

REFERENCE: B-5121

PROJECT: 42263

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-5121	1	16

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STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY WAKE

PROJECT DESCRIPTION REPLACE BRIDGE NO. 227 ON
US 70/US 401/NC 50 (CAPITAL BOULEVARD) OVER
PEACE STREET AND REPLACE BRIDGE NO. 213
ON US 70/NC 50 (WADE AVENUE) OVER US 401
(CAPITAL BOULEVARD)

SITE DESCRIPTION BRIDGE NO. 213 ON -FLYOVER-
(WADE AVENUE) OVER PIGEON HOUSE BRANCH
AT STA. 20 + 48.94

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:
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

TURNAGE, J. R.

ASHLEY, R. T.

EKLUND, M. A.

CORY, K. W.

ALEXANDER, M. J.

INVESTIGATED BY TERRACON CONSULTANTS

DRAWN BY FIELDS, W. D.

CHECKED BY ALEXANDER, M. J.

SUBMITTED BY TERRACON CONSULTANTS

DATE OCTOBER 2015

NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED



DocuSigned by:

Matthew J. Alexander 1/27/2016

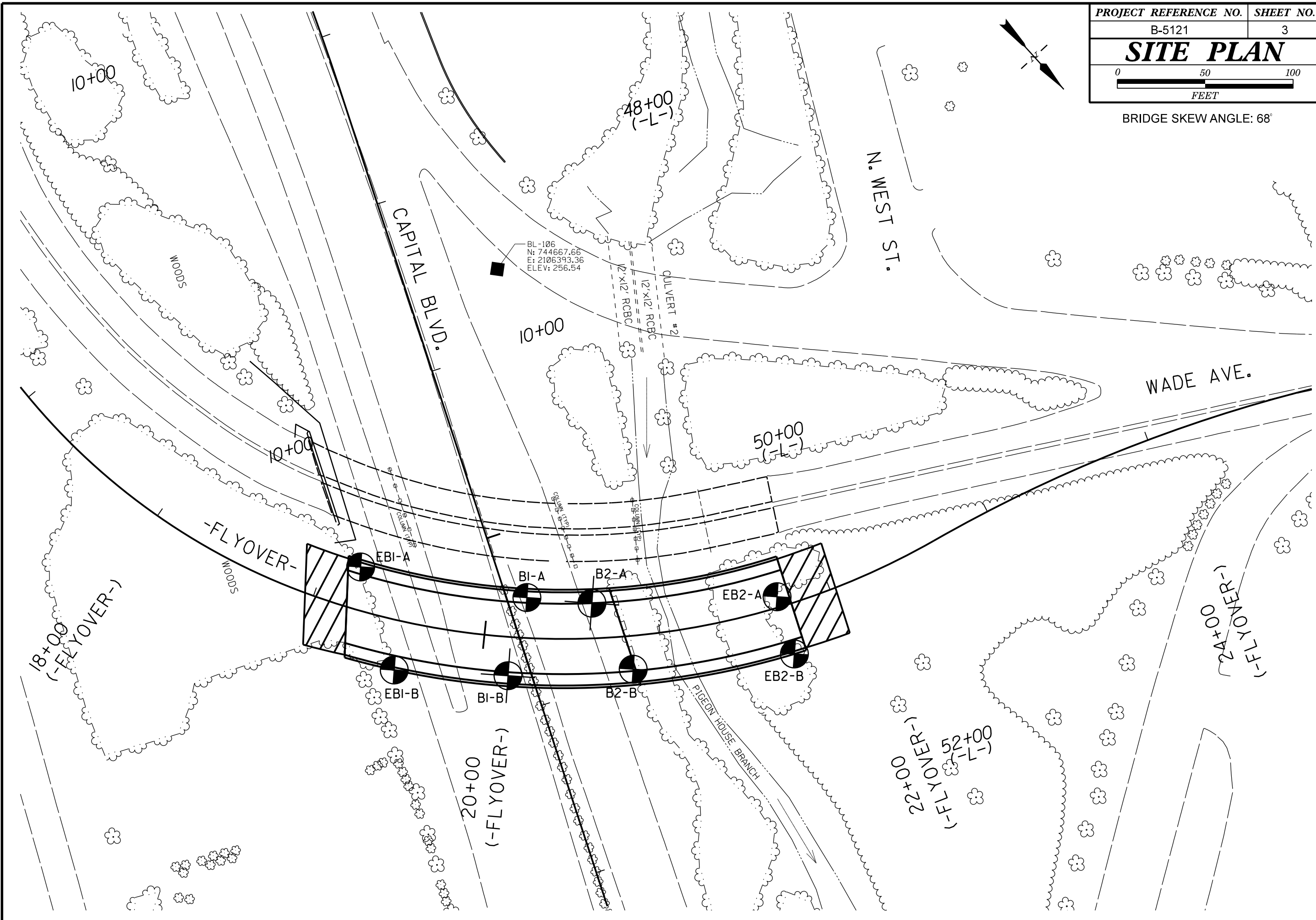
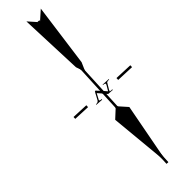
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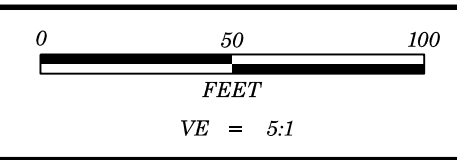
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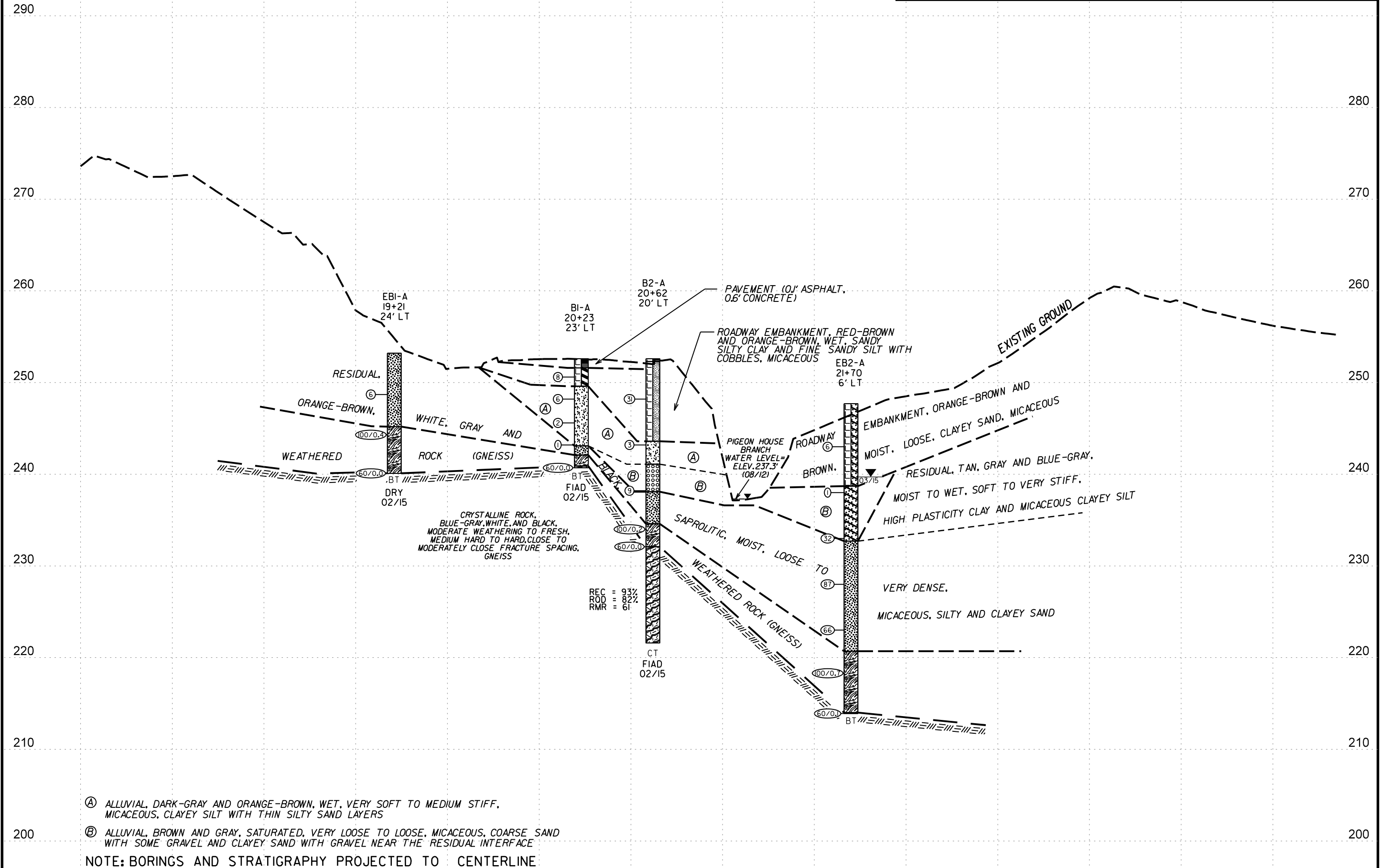
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

Table with multiple 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, EQUIPMENT USED ON SUBJECT PROJECT, FRACTURE SPACING, BEDDING, INDURATION, PLASTICITY, COLOR.





PROJECT REFERENCE NO.	SHEET NO.
B-5121	4
CENTERLINE PROFILE ALONG -FLYOVER-	

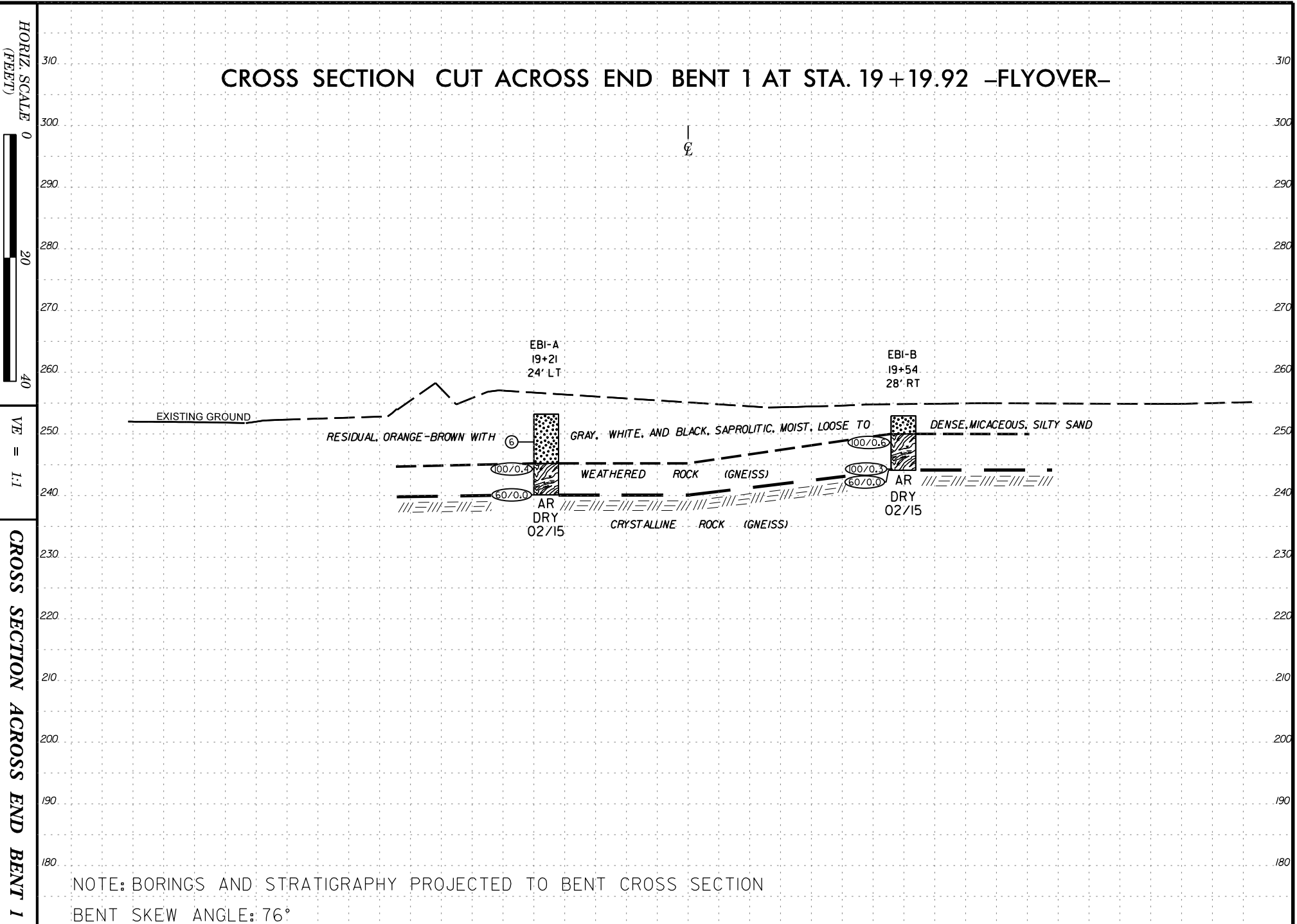


- Ⓐ ALLUVIAL, DARK-GRAY AND ORANGE-BROWN, WET, VERY SOFT TO MEDIUM STIFF, MICACEOUS, CLAYEY SILT WITH THIN SILTY SAND LAYERS
- Ⓑ ALLUVIAL, BROWN AND GRAY, SATURATED, VERY LOOSE TO LOOSE, MICACEOUS, COARSE SAND WITH SOME GRAVEL AND CLAYEY SAND WITH GRAVEL NEAR THE RESIDUAL INTERFACE

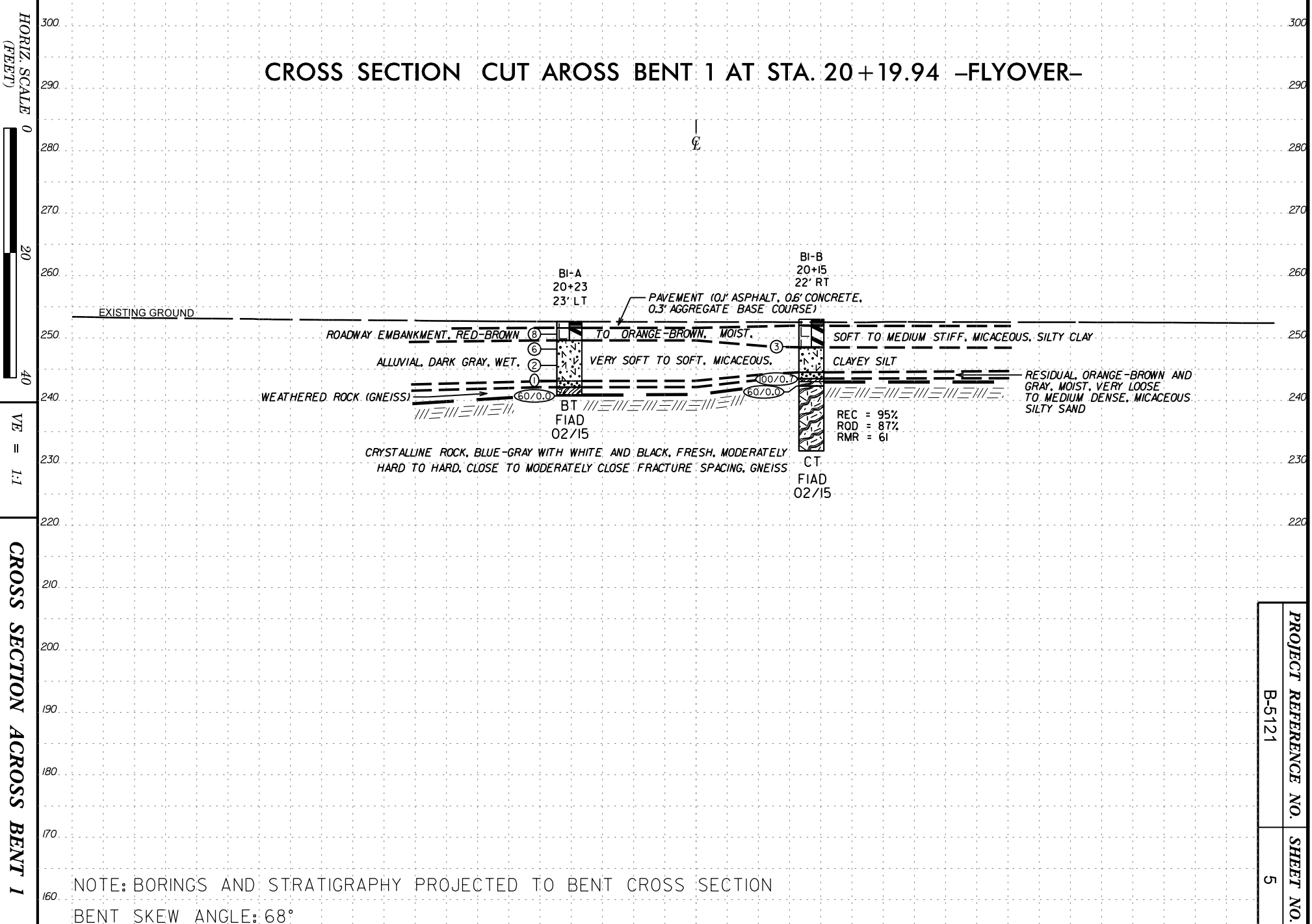
NOTE: BORINGS AND STRATIGRAPHY PROJECTED TO CENTERLINE

18+00 19+00 20+00 21+00 22+00 23+00 24+00

CROSS SECTION CUT ACROSS END BENT 1 AT STA. 19+19.92 -FLYOVER-



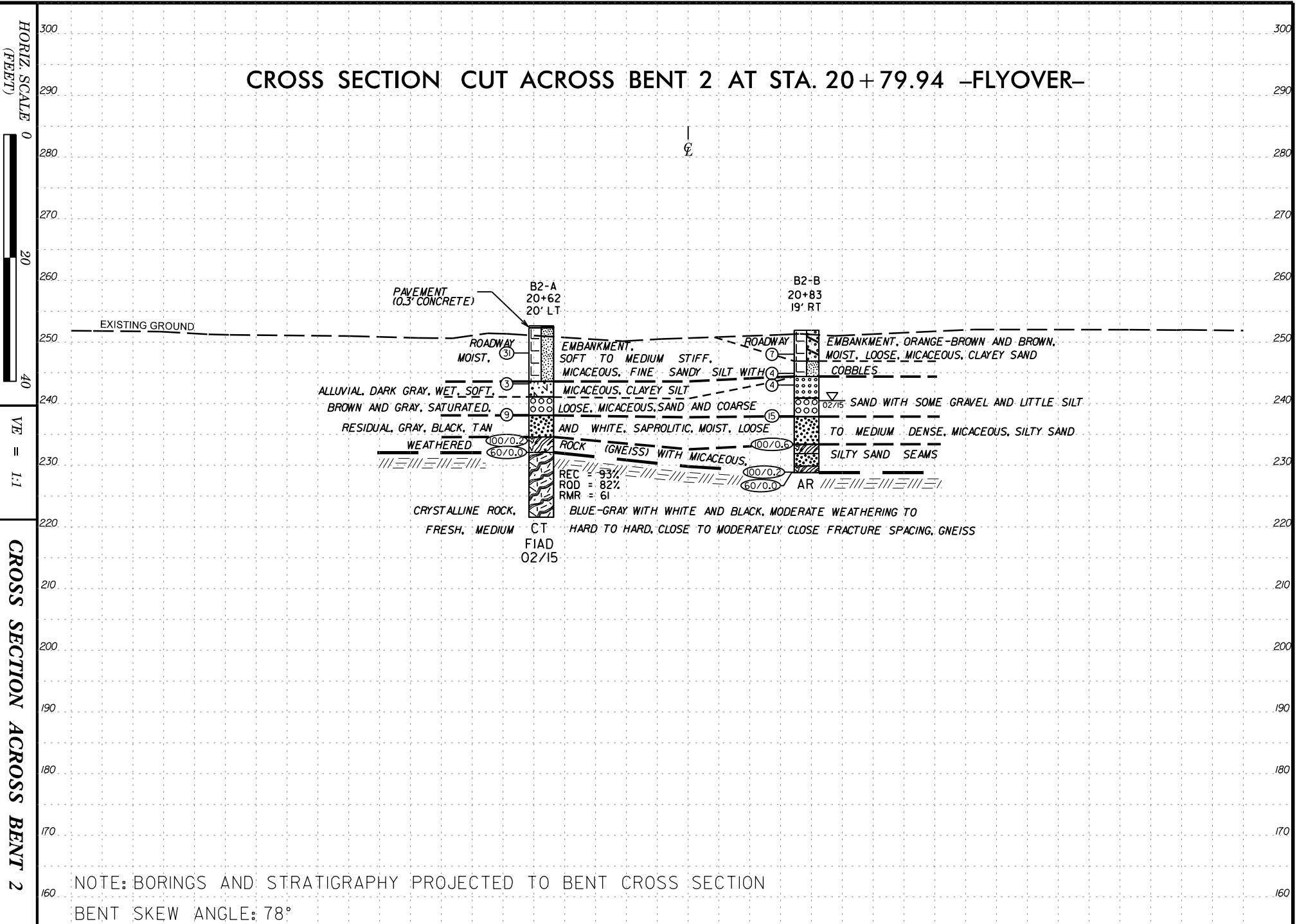
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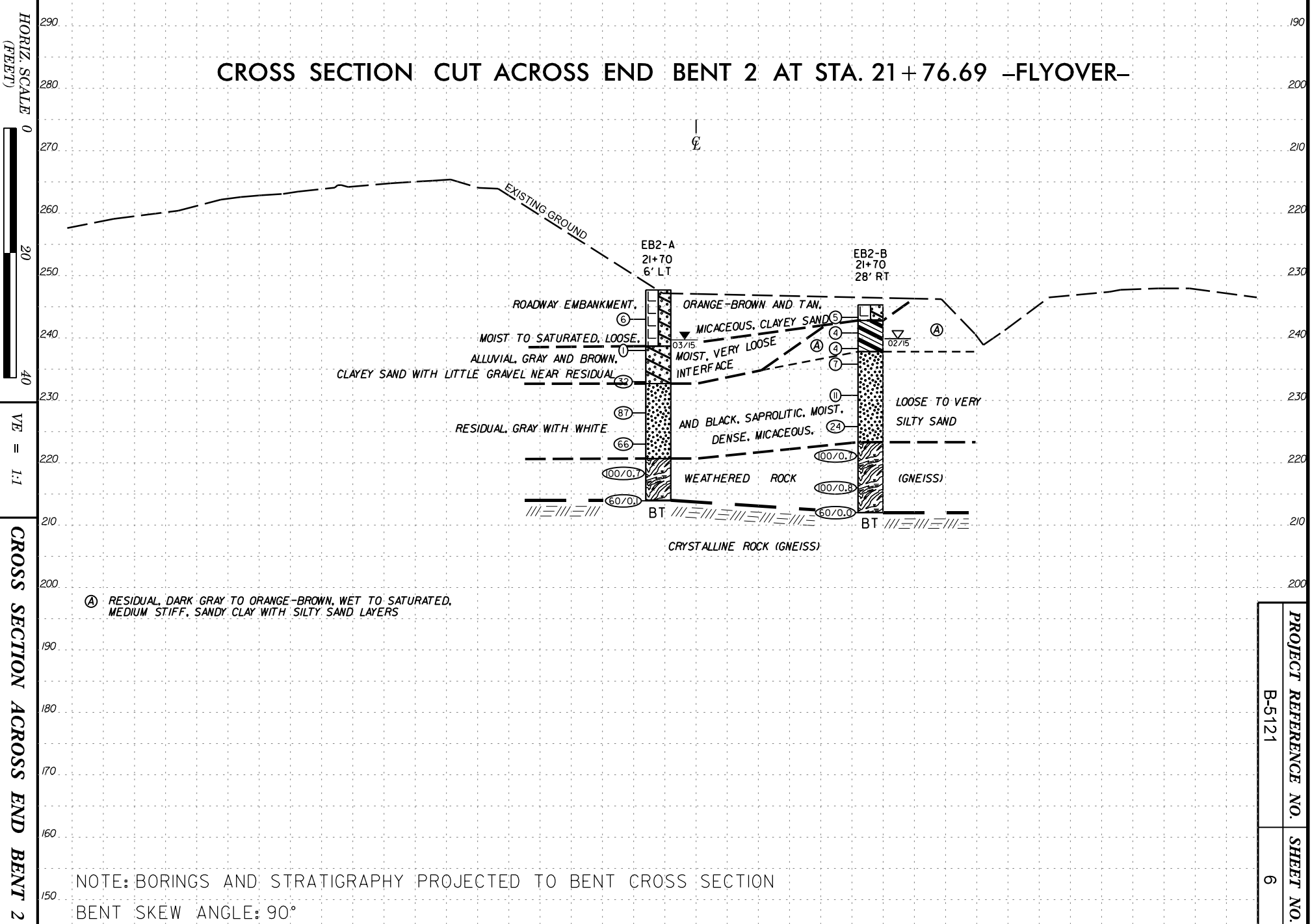
PROJECT REFERENCE NO.
B-5121

SHEET NO.
5

CROSS SECTION CUT ACROSS BENT 2 AT STA. 20+79.94 -FLYOVER-



CROSS SECTION CUT ACROSS END BENT 2 AT STA. 21+76.69 -FLYOVER-



GEOTECHNICAL BORING REPORT BORE LOG

WBS 42263		TIP B-5121		COUNTY WAKE		GEOLOGIST Alexander, M. J.										
SITE DESCRIPTION BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH							GROUND WTR (ft)									
BORING NO. EB1-A		STATION 19+21		OFFSET 24 ft LT		ALIGNMENT -FLYOVER-										
COLLAR ELEV. 253.2 ft		TOTAL DEPTH 13.1 ft		NORTHING 744,741		EASTING 2,106,565										
DRILL RIG/HAMMER EFF./DATE TER6847 CME-75 91% 06/04/2013		DRILL METHOD H.S. Augers		HAMMER TYPE Automatic												
DRILLER Turnage, J. R.		START DATE 02/12/15		COMP. DATE 02/12/15		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
255																253.2 GROUND SURFACE 0.0
250	249.7	3.5	2	3	3							M			RESIDUAL ORANGE-BROWN, WHITE, AND BLACK, SAPROLITIC, SILTY SAND, MICACEOUS	
245	244.7	8.5	100/0.4												WEATHERED ROCK (GNEISS)	
	240.1	13.1	60/0.0												Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 240.1 ft on CRYSTALLINE ROCK (GNEISS)	

NCDOT BORE SINGLE B5317_BRDG_BH.GPJ NC_DOT.GDT 10/5/15

GEOTECHNICAL BORING REPORT BORE LOG

WBS 42263		TIP B-5121		COUNTY WAKE		GEOLOGIST Alexander, M. J.										
SITE DESCRIPTION BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH							GROUND WTR (ft)									
BORING NO. EB1-B		STATION 19+54		OFFSET 28 ft RT		ALIGNMENT -FLYOVER-										
COLLAR ELEV. 252.9 ft		TOTAL DEPTH 8.8 ft		NORTHING 744,797		EASTING 2,106,590										
DRILL RIG/HAMMER EFF./DATE TER6847 CME-75 91% 06/04/2013		DRILL METHOD H.S. Augers		HAMMER TYPE Automatic												
DRILLER Turnage, J. R.		START DATE 02/12/15		COMP. DATE 02/12/15		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
255																252.9 GROUND SURFACE 0.0
250	249.6	3.3										M			RESIDUAL ORANGE-BROWN AND GRAY, SAPROLITIC, SILTY SAND, MICACEOUS	
															WEATHERED ROCK (GNEISS)	
245	244.6	8.3	100/0.3													
	244.1	8.8	60/0.0													Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 244.1 ft on CRYSTALLINE ROCK (GNEISS)

NCDOT BORE SINGLE B5317_BRDG_BH.GPJ NC_DOT.GDT 10/5/15

GEOTECHNICAL BORING REPORT BORE LOG

WBS 42263	TIP B-5121	COUNTY WAKE	GEOLOGIST Alexander, M. J.
SITE DESCRIPTION BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH			GROUND WTR (ft)
BORING NO. B1-A	STATION 20+23	OFFSET 23 ft LT	ALIGNMENT -FLYOVER-
COLLAR ELEV. 252.6 ft	TOTAL DEPTH 11.9 ft	NORTHING 744,817	EASTING 2,106,507
DRILL RIG/HAMMER EFF./DATE TER6847 CME-75 91% 06/04/2013		DRILL METHOD Mud Rotary	HAMMER TYPE Automatic
DRILLER Turnage, J. R.	START DATE 02/09/15	COMP. DATE 02/09/15	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						
255																
	251.6	1.0												252.6	GROUND SURFACE	0.0
	249.2	3.4	4	4	4									251.6	0.1' ASPHALT, 0.6' CONCRETE, 0.3' AGGREGATE BASE COURSE	1.0
	246.6	6.0	2	3	3									247.6	ROADWAY EMBANKMENT RED-BROWN AND ORANGE-BROWN, SILTY CLAY, MICACEOUS	5.0
	244.2	8.4	WOH	1	1									243.1	ALLUVIAL DARK GRAY, CLAYEY SILT, MICACEOUS	9.5
	240.7	11.9	WOH	1	0									242.1	GRAY, SILTY SAND	10.5
														240.9	WEATHERED ROCK (GNEISS)	11.7
														240.7	CRYSTALLINE ROCK (GNEISS)	11.9
															Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 240.7 ft on CRYSTALLINE ROCK (GNEISS)	

NCDOT BORE SINGLE B5317_BRDG_BH.GPJ NC_DOT.GDT 10/5/15

GEOTECHNICAL BORING REPORT BORE LOG

WBS 42263		TIP B-5121		COUNTY WAKE		GEOLOGIST Alexander, M. J.										
SITE DESCRIPTION BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH							GROUND WTR (ft)									
BORING NO. B1-B		STATION 20+15		OFFSET 22 ft RT		ALIGNMENT -FLYOVER-										
COLLAR ELEV. 253.0 ft		TOTAL DEPTH 21.1 ft		NORTHING 744,843		EASTING 2,106,545										
DRILL RIG/HAMMER EFF./DATE TER6847 CME-75 91% 06/04/2013				DRILL METHOD SPT Core Boring		HAMMER TYPE Automatic										
DRILLER Turnage, J. R.		START DATE 02/08/15		COMP. DATE 02/08/15		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
255																
															253.0	GROUND SURFACE
															252.0	0.1' ASPHALT, 0.6' CONCRETE, 0.3' AGGREGATE BASE COURSE
250	249.6	3.4													248.5	ROADWAY EMBANKMENT RED-BROWN AND ORANGE-BROWN, SILTY CLAY, MICACEOUS
															244.5	ALLUVIAL DARK GRAY, CLAYEY SILT, MICACEOUS
245	244.6	8.4	15	25	75/0.2									243.5	RESIDUAL ORANGE-BROWN, SILTY SAND, MICACEOUS	
	242.3	10.7												242.3	WEATHERED ROCK (GNEISS)	
240																CRISTALLINE ROCK BLUE-GRAY, WHITE, AND BLACK, FRESH, MODERATELY HARD TO HARD, CLOSE TO MODERATELY CLOSE FRACTURE SPACING, GNEISS REC=95%, RQD=87%, RMR=61
235																
															231.9	Boring Terminated at Elevation 231.9 ft in CRYSTALLINE ROCK (GNEISS)

NCDOT BORE SINGLE B5317_BRDG_BH.GPJ_NC_DOT.GDT 10/5/15

GEOTECHNICAL BORING REPORT CORE LOG

WBS 42263		TIP B-5121		COUNTY WAKE		GEOLOGIST Alexander, M. J.						
SITE DESCRIPTION BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH							GROUND WTR (ft)					
BORING NO. B1-B		STATION 20+15		OFFSET 22 ft RT		ALIGNMENT -FLYOVER-						
COLLAR ELEV. 253.0 ft		TOTAL DEPTH 21.1 ft		NORTHING 744,843		EASTING 2,106,545						
DRILL RIG/HAMMER EFF./DATE TER6847 CME-75 91% 06/04/2013				DRILL METHOD SPT Core Boring		HAMMER TYPE Automatic						
DRILLER Turnage, J. R.		START DATE 02/08/15		COMP. DATE 02/08/15		SURFACE WATER DEPTH N/A						
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	TOTAL RUN		SAMP. NO.	STRATA		LOG G	DESCRIPTION AND REMARKS	DEPTH (ft)
					REC. (%)	RQD (%)		REC. (%)	RQD (%)			
242.3	242.3	10.7	0.4	N=60/0.0 1:59/0.4	(0.4)	(0.0)		(9.9)	(9.0)		Begin Coring @ 10.7 ft CRYSTALLINE ROCK	10.7
240	241.9	11.1	5.0	3:19/1.0 3:30/1.0 3:43/1.0 3:39/1.0 3:41/1.0	100%	0%	RS-1	95%	87%		BLUE-GRAY, WHITE, AND BLACK, FRESH, MODERATELY HARD TO HARD, CLOSE TO MODERATELY CLOSE FRACTURE SPACING, GNEISS R1=7, R2=17, R3=10, R4=20, R5=7 RMR = 61	
235	236.9	16.1	5.0	3:42/1.0 4:05/1.0 3:38/1.0 3:47/1.0 4:21/1.0	94%	84%	RS-2					
	231.9	21.1									Boring Terminated at Elevation 231.9 ft in CRYSTALLINE ROCK (GNEISS)	21.1

NCDOT CORE SINGLE B5317_BRDG_BH.GPJ_NC_DOT.GDT 10/5/15

CORE PHOTOGRAPHS

42263 (B-5121)

BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH

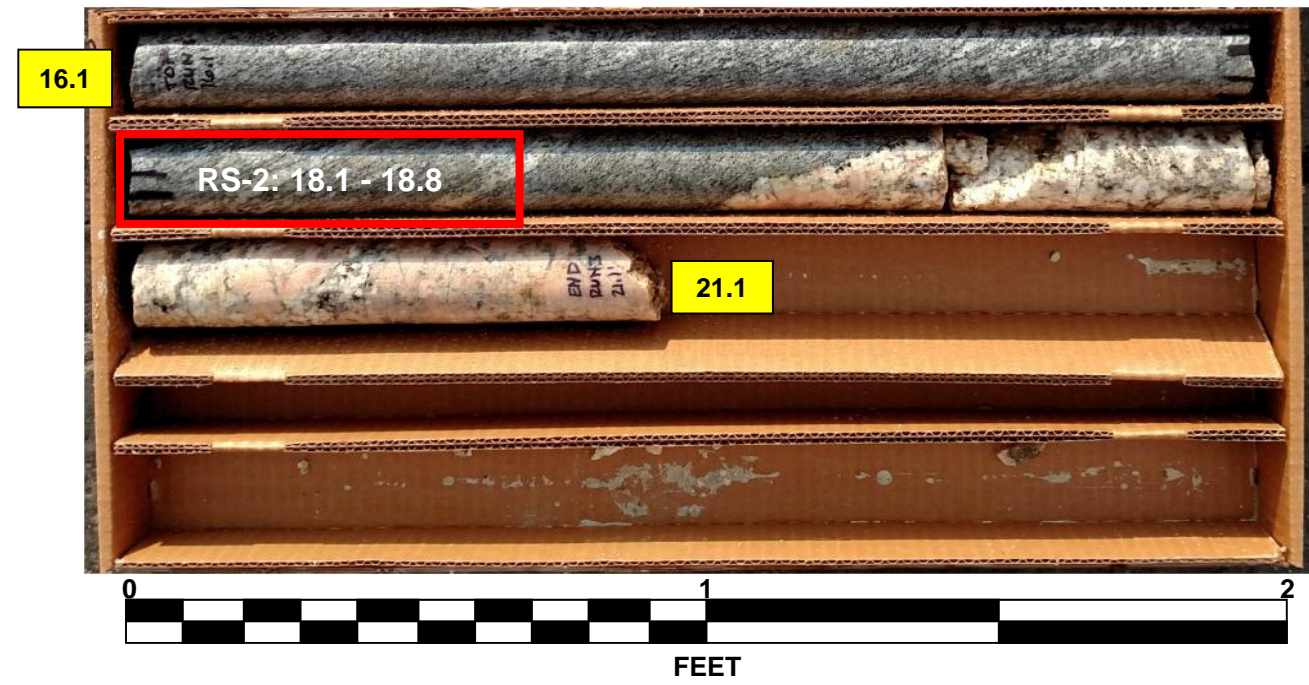
B1-B

BOX 1: 10.7 - 16.1 FEET



B1-B

BOX 2: 16.1 - 21.1 FEET



**GEOTECHNICAL BORING REPORT
BORE LOG**

WBS 42263		TIP B-5121		COUNTY WAKE		GEOLOGIST Alexander, M. J.							
SITE DESCRIPTION BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH							GROUND WTR (ft)						
BORING NO. B2-A		STATION 20+62		OFFSET 20 ft LT		ALIGNMENT -FLYOVER-							
COLLAR ELEV. 252.6 ft		TOTAL DEPTH 31.0 ft		NORTHING 744,844		EASTING 2,106,481							
DRILL RIG/HAMMER EFF./DATE TER6847 CME-75 91% 06/04/2013				DRILL METHOD SPT Core Boring		HAMMER TYPE Automatic							
DRILLER Turnage, J. R.		START DATE 02/13/15		COMP. DATE 02/13/15		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				
255													
													252.6
													0.0
													0.0
250	249.2	3.4	53	27	4						M	ROADWAY EMBANKMENT ORANGE-BROWN, FINE SANDY SILT, WITH COBBLES, MICACEOUS	
245	244.2	8.4									W		243.6
240	239.2	13.4	9	5	4						W	ALLUVIAL DARK GRAY, CLAYEY SILT, MICACEOUS GRAY, FINE TO COARSE SAND, WITH LITTLE SILT AND GRAVEL, MICACEOUS	11.5
235	234.2	18.4	100/0.2									RESIDUAL GRAY AND BLACK, SAPROLITIC, SILTY SAND, MICACEOUS	14.5
230	232.1	20.5	60/0.0									WEATHERED ROCK (GNEISS)	18.0
225											RS-3	CRYSTALLINE ROCK BLUE-GRAY, WHITE, AND BLACK, MODERATE WEATHERING TO FRESH, MEDIUM HARD TO HARD, CLOSE TO MODERATELY CLOSE FRACTURE SPACING, GNEISS REC=93%, RQD=82%, RMR=61	20.5
													221.6
													31.0
													Boring Terminated at Elevation 221.6 ft in CRYSTALLINE ROCK (GNEISS)

NCDOT BORE SINGLE B5317_BRDG_BH.GPJ_NC_DOT.GDT 10/5/15

**GEOTECHNICAL BORING REPORT
CORE LOG**

WBS 42263		TIP B-5121		COUNTY WAKE		GEOLOGIST Alexander, M. J.						
SITE DESCRIPTION BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH							GROUND WTR (ft)					
BORING NO. B2-A		STATION 20+62		OFFSET 20 ft LT		ALIGNMENT -FLYOVER-						
COLLAR ELEV. 252.6 ft		TOTAL DEPTH 31.0 ft		NORTHING 744,844		EASTING 2,106,481						
DRILL RIG/HAMMER EFF./DATE TER6847 CME-75 91% 06/04/2013				DRILL METHOD SPT Core Boring		HAMMER TYPE Automatic						
DRILLER Turnage, J. R.		START DATE 02/13/15		COMP. DATE 02/13/15		SURFACE WATER DEPTH N/A						
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	TOTAL RUN		SAMP. NO.	STRATA		LOG	DESCRIPTION AND REMARKS	DEPTH (ft)
					REC. (%)	RQD (%)		REC. (%)	RQD (%)			
232.1	232.1	20.5	0.5	N=60/0.0 1:28/0.5	(0.4)	(0.4)		(9.8)	(8.6)		Begin Coring @ 20.5 ft CRYSTALLINE ROCK	20.5
230	231.6	21.0	5.0	1:32/1.0 2:50/1.0 3:38/1.0 4:00/1.0	80%	80%		93%	82%		BLUE-GRAY, WHITE, AND BLACK, MODERATE WEATHERING TO FRESH, MEDIUM HARD TO HARD, CLOSE TO MODERATELY CLOSE FRACTURE SPACING, GNEISS R1=7, R2=17, R3=10, R4=20, R5=7 RMR = 61	
225	226.6	26.0	5.0	3:10/1.0 3:19/1.0 3:02/1.0 3:24/1.0 4:02/1.0	(5.0)	(4.9)	RS-3					
	221.6	31.0										Boring Terminated at Elevation 221.6 ft in CRYSTALLINE ROCK (GNEISS)

NCDOT CORE SINGLE B5317_BRDG_BH.GPJ_NC_DOT.GDT 10/5/15

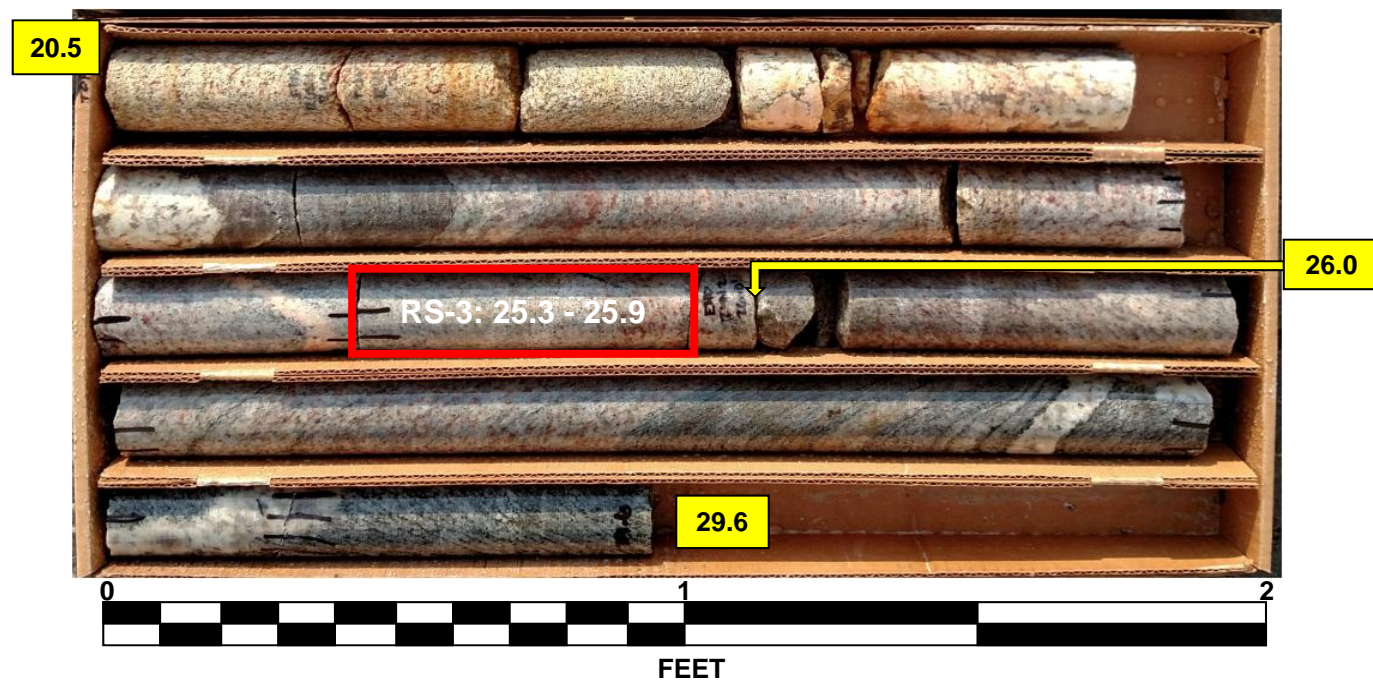
CORE PHOTOGRAPHS

42263 (B-5121)

BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH

B2-A

BOX 1: 20.5 - 29.6 FEET



B2-A

BOX 2: 29.6 - 31.0 FEET



GEOTECHNICAL BORING REPORT BORE LOG

WBS 42263	TIP B-5121	COUNTY WAKE	GEOLOGIST Alexander, M. J.
SITE DESCRIPTION BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH			GROUND WTR (ft)
BORING NO. B2-B	STATION 20+83	OFFSET 19 ft RT	ALIGNMENT -FLYOVER-
COLLAR ELEV. 251.9 ft	TOTAL DEPTH 23.1 ft	NORTHING 744,888	EASTING 2,106,489
DRILL RIG/HAMMER EFF./DATE TER6847 CME-75 91% 06/04/2013		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER Turnage, J. R.	START DATE 02/12/15	COMP. DATE 02/12/15	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						
255																
														251.9	GROUND SURFACE	0.0
															ROADWAY EMBANKMENT	
	249.0	2.9											M	246.9	ORANGE-BROWN, CLAYEY SAND, MICACEOUS	5.0
	245.9	6.0	3	4	3								M	244.4	ORANGE-BROWN, FINE SANDY SILT, MICACEOUS	7.5
	244.0	7.9	2	2	2								D	240.9	ALLUVIAL BROWN-GRAY, SAND, MICACEOUS	11.0
	239.0	12.9	4	3	12								Sat.	237.9	GRAY, FINE TO COARSE SAND, WITH LITTLE SILT AND GRAVEL, MICACEOUS	14.0
	234.0	17.9	35	65/0.1									M	233.4	RESIDUAL TAN-BROWN, WHITE, AND BLACK, SAPROLITIC, SILTY SAND, MICACEOUS	18.5
	231.9													231.9	WEATHERED ROCK (GNEISS)	20.0
	229.9													229.9	RESIDUAL TAN AND WHITE, SAPROLITIC, SILTY SAND, MICACEOUS	22.0
	228.8													228.8	WEATHERED ROCK (GNEISS)	23.1
	228.8		100/0.2												Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 228.8 ft on CRYSTALLINE ROCK (GNEISS)	
	228.8		60/0.0													

NCDOT BORE SINGLE B5317_BRDG_BH.GPJ NC_DOT.GDT 10/5/15

GEOTECHNICAL BORING REPORT BORE LOG

WBS 42263		TIP B-5121		COUNTY WAKE		GEOLOGIST Alexander, M. J.												
SITE DESCRIPTION BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH							GROUND WTR (ft)											
BORING NO. EB2-A		STATION 21+70		OFFSET 6 ft LT		ALIGNMENT -FLYOVER-												
COLLAR ELEV. 247.7 ft		TOTAL DEPTH 33.8 ft		NORTHING 744,912		EASTING 2,106,400												
DRILL RIG/HAMMER EFF./DATE TER346 DIEDRICH D-50 79% 09/11/2013		DRILL METHOD H.S. Augers		HAMMER TYPE Automatic														
DRILLER Eklund, M. A.		START DATE 03/02/15		COMP. DATE 03/02/15		SURFACE WATER DEPTH N/A												
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION				
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)			
250																247.7	GROUND SURFACE	
245	244.0	3.7	3	3	3									M			ROADWAY EMBANKMENT ORANGE-BROWN AND BROWN, CLAYEY SAND, MICACEOUS	
240	239.0	8.7	WOH 1 0											Sat.		238.7	9.0	
235	234.0	13.7	8	14	18									Sat.		232.7	15.0	
230	229.0	18.7	5	32	55									M			RESIDUAL GRAY, WHITE, AND BLACK, SAPROLITIC, SILTY SAND, MICACEOUS	
225	224.0	23.7	30	38	28									M				
220	219.0	28.7	45	55/0.2										M		220.7	27.0	
215	214.0	33.7	60/0.1															WEATHERED ROCK (GNEISS)
																214.0	33.7	CRYSTALLINE ROCK (GNEISS)
																213.9	33.8	Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 213.9 ft in CRYSTALLINE ROCK (GNEISS)

NCDOT BORE SINGLE B5317_BRDG_BH.GPJ_NC_DOT.GDT 10/5/15

GEOTECHNICAL BORING REPORT BORE LOG

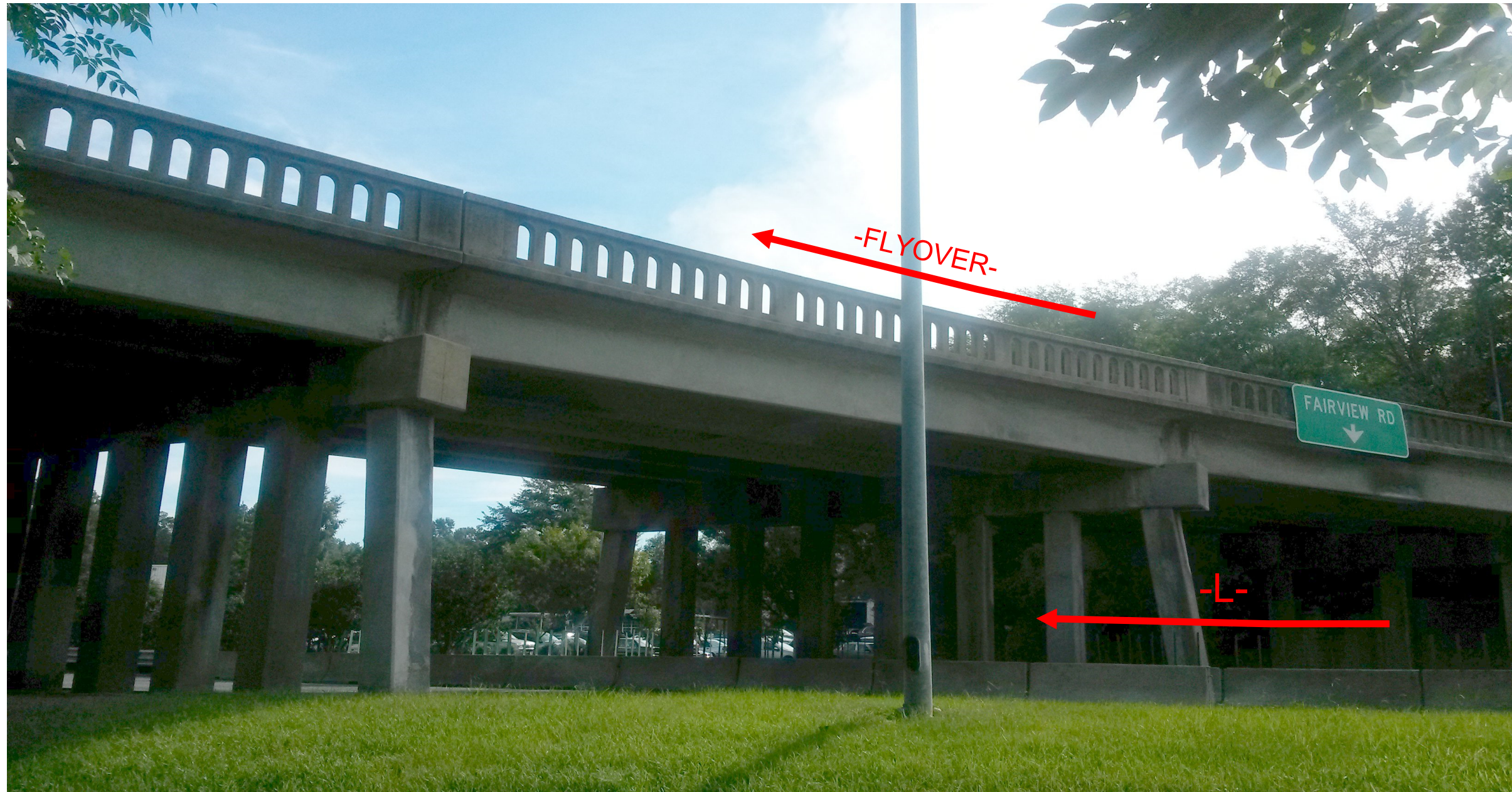
WBS 42263		TIP B-5121		COUNTY WAKE		GEOLOGIST Alexander, M. J.												
SITE DESCRIPTION BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH							GROUND WTR (ft)											
BORING NO. EB2-B		STATION 21+70		OFFSET 28 ft RT		ALIGNMENT -FLYOVER-												
COLLAR ELEV. 245.3 ft		TOTAL DEPTH 33.3 ft		NORTHING 744,943		EASTING 2,106,416												
DRILL RIG/HAMMER EFF./DATE TER346 DIEDRICH D-50 79% 09/11/2013		DRILL METHOD H.S. Augers		HAMMER TYPE Automatic														
DRILLER Eklund, M. A.		START DATE 03/02/15		COMP. DATE 03/02/15		SURFACE WATER DEPTH N/A												
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION				
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)			
250																		
245	244.3	1.0	3	3	2											245.3	0.0	
240	241.8	3.5	1	1	3									Sat.		242.8	2.5	
235	239.3	6.0	3	3	1									W				
230	236.8	8.5	2	4	3									W		237.8	7.5	
225	231.8	13.5	4	4	7									M				
220	226.8	18.5	12	16	8									M				
215	221.8	23.5	57	43/0.2										M		223.3	22.0	
210	216.8	28.5	50	50/0.3														WEATHERED ROCK (GNEISS)
205	212.0	33.3	60/0.0															
																212.0	33.3	Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 212.0 ft on CRYSTALLINE ROCK (GNEISS)

NCDOT BORE SINGLE B5317_BRDG_BH.GPJ_NC_DOT.GDT 10/5/15

SITE PHOTOGRAPH

42263 (B-5121)

BRIDGE NO. 213 ON -FLYOVER- (WADE AVENUE) OVER PIGEON HOUSE BRANCH



LOOKING NORTHEAST TOWARD BENT 1 AND BENT 2