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REFERENCE: B-4978

PROJECT: 39897

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4978 39897	1	8

CONTENTS

SHEET NO.	DESCRIPTION
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2	LEGEND
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7-8	BORE LOG(S) & CORE REPORT(S)

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY WILKES
 PROJECT DESCRIPTION B-4978 REPLACE BRIDGE NO. 82
ON SR 1154 OVER SOUTH PRONG OF LEWIS
FORK CREEK
 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 (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 CONTRACTOR 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

CJ COFFEY

DO CHEEK

DC ELLIOTT

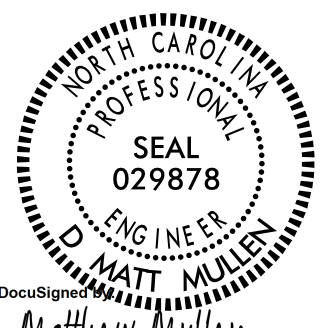
INVESTIGATED BY DM MULLEN

DRAWN BY DM MULLEN

CHECKED BY JC KUHNE 

SUBMITTED BY DM MULLEN

DATE 3.22.2016



DocuSigned by

 18909BD3CD5440C...

4/14/2016

SIGNATURE DATE

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

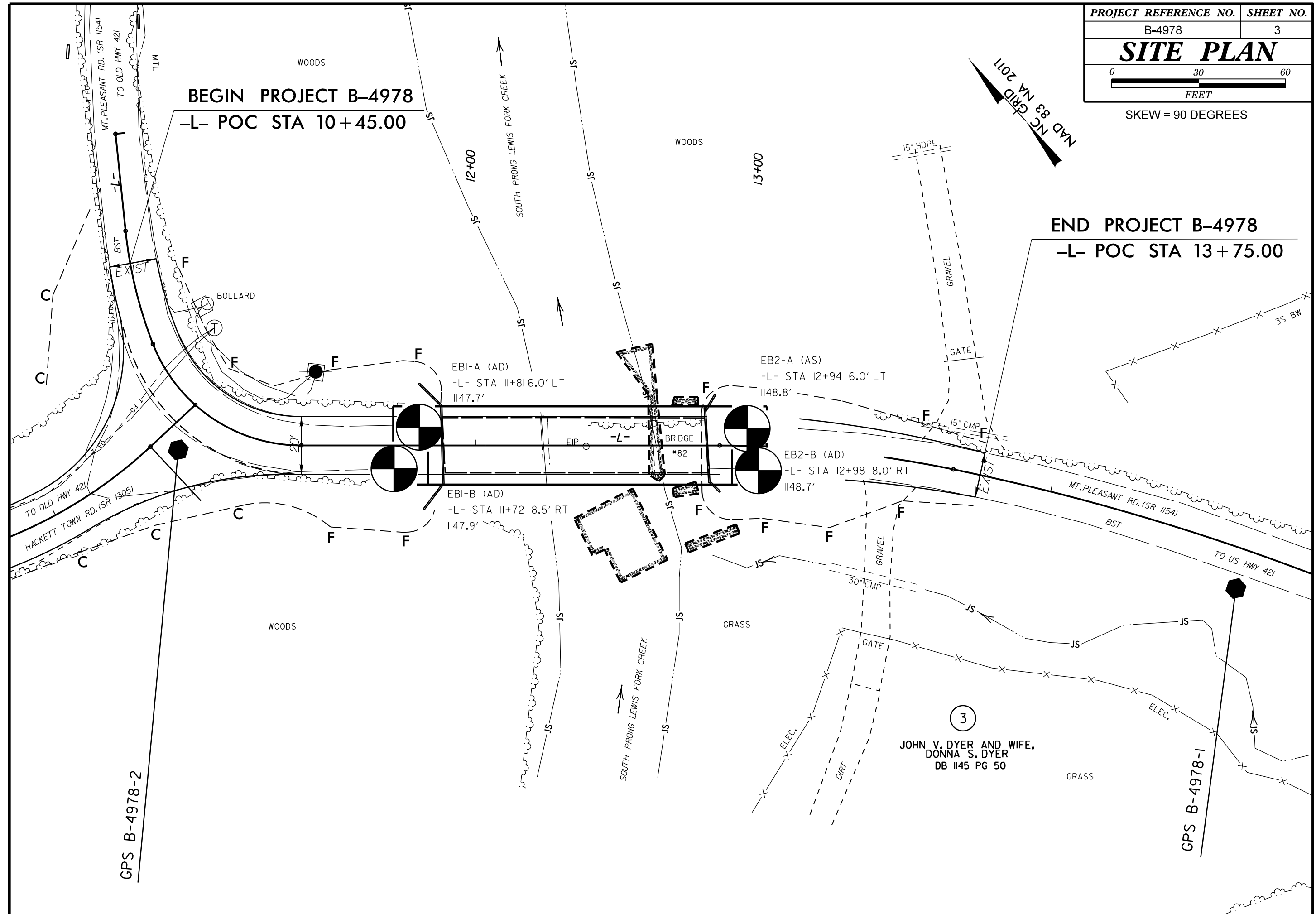
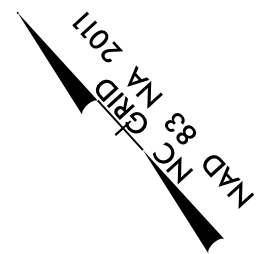
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

Table with 4 main columns: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, and TERMS AND DEFINITIONS. Includes sub-sections like SOIL LEGEND AND AASHTO CLASSIFICATION, CONSISTENCY OR DENSENESS, TEXTURE OR GRAIN SIZE, SOIL MOISTURE - CORRELATION OF TERMS, PLASTICITY, COLOR, GRADATION, ANGULARITY OF GRAINS, MINERALOGICAL COMPOSITION, COMPRESSION, PERCENTAGE OF MATERIAL, GROUND WATER, MISCELLANEOUS SYMBOLS, RECOMMENDATION SYMBOLS, ABBREVIATIONS, EQUIPMENT USED ON SUBJECT PROJECT, ROCK DESCRIPTION, WEATHERING, ROCK HARDNESS, FRACTURE SPACING, BEDDING, INDURATION, and NOTES.

PROJECT REFERENCE NO.	SHEET NO.
B-4978	3
SITE PLAN	
SKEW = 90 DEGREES	

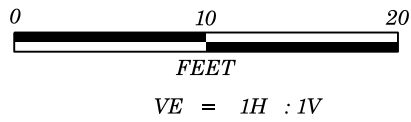
BEGIN PROJECT B-4978
 -L- POC STA 10+45.00

END PROJECT B-4978
 -L- POC STA 13+75.00

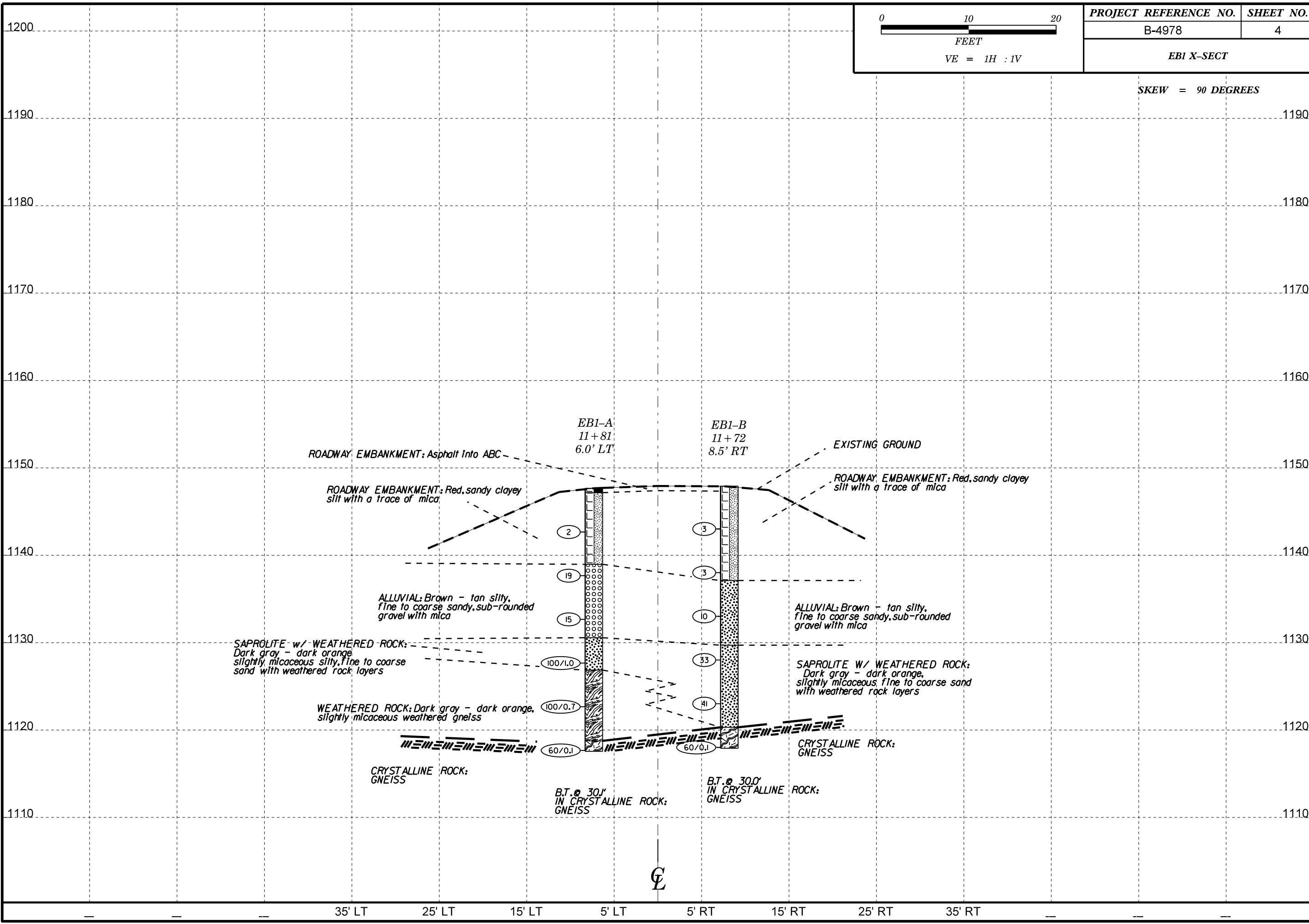


GPS B-4978-2

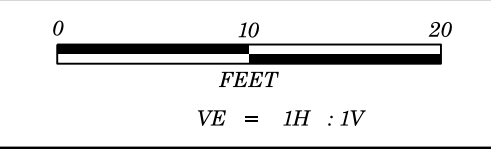
GPS B-4978-1



SKEW = 90 DEGREES

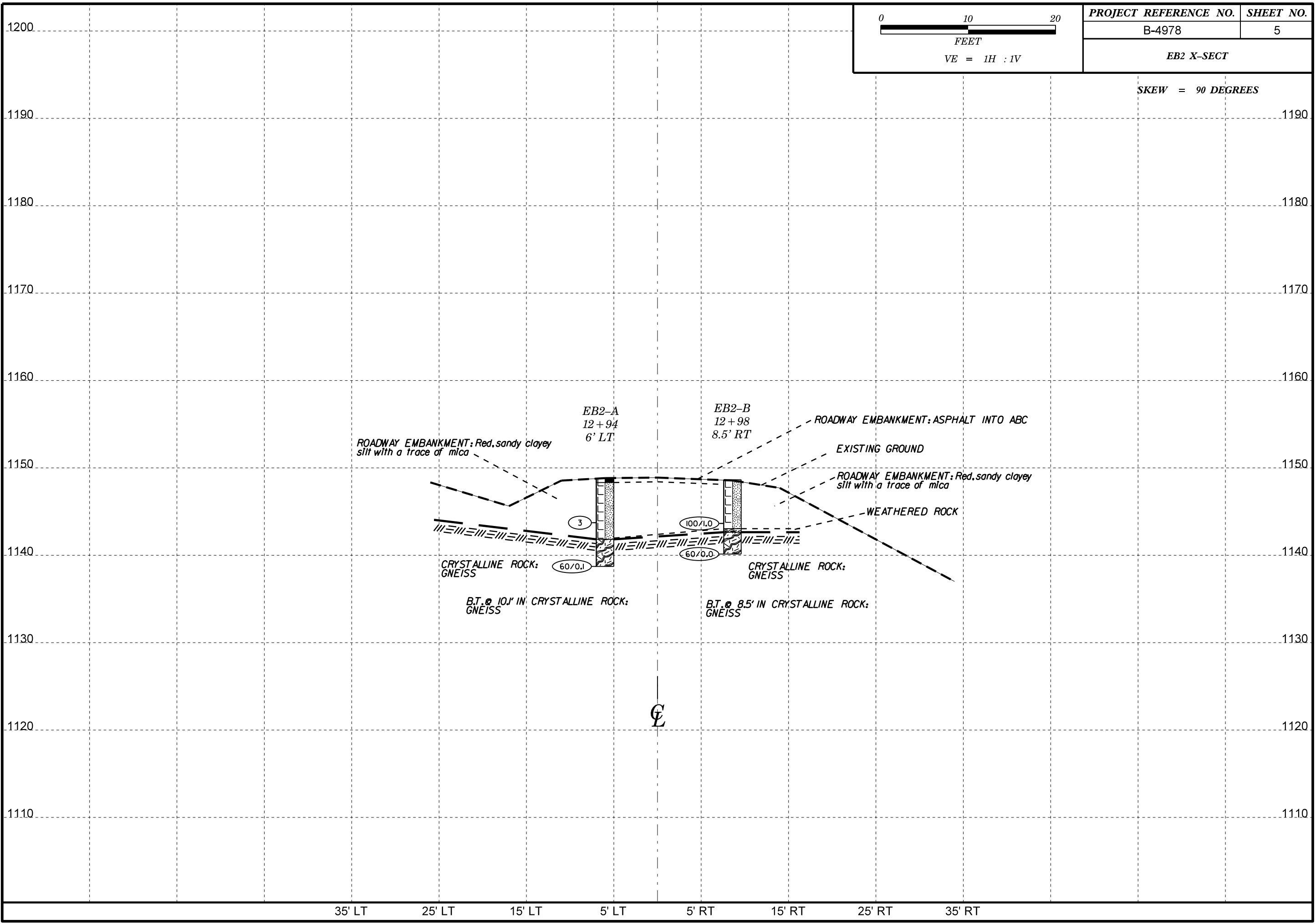


35' LT 25' LT 15' LT 5' LT 5' RT 15' RT 25' RT 35' RT



PROJECT REFERENCE NO.	SHEET NO.
B-4978	5
EB2 X-SECT	

SKEW = 90 DEGREES



GEOTECHNICAL BORING REPORT

BORE LOG

WBS 39897.1.1		TIP B-4978		COUNTY WILKES		GEOLOGIST Elliott, D. C.									
SITE DESCRIPTION N/A							GROUND WTR (ft)								
BORING NO. EB1-A		STATION 11+81		OFFSET 6 ft LT		ALIGNMENT L									
COLLAR ELEV. 1,147.7 ft		TOTAL DEPTH 30.1 ft		NORTHING 1,312,215		EASTING 883,285									
DRILL RIG/HAMMER EFF./DATE AFO6744 CME - 45C 81% 01/29/2016			DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic										
DRILLER Cheek, D. O.		START DATE 02/18/16		COMP. DATE 02/18/16		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
1150														GROUND SURFACE	0.0
														ROADWAY EMBANKMENT Asphalt into ABC	0.9
1145	1,142.7	5.0	1	1	1									ROADWAY EMBANKMENT Red, sandy clay silt with a trace of mica	
1140	1,137.7	10.0	1	5	14										
1135	1,132.7	15.0	4	8	7									ALLUVIAL Brown - tan silty, fine to coarse sandy, sub-rounded gravel alluvium with mica	8.7
1130	1,127.7	20.0	34	66/0.5										SAPROLITE W/ WEATHERED ROCK LAYERS	17.1
1125	1,122.7	25.0	29	47	53/0.2									WEATHERED ROCK Dark gray - dark orange slightly micaceous weathered rock with saprolite seams	20.8
1120	1,117.7	30.0	60/0.1											CRYSTALLINE ROCK no return	28.9
														Boring Terminated with Standard Penetration Test Refusal at Elevation 1,117.6 ft IN	30.1

WBS 39897.1.1		TIP B-4978		COUNTY WILKES		GEOLOGIST Elliott, D. C.									
SITE DESCRIPTION N/A							GROUND WTR (ft)								
BORING NO. EB1-B		STATION 11+72		OFFSET 9 ft RT		ALIGNMENT L									
COLLAR ELEV. 1,148.0 ft		TOTAL DEPTH 30.0 ft		NORTHING 1,312,199		EASTING 883,280									
DRILL RIG/HAMMER EFF./DATE AFO6744 CME - 45C 81% 01/29/2016			DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic										
DRILLER Cheek, D. O.		START DATE 02/18/16		COMP. DATE 02/18/16		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
1150														GROUND SURFACE	0.0
														ROADWAY EMBANKMENT Red, sandy clayey silt	0.0
1145	1,143.1	4.9	1	1	2										
1140	1,138.1	9.9	1	1	2										
1135	1,133.1	14.9	2	5	5									ALLUVIAL Light tan - brown silty fine to coarse sandy alluvium	10.8
1130	1,128.1	19.9	13	16	17									SAPROLITE W/ WEATHERED ROCK LAYERS	18.2
1125	1,123.1	24.9	62	19	22									WEATHERED ROCK Dark gray - dark orange slightly micaceous fine to coarse sandy saprolite with weathered rock layers	27.6
1120	1,118.1	29.9	60/0.1											CRYSTALLINE ROCK no return	30.0
														Boring Terminated with Standard Penetration Test Refusal at Elevation 1,118.0 ft IN	

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 39897.1.1		TIP B-4978		COUNTY WILKES		GEOLOGIST Elliott, D. C.										
SITE DESCRIPTION N/A							GROUND WTR (ft)									
BORING NO. EB2-A		STATION 12+94		OFFSET 6 ft LT		ALIGNMENT L										
COLLAR ELEV. 1,148.8 ft		TOTAL DEPTH 10.1 ft		NORTHING 1,312,298		EASTING 883,208										
DRILL RIG/HAMMER EFF./DATE AFO6744 CME - 45C 81% 01/29/2016			DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic											
DRILLER Cheek, D. O.		START DATE 02/18/16		COMP. DATE 02/18/16		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
1150														1,148.8	GROUND SURFACE	0.0
														1,148.3	ROADWAY EMBANKMENT asphalt into abc	0.5
1145	1,143.7	5.1	1	2	1									1,141.8	ROADWAY EMBANKMENT Red, brown sandy clayey silt with a trace of mica	7.0
1140	1,138.7	10.1												1,138.7	CRYSTALLINE ROCK no return	10.1
															Boring Terminated with Standard Penetration Test Refusal at Elevation 1,138.7 ft IN	

WBS 39897.1.1		TIP B-4978		COUNTY WILKES		GEOLOGIST Elliott, D. C.										
SITE DESCRIPTION N/A							GROUND WTR (ft)									
BORING NO. EB2-B		STATION 12+98		OFFSET 9 ft RT		ALIGNMENT L										
COLLAR ELEV. 1,148.7 ft		TOTAL DEPTH 8.5 ft		NORTHING 1,312,291		EASTING 883,195										
DRILL RIG/HAMMER EFF./DATE AFO6744 CME - 45C 81% 01/29/2016			DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic											
DRILLER Cheek, D. O.		START DATE 02/18/16		COMP. DATE 02/18/16		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
1150														1,148.7	GROUND SURFACE	0.0
														1,148.7	ROADWAY EMBANKMENT Red, brown sandy clayey silt	6.0
1145	1,143.7	5.0	2			98	0.5							1,143.1	WEATHERED ROCK Weathered rock	5.6
														1,142.7	CRYSTALLINE ROCK no return	6.0
														1,140.2	CRYSTALLINE ROCK no return	8.5
															Boring Terminated with Standard Penetration Test Refusal at Elevation 1,140.2 ft IN	