DRAPE PAY ITEM.

R.O.W. LINES FURNISHED FOR VISUAL PURPOSES ONLY. SEE R.O.W. SHEETS FOR CURRENT AND COMPLETE DETAILS.

SEALED BY

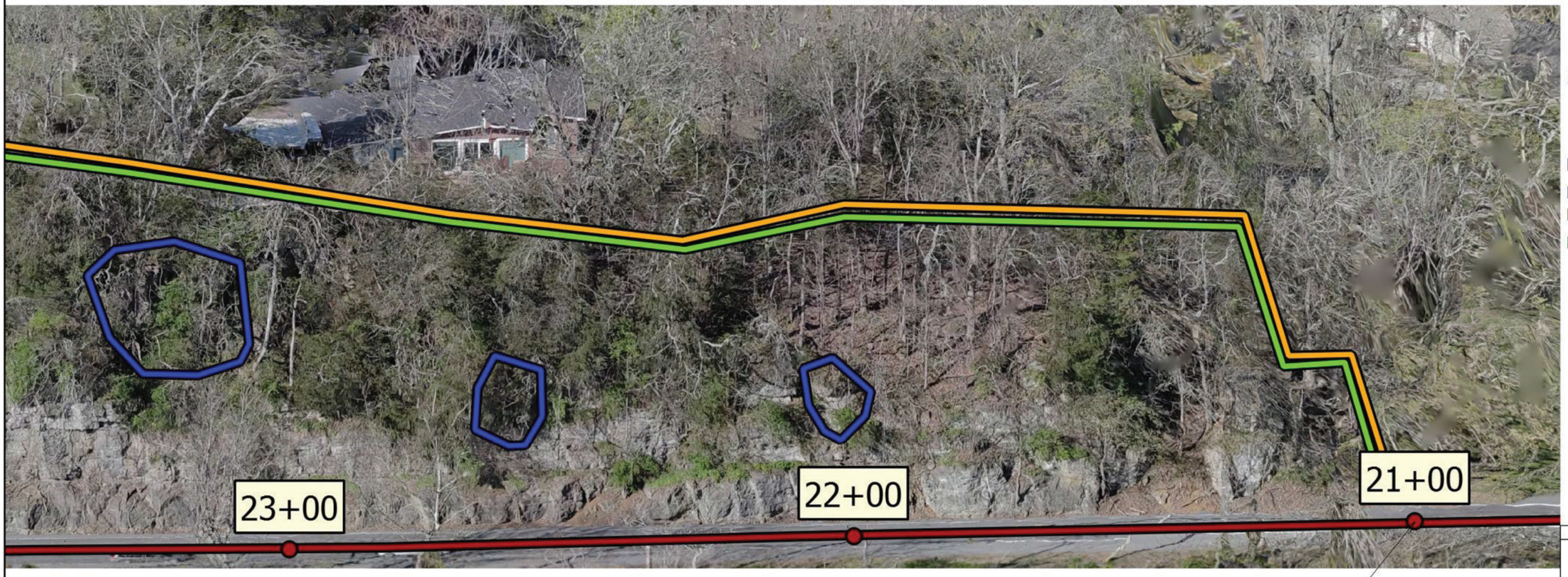


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL STABILIZATION LAYOUT

$$$$SYTIME$$$$$
$$$$DGNSPEC$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-6



LEGEND

- 10' DOWEL BARS
- 15' DOWEL BARS
- 20' DOWEL BARS
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

BEGIN OF "STANDARD" ROCKFALL DRAPE TYPE II AT STATION 21+00.

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
STATE OF TENNESSEE
102933

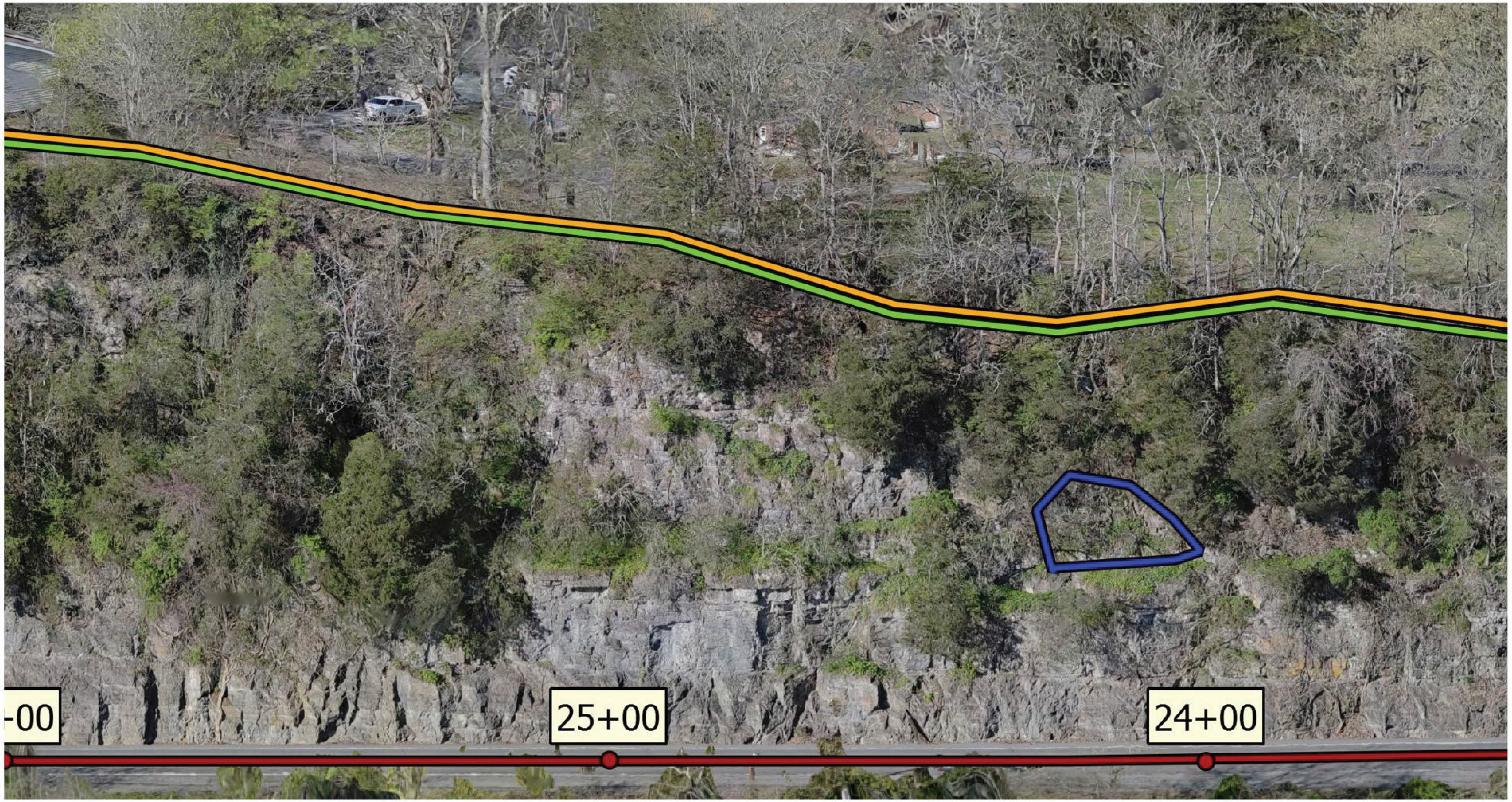
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
ROCK SLOPE
ORTHO VIEW

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-7



LEGEND

- 10' DOWEL BARS
- 15' DOWEL BARS
- 20' DOWEL BARS
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 103066
STATE OF TENNESSEE

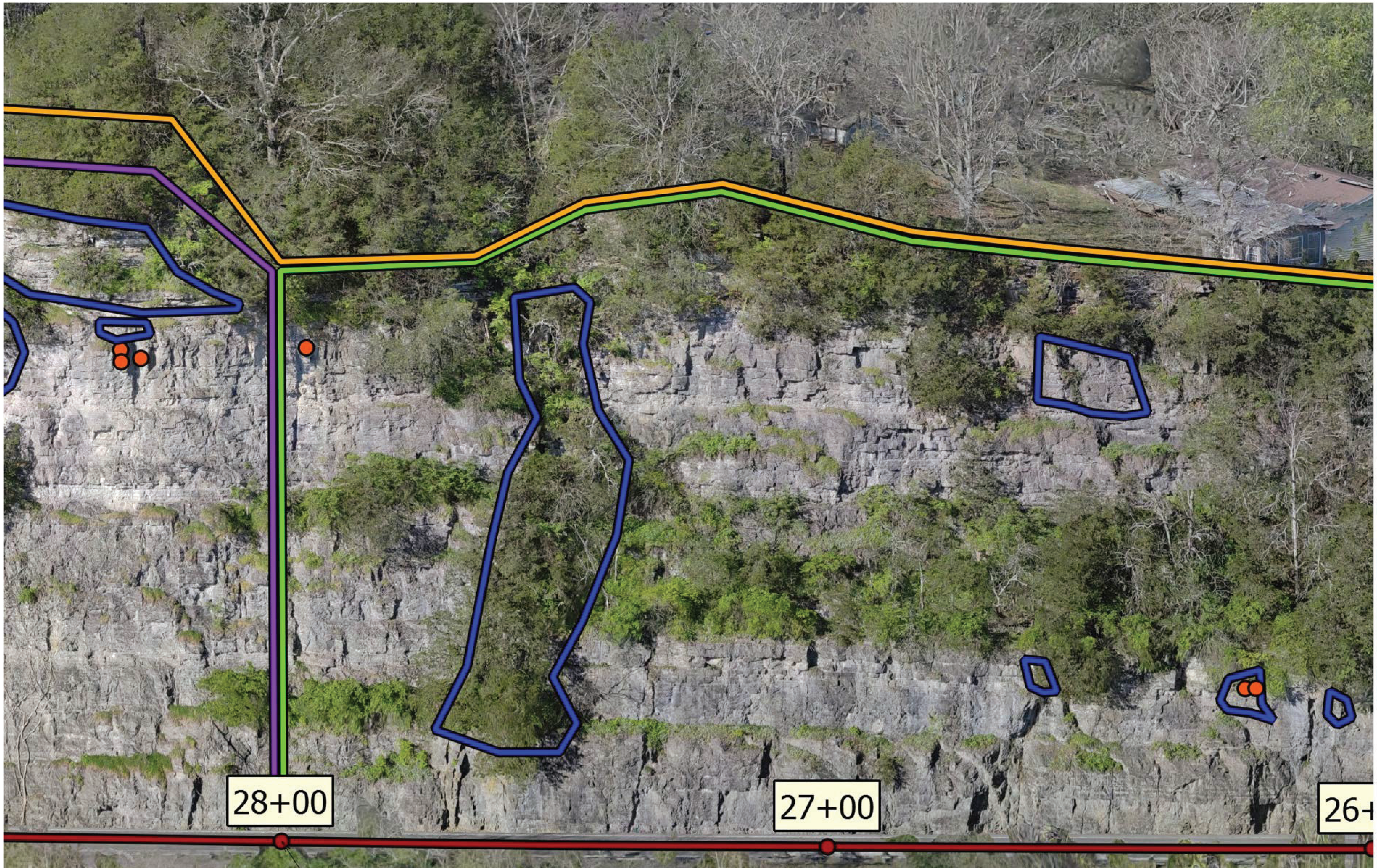
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
ROCK SLOPE
ORTHO VIEW

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-8



END OF "STANDARD" ROCKFALL DRAPE TYPE II
AT STATION 28+00. BEGIN OF "ELEVATED"
ROCKFALL DRAPE TYPE II AT STATION 28+00.

LEGEND

- 10' DOWEL BARS
- 15' DOWEL BARS
- 20' DOWEL BARS
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

SEALED BY

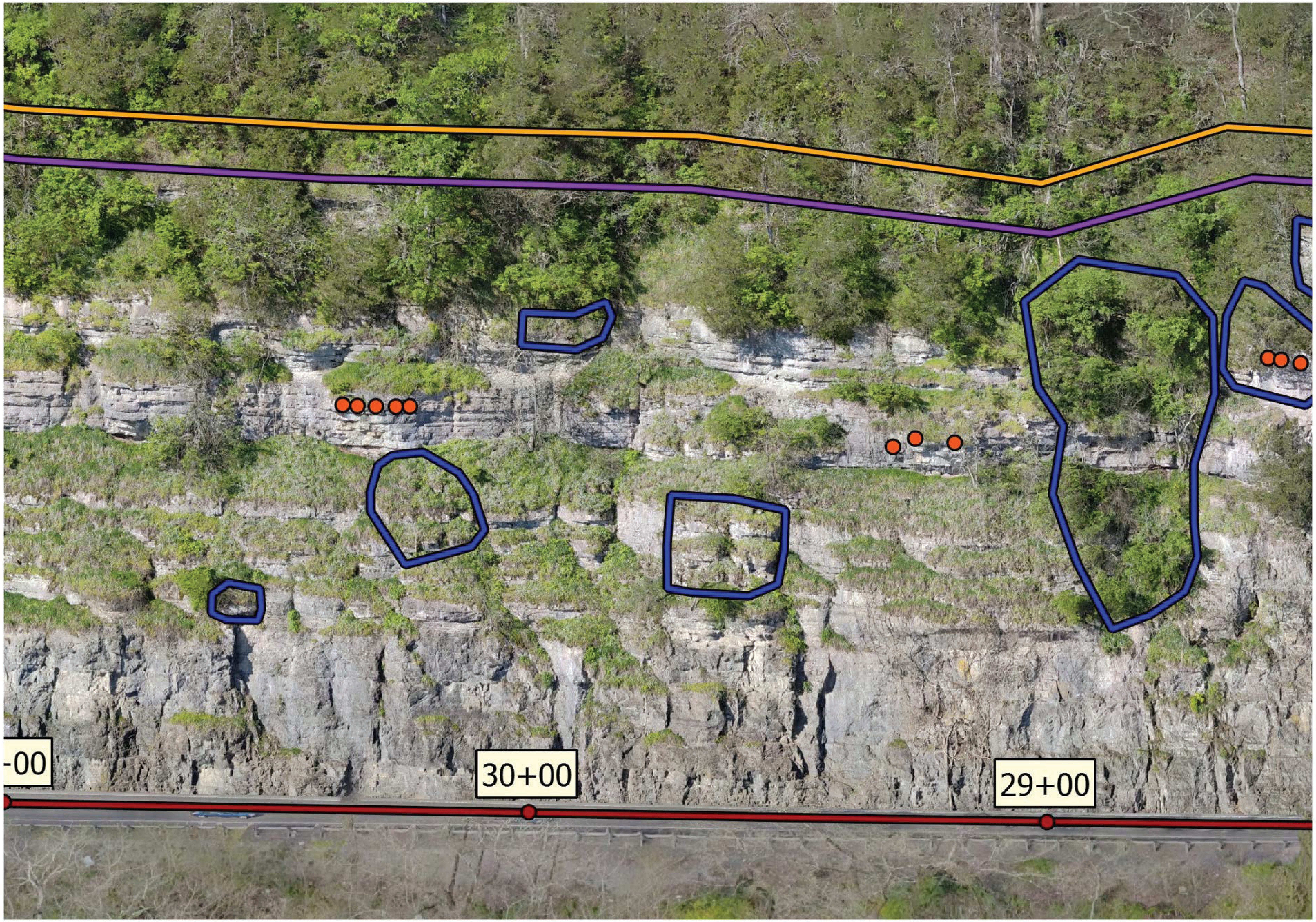
ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 103066
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
ROCK SLOPE
ORTHO VIEW

$$$$SYTIME$$$$$
$$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-9



LEGEND

- 10' DOWEL BARS
- 15' DOWEL BARS
- 20' DOWEL BARS
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 103066
STATE OF TENNESSEE

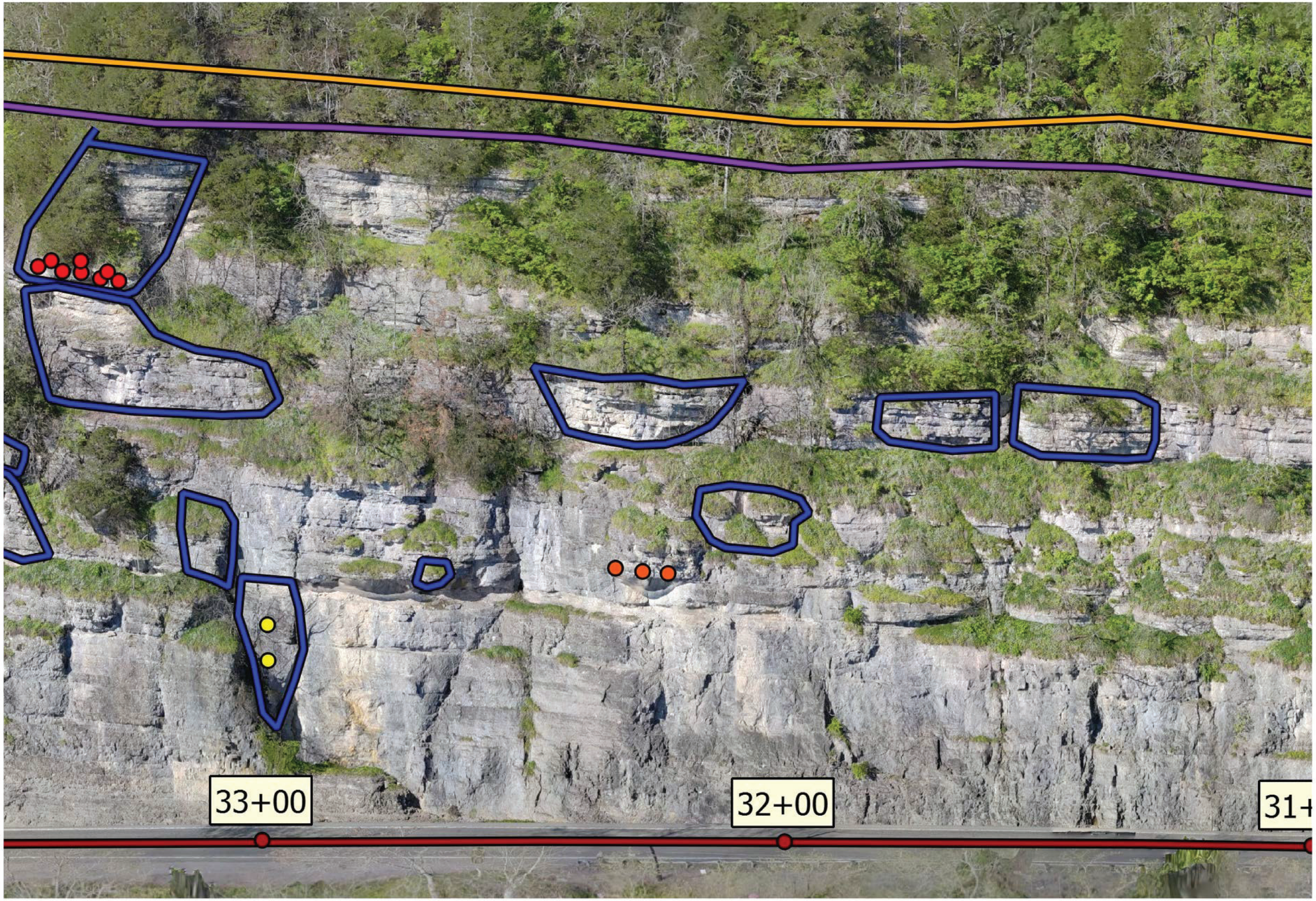
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
ROCK SLOPE
ORTHO VIEW

$$$$SYTIME$$$$$
$$$$DGNSPEC$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-10



LEGEND

- 10' DOWEL BARS (yellow)
- 15' DOWEL BARS (orange)
- 20' DOWEL BARS (red)
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

SEALED BY

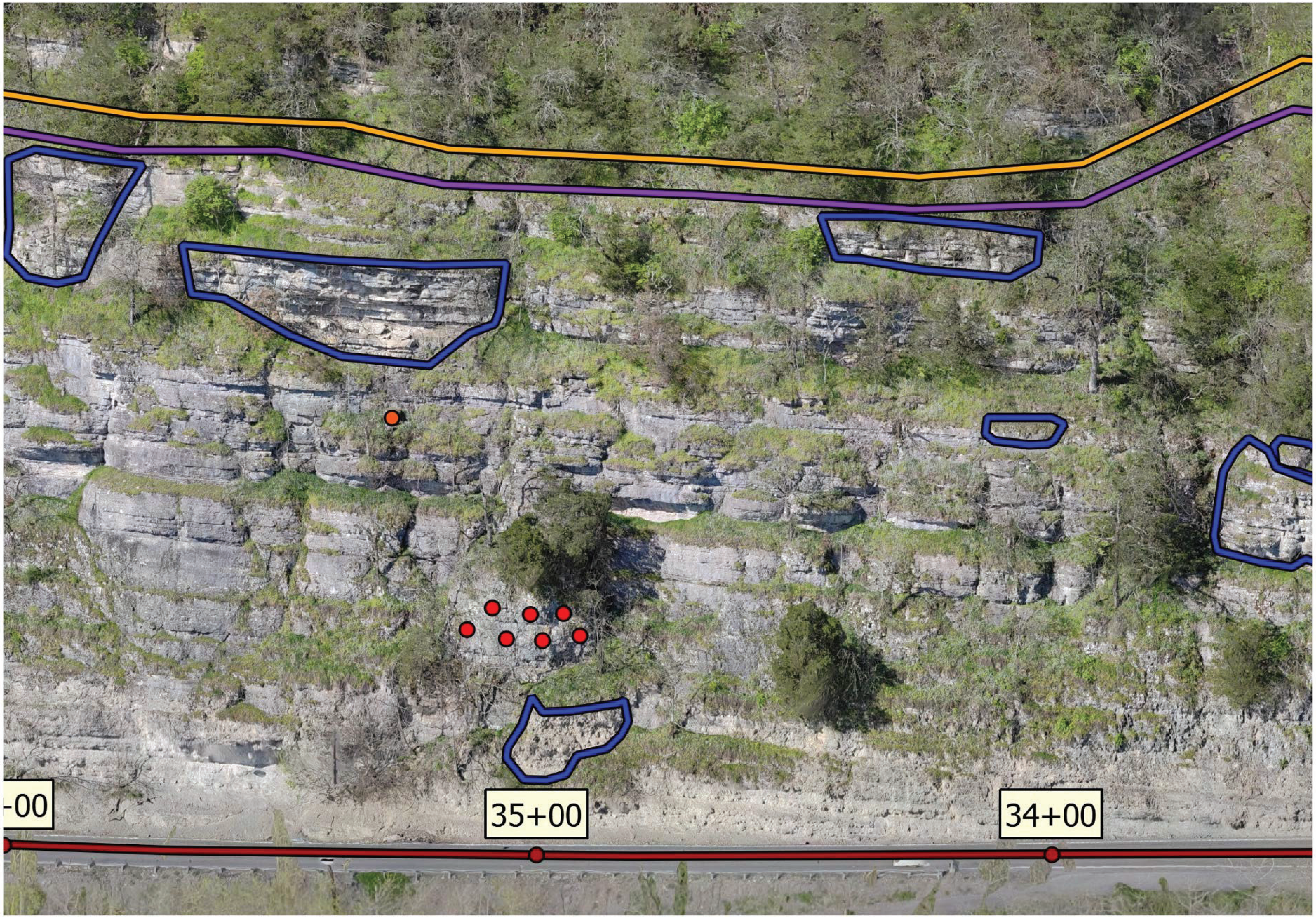
ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 103066
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ROCK SLOPE ORTHO VIEW

$$$$SYTIME$$$$$
$$$$DGNSPEC$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-11



LEGEND

- 10' DOWEL BARS
- 15' DOWEL BARS
- 20' DOWEL BARS
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 103066
STATE OF TENNESSEE

2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
ROCK SLOPE ORTHO VIEW

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-12

LEGEND

- 10' DOWEL BARS
- 15' DOWEL BARS
- 20' DOWEL BARS
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 103066
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
ROCK SLOPE ORTHO VIEW

$$$$SYTIME$$$$$$
$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-13

LEGEND

- 10' DOWEL BARS
- 15' DOWEL BARS
- 20' DOWEL BARS
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 103066
STATE OF TENNESSEE

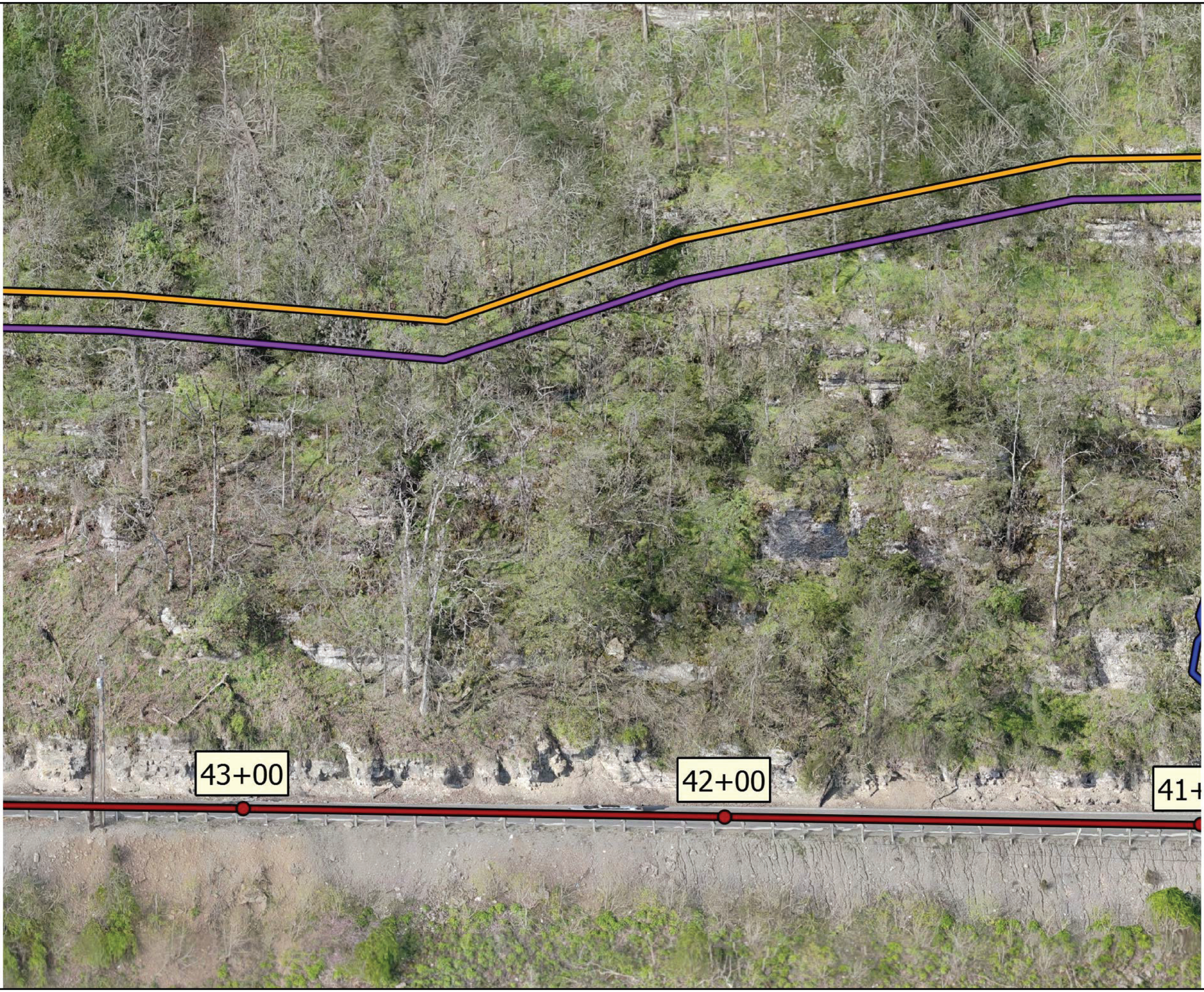
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
ROCK SLOPE
ORTHO VIEW

$$$$SYTIME$$$$$
$$$$DGNSPEC$$$$$

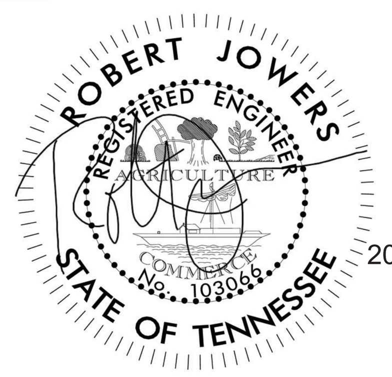
TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-14



LEGEND

- 10' DOWEL BARS
- 15' DOWEL BARS
- 20' DOWEL BARS
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

SEALED BY



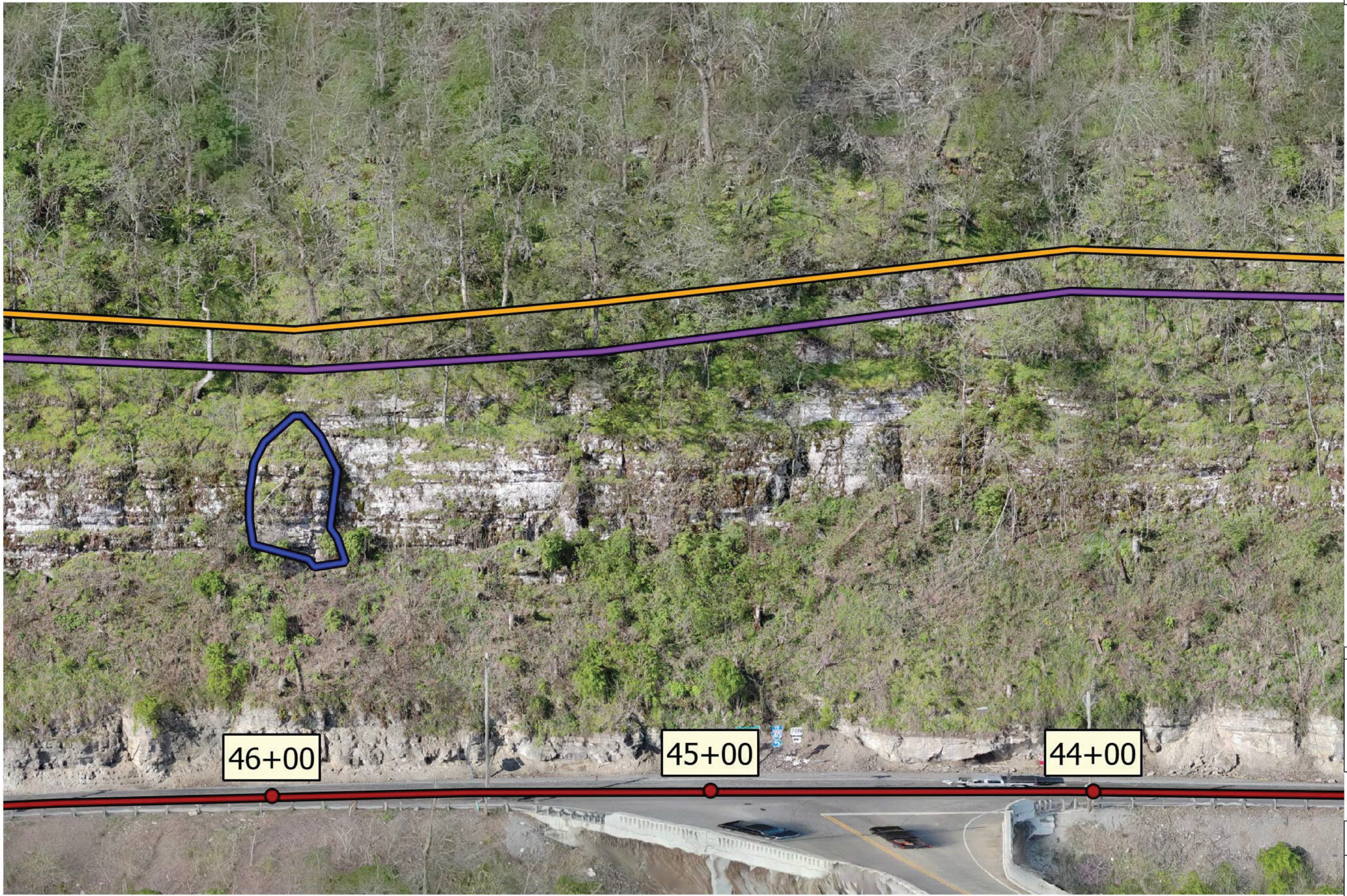
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
ROCK SLOPE
ORTHO VIEW

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$

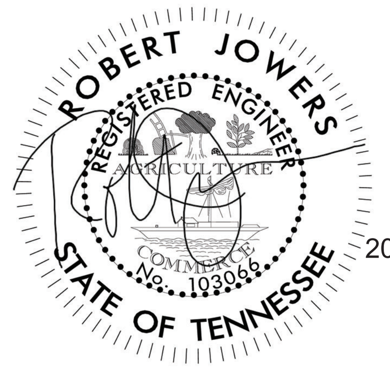
TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-15



LEGEND

- 10' DOWEL BARS
- 15' DOWEL BARS
- 20' DOWEL BARS
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

SEALED BY

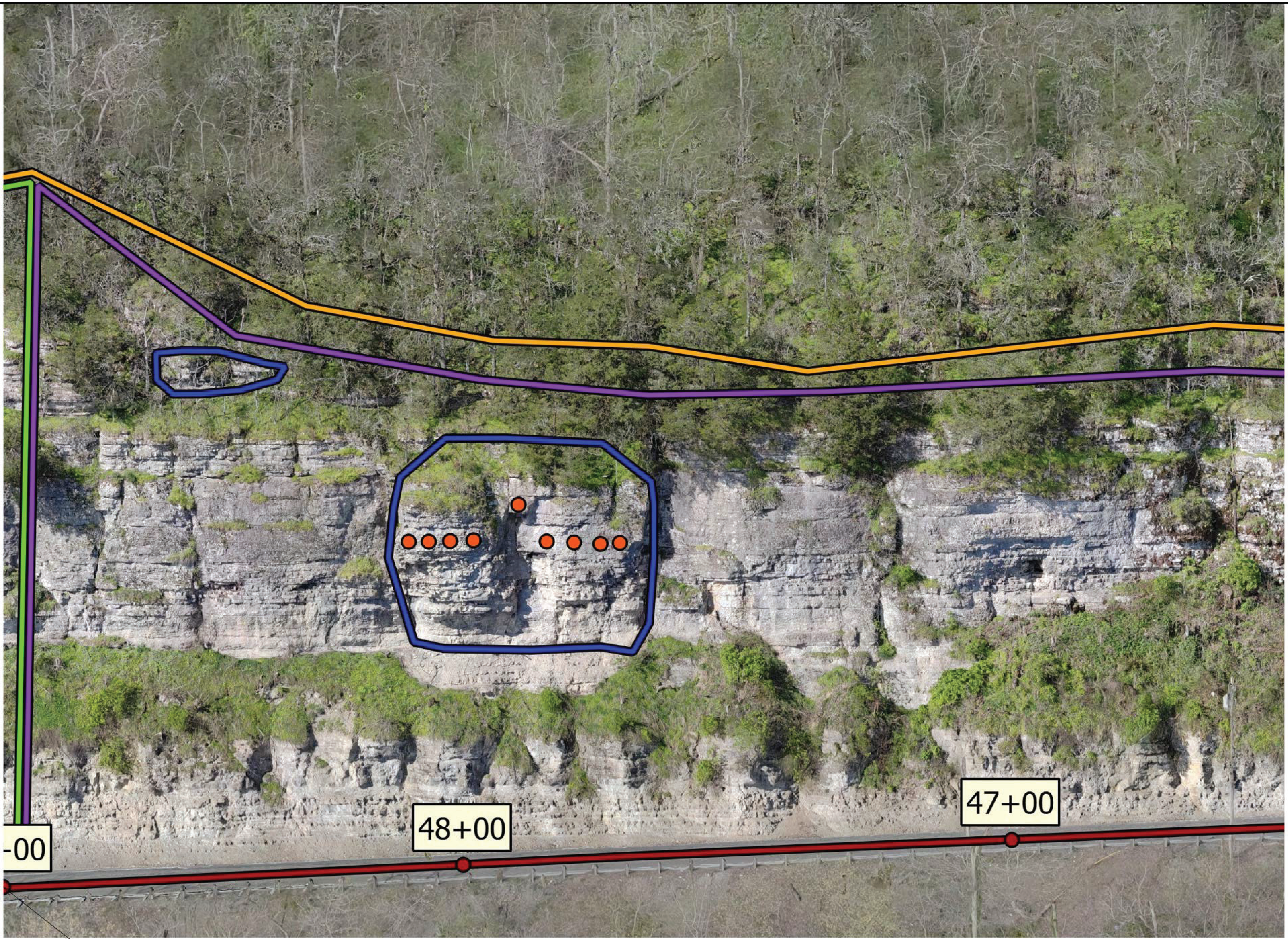


2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
ROCK SLOPE
ORTHO VIEW

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-16



END OF "ELEVATED" ROCKFALL DRAPE
TYPE II AT STATION 49+00.

LEGEND

- 10' DOWEL BARS
- 15' DOWEL BARS
- 20' DOWEL BARS
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

SEALED BY

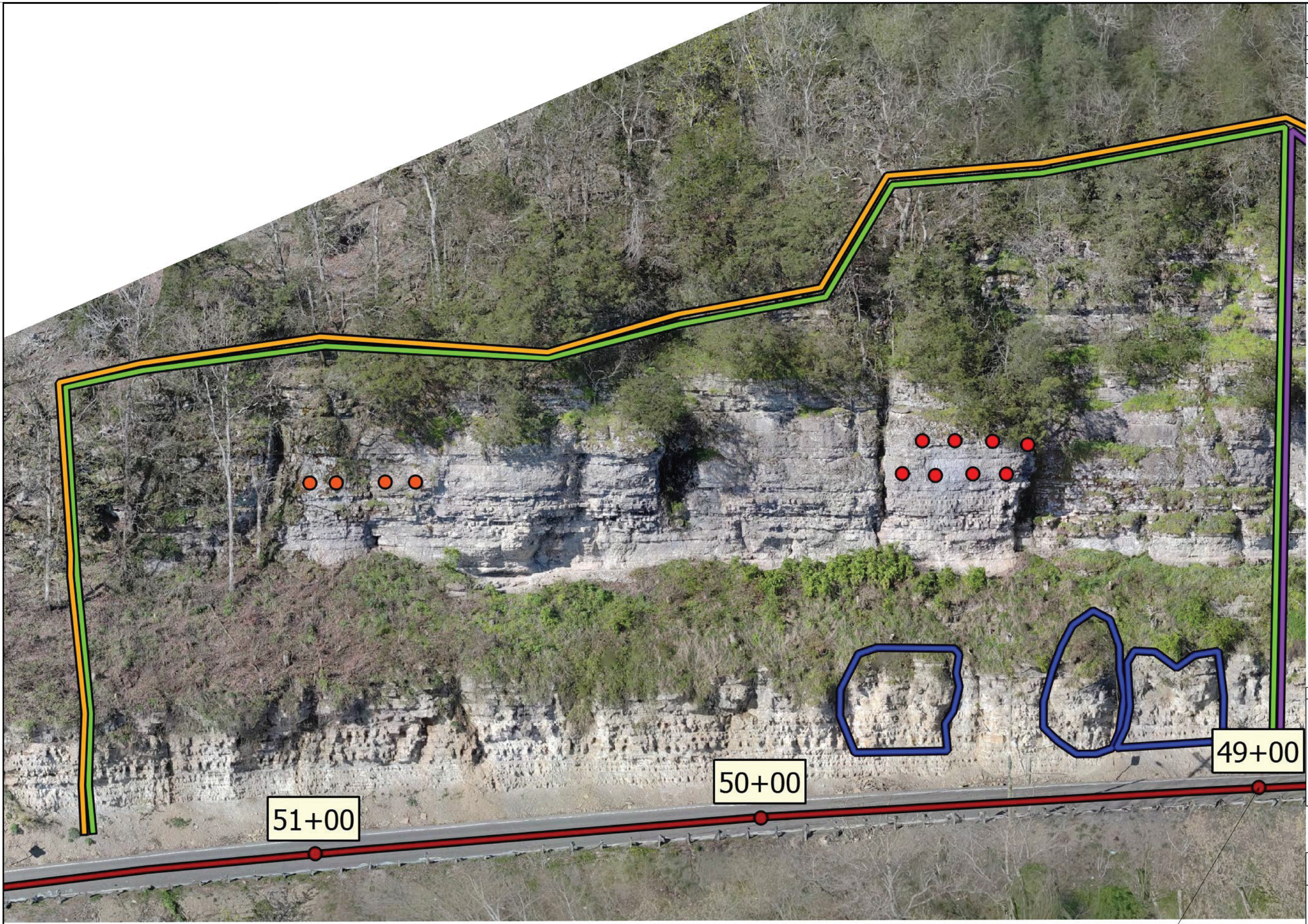
ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 103066
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
ROCK SLOPE
ORTHO VIEW

$$$$SYTIME$$$$$
$$$$DGNSPEC$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-17



END OF "ELEVATED" ROCKFALL DRAPE TYPE II AT STATION 49+00.

LEGEND

- 10' DOWEL BARS
- 15' DOWEL BARS
- 20' DOWEL BARS
- LIMITS OF "ELEVATED" ROCKFALL DRAPE (TYPE II)
- HEAVY SCALING AREA
- UPPER LIMITS OF "GENERAL" SCALING
- LIMITS OF "STANDARD" ROCKFALL DRAPE (TYPE II)

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 103066
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ROCK SLOPE ORTHO VIEW

$$$$SYTIME$$$$$
$$$$DGNSPEC$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-18

STA. 22+00 TO STA. 23+31

STA. 26+00 TO STA. 26+05

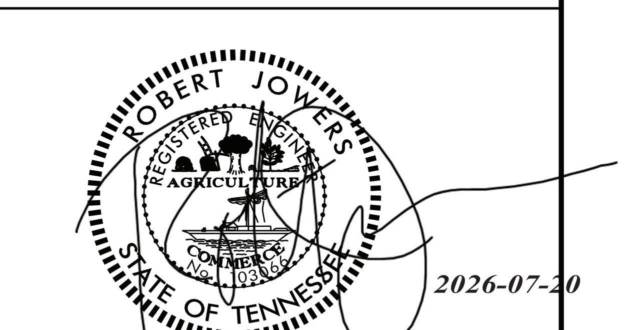
STA. 24+10 TO STA. 24+25

LEGEND

HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

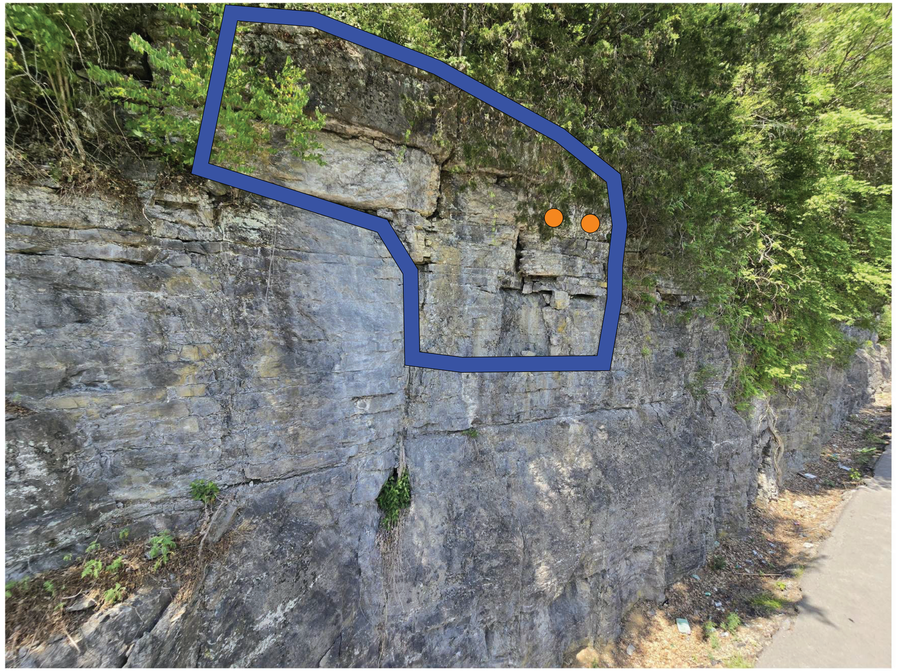
$$$$SYTIME$$$$$$
$$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-19

LEGEND

- 15' DOWEL BARS
- HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.



STA. 26+35 TO STA. 26+50

STA. 26+50 TO STA. 26+60

STA. 26+75 TO STA. 26+80

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
CONSERVE
COMMERCE
STATE OF TENNESSEE

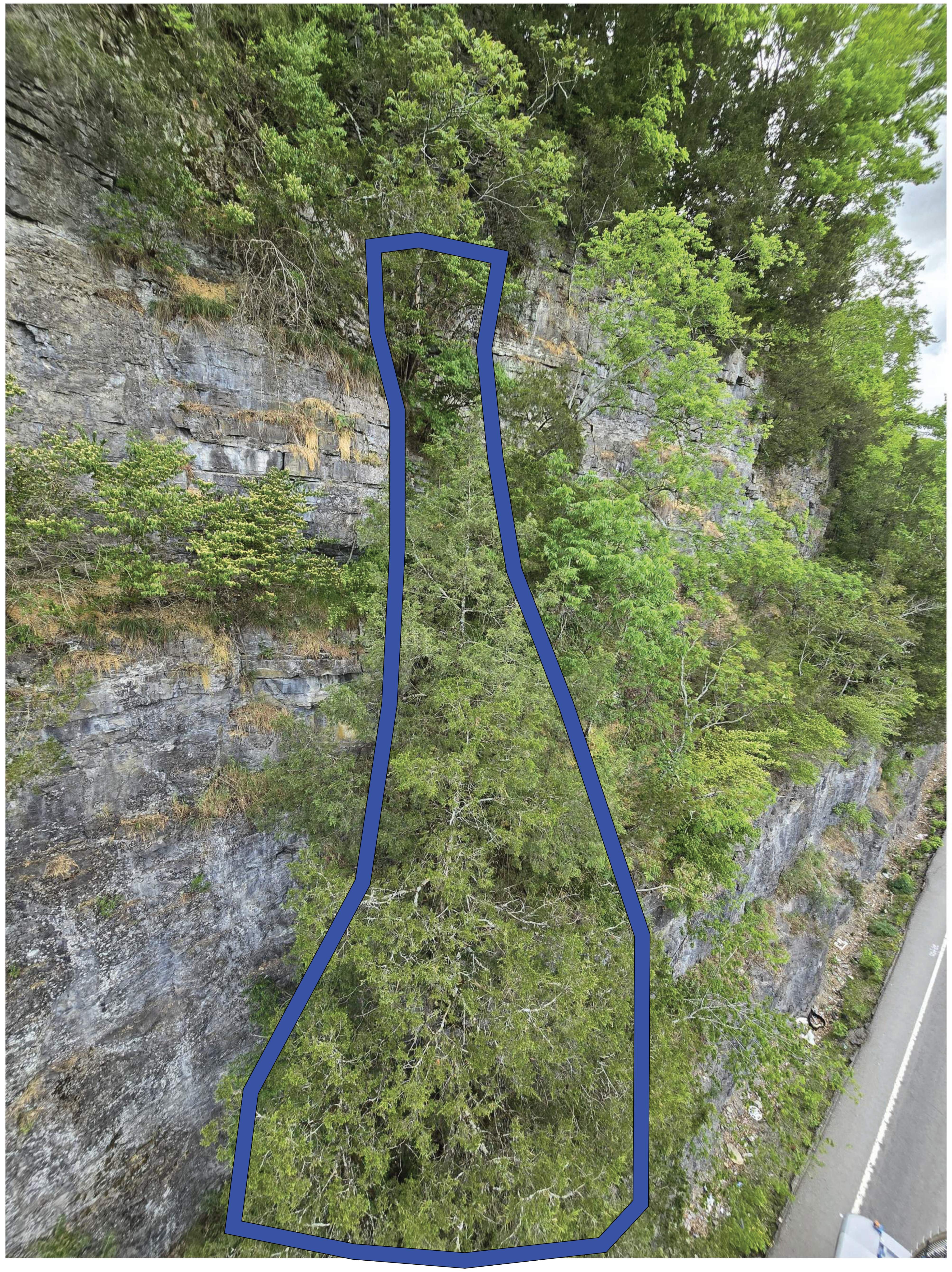
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-20



STA. 27+70 TO STA. 27+80

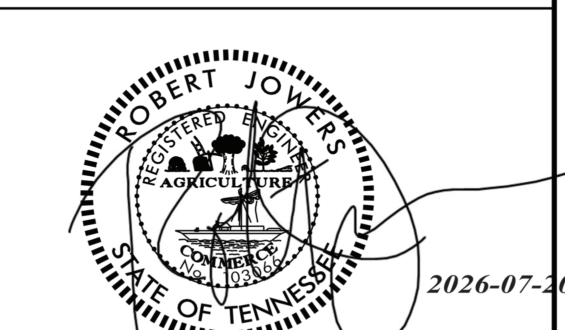
STA. 27+95

LEGEND

- 15' DOWEL BARS
- HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

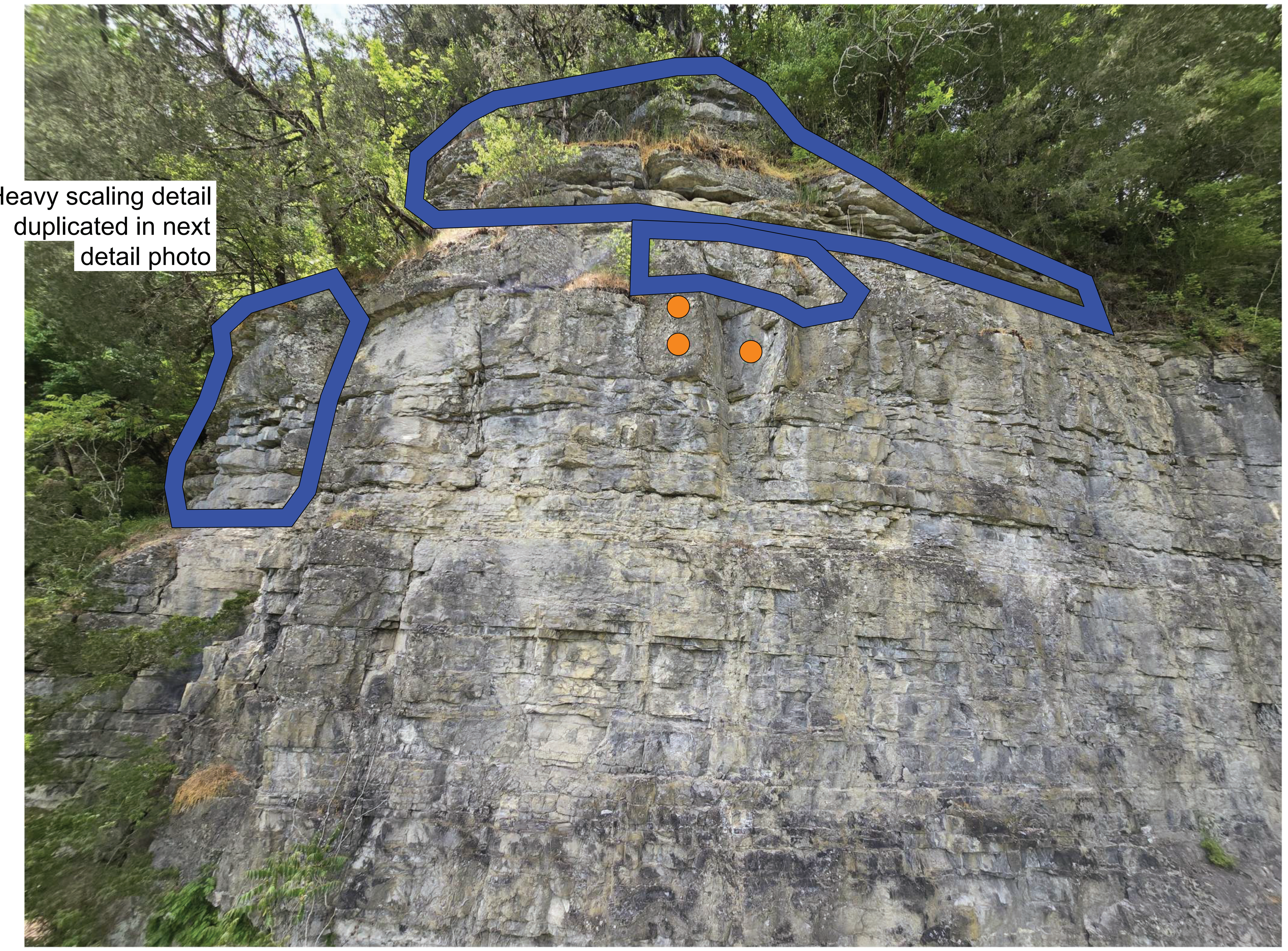
$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-21

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

LEGEND

- 15' DOWEL BARS
- HEAVY SCALING AREA



STA. 28+10 TO STA. 28+50

STA. 28+30 TO STA. 28+50

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 103066
STATE OF TENNESSEE

2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-22

LEGEND

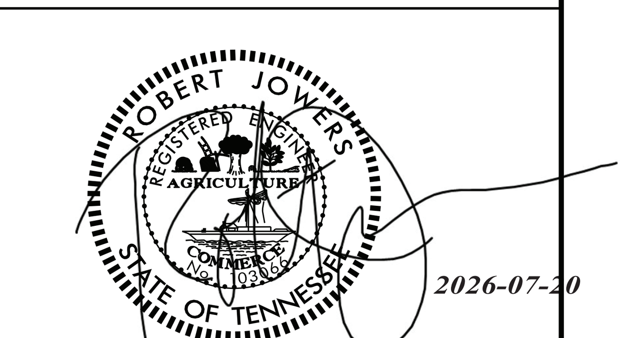
- 15' DOWEL BARS
- HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

STA. 28+85 TO STA. 28+95

STA. 29+25

SEALED BY

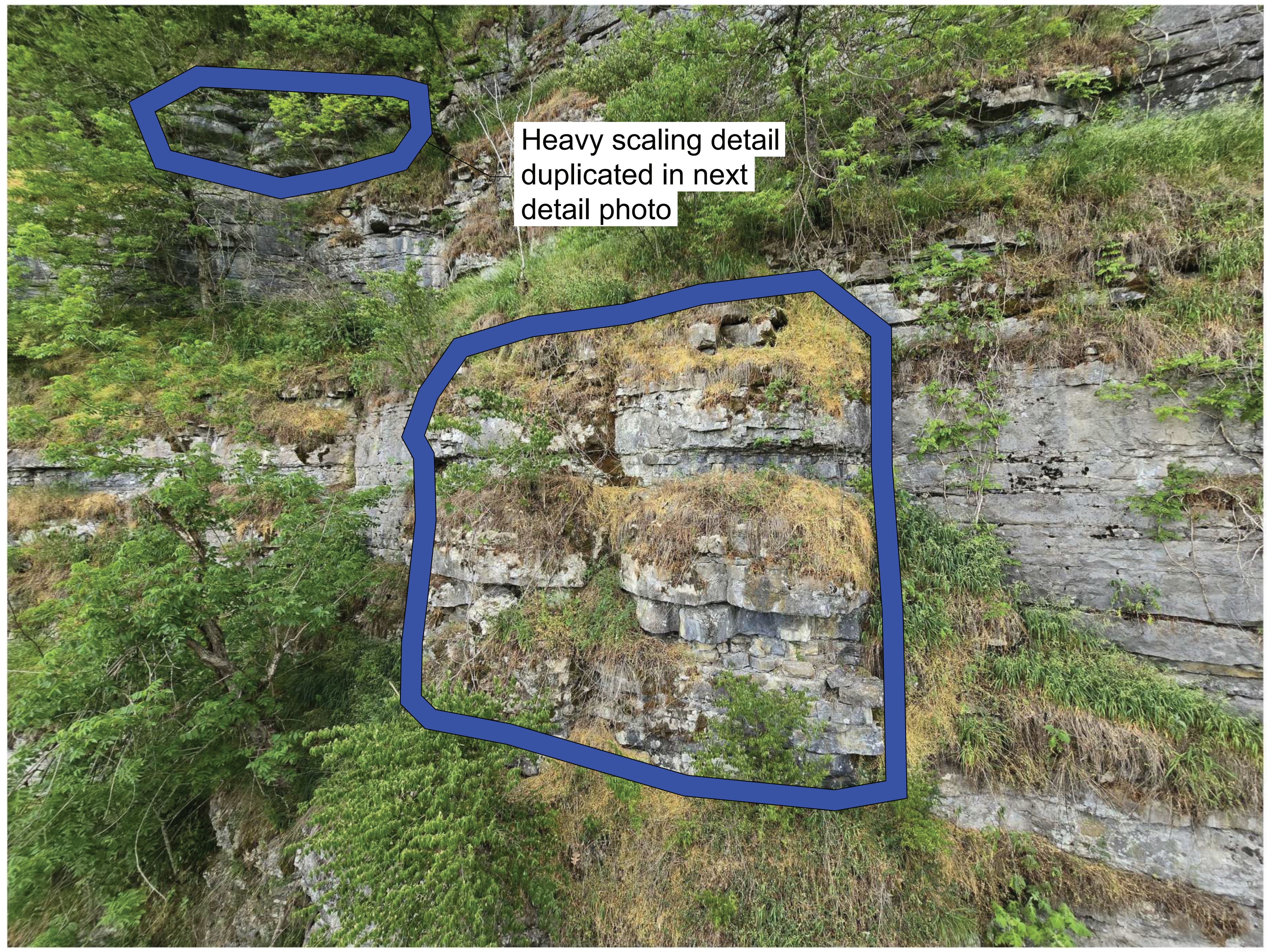


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

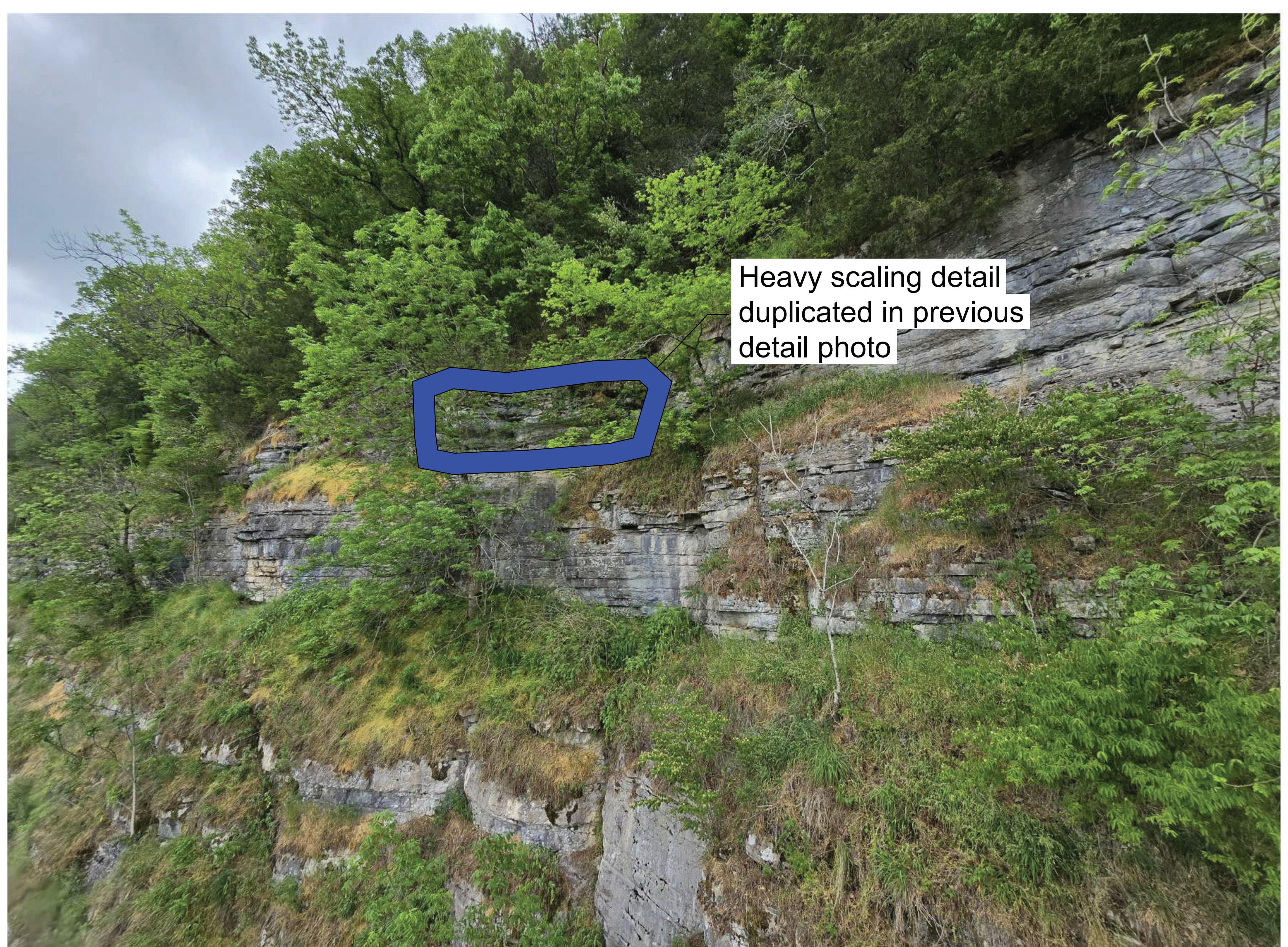
GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$

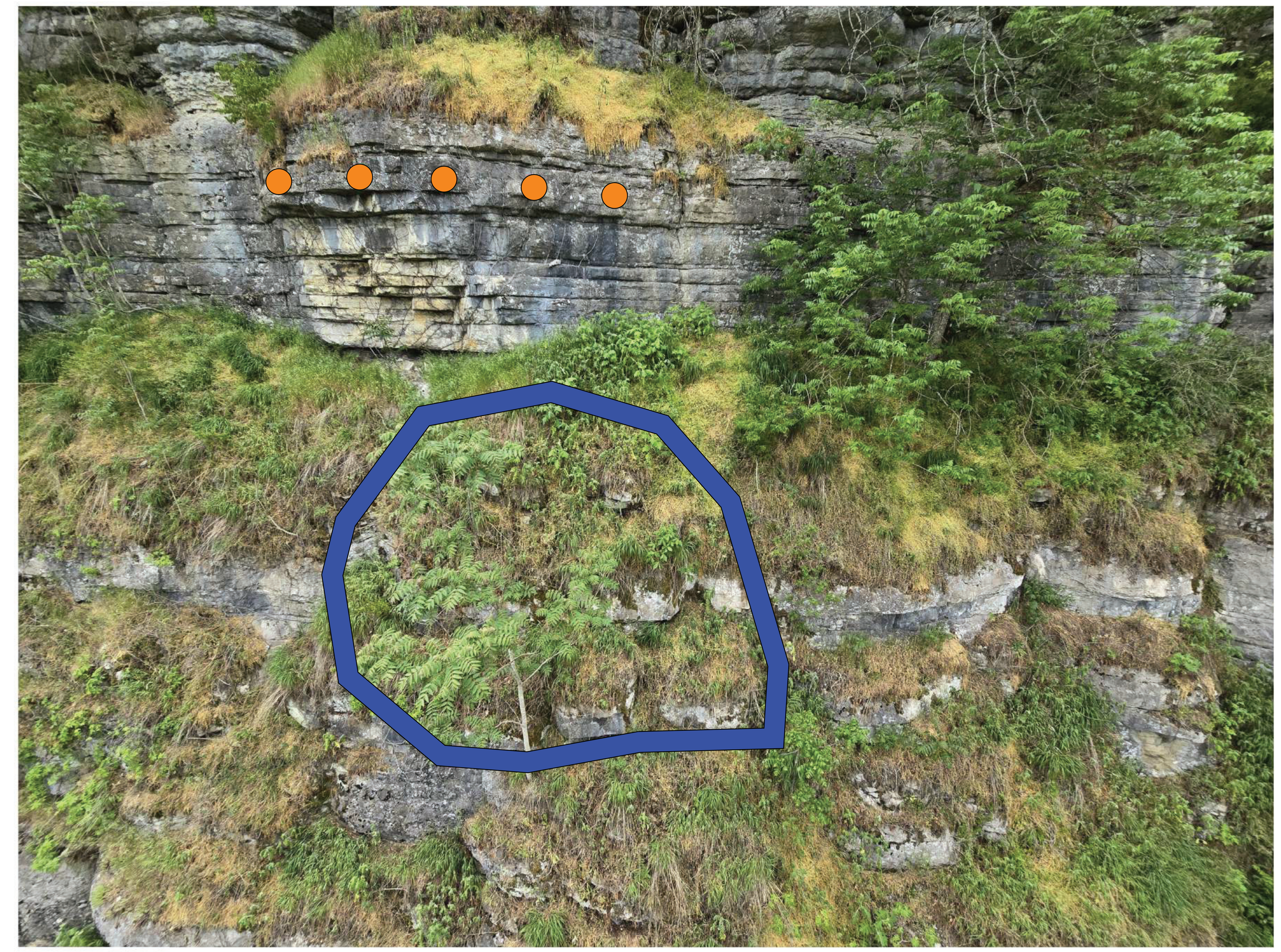
TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-23



STA. 29+60 TO STA. 29+95



STA. 29+80 TO STA. 29+95



STA. 30+10 TO STA. 30+30

LEGEND

- 15' DOWEL BARS
- HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 103066
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$

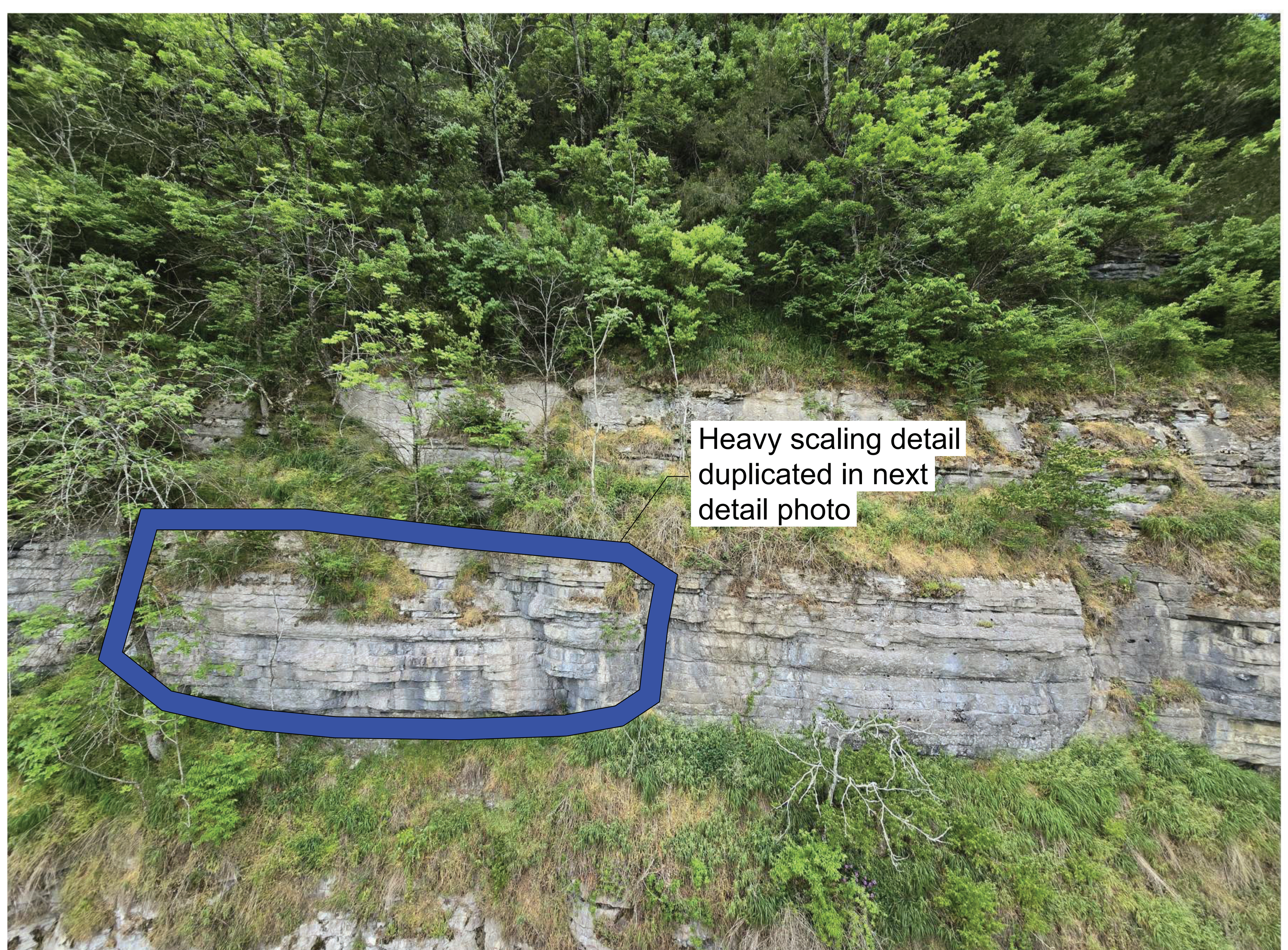
TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-24

LEGEND

HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

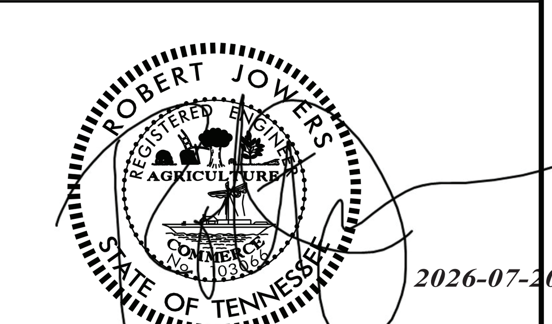
STA. 30+60 TO STA. 30+80



STA. 31+35 TO STA. 30+60

STA. 31+35 TO STA. 31+95

SEALED BY



2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

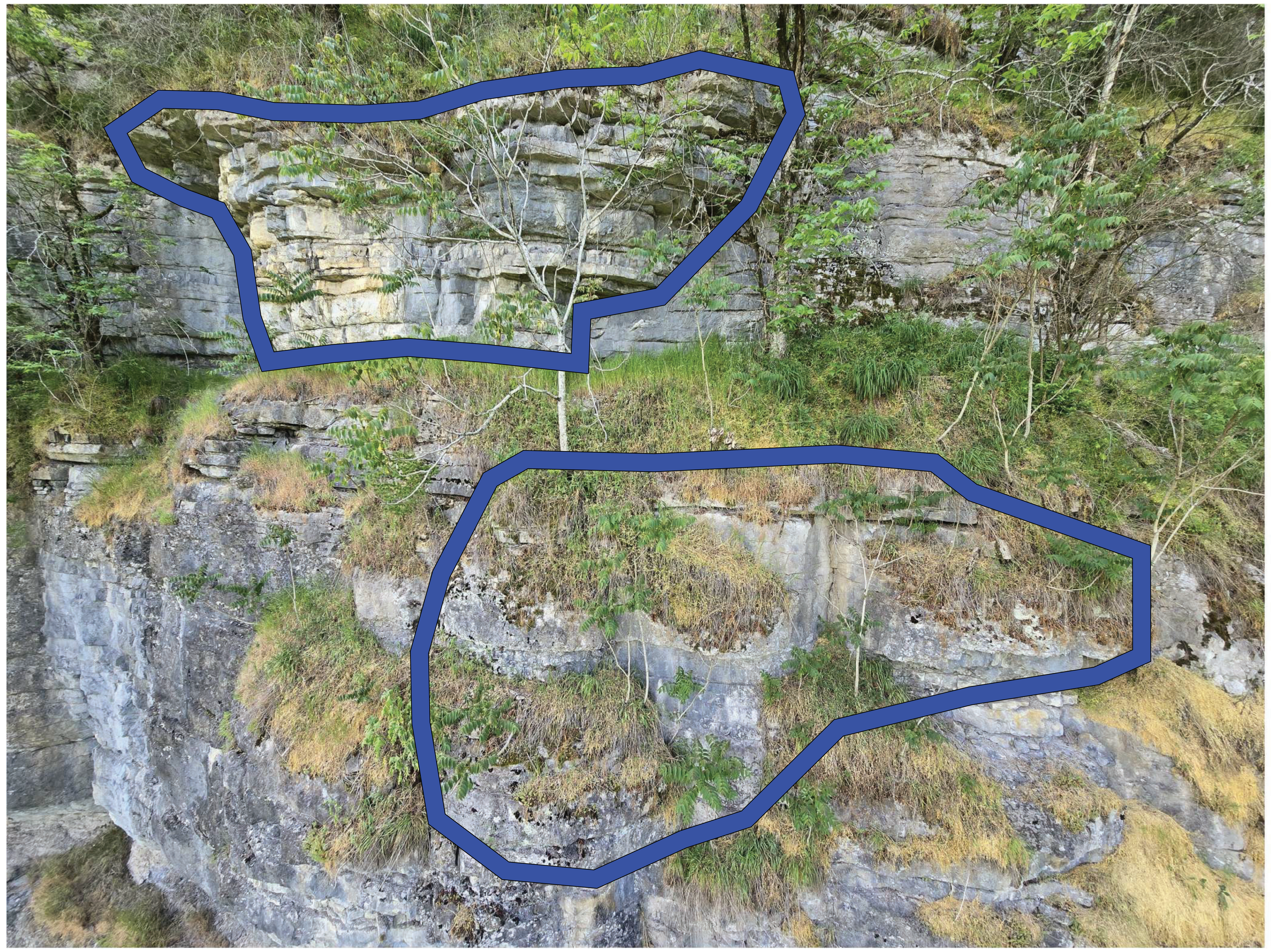
$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-25

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

LEGEND

- 15' DOWEL BARS
- HEAVY SCALING AREA



STA. 32+05 TO STA. 32+35

STA. 32+30

SEALED BY

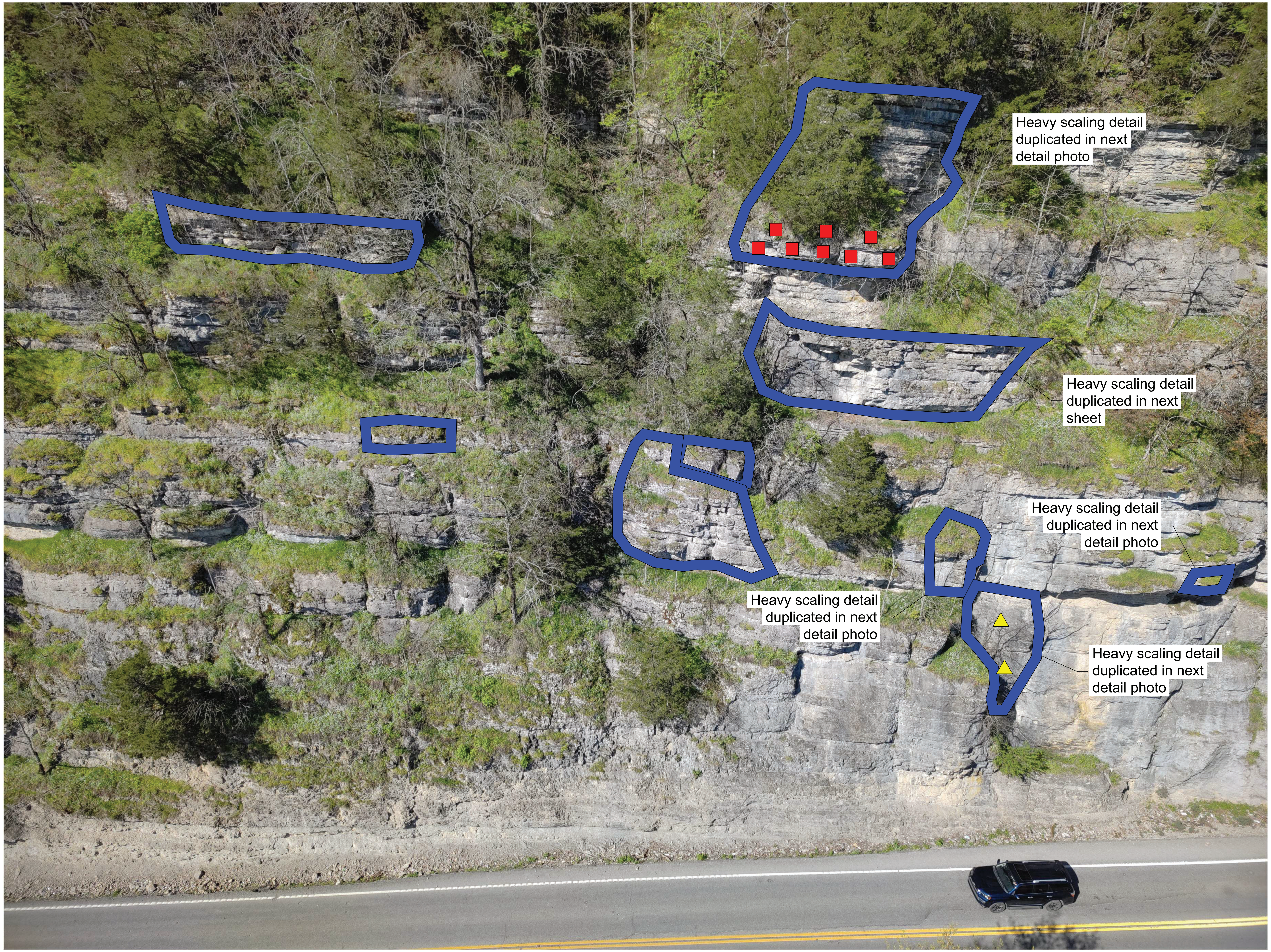
ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-26



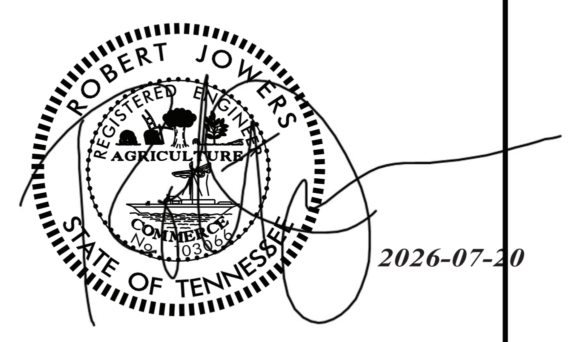
STA. 32+65 TO STA. 34+40

LEGEND

- ▲ 10' DOWEL BARS
- ■ 20' DOWEL BARS
- ▬ HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

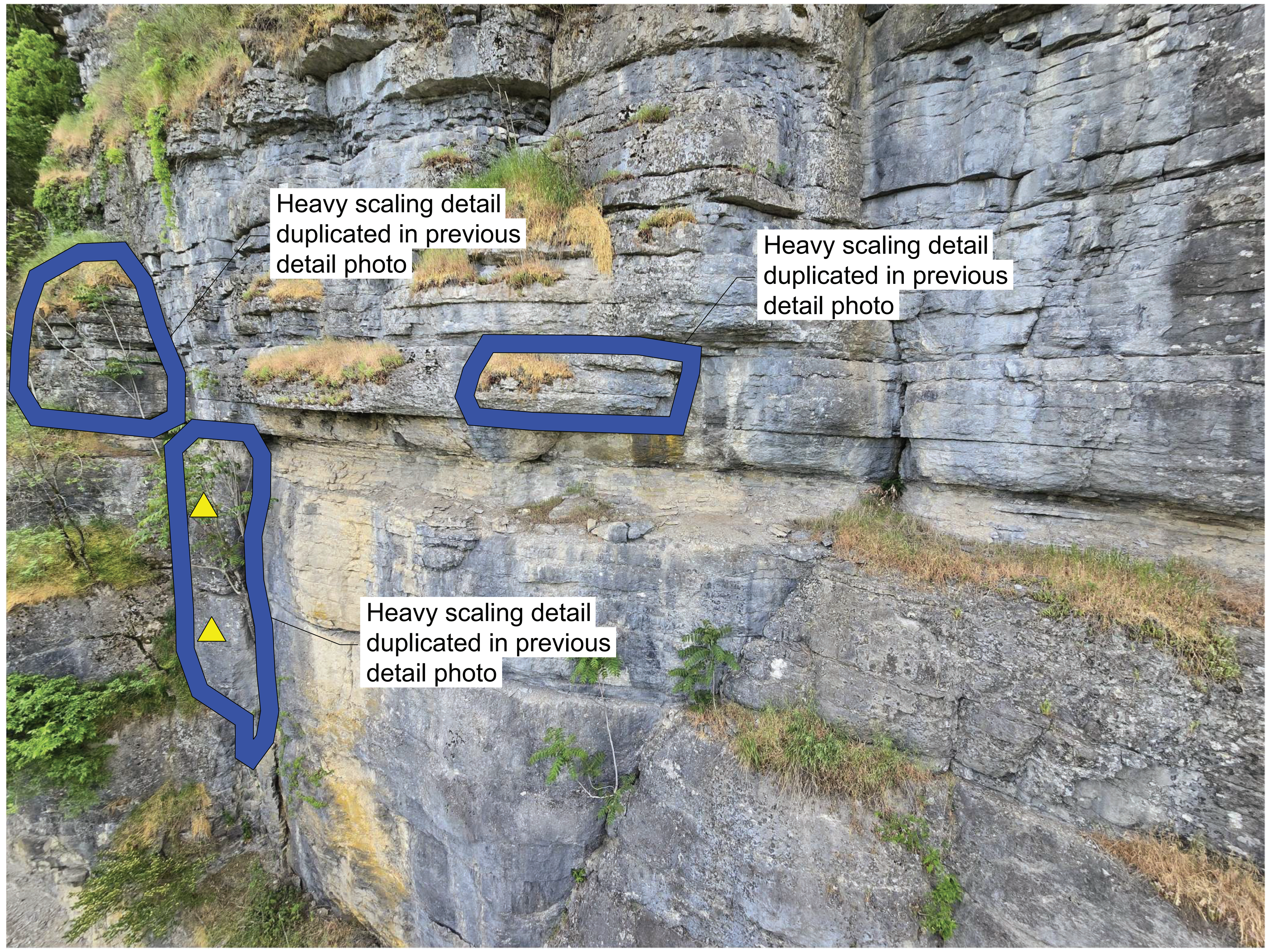
$$$$SYTIME$$$$$$
$$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-27

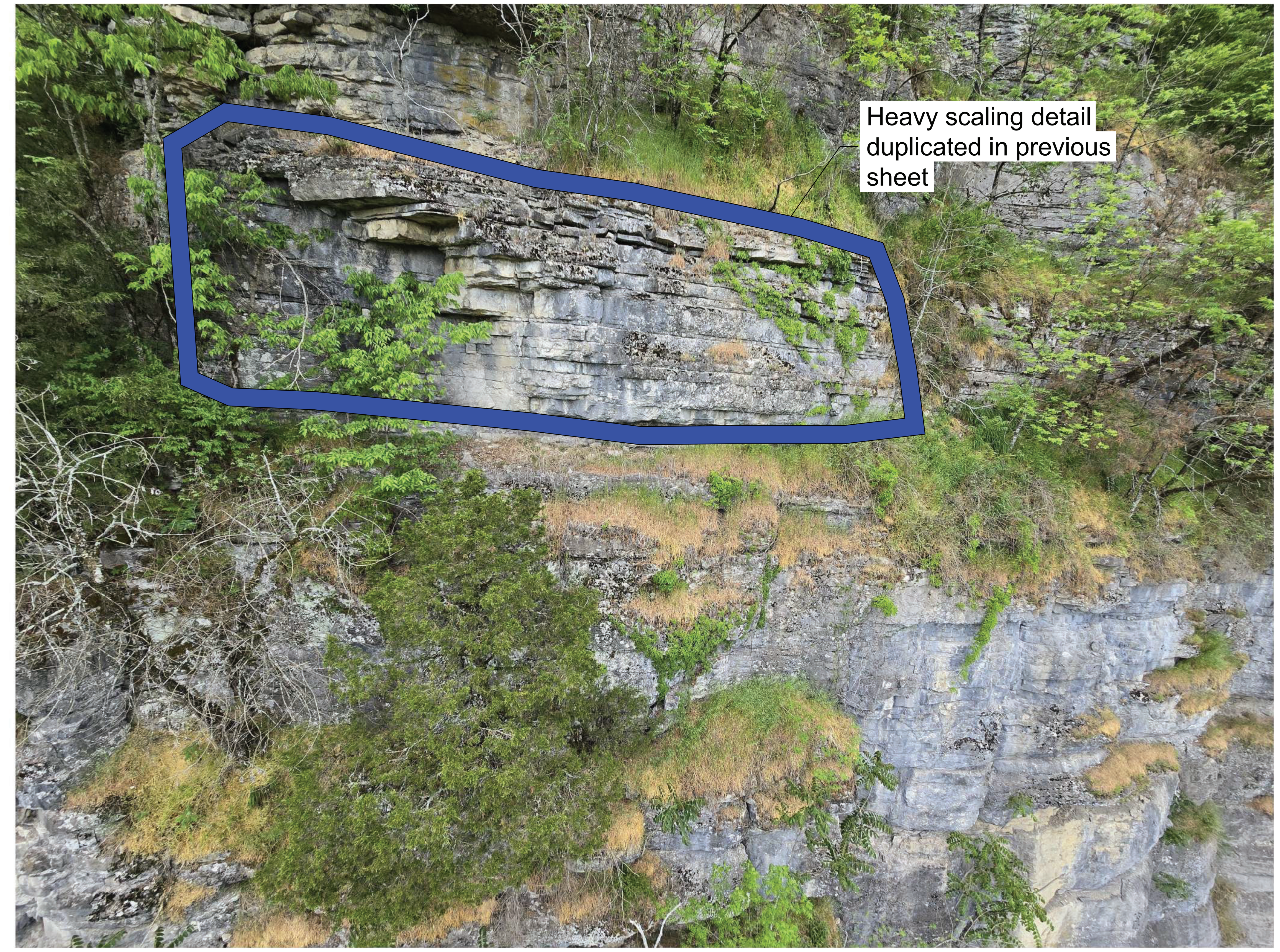
SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

LEGEND

- 10' DOWEL BARS
- HEAVY SCALING AREA



STA. 32+65 TO STA. 33+30



STA. 33+00 TO STA. 33+40

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$

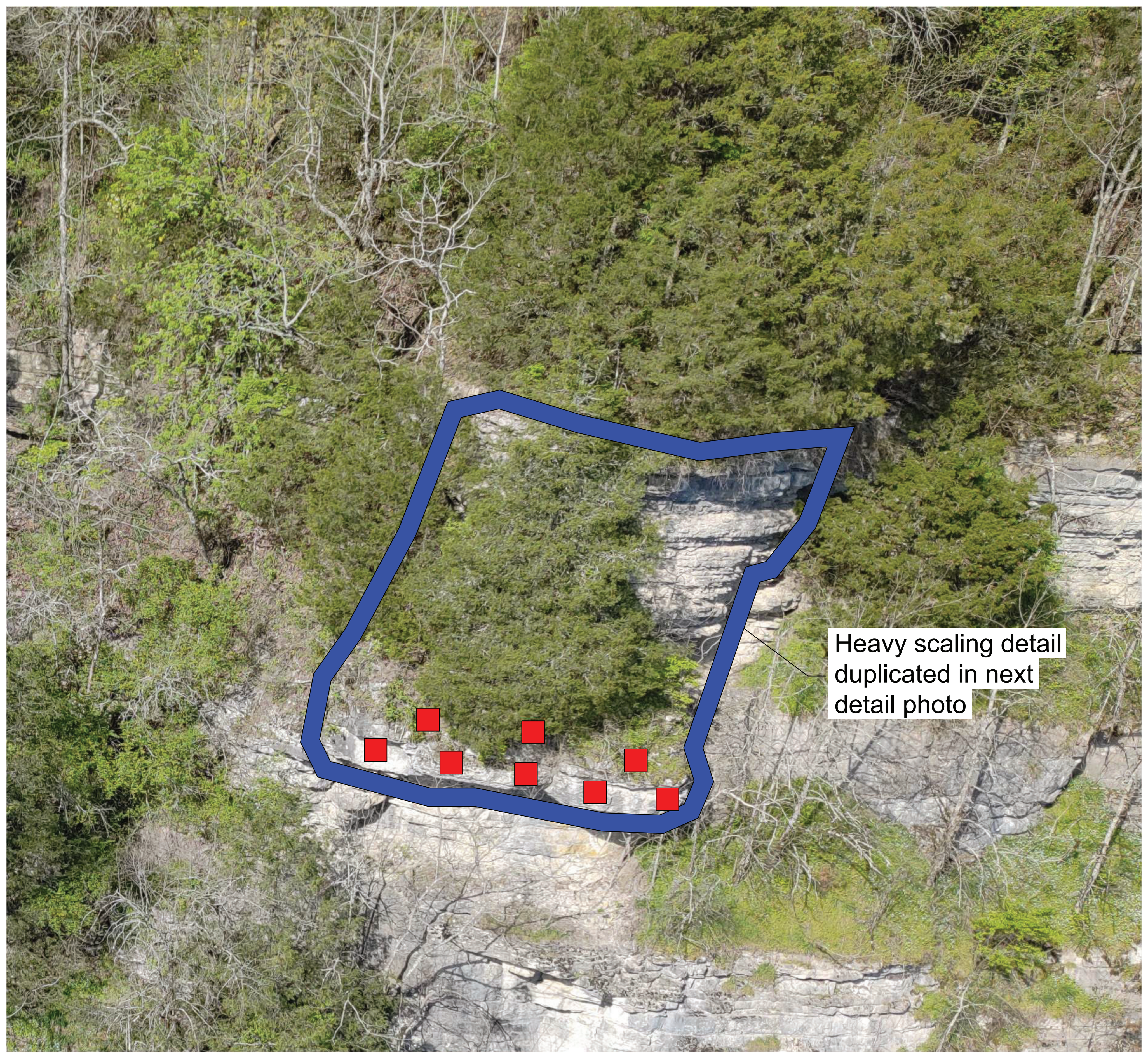
TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-28

LEGEND

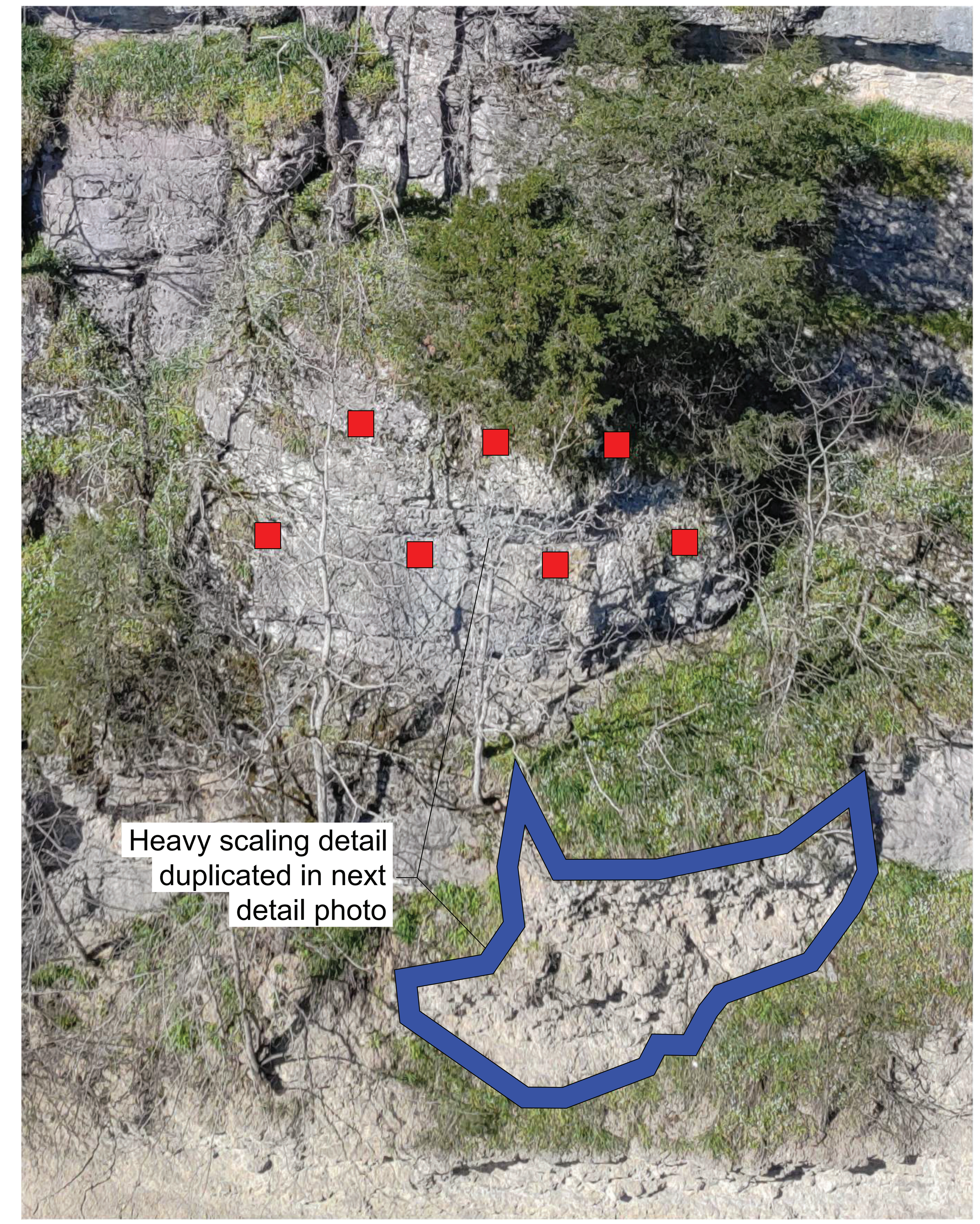
20' DOWEL BARS

HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

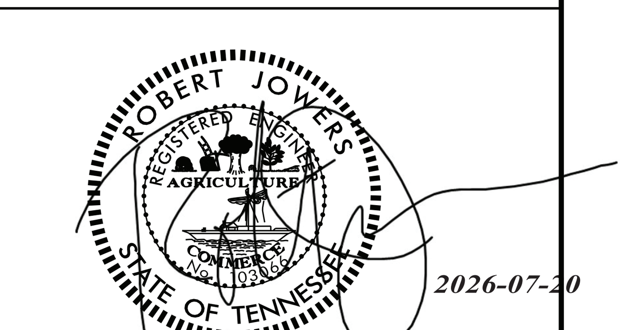


STA. 33+10 TO STA. 33+20



STA. 34+90 TO STA. 35+02

SEALED BY



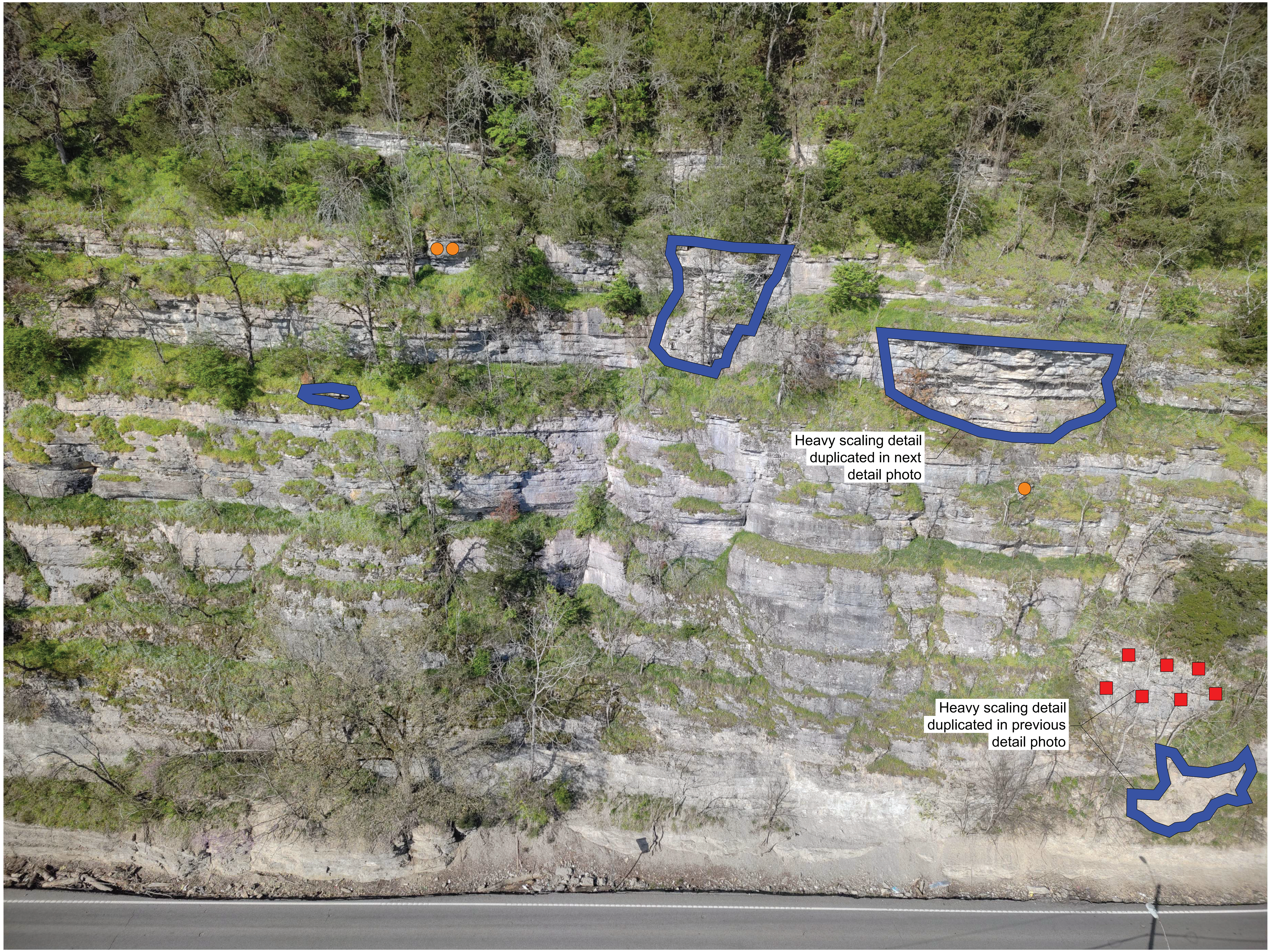
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

$$$$SYTIME$$$$$$

$$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-29



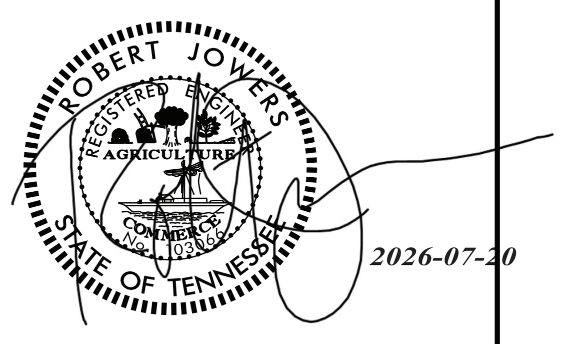
STA. 34+90 TO STA. 36+85

LEGEND

- 15' DOWEL BARS
- 20' DOWEL BARS
- HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

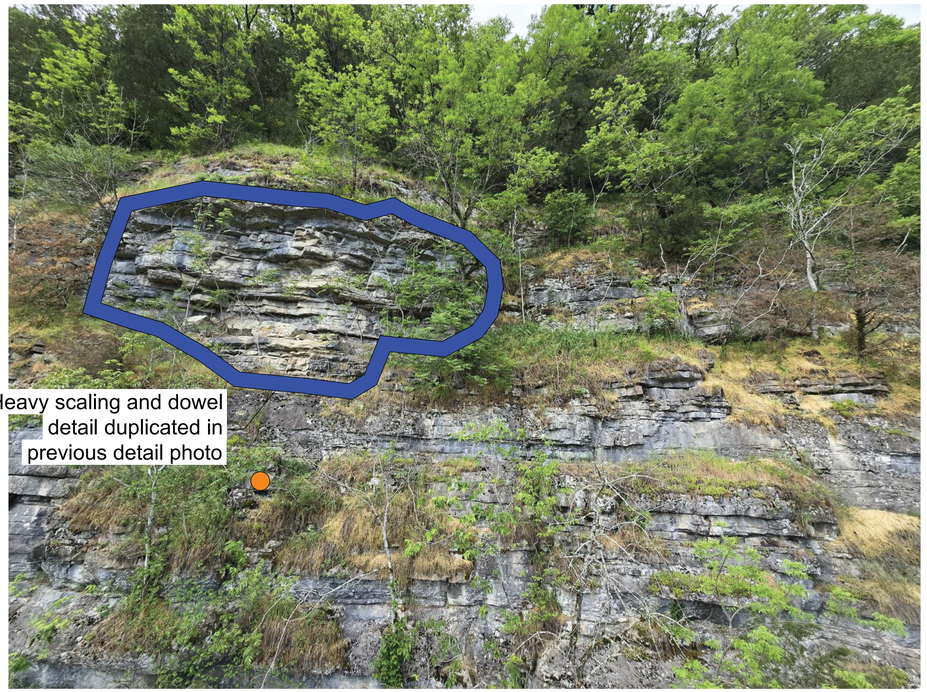
GEOTECHNICAL
HEAVY SCALING & DOWELING AREAS

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-30

LEGEND

- 15' DOWEL BARS
- HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.



STA. 35+10 TO STA. 35+25

STA. 38+80 TO STA. 39+10

SEALED BY

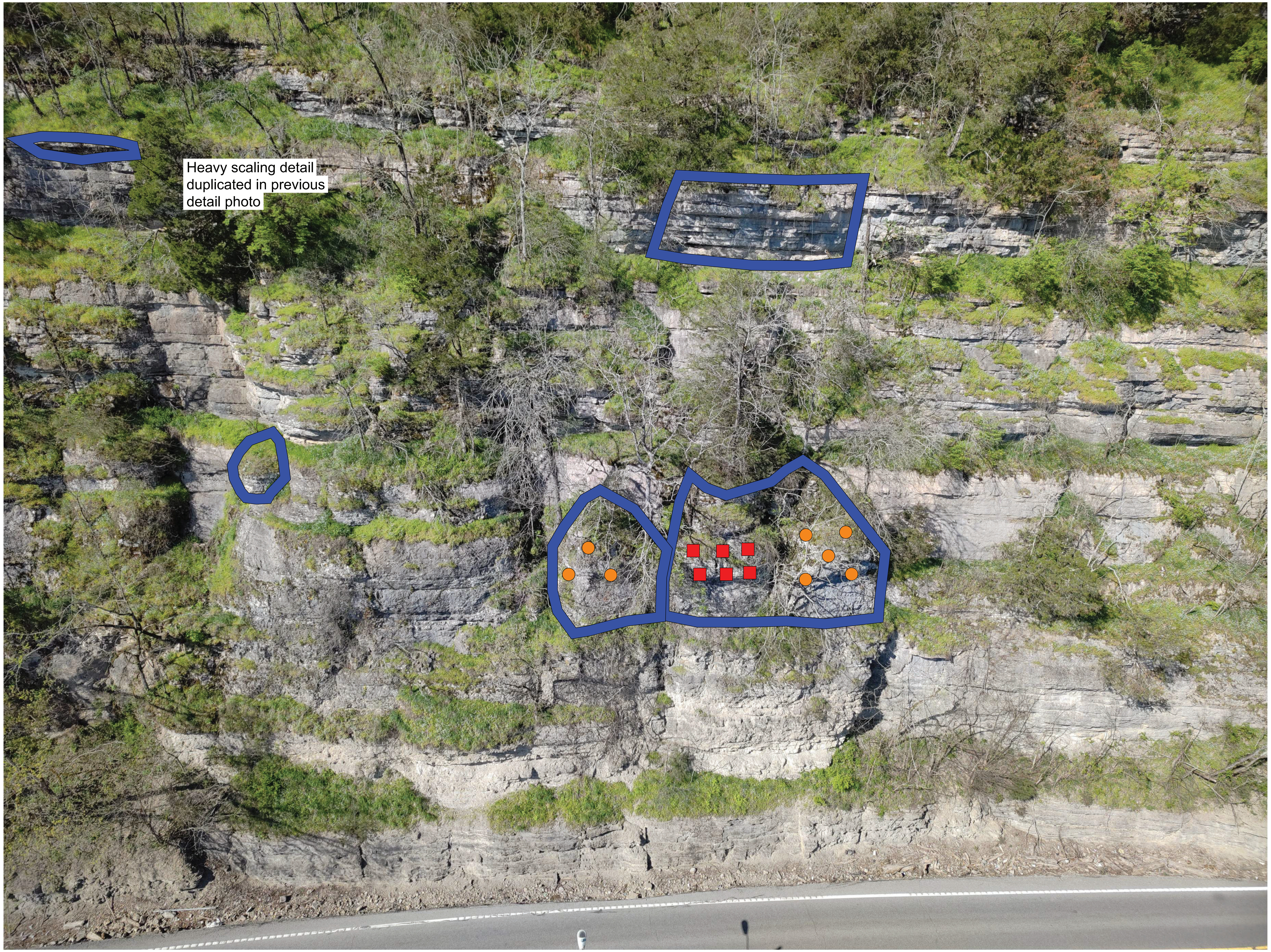
ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-31



STA. 37+75 TO STA. 38+85

LEGEND

- ● 15' DOWEL BARS
- ■ 20' DOWEL BARS
- ▬ HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-32

LEGEND

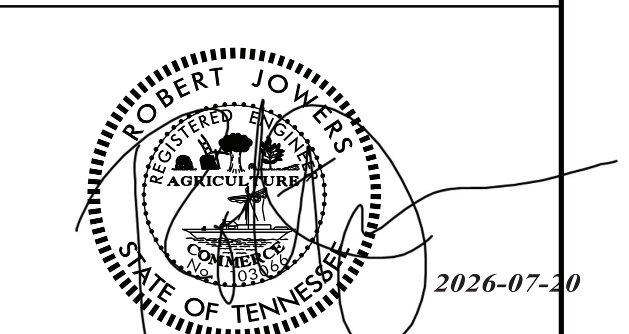
HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

STA. 40+10 TO STA. 40+15

STA. 40+80 TO STA. 41+15

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

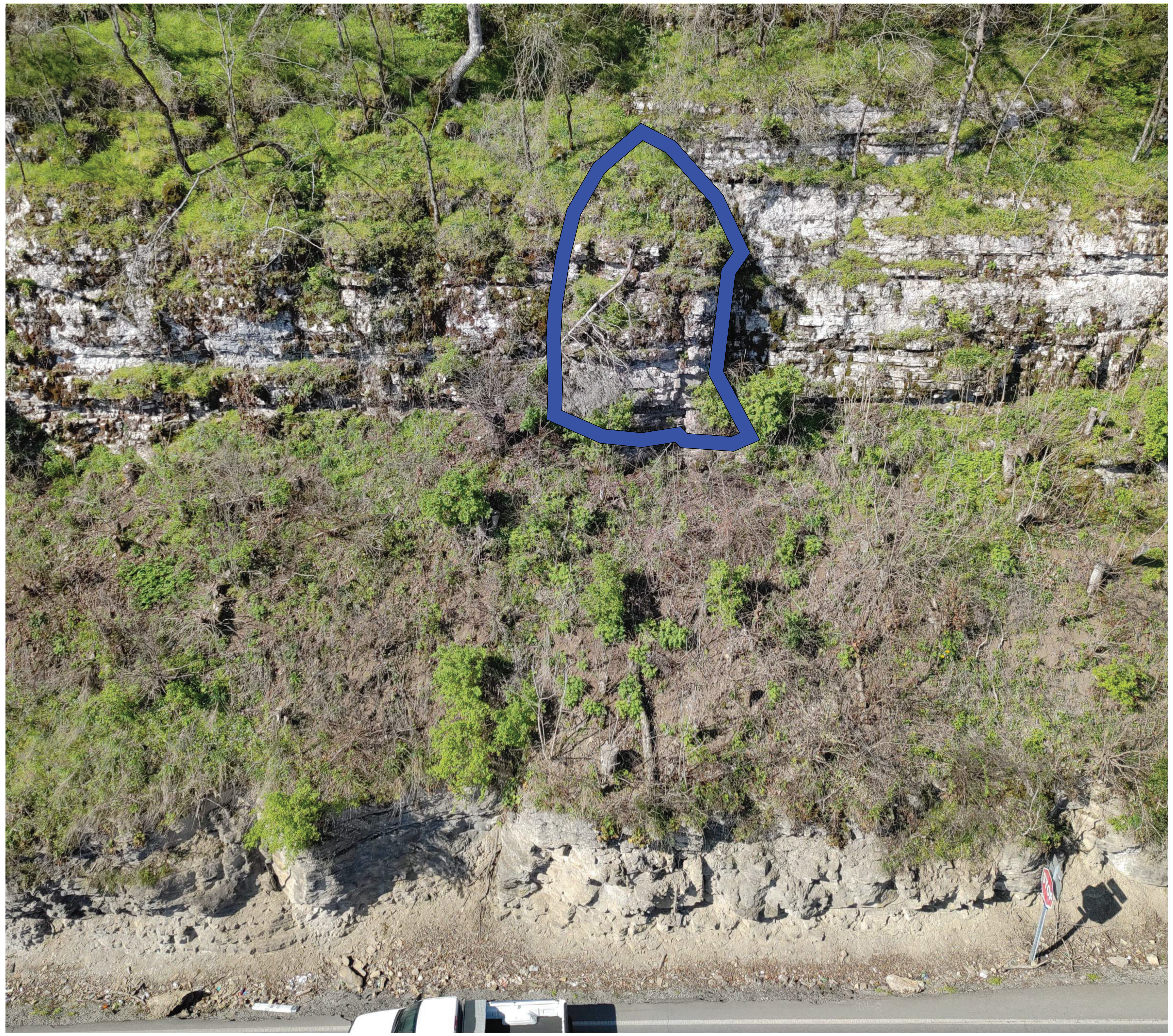
$$$$SYTIME$$$$$$
$$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-33

LEGEND

HEAVY SCALING AREA (blue)

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.



STA. 45+80 TO STA. 45+95

SEALED BY

ROBERT JOWERS
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 103066
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

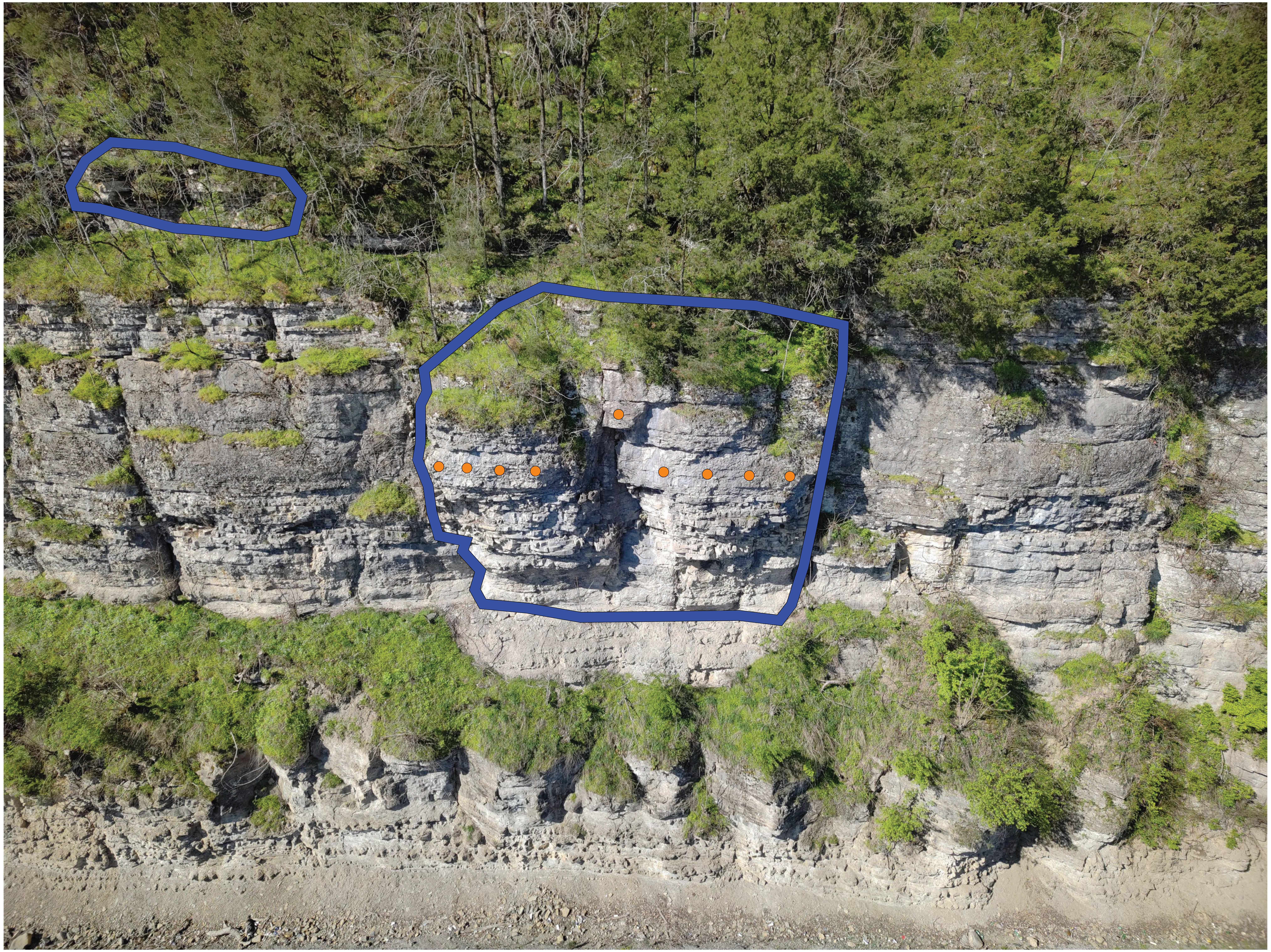
$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-34

LEGEND

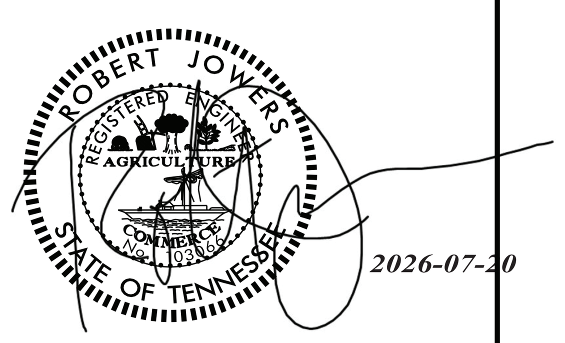
- 15' DOWEL BARS
- HEAVY SCALING AREA

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.



STA. 47+60 TO STA. 48+45

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-35

STA. 49+10 TO STA. 49+85

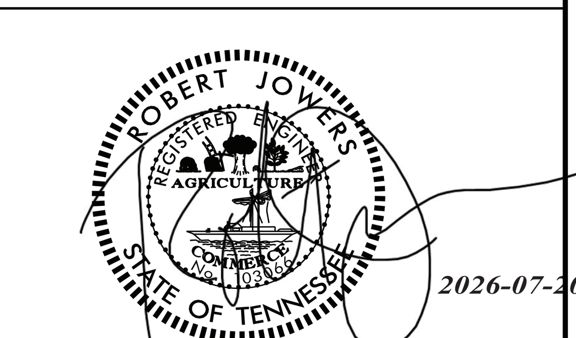
STA. 50+70

SEE GEOTECHNICAL ROCKSLOPE ORTHO VIEW SHEETS FOR GENERAL SCALING AND ROCKFALL DRAPE DETAILS.

LEGEND

- 15' DOWEL BARS
- 20' DOWEL BARS
- HEAVY SCALING AREA

SEALED BY

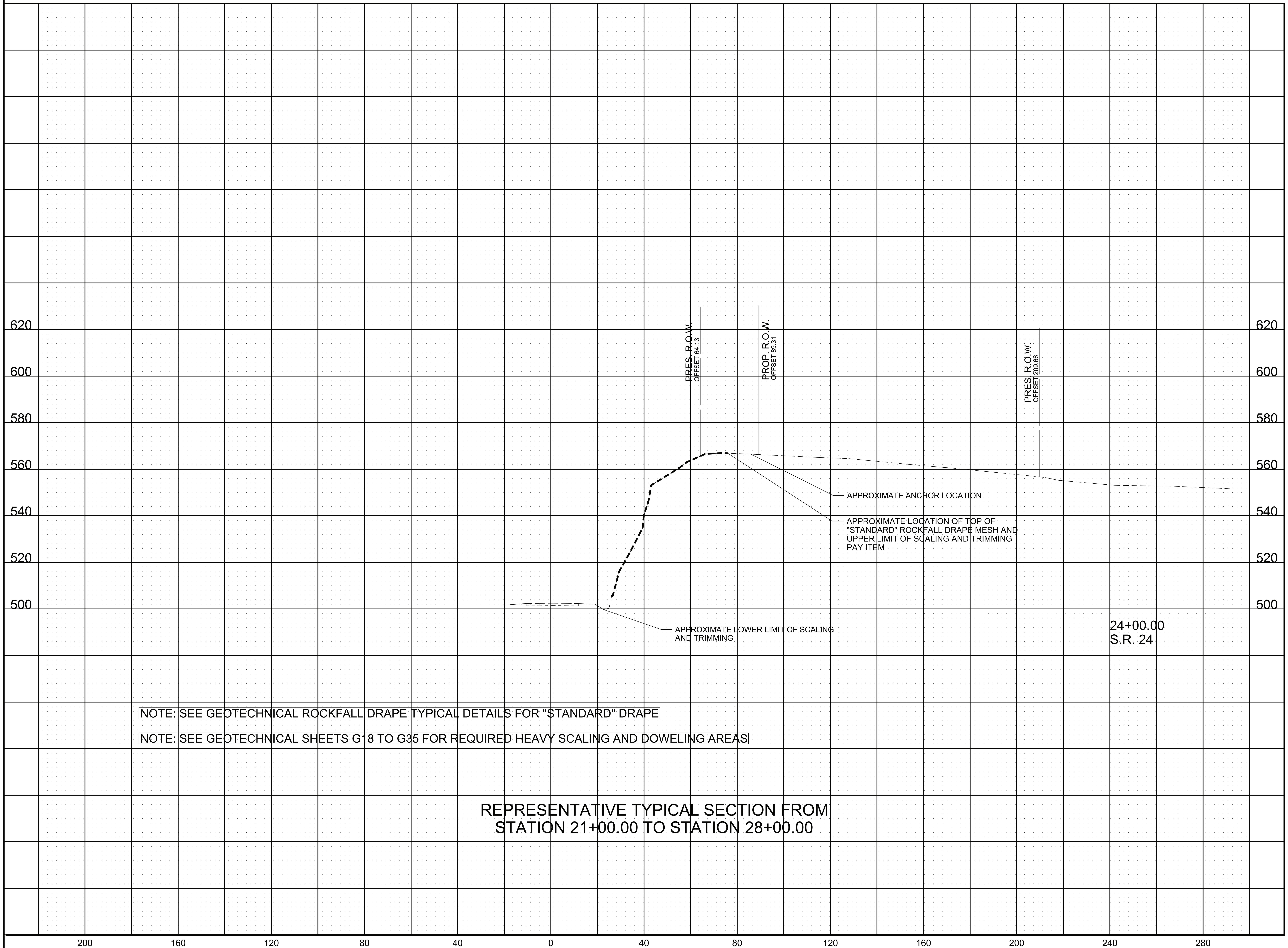


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL HEAVY SCALING & DOWELING AREAS

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-36



LEGEND

APPROX. LIMITS OF "STANDARD" ROCKFALL DRAPE

SEALED BY

2026-07-20

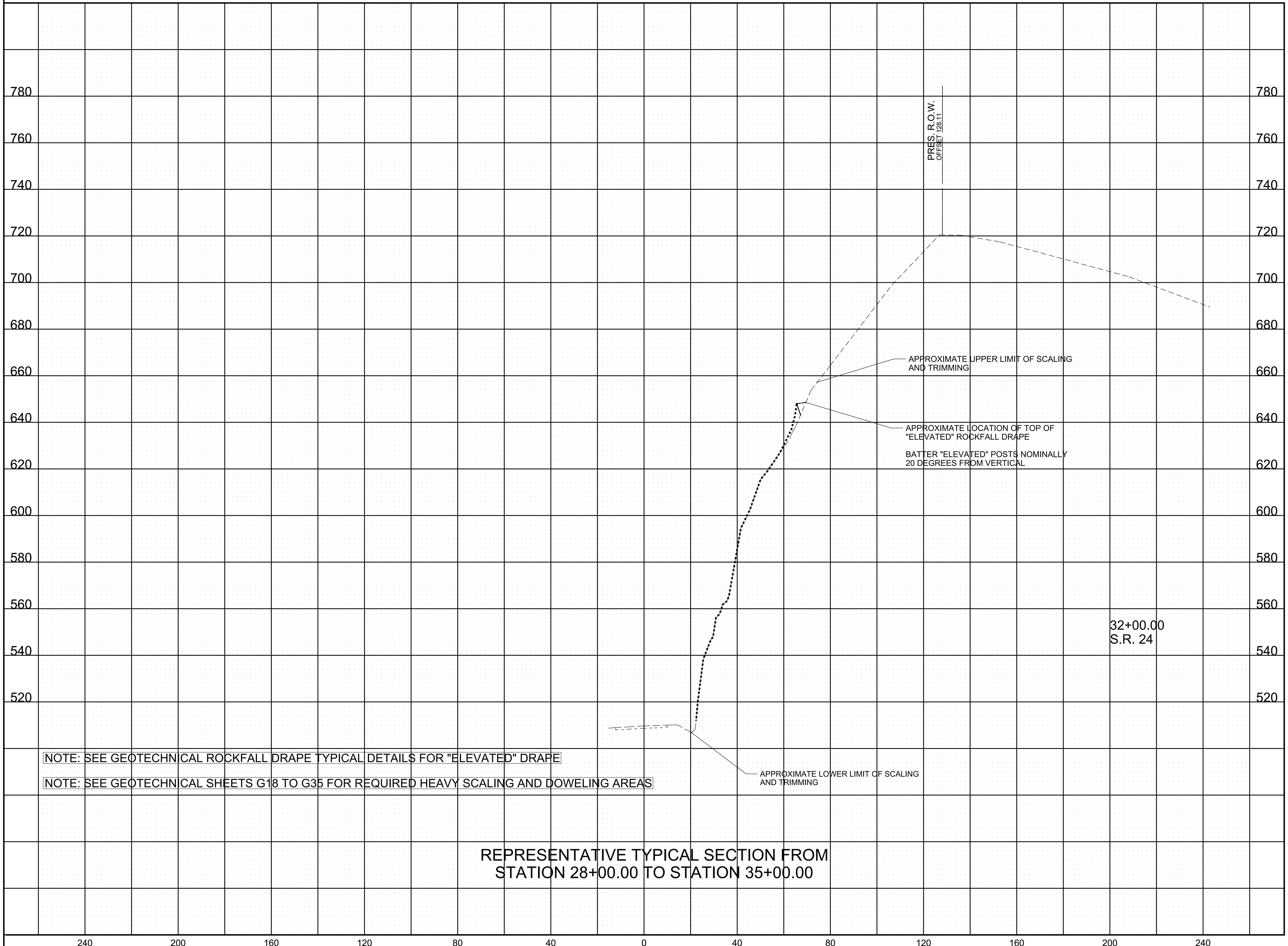
COORDINATES ARE NAD 83( ), ARE DATUM ADJUSTED BY THE FACTOR OF . AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID .

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL TYPICAL SECTIONS

$$$$SYTIME$$$$$$
$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-37



NOTE: SEE GEOTECHNICAL ROCKFALL DRAPE TYPICAL DETAILS FOR "ELEVATED" DRAPE

NOTE: SEE GEOTECHNICAL SHEETS G18 TO G35 FOR REQUIRED HEAVY SCALING AND DOWELING AREAS

REPRESENTATIVE TYPICAL SECTION FROM
STATION 28+00.00 TO STATION 35+00.00

LEGEND

⋮ APPROX. LIMITS OF "ELEVATED" ROCKFALL DRAPE

SEALED BY

ROBERT J. OWERS — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 103266 — STATE OF TENNESSEE

2026-07-20

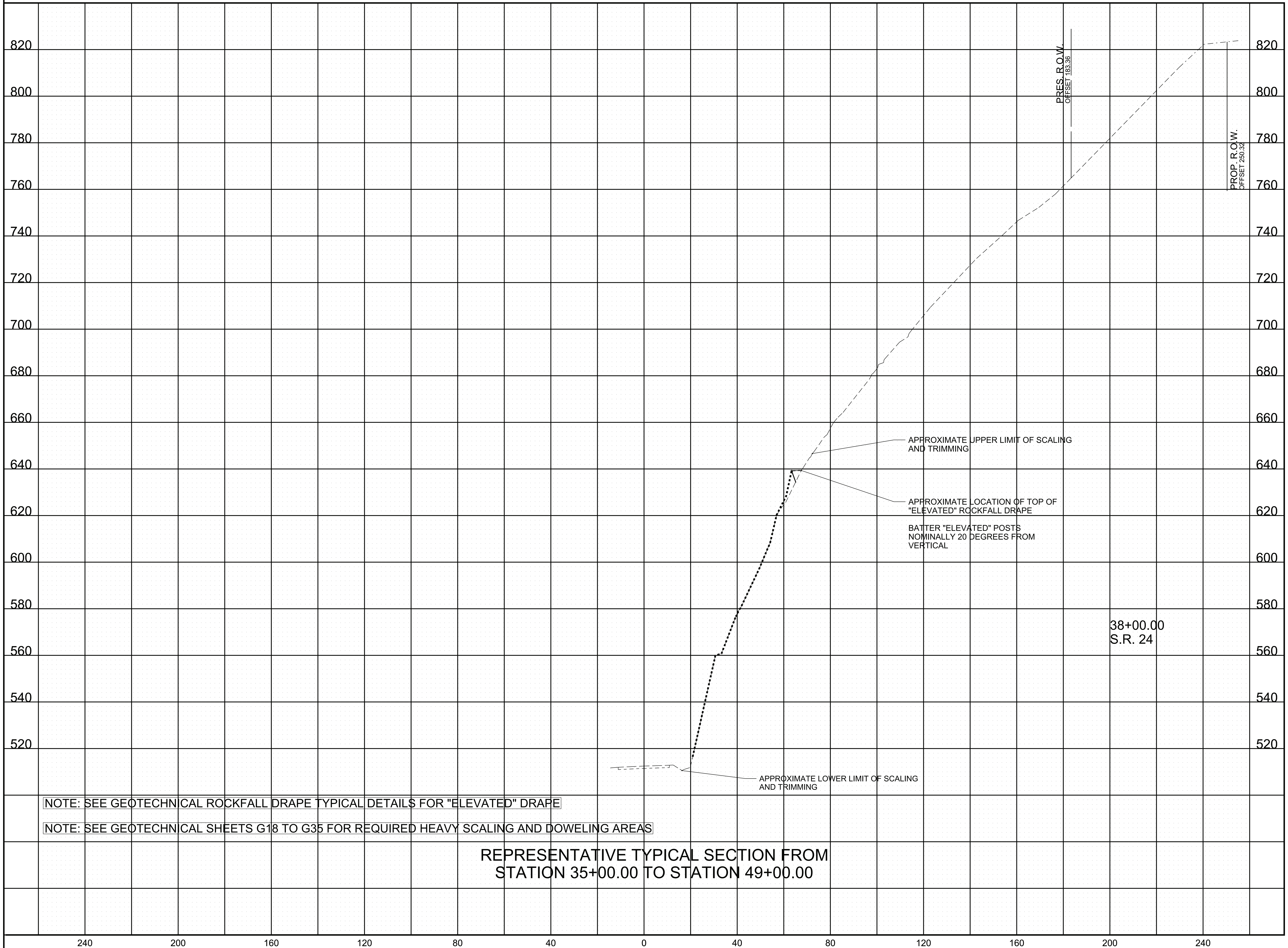
COORDINATES ARE NAD 83( ), ARE DATUM ADJUSTED BY THE FACTOR OF . AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID .

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL TYPICAL SECTIONS

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-38



NOTE: SEE GEOTECHNICAL ROCKFALL DRAPE TYPICAL DETAILS FOR "ELEVATED" DRAPE

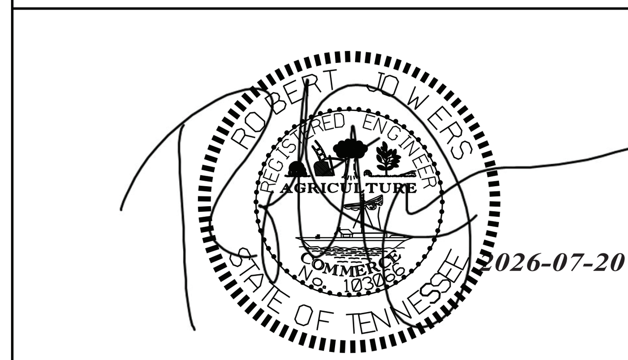
NOTE: SEE GEOTECHNICAL SHEETS G18 TO G35 FOR REQUIRED HEAVY SCALING AND DOWELING AREAS

REPRESENTATIVE TYPICAL SECTION FROM
STATION 35+00.00 TO STATION 49+00.00

LEGEND

APPROX. LIMITS OF "ELEVATED" ROCKFALL DRAPE

SEALED BY



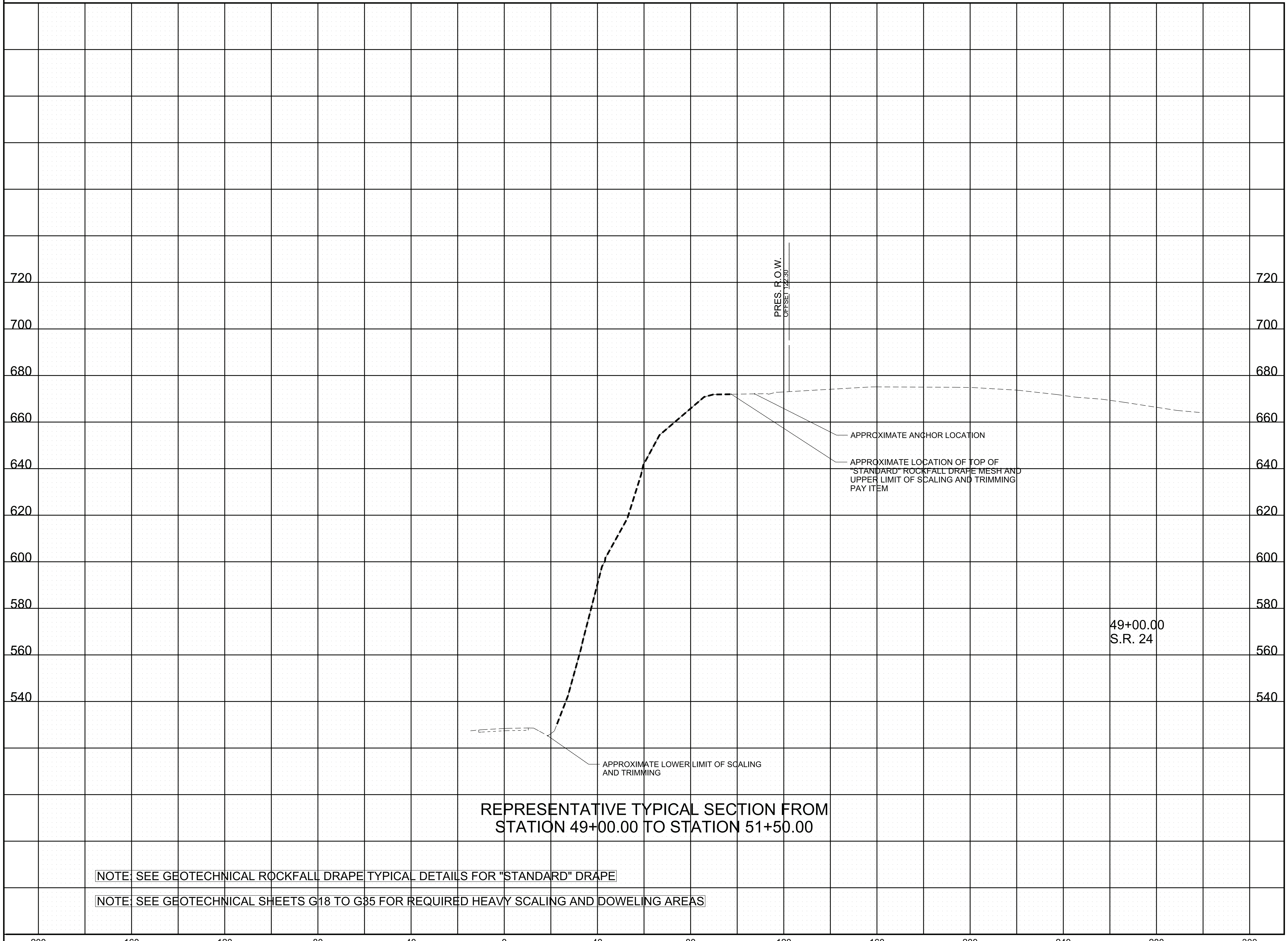
COORDINATES ARE NAD 83( ), ARE DATUM ADJUSTED BY THE FACTOR OF . AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID .

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL TYPICAL SECTIONS

$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-39



REPRESENTATIVE TYPICAL SECTION FROM
STATION 49+00.00 TO STATION 51+50.00

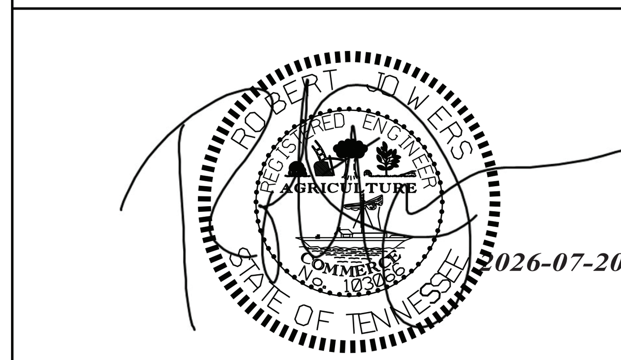
NOTE: SEE GEOTECHNICAL ROCKFALL DRAPE TYPICAL DETAILS FOR "STANDARD" DRAPE

NOTE: SEE GEOTECHNICAL SHEETS G18 TO G35 FOR REQUIRED HEAVY SCALING AND DOWELING AREAS

LEGEND

APPROX. LIMITS OF "STANDARD" ROCKFALL DRAPE

SEALED BY



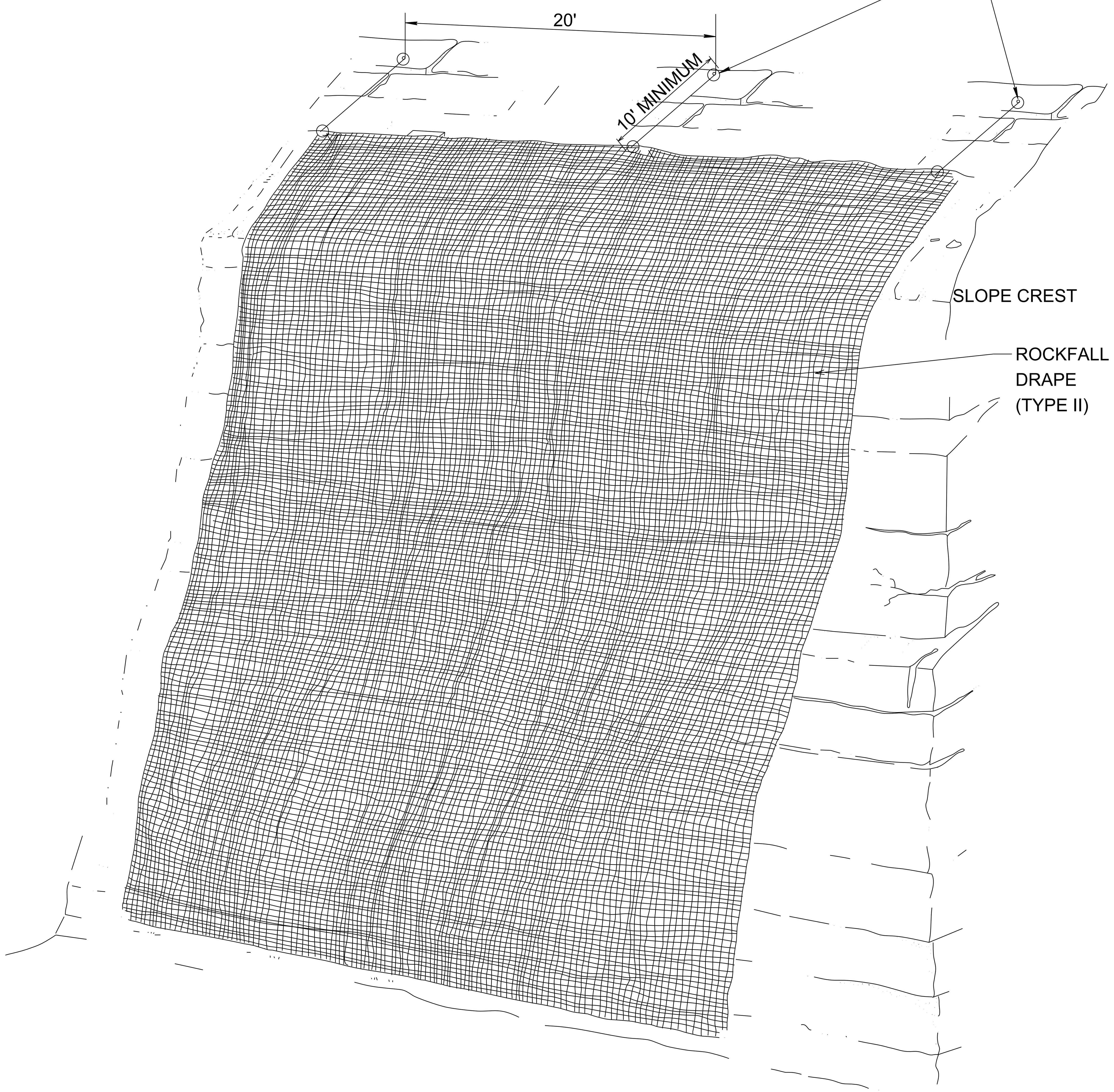
COORDINATES ARE NAD 83( ), ARE DATUM ADJUSTED BY THE FACTOR OF . AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID .

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

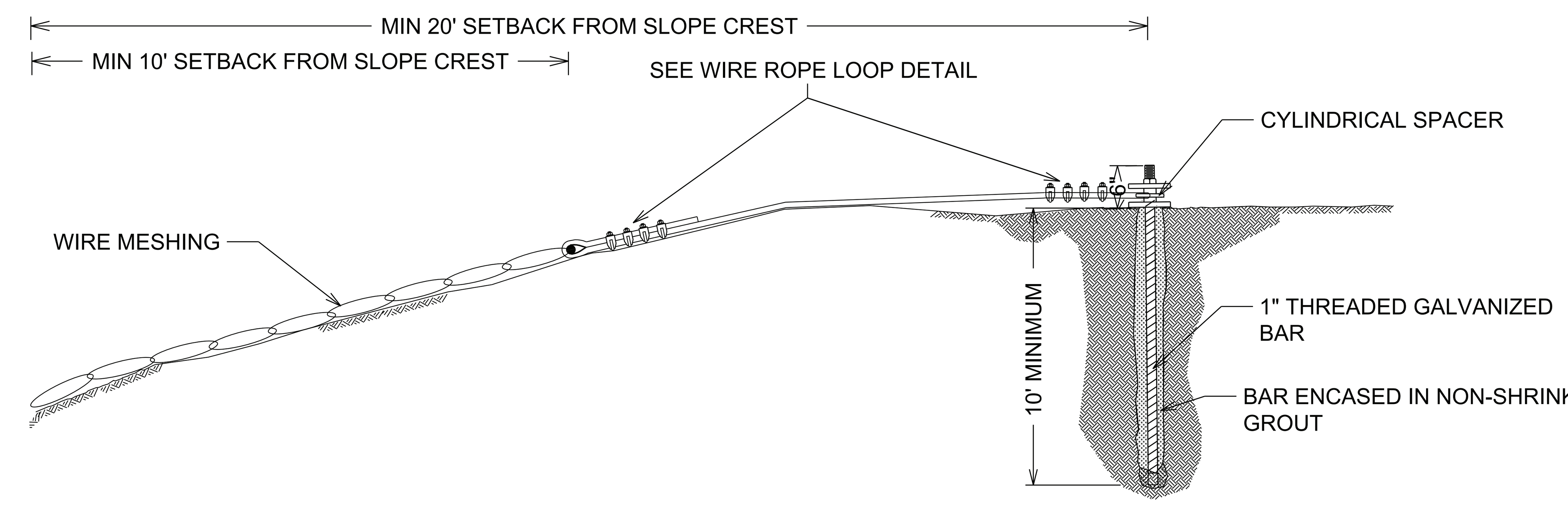
GEOTECHNICAL TYPICAL SECTIONS

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$

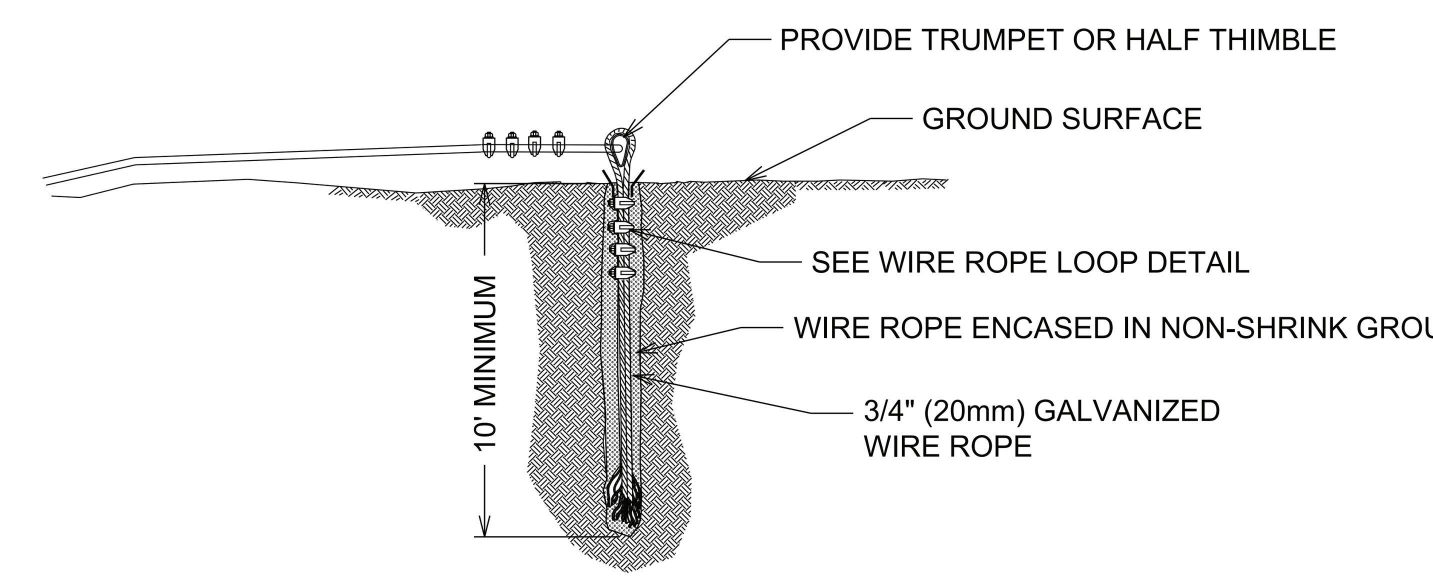
TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-40



"STANDARD" ROCKFALL MESH DRAPE DETAIL (SEE SP707D)



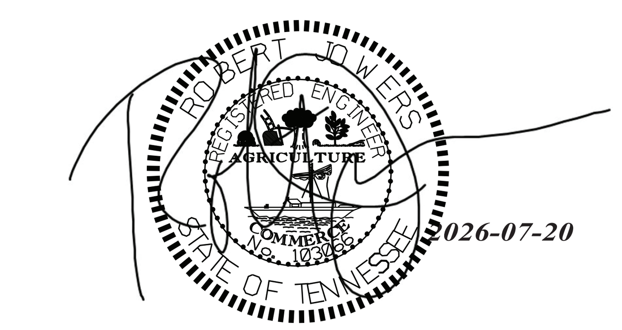
"STANDARD" BAR ANCHOR

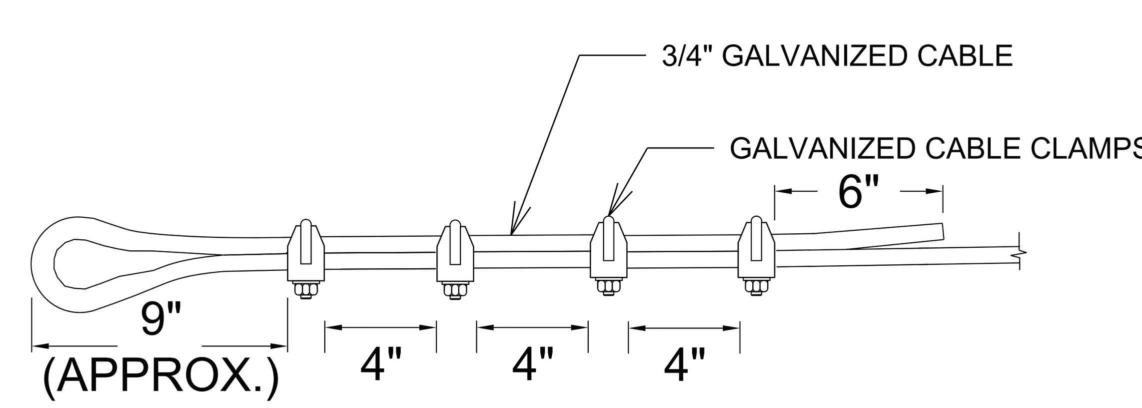


"STANDARD" WIRE ROPE ANCHOR

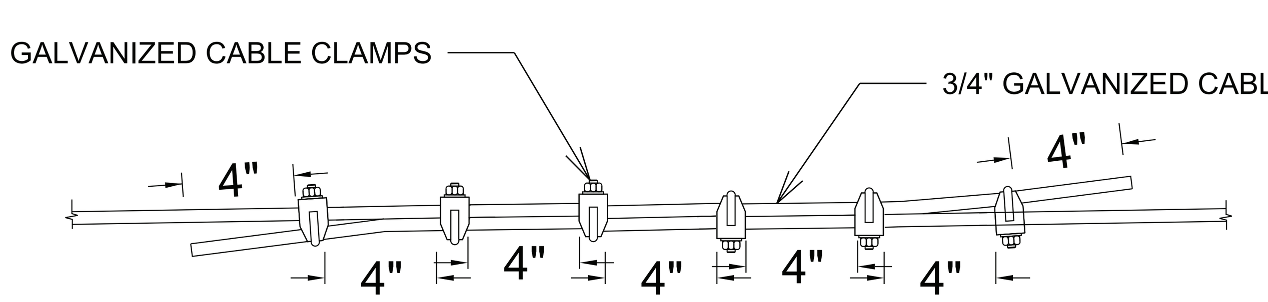
NOTE: WIRE ROPE ANCHOR ACCEPTABLE SUBSTITUTION
FOR BAR ANCHORS ON MESH SYSTEM SUPPORT TOP ROW.

SEALED BY





WIRE ROPE LOOP DETAIL



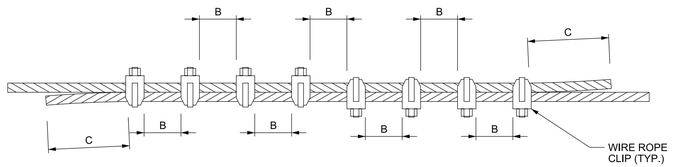
WIRE ROPE SPLICE DETAIL

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL STANDARD DRAPE TYPICAL DETAILS

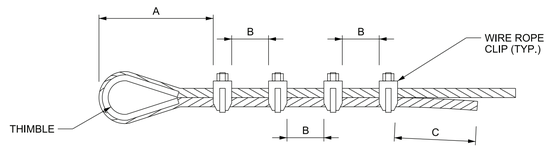
$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-41



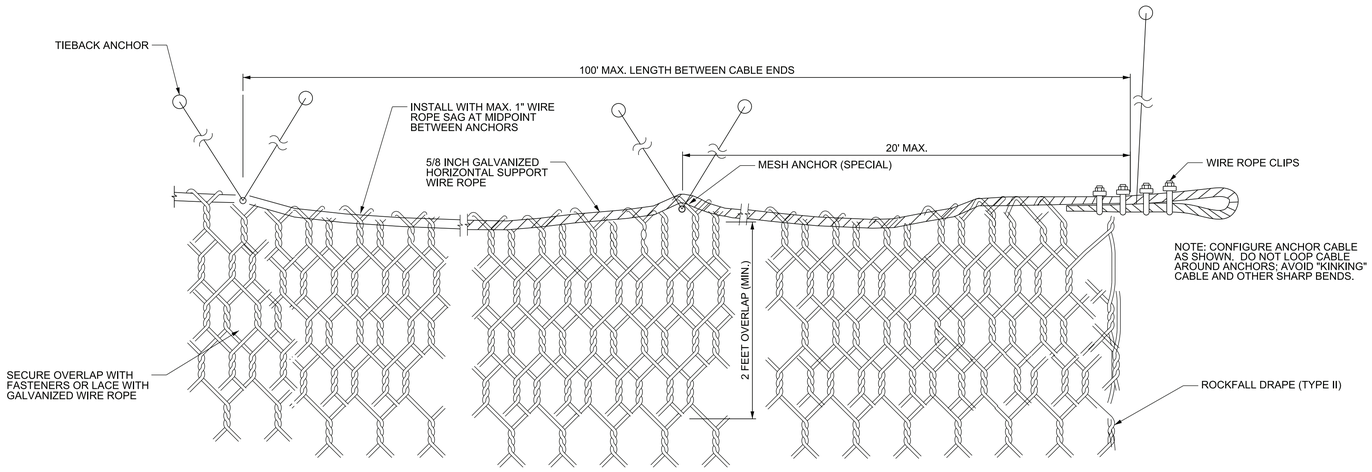
WIRE ROPE SPLICING DETAIL (TYP.)

SEE NOTE 1



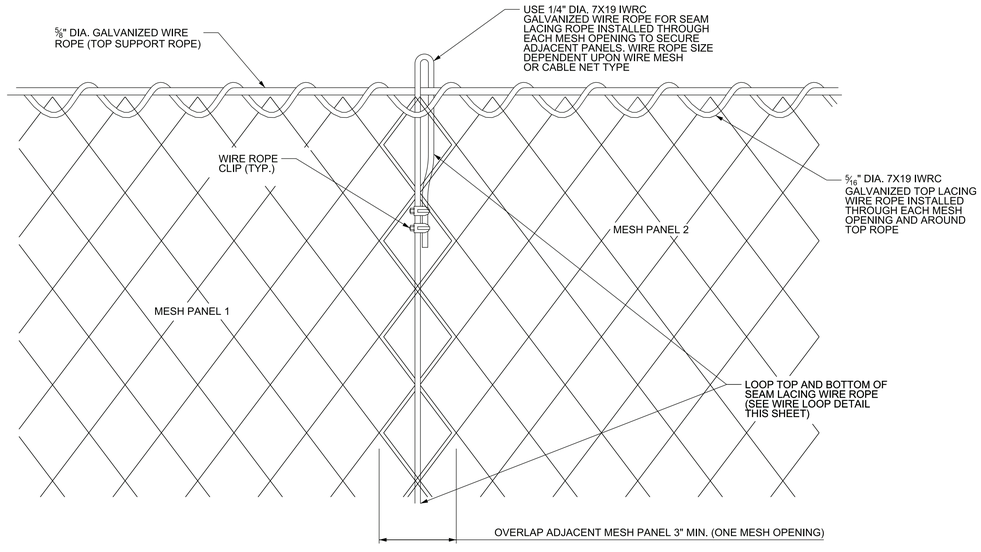
WIRE ROPE LOOP DETAIL (TYP.)

SEE NOTE 1



ROCKFALL DRAPE DETAIL (TYPE II)

(NOT TO SCALE)



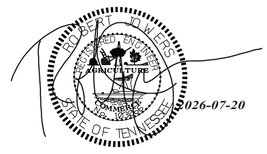
ROCKFALL DRAPE DETAIL (TYPE II)

SEE NOTES 2, 3, AND 4

NOTES

1. COMPLY WITH MANUFACTURER'S SPECIFICATIONS (AS BASED ON ROPE SIZE/DIAMETER) FOR THIMBLE SELECTION, NUMBER OF CLIPS, CLIP SIZE, DISTANCE A, B, C, AND REQUIRED TORQUE.
2. MESH CAN BE LACED HORIZONTALLY USING THE SAME LACING METHOD AS SHOWN FOR VERTICAL SEAMS.
3. ALTERNATE LACING OR FASTENING TECHNIQUES MAY BE PROPOSED FOR REVIEW AND APPROVAL BY THE ENGINEER.
4. INSTALL LACING WIRE ROPE THROUGH EACH MESH OPENING TO HORIZONTALLY AND VERTICALLY SECURE MESH TO ADJACENT PANEL.

SEALED BY

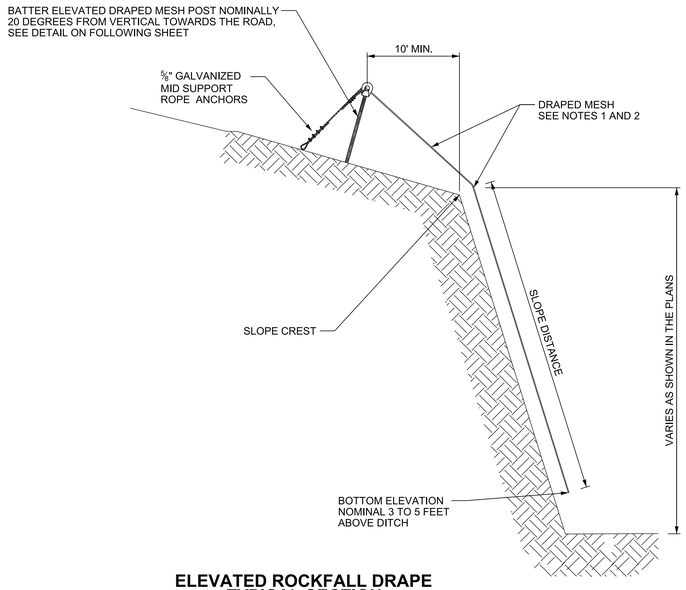


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ELEVATED DRAPE TYPICAL DETAILS

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

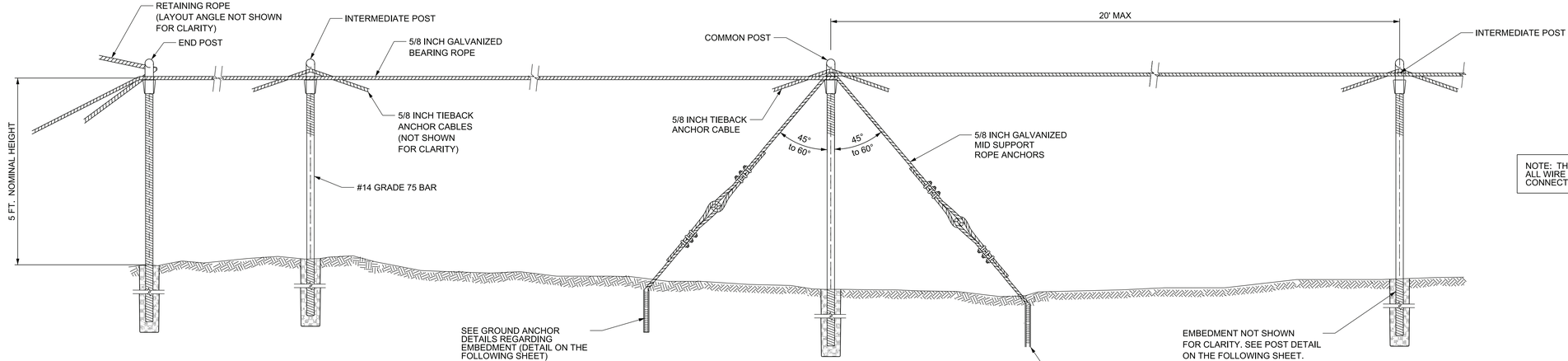
TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-42



ELEVATED ROCKFALL DRAPE TYPICAL SECTION

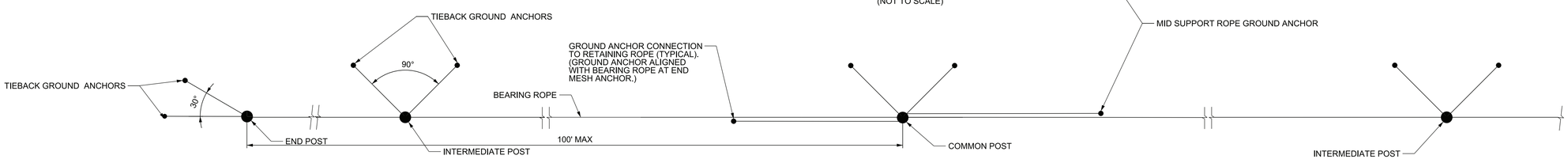
NOTES

1. INSTALL ROCKFALL DRAPE (TYPE II)
2. PLACE MESH WITH THE FABRIC CURL TOWARDS THE SLOPE.
3. ADDITIONAL ANCHORS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER BASED ON SITE CONDITIONS.
4. SHORTEN ANCHOR SPACING TO FACILITATE CHANGES IN SLOPE GEOMETRY AS NECESSARY. LOCATE ANCHORS TO ALLOW WIRE MESH TO CONFORM TO THE SLOPE.
5. SUPPLEMENT ANCHORS TO BE INSTALLED AS NECESSARY TO ALLOW MESH TO CONFORM TO THE SLOPE AND PREVENT THE TOP ROPE FROM SAGGING.



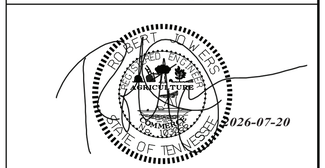
NOTE: THIMBLES SHALL BE USED ON ALL WIRE ROPE TO WIRE ROPE CONNECTIONS.

ELEVATION VIEW MESH ANCHOR (SPECIAL)
(NOT TO SCALE)



PLAN VIEW OF ELEVATED ROCKFALL DRAPE ANCHORS
(NOT TO SCALE)

SEALED BY

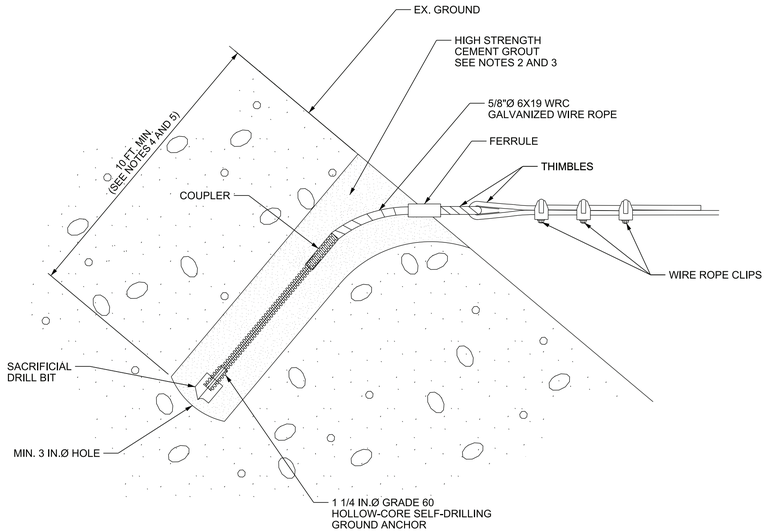


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

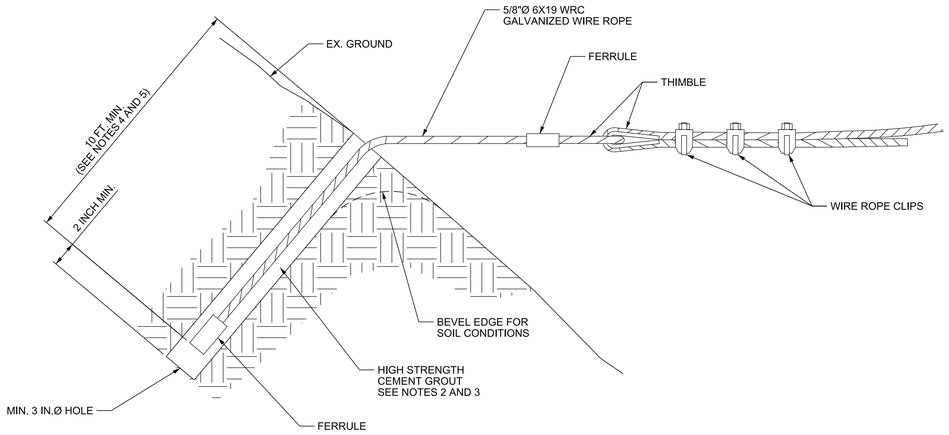
GEOTECHNICAL ELEVATED DRAPE TYPICAL DETAILS

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-43



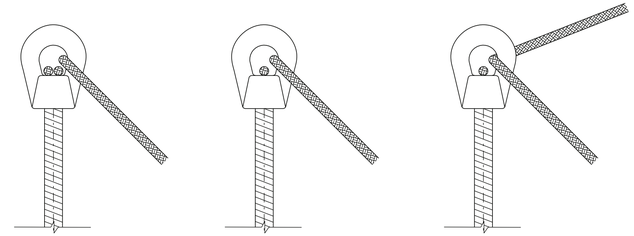
HOLLOW-CORE SELF-DRILLING GROUND ANCHOR FOR SOIL TYPICAL SECTION
(NOT TO SCALE)



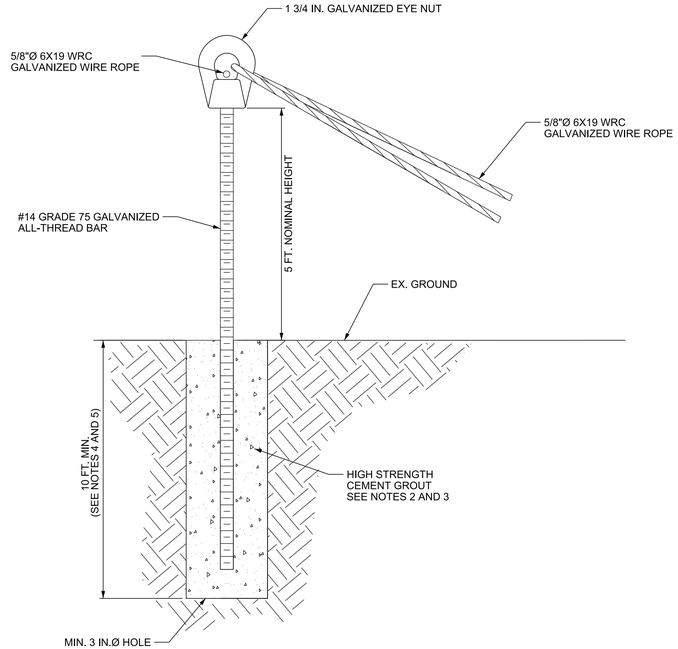
GROUND ANCHOR FOR ROCK/SOIL
(NOT TO SCALE)

NOTES

1. PROVIDE MATERIAL AND WORKMANSHIP IN ACCORDANCE WITH THE GEOTECHNICAL ELEVATED ROCKFALL DRAPE NOTES SHEETS.
2. FILL ANNULAR SPACE WITH GROUT AS SHOWN IN THE PLANS AND GEOTECHNICAL ELEVATED ROCKFALL DRAPE NOTES SHEETS.
3. MINIMUM EMBEDMENTS WERE ESTIMATED ASSUMING 3" DIA. HOLE (WIRE ROPE OR HOLLOW-CORE ANCHORS, RESPECTIVELY) IS ADVANCED IN SOIL OR ROCK.
4. CONDUCT PROOF TESTING AS DESCRIBED ON THE GEOTECHNICAL ELEVATED ROCKFALL DRAPE NOTES SHEETS TO VERIFY MINIMUM EMBEDMENT LENGTHS ARE SUFFICIENT FOR THE SPECIFIED LOADS.
5. EMBEDMENT LENGTHS AND HOLE DIAMETER CAN BE ADJUSTED BY THE CONTRACTOR IF PULLOUT PROOF TESTING SHOWS THE PROPOSED LENGTH(S) ARE SUFFICIENT FOR THE SPECIFIED LOADS AND APPROVED BY THE ENGINEER.



POST TYPES
(NOT TO SCALE)



ELEVATED ROCKFALL DRAPE POST DETAIL
(NOT TO SCALE)

SEALED BY

ROBERT O. WEARS
REGISTERED
ENGINEER
COMMERCE
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ELEVATED DRAPE TYPICAL DETAILS

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-44

ELEVATED ROCKFALL DRAPE NOTES:

DESCRIPTION
THE WORK CONSISTS OF FURNISHING AND INSTALLING ELEVATED DRAPED ROCKFALL PROTECTION (ELEVATED ROCKFALL DRAPE CONSISTING OF WIRE MESH, POSTS, ANCHORS, WIRE ROPES, AND HARDWARE AND APPURTENANCES) AS SHOWN ON THE PLANS AND AS APPROVED BY THE ENGINEER.

ELEVATED ROCKFALL DRAPE (ELEVATED DRAPED ROCKFALL PROTECTION) IS MESH SUSPENDED FROM STEEL POSTS INSTALLED ABOVE THE CREST OF A SLOPE WITH DRAPED MESH EXTENDING DOWN THE SLOPE. THE SYSTEM IS INSTALLED TO CONTROL DEBRIS AND ROCKFALL TRAJECTORIES BETWEEN THE DRAPE AND THE ROCK SLOPE FACE. PROVIDE ALL MATERIALS, SUBMITTALS, EQUIPMENT, AND LABOR TO INSTALL THE SYSTEMS AS DETAILED IN THE PLANS. THE TYPE OF ELEVATED ROCKFALL PROTECTION TO BE FURNISHED AND INSTALLED IS INDICATED ON THE PLANS.

USE SEPARATE *SPECIAL PROVISION 707D REGARDING ROCKFALL SLOPE DRAPE* FOR “STANDARD” ROCKFALL DRAPE.

MATERIALS
PROVIDE MATERIALS THAT CONFORM TO THE FOLLOWING SUBSECTIONS. REFER TO THE DEPARTMENT’S QPL FOR DRAPED MESH THAT HAVE BEEN APPROVED FOR EACH TYPE/CAPACITY. COMPLY WITH ALL STATE AND FEDERAL AID PROVISIONS REGARDING STEEL AND OTHER METAL COMPONENTS SUBJECT TO FEDERAL CONSTRUCTION MATERIAL STATUTES, AS SPECIFIED IN SP106BA.

WIRE MESH: ROCKFALL DRAPE (TYPE II)
PROVIDE A HIGH TENSILE STRENGTH WIRE MESH OF WOVEN CONSTRUCTION CONSISTING OF A SINGLE TYPE OF WIRE, WITH THE ENDS OF EACH WIRE FORMED INTO A LOOP AND TWISTED. THE LOOPS OF THE WIRE MESH SHALL BE FASTENED TOGETHER TO PREVENT UNRAVELING OF THE MESH. THE WIRE SHALL BE INTERWOVEN AND CAPABLE OF CONFORMING TO THE SLOPE IN A DRAPED OR ANCHORED CONDITION WITHOUT PERMANENT DEFORMATION OR BENDING OF THE MESH WIRES IN THE LONGITUDINAL DIRECTION. PROVIDE A MESH WITH WIRES WITH A MINIMUM DIAMETER OF 0.118-INCH, WITH A MINIMUM TENSILE STRENGTH OF 250,000 POUNDS PER SQUARE INCH, AND A ZINC AND ALUMINUM COATING APPLIED AT A MINIMUM WEIGHT OF 0.40 OUNCE PER SQUARE FEET. PROVIDE A MESH WITH A LONGITUDINAL MINIMUM TENSILE STRENGTH OF AT LEAST 10,000 POUNDS PER FOOT, AND A MESH IN-CIRCLE DIAMETER NO LARGER THAN 4 INCHES.

POSTS
PROVIDE 1.75-INCH-DIAMETER (#14) CONTINUOUSLY THREADED BARS WITH ROLLED THREADS. SUPPLY STEEL BARS THAT CONFORM TO EITHER AASHTO M 31 GRADE 75 OR BETTER, OR ASTM A706 THAT ARE COMPLETELY FABRICATED AT THE POINT OF MANUFACTURE UNDER CONTROLLED SHOP CONDITIONS AND ARE FREE OF ANY OIL FILM. PROVIDE BAR STEEL WITH HOT DIP GALVANIZING FOR CORROSION PROTECTION. COMPLY WITH ASTM A 153 FOR THE HOT DIP GALVANIZING WITH A MINIMUM THICKNESS OF 3.9 MILS. PROVIDE GROUT TUBES, GROUT SEALERS, AND OTHER GROUTING ACCESSORIES FOR GROUTING POSTS RECOMMENDED BY THE MANUFACTURER AND AS APPROVED. SUPPLY GROUND ANCHORS THAT ARE A PRODUCT OF A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURING OF MATERIALS FOR THE CONSTRUCTION OF ANCHORS. MINIMUM BONDED LENGTH SHALL BE AT LEAST 10 FEET BELOW GROUND SURFACE. EXTEND POSTS ABOVE GROUND A NOMINAL DISTANCE OF 5 FEET AS SHOWN IN THE PLANS.

EYE NUTS
PROVIDE LIFTING EYES WITH TAPS THAT ACCOMMODATE 1.75-INCH-DIAMETER (#14) THREADED BARS WITH AN INSIDE WIDTH OF AT LEAST 2-1/2 INCHES AND HEIGHT OF AT LEAST 3-3/4 INCHES. PROVIDE EYE NUTS THAT CONFORM TO AASHTO M 169 FOR A GRADE 75 BAR. COMPLY WITH ASTM A 153 FOR THE HOT DIP GALVANIZING WITH A MINIMUM THICKNESS OF 3.9 MILS.

WIRE ROPE ANCHORS
WIRE ROPE ANCHORS SHALL BE FABRICATED FROM A MINIMUM 5/8-INCH DIAMETER INDEPENDENT WIRE ROPE CORE (IWRC) 6X19 (OR EQUIVALENT), EIP STEEL GALVANIZED IN ACCORDANCE WITH ASTM A1023, CLASS A. PROVIDE A WIRE ROPE WITH A MINIMUM BREAKING STRENGTH OF 41,000 POUNDS, WITH A FACTORY INSTALLED SWAGE-EYE TERMINAL ON THE DISTAL END OF THE WIRE ROPE, POSSESSING FERRULES, THIMBLES, OR WIRE CLIPS AS REQUIRED BY THE MANUFACTURER. THESE ANCHORS SHALL BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER BUT IN NO CASE SHALL ANCHORS HAVE A SPACING EXCEEDING 25 FEET UNLESS SPECIFICALLY DIRECTED BY TDOT GEOTECHNICAL ENGINEERING SECTION AND AS SHOWN ON THE PLANS. MINIMUM BONDED LENGTH SHALL BE AT LEAST 10 FEET INTO ROCK OR SOIL. A BEVELED HOLE COLLAR AS SHOWN IN THE PLANS IS REQUIRED FOR SOIL INSTALLATIONS.

HOLLOW-CORE SELF-DRILLING GROUND ANCHORS
PROVIDE 1 ¼-INCH DIAMETER, SELF-DRILLING ANCHORS CONSISTING OF A HOLLOW-CORE, THREADED, DEFORMED STEEL BAR CONFORMING TO AASHTO M31 GRADE 60 OR BETTER. INCLUDE AN OVERSIZED SACRIFICIAL DRILL BIT THAT IS A MINIMUM OF 3 INCHES IN DIAMETER AND A PRODUCT OF A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURING OF MATERIALS FOR THE CONSTRUCTION OF SELF-DRILLING GROUND ANCHORS. MINIMUM BONDED LENGTH SHALL BE AT LEAST 10 FEET INTO ROCK OR SOIL. A BEVELED HOLE COLLAR AS SHOWN IN THE PLANS IS REQUIRED FOR SOIL INSTALLATIONS.

5/8-INCH WIRE ROPE (TOP SUPPORT ROPE)
PROVIDE 5/8-INCH DIAMETER INDEPENDENT WIRE ROPE CORE (IWRC) 7X19 (OR EQUIVALENT), EIP STEEL GALVANIZED IN ACCORDANCE WITH ASTM A1023, CLASS A. PROVIDE A WIRE ROPE WITH A MINIMUM BREAKING STRENGTH OF 41,000 POUNDS.

5/16-INCH WIRE ROPE (LACING WIRE FOR MESH CONNECTION TO TOP SUPPORT ROPE)
PROVIDE 5/16-INCH DIAMETER INDEPENDENT WIRE ROPE CORE (IWRC) 7X7 OR 7X19, EIP STEEL GALVANIZED IN ACCORDANCE WITH ASTM A1023, CLASS A. PROVIDE A WIRE ROPE WITH A MINIMUM BREAKING STRENGTH OF AT LEAST 9,800 POUNDS.

1/4-INCH WIRE ROPE (LACING WIRE FOR MESH PANELS)
PROVIDE ¼-INCH DIAMETER INDEPENDENT WIRE ROPE CORE (IWRC) 7X7 OR 7X19, EXTRA EIP STEEL GALVANIZED IN ACCORDANCE WITH ASTM A1023, CLASS A. PROVIDE A WIRE ROPE WITH A MINIMUM BREAKING STRENGTH OF AT LEAST 6,000 POUNDS.

FASTENERS (MESH PANELS)
PROVIDE HIGH-TENSILE STRENGTH FASTENERS THAT ARE AT A MINIMUM OF 2.3 INCHES BY 0.8 INCHES AND HAVE TWO REVERSED END HOOKS ON ONE SIDE OF THE FASTENER. FABRICATE THEM FROM HIGH TENSILE STRENGTH STEEL WIRE WITH A MINIMUM TENSILE STRENGTH EXCEEDING 250,000 POUNDS PER SQUARE INCH. PROTECT THEM WITH A ZINC/ALUMINUM GALVANIZING APPLIED AT A MINIMUM WEIGHT OF 0.40 OUNCE PER SQUARE FOOT.

(ELEVATED ROCKFALL DRAPE NOTES CONTINUED AT TOP OF RIGHTHAND COLUMN)

ELEVATED ROCKFALL DRAPE NOTES (CONT.):

NUTS, COUPLERS, AND WASHERS
PROVIDE NUTS AND COUPLERS THAT CONFORM TO AASHTO M 169 FOR A GRADE 75 BAR. PROVIDE BEVELED WASHERS CONFORMING TO ASTM A536 OR ASTM A47. SPHERICAL SEATING OF THE NUT IS NOT REQUIRED. USE FLAT HARDENED AND BEVELED WASHERS TO ACCOMMODATE NON-PERPENDICULAR INSTALLATIONS.

CORROSION PROTECTION
GALVANIZE ALL PLATES IN ACCORDANCE WITH EITHER AASHTO M 111 OR AASHTO M 232 CONFORMING TO ASTM A36 GRADE 36 OR ASTM A572 GRADE 50. GALVANIZE ALL EYELETS, NUTS, WASHERS, AND COUPLERS IN ACCORDANCE WITH ASTM A 153 AND AASHTO M 232. CONFORM FLAT WASHERS TO ASTM F436. GALVANIZE ALL WIRE ROPES IN ACCORDANCE WITH ASTM A 1023, CLASS A. PROVIDE HOT DIP GALVANIZING COMPLYING WITH ASTM A 153 FOR THE BAR STEEL.

WIRE ROPE HARDWARE
PROVIDE HARDWARE FOR WIRE ROPES THAT ARE PRODUCTS OF A MANUFACTURER WHO IS REGULARLY ENGAGED IN THE MANUFACTURING AND TESTING OF WIRE ROPE PRODUCTS, AND IN ACCORDANCE WITH THE PLANS, INCLUDING WIRE ROPE CLIPS, WIRE ROPE THIMBLES, FERRULES AND SHACKLES. GALVANIZE ALL HARDWARE ACCORDING TO AASHTO M232. REPAIR ANY DAMAGED GALVANIZING ACCORDING TO ASTM A780. PROVIDE WIRE ROPE CLIPS THAT MEET FEDERAL SPECIFICATION FF C 450G, WIRE ROPE THIMBLES THAT MEET FEDERAL SPECIFICATION FF-T-276C, AND SHACKLES AND SWIVELS THAT MEET FEDERAL SPECIFICATION RR-C-271D. PROVIDE WIRE ROPE CLIPS, THIMBLES, SHACKLES, AND SWIVELS SIZED FOR WIRE ROPE DIAMETERS OF 5/8-INCH, 5/16-INCH, AND ¼-INCH. GALVANIZE ALL OTHER HARDWARE ACCORDING TO AASHTO M 232 OR ASTM A153.

NON-SHRINK, NEAT CEMENT GROUT
NON-SHRINK, NON-CORROSIVE, NON-METALLIC, CEMENT-BASED GROUT MEETING ASTM C1107, EXCEPT DEVELOP A 3-DAY MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI WHEN TESTED ACCORDING TO AASHTO T 106 OR ASTM C109.

WATER
USE WATER IN MIXING OR CURING CONCRETE THAT IS CLEAN AND FREE OF OIL, SALT, ACID, ALKALI, SUGAR, VEGETABLE OR OTHER SUBSTANCES INJURIOUS TO THE FINISHED PRODUCT. MEET THE SUGGESTED REQUIREMENTS OF AASHTO T 26. USE MIX WATER THAT CONTAINS LESS THAN 500 PARTS PER MILLION OF CHLORIDES AS CI OR OF SULPHATES AS SO4. WATER KNOWN TO BE OF POTABLE QUALITY WILL NOT REQUIRE TESTING.

SUBMITTALS
PROVIDE AN ELEVATED ROCKFALL DRAPE WORK PLAN AT LEAST 15 DAYS PRIOR TO COMMENCEMENT OF WORK THAT INCLUDES THE FOLLOWING:

1. RESUME(S) FOR INDIVIDUAL WHO WILL ACT AS ELEVATED ROCKFALL DRAPE FOREMAN TO OVERSEE THE DRAPED MESH INSTALLATION WORK. PROVIDE DOCUMENTATION THAT EACH FOREMAN HAS DEMONSTRATED EXPERIENCE IN THIS ROLE SUPERVISION THE INSTALLATION OF DRAPED ROCKFALL PROTECTION OR ROCKFALL ATTENUATOR ON AT LEAST TWO (2) PROJECTS OVER THE LAST FIVE (5) YEARS.
2. RESUMES FOR EACH WORKER INSTALLING ELEVATED DRAPED ROCKFALL INCLUDING: CONTACT INFORMATION, ROLE ON THE PROJECT, AND DESCRIPTIONS OF WORK EXPERIENCE.
3. START DATE, CONSTRUCTION SEQUENCE, AND NUMBER OF WORKERS TO BE USED FOR INSTALLATIONS.
4. THE METHODS, EQUIPMENT, AND MATERIALS FOR DRILLING AND INSTALLING GROUND ANCHORS.
5. THE METHODS, EQUIPMENT, MATERIALS, AND MIX DESIGN FOR THE GROUTING OPERATIONS. INCLUDE A DESCRIPTION OF HOW EXCESSIVE GROUT INJECTION QUANTITIES WILL BE CONTROLLED IF OPEN JOINTS OR SEAMS OF LOOSE MATERIAL ARE ENCOUNTERED.
6. THE METHODS, EQUIPMENT, AND SETUP FOR TESTING GROUND ANCHOR CAPACITIES. INCLUDE WORKING DRAWINGS FOR THE TEMPORARY YOKE OR LOAD FRAME TO BE USED FOR THE ANCHOR PROOF TESTING IN ACCORDANCE WITH THE PLANS. INCLUDE CALIBRATION DATA PERFORMED BY AN INDEPENDENT TESTING LABORATORY WITHIN 90 CALENDAR DAYS OF THE SUBMITTAL FOR EACH LOAD CELL, TEST JACK PRESSURE GAUGE, AND MASTER PRESSURE GAUGE TO BE USED. RECALIBRATE EACH LOAD CELL, TEST JACK PRESSURE GAUGE, AND MASTER PRESSURE GAUGE EVERY 90 CALENDAR DAYS FROM THE ORIGINALLY SUBMITTED CALIBRATION DATE. PROVIDE ALL CALIBRATION TESTING THAT IS TRACEABLE TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST).
7. THE METHODS, EQUIPMENT AND MATERIALS FOR PLACEMENT OF DRAPED ROCKFALL PROTECTION TO THE DESIGN LOCATIONS ON THE SLOPES, ATTACHING MESH PANELS TO THE UPPER SUPPORT ROPES, SECURING ADJACENT MESH PANELS TO EACH OTHER VERTICALLY AND HORIZONTALLY, AND TRIMMING MESH PANELS.
8. IDENTIFICATION OF THE MANUFACTURER(S) OF THE DRAPED MESH PRODUCTS. SUPPLY DOCUMENTATION FROM THE MANUFACTURER(S) THAT DEMONSTRATES THE MESH PRODUCTS HAVE BEEN USED AS PART OF A DRAPED MESH ROCKFALL PROTECTION SYSTEM WHERE THE SITE CONDITIONS WERE SIMILAR TO THE CONDITIONS ON THIS PROJECT.
9. MANUFACTURER CERTIFICATION AND STATEMENT OF MANUFACTURER’S COMPLIANCE FOR GALVANIZATION AND STAINING ALONG WITH PROCEDURES AND MATERIAL FOR REPAIRING GALVANIZED AND STAINED METAL PRODUCTS IN THE FIELD.
10. MATERIAL INFORMATION INCLUDING AN INCLUSIVE LIST WITH MANUFACTURER’S DATA SHEETS AND CATALOG CUTS FOR ALL SYSTEM APPURTENANCES TO BE USED, INCLUDING BUT NOT LIMITED TO: GROUND ANCHORS, GROUT, WIRE ROPES, LACING WIRE, WIRE MESH FASTENERS/LACING WIRE, WIRE ROPE CLIPS, THIMBLES, FERRULES, AND OTHER FASTENING HARDWARE.
11. MILL CERTIFICATES FOR ALL WIRE ROPES, STEEL COMPONENTS, AND OTHER METAL COMPONENTS SUBJECT TO FEDERAL CONSTRUCTION MATERIAL STATUTES, AS REQUIRED.

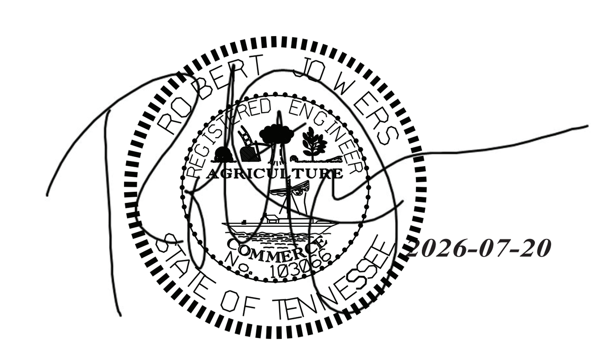
SUBMIT THE WORK PLAN AND PERSONNEL QUALIFICATIONS SPECIFIED HEREIN TO THE ENGINEER FOR REVIEW AND ACCEPTANCE IN WRITING PRIOR TO COMMENCING THIS WORK. WITHIN 15 DAYS OF RECEIVING THE PLAN, THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ANY ADDITIONAL INFORMATION REQUIRED AND/OR CHANGES THAT MAY BE NECESSARY TO SATISFY THE PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS.

IF ANY PART OF THE PLAN IS UNSATISFACTORY AND REJECTED BY THE ENGINEER, SUBMIT PROPOSED CHANGES FOR RE-EVALUATION. THE ENGINEER WILL RESPOND TO THE CONTRACTOR WITHIN 7 DAYS AFTER RECEIVING THE PROPOSED CHANGES.

REVIEW OF THE ELEVATED ROCKFALL DRAPE WORK PLAN BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM THE WORK IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE ELEVATED ROCKFALL DRAPE WORK PLAN IS INTENDED TO PROVIDE AN OPPORTUNITY TO EXPLAIN THE APPROACH TO THE WORK AND TO ALLOW THE ENGINEER TO COMMENT ON EQUIPMENT AND PROCEDURES BEFORE WORK BEGINS

(ELEVATED ROCKFALL DRAPE NOTES CONTINUED ON NEXT SHEET)

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ELEVATED ROCKFALL DRAPE NOTES

$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-45

ELEVATED ROCKFALL DRAPE NOTES (CONT. FROM PREVIOUS SHEET):

CONSTRUCTION

GENERAL

BEFORE INSTALLING DRAPED ROCKFALL PROTECTION, COMPLETE ALL TEMPORARY ROCKFALL PROTECTION, ALL SCALING AND TRIMMING (SP203E), AND ALL ROCK DOWELS AND OTHER ON-SLOPE ROCKFALL RISK REDUCTION WORK AS APPLICABLE OR AS SHOWN ON THE PLANS.

STORE, HANDLE, AND INSTALL DRAPED ROCKFALL PROTECTION WITHOUT DAMAGING THE ROCKFALL PROTECTION SYSTEM, GALVANIZED FINISH, OR COLORED FINISH (IF APPLICABLE). REPAIR GALVANIZED FINISHES AS SPECIFIED IN THE TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 713.04.B. REPLACE DAMAGED PORTIONS OF THE DRAPED ROCKFALL PROTECTION SYSTEM.

CONSTRUCT THE ELEVATED DRAPED ROCKFALL PROTECTION SYSTEM USING THE TYPE OF DRAPED MESH AS SPECIFIED HEREIN AND IN THE PLANS. INSTALL THE ELEVATED DRAPED ROCKFALL PROTECTION FROM THE TOP WORKING DOWNWARD, CONTOURING THE DRAPED MESH WITH THE EXISTING GROUND TOPOGRAPHY TO THE BOTTOM LIMITS OF THE REQUIRED INSTALLATION, WITHOUT CREATING LOOSE MESH POCKETS THAT TRAP FALLING ROCKS. TRIM THE DRAPED MESH AS NEEDED AND TREAT FIELD CUTS AS SPECIFIED IN THE TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 713.04.B.

SAFETY

WORK SITE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE WORK SITE SAFETY AND PERFORM WORK TO PROTECT WORKERS, EQUIPMENT, AND THE TRAVELLING PUBLIC FROM HAZARDOUS, AND POTENTIALLY HAZARDOUS CONDITIONS. ONLY START WORK ASSOCIATED WITH ELEVATED DRAPED ROCKFALL PROTECTION AFTER TEMPORARY ROADSIDE PROTECTION ARE IN PLACE AND ACCEPTED BY THE ENGINEER. SPECIAL DESIGNS, INSTALLATION PROCEDURES, OR SAFETY SCALING THAT THE CONTRACTOR DEEMS NECESSARY TO SAFELY INSTALL THE ROCKFALL PROTECTION SYSTEMS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND INCIDENTAL TO THE RESPECTIVE UNIT CONTRACT PRICES.

SLOPE PREPARATION

VEGETATION, PARTICULARLY TREES AND LARGE SHRUBS SHALL BE REMOVED WITHIN THE ELEVATED DRAPED AREA WHERE ITS PRESENCE WOULD COMPROMISE THE EFFECTIVENESS AND INTEGRITY OF THE ROCKFALL DRAPERY OR AS DIRECTED BY THE ENGINEER. VEGETATION ABOVE THE ANCHORED AREA SHALL BE REMOVED ONLY TO THE POINT NECESSARY FOR INSTALLATION OF THE ANCHORING SYSTEM AND SHALL BE LIMITED TO 10 FEET UPSLOPE OF THE ROCKFALL DRAPERY LIMITS, UNLESS SPECIFICALLY DIRECTED BY THE ENGINEER.

ANCHORS INSTALLATION AND TESTING

INSTALL THE ANCHOR TYPES AS DETAILED ABOVE UNDER MATERIALS AND AS SHOWN ON THE PLANS. INSTALL ANCHORS AS SHOWN ON THE PLANS AND ONLY AT LOCATIONS APPROVED BY THE ENGINEER. INSTALL ANCHORS IN A MINIMUM 3-INCH DIAMETER HOLE WITH A MINIMUM DEPTH OF 10 FEET. FLUSH THE HOLE OF ALL DRILL CUTTINGS AND DEBRIS WITH COMPRESSED AIR PRIOR TO INSTALLATION OF THE ANCHOR. ORIENT THE HOLE PERPENDICULAR TO THE SLOPE FACE OR GROUND SURFACE. CENTER THE ANCHOR IN THE HOLE AND FULLY TREMIE-GROUT THE ANNULAR SPACE FROM THE BOTTOM OF THE HOLE WITH NON-SHRINK GROUT, TO ENCAPSULATE THE ANCHORS. DO NOT DISTURB THE ANCHORS OR APPLY LOADS FOR AT LEAST 3 DAYS.

REDUCE THE ANCHOR SPACING AS NEEDED TO IMPROVE MESH COVERAGE AND CONFORMANCE TO THE SLOPE. SUPPLEMENTAL ANCHORS MAY BE REQUIRED TO FACILITATE DRAPE INSTALLATION AND TO ALLOW THE DRAPE TO CONFORM TO THE SLOPE DEPENDING ON LAYOUT AND SLOPE CONTOUR. INSTALL SUPPLEMENTAL ANCHORS AS DETERMINED NECESSARY BY THE ENGINEER.

VERIFY THE ANCHORS HAVE THE REQUIRED CAPACITY BY CONDUCTING AXIAL PROOF TESTS ON 25 PERCENT OF THE ANCHORS AS SELECTED BY THE ENGINEER, WITH AT LEAST 3 TESTS PERFORMED. COMPLETE TESTING BEFORE CONNECTING SYSTEM COMPONENTS TO ANCHORS. PERFORM THE TEST BY APPLYING A 24.5-KIP TEST LOAD TO THE ANCHOR FOR 10 MINUTES, USING A TEMPORARY YOKE OR LOAD FRAME THAT DOES NOT APPLY BEARING PRESSURES ON THE GROUND WITHIN 2 FEET OF THE ANCHOR. PROOF TESTS FOR AN ANCHOR WILL BE ACCEPTED WHEN THE ANCHOR MAINTAINS THE TEST LOAD FOR 10 MINUTES WITH NO LOSS OF LOAD. IF MORE THAN THREE TESTED ANCHORS FAIL, CONDUCT PROOF TESTS ON ALL ANCHORS AT NO ADDITIONAL COST TO THE DEPARTMENT. REPLACE ALL FAILED ANCHORS AT NO ADDITIONAL COST TO THE DEPARTMENT.

CONTRACTOR CAN REQUEST TO ADJUST THE EMBEDMENT LENGTHS IF PROOF TESTING SHOWS THE PROPOSED LENGTH(S) ARE SUFFICIENT FOR THE TEST LOADS. THE ENGINEER MUST APPROVE ADJUSTED EMBEDMENT LENGTHS IN WRITING.

COLLECT SAMPLES OF THE NON-SHRINK, NEAT CEMENT GROUT FROM TWO (2) BATCHES OF GROUT THAT ARE BEING USED FOR ANCHOR GROUTING AND SUBMIT GROUT CUBES TO AN INDEPENDENT TESTING FIRM FOR BREAKING STRENGTH TESTING. SUPPLY 3-DAY AND 7-DAY UNCONFINED COMPRESSION TEST RESULTS TO THE ENGINEER. THE ENGINEER MAY ALSO REQUEST SAMPLES FOR TESTING.

SUPPORT ROPES

INSTALL 5/8-INCH DIAMETER INDEPENDENT WIRE ROPE CORE (IWRC) 7X19 (OR EQUIVALENT), EIP STEEL GALVANIZED IN ACCORDANCE WITH ASTM A1023, CLASS A FOR THE SUPPORT ROPES AS DETAILED ABOVE UNDER MATERIALS AND AS SHOWN ON THE PLANS. PROVIDE A WIRE ROPE WITH A MINIMUM BREAKING STRENGTH OF 41,000 POUNDS. ATTACH THE TOP SUPPORT ROPES ONLY AFTER ANCHOR GROUT HAS BEEN ALLOWED TO CURE AS SPECIFIED ABOVE AND AFTER SUCCESSFUL ANCHOR TESTING. TOP SUPPORT ROPES CAN BE NO LONGER THAN 100 FEET. LOCATE THE ELEVATED DRAPED MESH POST AT LEAST TEN (10) FEET ABOVE THE CREST OF THE SLOPE, AS SHOWN IN THE PLANS. ATTACH SUPPORT ROPES TO ANCHORS AND TIEBACKS WITH THE REQUIRED SHACKLES. SECURE BOTH ENDS OF ALL TOP SUPPORT ROPES BY LOOPING THE ENDS OF THE ROPE BACK ONTO ITSELF, INSTALLING THIMBLES AND CLIPPING WITH WIRE ROPE CLIPS ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND AS SHOWN IN THE PLANS.

(ELEVATED ROCKFALL DRAPE NOTES CONTINUED AT TOP OF RIGHTHAND COLUMN)

ELEVATED ROCKFALL DRAPE NOTES (CONT.):

ELEVATED ROCKFALL DRAPE MESH INSTALLATION

INSTALL THE APPROPRIATE TYPE OF DRAPED MESH AS DETAILED ABOVE UNDER MATERIALS AND AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. INSTALL THE DRAPED ROCKFALL PROTECTION IN VERTICAL PANELS AND COVER THE SLOPE SUCH THAT NO GAPS ARE PRESENT. ATTACH EACH DRAPED MESH PANEL TO THE TOP SUPPORT ROPES BY LACING A 5/16-INCH DIAMETER WIRE ROPE THROUGH EACH MESH OPENING AND AROUND THE ADJACENT TOP SUPPORT ROPES.

TO CONNECT DRAPED MESH PANELS, TO EACH OTHER, ABUT PANELS TOGETHER PER THE MANUFACTURER'S RECOMMENDATIONS AND SECURE USING EITHER HIGH-TENSILE STRENGTH FASTENERS OR BY LACING A ¼-INCH DIAMETER WIRE ROPE THROUGH EACH CELL. THIS APPLIES TO BOTH HORIZONTAL AND VERTICAL SEAMS.

INCREASE OVERLAPS AS NEEDED TO COVER THE WORK LIMITS AND MINIMIZE FIELD CUTS. LACE ADDITIONAL WIRE ROPES THROUGH DRAPED ROCKFALL PROTECTION FABRIC CELLS TO JOIN OVERLAPPING DRAPED ROCKFALL PROTECTION FABRICS OVERLAPPING GREATER THAN 3 INCHES. SET THE BOTTOMS OF DRAPED ROCKFALL PROTECTION FABRIC PANELS, BETWEEN 3 AND 5 FEET ABOVE THE DITCH LINE, OR AS SPECIFIED IN THE PLANS OR DIRECTED BY THE ENGINEER. DIAGONAL CUTTING OF THE HIGH TENSILE STRENGTH MESH OR HIGH TENSILE STEEL WIRE SPIRAL ROPE IS NOT ALLOWED.

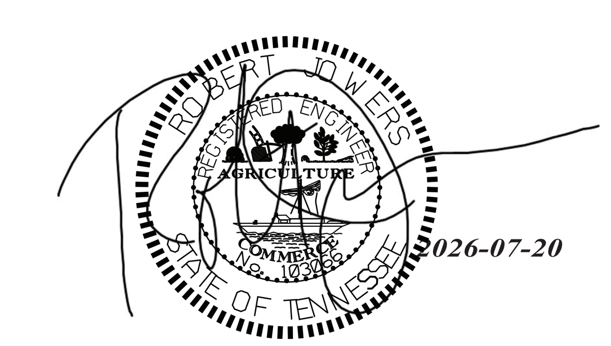
MEASUREMENT AND PAYMENT

MEASURE THE ELEVATED DRAPED ROCKFALL PROTECTION ITEMS BY 1) BY THE SQUARE YARD OF COVERED AREA ACCORDING TO THE NEAT LINE OF INSTALLED DRAPED MESH ON THE SLOPE, MEASURED ALONG THE SURFACE OVER WHICH ROCKFALL DRAPE HAS BEEN ACCEPTABLY PLACED, 2) BY THE LINEAR FOOT OF EACH GROUND ANCHOR INSTALLED AND APPROVED BY THE ENGINEER, AND 3) BY THE LINEAR FOOT OF POSTS INSTALLED BELOW GROUND SURFACE. DO NOT MEASURE STEEL APPURTENANCES (EYE NUTS, WIRE ROPES, FASTENERS, NUTS, COUPLERS, WASHERS, CORROSION PROTECTION (AND REPAIR LABOR AND MATERIALS), WIRE ROPE HARDWARE, GROUT, WATER). DO NOT MEASURE MESH PANEL OVERLAPS. DO NOT MEASURE ANCHORS INSTALLED TO REPLACE FAILED ANCHORS. DO NOT MEASURE EXTENSIONS OF POSTS ABOVE THE GROUND SURFACE. DO NOT MEASURE VEGETATION REMOVAL AND DISPOSAL, SAFETY SCALING, AND SITE PREPARATION WORK REQUIRED FOR CONSTRUCTION ACCESS FOR ELEVATED DRAPED ROCKFALL PROTECTION INSTALLATIONS.

THE QUANTITY OF ELEVATED DRAPED ROCKFALL PROTECTION (ELEVATED ROCKFALL DRAPE), MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD FOR ITEM NO. 707-10.06 ROCKFALL DRAPE (TYPE II) FOR DRAPED MESH AND PER LINEAR FOOT FOR ITEM NO. 707-02.44 ROCK ANCHOR, TYPE II FOR BOTH GROUND ANCHORS AND POSTS.

SUCH PRICE AND PAYMENT WILL BE FULL COMPENSATION FOR ALL WORK INCLUDING BUT NOT LIMITED TO LABOR, MATERIALS AND EQUIPMENT, AND FOR ALL INCIDENTALS NECESSARY TO COMPLETE THE WORK SATISFACTORILY.

SEALED BY



2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
ELEVATED ROCKFALL
DRAPE NOTES

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-46

DOWELING NOTES AND DETAILS:

DESCRIPTION

THE WORK CONSISTS OF FURNISHING, INSTALLING, AND TESTING ROCK DOWELS AT THE LOCATIONS, ORIENTATIONS, AND LOADS DESIGNATED IN THE PLANS OR AS DIRECTED BY THE ENGINEER. SUPPLY ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO INSTALL AND TEST THE ROCK DOWELS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, AND AS DETAILED IN THE PLANS.

ROCK DOWELS ARE UNTENSIONED, FULLY GROUTED STEEL BARS THAT PASSIVELY REINFORCE A ROCK MASS. A 40 KIP ROCK DOWEL WILL BE REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR ACHIEVING THE LENGTHS AND REQUIRED LOADS AT THE DOWEL LOCATIONS.

GROUT LOSS AND ENCOUNTERING GROUNDWATER SHOULD BE ANTICIPATED AND MITIGATIVE MEASURES IMPLEMENTED.

BEFORE STARTING THE ROCK DOWEL WORK, SCALE THE SLOPE AREA IDENTIFIED IN THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH SCALING AND TRIMMING (SP203E), AS APPLICABLE.

MATERIALS

PROVIDE ROCK DOWELS, ANCHOR DEVICES, BEARING PLATES, COUPLERS, HARDWARE, AND OTHER EQUIPMENT PRODUCED BY A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURING OF MATERIALS FOR THE CONSTRUCTION OF DOWELS CONFORMING TO THE FOLLOWING SUBSECTIONS.

ROCK DOWELS

PROVIDE BARS FOR THE ROCK DOWELS, INCLUDING ANCHORAGE, BEARING PLATES, COUPLERS, CORROSION PROTECTION, AND OTHER APPURTENANCES FROM A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURING OF MATERIALS FOR THE CONSTRUCTION OF ROCK DOWELS. PROVIDE BARS THAT ARE CONTINUOUSLY THREADED STEEL REINFORCEMENT BARS CONFORMING TO ASTM A615 GRADE 75 ALL-THREAD BAR THAT ARE CAPABLE OF BEING POST-TENSIONED TO THE LOCK-OFF AND TEST LOADS SPECIFIED IN THE PLANS. PROVIDE ANCHOR BAR STEEL WITH HOT DIP GALVANIZING FOR CORROSION PROTECTION. COMPLY WITH ASTM A 153 FOR THE HOT DIP GALVANIZING. PROVIDE A MINIMUM #8 GRADE 75 BAR FOR USE AS A 40-KIP ROCK DOWEL.

APPURTENANCES

BEARING PLATES

SIZE THE BEARING PLATES SO THE BENDING STRESSES IN THE PLATE DO NOT EXCEED THE YIELD STRENGTH OF THE STEEL WHEN A LOAD EQUAL TO 100 PERCENT OF THE LOCK-OFF LOAD IS APPLIED OR AS INDICATED ON THE PLANS. USE MILD STEEL FOR THE BEARING PLATE, NOT LESS THAN 0.75 INCHES IN THICKNESS AND NOT LESS THAN EIGHT (8) INCHES SQUARE. USE DOUBLE HOLED KEY-HOLE BEARING PLATES THAT HAVE A CENTRAL HOLE LARGE ENOUGH TO FIT EASILY OVER THE DOWEL WHILE MAXIMIZING THE AVERAGE BEARING SURFACE FOR THE WASHER AND THE NUT.

NUTS, COUPLERS, AND WASHERS

PROVIDE NUTS AND COUPLERS THAT CONFORM TO AASHTO M 169 FOR A GRADE 75 BAR. PROVIDE BEVELED WASHERS CONFORMING TO ASTM A 536 OR ASTM A 47. SPHERICAL SEATING OF THE NUT IS NOT REQUIRED. USE FLAT HARDENED AND BEVELED WASHERS TO ACCOMMODATE NON-PERPENDICULAR INSTALLATIONS.

CENTRALIZERS

PROVIDE CENTRALIZERS FABRICATED FROM PLASTIC OR MATERIAL WHICH IS NON-DETRIMENTAL TO THE PRE-STRESSING STEEL. DO NOT USE WOOD CENTRALIZERS.

CORROSION PROTECTION

GALVANIZE ALL BEARING PLATES IN ACCORDANCE WITH EITHER AASHTO M 111 OR AASHTO M 232 CONFORMING TO ASTM A 36 GRADE 36 OR ASTM A 572 GRADE 50. GALVANIZE ALL NUTS, WASHERS, AND COUPLERS IN ACCORDANCE WITH AASHTO M 232. CONFORM FLAT WASHERS TO ASTM F 436.

GROUT SOCKS (AS APPLICABLE)

IF SPECIFIED OR IF EXCESSIVE GROUT LOSS DURING GROUTING OCCURS, PROVIDE GROUT SOCKS MADE BY A MANUFACTURER THAT REGULARLY SUPPLIES PRODUCTS FOR ANCHORING SYSTEMS. SELECT THE SOCK DIAMETER BASED ON MANUFACTURER'S RECOMMENDATIONS ACCOUNTING FOR THE DRILL HOLE DIAMETER (GENERALLY 1-INCH LARGER THAN THE HOLE DIAMETER). USE SOCKS CONSTRUCTED FROM A WOVEN SYNTHETIC FABRIC RESISTANT TO TEARS AND HANDLING DAMAGE. USE A GEOTEXTILE WITH AN APPARENT OPENING SIZE (ASTM D4751) THAT WILL ALLOW WATER TO FILTER OUT OF THE GROUT BUT PREVENT SIGNIFICANT AMOUNTS OF CEMENT PARTICLES TO PASS.

GROUT

NON-SHRINK, NON-CORROSIVE, NON-METALLIC, CEMENT-BASED GROUT MEETING ASTM C1107, EXCEPT DEVELOP A 3-DAY MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI WHEN TESTED ACCORDING TO AASHTO T 106 OR ASTM C109.

WATER

USE WATER IN MIXING OR CURING CONCRETE THAT IS CLEAN AND FREE OF OIL, SALT, ACID, ALKALI, SUGAR, VEGETABLE OR OTHER SUBSTANCES INJURIOUS TO THE FINISHED PRODUCT. MEET THE SUGGESTED REQUIREMENTS OF AASHTO T 26. USE MIX WATER THAT CONTAINS LESS THAN 500 PARTS PER MILLION OF CHLORIDES AS CI OR OF SULPHATES AS SO4. WATER KNOWN TO BE OF POTABLE QUALITY WILL NOT REQUIRE TESTING.

SUBMITTALS

AT LEAST 15 DAYS BEFORE STARTING ROCK DOWEL INSTALLATION WORK, SUBMIT A ROCK DOWEL WORK PLAN THAT INCLUDES THE FOLLOWING:

1. PROVIDE AN ON-SITE DRILL FOREMAN AND DRILL OPERATOR(S) WITH EXPERIENCE INSTALLING AND TESTING ROCK DOWELS. DRILL FOREMAN MUST HAVE INSTALLED A MINIMUM OF 2,000 LINEAR FEET OF ROCK BOLTS AND/OR ROCK DOWELS ON A MINIMUM OF 5 PROJECTS OVER THE PAST 5 YEARS. DRILL OPERATOR(S) MUST HAVE INSTALLED A MINIMUM OF 1,000 LINEAR FEET OF ROCK BOLTS AND/OR ROCK DOWELS ON A MINIMUM OF 3 PROJECTS OVER THE PAST 5 YEARS.
2. RESUMES FOR EACH WORKER INCLUDING: CONTACT INFORMATION, ROLE ON THE PROJECT, AND DESCRIPTIONS OF WORK EXPERIENCE. INCLUDE PROJECT NAMES, LOCATIONS, AND CONTACT INFORMATION OF OWNERS.
3. START DATE, CONSTRUCTION SEQUENCE, AND NUMBER OF WORKERS TO BE USED FOR ROCK DOWEL/DOWEL INSTALLATIONS.
4. METHOD OF ACCESS AND DRILLING INCLUDING EQUIPMENT AND DRILL BIT DIAMETER.
5. ROCK DOWEL TYPES, LENGTHS, AND DIAMETERS INCLUDING MANUFACTURER'S PRODUCT DATA SHEETS, CATALOG CUTS, AND MILL CERTIFICATES, SUBJECT TO FEDERAL CONSTRUCTION MATERIAL STATUTES, AS REQUIRED. COUPLERS, BEARING PLATES, WASHERS (FLAT AND BEVELED), NUTS, STRESSING ANCHORAGES, CENTRALIZERS, BOND BREAKERS, AND GROUT SOCKS WITH MANUFACTURER'S PRODUCT DATA SHEETS, SPECIFICATIONS, CATALOG CUTS, AND MILL CERTIFICATES, SUBJECT TO FEDERAL CONSTRUCTION MATERIAL STATUTES, AS REQUIRED. INCLUDE MANUFACTURER'S VERIFICATION FOR THE BEARING PLATE THICKNESS FOR THE SPECIFIED ROCK DOWEL CAPACITIES. INCLUDE STAINING APPLICATION METHODS, AS APPLICABLE.

(DOWELING NOTES CONTINUED AT TOP OF RIGHTHAND COLUMN)

DOWELING NOTES AND DETAILS (CONTINUED):

6. MANUFACTURER RECOMMENDATIONS FOR BAR AND HARDWARE HANDLING, STORING, AND WORKING TEMPERATURE RANGES.
7. GROUT TYPE, MIX DESIGN, MIXING EQUIPMENT, PLACEMENT PROCEDURES, MANUFACTURER'S PRODUCT DATA SHEETS, AND CATALOG CUTS.
8. MEANS FOR MEASURING THE LEVEL/EXTENT OF THE GROUT IN THE HOLE FOR ROCK DOWELS.
9. THE METHODS, EQUIPMENT AND MATERIALS THAT WILL BE USED TO CONTROL EXCESSIVE GROUT INJECTION VOLUMES WHEN OPEN JOINTS, SEAMS OR LOOSE MATERIAL IS ENCOUNTERED, INCLUDING DETAILS OF GROUT SOCKS IF USED.
10. MANUFACTURER CERTIFICATION AND STATEMENT OF MANUFACTURER'S COMPLIANCE FOR GALVANIZATION AND STAINING ALONG WITH PROCEDURES AND MATERIAL FOR REPAIRING GALVANIZED AND STAINED METAL PRODUCTS IN THE FIELD.
11. DETAILS FOR PLACING, STRESSING AND TESTING ROCK DOWELS.
12. SPECIAL INSTALLATION METHODS SUCH AS UPWARDLY INCLINED REINFORCEMENTS, GROUTING ACROSS OPEN JOINTS, OR DEBRIS-FILLED DISCONTINUITIES USED TO ENSURE A FULLY-GROUTED, WELL-PROTECTED INSTALLATION, WHEN APPLICABLE.
13. PROVIDE THE IDENTIFICATION NUMBER, AND CALIBRATION TEST CERTIFICATION FOR EACH JACK, PRESSURE GAUGE, AND ELECTRONIC LOAD CELL USED TO TEST ROCK DOWELS. CLEARLY INDICATE THE SERIAL NUMBER OF EACH COMPONENT OF THE TESTING ASSEMBLY ON CALIBRATION GRAPHS. INCLUDE CALIBRATION DATA PERFORMED BY AN INDEPENDENT TESTING LABORATORY WITHIN 90 CALENDAR DAYS OF THE SUBMITTAL DATE FOR EACH LOAD CELL, TEST JACK PRESSURE GAUGE, AND MASTER PRESSURE GAUGE TO BE USED. RECALIBRATE EACH LOAD CELL, TEST JACK PRESSURE GAUGE, AND MASTER PRESSURE GAUGE EVERY 90 CALENDAR DAYS FROM THE ORIGINALLY SUBMITTED CALIBRATION DATE. PROVIDE ALL CALIBRATION TESTING THAT IS TRACEABLE TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST).
14. PROVIDE THE IDENTIFICATION NUMBER, AND CALIBRATION TEST CERTIFICATION FOR EACH TORQUE WRENCH USED TO LOCK-OFF ROCK DOWELS. CLEARLY INDICATE THE SERIAL NUMBER OF EACH COMPONENT OF THE TESTING ASSEMBLY ON CALIBRATION GRAPHS. INCLUDE CALIBRATION DATA PERFORMED BY AN INDEPENDENT TESTING LABORATORY WITHIN 90 CALENDAR DAYS OF THE SUBMITTAL DATE FOR EACH TORQUE WRENCH TO BE USED. RECALIBRATE EACH TORQUE WRENCH EVERY 90 CALENDAR DAYS FROM THE ORIGINALLY SUBMITTED CALIBRATION DATE. PROVIDE ALL CALIBRATION TESTING THAT IS TRACEABLE TO THE NIST.

CONSTRUCTION

GENERAL

OBTAIN THE ENGINEER'S WRITTEN APPROVAL OF THE ROCK DOWEL WORK PLAN PRIOR TO COMMENCING THIS WORK. BEFORE INSTALLING ROCK DOWELS, COMPLETE ALL WORK REQUIRED FOR TEMPORARY ROCKFALL AND ROADSIDE PROTECTION, SCALING AND TRIMMING (SP203E) AND OTHER ON-SLOPE ROCKFALL RISK REDUCTION WORK AS APPLICABLE.

INSTALL AND TEST THE ROCK DOWELS IN ACCORDANCE WITH THE NOTES, THE DETAILED PHOTOGRAPHS, AND ROCK DOWEL SCHEDULE SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

WORK SITE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. PERFORM ALL WORK IN A MANNER TO MINIMIZE EXPOSURE TO THE PUBLIC, CONSTRUCTION PERSONNEL, AND EQUIPMENT TO HAZARDOUS, AND POTENTIALLY HAZARDOUS CONDITIONS. TEMPORARY SUPPORT OF ROCK BLOCKS, SPECIAL DESIGNS, OR INSTALLATION PROCEDURES THAT THE CONTRACTOR DEEMS NECESSARY TO SAFELY INSTALL ROCK DOWELS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL BE IMPLEMENTED AT THE DISCRETION OF THE CONTRACTOR.

MATERIAL HANDLING AND STORAGE

HANDLE AND STORE THE ROCK DOWELS IN SUCH A MANNER AS TO AVOID DAMAGE AND CORROSION OF THE COATING AND THE STEEL. PROTECT THE ROCK DOWELS FROM DIRT, NICKS, ABRASIONS, WELD SPLATTER, RUST, AND CORROSIVE SUBSTANCES. DAMAGED ROCK DOWELS WILL BE REJECTED, AND REPLACEMENT WILL BE AT NO ADDITIONAL COST TO THE DEPARTMENT.

INSTALLATION SEQUENCES

1. INSTALL EACH ROCK DOWEL WITHIN 24 HOURS OF COMPLETING THE DRILL HOLE. CHECK THE DEPTH OF THE DRILL HOLE PRIOR TO INSERTING THE BAR. CLEAR THE HOLE OF DEBRIS IF TOTAL DEPTH IS NO LONGER ACCESSIBLE.
2. COMPLETE FIRST STAGE GROUTING WITHIN ONE WEEK OF ROCK DOWEL INSTALLATION.
3. CHECK GROUT LEVELS WITHIN 72 HOURS OF FIRST STAGE GROUTING.
4. TOP-OFF GROUT LEVELS AS NECESSARY TO PROVIDE FULL ENCAPSULATION OF THE BAR, TO THE SATISFACTION OF THE ENGINEER. TOP-OFF GROUTING MAY NEED TO BE CONDUCTED MULTIPLE TIMES TO FULLY ENCAPSULATE. CHECK GROUT LEVELS IN EACH ROCK DOWEL WITHIN ONE WEEK OF COMPLETING GROUTING.
5. LOCK-OFF EACH ROCK DOWEL WITHIN ONE WEEK OF COMPLETING FIRST STAGE GROUTING.

DRILLING AND INSTALLATION

1. FURNISH EQUIPMENT CAPABLE OF DRILLING A MINIMUM 3-INCH DIAMETER HOLE UP TO 10 FEET BEYOND THE DESIGN LENGTH SHOWN IN THE PLANS FOR INSTALLATION OF ROCK DOWELS. INSTALL ROCK DOWELS WITH THE CAPACITIES AND LENGTHS AS SHOWN IN THE PLANS.
2. DRILL AND INSTALL ROCK DOWELS AT THE LOCATIONS, ORIENTATIONS, AND TO THE MINIMUM LENGTHS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. TOTAL DOWELS LENGTHS MAY VARY BASED ON ENCOUNTERED SUBSURFACE CONDITIONS AND MAY BE ADJUSTED BY THE ENGINEER.
3. DRILL THE ROCK DOWELS PERPENDICULAR TO THE ROCK FACE OR INCLINED SLIGHTLY DOWNWARD (0 TO 5 DEGREES) FROM THE AXIS OF THE DOWEL AND THE ROCK FACE, IF NOT OTHERWISE SPECIFIED IN THE PLANS.
4. OVER DRILL THE LENGTH OF EACH HOLE NOMINALLY 10 INCHES. FLUSH THE DRILL HOLES OF ALL DRILL CUTTINGS AND DEBRIS WITH COMPRESSED AIR PRIOR TO THE INSTALLATION OF THE ROCK DOWEL. RE-DRILL HOLES IN WHICH DOWEL INSTALLATION IS NOT POSSIBLE AT NO ADDITIONAL COST TO THE DEPARTMENT.
5. PLACE A MINIMUM OF TWO (2) CENTRALIZERS ON EACH DOWEL. THE LOWER CENTRALIZER SHOULD BE LOCATED WITHIN TWO (2) FEET OF THE END OF THE BAR. THE OUTER CENTRALIZER SHOULD BE LOCATED WITHIN THREE (3) FEET OF THE ROCK FACE.
6. INSTALL THE ROCK DOWEL AND BEARING PLATE SO THE AXIS OF THE BAR IS WITHIN 5 DEGREES OF BEING PERPENDICULAR TO THE BEARING PLATE SO THAT THE ROCK DOWEL OR ROCK DOWEL IS NOT BENT WHEN TESTED AND TENSIONED.
7. MAINTAIN AT LEAST THREE-QUARTERS CONTACT OF THE BEARING PLATE WITH THE ROCK FACE. CHIP OUT SURROUNDING ROCK AS NECESSARY TO PROVIDE THIS CONTACT AND ENSURE THAT THE AXIS OF THE BAR IS WITHIN 5 DEGREES OF BEING PERPENDICULAR TO THE BEARING PLATE. A BEARING PAD CAN BE USED TO ACHIEVE THE REQUIRED CONTACT AND ANGLE BETWEEN THE INSTALLED ROCK DOWEL AND THE BEARING PLATE, OR IF THE ROCK BENEATH THE BEARING PLATE IS NOT SOUND. ALLOW SUFFICIENT CURE TIME FOR BEARING PADS CONSTRUCTED FROM CEMENT.
8. TREAT ALL EXPOSED PARTS OF THE ROCK DOWEL, BEARING PLATE AND NUT THAT HAVE DAMAGED GALVANIZATION WITH AN APPROVED CORROSION-PROTECTION PAINT.

(DOWELING NOTES CONTINUED ON NEXT SHEET)

SEALED BY

ROBERT J. OWERS
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 103266
STATE OF TENNESSEE
2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL DOWELING NOTES & DETAILS

DOWELING NOTES AND DETAILS (CONT. FROM PREVIOUS SHEET):

GROUTING

1. PROVIDE GROUT WITH A MINIMUM STRENGTH OF 3,000 PSI AFTER 3 DAYS.
2. CONDUCT FIRST STAGE GROUTING FOR ROCK DOWELS.
3. GROUT LOSS MAY OCCUR AND SHOULD BE ACCOUNTED FOR IN THE GROUTING OPERATIONS. USE GROUT SOCKS IF RECOMMENDED OR IF EXCESSIVE GROUT TAKES OCCUR. EXCESSIVE GROUT LOSS IS DEFINED AS GREATER THAN 30 PERCENT OF THE THEORETICAL GROUT VOLUME. SELECT GROUT SOCKS FOR THE APPROPRIATE DRILL HOLE DIAMETER AS RECOMMENDED BY THE SOCK MANUFACTURER. HIGH GROUNDWATER MAY BE ENCOUNTERED AND SHOULD BE ADDRESSED IN THE GROUTING OPERATIONS AS WELL.
4. USE MIXING AND PUMPING EQUIPMENT THAT PRODUCES A UNIFORMLY BLENDED GROUT FREE OF LUMPS AND UNDISPERSED CEMENT. SIZE THE GROUTING EQUIPMENT APPROPRIATELY TO ENABLE THE GROUT TO BE PUMPED IN ONE CONTINUOUS OPERATION WITHOUT SEGREGATION. INJECT THE GROUT FROM THE LOWEST POINT (DISTAL END OR BOTTOM) OF THE DRILL HOLE.
5. RECORD THE QUANTITY OF THE GROUT PLACED FOR EACH ROCK DOWEL. THE AMOUNT OF GROUT REQUIRED WILL BE MORE THAN THE NEAT VOLUME REPRESENTED BY THE ANNULUS SPACE BETWEEN THE DRILL HOLE AND THE ROCK DOWEL TIMES THE LENGTH OF THE DRILL HOLE. ALLOW A MINIMUM OF 3 DAYS FOR THE GROUT TO CURE BEFORE TENSIONING OR APPLYING ANY LOAD.
6. PERFORM A GROUT CUBE SAMPLING PROGRAM FOR THE FIRST GROUT BATCH AT EACH PROJECT SITE WHERE ROCK DOWELS ARE BEING INSTALLED. COMPLETE THE FOLLOWING STEPS:
   a. MIX A SUFFICIENT VOLUME OF GROUT TO FILL THE HOPPER AND GROUT HOSES.
   b. OBTAIN ALL SAMPLES FROM THE END OF A LENGTH OF GROUT HOSE THAT WOULD BE REQUIRED FOR INSTALLING A ROCK DOWEL. DO NOT SAMPLE FROM THE HOPPER OR GROUT PLANT.
   c. FORM SIX (6) GROUT CUBES IN 2-INCH BRASS MOLDS AND CURE IN ACCORDANCE WITH ASTM C109.
   d. DETERMINE THE COMPRESSIVE STRENGTH OF THE GROUT BY BREAKING TWO CUBES FROM THE SET AT 3 DAYS.
   e. SUBMIT THE RESULTS OF THE COMPRESSIVE STRENGTH TEST RESULTS TO THE ENGINEER AS THEY ARE COMPLETED.
7. GROUT USED DURING THE SAMPLING AND TESTING PROGRAM MAY BE USED ON PRODUCTION ROCK DOWELS.
   a. TEST GROUT THAT DOES NOT MEET SPECIFIED GROUT STRENGTH MAY BE GROUNDS FOR REJECTION OF THE ROCK DOWEL AND REPLACEMENT AT NO COST TO THE DEPARTMENT. LOAD TESTING RESULTS WOULD BE REVIEWED PRIOR TO REJECTION.
   b. IF GROUT STRENGTHS DO NOT MEET THE STRENGTH CRITERIA, ADDITIONAL SAMPLING AND TESTING MAY BE REQUIRED AT NO COST TO THE DEPARTMENT.
8. AFTER ACCEPTANCE OF LOCK-OFF TESTING, ENCAPSULATE THE REMAINING LENGTH OF THE ROCK DOWEL IN THE SAME HIGH STRENGTH CEMENT GROUT.
9. CHECK THE GROUT LEVEL THROUGH THE KEYHOLE WITHIN 72 HOURS AND TOP OFF WITH ADDITIONAL GROUT USING A TREMIE TUBE TO FILL THE ANNULAR SPACE. ANY TIME ADDITIONAL GROUTING IS NEEDED, RECHECK THE LEVEL THE FOLLOWING DAY AND REPEAT AS NECESSARY UNTIL THE PROPER GROUT LEVEL IS ACHIEVED.

LIFT-OFF TESTING

PERFORM LIFT-OFF TESTING ON FIVE (5) ROCK DOWELS BEFORE DRILLING PRODUCTION DOWELS TO DEMONSTRATE DRILLING AND INSTALLATION METHODS ARE ADEQUATE TO ACHIEVE 133% OF THE DESIGN LOAD. THESE DOWELS CAN BE INSTALLED AT PRODUCTION LOCATIONS SHOWN ON THE PLANS. PERFORM LIFT-OFF TESTING BY TENSIONING TO THE TEST LOAD OF 53-KIPS AND HOLDING THAT LOAD FOR AT LEAST 10 MINUTES. IF NO LOSS OF LOAD OCCURS IN THIS TIME PERIOD, THE ROCK DOWEL CAN BE ACCEPTED. IF A ROCK DOWEL FAILS THE LOAD TEST, REPLACE THE ROCK DOWEL WITH AN ADDITIONAL DOWEL INSTALLED IN A SEPARATE HOLE AT A LOCATION IDENTIFIED BY THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT. COMPLETE ACCEPTED LIFT-OFF TESTING PRIOR TO CONDUCTING LOCK-OFF TESTING.

LOCK-OFF TESTING

CONDUCT LOCK-OFF TESTING ON ALL ROCK DOWELS. LOCK-OFF TEST ONLY FULLY GROUTED DOWELS. GRADUALLY TIGHTEN THE INSTALLATIONS TO THE LOCK-OFF TORQUE LOAD OF 300 FT-LBS. TORQUE DOWELS UNTIL TWO REPEATABLE “CLICKS” OR INDICATIONS OF REACHING THE DESIRED TORQUE ARE ACHIEVED. IF THE DOWEL SPINS OR BEGINS TO PULL OUT DUE TO ANCHORAGE MOVEMENT, REPLACE THE DOWEL AT NO ADDITIONAL COST TO THE DEPARTMENT.

COMPLETION

AFTER ACHIEVING SUCCESSFUL LOCK-OFF TESTING, TRIM THE END OF THE COMPLETED ROCK DOWEL TO WITHIN 6 INCHES OF THE ROCK FACE.

ROCK DOWEL LOGS

MAINTAIN DAILY RECORDS SUFFICIENT TO PROVIDE ROCK DOWEL LOGS WITH THE FOLLOWING INFORMATION. SUBMIT UPDATED LOGS TO THE ENGINEER WEEKLY.

1. LOCATIONS OF EACH ROCK DOWEL WITH INDIVIDUAL DESIGNATIONS, SIZE OF BAR, BAR INCLINATION, AND INSTALLATION COMMENTS. INCLUDE AN ANNOTATED PHOTOGRAPH ILLUSTRATING EACH ROCK DOWEL LOCATION WITH ASSOCIATED DESIGNATIONS.
2. GENERAL DRILLING LOG WITH BEGINNING AND ENDING DATES OF DRILLING, DRILL HOLE DIAMETER, NOTE OF DRILLING CONDITIONS/ACTION, MATERIALS ENCOUNTERED, THE LOCATION OF ANY SIGNIFICANT DRILLING CHANGES (E.G. GEOLOGIC CONTACTS, VOIDS, SEAMS, OPEN FRACTURES, GROUNDWATER CONDITIONS, ETC.).
3. GROUTING INFORMATION INCLUDING GROUT MIX, GROUT VOLUME PLACED, AVERAGE GROUT PRESSURE, AND MITIGATIVE MEASURES IMPLEMENTED TO ASSIST WITH GROUTING.
4. TOTAL ANCHOR LENGTH WITH BONDED, UNBONDED, ANCHORAGE BOND LENGTHS.
5. TESTING DATA INCLUDING DATE OF STRESSING OPERATION, IDENTIFICATION NUMBERS OF JACKING EQUIPMENT, PERSONNEL CONDUCTING THE TESTING, AND TESTING RESULTS.

ACCEPTANCE

THE CONTRACTOR SHALL PERFORM MATERIALS TESTING AND PROOF TESTING FOR ACCEPTANCE OF THE WORK UNDER THIS SECTION. SEE TABLE 1 BELOW FOR SAMPLING AND TESTING REQUIREMENTS.

TABLE 1 - CONTRACTOR TESTING AND SAMPLING REQUIRED FOR PAYMENT

MATERIAL OR PRODUCT (SUBSECTION)	TYPE OF ACCEPTANCE (SUBSECTION)	CHARAC-TERISTIC	TEST METHODS SPECIFICATIONS	SAMPLING FREQUENCY	POINT OF SAMPLING	SPLIT SAMPLE	REPORTING TIME
GROUT	MEASURED AND TESTED FOR CONFORMANCE	COMPRESSIVE STRENGTH (3-DAY)	AASHTO T 106 OR ASTM C109	1 SET FROM 2 SEPARATE BATCHES OF GROUT	NOZZLE OF GROUTING HOSE	YES, WHEN REQUESTED	WITHIN 24 HOURS AFTER COMPLETION OF STRENGTH TEST
LOCK-OFF TESTING	MEASURED AND TESTED FOR CONFORMANCE	CAPACITY	SUBSECTION "LOCK-OFF TESTING"	EACH DOWEL	INSTALLATION	NO	WITHIN 24 HOURS AFTER ACCEPTANCE OF LOCK-OFF TEST

(DOWELING NOTES CONTINUED AT TOP OF RIGHTHAND COLUMN)

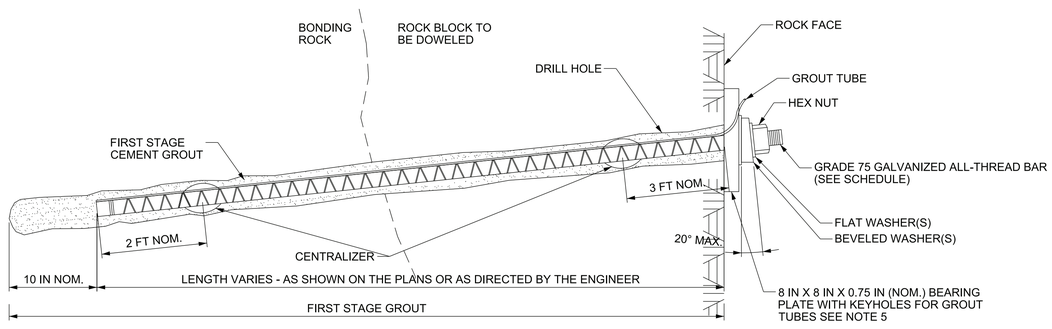
DOWELING NOTES AND DETAILS (CONTINUED):

MEASUREMENT AND PAYMENT

THE QUANTITY OF ROCK DOWELS TO BE PAID FOR WILL BE BY THE LINEAR FOOT FROM THE FACE OF THE ROCK TO THE DISTAL END OF THE STEEL BAR. INSTALLATIONS THAT DO NOT CONFORM TO TESTING REQUIREMENTS OR THAT ARE MISSING TEST REPORTS WILL NOT BE MEASURED.

BASIS OF PAYMENT

PAYMENT AT THE CONTRACT UNIT PRICE PER LINEAR FOOT UNDER ITEM 203-40.17 ROCK DOWEL IS FULL COMPENSATION FOR ALL RESOURCES NECESSARY TO COMPLETE THIS WORK. THIS INCLUDES ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED FOR ACCESSING, DRILLING, INSTALLING, GROUTING, TESTING, AND COMPLETING ROCK DOWELS AS DESCRIBED, AND AT THE LOCATIONS SHOWN, OR AS DETERMINED BY THE ENGINEER. NO SEPARATE MEASUREMENT WILL BE MADE FOR THE FOLLOWING: 1) METHODS USED TO CONTROL GROUT TAKES OR FOR EXTRA GROUT REQUIRED TO PROVIDE COMPLETE DOWEL ENCAPSULATION REGARDLESS OF THE METHODS USED TO ADDRESS OPEN JOINTS OR OTHER UNFAVORABLE GROUND CONDITIONS, IF ENCOUNTERED; 2) OVER-DRILLING HOLES; 3) ACCESSING AND PREPARING THE ROCK DOWELING SITES; 4) COLLECTING AND TESTING GROUT CUBE SAMPLES AND TEST REPORTS; 5) ROCK DOWELS THAT DO NOT MEET THE REQUIREMENTS OF THE LIFT-OFF OR LOCK-OFF TESTING; 6) SACRIFICIAL BITS; 7) BEARING PAD CONSTRUCTION AND/OR CHIPPING OF THE ROCK FACE; 8) REPAIR OF GALVANIZATION OF EXPOSED STEEL PRODUCTS; 9) TEMPORARY SUPPORT OF ROCK BLOCKS, SPECIAL DESIGNS, SCALING, OR INSTALLATION PROCEDURES THAT THE CONTRACTOR DEEMS NECESSARY TO SAFELY INSTALL ROCK DOWELS; 10) LIFT-OFF, AND LOCK-OFF TESTING; AND 11) RECORDKEEPING AND REPORTING. SCALING WILL BE PAID FOR SEPARATELY.



ROCK DOWEL DETAIL

(NOT TO SCALE)

GENERAL NOTES

1. PROVIDE MATERIAL AND WORKMANSHIP IN ACCORDANCE WITH THE PLANS NOTES.
2. INSTALL ROCK DOWELS AT THE LOCATIONS, ORIENTATIONS, AND LENGTHS AS DETERMINED BY THE ENGINEER IN THE FIELD. APPROXIMATE LOCATIONS AND LENGTHS SHOWN ON THE DETAILED PHOTOGRAPHS IN THE PLANS.
3. ORIENT KEYHOLES ON BEARING PLATE UPWARD FOR MAXIMUM GROUT RETENTION.
4. GROUT LOSS AND HIGH GROUNDWATER SHOULD BE ANTICIPATED AND ACCOUNTED FOR IN THE GROUTING OPERATIONS. USE OF GROUT SOCKS IF GROUT LOSS OCCURS IS RECOMENDED. SELECT GROUT SOCKS FOR THE APPROPRIATE DRILL HOLE DIAMETER AS RECOMMENDED BY THE SOCK MANUFACTURER.
5. PERFORM LIFT-OFF TESTING ON 5 ROCK DOWELS. PERFORM LIFT-OFF TESTING BY TENSIONING TO THE TEST LOAD OF 53-KIPS AND HOLDING THAT LOAD FOR AT LEAST 10 MINUTES. APPROVAL OF LIFT-OFF TESTING REQUIRED BEFORE CONDUCTING LOCK-OFF TESTING ON REMAINING ROCK DOWELS.
6. PERFORM LOCK-OFF TESTING ON ALL PRODUCTION DOWELS TO 300 FT-LBS TORQUE USING A CALIBRATED TORQUE WRENCH

BAR SCHEDULE	
DESIGN LOAD	MIN. BAR SIZE
40 - KIP	#8

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2026	STP/PROT-24(70)	G-47

SEALED BY

ROBERT JOWERS — REGISTERED — ENGINEER — STRUCTURE — TENNESSEE — STATE OF TENNESSEE — 2026-07-20

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL DOWELING NOTES & DETAILS

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TENN.	YEAR	SHEET NO.
	2026	U1-1
STATE PROJ. NO.	80002-3263-14	
FED. PROJ. NO.	STP/PROT-24(70)	

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

Index Of Sheets	
SHEET NAME	SHEET NUMBER
UTILITIES INDEX, UTILITIES OWNERS AND UTILITY SHEETS	U1-1

SMITH COUNTY

ROCKFALL MITIGATION

STATE HIGHWAY SR-24/ F.A.H.S. US-70N

THERE ARE NO UTILITIES IN CONFLICT WITH THIS PROJECT

STANDARD LEGEND

EXISTING UTILITES

POWER
TELEPHONE
WATER
CABLE TV
SANITARY SEWER
UNDERGROUND TELEPHONE
GAS
FORCE MAIN SEWER
UNDERGROUND POWER
UNDERGROUND FIBER OPTIC

POWER POLE
TELEPHONE POLE
POWER/TELEPHONE POLE
MANHOLE
WATER METER W.M.
WATER VALVE W.V.
LIGHT POLE

PROPOSED UTILITIES & MODIFICATIONS

POWER
UNDERGROUND POWER
TELEPHONE
WATER
CABLE TV
SANITARY SEWER
UNDERGROUND TELEPHONE
GAS
FORCE MAIN SEWER
UNDERGROUND FIBER OPTIC
EX. WATER LINE (RETIRED IN PLACE) — 6" W RIP
EX.GAS LINE (RETIRED IN PLACE) — 8" G RIP
EX.SEWER LINE (RETIRED IN PLACE) — 8" FMS RIP
EX.TELEPHONE LINE (RETIRED IN PLACE) — T(UG) RIP

POWER POLE P
TELEPHONE POLE T
WATER METER W.M.
R REMOVE
RIP RETIRE IN PLACE

UTILITY OWNERS AND CONTACTS:

FIBER:	DTC COMMUNICATIONS 111 HIGH STREET, PO BOX 247 ALEXANDRIA, TN 37012 KENT GREENWELL KGREENWELL@STAFF-DTC.COM C: 615-684-2202	FIBER:	AT&T 116 SOUTH CANNON AVENUE MURFREESBORO, TN 37129 KENNETH LEE KORNEGAY KK4096@ATT.COM C: 615-631-7221	SEWER:	TOWN OF GORDONSVILLE 63 E. MAIN STREET GORDONSVILLE, TN 38563 MICHAEL RAY MICHAEL@TOWNOFGORDONSVILLE.COM O: 615-683-8282
SEWER:	TOWN OF GORDONSVILLE (SEWER) 63 E. MAIN STREET GORDONSVILLE, TN 38563 DREW GENTRY WWTP@TOWNOFGORDONSVILLE.COM C: 615-489-7997	WATER:	SMITH UTILITY DISTRICT PO BOX 28 CARTHAGE, TN 37030 TERESA LANKFORD SMITHUD@DTCCOM.NET O: 615-735-2793	SEWER:	TOWN OF SOUTH CARTHAGE (SEWER) 106 S. MAIN STREET CARTHAGE, TN 37030 RANDY THOMPSON SCCITYHALL@DTCCOM.NET C: 615-489-3772
ELECTRIC:	UPPER CUMBERLAND ELEC. MEMBERSHIP CORPS. 138 GORDONSVILLE HIGHWAY CARTHAGE, TN 37030 RICHARD MCCLANAHAN RMCCLANAHAN@UCEMC.COM O: 615-735-2940				

SPECIAL NOTES

SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-800-351-1111

NOTE TO CONTRACTORS	UNDERGROUND UTILITIES NOTE	NOTE TO CONTRACTORS
CONTRACTOR TO FOLLOW ALL ADA RULES PERTAINING TO SIDEWALKS	ALL UNDERGROUND UTILITIES MUST BE DIRECTIONAL BORED UNDER ALL STREAMS IDENTIFIED IN THE PLANS	DIRECTIONAL BORING MUST BE PLACED A MINIMUM OF 50' AWAY FROM STREAM BANKS

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$