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REFERENCE: B-5397

PROJECT: 46112

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	46112 B-5397	1	4

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND
3	SITE PLAN
4	BORE LOGS

STRUCTURE  
SUBSURFACE INVESTIGATION

COUNTY RUTHERFORD  
PROJECT DESCRIPTION REPLACE BRIDGE NUMBER 51  
OVER FLOYDS CREEK ON SR 2213

SITE DESCRIPTION \_\_\_\_\_  
\_\_\_\_\_

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 1919/707-8850. 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

M.M. HAGER

D.O. CHEEK

C.J. COFFEE

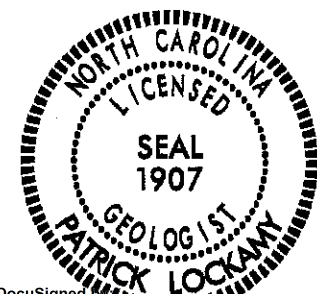
INVESTIGATED BY P.Q. LOCKAMY

DRAWN BY P.Q. LOCKAMY

CHECKED BY J.C. KUHNE

SUBMITTED BY J.C. KUHNE

DATE 09-24-2015



DocuSigned by  
Patrick Q. Lockamy

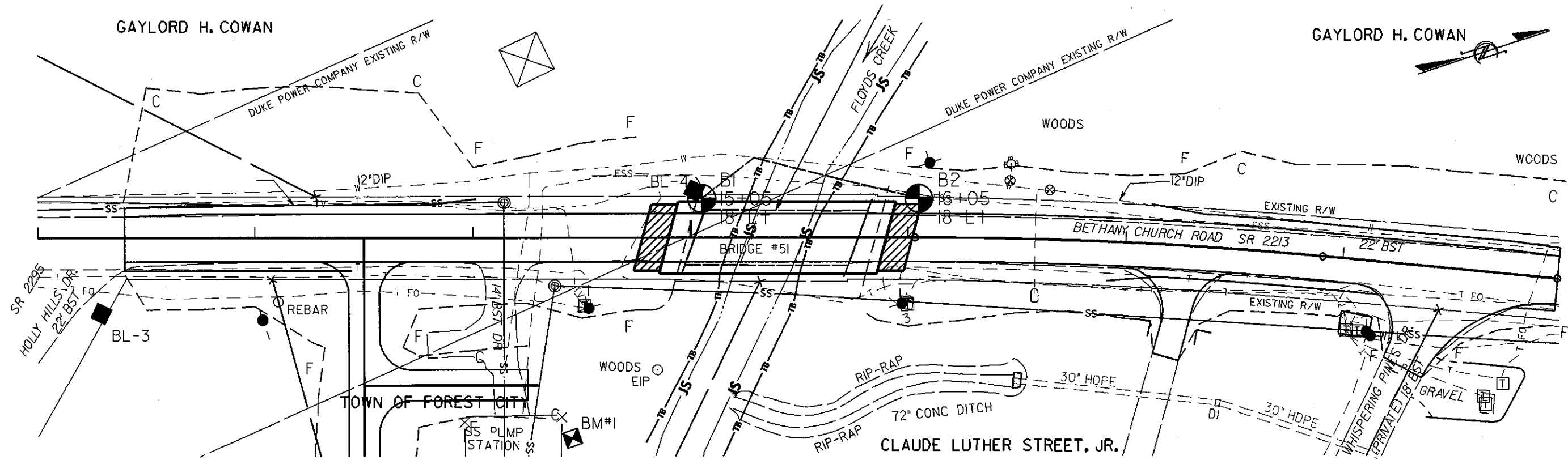
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9/25/2015

SIGNATURE

DATE





# GEOTECHNICAL BORING REPORT BORE LOG

SHEET

WBS 46112.1.1		TIP B5397		COUNTY RUTHERFORD		GEOLOGIST Hager, M. M.									
SITE DESCRIPTION Rutherford County Bridge No 51 on SR-2213( Bethany Church Road) over Floyds Creek							GROUND WTR (ft)								
BORING NO. 1		STATION 15+05		OFFSET 18 ft LT		ALIGNMENT I									
COLLAR ELEV. 875.6 ft		TOTAL DEPTH 31.5 ft		NORTHING 578,825		EASTING 1,137,679									
DRILL RIG/HAMMER EFF./DATE AFO0070 CME-550X 81% 09/03/2009		DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic											
DRILLER Cheek, D. O.		START DATE 04/09/12		COMP. DATE 04/09/12		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					
880															
875														875.6	0.0
														embankment: brown sandy silt with clay, moist	
870	870.7	4.9	7	4	3									870.2	5.4
														embankment: fine to coarse sand with silt and clay, moist to saturated	
865	865.7	9.9	5	7	8									863.2	12.4
														saprolite: Brown to dark gray to black silty sand with mica and very thin weathered rock layers below 18.6 feet, saturated.	
860	860.7	14.9	1	2	3										
														Boring was caved and dry at 5.5 feet in 24 hours.	
855	855.7	19.9	1	1	2										
850	850.7	24.9	2	4	3										
845	845.7	29.9	100/4											845.7	29.9
														845.3	30.3
	844.1	31.5	60/0											844.1	31.5
														Boring Terminated with Standard Penetration Test Refusal at Elevation 844.1 ft in crystalline rock	

NCDOT BORE SINGLE B6397\_GEO\_BR0051\_BORINGS\_REV3.GPJ NC\_DOT.GDT 9/24/15

# GEOTECHNICAL BORING REPORT BORE LOG

SHEET

WBS 46112.1.1		TIP B5397		COUNTY RUTHERFORD		GEOLOGIST Hager, M. M.									
SITE DESCRIPTION Rutherford County Bridge No 51 on SR-2213( Bethany Church Road) over Floyds Creek							GROUND WTR (ft)								
BORING NO. 2		STATION 16+05		OFFSET 18 ft LT		ALIGNMENT I									
COLLAR ELEV. 875.4 ft		TOTAL DEPTH 26.4 ft		NORTHING 578,919		EASTING 1,137,710									
DRILL RIG/HAMMER EFF./DATE AFO0070 CME-550X 81% 09/03/2009		DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic											
DRILLER Cheek, D. O.		START DATE 04/11/12		COMP. DATE 04/11/12		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					
880															
875														875.4	0.0
														873.4	2.0
														embankment: brown sandy silt with clay, moist	
870	870.8	4.6	1	2	1									870.2	5.4
														embankment: fine to coarse sandy silt and clay, moist	
865	865.8	9.6	1	1	1									868.4	7.0
														alluvium: silty sand, moist to sat.	
860	860.8	14.6	3	1	2									864.0	11.4
														saprolite: Brown to gray to black silty sand with mica, saturated	
855	856.0	19.4	100/4											855.6	19.8
														weathered rock (gneiss)	
850	850.8	24.6	41	59/2											
	849.0	26.4	60/0											849.0	26.4
														Boring Terminated with Standard Penetration Test Refusal at Elevation 849.0 ft on crystalline rock	

NCDOT BORE SINGLE B6397\_GEO\_BR0051\_BORINGS\_REV3.GPJ NC\_DOT.GDT 9/24/15