

SEE SHEET 3 FOR PLAN SHEET LAYOUT
AT TIME OF INVESTIGATION

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W03291	1	

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT 1919 T07-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO PERFORM INDEPENDENT SUBSURFACE INVESTIGATIONS AND MAKE INTERPRETATIONS AS NECESSARY TO CONFIRM CONDITIONS ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES:
- THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
 - BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

CG2 EXPLORATION

M. MALISHER, EI

P. PERRY, EI

R. WELCH

INVESTIGATED BY CG2, PLLC

DRAWN BY K. DE MONTBRUN, P.E.

CHECKED BY R. KRAL, P.E.

SUBMITTED BY CG2, PLLC

DATE NOVEMBER 2025

Prepared in the Office of:
CG2 CAROLINAS
GEOTECHNICAL
GROUP
1805 SARDIS ROAD NORTH
SUITE 100
CHARLOTTE, NC 28270
(980) 339-8684



Signed by: Kelly De Montbrun 1/9/2026
BAB66070E9D9474URE DATE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REFERENCE: W03291

PROJECT: N/A

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ROADWAY
SUBSURFACE INVESTIGATION

COUNTY POLK

PROJECT DESCRIPTION SR 1151 (GREEN RIVER COVE ROAD)

PART I: SWITCHBACK SECTION

INVENTORY

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

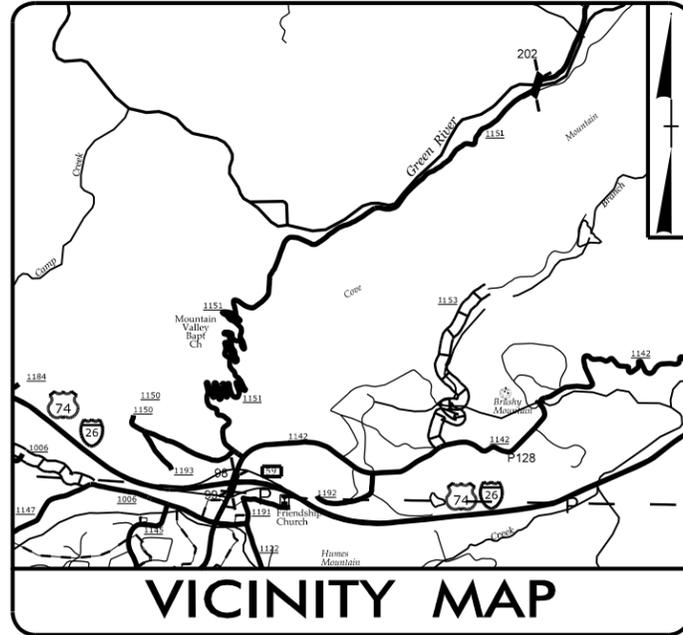
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION										GRADATION										ROCK DESCRIPTION										TERMS AND DEFINITIONS																																																																																																											
<p>SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i></p>																																																																																																																																									
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<p>COLOR</p> <p>DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-BROWN). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.</p>																																																																																																																																									
<p>GRADATION</p> <p>WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.</p> <p>ANGULARITY OF GRAINS</p> <p>THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.</p> <p>MINERALOGICAL COMPOSITION</p> <p>MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.</p> <p>COMPRESSIBILITY</p> <p>SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL > 50</p> <p>PERCENTAGE OF MATERIAL</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>ORGANIC MATERIAL</th> <th>GRANULAR SOILS</th> <th>SILT - CLAY SOILS</th> <th>OTHER MATERIAL</th> </tr> <tr> <td>TRACE OF ORGANIC MATTER</td> <td>2 - 3%</td> <td>3 - 5%</td> <td>TRACE</td> </tr> <tr> <td>LITTLE ORGANIC MATTER</td> <td>3 - 5%</td> <td>5 - 12%</td> <td>LITTLE 1 - 10%</td> </tr> <tr> <td>MODERATELY ORGANIC</td> <td>5 - 10%</td> <td>12 - 20%</td> <td>SOME 20 - 35%</td> </tr> <tr> <td>HIGHLY ORGANIC</td> <td>> 10%</td> <td>> 20%</td> <td>HIGHLY 35% AND ABOVE</td> </tr> </table> <p>GROUND WATER</p> <p>▽ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING ▼ STATIC WATER LEVEL AFTER 24 HOURS ▽PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA ○ SPRING OR SEEP</p> <p>MISCELLANEOUS SYMBOLS</p> <p>ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION SOIL SYMBOL ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT INFERRED SOIL BOUNDARY INFERRED ROCK LINE ALLUVIAL SOIL BOUNDARY</p> <p>DIP & DIP DIRECTION OF ROCK STRUCTURES SPT TEST BORING AUGER BORING CORE BORING MONITORING WELL PIEZOMETER INSTALLATION</p> <p>SLOPE INDICATOR INSTALLATION CONE PENETROMETER TEST SOUNDING ROD TEST BORING WITH CORE SPT N-VALUE</p>										ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL	TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE	LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE 1 - 10%	MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME 20 - 35%	HIGHLY ORGANIC	> 10%	> 20%	HIGHLY 35% AND ABOVE																																																																																																												
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<p>RECOMMENDATION SYMBOLS</p> <p>UNDERCUT SHALLOW UNDERCUT UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL</p> <p>ABBREVIATIONS</p> <p>AR - AUGER REFUSAL BT - BORING TERMINATED CL - CLAY CPT - CONE PENETRATION TEST CSE - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HI. - HIGHLY</p> <p>MED. - MEDIUM MICA - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC ORG. - ORGANIC PMT - PRESSUREMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY SL. - SILT, SILTY SLI. - SLIGHTLY TCR - TRICONE REFUSAL w - MOISTURE CONTENT V - VERY</p> <p>VST - VANE SHEAR TEST WEA. - WEATHERED UG - UNIT WEIGHT UG - DRY UNIT WEIGHT</p> <p>SAMPLE ABBREVIATIONS</p> <p>S - BULK SS - SPLIT SPOON ST - SHELBY TUBE RS - ROCK RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING RATIO</p>																																																																																																																																									
<p>EQUIPMENT USED ON SUBJECT PROJECT</p> <p>DRILL UNITS: <input type="checkbox"/> CME-45C <input type="checkbox"/> CME-55 <input type="checkbox"/> CME-550X <input type="checkbox"/> VANE SHEAR TEST <input type="checkbox"/> PORTABLE HOIST <input checked="" type="checkbox"/> DIEDRICH D-50 <input checked="" type="checkbox"/> MOBILE B-29</p> <p>ADVANCING TOOLS: <input type="checkbox"/> CLAY BITS <input type="checkbox"/> 6" CONTINUOUS FLIGHT AUGER <input checked="" type="checkbox"/> 8" HOLLOW AUGERS <input type="checkbox"/> HARD FACED FINGER BITS <input type="checkbox"/> TUNG-CARBIDE INSERTS <input checked="" type="checkbox"/> CASING <input type="checkbox"/> W/ ADVANCER <input type="checkbox"/> TRICONE * STEEL TEETH <input type="checkbox"/> TRICONE * TUNG-CARB. <input checked="" type="checkbox"/> CORE BIT</p> <p>HAMMER TYPE: <input checked="" type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL</p> <p>CORE SIZE: <input type="checkbox"/> -B <input type="checkbox"/> -H <input checked="" type="checkbox"/> -N Q</p> <p>HAND TOOLS: <input type="checkbox"/> POST HOLE DIGGER <input type="checkbox"/> HAND AUGER <input type="checkbox"/> SOUNDING ROD <input type="checkbox"/> VANE SHEAR TEST</p>																																																																																																																																									
<p>ROCK DESCRIPTION</p> <p>HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:</p> <p>WEATHERED ROCK (WR) CRYSTALLINE ROCK (CR) NON-CRYSTALLINE ROCK (NCR) COASTAL PLAIN SEDIMENTARY ROCK (CP)</p> <p>NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED. FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC. FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC. COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.</p> <p>WEATHERING</p> <p>FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE. VERY SLIGHT (V SLI.) ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN. CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE. SLIGHT (SLI.) ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS. MODERATE (MOD.) SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK. MODERATELY SEVERE (MOD. SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. IF TESTED, WOULD YIELD SPT REFUSAL. SEVERE (SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF. VERY SEVERE (V SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF. COMPLETE ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.</p> <p>ROCK HARDNESS</p> <p>VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK. HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY SOFT CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.</p> <p>FRACTURE SPACING</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>TERM</th> <th>SPACING</th> </tr> <tr> <td>VERY WIDE</td> <td>MORE THAN 10 FEET</td> </tr> <tr> <td>WIDE</td> <td>3 TO 10 FEET</td> </tr> <tr> <td>MODERATELY CLOSE</td> <td>1 TO 3 FEET</td> </tr> <tr> <td>CLOSE</td> <td>0.16 TO 1 FOOT</td> </tr> <tr> <td>VERY CLOSE</td> <td>LESS THAN 0.16 FEET</td> </tr> </table> <p>BEDDING</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>TERM</th> <th>THICKNESS</th> </tr> <tr> <td>VERY THICKLY BEDDED</td> <td>4 FEET</td> </tr> <tr> <td>THICKLY BEDDED</td> <td>1.5 - 4 FEET</td> </tr> <tr> <td>THINLY BEDDED</td> <td>0.16 - 1.5 FEET</td> </tr> <tr> <td>VERY THINLY BEDDED</td> <td>0.03 - 0.16 FEET</td> </tr> <tr> <td>THICKLY LAMINATED</td> <td>0.008 - 0.03 FEET</td> </tr> <tr> <td>THINLY LAMINATED</td> <td>< 0.008 FEET</td> </tr> </table> <p>INDURATION</p> <p>FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.</p> <p>FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE. MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER. INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER. EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.</p>										TERM	SPACING	VERY WIDE	MORE THAN 10 FEET	WIDE	3 TO 10 FEET	MODERATELY CLOSE	1 TO 3 FEET	CLOSE	0.16 TO 1 FOOT	VERY CLOSE	LESS THAN 0.16 FEET	TERM	THICKNESS	VERY THICKLY BEDDED	4 FEET	THICKLY BEDDED	1.5 - 4 FEET	THINLY BEDDED	0.16 - 1.5 FEET	VERY THINLY BEDDED	0.03 - 0.16 FEET	THICKLY LAMINATED	0.008 - 0.03 FEET	THINLY LAMINATED	< 0.008 FEET																																																																																																						
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<p>TERMS AND DEFINITIONS</p> <p>ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOADED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.</p> <p>BENCH MARK:</p> <p style="text-align: right;">ELEVATION: FEET</p> <p>NOTES:</p> <p>ROADWAY DESIGN FILES PROVIDED BY TGS DATED OCTOBER 2025. BORING COLLAR ELEVATIONS OBTAINED USING CARSON BRx7 GPS. FIAD = FILLED IMMEDIATELY AFTER DRILLING REF = REFUSAL CT = CORING TERMINATED</p>																																																																																																																																									

03-NOV-2025 16:26 C:\user\skelly\montbrun\Carollinas Geotechnical Group, PLLC\Matt Brewer - Projects\0276 - Green River Cove Road Emergency Repairs_TGS\CADD_GEO\TECH\Site&Sub\GreenRiverCoveRd\09/08/25

CONTRACT: PROJECT: GREEN RIVER COVE SWB

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols

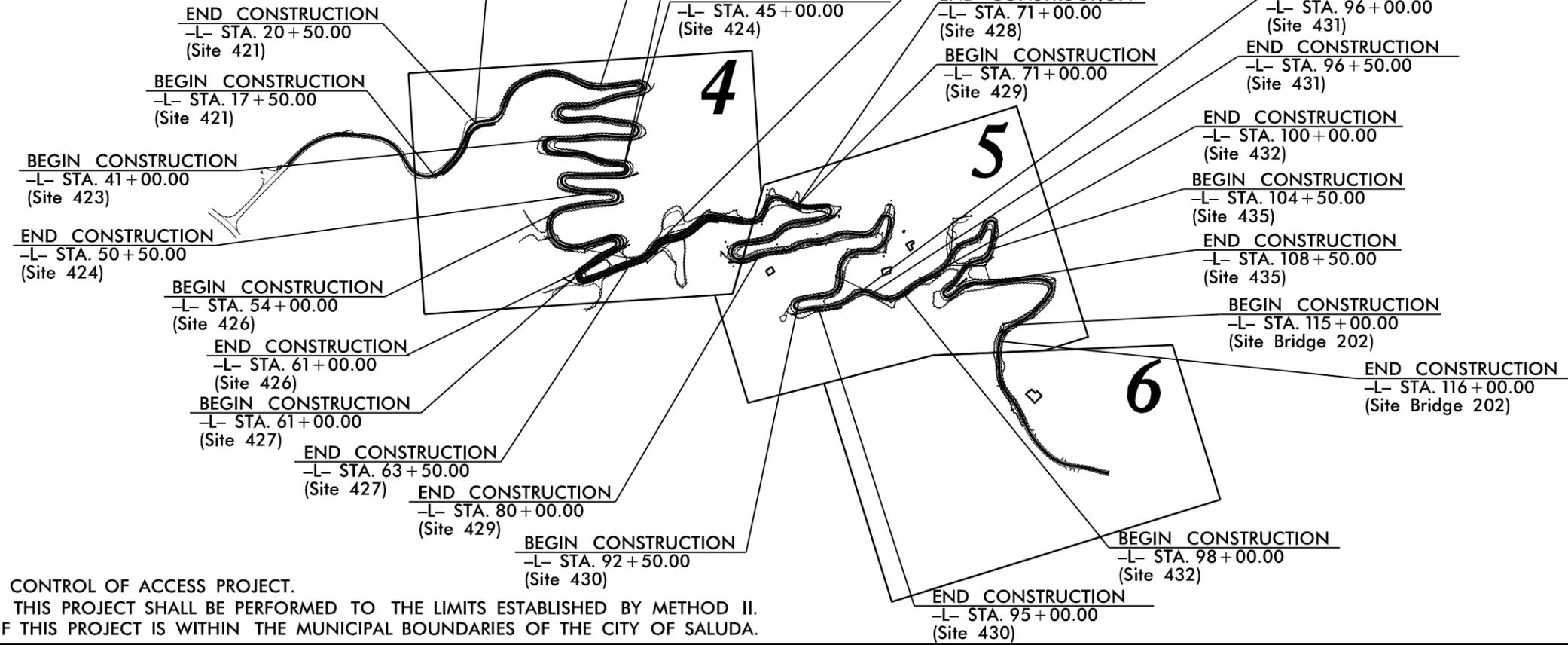


STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS **POLK COUNTY**

LOCATION: GREEN RIVER COVE RD

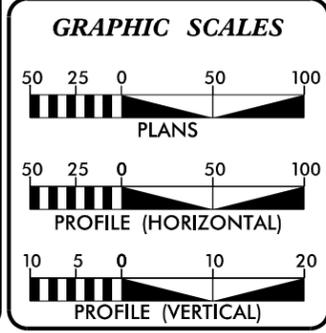
**TYPE OF WORK: GRADING, DRAINAGE,
PAVING, RETAINING WALLS,
& STRUCTURE REPAIR**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.		1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
		PE	
		RW	
		UTIL.	
		CONST.	



THIS IS A NO CONTROL OF ACCESS PROJECT.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF SALUDA.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2025 = 310
ADT 2050 = 400
V = 40 MPH
FUNC CLASS = LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY SITE 421 = 0.057 MILES
LENGTH ROADWAY SITE 422 = 0.123 MILES
LENGTH ROADWAY SITE 423 = 0.076 MILES
LENGTH ROADWAY SITE 424 = 0.104 MILES
LENGTH ROADWAY SITE 426 = 0.133 MILES
LENGTH ROADWAY SITE 427 = 0.047 MILES
LENGTH ROADWAY SITE 428 = 0.133 MILES
LENGTH ROADWAY SITE 429 = 0.170 MILES
LENGTH ROADWAY SITE 430 = 0.047 MILES
LENGTH ROADWAY SITE 431 = 0.010 MILES
LENGTH ROADWAY SITE 432 = 0.038 MILES
LENGTH ROADWAY SITE 435 = 0.085 MILES
LENGTH ROADWAY SITE BRIDGE 202 = 0.019 MILES
TOTAL LENGTH OF ROADWAY PROJECT = 1.042 MILES

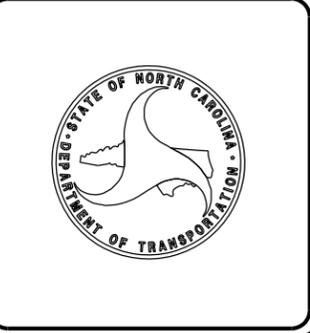
NCDOT CONTACT: XXX	
PLANS PREPARED BY: TGS ENGINEERS 201 W. MARION ST. STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275	PLANS PREPARED FOR: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 14 252 Webster Rd Sylva, NC 28779
RIGHT OF WAY DATE: XXXX XX, XXXX	JIMMY L. TERRY, PE PROJECT ENGINEER
LETTING DATE: XXXXX XX, XXXX	KATELYN S. ALMOND PROJECT DESIGN ENGINEER
2024 STANDARD SPECIFICATIONS	

HYDRAULICS ENGINEER

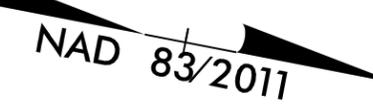
SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

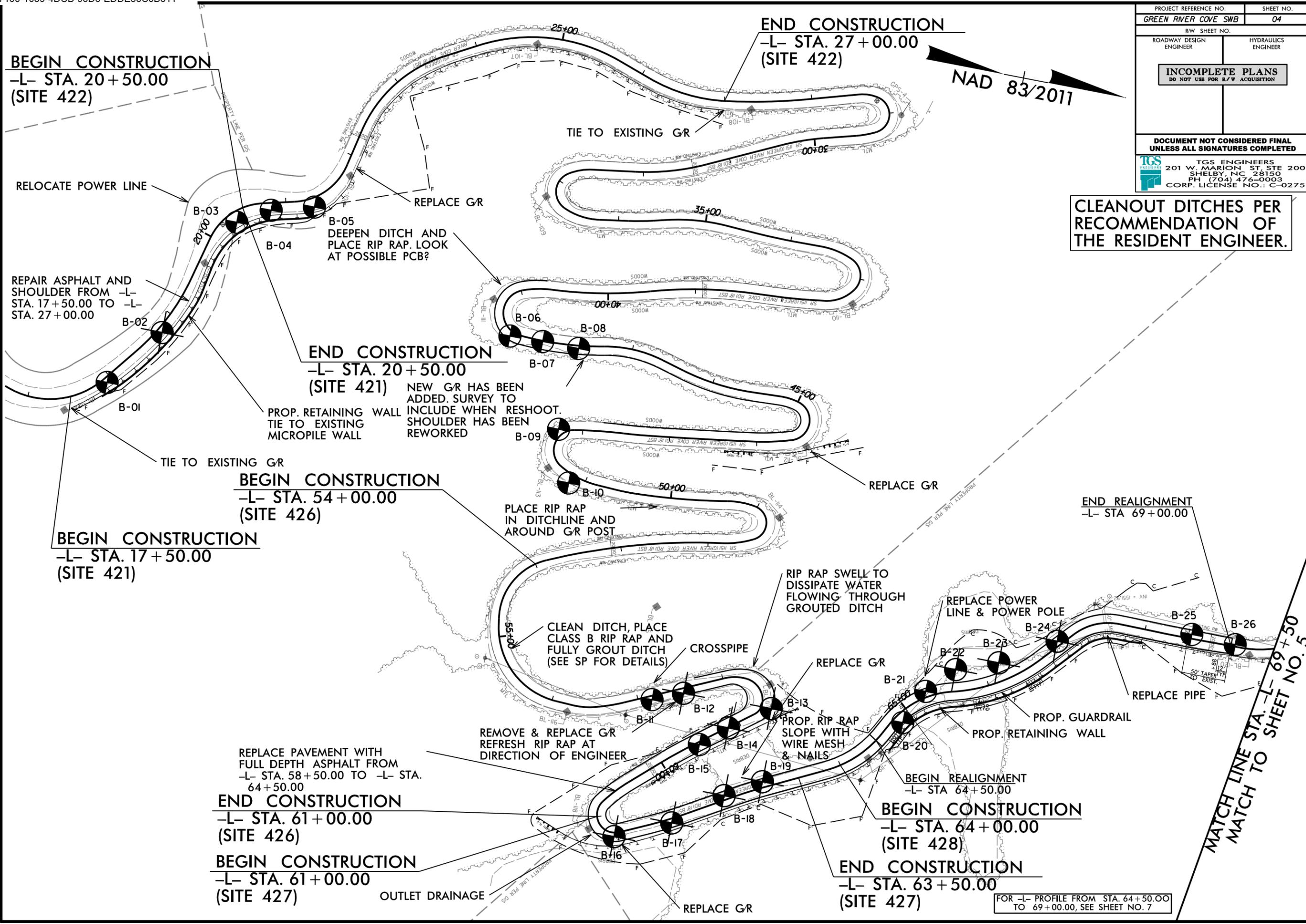


PROJECT REFERENCE NO. GREEN RIVER COVE SWB	SHEET NO. 04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST. STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



CLEANOUT DITCHES PER RECOMMENDATION OF THE RESIDENT ENGINEER.

REVISIONS
 03-NOV-2025 16:49
 C:\Users\KellieMontbrun\Carolinan Geotechnical Group\Projects\0276 - Green River Cove Road Emergency Repairs_TGS\CADD_GEO\TECH\Site&Sub\GreenRiverCoveRdSWB_Rdy_pst_04.dgn
 8/17/99



BEGIN CONSTRUCTION
-L- STA. 20+50.00
(SITE 422)

END CONSTRUCTION
-L- STA. 27+00.00
(SITE 422)

RELOCATE POWER LINE

REPAIR ASPHALT AND SHOULDER FROM -L- STA. 17+50.00 TO -L- STA. 27+00.00

END CONSTRUCTION
-L- STA. 20+50.00
(SITE 421)

BEGIN CONSTRUCTION
-L- STA. 17+50.00
(SITE 421)

BEGIN CONSTRUCTION
-L- STA. 54+00.00
(SITE 426)

END CONSTRUCTION
-L- STA. 61+00.00
(SITE 426)

BEGIN CONSTRUCTION
-L- STA. 61+00.00
(SITE 427)

BEGIN CONSTRUCTION
-L- STA. 64+00.00
(SITE 428)

END CONSTRUCTION
-L- STA. 63+50.00
(SITE 427)

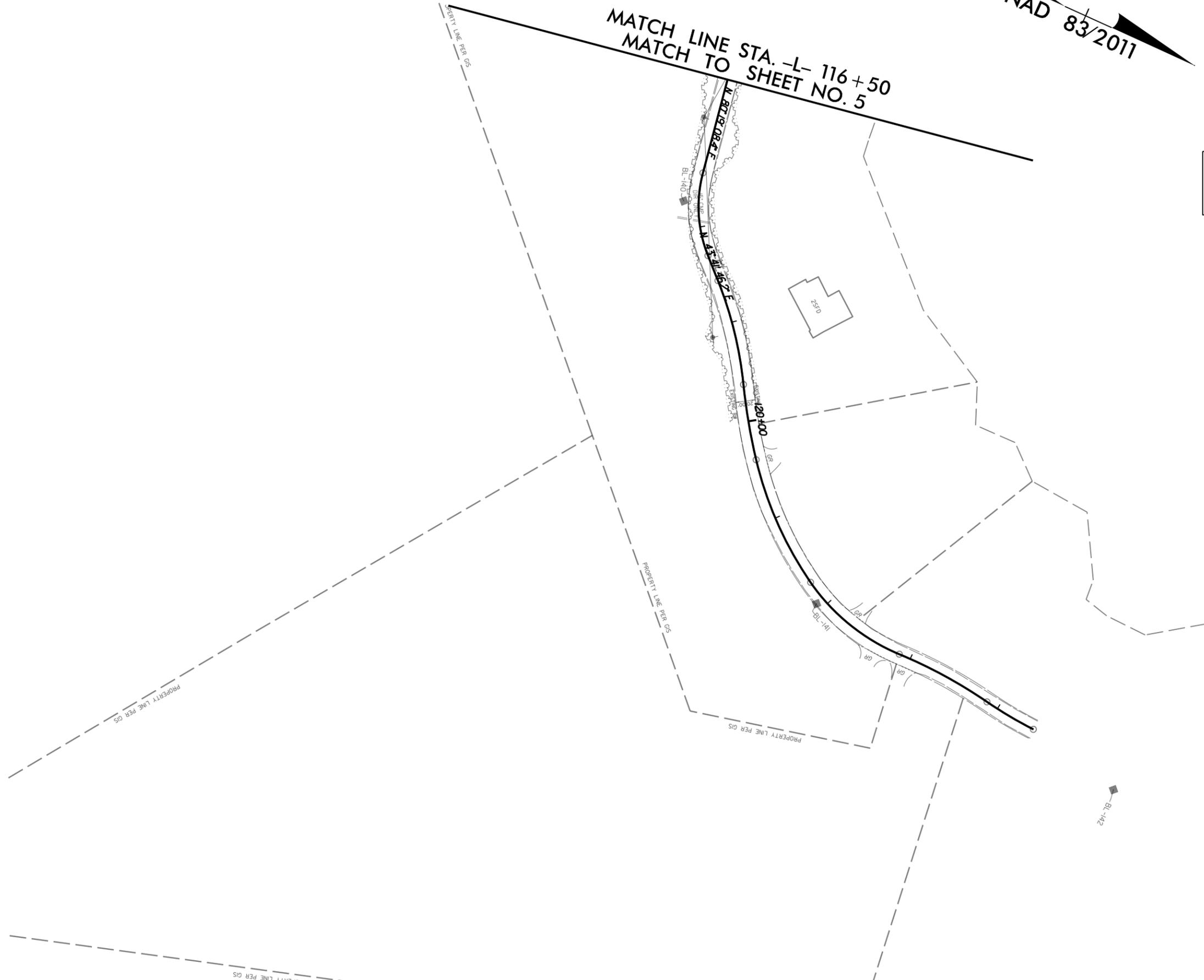
FOR -L- PROFILE FROM STA. 64+50.00 TO 69+00.00, SEE SHEET NO. 7

**MATCH LINE STA. -L- 69+50.00
MATCH TO SHEET NO. 5**

8/17/99

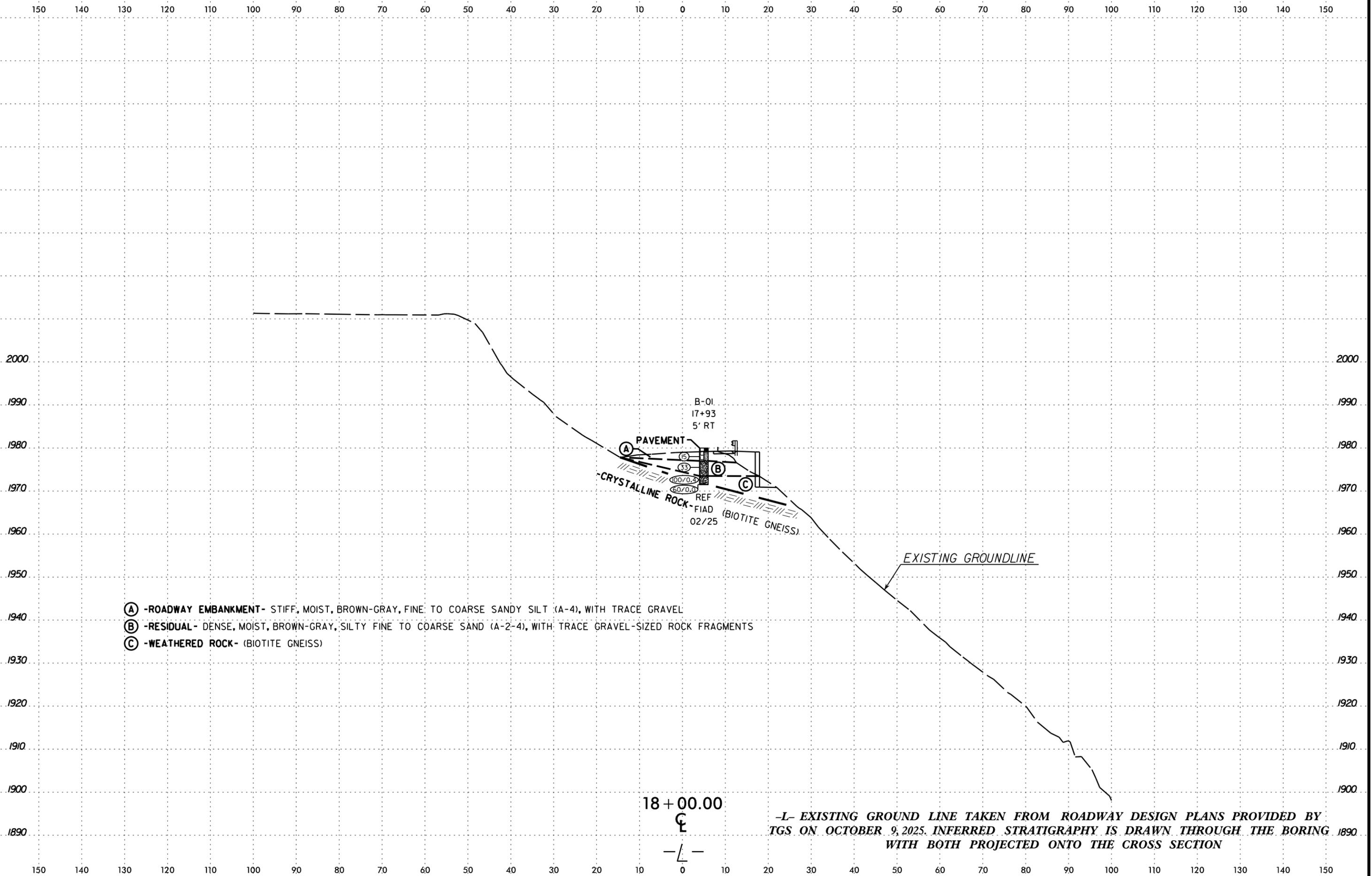
REVISIONS

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PROJECT REFERENCE NO. GREEN RIVER COVE SWB	SHEET NO. 06
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST, STE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

CLEANOUT DITCHES PER RECOMMENDATION OF THE RESIDENT ENGINEER.

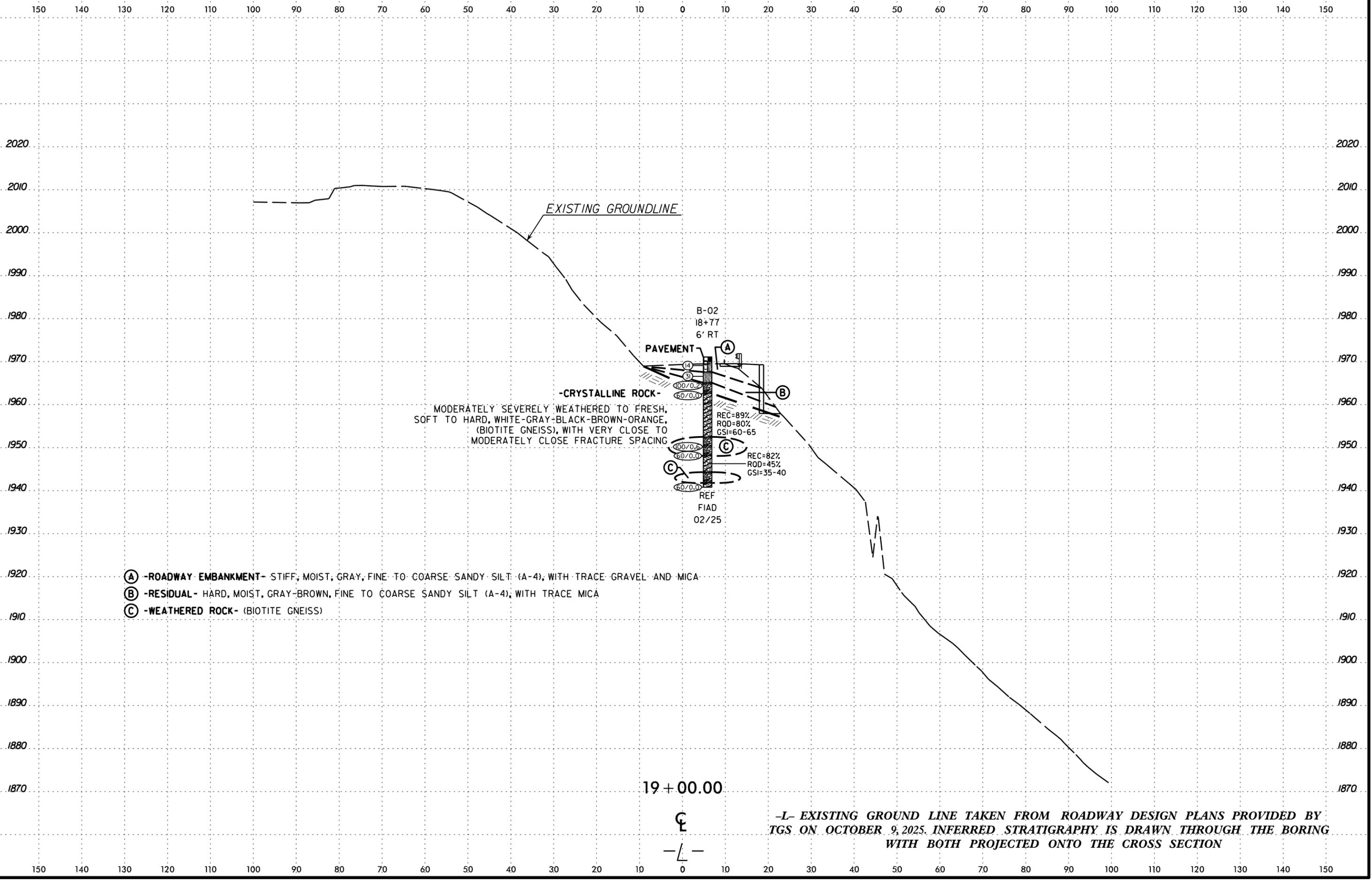


- (A) -ROADWAY EMBANKMENT- STIFF, MOIST, BROWN-GRAY, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL
- (B) -RESIDUAL- DENSE, MOIST, BROWN-GRAY, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS
- (C) -WEATHERED ROCK- (BIOTITE GNEISS)

18 + 00.00
 ⊕
 —L—

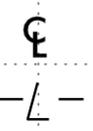
—L— EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

03-NOV-2025 15:11
 C:\Users\X\OneDrive\Carolina Geotechnical Group, PLLC\Matt Brewer - Projects\0276 - Green River Cove Road Emergency Repairs - Projects\0276 - Green River Cove Road Emergency Repairs - TGS\CADD\GEO\TECH\Xsc\GreenRiverCoveRdSWB_GEO.XSL.dgn
 \$\$\$USERNAME\$\$\$



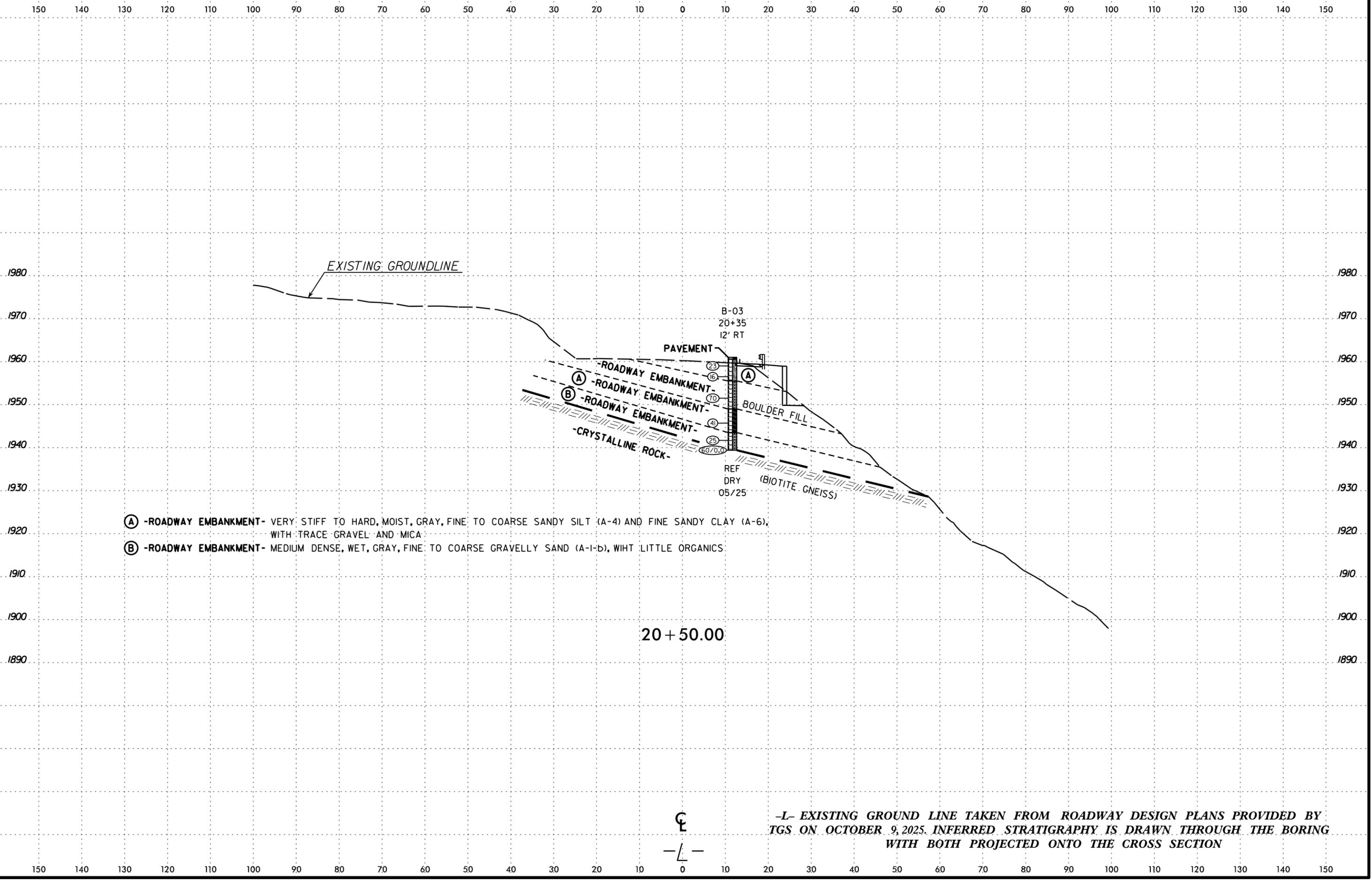
- (A) -ROADWAY EMBANKMENT- STIFF, MOIST, GRAY, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL AND MICA
- (B) -RESIDUAL- HARD, MOIST, GRAY-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE MICA
- (C) -WEATHERED ROCK- (BIOTITE GNEISS)

19+00.00



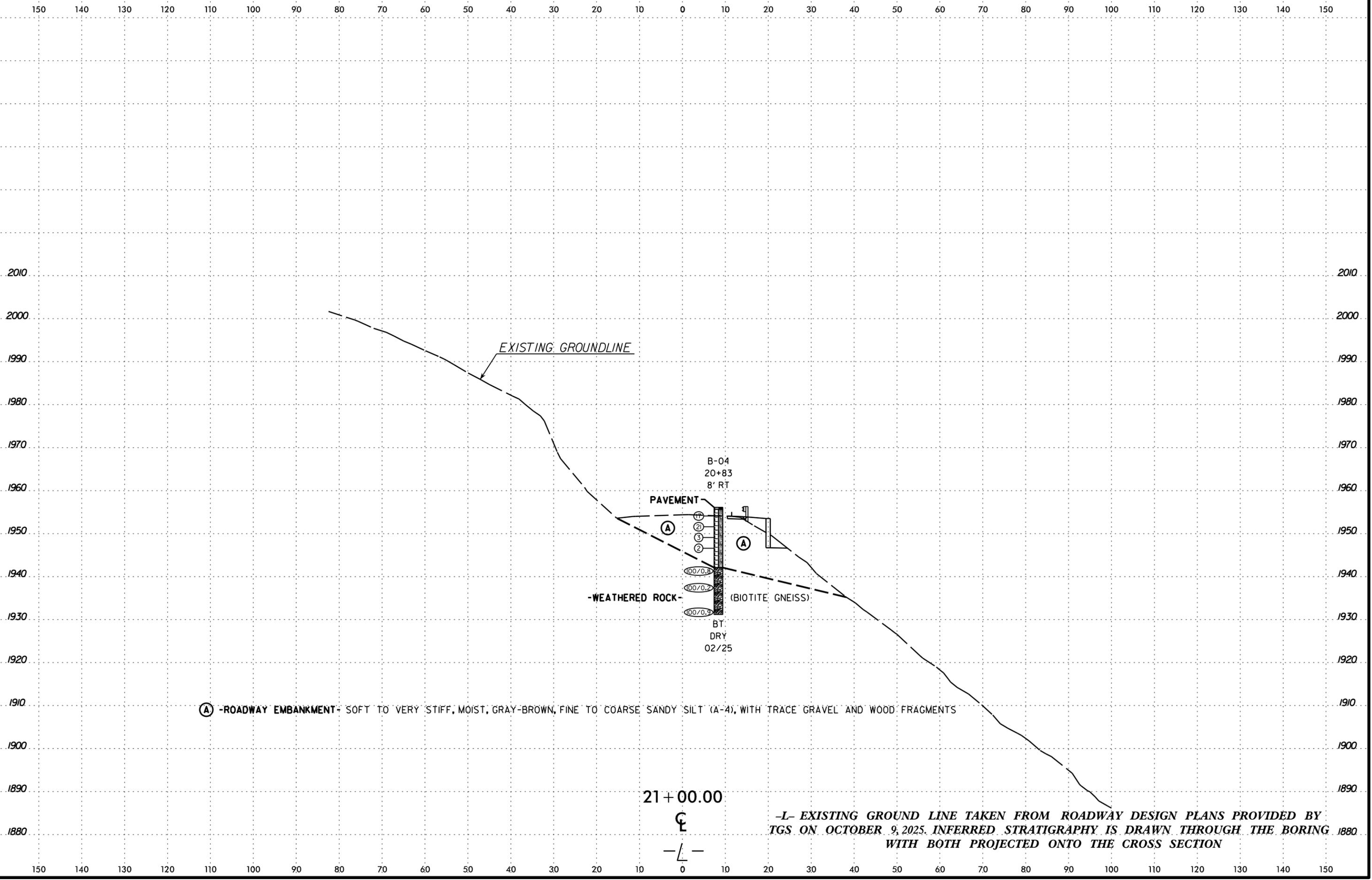
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

03-NOV-2025 15:11
 C:\Users\jmontbrun\Carolina\Geotechnical Group, PLLC\Matt Brewer - Projects\0276 - Green River Cove Road Emergency Repairs - TGS\CADD\GEO\TECH\Xsec\GreenRiverCoveRdSWB_GEO.XSL.dgn
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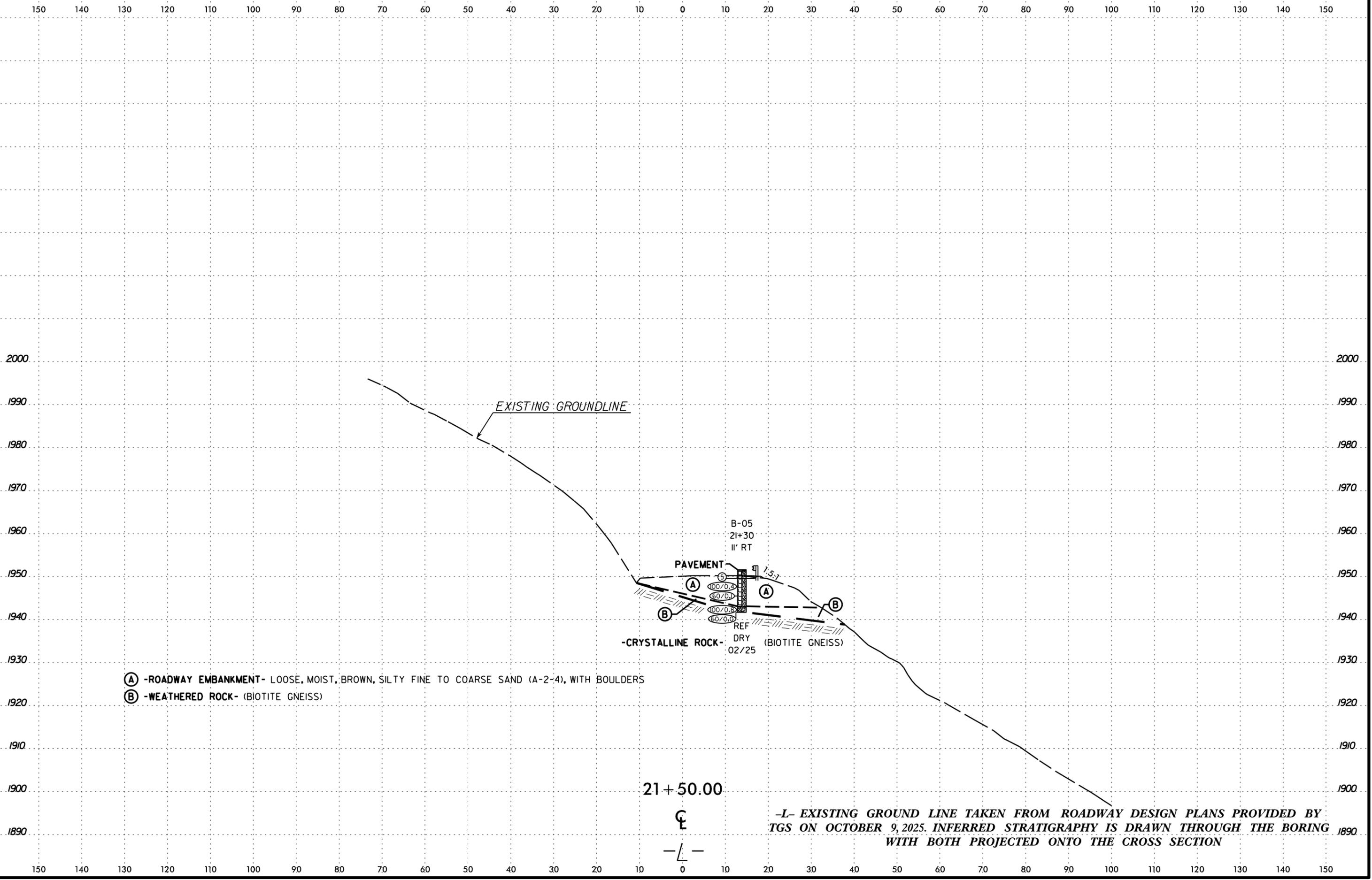
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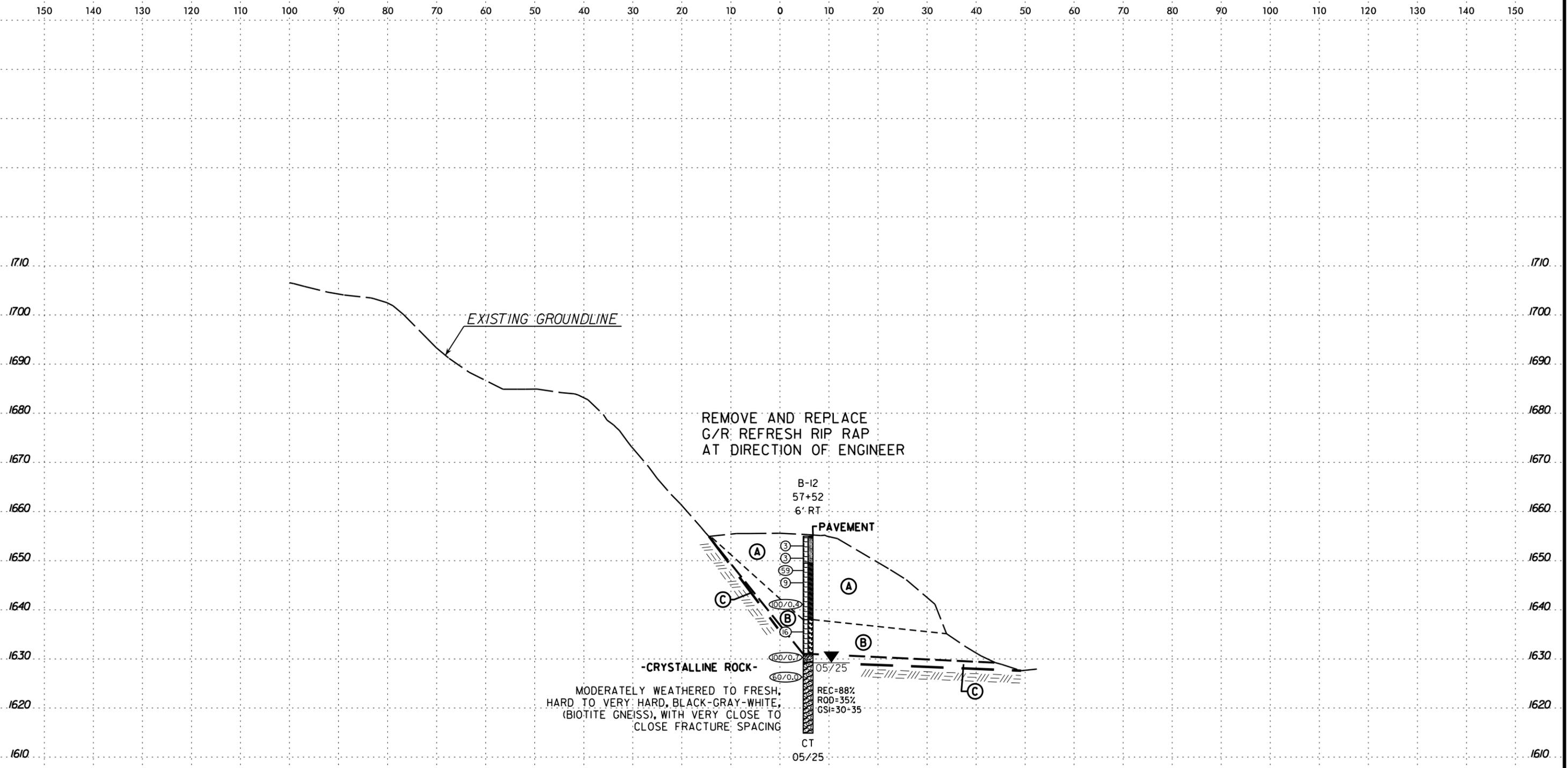
6/23/16



- (A) -ROADWAY EMBANKMENT- LOOSE, MOIST, BROWN, SILTY FINE TO COARSE SAND (A-2-4), WITH BOULDERS
- (B) -WEATHERED ROCK- (BIOTITE GNEISS)

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

03-NOV-2025 15:11
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 \$\$\$USERNAME\$\$\$



REMOVE AND REPLACE
G/R REFRESH RIP RAP
AT DIRECTION OF ENGINEER

B-12
57+52
6' RT

PAVEMENT

-CRYSTALLINE ROCK-

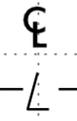
MODERATELY WEATHERED TO FRESH;
HARD TO VERY HARD, BLACK-GRAY-WHITE;
(BIOTITE GNEISS), WITH VERY CLOSE TO
CLOSE FRACTURE SPACING

REC=88%
ROD=35%
CSI=30-35

CT
05/25

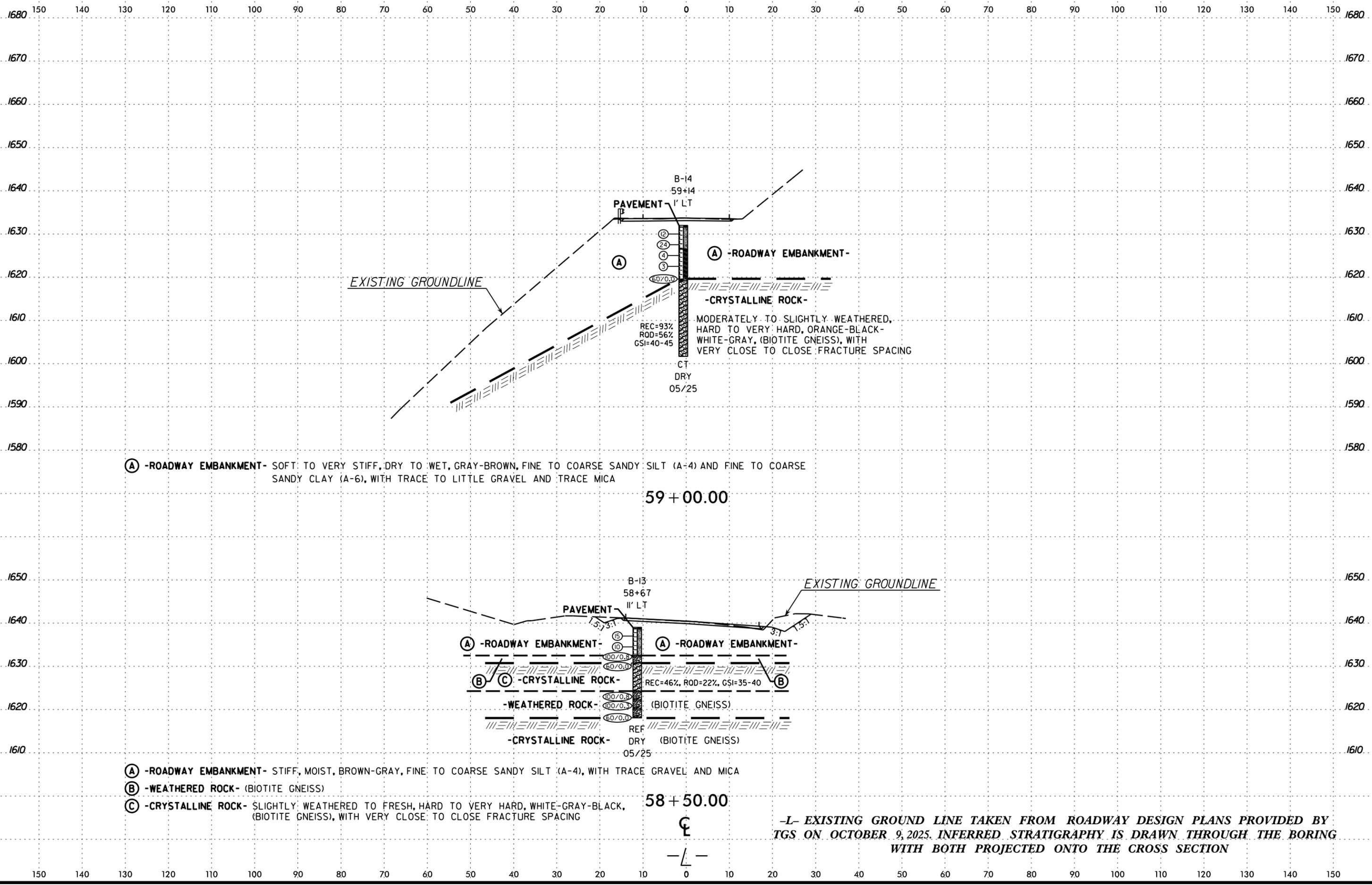
- (A) -ROADWAY EMBANKMENT- SOFT TO HARD, MOIST TO WET, FINE TO COARSE SANDY SILT (A-4) AND FINE TO COARSE SANDY CLAY (A-6), WITH TRACE MICA AND GRAVEL, CONTAINS BOULDER FILL
- (B) -ROADWAY EMBANKMENT- MEDIUM DENSE, MOIST, BROWN-GRAY-WHITE, CLAYEY FINE TO COARSE SAND (A-2-6), WITH TRACE MICA AND GRAVEL
- (C) -WEATHERED ROCK- (BIOTITE GNEISS)

57 + 50.00



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY
TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING
WITH BOTH PROJECTED ONTO THE CROSS SECTION

03-NOV-2025 15:11
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(A) -ROADWAY EMBANKMENT- SOFT TO VERY STIFF, DRY TO WET, GRAY-BROWN, FINE TO COARSE SANDY SILT (A-4) AND FINE TO COARSE SANDY CLAY (A-6), WITH TRACE TO LITTLE GRAVEL AND TRACE MICA

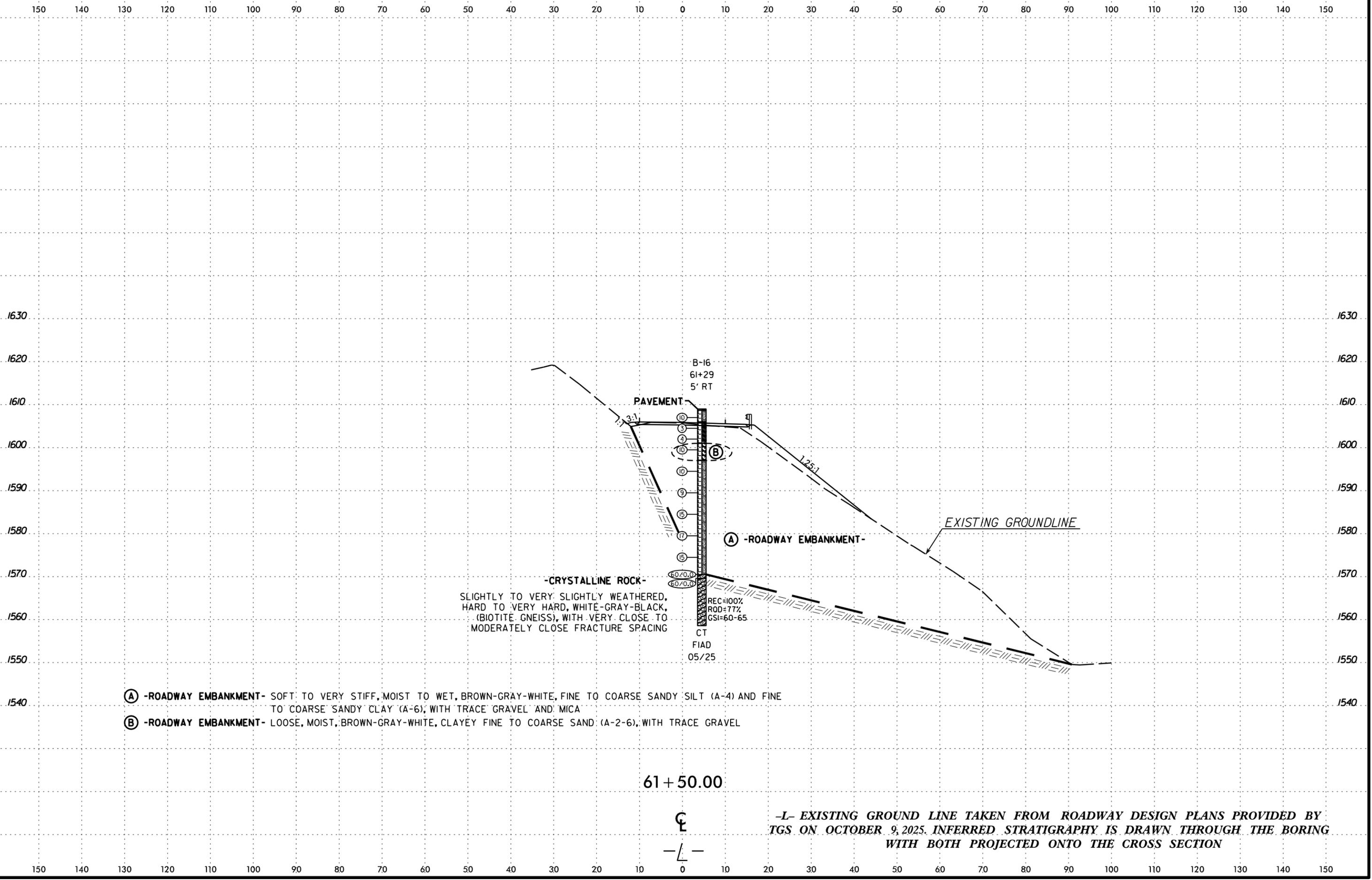
59 + 00.00

(A) -ROADWAY EMBANKMENT- STIFF, MOIST, BROWN-GRAY, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL AND MICA
(B) -WEATHERED ROCK- (BIOTITE GNEISS)
(C) -CRYSTALLINE ROCK- SLIGHTLY WEATHERED TO FRESH, HARD TO VERY HARD, WHITE-GRAY-BLACK, (BIOTITE GNEISS), WITH VERY CLOSE TO CLOSE FRACTURE SPACING

58 + 50.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

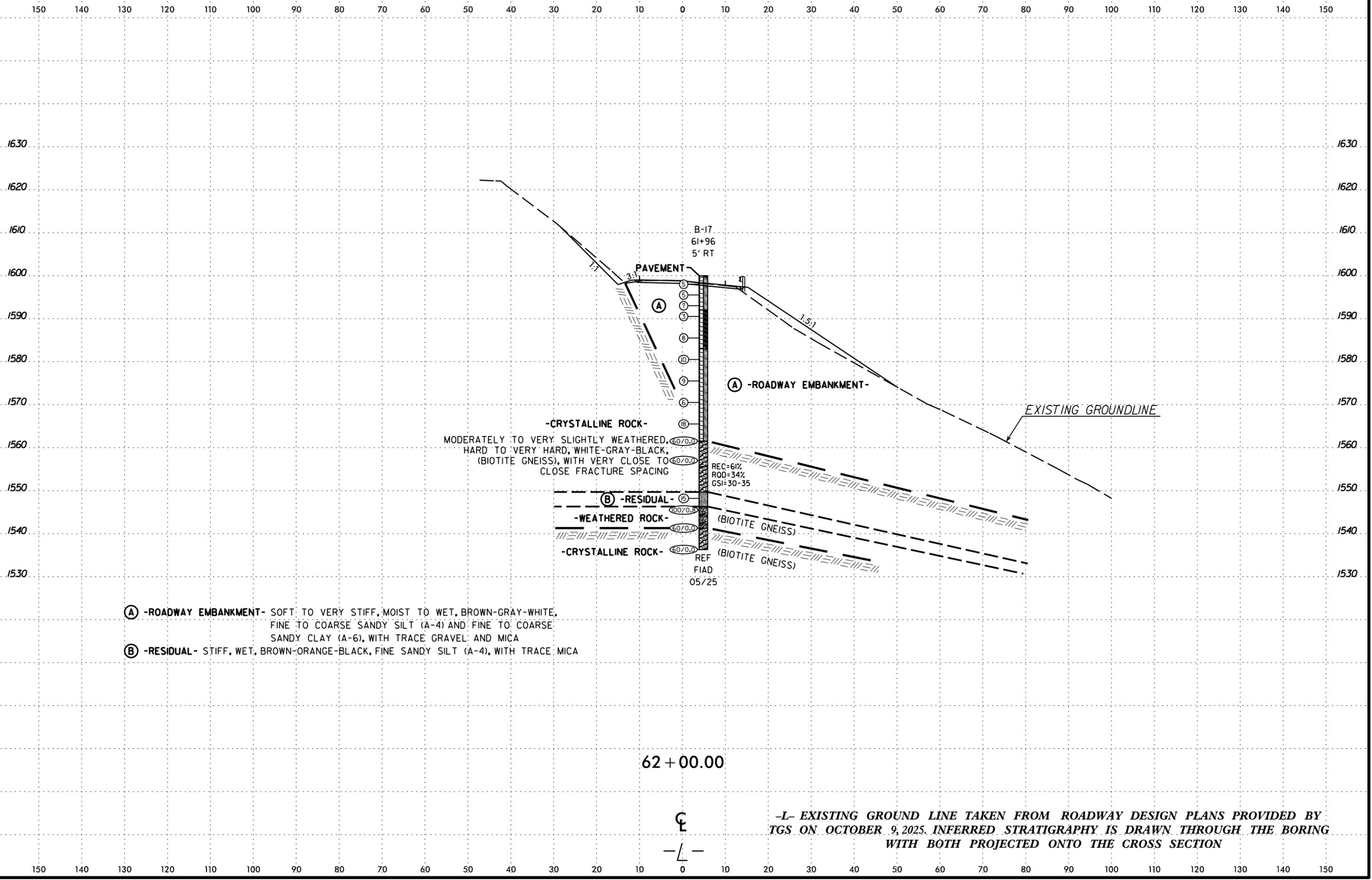
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\$\$\$\$\$USERNAME\$\$\$\$\$



① -ROADWAY EMBANKMENT- SOFT TO VERY STIFF, MOIST TO WET, BROWN-GRAY-WHITE, FINE TO COARSE SANDY SILT (A-4) AND FINE TO COARSE SANDY CLAY (A-6), WITH TRACE GRAVEL AND MICA

② -ROADWAY EMBANKMENT- LOOSE, MOIST, BROWN-GRAY-WHITE, CLAYEY FINE TO COARSE SAND (A-2-6), WITH TRACE GRAVEL

03-NOV-2025 15:11
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 \$\$\$USERNAME\$\$\$



B-17
61+96
5' RT

PAVEMENT

(A) -ROADWAY EMBANKMENT-

EXISTING GROUNDLINE

-CRYSTALLINE ROCK-

MODERATELY TO VERY SLIGHTLY WEATHERED,
HARD TO VERY HARD, WHITE-GRAY-BLACK,
(BIOTITE GNEISS), WITH VERY CLOSE TO
CLOSE FRACTURE SPACING

REC=61%
ROD=34%
GSI=30-35

(B) -RESIDUAL-

-WEATHERED ROCK-

(BIOTITE GNEISS)

-CRYSTALLINE ROCK-

(BIOTITE GNEISS)

REF
FIAD
05/25

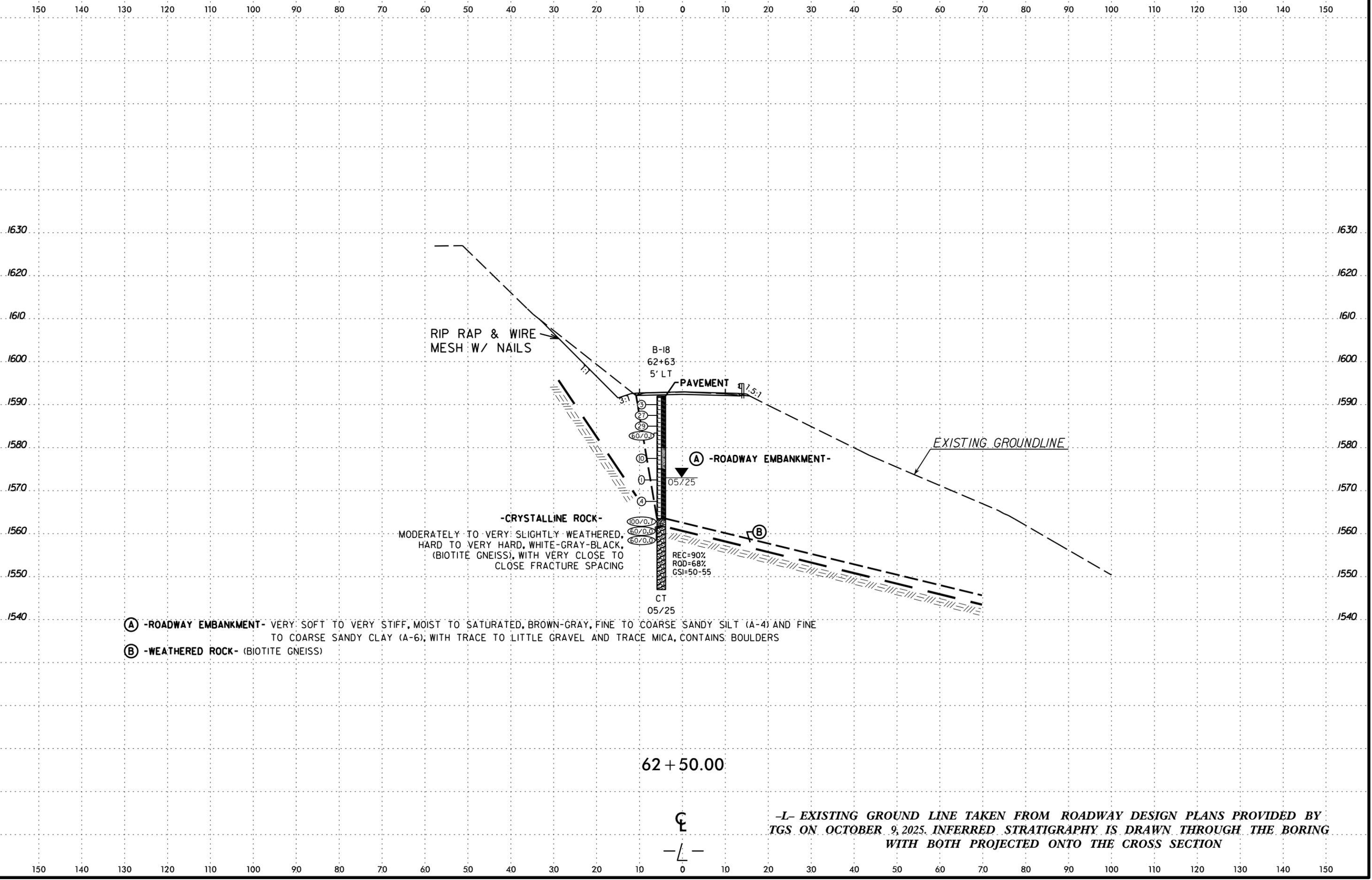
- (A) -ROADWAY EMBANKMENT- SOFT TO VERY STIFF, MOIST TO WET, BROWN-GRAY-WHITE, FINE TO COARSE SANDY SILT (A-4) AND FINE TO COARSE SANDY CLAY (A-6), WITH TRACE GRAVEL AND MICA
- (B) -RESIDUAL- STIFF, WET, BROWN-ORANGE-BLACK, FINE SANDY SILT (A-4), WITH TRACE MICA

62 + 00.00

⊥
—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

03-NOV-2025 15:11
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 \$\$\$USERNAME\$\$\$



RIP RAP & WIRE MESH W/ NAILS

B-18
62+63
5' LT

PAVEMENT

(A) -ROADWAY EMBANKMENT-

EXISTING GROUNDLINE

-CRYSTALLINE ROCK-

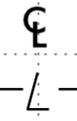
MODERATELY TO VERY SLIGHTLY WEATHERED, HARD TO VERY HARD, WHITE-GRAY-BLACK, (BIOTITE GNEISS), WITH VERY CLOSE TO CLOSE FRACTURE SPACING

REC=90%
ROD=68%
GSI=50-55

CT
05/25

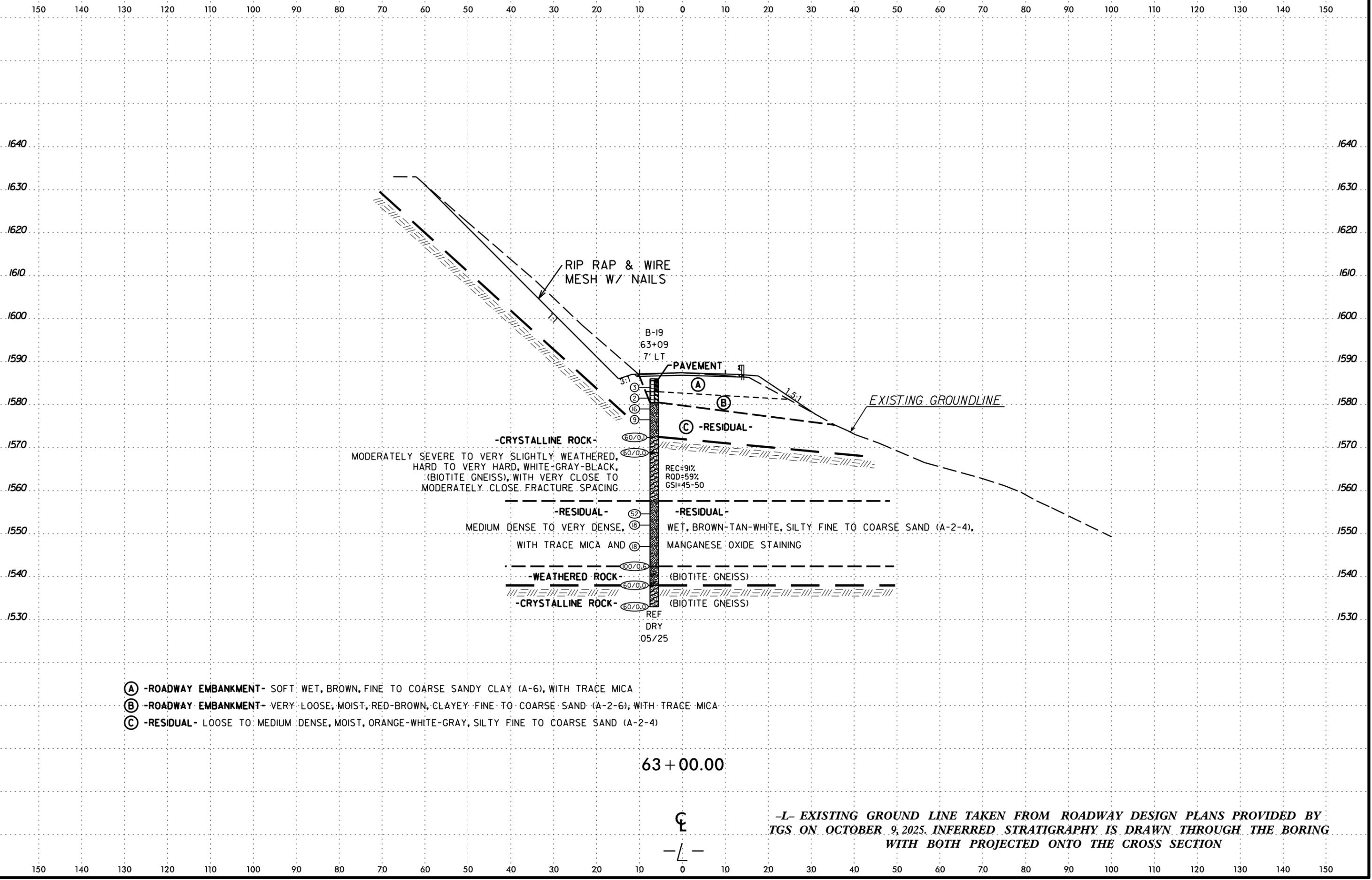
- (A) -ROADWAY EMBANKMENT- VERY SOFT TO VERY STIFF, MOIST TO SATURATED, BROWN-GRAY, FINE TO COARSE SANDY SILT (A-4) AND FINE TO COARSE SANDY CLAY (A-6), WITH TRACE TO LITTLE GRAVEL AND TRACE MICA, CONTAINS BOULDERS
- (B) -WEATHERED ROCK- (BIOTITE GNEISS)

62 + 50.00



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

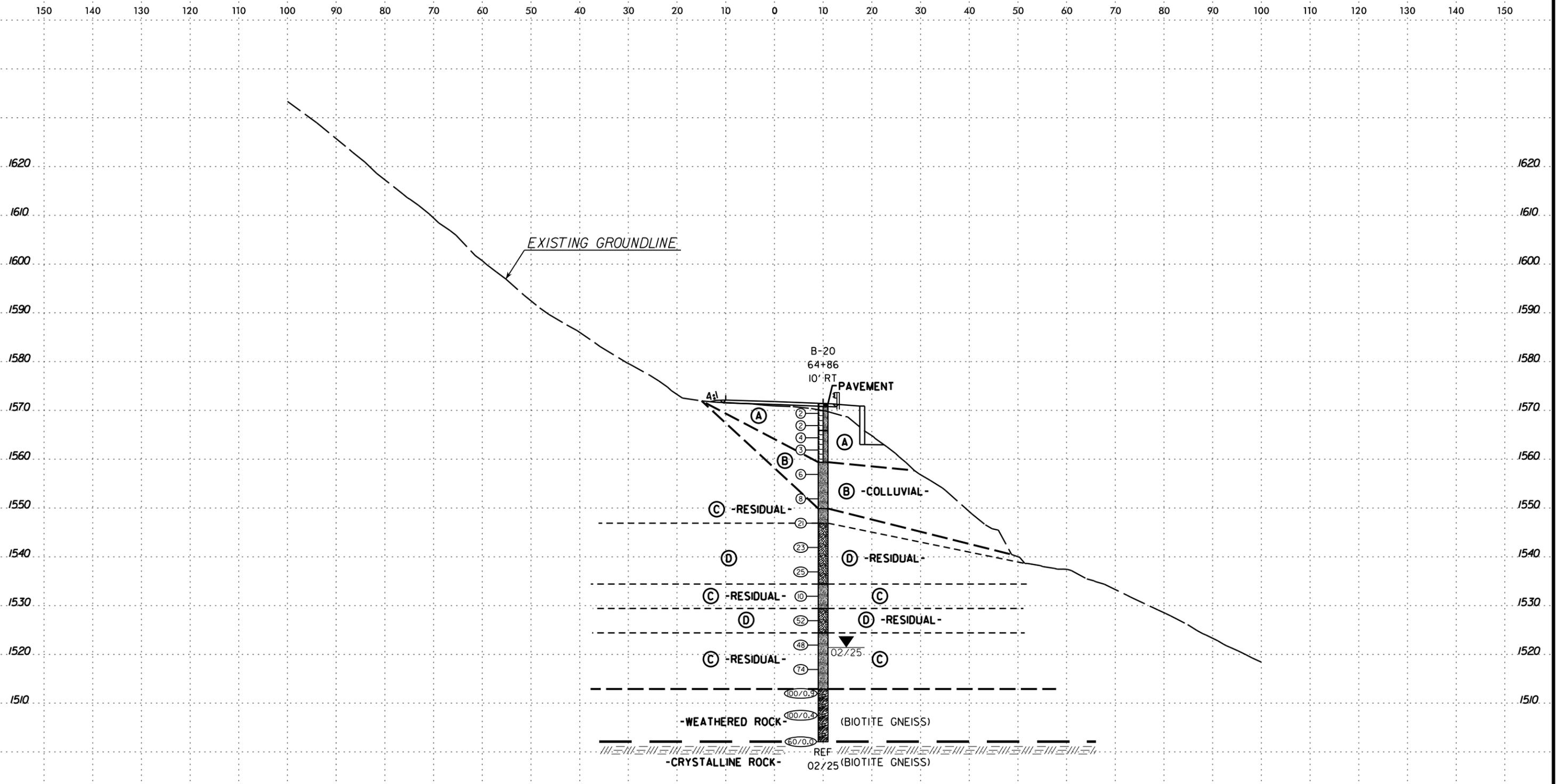
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- (A) -ROADWAY EMBANKMENT-** SOFT, WET, BROWN, FINE TO COARSE SANDY CLAY (A-6), WITH TRACE MICA
- (B) -ROADWAY EMBANKMENT-** VERY LOOSE, MOIST, RED-BROWN, CLAYEY FINE TO COARSE SAND (A-2-6), WITH TRACE MICA
- (C) -RESIDUAL-** LOOSE TO MEDIUM DENSE, MOIST, ORANGE-WHITE-GRAY, SILTY FINE TO COARSE SAND (A-2-4)

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

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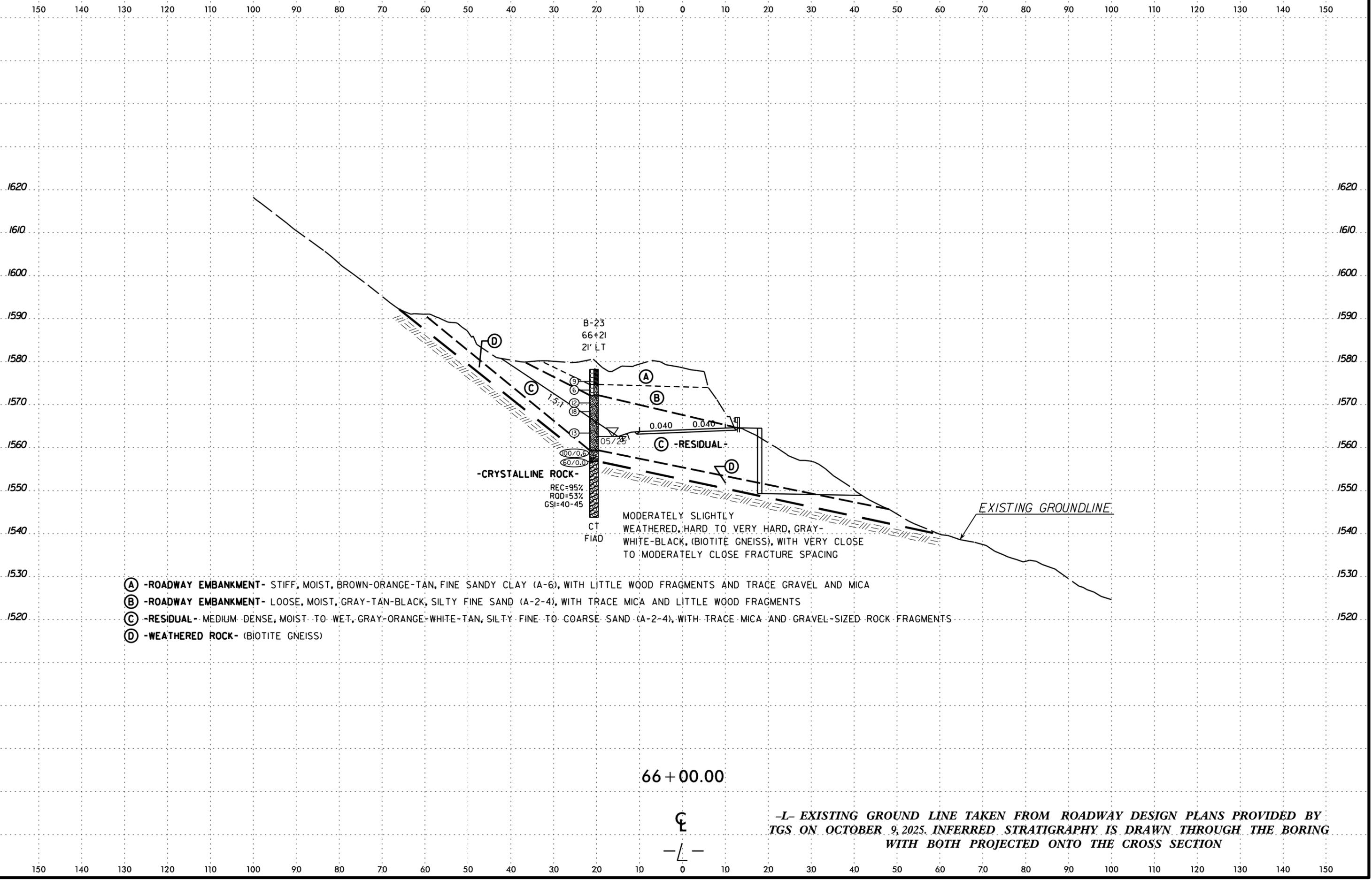
- Ⓐ -ROADWAY EMBANKMENT- SOFT, MOIST, BROWN-ORANGE, FINE SANDY SILT (A-4), WITH TRACE ASPHALT FRAGMENTS, MICA, GRAVEL, AND ORGANICS
- Ⓑ -COLLUVIAL- MEDIUM STIFF, MOIST, ORANGE-RED-TAN-BROWN, FINE SANDY SILT (A-4), WITH TRACE MICA AND MANGANESE OXIDE STAINING
- Ⓒ -RESIDUAL- STIFF TO HARD, MOIST, ORANGE-WHITE-PINK-BROWN, FINE SANDY SILT (A-4), WITH TRACE MICA, CLAY SEAMS, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING
- Ⓓ -RESIDUAL- MEDIUM DENSE TO VERY DENSE, MOIST, TAN-PINK-WHITE-ORANGE-BROWN, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE MICA, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

65 + 00.00

Ⓔ

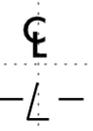
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

03-NOV-2025 15:11 C:\Users\jmc\OneDrive\Carolina\Geotechnical Group, PLLC\Matt Brewer - Projects\0276 - Green River Cove Road Emergency Repairs - TGS\CADD\GEO\TECH\XSC\GreenRiverCoveRoadSWB_GEO.XSL.dgn



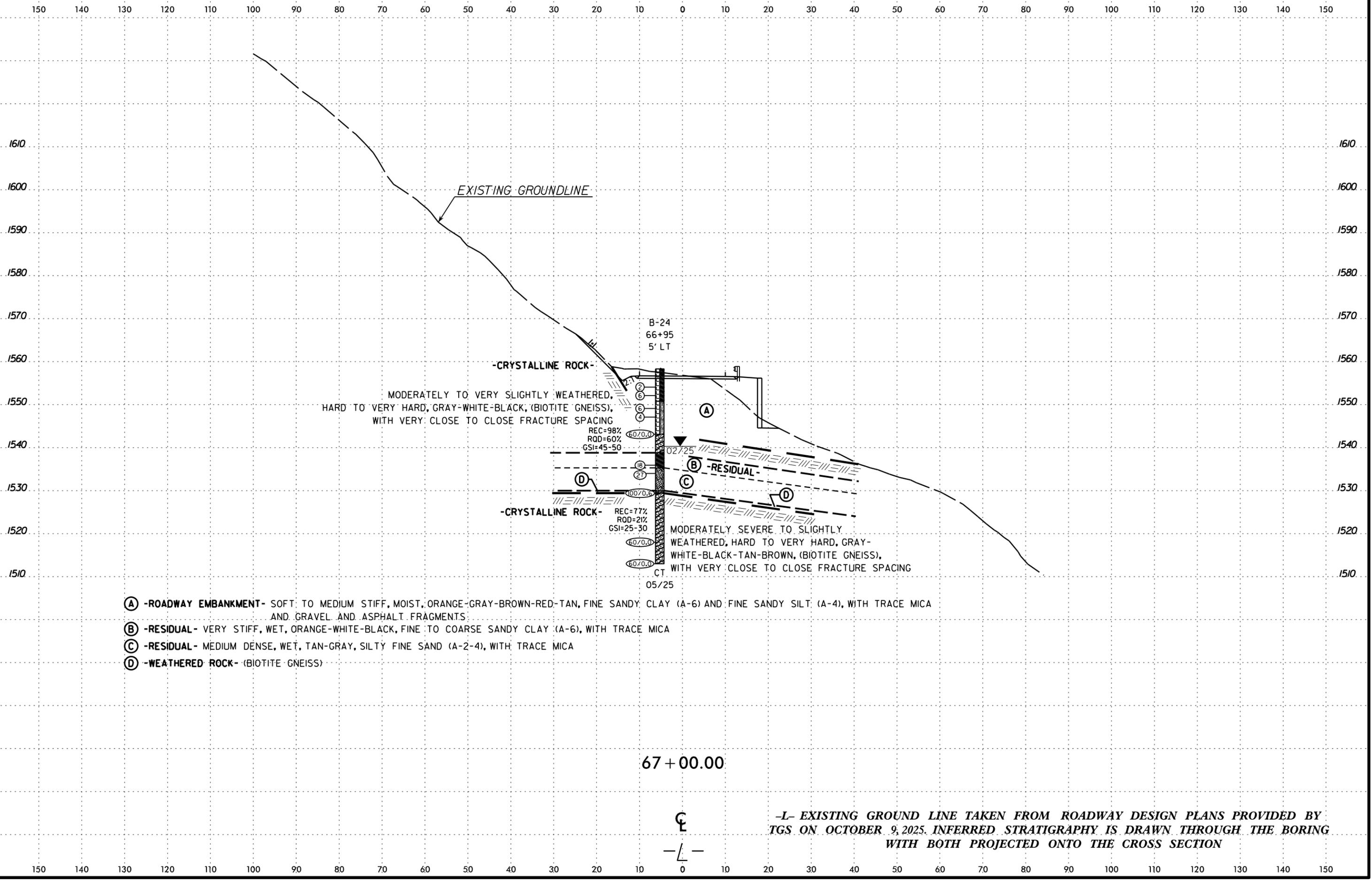
- (A) -ROADWAY EMBANKMENT- STIFF, MOIST, BROWN-ORANGE-TAN, FINE SANDY CLAY (A-6), WITH LITTLE WOOD FRAGMENTS AND TRACE GRAVEL AND MICA
- (B) -ROADWAY EMBANKMENT- LOOSE, MOIST, GRAY-TAN-BLACK, SILTY FINE SAND (A-2-4), WITH TRACE MICA AND LITTLE WOOD FRAGMENTS
- (C) -RESIDUAL- MEDIUM-DENSE, MOIST TO WET, GRAY-ORANGE-WHITE-TAN, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE MICA AND GRAVEL-SIZED ROCK FRAGMENTS
- (D) -WEATHERED ROCK- (BIOTITE GNEISS)

66 + 00.00

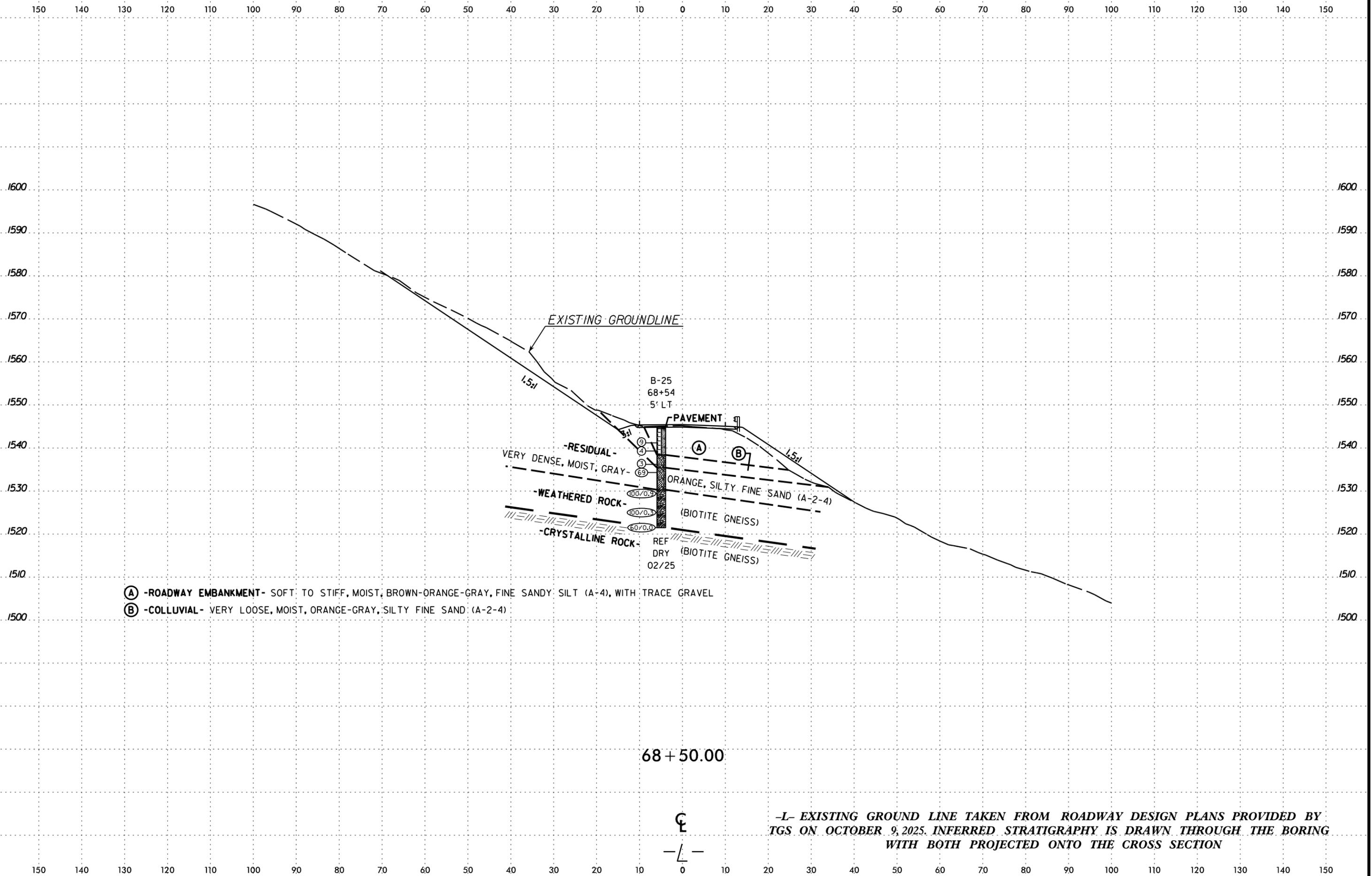


-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

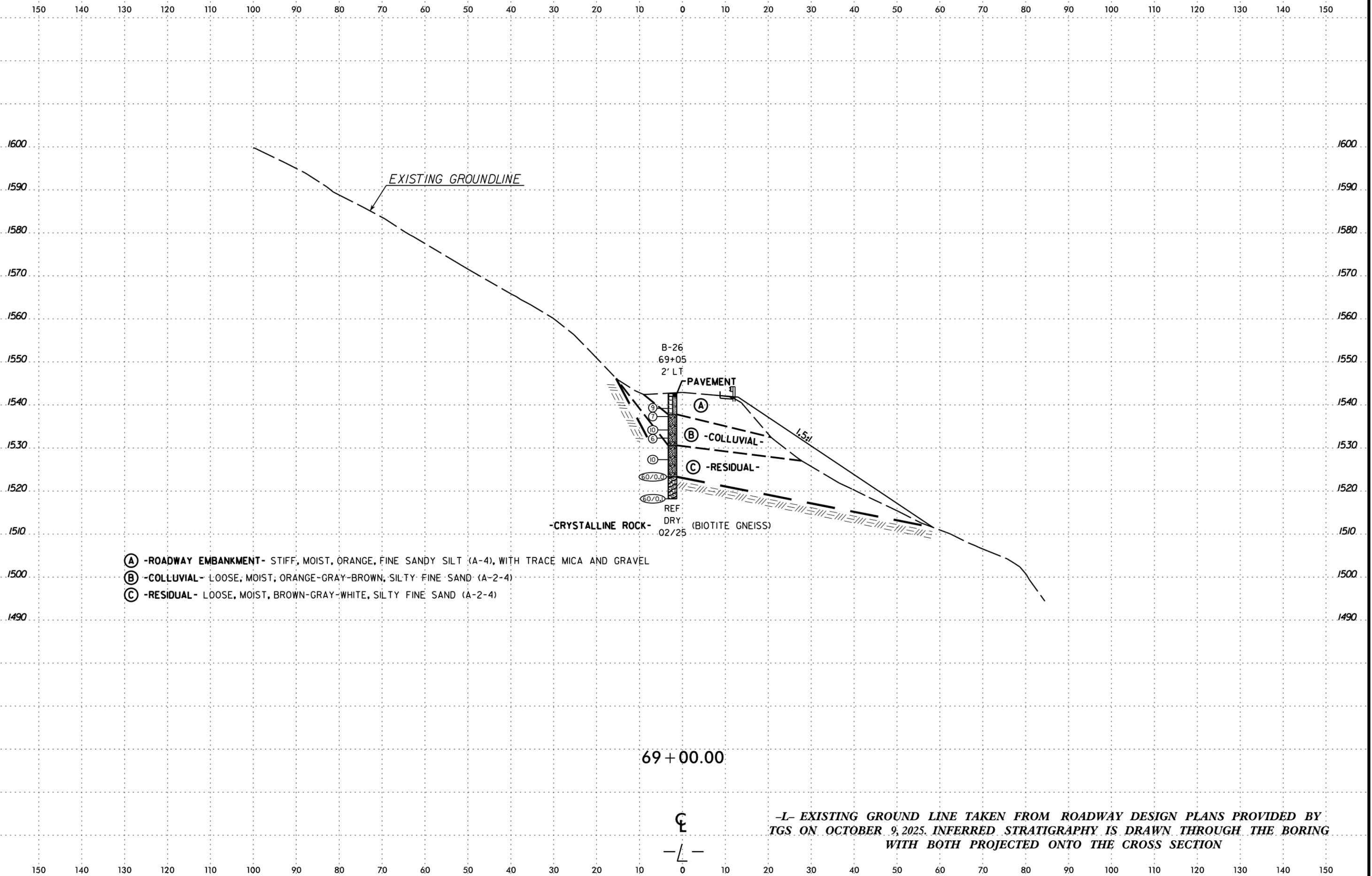
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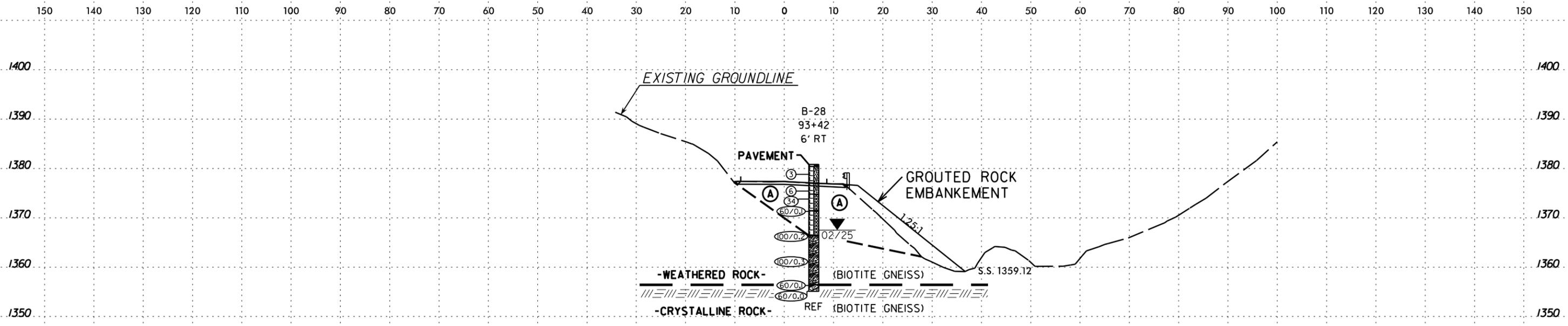
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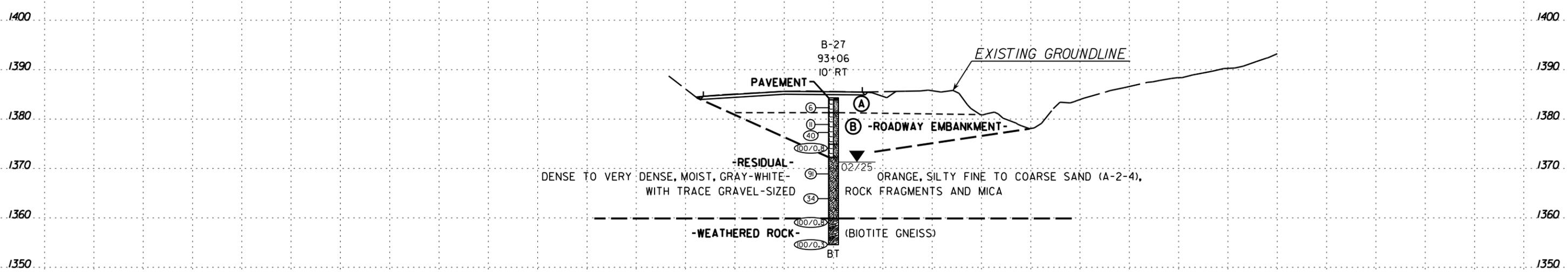
- (A) -ROADWAY EMBANKMENT- STIFF, MOIST, ORANGE, FINE SANDY SILT (A-4), WITH TRACE MICA AND GRAVEL
- (B) -COLLUVIAL- LOOSE, MOIST, ORANGE-GRAY-BROWN, SILTY FINE SAND (A-2-4)
- (C) -RESIDUAL- LOOSE, MOIST, BROWN-GRAY-WHITE, SILTY FINE SAND (A-2-4)

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

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 \$\$\$USERNAME\$\$\$



(A) -ROADWAY EMBANKMENT- VERY LOOSE TO MEDIUM DENSE, DRY TO MOIST, BROWN, SILTY FINE SAND (A-2-4) AND FINE SANDY GRAVEL (A-1-b), WITH TRACE GRAVEL, CONTAINS BOULDERS

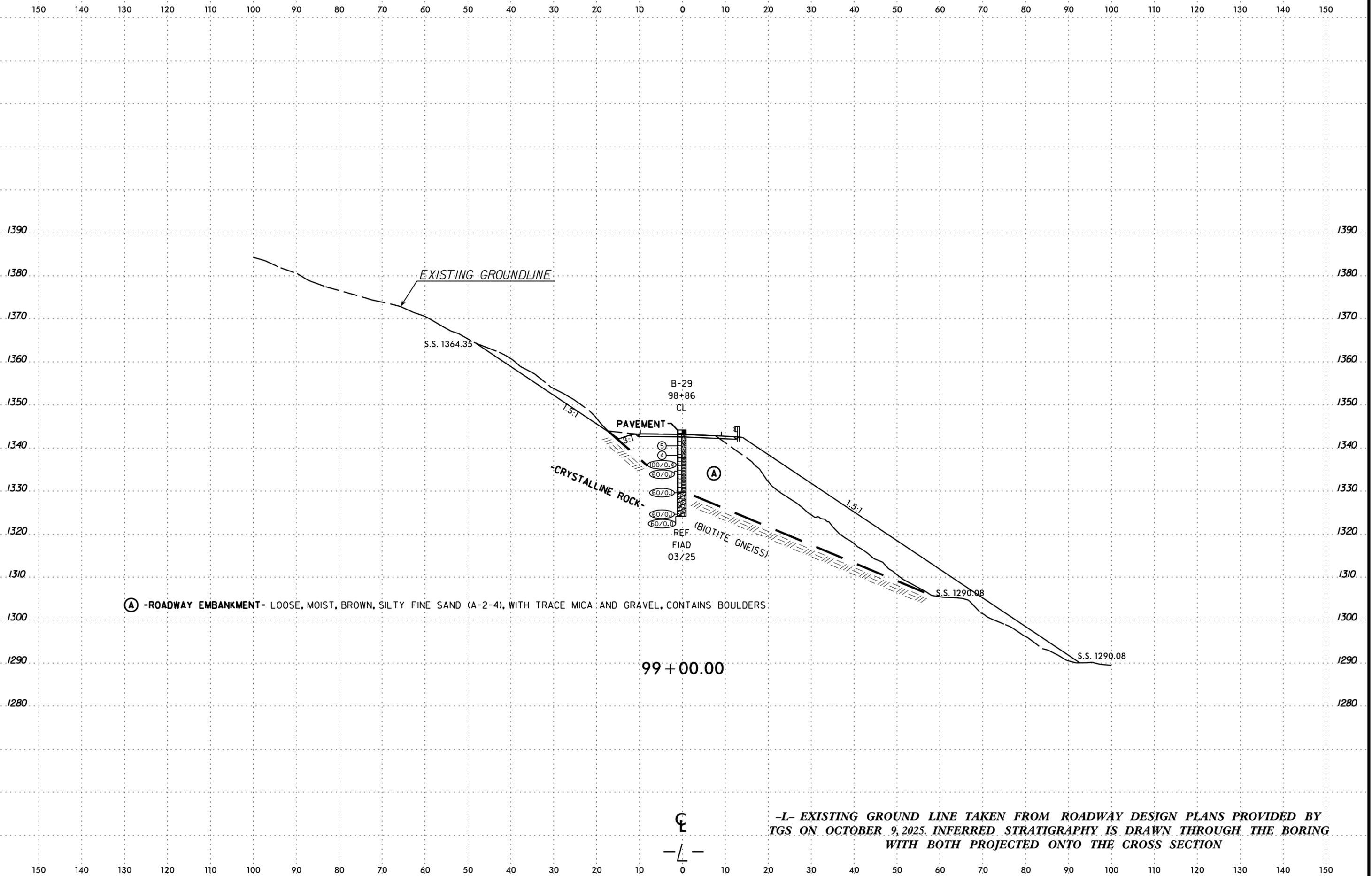


(A) -ROADWAY EMBANKMENT- MEDIUM STIFF, MOIST, BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

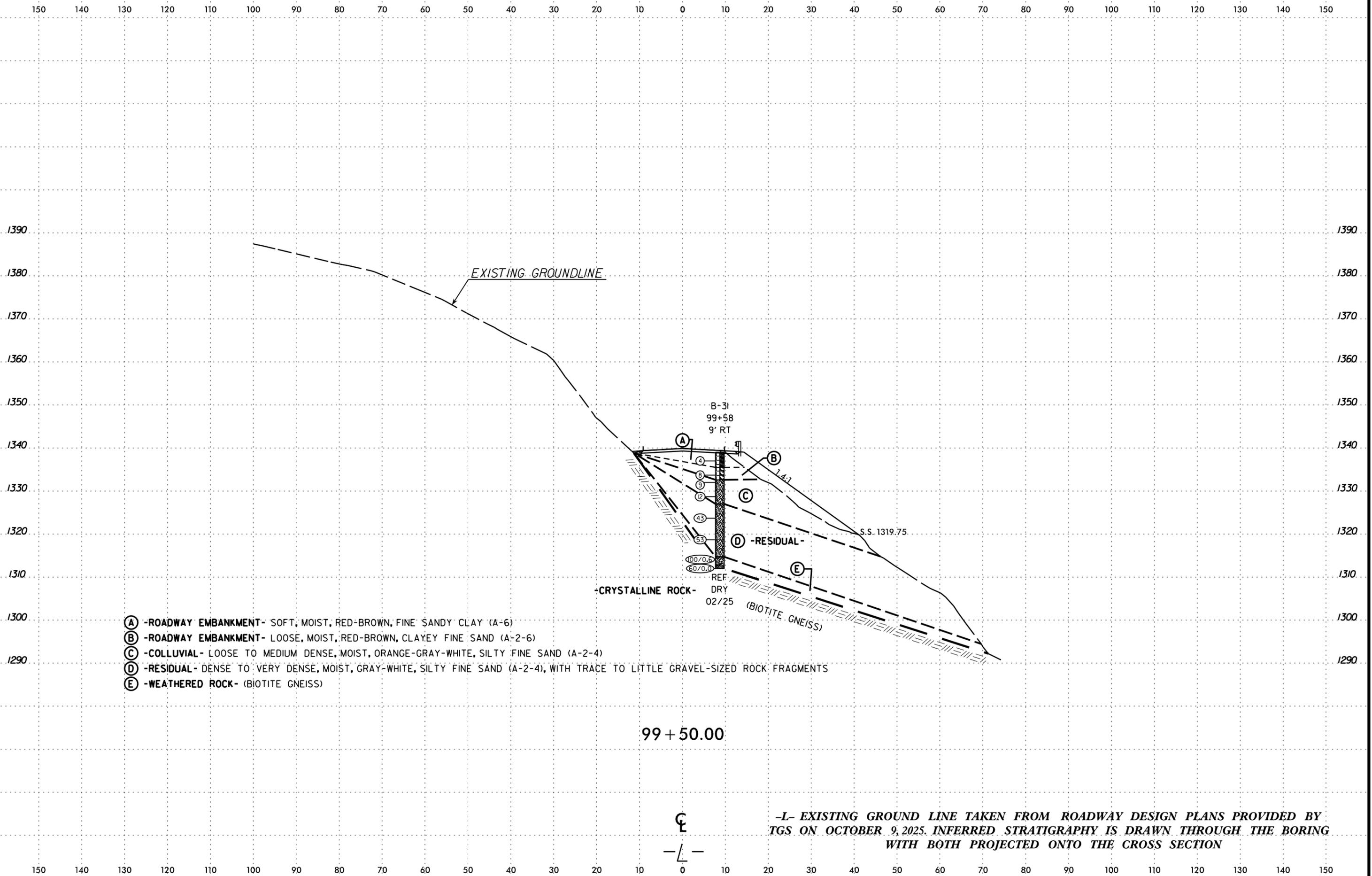
(B) -ROADWAY EMBANKMENT- MEDIUM DENSE TO DENSE, MOIST, BROWN, SILTY FINE SAND (A-2-4), WITH TRACE ROOTS, GRAVEL, AND MICA, CONTAINS BOULDERS

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ON OCTOBER 9, 2025. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

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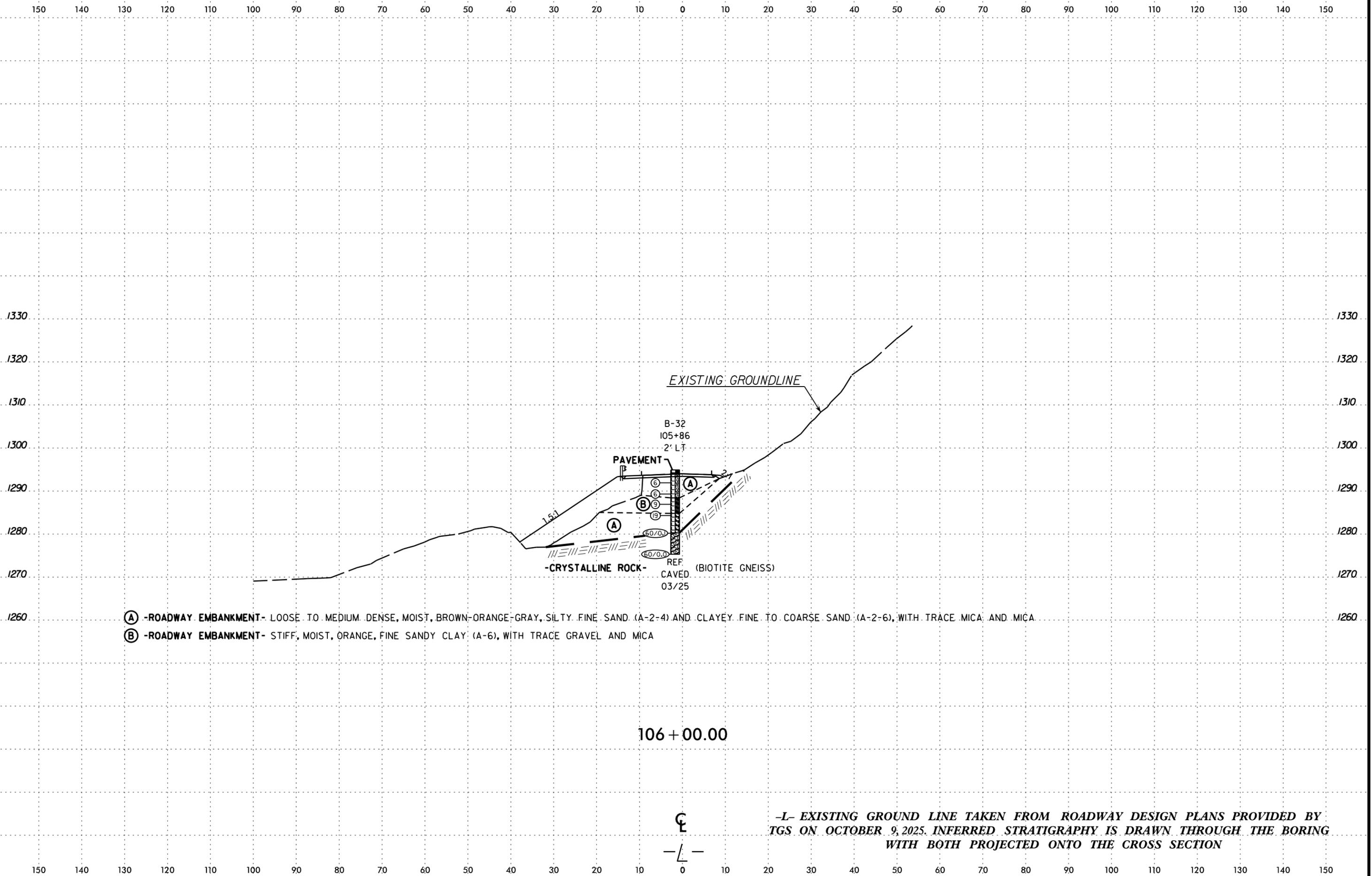


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 \$\$\$USERNAME\$\$\$



- (A) -ROADWAY EMBANKMENT-** SOFT, MOIST, RED-BROWN, FINE SANDY CLAY (A-6)
- (B) -ROADWAY EMBANKMENT-** LOOSE, MOIST, RED-BROWN, CLAYEY FINE SAND (A-2-6)
- (C) -COLLUVIAL-** LOOSE TO MEDIUM DENSE, MOIST, ORANGE-GRAY-WHITE, SILTY FINE SAND (A-2-4)
- (D) -RESIDUAL-** DENSE TO VERY DENSE, MOIST, GRAY-WHITE, SILTY FINE SAND (A-2-4), WITH TRACE TO LITTLE GRAVEL-SIZED ROCK FRAGMENTS
- (E) -WEATHERED ROCK-** (BIOTITE GNEISS)

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 \$\$\$USERNAME\$\$\$

PROJECT: REFERENCE: W03291

*NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT*

SUBSURFACE INVESTIGATION

***APPENDIX A
BORELOGS***

GEOTECHNICAL BORING REPORT

BORE LOG

WBS DF18314.2075099		TIP N/A		COUNTY POLK		GEOLOGIST M. Malisher									
SITE DESCRIPTION Green River Cove Road Emergency Repairs: Site 423							GROUND WTR (ft)								
BORING NO. B-06		STATION 41+61		OFFSET 6 ft RT		ALIGNMENT -L-									
COLLAR ELEV. 1,810.2 ft		TOTAL DEPTH 38.7 ft		NORTHING 563,978		EASTING 1,006,357									
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 92% 04/09/2024			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER L. Ard		START DATE 02/04/25		COMP. DATE 02/04/25		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
1815															
1810	1,809.2	1.0													
	1,806.7	3.5	1	1	1										
1805	1,804.2	6.0	1	6	4										
	1,801.7	8.5	2	1	1										
1800	1,796.7	13.5	1	1	2										
	1,791.7	18.5	1	2	3										
1795	1,786.7	23.5	3	2	3										
	1,781.7	28.5	3	2	4										
1785	1,776.7	33.5	63	29	34										
	1,771.7	38.5	100/0.2												
1780															
1775															

WBS DF18314.2075099		TIP N/A		COUNTY POLK		GEOLOGIST M. Malisher									
SITE DESCRIPTION Green River Cove Road Emergency Repairs: Site 423							GROUND WTR (ft)								
BORING NO. B-07		STATION 41+97		OFFSET 1 ft RT		ALIGNMENT -L-									
COLLAR ELEV. 1,805.3 ft		TOTAL DEPTH 43.5 ft		NORTHING 564,016		EASTING 1,006,356									
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 92% 04/09/2024			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER L. Ard		START DATE 02/04/25		COMP. DATE 02/04/25		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
1810															
1805	1,804.3	1.0													
	1,801.8	3.5	1	2	2										
1800	1,799.3	6.0	5	3	2										
	1,796.8	8.5	4	2	2										
1795	1,791.8	13.5	4	6	3										
	1,788.2	18.5	14	14	6										
1790	1,783.2	27.0	60/0.0												
	1,781.8	23.5	4	2	3										
1785	1,776.8	28.5	2	4	96/0.4										
	1,771.8	33.5	35	65/0.4											
1780	1,766.8	38.5	60	40/0.2											
	1,761.8	43.5	60/0.0												

NCDOT BORE DOUBLE GREEN RIVER COVE L ALIGN.GPJ NC_DOT.GDT 11/23/25

GEOTECHNICAL BORING REPORT

BORE LOG

WBS DF18314.2075099		TIP N/A		COUNTY POLK		GEOLOGIST M. Malisher								
SITE DESCRIPTION Green River Cove Road Emergency Repairs: Site 423							GROUND WTR (ft)							
BORING NO. B-08		STATION 42+38		OFFSET 3 ft RT		ALIGNMENT -L-								
COLLAR ELEV. 1,801.9 ft		TOTAL DEPTH 20.0 ft		NORTHING 564,058		EASTING 1,006,356								
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 92% 04/09/2024			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER L. Ard		START DATE 02/04/25		COMP. DATE 02/04/25		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
1805														
1800	1,800.9	1.0	2	2	15								M	GROUND SURFACE ROADWAY EMBANKMENT Asphalt (0.4')
	1,798.4	3.5	8	3	2								W	Soft to Very Stiff, Gray-Brown-White, Fine to Coarse Sandy SILT (A-4), with trace mica and gravel
1795	1,795.9	6.0	12	10	7								M	
	1,793.4	8.5	1	1	2								M	
1790	1,788.4	13.5	2	2	4								M	
1785	1,783.4	18.5	19	23	23								M	Dense, Fine to Coarse Sandy GRAVEL (A-1-a)
														Boring Terminated at Elevation 1,781.9 ft In Roadway Embankment Sandy GRAVEL (A-1-a)

WBS DF18314.2075099		TIP N/A		COUNTY POLK		GEOLOGIST M. Malisher								
SITE DESCRIPTION Green River Cove Road Emergency Repairs: Site 424							GROUND WTR (ft)							
BORING NO. B-09		STATION 48+25		OFFSET 7 ft RT		ALIGNMENT -L-								
COLLAR ELEV. 1,755.8 ft		TOTAL DEPTH 20.0 ft		NORTHING 564,053		EASTING 1,006,451								
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 92% 04/09/2024			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER L. Ard		START DATE 02/05/25		COMP. DATE 02/05/25		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
1760														
1755	1,754.8	1.0	6	12	9								M	GROUND SURFACE ROADWAY EMBANKMENT Asphalt (0.3')
	1,752.3	3.5	3	2	4								M	Medium Dense, Brown-White-Gray, Silty Fine to Coarse SAND (A-2-4), with trace gravel
1750	1,749.8	6.0	4	5	3								M	Medium Stiff, Brown-White-Gray, Fine to Coarse Sandy SILT (A-4), with trace gravel and mica (Boulders)
	1,747.3	8.5	100/0.3											
1745	1,744.7	11.1	60/0.0											
	1,742.3	13.5	1	2	1								W	Soft, Brown, Fine to Coarse Sandy SILT (A-4), with trace gravel and mica
1740	1,737.3	18.5	9	14	12								M	RESIDUAL Very Stiff, Brown, Fine to Coarse Sandy SILT (A-4), with trace mica and Manganese Oxide staining
														Boring Terminated at Elevation 1,735.8 ft In Residual Sandy SILT (A-4)
														Note: Boulders ~8.5' to 12.0'

NCDOT BORE DOUBLE GREEN RIVER COVE L ALIGN.GPJ NC_DOT.GDT 11/3/25

GEOTECHNICAL BORING REPORT

BORE LOG

WBS DF18314.2075099		TIP N/A		COUNTY POLK		GEOLOGIST M. Malisher										
SITE DESCRIPTION Green River Cove Road Emergency Repairs: Site 424							GROUND WTR (ft)									
BORING NO. B-10		STATION 48+84		OFFSET 10 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 1,746.6 ft		TOTAL DEPTH 19.1 ft		NORTHING 564,076		EASTING 1,006,509										
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 92% 04/09/2024			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER L. Ard		START DATE 02/05/25		COMP. DATE 02/05/25		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
1750																
1745	1,745.6	1.0	2	2	4									W	1,746.6	0.0
	1,743.1	3.5	1	1	4									W		
1740	1,740.6	6.0	4	3	3									W		
	1,738.1	8.5	1	2	3									W	1,738.6	8.0
1735																
	1,733.1	13.5	4	6	27									W	1,734.6	12.0
1730														M		
	1,728.1	18.5	98	2/0.1											1,728.1	18.5
															1,727.5	19.1
																100/0.6

WBS DF18314.2075099		TIP N/A		COUNTY POLK		GEOLOGIST M. Malisher										
SITE DESCRIPTION Green River Cove Road Emergency Repairs: Site 426							GROUND WTR (ft)									
BORING NO. B-11		STATION 57+16		OFFSET 4 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 166.9 ft		TOTAL DEPTH 34.0 ft		NORTHING 564,217		EASTING 1,006,734										
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 92% 04/09/2024			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER L. Ard		START DATE 02/05/25		COMP. DATE 02/05/25		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
170																
165	165.9	1.0	3	2	1									M	166.9	0.0
	163.4	3.5	1	0	2									M		
160	160.9	6.0	6	2	2									M		
	158.4	8.5	4	2	3									W		
155																
	153.4	13.5	3	9	4											
150																
	148.4	18.5	9	7	4									M		
145																
	143.4	23.5	12	10	8									M		
140																
	138.4	28.5	15	9	7											
135														M		
	132.9	34.0	60/0.0												132.9	34.0

NCDOT BORE DOUBLE GREEN RIVER COVE L ALIGN.GPJ NC_DOT.GDT 11/23/25

GEOTECHNICAL BORING REPORT

BORE LOG

WBS DF18314.2075099		TIP N/A		COUNTY POLK		GEOLOGIST M. Malisher	
SITE DESCRIPTION Green River Cove Road Emergency Repairs: Site 427							GROUND WTR (ft)
BORING NO. B-15		STATION 59+52		OFFSET 3 ft LT		ALIGNMENT -L-	0 HR. Dry
COLLAR ELEV. 1,628.1 ft		TOTAL DEPTH 31.5 ft		NORTHING 564,280		EASTING 1,006,774	24 HR. Dry
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 92% 04/09/2024				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic	
DRILLER L. Ard		START DATE 02/06/25		COMP. DATE 02/06/25		SURFACE WATER DEPTH N/A	

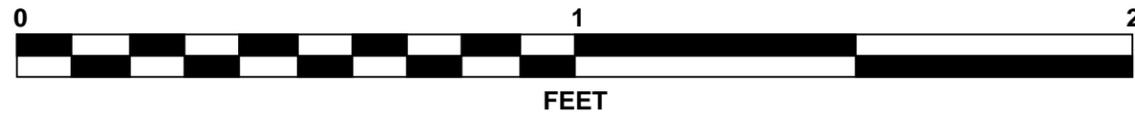
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
1630															
	1,627.1	1.0	6	10	17									1,627.1	GROUND SURFACE
1625	1,624.6	3.5	92	8/0.1										1,625.1	ROADWAY EMBANKMENT Asphalt 4"
	1,621.1	7.0	1	1	1									1,622.1	Medium Dense, Gray-Brown, Silty Fine to Coarse SAND (A-2-4), with little gravel and trace mica (Boulder)
1620	1,619.6	8.5	2	3	4									1,622.1	Soft to Medium Stiff, Brown-Gray, Fine to Coarse Sandy CLAY (A-6), with trace gravel and mica (Boulder)
	1,614.6	13.5	4	2	4									1,618.1	Loose to Medium Dense, Brown-Gray, Silty Fine to Coarse SAND (A-2-4), with little gravel and trace mica
1615	1,611.1	17.0	8	7	11									1,614.6	Stiff, Brown-Gray, Fine to Coarse Sandy SILT (A-4), with trace gravel and mica
1610	1,609.6	18.5	11	9	6									1,609.6	Stiff, Brown, Fine to Coarse Sandy CLAY (A-6), with trace gravel and mica
1605	1,604.6	23.5	2	3	9									1,606.1	(Boulder)
1600	1,599.6	28.5	33	67/0.2										1,596.6	Boring Terminated with Standard Penetration Test Refusal at Elevation 1,596.6 ft On Crystalline Rock (Biotite Gneiss)
	1,596.6	31.5	60/0.0											1,596.6	Note: Boulders ~ 3.0' to 6.0' and 10.0' to 31.0'

NCDOT BORE DOUBLE GREEN RIVER COVE L ALIGN.GPJ NC_DOT.GDT 11/3/25

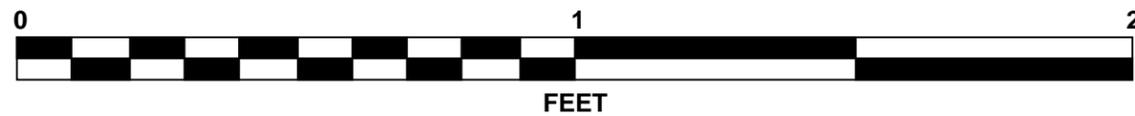
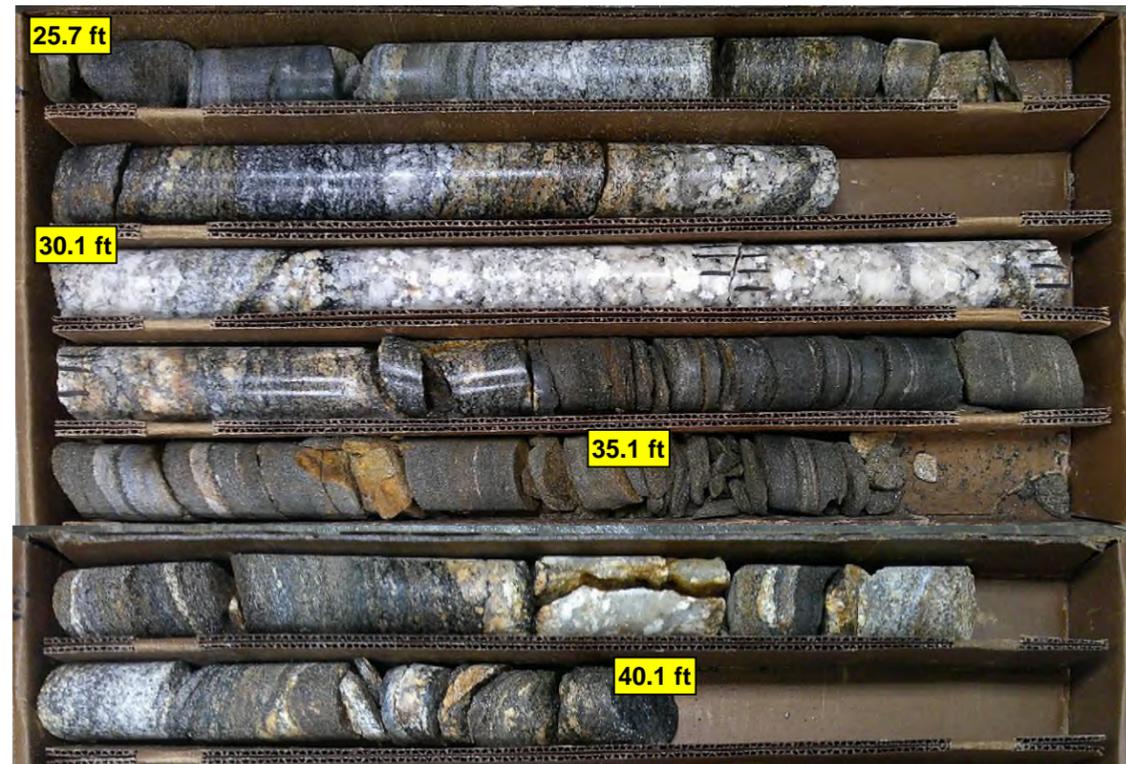
PROJECT: REFERENCE: W03291

*NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT*
SUBSURFACE INVESTIGATION
*APPENDIX B
ROCK CORE PHOTOGRAPHS*

SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-2
10.7 to 30.3 Feet

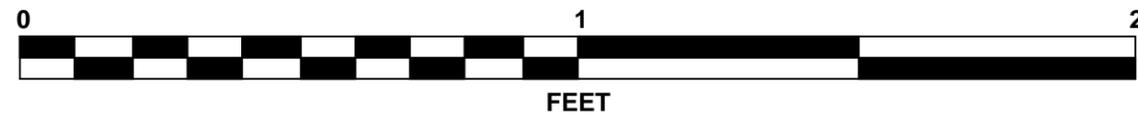


**SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-12
25.7 to 40.1 Feet**



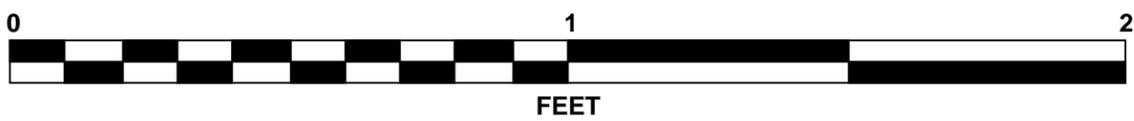


**SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-13
8.2 to 14.7 Feet**

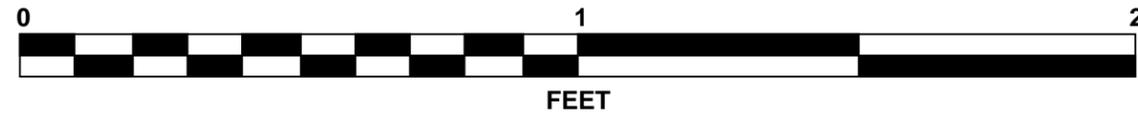




SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-14
12.8 to 30.3 Feet

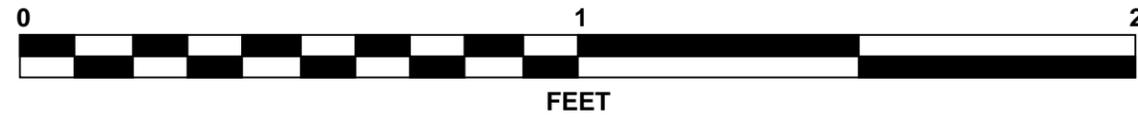


**SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-16
39.4 to 50.4 Feet**

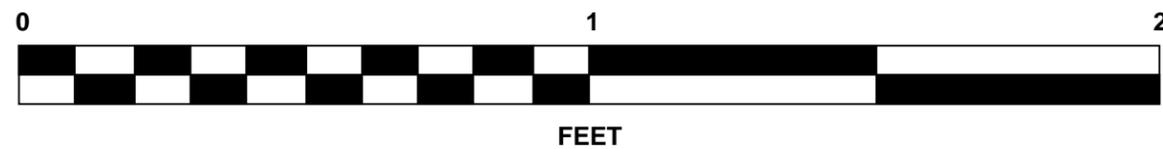




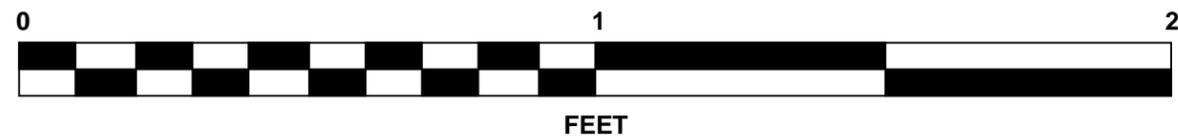
**SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-17
44.4 to 50.3 Feet**



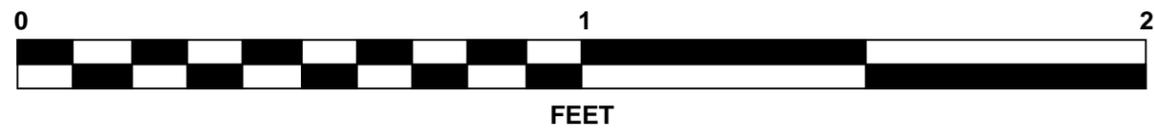
**SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-18
30.4 to 45.0 Feet**



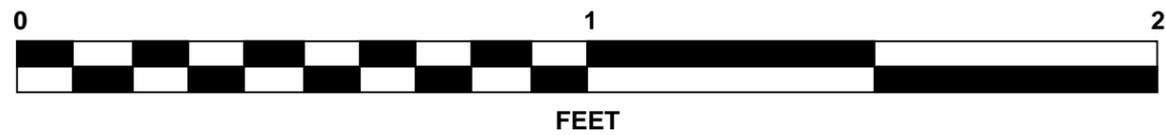
**SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-19
17.2 to 28.4 Feet**



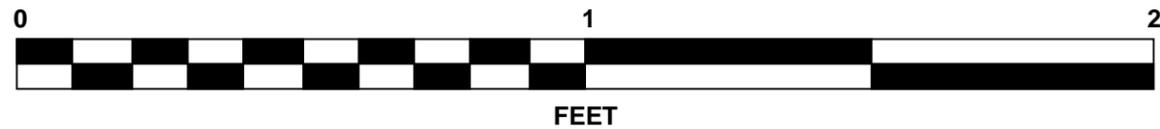
**SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-22
4.3 to 14.1 and 27.4 to 34.9 Feet**



**SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-23
21.4 to 34.4 Feet**



**SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-24
15.2 to 19.5 and 28.9 to 45.3 Feet**



**SR 1151 (GREEN RIVER COVE ROAD)
PART I: SWITCHBACKS
Polk County, North Carolina
Rock Core Photographs
Boring: B-30
19.4 to 35.4 Feet**

