

REFERENCE: BR-0127

PROJECT: 67127

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

**STRUCTURE  
SUBSURFACE INVESTIGATION**

COUNTY Yadkin  
SITE DESCRIPTION Bridge No. 189 on SR 1325  
(Mountain View Church Rd.) over UT to South Deep Creek

**CONTENTS**

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
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2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4-5	CROSS SECTION(S)
6-7	BORE LOG(S)
8	SITE PHOTOGRAPHS)

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0127	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 (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:
- 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

J.K. Stickney

C.L. Smith

B.E. Foster

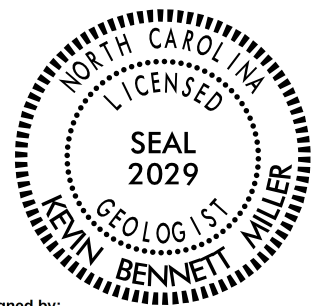
INVESTIGATED BY J.K. Stickney

DRAWN BY T.T. Walker, F&R Inc.

CHECKED BY J.E. Beverly

SUBMITTED BY K.B. Miller

DATE December 2019



DocuSigned by:

[Signature]

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SIGNATURE

12/16/2019

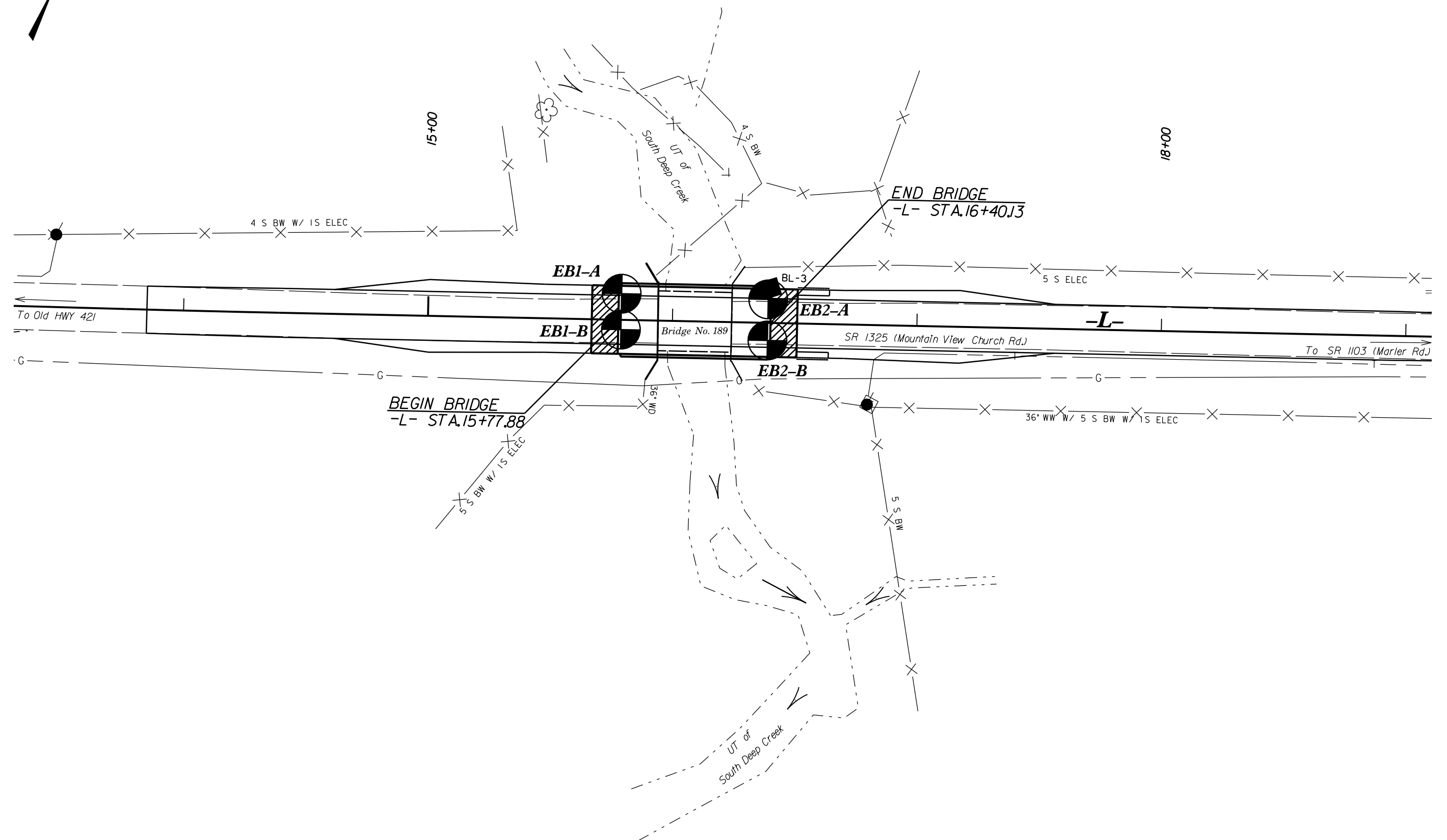
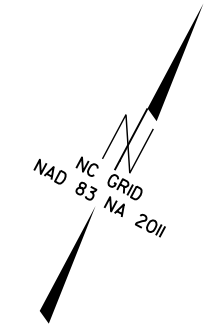
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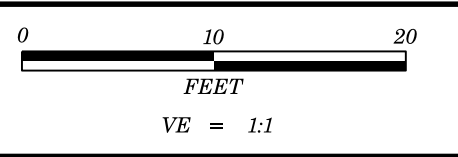
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT SUBSURFACE INVESTIGATION SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

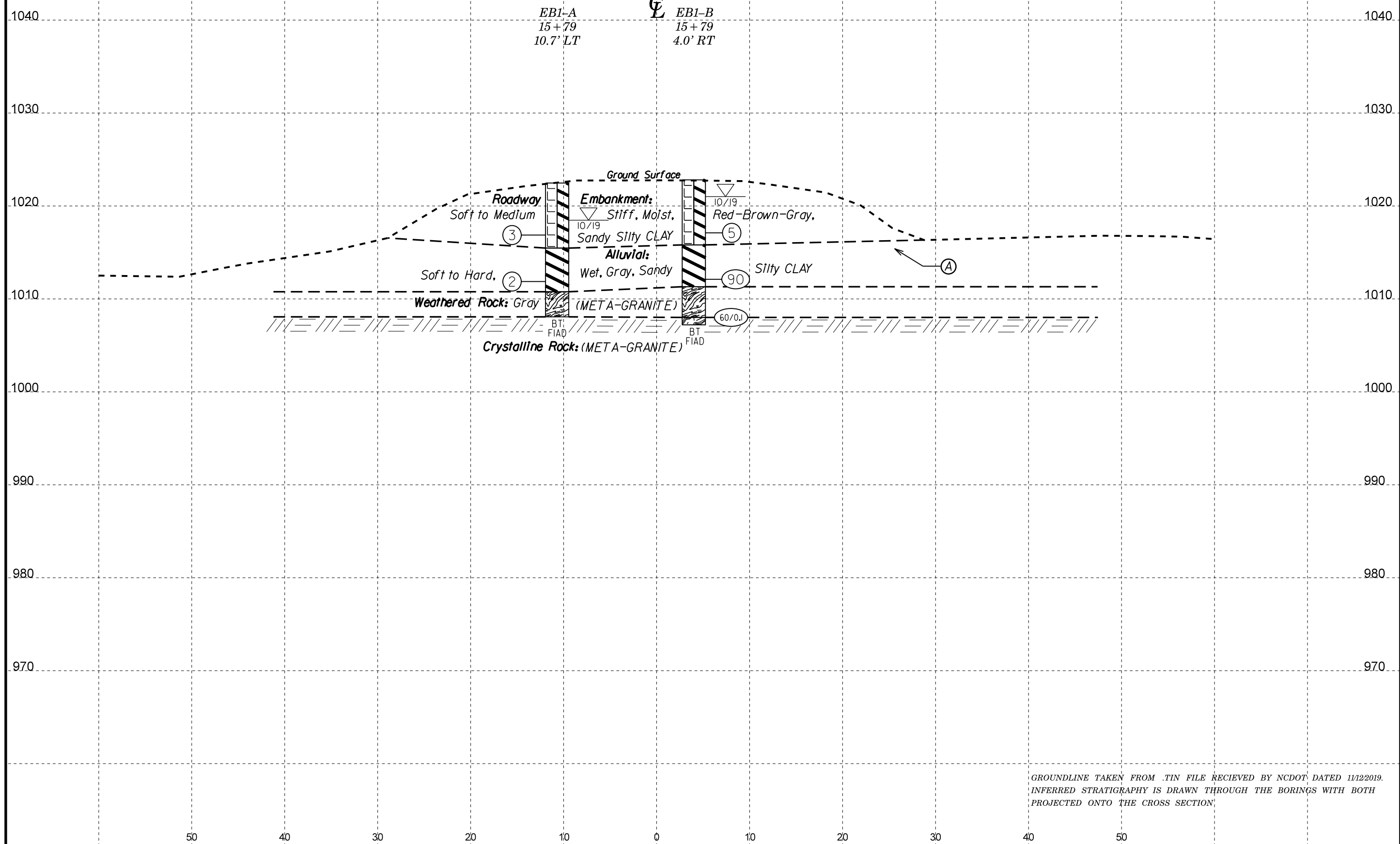
Main content table with columns: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, TERMS AND DEFINITIONS, SOIL LEGEND AND AASHTO CLASSIFICATION, MINERALOGICAL COMPOSITION, COMPRESSIBILITY, PERCENTAGE OF MATERIAL, GROUND WATER, MISCELLANEOUS SYMBOLS, RECOMMENDATION SYMBOLS, ABBREVIATIONS, SOIL MOISTURE - CORRELATION OF TERMS, PLASTICITY, COLOR, EQUIPMENT USED ON SUBJECT PROJECT, FRACTURE SPACING, BEDDING, INDURATION.

PROJECT REFERENCE NO.	SHEET NO.
BR-0127	3
<b>SITE PLAN</b>	
 FEET	
<b>SKEW = 90°</b>	

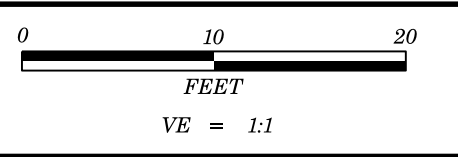




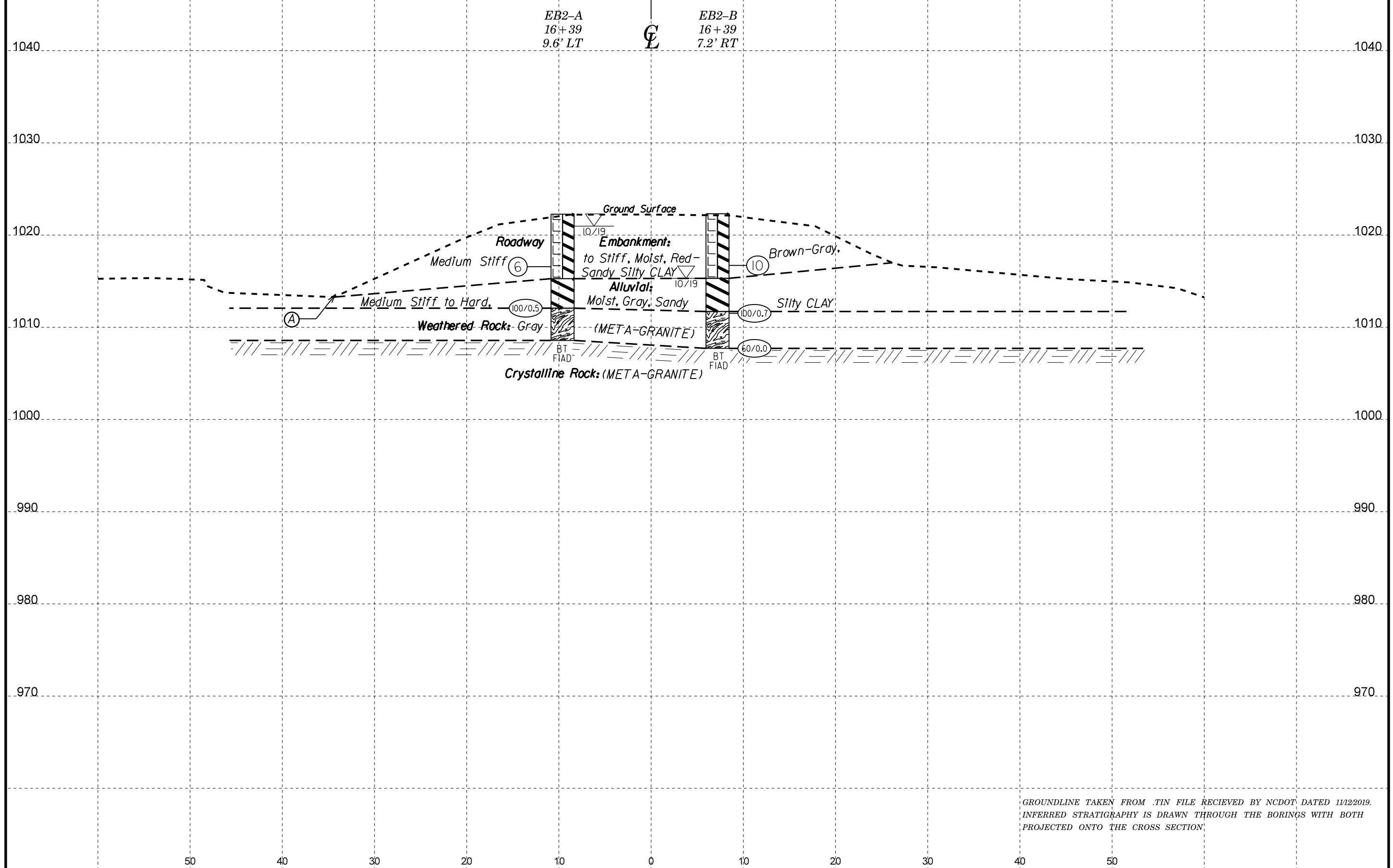
<b>PROJECT REFERENCE NO.</b>	<b>SHEET NO.</b>
BR-0127	4
<b>CROSS SECTION THROUGH END BENT 1</b>	
AT -L- STATION 15+77.88	
SKEW=90°	



GROUNDLINE TAKEN FROM .TIN FILE RECEIVED BY NCDOT DATED 11/22/2019.  
 INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH  
 PROJECTED ONTO THE CROSS SECTION



<b>PROJECT REFERENCE NO.</b>	<b>SHEET NO.</b>
BR-0127	5
<b>CROSS SECTION THROUGH END BENT 2</b>	
AT -L- STATION 16+40.13	
SKEW=90°	



EB2-A  
16+39  
9.6' LT

EB2-B  
16+39  
7.2' RT

GROUNDLINE TAKEN FROM .TIN FILE RECIEVED BY NCDOT DATED 11/22/2019.  
INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH  
PROJECTED ONTO THE CROSS SECTION

# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS 67127.1.1		TIP BR-0127		COUNTY YADKIN		GEOLOGIST Stickney, J. K.											
SITE DESCRIPTION Bridge No. 189 on SR 1325 (Mountain View Church Rd.) over UT to South Deep Creek							GROUND WTR (ft)										
BORING NO. EB1-A		STATION 15+79		OFFSET 11 ft LT		ALIGNMENT -L-											
COLLAR ELEV. 1,022.5 ft		TOTAL DEPTH 14.4 ft		NORTHING 877,591		EASTING 1,467,935											
DRILL RIG/HAMMER EFF./DATE HFC0070 CME-550X 81% 06/04/2018				DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic											
DRILLER Smith, C. L.		START DATE 10/24/19		COMP. DATE 10/24/19		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							
1025															1,022.5	GROUND SURFACE	0.0
1020	1,017.9	4.6	2	1	2								M	ROADWAY EMBANKMENT Red-Brown-Gray, Sandy Silty CLAY			
1015	1,012.9	9.6	WOH	WOH	2								W	ALLUVIAL Gray, Sandy Silty CLAY	7.0		
1010														WEATHERED ROCK Gray (META-GRANITE)	11.7		
														Boring Terminated with Casing Advancer Refusal at Elevation 1,008.1 ft on Crystalline Rock (META-GRANITE)	14.4		

WBS 67127.1.1		TIP BR-0127		COUNTY YADKIN		GEOLOGIST Stickney, J. K.											
SITE DESCRIPTION Bridge No. 189 on SR 1325 (Mountain View Church Rd.) over UT to South Deep Creek							GROUND WTR (ft)										
BORING NO. EB1-B		STATION 15+79		OFFSET 4 ft RT		ALIGNMENT -L-											
COLLAR ELEV. 1,022.8 ft		TOTAL DEPTH 15.6 ft		NORTHING 877,578		EASTING 1,467,942											
DRILL RIG/HAMMER EFF./DATE HFC0070 CME-550X 81% 06/04/2018				DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic											
DRILLER Smith, C. L.		START DATE 10/24/19		COMP. DATE 10/24/19		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							
1025															1,022.8	GROUND SURFACE	0.0
1020	1,018.1	4.7	1	2	3								M	ROADWAY EMBANKMENT Red-Brown-Gray, Sandy Silty CLAY			
1015	1,013.1	9.7	WOH	WOH	90								W	ALLUVIAL Gray, Sandy Silty CLAY	7.0		
1010	1,008.1	14.7												WEATHERED ROCK Gray (META-GRANITE)	11.5		
														Boring Terminated with Casing Advancer Refusal at Elevation 1,007.2 ft in Crystalline Rock (META-GRANITE)	14.8		
														CRYSTALLINE ROCK (META-GRANITE)	15.6		

NCDOT BORE DOUBLE BR-0127\_GEO\_BH\_BRDG0189.GPJ NC\_DOT.GDT 12/10/19

# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS 67127.1.1		TIP BR-0127		COUNTY YADKIN		GEOLOGIST Stickney, J. K.									
SITE DESCRIPTION Bridge No. 189 on SR 1325 (Mountain View Church Rd.) over UT to South Deep Creek							GROUND WTR (ft)								
BORING NO. EB2-A		STATION 16+39		OFFSET 10 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 1,022.3 ft		TOTAL DEPTH 13.7 ft		NORTHING 877,617		EASTING 1,467,989									
DRILL RIG/HAMMER EFF./DATE HFC0070 CME-550X 81% 06/04/2018				DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic									
DRILLER Smith, C. L.		START DATE 10/24/19		COMP. DATE 10/24/19		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					
1025														1,022.3	0.0
1020														1,015.3	7.0
1015	1,017.6	4.7	2	2	4									1,012.1	10.2
1010	1,012.6	9.7	100/0.5											1,008.6	13.7
Boring Terminated with Casing Advancer Refusal at Elevation 1,008.6 ft on Crystalline Rock (META-GRANITE)															

WBS 67127.1.1		TIP BR-0127		COUNTY YADKIN		GEOLOGIST Stickney, J. K.									
SITE DESCRIPTION Bridge No. 189 on SR 1325 (Mountain View Church Rd.) over UT to South Deep Creek							GROUND WTR (ft)								
BORING NO. EB2-B		STATION 16+39		OFFSET 7 ft RT		ALIGNMENT -L-									
COLLAR ELEV. 1,022.3 ft		TOTAL DEPTH 14.6 ft		NORTHING 877,602		EASTING 1,467,997									
DRILL RIG/HAMMER EFF./DATE HFC0070 CME-550X 81% 06/04/2018				DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic									
DRILLER Smith, C. L.		START DATE 10/24/19		COMP. DATE 10/24/19		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					
1025														1,022.3	0.0
1020														1,015.3	7.0
1015	1,017.7	4.6	2	4	6									1,011.7	10.6
1010	1,012.7	9.6	2	1	99/0.2									1,007.7	14.6
Boring Terminated with Standard Penetration Test Refusal at Elevation 1,007.7 ft on Crystalline Rock (META-GRANITE)															

NCDOT BORE DOUBLE BR-0127\_GEO\_BH\_BRDG0189.GPJ NC\_DOT.GDT 12/10/19

# Bridge No. 189 on SR 1325 (Mountain View Church Rd.) over UT to South Deep Creek

## SITE PHOTOGRAPHS



Photograph No. 1: Looking at End Bent 2 toward End Bent 1



Photograph No. 2: Looking Upstream