REFERENCE

CONTENTS

DESCRIPTION

LEGEND (SOIL & ROCK)

TITLE SHEET

SITE PLAN

BORE LOGS

PROFILE

SHEET NO.

5-8

B

STATE OF NORTH CAROLINA

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

STRUCTURE SUBSURFACE INVESTIGATION

COUNTY <u>EDGE</u>COMBE

PROJECT DESCRIPTION BRIDGE NO. 67 ON -L- (SR 1109) OVER OTTER CREEK

STATE PROJECT REFERENCE NO. SF-320067 8

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) 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 LIKEN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE DESTREY DATA THE VIEW OF THE STANDARD TEST METHOD. THE STRATA 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 INTERRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HINSELF AS TO CONDITIONS TO BE ENCOUNTERED OF 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.

- IES:
 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.

C.J. CORNETTE S.N. ZIMARINO R.E. SMITH J.M. EDMONDSON

PERSONNEL

INVESTIGATED BY __T.C. BOTTOMS

DRAWN BY _T.C. BOTTOMS

DATE OCTOBER 2017

SUBMITTED BY <u>D.N.</u> ARGENBRIGHT



D08CF4A6... SIGNATURE

DOCUMENT NOT CONSIDERED FINAL **UNLESS ALL SIGNATURES COMPLETED**

PROJECT REPERENCE NO. SHEET NO.

SF-320067

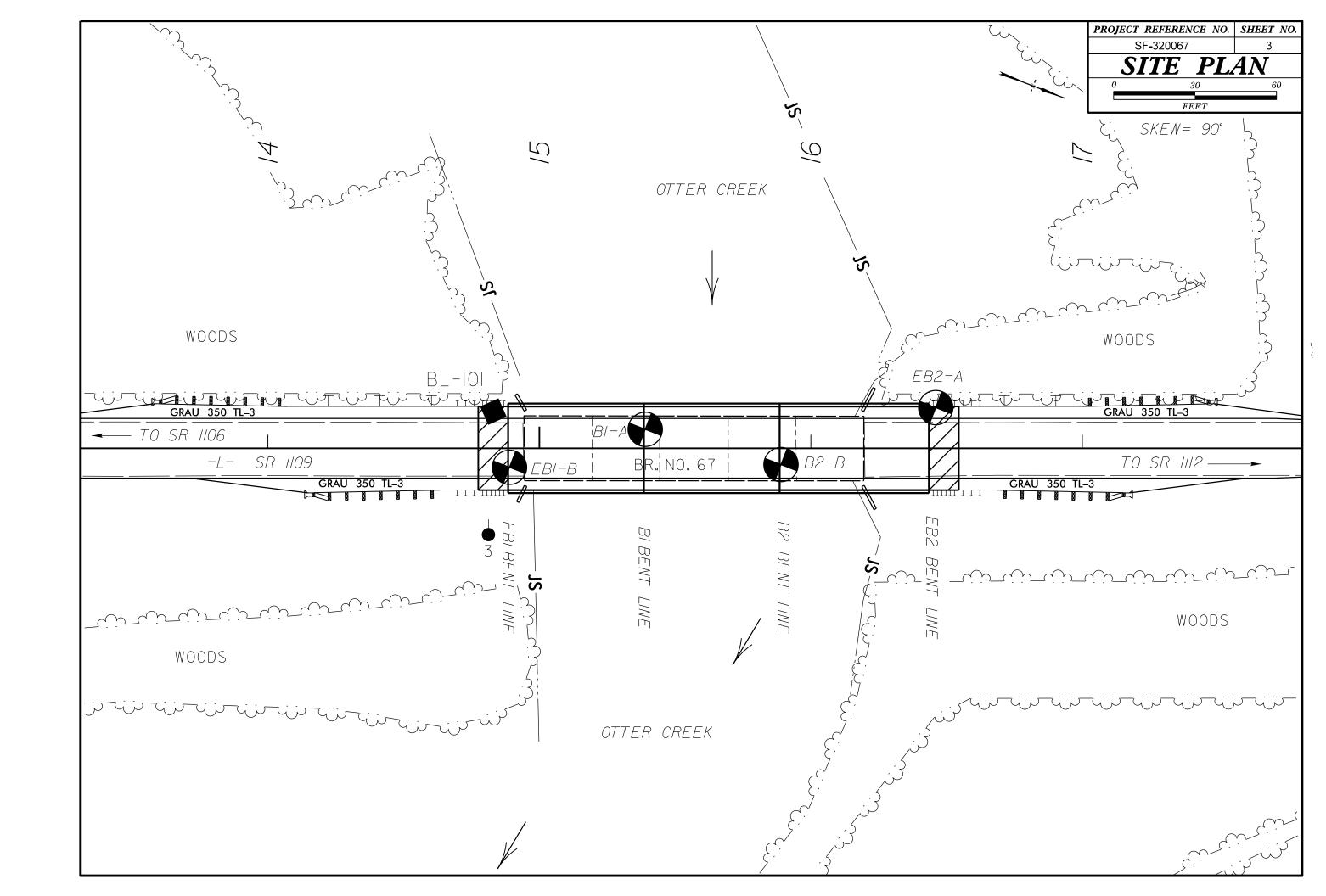
2

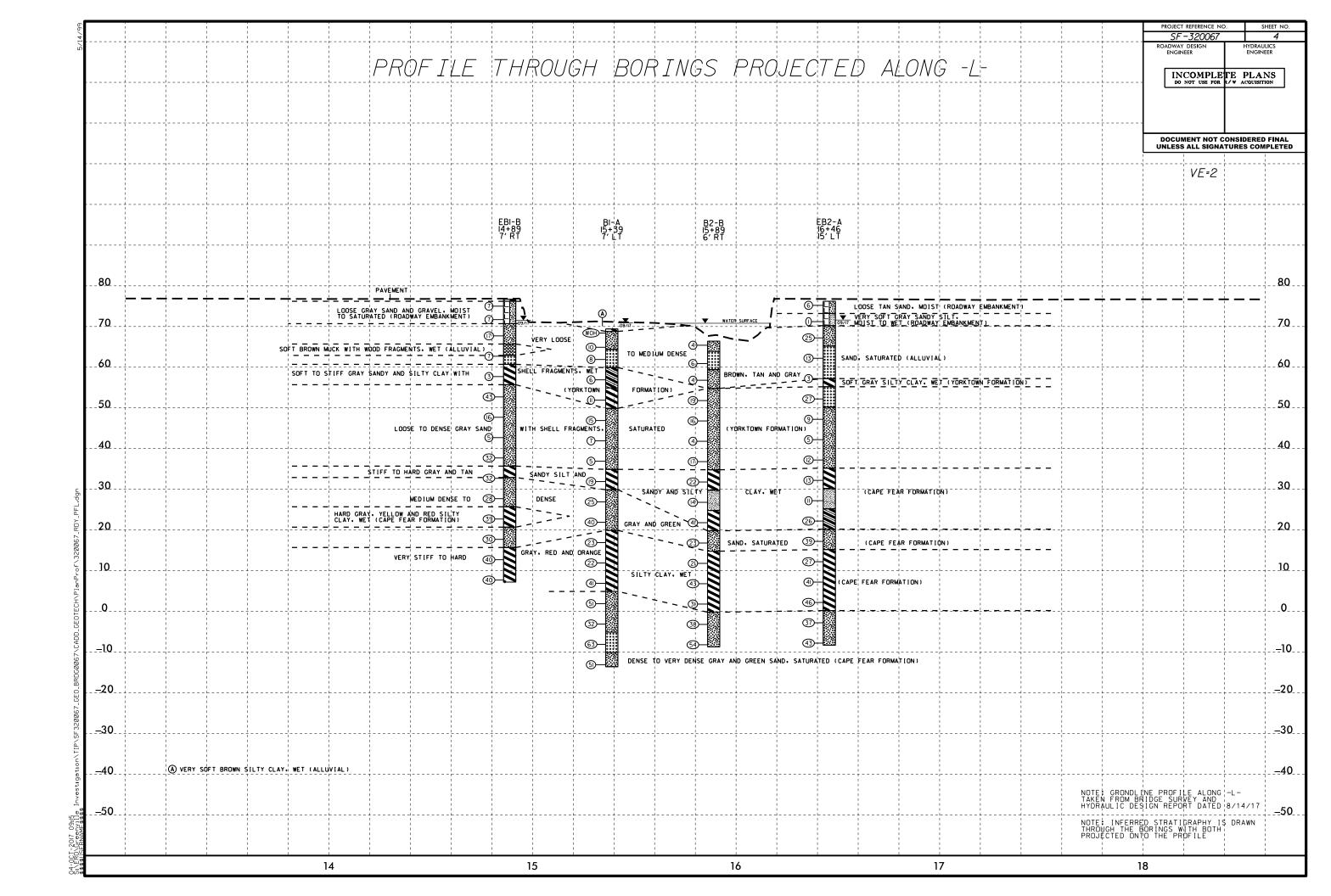
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT

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	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.	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.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
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:	GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.	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	AQUIFER - A WATER BEARING FORMATION OR STRATA.
CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH	ANGULARITY OF GRAINS	REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:	ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6	THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS:	WEATHERED WINDOWS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES >	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.
SOIL LEGEND AND AASHTO CLASSIFICATION	ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.	ROCK (WR) 100 BLOWS PER FOOT IF TESTED.	ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT
GENERAL GRANULAR MATERIALS SILT-CLAY MATERIALS ORGANIC MATERIALS	MINERALOGICAL COMPOSITION	CRYSTALLINE FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT	WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.
CLASS. (≤ 35% PASSING *200) (> 35% PASSING *200) CROUP A-1 A-3 A-2 A-4 A-5 A-6 A-7 A-1, A-2 A-4, A-5	MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.	ROCK (CR) WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.	CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
CLASS. A-1-b A-1-b A-2-4 A-2-5 A-2-6 A-2-7 A-7-6	COMPRESSIBILITY	NON-CRYSTALLINE FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YELLD SPT REFUSAL IF TESTED.	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM
SYMBOL 00000d0000d	SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50	ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC. COASTAL PLAIN COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD	OF SLOPE.
7. PASSING	HIGHLY COMPRESSIBLE LL > 50	SEDIMENTARY ROCK SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED (CP) SHELL BEDS, ETC.	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.
*10 50 MX GRANULAR CLAY MUCK, ** *40 30 MX 50 MX 51 MN SOILS CAY PEAT	PERCENTAGE OF MATERIAL	WEATHERING	DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT
*200 15 MX 25 MX 10 MX 35 MX 35 MX 35 MX 35 MX 36 MN 36 MN 36 MN 36 MN 36 MN 36 MN	GRANULAR SILT - CLAY ORGANIC MATERIAL SOILS SOILS OTHER MATERIAL	FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING, ROCK RINGS UNDER	ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE
MATERIAL DAGGING ALG	TRACE OF ORGANIC MATTER 2 - 3%, 3 - 5%, TRACE 1 - 10%, LITTLE ORGANIC MATTER 3 - 5%, 5 - 12%, LITTLE 10 - 20%.	HAMMER IF CRYSTALLINE.	HORIZONTAL.
PASSING *40 40 MX 41 MN LITTLE OR	MODERATELY ORGANIC 5 - 10% 12 - 20% SOME 20 - 35%	VERY SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, (V SLI.) CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF	DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE
PI 6 MX NP IU MX IU MX II MN II MN IU MX II MN II MN II MN MODERATE ORGANIC	HIGHLY ORGANIC > 10% > 20% HIGHLY 35% AND ABOVE GROUND WATER	OF A CRYSTALLINE NATURE.	LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE
TRUDEX B B B A AMA B MX 12 MX 16 MX NU MX AMUUNIS UF SOILS		SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO (SLI.) 1 INCH. OPEN JOINTS MAY CONTAIN CLAY, IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR	SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
OF MAIOR GRAVEL AND FINE SILTY OR CLAYEY SILTY CLAYEY MATTER	▼ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING	CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.	FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
MATERIALS SAND SAND GRAVEL AND SAND SOILS SOILS	▼ STATIC WATER LEVEL AFTER <u>24</u> HOURS	MODERATE SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY, ROCK HAS	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.
GEN. RATING AS SUBGRADE EXCELLENT TO GOOD FAIR TO POOR POOR POOR UNSUITABLE	<u>√PW</u> PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA	DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED	FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
P1 OF A-7-5 SUBGROUP IS ≤ LL - 3Ø ;P1 OF A-7-6 SUBGROUP IS > LL - 3Ø	- SPRING OR SEEP	WITH FRESH ROCK. MODERATELY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE
CONSISTENCY OR DENSENESS	MISCELLANEOUS SYMBOLS	SEVERE AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH	FIELD.
PRIMARY SOIL TYPE COMPACTNESS OR PENETRATION RESISTENCE COMPRESSIVE STRENGTH	ROADWAY EMBANKMENT (RE) 25/025 DIP & DIP DIRECTION	(MOD. SEV.) AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES 'CLUNK' SOUND WHEN STRUCK. IF TESTED, WOULD YIELD SPT REFUSAL	JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
CONSISTENCY (N-VALUE) (TONS/FT ²)	WITH SOIL DESCRIPTION → OF ROCK STRUCTURES	SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED, ROCK FABRIC CLEAR AND EVIDENT BUT	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.
GENERALLY VERY LOOSE	SOIL SYMBOL SPIT ONT TEST BORING SLOPE INDICATOR INSTALLATION	(SEV.) REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN.	LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
MEDIUM DENSE 10 TO 30 N/A	内	IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF	MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS
(NON-COHESIVE) DENSE 30 TO 50 VERY DENSE > 50	ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT AUGER BORING CONE PENETROMETER TEST	VERY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE SEVERE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK	USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE
VERY SOFT	— INFERRED SOIL BOUNDARY — CORE BORING SOUNDING ROD	(V SEV.) REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR	OF AN INTERVENING IMPERVIOUS STRATUM.
GENERALLY SOFT 2 TO 4	INFERRED ROCK LINE MW MONITORING WELL TEST BORING	VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. <u>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</u> COMPLETE ROCK REDUCED TO SOIL, ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND	RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
MATERIAL STIFF 8 TO 15 1 TO 2	WITH CORE	SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS	ROCK QUALITY DESIGNATION (RQD) - 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
(COHESIVE) VERY STIFF 15 TO 30 2 TO 4 HARD > 30 > 4	TTTT ALLUVIAL SOIL BOUNDARY ALLUVIAL SOIL BOUNDARY INSTALLATION SPT N-VALUE	ALSO AN EXAMPLE.	RUN AND EXPRESSED AS A PERCENTAGE.
TEXTURE OR GRAIN SIZE	RECOMMENDATION SYMBOLS	ROCK HARDNESS	SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.
U.S. STD. SIEVE SIZE 4 10 40 60 200 270	UNDERCUT UNCLASSIFIED EXCAVATION - UNCLASSIF	VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.	SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND
OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053	USED IN THE TOP 2 FEET OF	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED	RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
BOULDER COBBLE GRAVEL COARSE FINE SILT CLAY	SHALLOW UNDERCUT UNCLASSIFIED EXCAVATION - EMBANKMENT OR BACKFILL	TO DETACH HAND SPECIMEN. MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE	SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT
(BLDR.) (COB.) (GR.) (CSE. SD.) (F SD.) (SL.) (CL.)	ABBREVIATIONS	HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED	OR SLIP PLANE.
GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3	AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST BT - BORING TERMINATED MICA MICACEOUS WEA WEATHERED	BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT.	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
	CL CLAY MOD MODERATELY γ - UNIT WEIGHT	HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE	WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL
SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE FIELD MOISTURE COURS FOR FIELD MOISTURE	CPT - CONE PENETRATION TEST NP - NON PLASTIC 7d - DRY UNIT WEIGHT CSE COARSE ORG ORGANIC	POINT OF A GEOLOGIST'S PICK.	TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY
(ATTERBERG LIMITS) DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION	DMT - DILATOMETER TEST PMT - PRESSUREMETER TEST SAMPLE ABBREVIATIONS	SOFT CAN BE GROVED 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	TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
- SATURATED - USUALLY LIQUID; VERY WET, USUALLY	DPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BULK e - VOID RATIO SD SAND, SANDY SS - SPLIT SPOON	PIECES CAN BE BROKEN BY FINGER PRESSURE.	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
(SAT.) FROM BELOW THE GROUND WATER TABLE	F - FINE SL, - SILTY ST - SHELBY TUBE FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK	VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY	THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
PLASTIC COMMON TO COMMON T	FRAC FRACTURED, FRACTURES TCR - TRICONE REFUSAL RT - RECOMPACTED TRIAXIAL	FINGERNAIL.	TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
RANGE - WET - (W) SEMISULIS REGULATES DATING TO ATTAIN OPTIMUM MOISTURE	FRAGS FRAGMENTS	FRACTURE SPACING BEDDING TERM SPACING TERM THICKNESS	BENCH MARK: BL-IOI
	EQUIPMENT USED ON SUBJECT PROJECT	VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 4 FEET	N=720629.6830 E=2396977.0I50 ELEVATION: 76.03 FEET
OM OPTIMUM MOISTURE - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE	DRILL UNITS: ADVANCING TOOLS: HAMMER TYPE:	WIDE 3 TO 10 FEET THICKLY BEDDED 1.5 - 4 FEET MODERATELY CLOSE 1 TO 3 FEET THINLY BEDDED 0.16 - 1.5 FEET	
SL _ SHRINKAGE LIMIT	X CME-45C CLAY BITS X AUTOMATIC MANUAL	CLOSE 0.16 TO 1 FOOT VERY THINLY BEDDED 0.03 - 0.16 FEET	NOTES:
- DRY - (D) ATTAIN OPTIMUM MOISTURE	CME-55 G* CONTINUOUS FLIGHT AUGER CORE SIZE:	VERY CLOSE LESS THAN 0.16 FEET THICKLY LAMINATED 0.008 - 0.03 FEET THINLY LAMINATED < 0.008 FEET	
PLASTICITY	8' HOLLOW AUGERS	INDURATION	
PLASTICITY INDEX (PI) DRY STRENGTH	X CME-550 HARD FACED FINGER BITS	FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.	
NON PLASTIC 0-5 VERY LOW SLIGHTLY PLASTIC 6-15 SLIGHT	TUNGCARBIDE INSERTS	FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.	
MODERATELY PLASTIC 16-25 MEDIUM	VANE SHEAR TEST X CASING W/ ADVANCER HAND TOOLS: POST HOLE DIGGER	CRAINS CAN DE CERARATER FROM CAMBLE MITH CTEEL BRODE	
HIGHLY PLASTIC 26 OR MORE HIGH	PORTABLE HOIST X TRICONE 2 15/6 STEEL TEETH HAND AUGER	MODERATELY INDURATED MODERATELY INDURATED MODERATELY INDURATED BREAKS EASILY WHEN HIT WITH HAMMER.	
COLOR	TRICONE TUNG,-CARB. SOUNDING ROD	INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.	
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY).	CORE BIT VANE SHEAR TEST	CHARD HANNED DI DIE BEGINDED TO BREAK CAMPLE.	
MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.		EXTREMELY INDURATED SHARP HAMMER BLOWS REGULARD TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.	DATE: 8-15-14





SITE DESCRIPTION BRIDGE NUMBER 67 ON -L- (SR 1109) OVER OTTER CREEK GROUND WT BORING NO. EB1-B STATION 14+89 OFFSET 7 ft RT ALIGNMENT -L- 0 HR. COLLAR ELEV. 76.7 ft TOTAL DEPTH 69.5 ft NORTHING 720,643 EASTING 2,396,994 24 HR. DRILL RIG/HAMMER EFF./DATE GF00057 CME-550X 76% 06/13/2017 DRILL METHOD Mud Rotary HAMMER TYPE Automa DRILLER Smith, R. E. START DATE 09/26/17 COMP. DATE 09/26/17 SURFACE WATER DEPTH N/A ELEV DRIVE ELEV (ft) DEPTH BLOW COUNT ELEV (ft) BLOWS PER FOOT SAMP. SAMP.										UKL					
BORNIG NO. E81-8															GEOLOGIST Zimarino, S. N.
COLLAR ELEV. 76.7 ft TOTAL DEPTH 69.5 ft NORTHING 720.843 EASTING 2.396.994 24 HR	SITE	DESCRI	IPTION	BRID	GE NU	JMBE	R 67 ON -L-	(SR 1109) OVER (OTTER (CREE	K			GROUND WTR (ft
DRILLER Smith, R E START DATE G928117 COMP DATE G928117 SURFACE WATER DEPTH NAME TYPE AUDITOR AUDITOR COMP DATE G928117 COMP G92811	BOR	ING NO.	EB1-E	3		ST	TATION 14-	+89		OFFSET 7 ft RT					ALIGNMENT -L- 0 HR. N/A
DRILLER Smith, R	COLI	LAR ELE	EV . 76	.7 ft		т	OTAL DEPTH	d 69.5 ft		NORT	HING	720,64	13		EASTING 2,396,994 24 HR. 5.2
DRILLEY DRIVE D	DRILI	RIG/HAM	IMFR FF	F /DATE	GEO	 1057 C	MF-550X 76%	06/13/201	7					Muc	IN Rotary HAMMER TYPE Automatic
ELEY (1) (1) (1) (2) (1) (1) (2) (1) (1) (2) (1) (1) (2) (2) (3) (3) (3) (3) (4) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4					- 0,00	_				COMP				iviac	, ,
### BILLY ### SOL AND ROCK DESCRIPTION DE ### SOL AND ROCK DESCRIPTION DESCRIPTION DE ### SOL AND ROCK DESCRIPTION DESCRIPTION DESCRIPTION DE ### SOL AND ROCK DESCRIPTION DE ### SOL AND ROCK DESCRIPTION DESCRIPTION DE ### SOL AND ROCK DESCRIPTION DESCRIPTION DESCRIPTION DE ### SOL AND ROCK DESCRIPTION DESCRIPTION DE ### SOL AND ROCK DESCRIPTION DESCRIPTION DESCRIPTION DE ### SOL AND ROCK DESCRIPTION DE ### SOL		DDN/E			W 0011						. DA	-	20/1/		SURFACE WATER DEPTH N/A
75		ELEV					0 25				100		MOI	0	
75	80	-												-	- CDOUND SUBSACS
77	7.5	76.0	0.7	_			1							- -	
To To To To To To To To	/5	1 -	t l	3	4	3	7		 						
70 687 8.0 4 7 10 687 8.0 4 7 10 687 8.0 4 7 10 687 8.0 4 7 10 687 8.0 4 7 10 687 8.0 4 7 10 687 8.0 4 7 10 687 8.0 4 7 10 687 8.0 4 7 10 687 8.0 4 7 10 687 8.0 4 8.0 4 7 10 687 8.0 4 8.		72.7	4.0	1	2	1									
68.7 8.0 4 7 10 10 11 10 12 15 15 15 13.7 13.0 1 2 2 5 10 10 15 17 10 10 15 17 10 10 15 17 10 10 15 17 13.0 1 1 1 15 15 15 15 15	70			'	3	4	7								- - 70.7
65	70	687	80				 \ 			+					
Sa.7 13.0 1 2 5 5 6 6 6 6 6 6 6 6		30.7		4	7	10	1 17							::::	-
63.7 13.0 1 2 5 8 8 8 8 11 21 5 5 6 9 7 6 6 6 6 6 7 8 8 7 8 8 8 11 17 8 8 8 8	65	‡	Į l				::/::		: : : :						
1		63.7	13.0				 . / 		: : : :					*****	- BROWN MUCK WITH WOOD
58.7 18.0 2 1 2 2 3		-	<u> </u>	1	2	5	7				::			222	<u>- 62.9</u> FRAGMENTS, WET
58.7 - 18.0 2 1 2 2 1 2 3 5.3 7 - 23.0 7 10 33	60		-] : : :		: : : :					0000	
Section Sect	- 50	58.7	18.0											N	COASTAL PLAIN
53.7 - 23.0 7 10 33 50 48.7 - 28.0 5 9 7 66 45 43.7 - 33.0 2 2 2 3 4 48.0 8 11 21		-	<u> </u>	2	1	2					: -			V	
53.7 - 23.0	55		[: : : :						_ 55.7 21
50 48.7 28.0 5 9 7 416 33	- 55	53.7	23.0					· · ·							
48.7 28.0 5 9 7 466 43.7 33.0 2 2 3 3 65 3 38.7 43.0 8 11 21 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 32 32 34.0 32 34.0 34.0 34.0 34.0 34.0 34.0 34.0 34.0		-	<u> </u>	7	10	33		1 43						:::: <u> </u> -	
48.7 28.0 5 9 7 466 43.7 33.0 2 2 3 3 65 3 38.7 38.0 10 15 17 32 32 35.7 COASTAL PLAIN GRAY AND GREEN SILTY CLAY, WET (CAPE FEAR FORMATION) 28.7 48.0 8 11 17	50		[1/2	: : : :		::				- -
43.7 33.0 2 2 3 3 6 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	30	487	28 0					/						li:::\t	- -
43.7		15.7	-5.5	5	9	7	16								-
43.7	15		Į l				: :/: :		: : : :						- -
40 38.7 - 38.0 10 15 17 32 35.7 COASTAL PLAIN 32.9 GRAY AND GREEN SILTY CLAY, WET (CAPE FEAR FORMATION) 28.7 - 48.0 8 11 17 22 32 33 32.9 GRAY AND GREEN SILTY CLAY, WET (CAPE FEAR FORMATION) 28.7 - 48.0 8 11 17 32.9 GRAY AND GREEN SAND, SATURATED (CAPE FEAR FORMATION) 25.7 COASTAL PLAIN GRAY AND GREEN SAND, SATURATED (CAPE FEAR FORMATION) 26. 33.7 - 53.0 10 17 22 33.9 GRAY AND GREEN SAND, SATURATED (CAPE FEAR FORMATION) 27.7 COASTAL PLAIN GRAY, YELLOW AND RED SILTY CLAY, WET (CAPE FEAR FORMATION) 28.7 - 58.0 12 15 15 40.0 10 17 22 10 10 10 10 10 10 10 10 10 10 10 10 10	45	437	33.0				 . / 				$\overline{\cdot}$				- -
38.7 38.0 10 15 17 17 32 35.7 COASTAL PLAIN GRAY AND GREEN SAND, SATURATED (CAPE FEAR FORMATION) 28.7 48.0 8 11 17 22 33.9 COASTAL PLAIN GRAY AND GREEN SAND, SATURATED (CAPE FEAR FORMATION) 25.7 COASTAL PLAIN GRAY, YELLOW AND RED SILTY CLAY, WET (CAPE FEAR FORMATION) 28.7 58.0 12 15 15 33.0 33.9 33.9 33.9 33.9 33.0		75.7		2	2	3	5			.				i i i	-
38.7 38.0 10 15 17 17 32 35.7 COASTAL PLAIN GRAY AND GREEN SAND, SATURATED (CAPE FEAR FORMATION) 28.7 48.0 8 11 17 22 33.9 COASTAL PLAIN GRAY AND GREEN SAND, SATURATED (CAPE FEAR FORMATION) 25.7 COASTAL PLAIN GRAY, YELLOW AND RED SILTY CLAY, WET (CAPE FEAR FORMATION) 28.7 58.0 12 15 15 33.0 33.9 33.9 33.9 33.9 33.0	40	‡	ļ				:`;; :		: : : :		::				- -
35.7	40	38 7	38.0								$\overline{\cdot}$				- -
33.7 - 43.0 8 11 21		30.7		10	15	17		● 32 · ·		.				i i i	-
33.7 43.0 8 11 21	25	‡	ļ				::::	11.11	: : : :		::				
32.9 (CAPE FEAR FORMATION) COASTAL PLAIN GRAY AND GREEN SAND, SATURATED (CAPE FEAR FORMATION) 25.7 COASTAL PLAIN GRAY, YELLOW AND RED SILTY CLAY, WET (CAPE FEAR FORMATION) 15. 13.7 63.0 11 16 24 10 8.7 68.0 12 18 22 40 40 E Boring Terminated at Elevation 7.2 ft in	ათ	337	430					+	<u> </u>	+ : :					- COASTAL PLAIN - GRAY AND GREEN SILTY CLAY WET
25		33.7	75.0	8	11	21		•32···		.					- 32.9 (CAPE FEAR FORMATION) 43.
28.7	20	‡	ļ				::::	į	: : : :		::			##	
25	30	287	48 0					 		+					
25		-5.7	5.5	8	11	17	• • • •	• ₂₈ · · ·							-
23.7 - 53.0	25	‡	ļ				::::	7	: : : :						
20		23.7	53.0					.,'\		+					
20		-5.7	- 55.5	10	17	22	• • • •							N	WET (CAPE FEAR FORMATION)
18.7 - 58.0	20	‡	[::::	. /: .	: : : :						
15	20	187	58 n					-/	: : : :						
13.7 - 63.0		15.7	- 55.0	12	15	15		4 30 · ·						:::\ <u> -</u>	
13.7 - 63.0	15	‡	[::::	1/: : :	: : : :						
10 8.7 68.0 12 18 22	າວ	137	63 0					. \\ .	: : : :	+					
8.7 - 68.0		15.7	- 55.5	11	16	24	• • • •	\						N	
8.7 - 68.0	10	‡	[::::		: : : :					N	- -
12 18 22	10	87	68.0					 j .	 	+					- -
			00.0	12	18	22	<u> </u>	40	<u> </u>		<u></u>]				- - 7.2 69
			ļ											F	Boring Terminated at Elevation 7.2 ft in
		+	<u> </u>												паги эпту Стау -
		7	-											F	-
		‡	ļ												- -

WPC 47DD 4 D 70		TY FROM COMPE	CEOLOGIST Zimonino C N	WDC 17DD 4 D 70	200067 COUNTY FROMONE	CEOLOGIST Zinoning C. N.
WBS 17BP.4.R.78		TY EDGECOMBE	GEOLOGIST Zimarino, S. N.	WBS 17BP.4.R.78 TIP SF-3		GEOLOGIST Zimarino, S. N.
	SITE DESCRIPTION BRIDGE NUMBER 67 ON -L- (SR 1109) OVER		GROUND WTR (1		· · · · · · · · · · · · · · · · · · ·	GROUND WTR (ft)
BORING NO. B1-A	STATION 15+39	OFFSET 7 ft LT	ALIGNMENT -L- 0 HR. N/			ALIGNMENT -L- 0 HR. N/A
COLLAR ELEV. 69.4 ft	TOTAL DEPTH 83.0 ft	NORTHING 720,684	EASTING 2,396,963 24 HR. N/		EPTH 83.0 ft NORTHING 720,68	
DRILL RIG/HAMMER EFF./DATE GFC		DRILL METHOD Mud	 '	DRILL RIG/HAMMER EFF./DATE GFO0057 CME-550X		ETHOD Mud Rotary HAMMER TYPE Automatic
DRILLER Edmondson, J. M.	START DATE 09/27/17	COMP. DATE 09/27/17	SURFACE WATER DEPTH 1.5ft		ATE 09/27/17 COMP. DATE 09/2	27/17 SURFACE WATER DEPTH 1.5ft
ELEV (ft) DRIVE ELEV (ft) DEPTH BLOW COU	UNT BLOWS PER FOC 0.5ft 0 25 50	75 400 7 0	SOIL AND ROCK DESCRIPTION	ELEV DRIVE DEPTH BLOW COUNT	BLOWS PER FOOT SAMP. 25 50 75 100 NO.	SOIL AND ROCK DESCRIPTION
(ft) (ft) (ii) 0.5ft 0.5ft	0.511 0 25 30	75 100 NO. MOI G	ELEV. (ft) DEPTH	(ii) (ft) (iii) 0.5ft 0.5ft 0.5ft 0	25 30 75 100 NO.	MOI G
			WATER SURFACE (09/27/17)			
70 69.4 0.0 WOH WOH	WOH 1		-69.4 GROUND SURFACE		Match Line	
	Ф0		BROWN SILTY CLAY, WET	-12.1 81.5 81.5 81.5 81.5 81.5 81.5 81.5 81		-13.6 83.0
65 65.9 3.5 1 3	7		ALLUVIAL BROWN, GRAY, AND TAN SAND,		51	Boring Terminated at Elevation -13.6 ft in
62.9 + 6.5		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SATURATED	11 <u>T</u>		Very Dense Sand
2 3	5 . 68					[
60 7			= ^{59.9}	4 4 1 1 1		
57.9 11.5 5 3	3 1	.	GRAY SANDY AND SILTY CLAY WITH SHELL FRAGMENTS, WET (YORKTOWN			-
55			FORMATION) 1.			
52.9 16.5	1			1		F
5 6	5 11 - 11 - 1 - 1					
50 +				5		-
47.9 21.5 5 5	10		GRAY SAND WITH SHELL FRAGMENTS,			
45	10 • 15		SATURATED (YORKTOWN FORMATION)			‡
	: j' : : : : : : : : : : : : : : : : : :		-			
42.9 26.5 4 4	3 ./					‡
40 +	1		_			<u> </u>
37.9 - 31.5	• • • • • • • • •					[
3 2	3 5					[
35			_34.93 COASTAL PLAIN	5		-
32.9 + 36.5 8 8	11		GRAY SILTY CLAY, WET (CAPE FEAR FORMATION)			
30 +	19		29.9	5		
27.9 1 41.5			COASTAL PLAIN GRAY SAND, SATURATED (CAPE FEAR	7		<u> </u>
9 10	15 25		FORMATION)			<u> </u>
25			-			-
22.9 46.5 9 16	24					
20 = 1	40		_19.9 4	5		
17.9 - 51.5			COASTAL PLAIN GRAY AND ORANGE SILTY CLAY, WET]		
+ 10 11	12		(CAPE FEAR FORMATION)			
15 7		 S	-			
12.9 56.5 9 10	12					
10 10	22					
7.9 61.5		- 	-			F
7.9 101.3 16 18						
5 5		· · · · · ·		5		‡
2.9 66.5			GRAY AND GREEN SAND, SATURATED			‡
	20		(CAPE FEAR FORMATION)			‡
	/ .		-			
-2.1 + 71.5 10 14	18					
₩ <u>-5</u>			5.1	5		
UN -5 -7.1 - 76.5 -7.1 - 76.5		3				
17 25	38	3				
ž[-10]		0000	10.1 7	5J <u> </u>		

	BURE LUG					
	TIP SF-320067 COUNTY EDGECOMBE	GEOLOGIST Zimarino, S. N.	WBS 17BP.4.R.78		TY EDGECOMBE	GEOLOGIST Zimarino, S. N.
SITE DESCRIPTION BRIDGE NUMB	SITE DESCRIPTION BRIDGE NUMBER 67 ON -L- (SR 1109) OVER OTTER CREEK GROUND WTR (ft)			MBER 67 ON -L- (SR 1109) OVER	R OTTER CREEK	GROUND WTR (ft)
BORING NO. B2-B	STATION 15+89 OFFSET 6 ft RT	ALIGNMENT -L- 0 HR. N/A	BORING NO. B2-B	STATION 15+89	OFFSET 6 ft RT	ALIGNMENT -L- 0 HR. N/A
COLLAR ELEV. 66.4 ft	TOTAL DEPTH 75.1 ft NORTHING 720,736	EASTING 2,396,957 24 HR . N/A	COLLAR ELEV. 66.4 ft	TOTAL DEPTH 75.1 ft	NORTHING 720,736	EASTING 2,396,957 24 HR. N/A
DRILL RIG/HAMMER EFF./DATE GFO005	7 CME-550X 76% 06/13/2017 DRILL METH	HAMMER TYPE Automatic	DRILL RIG/HAMMER EFF./DATE GFOOD	057 CME-550X 76% 06/13/2017	DRILL METHOD M	flud Rotary HAMMER TYPE Automatic
	START DATE 09/26/17 COMP. DATE 09/27/1	·	DRILLER Smith, R. E.	START DATE 09/26/17	COMP. DATE 09/27/17	SURFACE WATER DEPTH 4.4ft
				 	OT SAMP.	
ELEV (ft) DRIVE ELEV (ft) (ft) BLOW COUNT (ft) 0.5ft 0.5ft 0.5	5ft 0 25 50 75 100 NO. NO.	O SOIL AND ROCK DESCRIPTION OI G ELEV. (ft) DEPTH (ft)	ELEV (ft) DEPTH BLOW COUNTY (ft) 0.5ft 0.5ft 0	0.5ft 0 25 50	75 100 NO. MOI G	SOIL AND ROCK DESCRIPTION
75		-	-5	Match Line		COASTAL PLAIN
			-7.2 73.6 8 27			GRAY SAND, SATURATED (CAPE FEAR
70		WATER SURFACE (09/26/17)	8 27	21 •54 .		FORMATION) (continued) 75.1 Boring Terminated at Elevation -8.7 ft in
70			±			Very Dense Sand
±		- 66.4 GROUND SURFACE 0.0				t
65 66.4 7 0.0 2 2 2	2 4	ALLUVIAL				-
		63.9 BROWN AND GRAY SAND, SATURATED 2.5	‡			F
61.9 4.5		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				-
60 5 4 2	4 •6	0000 0000 0000 0000 0000 0000 0000 0000 0000	‡			_
57.8 + 8.6		7.0				-
7.3 = 0.0 2 1 3	3 • • • • • • • • • • • • • • • • •					F-
55 🕇		54.8 11.6				<u> </u>
52.8 + 13.6		COASTAL PLAIN GRAY SAND WITH SHELL FRAGMENTS,				<u> </u>
	1	SATURATED (YORKTOWN FORMATION)				<u> </u>
50			±			<u>-</u>
47.8 18.6 7 8 8						-
45 7 7	' : : , 9 16 : : : : : : : : : : : :					F
						-
42.8 + 23.6 3 2 2						<u>t</u>
40 ±						E
37.8 + 28.6			7			-
7 9 8						F
35		34.8 31.6 COASTAL PLAIN	‡			-
32.8 + 33.6		GRAY SILTY CLAY, WET (CAPE FEAR				-
7 10 12	$2 \mid \mid \cdot \cdot \cdot \cdot \downarrow \stackrel{1}{\downarrow}_{22} \cdot \cdot \cdot \cdot \mid \cdot \cdot \cdot \cdot \mid \cdot \cdot \cdot \cdot \mid \mid \cdot \cdot \cdot \cdot \mid \mid$	FORMATION)	±			<u>t</u>
$\frac{30}{1}$		29.8 36.6	±			<u>-</u>
27.8 38.6 5 6 8		GRAY SILT, WET (CAPE FEAR FORMATION)				-
25) : • • • • • • • • • • • • • • • • • •	FORWATION)				F
		COASTAL PLAIN	‡			F
22.8 + 43.6 10 18 23	3	GRAY AND GREEN SILTY CLAY, WET (CAPE FEAR FORMATION)				<u> </u>
20 +		19.8 46.6				_
17.8 + 48.6		COASTAL PLAIN GRAY SAND, SATURATED (CAPE FEAR				<u>t</u>
` '* '' '-	2 •23	FORMATION)				-
15 +		14.8 51.6 COASTAL PLAIN	‡			F- 1
12.8 + 53.6		GRAY, RED, AND ORANGE SILTY CLAY,				ļ
6 10 11	'	WET (CAPE FEAR FORMATION)				<u> </u>
10 I		≥	‡			<u> </u>
	2	≥				Ł I
78 + 58.6 15 21 22 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	/	≥				<u> </u>
		5	7			F
28 + 63.6 13 14 17	7 . /					F
		-0.2 66.6				
UN 0 -2.2 - 68.6	:::: ::/:	COASTAL PLAIN GRAY SAND, SATURATED (CAPE FEAR				t I
17 18 20	0 38	FORMATION)				<u> </u>
∑ <u>-5 </u>		[600]				[

