

REFERENCE: B-5739

PROJECT: 45695

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

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY RANDOLPH
 PROJECT DESCRIPTION BRIDGE NO. 170 ON SR 2621
(FOUSHEE ROAD) OVER REED CREEK

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5739	1	12

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 1991 T07-6850. 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.R. PASTRANA

Trigon Exploration

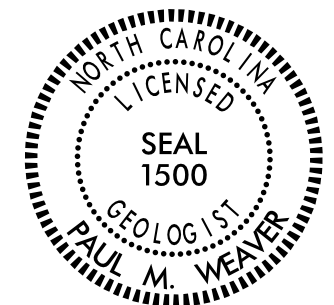
INVESTIGATED BY ESP Associates, P.A.

DRAWN BY T.T. WALKER

CHECKED BY P. WEAVER

SUBMITTED BY ESP Associates, P.A.

DATE September 2016



SIGNATURE

DATE

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

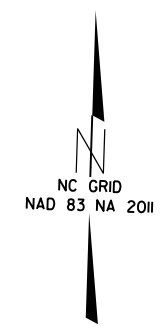
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

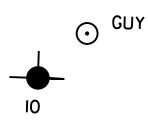
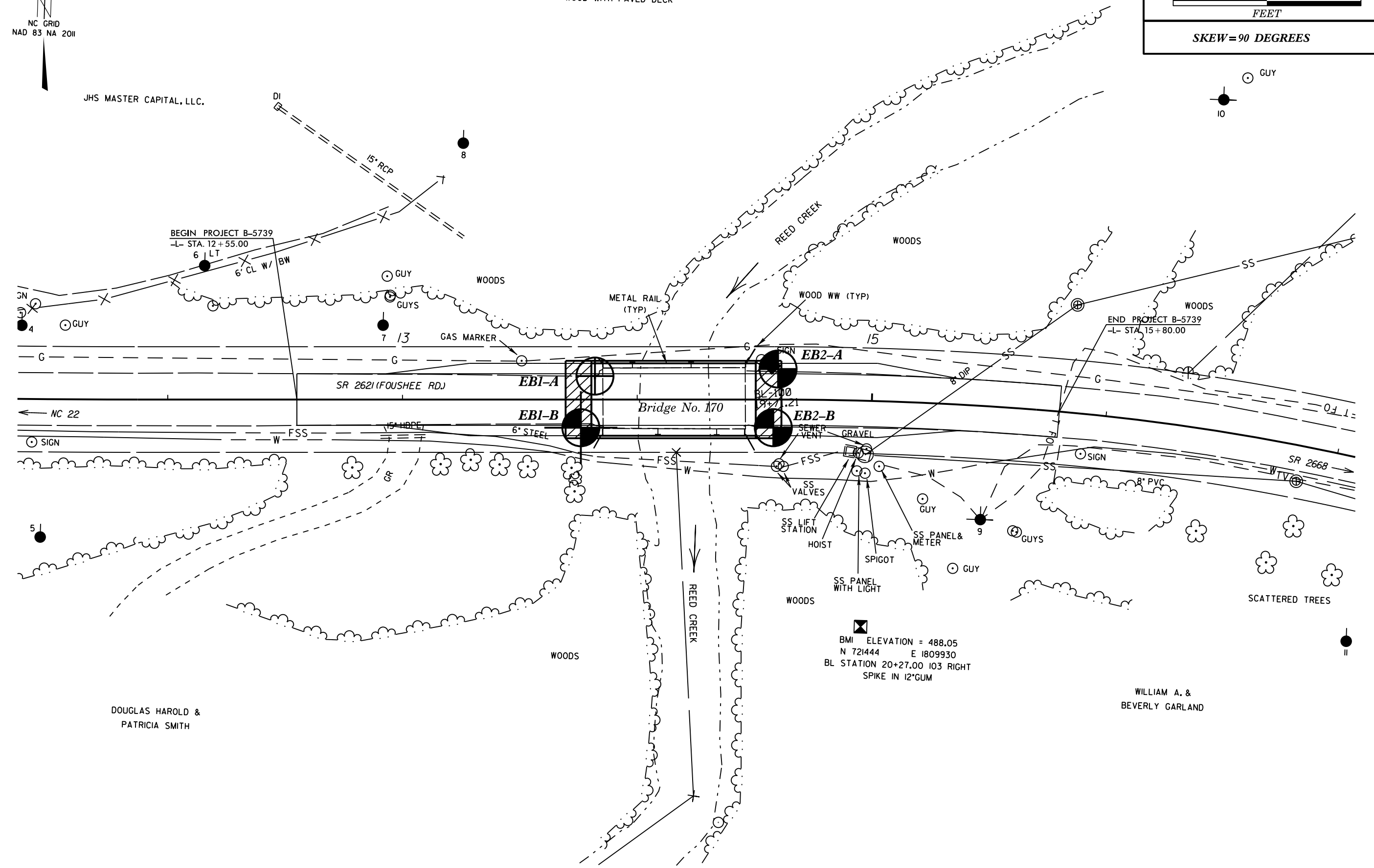
Table with multiple columns: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, TERMS AND DEFINITIONS, SOIL LEGEND AND AASHTO CLASSIFICATION, CONSISTENCY OR DENSENESS, TEXTURE OR GRAIN SIZE, SOIL MOISTURE - CORRELATION OF TERMS, PLASTICITY, COLOR, MISCELLANEOUS SYMBOLS, RECOMMENDATION SYMBOLS, ABBREVIATIONS, EQUIPMENT USED ON SUBJECT PROJECT, ROCK HARDNESS, FRACTURE SPACING, BEDDING, INDURATION.

PROJECT REFERENCE NO.	SHEET NO.
B-5739	3
SITE PLAN	
 0 40 80 FEET	
SKEW = 90 DEGREES	



BRIDGE NO. 170
WOOD WITH PAVED DECK

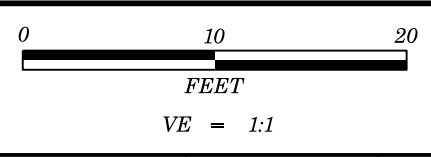
JHS MASTER CAPITAL, LLC.



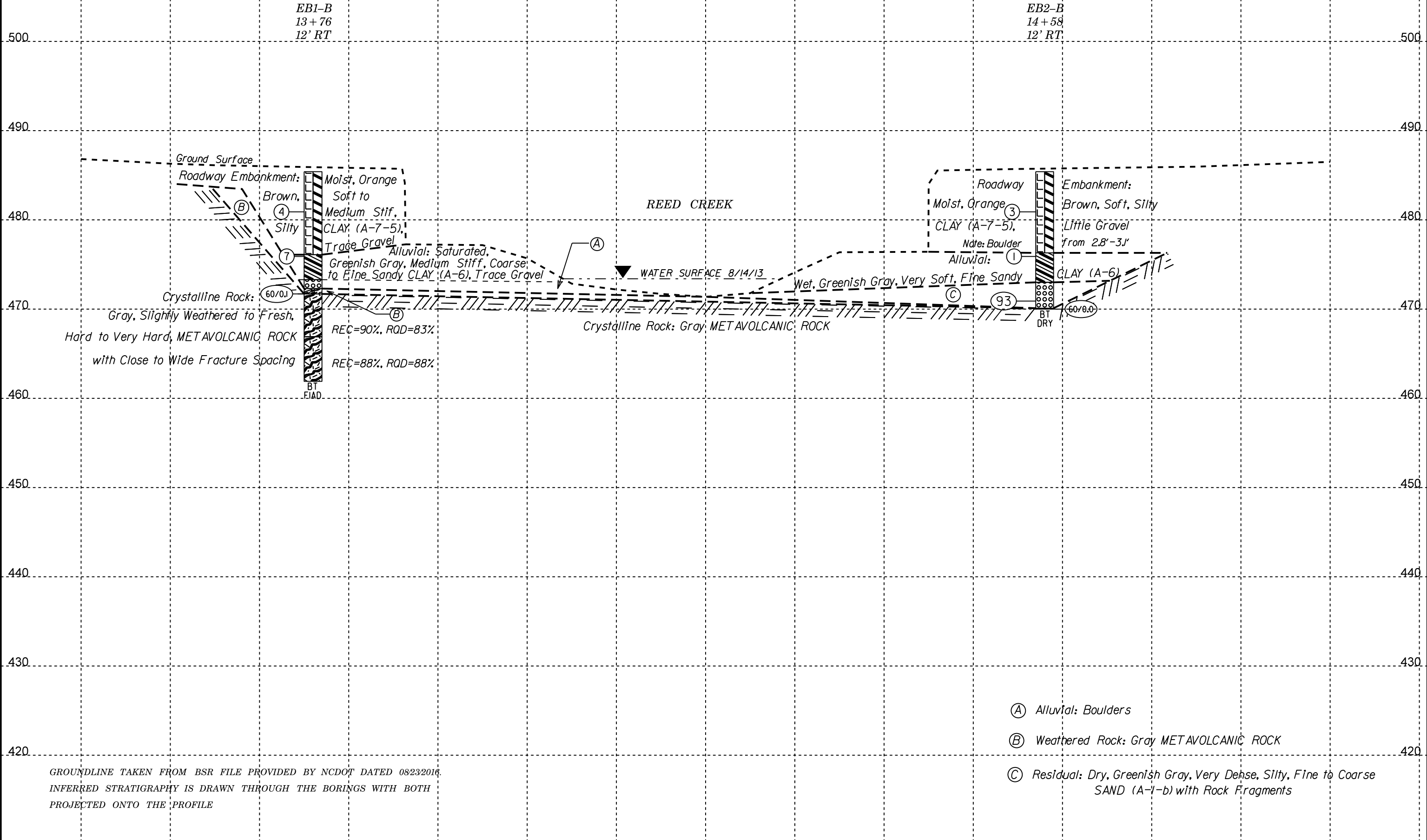
DOUGLAS HAROLD &
PATRICIA SMITH

WILLIAM A. &
BEVERLY GARLAND

BM ELEVATION = 488.05
N 721444 E 1809930
BL STATION 20+27.00 IO3 RIGHT
SPIKE IN 12" GUM



PROJECT REFERENCE NO.	SHEET NO.
B-5739	4
PROFILE BORINGS PROJECTED ALONG -L-	



EB1-B
13+76
12' RT

EB2-B
14+58
12' RT

REED CREEK

WATER SURFACE 8/14/13

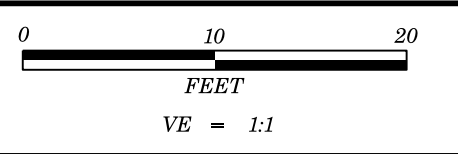
Crystalline Rock: Gray METAVOLCANIC ROCK

- (A) Alluvial: Boulders
- (B) Weathered Rock: Gray METAVOLCANIC ROCK
- (C) Residual: Dry, Greenish Gray, Very Dense, Silty, Fine to Coarse SAND (A-1-b) with Rock Fragments

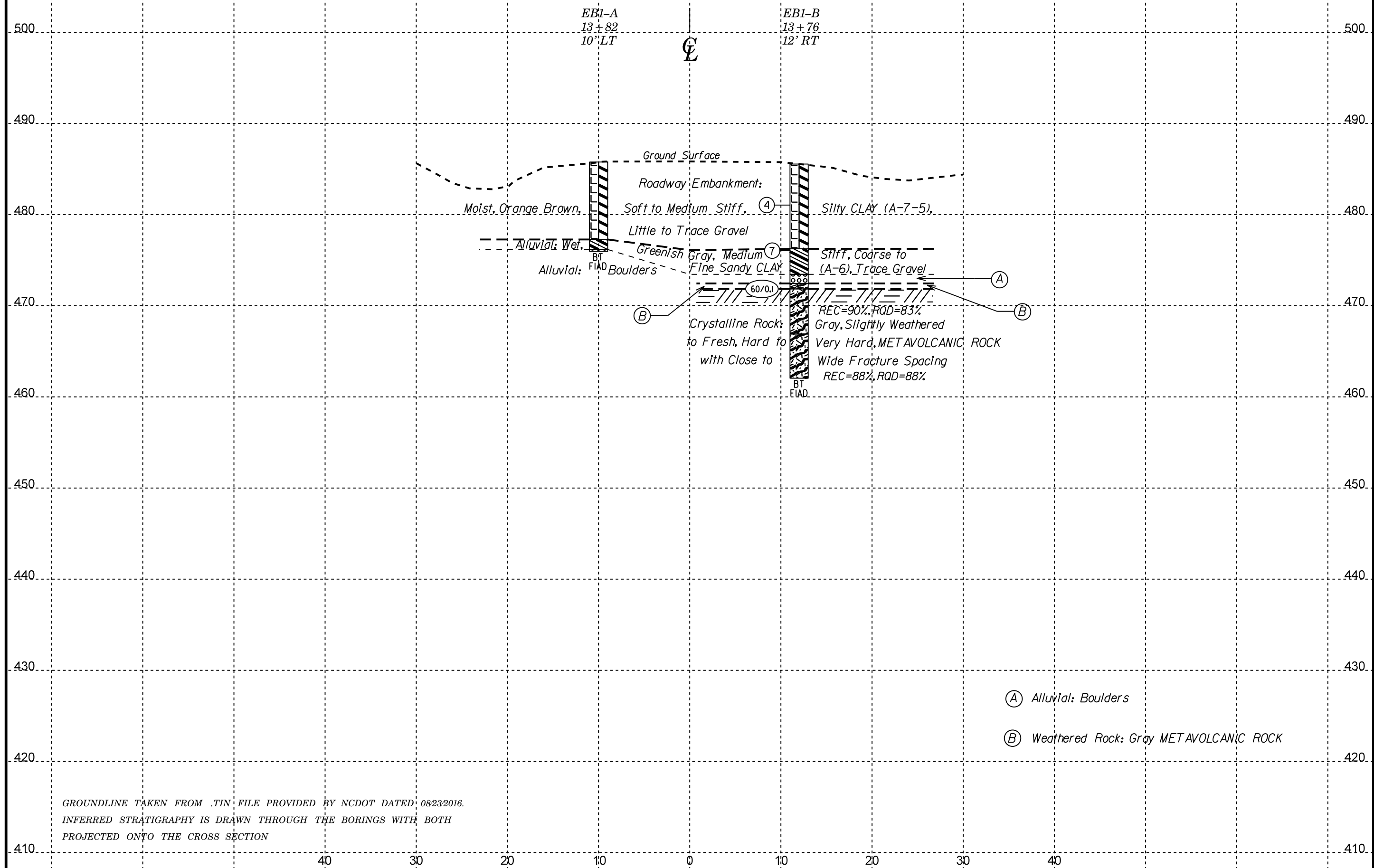
GROUNDLINE TAKEN FROM BSR FILE PROVIDED BY NCDOT DATED 08232016.
INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH
PROJECTED ONTO THE PROFILE

14+00

14+50



PROJECT REFERENCE NO.	SHEET NO.
B-5739	5
SECTION THROUGH END BENT 1	
STA. 13+80.00	
SKEW=90 DEGREES	



EB1-A
13+82
10' LT



EB1-B
13+76
12' RT

Ground Surface

Roadway Embankment:

Moist, Orange Brown,

Soft to Medium Stiff, (A)

Silty CLAY (A-7-5),

Alluvial: Wet.

Little to Trace Gravel

Greenish Gray, Medium

Stiff, Coarse to

Alluvial: Boulders

Fine Sandy CLAY

(A-6), Trace Gravel

(B)

(60/0.1)

REC=90%, RQD=83%

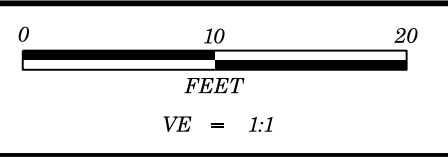
Crystalline Rock:
to Fresh, Hard to
with Close to

Gray, Slightly Weathered
Very Hard, METAVOLCANIC ROCK
Wide Fracture Spacing
REC=88%, RQD=88%

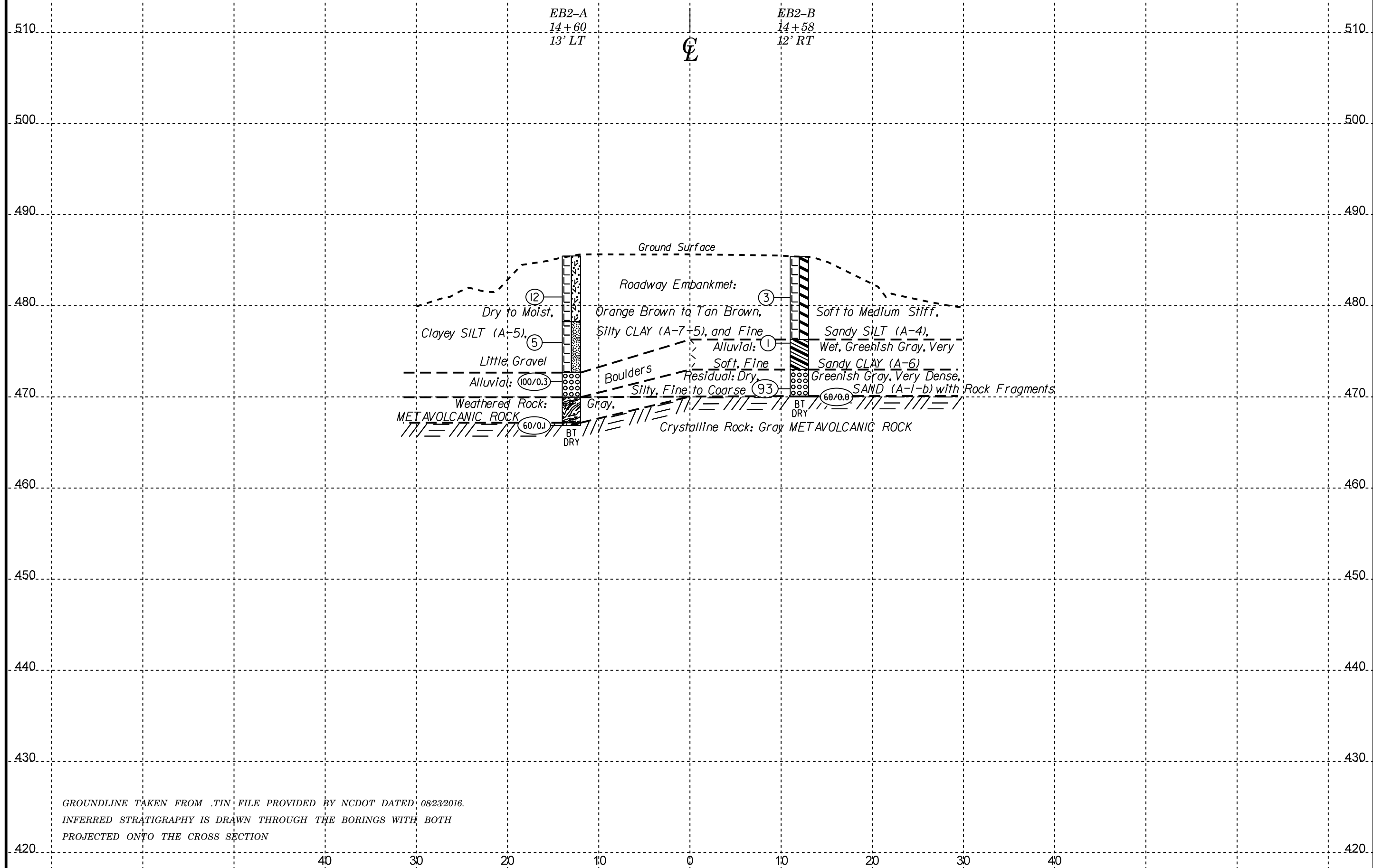
(A) Alluvial: Boulders

(B) Weathered Rock: Gray METAVOLCANIC ROCK

GROUNDLINE TAKEN FROM .TIN FILE PROVIDED BY NCDOT DATED 08232016.
INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH
PROJECTED ONTO THE CROSS SECTION



PROJECT REFERENCE NO.	SHEET NO.
B-5739	6
SECTION THROUGH END BENT 2	
STA. 14+50.00	
SKEW=90 DEGREES	



GROUNDLINE TAKEN FROM .TIN FILE PROVIDED BY NCDOT DATED 08232016.
 INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH
 PROJECTED ONTO THE CROSS SECTION

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 45695.1.1		TIP B-5739		COUNTY RANDOLPH		GEOLOGIST Pastrana, C.R.					
SITE DESCRIPTION Bridge No. 170 on SR 2621 (Foushee Road) over Reed Creek							GROUND WTR (ft)				
BORING NO. EB1-A		STATION 13+82		OFFSET 10 ft LT		ALIGNMENT -L-	0 HR. Dry				
COLLAR ELEV. 485.1 ft		TOTAL DEPTH 9.8 ft		NORTHING 721,547		EASTING 1,809,813	24 HR. FIAD				
DRILL RIG/HAMMER EFF./DATE SIMCO-2400 SK-1				DRILL METHOD H.S. Augers		HAMMER TYPE N/A					
DRILLER Toothman, R.		START DATE 08/23/16		COMP. DATE 08/23/16		SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25				
490											
485										485.1	0.0
480											
										476.6	8.5
										475.5	9.8
										475.3	9.8

ROADWAY EMBANKMENT
Moist, Orange Brown, Soft to Medium Stiff, Silty CLAY (A-7-5), Little Gravel

ALLUVIAL
Wet, Greenish Gray, Very Soft to Soft, Coarse to Fine Sandy CLAY (A-6)
Boulders

Boring Terminated at Elevation 475.3 ft In Alluvial Boulders

Auger Probe Without SPTs Was Used for This Boring Due to Overhead Powerlines Preventing Raising of a Drill Rig Mast

NCDOT BORE DOUBLE B5739_GEO_BRDG170_GINT_LOGS.GPJ NC_DOT.GDT 9/12/16

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 45695.1.1		TIP B-5739		COUNTY RANDOLPH		GEOLOGIST Pastrana, C.R.									
SITE DESCRIPTION Bridge No. 170 on SR 2621 (Foushee Road) over Reed Creek							GROUND WTR (ft)								
BORING NO. EB1-B		STATION 13+76		OFFSET 12 ft RT		ALIGNMENT -L-	0 HR. Dry								
COLLAR ELEV. 485.4 ft		TOTAL DEPTH 23.5 ft		NORTHING 721,524		EASTING 1,809,808	24 HR. FIAD								
DRILL RIG/HAMMER EFF./DATE TRI9435 CME-55 85% 02/22/2016				DRILL METHOD SPT Core Boring		HAMMER TYPE Automatic									
DRILLER Toothman, R.		START DATE 08/22/16		COMP. DATE 08/22/16		SURFACE WATER DEPTH N/A									
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)	
490															
485														485.4	0.0
480	481.9	3.5	1	2	2										
475	476.9	8.5	1	6	1									476.1	9.3
470	471.8	13.6	60/0.1											473.3	12.1
														472.3	13.1
														471.7	13.7
465														466.9	18.5
														461.9	23.5

NCDOT BORE DOUBLE B5739_GEO_BRDG170_GINT_LOGS.GPJ NC_DOT.GDT 9/12/16

GEOTECHNICAL BORING REPORT

CORE LOG

WBS 45695.1.1		TIP B-5739		COUNTY RANDOLPH		GEOLOGIST Pastrana, C.R.					
SITE DESCRIPTION Bridge No. 170 on SR 2621 (Foushee Road) over Reed Creek							GROUND WTR (ft)				
BORING NO. EB1-B		STATION 13+76		OFFSET 12 ft RT		ALIGNMENT -L-					
COLLAR ELEV. 485.4 ft		TOTAL DEPTH 23.5 ft		NORTHING 721,524		EASTING 1,809,808					
DRILL RIG/HAMMER EFF./DATE TRI9435 CME-55 85% 02/22/2016				DRILL METHOD SPT Core Boring		HAMMER TYPE Automatic					
DRILLER Toothman, R.		START DATE 08/22/16		COMP. DATE 08/22/16		SURFACE WATER DEPTH N/A					
CORE SIZE NQ2		TOTAL RUN 9.8 ft									
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		STRATA		LOG	DESCRIPTION AND REMARKS	DEPTH (ft)
					REC. (ft) %	RQD (ft) %	SAMP. NO.	REC. (ft) %			
471.7										Begin Coring @ 13.7 ft	
470	471.7	13.7	4.8	2:55/0.8 5:51/1.0 5:26/1.0 3:58/1.0 3:49/1.0	(4.3) 90%	(4.0) 83%				471.7 CRYSTALLINE ROCK Gray, Slightly to Very Slightly Weathered, Hard, METAVOLCANIC ROCK with Close to Moderately Close Fracture Spacing	13.7
	466.9	18.5								466.9 Note: Core Loss from 17.4' to 17.9', Fracture angles from 60 degrees to 70 degrees, Iron Staining on Fracture Faces	18.5
465			5.0	3:19/1.0 4:32/1.0 3:29/1.0 4:34/1.0 4:11/1.0	(4.4) 88%	(4.4) 88%				461.9 CRYSTALLINE ROCK Gray, Very Slightly Weathered to Fresh, Hard to Very Hard, METAVOLCANIC ROCK with Wide Fracture Spacing	23.5
	461.9	23.5								Note: Core Loss from 22.9' to 23.5' in Moderately Weathered METAVOLCANIC ROCK Boring Terminated at Elevation 461.9 ft In Crystalline Rock: METAVOLCANIC ROCK	

NCDOT CORE DOUBLE B5739_GEO_BRDG170_GINT_LOGS.GPJ NC_DOT.GDT 9/12/16

CORE PHOTOGRAPH

WBS No. 45695.1.1

TIP No. B-5739

Site Description: Bridge No. 170 on SR 2621 (Foushee Road) over Reed Creek

EB1-B



EB1-B
13.7 Feet to 18.5 Feet
Box 1 of 2



EB1-B
18.5 Feet to 23.5 Feet
Box 2 of 2



GEOTECHNICAL BORING REPORT

BORE LOG

WBS 45695.1.1		TIP B-5739		COUNTY RANDOLPH		GEOLOGIST Pastrana, C.R.									
SITE DESCRIPTION Bridge No. 170 on SR 2621 (Foushee Road) over Reed Creek							GROUND WTR (ft)								
BORING NO. EB2-A		STATION 14+60		OFFSET 13 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 485.5 ft		TOTAL DEPTH 18.6 ft		NORTHING 721,552		EASTING 1,809,891									
DRILL RIG/HAMMER EFF./DATE TRI9435 CME-55 85% 02/22/2016			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic									
DRILLER Toothman, R.		START DATE 08/22/16		COMP. DATE 08/22/16		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					
490															
485														485.5	0.0
480	482.0	3.5	8	6	6										
475	477.0	8.5	8	4	1									478.3	7.2
470	472.0	13.5	100/0.3											472.7	12.8
	467.0	18.5	60/0.1											470.0	15.5
														467.2	18.3
														466.9	18.6

WBS 45695.1.1		TIP B-5739		COUNTY RANDOLPH		GEOLOGIST Pastrana, C.R.									
SITE DESCRIPTION Bridge No. 170 on SR 2621 (Foushee Road) over Reed Creek							GROUND WTR (ft)								
BORING NO. EB2-B		STATION 14+58		OFFSET 12 ft RT		ALIGNMENT -L-									
COLLAR ELEV. 485.4 ft		TOTAL DEPTH 15.4 ft		NORTHING 721,527		EASTING 1,809,890									
DRILL RIG/HAMMER EFF./DATE TRI9435 CME-55 85% 02/22/2016			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic									
DRILLER Toothman, R.		START DATE 08/22/16		COMP. DATE 08/22/16		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					
490															
485														485.4	0.0
480	481.9	3.5	3	2	1										
475	476.9	8.5	1	1	0									476.3	9.1
470	471.9	13.5	12	42	51									473.0	12.4
	470.0	15.4	60/0.0											470.1	15.3
														470.0	15.4

NCDOT BORE DOUBLE B5739_GEO_BRDG170_GINT_LOGS.GPJ NC_DOT.GDT 9/12/16

SITE PHOTOGRAPHS

State Project No. 45695.1.1 – TIP No. B-5739 – Bridge No. 170 on SR 2621 (Foushee Road) over Reed Creek - Randolph County, NC

View of Existing Bridge No. 170 Looking Upstation



View of Existing Bridge No. 170 Looking Downstation



View Looking Upstream from Bridge No. 170



View Looking Downstream from Bridge No. 170

