

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

STRUCTURE
SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 35901.1.2 (I-4413) F.A. PROJ. IMF-095-1(64)22
COUNTY ROBESON
PROJECT DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE ROAD) OVER I-95

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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) 250-4068. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE PART OF THE CONTRACT.

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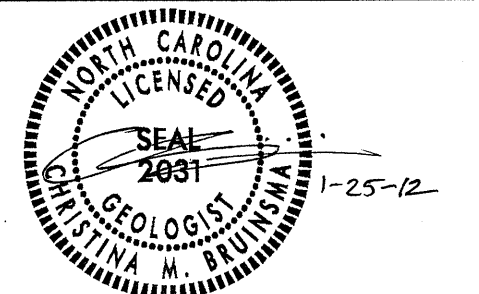
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PROJECT: 35901.1.2 ID: I-4413

PERSONNEL

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INVESTIGATED BY C.M. BRUINSMA
CHECKED BY N.T. ROBERSON
SUBMITTED BY N.T. ROBERSON
DATE JANUARY 2012



DRAWN BY: W.D. FIELDS, C.M. BRUINSMA

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NOTE - 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.

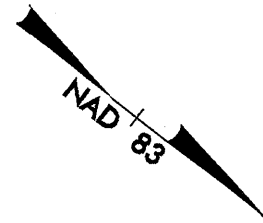
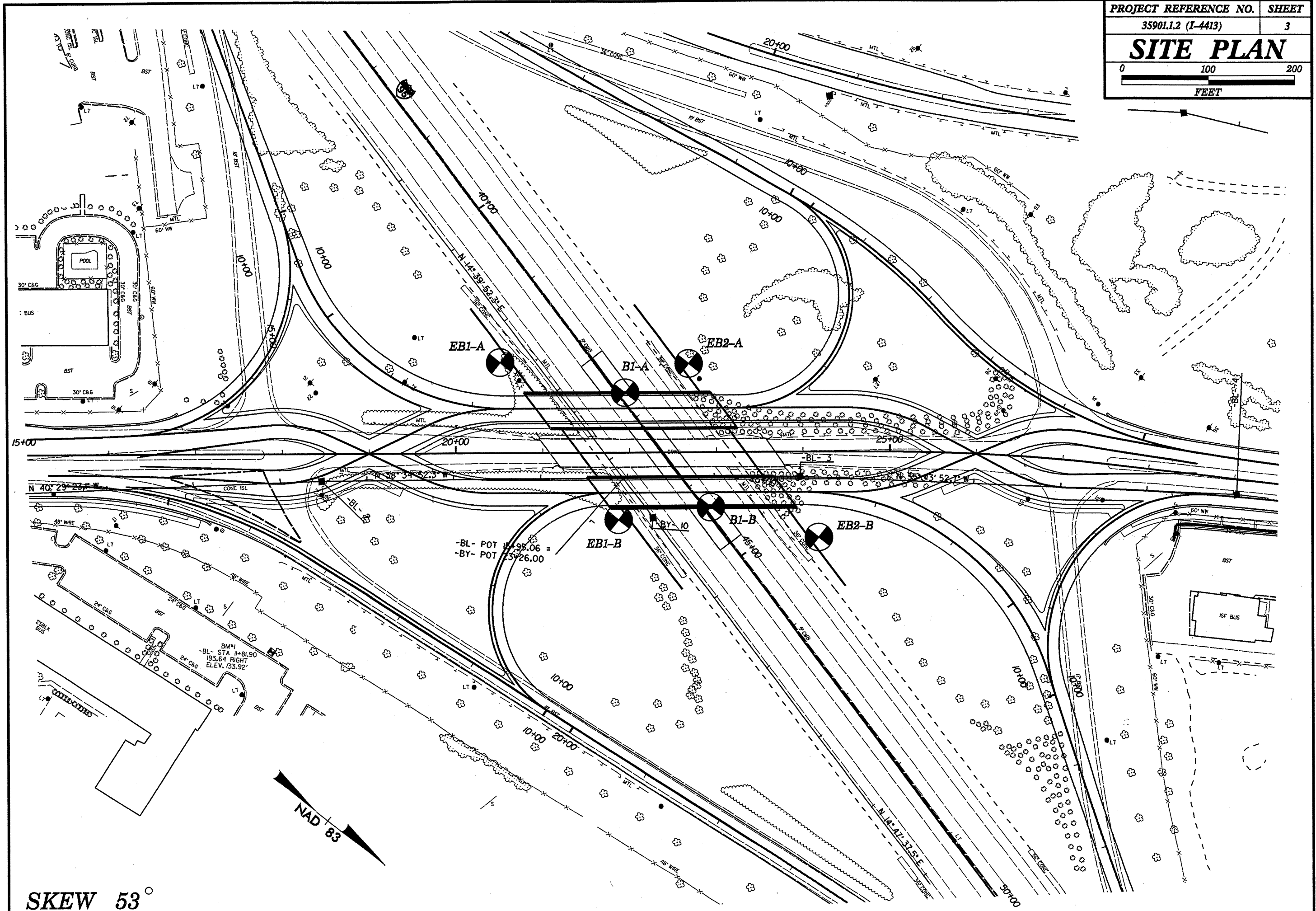
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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PROJECT REFERENCE NO. 35901.1.2 (I-4413) SHEET NO. 2

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS																																																																																																																													
<p>SOIL IS CONSIDERED TO BE THE UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER, AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO STANDARD PENETRATION TEST (AASHTO T208, ASTM D-1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLES:</p> <p style="text-align: center;"><i>VERY STIFF, GRAY SILTY CLAY, MOST WITH INTERBEDDED FINE SAND LAYERS, HEAVY PLASTIC, A-7-6</i></p>	<p>WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO POORLY GRADED)</p> <p>GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES.</p> <p style="text-align: center;">ANGULARITY OF GRAINS</p> <p>THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.</p>	<p>HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT IF TESTED, WOULD YIELD SPT REFUSAL. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 60 BLOWS. IN NON-COASTAL PLAIN MATERIAL, THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:</p> <p>WEATHERED ROCK (WR) </p> <p>CRYSTALLINE ROCK (CR) </p> <p>NON-CRYSTALLINE ROCK (NCR) </p> <p>COASTAL PLAIN SEDIMENTARY ROCK (CP) </p>	<p>ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.</p> <p>AQUIFER - A WATER BEARING FORMATION OR STRATA.</p> <p>ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.</p> <p>ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC.</p> <p>ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.</p> <p>CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.</p> <p>COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.</p> <p>CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.</p> <p>DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.</p> <p>DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.</p> <p>DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.</p> <p>FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.</p> <p>FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.</p> <p>FLOOD - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.</p> <p>FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.</p> <p>FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.</p> <p>JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.</p> <p>LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.</p> <p>LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.</p> <p>MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.</p> <p>PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.</p> <p>RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.</p> <p>ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.</p> <p>SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.</p> <p>SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.</p> <p>SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.</p> <p>STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS IN OR BPF OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 60 BLOWS PER FOOT.</p> <p>STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.</p> <p>STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.</p> <p>TOPSOIL (TS) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.</p>																																																																																																																													
<p style="text-align: center;">SOIL LEGEND AND AASHTO CLASSIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>GENERAL CLASS.</th> <th colspan="4">GRANULAR MATERIALS (<= 35% PASSING #200)</th> <th colspan="4">SILT-CLAY MATERIALS (> 35% PASSING #200)</th> <th colspan="4">ORGANIC MATERIALS</th> </tr> <tr> <th>GROUP CLASS.</th> <th>A-1</th> <th>A-3</th> <th>A-2</th> <th>A-4</th> <th>A-5</th> <th>A-6</th> <th>A-7</th> <th>A-1, A-2</th> <th>A-4, A-5</th> <th>A-6, A-7</th> <th colspan="3"></th> </tr> <tr> <th>SYMBOL</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td colspan="3"></td> </tr> <tr> <th>% PASSING</th> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td colspan="3"></td> </tr> <tr> <th>LIQUID LIMIT PLASTIC INDEX</th> <td>6 MX</td> <td>NP</td> <td>10 MX, 11 MN, 12 MX, 13 MN</td> <td>10 MX, 11 MN, 12 MX, 13 MN</td> <td>10 MX, 11 MN, 12 MX, 13 MN</td> <td>10 MX, 11 MN, 12 MX, 13 MN</td> <td>10 MX, 11 MN, 12 MX, 13 MN</td> <td colspan="3">SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER</td> <td colspan="2">HIGHLY ORGANIC SOILS</td> </tr> <tr> <th>GROUP INDEX</th> <td>0</td> <td>0</td> <td>0</td> <td>4 MX</td> <td>8 MX, 12 MX</td> <td>16 MX, 20 MX</td> <td>No MX</td> <td colspan="3"></td> <td colspan="2"></td> </tr> <tr> <th>USUAL TYPES OF MAJOR MATERIALS</th> <td>STONE FRAGS, GRAVEL, AND SAND</td> <td>FINE SAND</td> <td>SILTY OR CLAYEY GRAVEL AND SAND</td> <td>SILTY SOILS</td> <td>CLAYEY SOILS</td> <td colspan="3"></td> <td colspan="3"></td> </tr> <tr> <th>GEN. 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ARE USED IN DESCRIPTIONS WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.</p> <p style="text-align: center;">COMPRESSIBILITY</p> <p>SLIGHTLY COMPRESSIBLE MODERATELY COMPRESSIBLE HIGHLY COMPRESSIBLE</p> <p style="text-align: center;">PERCENTAGE OF MATERIAL</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>ORGANIC MATERIAL</th> <th>GRANULAR SOILS</th> <th>SILT - CLAY SOILS</th> <th>OTHER MATERIAL</th> </tr> <tr> <td>TRACE OF ORGANIC MATTER</td> <td>2 - 3%</td> <td>3 - 5%</td> <td>TRACE 1 - 10%</td> </tr> <tr> <td>LITTLE ORGANIC MATTER</td> <td>3 - 5%</td> <td>5 - 12%</td> <td>LITTLE 10 - 20%</td> </tr> <tr> <td>MODERATELY ORGANIC</td> <td>5 - 10%</td> <td>12 - 20%</td> <td>SOME 20 - 35%</td> </tr> <tr> <td>HIGHLY ORGANIC</td> <td>>10%</td> <td>>20%</td> <td>HIGHLY 35% AND ABOVE</td> </tr> </table> <p style="text-align: center;">GROUND WATER</p> <p> WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING</p> <p> STATIC WATER LEVEL AFTER 24 HOURS</p> <p> PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA</p> <p> SPRING OR SEEP</p> <p style="text-align: center;">MISCELLANEOUS SYMBOLS</p> <p> ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION</p> <p> SOIL SYMBOL</p> <p> ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT</p> <p> INFERRED SOIL BOUNDARY</p> <p> INFERRED ROCK LINE</p> <p> ALLUVIAL SOIL BOUNDARY</p> <p> DIP & DIP DIRECTION OF ROCK STRUCTURES</p> <p> TEST BORING W/ CORE</p> <p> SPT N-VALUE</p> <p> SPT REFUSAL</p> <p> AUGER BORING</p> <p> CORE BORING</p> <p> MONITORING WELL</p> <p> PIEZOMETER INSTALLATION</p> <p> SLOPE INDICATOR INSTALLATION</p> <p> CONE PENETROMETER TEST</p> <p> SOUNDING ROD</p>	ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL	TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE 1 - 10%	LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE 10 - 20%	MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME 20 - 35%	HIGHLY ORGANIC	>10%	>20%	HIGHLY 35% AND ABOVE	<p style="text-align: center;">ROCK HARDNESS</p> <p>VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.</p> <p>HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.</p> <p>MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.</p> <p>MEDIUM HARD CAN BE GROUDED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.</p> <p>SOFT CAN BE GROUDED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.</p> <p>VERY SOFT CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. 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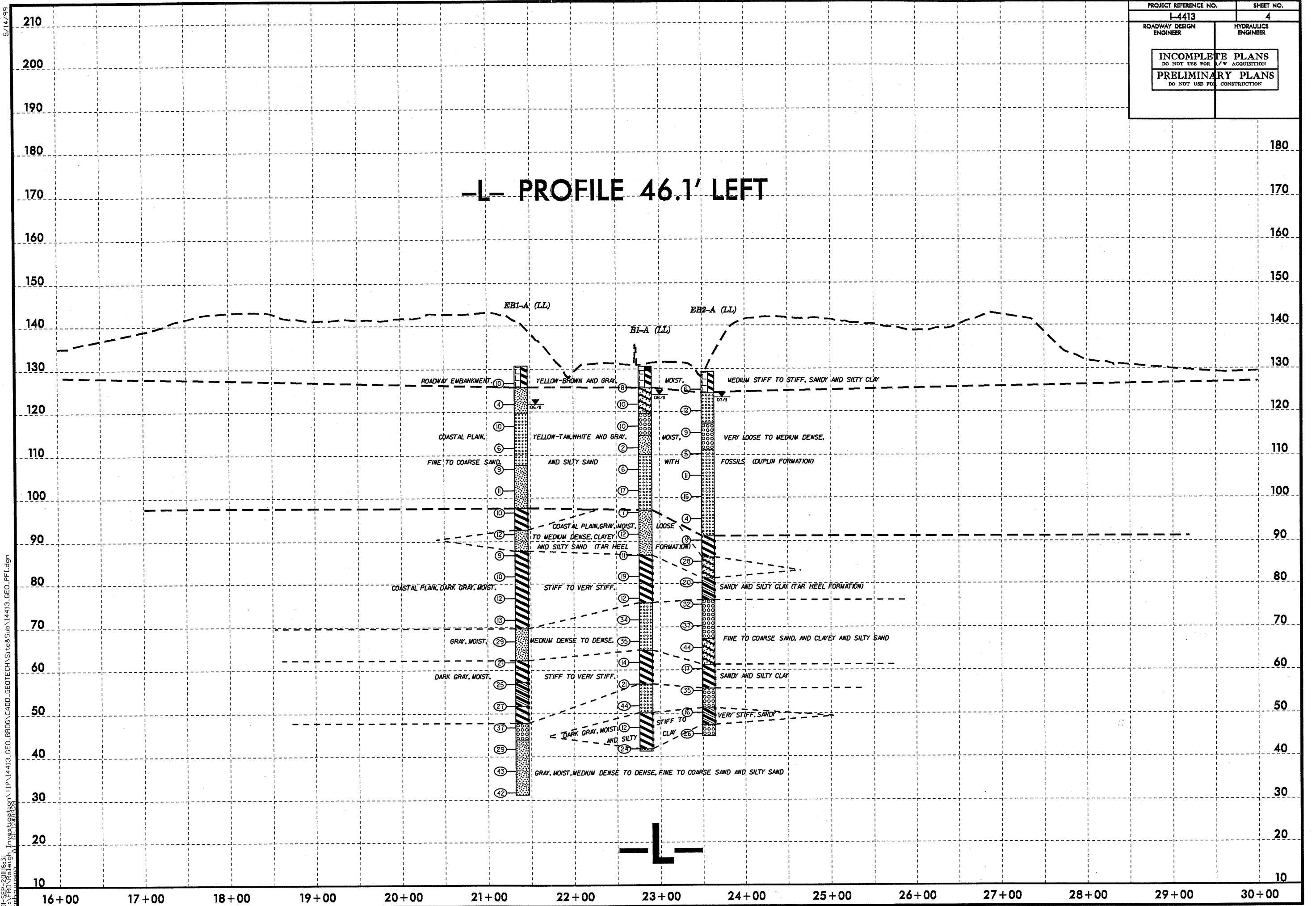
SKEW 53°

-BL- POT 15+98.06 =
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BM#1
-BL- STA 14+81.90
193.64 RIGHT
ELEV. 133.92'

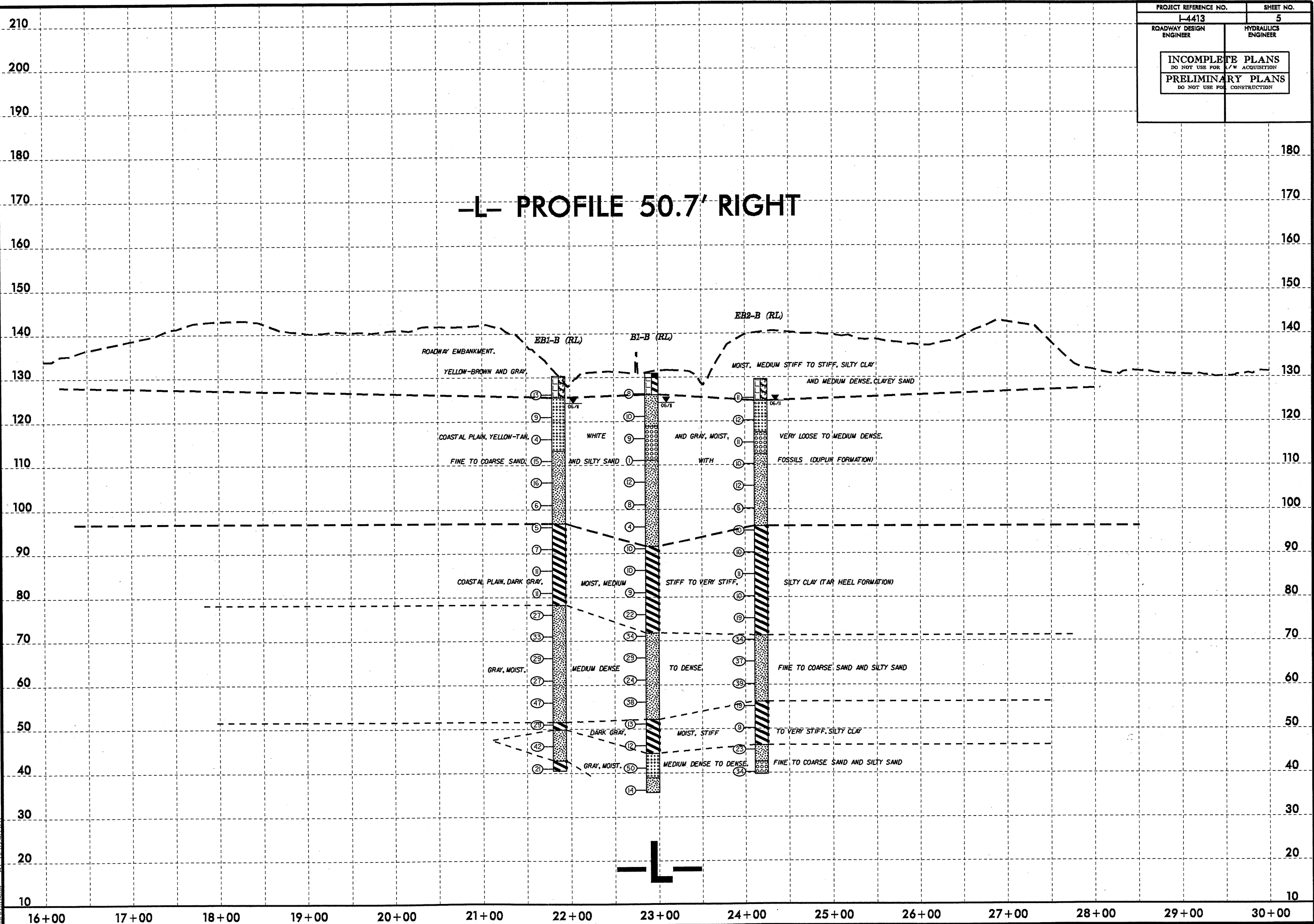
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I-4413	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

-L- PROFILE 46.1' LEFT

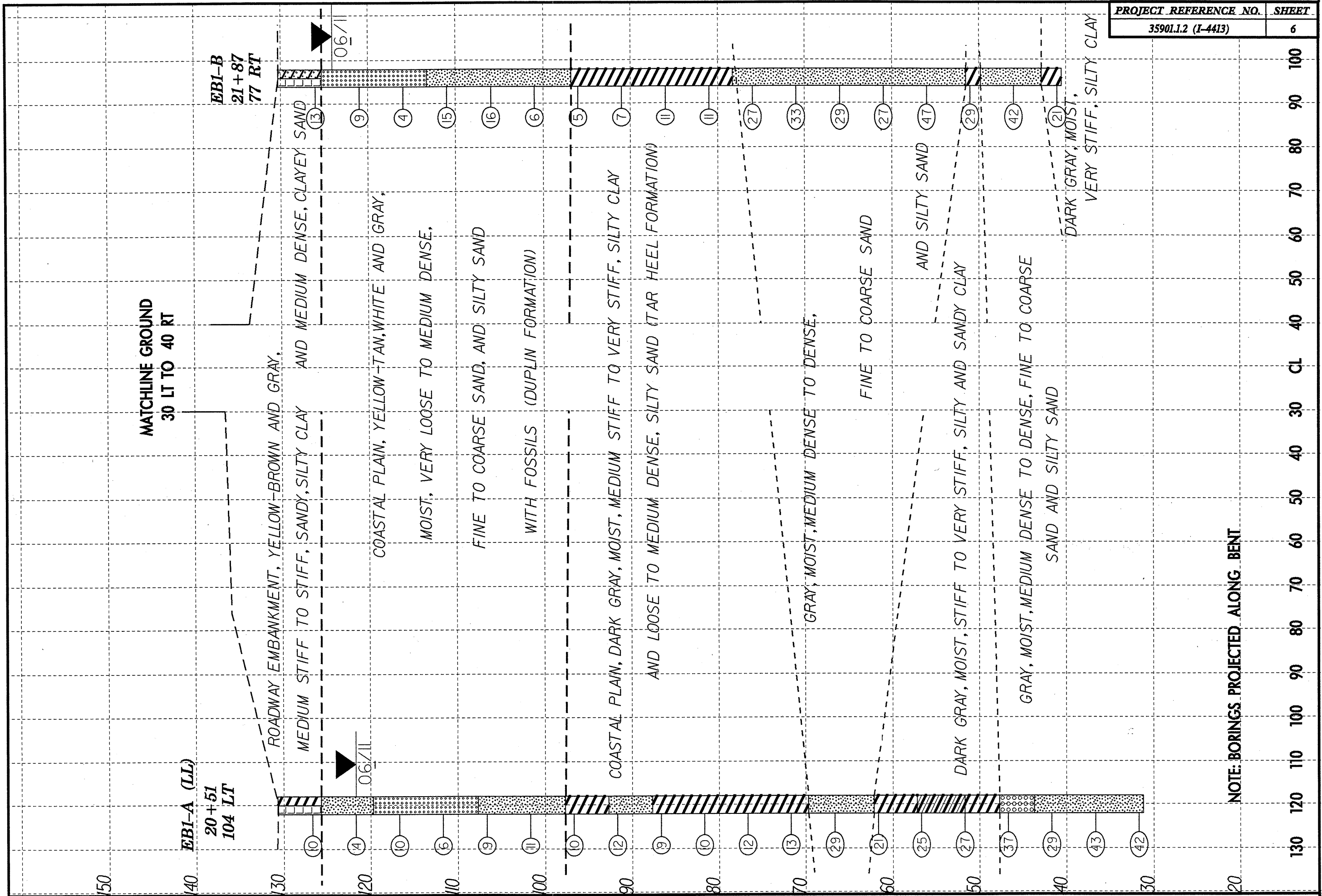


5/14/99
 01-SEP-2011 6:31
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 AT: GEI128328

-L- PROFILE 50.7' RIGHT



5/14/99
 D:\SEP2001\628 L:\PRO\14413\GEO\BRD\VCADD\GEO\TECH\Site\Sub\14413_GEO_PFI.dgn
 Inves\14413\GEO\BRD\VCADD\GEO\TECH\Site\Sub\14413_GEO_PFI.dgn
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 At 12:28:28



NOTE: BORINGS PROJECTED ALONG BENT



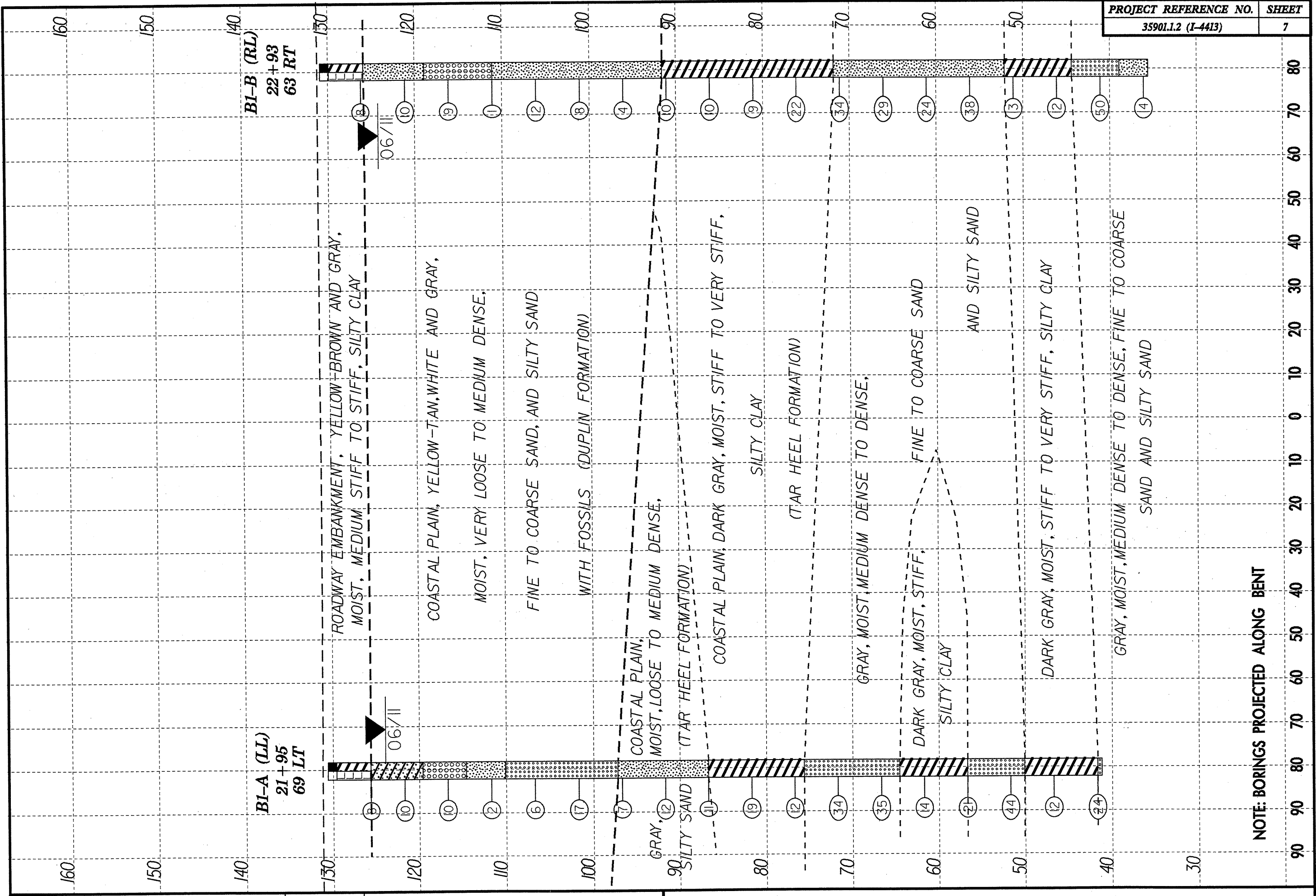
VE = 2:1

CROSS SECTION THROUGH EBI

150
140
130
120
110
100
90
80
70
60
50
40
30

30 40 50 60 70 80 90 100 110 120 130

100 90 80 70 60 50 40 30



HORIZ. SCALE 0 20 40 (FEET)

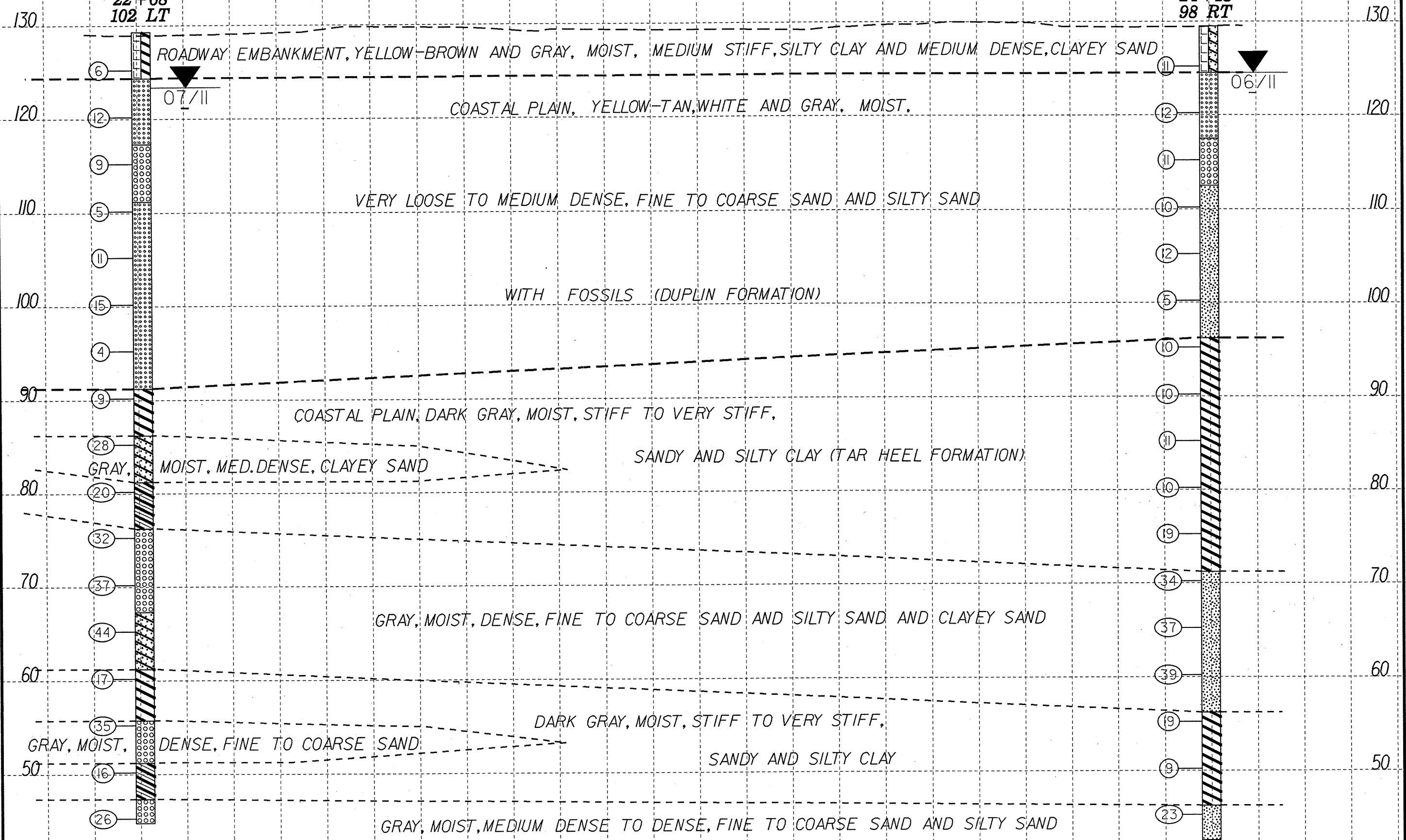
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CROSS SECTION THROUGH BI

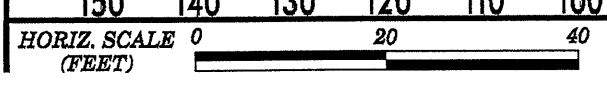
NOTE: BORINGS PROJECTED ALONG BENT

EB2-A (LL)
22+68
102 LT

EB2-B (RL)
24+18
98 RT



NOTE: BORINGS PROJECTED ALONG BENT



VE = 2:1

CROSS SECTION THROUGH EB2

NCDOT GEOTECHNICAL ENGINEERING UNIT BORELOG REPORT

WBS 35901.1.2	TIP I-4413	COUNTY ROBESON	GEOLOGIST Milkovits, J. I.	
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95				GROUND WTR (ft)
BORING NO. EB1-A (LL)	STATION 20+51	OFFSET 104 ft LT	ALIGNMENT -L-	0 HR. N/A
COLLAR ELEV. 130.7 ft	TOTAL DEPTH 99.5 ft	NORTHING 334,658	EASTING 1,998,240	24 HR. 9.0
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic
DRILLER Conley, H. R.	START DATE 06/21/11	COMP. DATE 06/22/11	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				
135														
130													GROUND SURFACE ROADWAY EMBANKMENT YELLOW-BROWN AND GRAY, SANDY, SILTY CLAY	0.0
125	127.7	3.0	2	4	6							SS-1	COASTAL PLAIN GRAY, CLAYEY, SILTY SAND (DUPLIN FORMATION)	5.0
120	122.7	8.0	1	2	2							SS-2	YELLOW-TAN AND WHITE, SILTY SAND	11.0
115	117.7	13.0	3	4	6							SS-3		
110	112.7	18.0	3	3	3							SS-4		
105	107.7	23.0	4	4	5							SS-5	GRAY, FINE, SILTY SAND WITH FOSSILS	23.0
100	102.7	28.0	4	4	7							M		
95	97.7	33.0	3	3	7							SS-6	COASTAL PLAIN DARK GRAY, SILTY CLAY (TAR HEEL FORMATION)	33.0
90	92.7	38.0	4	4	8							SS-7	GRAY-TAN, SILTY SAND	38.0
85	87.7	43.0	2	3	6							SS-8	DARK GRAY, SILTY CLAY	43.0
80	82.7	48.0	2	4	6							M		
75	77.7	53.0	3	4	8							M		
70	72.7	58.0	3	6	7							SS-9		
65	67.7	63.0	5	13	16							SS-10	GRAY, SILTY SAND	61.0
60	62.7	68.0	10	11	10							M	DARK GRAY, SILTY CLAY	68.5
55	57.7	73.0	6	11	14							SS-11	DARK GRAY, SANDY CLAY	73.5

WBS 35901.1.2	TIP I-4413	COUNTY ROBESON	GEOLOGIST Milkovits, J. I.	
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95				GROUND WTR (ft)
BORING NO. EB1-A (LL)	STATION 20+51	OFFSET 104 ft LT	ALIGNMENT -L-	0 HR. N/A
COLLAR ELEV. 130.7 ft	TOTAL DEPTH 99.5 ft	NORTHING 334,658	EASTING 1,998,240	24 HR. 9.0
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic
DRILLER Conley, H. R.	START DATE 06/21/11	COMP. DATE 06/22/11	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				
55														
50	52.7	78.0	12	14	13							M	DARK GRAY, SANDY CLAY (continued)	79.0
45	47.7	83.0	11	16	21							SS-12	DARK GRAY, SILTY CLAY	83.0
40	42.7	88.0	4	10	19							SS-13	DARK GRAY, MEDIUM TO COARSE SAND	87.0
35	37.7	93.0	10	21	22							M	GRAY, SILTY, FINE SAND	
	32.7	98.0	11	16	26							M		
													Boring Terminated at Elevation 31.2 ft IN COASTAL PLAIN, SILTY SAND (TAR HEEL FORMATION)	99.5

NCDOT BORE DOUBLE I4413 GEO_BH.GPJ NC_DOT.GDT 1/25/12

NC DOT GEOTECHNICAL ENGINEERING UNIT
BORELOG REPORT

WBS 35901.1.2		TIP I-4413		COUNTY ROBESON		GEOLOGIST Milkovits, J. I.									
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95						GROUND WTR (ft)									
BORING NO. EB1-B (RL)		STATION 21+87		OFFSET 77 ft RT		ALIGNMENT -L-									
COLLAR ELEV. 130.3 ft		TOTAL DEPTH 89.8 ft		NORTHING 334,877		EASTING 1,998,298									
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER Conley, H. R.		START DATE 06/22/11		COMP. DATE 06/23/11		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					
135															
130															
125	127.0	3.3	2	6	7							SS-14	M	ROADWAY EMBANKMENT YELLOW-TAN AND GRAY, CLAYEY SAND	5.0
120	122.0	8.3	4	5	4							SS-15	M	COASTAL PLAIN YELLOW-TAN AND WHITE, FINE TO COARSE, SAND (DUPLIN FORMATION)	
115	117.0	13.3	1	2	2								M		
110	112.0	18.3	5	8	7							SS-16	M	GRAY, SILTY SAND WITH FOSSILS	17.0
105	107.0	23.3	5	8	8								M		
100	102.0	28.3	4	3	3								M		
95	97.0	33.3	1	2	3							SS-17	M	COASTAL PLAIN DARK GRAY, SILTY CLAY (TAR HEEL FORMATION)	33.5
90	92.0	38.3	2	3	4							SS-18	M		
85	87.0	43.3	2	5	6								M		
80	82.0	48.3	2	5	6								M		
75	77.0	53.3	6	12	15							SS-19	M	DARK GRAY, SILTY, FINE TO MEDIUM COARSE, SAND	52.0
70	72.0	58.3	8	16	17								M		
65	67.0	63.3	7	13	16								M		
60	62.0	68.3	13	12	15								M		
55	57.0	73.3	11	20	27							SS-20	M		

WBS 35901.1.2		TIP I-4413		COUNTY ROBESON		GEOLOGIST Milkovits, J. I.									
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95						GROUND WTR (ft)									
BORING NO. EB1-B (RL)		STATION 21+87		OFFSET 77 ft RT		ALIGNMENT -L-									
COLLAR ELEV. 130.3 ft		TOTAL DEPTH 89.8 ft		NORTHING 334,877		EASTING 1,998,298									
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER Conley, H. R.		START DATE 06/22/11		COMP. DATE 06/23/11		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					
55															
50	52.0	78.3	15	13	16							SS-21	M	DARK GRAY, SILTY, FINE TO MEDIUM COARSE, SAND (continued)	78.8
45	47.0	83.3	10	17	25								M	DARK GRAY, SILTY CLAY	80.5
	42.0	88.3	6	10	11								M	GRAY, SILTY, FINE TO MEDIUM COARSE, SAND	87.5
															42.8
															40.5
															89.8
Boring Terminated at Elevation 40.5 ft IN COASTAL PLAIN, SILTY CLAY (TAR HEEL FORMATION)															

NC DOT BORE DOUBLE I4413 GEO. BH. GPJ NC DOT GDT 1/25/12

NCDOT GEOTECHNICAL ENGINEERING UNIT
BORELOG REPORT

WBS 35901.1.2		TIP I-4413		COUNTY ROBESON		GEOLOGIST Milkovits, J. I.									
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95							GROUND WTR (ft)								
BORING NO. B1-A (LL)		STATION 21+95		OFFSET 69 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 130.6 ft		TOTAL DEPTH 89.4 ft		NORTHING 334,793		EASTING 1,998,179									
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER Conley, H. R.		START DATE 06/29/11		COMP. DATE 06/29/11		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
135															
130															
125	126.6	4.0	3	4	4										
120	122.7	7.9	4	5	5										
115	117.7	12.9	3	4	6										
110	112.7	17.9	1	1	1										
105	107.7	22.9	2	2	4										
100	102.7	27.9	4	7	10										
95	97.7	32.9	3	3	4										
90	92.7	37.9	2	4	8										
85	87.7	42.9	6	4	7										
80	82.7	47.9	3	8	11										
75	77.7	52.9	3	5	7										
70	72.7	57.9	7	15	19										
65	67.7	62.9	10	15	20										
60	62.7	67.9	2	7	7										
55	57.7	72.9	7	7	14										

WBS 35901.1.2		TIP I-4413		COUNTY ROBESON		GEOLOGIST Milkovits, J. I.									
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95							GROUND WTR (ft)								
BORING NO. B1-A (LL)		STATION 21+95		OFFSET 69 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 130.6 ft		TOTAL DEPTH 89.4 ft		NORTHING 334,793		EASTING 1,998,179									
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER Conley, H. R.		START DATE 06/29/11		COMP. DATE 06/29/11		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
55															
50	52.7	77.9	14	18	26										
45	47.7	82.9	3	5	7										
	42.7	87.9	3	7	17										

NCDOT BORE DOUBLE I4413_GEO_BH.GPJ NC_DOT.GDT 1/25/12

NCDOT GEOTECHNICAL ENGINEERING UNIT
BORELOG REPORT

WBS 35901.1.2	TIP I-4413	COUNTY ROBESON	GEOLOGIST Milkovits, J. I.
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95			GROUND WTR (ft)
BORING NO. B1-B (RL)	STATION 22+93	OFFSET 63 ft RT	ALIGNMENT -L-
COLLAR ELEV. 130.9 ft	TOTAL DEPTH 95.3 ft	NORTHING 334,952	EASTING 1,998,222
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011		DRILL METHOD Mud Rotary	HAMMER TYPE Automatic
DRILLER Conley, H. R.	START DATE 06/28/11	COMP. DATE 06/28/11	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					
135															
130													GROUND SURFACE 0.0		
													ASPHALT 1.0		
													ROADWAY EMBANKMENT ORANGE-GRAY, SANDY CLAY 5.0		
125	127.2	3.7		2	3	5						SS-33	M	COASTAL PLAIN GRAY-TAN, SILTY SAND (DUPLIN FORMATION) 12.0	
120	122.1	8.8		2	5	5						SS-34	M		
115	117.1	13.8		3	4	5							M	YELLOW-ORANGE, FINE TO MEDIUM COARSE SAND 19.8	
110	112.1	18.8	WOH	WOH	1							M	GRAY, SILTY SAND WITH FOSSILS 39.3		
105	107.1	23.8		5	6	6							M		
100	102.1	28.8		4	4	4							M		
95	97.1	33.8		2	2	2							M		
90	92.1	38.8		2	4	6							M	COASTAL PLAIN DARK GRAY, SILTY CLAY (TAR HEEL FORMATION) 59.1	
85	87.1	43.8		2	5	5							M		
80	82.1	48.8		1	4	5						SS-35	M		
75	77.1	53.8		7	11	11						SS-36	M		
70	72.1	58.8		3	16	18						SS-37	M	GRAY, SILTY SAND	
65	67.1	63.8		6	11	18							M		
60	62.1	68.8		6	13	11						SS-38	M		
55	57.1	73.8		8	19	19							M	Boring Terminated at Elevation 35.6 ft IN COASTAL PLAIN, SILTY SAND (TAR HEEL FORMATION) 95.3	

WBS 35901.1.2	TIP I-4413	COUNTY ROBESON	GEOLOGIST Milkovits, J. I.
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95			GROUND WTR (ft)
BORING NO. B1-B (RL)	STATION 22+93	OFFSET 63 ft RT	ALIGNMENT -L-
COLLAR ELEV. 130.9 ft	TOTAL DEPTH 95.3 ft	NORTHING 334,952	EASTING 1,998,222
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011		DRILL METHOD Mud Rotary	HAMMER TYPE Automatic
DRILLER Conley, H. R.	START DATE 06/28/11	COMP. DATE 06/28/11	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					
55															
													Match Line		
50	52.1	78.8		3	6	7							M	GRAY, SILTY SAND (continued) 78.8	
45	47.1	83.8		3	4	8							M	DARK GRAY, SILTY CLAY 86.5	
40	42.1	88.8		17	25	25						SS-39	M	GRAY, FINE TO MEDIUM COARSE SAND 92.0	
	37.1	93.8		5	4	10						SS-40	M	GRAY, CLAYEY, SILTY SAND 95.3	

NCDOT BORE DOUBLE I4413_GEO_BH.GPJ NC_DOT.GDT 1/25/12

NCDOT GEOTECHNICAL ENGINEERING UNIT
BORELOG REPORT

WBS 35901.1.2	TIP I-4413	COUNTY ROBESON	GEOLOGIST Milkovits, J. I.
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95			GROUND WTR (ft)
BORING NO. EB2-A (LL)	STATION 22+68	OFFSET 102 ft LT	ALIGNMENT -L-
COLLAR ELEV. 129.3 ft	TOTAL DEPTH 84.6 ft	NORTHING 334,830	EASTING 1,998,108
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011			DRILL METHOD Mud Rotary
DRILLER Conley, H. R.			HAMMER TYPE Automatic
START DATE 06/30/11		COMP. DATE 07/05/11	
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	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
130														GROUND SURFACE	0.0
125	126.2	3.1	3	3	3								M	ROADWAY EMBANKMENT ORANGE-GRAY, SANDY CLAY	5.0
120	121.2	8.1	4	6	6								M	COASTAL PLAIN YELLOW-TAN, SLIGHTLY SILTY, FINE TO COARSE SAND (DUPLIN FORMATION)	12.0
115	116.2	13.1	4	6	3								M	YELLOW-ORANGE, FINE TO COARSE, SAND	18.1
110	111.2	18.1	2	3	2								M	GRAY, SILTY SAND WITH FOSSILS	18.1
105	106.2	23.1	3	4	7								M		
100	101.2	28.1	5	7	8								M		
95	96.2	33.1	2	2	2								M		
90	91.2	38.1	2	4	5								M	COASTAL PLAIN DARK GRAY, SILTY CLAY (TAR HEEL FORMATION)	38.1
85	86.2	43.1	8	15	13								M	GRAY, CLAYEY SAND	43.1
80	81.2	48.1	4	9	11								M	DARK GRAY, SILTY, SANDY CLAY, SLIGHTLY MICACEOUS	48.1
75	76.2	53.1	2	14	18								M	GRAY, FINE TO COARSE, SAND	53.1
70	71.2	58.1	7	16	21								M		
65	66.2	63.1	8	22	22								M	GRAY, CLAYEY SAND	62.0
60	61.2	68.1	4	7	10								M	DARK GRAY, SILTY CLAY	68.1
55	56.2	73.1	5	13	22								M	GRAY, FINE TO COARSE SAND, SLIGHTLY MICACEOUS	73.6
50	51.2	78.1	6	7	9								M		78.1

WBS 35901.1.2	TIP I-4413	COUNTY ROBESON	GEOLOGIST Milkovits, J. I.
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95			GROUND WTR (ft)
BORING NO. EB2-A (LL)	STATION 22+68	OFFSET 102 ft LT	ALIGNMENT -L-
COLLAR ELEV. 129.3 ft	TOTAL DEPTH 84.6 ft	NORTHING 334,830	EASTING 1,998,108
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011			DRILL METHOD Mud Rotary
DRILLER Conley, H. R.			HAMMER TYPE Automatic
START DATE 06/30/11		COMP. DATE 07/05/11	
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	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
50														Match Line	
45	46.2	83.1	8	13	13								M	DARK GRAY, SILTY, SANDY CLAY, SLIGHTLY MICACEOUS (continued)	82.0
													M	GRAY, FINE TO COARSE SAND, SLIGHTLY MICACEOUS	84.6
Boring Terminated at Elevation 44.7 ft IN COASTAL PLAIN, SAND (TAR HEEL FORMATION) Other Samples: ST-1 (39.7 - 41.7)															

NCDOT BORE DOUBLE 14413_GEO_BH.GPJ NC_DOT.GDT 1/25/12

NCDOT GEOTECHNICAL ENGINEERING UNIT
BORELOG REPORT

WBS 35901.1.2		TIP I-4413		COUNTY ROBESON		GEOLOGIST Milkovits, J. I.										
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95							GROUND WTR (ft)									
BORING NO. EB2-B (RL)		STATION 24+18		OFFSET 98 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 129.5 ft		TOTAL DEPTH 89.8 ft		NORTHING 335,072		EASTING 1,998,172										
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER Conley, H. R.		START DATE 06/23/11		COMP. DATE 06/27/11		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						
130														129.5	0.0	GROUND SURFACE ROADWAY EMBANKMENT GRAY-BROWN, CLAYEY SAND
125	126.2	3.3	3	5	6								SS-22	124.5	5.0	COASTAL PLAIN WHITE-TAN, FINE TO MEDIUM COARSE SAND (DUPLIN FORMATION)
120	121.2	8.3	4	6	6								SS-23			
115	116.2	13.3	4	7	4								SS-24	117.5	12.0	YELLOW-ORANGE, FINE TO COARSE SAND
110	111.2	18.3	2	3	7									112.5	17.0	GRAY, SILTY SAND WITH FOSSILS
105	106.2	23.3	4	5	7											
100	101.2	28.3	2	2	3											
95	96.2	33.3	2	4	6								SS-25	96.2	33.3	COASTAL PLAIN DARK GRAY, SILTY CLAY (TAR HEEL FORMATION)
90	91.2	38.3	2	4	6											
85	86.2	43.3	3	5	6											
80	81.2	48.3	2	4	6								SS-26			
75	76.2	53.3	4	8	11											
70	71.2	58.3	15	13	21								SS-27	71.2	58.3	GRAY, SILTY, FINE TO MEDIUM COARSE SAND
65	66.2	63.3	22	18	19											
60	61.2	68.3	6	16	23								SS-28			
55	56.2	73.3	4	9	10								SS-29	56.2	73.3	GRAY-BLACK, SANDY, SILTY, CLAY
50	51.2	78.3	1	4	5								SS-30			

WBS 35901.1.2		TIP I-4413		COUNTY ROBESON		GEOLOGIST Milkovits, J. I.										
SITE DESCRIPTION DUAL BRIDGES ON US 301 (FAYETTEVILLE RD.) OVER I-95							GROUND WTR (ft)									
BORING NO. EB2-B (RL)		STATION 24+18		OFFSET 98 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 129.5 ft		TOTAL DEPTH 89.8 ft		NORTHING 335,072		EASTING 1,998,172										
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 92% 07/12/2011		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER Conley, H. R.		START DATE 06/23/11		COMP. DATE 06/27/11		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						
50																
45	46.2	83.3	6	11	12								SS-31	46.2	83.3	GRAY-BLACK, SANDY, SILTY, CLAY <i>(continued)</i>
40	41.2	88.3	14	15	19								SS-32	42.5	87.0	GRAY, CLAYEY, SILTY SAND
														39.7	89.8	GRAY, FINE TO COARSE, SAND
Boring Terminated at Elevation 39.7 ft IN COASTAL PLAIN, SAND (TAR HEEL FORMATION)																

NCDOT BORE DOUBLE I4413 GEO_BH.GPJ NC_DOT.GDT 1/25/12

EB1-A (LL)

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-1	104 LT	20+51	3.0-4.5	A-7-6(10)	43	26	16.7	33.7	11.4	38.2	100	94	52	-	-
SS-2	104 LT	20+51	8.0-9.5	A-2-4(0)	23	NP	54.8	29.1	4.0	12.0	100	79	16	-	-
SS-3	104 LT	20+51	13.0-14.5	A-3(0)	22	NP	55.9	38.6	2.5	3.0	100	66	6	-	-
SS-4	104 LT	20+51	18.0-19.5	A-3(0)	18	NP	61.6	29.3	2.0	7.0	100	79	10	-	-
SS-5	104 LT	20+51	23.0-24.5	A-2-4(0)	25	NP	33.5	55.5	3.9	7.0	94	76	11	-	-
SS-6	104 LT	20+51	33.0-34.5	A-7-6(33)	63	35	12.9	6.0	45.0	36.1	100	90	84	-	-
SS-7	104 LT	20+51	38.0-39.5	A-2-4(0)	25	7	80.4	8.3	4.2	7.0	95	30	12	-	-
SS-8	104 LT	20+51	43.0-44.5	A-7-5(54)	78	47	2.6	2.8	8.2	86.3	100	98	96	-	-
SS-9	104 LT	20+51	58.0-59.5	A-7-6(34)	55	34	2.4	7.4	21.9	68.3	100	99	91	-	-
SS-10	104 LT	20+51	63.0-64.5	A-2-4(0)	19	NP	76.3	12.6	5.1	6.0	100	55	13	-	-
SS-11	104 LT	20+51	73.5-74.5	A-6(5)	35	18	29.1	22.3	8.4	40.2	100	87	49	-	-
SS-12	104 LT	20+51	83.0-84.5	A-1-b(0)	21	3	80.2	9.6	3.1	7.0	92	25	10	-	-
SS-13	104 LT	20+51	88.0-89.5	A-2-4(0)	20	NP	51.5	30.5	6.9	11.0	98	81	19	-	-

EB1-B (RL)

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-14	77 RT	21+87	3.3-4.8	A-2-6(1)	35	17	35.7	39.4	1.8	23.1	100	88	26	-	-
SS-15	77 RT	21+87	8.3-9.8	A-3(0)	23	NP	26.8	66.4	1.8	5.0	100	90	7	-	-
SS-16	77 RT	21+87	18.3-19.8	A-2-4(0)	23	NP	61.7	27.9	2.3	8.0	95	65	11	-	-
SS-17	77 RT	21+87	33.5-34.8	A-7-6(22)	51	34	13.3	19.1	11.4	56.2	99	91	70	-	-
SS-18	77 RT	21+87	38.3-39.8	A-7-6(45)	65	40	1.2	1.0	5.4	92.4	100	99	98	-	-
SS-19	77 RT	21+87	53.3-54.8	A-2-4(0)	20	NP	46.3	44.2	2.5	7.0	100	94	11	-	-
SS-20	77 RT	21+87	73.3-74.8	A-2-4(0)	18	NP	70.2	18.7	4.1	7.0	97	60	12	-	-
SS-21	77 RT	21+87	78.8-79.8	A-7-6(45)	67	40	1.4	1.8	22.5	74.3	100	99	97	-	-

B1-A (LL)

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-41	69 LT	21+95	7.9-9.4	A-2-7(4)	50	32	34.8	35.4	4.3	25.5	100	87	31	-	-
SS-42	69 LT	21+95	12.9-14.4	A-1-b(0)	22	NP	77.5	19.0	0.4	3.0	99	34	4	-	-
SS-43	69 LT	21+95	17.9-19.4	A-2-4(0)	21	NP	65.2	23.9	0.7	10.2	100	66	11	-	-
SS-44	69 LT	21+95	22.9-24.4	A-3(0)	29	NP	22.2	71.2	2.5	4.1	99	91	8	-	-
SS-45	69 LT	21+95	33.4-34.4	A-2-4(0)	22	NP	41.4	43.3	5.1	10.2	94	77	16	-	-
SS-47	102 LT	22+68	37.9-39.4	A-1-b(0)	21	NP	82.1	12.3	2.5	3.1	97	38	6	-	-
SS-48	102 LT	22+68	47.9-49.4	A-7-6(27)	54	31	8.4	10.6	9.8	71.3	100	96	83	-	-
SS-49	102 LT	22+68	57.9-59.4	A-3(0)	18	NP	75.2	16.6	4.2	4.1	98	51	10	-	-

B1-B (RL)

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-33	63 RT	22+93	3.7-5.2	A-7-6(7)	49	28	22.8	38.3	8.4	30.5	100	91	42	-	-
SS-34	63 RT	22+93	8.8-10.3	A-2-4(0)	25	NP	27.9	59.8	1.1	11.2	100	93	13	-	-
SS-35	63 RT	22+93	48.8-50.3	A-7-6(27)	54	35	9.2	17.5	10.2	63.1	100	95	77	-	-
SS-36	63 RT	22+93	53.8-55.3	A-7-6(23)	47	25	5.1	12.0	25.9	57.0	99	96	86	-	-
SS-37	63 RT	22+93	59.1-60.3	A-2-4(0)	19	NP	72.1	18.3	3.5	6.1	99	53	11	-	-
SS-38	63 RT	22+93	68.8-70.3	A-2-4(0)	23	NP	6.1	74.6	5.0	14.3	100	99	21	-	-
SS-39	63 RT	22+93	88.8-90.3	A-3(0)	18	NP	70.0	22.2	3.8	4.1	99	66	10	-	-
SS-40	63 RT	22+93	93.8-95.3	A-2-4(0)	24	9	68.4	10.5	5.8	15.3	98	51	22	-	-

EB2-A (LL)

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-46	102 LT	22+68	8.1-9.6	A-3(0)	23	NP	26.4	66.8	1.7	5.1	100	93	8	-	-
SS-50	102 LT	22+68	38.1-39.6	A-7-6(47)	68	42	2.2	1.6	6.5	89.6	100	99	97	-	-
SS-51	102 LT	22+68	43.1-44.6	A-2-6(1)	35	20	71.3	6.5	2.9	19.3	100	44	24	-	-
SS-52	102 LT	22+68	48.1-49.6	A-6(14)	38	19	3.1	23.2	18.7	55.0	100	86	78	-	-
SS-54	102 LT	22+68	58.1-59.6	A-1-b(0)	18	NP	76.3	11.7	4.9	7.1	99	47	12	-	-
SS-55	102 LT	22+68	63.1-64.6	A-2-6(0)	26	12	71.2	10.8	3.8	14.3	89	36	17	-	-

EB2-B (RL)

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-22	98 RT	24+18	3.3-4.8	A-2-7(3)	42	27	30.9	38.0	3.0	28.1	100	90	32	-	-
SS-23	98 RT	24+18	8.3-9.8	A-3(0)	29	NP	8.2	86.2	3.5	2.0	100	99	6	-	-
SS-24	98 RT	24+18	13.3-14.8	A-1-b(0)	22	NP	82.7	11.2	3.0	3.0	100	40	6	-	-
SS-25	98 RT	24+18	33.3-34.8	A-7-6(43)	63	39	2.0	2.2	9.4	86.3	100	99	96	-	-
SS-26	98 RT	24+18	48.3-49.8	A-7-6(46)	69	41	2.0	2.6	9.0	86.3	100	99	96	-	-
SS-27	98 RT	24+18	58.3-59.8	A-2-4(0)	20	NP	62.9	24.7	5.4	7.0	100	64	14	-	-
SS-28	98 RT	24+18	68.3-69.8	A-2-4(0)	22	NP	12.1	75.2	5.6	7.1	100	98	15	-	-
SS-29	98 RT	24+18	73.3-74.8	A-7-5(31)	65	35	11.4	9.6	22.0	57.0	100	92	80	-	-
SS-30	98 RT	24+18	78.3-79.8	A-7-6(41)	62	36	1.0	1.6	24.0	73.3	100	99	98	-	-
SS-31	98 RT	24+18	83.3-84.8	A-2-4(0)	20	NP	73.9	11.7	6.2	8.1	98	59	16	-	-
SS-32	98 RT	24+18	88.3-89.8	A-1-b(0)	18	NP	61.8	24.1	4.9	9.2	92	47	15	-	-

SITE PHOTOGRAPH

Dual Bridges on US 301 (Fayetteville Road) over I-95



Looking Southwest towards End Bent 2