

PROJECT: 17BP.2.R.89 REFERENCE: B-4427

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

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY BEAUFORT
 PROJECT DESCRIPTION BRIDGE NO. 6 ON -L- (SR 1422)
OVER BIG SWAMP

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4427	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 MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE 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:
1. 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.
 2. 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
C.J. CORNETTE
S.N. ZIMARINO
R.E. SMITH
J.M. EDMONDSON

INVESTIGATED BY T.C. BOTTOMS
 DRAWN BY C.J. CORNETTE
 CHECKED BY D.N. ARGENBRIGHT
 SUBMITTED BY D.N. ARGENBRIGHT
 DATE MARCH 2018



DocuSigned by:

 48A2D3BD08CF446 SIGNATURE DATE 3/20/2018

**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

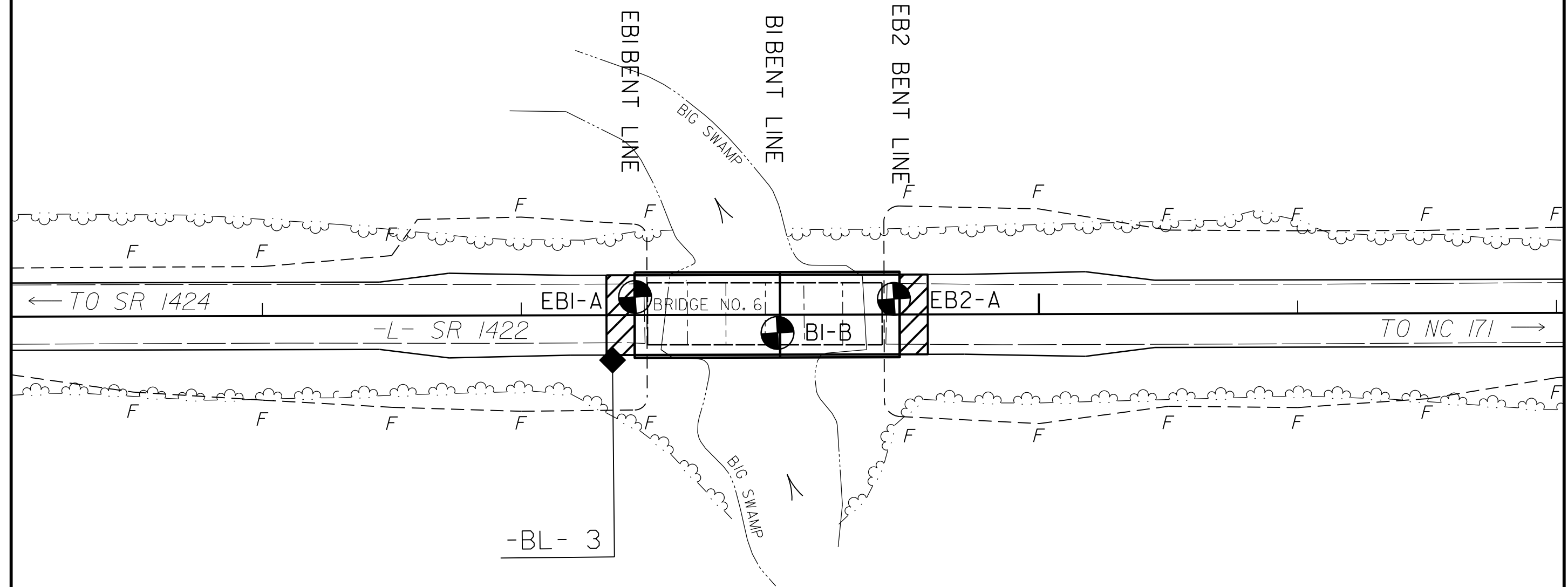
Table with multiple columns: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, TERMS AND DEFINITIONS, SOIL LEGEND AND AASHTO CLASSIFICATION, MINERALOGICAL COMPOSITION, COMPRESSIBILITY, PERCENTAGE OF MATERIAL, GROUND WATER, MISCELLANEOUS SYMBOLS, RECOMMENDATION SYMBOLS, ABBREVIATIONS, EQUIPMENT USED ON SUBJECT PROJECT, PLASTICITY, COLOR, FRACTURE SPACING, BEDDING, INDURATION, and NOTES.

PROJECT REFERENCE NO.	SHEET NO.
B-4427	3
SITE PLAN	
 0 40 80 FEET	

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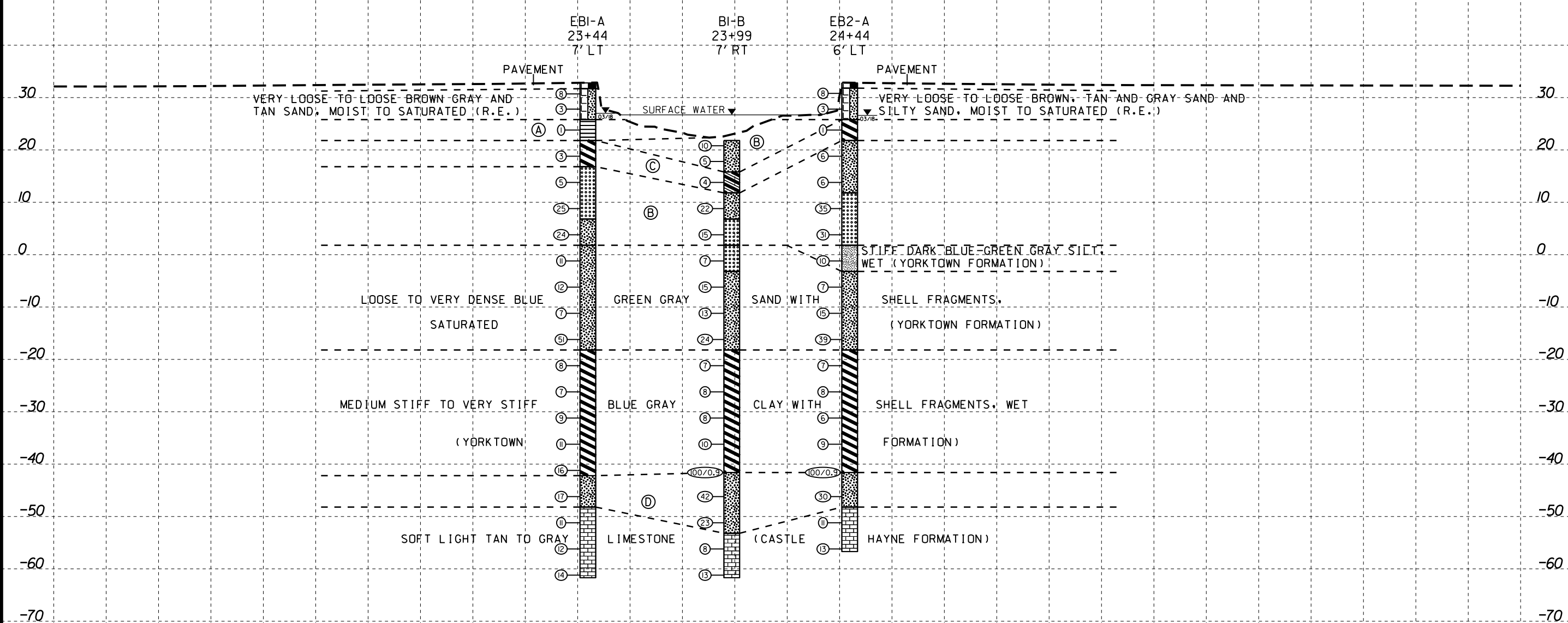
SKEW = 90°

22 23 24 25 26



PROFILE THROUGH BORINGS PROJECTED ALONG -L-

VE = 2



- (A) VERY SOFT BROWN CLAY WITH LITTLE ORGANIC CONTENT, WET (ALLUVIAL)
- (B) LOOSE TO DENSE GRAY, LIGHT GRAY AND BROWN SAND WITH WOOD FRAGMENTS, SATURATED (ALLUVIAL)
- (C) VERY SOFT TO SOFT GRAY AND BROWN SANDY AND SILTY CLAY WITH WOOD FRAGMENTS, WET (ALLUVIAL)
- (D) MEDIUM DENSE TO VERY DENSE LIGHT GRAY CALCAREOUS SAND, SATURATED (CASTLE HAYNE FORMATION)

NOTE: GROUNDLINE PROFILE ALONG -L- TAKEN FROM BRIDGE SURVEY AND HYDRAULIC DESIGN REPORT DATED 01/03/18

NOTE: INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE PROFILE

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 5/14/99

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 17BP.2.R.89		TIP B-4427		COUNTY BEAUFORT		GEOLOGIST Zimarino, S. N.	
SITE DESCRIPTION BRIDGE NO. 6 ON -L- (SR 1422) OVER BIG SWAMP						GROUND WTR (ft)	
BORING NO. B1-B		STATION 23+99		OFFSET 7 ft RT		ALIGNMENT -L-	
COLLAR ELEV. 21.8 ft		TOTAL DEPTH 83.5 ft		NORTHING 697,419		EASTING 2,585,430	
DRILL RIG/HAMMER EFF./DATE GFO0075 CME-45C 84% 08/21/2017				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic	
DRILLER Edmondson, J. M.		START DATE 03/14/18		COMP. DATE 03/15/18		SURFACE WATER DEPTH 4.9ft	

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									
30																			
25																			
21.8	21.8	0.0	5	5	5										21.8	GROUND SURFACE			
18.8	18.8	3.0	4	2	3											ALLUVIAL GRAY AND BROWN SAND, SATURATED			
14.8	14.8	7.0	2	2	2											ALLUVIAL BROWN SANDY CLAY, WET			
9.8	9.8	12.0	6	10	12											ALLUVIAL LIGHT GRAY SAND, SATURATED			
4.8	4.8	17.0	6	7	8														
-0.2	-0.2	22.0	2	3	4												COASTAL PLAIN BLUE GREEN GRAY SAND, SATURATED (YORKTOWN FORMATION)		
-5.2	-5.2	27.0	7	6	9														
-10.2	-10.2	32.0	5	6	7														
-15.2	-15.2	37.0	8	10	14														
-20.2	-20.2	42.0	2	3	4													COASTAL PLAIN BLUE GRAY CLAY WITH SHELL FRAGMENTS, WET (YORKTOWN FORMATION)	
-25.2	-25.2	47.0	2	4	4														
-30.2	-30.2	52.0	2	3	5														
-35.2	-35.2	57.0	2	3	7														
-40.2	-40.2	62.0	8	10	90/0.4														
-45.2	-45.2	67.0	10	17	25														

NCDOT BORE DOUBLE B4427.GPJ NC_DOT.GDT 3/19/18

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SITE DESCRIPTION BRIDGE NO. 6 ON -L- (SR 1422) OVER BIG SWAMP						GROUND WTR (ft)	
BORING NO. B1-B		STATION 23+99		OFFSET 7 ft RT		ALIGNMENT -L-	
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DRILL RIG/HAMMER EFF./DATE GFO0075 CME-45C 84% 08/21/2017				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic	
DRILLER Edmondson, J. M.		START DATE 03/14/18		COMP. DATE 03/15/18		SURFACE WATER DEPTH 4.9ft	

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						
-50																
-55.2	-55.2	77.0	6	4	4											
-60.2	-60.2	82.0	6	6	7											

Match Line

COASTAL PLAIN SEDIMENTARY ROCK
SOFT LIGHT TAN LIMESTONE (CASTLE
HAYNE FORMATION)

Boring Terminated at Elevation -61.7 ft in
Soft Limestone

GEOTECHNICAL BORING REPORT BORE LOG

WBS 17BP.2.R.89		TIP B-4427		COUNTY BEAUFORT		GEOLOGIST Zimarino, S. N.										
SITE DESCRIPTION BRIDGE NO. 6 ON -L- (SR 1422) OVER BIG SWAMP							GROUND WTR (ft)									
BORING NO. EB2-A		STATION 24+44		OFFSET 6 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 32.8 ft		TOTAL DEPTH 89.5 ft		NORTHING 697,464		EASTING 2,585,420										
DRILL RIG/HAMMER EFF./DATE GFO0075 CME-45C 84% 08/21/2017			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER Edmondson, J. M.		START DATE 03/13/18		COMP. DATE 03/13/18		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						
35																
	31.8	1.0	5	4	4											
30	28.8	4.0	2	1	2											
25	24.8	8.0	1	0	1											
20	19.8	13.0	1	4	2											
15	14.8	18.0	1	2	4											
10	9.8	23.0	9	15	20											
5	4.8	28.0	10	14	17											
0	-0.2	33.0	3	4	6											
-5	-5.2	38.0	3	3	4											
-10	-10.2	43.0	5	6	9											
-15	-15.2	48.0	12	15	24											
-20	-20.2	53.0	3	3	4											
-25	-25.2	58.0	3	4	4											
-30	-30.2	63.0	2	3	3											
-35	-35.2	68.0	2	4	5											
-40	-40.2	73.0	3	5	95/0.4											
-45																

WBS 17BP.2.R.89		TIP B-4427		COUNTY BEAUFORT		GEOLOGIST Zimarino, S. N.										
SITE DESCRIPTION BRIDGE NO. 6 ON -L- (SR 1422) OVER BIG SWAMP							GROUND WTR (ft)									
BORING NO. EB2-A		STATION 24+44		OFFSET 6 ft LT		ALIGNMENT -L-										
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DRILLER Edmondson, J. M.		START DATE 03/13/18		COMP. DATE 03/13/18		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						
-45	-45.2	78.0	15	17	13											
-50	-50.2	83.0	5	5	6											
-55	-55.2	88.0	6	7	6											

NCDOT BORE DOUBLE B4427.GPJ NC_DOT.GDT 3/19/18