

REFERENCE: I-6011A

PROJECT: 48690

CONTENTS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4-6	BORE LOGS
7	SOIL TEST RESULTS

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

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY ROBESON

PROJECT DESCRIPTION US 74 CONVERT AT GRADE
INTERSECTION OF US 74 AND SR 2225 (CREEK RD)
TO GRADE SEPARATION

SITE DESCRIPTION BRIDGE ON SR 2225 (CREEK RD)
OVER US 74 BETWEEN NC 130 AND NC 72

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-6011A	1	7

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 (919) 707-6850. 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

GOODNIGHT, D. J.

ESTEP, E.

TRIGON EXP.

INVESTIGATED BY FALCON ENG.

DRAWN BY HUNSBERGER, W. S.

CHECKED BY CROCKETT, S. C.

SUBMITTED BY FALCON ENG.

DATE AUGUST 2025



Signed by:

W. Scott Hunsberger

8/22/2025

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SIGNATURE

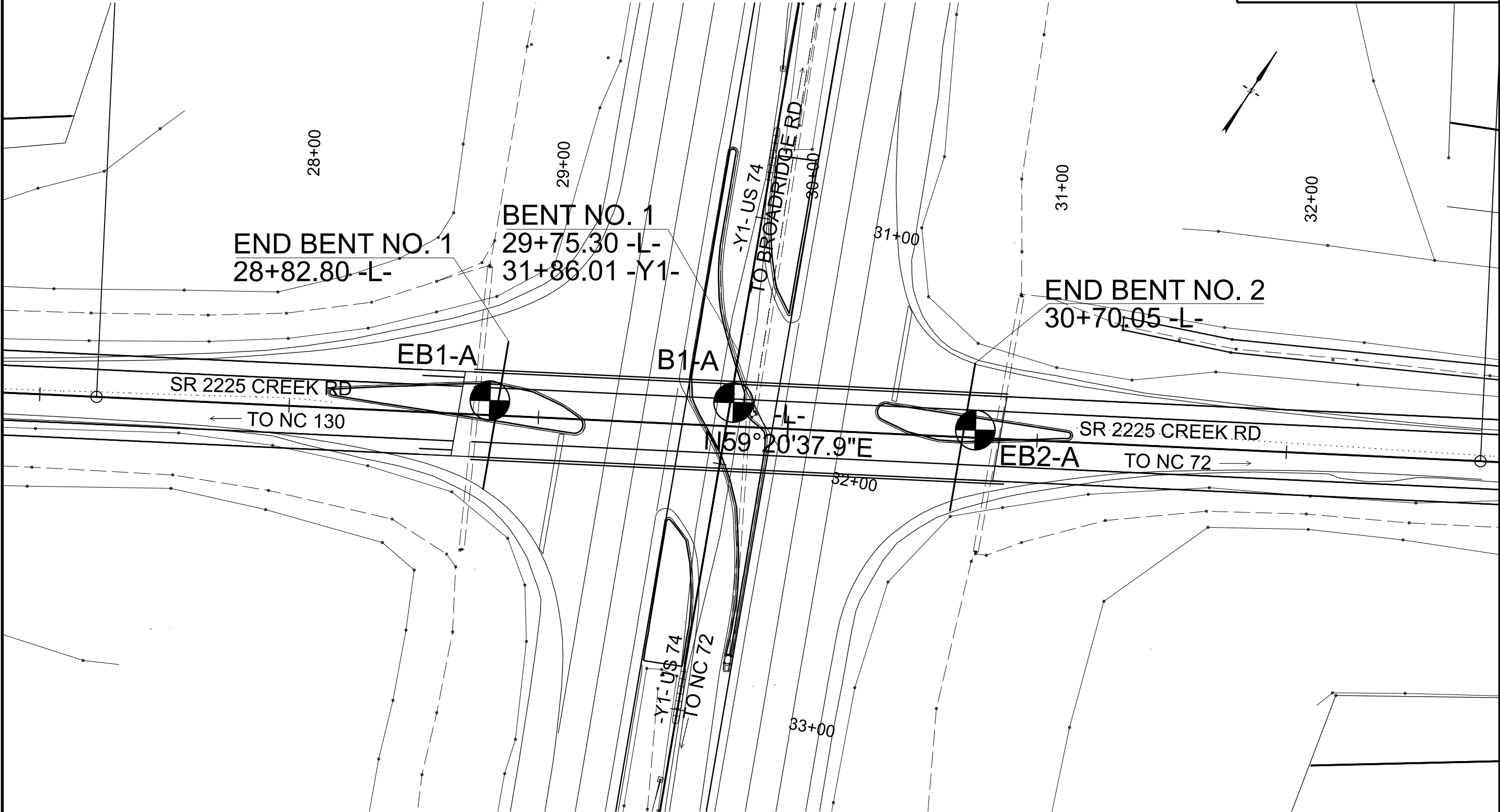
DATE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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																																							
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>										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.										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. 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: WEATHERED ROCK (WR) CRYSTALLINE ROCK (CR) NON-CRYSTALLINE ROCK (NCR) COASTAL PLAIN SEDIMENTARY ROCK (CP)										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 DISLOGGED 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.																																							
SOIL LEGEND AND AASHTO CLASSIFICATION										MINERALOGICAL COMPOSITION										WEATHERING																																																	
GENERAL CLASS. GRANULAR MATERIALS (≤ 35% PASSING #200) SILT-CLAY MATERIALS (> 35% PASSING #200) ORGANIC MATERIALS										MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.										FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE. VERY SLIGHT (V SL.) 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 (SL.) 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. <i>IF TESTED, WOULD YIELD SPT REFUSAL</i> 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. <i>IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF</i> 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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i> 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.										THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.										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.																													
ANGULARITY OF GRAINS										COMPRESSIONIBILITY																																																											
PERCENTAGE OF MATERIAL										GROUND WATER										MISCELLANEOUS SYMBOLS																																																	
ORGANIC MATERIAL TRACE OF ORGANIC MATTER LITTLE ORGANIC MATTER MODERATELY ORGANIC HIGHLY ORGANIC										GRANULAR SOILS 2 - 3% 3 - 5% 5 - 10% > 10%										SILT - CLAY SOILS 3 - 5% 5 - 12% 12 - 20% > 20%										OTHER MATERIAL TRACE LITTLE SOME HIGHLY																																							
WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING										STATIC WATER LEVEL AFTER 24 HOURS										PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA																																																	
SPRING OR SEEP																																																																					
PRIMARY SOIL TYPE										COMPACTNESS OR CONSISTENCY										RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)										RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)																																							
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)										VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE										< 4 4 TO 10 10 TO 30 30 TO 50 > 50										N/A																																							
GENERALLY SILT-CLAY MATERIAL (COHESIVE)										VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD										< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30										< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4																																							
TEXTURE OR GRAIN SIZE										RECOMMENDATION SYMBOLS										ABBREVIATIONS																																																	
U.S. STD. SIEVE SIZE OPENING (MM)										UNDERCUT SHALLOW UNDERCUT										UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL																																																	
Boulder (BLDR.)										COBBLE (COB.)										GRAVEL (GR.)										COARSE SAND (CSE. SD.)										FINE SAND (F SD.)										SILT (SL.)										CLAY (CL.)									
GRAIN SIZE										305 IN.										75 IN.										2.0										0.25										0.05										0.005									
SOIL MOISTURE - CORRELATION OF TERMS																																																																					
SOIL MOISTURE SCALE (ATTERBERG LIMITS)										FIELD MOISTURE DESCRIPTION										GUIDE FOR FIELD MOISTURE DESCRIPTION																																																	
LL - LIQUID LIMIT										- SATURATED - (SAT.)										USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE																																																	
PL - PLASTIC LIMIT										- WET - (W)										SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE																																																	
OM - OPTIMUM MOISTURE										- MOIST - (M)										SOLID; AT OR NEAR OPTIMUM MOISTURE																																																	
SL - SHRINKAGE LIMIT										- DRY - (D)										REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE																																																	
PLASTICITY																																																																					
NON PLASTIC										0-5										VERY LOW																																																	
SLIGHTLY PLASTIC										6-15										SLIGHT																																																	
MODERATELY PLASTIC										16-25										MEDIUM																																																	
HIGHLY PLASTIC										26 OR MORE										HIGH																																																	
COLOR																																																																					
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.																																																																					

PROJECT REFERENCE NO.	SHEET NO.
I-6011A	3
SITE PLAN	
04080 FEET	



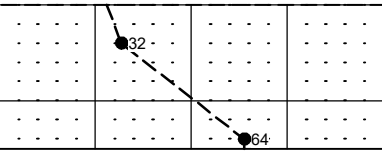
BRIDGE SKEW: 97°5'57.3"

WBS 48690.1.2						TIP I-6011A						COUNTY ROBESON						GEOLOGIST GOODNIGHT, D									
SITE DESCRPTION BRIDGE ON SR 2225 (CREEK RD) OVER US 74 BETWEEN NC 130 AND NC 72																	GROUND WTR (ft)										
BORING NO. EB1-A						STATION 28+80						OFFSET 6 ft LT						ALIGNMENT -L-						0 HR.		6.3	
COLLAR ELEV. 122.8 ft						TOTAL DEPTH 75.0 ft						NORTHING 265,930						EASTING 2,003,526						24 HR.		6.0	
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 88% 05/13/2024												DRILL METHOD Mud Rotary						HAMMER TYPE Automatic									
DRILLER Estep, J. E.						START DATE 01/16/25						COMP. DATE 01/17/25						SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION					DEPTH (ft)								
			0.5ft	0.5ft	0.5ft	0	25	50	75	100																	
125																											
120	121.0	1.8	12	12	12																						
	119.3	3.5	8	9	11																						
115	116.8	6.0	4	3	3																						
	114.3	8.5	1	0	1																						
110	109.3	13.5	1	1	2																						
105	104.3	18.5	2	1	2																						
100	99.3	23.5	1	2	1																						
95	94.3	28.5	WOH	1	0																						
90	89.3	33.5	WOH	2	3																						
85	84.3	38.5	12	26	47																						
80	79.3	43.5	10	12	15																						
75	74.3	48.5	7	8	11																						
70	69.3	53.5	16	29	34																						
65	64.3	58.5	7	15	18																						
60	59.3	63.5	11	15	20																						
55	54.3	68.5	10	10	16																						
50	49.3	73.5	10	14	17																						

[illegible]

NC DOT BORE DOUBLE G24075.00-COMPLETE.GPJ NC_DOT_GDT 7/21/25

WBS			48690.1.2			TIP			I-6011A			COUNTY			ROBESON			GEOLOGIST			GOODNIGHT, D																												
SITE DESCRIPTION																	BRIDGE ON SR 2225 (CREEK RD) OVER US 74 BETWEEN NC 130 AND NC 72			GROUND WTR (ft)																													
BORING NO.			B1-A			STATION			29+78			OFFSET			10 ft LT			ALIGNMENT			-L-			0 HR.		5.0																							
COLLAR ELEV.			122.5 ft			TOTAL DEPTH			85.0 ft			NORTHING			265,983			EASTING			2,003,608			24 HR.		5.5																							
DRILL RIG/HAMMER EFF./DATE										TRI8016 MOBILE B-57 88% 05/13/2024										DRILL METHOD					Mud Rotary					HAMMER TYPE					Automatic														
DRILLER					Estep, J. E.					START DATE					01/23/25					COMP. DATE					01/24/25					SURFACE WATER DEPTH										N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION										DEPTH (ft)																									
			0.5ft	0.5ft	0.5ft	0	25	50	75	100																																							
125																																																	
120	120.8	1.7	15	15	17																			122.5	0.0																								
	119.0	3.5	11	13	14																			119.5	3.0																								
115	116.5	6.0	8	7	6																																												
	114.0	8.5	1	1	1																			114.5	8.0																								
110											SS-16	53%												ROADWAY EMBANKMENT																									
																								TAN AND GRAY, DENSE, FINE SAND (A-3)																									
																								UNDIVIDED COASTAL PLAIN																									
																								TAN AND GRAY, MEDIUM DENSE, FINE SAND (A-3)																									
																								TAN AND GRAY, HIGHLY PLASTIC, SOFT, SILTY CLAY (A-7-6)																									
105	109.0	13.5	1	1	1																																												
	104.0	18.5	WOH	1	1						SS-17	46%																																					
100																																																	
	99.0	23.5	1	1	1																																												
95																																																	
	94.0	28.5	1	1	1																																												
90																																																	
	89.0	33.5	WOH	1	2																			90.5	32.0																								
85																								COASTAL PLAIN																									
	84.0	38.5	5	5	6																			DK. GRAY, VERY LOOSE, CLAYEY SAND (A-2-6) (DUPLIN FORMATION)																									
80																								85.5	37.0																								
	79.0	43.5	4	9	13																			GRAY, STIFF, SILTY CLAY (A-7)																									
75																								80.5	42.0																								
	74.0	48.5	4	6	5																			TAN, MEDIUM DENSE, CLAYEY SAND (A-2-5)																									
70																																																	
	69.0	53.5	13	24	26																																												
65																																																	
	64.0	58.5	21	26	23																																												
60																																																	
	59.0	63.5	8	9	14																																												
55																																																	
	54.0	68.5	15	24	27																																												
50																																																	
	49.0	73.5	6	10	12																																												
45																																																	

WBS		48690.1.2		TIP		I-6011A		COUNTY		ROBESON		GEOLOGIST		GOODNIGHT, D																																													
SITE DESCRIPTION												BRIDGE ON SR 2225 (CREEK RD) OVER US 74 BETWEEN NC 130 AND NC 72				GROUND WTR (ft)																																											
BORING NO.				B1-A				STATION				29+78				OFFSET				10 ft LT				ALIGNMENT				-L-				0 HR.		5.0																									
COLLAR ELEV.				122.5 ft				TOTAL DEPTH				85.0 ft				NORTHING				265,983				EASTING				2,003,608				24 HR.		5.5																									
DRILL RIG/HAMMER EFF./DATE										TRI8016 MOBILE B-57 88% 05/13/2024										DRILL METHOD										Mud Rotary										HAMMER TYPE										Automatic									
DRILLER						Estep, J. E.						START DATE						01/23/25						COMP. DATE						01/24/25						SURFACE WATER DEPTH										N/A													
ELEV (ft)		DRIVE ELEV (ft)		DEPTH (ft)		BLOW COUNT			BLOWS PER FOOT					SAMP. NO.		MOI		LOG		SOIL AND ROCK DESCRIPTION																																							
						0.5ft 0.5ft 0.5ft			0 25 50 75 100																																																		
45									Match Line																																																		
		44.0		78.5		9 12 20										M				GRAY, VERY STIFF TO HARD, SANDY CLAY (A-6) (continued)																																							
40																				40.5 82.0																																							
		39.0		83.5		17 28 36										M				37.5 85.0																																							
																				Boring Terminated at Elevation 37.5 ft IN COASTAL PLAIN (DUPLIN FORMATION): CLAYEY SAND																																							

[illegible][illegible]

NC DOT BORE DOUBLE G24075.00-COMPLETE.GPJ NC_DOT_GDT 7/21/25



LABORATORY TEST RESULTS
US 74 Grade Separation
Robeson County, NC
NCDOT Project: I-6011A
Falcon Engineering Project No: G24075.00

NO.	SAMPLE LOCATION	DEPTH INTERVAL	AASHTO CLASS.	ATTERBERG LIMITS		PERCENT BY WEIGHT				PERCENT PASSING SIEVE			MOISTURE (%)	BULK DENSITY (pcf)	ORGANICS (%)
				LL	PI	C.SAND	F.SAND	SILT	CLAY	#10	#40	#200			
SS-15	EB1-A	18.5-20.0	A-7-6(72)	92	66	0	11	20	69	100	100	95	55	N/A	N/A
SS-16	B1-A	8.5-10.0	A-7-6(55)	81	54	2	10	20	68	100	99	90	53	N/A	1.8%
SS-17	B1-A	18.5-20.0	A-7-6(22)	54	37	1	49	13	37	100	100	65	46	N/A	N/A
SS-18	EB2-A	13.5-15.0	A-7-6(51)	76	48	1	8	14	77	100	100	92	63	N/A	2.4%

Reviewed By