

REFERENCE: R-5797

PROJECT: 44997

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

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY COLUMBUS

PROJECT DESCRIPTION US 74 AT SR 1506 (OLD BOARDMAN ROAD/MACEDONIA CHURCH ROAD)

SITE DESCRIPTION BRIDGE ON SR 1506 (OLD BOARDMAN ROAD/MACEDONIA CHURCH ROAD) OVER US 74 BETWEEN SR 1574 AND SR 1505

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5797	1	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 (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 (ON-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:
- 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

M. DURWAY

W. PESL

D. TIGNOR

T. BEARD

INVESTIGATED BY F&R, Inc.

DRAWN BY T.T. WALKER

CHECKED BY P. ALTON, P.E.

SUBMITTED BY C. WANG, P.E.

DATE MAY 2019

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SIGNATURE

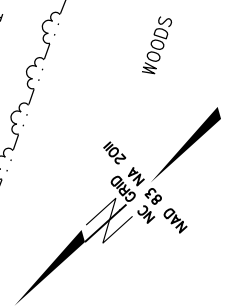
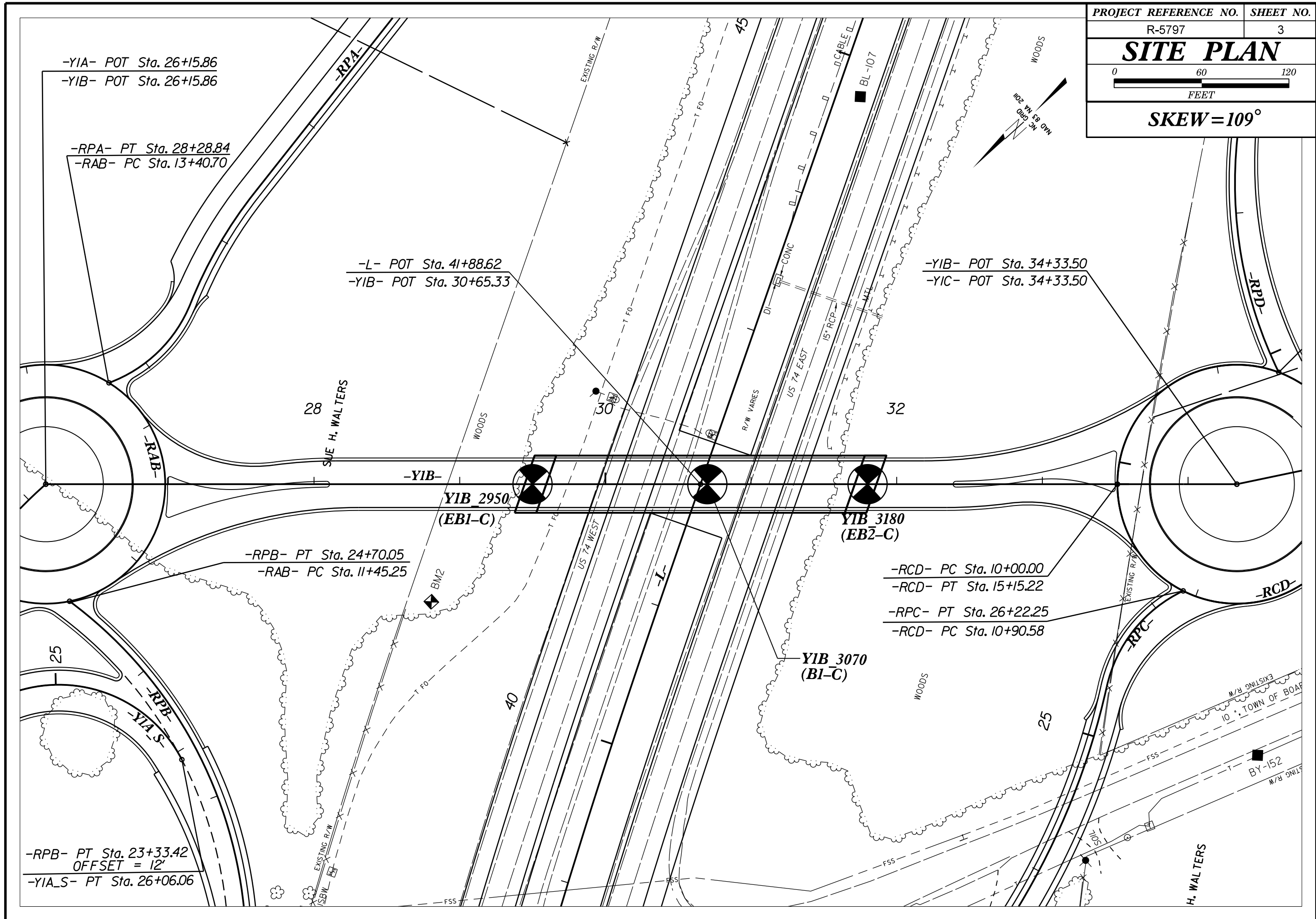
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**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

Table with 4 main columns: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, and TERMS AND DEFINITIONS. It contains detailed technical specifications, classification charts, and symbols for soil and rock types.



-YIA- POT Sta. 26+15.86
 -YIB- POT Sta. 26+15.86

-RPA- PT Sta. 28+28.84
 -RAB- PC Sta. 13+40.70

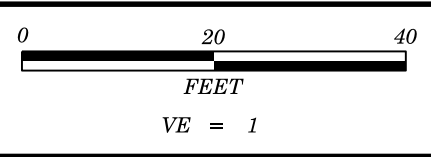
-L- POT Sta. 41+88.62
 -YIB- POT Sta. 30+65.33

-YIB- POT Sta. 34+33.50
 -YIC- POT Sta. 34+33.50

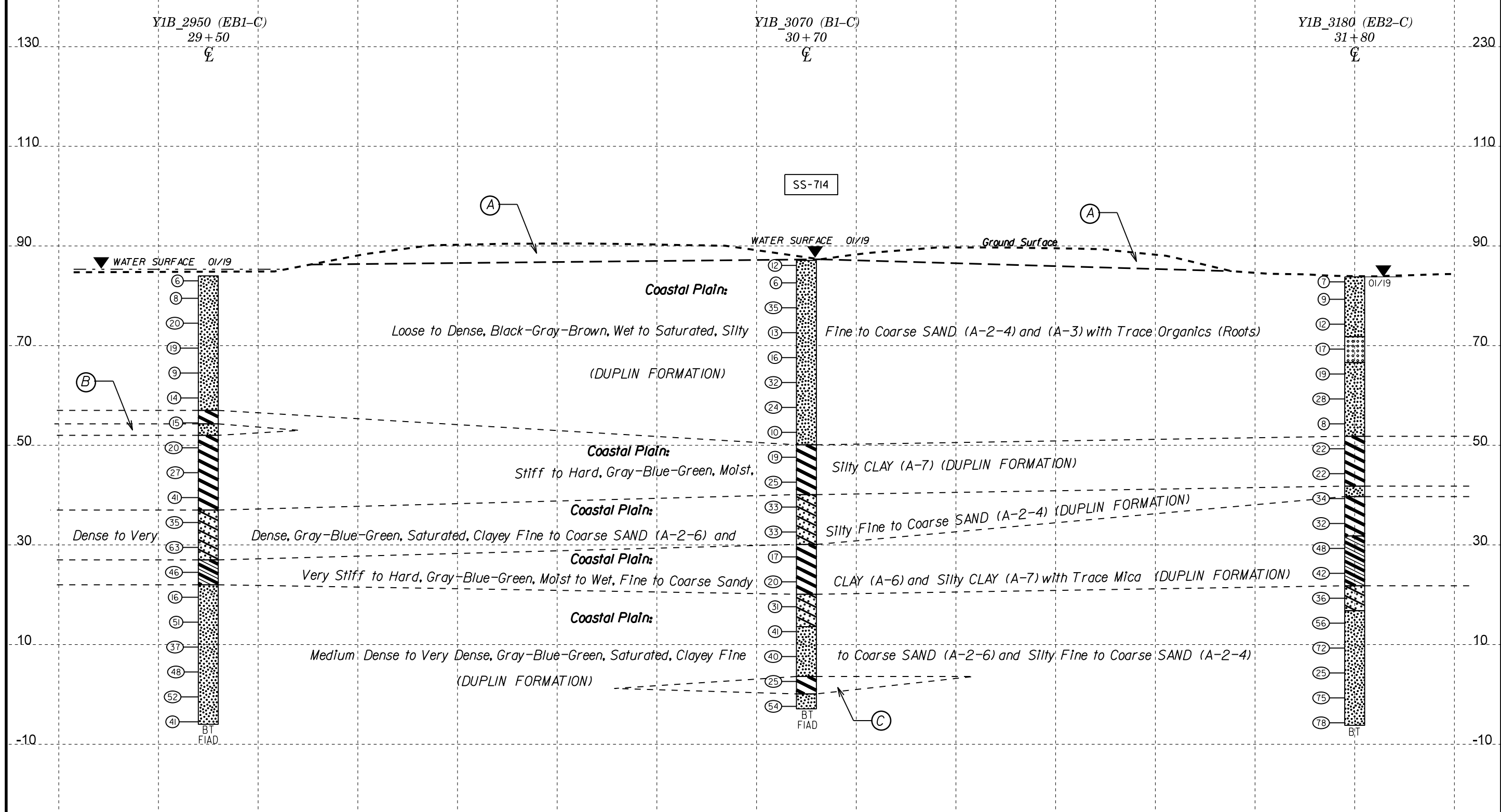
-RPB- PT Sta. 24+70.05
 -RAB- PC Sta. 11+45.25

-RCD- PC Sta. 10+00.00
 -RCD- PT Sta. 15+15.22
 -RPC- PT Sta. 26+22.25
 -RCD- PC Sta. 10+90.58

-RPB- PT Sta. 23+33.42
 OFFSET = 12'
 -YIA_S- PT Sta. 26+06.06



PROJECT REFERENCE NO.	SHEET NO.
R-5797	4
PROFILE BORING PROJECT ALONG CENTERLINE -YIB-	



- (A) **Roadway Embankment:** Loose, Moist, Black and Tan, Silty Fine to Coarse SAND (A-2-4)
- (B) **Coastal Plain:** Medium Dense, Gray, Saturated, Silty Fine to Coarse SAND (A-2-4) (DUPLIN FORMATION)
- (C) **Coastal Plain:** Very Stiff, Brown-Gray, Moist, Silty CLAY (A-7) (DUPLIN FORMATION)

GROUNDLINE TAKEN FROM .TIN FILE PROVIDED BY NCDOT DATED 07/3/2018.
 INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH
 PROJECTED ONTO THE PROFILE

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 44997.1.1		TIP R-5797		COUNTY COLUMBUS		GEOLOGIST M. Durway									
SITE DESCRIPTION US 74 at SR 1506 (Old Boardman Rd./Macedonia Church Rd.)							GROUND WTR (ft)								
BORING NO. Y1B_3070 (B1-C)		STATION 30+70		OFFSET CL		ALIGNMENT -Y1B-									
COLLAR ELEV. 87.1 ft		TOTAL DEPTH 90.0 ft		NORTHING 249,365		EASTING 2,015,152									
DRILL RIG/HAMMER EFF./DATE F&R3495 CME-55 83% 02/05/2018				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER D. Tignor		START DATE 12/19/18		COMP. DATE 12/19/18		SURFACE WATER DEPTH 0.1ft									
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				ELEV. (ft)	DEPTH (ft)
90															
	87.1	0.0	1	4	8										87.1
85		3.5	3	2	4										
	83.6														
80		8.5	11	16	19										
	78.6														
75		13.5	4	6	7										
	73.6														
70		18.5	3	8	8										
	68.6														
65		23.5	10	16	16										
	63.6														
60		28.5	4	12	12										
	58.6														
55		33.5	4	5	5										
	53.6														
50		38.5	7	9	10										
	48.6														
45		43.5	8	12	13										
	43.6														
40		48.5	10	17	16										
	38.6														
35		53.5	9	13	20										
	33.6														
30		58.5	5	8	9										
	28.6														
25		63.5	6	10	10										
	23.6														
20		68.5	8	12	19										
	18.6														
15		73.5	12	19	22										
	13.6														
10															

WBS 44997.1.1		TIP R-5797		COUNTY COLUMBUS		GEOLOGIST M. Durway									
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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				ELEV. (ft)	DEPTH (ft)
10															
	8.6	78.5	13	17	23										
5		83.5	6	10	15										
	3.6														
0		88.5	23	29	25										
	-1.4														

NCDOT BORE DOUBLE R-5797_GEO_BH_BRDG.GPJ NC_DOT.GDT 5/8/19

SS-714 21%

Match Line

Blue-Green, Clayey Silty Fine to Coarse SAND (A-2-4) (continued)

Brown-Gray, Silty CLAY (A-7)

Blue-Green, Clayey Silty Fine to Coarse SAND (A-2-4)

Boring Terminated at Elevation -2.9 ft in SAND (COASTAL PLAIN) (DUPLIN FORMATION)

Note:
Surficial Organic Soil=0.0'-0.2'

WATER SURFACE (12/19/18) 0.0

COASTAL PLAIN
Black-Dark Brown, Silty Fine to Coarse SAND (A-2-4)
(DUPLIN FORMATION)

Blue-Green, Silty CLAY (A-7-5)

Blue-Green, Clayey Fine to Coarse SAND (A-2-6)

Blue-Green, Silty CLAY (A-7-5)

Blue-Green, Clayey Fine to Coarse SAND (A-2-6)

Blue-Green, Clayey Silty Fine to Coarse SAND (A-2-4)

**North Carolina Department of Transportation
Division of Highways
Materials and Test Unit
Soils Laboratory**

T.I.P. ID NO.: R-5797
DESCRIPTION: US 74 and SR 1506 (Old Boardman Road/Macedonia Church Road)

REPORT ON SAMPLES OF: SOIL FOR QUALITY

F&R PROJECT #: 66V-0246
DATE SAMPLED: 8/18 to 1/19
SAMPLED FROM: Various
SUBMITTED BY: Cheng Wang

COUNTY: Columbus
RECEIVED: 8/18 to 1/19
REPORTED: 8/18 to 1/19
BY: D. Council

TEST RESULTS

PROJ. SAMPLE NO.	SS-714														
BORING NO.	Y1B_3070														
	(B1-C)														
Retained #4 Sieve %	0.0														
Passing #10 Sieve %	100.0														
Passing #40 Sieve %	94.8														
Passing #200 Sieve %	61.6														

SOIL MORTAR - 100%															
Coarse Sand Ret - #60 %	11.5														
Fine Sand Ret - #270 %	41.7														
Silt 0.053 - 0.010 mm %	35.1														
Clay < 0.010 mm %	11.7														
L.L.	46														
P.L.	33														
P.I.	13														
AASHTO Classification	A-7-5 (7)														
Station	30+70														
Offset	CL														
Depth (ft)	43.5														
to	45.0														
Alignment	-Y1B-														
Moisture Content (%)	20.7														
Organic Content (%)	NT														

NP = Not plastic
NT = Not tested
ND = Not Determined
CL = Centerline

W.P. Alton, P.E.
Soils Engineer