



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

March 19, 2021

MEMORANDUM TO: Clark Morrison PhD, P.E.
State Pavement Design Engineer

Tatia L. White, P.E. PLS
State Roadway Design Engineer

FROM: J. L. Pilipchuk, P.E., L.G.
State Geotechnical Engineer

DocuSigned by:

John Pilipchuk

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STATE PROJECT: 47533.1.2 (I-5987A) Turnkey

COUNTY: Robeson

DESCRIPTION: I-95 Improvements from South of US 301 (Exit 22) to
North of SR 1758 (McDuffie Crossing Rd.)

SUBJECT: Pavement and Subgrade Inventory

The Geotechnical Engineering Unit has completed the evaluation of the pavement and subgrade investigation for this project.

I-5987 Pavement and Subgrade Inventory report has been divided into reports for I-5987A and I-5987B. Project limits of I-5987 were modified from the original request and are shown in this report.

JLP/JBB

ATTACHMENT 1: Pavement and Subgrade Inventory 111

cc: Scott Pridgen

REFERENCE: I-5987A

PROJECT: 47533.1.2

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5987A	1	111

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3-22	SITE PLANS
23-32	PAVEMENT DATA
33-63	DCP LOGS
64-86	CORE PHOTOS
87-III	LAB SUMMARY

**ROADWAY
SUBSURFACE INVESTIGATION**

COUNTY ROBESON
PROJECT DESCRIPTION I-95 IMPROVEMENT FROM
SOUTH OF US 301 (EXIT 22) TO NORTH OF
SR 1758 (MCDUFFIE CROSSING RD.)
PAVEMENT AND SUBGRADE INVENTORY

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.

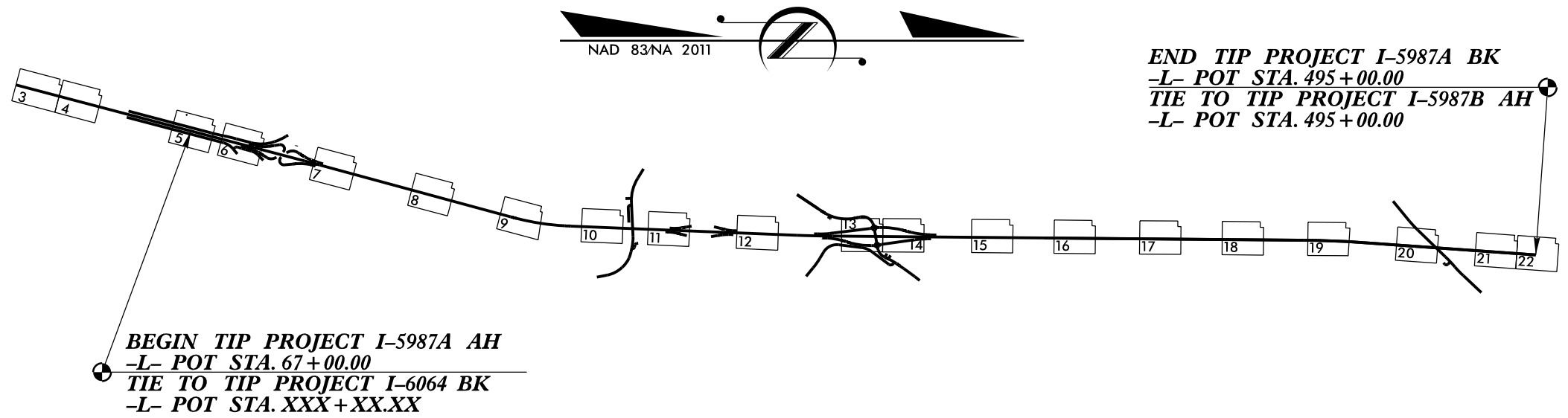
NOTES:
1. THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
2. BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

- J. SWARTLEY
- M. RAWLS
- V. MITCHEV
- S. HARDEE
- F. JOHNSON
- T. BRYANT
- J. FLORES

INVESTIGATED BY D. STROTHER
DRAWN BY J. NELSON
CHECKED BY V. MITCHEV
SUBMITTED BY V. MITCHEV
DATE FEBRUARY 2021

 3201 SPRING FOREST ROAD
RALEIGH, NC 27616
(919) 872-2660



DocuSigned by:
Vladimir G. Mitchev 3/22/2021
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

SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS																																																																																																																																																																																																																																																																																																																																																																																																																																					
<p>SOIL IS CONSIDERED 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 THE STANDARD PENETRATION TEST (AASHTO T 208, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i></p>																																																																																																																																																																																																																																																																																																																																																																																																																																								
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th rowspan="2">GENERAL CLASS.</th> <th colspan="7">GRANULAR MATERIALS (≤ 35% PASSING #200)</th> <th colspan="3">SILT-CLAY MATERIALS (> 35% PASSING #200)</th> <th colspan="3">ORGANIC MATERIALS</th> </tr> <tr> <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-3</th> <th>A-4, A-5</th> <th>A-6, A-7</th> <th></th> <th></th> <th></th> </tr> <tr> <th>GROUP CLASS.</th> <td>A-1-a</td> <td>A-1-b</td> <td>A-2-4</td> <td>A-2-5</td> <td>A-2-6</td> <td>A-2-7</td> <td></td> <td>A-7-5</td> <td>A-7-6</td> <td></td> <td></td> <td></td> <td></td> <td></td> </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></td> <td></td> <td></td> <td></td> </tr> <tr> <th>% PASSING #10 #40 #200</th> <td>50 MX 30 MX 15 MX</td> <td>50 MX 25 MX 10 MX</td> <td>51 MN 35 MX 35 MX</td> <td>40 MX 35 MX 35 MX</td> <td>41 MN 40 MX 35 MX</td> <td>41 MN 40 MX 35 MX</td> <td>41 MN 40 MX 35 MX</td> <td>41 MN 40 MX 35 MX</td> <td>41 MN 40 MX 35 MX</td> <td>41 MN 40 MX 35 MX</td> <td>41 MN 40 MX 35 MX</td> <td>41 MN 40 MX 35 MX</td> <td>41 MN 40 MX 35 MX</td> <td>41 MN 40 MX 35 MX</td> </tr> <tr> <th>MATERIAL PASSING #40 LL PI</th> <td>6 MX</td> <td>NP</td> <td>40 MX 41 MN 10 MX 11 MN</td> <td>40 MX 41 MN 10 MX 11 MN</td> <td>40 MX 41 MN 10 MX 11 MN</td> <td>40 MX 41 MN 10 MX 11 MN</td> <td>40 MX 41 MN 10 MX 11 MN</td> <td>40 MX 41 MN 10 MX 11 MN</td> <td>40 MX 41 MN 10 MX 11 MN</td> <td>40 MX 41 MN 10 MX 11 MN</td> <td>40 MX 41 MN 10 MX 11 MN</td> <td>40 MX 41 MN 10 MX 11 MN</td> <td>40 MX 41 MN 10 MX 11 MN</td> <td>40 MX 41 MN 10 MX 11 MN</td> </tr> <tr> <th>GROUP INDEX</th> <td>0</td> <td>0</td> <td>0</td> <td>4 MX</td> <td>8 MX</td> <td>12 MX</td> <td>16 MX</td> <td>NO MX</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></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></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>GEN. RATING AS SUBGRADE</th> <td colspan="3">EXCELLENT TO GOOD</td> <td colspan="3">FAIR TO POOR</td> <td>FAIR TO POOR</td> <td>POOR</td> <td>UNSUITABLE</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="14" style="text-align: center;">PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30</td> </tr> <tr> <td colspan="4" style="text-align: center;">CONSISTENCY OR DENSENESS</td> </tr> <tr> <td colspan="4"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>PRIMARY SOIL TYPE</th> <th>COMPACTNESS OR CONSISTENCY</th> <th>RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)</th> <th>RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT²)</th> </tr> <tr> <td>GENERALLY GRANULAR MATERIAL (NON-COHESIVE)</td> <td>VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE</td> <td>< 4 4 TO 10 10 TO 30 30 TO 50 > 50</td> <td>N/A</td> </tr> <tr> <td>GENERALLY SILT-CLAY MATERIAL (COHESIVE)</td> <td>VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD</td> <td>< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30</td> <td>< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4</td> </tr> </table> </td> </tr> <tr> <td colspan="4" style="text-align: center;">TEXTURE OR GRAIN SIZE</td> </tr> <tr> <td colspan="4"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>U.S. STD. SIEVE SIZE (OPENING (MM))</th> <th>4</th> <th>10</th> <th>40</th> <th>60</th> <th>200</th> <th>270</th> </tr> <tr> <td></td> <td>4.76</td> <td>2.00</td> <td>0.42</td> <td>0.25</td> <td>0.075</td> <td>0.053</td> </tr> <tr> <th>BOULDER (BLDR.)</th> <th>COBBLE (COB.)</th> <th>GRAVEL (GR.)</th> <th>COARSE SAND (CSE, SD.)</th> <th>FINE SAND (F SD.)</th> <th>SILT (SL.)</th> <th>CLAY (CL.)</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>GRAIN SIZE</th> <th>MM</th> <th>305</th> <th>75</th> <th>2.0</th> <th>0.25</th> <th>0.05</th> <th>0.005</th> </tr> <tr> <td></td> <td>IN.</td> <td>12</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> </td> </tr> <tr> <td colspan="4" style="text-align: center;">SOIL MOISTURE - CORRELATION OF TERMS</td> </tr> <tr> <td colspan="4"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>SOIL MOISTURE SCALE (ATTERBERG LIMITS)</th> <th>FIELD MOISTURE DESCRIPTION</th> <th>GUIDE FOR FIELD MOISTURE DESCRIPTION</th> </tr> <tr> <td>LL</td> <td rowspan="2">- SATURATED - (SAT.)</td> <td>USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE</td> </tr> <tr> <td>PL</td> <td>- WET - (W)</td> <td>SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE</td> </tr> <tr> <td>OM</td> <td>- MOIST - (M)</td> <td>SOLID; AT OR NEAR OPTIMUM MOISTURE</td> </tr> <tr> <td>SL</td> <td>- DRY - (D)</td> <td>REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE</td> </tr> </table> </td> </tr> <tr> <td colspan="4" style="text-align: center;">PLASTICITY</td> </tr> <tr> <td colspan="4"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th>PLASTICITY INDEX (PI)</th> <th>DRY STRENGTH</th> </tr> <tr> <td>NON PLASTIC</td> <td>0-5</td> <td>VERY LOW</td> </tr> <tr> <td>SLIGHTLY PLASTIC</td> <td>6-15</td> <td>SLIGHT</td> </tr> <tr> <td>MODERATELY PLASTIC</td> <td>16-25</td> <td>MEDIUM</td> </tr> <tr> <td>HIGHLY PLASTIC</td> <td>26 OR MORE</td> <td>HIGH</td> </tr> </table> </td> </tr> <tr> <td colspan="4" style="text-align: center;">COLOR</td> </tr> <tr> <td colspan="4"> <p>DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">GRADATION</td> </tr> <tr> <td colspan="4"> <p>WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">ANGULARITY OF GRAINS</td> </tr> <tr> <td colspan="4"> <p>THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">MINERALOGICAL COMPOSITION</td> </tr> <tr> <td colspan="4"> <p>MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">COMPRESSIBILITY</td> </tr> <tr> <td colspan="4"> <p>SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL > 50</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">PERCENTAGE OF MATERIAL</td> </tr> <tr> <td colspan="4"> <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> </td> </tr> <tr> <td colspan="4" style="text-align: center;">GROUND WATER</td> </tr> <tr> <td colspan="4"> <p>▽ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING ▽ STATIC WATER LEVEL AFTER 24 HOURS ▽PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA ○ SPRING OR SEEP</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">MISCELLANEOUS SYMBOLS</td> </tr> <tr> <td colspan="4"> <p>ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION SOIL SYMBOL ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT INFERRED SOIL BOUNDARY INFERRED ROCK LINE ALLUVIAL SOIL BOUNDARY</p> <p>25/025 DIP & DIP DIRECTION OF ROCK STRUCTURES SPT TEST BORING AUGER BORING CORE BORING MONITORING WELL PIEZOMETER INSTALLATION</p> <p>SLOPE INDICATOR INSTALLATION CONE PENETROMETER TEST SOUNDING ROD TEST BORING WITH CORE SPT N-VALUE</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">RECOMMENDATION SYMBOLS</td> </tr> <tr> <td colspan="4"> <p>UNDERCUT SHALLOW UNDERCUT UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">ABBREVIATIONS</td> </tr> <tr> <td colspan="4"> <p>AR - AUGER REFUSAL BT - BORING TERMINATED CL - CLAY CPT - CONE PENETRATION TEST CSE - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HI. - HIGHLY MED. - MEDIUM MICA - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC ORG. - ORGANIC PMT - PRESSUREMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY SL. - SILT, SILTY SLI. - SLIGHTLY TCR - TRICONE REFUSAL w - MOISTURE CONTENT V - VERY VST - VANE SHEAR TEST WEA. - WEATHERED UNIT WEIGHT DRY UNIT WEIGHT</p> <p>SAMPLE ABBREVIATIONS S - BULK SS - SPLIT SPOON ST - SHELBY TUBE RS - ROCK RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING RATIO</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">EQUIPMENT USED ON SUBJECT PROJECT</td> </tr> <tr> <td colspan="4"> <p>DRILL UNITS: <input checked="" type="checkbox"/> CME-45 <input checked="" type="checkbox"/> CME-55 <input type="checkbox"/> CME-550 <input type="checkbox"/> VANE SHEAR TEST <input type="checkbox"/> PORTABLE HOIST</p> <p>ADVANCING TOOLS: <input type="checkbox"/> CLAY BITS <input type="checkbox"/> 6" CONTINUOUS FLIGHT AUGER <input type="checkbox"/> 8" HOLLOW AUGERS <input type="checkbox"/> HARD FACED FINGER BITS <input type="checkbox"/> TUNG-CARBIDE INSERTS <input type="checkbox"/> CASING <input type="checkbox"/> w/ ADVANCER <input type="checkbox"/> TRICONE * STEEL TEETH <input type="checkbox"/> TRICONE * TUNG.-CARB. <input checked="" type="checkbox"/> CORE BIT (4.0 INCH) <input checked="" type="checkbox"/> 3.5 inch auger</p> <p>HAMMER TYPE: <input type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL CORE SIZE: <input type="checkbox"/> -B <input type="checkbox"/> -H <input type="checkbox"/> -N HAND TOOLS: <input type="checkbox"/> POST HOLE DIGGER <input type="checkbox"/> HAND AUGER <input type="checkbox"/> SOUNDING ROD <input type="checkbox"/> VANE SHEAR TEST</p> </td> </tr> <tr> <td colspan="2" style="text-align: center;">FRACTURE SPACING</td> <td colspan="2" style="text-align: center;">BEDDING</td> </tr> <tr> <td colspan="2"> <p>TERM SPACING</p> <p>VERY WIDE MORE THAN 10 FEET WIDE 3 TO 10 FEET MODERATELY CLOSE 1 TO 3 FEET CLOSE 0.16 TO 1 FOOT VERY CLOSE LESS THAN 0.16 FEET</p> </td> <td colspan="2"> <p>TERM THICKNESS</p> <p>VERY THICKLY BEDDED 4 FEET THICKLY BEDDED 1.5 - 4 FEET THINLY BEDDED 0.16 - 1.5 FEET VERY THINLY BEDDED 0.03 - 0.15 FEET THICKLY LAMINATED 0.008 - 0.03 FEET THINLY LAMINATED < 0.008 FEET</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">INDURATION</td> </tr> <tr> <td colspan="4"> <p>FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.</p> <p>FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE. MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER. INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER. EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">ROCK HARDNESS</td> </tr> <tr> <td colspan="4"> <p>VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK. HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. 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. MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROOVED 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. 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. CAN BE SCRATCHED READILY BY FINGER NAIL.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">TERMS AND DEFINITIONS</td> </tr> <tr> <td colspan="4"> <p>ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. 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TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">BENCH MARK:</td> </tr> <tr> <td colspan="4" style="text-align: center;">ELEVATION: FEET</td> </tr> <tr> <td colspan="4" style="text-align: center;">NOTES:</td> </tr> <tr> <td colspan="4"> <p>NB - Northbound Lane SB - Southbound Lane OSL - Outside Lane ISL - Inside Lane CL - Center Lane LTL - Left Turn Lane CTL - Center Turn Lane RTL - Right Turn Lane DECEL - Deceleration Lane ACCEL - Acceleration Lane</p> <p>OSS - Outside Shoulder ISS - Inside Shoulder GM - Grass Median OGS - Outside Grass Shoulder PS - Paved Shoulder RT LN - Right LN LT LN - Left Lane COL - Collector Lane RT - Right LT - Left</p> </td> </tr> </table>				GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)			ORGANIC MATERIALS			A-1	A-3	A-2	A-4	A-5	A-6	A-7	A-1, A-2	A-3	A-4, A-5	A-6, A-7				GROUP CLASS.	A-1-a	A-1-b	A-2-4	A-2-5	A-2-6	A-2-7		A-7-5	A-7-6						SYMBOL															% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX 10 MX	51 MN 35 MX 35 MX	40 MX 35 MX 35 MX	41 MN 40 MX 35 MX	41 MN 40 MX 35 MX	41 MN 40 MX 35 MX	41 MN 40 MX 35 MX	41 MN 40 MX 35 MX	41 MN 40 MX 35 MX	41 MN 40 MX 35 MX	41 MN 40 MX 35 MX	41 MN 40 MX 35 MX	41 MN 40 MX 35 MX	MATERIAL PASSING #40 LL PI	6 MX	NP	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	40 MX 41 MN 10 MX 11 MN	GROUP INDEX	0	0	0	4 MX	8 MX	12 MX	16 MX	NO MX							USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND	FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND	SILTY SOILS	CLAYEY SOILS										GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD			FAIR TO POOR			FAIR TO POOR	POOR	UNSUITABLE						PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30														CONSISTENCY OR DENSENESS				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>PRIMARY SOIL TYPE</th> <th>COMPACTNESS OR CONSISTENCY</th> <th>RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)</th> <th>RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT²)</th> </tr> <tr> <td>GENERALLY GRANULAR MATERIAL (NON-COHESIVE)</td> <td>VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE</td> <td>< 4 4 TO 10 10 TO 30 30 TO 50 > 50</td> <td>N/A</td> </tr> <tr> <td>GENERALLY SILT-CLAY MATERIAL (COHESIVE)</td> <td>VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD</td> <td>< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30</td> <td>< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4</td> </tr> </table>				PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)	GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	< 4 4 TO 10 10 TO 30 30 TO 50 > 50	N/A	GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD	< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30	< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4	TEXTURE OR GRAIN SIZE				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>U.S. STD. 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ARE USED TO DESCRIBE APPEARANCE.</p>				GRADATION				<p>WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.</p>				ANGULARITY OF GRAINS				<p>THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.</p>				MINERALOGICAL COMPOSITION				<p>MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. 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CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. 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. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. 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. SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. 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. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N 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 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SCREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - 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. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.</p>				BENCH MARK:				ELEVATION: FEET				NOTES:				<p>NB - Northbound Lane SB - Southbound Lane OSL - Outside Lane ISL - Inside Lane CL - Center Lane LTL - Left Turn Lane CTL - Center Turn Lane RTL - Right Turn Lane DECEL - Deceleration Lane ACCEL - Acceleration Lane</p> <p>OSS - Outside Shoulder ISS - Inside Shoulder GM - Grass Median OGS - Outside Grass Shoulder PS - Paved Shoulder RT LN - Right LN LT LN - Left Lane COL - Collector Lane RT - Right LT - Left</p>			
GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)			ORGANIC MATERIALS																																																																																																																																																																																																																																																																																																																																																																																																																													
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<p>▽ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING ▽ STATIC WATER LEVEL AFTER 24 HOURS ▽PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA ○ SPRING OR SEEP</p>																																																																																																																																																																																																																																																																																																																																																																																																																																								
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<p>ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION SOIL SYMBOL ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT INFERRED SOIL BOUNDARY INFERRED ROCK LINE ALLUVIAL SOIL BOUNDARY</p> <p>25/025 DIP & DIP DIRECTION OF ROCK STRUCTURES SPT TEST BORING AUGER BORING CORE BORING MONITORING WELL PIEZOMETER INSTALLATION</p> <p>SLOPE INDICATOR INSTALLATION CONE PENETROMETER TEST SOUNDING ROD TEST BORING WITH CORE SPT N-VALUE</p>																																																																																																																																																																																																																																																																																																																																																																																																																																								
RECOMMENDATION SYMBOLS																																																																																																																																																																																																																																																																																																																																																																																																																																								
<p>UNDERCUT SHALLOW UNDERCUT UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL</p>																																																																																																																																																																																																																																																																																																																																																																																																																																								
ABBREVIATIONS																																																																																																																																																																																																																																																																																																																																																																																																																																								
<p>AR - AUGER REFUSAL BT - BORING TERMINATED CL - CLAY CPT - CONE PENETRATION TEST CSE - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HI. - HIGHLY MED. - MEDIUM MICA - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC ORG. - ORGANIC PMT - PRESSUREMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY SL. - SILT, SILTY SLI. - SLIGHTLY TCR - TRICONE REFUSAL w - MOISTURE CONTENT V - VERY VST - VANE SHEAR TEST WEA. - WEATHERED UNIT WEIGHT DRY UNIT WEIGHT</p> <p>SAMPLE ABBREVIATIONS S - BULK SS - SPLIT SPOON ST - SHELBY TUBE RS - ROCK RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING RATIO</p>																																																																																																																																																																																																																																																																																																																																																																																																																																								
EQUIPMENT USED ON SUBJECT PROJECT																																																																																																																																																																																																																																																																																																																																																																																																																																								
<p>DRILL UNITS: <input checked="" type="checkbox"/> CME-45 <input checked="" type="checkbox"/> CME-55 <input type="checkbox"/> CME-550 <input type="checkbox"/> VANE SHEAR TEST <input type="checkbox"/> PORTABLE HOIST</p> <p>ADVANCING TOOLS: <input type="checkbox"/> CLAY BITS <input type="checkbox"/> 6" CONTINUOUS FLIGHT AUGER <input type="checkbox"/> 8" HOLLOW AUGERS <input type="checkbox"/> HARD FACED FINGER BITS <input type="checkbox"/> TUNG-CARBIDE INSERTS <input type="checkbox"/> CASING <input type="checkbox"/> w/ ADVANCER <input type="checkbox"/> TRICONE * STEEL TEETH <input type="checkbox"/> TRICONE * TUNG.-CARB. <input checked="" type="checkbox"/> CORE BIT (4.0 INCH) <input checked="" type="checkbox"/> 3.5 inch auger</p> <p>HAMMER TYPE: <input type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL CORE SIZE: <input type="checkbox"/> -B <input type="checkbox"/> -H <input type="checkbox"/> -N HAND TOOLS: <input type="checkbox"/> POST HOLE DIGGER <input type="checkbox"/> HAND AUGER <input type="checkbox"/> SOUNDING ROD <input type="checkbox"/> VANE SHEAR TEST</p>																																																																																																																																																																																																																																																																																																																																																																																																																																								
FRACTURE SPACING		BEDDING																																																																																																																																																																																																																																																																																																																																																																																																																																						
<p>TERM SPACING</p> <p>VERY WIDE MORE THAN 10 FEET WIDE 3 TO 10 FEET MODERATELY CLOSE 1 TO 3 FEET CLOSE 0.16 TO 1 FOOT VERY CLOSE LESS THAN 0.16 FEET</p>		<p>TERM THICKNESS</p> <p>VERY THICKLY BEDDED 4 FEET THICKLY BEDDED 1.5 - 4 FEET THINLY BEDDED 0.16 - 1.5 FEET VERY THINLY BEDDED 0.03 - 0.15 FEET THICKLY LAMINATED 0.008 - 0.03 FEET THINLY LAMINATED < 0.008 FEET</p>																																																																																																																																																																																																																																																																																																																																																																																																																																						
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<p>FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.</p> <p>FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE. MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER. INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER. EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.</p>																																																																																																																																																																																																																																																																																																																																																																																																																																								
ROCK HARDNESS																																																																																																																																																																																																																																																																																																																																																																																																																																								
<p>VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK. HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. 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. MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROOVED 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. 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. CAN BE SCRATCHED READILY BY FINGER NAIL.</p>																																																																																																																																																																																																																																																																																																																																																																																																																																								
TERMS AND DEFINITIONS																																																																																																																																																																																																																																																																																																																																																																																																																																								
<p>ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. 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. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. 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. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. 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. SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. 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. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N 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 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SCREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - 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. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.</p>																																																																																																																																																																																																																																																																																																																																																																																																																																								
BENCH MARK:																																																																																																																																																																																																																																																																																																																																																																																																																																								
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<p>NB - Northbound Lane SB - Southbound Lane OSL - Outside Lane ISL - Inside Lane CL - Center Lane LTL - Left Turn Lane CTL - Center Turn Lane RTL - Right Turn Lane DECEL - Deceleration Lane ACCEL - Acceleration Lane</p> <p>OSS - Outside Shoulder ISS - Inside Shoulder GM - Grass Median OGS - Outside Grass Shoulder PS - Paved Shoulder RT LN - Right LN LT LN - Left Lane COL - Collector Lane RT - Right LT - Left</p>																																																																																																																																																																																																																																																																																																																																																																																																																																								

5/14/99

PROJECT REFERENCE NO. I-5987A	SHEET NO. 3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 14+50 SB OSS		-L- 14+50 SB OSL	
Pavement Structure		Pavement Structure	
Asphalt	13.5"	Asphalt	15.5"
ABC	-	ABC	-

-L- 23+10 SB OSS	
Pavement Structure	
Asphalt	22"
ABC	-

-L- 13+05 NB ISS		-L- 13+05 NB ISL		-L- 13+05 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	11.5"	Asphalt	14"	Asphalt	18"
ABC	-	ABC	-	ABC	8"

-L- 21+95 NB ACCEL		-L- 21+95 NB OSS	
Pavement Structure		Pavement Structure	
Asphalt	18"	Asphalt	20.5"
ABC	9"	ABC	10.5"



MATCHLINE -L- STA. 24 + 00 SEE SHEET 4

SYSTEMS DOWN

5/14/99

PROJECT REFERENCE NO.		SHEET NO.	
I-5987A		4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

MATCHLINE -L- STA. 24+00 SEE SHEET 3



-L- 35+90 SB OSS		-L- 35+90 SB ISL		-L- 35+90 SB ISS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	17.5"	Asphalt	13.5"	Asphalt	11.75"
ABC	8.5"	ABC	-	ABC	-

- X=1996611.7831
Y=329003.0572 -L- 35+90 SB OSS
- X=1996636.6306
Y=328996.4944 -L- 35+90 SB ISL
- X=1996646.1987
Y=328993.9673 -L- 35+90 SB ISS
- X=1996659.7138
Y=328990.3976 -L- 35+90 NB ISS
- X=1996684.3646
Y=328983.8868 -L- 35+90 NB OSL
- X=1996694.8878
Y=328981.1074 -L- 35+90 NB OSS

-L- 35+90 NB ISS		-L- 35+90 NB OSL		-L- 35+90 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	12.75"	Asphalt	16"	Asphalt	16.75"
ABC	-	ABC	-	STBC	9"

MATCHLINE -L- STA. 37+00

SYSTEMS CONDITIONED TO MEET THE REQUIREMENTS OF THE PROJECT

PROJECT REFERENCE NO. I-5987A	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

BEGIN TIP PROJECT I-5987A AH
-L- POT Sta. 67+00.00
TIE TO TIP PROJECT I-6064 BK
-L- POT Sta. XXX+XX.XX

BEGIN CONSTRUCTION
-SR6- POT Sta. 30+67.00
TIE TO TIP PROJECT I-6064

-SR6- PC Sta. 37+007.2

-L- 62+35 SB OSS		-L- 62+35 SB OSL		-L- 62+35 SB ISS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	21"	Asphalt	18"	Asphalt	13"
ABC	14"	ABC	12"	ABC	4"

MATCHLINE -L- STA. 61+00

- X=1997286.5067
Y=331560.5508
- X=1997298.3898
Y=331557.4122
- X=1997318.9587
Y=331551.9795
- X=1997338.2526
Y=331552.0550
- X=1997349.1505
Y=331549.0974
- X=1997373.3395
Y=331542.7878

N 14° 47' 28.0" E

N 14° 47' 28.0" E

PROP. TYPE T BARRIER

N 14° 47' 28.0" E

-L- 62+40 NB ISS		-L- 62+40 NB ISL		-L- 62+40 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	13.25"	Asphalt	16.5"	Asphalt	18"
ABC	-	ABC	-	ABC	8"

BEGIN RESURFACING
-SR7- POT Sta. 30+67.00
TIE TO TIP PROJECT I-6064

MATCHLINE -L- STA. 74+00

PROJECT REFERENCE NO. I-5987A	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE -L- STA. 77+00

MATCHLINE -L- STA. 90+00



-L- 84+65 SB OSS		-L- 84+65 SB ACCEL	
Pavement Structure		Pavement Structure	
Asphalt	10.5"	Asphalt	9.5"
ABC	22"	ABC	13"

-L- 88+65 SB ISL		-L- 88+65 SB ISS	
Pavement Structure		Pavement Structure	
Asphalt	13.5"	Asphalt	12"
ABC	-	ABC	-

-L- 81+00 NB ISS		-L- 81+00 NB OSL		-L- 81+00 NB DECEL		-L- 81+00 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	12.25"	Asphalt	13.75"	Asphalt	18.5"	Asphalt	18.5"
ABC	-	ABC	-	STBC	8.5"	STBC	8.5"

X=1997813.1354
Y=333350.4116
X=1997838.463
Y=333343.7264
X=1997846.8420
Y=333341.5089
X=1997855.2377
Y=333339.2914

N 14° 47' 28.0" E

-L- 81+00 NB ISS
-L- 81+00 NB OSL
-L- 81+00 NB DECEL
-L- 81+00 NB OSS

X=1997841.4695
Y=333720.4446
X=1997848.3357
Y=333718.6311

N 14° 39' 57.3" E

-L- 84+65 SB OSS
-L- 84+65 SB ACCEL

X=1997984.5134
Y=334096.3805
X=1997990.7411
Y=334094.7356

N 14° 47' 28.0" E

-L- 88+65 SB ISL
-L- 88+65 SB ISS

SYSTEMS DESIGN CONSULTANTS

PROJECT REFERENCE NO.	SHEET NO.
I-5987A	7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE -L- STA. 107 + 00

MATCHLINE -L- STA. 120 + 00



-L- 114 + 40 SB OSS		-L- 114 + 40 SB DECEL		-L- 114 + 40 SB OSL		-L- 114 + 40 SB ISS	
Pavement Structure		Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	20"	Asphalt	18"	Asphalt	16"	Asphalt	7"
Sand Drainage	8"	Sand Drainage	8"	Sand Drainage	6"	STBC	4.5"

S 17° 30' 16.3" W

X=1998612.1221
Y=336594.0779
-L- 114+40 SB OSS
-L- 114+40 SB DECEL
X=1998619.0835
Y=336592.2392
X=1998625.1244
Y=336590.6437
-L- 114+40 SB ISS
X=1998645.9789
Y=336585.1355
N 15° 12' 16.3" E

X=1998575.5159
Y=336023.9915
-L- 108+80 NB ACCEL
X=1998581.0301
Y=336022.5351

X=1998790.5581
Y=336965.4932
-L- 118+45 NB ISS
X=1998796.0723
Y=336964.0368

-L- 108 + 80 NB ACCEL		-L- 108 + 80 NB OSS	
Pavement Structure		Pavement Structure	
Asphalt	11.5"	Asphalt	11"
ABC	-	ABC	-

-L- 118 + 45 NB ISS		-L- 118 + 45 NB ISL	
Pavement Structure		Pavement Structure	
Asphalt	8.25"	Asphalt	13.25"
STBC	2"	STBC	2.5"

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
I-5987A	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

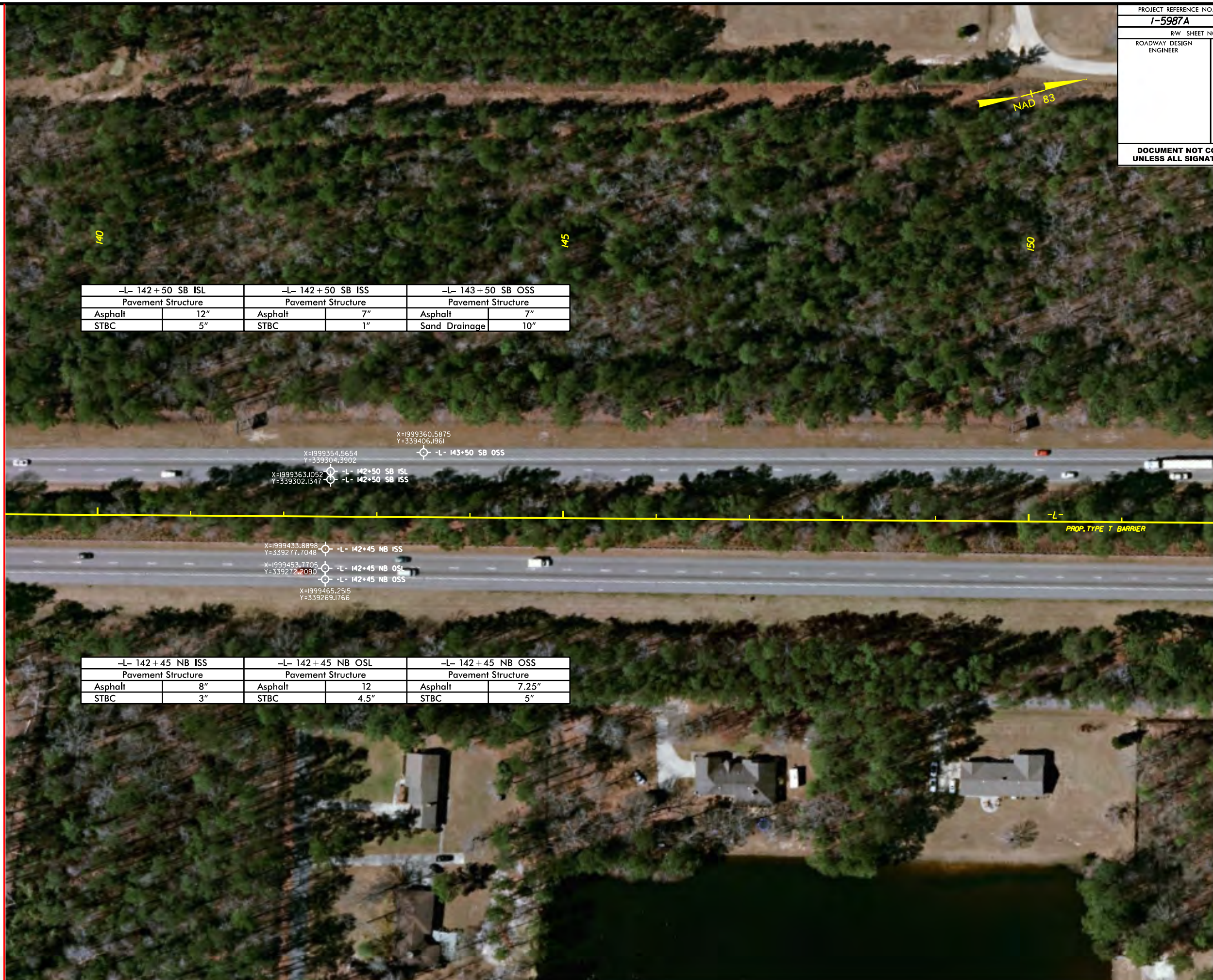
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- STA. 139 + 00

MATCHLINE -L- STA. 152 + 00

-L- 142 + 50 SB ISL		-L- 142 + 50 SB ISS		-L- 143 + 50 SB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	12"	Asphalt	7"	Asphalt	7"
STBC	5"	STBC	1"	Sand Drainage	10"

-L- 142 + 45 NB ISS		-L- 142 + 45 NB OSL		-L- 142 + 45 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	8"	Asphalt	12"	Asphalt	7.25"
STBC	3"	STBC	4.5"	STBC	5"



X=1999354.5654
Y=339304.3902
-L- 142+50 SB ISL

X=1999363.1052
Y=339302.1347
-L- 142+50 SB ISS

X=1999360.5875
Y=339406.1961
-L- 143+50 SB OSS

X=1999433.8898
Y=339277.7048
-L- 142+45 NB ISS

X=1999453.7705
Y=339272.2090
-L- 142+45 NB OSL

X=1999465.2515
Y=339269.1766
-L- 142+45 NB OSS



SYSTEMS DESIGN CONSULTANTS

5/14/99

PROJECT REFERENCE NO.		SHEET NO.	
I-5987A		9	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

MATCHLINE -L- STA. 168+00

-L- 168+65 SB ISS	
Pavement Structure	
Asphalt	6.5"
STBC	4"

-L- 180+35 SB OSS		-L- 180+35 SB OSL	
Pavement Structure		Pavement Structure	
Asphalt	6.5"	Asphalt	7"
STBC	8"	STBC	7"

X=2000031.3831
Y=341830.4290
-L- 168+65 SB ISS

X=2000280.1058
Y=342965.6831
-L- 180+35 SB OSS
X=2000292.3947
Y=342963.6932
-L- 180+35 SB OSL

X=2000141.5322
Y=341800.4852
-L- 168+65 NB ISS
X=2000151.4549
Y=341797.8644
-L- 168+65 NB ISL
X=2000168.9559
Y=341793.2420
-L- 168+65 NB OSS

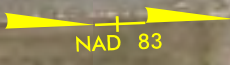
-L- 168+65 NB ISS		-L- 168+65 NB ISL		-L- 168+65 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	8"	Asphalt	12.5"	Asphalt	6.5"
STBC	2.5"	STBC	3"	STBC	4.5"

PROP. TYPE T BARRIER

MATCHLINE -L- STA. 181+00

SYSTEMS DESIGN CONSULTANTS

PROJECT REFERENCE NO. I-5987A		SHEET NO. 10	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



MATCHLINE -L- STA. 194 + 00

MATCHLINE -L- STA. 207 + 00

-L- 196 + 30 SB OSS		-L- 196 + 30 SB ISL		-L- 196 + 30 SB ISS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	7"	Asphalt	12"	Asphalt	7.75"
STBC	7"	STBC	2.5"	STBC	1.75"

-L- 196 + 30 NB ISS		-L- 196 + 30 NB OSL		-L- 196 + 30 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	6.75"	Asphalt	11.25"	Asphalt	6.5"
STBC	2.25"	STBC	3.5"	STBC	3.5"

X=2000420.9666
Y=344545.3467
-L- 196+30 SB OSS

X=2000440.6299
Y=344544.5033
-L- 196+30 SB ISL
-L- 196+30 SB ISS

X=2000451.1535
Y=344544.0519
-L- 196+30 NB ISS

X=2000518.8594
Y=344541.1478
-L- 196+30 NB OSL
-L- 196+30 NB OSS

X=2000525.3950
Y=344540.8675

-L- N 2°13'52"E PROP. TYPE T BARRIER -L- N 2°19' -L-

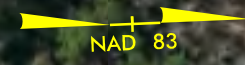


SYSTEMS DESIGN CONSULTANTS

5/14/99

PROJECT REFERENCE NO.		SHEET NO.	
I-5987A		II	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 217+50 SB OSS		-L- 217+50 SB ISS	
Pavement Structure		Pavement Structure	
Asphalt	6.5"	Asphalt	5.75"
STBC	7"	STBC	-

-L- 227+05 SB ISL		-L- 227+05 SB ISS	
Pavement Structure		Pavement Structure	
Asphalt	10.5"	Asphalt	6.5"
STBC	8"	STBC	12"

MATCHLINE -L- STA. 215 + 00

MATCHLINE -L- STA. 228 + 00



X=2000479.3128
Y=346664.7933

-L- 217+50 SB OSS

X=2000514.1115
Y=346663.3007

-L- 217+50 SB ISS

X=2000538.9136
Y=347618.1150

-L- 227+05 SB ISL
-L- 227+05 SB ISS

X=2000546.9307
Y=347617.7711

-L- 215+50 NB ISS
X=2000591.7951
Y=346459.7848

-L- 215+50 NB ISL
X=2000599.2133
Y=346459.4666

-L- 215+50 NB DECEL
X=2000622.5114
Y=346458.4673

-L- 215+50 NB OSS
X=2000630.4282
Y=346458.1277

N 2°19'52.4" E

PROP. TYPE T BARRIER

N 14°42'03.6" E

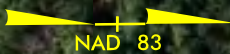
-L- 215+50 NB ISS		-L- 215+50 NB ISL		-L- 215+50 NB DECEL		-L- 215+50 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	7.75"	Asphalt	14.5"	Asphalt	17.5"	Asphalt	17.5"
ABC	-	Stabilized Soil Subgrade	8.5"	ABC	-	ABC	-

SYSTEMS DESIGN CONSULTANTS

5/14/99

PROJECT REFERENCE NO. I-5987A	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



MATCHLINE -L- STA. 276 + 00

MATCHLINE -L- STA. 289 + 00 SEE SHEET 14

-L- 277+70 SB OSS		-L- 277+70 SB DECEL		-L- 277+70 SB OSL		-L- 277+70 SB ISS	
Pavement Structure		Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	5.5"	Asphalt	13"	Asphalt	13"	Asphalt	6.5"
STBC	7"	STBC	-	STBC	-	STBC	8"

-L- 277+70 NB ISS		-L- 277+70 NB ISL		-L- 277+70 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	6"	Asphalt	13"	Asphalt	5.5"
STBC	-	Stabilized Soil Subgrade	8.5"	STBC	3.5"

X=2000721.230
Y=352677.6980

X=2000728.4382
Y=352677.6246

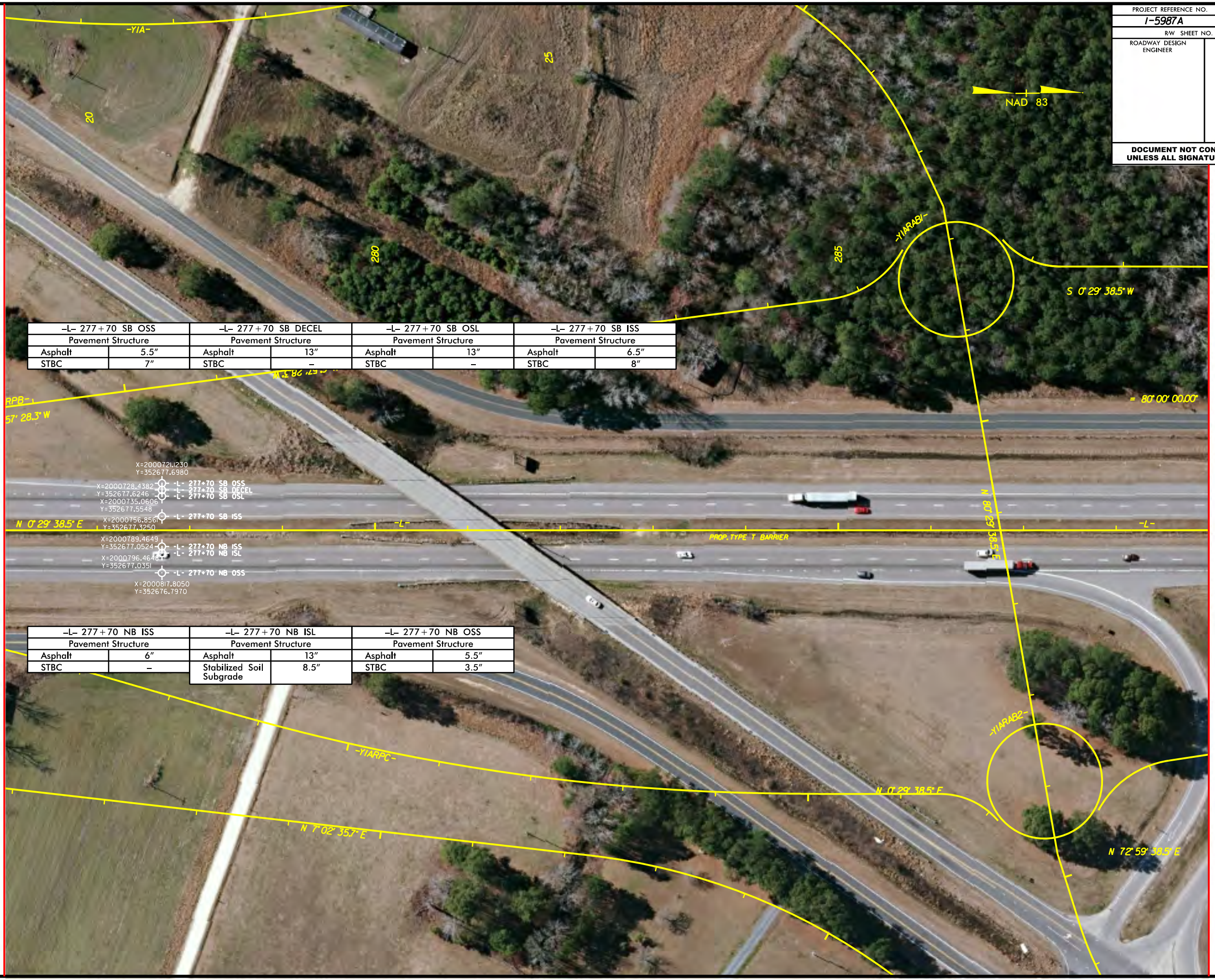
X=2000735.0606
Y=352677.5548

X=2000756.8561
Y=352677.3250

X=2000789.4649
Y=352677.0524

X=2000796.4643
Y=352677.0351

X=2000817.8050
Y=352676.7970



SYSTEMS DESIGN CONSULTANTS

5/14/99

PROJECT REFERENCE NO. I-5987A	SHEET NO. 14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- STA. 289+00 SEE SHEET 13

MATCHLINE -L- STA. 302+00



-L- 298+25 SB OSS		-L- 298+25 SB ISL		-L- 298+25 SB ISS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	7"	Asphalt	14"	Asphalt	6.75"
STBC	9"	STBC	3"	STBC	6"

X=2000743.9282
Y=354732.5141
-L- 298+25 SB OSS

X=2000767.2696
Y=354732.2689
-L- 298+25 SB ISL

X=2000775.0468
Y=354732.2006
-L- 298+25 SB ISS

X=2000806.9218
Y=354846.9727
-L- 299+40 NB ISS

X=2000825.2562
Y=354846.8199
-L- 299+40 NB OSL

X=2000836.5588
Y=354846.7159
-L- 299+40 NB ACCEL

X=2000844.3360
Y=354846.6486
-L- 299+40 NB OSS

-L- 299+40 NB ISS		-L- 299+40 NB OSL		-L- 299+40 NB ACCEL		-L- 299+40 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	6.75"	Asphalt	14.5"	Asphalt	14.25"	Asphalt	13"
Stabilized Soil Subgrade	-	Stabilized Soil Subgrade	8"	Stabilized Soil Subgrade	6.75"	Stabilized Soil Subgrade	10.5"

SYSTEMS DESIGN CONSULTANTS

5/14/99

PROJECT REFERENCE NO. I-5987A	SHEET NO. 17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE -L- STA. 370 + 00

MATCHLINE -L- STA. 383 + 00



-L- 376+30 SB OSS		-L- 376+30 SB OSL		-L- 376+30 SB ISS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	6"	Asphalt	12"	Asphalt	7.5"
STBC	10"	STBC	11"	STBC	9"

X=2000810.4665
Y=362537.1325

X=2000819.1952
Y=362537.0464

X=2000842.6264
Y=362536.7994

X=2000875.0109
Y=362541.5233

X=2000881.2108
Y=362541.5060

X=2000902.3029
Y=362541.5406

-L- 376+35 NB ISS		-L- 376+35 NB ISL		-L- 376+35 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	8"	Asphalt	12"	Asphalt	7.25"
STBC	4"	STBC	4"	STBC	3.25"

SYSTEMS DESIGN CONSULTANTS

5/14/09

PROJECT REFERENCE NO.		SHEET NO.	
I-5987A		19	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



425

430

435

MATCHLINE -L- STA. 423+00

MATCHLINE -L- STA. 436+00

-L- 429+40 SB OSS		-L- 429+40 SB OSL		-L- 429+40 SB ISS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	7"	Asphalt	12"	Asphalt	7.5"
STBC	3"	STBC	12"	STBC	2"

X=2000861.2581
Y=367848.2613
-L- 429+40 SB OSS

X=2000870.8493
Y=367847.9286
-L- 429+40 SB OSL

X=2000891.2024
Y=367847.2225
-L- 429+40 SB ISS

X=2000931.6411
Y=367845.8197
-L- 429+40 NB ISS

X=2000939.3186
Y=367845.5534
-L- 429+40 NB ISL

X=2000960.0249
Y=367844.8351
-L- 429+40 NB OSS

-L- 429+40 NB ISS		-L- 429+40 NB ISL		-L- 429+40 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	8"	Asphalt	12"	Asphalt	7"
STBC	2.5"	STBC	3"	STBC	3"

SYSTEMS
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BY
CIVIL
ENGINEERS

5/14/99

PROJECT REFERENCE NO.		SHEET NO.	
I-5987A		20	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



MATCHLINE -L- STA. 451 + 00

MATCHLINE -L- STA. 464 + 00

-L- 454+50 SB OSS		-L- 454+50 SB ISL		-L- 454+50 SB ISS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	7"	Asphalt	12"	Asphalt	7"
STBC	6"	STBC	2"	STBC	6"

-L- 454+40 NB ISS		-L- 454+40 NB OSL		-L- 454+40 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	6.5"	Asphalt	12.5"	Asphalt	7.75"
STBC	3.5"	STBC	3.5"	STBC	3"

Y=370355.3627
X=2001014.5762
-L- 454+50 SB OSS

Y=370353.5697
X=2001039.8733
-L- 454+50 SB ISL
-L- 454+50 SB ISS

Y=370353.1007
X=2001046.4900

Y=370339.4297
X=2001097.9289
-L- 454+40 NB ISS

Y=370337.8657
X=200119.9941
-L- 454+40 NB OSL
-L- 454+40 NB OSS

Y=370337.0817
X=2001131.0555

SYSTEMS DESIGN CONSULTANTS

5/14/99

PROJECT REFERENCE NO. I-5987A		SHEET NO. 21	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



MATCHLINE -L- STA. 476+00

MATCHLINE -L- STA. 489+00 SEE SHEET 22

-L- 482+45 SB OSS		-L- 482+45 SB OSL		-L- 482+45 SB ISS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	6"	Asphalt	12"	Asphalt	7"
STBC	7"	STBC	6"	STBC	2"

-L- 482+45 NB ISS		-L- 482+45 NB ISL		-L- 482+45 NB OSS	
Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	8.5"	Asphalt	11"	Asphalt	7.5"
STBC	5"	STBC	4"	STBC	2"

Y=373143.3961
X=2001211.7944

Y=373142.8332
X=2001219.7355

-L- 482+45 SB OSS
-L- 482+45 SB OSL

-L- 482+45 SB ISS

Y=373141.1684
X=2001243.2231

Y=373137.1604
X=2001299.7711

Y=373136.5929
X=2001307.7777

-L- 482+45 NB ISS
-L- 482+45 NB ISL

-L- 482+45 NB OSS

Y=373135.2147
X=2001327.2222

SYSTEMS DESIGN CONSULTANTS

PROJECT REFERENCE NO. I-5987A	SHEET NO. 22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE -L- STA. 489+00 SEE SHEET 21



END TIP PROJECT I-5987A BK
-L- POT Sta. 495+00.00
BEGIN TIP PROJECT I-5987B AH
-L- POT Sta. 495+00.00

N 4°03'14.3" E

-L- N 4°03'14.3" E

MATCHLINE -L- STA. 502+00

SYSTEMS
 CONSULTING
 ENGINEERS
 P.C.

PAVEMENT INVESTIGATION DATA SHEET

Project: 47533.1.2
TIP: I-5987A

County: Robeson
Route: I-95

Date: 12/03/2019 - 12/19/2019
Notes By: D. Strother/J. Swartley/M. Rawls/V. Mitchev

Position (Sta., Lane, Shldr.)	Width			Offset Distance (ft)	Crown "C" or Super "S"	Thickness					Pavement Layering	Subgrade					GPS Coordinates		
	Cut/Fill (Est. Of Amount) (ft)	Lane(s) (ft)	Shoulder(s) (ft)			Gross to Top of Soil (in)	Asphalt (in)	ABC (in)	Soil Type Base Course (in)	Stabilized Soil Subgrade (in)		Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting
-L- 13+05 NB ISL	5.0 Fill	11.50	13.50	2.2 FYI	C	14.00	14.00	N/A	N/A	N/A	Asphalt	0.0 - 2.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 2.0 - 5.0' = Roadway Embankment, Tan and Orange, Sandy-Silty Clay	S-78 S-79	A-2-6 A-7-6	M M	5.00	No Distresses Present	326782.3	1996083.0
-L- 13+05 NB ISS	5.0 Fill	N/A	13.50	6.5 FYI	C	11.50	11.50	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Roadway Embankment, Tan, Silty-Clayey Sand 1.0 - 2.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 2.0 - 5.0' = Roadway Embankment, Tan and Orange, Sandy-Silty Clay	REF S-1 REF S-78 REF S-79	A-2-4 A-2-6 A-7-6	M M M	5.00	No Distresses Present	326778.9	1996076.2
-L- 13+05 NB OSS	5.0 Fill	12.00	13.60	6.5 FWO	C	26.00	18.00	8.00	N/A	N/A	Asphalt ABC	0.0 - 1.5' = Roadway Embankment, Tan, Silty-Clayey Sand 1.5 - 5.0' = Roadway Embankment, Tan and Orange, Sandy Clay	S-1 S-2	A-2-4 A-6	M M	5.00	No Distresses Present	326771.4	1996115.2
-L- 21+95 NB ACCEL	6.0 Fill	10.30	6.40	2.8 FWO	C	27.00	18.00	9.00	N/A	N/A	Asphalt ABC	0.0 - 4.0' = Roadway Embankment, Tan and Orange, Sandy Clay	REF S-3	A-6	M	4.00	No Distresses Present	327631.9	1996336.6
-L- 21+95 NB OSS	6.0 Fill	N/A	6.40	3.0 FWO	C	31.00	20.50	10.50	N/A	N/A	Asphalt ABC	0.0 - 4.0' = Roadway Embankment, Orange, Sandy Clay	S-3	A-6	M	4.00	No Distresses Present	327628.8	1996342.4
-L- 35+90 NB ISS	1.5 Fill	N/A	13.00	6.2 FYI	C	12.75	12.75	N/A	N/A	N/A	Asphalt	0.0 - 0.8' = Roadway Embankment, Brown, Silty Sand 0.8 - 1.5' = Roadway Embankment, Brown and Orange, Sandy Silt 1.5 - 5.0' = Coastal Plain, Tan and Orange, Clayey Silt	REF S-6 S-80 REF S-5	A-2-4 A-4 A-4	M M M	5.00	No Distresses Present	328990.3	1996655.6
-L- 35+90 NB OSL	0.8 Fill	12.00	11.50	2.0 FWO	C	16.00	16.00	N/A	N/A	N/A	Asphalt	0.0 - 0.8' = Roadway Embankment, Brown, Silty Sand 0.8 - 4.0' = Coastal Plain, Tan and Orange, Clayey Silt	S-6 REF S-5	A-2-4 A-4	M M	4.00	No Distresses Present	328988.1	1996685.5
-L- 35+90 NB OSS	AG	N/A	11.50	7.0 FWO	C	25.75	16.75	N/A	9.00	N/A	Asphalt STBC	0.0 - 4.0' = Coastal Plain, Tan and Orange, Clayey Silt	S-4 S-5	A-2-4 A-4	M M	4.00	No Distresses Present	328982.1	1996695.2
-L- 62+40 NB ISL	3.5 Fill	12.00	12.50	2.4 FYI	C	16.50	16.50	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Roadway Embankment, Gray, Sandy Silt 1.0 - 3.5' = Roadway Embankment, Gray and Brown, Sandy-Silty Clay 3.5 - 5.0' = Coastal Plain, Dark Gray, Sandy-Clayey Silt	REF S-7 S-81 REF S-8	A-4 A-6 A-4	M M M	5.00	No Distresses Present	331547.1	1997342.2
-L- 62+40 NB ISS	3.5 Fill	N/A	12.50	6.0 FYI	C	13.25	13.25	N/A	N/A	N/A	Asphalt	0.0 - 0.8' = Roadway Embankment, Gray, Sandy Silt 0.8 - 3.5' = Roadway Embankment, Gray and Brown, Sandy-Silty Clay 3.5 - 5.0' = Coastal Plain, Dark Gray, Sandy-Clayey Silt	REF S-7 REF S-81 REF S-8	A-4 A-6 A-4	M M M	5.00	No Distresses Present	331552.7	1997331.7
-L- 62+40 NB OSS	2.0 Fill	N/A	10.60	4.8 FWO	C	26.00	18.00	8.00	N/A	N/A	Asphalt ABC	0.0 - 2.0' = Roadway Embankment, Gray, Sandy Silt 2.0 - 4.0' = Coastal Plain, Dark Gray, Sandy-Clayey Silt	S-7 S-8	A-4 A-4	M M	4.00	No Distresses Present	331543.0	1997366.7
-L- 81+00 NB DECEL	1.0 Cut	12.00	11.00	3.0 FWO	C	27.00	18.50	N/A	8.50	N/A	Asphalt STBC	0.0 - 4.0' = Coastal Plain, Brown and Orange, Sandy-Silty Clay	S-10 S-9	A-1-a A-6	M M	4.00	No Distresses Present	333345.2	1997846.8
-L- 81+00 NB ISS	1.0 Fill	N/A	12.80	6.0 FYI	C	12.25	12.25	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Roadway Embankment, Brown, Silty Sand 1.0 - 5.0' = Coastal Plain, Tan and Orange, Sandy-Silty Clay	REF S-6 S-82	A-2-4 A-7-6	W M	5.00	No Distresses Present	333369.1	1997812.9
-L- 81+00 NB OSL	1.0 Cut	12.00	11.00	3.0 FWO	C	13.75	13.75	N/A	N/A	N/A	Asphalt	0.0 - 1.4' = Coastal Plain, Brown, Silty Sand 1.4 - 5.0' = Coastal Plain, Tan and Orange, Sandy-Silty Clay	REF S-6 S-11	A-2-4 A-6	M M	5.00	No Distresses Present	333317.6	1997828.4
-L- 81+00 NB OSS	1.0 Cut	N/A	7.00	3.2 FWO	C	27.00	18.50	N/A	8.50	N/A	Asphalt ABC	0.0 - 4.0' = Coastal Plain, Brown and Orange, Sandy-Silty Clay	S-10 S-9	A-1-a A-6	M M	4.00	No Distresses Present	333357.0	1997856.8
-L- 108+80 NB ACCEL	AG	12.00	3.00	3.0 FWO	C	11.50	11.50	N/A	N/A	N/A	Asphalt	0.0 - 2.0' = Coastal Plain, Tan and Orange, Silty-Clayey Sand 2.0 - 4.5' = Coastal Plain, Orange, Sandy Clay	S-12 S-13	A-2-4 A-7-6	M M	4.50	No Distresses Present	336021.3	1998571.5

Notes:

OSL = Outside Lane
ISL = Inside Lane
CL = Center Lane
LTL = Left Turn Lane
Soil Type Base Course: Majority of STBC found within project limits is Rounded Gravel with fine and coarse sand. Limited silt and clay particles.

WP = Wheel Path
IWP = Inside Wheel Path
OWP = Outside Wheel Path
C&G = Curb & Gutter

OSS = Outside Shoulder
ISS = Inside Shoulder
GM = Grass Median
OGS = Outside Grass Shoulder

PS = Paved Shoulder
RT LN = Right Lane
LT LN = Left Lane
COL = Collector Lane

CTL = Center Turn Lane
RTL = Right Turn Lane
DECEL = Deceleration Lane
ACCEL = Acceleration Lane

RT = Right
LT = Left
(I) = Inside
(O) = Outside

NB = Northbound
SB = Southbound
FW = From White
FY = From Yellow

FCG = From Curb & Gutter
AG = At Grade
EOP = Edge of Pavement



S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

PAVEMENT INVESTIGATION DATA SHEET

Project: 47533.1.2
TIP: I-5987A

County: Robeson
Route: I-95

Date: 12/03/2019 - 12/19/2019
Notes By: D. Strother/J. Swartley/M. Rawls/V. Mitchev

Position (Sta., Lane, Shldr.)	Width				Crown "C" or Super "S"	Thickness					Pavement Layering	Subgrade					GPS Coordinates		
	Cut/Fill (Est. Of Amount) (ft)	Lane(s) (ft)	Shoulder(s) (ft)	Offset Distance (ft)		Gross to Top of Soil (in)	Asphalt (in)	ABC (in)	Soil Type Base Course (in)	Stabilized Soil Subgrade (in)		Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting
-L- 108+80 NB OSS	AG	N/A	3.00	2.0 FWO	C	11.00	11.00	N/A	N/A	N/A	Asphalt	0.0 - 2.0' = Coastal Plain, Tan and Orange, Silty-Clayey Sand 2.0 - 4.5' = Coastal Plain, Orange, Sandy Clay	REF S-12 REF S-13	A-2-4 A-7-6	M M	4.50	No Distresses Present	336021.9	1998577.6
-L- 118+45 NB ISL	AG	12.20	3.70	2.0 FYI	C	15.75	13.25	N/A	2.50	N/A	Asphalt STBC	0.0 - 1.0' = Coastal Plain, Orange and Gray, Silty-Clayey Sand 1.0 - 5.0' = Coastal Plain, Orange, Silty-Clayey Sand	REF S-83 REF S-84	A-2-4 A-2-4	M M	5.00	No Distresses Present	336964.4	1998791.3
-L- 118+45 NB ISS	AG	N/A	3.70	2.0 FYI	C	10.25	8.25	N/A	2.00	N/A	Asphalt STBC	0.0 - 1.0' = Coastal Plain, Orange and Gray, Silty-Clayey Sand 1.0 - 5.0' = Coastal Plain, Orange, Silty-Clayey Sand	S-83 S-84	A-2-4 A-2-4	M M	5.00	No Distresses Present	336966.9	1998784.5
-L- 142+45 NB ISS	7.0 Fill	N/A	4.00	2.9 FYI	C	11.00	8.00	N/A	3.00	N/A	Asphalt STBC	0.0 - 1.0' = Roadway Embankment, Brown and Tan, Silty Sand 1.0 - 2.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 2.0 - 5.0' = Roadway Embankment, Tan, Gray and Orange, Clayey Sand	REF S-14 REF S-15 S-85	A-2-4 A-2-4 A-2-6	M M M	5.00	No Distresses Present	339273.2	1999432.7
-L- 142+45 NB OSL	7.0 Fill	12.00	11.00	3.0 FWO	C	16.50	12.00	N/A	4.50	N/A	Asphalt STBC	0.0 - 0.8' = Roadway Embankment, Brown and Tan, Silty Sand 0.8 - 4.5' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand	REF S-14 REF S-15	A-2-4 A-2-4	M M	4.50	Low Severity Transverse Cracking	339275.1	1999454.5
-L- 142+45 NB OSS	7.0 Fill	N/A	11.00	6.2 FWO	C	12.25	7.25	N/A	5.00	N/A	Asphalt STBC	0.0 - 1.0' = Roadway Embankment, Brown and Tan, Silty Sand 1.0 - 4.5' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand	S-14 S-15	A-2-4 A-2-4	M M	4.50	Moderate Severity Longitudinal Cracking 6" from EOP	339268.7	1999465.1
-L- 168+65 NB ISL	8.0 Fill	11.50	4.00	3.0 FYI	C	15.50	12.50	N/A	3.00	N/A	Asphalt STBC	0.0 - 2.0' = Roadway Embankment, Brown and Orange, Silty-Clayey Sand 2.0 - 5.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand	REF S-86 REF S-15	A-2-4 A-2-4	M M	5.00	Moderate Severity Longitudinal Cracking at Paving Joint, Low Severity Transverse Cracking at Paving Joint	341796.6	2000141.8
-L- 168+65 NB ISS	6.0 Fill	N/A	4.00	2.3 FYI	C	10.50	8.00	N/A	2.50	N/A	Asphalt STBC	0.0 - 2.0' = Roadway Embankment, Brown and Orange, Silty-Clayey Sand 2.0 - 5.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand	S-86 REF S-15	A-2-4 A-2-4	M M	5.00	No Distresses Present	341801.2	2000132.4
-L- 168+65 NB OSS	8.0 Fill	N/A	11.00	5.8 FWO	C	11.00	6.50	N/A	4.50	N/A	Asphalt STBC	0.0 - 1.0' = Roadway Embankment, Gray and Black, Silty Sand 1.0 - 4.5' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand	S-17 REF S-15	A-2-4 A-2-4	M M	4.50	Low Severity Transverse Cracking in OSL	341794.4	2000169.3
-L- 196+30 NB ISS	AG	N/A	4.10	2.5 FYI	C	9.00	6.75	N/A	2.25	N/A	Asphalt STBC	0.0 - 5.0' = Coastal Plain, Brown, Tan and Orange, Silty-Clayey Sand	S-87	A-2-4	M	5.00	No Distresses Present	344508.7	2000490.7
-L- 196+30 NB OSL	AG	12.00	11.00	3.0 FWO	C	14.75	11.25	N/A	3.50	N/A	Asphalt STBC	0.0 - 4.5' = Coastal Plain, Tan and Orange, Silty-Clayey Sand	S-18	A-2-6	M	4.50	Low Severity Transverse Cracking, Low Severity Longitudinal Cracking in OWP	344542.6	2000518.9
-L- 196+30 NB OSS	1.2 Fill	N/A	11.00	5.5 FWO	C	10.00	6.50	N/A	3.50	N/A	Asphalt STBC	0.0 - 1.2' = Roadway Embankment, Gray and Brown, Silty Sand 1.2 - 4.5' = Coastal Plain, Tan and Orange, Silty-Clayey Sand	REF S-17 REF S-18	A-2-4 A-2-6	M M	4.50	Low Severity Transverse Cracking	344537.7	2000525.3
-L- 215+50 NB DECEL	6.0 Fill	10.50	5.80	4.0 FWO	C	17.50	17.50	N/A	N/A	N/A	Asphalt	0.0 - 4.5' = Roadway Embankment, Brown and Gray, Silty Sand	REF S-19	A-2-4	M	4.50	Moderate Severity Longitudinal Cracking @ Inside Pavement Joint	346461.0	2000622.6
-L- 215+50 NB ISL	6.0 Fill	11.30	4.30	2.0 FYI	C	23.00	14.50	N/A	N/A	8.50	Asphalt Stab. Subgr. Soil	0.0 - 2.0' = Roadway Embankment, Brown and Gray, Silty Sand 2.0 - 5.0' = Roadway Embankment, Brown, Tan and Gray, Clayey-Silty Sand	REF S-19 REF S-88	A-2-4 A-2-6	M M	5.00	Moderate Severity Longitudinal Cracking at Paving Joint, Low Severity Transverse Cracking at Paving Joint	346459.2	2000597.2
-L- 215+50 NB ISS	6.0 Fill	N/A	4.30	2.2 FYI	C	7.75	7.75	N/A	N/A	N/A	Asphalt	0.0 - 4.0' = Roadway Embankment, Brown and Gray, Silty Sand 4.0 - 5.0' = Roadway Embankment, Brown, Tan and Gray, Clayey-Silty Sand	REF S-19 S-88	A-2-4 A-2-6	M M	5.00	Moderate Severity Edge Cracking 6.0" from EOP	346459.9	2000591.8
-L- 215+50 NB OSS	6.0 Fill	N/A	5.80	3.3 FWO	C	17.50	17.50	N/A	N/A	N/A	Asphalt	0.0 - 4.5' = Roadway Embankment, Brown and Gray, Silty Sand	S-19	A-2-4	M	4.50	Low Severity Longitudinal Cracking 1' from EOP	346458.9	2000629.5

Notes:

OSL = Outside Lane
ISL = Inside Lane
CL = Center Lane
LTL = Left Turn Lane
Soil Type Base Course: Majority of STBC found within project limits is Rounded Gravel with fine and coarse sand. Limited silt and clay particles.

WP = Wheel Path
IWP = Inside Wheel Path
OWP = Outside Wheel Path
C&G = Curb & Gutter

OSS = Outside Shoulder
ISS = Inside Shoulder
GM = Grass Median
OGS = Outside Grass Shoulder

PS = Paved Shoulder
RT LN = Right Lane
LT LN = Left Lane
COL = Collector Lane

CTL = Center Turn Lane
RTL = Right Turn Lane
DECEL = Deceleration Lane
ACCEL = Acceleration Lane

RT = Right
LT = Left
(I) = Inside
(O) = Outside

NB = Northbound
SB = Southbound
FW = From White
FY = From Yellow

FCG = From Curb & Gutter
AG = At Grade
EOP = Edge of Pavement



S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

PAVEMENT INVESTIGATION DATA SHEET

Project: 47533.1.2
TIP: I-5987A

County: Robeson
Route: I-95

Date: 12/03/2019 - 12/19/2019
Notes By: D. Strother/J. Swartley/M. Rawls/V. Mitchev

Position (Sta., Lane, Shldr.)	Cut/Fill (Est. Of Amount) (ft)	Width		Offset Distance (ft)	Crown "C" or Super "S"	Thickness					Pavement Layering	Subgrade					GPS Coordinates		
		Lane(s) (ft)	Shoulder(s) (ft)			Gross to Top of Soil (in)	Asphalt (in)	ABC (in)	Soil Type Base Course (in)	Stabilized Soil Subgrade (in)		Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting
-L- 247+60 NB ACCEL	15.0 Fill	10.50	6.50	4.0 FWO	C	14.50	14.50	N/A	N/A	N/A	Asphalt	0.0 - 4.5' = Roadway Embankment, Orange and Gray, Clayey-Silty Sand	S-20	A-2-4	M	4.50	Low Severity Longitudinal Cracking 4' FWO, Low Severity Transverse Cracking	349667.0	2000780.5
-L- 247+60 NB ISS	15.0 Fill	N/A	4.10	2.4 FYI	C	8.00	6.25	N/A	1.75	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Orange and Gray, Clayey-Silty Sand	REF S-20	A-2-4	M	5.00	No Distresses Present in Shoulder, Moderate Severity Longitudinal Cracking at Paving Joint	349673.2	2000748.8
-L- 247+60 NB OSL	15.0 Fill	11.40	6.50	2.5 FWO	C	16.50	12.50	N/A	4.00	N/A	Asphalt STBC	0.0 - 4.5' = Roadway Embankment, Orange and Gray, Clayey-Silty Sand	REF S-20	A-2-4	M	4.50	Low Severity Transverse Cracking, Low Severity Longitudinal Cracking	349666.2	2000770.5
-L- 247+60 NB OSS	15.0 Fill	N/A	6.50	2.8 FWO	C	12.00	5.50	N/A	6.50	N/A	Asphalt STBC	0.0 - 4.5' = Roadway Embankment, Orange and Gray, Clayey-Silty Sand	REF S-20	A-2-4	M	4.50	Low Severity Transverse Cracking, Core Cracked Top Down 1.75"	349661.1	2000789.4
-L- 277+70 NB ISL	1.0 Fill	11.50	3.20	1.2 FYI	C	21.50	13.00	N/A	N/A	8.50	Asphalt Stab. Subgr. Soil	0.0 - 1.0' = Roadway Embankment, Gray, Clayey Sand 1.0 - 5.0' = Coastal Plain, Tan and Orange, Clayey Sand	S-48 S-49	A-2-6 A-2-6	W W	5.00	Moderate Severity Longitudinal at OSL Paving Joint	352681.1	2000790.4
-L- 277+70 NB ISS	1.0 Fill	N/A	3.20	1.5 FYI	C	6.00	6.00	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Roadway Embankment, Gray, Clayey Sand 1.0 - 5.0' = Coastal Plain, Gray, Tan and Orange, Clayey Sand	REF S-48 REF S-49	A-2-6 A-2-6	W M	5.00	No Distresses Present, Recently Resurfaced	352682.2	2000785.4
-L- 277+70 NB OSS	1.8 Fill	N/A	11.00	6.2 FWO	C	9.00	5.50	N/A	3.50	N/A	Asphalt STBC	0.0 - 1.8' = Roadway Embankment, Orange and Gray, Clayey-Silty Sand 1.8 - 4.5' = Coastal Plain, Gray, Clayey Sand	REF S-20 S-21	A-2-4 A-2-6	M W	4.50	No Distresses Present	352676.6	2000817.6
-L- 299+40 NB ACCEL	7.0 Fill	10.30	9.10	3.4 FWO	C	21.00	14.25	N/A	N/A	6.75	Asphalt Stab. Subgr. Soil	0.0 - 1.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 1.0 - 4.0' = Roadway Embankment, Gray, Silty Sand	S-23 REF S-22	A-2-4 A-2-4	M M	4.00	Moderate Severity Longitudinal Cracking, Moderate Severity Transverse Cracking, Core Cracked Top Down 1.75"	354849.2	2000832.2
-L- 299+40 NB ISS	7.0 Fill	N/A	3.20	1.8 FYI	C	6.75	6.75	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 1.0 - 5.0' = Roadway Embankment, Gray, Silty Sand	REF S-23 REF S-22	A-2-4 A-2-4	M M	5.00	No Distresses Present, Recently Resurfaced	354856.0	2000805.0
-L- 299+40 NB OSL	7.0 Fill	11.50	N/A	2.8 FWO	C	22.50	14.50	N/A	N/A	8.00	Asphalt Stab. Subgr. Soil	0.0 - 4.0' = Roadway Embankment, Gray, Silty Sand	S-22	A-2-4	M	4.00	Moderate To High Severity Transverse Cracking, Low Severity Longitudinal Cracking	354845.4	2000841.5
-L- 299+40 NB OSS	7.0 Fill	N/A	9.10	4.8 FWO	C	23.50	13.00	N/A	N/A	10.50	Asphalt Stab. Subgr. Soil	0.0 - 1.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 1.0 - 4.0' = Roadway Embankment, Gray, Silty Sand	REF S-23 REF S-22	A-2-4 A-2-4	M M	4.00	Low Severity Longitudinal Cracking, High Severity Transverse Cracking, Core Cracked Top Down 1.75"	354847.1	2000841.5
-L- 322+95 NB ISL	1.0 Fill	11.40	3.20	2.0 FYI	C	16.00	11.50	N/A	4.50	N/A	Asphalt STBC	0.0 - 1.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 1.0 - 5.0' = Coastal Plain, Gray, Silty Sand	REF S-50 REF S-24	A-2-4 A-2-4	M M	5.00	Low Severity Transverse Cracking, Moderate Severity Longitudinal Cracking at OSL Paving Joint, Core Cracked Top Down 4.5"	357200.6	2000829.2
-L- 322+95 NB ISS	1.0 Fill	N/A	3.20	2.0 FYI	C	7.00	7.00	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 1.0 - 5.0' = Coastal Plain, Gray, Silty Sand	S-50 REF S-24	A-2-4 A-2-4	M M	5.00	Low Severity Transverse Cracking	357201.2	2000825.5
-L- 322+95 NB OSS	0.8 Fill	N/A	11.20	6.0 FWO	C	10.00	6.50	N/A	3.50	N/A	Asphalt STBC	0.0 - 0.8' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 0.8 - 4.5' = Coastal Plain, Gray, Silty Sand	REF S-23 S-24	A-2-4 A-2-4	M M	4.50	Low Severity Longitudinal Cracking	357198.9	2000857.5
-L- 349+70 NB ISS	5.0 Fill	N/A	3.60	2.0 FYI	C	11.50	8.50	N/A	3.00	N/A	Asphalt STBC	0.0 - 1.3' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 1.3 - 5.0' = Roadway Embankment, Gray, Silty-Clayey Sand	REF S-50 S-51	A-2-4 A-2-4	M M	5.00	No Distresses Present, Recently Resurfaced	359889.0	2000846.0
-L- 349+70 NB OSL	5.0 Fill	11.70	11.00	2.0 FWO	C	15.00	12.00	N/A	3.00	N/A	Asphalt STBC	0.0 - 1.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 1.0 - 4.5' = Roadway Embankment, Gray, Silty-Clayey Sand	REF S-25 REF S-26	A-2-4 A-2-4	M M	4.50	Low Severity Transverse Cracking, High Severity Longitudinal Cracking at Inside Pavement Joint, Bottom of Core Broke Apart	359873.0	2000868.3

Notes:

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Soil Type Base Course: Majority of STBC found within project limits is Rounded Gravel with fine and coarse sand. Limited silt and clay particles.

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AG = At Grade
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S&M&E, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

PAVEMENT INVESTIGATION DATA SHEET

Project: 47533.1.2
TIP: I-5987A

County: Robeson
Route: I-95

Date: 12/03/2019 - 12/19/2019
Notes By: D. Strother/J. Swartley/M. Rawls/V. Mitchev

Position (Sta., Lane, Shldr.)	Width			Offset Distance (ft)	Crown "C" or Super "S"	Thickness					Pavement Layering	Subgrade					GPS Coordinates		
	Cut/Fill (Est. Of Amount) (ft)	Lane(s) (ft)	Shoulder(s) (ft)			Gross to Top of Soil (in)	Asphalt (in)	ABC (in)	Soil Type Base Course (in)	Stabilized Soil Subgrade (in)		Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting
-L- 349+70 NB OSS	5.0 Fill	N/A	11.00	5.0 FWO	C	10.75	7.25	N/A	3.50	N/A	Asphalt STBC	0.0 - 0.8' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 0.8 - 4.5' = Roadway Embankment, Gray, Silty-Clayey Sand	S-25 S-26	A-2-4 A-2-4	M M	4.50	No Distresses Present	359876.6	2000879.7
-L- 376+35 NB ISL	2.5 Fill	11.00	3.80	2.0 FYI	C	16.00	12.00	N/A	4.00	N/A	Asphalt STBC	0.0 - 2.5' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 2.5 - 5.0' = Coastal Plain, Brown and Gray, Silty-Clayey Sand	REF S-25 REF S-52	A-2-4 A-2-6	M M	5.00	Low Severity Transverse Cracking, Low Severity Longitudinal Cracking in OWP, Core Cracked Top Down 2.5"	362540.2	2000877.3
-L- 376+35 NB ISS	2.5 Fill	N/A	3.80	2.2 FYI	C	12.00	8.00	N/A	4.00	N/A	Asphalt STBC	0.0 - 2.5' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 2.5 - 5.0' = Coastal Plain, Brown and Gray, Silty-Clayey Sand	REF S-25 S-52	A-2-4 A-2-6	M M	5.00	No Distresses Present, Recently Resurfaced	362539.5	2000873.1
-L- 376+35 NB OSS	2.5 Fill	N/A	11.00	7.0 FWO	C	10.50	7.25	N/A	3.25	N/A	Asphalt STBC	0.0 - 0.8' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 0.8 - 2.5' = Roadway Embankment, Gray, Silty Sand 2.5 - 4.5' = Coastal Plain, Tan and Orange, Sandy-Silty Clay	REF S-23 REF S-24 S-27	A-2-4 A-2-4 A-7-6	M M M	4.50	High Severity Longitudinal Cracking at Pavement Joint on White Line	362542.2	2000902.3
-L- 402+25 NB ISS	8.0 Fill	N/A	4.00	2.4 FYI	C	10.50	7.00	N/A	3.50	N/A	Asphalt STBC	0.0 - 1.2' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 1.2 - 5.0' = Roadway Embankment, Orange and Gray, Sandy-Silty Clay	S-53 S-54	A-2-4 A-6	M M	5.00	No Distresses Present in Shoulder, Moderate Severity Transverse Cracking in ISL, Moderate Severity Longitudinal Cracking in ISL	365151.9	2000894.3
-L- 402+25 NB OSL	8.0 Fill	11.00	11.00	2.2 FWO	C	15.75	11.75	N/A	4.00	N/A	Asphalt STBC	0.0 - 0.8' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 0.8 - 4.5' = Roadway Embankment, Gray, Silty Sand	REF S-25 S-28	A-2-4 A-2-6	M M	4.50	Low Severity Transverse Cracking, Moderate Severity Longitudinal Cracking at Both Pavement Joints on White Lines	365124.1	2000914.2
-L- 402+25 NB OSS	8.0 Fill	N/A	11.00	5.0 FWO	C	10.00	7.00	N/A	3.00	N/A	Asphalt STBC	0.0 - 0.8' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 0.8 - 4.5' = Roadway Embankment, Gray, Silty Sand	REF S-25 REF S-28	A-2-4 A-2-6	M M	4.50	Moderate Severity Longitudinal Cracking at Inside Pavement Joint	365128.1	2000921.4
-L- 429+40 NB ISL	AG	11.20	4.00	3.0 FYI	C	15.00	12.00	N/A	3.00	N/A	Asphalt STBC	0.0 - 2.0' = Coastal Plain, Orange and Brown, Silty-Clayey Sand 2.0 - 5.0' = Coastal Plain, Orange and Gray, Sandy-Silty Clay	S-55 REF S-54	A-2-6 A-6	M M	5.00	Low Severity Transverse Cracking, Low Severity Longitudinal Cracking in both WP, Moderate Severity Longitudinal Cracking at Paving Joint	367850.6	2000934.1
-L- 429+40 NB ISS	AG	N/A	4.00	2.3 FYI	C	10.50	8.00	N/A	2.50	N/A	Asphalt STBC	0.0 - 2.0' = Coastal Plain, Orange and Brown, Silty-Clayey Sand 2.0 - 5.0' = Coastal Plain, Orange and Gray, Sandy-Silty Clay	REF S-55 REF S-54	A-2-6 A-6	M M	5.00	No Distresses Present	367848.4	2000931.5
-L- 429+40 NB OSS	AG	11.00	11.00	4.0 EOP	C	10.00	7.00	N/A	3.00	N/A	Asphalt STBC	0.0 - 2.5' = Coastal Plain, Orange, Clayey Sand 2.5 - 5.0' = Coastal Plain, Gray, Silty Clay	REF S-55 REF S-54	A-2-6 A-6	M M	5.00	Low Severity Transverse Cracking, Pothole on White Line	367845.3	2000958.7
-L- 454+40 NB ISS	3.5 Fill	N/A	3.80	2.0 FYI	C	10.00	6.50	N/A	3.50	N/A	Asphalt STBC	0.0 - 3.5' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 3.5 - 5.0' = Coastal Plain, Gray, Clayey Sand	REF S-29 REF S-30	A-2-4 A-2-6	M M	5.00	No Distresses Present in Shoulder, Moderate Severity Transverse Cracking at IWP, Moderate Severity Longitudinal Cracking at IWP	370336.2	2001097.7
-L- 454+40 NB OSL	3.0 Fill	12.00	10.50	2.5 FWO	C	16.00	12.50	N/A	3.50	N/A	Asphalt STBC	0.0 - 3.0' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 3.0 - 4.5' = Coastal Plain, Gray, Clayey Sand	S-29 S-30	A-2-4 A-2-6	M M	4.50	No Distresses Present	370334.1	2001119.7
-L- 454+40 NB OSS	3.0 Fill	N/A	10.50	3.4 FWO	C	10.75	7.75	N/A	3.00	N/A	Asphalt STBC	0.0 - 0.8' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 0.8 - 3.0' = Roadway Embankment, Dark Gray, Silty Sand 3.0 - 4.5' = Coastal Plain, Gray, Clayey Sand	REF S-25 S-31 REF S-30	A-2-4 A-2-4 A-2-6	M M M	4.50	Low Severity Transverse Cracking, Low Severity Longitudinal Cracking	370340.4	2001131.3
-L- 482+45 NB ISL	5.0 Fill	11.10	4.80	2.0 FWI	C	15.00	11.00	N/A	4.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Orange, Silty Sand	REF S-202	A-2-4	M	5.00	Minor Separation at Interior Travel Lane Stripe	373137.2	2001297.1
-L- 482+45 NB ISS	5.0 Fill	11.10	4.80	0.5 EOP	C	13.50	8.50	N/A	5.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Orange, Silty Sand	S-202 (0.0 - 3.0)	A-2-4	M	5.00	Minor Separation at Interior Travel Lane Stripe	373135.7	2001295.0
-L- 482+45 NB OSS	2.0 Fill	N/A	10.10	5.8 FWO	C	9.50	7.50	N/A	2.00	N/A	Asphalt STBC	0.0 - 0.8' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand 0.8 - 2.0' = Roadway Embankment, Gray, Silty Sand 2.0 - 4.5' = Coastal Plain, Tan and Orange, Silty-Clayey Sand	REF S-25 REF S-31 REF S-29	A-2-4 A-2-4 A-2-4	M M M	4.50	Moderate Severity Transverse Cracking at Inside Pavement Joint	373124.3	2001326.5

Notes:

OSL = Outside Lane
ISL = Inside Lane
CL = Center Lane
LTL = Left Turn Lane
Soil Type Base Course: Majority of STBC found within project limits is Rounded Gravel with fine and coarse sand. Limited silt and clay particles.

WP = Wheel Path
IWP = Inside Wheel Path
OWP = Outside Wheel Path
C&G = Curb & Gutter

OSS = Outside Shoulder
ISS = Inside Shoulder
GM = Grass Median
OGS = Outside Grass Shoulder

PS = Paved Shoulder
RT LN = Right Lane
LT LN = Left Lane
COL = Collector Lane

CTL = Center Turn Lane
RTL = Right Turn Lane
DECEL = Deceleration Lane
ACCEL = Acceleration Lane

RT = Right
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(I) = Inside
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NB = Northbound
SB = Southbound
FW = From White
FY = From Yellow

FCG = From Curb & Gutter
AG = At Grade
EOP = Edge of Pavement



S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

PAVEMENT INVESTIGATION DATA SHEET

Project: 47533.1.2
TIP: I-5987A

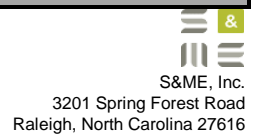
County: Robeson
Route: I-95

Date: 12/03/2019 - 12/19/2019
Notes By: D. Strother/J. Swartley/M. Rawls/V. Mitchev

Position (Sta., Lane, Shldr.)	Cut/Fill (Est. Of Amount) (ft)	Width		Offset Distance (ft)	Crown "C" or Super "S"	Gross to Top of Soil (in)	Thickness				Pavement Layering	Subgrade					GPS Coordinates			
		Lane(s) (ft)	Shoulder(s) (ft)				Asphalt (in)	ABC (in)	Soil Type Base Course (in)	Stabilized Soil Subgrade (in)		Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting	
-L- 24+55 NB OES	5.0 Fill	N/A	N/A	52 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	0.0-3.17' = Roadway Embankment, Orange, Sandy Clay	Bulk 1 OES NB	A-2-4	M	3.17	N/A	327879.7	1996414.2	
-L- 60+65 NB OES	2.0 Fill	N/A	N/A	53 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	0.0-2.67' = Roadway Embankment, Gray, Silty-Clayey Sand	Bulk 2 OES NB	A-1-a	M	2.67	N/A	331467.2	1997363.1	
-L- 167+25 NB OES	7.0 Fill	N/A	N/A	94 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	0.0-3.58' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand	Bulk 3 OES NB	A-2-4	M	3.58	N/A	341657.4	2000142.5	
-L- 274+05 NB OES	2.0 Fill	N/A	N/A	64 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	0.0-2.5' = Roadway Embankment, Orange and Gray, Clayey-Silty Sand	Bulk 4 OES NB	A-2-4	M	2.50	N/A	352312.7	2000833.7	
-L- 324+50 NB IES	1.0 Fill	N/A	N/A	3 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	0.0-3.25' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand	Bulk 8 IES NB	A-2-4	M	3.25	N/A	357356.3	2000816.3	
-L- 378+15 NB OES	2.0 Fill	N/A	N/A	58 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	0.0-2.5' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand	Bulk 5 OES NB	A-2-6	M	2.50	N/A	362722.4	2000917.5	
-L- 430+35 NB IES	AG	N/A	N/A	8 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	0.0-2.83' = Coastal Plain, Orange and Brown, Silty-Clayey Sand	Bulk 7 IES NB	A-2-6	M	2.83	N/A	367943.0	2000924.3	
-L- 483+75 NB OES	1.5 Fill	N/A	N/A	70 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	0.0-2.5' = Roadway Embankment, Tan and Orange, Silty-Clayey Sand	Bulk 6 OES NB	A-2-4	M	2.50	N/A	373264.6	2001350.5	

Notes:
 OSL = Outside Lane WP = Wheel Path OSS = Outside Shoulder PS = Paved Shoulder CTL = Center Turn Lane RT = Right NB = Northbound FCG = From Curb & Gutter
 ISL = Inside Lane IWP = Inside Wheel Path ISS = Inside Shoulder RT LN = Right Lane RTL = Right Turn Lane LT = Left SB = Southbound AG = At Grade
 CL = Center Lane OWP = Outside Wheel Path GM = Grass Median LT LN = Left Lane DECEL = Deceleration Lane (I) = Inside FW = From White EOP = Edge of Pavement
 LTL = Left Turn Lane C&G = Curb & Gutter OGS = Outside Grass Shoulder COL = Collector Lane ACCEL = Acceleration Lane (O) = Outside FY = From Yellow

Soil Type Base Course: Majority of STBC found within project limits is Rounded Gravel with fine and coarse sand. Limited silt and clay particles.



PAVEMENT INVESTIGATION DATA SHEET

Project: 47533.1.2
TIP: I-5987A

County: Robeson
Route: I-95

Date: 12/03/2019 - 12/19/2019
Notes By: D. Strother/J. Swartley/M. Rawls/V. Mitchev

Position (Sta., Lane, Shldr.)	Cut/Fill (Est. Of Amount) (ft)	Width		Offset Distance (ft)	Crown "C" or Super "S"	Thickness						Pavement Layering	Subgrade					GPS Coordinates		
		Lane(s) (ft)	Shoulder(s) (ft)			Gross to Top of Soil (in)	Asphalt (in)	Sand Drainage Base (in)	ABC (in)	Soil Type Base Course (in)	Stabilized Soil Subgrade (in)		Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting
-L- 14+50 SB OSS	AG	12.00	12.50	6.0 EOP	C	13.50	13.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 5.0' = Coastal Plain, Gray, Silty Sand	REF S-178	A-2-4	M	5.00	No Distresses Present, Recently Resurfaced	326936.6	1996062.7
-L- 14+50 SB OSL	AG	12.00	12.50	2.0 FWO	C	15.50	15.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 5.0' = Coastal Plain, Gray, Silty Sand	S-178 (0.0 - 3.0)	A-2-4	M	5.00	No Distresses Present, Recently Resurfaced	326935.6	1996070.8
-L- 23+10 SB OSS	4.0 Fill	5.00	7.50	4.0 EOP	C	N/A	22.00	N/A	N/A	N/A	N/A	Asphalt	Not Augered, Potential Utility	N/A	N/A	N/A	N/A	No Distresses Present, Recently Resurfaced	327767.7	1996279.1
-L- 35+90 SB OSS	AG	12.50	12.00	6.5 EOP	C	26.00	17.50	N/A	8.50	N/A	N/A	Asphalt ABC	0.0 - 2.5' = Coastal Plain, Orange, Sandy Silt 2.5 - 5.0' = Coastal Plain, Orange, Silty Clay	S-176 (0.0 - 2.5) S-177 (2.5 - 5.0)	A-4 A-7-6	M	5.00	No Distresses Present, Recently Resurfaced	329003.5	1996611.9
-L- 35+90 SB ISS	AG	N/A	11.25	6.3 FYI	C	11.75	11.75	N/A	N/A	N/A	N/A	Asphalt	0.0 - 4.5' = Coastal Plain, Tan, Gray and Orange, Clayey Sand	REF S-238	A-2-4	M	4.50	No Distresses Present	328986.4	1996644.2
-L- 35+90 SB ISL	AG	11.65	N/A	3.5 FYI	C	13.50	13.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 4.5' = Coastal Plain, Tan, Gray and Orange, Clayey Sand	S-239 (0.0-1.5)	A-2-4	M	4.50	No Distresses Present	328996.0	1996636.5
-L- 62+35 SB OSS	5.0 Fill	12.00	12.00	5.0 EOP	C	35.00	21.00	N/A	14.00	N/A	N/A	Asphalt ABC	0.0 - 5.0' = Roadway Embankment, Gray, Sandy Clay	S-175 (0.0 - 3.0)	A-6	M-W	5.00	No Distresses Present, Recently Resurfaced	331563.5	1997285.5
-L- 62+35 SB OSL	5.0 Fill	12.00	12.00	2.0 FWO	C	30.00	18.00	N/A	12.00	N/A	N/A	Asphalt ABC	0.0 - 5.0' = Roadway Embankment, Gray, Sandy Clay	REF S-175	A-6	M	5.00	No Distresses Present, Recently Resurfaced	331558.1	1997293.4
-L- 62+35 SB ISS	AG	N/A	11.60	6.5 FYI	C	17.00	13.00	N/A	4.00	N/A	N/A	Asphalt ABC	0.0 - 4.5' = Coastal Plain, Tan, Gray and Orange, Clayey Sand	S-238 (0.0-1.5)	A-2-4	M	4.50	No Distresses Present	331551.0	1997318.7
-L- 84+65 SB OSS	AG	7.00	6.00	2.5 EOP	C	32.50	10.50	N/A	22.00	N/A	N/A	Asphalt ABC	ABC Office Sample Collected (OS-4) 0.0 - 5.0' = Coastal Plain, Gray, Sandy Clay, Dispersed Fabric	OS-4 S-174 (0.0 - 3.0)	A-6	W	5.00	No Distresses Present, Recently Resurfaced	333722.2	1997834.2
-L- 84+65 SB ACCEL	AG	7.00	6.00	2.0 FWO	C	22.50	9.50	N/A	13.00	N/A	N/A	Asphalt ABC	0.0 - 5.0' = Coastal Plain, Gray, Sandy Clay, Dispersed Fabric	REF S-174	A-6	W	5.00	No Distresses Present, Recently Resurfaced	333719.0	1997840.7
-L- 88+65 SB ISS	1.5 Fill	12.00	13.50	1.5 FWI	C	N/A	12.00	N/A	N/A	N/A	N/A	Asphalt	DCP Only	N/A	N/A	N/A	N/A	No Distresses Present, Recently Resurfaced	334092.6	1997993.8
-L- 88+65 SB ISL	1.5 Fill	12.00	13.50	1.5 FWI	C	13.50	13.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.5' = Roadway Embankment, Tan, Silty Sand 1.5 - 5.0' = Coastal Plain, Tan and Orange, Clayey Sand	REF S-165 S-212 (1.5 - 3.0)	A-2-4 A-2-6	M M	5.00	No Distresses Present, Recently Resurfaced	334097.0	1997988.3
-L- 114+40 SB OSS	7.0 Fill	6.00	8.50	4.0 EOP	C	28.00	20.00	8.00	N/A	N/A	N/A	Asphalt Sand Drainage Base	Sand Drainage Base (8") 0.0 - 3.0' = Roadway Embankment, Gray, Silty Sand 3.0 - 5.0' = Roadway Embankment, Gray, Sandy Silt	S-173 (0.0 - 3.0) REF S-167	A-2-4 A-4	M W	5.00	No Distresses Present, Recently Resurfaced	336597.6	1998608.1
-L- 114+40 SB OSL	7.0 Fill	11.00	8.50	2.0 FWO	C	22.00	16.00	6.00	N/A	N/A	N/A	Asphalt Sand Drainage Base	0.0 - 2.5' = Roadway Embankment, Gray, Silty Sand 2.5 - 5.0' = Roadway Embankment, Gray, Sandy Silt Compacted Silt Base (6"), Stiff, Tan and Yellow, Desiccated	REF S-173 REF S-167 OS-3	A-2-4 A-4	M W	5.00	No Distresses Present, Recently Resurfaced	336593.4	1998620.9
-L- 114+40 SB ISS	10.0 Fill	N/A	3.30	3.0 FYI	C	11.50	7.00	N/A	N/A	4.50	N/A	Asphalt STBC	0.0 - 4.5' = Roadway Embankment, Tan and Gray, Silty-Clayey Sand	S-237 (0.0-1.5)	A-2-4	M	4.50	Low Severity Transverse Cracking	336589.2	1998642.1

Notes:

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OGS = Outside Grass Shoulder

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LT LN = Left Lane
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CTL = Center Turn Lane
RTL = Right Turn Lane
DECEL = Deceleration Lane
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(I) = Inside
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NB = Northbound
SB = Southbound
FW = From White
FY = From Yellow

FCG = From Curb & Gutter
AG = At Grade
EOP = Edge of Pavement

Soil Type Base Course: Majority of STBC found within project limits is Rounded Gravel with fine and coarse sand. Limited silt and clay particles.



S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

PAVEMENT INVESTIGATION DATA SHEET

Project: 47533.1.2
TIP: I-5987A

County: Robeson
Route: I-95

Date: 12/03/2019 - 12/19/2019
Notes By: D. Strother/J. Swartley/M. Rawls/V. Mitchev

Position (Sta., Lane, Shldr.)	Cut/Fill (Est. Of Amount) (ft)	Width		Offset Distance (ft)	Crown "C" or Super "S"	Gross to Top of Soil (in)	Thickness				Pavement Layering	Subgrade					GPS Coordinates			
		Lane(s) (ft)	Shoulder(s) (ft)				Asphalt (in)	Sand Drainage Base (in)	ABC (in)	Soil Type Base Course (in)		Stabilized Soil Subgrade (in)	Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting
-L- 114+40 SB DECEL	7.0 Fill	6.00	8.50	2.0 FWO	C	26.00	18.00	8.00	N/A	N/A	N/A	Asphalt Sand Drainage Base	0.0 - 3.0' = Roadway Embankment, Gray, Silty Sand 3.0 - 5.0' = Roadway Embankment, Gray, Sandy Silt Sand Drainage Base (8") with Traces of Gravel	REF S-173 REF S-167 OS-2	A-2-4 A-4	M W	5.00	No Distresses Present, Recently Resurfaced	336592.5	1998614.2
-L- 142+50 SB ISS	4.5 Fill	N/A	3.50	2.1 FYI	C	8.00	7.00	N/A	N/A	1.00	N/A	Asphalt STBC	0.0 - 1.5' = Roadway Embankment, Tan and Gray, Silty Sand 1.5 - 4.5' = Roadway Embankment, Tan and Gray, Clayey Sand	S-235 (0.0-1.5) REF-236	A-2-4 A-2-4	M M	4.50	Low Severity Transverse Cracking	339295.3	1999361.3
-L- 142+50 SB ISL	4.5 Fill	10.75	N/A	3.4 FYI	C	17.00	12.00	N/A	N/A	5.00	N/A	Asphalt STBC	0.0 - 1.5' = Roadway Embankment, Tan and Gray, Silty Sand 1.5 - 4.5' = Roadway Embankment, Tan and Gray, Clayey Sand	REF-235 S-236 (1.5-3.0)	A-2-4 A-2-4	M M	4.50	Low Severity Transverse Cracking	339304.9	1999354.7
-L- 143+50 SB OSS	6.0 Fill	11.50	11.00	4.0 EOP	C	17.00	7.00	10.00	N/A	N/A	N/A	Asphalt Sand Drainage Base	0.0 - 3.0' = Roadway Embankment, Gray, Silty Sand 3.0 - 5.0' = Roadway Embankment, Gray, Sandy Silt Sand Drainage Base (10")	S-172 (0.0 - 3.0) REF S-167	A-2-4 A-4	M M	5.00	No Distresses Present	339406.3	1999353.5
-L- 168+65 SB ISS	5.0 Fill	N/A	3.70	2.3 FYI	C	10.50	6.50	N/A	N/A	4.00	N/A	Asphalt STBC	0.0 - 1.5' = Roadway Embankment, Tan and Gray, Silty Sand 1.5 - 4.5' = Roadway Embankment, Tan and Gray, Clayey Sand	S-234 (0.0-1.5) REF-236	A-2-4 A-2-4	M M	4.50	Low Severity Transverse Cracking	341830.9	2000029.6
-L- 180+35 SB OSS	6.0 Fill	12.00	10.00	6.0 EOP	C	14.50	6.50	N/A	N/A	8.00	N/A	Asphalt STBC	0.0 - 3.5' = Roadway Embankment, Orange, Silty Sand 3.5 - 5.0' = Roadway Embankment, Gray, Clayey Sand	REF S-171 REF S-170	A-2-4 A-2-6	M M	5.00	No Distresses Present	342967.5	2000280.4
-L- 180+35 SB OSL	6.0 Fill	12.00	10.00	3.0 FWO	C	14.00	7.00	N/A	N/A	7.00	N/A	Asphalt STBC	0.0 - 3.0' = Roadway Embankment, Orange, Silty Sand 3.0 - 5.0' = Roadway Embankment, Gray, Clayey Sand	S-171 (0.0 - 3.0) REF S-170	A-2-4 A-2-6	M M	5.00	Low Severity Fatigue Cracking	342964.7	2000284.4
-L- 196+30 SB OSS	5.0 Fill	12.00	10.00	5.5 EOP	C	14.00	7.00	N/A	N/A	7.00	N/A	Asphalt STBC	0.0 - 2.5' = Roadway Embankment, Orange, Clayey Sand 2.5 - 5.0' = Roadway Embankment, Gray, Sandy Silt	S-170 (0.0 - 2.5) REF S-167	A-2-6 A-4	M M-W	5.00	Moderate Severity Fatigue Cracking in OSL	344543.9	2000415.9
-L- 196+30 SB ISS	1.5 Fill	N/A	3.40	2.3 FYI	C	9.50	7.75	N/A	N/A	1.75	N/A	Asphalt STBC	0.0 - 1.5' = Roadway Embankment, Tan and Gray, Silty Sand 1.5 - 5.0' = Coastal Plain, Tan and Gray, Clayey Clay	S-232 (0.0-1.5) REF-231	A-2-4 A-2-4	M M	5.00	No Distresses Present	344549.8	2000451.4
-L- 196+30 SB ISL	1.5 Fill	10.95	N/A	6.5 FYI	C	14.50	12.00	N/A	N/A	2.50	N/A	Asphalt STBC	0.0 - 1.5' = Roadway Embankment, Tan and Gray, Silty Sand 1.5 - 5.0' = Coastal Plain, Tan and Gray, Clayey Sand	REF-232 S-233 (1.5-3.0)	A-2-4 A-2-6	M M	5.00	No Distresses Present	344550.8	2000440.9
-L- 217+50 SB OSS	5.0 Fill	11.00	6.00	3.0 EOP	C	13.50	6.50	N/A	N/A	7.00	N/A	Asphalt STBC	0.0 - 3.0' = Roadway Embankment, Tan, Silty Sand, Minor Clay 3.0 - 5.0' = Roadway Embankment, Gray, Sandy Silt	REF S-163 REF S-167	A-2-4 A-4	M M	5.00	Moderate Severity Fatigue Cracking in Adjacent DECEL	346664.5	2000479.3
-L- 217+50 SB ISS	8.0 Fill	N/A	3.70	2.75 FYI	C	5.75	5.75	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.5' = Roadway Embankment, Tan and Gray, Silty Sand 1.5 - 4.5' = Roadway Embankment, Tan and Gray, Clayey Sand	REF-232 S-231(1.5-3.0)	A-2-4 A-2-4	M M	4.50	No Distresses Present	346667.7	2000514.3
-L- 227+05 SB ISS	4.0 Fill	11.00	4.00	2.0 EOP	C	18.50	6.50	N/A	N/A	12.00	N/A	Asphalt STBC	0.0 - 4.0' = Roadway Embankment, Tan, Silty Sand 4.0 - 5.0' = Coastal Plain, Tan and Gray, Clayey Sand	REF S-165 REF S-212	A-2-4 A-2-6	M M	5.00	No Distresses Present	347617.1	2000544.9
-L- 227+05 SB ISL	4.0 Fill	11.00	4.00	1.5 FWI	C	18.50	10.50	N/A	N/A	8.00	N/A	Asphalt STBC	0.0 - 4.0' = Roadway Embankment, Tan, Clayey Sand 4.0 - 5.0' = Coastal Plain, Gray, Sandy Clay	S-211 (0.0 - 3.0) REF S-212	A-2-6 A-2-6	M M	5.00	No Distresses Present	347617.8	2000538.9
-L- 247+70 SB OSS	5.0 Fill	6.00	10.00	5.0 EOP	C	21.00	17.00	N/A	N/A	4.00	N/A	Asphalt STBC	0.0 - 2.5' = Roadway Embankment, Tan and Brown, Clayey Sand 2.5 - 5.0' = Roadway Embankment, Dark Gray, Sandy Silt	S-169 (0.0 - 2.5) REF S-167	A-2-6 A-4	M	5.00	Moderate Severity Fatigue Cracking in Adjacent DECEL, Major Oxidation	349682.7	2000599.4
-L- 277+70 SB OSS	5.0 Fill	5.50	9.00	4.5 EOP	C	12.50	5.50	N/A	N/A	7.00	N/A	Asphalt STBC	0.0 - 3.0' = Roadway Embankment, Gray, Silty Sand 3.0 - 5.0' = Roadway Embankment, Gray, Sandy Silt	S-166 (0.0 - 3.0) S-167 (3.0 - 5.0)	A-2-4 A-4	M W	5.00	Low Severity Fatigue Cracking in DECEL	352681.5	2000720.0

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Soil Type Base Course: Majority of STBC found within project limits is Rounded Gravel with fine and coarse sand. Limited silt and clay particles.


 S&ME, Inc.
 3201 Spring Forest Road
 Raleigh, North Carolina 27616

PAVEMENT INVESTIGATION DATA SHEET

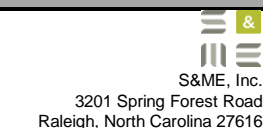
Project: 47533.1.2
TIP: I-5987A

County: Robeson
Route: I-95

Date: 12/03/2019 - 12/19/2019
Notes By: D. Strother/J. Swartley/M. Rawls/V. Mitchev

Position (Sta., Lane, Shldr.)	Cut/Fill (Est. Of Amount) (ft)	Width		Offset Distance (ft)	Crown "C" or Super "S"	Gross to Top of Soil (in)	Thickness				Pavement Layering	Subgrade					GPS Coordinates			
		Lane(s) (ft)	Shoulder(s) (ft)				Asphalt (in)	Sand Drainage Base (in)	ABC (in)	Soil Type Base Course (in)		Stabilized Soil Subgrade (in)	Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting
-L- 277+70 SB OSL	5.0 Fill	12.00	9.00	3.0 FWO	C	13.00	13.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 5.0' = Roadway Embankment, Gray, Clayey Sand, Moderate Plasticity Compacted Silt Base (8"), Very Stiff, White and Tan, Desiccated	REF S-168	A-2-6	M-W	5.00	Low Severity Fatigue Cracking in DECEL	352677.8	2000731.9
-L- 277+70 SB ISS	4.5 Fill	11.00	4.00	1.0 EOP	C	14.50	6.50	N/A	N/A	8.00	N/A	Asphalt STBC	0.0 - 4.5' = Roadway Embankment, Gray and Tan, Clayey Sand 4.5 - 5.0' = Coastal Plain, Black and Brown, Silty Clay	S-210 (0.0 - 3.0) REF S-196	A-2-6 A-7-6	M M	5.00	Low Severity Transverse Cracking, Minor Separation at Middle White Line	352678.0	2000753.7
-L- 277+70 SB DECEL	5.0 Fill	5.50	9.00	2.0 FWO	C	13.00	13.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 5.0' = Roadway Embankment, Gray, Clayey Sand, Moderate Plasticity Compacted Silt Base (8"), Very Stiff, White and Tan, Desiccated	S-168 (0.0 - 3.0)	A-2-6	M-W	5.00	Low Severity Fatigue Cracking	352680.0	2000725.3
-L- 298+25 SB OSS	4.0 Fill	12.00	11.00	4.0 EOP	C	16.00	7.00	N/A	N/A	9.00	N/A	Asphalt STBC	0.0 - 4.0' = Roadway Embankment, Tan, Silty Sand 4.0 - 5.0' = Coastal Plain, Gray, Clayey Sand	S-165 (0.0 - 3.0) REF S-169	A-2-4 A-2-6	M M	5.00	Low Severity Longitudinal Cracking in OSL, Minor Separation at Both Travel Lane Boundary	354731.4	2000743.7
-L- 298+25 SB ISS	6.0 Fill	11.00	4.00	2.0 EOP	C	12.75	6.75	N/A	N/A	6.00	N/A	Asphalt STBC	0.0 - 2.5' = Roadway Embankment, Orange and Gray, Sandy Silt 2.5 - 5.0' = Roadway Embankment, Gray, Clayey Sand	REF S-197 REF S-212	A-4 A-2-6	M M	5.00	Low Severity Transverse Cracking	354731.4	2000773.2
-L- 298+25 SB ISL	6.0 Fill	11.00	4.00	2.0 FWI	C	17.00	14.00	N/A	N/A	3.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Gray, Silty Sand	REF S-163	A-2-4	M	5.00	Low Severity Transverse Cracking	354734.1	2000770.3
-L- 323+00 SB OSS	3.0 Fill	12.00	11.00	4.0 EOP	C	15.00	7.00	N/A	N/A	8.00	N/A	Asphalt STBC	0.0 - 3.0' = Roadway Embankment, Gray, Silty Sand 3.0 - 5.0' = Coastal Plain, Tan, Silty Sand	REF S-163 REF S-164	A-2-4 A-2-4	M M	5.00	Minor Separation at Both Travel Lane Boundary	357207.7	2000765.6
-L- 323+00 SB OSL	3.0 Fill	12.00	11.00	2.0 FWO	C	19.00	12.00	N/A	N/A	7.00	N/A	Asphalt STBC	0.0 - 3.0' = Roadway Embankment, Tan, Silty Sand 3.0 - 5.0' = Coastal Plain, Tan, Silty Sand	S-164 (0.0 - 3.0) REF S-164	A-2-4 A-2-4	M M	5.00	Minor Separation at Both Travel Lane Boundary	357205.2	2000774.3
-L- 323+00 SB ISS	5.0 Fill	11.00	4.00	2.0 EOP	C	14.50	6.50	N/A	N/A	8.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Orange, Silty Sand	S-209 (0.0 - 3.0)	A-2-4	M	5.00	Minor Separation at Middle White Line	357218.6	2000791.7
-L- 349+80 SB OSS	7.0 Fill	12.00	11.00	5.5 EOP	C	16.00	7.00	N/A	N/A	9.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Gray, Silty Sand, Minor Clay, Low PI	S-163 (0.0 - 3.0)	A-2-4	M	5.00	Minor Separation at Both Travel Lane Boundary	359882.9	2000787.8
-L- 349+80 SB ISS	5.0 Fill	11.00	4.00	2.0 EOP	C	12.50	7.50	N/A	N/A	5.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Orange, Silty Sand	REF S-208	A-2-4	M	5.00	Minor Separation at Middle White Line	359889.1	2000816.8
-L- 349+80 SB ISL	5.0 Fill	11.00	4.00	1.0 FWI	C	15.00	11.00	N/A	N/A	4.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Orange, Silty Sand	REF S-208	A-2-4	M	5.00	Minor Separation at Middle White Line	359887.2	2000811.6
-L- 376+30 SB OSS	7.0 Fill	12.00	11.00	3.5 EOP	C	16.00	6.00	N/A	N/A	10.00	N/A	Asphalt STBC	0.0 - 2.0' = Roadway Embankment, Tan, Clayey Sand 2.0 - 5.0' = Roadway Embankment, Gray, Sandy Silt	REF S-161 REF S-167	A-2-6 A-4	M M	5.00	No Distresses Present	362541.7	2000810.5
-L- 376+30 SB OSL	7.0 Fill	12.00	11.00	1.5 FWO	C	23.00	12.00	N/A	N/A	11.00	N/A	Asphalt STBC	0.0 - 2.0' = Roadway Embankment, Tan, Clayey-Silty Sand 2.0 - 5.0' = Roadway Embankment, Gray, Clayey Sand	S-162 (0.0 - 2.0) REF S-168	A-2-4 A-2-6	M M	5.00	Low Severity Longitudinal Cracking, Minor Separation at Travel Lane Boundary	362537.7	2000816.0
-L- 376+30 SB ISS	3.5 Fill	11.00	4.00	0.5 EOP	C	16.50	7.50	N/A	N/A	9.00	N/A	Asphalt STBC	0.0 - 3.5' = Roadway Embankment, Orange, Silty Sand 3.5 - 5.0' = Coastal Plain, Brown, Clayey Sand	S-208 (0.0 - 3.0) REF S-212	A-2-4 A-2-6	M M	5.00	No Distresses Present	362534.5	2000839.4
-L- 402+25 SB OSS	7.0 Fill	12.00	11.00	7.0 EOP	C	11.00	7.00	N/A	N/A	4.00	N/A	Asphalt STBC	0.0 - 3.0' = Roadway Embankment, Tan, Clayey Sand 3.0 - 5.0' = Roadway Embankment, Gray, Silty Sand	S-161 (0.0 - 3.0) REF S-163	A-2-6 A-2-4	M M	5.00	Major Fatigue Cracking in OSL, Minor Fatigue Cracking is OSS	365130.3	2000834.4

Notes:
 OSL = Outside Lane
 ISL = Inside Lane
 CL = Center Lane
 LTL = Left Turn Lane
 WP = Wheel Path
 IWP = Inside Wheel Path
 OWP = Outside Wheel Path
 C&G = Curb & Gutter
 OSS = Outside Shoulder
 ISS = Inside Shoulder
 GM = Grass Median
 OGS = Outside Grass Shoulder
 PS = Paved Shoulder
 RT LN = Right Lane
 LT LN = Left Lane
 COL = Collector Lane
 CTL = Center Turn Lane
 RTL = Right Turn Lane
 DECEL = Deceleration Lane
 ACCEL = Acceleration Lane
 RT = Right
 LT = Left
 (I) = Inside
 (O) = Outside
 NB = Northbound
 SB = Southbound
 FW = From White
 FY = From Yellow
 FCG = From Curb & Gutter
 AG = At Grade
 EOP = Edge of Pavement
 Soil Type Base Course: Majority of STBC found within project limits is Rounded Gravel with fine and coarse sand. Limited silt and clay particles.



PAVEMENT INVESTIGATION DATA SHEET

Project: 47533.1.2
TIP: I-5987A

County: Robeson
Route: I-95

Date: 12/03/2019 - 12/19/2019
Notes By: D. Strother/J. Swartley/M. Rawls/V. Mitchev

Position (Sta., Lane, Shldr.)	Cut/Fill (Est. Of Amount) (ft)	Width		Offset Distance (ft)	Crown "C" or Super "S"	Thickness						Pavement Layering	Subgrade					GPS Coordinates						
		Lane(s) (ft)	Shoulder(s) (ft)			Gross to Top of Soil (in)	Asphalt (in)	Sand Drainage Base (in)	ABC (in)	Soil Type Base Course (in)	Stabilized Soil Subgrade (in)		Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting				
-L- 402+25 SB ISS	5.0 Fill	11.00	4.00	1.0 EOP	C	12.50	6.50	N/A	N/A	6.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Orange, Clayey Sand					S-224 (0.0 - 3.0)	A-2-6	M	5.00	Moderate Severity Fatigue Cracking in Outer Travel Lane	365133.2	2000866.8
-L- 402+25 SB ISL	5.0 Fill	11.00	4.00	1.5 FWI	C	16.50	10.50	N/A	N/A	6.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Orange, Clayey Sand					REF S-224	A-2-6	M	5.00	Moderate Severity Fatigue Cracking in Outer Travel Lane	365134.0	2000854.9
-L- 429+40 SB OSS	6.0 Fill	12.00	11.00	4.5 EOP	C	10.00	7.00	N/A	N/A	3.00	N/A	Asphalt STBC	0.0 - 3.0' = Roadway Embankment, Orange, Silty Sand 3.0 - 5.0' = Roadway Embankment, Orange, Clayey Sand					REF S-158 REF S-160	A-2-4 A-2-6	M M	5.00	No Distresses Present	367845.6	2000861.2
-L- 429+40 SB OSL	7.0 Fill	12.00	11.00	3.5 FWO	C	24.00	12.00	N/A	N/A	12.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Orange, Clayey Sand					S-160 (0.0 - 3.0) S-159(ABC LYR)	A-2-6 A-1-a	M	5.00	Minor Separation at Travel Lane Boundary	367851.0	2000865.7
-L- 429+40 SB ISS	4.0 Fill	11.00	4.00	1.5 EOP	C	9.50	7.50	N/A	N/A	2.00	N/A	Asphalt STBC	0.0 - 4.0' = Roadway Embankment, Orange, Clayey Sand 4.0 - 5.0' = Coastal Plain, Gray and Brown, Clayey Sand					S-223 (0.0 - 3.0) REF S-224	A-2-6 A-2-6	M	5.00	No Distresses Present	367850.3	2000892.8
-L- 454+50 SB OSS	5.0 Fill	12.00	11.00	4.0 EOP	C	13.00	7.00	N/A	N/A	6.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Orange, Silty Sand					S-158 (0.0 - 3.0)	A-2-4	M	5.00	Low Severity Fatigue Cracking Along Outside White Line	370363.0	2001009.2
-L- 454+50 SB ISS	6.0 Fill	11.00	4.00	1.0 EOP	C	13.00	7.00	N/A	N/A	6.00	N/A	Asphalt STBC	0.0 - 5.0' = Roadway Embankment, Orange, Clayey Sand					S-222 (0.0 - 3.0)	A-2-6	M	5.00	No Distresses Present	370354.6	2001051.9
-L- 454+50 SB ISL	6.0 Fill	11.00	4.00	2.0 FWI	C	14.00	12.00	N/A	N/A	2.00	N/A	Asphalt STBC	0.0 - 4.0' = Roadway Embankment, Orange, Clayey Sand 4.0 - 5.0' = Roadway Embankment, Gray, Clayey Sand					REF S-222 REF S-223	A-2-6 A-2-6	M	5.00	No Distresses Present	370352.5	2001040.8
-L- 482+45 SB OSS	AG	12.00	11.00	3.5 EOP	C	13.00	6.00	N/A	N/A	7.00	N/A	Asphalt STBC	0.0 - 5.0' = Coastal Plain, Orange, Clayey Sand					S-157 (0.0 - 3.0)	A-2-6	M	5.00	Low Severity Longitudinal Cracking	373142.1	2001210.7
-L- 482+45 SB OSL	AG	12.00	11.00	2.0 FWO	C	18.00	12.00	N/A	N/A	6.00	N/A	Asphalt STBC	0.0 - 5.0' = Coastal Plain, Orange, Clayey Sand					REF S-157	A-2-6	M	5.00	Low Severity Longitudinal Cracking	373146.6	2001219.0
-L- 482+45 SB ISS	2.5 Fill	11.00	4.00	1.0 EOP	C	9.00	7.00	N/A	N/A	2.00	N/A	Asphalt STBC	0.0 - 2.5' = Roadway Embankment, Orange, Clayey Sand 2.5 - 5.0' = Coastal Plain, Brown and Black, Clayey-Silty Sand					S-221 (0.0 - 2.5) REF S-220	A-2-6 A-2-4	M M	5.00	Minor Separation Bisecting Travel Lanes	373143.7	2001242.4
-L- 114+40 SB IES	7.0 Fill	N/A	N/A	2 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	N/A	0.0-3.75' = Roadway Embankment, Tan and Gray, Silty-Clayey Sand					BULK 10 IES SB	A-2-6	M	3.75	N/A	336582.7	1998663.5
-L- 167+10 SB OES	3.0 Fill	N/A	N/A	107 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	N/A	0.0-3.92' = Roadway Embankment, Tan and Gray, Clayey Sand					BULK 10 OES SB	A-2-6	M	3.92	N/A	341694.7	1999944.6
-L- 219+80 SB IES	4.0 Fill	N/A	N/A	1 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	N/A	0.0-4.0' = Roadway Embankment, Tan and Gray, Clayey-Silty Sand					BULK 9 IES SB	A-6	M	4.00	N/A	346890.1	2000574.7
-L- 272+65 SB OES	4.0 Fill	N/A	N/A	63 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	N/A	0.0-3.42' = Roadway Embankment, Gray, Sandy Clay					BULK 9 OES SB	A-6	M	3.42	N/A	352174.9	2000705.1
-L- 378+15 SB OES	6.0 Fill	N/A	N/A	62 CL	C	0.00	N/A	N/A	N/A	N/A	N/A	N/A	0.0-3.92' = Roadway Embankment, Tan and Gray, Clayey-Silty Sand					BULK 8 OES SB	A-2-6	M	3.92	N/A	362724.0	2000798.3

Notes:

OSL = Outside Lane
ISL = Inside Lane
CL = Center Lane
LTL = Left Turn Lane

WP = Wheel Path
IWP = Inside Wheel Path
OWP = Outside Wheel Path
C&G = Curb & Gutter

OSS = Outside Shoulder
ISS = Inside Shoulder
GM = Grass Median
OGS = Outside Grass Shoulder

PS = Paved Shoulder
RT LN = Right Lane
LT LN = Left Lane
COL = Collector Lane


CTL = Center Turn Lane
RTL = Right Turn Lane
DECEL = Deceleration Lane
ACCEL = Acceleration Lane

RT = Right
LT = Left
(I) = Inside
(O) = Outside

NB = Northbound
SB = Southbound
FW = From White
FY = From Yellow

FCG = From Curb & Gutter
AG = At Grade
EOP = Edge of Pavement

Soil Type Base Course: Majority of STBC found within project limits is Rounded Gravel with fine and coarse sand. Limited silt and clay particles.


 S&ME, Inc.
 3201 Spring Forest Road
 Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 13+05 NB ISL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 13+05 NB ISS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SG	FILL	326782.3	1996083.0	SG	FILL	326778.9	1996076.2				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
2.1	48.3			1.6	48.0						
3.1	49.2			2.3	48.7						
3.9	50.1			3.0	49.4						
4.7	51.3			3.7	50.0						
5.0	52.2			4.4	50.7						
5.8	53.2			5.1	51.6						
6.3	54.2			5.8	52.0						
6.8	55.1			6.6	52.4						
7.3	56.0			7.3	53.2						
8.0	56.9			8.0	53.8						
8.6	57.8			8.7	54.4						
9.2	58.6			9.3	55.0						
9.8	59.5			9.9	55.7						
10.4				10.7	56.3						
11.1				11.2	56.8						
11.9				12.0	57.3						
12.8				12.6	57.9						
13.6				13.4	58.3						
14.3				14.1	58.8						
15.0				14.9	59.3						
15.8				15.9	59.8						
16.8				16.6	60.1						
17.7				17.6	60.6						
18.7				18.7	61.0						
19.8				19.8	61.5						
20.8				21.0	61.9						
21.9				22.2	62.3						
24.6				23.4	62.7						
25.4				24.7	63.1						
26.2				25.9	63.5						
27.0				27.1	63.9						
27.8				28.2	64.2						
28.8				29.4	64.6						
29.7				30.6	65.0						
30.5				31.7	65.4						
31.3				32.8	65.8						
32.2				33.8	66.3						
33.2				35.0	66.7						
34.4				36.0	67.1						
35.3				37.0	67.5						
36.3				37.9	67.9						
37.0				38.8	68.4						
37.9				39.7							
38.9				40.7							
40.1				41.5							
40.9				42.5							
41.9				43.2							
42.8				44.0							
43.7				44.8							
44.4				45.7							
45.3				46.2							
46.4				46.9							
47.3				47.5							

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 13+05 NB OSS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 21+95 NB ACCEL		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
ABC	FILL	326771.4	1996115.2	ABC	FILL	327631.9	1996336.6				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
1.2	24.0	59.4		0.6	13.6						
1.9	24.5	61.6		1.3	13.9						
2.5	25.0	63.9		1.7	14.3						
3.0	25.5	66.2		2.1	14.6						
3.5	25.9	68.4		2.3	15.0						
3.9	26.4			2.6	15.3						
4.2	26.9			2.8	15.7						
4.6	27.4			3.1	16.0						
4.9	28.0			3.3	16.4						
5.3	28.5			3.6	16.8						
5.7	29.1			3.8	17.2						
6.0	29.6			4.0	17.6						
6.4	30.1			4.2	18.0						
6.7	30.6			4.4	18.4						
7.1	31.1			4.6	18.9						
7.5	31.6			4.8	19.3						
7.9	32.1			4.9	19.8						
8.2	32.7			5.1	20.2						
8.6	33.3			5.2	21.0						
9.0	34.0			5.4	21.7						
9.4	34.6			5.5	22.5						
9.8	35.2			5.8	23.2						
10.2	35.8			6.1	24.0						
10.6	36.4			6.4	25.1						
11.0	37.0			6.7	26.1						
11.3	37.6			7.0	27.2						
11.6	38.2			7.2	28.9						
12.0	38.8			7.4	30.7						
12.3	39.5			7.5	32.4						
12.6	40.1			7.7	34.5						
13.0	40.8			7.9	36.3						
13.4	41.4			8.1	38.1						
13.8	42.2			8.3	39.4						
14.2	43.0			8.4	40.8						
14.6	43.8			8.6	42.5						
15.0	44.6			8.8	43.7						
15.4	45.4			9.0	44.6						
15.8	45.9			9.3	45.7						
16.2	46.5			9.5	47.3						
16.6	47.0			9.8	49.5						
17.1	47.6			10.0	51.5						
17.5	48.1			10.2	53.5						
18.0	49.1			10.5	55.4						
18.4	50.0			10.7	57.1						
18.9	51.0			11.0	59.5						
19.5	51.9			11.2	61.2						
20.1	52.9			11.5	63.4						
20.7	53.4			11.7							
21.3	53.8			12.0							
21.9	54.3			12.2							
22.4	54.8			12.5							
22.9	55.2			12.9							
23.5	57.4			13.2							

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade
AG = At Grade

RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
SDB = Sand Drainage Base


S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS	
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley	
-L- 21+95 NB OSS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
				12/3 to 12/19/2019		-L- 35+90 NB ISS		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
ABC	FILL	327628.8	1996342.4	SG	FILL	328990.3	1996655.6		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
0.8	14.3	29.9		4.2	67.6				
1.3	14.4	31.9		5.8	68.0				
1.8	14.6	34.2		7.1	69.0				
2.1	14.8	36.5		8.7	69.9				
2.5	15.0	38.5		9.9	70.7				
2.8	15.1	40.4		11.4	72.1				
3.4	15.2	42.2		12.7	72.7				
3.7	15.3	43.6		13.9					
3.9	15.6	44.6		14.6					
4.2	15.7	45.5		15.7					
4.5	15.8	46.6		17.0					
4.8	16.2	47.8		18.4					
5.1	16.4	49.6		20.1					
5.4	16.6	50.6		21.9					
5.6	16.9	52.4		23.4					
5.8	17.1	54.2		24.9					
6.1	17.3	55.9		26.2					
6.4	17.6	57.6		27.5					
6.6	17.8	59.3		29.0					
6.9	18.1	60.9		30.3					
7.1	18.3	62.4		31.5					
7.4	18.5			32.8					
7.7	18.8			34.0					
7.9	18.9			35.2					
8.1	19.1			36.3					
8.3	19.3			37.5					
8.5	19.6			38.7					
8.7	19.8			40.0					
8.8	20.0			41.0					
9.0	20.3			42.2					
9.3	20.6			43.3					
9.6	20.8			44.5					
9.8	21.1			45.6					
10.1	21.3			46.6					
10.3	21.6			47.8					
10.6	21.9			48.7					
10.8	22.2			49.7					
11.0	22.6			50.6					
11.3	22.9			52.3					
11.5	23.2			53.3					
11.6	23.5			54.3					
11.9	23.9			55.2					
12.1	24.3			56.2					
12.2	24.6			57.2					
12.4	24.9			58.2					
12.6	25.3			59.0					
12.8	25.6			60.2					
13.0	25.9			61.3					
13.3	26.3			62.2					
13.5	26.7			63.3					
13.7	27.2			64.2					
13.9	27.9			65.3					
14.1	28.7			66.1					

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS	
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley	
-L- 35+90 NB OSL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
				12/3 to 12/19/2019		-L- 35+90 NB OSS		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
SG	FILL	328988.1	1996685.5	STBC	AG	328982.1	1996695.2		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
2.7	21.4	64.1		1.1	20.9				
4.0	21.9	65.1		2.0	21.6				
4.7	22.8	65.9		2.5	22.1				
5.4	23.7	66.6		3.0	22.6				
6.0	24.5	67.4		3.4	23.0				
6.6	25.4			3.7	23.5				
7.0	26.3			3.9	24.0				
7.7	27.1			4.2	25.2				
7.9	27.8			4.4	26.3				
8.3	28.6			4.7	27.5				
8.6	29.2			4.9	28.6				
8.9	29.8			5.1	29.8				
9.2	30.4			5.4	31.2				
9.5	31.0			5.6	32.6				
9.8	31.7			5.8	34.0				
10.1	32.3			6.0	34.9				
10.4	32.9			6.2	35.9				
10.7	33.5			6.4	36.8				
11.0	34.1			6.6	37.6				
11.3	34.7			6.8	38.5				
11.6	35.4			7.1	39.3				
11.8	36.0			7.4	40.1				
12.1	36.7			7.6	40.9				
12.3	37.3			7.9	41.7				
12.5	38.0			8.2	42.6				
12.7	38.6			8.6	43.4				
12.9	39.3			8.9	44.3				
13.1	39.9			9.3	45.3				
13.4	40.6			9.6	46.2				
13.6	41.3			10.0	47.2				
13.8	42.0			10.3	48.2				
14.1	42.8			10.7	49.3				
14.3	43.7			11.0	50.3				
14.6	44.5			11.4	51.3				
14.8	45.4			11.7	52.4				
15.1	46.4			12.1	53.4				
15.4	47.3			12.5	54.6				
15.6	48.2			12.8	55.9				
15.9	49.0			13.2	57.1				
16.2	49.9			13.6	58.3				
16.5	50.9			14.1	59.6				
16.9	51.9			14.5	60.8				
17.2	52.9			15.0	62.8				
17.6	53.9			15.4	64.7				
17.9	54.8			15.9	66.0				
18.2	55.8			16.4	67.2				
18.5	56.8			16.8	68.5				
18.9	57.9			17.3	69.7				
19.2	58.9			17.7	70.8				
19.5	60.0			18.2	71.8				
20.0	61.1			18.9					
20.5	62.2			19.6					
20.9	63.2			20.2					

SG = Subgrade
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S&ME, Inc.
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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 62+40 NB ISL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 62+40 NB ISS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SG	FILL	331547.1	1997342.2	SG	FILL	331552.7	1997331.7				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
3.3				5.8							
4.9				6.9							
6.2				7.6							
7.3				8.7							
8.3				9.0							
9.2				10.1							
10.0				11.4							
10.9				12.9							
11.6				14.3							
12.5				15.7							
13.2				17.0							
14.3				18.1							
15.5				19.1							
17.0				19.9							
18.5				20.6							
19.7				21.6							
20.9				22.3							
22.5				23.1							
23.9				24.1							
25.4				25.0							
26.9				25.9							
28.1				26.7							
29.0				27.5							
30.0				28.3							
31.2				29.1							
32.2				30.0							
33.0				30.9							
34.1				31.9							
35.1				32.8							
36.2				34.0							
37.3				35.5							
38.4				36.6							
39.6				37.8							
40.7				39.0							
41.9				40.6							
43.2				42.1							
44.0				43.6							
45.2				45.6							
46.1				47.5							
47.2				49.8							
48.3				52.3							
49.5				53.8							
50.5				56.0							
51.7				58.8							
52.7				61.7							
53.8				64.1							
54.8				66.4							
55.9				68.6							
				70.5							

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 62+40 NB OSS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 81+00 NB DECEL		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
ABC	FILL	331543.0	1997366.7	STBC	CUT	333345.2	1997846.8				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
2.8	11.3	24.1		1.0	8.7	17.6					
3.6	11.5	24.7		1.8	8.8	18.5					
4.0	11.6	24.8		2.1	8.9	19.3					
4.4	11.8	24.9		2.4	9.0	20.1					
4.7	11.9	24.9		2.8	9.1	21.0					
5.1	12.0	25.0		3.1	9.2	21.8					
5.4	12.2	25.1		3.3	9.3	22.6					
5.6	12.3	25.2		3.5	9.4	23.4					
5.9	12.5	25.2		3.7	9.5	24.3					
6.1	12.6	25.3		3.9	9.6	25.1					
6.3	12.7	25.3		4.1	9.7	26.6					
6.4	12.9	25.4		4.3	9.8	28.0					
6.7	13.0	25.4		4.5	9.9	29.6					
6.9	13.2	25.5		4.7	10.1	31.1					
7.0	13.3	25.5		4.9	10.2	32.8					
7.2	13.5	25.6		5.1	10.4	34.5					
7.3	13.7	25.6		5.2	10.5	35.9					
7.5	13.9	25.6		5.3	10.7	37.2					
7.6	14.1	25.7		5.5	10.9	38.3					
7.7	14.3	25.7		5.6	11.0	39.3					
7.8	14.4	25.8		5.7	11.2	40.4					
7.9	14.6	25.8		5.8	11.3	41.4					
8.0	14.8			5.9	11.5	42.4					
8.1	15.0			6.1	11.6	43.4					
8.3	15.2			6.2	11.7	44.5					
8.4	15.4			6.3	11.8	45.6					
8.6	15.7			6.4	11.9	46.8					
8.7	15.9			6.5	12.0	47.9					
8.8	16.1			6.6	12.1	49.2					
8.9	16.4			6.7	12.2	50.4					
8.9	16.6			6.8	12.3	51.6					
9.0	16.8			6.9	12.4	52.7					
9.1	17.0			7.0	12.5	53.8					
9.2	17.3			7.2	12.7	54.8					
9.3	17.5			7.3	12.9	55.8					
9.3	17.8			7.4	13.1	56.7					
9.4	18.1			7.5	13.3	57.6					
9.5	18.4			7.5	13.5	58.4					
9.6	18.7			7.6	13.7	59.4					
9.7	19.0			7.7	13.9	60.3					
9.8	19.2			7.8	14.1	61.1					
9.9	19.5			7.8	14.3	61.8					
10.0	19.8			7.9	14.5	62.7					
10.0	20.1			8.0	14.7	63.5					
10.1	20.4			8.0	15.0	64.4					
10.2	20.7			8.1	15.2	65.3					
10.3	20.9			8.2	15.4						
10.4	21.2			8.3	15.7						
10.6	21.4			8.3	15.9						
10.7	21.7			8.4	16.1						
10.9	22.3			8.5	16.3						
11.0	22.9			8.6	16.6						
11.2	23.5			8.7	16.8						

SG = Subgrade
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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 81+00 NB ISS				12/3 to 12/19/2019		-L- 81+00 NB OSL		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
SG	FILL	333369.1	1997812.9	SG	CUT	333317.6	1997828.4		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
2.3				1.8	20.2	48.4			
3.8				2.7	20.6	50.4			
5.4				3.3	21.0	52.4			
7.4				4.0	21.4	54.4			
9.2				4.3	21.9	56.7			
11.1				4.7	22.3	59.0			
12.9				5.0	22.6	61.4			
14.7				5.4	22.9	63.6			
16.9				5.7	23.2	65.4			
19.4				6.1	23.7	66.6			
22.2				6.4	24.1	68.0			
24.9				6.8	24.6	69.2			
27.6				7.2	25.0	70.5			
30.2				7.6	25.3	71.8			
33.9				7.9	25.7	73.1			
36.6				8.3	26.1	74.3			
39.0				8.6	26.6				
41.3				8.9	27.0				
43.6				9.3	27.2				
45.7				9.6	27.5				
47.8				9.9	27.7				
49.7				10.2	28.3				
51.3				10.5	28.9				
53.0				10.8	29.5				
54.3				11.2	30.0				
55.9				11.5	30.5				
57.4				11.8	31.0				
59.0				12.1	31.6				
60.4				12.4	32.1				
61.9				12.7	32.7				
63.1				13.0	33.3				
64.7				13.3	33.8				
65.8				13.6	34.4				
66.9				14.0	34.9				
68.3				14.3	35.3				
69.4				14.6	35.8				
				14.9	36.2				
				15.2	36.7				
				15.5	37.1				
				15.8	37.6				
				16.1	38.2				
				16.4	38.7				
				16.8	39.3				
				17.1	39.9				
				17.4	40.5				
				17.8	41.2				
				18.1	41.9				
				18.3	42.6				
				18.6	43.4				
				18.8	44.2				
				19.1	45.1				
				19.5	46.2				
				19.8	47.3				

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 81+00 NB OSS				12/3 to 12/19/2019		-L- 108+80 NB ACCEL		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
STBC	CUT	333357.0	1997856.8	SG	AG	336021.3	1998571.5		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
1.1	9.4	17.8		1.9	55.1				
1.4	9.6	18.2		2.9	56.5				
2.0	9.7	18.5		3.8	58.1				
2.3	9.9	18.8		4.7	59.5				
2.7	10.0	19.2		5.6	60.9				
3.0	10.2	19.5		6.5	62.0				
3.2	10.4	19.9		7.5	63.0				
3.4	10.5	20.2		8.4	64.1				
3.7	10.7	20.7		9.2	65.2				
3.9	10.8	21.3		10.2	66.5				
4.1	11.0	21.8		10.9	67.6				
4.3	11.1	22.2		11.6	68.9				
4.5	11.2	22.6		12.2	70.1				
4.7	11.3	22.6		12.9	71.2				
4.8	11.4	22.9		13.6	72.4				
4.8	11.5	22.9		14.5	73.5				
4.9	11.5	31.8		15.0	74.8				
4.9	11.6	33.5		15.8	76.0				
5.0	11.7	35.2		16.6	77.2				
5.2	11.8	37.0		17.7	78.2				
5.4	11.9	38.5		18.8					
5.6	12.1	40.1		20.0					
5.8	12.3	41.4		21.9					
6.0	12.5	42.8		24.7					
6.2	12.7	44.1		27.5					
6.4	12.9	45.5		29.1					
6.7	13.0	47.0		30.3					
6.9	13.2	48.6		31.4					
7.1	13.4	50.3		32.4					
7.2	13.6	51.7		33.4					
7.3	13.8	53.0		34.4					
7.4	13.9	54.1		35.4					
7.5	14.0	55.2		36.3					
7.6	14.1	56.3		37.3					
7.8	14.2	57.5		38.3					
7.9	14.3	58.4		39.3					
8.1	14.3	59.6		40.1					
8.2	14.4	60.6		40.9					
8.4	14.5	61.5		41.7					
8.5	14.6	62.6		42.6					
8.6	14.7	63.7		43.3					
8.7	14.9	64.8		44.1					
8.8	15.1			45.0					
8.9	15.3			45.7					
9.0	15.5			46.6					
9.0	15.8			47.5					
9.1	16.0			48.3					
9.1	16.2			48.9					
9.2	16.4			49.7					
9.2	16.6			50.7					
9.3	16.8			51.6					
9.3	17.1			52.7					
9.4	17.5			53.8					

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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 108+80 NB OSS				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 118+45 NB ISL		12/3 to 12/19/2019		-L- 142+45 NB ISS		12/3 to 12/19/2019			
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING
SG	AG	336021.9	1998577.6	STBC	AG	336964.4	1998791.3	STBC	FILL	339273.2	1999432.7
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
2.0	48.5			1.2	14.9	41.7	62.7				
2.9	49.5			1.8	15.2	42.3	63.1				
4.1	50.5			2.4	15.4	42.8	63.5				
5.0	51.4			2.9	15.7	43.4	63.9				
5.9	52.2			3.3	16.0	43.9	64.4				
6.9	53.2			3.7	16.3	44.3	64.8				
7.9	54.1			4.0	16.6	44.7	65.2				
8.6	55.1			4.4	16.9	45.2	65.5				
9.3	56.1			4.7	17.2	45.6	65.9				
10.1	57.3			4.9	17.5	46.0	66.2				
10.8	58.4			5.2	17.9	46.3	66.6				
11.6	60.3			5.5	18.2	46.7	66.9				
12.4	62.1			5.8	18.5	47.0	67.2				
13.2	63.7			6.0	18.9	47.4	67.5				
14.0	65.3			6.3	19.2	47.7	67.9				
14.8	66.8			6.6	19.6	48.0	68.2				
15.5	68.2			6.8	19.9	48.4	68.5				
16.3	69.6			7.0	20.3	48.7	68.8				
17.0	70.8			7.1	20.7	49.1	69.0				
17.8	72.2			7.3	21.1	49.4	69.3				
18.6	73.4			7.5	21.4	49.7	69.5				
19.3	74.6			7.7	21.8	50.1	69.8				
20.0	75.8			8.0	22.2	50.4					
20.9	77.0			8.2	22.7	50.8					
21.7	78.2			8.5	23.3	51.1					
22.5	79.5			8.7	23.8	51.5					
23.2	80.8			8.9	24.4	51.8					
24.0	82.0			9.1	24.9	52.2					
24.8	83.2			9.4	25.6	52.5					
25.7	84.5			9.6	26.3	52.9					
26.5				9.8	27.1	53.4					
27.4				10.0	27.8	53.8					
28.2				10.2	28.5	54.3					
29.1				10.3	29.2	54.7					
30.0				10.5	29.9	55.2					
31.2				10.7	30.6	55.7					
32.3				10.9	31.3	56.2					
33.6				11.1	32.0	56.6					
34.8				11.3	32.6	57.1					
35.8				11.5	33.3	57.6					
36.8				11.7	33.9	58.0					
37.6				12.0	34.6	58.4					
38.3				12.2	35.2	58.7					
39.1				12.5	35.8	59.1					
39.9				12.7	36.4	59.5					
40.7				13.0	37.0	59.9					
41.5				13.3	37.6	60.2					
42.3				13.5	38.2	60.6					
43.1				13.8	38.8	60.9					
44.0				14.0	39.4	61.3					
44.8				14.3	40.0	61.7					
45.8				14.5	40.6	62.0					
46.7				14.7	41.2	62.4					

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 118+45 NB ISS				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 118+45 NB ISS		12/3 to 12/19/2019		-L- 142+45 NB ISS		12/3 to 12/19/2019			
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING
STBC	AG	336966.9	1998784.5	STBC	FILL	339273.2	1999432.7	STBC	FILL	339273.2	1999432.7
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
2.2	47.8	65.4		6.3	40.8	75.4					
3.8	48.5	65.7		8.0	41.3	76.3					
5.1	49.1	65.9		9.4	41.8	77.2					
6.2	49.5	66.1		10.2	42.2	78.0					
7.1	50.0	66.3		11.1	42.7	78.9					
8.1	50.4	66.6		12.0	43.2	79.8					
9.0	50.8	66.8		12.7	43.5	80.7					
9.9	51.2	67.0		13.4	43.9	81.5					
10.8	51.5	67.2		14.2	44.3						
11.6	51.9	67.4		14.9	44.8						
12.4	52.3	67.7		15.7	45.2						
13.2	52.7	67.9		16.4	45.8						
14.2	53.0	68.1		17.0	46.2						
15.1	53.4	68.3		17.8	46.7						
16.0	53.7	68.5		18.5	47.1						
16.9	54.1	68.7		19.4	47.5						
17.7	54.4	68.9		20.0	48.0						
18.6	54.7	69.1		20.7	48.5						
19.5	55.0	69.3		21.3	49.1						
20.3	55.3	69.5		21.9	49.7						
21.4	55.6	69.8		22.6	50.3						
22.4	55.9	70.0		23.0	50.9						
23.4	56.3	70.2		23.7	51.9						
24.4	56.6	70.4		24.1	52.7						
24.9	57.0	70.6		24.8	53.7						
25.4	57.3	70.9		25.4	54.3						
25.9	57.6	71.1		25.9	54.9						
26.4	57.9	71.3		26.4	55.5						
26.9	58.3	71.5		26.9	56.3						
27.6	58.6	71.8		27.5	57.0						
28.2	58.9	72.0		28.1	57.7						
28.9	59.2	72.3		28.5	58.3						
29.4	59.5	72.5		29.0	59.0						
30.0	59.8	72.7		29.6	59.6						
30.5	60.1	72.9		30.2	60.3						
31.2	60.4	73.2		30.8	61.0						
31.9	60.7	73.4		31.4	61.9						
32.6	60.9	73.6		32.1	62.7						
33.6	61.2	73.9		32.6	63.7						
34.6	61.4	74.2		33.2	64.5						
35.6	61.7	74.4		33.8	65.2						
36.7	62.0	74.7		34.4	66.0						
37.7	62.3	75.0		35.0	66.7						
38.8	62.6	75.3		35.5	67.4						
39.7	62.9	75.5		36.1	68.2						
40.7	63.2	75.8		36.8	68.9						
41.6	63.5	76.0		37.2	69.7						
42.5	63.8	76.3		37.9	70.4						
43.3	64.1	76.5		38.5	71.2						
44.2	64.4	76.8		38.9	72.1						
45.2	64.7	77.0		39.5	72.9						
46.2	64.9	77.3		39.9	73.7						
47.2	65.2	77.5		40.4	74.5						

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade
AG = At Grade

RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
SDB = Sand Drainage Base


S&ME, Inc.
3201 Spring Forest Road
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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 142+45 NB OSL				12/3 to 12/19/2019		-L- 142+45 NB OSS		12/3 to 12/19/2019	
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING		
STBC	FILL	339275.1	1999454.5	STBC	FILL	339268.7	1999465.1		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
0.4	11.2	19.4	32.5	75.7	2.1	27.5	61.9		
0.8	11.3	19.5	33.1	76.2	3.1	27.8	63.0		
1.2	11.5	19.7	33.9	76.8	3.8	28.2	64.1		
1.7	11.7	19.8	34.7	77.3	4.5	28.5	65.2		
2.1	11.9	20.0	35.4		5.3	28.9	66.2		
2.5	12.1	20.1	36.2		6.0	29.4	67.2		
2.8	12.3	20.3	37.0		6.7	29.8	68.1		
3.1	12.5	20.4	37.9		7.4	30.1	68.7		
3.5	12.6	20.6	38.7		8.1	30.3	69.2		
3.8	12.8	20.7	39.6		8.7	30.6	69.6		
4.1	12.9	20.9	40.4		9.3	31.0	70.0		
4.3	13.1	21.0	41.3		9.9	31.3	70.2		
4.5	13.2	21.2	42.1		10.4	31.7	70.4		
4.8	13.3	21.3	42.9		11.0	32.2	70.7		
5.0	13.5	21.5	43.7		11.5	32.7	71.0		
5.2	13.6	21.7	44.5		12.0	33.1	71.3		
5.4	13.8	21.8	45.4		12.6	33.6	71.6		
5.6	13.9	22.0	46.3		13.1	34.1	71.9		
5.7	14.0	22.1	47.2		13.6	34.6	72.3		
5.9	14.2	22.3	48.1		14.1	35.0	72.7		
6.1	14.3	22.5	48.9		14.6	35.5	73.2		
6.3	14.5	22.7	49.8		15.1	35.9	73.6		
6.4	14.6	22.8	50.9		15.5	36.4	74.0		
6.6	14.7	23.0	52.0		16.0	37.1	74.5		
6.7	14.9	23.2	52.9		16.5	37.8	75.0		
6.9	15.0	23.4	54.2		16.9	38.5	75.4		
7.0	15.2	23.6	55.4		17.4	39.2	75.9		
7.1	15.3	23.8	56.9		17.8	39.9	76.4		
7.3	15.5	24.0	58.4		18.2	40.5	77.2		
7.4	15.7	24.2	59.6		18.6	41.2	78.0		
7.5	15.9	24.4	60.8		19.0	41.8	78.8		
7.6	16.1	24.6	61.9		19.4	42.6	79.6		
7.8	16.3	24.7	63.0		19.8	43.3	80.4		
7.9	16.5	24.9	63.8		20.2	44.1	81.1		
8.1	16.7	25.1	64.6		20.5	44.8	81.8		
8.2	16.8	25.4	65.2		20.9	45.5	82.4		
8.4	17.0	25.7	65.8		21.3	46.2	83.1		
8.5	17.2	26.1	66.4		21.7	47.0	83.8		
8.7	17.3	26.4	67.0		22.1	47.7	84.5		
8.8	17.4	26.7	67.7		22.5	48.5	85.2		
9.0	17.6	27.0	68.4		22.8	49.3	85.9		
9.2	17.7	27.4	69.1		23.2	50.1	86.6		
9.4	17.8	27.7	69.7		23.6	50.9	87.3		
9.5	17.9	28.1	70.4		24.0	51.7			
9.7	18.1	28.4	71.0		24.4	52.5			
9.9	18.2	28.8	71.5		24.8	53.2			
10.1	18.4	29.2	72.0		25.1	53.9			
10.2	18.5	29.5	72.6		25.5	54.8			
10.4	18.6	29.9	73.1		25.8	55.6			
10.5	18.8	30.3	73.6		26.1	56.7			
10.7	18.9	30.9	74.1		26.4	57.8			
10.9	19.1	31.4	74.6		26.8	58.8			
11.0	19.2	32.0	75.1		27.1	59.8			

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 168+65 NB ISL				12/3 to 12/19/2019		-L- 168+65 NB ISS		12/3 to 12/19/2019	
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING		
STBC	FILL	341796.6	2000141.8	STBC	FILL	341801.2	2000132.4		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
1.4	13.9	24.8	51.5	70.4	2.4	24.8	59.5		
2.1	14.0	25.0	51.9	70.7	3.7	25.3	60.0		
2.6	14.2	25.3	52.4	71.1	4.7	26.0	60.6		
3.1	14.4	25.7	52.9	71.2	5.4	26.6	61.2		
3.3	14.6	25.9	53.4	71.7	6.1	27.2	61.8		
3.7	14.7	26.3	53.7	71.8	6.6	27.9	62.3		
4.0	15.0	26.5	54.3	72.2	7.1	28.4	62.8		
4.3	15.1	26.8	54.7		7.5	28.9	63.5		
4.6	15.2	27.1	55.1		8.1	29.4	64.1		
4.9	15.5	27.5	55.4		8.6	29.8	64.7		
5.2	15.6	27.7	55.9		8.9	30.3	65.4		
5.6	15.7	28.1	56.1		9.1	30.9	65.8		
5.8	16.0	28.4	56.5		9.5	31.4	66.5		
6.1	16.2	28.8	57.0		9.8	32.1	67.3		
6.4	16.4	29.2	57.3		10.0	32.7	67.9		
6.6	16.6	29.6	57.7		10.4	33.3	68.9		
7.0	16.7	30.0	58.2		10.5	33.9	69.5		
7.2	17.0	30.4	58.8		10.8	34.6	70.3		
7.4	17.1	30.9	59.2		11.1	35.2	71.0		
7.6	17.2	31.3	59.7		11.5	35.9	71.7		
7.7	17.4	31.9	60.1		11.8	36.6	72.3		
7.9	17.5	32.4	60.5		12.1	37.3	73.1		
8.1	17.6	32.8	60.8		12.5	37.9	73.7		
8.3	17.9	33.4	61.1		12.9	38.5	74.5		
8.6	18.1	34.1	61.6		13.2	39.0	75.4		
8.8	18.2	34.9	62.0		13.5	39.7	76.1		
9.1	18.4	35.5	62.2		13.7	40.5	76.8		
9.3	18.5	36.2	62.5		14.0	41.0	77.7		
9.6	19.0	36.7	62.7		14.3	41.7	78.5		
9.7	19.1	37.5	63.0		14.5	42.4	79.1		
9.9	19.3	38.1	63.3		14.9	43.1	79.8		
10.0	19.5	38.7	63.6		15.1	43.9	80.5		
10.1	19.6	39.4	63.9		15.4	44.8	81.3		
10.3	19.9	40.1	64.2		15.6	45.4	81.8		
10.6	20.2	40.7	64.5		16.0	46.2	82.4		
10.8	20.3	41.5	64.8		16.4	47.1	83.0		
10.9	20.5	42.2	65.1		16.6	48.1	83.6		
11.3	20.8	42.8	65.5		17.0	49.0	84.1		
11.5	21.0	43.5	65.7		17.4	49.9			
11.6	21.1	44.1	66.1		17.8	50.8			
11.9	21.4	44.8	66.4		18.2	51.8			
12.1	21.7	45.4	66.7		18.7	52.4			
12.3	21.9	46.0	67.0		19.1	53.1			
12.5	22.2	46.5	67.3		19.5	53.8			
12.6	22.4	47.0	67.6		20.0	54.4			
12.8	22.6	47.6	67.9		20.5	55.1			
13.0	22.9	48.1	68.3		21.0	55.7			
13.1	23.2	48.7	68.5		21.4	56.2			
13.2	23.4	49.1	68.9		22.0	56.6			
13.3	23.7	49.5	69.2		22.5	57.2			
13.5	24.0	50.2	69.5		23.1	57.7			
13.6	24.3	50.5	69.9		23.6	58.3			
13.8	24.5	51.0	70.2		24.2	59.0			

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
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RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 168+65 NB OSS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 196+30 NB ISS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	341794.4	2000169.3	STBC	AG	344508.7	2000490.7				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters							
0.7	24.1	48.5	75.2			6.4	41.1				
1.2	24.7	49.0	75.8			8.2	42.0				
1.7	25.4	49.6	76.7			9.3	43.2				
2.2	25.8	50.1	77.5			10.2	44.3				
2.7	26.2	50.6	78.4			10.8	45.5				
3.2	26.6	51.2	79.2			11.4	46.4				
3.6	27.1	51.7	79.9			12.0	47.4				
4.0	27.5	52.3	80.7			12.4	48.3				
4.3	28.0	52.9	81.3			13.1	49.1				
4.7	28.4	53.5	81.8			13.5	50.0				
5.1	28.9	54.0	82.4			14.1	50.8				
5.4	29.3	54.5	83.0			14.6	51.5				
5.7	29.7	55.0	83.7			15.1	52.1				
6.1	30.1	55.6	84.3			15.7	52.9				
6.4	30.5	56.3	84.9			16.3	53.6				
6.7	31.0	56.9	85.6			16.8	54.4				
7.0	31.4	57.5	86.2			17.6	55.1				
7.4	31.9	58.0	86.9			18.1	55.8				
7.7	32.3	58.6	87.6			18.5	56.6				
8.1	32.7	59.2	88.3			19.0	57.4				
8.4	33.1	59.8	88.8			19.6	58.0				
8.7	33.5	60.4	89.4			19.9	58.7				
9.0	34.0	60.9	89.9			20.5	59.3				
9.3	34.4	61.3	90.5			21.1	59.8				
9.6	34.7	61.8	91.2			21.5	60.5				
9.9	35.1	62.2	91.8			21.9	61.0				
10.2	35.4	62.7				22.4					
10.5	35.8	63.1				22.8					
10.8	36.3	63.6				23.2					
11.1	36.7	64.0				23.6					
11.4	37.1	64.5				23.9					
11.8	37.4	64.9				24.3					
12.2	37.8	65.2				24.7					
12.6	38.3	65.6				25.1					
13.0	38.9	66.1				25.6					
13.4	39.4	66.5				26.0					
13.9	39.9	67.0				26.5					
14.4	40.3	67.5				26.8					
14.9	40.8	67.9				27.6					
15.4	41.3	68.4				28.4					
15.9	41.8	68.9				29.2					
16.5	42.3	69.3				29.9					
17.1	42.9	69.8				30.7					
17.7	43.4	70.2				31.5					
18.3	44.0	70.6				32.6					
18.9	44.5	71.0				33.5					
19.5	45.0	71.4				34.3					
20.2	45.5	71.9				35.2					
20.8	46.0	72.3				36.1					
21.5	46.5	72.8				37.0					
22.1	47.0	73.4				38.0					
22.8	47.5	73.9				39.1					
23.4	48.0	74.5				40.0					

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 196+30 NB OSL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 196+30 NB OSS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	AG	344542.6	2000518.9	STBC	FILL	344537.7	2000525.3				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters							
1.0	7.7	14.0	21.3	31.6	69.1	1.2	26.9	68.8			
1.5	7.8	14.1	21.4	32.0	70.0	2.0	27.3	70.1			
1.7	7.9	14.3	21.5	32.3	71.4	2.5	27.7	71.5			
2.0	8.0	14.4	21.6	32.7	72.8	3.0	28.1	72.6			
2.2	8.1	14.6	21.7	33.0	73.9	3.5	28.5	73.6			
2.5	8.2	14.7	21.8	33.4	74.9	4.1	29.0	74.7			
2.7	8.3	14.9	21.9	33.8	76.0	4.6	29.5	75.9			
2.9	8.5	15.0	22.0	34.2	77.1	5.1	30.1	77.1			
3.1	8.6	15.2	22.1	34.6	78.7	5.6	30.6	78.3			
3.4	8.7	15.3	22.2	35.1	80.4	6.0	31.1	79.4			
3.6	8.8	15.5	22.3	35.5	81.7	6.5	31.7	80.4			
3.8	9.0	15.6	22.4	35.9	83.0	6.9	32.4	81.5			
3.9	9.1	15.8	22.8	36.3	83.7	7.4	33.0	82.7			
4.0	9.2	15.9	22.9	36.7	84.4	7.8	33.7	83.9			
4.1	9.3	16.1	23.0	37.2		8.2	34.3	85.1			
4.2	9.4	16.2	23.1	37.8		8.7	35.0	86.5			
4.3	9.6	16.3	23.2	38.4		9.1	35.8	87.9			
4.4	9.7	16.4	23.3	39.0		9.5	36.5	89.3			
4.5	9.8	16.5	23.4	39.6		10.0	37.3				
4.6	9.9	16.6	23.5	40.0		10.4	38.0				
4.7	10.0	16.7	23.6	40.8		10.9	38.8				
4.8	10.1	16.8	23.7	41.6		11.3	39.5				
4.9	10.2	16.9	24.4	42.4		11.8	40.3				
5.0	10.4	17.0	24.6	43.2		12.3	41.2				
5.0	10.5	17.1	24.8	43.8		12.8	42.2				
5.1	10.6	17.5	25.0	44.5		13.2	43.1				
5.2	10.7	17.7	25.2	45.2		13.7	44.1				
5.3	10.8	17.8	25.4	45.8		14.2	45.1				
5.3	10.9	18.0	25.6	46.4		14.8	46.1				
5.4	11.0	18.1	25.8	47.0		15.3	47.2				
5.4	11.2	18.3	26.0	47.6		15.9	48.2				
5.5	11.3	18.4	26.2	48.4		16.4	49.3				
5.6	11.4	18.6	26.6	49.2		17.0	50.0				
5.7	11.6	18.7	26.7	50.0		17.5	50.8				
5.7	11.7	18.9	26.8	50.8		18.0	51.5				
5.8	11.8	19.1	26.9	51.6		18.5	52.3				
5.9	11.9	19.2	27.0	52.5		19.0	53.0				
6.0	12.1	19.3	27.1	53.3		19.5	53.8				
6.1	12.2	19.4	27.2	54.1		20.0	54.4				
6.1	12.3	19.5	27.3	55.0		20.6	55.1				
6.2	12.4	19.6	27.4	56.4		21.1	55.7				
6.3	12.5	19.7	27.5	57.8		21.7	56.4				
6.4	12.7	19.8	28.3	59.3		22.2	57.1				
6.5	12.8	19.9	28.6	60.4		22.7	57.8				
6.7	12.9	20.0	28.9	61.4		23.1	58.7				
6.8	13.0	20.5	29.2	62.2		23.6	59.5				
6.9	13.2	20.6	29.5	63.0		24.0	60.4				
7.0	13.4	20.7	29.8	63.8		24.5	61.4				
7.1	13.5	20.8	30.1	64.6		24.9	62.3				
7.3	13.6	20.9	30.4	65.3		25.3	63.3				
7.4	13.7	21.0	30.7	66.3		25.7	64.7				
7.5	13.8	21.1	31.0	67.2		26.1	66.0				
7.6	13.9	21.2	31.3	68.1		26.5	67.4				

SG = Subgrade
SS = Stabilized Soil
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S&ME, Inc.
3201 Spring Forest Road
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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 215+50 NB DECEL				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 215+50 NB ISL		12/3 to 12/19/2019		-L- 215+50 NB OSS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SG	FILL	346461.0	2000622.6	SS	FILL	346459.2	2000597.2	SG	FILL	346458.9	2000629.5
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.5	23.2	38.9	57.4	5.4							
2.4	23.4	39.5	57.6	8.6							
2.9	23.6	40.0		11.9							
3.6	23.9	40.5		15.8							
4.3	24.1	40.9		18.9							
4.7	24.4	41.3		20.1							
5.4	24.6	41.7		20.7							
6.1	24.8	42.1		21.1							
6.6	25.0	42.5		21.5							
7.0	25.2	42.9		21.8							
7.4	25.4	43.2		22.3							
7.7	25.6	43.6									
8.1	25.8	43.9									
8.6	26.0	44.2									
9.2	26.1	44.5									
9.7	26.3	44.8									
10.0	26.5	45.1									
10.3	26.7	45.4									
10.7	26.9	45.7									
11.1	27.1	46.1									
11.5	27.3	46.5									
11.9	27.5	46.9									
12.3	27.8	47.3									
12.7	28.1	47.6									
13.2	28.3	48.0									
13.7	28.6	48.3									
14.0	28.9	48.6									
14.2	29.1	48.9									
14.7	29.4	49.2									
15.1	29.6	49.6									
15.5	29.9	49.9									
15.9	30.1	50.2									
16.3	30.4	50.5									
16.7	30.6	50.8									
17.1	30.9	51.2									
17.4	31.1	51.6									
17.9	31.4	52.0									
18.3	31.8	52.2									
18.8	32.1	52.5									
19.2	32.5	52.7									
19.7	32.8	53.1									
20.2	33.2	53.4									
20.5	33.6	53.8									
20.7	34.0	54.2									
21.0	34.4	54.5									
21.2	34.8	54.9									
21.5	35.2	55.3									
21.8	35.7	55.7									
22.0	36.3	56.1									
22.2	36.8	56.4									
22.4	37.4	56.6									
22.7	37.9	56.9									
22.9	38.4	57.1									

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 215+50 NB ISS				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 215+50 NB ISS		12/3 to 12/19/2019		-L- 215+50 NB OSS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SG	FILL	346459.9	2000591.8	SG	FILL	346458.9	2000629.5	SG	FILL	346458.9	2000629.5
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
5.9	34.6			1.9	39.3						
8.2	35.1			3.3	40.2						
9.1	35.6			4.2	41.1						
9.9	36.2			5.2	41.9						
10.7	36.7			6.0	42.8						
11.3	37.2			6.7	43.6						
11.9	37.8			7.4	44.5						
12.4	38.5			7.9	45.4						
13.0	39.1			8.4	46.3						
13.7	39.8			9.0	47.4						
14.6	40.4			9.5	48.6						
15.2	41.3			10.1	49.7						
16.0	42.3			10.8	50.8						
16.7	43.2			11.4	52.0						
17.5	44.2			12.0	53.1						
18.3	45.1			12.5	54.5						
19.1	46.0			13.1	56.0						
19.8	47.0			13.7	57.4						
20.6	47.9			14.3	60.1						
21.3	48.7			14.9	62.7						
21.8	49.5			15.4	65.4						
22.3	50.3			15.9							
22.7	50.8			16.4							
23.2	51.2			17.0							
23.6	51.7			17.7							
24.1	52.1			18.3							
24.6	52.5			19.0							
25.1	52.9			19.6							
25.4	53.3			20.3							
25.8	53.8			20.9							
26.1	54.2			21.5							
26.4	54.6			22.1							
26.8	55.0			22.8							
27.1	55.4			23.5							
27.4	55.8			24.2							
27.7	56.2			25.0							
27.9	56.6			25.7							
28.2	57.0			26.5							
28.5	57.5			27.3							
28.9	57.9			28.0							
29.2	58.3			28.8							
29.6	58.7			29.6							
29.9	59.1			30.5							
30.3	59.6			31.3							
30.7	60.0			32.1							
31.1	60.5			32.9							
31.4	60.9			33.7							
31.8	61.2			34.5							
32.2	61.6			35.2							
32.7				36.0							
33.2				36.8							
33.6				37.6							
34.1				38.4							

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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 247+60 NB ACCEL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 247+60 NB ISS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SG	FILL	349667.0	2000780.5	STBC	FILL	349673.2	2000748.8				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
2.4	27.9	43.8		1.6	26.4	58.3					
4.4	28.3	44.1		2.9	26.9	58.8					
5.1	28.6	44.4		3.6	27.4	59.2					
6.0	29.0	44.7		4.0	27.8	59.7					
6.6	29.3	45.0		4.4	28.3	60.2					
7.2	29.7	45.4		4.8	28.7						
7.6	30.0	45.7		5.2	29.2						
8.4	30.3	46.0		5.5	29.6						
9.4	30.6	46.4		5.8	30.0						
10.2	30.9	46.7		6.1	30.5						
10.6	31.2	47.1		6.5	30.9						
11.3	31.5	47.4		6.8	31.4						
12.1	31.9	47.8		7.2	31.8						
12.8	32.2	48.2		7.5	32.3						
13.6	32.6	48.6		7.7	32.7						
14.2	32.9	49.1		8.0	33.2						
14.9	33.2	49.5		8.2	33.6						
15.4	33.5	49.9		8.5	34.1						
15.9	33.9	50.3		8.7	34.5						
16.4	34.2	50.7		9.0	35.0						
16.7	34.5	51.1		9.2	35.4						
17.0	34.8	51.5		9.5	35.9						
17.4	35.1	51.9		9.9	36.3						
17.9	35.5	52.5		10.2	36.9						
18.3	35.8	53.1		10.6	37.4						
18.6	36.1	53.7		10.9	38.0						
19.0	36.4	54.3		11.4	38.5						
19.3	36.7	54.9		11.9	39.1						
19.7	37.0	55.6		12.3	39.8						
20.0	37.3	56.3		12.8	40.4						
20.3	37.6	57.0		13.3	41.1						
20.6	37.8	57.7		13.8	41.7						
20.9	38.1	58.4		14.3	42.4						
21.2	38.3	59.6		14.8	43.0						
21.6	38.6	60.7		15.3	43.7						
22.0	38.8	61.9		15.8	44.3						
22.3	39.1	63.0		16.5	45.0						
22.7	39.4	64.2		17.1	45.6						
23.1	39.6	64.8		17.8	46.3						
23.4	39.9	65.5		18.4	46.9						
23.8	40.2	66.1		19.1	47.6						
24.1	40.5	66.8		19.7	48.2						
24.5	40.7	67.4		20.3	48.9						
24.8	41.0	67.9		21.0	49.7						
25.1	41.2	68.4		21.6	50.5						
25.4	41.5	68.9		22.2	51.3						
25.6	41.8	69.4		22.8	52.1						
25.9	42.0	69.9		23.3	52.9						
26.2	42.3			23.9	53.9						
26.5	42.5			24.4	54.9						
26.9	42.8			25.0	55.8						
27.2	43.1			25.5	56.8						
27.6	43.4			26.0	57.8						

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 247+60 NB OSL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 247+60 NB OSS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	349666.2	2000770.5	STBC	FILL	349661.1	2000789.4				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
0.5	8.6	20.8	39.5	53.9		0.3	5.9	28.2	55.6		
0.8	8.7	21.1	39.8	54.3		0.6	6.0	28.6	56.2		
1.0	8.8	21.4	40.2	54.7		1.0	6.0	28.9	56.9		
1.3		21.8	40.5	55.1		1.3	6.1	29.3	57.5		
1.5	Augered 10.9 cm	22.1	40.8	55.5		1.6	6.1	29.6	58.0		
1.8		22.5	41.1	55.8		1.8	6.1	30.1	58.6		
2.0		22.8	41.4	56.3		2.1	6.2	30.5	59.4		
2.3	0.0	23.1	41.7	56.8		2.3	6.2	31.0	60.3		
2.5	2.7	23.4	42.0	57.3		2.6	6.2	31.5	61.1		
2.8	3.7	23.8	42.3	57.8		2.8	6.2	32.0	62.0		
3.0	4.0	24.1	42.5	58.3		2.9	6.3	32.5	62.9		
3.2	4.4	24.4	42.8	59.0		3.0	6.3	33.0	63.8		
3.4	4.7	24.7	43.0	59.7		3.2		33.6	65.6		
3.5	5.1	25.0	43.3	60.4		3.3	Augered 15.1 cm	34.1	67.3		
3.7	5.4	25.4	43.5	61.1		3.4		34.5	69.1		
3.9	5.8	25.7	43.8	61.7		3.5		35.0	71.0		
4.1	6.2	26.0	44.0			3.6	0.0	35.4	72.9		
4.3	6.6	26.3	44.3			3.6	1.1	35.8	74.8		
4.4	7.0	26.5	44.5			3.7	2.6	36.2			
4.6	7.5	26.8	44.8			3.8	3.4	36.6			
4.8	7.9	27.0	45.0			3.9	4.2	37.0			
4.9	8.3	27.3	45.3			3.9	4.8	37.4			
5.1	8.8	27.6	45.5			4.0	5.4	37.8			
5.2	9.2	28.0	45.8			4.0	6.3	38.2			
5.4	9.6	28.3	46.0			4.1	7.2	38.7			
5.5	10.0	28.7	46.3			4.1	8.1	39.1			
5.6	10.5	29.0	46.5			4.2	8.9	39.7			
5.7	10.9	29.3	46.8			4.2	9.8	40.3			
5.8	11.4	29.6	47.0			4.3	10.7	40.9			
5.9	11.8	30.0	47.2			4.3	11.1	41.3			
6.0	12.2	30.3	47.5			4.4	12.4	41.8			
6.1	12.6	30.6	47.7			4.4	13.4	42.2			
6.2	12.9	30.9	48.0			4.5	14.2	42.7			
6.2	13.3	31.3	48.2			4.5	14.9	43.3			
6.3	13.7	31.6	48.4			4.6	15.7	43.8			
6.4	14.1	32.0	48.6			4.7	16.5	44.3			
6.5	14.5	32.3	48.8			4.7	17.3	44.8			
6.6	14.8	32.7	49.0			4.8	18.1	45.3			
6.8	15.2	33.1	49.2			4.8	18.9	46.0			
6.9	15.6	33.6	49.4			4.9	19.7	46.7			
7.0	16.0	34.0	49.7			4.9	20.5	47.4			
7.1	16.4	34.4	49.9			5.0	21.4	47.8			
7.2	16.8	34.9	50.2			5.0	22.2	48.3			
7.2	17.2	35.3	50.4			5.1	22.8	48.7			
7.3	17.6	35.8	50.7			5.1	23.5	49.3			
7.4	18.0	36.2	51.1			5.2	24.1	50.0			
7.6	18.4	36.7	51.4			5.3	24.7	50.6			
7.7	18.8	37.1	51.8			5.4	25.2	51.2			
7.9	19.2	37.5	52.1			5.5	25.8	51.9			
8.0	19.6	38.0	52.5			5.6	26.3	52.5			
8.2	19.9	38.4	52.8			5.6	26.8	53.3			
8.3	20.2	38.8	53.2			5.7	27.3	54.1			
8.4	20.5	39.1	53.5			5.8	27.7	54.9			

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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 277+70 NB ISL				12/3 to 12/19/2019		-L- 277+70 NB ISS		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
SS	FILL	352681.1	2000790.4	SG	FILL	352682.2	2000785.4		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
2.1	57.0			2.4	42.9	73.8			
6.2	57.6			3.9	43.4	74.2			
10.3	58.2			5.2	44.5	74.6			
12.2	58.7			6.3	45.3	75.0			
14.3	59.3			7.4	46.1	75.6			
15.7	59.8			8.4	46.8	76.1			
17.0	60.4			9.2	47.5	76.7			
18.1	60.9			10.3	48.3	77.3			
19.2	61.4			11.5	49.0	77.8			
20.5	61.9			12.8	49.5	78.4			
21.7	62.4			13.8	50.0	78.9			
22.9				14.7	50.5	79.5			
24.3				15.3	50.9	80.0			
25.8				15.8	51.3	80.5			
27.4				16.4	51.7	81.0			
29.0				16.9	52.2	81.5			
30.4				17.5	52.6	82.0			
31.4				18.0	53.1	82.6			
32.3				18.6	53.5	83.1			
33.1				19.1	54.0	83.7			
33.9				19.7	54.4	84.4			
34.5				20.3	55.0	85.0			
35.2				20.9	55.6	85.6			
35.8				21.5	55.8	86.3			
36.4				22.2	56.3	86.9			
37.1				22.8	56.7				
37.7				23.5	57.2				
38.4				24.3	57.6				
39.1				25.0	58.1				
39.9				25.9	58.5				
40.6				26.7	59.0				
41.3				27.7	59.4				
42.1				28.4	59.9				
42.9				29.2	60.5				
43.6				30.0	61.0				
44.4				30.6	61.6				
45.1				31.1	62.0				
45.8				31.7	62.3				
46.6				32.3	62.7				
47.3				32.9	63.3				
48.1				33.5	64.0				
48.8				34.2	64.6				
49.6				35.0	65.4				
50.4				35.7	66.1				
51.2				36.4	66.9				
52.0				37.0	67.7				
52.7				37.7	68.6				
53.3				38.4	69.4				
54.0				39.2	70.2				
54.6				39.9	70.9				
55.3				40.6	71.7				
55.9				41.4	72.4				
56.5				42.2	73.1				

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 277+70 NB OSS				12/3 to 12/19/2019		-L- 299+40 NB ACCEL		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
STBC	FILL	352676.6	2000817.6	SS	FILL	354849.2	2000832.2		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
1.6	32.1	73.1		2.1	40.7				
2.4	32.6	74.1		3.1	41.2				
3.2	33.2	75.2		4.1	41.7				
4.0	33.8	76.0		5.2	42.2				
4.8	34.4	76.9		6.1	42.6				
5.3	35.0	77.7		7.2	43.1				
6.2	35.4	78.7		8.2	43.5				
6.7	35.9	79.8		8.9	43.9				
7.1	36.3	80.9		9.8	44.4				
7.7	36.8	82.0		10.5	44.8				
8.2	37.2	83.0		11.3	45.3				
8.7	37.7	83.8		12.2	45.7				
9.1	38.2	84.4		13.0	46.2				
9.5	38.7	85.0		13.9	46.7				
9.9	39.2	86.0		14.9	47.2				
10.3	39.8	86.8		15.8	47.8				
10.8	40.3	87.3		16.4	48.4				
10.9	40.9	88.0		17.4	49.1				
11.0	41.7	88.8		18.0	49.8				
11.2	42.4	89.6		18.6	50.4				
11.4	43.2	90.5		19.3	51.1				
11.5	43.9	91.5		19.9					
12.0	44.5	92.5		20.6					
12.4	45.2	93.4		21.4					
12.9	45.9			22.2					
13.3	46.7			23.1					
13.8	47.4			24.1					
14.4	48.2			25.0					
14.9	49.1			25.6					
15.5	49.9			26.0					
16.0	50.6			26.6					
16.6	51.4			27.1					
17.2	52.1			27.7					
17.7	52.8			28.1					
18.3	53.4			28.8					
19.0	54.1			29.7					
19.7	54.8			30.3					
20.4	55.6			30.9					
21.1	56.3			31.5					
21.7	57.4			32.0					
22.4	58.5			32.5					
23.2	59.6			33.0					
23.9	60.8			33.7					
24.7	62.0			34.4					
25.4	63.2			35.0					
26.2	64.3			35.7					
26.9	64.9			36.5					
27.6	66.1			37.1					
28.3	67.0			37.8					
29.0	68.1			38.4					
29.8	69.3			39.0					
30.6	70.8			39.6					
31.5	72.0			40.2					

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade
AG = At Grade

RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
SDB = Sand Drainage Base


S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 299+40 NB ISS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 299+40 NB OSL		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SG	FILL	354856.0	2000805.0	SS	FILL	354845.4	2000841.5				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.1	22.7	49.1	68.7					3.4	29.3	50.8	
2.1	23.0	50.1	69.0					5.9	29.7	51.2	
3.1	23.4	51.0	69.3					7.4	30.0	51.7	
4.0	23.7	52.0	69.5					8.2	30.4	52.2	
4.7	24.0	52.6	69.8					9.1	30.7	52.7	
5.5	24.3	53.3	70.1					9.7	31.0	53.2	
6.3	24.6	53.7	70.5					10.4	31.4		
7.0	24.9	53.8	70.9					10.9	31.8		
7.5	25.2	53.9	71.3					11.7	32.0		
8.2	25.5	54.0	71.7					12.2	32.5		
8.8	25.8	54.9	72.1					12.7	32.9		
9.4	26.1	55.8	72.5					13.2	33.3		
9.9	26.4	56.7	73.0					13.7	33.6		
10.4	26.7	56.9	73.4					14.2	34.0		
10.9	27.0	57.2	73.9					14.6	34.4		
11.5	27.3	57.4	74.3					15.1	34.8		
12.0	27.5	57.7	74.8					15.5	35.2		
12.3	27.8	58.1	75.3					15.9	35.6		
12.7	28.1	58.4	75.7					16.3	36.0		
13.0	28.5	58.7	76.2					16.7	36.4		
13.5	28.8	59.1	76.7					17.0	36.9		
13.9	29.2	59.3	77.2					17.4	37.4		
14.4	29.5	59.7	77.7					17.8	37.8		
14.7	29.9	60.0	78.3					18.1	38.3		
15.1	30.4	60.4	78.8					18.5	38.7		
15.4	30.9	60.7	79.3					18.9	39.2		
15.7	31.4	61.1	79.8					19.2	39.7		
16.0	31.9	61.3	80.3					19.6	40.1		
16.3	32.4	61.6	80.7					19.9	40.6		
16.6	33.0	61.8	81.2					20.2	41.1		
16.8	33.5	62.1	81.7					20.5	41.6		
17.1	34.1	62.4	82.1					20.8	42.0		
17.3	34.6	62.8	82.6					21.1	42.5		
17.6	35.2	63.0	83.0					21.5	43.0		
17.8	35.7	63.3	83.5					21.9	43.5		
18.1	36.2	63.7	83.9					22.3	43.9		
18.3	36.7	64.0	84.3					22.7	44.3		
18.6	37.2	64.3	84.8					23.1	44.6		
18.9	37.7	64.7	85.2					23.6	45.0		
19.1	38.3	64.9	85.7					24.0	45.4		
19.4	38.8	65.2	86.1					24.5	45.8		
19.7	39.4	65.4	86.5					25.0	46.2		
19.9	39.9	65.7	86.9					25.5	46.6		
20.2	40.5	66.0	87.4					25.9	47.0		
20.4	41.1	66.2	87.8					26.3	47.4		
20.7	41.7	66.5	88.2					26.6	47.8		
20.9	42.3	66.8	88.7					27.0	48.2		
21.1	42.9	67.2	89.3					27.4	48.6		
21.3	43.5	67.4	89.8					27.7	49.0		
21.6	44.6	67.7	90.4					28.0	49.2		
21.8	45.7	67.9	90.9					28.3	49.6		
22.0	46.9	68.2						28.6	50.0		
22.3	48.0	68.4						29.0	50.4		

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 299+40 NB OSS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 322+95 NB ISL		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SS	FILL	354847.1	2000841.5	STBC	FILL	357200.6	2000829.2				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
2.9	40.9							0.8	13.1	26.1	45.7
4.6	41.9							1.4	13.3	26.3	45.9
6.0	42.8							1.8	13.6	26.5	46.1
7.3	43.8							2.1	13.8	26.7	46.3
8.3								2.5	14.0	26.9	46.4
9.3								2.8	14.2	27.2	46.6
10.0								3.2	14.4	27.5	46.7
10.9								3.5	14.6	27.8	47.0
11.5								3.8	14.8	28.1	47.2
12.3								4.1	15.1	28.4	47.3
13.0								4.4	15.3	28.6	47.5
13.8								4.6	15.5	29.0	47.6
14.4								4.8	15.6	29.4	47.8
15.0								5.0	15.7	29.8	48.0
15.6								5.2	16.0	30.2	48.1
16.3								5.5	16.2	30.6	48.2
17.1								5.7	16.5	31.3	48.4
17.8								5.9	16.7	32.0	48.5
18.5								6.1	16.9	32.7	48.6
19.3								6.3	17.1	33.4	48.7
20.0								6.5	17.3	34.5	48.8
20.8								6.7	17.5	35.4	49.0
21.6								6.9	17.7	36.3	49.1
22.4								7.1	18.2	37.1	49.3
23.1								7.3	18.4	38.0	49.5
23.7								7.5	18.6	38.9	49.6
24.4								7.7	18.8	39.4	49.8
25.0								7.9	19.0	39.8	49.9
25.6								8.0	19.1	40.3	
26.2								8.2	19.4	40.7	
26.7								8.3	19.6	41.1	
27.2								8.5	19.9	41.4	
27.7								8.7	20.1	41.6	
28.2								8.9	20.4	41.9	
28.8								9.1	20.7	42.1	
29.3								9.3	20.9	42.3	
29.8								9.5	21.2	42.5	
30.3								9.7	21.4	42.7	
30.8								10.0	21.6	42.9	
31.3								10.2	22.0	43.1	
31.8								10.5	22.3	43.4	
32.3								10.7	22.7	43.6	
32.8								10.9	23.0	43.8	
33.4								11.0	23.1	44.0	
33.9								11.2	23.4	44.2	
34.5								11.3	23.6	44.3	
35.2								11.5	23.9	44.5	
35.8								11.7	24.1	44.6	
36.6								12.0	24.4	44.8	
37.3								12.2	24.8	44.9	
38.1								12.5	25.2	45.1	
39.0								12.7	25.6	45.3	
40.0								13.0	26.0	45.6	

SG = Subgrade
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CTBC = Cement-Treated Base Course
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RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 322+95 NB ISS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 322+95 NB OSS		12/3 to 12/19/2019			
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING
SG	FILL	357201.2	2000825.5	STBC	FILL	357198.9	2000857.5				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
0.7	18.5	43.0	58.9	0.9	27.0	51.9	66.3	80.7			
1.4	18.8	43.5	59.1	1.8	27.5	52.2	66.6	81.0			
2.0	19.1	44.0	59.3	2.2	28.1	52.5	66.9	81.3			
2.5	19.5	44.5	59.5	2.9	28.7	52.8	67.2	81.6			
3.0	19.9	45.1	59.7	3.2	29.4	53.0	67.5	81.8			
3.4	20.4	45.6	59.9	3.7	30.0	53.3	67.8	82.1			
3.7	20.8	46.1	60.1	4.3	30.7	53.5	68.2	82.4			
4.0	21.3	46.5	60.3	5.0	31.5	53.8	68.5	82.6			
4.6	21.7	46.8	60.5	5.6	32.2	54.0	68.9	82.8			
5.0	22.2	47.2	60.7	6.2	32.9	54.3	69.2	83.1			
5.4	22.8	47.5	61.0	6.5	33.5	54.6	69.5	83.3			
5.8	23.4	47.8	61.2	7.2	34.2	55.0	69.8	83.5			
6.2	23.9	48.2	61.5	7.8	34.8	55.3	70.2	83.7			
6.5	24.5	48.6	61.7	8.3	35.5	55.6	70.5	84.0			
6.9	25.1	49.0		8.9	36.1	55.8	70.8	84.2			
7.2	25.7	49.4	Terminate	9.2	36.7	56.1	71.1	84.5			
7.6	26.2	49.8		9.7	37.3	56.3	71.4	84.7			
7.9	26.8	50.1		10.2	37.9	56.6	71.8	85.1			
8.2	27.3	50.5		10.5	38.4	56.9	72.1	85.4			
8.6	27.9	50.8		10.9	38.9	57.1	72.4	85.8			
8.9	28.4	51.2		11.3	39.4	57.4	72.6	86.1			
9.2	28.9	51.5		11.8	39.8	57.6	72.9	86.5			
9.4	29.3	51.8		12.2	40.3	57.9	73.1	86.8			
9.7	29.8	52.1		12.6	40.7	58.2	73.4	87.0			
10.0	30.3	52.4		13.0	41.2	58.5	73.6	87.3			
10.4	30.7	52.7		13.4	41.6	58.8	73.8	87.5			
10.7	31.2	53.0		13.9	42.1	59.1	74.1	87.8			
11.0	31.6	53.2		14.3	42.5	59.4	74.3	88.1			
11.2	32.1	53.5		14.7	43.0	59.7	74.6	88.4			
11.5	32.5	53.7		15.1	43.4	59.9	74.8	88.8			
11.8	32.9	54.0		15.6	43.8	60.2	75.1	89.1			
12.0	33.3	54.2		16.0	44.2	60.4	75.3	89.4			
12.2	33.7	54.4		16.5	44.6	60.7	75.6				
12.5	34.1	54.6		17.1	44.9	61.0	75.8				
12.7	34.5	54.9		17.6	45.3	61.3	76.1				
13.0	35.0	55.1		18.0	45.6	61.6	76.3				
13.2	35.5	55.3		18.3	46.0	61.9	76.5				
13.5	36.0	55.5		18.7	46.5	62.2	76.8				
13.8	36.5	55.7		19.1	46.9	62.5	77.0				
14.1	37.0	55.9		19.6	47.2	62.8	77.2				
14.4	37.5	56.1		20.0	47.6	63.1	77.5				
14.7	38.0	56.3		20.5	47.9	63.4	77.7				
15.0	38.5	56.4		21.0	48.2	63.7	78.0				
15.3	39.0	56.6		21.5	48.5	63.9	78.2				
15.6	39.5	56.7		22.0	48.8	64.2	78.5				
16.0	40.0	56.9		22.6	49.2	64.4	78.7				
16.3	40.4	57.0		23.1	49.5	64.7	79.0				
16.6	40.9	57.3		23.6	49.9	64.9	79.2				
16.9	41.3	57.6		24.2	50.2	65.1	79.5				
17.2	41.8	57.8		24.7	50.6	65.3	79.7				
17.6	42.1	58.1		25.3	50.9	65.6	80.0				
17.9	42.4	58.4		25.8	51.2	65.8	80.2				
18.2	42.7	58.7		26.4	51.6	66.0	80.5				

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 349+70 NB ISS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 349+70 NB OSL		12/3 to 12/19/2019			
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING
STBC	FILL	359889.0	2000846.0	STBC	FILL	359873.0	2000868.3				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
3.6	32.3	68.6		4.5	44.9						
5.0	32.9	69.0		6.4	45.2						
5.9	33.4	69.1		9.3	45.4						
6.6	33.9	69.3		10.7	45.7						
7.5	34.4	69.5		11.4	46.0						
8.4	35.0	69.8		12.1	46.3						
9.2	35.4	70.1		12.8	46.6						
9.8	35.8	70.4		13.4	46.9						
10.5	36.4	70.7		13.9	47.2						
11.1	37.0	71.1		14.6	47.5						
11.7	37.5	71.4		15.2	47.7						
12.5	38.1	71.7		15.9	48.0						
13.3	38.5	72.0		16.4	48.2						
13.7	38.9	72.3		17.0	48.5						
14.2	39.5	72.6		17.7	48.8						
14.7	40.0	72.9		18.3	49.1						
15.1	40.5	73.2		18.7	49.4						
15.5	41.4	73.5		19.3	49.6						
15.9	42.0	73.8		19.7	49.9						
16.5	42.6	74.3		20.2	50.2						
16.9	43.3	74.8		20.6	50.4						
17.3	44.1	75.3		21.0	50.7						
17.8	44.9	75.8		21.5	51.0						
18.2	45.4	76.3		21.9	51.2						
18.6	46.6	76.8		22.4	51.5						
19.1	47.8	77.1		22.8	51.7						
19.4	49.0	77.4		23.3	51.9						
19.7	51.1	77.7		23.9	52.1						
20.4	53.2	78.0		24.4	52.3						
20.8	55.0	78.5		25.0	52.5						
21.2	58.1			26.0	52.7						
21.6	59.3			26.9	53.0						
22.1	59.8			27.9	53.4						
22.6	61.1			29.2	53.7						
23.0	61.6			30.5	54.0						
23.5	62.0			31.8	54.3						
24.0	62.8			33.0	54.6						
24.4	63.1			34.1							
25.2	63.4			35.3							
26.0	63.9			36.2							
26.8	64.5			37.0							
26.9	64.7			37.9							
26.9	65.4			38.9							
27.0	65.5			40.0							
27.5	65.6			41.0							
27.9	65.7			41.7							
28.4	65.8			42.5							
28.9	66.9			43.2							
29.4	67.2			43.4							
29.9	67.5			43.7							
30.5	67.8			43.9							
31.1	68.1			44.2							
31.7	68.3			44.6							

SG = Subgrade
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S&ME, Inc.
3201 Spring Forest Road
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CONE PENETROMETER DATA CODE SHEET				TIP	PROJECT I.D.	ROUTE								
				I-5987A	47533.1.2	I-95								
TEST LOCATIONS DESCRIPTION				COUNTY	ENGINEER	TECHNICIANS								
				Robeson	VLAD MITCHEV	D. Strother/J. Swartley								
-L- 349+70 NB OSS				DATE RUN	TEST LOCATION DESCRIPTION	DATE RUN								
				12/3 to 12/19/2019	-L- 376+35 NB ISL	12/3 to 12/19/2019								
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING							
STBC	FILL	359876.6	2000879.7	STBC	FILL	362540.2	2000877.3							
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters										
1.4	28.4	60.8	87.3	1.4	33.0	64.3								
1.8	28.8	61.4	87.6	2.7	33.4	65.1								
2.1	29.2	62.2	87.8	4.3	33.8	65.9								
2.4	29.7	62.9	88.0	5.7	34.1	66.9								
2.7	30.2	63.7	88.2	7.6	34.5	67.8								
3.0	30.7	64.4	88.3	9.3	34.8	68.7								
3.3	31.1	65.6	88.5	12.0	35.2	69.7								
3.7	31.5	66.7	88.6	13.6	35.5	70.4								
4.0	31.9	68.0	88.8	14.9	36.0	71.1								
4.4	32.3	69.3		16.2	36.4	71.8								
4.6	32.6	70.4		17.2	36.7	72.5								
4.9	33.0	71.4		17.7	37.1	73.2								
5.1	33.4	72.6		18.5	37.4	74.0								
5.5	33.8	73.7		19.1	37.9									
6.0	34.1	74.8		19.6	38.3									
6.4	34.7	75.8		20.0	38.7									
6.7	35.2	76.4		20.4	39.1									
7.1	35.6	77.0		20.8	39.5									
7.4	36.0	77.5		21.2	40.0									
8.3	36.5	77.9		21.6	40.4									
9.1	36.9	78.4		22.0	40.7									
9.3	37.4	78.8		22.4	41.1									
9.6	37.9	79.1		22.8	41.4									
10.2	38.5	79.4		23.3	41.9									
10.7	39.1	79.8		23.6	42.3									
11.3	39.8	80.1		23.9	42.7									
11.8	40.4	80.4		24.3	43.1									
12.4	41.0	80.6		24.6	43.5									
13.0	41.5	81.0		24.9	44.0									
13.5	42.1	81.4		25.3	44.6									
14.1	42.6	81.7		25.6	45.1									
14.7	43.1	82.0		25.9	45.7									
15.4	43.6	82.3		26.2	46.2									
16.0	44.2	82.6		26.5	46.8									
16.6	44.8	82.8		26.8	47.4									
17.3	45.5	83.1		27.1	48.0									
17.9	46.2	83.4		27.5	48.6									
18.8	47.1	83.7		27.9	49.2									
19.7	47.9	83.9		28.3	50.9									
20.6	49.3	84.2		28.7	51.6									
21.4	50.6	84.4		29.1	52.3									
22.2	51.5	84.7		29.2	53.1									
22.9	52.4	84.9		29.5	54.2									
23.6	53.3	85.2		29.8	55.1									
24.1	54.1	85.4		30.1	56.2									
24.5	55.1	85.7		30.4	57.1									
24.8	56.0	85.9		30.9	58.0									
25.1	56.8	86.1		31.2	59.1									
25.7	57.6	86.3		31.5	59.9									
26.2	58.4	86.5		31.8	60.7									
26.9	59.2	86.7		32.1	61.6									
27.5	59.7	86.9		32.4	62.5									
28.0	60.1	87.1		32.7	63.4									

CONE PENETROMETER DATA CODE SHEET				TIP	PROJECT I.D.	ROUTE								
				I-5987A	47533.1.2	I-95								
TEST LOCATIONS DESCRIPTION				COUNTY	ENGINEER	TECHNICIANS								
				Robeson	VLAD MITCHEV	D. Strother/J. Swartley								
-L- 376+35 NB ISS				DATE RUN	TEST LOCATION DESCRIPTION	DATE RUN								
				12/3 to 12/19/2019	-L- 376+35 NB OSS	12/3 to 12/19/2019								
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING							
STBC	FILL	362539.5	2000873.1	STBC	FILL	362542.2	2000902.3							
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters										
0.6	25.9	56.1		1.0	34.1	55.0								
1.2	26.3	57.1		1.5	34.6	55.5								
1.7	27.0	58.2		1.7	34.9	56.2								
2.2	27.4	59.1		2.2	35.2	56.9								
2.7	27.9	60.3		2.8	35.5	57.5								
3.2	28.4	61.2		3.4	35.8	58.2								
3.7	28.9	62.0		4.1	36.1	58.9								
4.3	29.4	62.8		4.8	36.3	59.5								
4.9	29.9	63.6		5.6	36.6	60.2								
5.5	30.5	64.4		6.7	36.9	60.8								
6.0	31.1	65.3		7.9	37.3	61.5								
6.1	31.7	66.0		8.7	37.6	62.1								
6.5	32.3	66.7		9.9	38.0	63.0								
6.9	32.9	67.4		11.0	38.3	63.8								
7.3	33.4	68.1		12.2	38.7	64.7								
7.7	33.9	68.8		13.1	39.0	65.9								
8.5	34.4	69.5		14.0	39.3	67.0								
9.0	34.9	70.2		14.7	39.6	68.3								
9.4	35.7	70.9		15.4	39.9	69.6								
9.9	36.3	71.6		16.1	40.2	70.7								
10.3	36.9	72.6		16.8	40.6	71.7								
10.8	37.5	73.2		17.7	41.0	72.8								
11.2	38.1	73.8		18.6	41.3	73.8								
11.6	38.8	74.4		19.9	41.7	74.9								
12.0	39.4	75.0		21.0	42.1	75.9								
12.4	40.0	76.0		21.8	42.5	77.0								
13.2	40.6	76.7		22.4	42.9	78.0								
13.8	41.2	77.4		22.8	43.2	78.9								
14.4	42.0	78.1		23.5	43.6	79.8								
15.0	42.6	78.8		23.9	44.0	80.7								
15.6	43.2	79.6		24.4	44.4	81.6								
16.2	43.8	80.4		24.8	44.8	82.6								
16.6	44.4	81.2		25.3	45.2	83.6								
17.0	45.4	82.0		25.9	45.6	84.7								
17.4	45.9	82.8		26.4	46.0	85.8								
17.8	46.4	83.7		26.9	46.5	87.1								
18.3	46.9			27.3	47.1	88.3								
18.7	47.4			27.8	47.6	89.6								
19.1	48.0			28.4	48.2	90.8								
19.5	48.3			28.6	48.7	92.1								
19.9	48.6			29.1	49.1	93.3								
20.5	48.9			29.4	49.6									
20.9	49.2			29.6	50.0									
21.3	49.7			30.0	50.5									
21.7	50.2			30.3	50.9									
22.1	50.7			30.5	51.3									
22.5	51.2			31.3	51.7									
22.9	51.7			31.8	52.0									
23.3	52.1			32.2	52.4									
23.7	52.9			32.6	52.8									
24.1	53.7			32.8	53.3									
24.9	54.5			33.2	53.9									
25.4	55.3			33.7	54.4									

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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS	
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley	
-L- 402+25 NB ISS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
				12/3 to 12/19/2019		-L- 402+25 NB OSL		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	EASTING
STBC	FILL	365151.9	2000894.3	STBC	FILL	365124.1	2000914.2		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
1.2	32.2	80.4		1.1	8.5	24.7			
2.1	33.3	81.1		1.3	8.5	26.0			
2.8	34.1			1.5	8.6	27.2			
3.3	35.3			1.6		29.5			
3.8	36.3			1.8	Augered 17.3 cm	31.8			
4.2	37.6			2.0		33.3			
4.7	39.0			2.1		34.8			
5.2	40.3			2.2	0.0	35.6			
5.8	41.7			2.4	1.3	36.3			
6.5	43.0			2.5	1.7	37.0			
7.1	44.2			2.6	2.0	37.6			
7.8	45.4			2.8	2.4	38.3			
8.4	46.6			3.0	2.7	39.0			
8.9	47.8			3.3	3.0	39.6			
9.4	49.0			3.5	3.3	40.1			
10.0	50.1			3.7	3.7	40.9			
10.5	51.2			3.8	4.2	41.7			
11.0	52.2			3.9	4.6	42.7			
11.6	53.3			4.0	5.1	43.7			
12.2	54.4			4.1	5.6	45.0			
12.7	55.3			4.2	6.1	46.2			
13.3	56.2			4.3	6.7	47.6			
13.9	57.0			4.4	7.4	48.9			
14.3	57.9			4.4	8.0	50.3			
14.7	58.8			4.5	8.5	51.7			
15.2	59.6			4.6	9.1	53.0			
15.6	60.4			4.8	9.6	54.2			
16.0	61.2			4.9	10.2				
16.6	62.0			5.1	10.8				
17.2	62.8			5.2	11.4				
17.8	63.6			5.4	12.0				
18.4	64.4			5.6	12.5				
19.0	65.1			5.8	13.1				
19.5	65.9			6.0	13.6				
20.0	66.7			6.2	14.2				
20.4	67.5			6.4	14.7				
20.9	68.2			6.5	15.1				
21.4	69.0			6.6	15.6				
22.0	69.7			6.8	16.0				
22.6	70.5			6.9	16.5				
23.3	71.3			7.0	16.9				
23.9	72.0			7.2	17.4				
24.5	72.8			7.4	17.9				
25.1	73.5			7.5	18.3				
25.8	74.3			7.7	18.8				
26.4	75.0			7.9	19.3				
27.1	75.7			8.0	19.8				
27.7	76.3			8.0	20.3				
28.4	77.0			8.1	20.9				
29.1	77.7			8.2	21.4				
29.9	78.4			8.3	22.0				
30.6	79.1			8.3	22.9				
31.3	79.7			8.4	23.8				

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE		
				I-5987A		47533.1.2		I-95		
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS		
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley		
-L- 402+25 NB OSS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		
				12/3 to 12/19/2019		-L- 429+40 NB ISL		12/3 to 12/19/2019		
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	EASTING	
STBC	FILL	365128.1	2000921.4	STBC	AG	367850.6	2000934.1			
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters						
0.6	35.4	59.4	71.2					3.3	34.8	69.9
1.1	35.9	59.7	71.3					5.5	35.7	70.0
1.8	36.4	59.9	71.5					6.6	36.5	70.2
2.5	36.8	60.2	71.8					7.4	37.4	70.5
3.3	37.2	60.4	72.1					8.4	38.2	70.7
4.0	37.6	60.7	72.3					8.8	39.1	
4.7	38.0	60.9	72.6					9.2	39.9	
5.1	38.4	61.1	72.9					9.6	40.6	
5.5	38.8	61.4	73.1					10.0	41.3	
6.1	39.2	61.6	73.3					10.4	42.0	
6.7	39.6	61.8	73.6					10.8	42.7	
7.5	40.0	62.0	73.8					11.2	43.5	
8.2	40.3	62.2	74.0					11.6	44.2	
8.9	40.5	62.3	74.2					11.9	44.8	
9.5	40.9	62.5	74.4					12.3	45.4	
10.3	41.2	62.7	74.6					12.7	46.0	
11.0	41.5	62.8	74.8					13.1	46.9	
11.9	41.8	63.0	75.0					13.5	47.7	
12.7	42.2	63.1	75.2					13.8	48.6	
13.8	42.6	63.3	75.5					14.2	49.4	
14.9	43.0	63.4	75.7					14.5	50.2	
16.7	43.4	63.5	76.0					14.8	51.0	
18.5	43.9	63.6	76.2					15.1	51.8	
20.0	44.3	63.8	76.5					15.4	52.6	
21.3	44.5	63.9	76.7					15.7	53.4	
21.9	44.7	64.0	77.0					15.9	54.3	
22.5	45.2	64.4	77.2					16.2	55.1	
23.2	45.7	64.7	77.5					16.5	56.0	
23.8	46.0	65.1	77.8					16.7	56.8	
24.4	46.3	65.4	78.2					17.0	57.7	
24.9	46.7	65.8	78.5					17.4	58.5	
25.6	47.1	66.0	78.9					17.8	59.4	
26.2	47.5	66.3	79.2					18.2	60.2	
26.8	47.8	66.5	80.0					18.6	61.1	
27.3	48.3	66.8	80.8					19.1	61.9	
27.8	48.8	67.0	81.7					19.5	62.8	
28.2	49.2	67.3	82.5					20.0	63.6	
28.7	49.6	67.7	83.3					20.5	64.2	
29.2	50.2	68.0	84.4					21.0	64.7	
29.6	50.7	68.4	85.4					21.8	65.3	
30.0	51.4	68.7	86.5					22.6	65.7	
30.4	52.1	68.9	87.5					23.4	66.1	
30.8	52.8	69.1	88.6					24.4	66.5	
31.1	53.5	69.4						25.4	66.8	
31.3	54.4	69.6						26.4	67.2	
31.8	55.2	69.8						27.5	67.5	
32.2	56.1	70.0						28.5	67.9	
32.7	57.0	70.2						29.6	68.3	
33.1	57.6	70.3						30.4	68.7	
33.5	58.2	70.5						31.3	69.0	
33.9	58.7	70.7						32.1	69.2	
34.4	59.2	70.9						33.0	69.5	
34.8	59.3	71.0						33.9	69.7	

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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 429+40 NB ISS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 429+40 NB OSS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	AG	367848.4	2000931.5	STBC	AG	367845.3	2000958.7				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
2.5	34.0	72.7		1.4	40.9	70.9					
4.2	34.2	73.3		2.2	41.4	71.3					
5.7	35.1	73.9		3.2	41.9	71.7					
7.1	35.6	74.6		4.2	42.4	72.3					
8.4	36.2	75.2		6.0	42.9	72.7					
9.5	36.8	75.8		6.8	43.4	73.2					
10.2	37.3			7.6	43.8	73.8					
10.9	37.9			8.5	44.2	74.4					
11.6	38.5			9.0	44.7	75.2					
12.1	39.3			9.5	45.3	76.1					
12.7	40.1			10.0	45.9	77.3					
13.1	40.8			10.7	46.5	78.5					
13.6	41.6			11.4	47.2	79.9					
14.0	42.4			12.1	48.0	81.0					
14.5	43.2			12.6	48.7	82.2					
14.9	44.0			13.0	49.2	83.3					
15.4	44.8			13.5	49.8	84.5					
15.8	45.6			14.1	50.2	85.4					
16.2	46.4			14.6	50.8	86.4					
16.6	47.2			15.1	51.5	87.4					
17.0	48.1			16.2	52.2	88.6					
17.5	48.9			17.0	53.0	89.6					
17.9	49.8			17.8	53.8	90.7					
18.4	50.6			18.5	54.7	92.0					
19.0	51.5			19.3	55.6	93.4					
19.5	52.4			19.8	56.9						
19.9	53.3			20.4	57.7						
20.2	54.2			21.0	58.7						
20.6	55.1			21.6	59.5						
21.2	55.9			22.2	60.2						
21.8	56.7			22.8	60.8						
22.6	57.4			23.4	61.3						
23.0	58.2			24.1	61.9						
23.4	59.0			24.7	62.5						
23.7	59.6			25.4	63.1						
24.1	60.1			26.0	63.6						
24.5	60.7			26.7	64.1						
25.1	61.2			27.3	64.6						
25.7	61.8			28.0	65.0						
26.3	62.5			28.7	65.5						
26.9	63.3			29.5	65.9						
27.5	64.0			30.4	66.4						
28.0	64.8			31.2	66.8						
28.5	65.5			31.9	67.2						
28.9	66.2			32.7	67.6						
29.4	66.9			33.6	68.0						
29.9	67.6			34.5	68.3						
30.5	68.3			35.7	68.6						
31.1	69.0			36.5	69.0						
31.7	69.7			37.5	69.3						
32.3	70.5			38.4	69.7						
32.9	71.2			39.3	70.1						
33.4	72.0			40.1	70.5						

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 454+40 NB ISS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 454+40 NB OSL		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	370336.2	2001097.7	STBC	FILL	370334.1	2001119.7				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
1.2	17.2	44.8	66.6			0.7	8.9	19.7	36.6	63.8	
1.9	17.5	45.5	67.1			1.0	9.1	19.9	37.0	65.1	
2.7	17.7	46.3	67.6			1.2	9.3	20.1	37.3	66.0	
3.2	18.0	47.1	68.0			1.5	9.5	20.3	37.6	67.0	
3.8	18.3	47.8	68.3			1.7	9.7	20.5	38.0	67.9	
4.4	18.6	48.6	68.7			2.0	9.9	20.8	38.3	68.4	
4.9	18.9	49.4	69.0			2.2	10.1	21.0	38.6	69.0	
5.3	19.3	50.1	69.4			2.4	10.4	21.3	39.0	69.5	
5.5	19.6	50.8	69.7			2.7	10.7	21.5	39.4	69.9	
5.8	19.9	51.5	70.3			2.9	10.9	21.8	39.7	70.3	
6.0	20.3	52.2	71.0			3.1	11.2	22.1	40.1	70.7	
6.3	20.6	52.9	71.6			3.2	11.4	22.3	40.5	71.0	
6.5	21.0	53.3	72.3			3.3	11.7	22.6	40.9	71.3	
6.7	21.3	53.7	72.6			3.5	11.9	22.8	41.4	71.7	
6.9	21.7	54.2	73.0			3.6	12.2	23.1	41.8		
7.2	22.1	54.6	73.4			3.7	12.4	23.4	42.3		
7.4	22.4	55.0	73.9			3.8	12.7	23.7	42.7		
7.6	22.8	55.4	74.3			3.9	12.9	23.9	43.1		
7.9	23.1	55.7	74.7			3.9	13.1	24.2	43.6		
8.2	23.5	56.1	75.2			4.0	13.3	24.5	44.0		
8.5	23.9	56.4	75.6			4.1	13.5	24.8	44.5		
8.8	24.4	56.8	76.1			4.2	13.7	25.1	44.9		
9.1	24.8	57.1	76.5			4.2	13.9	25.5	45.4		
9.3	25.3	57.3	77.0			4.3	14.1	25.8	45.8		
9.6	25.7	57.6	77.5			4.4	14.2	26.1	46.3		
9.8	26.2	57.8	78.1			4.5	14.4	26.5	46.7		
10.1	26.6	58.1	78.6			4.5	14.5	26.9	47.2		
10.3	27.1	58.5	79.2			4.6	14.7	27.4	47.6		
10.6	27.5	58.9	79.7			4.7	14.9	27.8	48.0		
10.8	28.0	59.2	80.2			4.7	15.0	28.2	48.4		
11.1	28.5	59.6	80.7			4.8	15.2	28.6	48.8		
11.3	29.1	60.0	81.2			5.0	15.3	29.0	49.2		
11.6	29.6	60.3	81.7			5.1	15.5	29.3	49.6		
11.8	30.2	60.6	82.2			5.3	15.7	29.7	49.9		
12.0	30.7	60.8	82.8			5.4	15.9	30.1	50.3		
12.3	31.3	61.1	83.3			5.6	16.0	30.4	50.6		
12.5	32.0	61.4	83.9			5.8	16.2	30.8	51.0		
12.7	32.6	61.7	84.4			5.9	16.4	31.1	51.5		
13.0	33.3	62.0	85.0			6.1	16.7	31.5	52.0		
13.2	33.9	62.3	85.6			6.2	16.9	31.8	52.4		
13.5	34.7	62.6	86.1			6.4	17.2	32.1	52.9		
13.7	35.5	62.9	86.7			6.6	17.4	32.4	53.4		
14.0	36.4	63.1	87.2			6.8	17.5	32.7	54.0		
14.3	37.2	63.3	87.8			7.0	17.7	33.0	54.6		
14.6	38.0	63.6				7.2	17.9	33.3	55.2		
14.9	38.8	63.8				7.4	18.1	33.7	55.8		
15.2	39.6	64.1				7.5	18.3	34.0	56.4		
15.5	40.4	64.4				7.7	18.5	34.4	57.4		
15.8	41.2	64.7				7.9	18.7	34.7	58.4		
16.1	42.0	65.0				8.1	18.9	35.1	59.4		
16.3	42.7	65.3				8.3	19.1	35.5	60.4		
16.6	43.4	65.6				8.5	19.3	35.9	61.4		
16.9	44.1	66.1				8.7	19.5	36.2	62.6		

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade
AG = At Grade

RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
SDB = Sand Drainage Base


S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 454+40 NB OSS				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 482+45 NB ISL		12/3 to 12/19/2019		-L- 482+45 NB ISS		12/3 to 12/19/2019			
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL		
STBC	FILL	370340.4	2001131.3	STBC	FILL	373137.2	2001297.1	STBC	FILL		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.0	31.3	53.2	81.8	0.5	10.1	10.6	27.5				
1.7	31.7	53.6	82.2	0.9	10.1	10.8	28.2				
2.5	32.1	54.0	82.5	1.4	10.2	10.9	29.0				
3.2	32.5	54.4	82.9	1.8	10.2	11.0	29.7				
3.8	32.9	54.9	83.2	2.3	10.3	11.1	30.5				
4.5	33.3	55.3	83.5	2.5	10.4	11.3	31.2				
5.1	33.6	55.8	83.9	2.7	10.4	11.5	32.0				
5.6	34.0	56.2	84.4	3.0		11.7	32.6				
6.2	34.5	56.7	84.8	3.2	Augered 6 cm	11.9	33.2				
6.7	34.9	57.1	85.3	3.4		12.2	33.8				
7.2	35.4	57.5		3.7		12.4	34.4				
7.7	35.8	57.9		3.9	0.0	12.6	35.0				
8.2	36.2	58.3		4.2	0.7	12.8	35.7				
8.8	36.6	58.6		4.4	1.4	13.0	36.4				
9.3	37.0	59.0		4.7	2.1	13.2	37.1				
9.9	37.5	59.4		4.8	2.4	13.4	37.8				
10.5	37.9	59.8		4.9	2.7	13.6	38.4				
11.1	38.4	60.2		5.0	3.0	13.8	39.2				
11.7	38.8	60.7		5.1	3.3	14.0	40.0				
12.4	39.3	61.2		5.2	3.5	14.1	40.8				
13.2	39.8	61.7		5.4	3.8	14.4	41.6				
13.9	40.2	62.1		5.6	4.0	14.7	42.2				
14.6	40.7	62.6		5.9	4.3	15.0	42.9				
15.4	41.2	63.0		6.1	4.5	15.3	43.6				
16.1	41.7	63.5		6.3	4.7	15.6	44.3				
16.7	42.2	63.9		6.5	4.9	15.8	45.0				
17.2	42.6	64.4		6.7	5.1	16.0	45.7				
17.8	43.1	64.9		6.8	5.3	16.2	46.4				
18.4	43.5	65.5		7.0	5.5	16.4	47.1				
18.9	43.9	66.0		7.2	5.8	16.7	47.8				
19.5	44.4	66.6		7.4	6.0	16.9	48.5				
20.1	44.8	67.2		7.6	6.2	17.2	49.3				
20.6	45.1	67.8		7.8	6.4	17.4	50.3				
21.2	45.4	68.4		8.0	6.6	17.7	51.2				
21.9	45.8	69.1		8.2	6.8	17.9	52.2				
22.5	46.2	69.7		8.4	7.0	18.2	53.1				
23.2	46.6	70.3		8.5	7.3	18.5	54.1				
23.9	47.0	71.0		8.7	7.5	18.8	54.8				
24.5	47.3	71.6		8.8	7.7	19.2	55.5				
25.2	47.7	72.2		9.0	7.8	19.5	56.2				
25.8	48.0	72.8		9.1	8.0	19.9	56.9				
26.3	48.4	73.4		9.2	8.1	20.3	57.7				
26.9	48.7	74.0		9.3	8.3	20.7	58.0				
27.4	49.1	74.7		9.3	8.5	21.0	58.4				
27.8	49.5	75.3		9.4	8.7	21.3	58.7				
28.3	49.8	76.1		9.5	8.9	21.9	59.1				
28.7	50.2	76.9		9.6	9.1	22.5	59.4				
29.0	50.6	77.7		9.7	9.4	23.1	59.7				
29.4	51.0	78.5		9.7	9.6	23.7	60.1				
29.8	51.4	79.2		9.8	9.8	24.3	60.4				
30.1	51.9	80.0		9.9	10.0	25.1	60.8				
30.5	52.3	80.6		9.9	10.3	25.9	61.1				
30.9	52.8	81.2		10.0	10.5	26.7					

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 482+45 NB ISS				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 482+45 NB ISS		12/3 to 12/19/2019		-L- 482+45 NB OSS		12/3 to 12/19/2019			
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL		
STBC	FILL	373135.7	2001295.0	STBC	FILL	373124.3	2001326.5	STBC	FILL		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
0.8	35.2	59.0		0.8	41.4	64.5					
1.6	35.6	59.7		1.4	41.7	65.3					
2.4	36.0	60.3		2.2	42.1	66.0					
3.0	36.3	60.8		2.9	42.6	66.9					
3.6	36.7	61.4		3.5	43.0	67.8					
4.2	37.1	61.9		4.1	43.7	68.7					
4.7	37.5	62.5		4.8	44.3	69.6					
5.3	37.9	63.0		5.5	45.0	70.6					
5.8	38.2	63.5		6.3	45.5	71.5					
6.4	38.6	64.1		7.0	46.0	72.3					
7.1	39.0	64.6		8.0	46.5	73.1					
7.7	39.4	65.2		9.0	46.8	73.9					
8.5	39.7	65.7		9.9	47.2	74.7					
9.2	40.1	66.3		10.7	47.5	75.5					
10.0	40.4	66.8		11.5	47.8	76.3					
11.2	40.8	67.4		12.5	48.1	77.0					
12.3	41.1	67.9		13.5	48.4	77.8					
13.5	41.4	68.5		14.5	48.7	78.5					
14.9	41.8	69.0		15.5	48.9	79.1					
16.4	42.1	69.5		16.6	49.2	79.7					
17.8	42.4	70.1		18.0	49.5	80.3					
19.2	42.7	70.6		18.3	49.9	80.6					
20.6	43.0	71.1		19.3	50.2	80.9					
21.7	43.4	71.8		22.0	50.5	81.2					
22.8	43.7	72.4		23.3	50.7	81.6					
23.5	44.0	73.1		24.5	51.0	82.0					
24.2	44.4	73.7		25.7	51.5	82.4					
24.6	44.8	74.4		26.8	51.9	82.7					
25.2	45.2	75.0		27.7	52.4	83.0					
25.6	45.6	75.7		28.5	52.8	83.3					
26.1	46.0	76.3		29.2	53.1	83.5					
26.5	46.4	77.0		29.7	53.5	83.7					
27.0	46.9	77.6		30.4	53.9	83.9					
27.4	47.3	78.2		31.0	54.4	84.2					
27.8	47.8	78.8		31.5	54.8	84.5					
28.2	48.2	79.5		32.0	55.2	84.9					
28.5	48.8	80.1		32.5	55.7	85.1					
28.9	49.4	80.7		33.2	56.1	85.4					
29.3	50.0	81.4		33.7	56.5	85.6					
29.6	50.6	82.1		34.3	57.0	85.9					
29.9	51.2	82.8		34.8	57.4	86.2					
30.2	51.8	83.5		35.2	57.8	86.5					
30.5	52.4	84.2		35.8	58.2						
30.8	53.0	84.8		36.3	58.6						
31.3	53.6	85.4		36.8	59.2						
31.7	54.0	85.9		37.3	59.8						
32.2	54.6	86.5		37.8	60.4						
32.6	55.2	87.1		38.3	60.9						
33.1	55.9	87.6		38.9	61.4						
33.5	56.5	88.1		39.4	61.9						
33.9	57.1	88.5		39.9	62.5						
34.4	57.7	89.0		40.4	63.2						
34.8	58.4	89.5		40.9	63.8						

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
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RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE					
				I-5987A		47533.1.2		I-95					
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS					
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley					
-L- 14+50 SB OSS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN					
				12/3 to 12/19/2019		-L- 14+50 SB OSL		12/3 to 12/19/2019					
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING		
SG	AG	326936.6	1996062.7	SG	AG	326935.6	1996070.8						
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters							
1.8	17.3	27.2	34.2	45.3				1.2	21.1	44.0	53.0	60.9	68.2
2.8	17.5	27.4	34.3	45.9				2.0	21.5	44.3	53.2	61.0	68.4
3.6	17.8	27.5	34.5	46.5				2.5	21.8	44.5	53.3	61.2	68.6
3.9	17.9	27.6	34.6	47.0				3.1	22.2	44.6	53.5	61.3	68.7
4.1	18.2	27.8	34.7	47.4				3.6	22.8	44.8	53.6	61.5	68.8
4.2	18.3	27.9	34.8	48.9				4.0	23.2	44.9	53.7	61.6	68.9
4.8	18.5	28.0	34.9	51.3				4.5	23.8	45.1	53.8	61.7	69.1
5.2	18.7	28.1	35.0	52.1				5.0	24.3	45.3	53.9	61.8	69.3
5.5	18.9	28.3	35.2	52.9				5.5	25.0	45.4	54.1	61.9	69.4
5.9	19.3	28.4	35.3	53.8				5.8	25.8	45.6	54.3	62.1	69.6
6.2	19.6	28.5	35.4	54.7				6.1	26.6	45.7	54.5	62.2	69.7
6.8	19.8	28.7	35.6	56.1				6.5	26.8	45.9	54.7	62.3	69.9
7.5	20.1	28.9	35.8	58.3				6.9	27.3	46.0	54.8	62.5	70.0
7.9	20.2	29.0	35.9	60.2				7.2	27.8	46.2	54.9	62.6	70.1
8.1	20.3	29.1	36.0	62.3				7.5	28.2	46.3	55.1	62.8	70.2
8.5	20.5	29.2	36.1	63.2				7.8	28.5	46.5	55.3	62.9	70.9
8.9	20.8	29.4	36.2	64.6				8.2	29.0	46.8	55.4	63.2	71.3
9.3	20.9	29.6	36.3	65.8				8.5	29.4	46.9	55.6	63.3	71.4
9.6	21.1	29.7	36.4	66.3				8.9	29.8	47.0	55.7	63.4	71.9
9.8	21.3	29.8	36.6	67.3				9.3	30.0	47.2	55.9	63.5	72.5
10.2	21.5	29.9	36.7	68.1				9.7	30.5	47.3	56.0	63.6	72.9
10.4	21.6	30.1	36.8	68.9				10.0	30.7	47.4	56.2	63.8	73.6
10.8	21.8	30.2	36.9	69.5				10.3	30.9	47.6	56.3	63.9	73.9
11.1	22.0	30.3	37.1	70.1				10.8	31.3	47.8	56.5	64.3	74.2
11.4	22.2	30.5	37.2	70.9				11.1	32.0	47.9	56.6	64.4	74.5
11.5	22.5	30.6	37.3	71.5				11.6	32.3	48.1	56.8	64.5	74.8
11.8	22.6	30.7	37.4	72.6				12.3	33.2	48.3	56.9	64.6	75.3
12.0	22.7	30.8	37.8	73.8				12.5	33.4	48.4	57.0	64.7	75.7
12.2	22.8	30.9	37.9	74.6				12.8	33.5	48.6	57.2	64.9	76.1
12.5	22.9	31.1	38.3	75.1				13.1	33.8	48.7	57.3	65.0	
12.7	23.1	31.2	38.5	75.9				13.4	33.9	48.9	57.5	65.1	
12.9	23.2	31.3	38.7	76.3				13.8	40.1	49.0	57.7	65.2	
13.1	23.4	31.4	39.0	77.0				14.1	40.2	49.2	57.9	65.3	
13.3	23.6	31.6	39.4	78.5				14.3	40.4	49.4	58.0	65.5	
13.5	23.7	31.7	39.6	79.0				14.5	40.5	49.5	58.2	65.6	
13.7	23.8	31.9	39.8	79.8				14.7	40.8	49.7	58.3	65.8	
13.9	23.9	32.0	40.2	80.7				15.0	40.9	49.8	58.5	65.9	
14.2	24.0	32.1	40.5					15.3	41.2	50.1	58.6	66.1	
14.5	24.2	32.2	40.8					15.7	41.3	50.3	58.8	66.2	
14.7	24.5	32.3	41.2					16.0	41.5	50.5	58.9	66.3	
14.8	24.7	32.5	41.6					16.4	41.7	50.7	59.0	66.5	
15.0	24.8	32.6	41.9					16.7	41.9	50.9	59.2	66.6	
15.3	24.9	32.7	42.1					17.1	42.0	51.2	59.3	66.8	
15.5	25.0	32.8	42.3					17.5	42.2	51.3	59.4	66.9	
15.6	25.2	32.9	42.8					17.9	42.4	51.5	59.6	67.0	
15.8	25.4	33.0	43.0					18.3	42.6	51.7	59.7	67.2	
16.0	25.8	33.2	43.3					18.6	42.8	51.9	59.8	67.3	
16.1	25.9	33.3	43.7					18.9	42.9	52.0	59.9	67.4	
16.3	26.2	33.5	43.9					19.3	43.1	52.3	60.1	67.6	
16.5	26.4	33.6	44.2					19.7	43.3	52.5	60.2	67.7	
16.8	26.8	33.8	44.6					20.0	43.5	52.7	60.4	67.8	
17.0	27.0	33.9	44.9					20.2	43.6	52.8	60.5	67.9	
17.1	27.1	34.0	45.1					20.6	43.8	52.9	60.6	68.0	

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE					
				I-5987A		47533.1.2		I-95					
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS					
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley					
-L- 23+10 SB OSS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN					
				12/3 to 12/19/2019		-L- 35+90 SB OSS		12/3 to 12/19/2019					
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING		
SG	FILL	327767.7	1996279.1	ABC	AG	329003.5	1996611.9						
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters							
1.9	19.9	34.6						2.5	66.0				
2.1	20.2	35.5						4.1	67.5				
2.3	20.3	37.0						5.2	68.7				
2.5	20.5	38.1						6.3	70.0				
2.9	20.6	38.9						7.4	71.1				
3.1	20.8	39.6						8.2	72.3				
3.5	21.0	41.2						9.1	73.4				
3.9	21.2	42.9						9.9	74.6				
4.2	21.4	44.4						10.6	76.0				
4.7	21.5	46.3						11.5					
5.3	21.8	48.2						12.7					
6.0	21.9	50.3						12.9					
6.3	22.1	52.2						13.7					
6.8	22.3	53.2						14.3					
7.0	22.4	54.3						15.0					
7.3	22.5	55.1						15.9					
7.5	22.6	55.9						16.6					
7.9	22.8	56.3						17.3					
8.1	23.0	56.4						18.2					
8.3	23.1	56.5						19.1					
8.5	23.3	57.0						20.0					
8.9	23.4	57.6						21.0					
9.4	23.5							21.9					
9.6	23.6							23.1					
9.8	23.8							24.7					
10.3	24.0							25.5					
10.5	24.4							26.7					
10.7	24.8							28.1					
10.9	25.1							29.2					
11.2	25.4							30.6					
11.5	25.6							32.6					
11.9	25.8							34.0					
12.2	26.0							35.4					
12.7	26.3							37.2					
13.0	26.6							38.8					
13.3	26.9							40.4					
13.6	27.1							42.0					
13.8	27.3							43.5					
14.0	27.5							45.2					
14.6	27.8							46.9					
15.1	28.1							48.5					
15.6	28.5							50.1					
15.9	28.9							51.5					
16.3	29.3							53.2					
16.8	29.8							54.6					
17.2	30.1							56.0					
17.8	30.3							57.3					
18.4	30.5							58.4					
18.9	30.9							59.8					
19.1	31.3							61.2					
19.3	32.0							62.4					
19.5	32.9							63.7					
19.6	33.5							64.8					

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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 35+90 SB ISS				12/3 to 12/19/2019		-L- 35+90 SB ISL		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
SG	AG	328986.4	1996644.2	SG	AG	328996.0	1996636.5		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
2.2	42.5			1.9	26.1				
2.8	43.6			2.8	26.6				
3.5	44.7			3.5	27.4				
4.3	46.1			4.1	28.0				
4.9	47.4			5.0	28.7				
5.6	48.6			5.8	29.5				
6.1	49.6			6.3	30.2				
6.4	50.8			6.6	31.1				
6.7	51.9			6.8	31.6				
7.2	53.1			7.2	32.3				
7.5	54.2			7.6	33.2				
7.9	55.6			8.0	33.9				
8.3	56.6			8.6	35.0				
8.7	57.7			9.1	36.2				
9.1	58.5			9.4	37.5				
9.5	59.6			10.0	38.6				
9.9	60.5			10.6	39.7				
10.3	61.3			11.0	40.9				
10.7	62.6			11.4	41.9				
11.1	63.7			11.8	43.3				
11.5				12.3	44.3				
12.0				12.9	45.5				
12.3				13.3					
12.9				13.7					
13.4				14.2					
13.8				14.7					
14.7				15.0					
15.4				15.4					
16.1				15.8					
16.6				16.2					
17.3				16.4					
17.9				16.8					
18.5				17.2					
19.7				17.5					
20.3				17.9					
21.2				18.3					
21.9				18.8					
22.5				19.3					
23.3				19.8					
24.0				20.3					
24.8				20.7					
25.7				21.2					
26.6				21.6					
27.6				22.0					
28.7				22.6					
29.6				23.0					
31.1				23.4					
32.6				23.7					
34.1				24.2					
35.8				24.6					
37.5				25.1					
39.1				25.4					
40.6				25.8					

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 62+35 SB OSS				12/3 to 12/19/2019		-L- 62+35 SB OSL		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
ABC	FILL	331563.5	1997285.5	ABC	FILL	331558.1	1997293.4		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
1.7	27.5			1.8	27.9	75.8			
2.2	29.9			2.6	28.2				
3.0	31.1			3.4	28.7				
3.9	32.2			4.1	29.2				
4.0	33.1			4.8	29.7				
4.8	34.0			5.5	30.1				
5.6	34.9			6.1	30.6				
6.5	35.6			6.7	30.9				
7.4	36.4			7.6	31.2				
7.9	37.0			8.0	31.8				
8.3	37.7			8.4	32.4				
9.0	38.5			8.9	32.9				
9.5	39.0			9.3	33.3				
10.2	39.7			9.8	33.7				
10.9	40.4			10.2	34.4				
11.2	41.0			10.9	34.9				
11.8	41.8			11.4	35.2				
12.3	42.8			11.7	35.7				
13.0	43.9			12.4	36.1				
13.7	45.3			12.9	36.9				
14.2	47.2			13.4	37.4				
14.9	49.4			14.0	37.8				
15.4	51.4			14.7	38.2				
16.0	53.3			15.2	38.9				
16.7	55.1			15.9	39.3				
17.3	57.0			16.3	39.8				
17.8	58.9			16.7	40.2				
18.2	60.9			17.0	40.7				
18.9	62.2			17.5	41.0				
19.5	63.9			17.9	41.6				
20.0	65.5			18.3	42.1				
20.6	67.2			18.6	42.8				
20.9				18.9	43.3				
21.4				19.2	43.9				
21.8				19.7	44.4				
22.0				20.3	44.7				
22.6				20.7	45.1				
22.9				20.9	45.6				
23.2				21.3	46.0				
23.4				21.4	46.3				
23.7				21.9	46.9				
23.9				22.3	47.3				
24.2				22.8	48.2				
24.3				23.4	49.1				
24.4				23.9	50.4				
24.5				24.1	53.1				
24.6				24.6	56.1				
24.7				24.9	58.9				
24.9				25.3	63.1				
25.1				25.8	67.8				
25.3				26.2	70.9				
25.5				26.8	72.5				
26.2				27.4	73.9				

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				I-5987A		47533.1.2		I-95	
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS	
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley	
-L- 62+35 SB ISS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
				12/3 to 12/19/2019		-L- 84+65 SB OSS		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	EASTING
ABC	AG	331551.0	1997318.7	ABC	AG	333722.2	1997834.2		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
2.0	39.4			5.8					
2.6	40.3			7.6					
3.3	41.2			8.5					
3.9	42.4			9.5					
4.5	43.5			10.3					
5.0	44.5			11.2					
5.7	45.7			12.2					
6.3	46.8			13.1					
7.1	47.8			14.0					
7.6	49.0			14.8					
8.3	50.3			15.6					
9.0	51.5			16.5					
9.5	52.7			17.3					
10.1	53.8			18.2					
10.6	55.8			18.9					
10.9	57.8			19.4					
11.5	59.7			20.5					
12.1				21.8					
12.5				23.4					
13.0				27.3					
13.5				30.0					
14.0				31.6					
14.3				32.7					
14.9				33.7					
15.3				34.9					
15.8				36.2					
16.2				37.9					
16.9				39.3					
17.5				40.7					
18.2				41.8					
18.8				43.1					
19.4				44.2					
20.2				45.1					
20.9				45.9					
21.6				46.6					
22.4				47.5					
23.2				48.3					
24.1				49.3					
25.1				50.2					
26.0				51.5					
26.8				52.8					
27.8				54.7					
28.8				56.3					
29.8				57.8					
30.9				59.4					
32.0				60.8					
33.0				62.1					
33.9				63.0					
34.8									
35.6									
36.5									
37.3									
38.2									

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS	
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley	
-L- 84+65 SB ACCEL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
				12/3 to 12/19/2019		-L- 88+65 SB ISS		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	EASTING
ABC	AG	333719.0	1997840.7	SG	FILL	334092.6	1997993.8		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
0.8	74.8			0.7	46.5				
1.1	76.3			1.2	47.3				
1.3	77.6			1.7	48.0				
1.5	78.7			2.0	48.6				
2.3	80.1			2.5	49.3				
2.9	81.3			3.2	49.9				
4.2	82.5			3.9	50.5				
4.9	83.7			4.5	51.2				
5.6	84.8			5.2	52.0				
6.3	86.0			5.7	52.5				
7.5	87.1			6.2	53.2				
8.3	88.2			6.7	53.8				
9.0	89.1			7.3	54.4				
10.2	90.2			7.7	54.9				
11.1	91.0			8.3	55.5				
11.9	92.0			9.6	56.1				
12.3	92.8			10.7	56.8				
12.8	94.2			11.9	57.5				
13.6				13.1	58.1				
14.5				14.3	58.6				
15.2				15.8	59.2				
15.9				17.4	59.8				
16.8				18.7	60.3				
17.6				19.9	60.7				
18.6				21.2	61.2				
20.7				22.3	61.6				
21.6				23.4	62.0				
25.4				24.6	62.4				
28.9				25.6	62.9				
30.8				26.7	63.3				
32.3				27.5	63.6				
33.5				28.3	64.0				
34.5				29.1	64.3				
35.6				30.0	64.9				
37.4				30.7	65.3				
39.3				31.6	65.6				
41.6				32.4	66.1				
44.6				33.3	66.6				
47.8				34.2	66.9				
50.5				35.0	67.3				
52.5				36.1	67.8				
54.3				37.1	68.1				
56.3				38.1	68.5				
57.9				39.0	69.0				
59.5				39.9	69.3				
61.5				40.8	69.8				
63.5				41.6	70.2				
65.5				42.3					
67.2				42.9					
69.0				43.7					
70.4				44.4					
72.0				45.1					
73.6				45.7					

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				I-5987A	47533.1.2	I-95	
TEST LOCATIONS DESCRIPTION				COUNTY	ENGINEER	TECHNICIANS	
				Robeson	VLAD MITCHEV	D. Strother/J. Swartley	
-L- 88+65 SB ISL				DATE RUN	TEST LOCATION DESCRIPTION	DATE RUN	
				12/3 to 12/19/2019	-L- 114+40 SB OSS	12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SG	FILL	334097.0	1997988.3	SDB	FILL	336597.6	1998608.1
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.5	21.7	57.5		1.6	45.5		
2.1	22.4	58.4		2.9	46.4		
2.8	22.8	59.1		4.6	47.2		
3.2	23.0	59.9		5.0	47.9		
3.6	23.4	60.7		5.9	48.5		
4.0	23.8	61.0		6.2	49.3		
4.7	24.1	62.8		7.1	50.1		
5.4	24.5	64.0		8.2	50.7		
5.8	24.9	65.4		8.8	51.3		
6.1	25.4	66.1		10.2	52.1		
6.3	25.8	67.0		10.5	52.8		
6.5	26.5	67.5		11.5	53.6		
6.9	26.9			11.9	54.3		
7.2	27.4			12.1	55.0		
7.6	28.0			12.7	55.8		
7.8	28.8			13.7	56.3		
8.0	29.4			14.7	57.0		
8.1	30.1			15.8	57.7		
8.3	31.0			16.7	58.2		
8.5	32.9			17.9	59.1		
8.9	33.5			18.7	59.8		
9.6	34.3			19.6	60.6		
10.1	35.6			20.6	61.1		
10.5	36.1			21.6	61.6		
10.7	37.0			22.9	62.5		
11.2	38.2			24.4	63.2		
11.5	38.9			25.8	63.8		
11.9	39.7			27.0	64.7		
12.3	40.4			27.8	65.3		
12.6	41.0			28.0	66.2		
13.0	42.5			28.6			
13.5	43.1			29.4			
14.1	43.8			30.2			
14.4	44.6			30.6			
14.7	45.1			31.4			
15.0	45.8			32.1			
15.6	46.5			32.6			
15.9	47.0			33.3			
16.3	47.7			33.7			
16.8	48.5			34.4			
17.0	48.9			35.0			
17.5	49.4			35.5			
17.8	50.2			36.0			
18.2	51.0			36.7			
18.6	51.8			37.4			
18.9	52.1			38.1			
19.2	52.8			38.9			
19.5	53.4			39.5			
19.9	54.0			40.5			
20.3	54.7			41.1			
20.6	55.3			42.0			
21.0	55.9			43.2			
21.4	56.7			44.7			

CONE PENETROMETER DATA CODE SHEET				TIP	PROJECT I.D.	ROUTE	
				I-5987A	47533.1.2	I-95	
TEST LOCATIONS DESCRIPTION				COUNTY	ENGINEER	TECHNICIANS	
				Robeson	VLAD MITCHEV	D. Strother/J. Swartley	
-L- 114+40 SB OSL				DATE RUN	TEST LOCATION DESCRIPTION	DATE RUN	
				12/3 to 12/19/2019	-L- 114+40 SB ISS	12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SDB	FILL	336593.4	1998620.9	STBC	FILL	336589.2	1998642.1
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.5	47.2			1.2	27.0	48.0	58.7
2.7	48.0			1.6	27.8	48.3	58.9
4.4	48.7			2.1	28.7	48.5	59.0
4.7	49.4			2.5	29.6	48.7	59.2
5.7	50.1			3.0	30.2	49.0	59.4
6.1	50.8			3.4	30.9	49.2	59.7
7.0	51.4			3.7	31.6	49.4	60.0
8.1	52.1			4.2	32.2	49.6	60.2
8.8	52.8			4.6	32.9	49.8	60.5
10.1	53.8			5.0	33.5	50.0	60.8
10.4	54.3			5.3	34.1	50.1	60.9
11.5	55.0			5.8	34.7	50.5	61.2
11.8	55.8			6.3	35.2	50.7	61.5
12.0	56.3			6.7	35.4	50.8	61.9
13.6	57.0			7.2	35.8	51.1	62.1
14.5	57.6			7.7	36.2	51.2	62.5
15.7	58.2			8.2	36.6	51.4	62.6
16.6	59.1			8.5	36.9	51.7	62.9
17.6	59.8			9.0	37.3	51.8	63.2
18.6	60.6			9.5	37.6	52.0	63.3
19.5	61.1			9.8	37.8	52.2	63.7
20.6	61.6			10.3	38.3	52.4	63.9
21.5	62.5			10.8	38.5	52.6	64.2
22.7	63.2			11.3	38.8	52.9	64.5
24.2	63.7			11.8	39.0	53.0	64.8
25.7	64.6			12.2	39.4	53.1	65.0
26.9	65.4			12.6	39.6	53.4	65.3
27.7	66.2			12.9	39.9	53.5	65.5
28.5				13.6	40.2	53.8	65.8
29.2				14.0	40.5	53.9	66.1
30.0				14.3	40.8	54.1	66.4
30.6				14.8	41.2	54.3	66.6
31.2				15.2	41.5	54.4	67.0
32.0				15.5	41.8	54.5	67.1
32.5				15.9	42.1	54.8	67.5
33.2				16.3	42.4	54.9	67.7
33.7				16.8	42.8	55.1	68.1
34.4				17.3	43.1	55.3	68.3
34.9				17.8	43.5	55.4	
35.5				18.3	43.9	55.6	
36.0				18.8	44.2	55.8	
36.6				19.2	44.7	56.1	
37.3				19.7	45.0	56.3	
38.0				20.2	45.2	56.4	
38.8				20.7	45.6	56.8	
39.6				21.1	45.9	57.0	
40.5				21.6	46.3	57.2	
41.1				22.4	46.5	57.3	
42.0				23.0	46.7	57.6	
43.3				23.8	47.0	57.8	
44.7				24.6	47.4	58.0	
45.5				25.3	47.5	58.2	
46.4				26.1	47.8	58.5	

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade
AG = At Grade

RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
SDB = Sand Drainage Base


S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 114+40 SB DECEL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 142+50 SB ISS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SDB	FILL	336592.5	1998614.2	STBC	FILL	339295.3	1999361.3				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters							
2.5	35.0	56.5		1.6	23.6	52.3					
3.8	35.4	56.8		2.5	23.9	53.0					
4.9	35.9	57.1		3.1	24.2	53.9					
5.8	36.3	57.5		3.9	24.6	54.4					
6.6	36.6	57.8		4.6	25.4	55.1					
7.2	36.9	58.0		5.5	25.9	55.9					
8.3	37.4	58.3		6.0	26.1	57.1					
9.0	37.8	58.6		6.3	26.4	58.1					
10.1	38.1	58.9		6.9	26.7	58.9					
11.3	38.6	59.0		7.4	26.9	59.6					
12.6	39.0	59.3		7.8	27.1	60.5					
13.5	39.4	59.5		8.1	27.3	61.7					
14.2	39.9	59.8		8.6	27.6	62.6					
14.7	40.4	60.1		9.1	27.8	63.2					
15.5	40.9	60.5		9.6	28.6	64.5					
16.1	41.2	60.9		9.9	29.0	65.7					
16.8	42.5	61.2		10.4	29.4	66.0					
17.4	43.0	61.5		10.8	29.9	66.3					
18.0	43.3	61.6		11.2	30.4	66.9					
18.6	43.7	61.9		11.7	30.8	67.4					
19.2	44.0	62.1		12.0	31.7	68.3					
19.7	44.6	62.5		12.5	32.0	69.2					
20.0	45.1	62.8		12.9	32.3	70.9					
20.6	45.6	63.1		13.2	32.9						
21.0	45.9	63.4		13.6	33.2						
21.6	47.3	63.6		13.9	34.1						
22.0	48.3	63.9		14.0	34.4						
22.5	48.9	64.1		14.2	34.9						
23.0	49.2	64.6		14.6	35.3						
23.5	49.9	65.0		14.9	35.9						
24.1	50.3	65.3		15.1	36.9						
24.6	50.7	65.8		15.2	37.0						
24.9	51.0	66.1		15.6	37.9						
25.4	51.3	66.5		15.9	38.4						
25.9	51.5	66.9		16.2	39.6						
26.4	51.8	67.2		16.7	40.0						
26.9	52.0	67.9		16.9	40.6						
27.4	52.2	68.1		17.5	41.0						
28.0	52.5	68.9		17.9	41.9						
28.5	52.7			18.2	42.6						
29.0	53.0			18.6	43.7						
29.6	53.6			18.8	44.2						
30.4	53.9			19.0	44.8						
31.0	54.2			19.3	45.3						
31.4	54.7			19.5	46.2						
31.8	54.9			19.8	47.1						
32.2	55.0			20.5	47.9						
32.6	55.2			21.0	48.3						
33.1	55.4			21.4	49.0						
33.6	55.7			21.7	49.6						
33.9	55.9			21.9	50.2						
34.2	56.2			22.3	50.9						
34.9	56.3			23.1	51.5						

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 142+50 SB ISL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 143+50 SB OSS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	339304.9	1999354.7	SDB	FILL	339406.3	1999353.5				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters							
0.8	15.1	24.8	41.9	1.5	33.0	77.2					
1.1	15.3	25.0	42.2	2.1	33.6	77.9					
1.9	15.4	25.4	42.5	2.9	34.2	78.4					
2.3	15.6	25.7	42.8	3.4	34.9	78.7					
3.5	15.7	25.9	43.6	4.1	35.6	79.1					
4.1	15.9	26.1	44.2	4.9	36.4	79.5					
4.5	16.0	26.4	45.3	5.2	37.4	80.0					
4.8	16.2	26.7	46.6	5.6	38.0	80.6					
5.1	16.4	26.9	47.3	6.2	38.7	81.0					
5.3	16.6	27.0	48.1	6.7	39.4	81.4					
5.5	16.7	27.3	48.9	7.1	39.8	81.7					
5.9	16.9	27.5	49.2	7.6	40.7	82.0					
6.1	17.0	27.9	49.8	8.0	41.1	82.4					
6.4	17.2	28.0	50.3	8.4	41.8	82.8					
6.7	17.4	28.3	51.1	9.0	42.5	83.1					
6.9	17.5	28.5	51.9	9.6	43.1	83.4					
7.2	17.7	28.8	52.6	10.0	43.9	83.8					
7.5	17.8	28.9	53.0	10.4	44.4	84.0					
7.8	18.0	29.2	54.2	10.7	45.0	84.6					
8.1	18.2	29.6	55.1	11.3	45.7	85.0					
8.3	18.4	30.4	55.9	11.9	46.2	85.5					
8.6	18.6	30.7	56.2	12.6	46.6	85.9					
8.9	18.7	30.9	57.6	13.2	47.5	86.3					
9.1	19.0	31.3	58.1	13.9	48.3	86.5					
9.2	19.2	31.5	58.9	14.2	49.2	86.8					
9.4	19.3	31.7	59.3	14.7	50.0	87.1					
9.6	19.5	31.9	61.3	15.3	50.8	87.5					
9.9	19.7	32.3	62.8	15.7	51.9	87.8					
10.2	19.8	32.7		16.3	52.6	88.0					
10.4	19.9	32.9		16.9	54.3	88.3					
10.6	20.1	33.4		17.6	56.2	88.7					
10.9	20.3	33.7		18.3	57.2	89.0					
11.2	20.4	33.9		19.0	57.9	89.5					
11.4	20.6	34.2		19.7	58.5	89.7					
11.5	20.9	34.6		20.1	59.7	90.2					
11.7	21.1	34.9		20.7	60.2	90.6					
11.8	21.3	35.2		21.6	61.2	91.1					
11.9	21.5	35.8		22.2	62.0	91.7					
12.2	21.7	36.1		22.8	62.9	92.0					
12.4	21.9	36.4		23.4	63.9	92.5					
12.5	22.0	36.9		24.0	64.6	93.1					
12.6	22.4	37.0		24.8	65.6	93.6					
12.8	22.5	37.3		25.2	66.8	93.8					
13.0	22.7	37.6		25.8	67.6						
13.2	22.9	37.9		26.5	68.7						
13.4	23.0	38.1		27.1	69.9						
13.6	23.2	38.3		27.7	71.4						
13.9	23.4	38.6		28.5	72.3						
14.0	23.5	39.2		29.4	73.1						
14.3	23.6	39.9		29.9	73.9						
14.6	23.8	40.7		30.6	74.6						
14.8	23.9	41.0		31.7	75.5						
14.9	24.3	41.3		32.4	76.7						

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
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RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 168+65 SB ISS				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 180+35 SB OSS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	341830.9	2000029.6	STBC	FILL	342967.5	2000280.4				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.2	24.0	53.6		1.5	40.5	70.6					
1.9	24.7	54.1		2.6	41.3	71.3					
2.3	25.0	54.7		3.6	42.0	71.8					
3.1	25.6	54.9		4.5	42.8	72.3					
3.8	26.0	55.0		5.5	43.2	72.9					
4.5	26.4	55.5		6.1	44.0	73.4					
5.1	26.8	55.9		6.9	44.6	73.8					
6.0	27.1	56.2		7.6	45.3	74.6					
6.4	27.5	56.7		8.1	46.0	75.2					
6.8	27.9	57.0		8.7	46.8	75.7					
7.0	28.6	57.3		9.2	47.2	76.1					
7.5	28.9	57.6		9.8	47.9	76.8					
8.1	29.5	57.9		10.4	48.5	77.4					
8.6	30.2	58.0		10.9	49.1	77.7					
8.9	30.9	58.4		11.6	49.5	78.3					
9.2	31.3	58.9		12.0	50.0	78.6					
9.7	31.9	59.0		12.5	50.6	79.4					
9.9	32.5	60.0		13.5	51.2	79.7					
10.3	33.7	60.1		14.8	51.7	80.2					
10.7	34.0	60.2		15.6	52.3	80.5					
10.9	35.1	60.3		16.0	52.8	81.1					
11.1	35.8	60.3		16.9	53.1	81.5					
11.6	36.0	60.7		17.4	53.6	81.9					
12.1	36.8	60.9		18.1	54.2	82.5					
12.7	37.2	61.0		18.6	54.7	83.0					
13.0	37.9	61.6		19.7	55.1	83.4					
13.4	38.3	62.0		20.2	55.5	83.8					
13.9	38.9	62.3		20.9	56.3	84.3					
14.3	39.6	62.5		21.2	56.8	84.8					
14.7	40.2	62.9		22.5	57.2	85.5					
15.2	40.7	63.1		23.4	57.8	86.4					
15.7	41.2	63.6		24.0	58.6	87.2					
16.2	41.9	64.0		25.2	59.0	87.7					
16.5	42.6	64.2		25.8	59.6	88.5					
16.9	43.2	64.5		26.6	60.1	89.3					
17.3	43.8	64.7		27.0	60.8	90.5					
17.7	44.1	64.8		27.8	61.5	91.3					
18.2	44.9	64.9		28.4	62.2	92.0					
18.8	45.3	65.0		28.9	62.8	92.9					
18.9	45.8	65.2		29.6	63.4	93.6					
19.0	46.2	65.4		30.7	64.0	94.7					
19.3	46.9	66.0		31.0	64.3	95.6					
19.5	47.4	66.7		31.8	64.6	96.5					
19.8	48.0	67.1		32.5	65.1	97.8					
20.2	48.6	67.5		34.5	65.8						
20.7	49.1	68.0		35.8	66.7						
21.0	49.9	68.6		36.2	67.1						
21.5	50.5	69.0		36.6	67.8						
21.9	51.1			37.4	68.4						
22.0	51.7			38.2	68.6						
22.6	52.4			38.5	69.2						
23.0	52.9			38.9	69.7						
23.6	53.1			39.3	70.2						

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 180+35 SB OSL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 196+30 SB OSS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	342964.7	2000284.4	STBC	FILL	344543.9	2000415.9				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.6				2.6	34.8	80.1					
1.8	Auger	32.4	57.0	4.0	35.5	81.0					
2.1		32.9	57.7	4.7	36.1	82.0					
2.2		33.2	58.3	5.7	37.2	83.0					
2.3	18.1	33.6	58.7	6.0	37.8	84.0					
2.5	18.7	33.9	59.3	6.8	38.0	84.9					
3.4	19.2	34.2	60.1	7.1	38.4	86.1					
3.6	19.6	34.8	60.5	7.9	38.9	87.2					
3.9	19.9	35.1	61.1	8.8	39.5	88.1					
4.2	20.2	35.4	61.5	9.2	40.6	89.4					
4.5	20.6	35.9	62.2	10.0	41.1	90.0					
4.7	20.9	36.2	62.8	10.6	41.9	91.2					
4.8	21.1	36.7	63.3	11.0	42.3	92.0					
4.9	21.3	37.3	63.6	11.4	43.9	92.8					
5.0	21.6	37.9	64.4	12.2	44.7	93.6					
5.1	21.8	38.2	65.0	12.9	45.6	94.5					
5.2	22.1	38.6	65.8	13.5	46.2	95.5					
5.3	22.4	38.9	66.2	14.0	47.3	96.4					
5.5	22.6	40.0	66.9	14.5	47.9	97.0					
5.6	22.8	40.1	67.3	15.1	48.5	98.0					
5.8	23.1	40.4	67.8	15.8	49.3	98.7					
5.9	23.6	40.7	68.4	16.3	50.3	99.8					
6.0	23.8	41.3	68.9	16.9	51.1						
6.1	24.1	41.7	69.5	17.4	51.9						
6.2	24.3	42.5	70.2	18.3	52.6						
6.3	24.6	42.9	70.8	19.0	53.5						
6.4	24.7	43.2	71.4	19.6	54.2						
6.5	24.9	43.7	72.2	20.2	55.1						
6.6	25.1	44.5	72.7	20.8	55.9						
6.7	25.3	45.3	73.3	21.4	56.5						
6.8	25.6	45.9	74.0	22.0	57.2						
6.9	25.9	46.2	74.6	22.9	58.4						
7.1	26.2	46.7	75.2	23.2	59.2						
7.2	26.4	47.1	76.4	24.0	60.5						
7.3	26.6	47.5	77.1	24.5	61.6						
7.4	26.8	47.8	77.8	24.8	63.1						
7.5	27.1	48.2	78.3	25.5	64.6						
7.6	27.3	48.6	79.7	26.1	65.8						
7.7	27.5	49.3	80.6	26.6	67.0						
7.8	27.8	49.7	81.4	27.3	68.2						
7.9	28.2	50.2	82.5	28.0	69.1						
8.1	28.3	50.4	83.2	28.4	69.9						
8.2	28.6	50.8	83.8	28.8	70.7						
8.3	28.9	51.3	84.3	29.0	71.5						
8.4	29.2	52.6	85.0	29.6	72.4						
8.5	29.3	53.0	85.7	30.3	73.2						
8.6	29.9	53.9	86.1	30.9	74.0						
8.7	30.3	54.2	86.8	31.0	74.9						
8.8	30.7	54.7	87.3	31.6	75.8						
9.0	31.0	55.9	88.0	32.5	76.7						
9.2	31.3	56.2		33.1	77.7						
9.4	31.6	56.7		33.6	78.5						
9.9	32.1	56.9		34.1	79.2						

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade
AG = At Grade

RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
SDB = Sand Drainage Base


S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 196+30 SB ISS				12/3 to 12/19/2019		-L- 196+30 SB ISL		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
STBC	FILL	344549.8	2000451.4	STBC	FILL	344550.8	2000440.9		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
1.7	27.9	65.8		1.6	15.4	28.4			
2.2	28.5	67.1		1.9	15.6	28.6			
2.6	29.0	68.0		2.2	15.9	28.9			
3.0	29.5	68.8		2.5	16.4	29.2			
3.4	30.2	69.8		3.0	17.4	29.5			
3.8	30.7			3.5	17.6	29.7			
4.3	31.4			3.9	17.8	30.0			
4.7	32.0			4.4	17.9	30.2			
5.1	32.4			4.7	18.0	30.5			
5.5	32.9			4.9	18.2	30.9			
6.0	33.2			5.0	18.4	31.1			
6.3	33.7			5.3	18.7	31.6			
6.6	34.1			5.7	18.9	32.0			
6.9	34.5			6.0	19.0	32.4			
7.2	34.9			6.1	19.2	32.7			
7.5	35.5			6.5	19.4	32.9			
8.2	35.8			6.9	19.5	33.2			
8.6	36.4			7.1	19.8	33.6			
9.2	36.8			7.3	20.1	33.9			
9.8	37.2			7.5	20.6	34.2			
10.3	37.6			7.8	20.9	34.7			
11.0	38.1			8.2	21.2	35.0			
11.5	38.6			8.3	21.3	35.6			
12.1	39.0			8.5	21.4	36.2			
12.7	39.4			8.8	21.5	36.8			
13.2	39.8			9.0	21.7	37.2			
13.6	40.4			9.2	21.9	37.7			
14.1	40.9			9.7	22.1	38.0			
14.7	41.5			9.9	22.4	38.4			
15.1	42.0			10.3	22.7	38.9			
15.5	42.7			10.6	23.0	39.4			
15.8	43.4			10.9	23.1	39.8			
16.3	44.0			11.2	23.3	40.2			
16.6	44.8			11.4	23.5	40.5			
17.2	45.4			11.5	23.9	40.9			
17.5	46.4			11.8	24.0	41.3			
18.1	47.3			12.0	24.2	42.8			
18.6	48.2			12.2	24.3	44.1			
19.2	49.1			12.5	24.5	44.9			
19.7	50.2			12.7	24.8	46.8			
20.3	51.1			12.9	25.0	48.2			
20.8	52.1			13.0	25.2	49.3			
21.4	53.0			13.2	25.5	51.6			
21.8	53.9			13.3	25.9	53.0			
22.3	54.9			13.5	26.2	54.1			
22.9	56.0			13.8	26.6	57.3			
23.5	57.1			14.0	26.9	58.7			
24.1	58.2			14.2	27.1				
24.8	59.4			14.5	27.3				
25.5	60.6			14.6	27.5				
26.0	61.9			14.8	27.8				
26.6	63.0			15.0	27.9				
27.3	64.3			15.1	28.1				

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 217+50 SB OSS				12/3 to 12/19/2019		-L- 217+50 SB ISS		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
STBC	FILL	346664.5	2000479.3	SG	FILL	346667.7	2000514.3		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
1.4	47.4	81.9		1.6	28.0	49.1			
2.0	47.9	82.5		3.1	28.3	49.7			
2.7	48.3	83.1		4.0	28.8	50.1			
3.5	48.9	83.7		4.5	29.2	50.6			
4.3	49.3	84.0		5.2	29.8	51.0			
5.4	49.7	84.4		5.9	30.6	51.5			
6.2	50.1	85.0		6.5	31.2	52.0			
7.0	50.8	85.7		7.3	31.9	52.6			
7.9	51.5	86.1		8.0	32.5	53.1			
8.7	52.0	86.5		8.6	33.0	53.5			
9.5	52.7	87.2		9.2	33.5	54.0			
10.5	53.0	87.8		10.0	33.8	54.6			
11.1	53.5	88.5		10.5	34.2	55.4			
11.9	54.0	89.1		10.9	34.7	56.1			
12.8	54.8	89.9		11.5	35.0	56.9			
13.8	55.6	90.1		12.2	35.3	57.4			
14.6	56.4	90.9		12.7	35.5	58.2			
15.7	59.1	91.5		13.2	36.0	58.9			
16.6	60.8	92.2		13.8	36.1	59.8			
17.6	62.3	93.4		14.5	36.5	60.5			
19.0	64.7	94.0		15.0	36.8	61.2			
20.1	67.3	94.8		15.5	37.1	62.0			
21.2	68.7			16.0	37.5	62.5			
22.7	69.6			16.5	37.7	63.0			
24.1	70.4			17.0	38.1	63.4			
25.7	71.1			17.4	38.5	63.9			
27.5	71.6			17.8	38.7	64.4			
29.0	72.2			18.2	39.0	64.7			
30.6	73.1			18.7	39.4	65.3			
32.1	73.4			19.2	39.7	65.7			
33.9	73.9			19.6	39.9	66.1			
35.6	74.3			19.9	40.2	66.5			
36.8	74.7			20.4	40.6	66.7			
37.9	75.1			20.7	41.0	67.0			
38.5	75.3			21.2	41.2	67.3			
39.1	76.2			21.5	41.6	67.6			
39.6	76.3			22.0	41.9	67.9			
40.3	76.7			22.3	42.4	68.2			
40.7	76.8			22.7	42.9	68.4			
41.2	77.2			22.9	43.2	68.6			
41.7	77.9			23.3	43.5	68.7			
42.2	78.0			23.7	43.9	69.1			
42.7	78.2			24.0	44.4	69.3			
43.1	78.5			24.3	44.7	69.6			
43.7	78.9			24.7	45.0	69.8			
44.0	79.0			25.1	45.3	70.1			
44.5	79.5			25.5	45.8	70.3			
44.9	79.7			25.9	46.1	70.6			
45.1	79.9			26.3	46.7	70.9			
45.7	80.3			26.5	47.0	71.1			
46.2	80.6			26.9	47.6	71.5			
46.8	80.9			27.3	48.1	71.8			
47.0	81.3			27.7	48.6	72.0			

SG = Subgrade
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STBC = Soil Type Base Course
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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 227+05 SB ISS <td colspan="2">Robeson</td> <td colspan="2">VLAD MITCHEV</td> <td colspan="2">D. Strother/J. Swartley</td>				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN				TEST LOCATION DESCRIPTION				DATE RUN			
12/3 to 12/19/2019				-L- 227+05 SB ISL				12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	347617.1	2000544.9	STBC	FILL	347617.8	2000538.9				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
1.4	29.9	61.7		0.6	14.5	30.7					
2.3	30.6	62.1		1.1	14.8	31.0					
2.9	31.1	62.8		1.6	15.0	31.4					
3.5	31.9	63.2		1.9	15.3	31.6					
4.6	32.6	63.9		2.2	15.6	31.9					
5.1	33.1	64.2		2.7	15.9	32.2					
6.0	33.8	64.6		3.1	16.2	32.6					
6.8	34.2	65.0		3.4	16.6	33.0					
7.3	34.9	65.6		3.8	16.8	33.5					
7.9	35.6	66.2		4.0	17.0	33.9					
8.9	37.0	66.8		4.2	17.3	34.5					
9.6	38.1	67.2		4.5	17.5	34.8					
10.0	38.8	67.9		4.8	17.7	35.6					
10.5	39.2	68.3		5.0	17.9	36.0					
11.1	39.5	68.8		5.2	18.1	36.3					
11.6	40.0	69.6		5.6	18.4	36.7					
12.0	40.6	70.2		5.8	18.6	37.0					
12.7	41.0	70.6		6.1	18.9	37.8					
12.9	41.7	71.4		6.3	19.2	38.5					
13.2	42.0	72.0		6.5	19.5	38.9					
13.7	42.5	72.6		6.8	19.8	39.3					
14.0	43.1	73.0		7.0	20.2	39.8					
14.5	43.6			7.2	20.4	40.6					
14.9	44.0			7.4	20.8	41.3					
15.2	44.6			7.5	21.0	41.6					
15.5	45.1			7.8	21.4	41.8					
15.8	45.7			8.0	21.6	42.0					
16.0	46.0			8.2	21.8	42.6					
16.3	46.9			8.4	22.0	43.2					
16.7	47.5			8.5	22.3	43.5					
17.1	47.9			8.7	22.7	43.9					
17.5	48.8			8.9	23.0	44.4					
17.8	49.4			9.2	23.4	45.3					
18.5	50.0			9.5	23.7	46.2					
19.2	51.2			9.8	23.9	46.8					
19.6	52.1			10.1	24.3	47.2					
20.3	52.9			10.3	24.5	47.5					
20.9	54.1			10.6	24.8	47.9					
21.5	55.2			10.8	25.0	48.3					
21.9	55.9			11.1	25.3	48.6					
22.5	56.4			11.3	25.9	48.9					
22.8	56.9			11.6	26.5	49.2					
23.6	57.3			11.8	26.8	49.7					
24.3	57.8			12.0	27.0	50.0					
24.9	58.1			12.2	27.4	50.5					
25.4	58.8			12.5	27.8	50.8					
26.0	59.0			12.9	28.1	51.1					
26.5	59.2			13.1	28.4	51.7					
27.0	59.5			13.3	28.9	52.6					
27.6	60.0			13.5	29.3						
28.1	60.5			13.7	29.7						
28.9	60.8			13.9	30.0						
29.4	61.3			14.3	30.3						

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 247+70 SB OSS				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN				TEST LOCATION DESCRIPTION				DATE RUN			
12/3 to 12/19/2019				-L- 277+70 SB OSS				12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	349682.7	2000599.4	STBC	FILL	352681.5	2000720.0				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
2.8	27.1	50.7		1.4	45.5	88.3					
4.0	27.6	51.2		2.1	46.4	89.4					
5.0	27.9	51.7		2.8	47.0	90.0					
5.8	28.2	52.2		3.4	47.8	90.6					
6.9	28.7	52.7		3.8	48.5	91.4					
7.7	29.0	53.1		4.1	49.0	92.8					
8.5	29.3	53.6		4.9	49.6	93.6					
9.5	29.5	53.9		5.6	50.3	94.6					
10.2	30.0	54.5		6.0	51.0	95.8					
11.2	30.2	55.0		6.3	51.9	96.6					
11.9	30.6	55.4		6.7	52.6	97.5					
12.5	30.9	56.1		7.1	53.5	99.2					
12.9	31.1	56.7		7.6	54.4	100.0					
13.5	31.6	57.3		8.0	55.1						
14.0	31.8	57.8		8.3	56.0						
14.5	32.0	58.0		8.9	56.9						
14.9	32.4	58.4		9.3	57.8						
15.3	32.6	59.3		10.4	58.5						
15.7	32.9	60.1		10.7	59.6						
15.9	33.2	60.8		11.0	60.3						
16.2	33.7	61.3		11.8	61.1						
16.8	34.0	61.6		12.2	62.3						
17.0	34.5	62.4		12.6	63.3						
17.4	35.0	63.0		13.1	64.0						
17.9	35.3	63.7		14.5	64.7						
18.2	35.8			15.2	65.8						
18.5	36.1			16.4	66.5						
18.8	36.7			16.9	67.7						
19.1	37.2			17.5	69.0						
19.5	37.6			18.2	69.9						
19.9	38.0			18.9	71.0						
20.2	38.6			19.5	72.4						
20.5	39.0			20.3	73.6						
20.9	39.4			21.2	74.9						
21.0	40.1			22.4	76.0						
21.4	40.7			23.4	77.1						
21.7	41.1			24.7	78.0						
22.1	41.9			26.2	78.9						
22.8	42.4			28.0	79.6						
22.9	42.8			29.5	80.6						
23.0	43.3			30.7	81.0						
23.3	44.1			32.1	81.5						
23.6	44.8			33.4	82.0						
24.0	45.0			35.0	82.6						
24.4	45.6			36.4	83.2						
24.9	46.2			37.6	83.8						
25.0	46.9			38.8	84.2						
25.3	47.3			39.9	85.0						
25.7	47.7			40.7	85.5						
25.9	48.1			41.4	86.0						
26.1	48.9			42.6	86.6						
26.3	49.3			43.7	87.2						
26.8	49.7			44.6	87.7						

SG = Subgrade
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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 277+70 SB OSL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 277+70 SB ISS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SG	FILL	352677.8	2000731.9	STBC	FILL	352678.0	2000753.7				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
1.1	17.9	67.4		0.5	36.0	71.5					
1.6	18.2	68.4		1.2	36.4	72.4					
2.0	18.7	69.6		1.9	37.0	73.0					
2.1	19.6	70.6		2.6	38.1	73.5					
2.3	20.0	72.0		3.1	39.1	74.1					
2.5	20.6	73.5		4.2	39.8	74.9					
2.7	21.1	74.9		4.9	40.3	75.6					
2.9	22.0	76.1		5.7	41.1	76.5					
3.0	22.9	77.4		6.5	41.8	77.0					
3.1	23.5	78.5		7.2	42.9	77.5					
3.2	23.9	79.7		7.9	43.7	77.9					
3.3	24.9	80.5		8.7	44.1	78.8					
3.4	25.6	81.5		8.9	44.8	79.4					
3.4	26.5	82.6		10.0	45.3	79.9					
3.5	27.2	83.5		10.8	45.9	80.7					
3.5	27.9	84.7		11.4	46.7	81.5					
3.6	28.3	85.2		12.1	47.0	82.1					
3.6	29.6	85.8		12.8	47.7	82.6					
3.7	30.7	86.6		13.2	48.6						
3.7	31.7			13.9	49.7						
3.8	32.9			14.4	50.6						
3.8	34.0			14.8	51.0						
3.8	36.7			15.5	51.8						
3.9	37.0			16.0	52.4						
3.9	39.4			16.3	53.6						
3.9	40.0			16.9	54.0						
3.9	41.4			17.5	54.6						
4.0	42.4			18.0	55.1						
4.0	43.3			18.8	55.9						
4.0	44.1			19.2	56.5						
4.1	44.9			19.6	57.1						
4.1	45.5			20.8	57.7						
4.2	46.1			21.4	58.3						
4.2	47.0			22.0	58.9						
4.2	47.6			22.6	59.5						
4.2	48.0			23.1	60.2						
4.2	48.8			24.0	60.9						
4.3	49.5			24.7	61.6						
4.3	50.2			25.5	62.3						
4.3	50.8			26.1	63.0						
4.3	51.6			26.9	63.5						
4.4	52.0			27.6	64.1						
4.4	52.7			28.5	64.7						
4.4	53.4			29.3	65.1						
4.5	55.4			29.9	65.8						
4.5	56.8			30.6	66.6						
Auger	58.0			31.2	67.1						
Auger	60.0			32.0	67.8						
Auger	61.4			32.7	68.4						
15.4	63.4			33.3	68.9						
16.7	64.5			34.6	69.8						
17.1	65.4			34.9	70.2						
17.6	66.4			35.5	70.9						

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
-L- 277+70 SB DECEL				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
				12/3 to 12/19/2019		-L- 298+25 SB OSS		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
SG	FILL	352680.0	2000725.3	STBC	FILL	354731.4	2000743.7				
Cumulative Penetration in Centimeters						Cumulative Penetration in Centimeters					
0.8	18.9	59.0		0.8	33.8	50.4	70.4	93.1			
1.1	19.4	60.5		1.2	34.3	50.8	70.7	93.6			
1.5	19.8	61.9		1.5	34.7	51.2	71.1	94.0			
1.7	20.2	62.8		1.9	34.9	51.6	71.5	94.2			
1.9	20.4	63.8		2.3	35.0	51.8	71.9	94.9			
2.0	20.6	64.7		2.8	35.4	52.0	72.2	95.2			
2.1	21.0	65.6		3.4	35.9	52.2	72.6	95.4			
2.2	21.9	66.5		3.8	36.3	52.5	72.9	95.8			
2.3	22.5	67.4		4.2	36.6	52.8	73.1	96.0			
2.4	23.1	68.0		4.9	36.9	53.1	73.5	96.3			
2.5	24.3	69.5		5.4	37.3	53.5	73.8	96.7			
2.6	25.0	70.3		5.8	37.7	53.7	74.0	97.0			
2.8	26.4	71.1		6.3	38.0	54.0	74.3				
2.9	27.0	72.2		6.7	38.5	54.2	74.6				
3.0	27.9	73.0		7.2	38.8	54.4	75.0				
3.2	28.5	74.4		7.7	39.0	54.9	75.3				
3.3	29.2	75.7		8.0	39.4	55.1	75.8				
3.3	30.5	76.6		8.4	39.7	55.5	76.0				
3.4	31.5	77.5		8.8	40.1	55.8	76.2				
3.4	32.6	78.6		9.1	40.3	56.1	76.7				
3.5	33.5	79.5		9.6	40.7	56.5	77.0				
3.6	34.4	80.2		10.3	41.1	56.9	77.5				
3.6	35.0	81.2		10.6	41.5	57.3	77.9				
3.7	36.1	82.6		11.2	41.7	57.7	78.3				
3.9	36.7	83.7		11.7	42.0	58.0	78.7				
4.0	37.3	84.5		12.0	42.3	58.4	79.1				
4.1	38.0	85.5		12.6	42.6	58.8	79.9				
4.1	38.5	86.3		13.0	43.2	59.2	80.5				
4.2	39.2	87.0		13.2	43.8	59.5	80.8				
4.2	40.0	87.6		13.9	44.0	59.7	81.6				
4.3	40.6	88.1		14.8	44.2	60.2	82.5				
4.3	41.6			15.2	44.6	60.7	83.2				
4.4	42.3			16.2	44.9	61.0	84.0				
4.4	43.1			16.8	45.2	61.3	84.5				
4.4	43.7			17.3	45.5	61.8	85.1				
4.5	44.4			18.4	45.8	62.0	85.8				
4.5	45.0			19.3	46.1	62.4	86.0				
4.5	45.5			20.5	46.3	62.9	86.4				
4.6	46.1			21.7	46.7	63.2	87.0				
4.6	46.8			22.7	46.9	63.5	87.5				
4.6	47.5			24.1	47.2	64.0	87.9				
Auger	48.0			25.9	47.6	64.4	88.2				
Auger	48.7			26.8	47.9	64.8	88.5				
Auger	49.6			27.3	48.0	65.2	88.9				
14.2	50.5			28.5	48.3	65.8	89.6				
15.3	51.4			29.6	48.5	66.2	89.8				
15.9	52.1			30.4	48.9	66.9	90.0				
16.4	52.9			31.0	49.1	67.5	90.6				
17.4	53.8			31.6	49.3	68.0	90.9				
17.5	54.6			31.9	49.5	68.6	91.5				
17.7	55.5			32.2	49.7	69.0	91.8				
17.9	56.4			32.5	49.9	69.4	92.1				
18.3	57.4			32.9	50.2	70.0	92.5				

SG = Subgrade
 SS = Stabilized Soil
 CTBC = Cement-Treated Base Course
 ABC = Aggregate Base Course
 ESG = Estimated Subgrade
 AG = At Grade
 RGDL = Rounded Gravel Drainage Layer
 STBC = Soil Type Base Course
 SDB = Sand Drainage Base


 S&ME, Inc.
 3201 Spring Forest Road
 Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 298+25 SB ISS <td colspan="2">Robeson</td> <td colspan="2">VLAD MITCHEV</td> <td colspan="2">D. Strother/J. Swartley</td>				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 298+25 SB ISL		12/3 to 12/19/2019		-L- 298+25 SB ISL		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	354731.4	2000773.2	STBC	FILL	354734.1	2000770.3	STBC	FILL	357207.7	2000765.6
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.7	24.7	39.5	61.2	0.8	7.2	11.4	16.1	28.4			
3.0	24.9	39.8	61.8	1.2	7.3	11.5	16.8	28.7			
4.3	25.1	40.0	62.1	1.6	7.4	11.6	17.0	28.9			
5.5	25.6	40.2	62.5	1.7	7.5	11.7	17.1	29.0			
6.5	25.9	40.7	62.8	1.9	7.6	11.8	17.3	29.5			
7.2	26.1	41.0	63.1	2.2	7.7	11.9	17.4	29.8			
8.6	26.5	41.5	63.8	2.4	7.8	12.0	17.8	30.0			
9.1	26.8	41.9	64.5	2.5	8.1	12.1	18.0	30.2			
10.5	27.0	42.2	65.2	2.8	8.3	12.2	18.5	30.5			
10.8	27.1	42.8	65.7	3.3	8.5	12.3	18.8	30.9			
11.2	27.4	43.0	66.0	4.0	8.6	12.4	18.9	31.0			
11.7	27.7	43.2	66.8	4.1	8.8	12.4	19.0	31.7			
12.1	27.9	43.8	67.3	4.3	9.1	12.5	19.3	31.9			
12.6	28.0	44.1	68.0	4.5	9.2	12.5	19.6	32.0			
13.1	28.2	44.8	68.6	4.8	9.3	12.6	19.9	32.6			
13.6	28.4	45.1	68.9	5.0	9.4	12.6	20.2	32.9			
14.0	28.6	45.6	69.3	5.1	9.5	12.7	20.5	33.3			
14.3	28.7	46.0	70.1	5.2	9.6	12.7	20.6	33.7			
14.6	29.2	46.4	70.6	5.3	9.7	12.7	20.8	34.0			
15.0	29.7	46.9	71.0	5.4	9.8	12.8	21.0	34.3			
15.3	30.3	47.4	71.5	5.5	9.9	12.9	21.2	34.8			
15.8	30.5	48.0	71.9	5.6	10.0	13.0	21.4	35.5			
16.2	30.7	48.6	72.5	5.7	10.1	13.1	21.5	35.7			
16.7	30.9	49.0	73.3	5.8	10.2	13.2	21.6	36.0			
16.9	31.1	49.3		6.0	10.3	13.3	21.7	36.6			
17.0	31.5	49.9		6.2	10.4	13.3	21.9	37.0			
17.3	31.7	50.6		6.2	10.4	13.4	22.2	37.5			
17.5	31.9	50.9		6.3	10.5	13.4	22.3	37.9			
17.6	32.3	51.0		6.3	10.5	13.5	22.6	38.2			
17.8	33.1	51.2		6.3	10.6	13.6	22.9	38.5			
18.0	33.2	51.5		6.3	10.6	13.7	23.0	39.0			
18.3	33.3	51.8		6.3	10.7	13.8	23.2	39.5			
18.5	33.4	52.0		6.3	10.7	13.9	23.4	40.3			
18.9	33.6	52.6		6.3	10.8	14.0	23.6	40.9			
19.3	33.7	52.9		6.4	10.8	14.1	23.7	41.4			
19.7	33.8	53.0		6.4	10.9	14.2	23.9	42.3			
20.0	33.9	53.5		6.4	10.9	14.3	24.0	43.8			
20.4	34.1	53.8		6.4	11.0	14.4	24.2	43.9			
20.7	34.3	54.1		6.4	11.0	14.5	24.5	44.1			
21.0	34.7	54.8		6.4	11.1	14.5	24.8	44.6			
21.2	35.0	55.1		6.4	11.1	14.6	25.0	45.6			
21.5	35.3	55.6		6.5	11.2	14.8	25.1	46.0			
21.9	35.7	55.9		6.5	11.2	14.9	25.4	46.2			
22.2	35.9	56.2		6.5	11.2	15.1	25.7	46.3			
22.5	36.0	56.7		6.5	11.2	15.2	25.9	46.4			
22.8	36.2	57.0		6.6	11.2	15.2	26.0	46.8			
23.0	36.5	57.3		6.6	11.3	15.3	26.3	47.0			
23.2	36.9	57.9		6.7	11.3	15.3	26.6				
23.3	37.2	58.2		6.7	11.3	15.4	26.8				
23.5	37.9	58.9		6.8	11.3	15.5	27.0				
23.9	38.1	59.4		6.9	11.3	15.6	27.3				
24.2	38.6	60.0		7.0	11.3	15.7	27.8				
24.5	38.9	60.8		7.1	11.3	15.8	28.0				

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 323+00 SB OSS				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 323+00 SB OSL		12/3 to 12/19/2019		-L- 323+00 SB OSL		12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	357207.7	2000765.6	STBC	FILL	357205.2	2000774.3	STBC	FILL	357205.2	2000774.3
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.5	24.1	48.2	63.2	94.8	1.0	11.9	21.3	30.9	38.1	45.2	
2.2	24.6	48.4	63.5	95.2	1.3	12.1	21.5	31.0	38.3	45.3	
2.6	25.3	48.6	64.4	95.3	1.5	12.3	21.6	31.2	38.4	45.4	
3.6	25.8	48.9	64.8	96.6	1.9	12.5	21.7	31.3	38.6	45.5	
4.0	26.4	49.0	65.2	97.0	2.1	12.6	21.9	31.4	38.7	45.6	
4.2	27.0	49.3	65.7	97.8	2.6	12.7	22.0	31.5	38.9	45.7	
4.6	27.7	49.6	66.0		2.9	12.8	22.2	31.6	39.0	45.8	
5.1	28.2	50.0	66.6		3.1	13.0	22.5	31.7	39.1	45.9	
5.6	28.8	50.2	67.0		3.5	13.1	22.7	31.9	39.2	46.0	
5.9	29.2	50.3	67.3		3.8	13.2	22.9	32.2	39.3	46.1	
6.5	30.1	50.8	67.7		3.9	13.3	23.2	32.3	39.4	46.2	
6.8	30.6	51.1	68.1		4.4	13.5	23.4	32.6	39.5	46.3	
7.2	31.3	51.4	68.7		4.7	13.7	23.7	32.8	39.7	46.4	
7.6	31.7	51.5	69.1		5.0	13.8	23.8	32.9	39.8	46.5	
8.2	32.4	51.6	69.5		5.3	13.9	24.0	33.0	40.0	46.6	
8.5	32.9	51.9	70.2		5.6	14.1	24.2	33.1	40.1	46.7	
9.0	33.5	52.5	70.6		6.1	14.3	24.5	33.2	40.2	46.8	
9.4	33.9	52.7	70.9		6.4	14.6	24.7	33.3	40.3	46.9	
9.7	34.4	53.0	71.6		6.7	14.8	24.8	33.4	40.5	47.0	
10.0	35.0	53.3	72.3		6.9	15.0	24.9	33.5	40.8	47.2	
10.3	35.6	53.6	73.0		7.0	15.2	25.1	33.7	41.0	47.3	
10.7	36.2	53.9	73.8		7.2	15.5	25.2	33.9	41.1	47.5	
11.4	36.8	54.3	74.2		7.3	15.8	25.4	34.0	41.2	47.7	
11.7	37.4	54.6	75.0		7.4	15.9	25.5	34.1	41.3	47.9	
12.1	38.0	54.8	75.6		7.5	16.1	25.7	34.2	41.4	48.0	
12.3	38.6	55.1	76.1		7.7	16.3	25.9	34.3	41.5	48.2	
12.6	39.3	55.3	77.2		7.9	16.6	26.1	34.5	41.6	48.3	
12.9	39.7	55.4	78.1		8.0	16.8	26.3	34.6	41.7	48.5	
13.5	40.5	55.6	78.8		8.1	16.9	26.6	34.7	41.8	48.7	
13.9	41.0	56.1	79.4		8.3	17.0	26.9	34.9	41.9	48.9	
14.3	41.2	56.4	80.2		8.5	17.2	27.1	35.1	41.9	49.1	
14.6	41.6	56.6	80.7		8.6	17.5	27.3	35.3	42.0	49.4	
15.0	42.1	56.8	81.4		8.8	17.7	27.5	35.5	42.1	49.7	
15.4	42.5	57.2	82.3		9.0	17.9	27.6	35.6	42.3	49.8	
15.8	42.9	57.4	82.8		9.1	18.0	27.8	35.6	42.5	49.9	
16.2	43.2	57.7	83.6		9.3	18.1	28.0	35.7	42.7	50.3	
16.7	43.4	58.0	84.3		9.5	18.3	28.1	35.7	42.9	50.8	
17.0	43.6	58.4	85.2		9.7	18.4	28.2	35.8	43.0	51.0	
17.5	43.8	58.6	85.6		9.8	18.6	28.3	35.9	43.1	51.4	
17.9	44.3	58.9	86.3		10.0	18.8	28.4	36.0	43.2	51.7	
18.3	44.7	59.2	87.1		10.2	18.9	28.6	36.2	43.3	51.9	
18.7	45.0	59.6	87.9		10.4	19.2	28.7	36.4	43.4	52.5	
18.8	45.2	59.7	88.7		10.5	19.3	28.9	36.6	43.5	52.9	
19.3	45.5	60.0	89.2		10.6	19.4	29.1	36.7	43.7	53.3	
19.6	45.7	60.3	90.5		10.7	19.6	29.3	36.8	43.9	53.7	
20.1	46.0	60.4	91.4		10.8	19.8	29.4	36.9	44.1	54.1	
20.5	46.4	60.7	92.1		10.9	19.9	29.6	37.1	44.2	54.8	
20.9	46.6	60.9	92.9		11.1	20.0	29.7	37.2	44.3	55.2	
21.5	46.9	61.4	93.6		11.2	20.2	29.9	37.4	44.4	55.5	
22.0	47.0	61.8	93.8		11.4	20.4	30.2	37.5	44.7	55.8	
22.5	47.4	62.1	93.9		11.5	20.8	30.5	37.7	44.9	56.3	
22.9	47.6	62.6	94.1		11.6	21.0	30.7	37.8	45.0	56.7	
23.5	47.9	62.9	94.6		11.8	21.2	30.8	37.9	45.1	56.9	

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
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ESG = Estimated Subgrade
AG = At Grade

RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
SDB = Sand Drainage Base


S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 323+00 SB ISS <td colspan="2">Robeson <td colspan="2">VLAD MITCHEV <td colspan="2">D. Strother/J. Swartley </td></td></td>				Robeson <td colspan="2">VLAD MITCHEV <td colspan="2">D. Strother/J. Swartley </td></td>		VLAD MITCHEV <td colspan="2">D. Strother/J. Swartley </td>		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 349+80 SB OSS		12/3 to 12/19/2019		-L- 349+80 SB ISS		12/3 to 12/19/2019			
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING
STBC	FILL	357218.6	2000791.7	STBC	FILL	359882.9	2000787.8	STBC	FILL	359889.1	2000816.8
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.3	24.9	43.5	58.5	0.8	34.6	66.9	82.9	0.8	35.9	72.4	88.3
2.5	25.1	43.8	58.8	1.3	35.4	67.3	83.3	1.2	36.6	72.7	88.5
3.1	25.5	44.0	59.2	2.0	36.1	67.6	83.7	1.6	36.9	73.3	88.8
3.6	25.9	44.2		2.6	36.7	68.0	84.1	1.9	37.6	73.9	89.1
4.0	26.3	44.4		3.2	37.3	68.4	84.7	2.3	38.4	74.4	89.4
4.7	26.9	44.7		3.8	38.6	68.7	85.2	2.8	39.0	75.0	89.8
5.0	27.4	44.9		4.3	39.4	69.1	86.0	3.2	39.2	75.5	90.0
5.3	28.0	45.1		4.7	41.2	69.4	86.4	3.6	39.5	76.0	90.3
5.5	28.6	45.4		5.2	42.5	70.0	87.0	4.2	40.8	76.5	90.9
5.9	29.1	45.8		5.8	43.0	70.3	87.3	4.9	41.0	77.0	91.2
6.5	29.3	46.0		6.3	43.7	70.6	87.8	5.8	42.0	77.6	91.9
6.6	29.5	46.3		6.9	44.2	71.1	88.2	7.5	42.7	78.0	92.6
6.7	29.9	46.5		7.4	44.9	71.4	88.7	8.6	43.1	78.3	93.1
7.0	30.1	46.9		7.7	45.6	71.9	89.0	9.6	44.4	78.6	93.6
7.2	30.5	47.3		8.1	46.3	72.0	89.4	10.3	45.2	79.0	94.1
7.7	30.8	47.9		8.6	47.0	72.4	89.9	11.3	46.4	79.3	94.6
8.0	31.0	48.1		9.2	47.9	72.7	90.3	12.5	47.1	79.6	95.1
8.2	31.5	48.3		9.7	48.6	73.0	90.6	13.6	48.4	80.0	95.6
8.5	32.0	48.6		10.4	49.5	73.6	91.0	14.6	49.0	80.4	96.1
8.9	32.3	48.9		11.1	50.0	73.8	91.1	15.8	49.8	81.0	96.6
9.6	32.6	49.0		11.7	50.6	74.1	91.2	16.4	50.6	81.4	97.1
9.9	32.9	49.2		12.3	51.4	74.5	91.5	17.1	51.7	81.8	97.6
10.5	33.5	49.3		13.2	52.0	74.7	92.2	18.1	52.0		98.1
11.2	34.1	49.5		14.2	52.7	75.0	92.8	19.0	52.9		98.6
11.6	34.6	49.9		14.9	53.5	75.3	93.2	19.8	53.7		99.1
12.0	34.7	50.4		15.6	54.0	75.9	93.7	20.2	54.4		99.6
12.4	34.9	50.8		16.5	54.7	76.2	94.0	20.9	55.3		100.1
12.8	35.1	51.0		17.4	55.2	76.4	94.2	21.3	56.1		100.6
13.1	35.4	51.3		18.4	55.8	76.6	94.6	21.7	57.0		101.1
13.6	35.8	51.7		19.0	56.3	76.9	95.1	22.1	57.7		101.6
14.1	36.2	51.9		19.8	56.9	77.2	95.5	22.9	58.3		102.1
14.7	36.8	52.0		20.1	57.5	77.5	95.9	23.6	59.5		102.6
14.9	37.2	52.3		20.4	58.0	77.8	96.4	24.3	60.2		103.1
15.2	37.6	52.5		20.8	58.6	78.0		24.8	61.4		103.6
15.9	37.9	52.8		21.3	58.9	78.4		25.1	62.2		104.1
16.6	38.1	53.0		21.8	59.3	78.6		25.9	63.0		104.6
16.9	38.3	53.2		22.5	59.7	78.9		26.2	63.9		105.1
17.1	38.5	53.6		23.0	60.2	79.0		26.7	64.3		105.6
17.9	38.7	53.8		23.6	60.9	79.4		27.2	65.0		106.1
18.3	39.0	54.1		24.3	61.0	79.5		28.0	65.5		106.6
19.0	39.2	54.4		25.3	61.4	79.8		28.3	65.9		107.1
19.4	39.6	54.7		26.1	61.9	80.1		29.1	66.4		107.6
19.8	39.9	54.9		26.8	62.1	80.4		29.6	66.8		108.1
20.1	40.5	55.2		27.6	62.6	80.9		30.2	67.0		108.6
20.7	40.9	55.6		28.6	62.8	81.2		30.7	67.4		109.1
21.1	41.1	56.0		29.7	63.5	81.6		31.3	68.0		109.6
21.6	41.8	56.2		30.3	63.9	82.0		32.0	68.6		110.1
21.9	42.0	56.3		30.9	64.3	82.1		32.5	69.5		110.6
22.2	42.2	56.8		31.6	64.6	82.2		33.2	69.9		111.1
22.9	42.5	57.3		32.3	65.1	82.4		33.7	70.2		111.6
23.5	42.8	57.7		32.8	65.7	82.5		34.1	70.8		112.1
24.0	43.1	57.9		33.7	66.0	82.6		34.6	71.3		112.6
24.3	43.3	58.2		34.2	66.5	82.7		35.2	71.8		113.1

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 349+80 SB ISS				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 349+80 SB ISS		12/3 to 12/19/2019		-L- 349+80 SB ISS		12/3 to 12/19/2019			
DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING	DATUM	CUT/ FILL	NORTHING	EASTING
STBC	FILL	359889.1	2000816.8	STBC	FILL	359887.2	2000811.6	STBC	FILL	359887.2	2000811.6
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
0.8	35.9	72.4	88.3	2.0				2.0			
1.2	36.6	72.7	88.5	3.5				3.5			
1.6	36.9	73.3	88.8	4.5				4.5			
1.9	37.6	73.9	89.1	5.3				5.3			
2.3	38.4	74.4	89.4	6.6				6.6			
2.8	39.0	75.0	89.8	7.8				7.8			
3.2	39.2	75.5	90.0	9.0				9.0			
3.6	39.5	76.0	90.3	10.1				10.1			
4.2	40.8	76.5	90.9	11.2				11.2			
4.9	41.0	77.0	91.2	12.6				12.6			
5.8	42.0	77.6	91.9	13.6				13.6			
7.5	42.7	78.0	92.6	14.2				14.2			
8.6	43.1	78.3	93.1	15.4				15.4			
9.6	44.4	78.6	93.6	16.5				16.5			
10.3	45.2	79.0	94.1	17.3				17.3			
11.3	46.4	79.3	94.6	18.4				18.4			
12.5	47.1	79.6	95.1	19.4				19.4			
13.6	48.4	80.0	95.6	20.3				20.3			
14.6	49.0	80.4	96.1	21.7				21.7			
15.8	49.8	81.0	96.6	22.5				22.5			
16.4	50.6	81.4	97.1	23.5				23.5			
17.1	51.7	81.8	97.6	24.8				24.8			
18.1	52.0		98.1	26.0				26.0			
19.0	52.9		98.6	27.0				27.0			
19.8	53.7		99.1	28.2				28.2			
20.2	54.4		99.6	30.0				30.0			
20.9	55.3		100.1	31.6				31.6			
21.3	56.1		100.6	34.0				34.0			
21.7	57.0		101.1	36.5				36.5			
22.1	57.7		101.6	38.7				38.7			
22.9	58.3		102.1	40.6				40.6			
23.6	59.5		102.6	43.0				43.0			
24.3	60.2		103.1	44.5				44.5			
24.8	61.4		103.6	45.9				45.9			
25.1	62.2		104.1	47.5				47.5			
25.9	63.0		104.6	48.7				48.7			
26.2	63.9		105.1	50.7				50.7			
26.7	64.3		105.6	52.2				52.2			
27.2	65.0		106.1	54.9				54.9			
28.0	65.5		106.6	56.9				56.9			
28.3	65.9		107.1	57.5				57.5			
29.1	66.4		107.6	58.8				58.8			
29.6	66.8		108.1	59.5				59.5			
30.2	67.0		108.6	60.6				60.6			
30.7	67.4		109.1	61.5				61.5			
31.3	68.0		109.6	62.4				62.4			
32.0	68.6		110.1								
32.5	69.5		110.6								
33.2	69.9		111.1								
33.7	70.2		111.6								
34.1	70.8		112.1								
34.6	71.3		112.6								
35.2	71.8		113.1								

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade
AG = At Grade

RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
SDB = Sand Drainage Base


S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 376+30 SB OSS <td colspan="2">Robeson <td colspan="2">VLAD MITCHEV <td colspan="2">D. Strother/J. Swartley </td></td></td>				Robeson <td colspan="2">VLAD MITCHEV <td colspan="2">D. Strother/J. Swartley </td></td>		VLAD MITCHEV <td colspan="2">D. Strother/J. Swartley </td>		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 376+30 SB OSL		12/3 to 12/19/2019							
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	362541.7	2000810.5	STBC	FILL	362537.7	2000816.0				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.4	28.2	71.6		0.6	9.7	20.8	44.0	82.8			
2.5	29.0	72.3		0.9	9.8	21.0	44.6	83.4			
3.0	29.6	73.5		1.2	10.0	21.1	45.0	83.9			
3.9	30.0	74.4		1.5	10.3	21.3	45.7	84.5			
4.3	30.5	75.3		1.8	10.6	21.5	46.2	85.0			
4.8	30.9	76.1		2.2	10.9	21.6	47.0	85.5			
5.5	31.7	77.0		2.4	11.0	21.9	47.7	86.1			
5.7	32.3	77.9		2.5	11.3	22.3	48.3	86.4			
5.9	33.0	78.8		2.7	11.4	22.5	49.7	86.9			
6.3	33.7	79.9		2.9	11.7	22.7	50.9	87.2			
6.8	34.2	80.5		3.0	11.9	22.9	51.8				
7.0	34.6	81.3		3.2	12.1	23.0	52.1				
7.6	35.4	82.4		3.4	12.3	23.7	53.6				
8.2	36.0	83.2		3.7	12.4	24.0	54.2				
8.7	36.5	84.0		4.0	12.6	24.2	54.9				
9.1	37.1	85.2		4.2	12.7	24.5	55.0				
9.6	37.7	86.2		4.3	12.9	24.8	55.9				
9.9	38.2	87.4		4.5	13.0	25.0	56.7				
10.3	39.1	88.2		4.7	13.3	25.3	57.1				
10.7	40.3	89.1		4.8	13.5	25.5	57.9				
11.1	40.8	90.4		5.0	13.7	25.8	58.4				
11.6	41.6	91.3		5.1	13.9	26.1	58.9				
12.0	42.5	92.6		5.3	14.0	26.4	59.6				
12.7	43.6	94.1		5.4	14.2	26.7	60.2				
13.1	44.3	95.0		5.6	14.3	26.9	60.8				
13.8	45.2	96.2		5.7	14.6	27.2	61.3				
14.0	46.3	96.9		5.8	14.8	27.5	62.0				
14.6	47.5	97.3		5.9	15.0	27.7	62.8				
14.9	48.6	98.2		6.1	15.2	28.1	63.2				
15.4	49.8	98.7		6.2	15.4	28.5	63.8				
16.0	51.0	99.4		6.3	15.6	28.7	64.6				
16.7	51.8	99.8		6.4	15.9	29.2	65.2				
17.0	52.7	100.3		6.5	16.1	29.6	66.0				
17.5	53.3	100.9		6.7	16.3	30.0	67.0				
18.1	54.4	101.3		6.8	16.5	30.7	67.7				
18.4	55.0			7.0	16.7	31.1	68.3				
18.9	55.7			7.2	16.9	31.6	69.7				
19.6	56.1			7.4	17.0	32.0	71.2				
19.9	56.8			7.5	17.3	32.8	72.2				
20.4	57.5			7.7	17.5	33.2	74.3				
20.8	58.3			7.8	17.8	34.0	75.1				
21.5	58.8			7.9	18.1	34.6	75.9				
21.9	59.4			8.1	18.3	35.2	76.6				
22.5	60.7			8.3	18.6	36.6	77.0				
22.9	61.6			8.5	18.8	37.7	77.9				
23.3	62.8			8.6	18.9	38.9	78.4				
23.8	63.4			8.8	19.0	39.6	79.2				
24.1	65.0			8.9	19.2	40.8	79.6				
24.8	66.3			9.2	19.4	41.2	80.4				
25.7	67.2			9.3	19.7	41.9	80.8				
26.1	68.4			9.4	20.0	42.6	81.3				
26.5	69.5			9.5	20.3	43.1	81.9				
27.1	70.8			9.6	20.6	43.5	82.4				

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE			
				I-5987A		47533.1.2		I-95			
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS			
-L- 376+30 SB ISS				Robeson		VLAD MITCHEV		D. Strother/J. Swartley			
DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN			
12/3 to 12/19/2019		-L- 402+25 SB OSS		12/3 to 12/19/2019							
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	362534.5	2000839.4	STBC	FILL	365130.3	2000834.4				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
3.7	50.5			1.9	31.5	70.5					
5.4	51.0			2.7	32.4	71.6					
6.6	51.8			3.5	32.8	72.7					
7.7	52.6			4.3	33.0	74.0					
8.9	53.6			5.0	33.5	75.1					
10.1	54.5			5.5	33.9	76.3					
11.3	55.8			6.0	34.4	77.4					
12.6	57.3			6.7	34.8	78.5					
14.1	58.4			7.2	35.1	79.5					
15.3	59.6			7.7	35.8	80.6					
16.6	60.4			8.1	36.0	81.8					
17.9	61.0			8.5	36.9	82.9					
19.2	61.4			8.9	37.5	84.0					
20.0	62.0			9.6	38.0	85.1					
20.8	62.6			9.9	38.7	86.3					
21.5	63.2			10.4	39.0	87.4					
22.3	63.9			10.9	39.6	88.4					
23.1	64.5			11.3	40.2	89.3					
23.7	65.6			11.8	40.7	90.4					
24.5	66.5			12.3	41.0	91.3					
25.2	67.4			12.8	41.8	92.4					
26.1	68.2			13.1	42.3	93.5					
26.8	69.1			13.7	42.9	94.6					
27.4	70.1			14.0	43.6	95.6					
28.0	71.3			14.6	44.2	97.0					
28.8	72.5			14.9	45.0						
29.6	73.3			15.2	46.3						
30.3	74.0			15.8	47.1						
31.0	74.8			16.3	48.6						
31.7	75.5			16.7	49.5						
32.4	76.3			17.2	51.2						
32.9	76.9			17.9	52.2						
33.5	77.4			18.3	52.7						
34.5	78.0			18.9	53.4						
35.2	78.7			19.6	54.0						
35.7	79.2			20.4	54.7						
36.3	79.6			20.7	55.5						
37.1	80.0			21.2	56.0						
37.7				21.7	56.8						
38.4				22.2	57.2						
39.0				22.9	58.0						
39.8				23.3	58.6						
40.7				24.1	59.2						
41.7				24.7	59.9						
42.8				25.3	60.6						
43.9				26.0	61.3						
45.0				26.5	61.8						
45.9				27.1	62.5						
46.6				27.8	63.7						
47.5				28.2	65.1						
48.2				29.0	66.5						
49.2				29.6	67.7						
50.0				30.0	69.2						

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
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RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
SDB = Sand Drainage Base


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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 402+25 SB ISS				12/3 to 12/19/2019		-L- 402+25 SB ISL		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
STBC	FILL	365133.2	2000866.8	STBC	FILL	365134.0	2000854.9		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
1.3	32.4			0.3	14.8	33.7			
2.3	33.1			0.8	15.0	34.5			
3.5	33.8			1.1	15.3	35.4			
4.2	34.5			1.4	15.5	36.3			
4.8	35.7			1.7	15.8	37.2			
5.3	36.5			2.0	16.2	38.4			
6.4	37.8			2.1	16.5	39.3			
7.2	38.7			2.3	16.8	40.5			
7.8	39.9			2.6	17.0	41.6			
8.2	40.9			2.9	17.2	42.7			
8.5	42.0			3.2	17.5	43.8			
9.4	43.8			3.5	17.8	45.0			
10.2	44.5			3.8	18.0	45.9			
10.9	45.9			4.0	18.2	46.7			
11.5	47.1			4.1	18.5	47.5			
12.0	48.4			4.4	18.8	48.4			
12.6	49.4			4.6	19.0	49.6			
13.2	50.5			4.9	19.3	50.5			
13.8	51.9			5.2	19.5	51.2			
14.3	52.9			5.5	19.8	52.0			
14.8	54.0			5.8	20.0	52.9			
15.6	55.1			6.1	20.3	53.8			
15.9	56.2			6.5	20.6	54.9			
16.8	57.4			6.8	20.8	56.0			
17.4	58.6			7.0	21.0	56.9			
18.0	59.7			7.2	21.3	57.8			
18.6	61.0			7.3	21.5	58.7			
19.3	62.0			7.5	21.8	59.8			
19.9	63.2			7.7	22.0	60.7			
20.5	64.4			7.8	22.3	61.5			
20.9	65.5			8.1	22.7	62.8			
21.4	66.7			8.3	23.0	63.7			
21.9	68.0			8.6	23.2	64.5			
22.4	69.2			8.8	23.5	65.7			
22.9	70.4			9.0	23.7	66.5			
23.0	71.7			9.2	24.0	67.2			
23.7	73.0			9.5	24.4	68.3			
24.2	74.0			9.8	24.8	69.0			
24.7	75.2			10.1	25.3	69.8			
25.0	76.2			10.8	25.7	70.9			
25.4	77.2			11.0	26.2	71.5			
26.0	78.1			11.3	26.9	72.0			
26.4	79.0			11.5	27.3	73.1			
26.8	80.0			11.8	27.7	73.8			
27.2	80.9			12.0	28.0	74.4			
27.6	81.8			12.3	28.4	75.3			
28.1				12.5	29.0	75.9			
28.7				12.8	29.5	76.4			
29.1				13.2	30.1	77.1			
29.7				13.6	30.7	78.3			
30.2				13.9	31.4	79.0			
30.8				14.2	32.2				
31.6				14.6	33.0				

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
				COUNTY		ENGINEER		TECHNICIANS	
TEST LOCATIONS DESCRIPTION				DATE RUN		TEST LOCATION DESCRIPTION		DATE RUN	
-L- 429+40 SB OSS				12/3 to 12/19/2019		-L- 429+40 SB OSL		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING		
STBC	FILL	367845.6	2000861.2	STBC	FILL	367851.0	2000865.7		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
1.6	36.0			0.7	8.6	26.1	61.0		
2.5	36.7			1.0	8.7	26.3	61.7		
3.4	37.4			1.7	8.8	26.5	62.5		
4.4	38.5			2.1	8.8	26.8	63.1		
5.1	39.0			2.3	8.9	27.0	63.9		
6.0	39.5			2.5	8.9	27.2	64.2		
6.5	40.7			2.7	9.1	27.5	65.7		
7.4	41.2			2.8		27.7	66.4		
7.8	42.6			2.9	Auger	28.0	67.5		
8.6	43.9			3.1		28.3	68.5		
9.1	45.0			3.2	14.8	28.5	69.0		
9.6	45.8			3.4	15.0	28.9	69.7		
10.2	46.1			3.5	15.8	29.4	70.8		
10.7	47.1			3.7	16.1	29.6	71.4		
11.6	48.2			3.9	16.3	29.7	72.3		
12.0	49.1			4.0	16.7	30.2	72.9		
12.7	50.0			4.1	17.0	30.5	73.5		
13.4	51.1			4.3	17.2	30.6	74.0		
14.1	52.0			4.4	17.4	30.9	74.7		
14.7	52.6			4.6	17.6	31.2	75.2		
15.3	53.4			4.7	17.9	31.5	76.0		
16.0	54.5			4.9	18.4	31.8	76.7		
16.8	55.4			5.1	18.9	32.6	77.1		
17.7	56.6			5.2	19.1	33.0	77.8		
18.2	57.8			5.4	19.3	33.7	78.5		
19.1	58.9			5.6	19.4	34.1	79.0		
19.8	61.0			5.7	19.5	34.8	79.8		
20.2	61.5			5.8	19.6	35.8	80.1		
21.0	62.2			5.9	19.8	37.1	80.7		
21.6	63.1			6.0	19.9	38.0	81.3		
22.0	64.0			6.1	20.3	39.0	82.0		
22.8	65.0			6.2	20.5	39.8	82.4		
23.3	65.9			6.3	20.9	40.6	83.0		
23.9	66.7			6.5	21.0	41.5	83.5		
24.1	67.3			6.7	21.2	42.5	84.1		
25.0	67.8			6.8	21.5	43.2			
25.7	68.2			6.8	22.0	44.1			
26.5	69.0			6.9	22.4	44.9			
26.9	71.0			6.9	22.6	45.3			
27.4	72.8			6.9	22.8	46.5			
27.8	74.5			7.0	22.9	47.7			
28.3	76.0			7.2	23.2	48.6			
28.9	77.6			7.3	23.5	49.2			
29.4	79.2			7.5	23.6	51.0			
29.6	81.1			7.6	23.8	52.6			
30.5	82.8			7.7	24.1	53.1			
31.1	83.8			7.8	24.5	54.7			
31.6	85.0			7.9	24.8	55.1			
32.1	86.6			8.0	25.0	56.6			
32.9	88.7			8.2	25.3	57.2			
33.2	90.4			8.3	25.6	58.1			
34.4	91.5			8.4	25.8	59.2			
35.3	92.6			8.5	26.0	60.3			

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade
AG = At Grade

RGDL = Rounded Gravel Drainage Layer
STBC = Soil Type Base Course
SDB = Sand Drainage Base


S&ME, Inc.
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CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS	
-L- 429+40 SB ISS				Robeson		VLAD MITCHEV		D. Strother/J. Swartley	
DATE RUN				TEST LOCATION DESCRIPTION		TEST LOCATION DESCRIPTION		DATE RUN	
12/3 to 12/19/2019				-L- 454+50 SB OSS		-L- 454+50 SB ISS		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	EASTING
STBC	FILL	367850.3	2000892.8	STBC	FILL	370363.0	2001009.2		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
0.4	29.7	74.0		1.4	28.3	66.0	82.0	93.4	
0.7	30.8	74.5		2.6	28.7	66.2	82.2	93.7	
1.0	31.5	75.0		3.4	29.2	66.3	82.5	93.9	
1.5	32.4	75.7		4.1	30.1	66.8	82.9	94.1	
1.8	33.7	76.1		4.6	30.8	67.3	83.0	94.5	
2.2	34.5	76.8		5.3	31.6	67.8	83.2	94.6	
2.6	35.4	77.2		5.7	32.5	68.4	83.5	94.7	
2.9	36.7	77.7		6.1	33.4	68.7	83.7	94.8	
3.3	37.5	78.0		6.6	34.3	69.0	83.8	94.9	
3.8	38.3	78.5		7.0	35.2	69.5	83.8	95.0	
4.1	39.2	78.8		7.6	36.0	69.8	83.9		
4.4	40.3			8.1	36.5	70.0	83.9		
4.6	41.5			8.5	37.1	70.2	84.0		
4.8	42.6			8.8	37.6	70.7	84.2		
5.0	44.1			9.0	38.3	71.3	84.5		
5.2	45.5			9.4	38.5	71.8	84.8		
5.3	46.8			9.9	39.1	72.0	85.1		
5.6	48.0			10.2	39.9	72.3	85.3		
5.8	49.1			10.5	40.6	72.6	85.7		
5.9	50.4			10.9	41.0	72.9	85.9		
6.1	51.2			11.9	41.7	73.0	86.0		
6.3	52.0			12.3	42.4	73.2	86.1		
6.5	52.8			12.7	43.2	73.3	86.2		
6.8	53.5			13.2	44.0	73.6	86.5		
6.9	54.1			13.8	44.8	73.8	86.8		
7.2	54.8			14.1	45.6	73.9	87.1		
7.5	55.5			14.6	46.6	74.0	87.4		
7.7	56.2			15.1	47.7	74.5	87.6		
8.1	56.9			15.7	48.2	75.3	87.9		
8.7	57.5			16.0	49.5	75.9	88.0		
9.9	58.0			16.5	50.7	76.4	88.3		
11.2	58.6			17.1	51.0	76.7	88.5		
12.1	59.1			17.6	51.6	76.9	88.7		
13.3	60.0			18.2	52.7	77.2	89.0		
14.2	60.8			18.6	53.3	77.4	89.2		
15.1	61.3			19.0	54.3	77.6	89.4		
16.1	61.9			19.3	55.0	77.8	89.7		
17.0	62.7			19.9	55.8	77.9	89.9		
17.9	63.5			20.4	56.3	78.2	90.0		
18.7	64.1			20.7	56.7	78.3	90.1		
19.7	64.6			21.2	57.5	78.5	90.3		
20.4	65.6			21.9	58.0	78.9	90.4		
21.3	66.2			22.1	58.6	79.3	90.5		
21.6	67.0			22.9	59.1	79.5	90.8		
22.3	67.8			23.4	59.9	79.8	91.0		
23.5	68.3			23.9	60.6	80.0	91.2		
24.0	68.9			24.2	61.0	80.3	91.9		
24.8	69.8			24.8	62.3	80.6	92.3		
25.4	70.5			25.3	63.0	80.8	92.5		
26.1	71.0			25.9	64.0	81.0	92.7		
27.3	71.8			26.6	64.6	81.2	92.9		
27.9	72.5			27.1	65.1	81.5	93.0		
28.6	73.2			27.8	65.5	81.8	93.2		

CONE PENETROMETER DATA CODE SHEET				TIP		PROJECT I.D.		ROUTE	
				I-5987A		47533.1.2		I-95	
TEST LOCATIONS DESCRIPTION				COUNTY		ENGINEER		TECHNICIANS	
-L- 454+50 SB ISS				Robeson		VLAD MITCHEV		D. Strother/J. Swartley	
DATE RUN				TEST LOCATION DESCRIPTION		TEST LOCATION DESCRIPTION		DATE RUN	
12/3 to 12/19/2019				-L- 454+50 SB ISS		-L- 454+50 SB ISL		12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING	DATUM	EASTING
STBC	FILL	370354.6	2001051.9	STBC	FILL	370352.5	2001040.8		
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters					
0.8	23.5	44.2	67.1	0.5	24.5	44.3	56.0		
2.1	23.9	45.0	67.3	0.9	24.9	44.7	56.1		
3.3	24.4	45.5	67.5	1.3	25.4	44.9			
4.1	24.8	46.1	67.9	2.0	25.8	45.2			
4.9	25.1	46.8	68.0	2.6	26.2	45.5			
5.6	25.3	47.2	68.3	2.8	26.7	45.8			
6.3	25.5	48.0	68.8	2.9	27.0	46.1			
6.9	25.6	48.4	69.2	3.2	27.9	46.3			
7.5	25.9	48.9	69.5	3.4	28.6	46.5			
8.0	26.0	49.3	69.7	3.5	29.0	46.7			
8.9	26.3	50.5	69.9	3.7	30.1	46.9			
9.6	26.9	51.3	70.2	3.9	31.0	47.2			
10.3	27.3	52.0	70.3	4.3	31.3	47.4			
10.8	27.8	52.6	70.6	4.5	32.0	47.6			
11.4	28.1	53.4	70.9	4.7	32.8	47.7			
11.8	28.4	53.7	71.2	4.9	33.4	47.9			
12.1	28.8	54.4	71.6	5.3	33.8	48.2			
12.6	29.3	55.1	72.0	5.7	34.0	48.4			
13.0	29.7	55.8	72.6	6.1	34.3	48.6			
13.6	30.3	56.0	73.0	6.5	34.7	48.7			
14.5	30.5	56.5	73.4	6.8	34.9	49.0			
14.9	30.8	56.9	73.9	7.1	35.4	49.2			
15.2	31.0	57.3	74.0	7.4	35.9	49.4			
15.6	31.3	57.8	74.3	7.9	36.3	49.6			
15.7	31.6	58.1	74.8	8.4	36.8	49.7			
15.7	32.0	58.6	75.2	8.8	37.1	49.9			
15.8	32.7	59.0	75.7	9.1	37.3	50.1			
16.3	33.6	59.5	75.8	9.5	37.5	50.3			
17.1	34.1	59.7	76.0	9.8	37.9	50.6			
17.8	34.8	59.9	76.3	10.2	38.4	50.8			
17.9	35.3	60.0	76.7	11.5	38.7	51.0			
18.0	35.8	60.1	76.9	12.6	39.0	51.3			
18.2	36.0	60.5	77.2	12.9	39.2	51.4			
18.5	36.4	60.9	77.6	13.5	39.5	51.6			
18.8	36.9	61.0	78.0	14.9	39.9	51.8			
19.0	37.3	61.2	78.3	15.3	40.3	52.1			
19.3	37.8	61.5	78.8	15.8	40.5	52.3			
19.4	37.9	62.0	79.1	16.2	40.7	52.5			
19.6	38.0	62.4	79.5	16.8	41.0	52.7			
19.9	38.1	62.8	79.9	17.1	41.3	52.9			
20.0	38.2	63.0	80.2	17.5	41.8	53.2			
20.2	38.3	63.1	80.5	17.8	42.0	53.4			
20.5	38.4	63.4	80.8	18.4	42.1	53.7			
20.9	38.7	63.8	81.0	19.0	42.4	53.9			
21.1	39.0	64.0		19.7	42.6	54.1			
21.5	39.2	64.2		20.1	42.9	54.3			
21.9	39.5	64.5		20.4	43.1	54.6			
22.2	40.2	64.8		20.9	43.2	54.9			
22.4	41.2	65.0		21.5	43.5	55.0			
22.7	42.1	65.6		22.2	43.7	55.2			
23.0	42.3	66.0		22.9	43.9	55.4			
23.2	42.6	66.5		23.1	44.0	55.6			
23.3	43.1	66.9		23.9	44.2	55.9			

SG = Subgrade
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CTBC = Cement-Treated Base Course
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CONE PENETROMETER DATA CODE SHEET				TIP	PROJECT I.D.	ROUTE	
				I-5987A	47533.1.2	I-95	
TEST LOCATIONS DESCRIPTION				COUNTY	ENGINEER	TECHNICIANS	
				Robeson	VLAD MITCHEV	D. Strother/J. Swartley	
-L- 482+45 SB OSS				DATE RUN	TEST LOCATION DESCRIPTION	DATE RUN	
				12/3 to 12/19/2019	-L- 482+45 SB OSL	12/3 to 12/19/2019	
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	AG	373142.1	2001210.7	STBC	AG	373146.6	2001219.0
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
1.6	37.2	83.0		1.2	9.1	70.8	
2.5	38.0	84.1		1.8	9.1	71.0	
3.5	38.7	85.0		2.4	9.2	71.6	
4.3	39.4	86.0		2.8	9.2	72.3	
4.8	39.7	87.0		3.1		72.9	
5.4	40.3	87.7		3.3	Auger	73.2	
5.9	40.6	88.8		3.6		73.8	
6.5	41.2	89.5		3.8	37.8	74.5	
6.9	41.7	90.2		3.9	39.9	74.9	
7.5	42.3	91.0		4.1	41.1	75.2	
8.0	43.5	92.1		4.3	42.5	75.5	
8.6	44.4	92.6		4.6	43.6	75.9	
9.0	45.1	93.6		4.9	44.7	76.3	
9.6	46.1	94.4		5.1	45.8	77.0	
10.0	47.2	95.0		5.3	46.5	77.5	
10.4	48.2	96.1		5.5	47.6	77.9	
11.1	49.4	97.4		5.7	48.5	78.2	
11.5	50.3	98.0		5.9	49.5	78.7	
12.1	51.1	99.2		6.0	50.6	79.0	
12.5	52.2			6.1	51.3	79.4	
13.0	52.8			6.2	52.5	79.8	
13.6	53.5			6.3	53.8	80.2	
14.1	54.0			6.4	54.7	80.8	
14.6	54.7			6.5	55.9	81.2	
15.0	55.5			6.6	56.6	81.6	
15.3	56.0			6.7	57.7	82.1	
15.9	57.0			6.8	58.6	82.5	
16.9	58.0			6.9	59.4	83.0	
17.4	59.1			7.0	60.1	83.5	
18.1	60.0			7.1	61.3	84.0	
18.5	61.1			7.2	61.5	84.5	
19.1	62.0			7.5	62.1	84.8	
19.2	63.0			7.6	62.3		
19.4	64.1			7.6	63.1		
20.6	65.2			7.7	63.5		
21.6	65.8			7.8	64.0		
22.5	66.5			7.8	64.6		
23.6	67.6			7.9	64.8		
24.3	68.6			7.9	65.1		
25.2	69.7			8.0	65.5		
26.0	70.7			8.0	65.9		
26.7	71.7			8.1	66.3		
27.3	72.5			8.2	66.7		
28.0	73.5			8.3	66.9		
28.7	74.2			8.3	67.3		
29.9	75.2			8.4	68.0		
30.6	76.1			8.5	68.4		
31.5	77.0			8.6	68.9		
32.7	78.0			8.7	69.0		
33.0	79.0			8.8	69.2		
33.9	80.1			8.9	69.8		
34.9	81.2			9.0	70.2		
36.6	82.1			9.1	70.4		

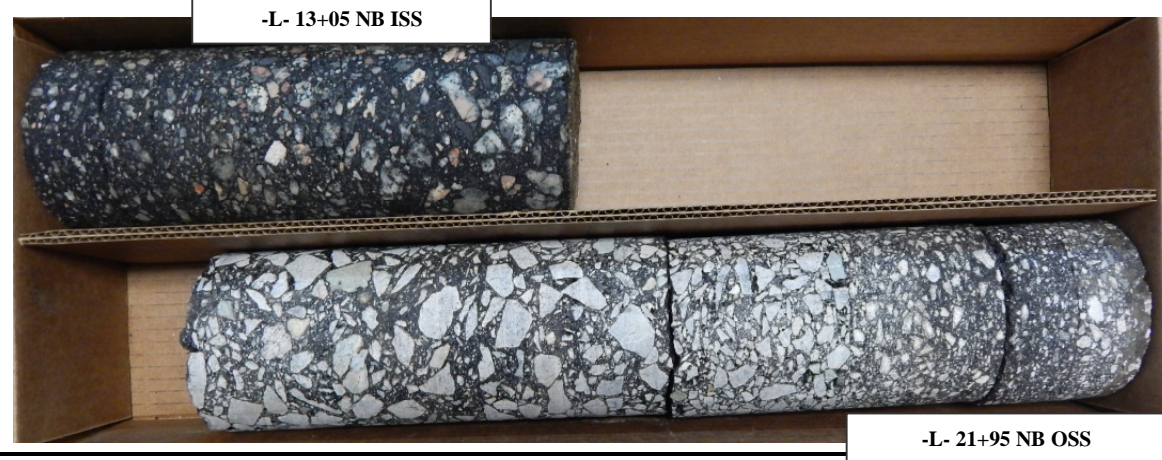
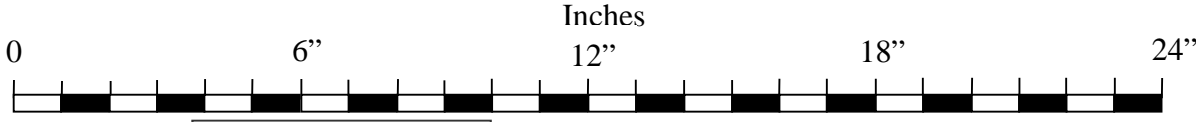
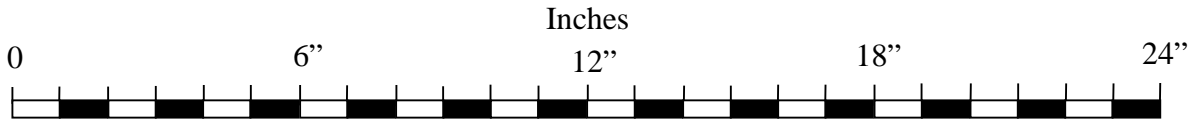
CONE PENETROMETER DATA CODE SHEET				TIP	PROJECT I.D.	ROUTE	
				I-5987A	47533.1.2	I-95	
TEST LOCATIONS DESCRIPTION				COUNTY	ENGINEER	TECHNICIANS	
				Robeson	VLAD MITCHEV	D. Strother/J. Swartley	
-L- 482+45 SB ISS				DATE RUN	TEST LOCATION DESCRIPTION	DATE RUN	
				12/3 to 12/19/2019			
DATUM	CUT/FILL	NORTHING	EASTING	DATUM	CUT/FILL	NORTHING	EASTING
STBC	FILL	373143.7	2001242.4				
Cumulative Penetration in Centimeters				Cumulative Penetration in Centimeters			
3.0	27.6	59.0					
4.2	27.9	59.5					
5.1	28.1	59.9					
5.8	28.5	60.4					
6.4	28.7	61.3					
7.0	29.1	62.0					
7.5	29.5	62.7					
8.5	30.0	63.1					
9.0	30.4	63.8					
9.7	30.8	64.5					
10.2	31.0	65.2					
11.0	31.3	66.0					
11.6	31.6	66.7					
12.1	32.0	67.0					
12.7	32.4	67.2					
13.6	32.9	67.6					
14.3	33.3	68.3					
15.1	34.1	68.7					
15.6	35.2	69.0					
16.1	35.9	69.2					
16.7	36.4	69.8					
17.2	37.0	70.2					
17.6	37.6	70.8					
18.1	38.2	71.0					
18.6	39.1	71.3					
19.0	40.0	71.7					
19.3	40.9						
19.4	41.6						
19.6	42.2						
20.1	43.0						
20.7	44.2						
21.2	45.0						
21.4	45.7						
21.8	46.1						
22.0	46.5						
22.3	47.3						
22.4	48.0						
22.6	48.7						
22.7	49.2						
22.9	50.0						
23.0	50.6						
23.3	51.2						
23.6	52.1						
23.9	53.0						
24.1	53.8						
24.7	54.6						
25.1	55.0						
25.4	55.8						
25.8	56.3						
26.0	57.2						
26.4	57.7						
27.0	58.0						
27.4	58.5						

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SS = Stabilized Soil
CTBC = Cement-Treated Base Course
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<i>Site Description:</i> I-95 from North of NC 211 to South of NC 20			
<i>Consultant:</i> S&ME, Inc.	<i>Core Size:</i> 4 - inch	<i>Drill Machine:</i> CME-55	
<i>Geologist / Engineer:</i> Darin Strother, Jarett Swartley, Mary Rawls, Vladimir Mitchev			



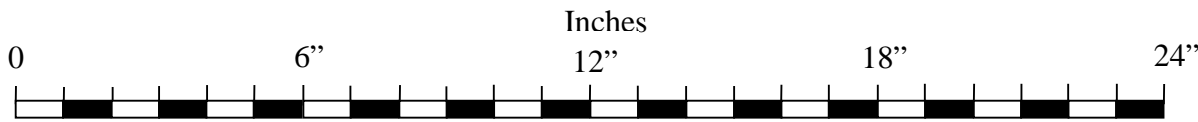
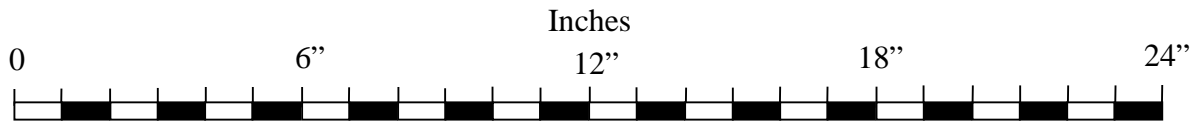
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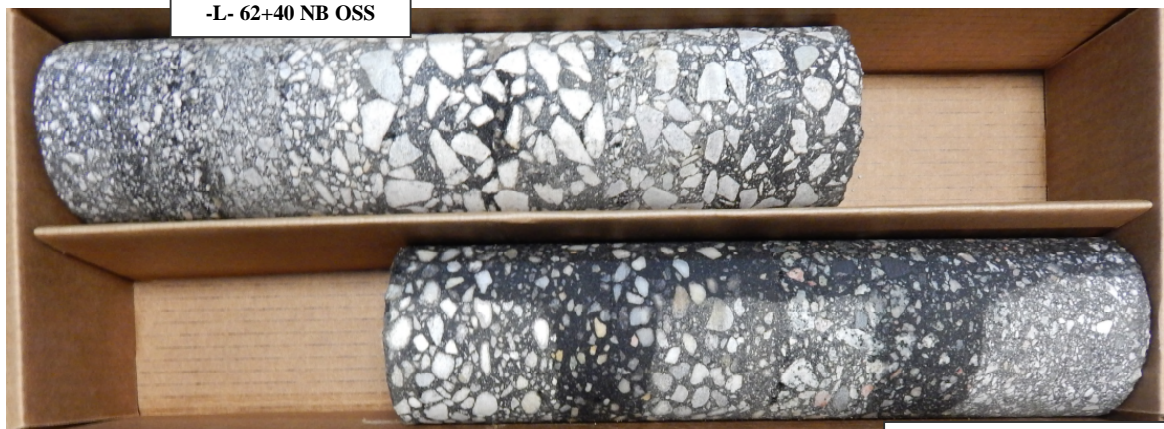
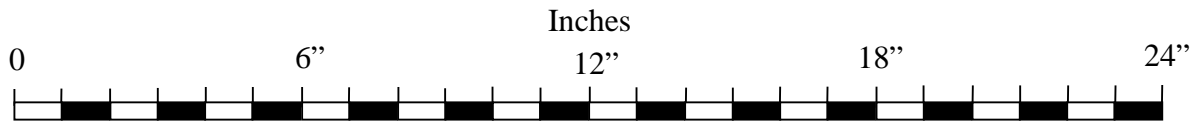
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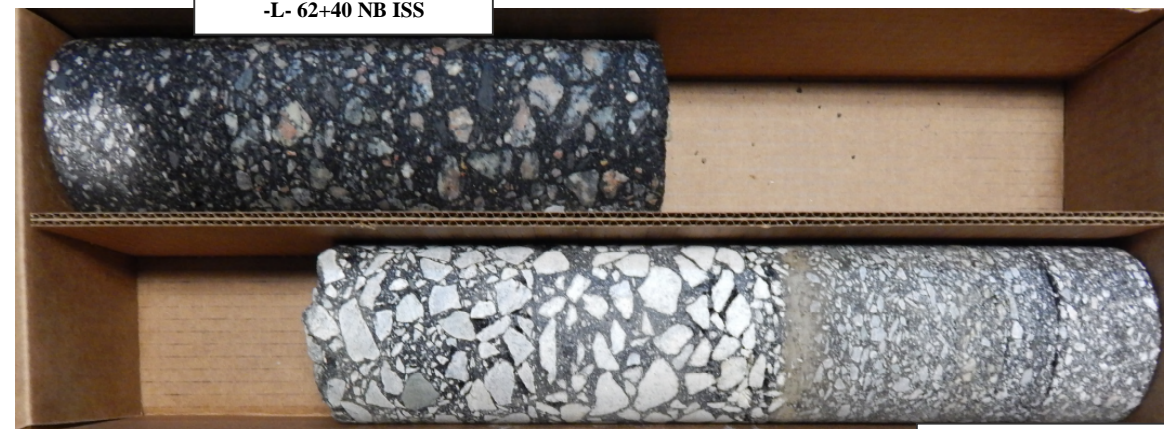
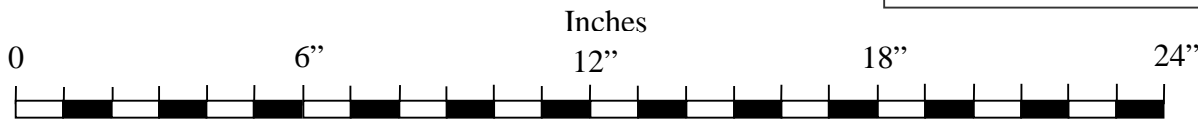
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-L- 62+40 NB OSS

-L- 62+40 NB ISL



-L- 62+40 NB ISS

-L- 81+00 NB OSS

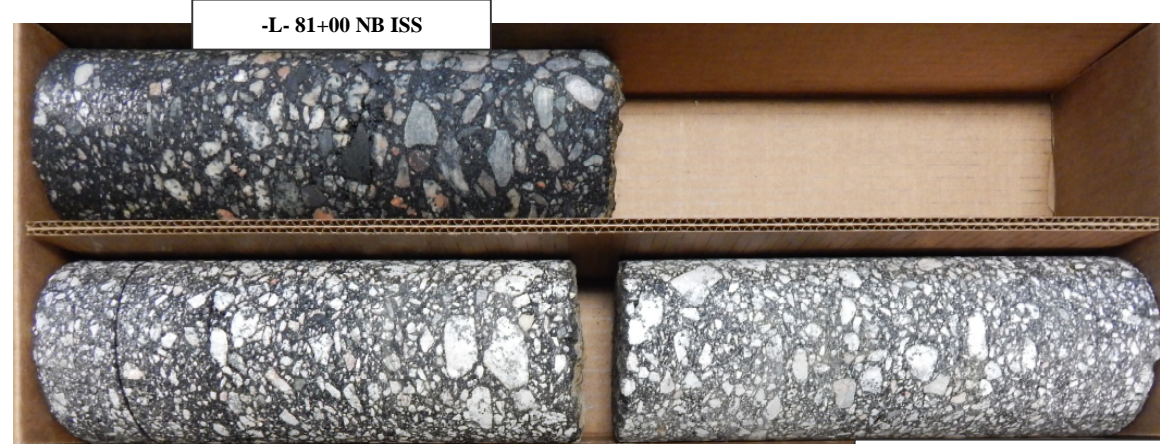
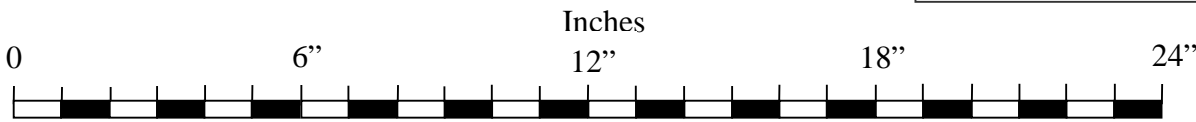
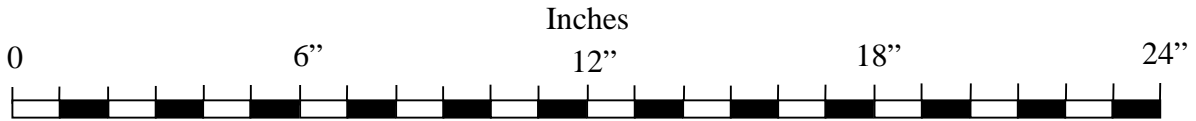
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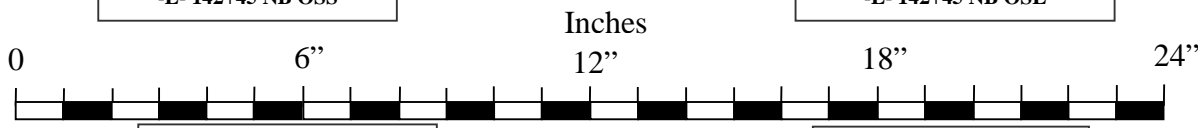
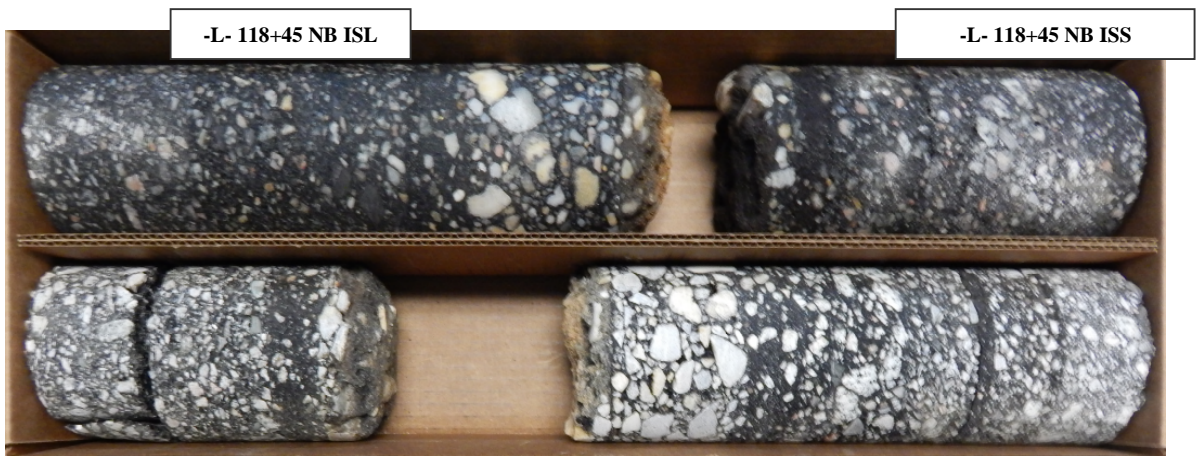
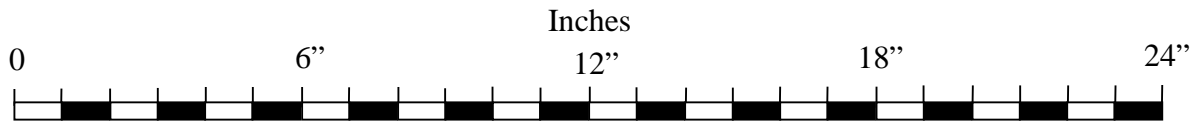
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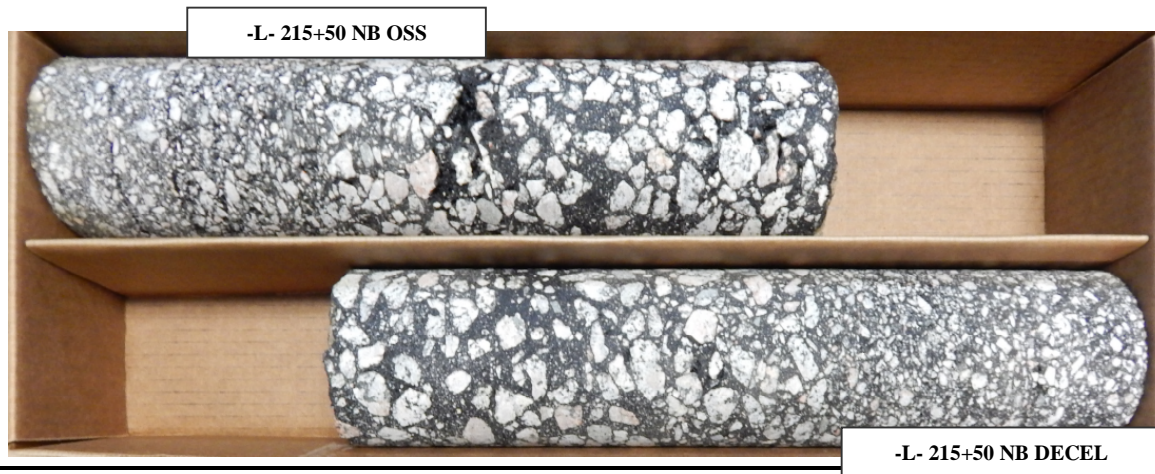
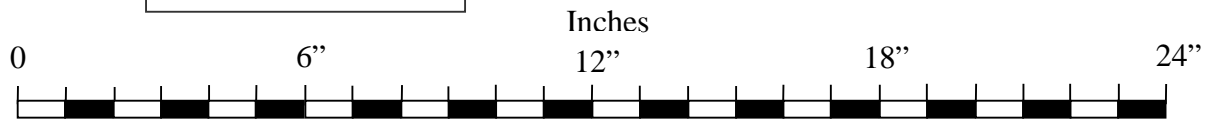
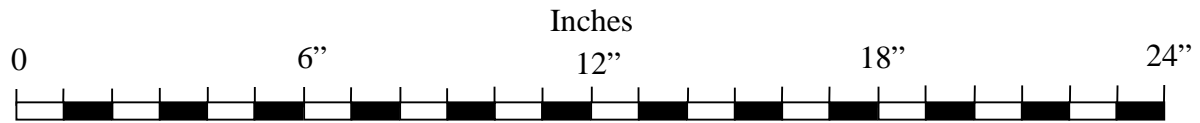
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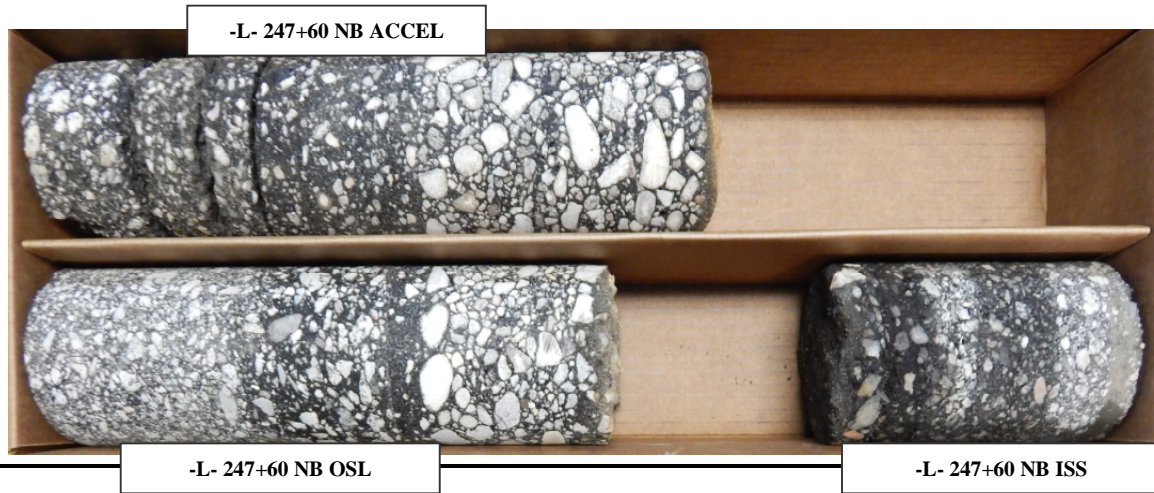
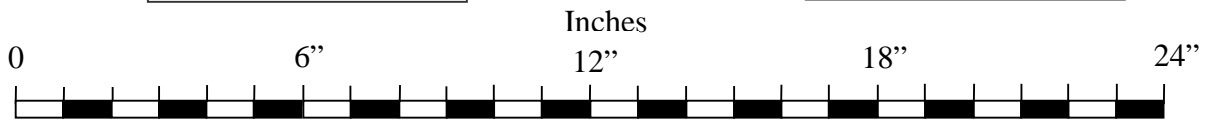
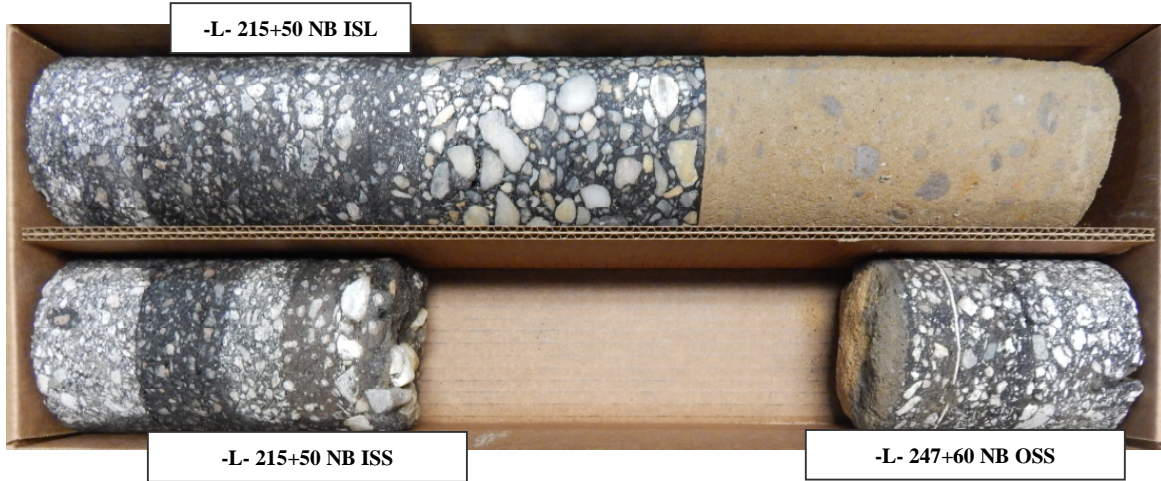
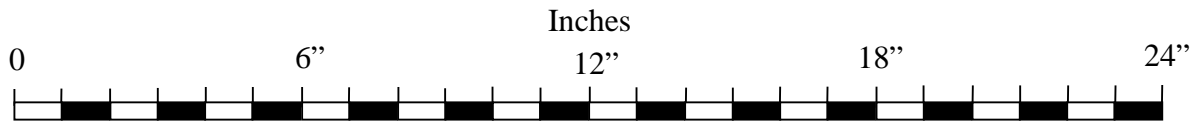
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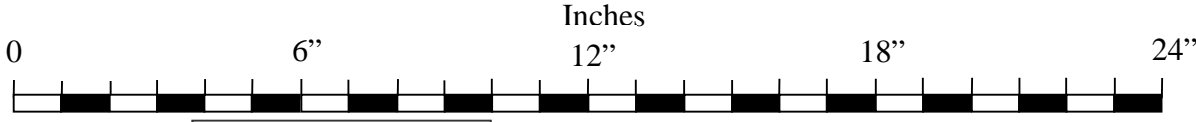
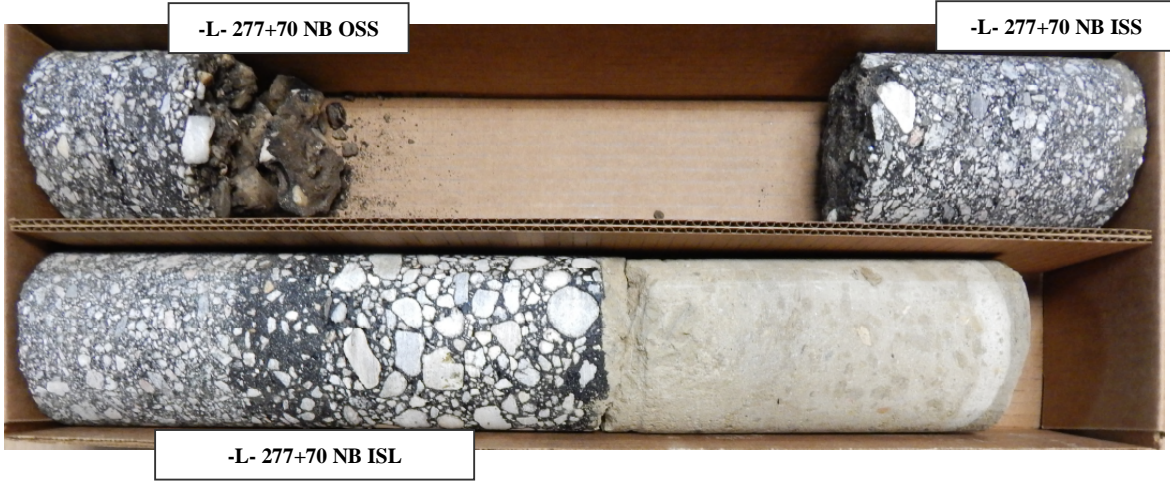
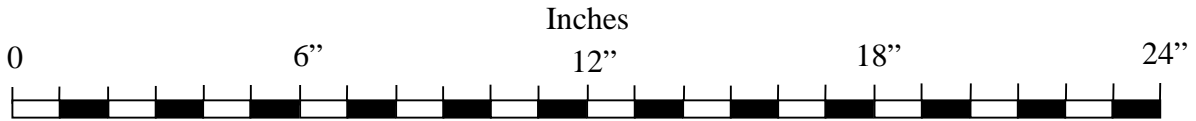
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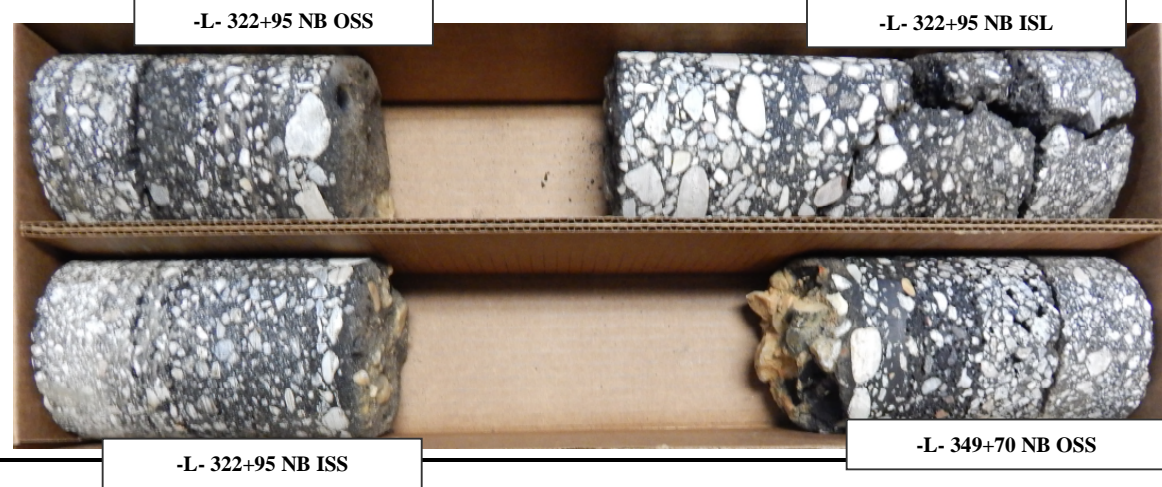
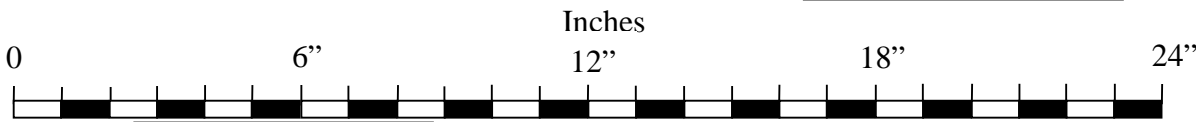
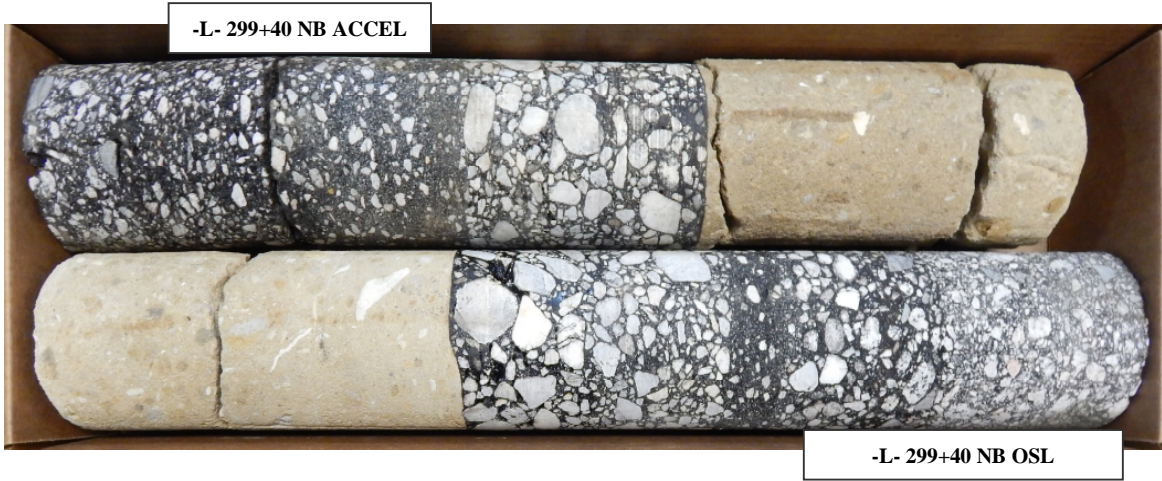
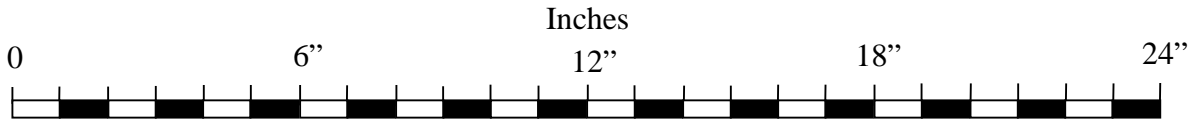
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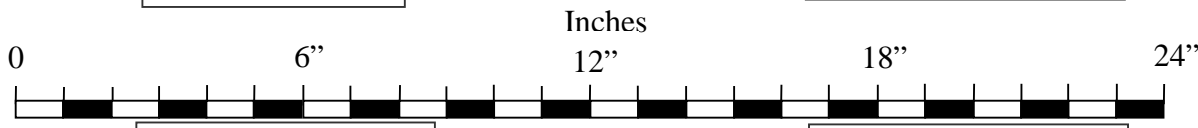
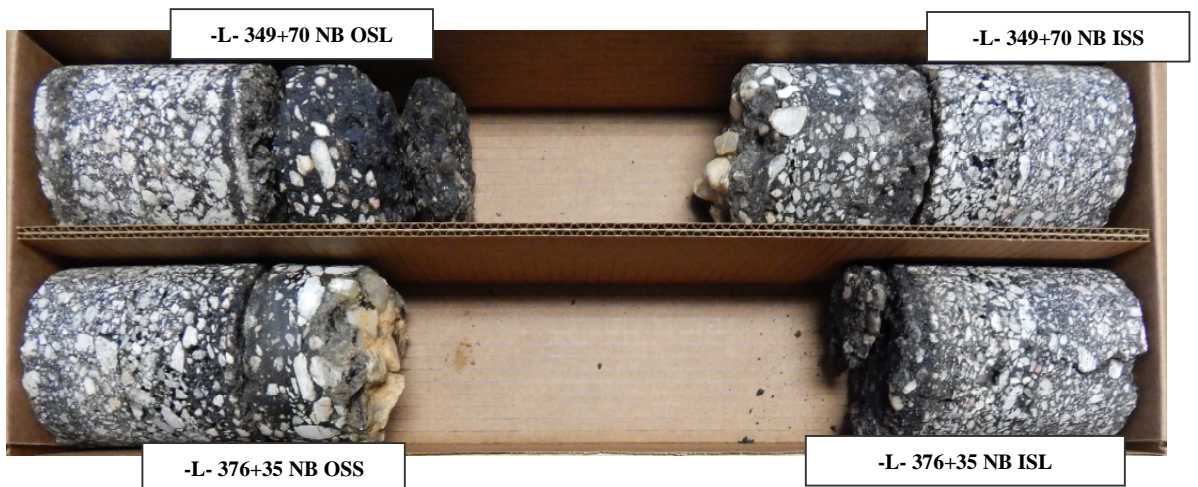
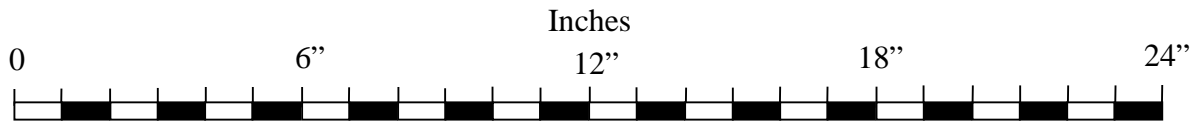
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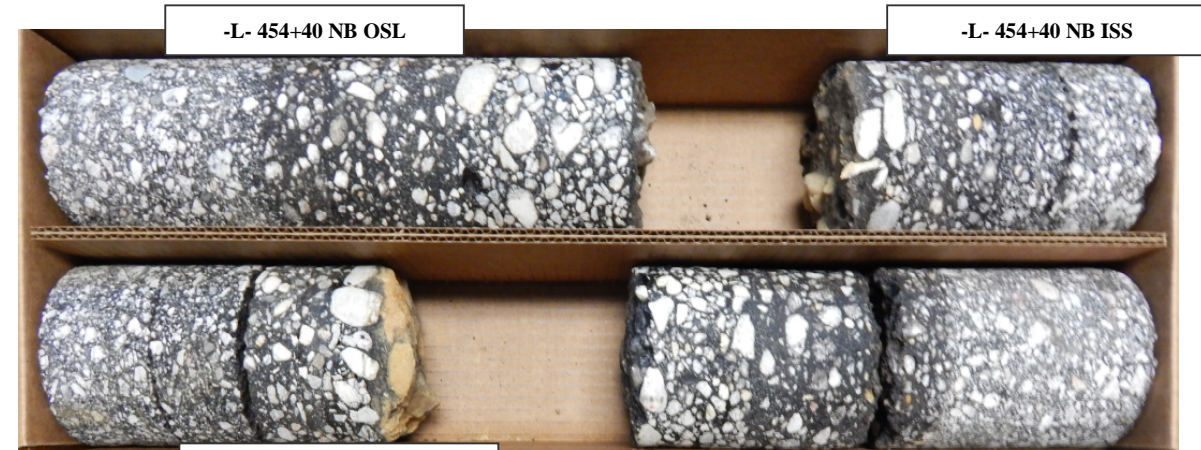
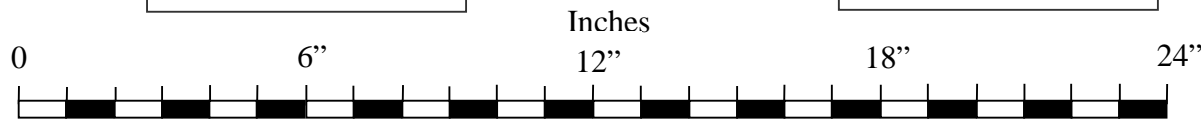
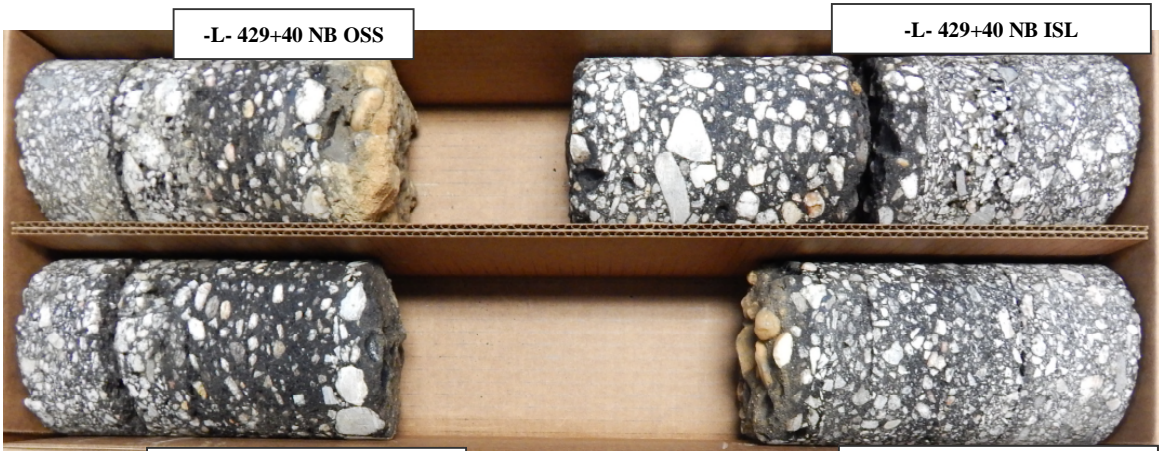
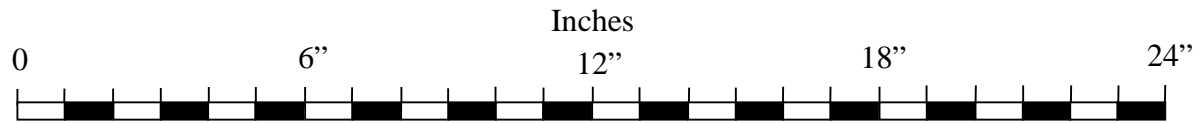
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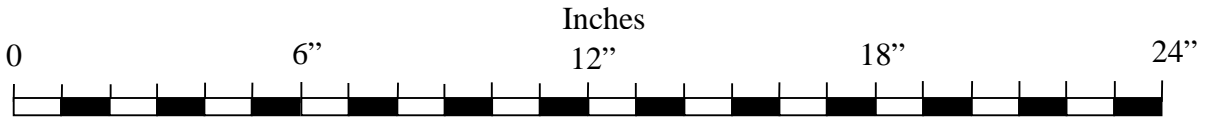
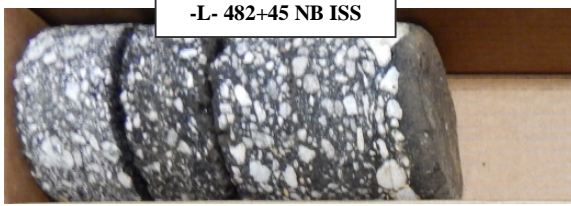
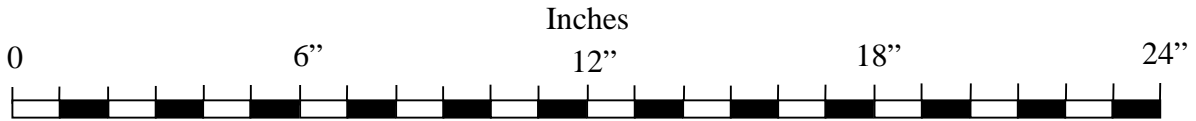
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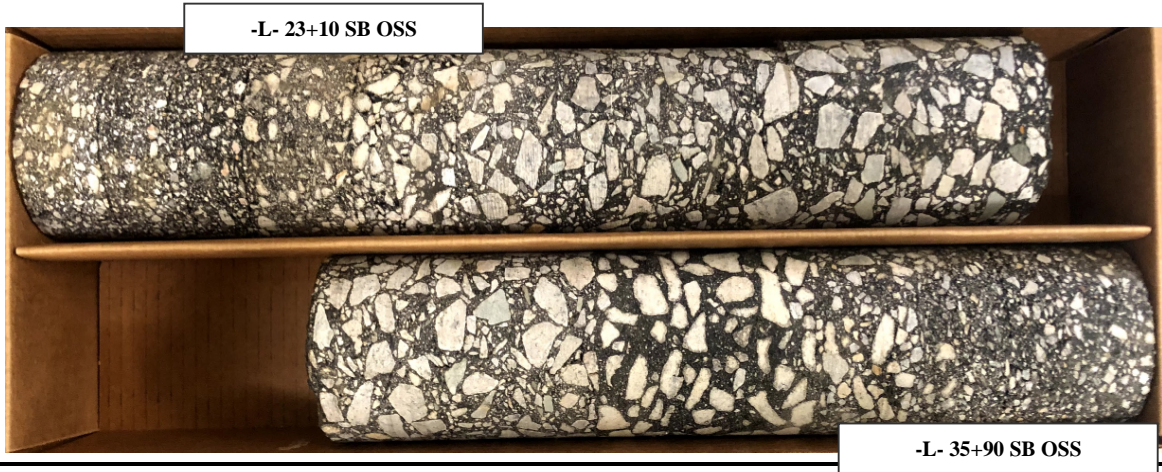
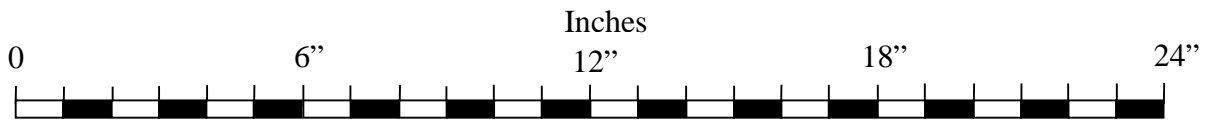
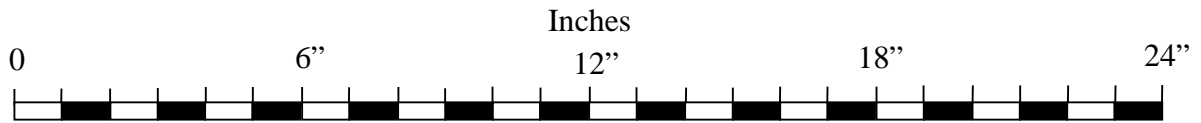
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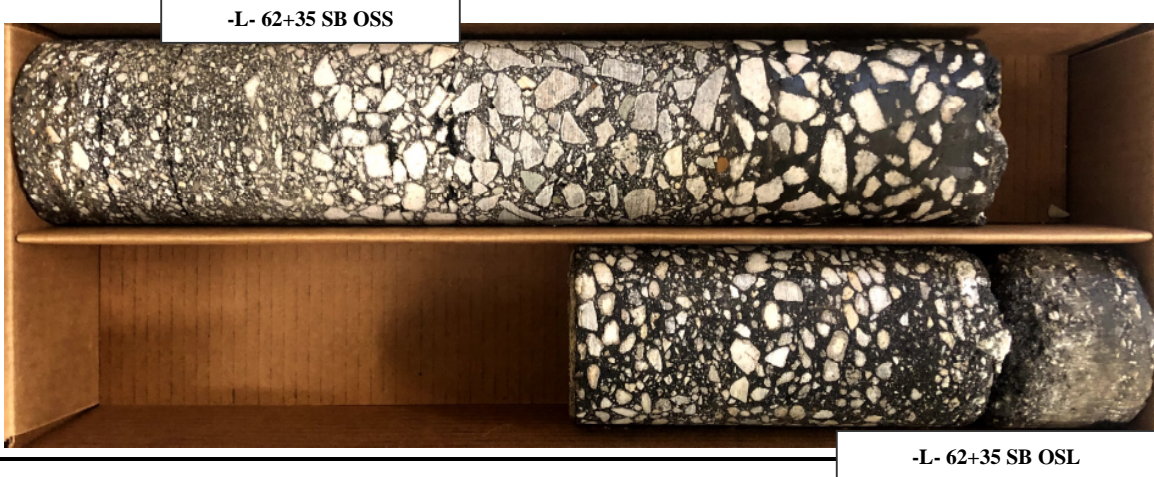
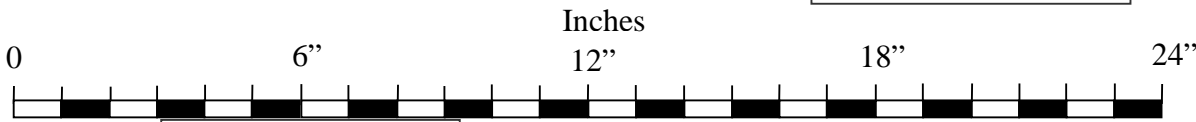
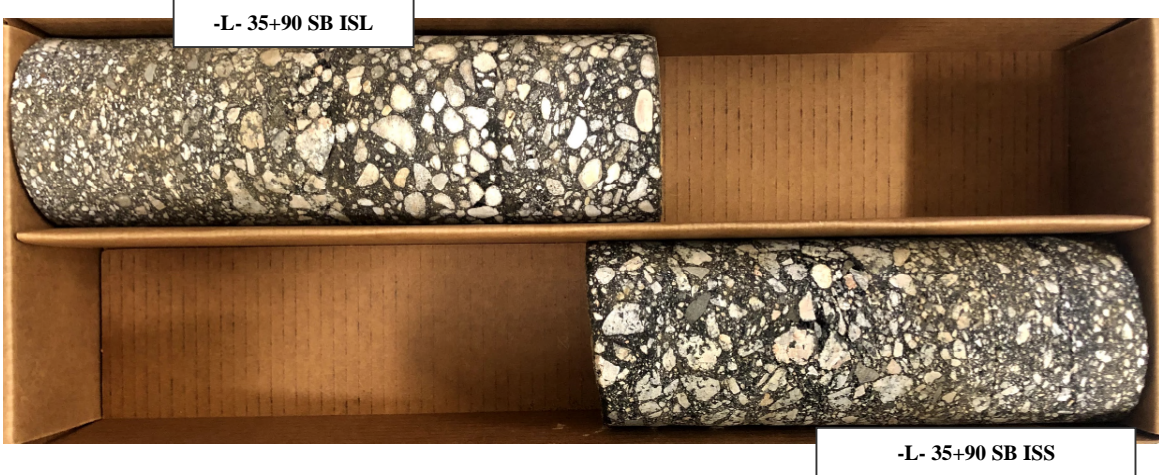
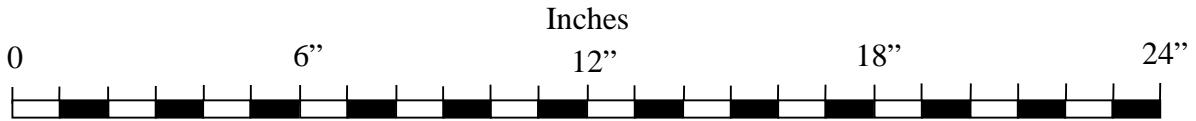
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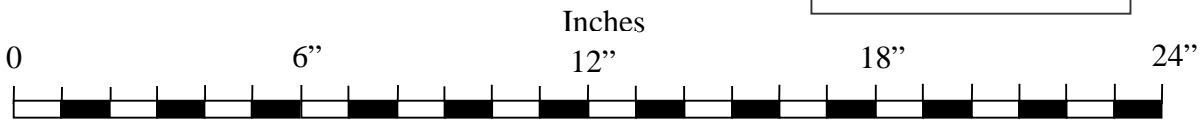
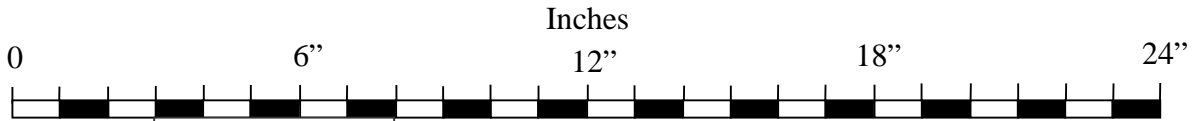
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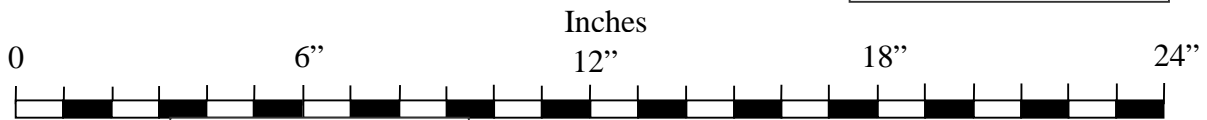
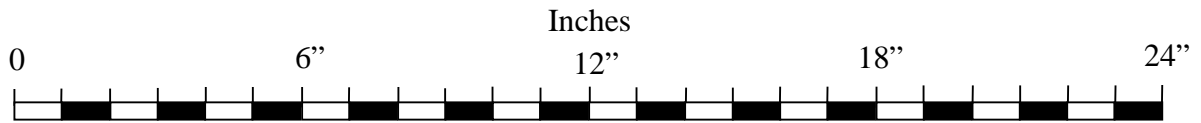
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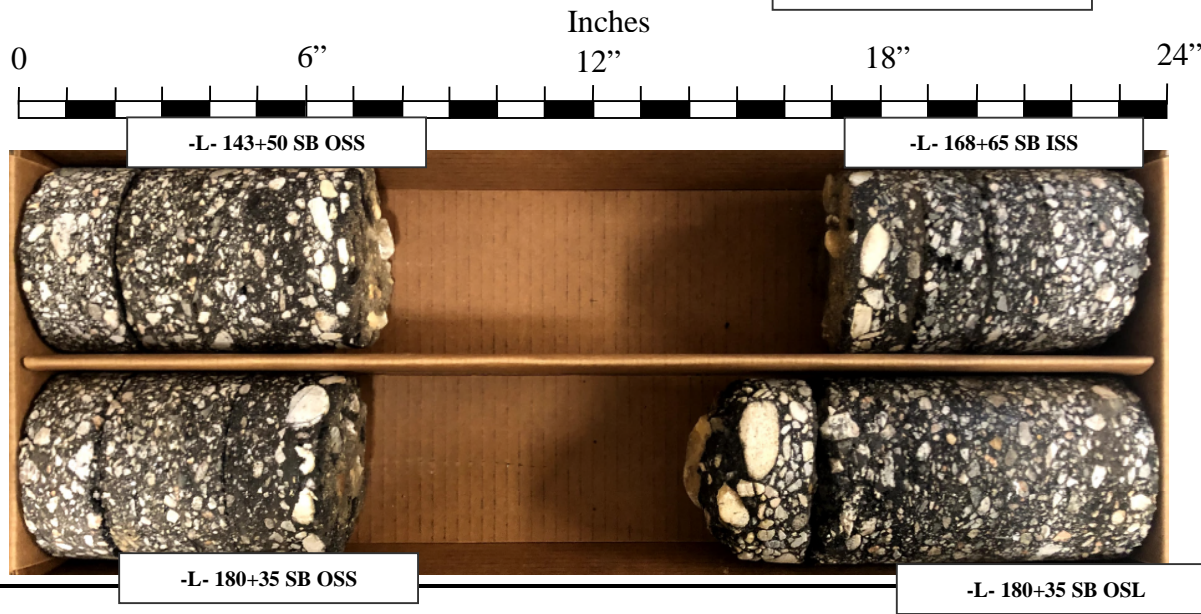
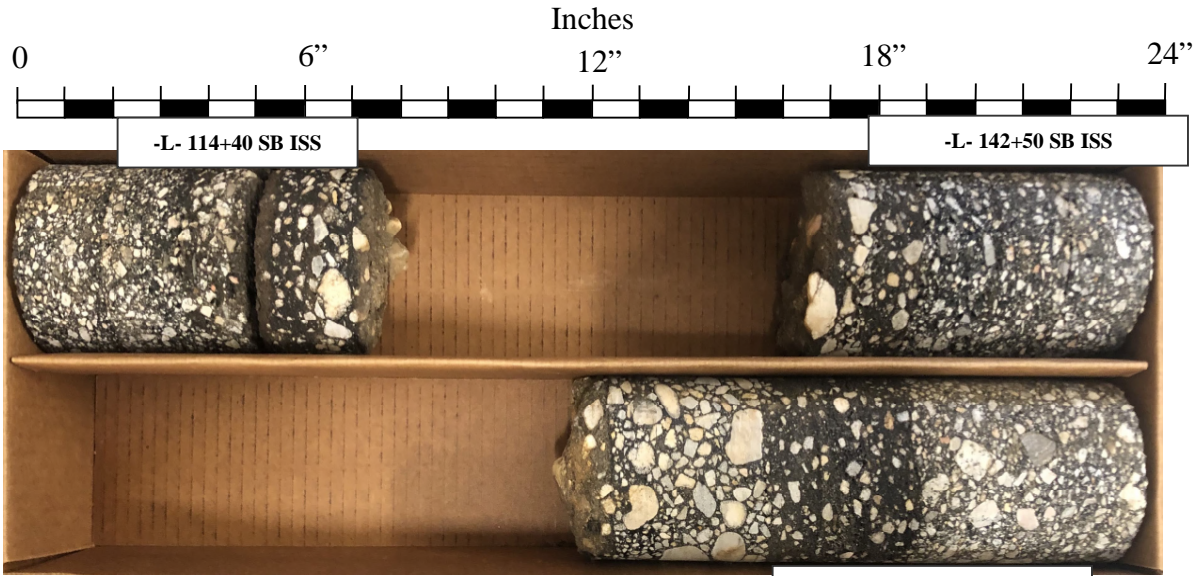
Notes:

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ISL = Inside Lane	PS = Paved Shoulder	MED = Median
RTL = Right Turn Lane	LTL = Left Turn Lane	
OSS = Outside Shoulder	ISS = Inside Shoulder	



S&ME, Inc.
 3201 Spring Forest Road
 Raleigh, North Carolina 27616

Project No.: 47533.1.2	I.D. No.: I-5987A	County: Robeson	Dates: 12/3/19-12/19/19
Site Description: I-95 from North of NC 211 to South of NC 20			
Consultant: S&ME, Inc.	Core Size: 4 - inch	Drill Machine: CME-55	
Geologist / Engineer: Darin Strother, Jarett Swartley, Mary Rawls, Vladimir Mitchev			



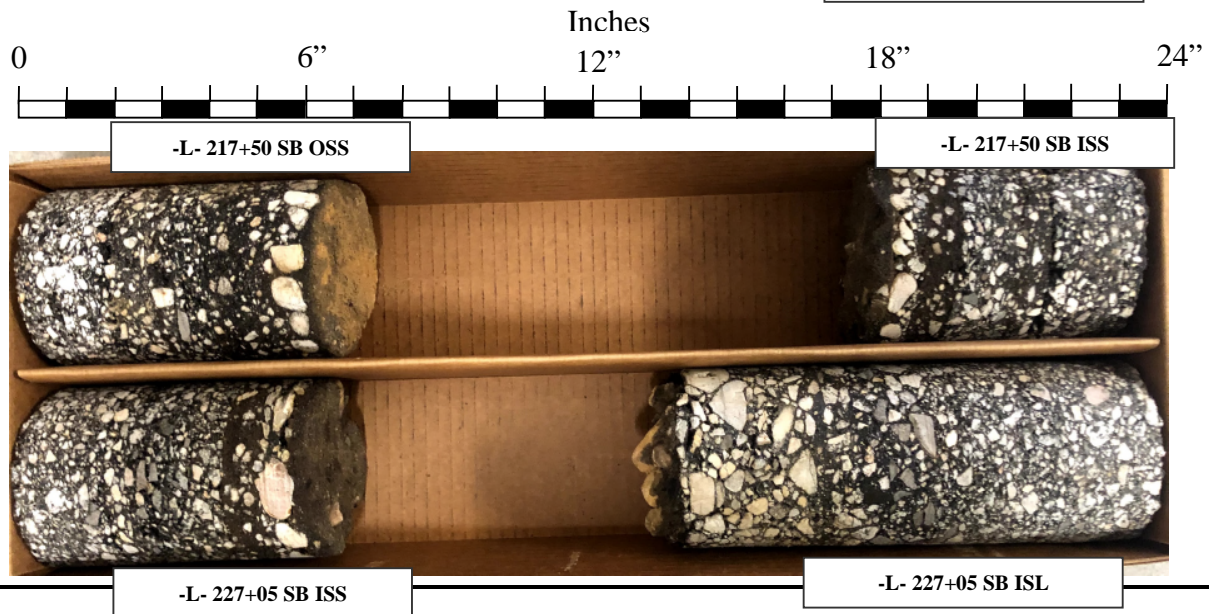
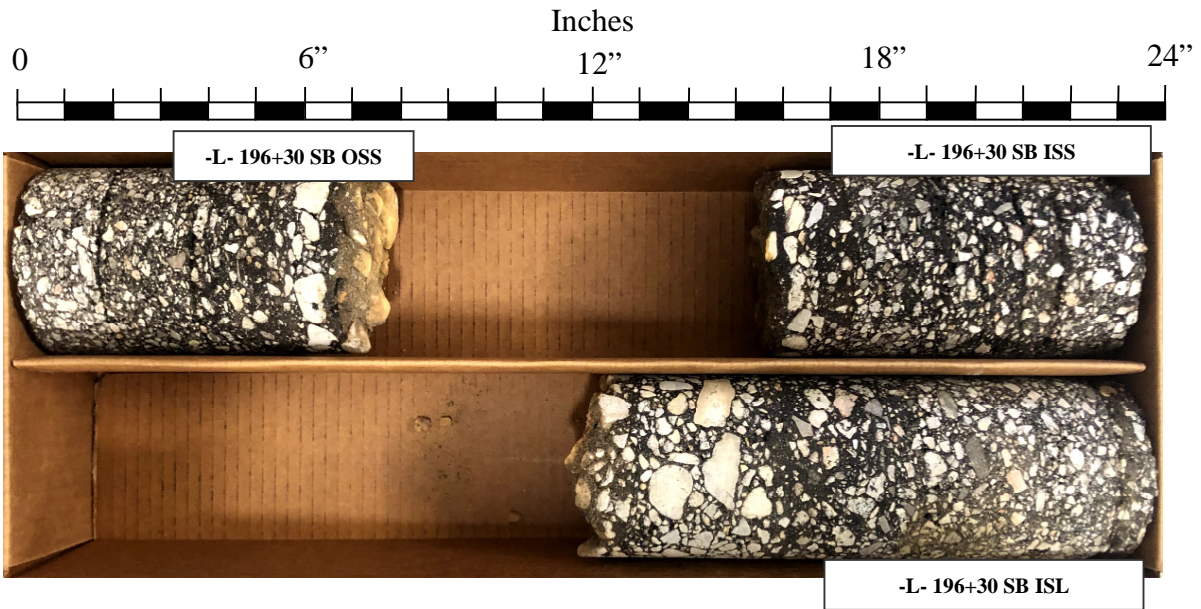
Notes:

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Raleigh, North Carolina 27616

Project No.: 47533.1.2	I.D. No.: I-5987A	County: Robeson	Dates: 12/3/19-12/19/19
Site Description: I-95 from North of NC 211 to South of NC 20			
Consultant: S&ME, Inc.	Core Size: 4 - inch	Drill Machine: CME-55	
Geologist / Engineer: Darin Strother, Jarett Swartley, Mary Rawls, Vladimir Mitchev			



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Project No.: 47533.1.2	I.D. No.: I-5987A	County: Robeson	Dates: 12/3/19-12/19/19
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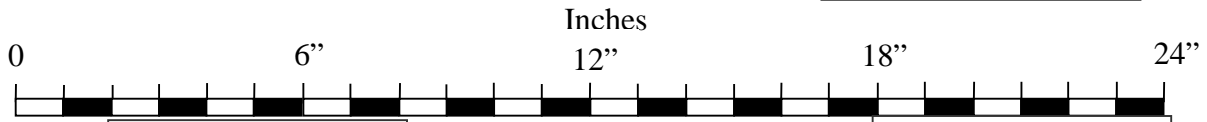
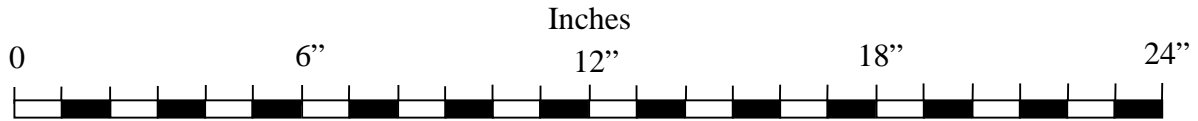
Site Description: I-95 from North of NC 211 to South of NC 20

Consultant: S&ME, Inc.

Core Size: 4 - inch

Drill Machine: CME-55

Geologist / Engineer: Darin Strother, Jarett Swartley, Mary Rawls, Vladimir Mitchev



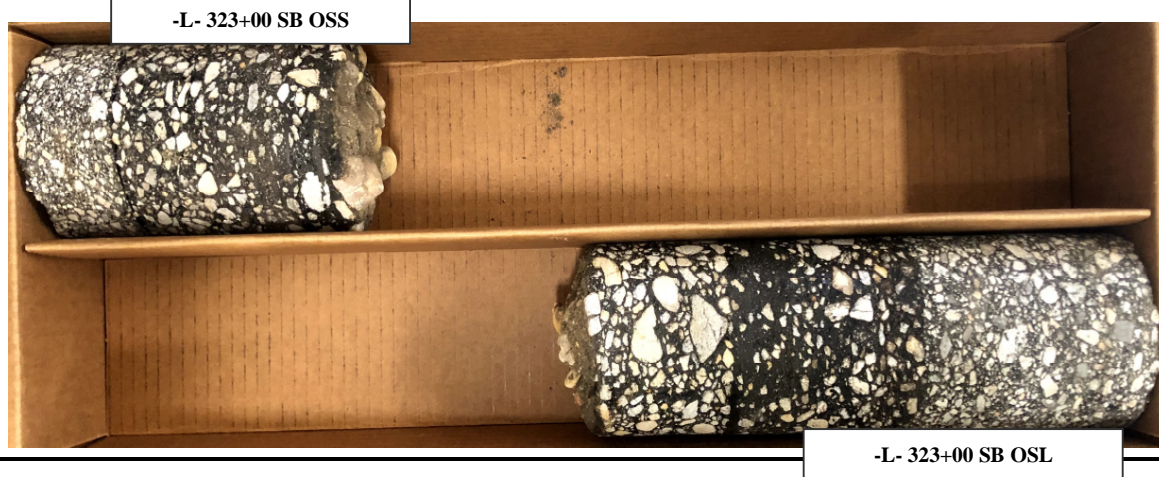
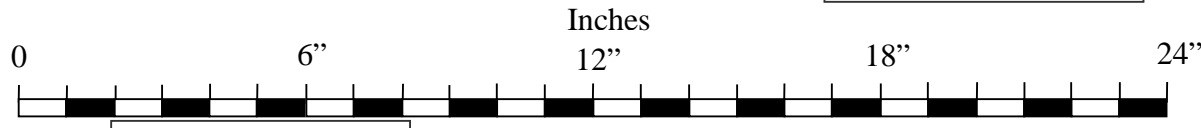
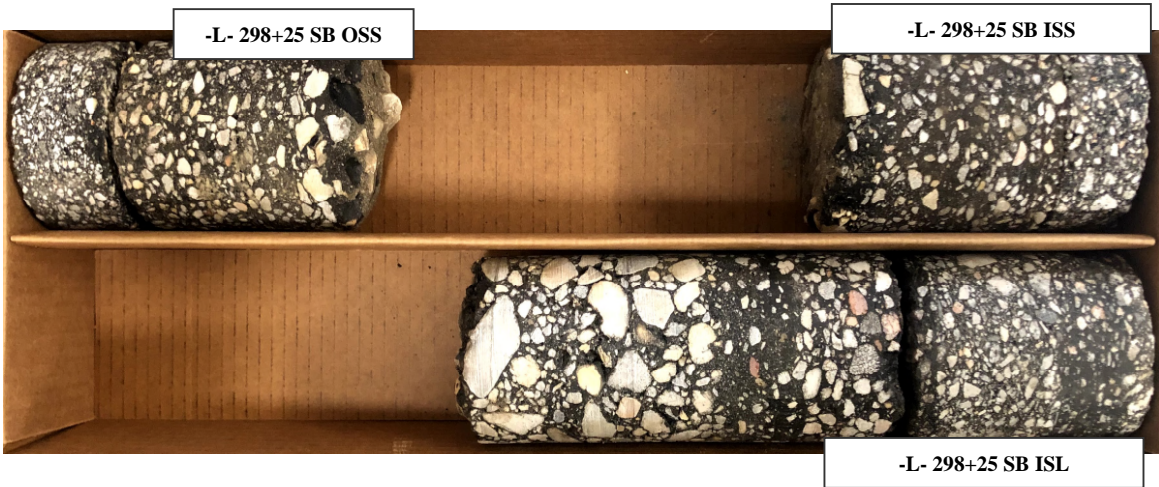
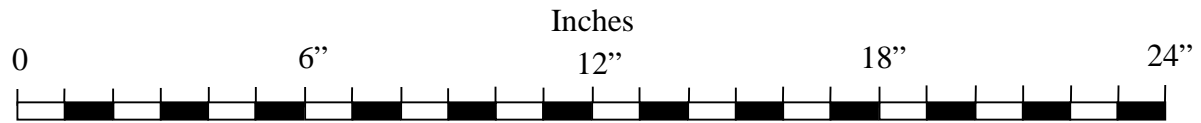
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3201 Spring Forest Road
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<i>Project No.:</i> 47533.1.2	<i>I.D. No.:</i> I-5987A	<i>County:</i> Robeson	<i>Dates:</i> 12/3/19-12/19/19
<i>Site Description:</i> I-95 from North of NC 211 to South of NC 20			
<i>Consultant:</i> S&ME, Inc.	<i>Core Size:</i> 4 - inch	<i>Drill Machine:</i> CME-55	
<i>Geologist / Engineer:</i> Darin Strother, Jarett Swartley, Mary Rawls, Vladimir Mitchev			



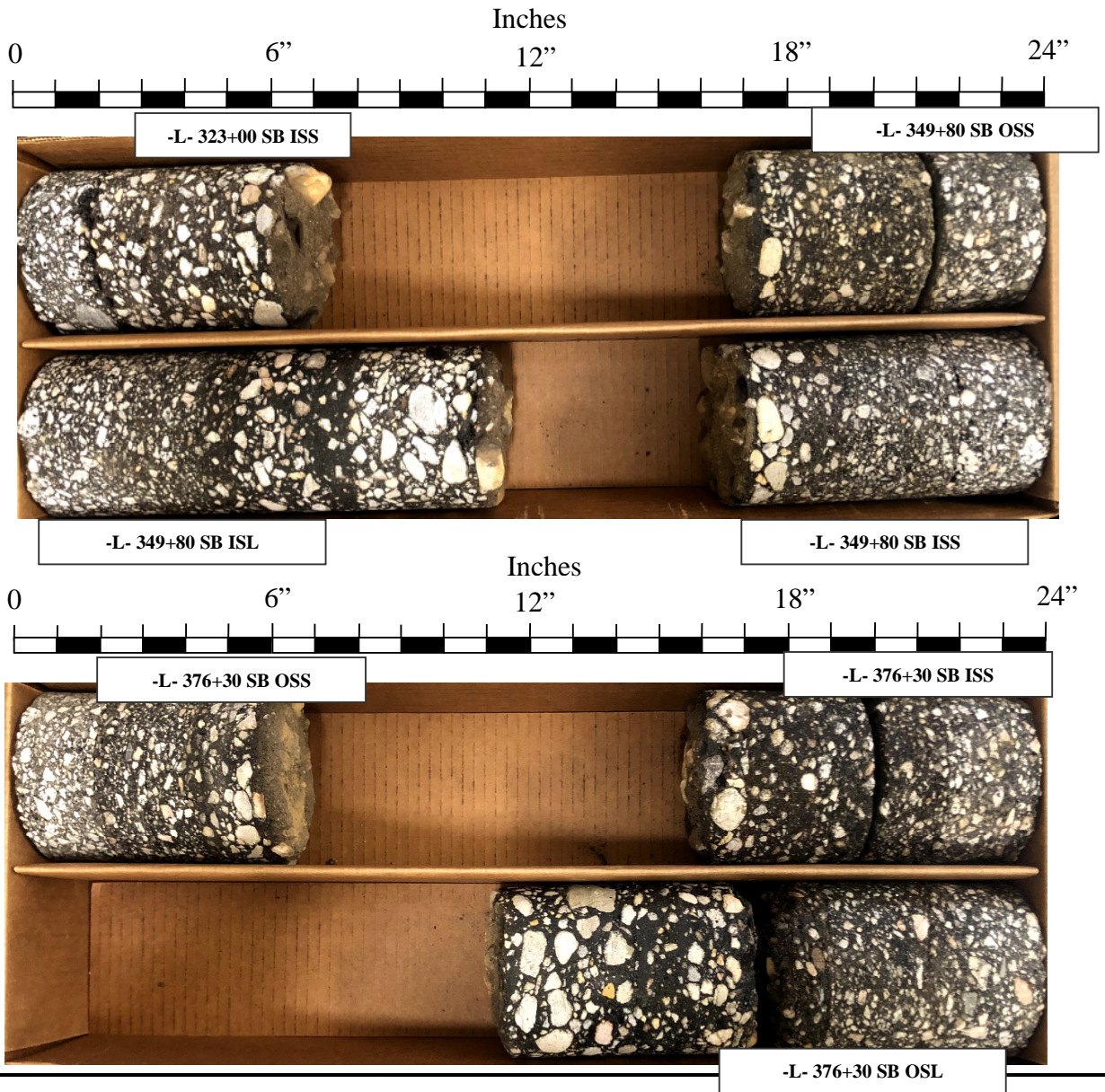
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 3201 Spring Forest Road
 Raleigh, North Carolina 27616

Project No.: 47533.1.2	I.D. No.: I-5987A	County: Robeson	Dates: 12/3/19-12/19/19
Site Description: I-95 from North of NC 211 to South of NC 20			
Consultant: S&ME, Inc.	Core Size: 4 - inch	Drill Machine: CME-55	
Geologist / Engineer: Darin Strother, Jarett Swartley, Mary Rawls, Vladimir Mitchev			



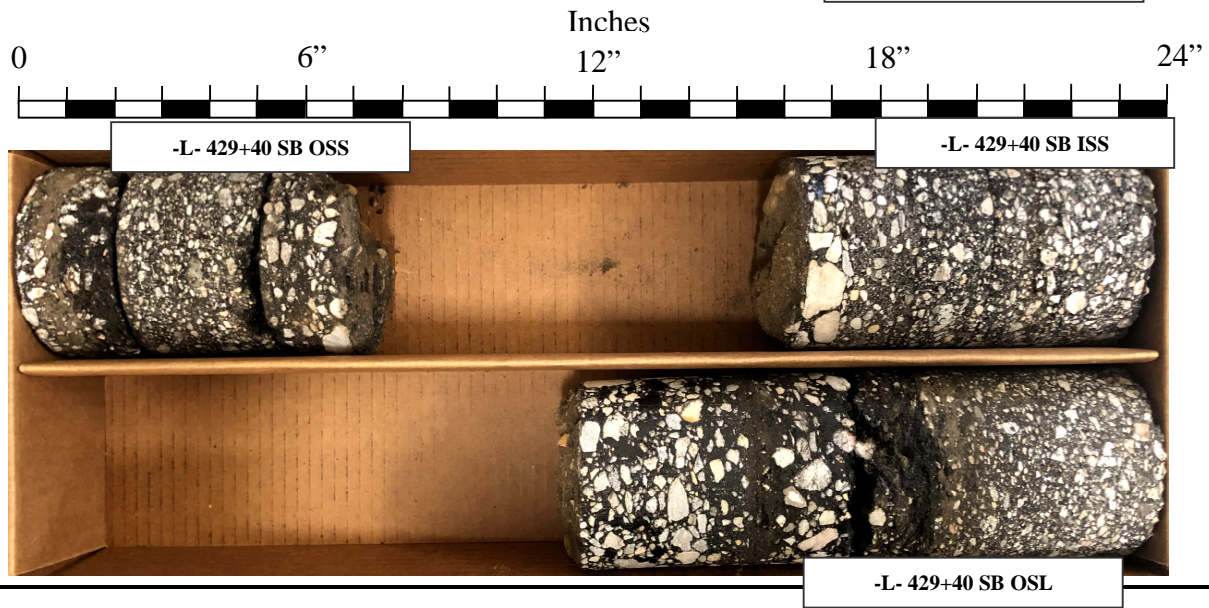
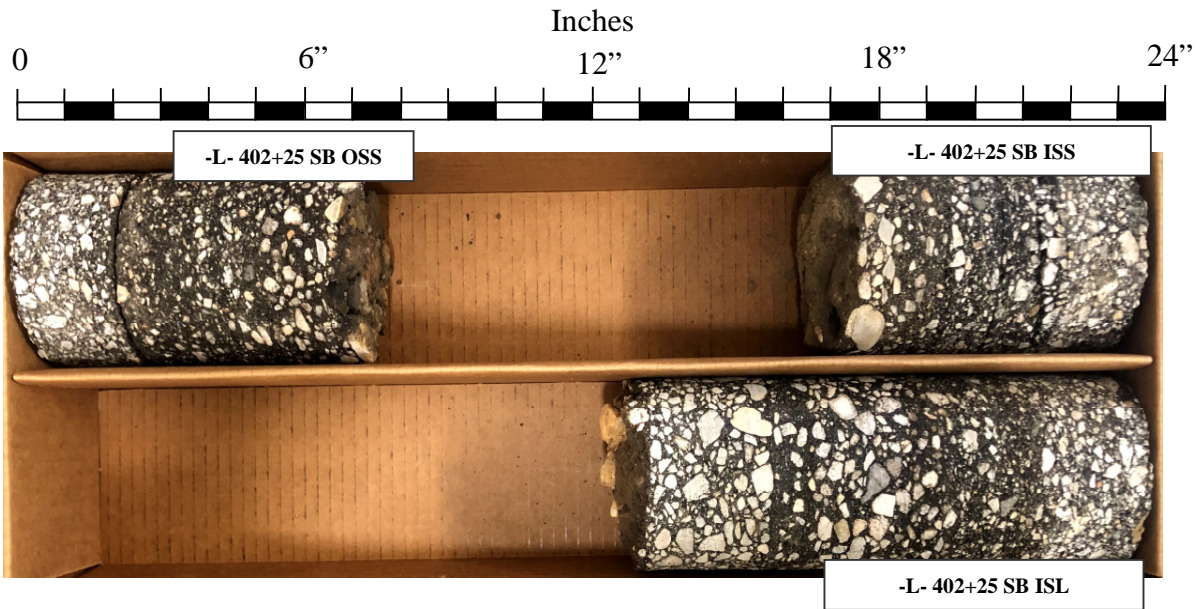
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Project No.: 47533.1.2	I.D. No.: I-5987A	County: Robeson	Dates: 12/3/19-12/19/19
Site Description: I-95 from North of NC 211 to South of NC 20			
Consultant: S&ME, Inc.	Core Size: 4 - inch	Drill Machine: CME-55	
Geologist / Engineer: Darin Strother, Jarett Swartley, Mary Rawls, Vladimir Mitchev			



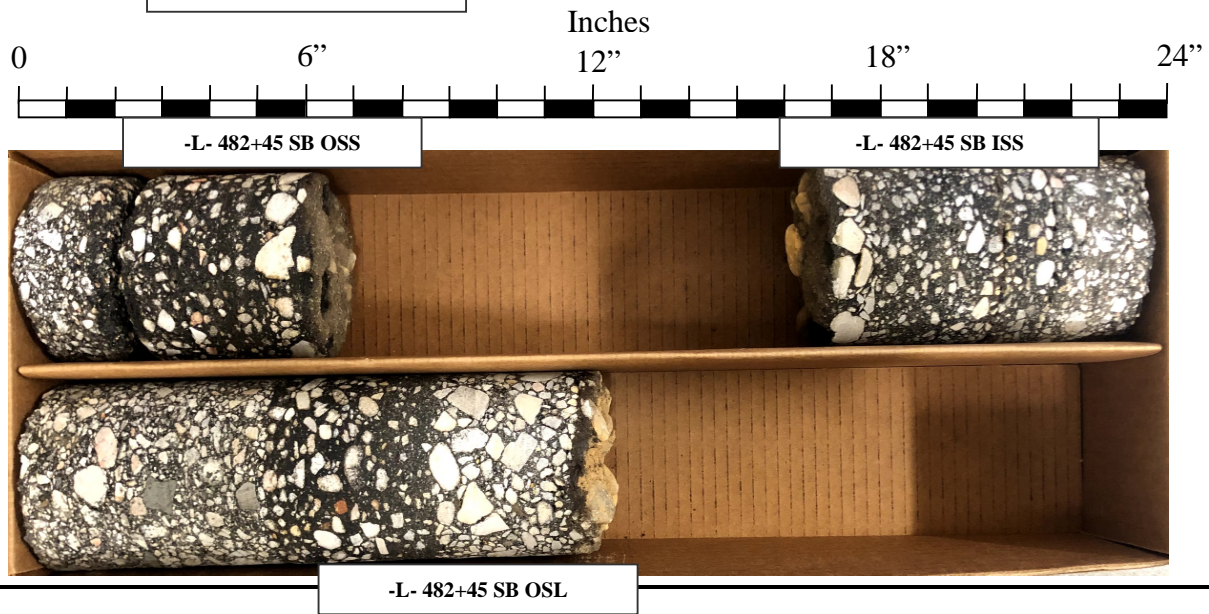
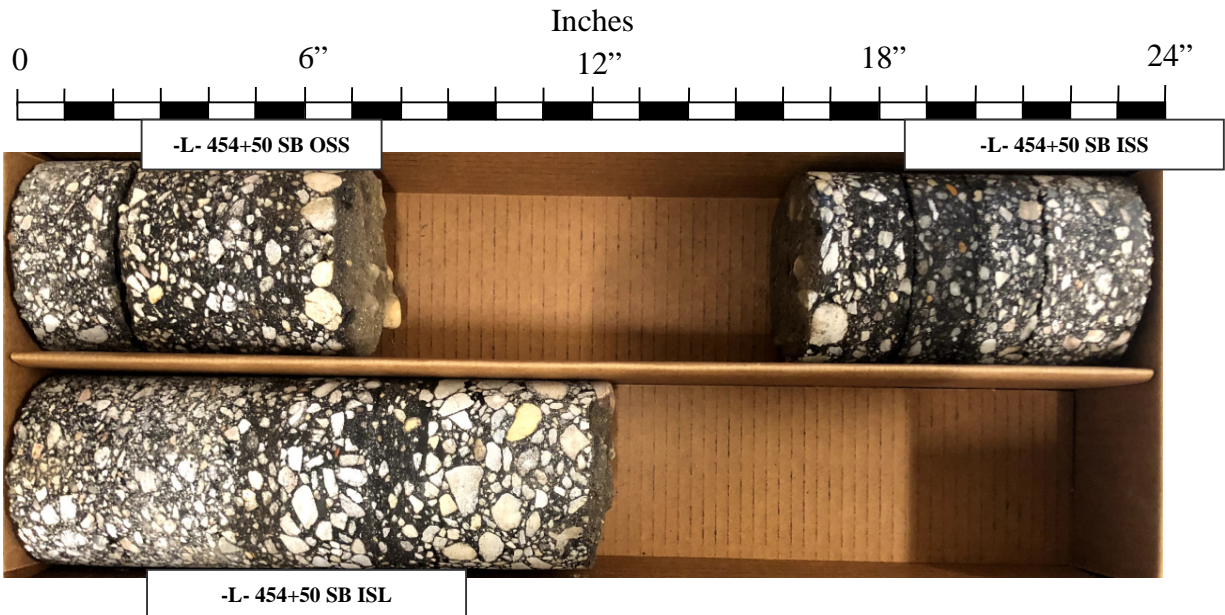
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S&ME, Inc.
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<i>Project No.:</i> 47533.1.2	<i>I.D. No.:</i> I-5987A	<i>County:</i> Robeson	<i>Dates:</i> 12/3/19-12/19/19
<i>Site Description:</i> I-95 from North of NC 211 to South of NC 20			
<i>Consultant:</i> S&ME, Inc.		<i>Core Size:</i> 4 - inch	<i>Drill Machine:</i> CME-55
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S&ME, Inc.
 3201 Spring Forest Road
 Raleigh, North Carolina 27616



SUMMARY OF LABORATORY TEST DATA

Soil Classification and Gradation

S&ME, Inc. Raleigh, 3201 Spring Forest Road, Raleigh, North Carolina 27616

S&ME Project #:	210986	Date Report	12/30/2019
State Project No.:	47533.1.2	County:	Robeson
Federal ID No.:		Date Tested	12/6 - 12/30/19
Project Name:	I-95 from North of NC 211 to South of NC 20		
Client Name:	NCDOT	TIP No.:	I-5987A
		Client Address:	Raleigh, NC

Station No.	Sample No.	Boring No.	Offset	Alignment	Sample Depth (ft)	AASHTO Classification	Total % Passing				Total Mortar Fraction (%)				LL	PL	PI	Moist. %
							Sieve #				Coarse Sand	Fine Sand	Silt	Clay				
							10	40	60	200								
13+05 NB OSS	S-1	NB-01 OSS	N/A	-L-	0.0-1.5	A-2-4 (0)	96	87	74	22.6	23	57	7	13	N.P	N.P	N.P	11.8
13+05 NB OSS	S-2	NB-01 OSS	N/A	-L-	1.5-4.0	A-6 (3)	99	93	82	40.0	17	45	11	27	40	22	18	18.7
21+95 NB OSS	S-3	NB-02 OSS	N/A	-L-	0.0-4.0	A-6 (2)	99	85	71	35.8	28	38	3	31	40	22	18	20.5
35+90 NB OSS	S-4	NB-03 OSS	N/A	-L-	Subgrade	A-2-4 (0)	50	37	30	18.2	41	26	17	16	23	16	7	7.7
35+90 NB OSS	S-5	NB-03 OSS	N/A	-L-	0.0-4.0	A-4 (1)	99	92	82	42.7	18	43	8	31	33	23	10	16.3
35+90 NB OSL	S-6	NB-03 OSL	N/A	-L-	0.0-0.8	A-2-4 (0)	99	63	41	20.0	59	23	2	16	N.P	N.P	N.P	11.0
62+40 NB OSS	S-7	NB-04 OSS	N/A	-L-	2.0-4.0	A-4 (0)	94	80	70	40.9	26	34	13	27	22	16	6	11.0
62+40 NB OSS	S-8	NB-04 OSS	N/A	-L-	0.0-2.0	A-4 (0)	98	93	85	43.9	14	46	14	26	21	16	5	15.2
81+00 NB DECEL	S-9	NB-05 DECEL	N/A	-L-	0.0-4.0	A-6 (4)	98	94	89	43.9	9	52	6	33	38	19	19	18.2
81+00 NB DECEL	S-10	NB-05 DECEL	N/A	-L-	Subgrade	A-1-a (0)	32	24	20	12.8	36	28	16	20	N.P	N.P	N.P	7.6
81+00 NB OSL	S-11	NB-05 OSL	N/A	-L-	1.4-5.0	A-6 (1)	100	94	87	38.1	13	54	5	28	31	19	12	15.6
108+80 NB ACCEL	S-12	NB-06 ACCEL	N/A	-L-	0.0-2.0	A-2-4 (0)	99	84	65	25.8	35	41	2	22	27	19	8	14.0
108+80 NB ACCEL	S-13	NB-06 ACCEL	N/A	-L-	2.0-4.5	A-7-6 (6)	100	91	78	41.1	22	39	6	33	47	20	27	18.2
142+45 NB OSS	S-14	NB-07 OSS	N/A	-L-	0.0-1.0	A-2-4 (0)	99	72	50	11.5	50	40	2	8	N.P	N.P	N.P	11.0
142+45 NB OSS	S-15	NB-07 OSS	N/A	-L-	1.0-4.5	A-2-4 (0)	100	82	67	30.6	34	38	5	23	21	19	2	13.8
168+65 NB OSS	S-17	NB-08 OSS	N/A	-L-	0.0-1.0	A-2-4 (0)	99	76	59	16.9	41	44	5	10	N.P	N.P	N.P	9.6
196+30 NB OSL	S-18	NB-09 OSL	N/A	-L-	0.0-4.5	A-2-6 (0)	100	90	80	27.7	20	54	5	21	33	20	13	14.9
215+50 NB OSS	S-19	NB-10 OSS	N/A	-L-	0.0-4.5	A-2-4 (0)	100	74	51	20.9	49	34	3	14	19	17	2	11.1
247+60 NB ACCEL	S-20	NB-11 ACCEL	N/A	-L-	0.0-4.5	A-2-4 (0)	99	71	54	26.7	45	31	7	17	20	16	4	10.0



SUMMARY OF LABORATORY TEST DATA

Soil Classification and Gradation

S&ME, Inc. Raleigh, 3201 Spring Forest Road, Raleigh, North Carolina 27616

S&ME Project #:	210986	Date Report	12/30/2019
State Project No.:	47533.1.2	County:	Robeson
Federal ID No.:		Date Tested	12/6 - 12/30/19
Project Name:	I-95 from North of NC 211 to South of NC 20		
Client Name:	NCDOT	TIP No.:	I-5987A
		Client Address:	Raleigh, NC

Station No.	Sample No.	Boring No.	Offset	Alignment	Sample Depth (ft)	AASHTO Classification	Total % Passing				Total Mortar Fraction (%)				LL	PL	PI	Moist. %
							Sieve #				Coarse Sand	Fine Sand	Silt	Clay				
							10	40	60	200								
277+70 NB OSS	S-21	NB-12 OSS	N/A	-L-	1.8-4.5	A-2-6 (0)	100	87	77	28.6	23	51	6	20	33	21	12	14.9
299+40 NB OSL	S-22	NB-14 OSL	N/A	-L-	0.0-4.0	A-2-4 (0)	100	92	76	20.1	24	56	5	15	N.P	N.P	N.P	12.2
299+40 NB ACCEL	S-23	NB-14 ACCEL	N/A	-L-	0.0-1.0	A-2-4 (0)	100	94	79	23.5	22	56	4	18	24	20	4	17.0
322+95 NB OSS	S-24	NB-15 OSS	N/A	-L-	0.8-4.5	A-2-4 (0)	100	86	73	20.1	27	55	3	15	N.P	N.P	N.P	10.8
349+70 NB OSS	S-25	NB-16 OSS	N/A	-L-	0.0-0.8	A-2-4 (0)	78	58	42	20.0	47	30	4	19	26	20	6	11.3
349+70 NB OSS	S-26	NB-16 OSS	N/A	-L-	0.8-4.5	A-2-4 (0)	98	61	42	23.7	57	20	3	20	30	22	8	13.7
376+35 NB OSS	S-27	NB-17 OSS	N/A	-L-	2.5-4.5	A-7-6 (7)	100	73	60	42.1	41	20	5	34	54	26	28	16.8
402+25 NB OSL	S-28	NB-18 OSL	N/A	-L-	0.8-4.5	A-2-6 (0)	98	72	56	33.3	43	27	9	21	29	18	11	8.8
454+40 NB OSL	S-29	NB-20 OSL	N/A	-L-	0.0-3.0	A-2-4 (0)	96	58	38	22.6	60	18	5	17	24	15	9	12.2
454+40 NB OSL	S-30	NB-20 OSL	N/A	-L-	3.0-4.5	A-2-6 (0)	99	63	46	26.8	54	21	4	21	27	14	13	12.6
454+40 NB OSS	S-31	NB-20 OSS	N/A	-L-	0.8-3.0	A-2-4 (0)	94	58	30	12.7	68	20	6	6	N.P	N.P	N.P	9.2
277+70 NB ISL	S-48	NB-12 ISL	N/A	-L-	0.0-1.0	A-2-6 (0)	100	90	76	26.6	24	51	5	20	26	15	11	16.2
277+70 NB ISL	S-49	NB-12 ISL	N/A	-L-	1.0-5.0	A-2-6 (0)	100	87	76	26.5	25	53	4	18	31	17	14	15.1
322+95 NB ISS	S-50	NB-15 ISS	N/A	-L-	0.0-1.0	A-2-4 (0)	88	60	44	18.7	51	30	8	11	18	13	5	8.2
349+70 NB ISS	S-51	NB-16 ISS	N/A	-L-	1.3-5.0	A-2-4 (0)	100	87	75	25.6	25	53	7	15	17	15	2	7.9
376+35 NB ISS	S-52	NB-17 ISS	N/A	-L-	2.5-5.0	A-2-6 (0)	100	72	54	33.0	46	24	10	20	27	14	13	12.0
402+25 NB ISS	S-53	NB-18 ISS	N/A	-L-	0.0-1.2	A-2-4 (0)	94	63	45	18.2	52	32	7	9	17	14	3	8.9
402+25 NB ISS	S-54	NB-18 ISS	N/A	-L-	1.2-5.0	A-6 (3)	100	77	60	39.1	40	24	6	30	36	16	20	12.6
429+40 NB ISL	S-55	NB-19 ISL	N/A	-L-	0.0-2.0	A-2-6 (0)	95	67	51	29.2	47	25	6	22	29	16	13	12.0



SUMMARY OF LABORATORY TEST DATA

Soil Classification and Gradation

S&ME, Inc. Raleigh, 3201 Spring Forest Road, Raleigh, North Carolina 27616

S&ME Project #:	210986	Date Report	12/30/2019
State Project No.:	47533.1.2	County:	Robeson
Federal ID No.:		Date Tested	12/6 - 12/30/19
Project Name:	I-95 from North of NC 211 to South of NC 20		
Client Name:	NCDOT	TIP No.:	I-5987A
		Client Address:	Raleigh, NC

Station No.	Sample No.	Boring No.	Offset	Alignment	Sample Depth (ft)	AASHTO Classification	Total % Passing				Total Mortar Fraction (%)				LL	PL	PI	Moist. %
							Sieve #				Coarse Sand	Fine Sand	Silt	Clay				
							10	40	60	200								
13+05 NB ISL	S-78	NB-01 ISL	N/A	-L-	0.0-2.0	A-2-6 (0)	100	81	60	30.4	40	32	3	25	36	17	19	10.6
13+05 NB ISL	S-79	NB-01 ISL	N/A	-L-	2.0-5.0	A-7-6 (3)	99	88	76	36.9	23	42	5	30	41	20	21	16.1
35+90 NB ISS	S-80	NB-03 ISS	N/A	-L-	0.8-1.5	A-4 (0)	100	90	76	36.8	24	43	3	30	24	16	8	13.0
62+40 NB ISL	S-81	NB-04 ISL	N/A	-L-	1.5-3.5	A-6 (4)	100	92	82	49.3	18	36	12	34	32	17	15	15.9
81+00 NB ISS	S-82	NB-05 ISS	N/A	-L-	1.0-5.0	A-7-6 (6)	100	93	85	43.3	15	47	6	32	44	20	24	21.2
118+45 NB ISS	S-83	NB-06 ISS	N/A	-L-	0.0-1.0	A-2-4 (0)	93	71	53	24.9	43	33	6	18	20	14	6	12.1
118+45 NB ISS	S-84	NB-06 ISS	N/A	-L-	1.0-5.0	A-2-4 (0)	94	77	58	23.7	38	40	6	16	20	14	6	10.5
142+45 NB ISS	S-85	NB-07 ISS	N/A	-L-	2.0-5.0	A-2-6 (0)	100	86	71	31.2	29	43	7	21	27	15	12	11.8
168+65 NB ISS	S-86	NB-08 ISS	N/A	-L-	0.0-2.0	A-2-4 (0)	97	71	51	23.0	48	32	5	15	18	13	5	9.7
196+30 NB ISS	S-87	NB-09 ISS	N/A	-L-	0.0-5.0	A-2-4 (0)	97	76	61	21.9	38	42	5	15	21	15	6	14.5
215+50 NB ISS	S-88	NB-10 ISS	N/A	-L-	4.0-5.0	A-2-6 (0)	100	89	77	30.0	23	49	4	24	27	16	11	11.5
482+45 NB ISS	S-202	NB-21 ISS	N/A	-L-	0.0-3.0	A-2-4 (0)	99	72	57	33.9	42	27	11	20	25	15	10	11.1
430+35 NB IES	Bulk-7 IES NB	N/A	N/A	-L-	0-2.83	A-2-6 (0)	99	67	52	32.6	47	22	5	26	34	20	14	14.7
324+50 NB IES	Bulk-8 IES NB	N/A	N/A	-L-	0-3.25	A-2-4 (0)	100	86	74	17.9	26	57	5	12	N.P.	N.P.	N.P.	12.3
24+55 NB OES	Bulk-1 OES NB	N/A	N/A	-L-	0-3.17	A-2-4 (0)	99	82	63	27.0	36	39	5	20	24	16	8	15.0
60+65 NB OES	Bulk-2 OES NB	N/A	N/A	-L-	0-2.67	A-1-a (1)	35	22	16	9.9	54	20	16	10	N.P.	N.P.	N.P.	7.9
167+25 NB OES	Bulk-3 OES NB	N/A	N/A	-L-	0-3.58	A-2-4 (0)	98	69	50	14.0	49	39	3	9	N.P.	N.P.	N.P.	13.0
274+05 NB OES	Bulk-4 OES NB	N/A	N/A	-L-	0-2.5	A-2-4 (0)	100	87	73	25.6	27	49	9	15	19	16	3	15.2
378+15 NB OES	Bulk-5 OES NB	N/A	N/A	-L-	1.5-2.5	A-2-6 (0)	99	65	48	27.8	51	23	4	22	32	17	15	13.5



SUMMARY OF LABORATORY TEST DATA

Soil Classification and Gradation

S&ME, Inc. Raleigh, 3201 Spring Forest Road, Raleigh, North Carolina 27616

S&ME Project #: 210986 Date Report 12/30/2019
 State Project No.: 47533.1.2 County: Robeson Date Tested 12/6 - 12/30/19
 Federal ID No.: TIP No.: I-5987A
 Project Name: I-95 from North of NC 211 to South of NC 20
 Client Name: NCDOT Client Address: Raleigh, NC

Station No.	Sample No.	Boring No.	Offset	Alignment	Sample Depth (ft)	AASHTO Classification		Total % Passing				Total Mortar Fraction (%)				LL	PL	PI	Moist. %		
								Sieve #				Coarse Sand	Fine Sand	Silt	Clay						
								10	40	60	200										
483+75 NB OES	Bulk-6 OES NB	N/A	N/A	-L-	1.0-2.5	A-2-4	(0)	99	69	51	27.0	49	26	5	20	27	20	7	13.3		

References / Comments / Deviations: NP=Non-Plastic
 AASHTO T88: Particle Size Analysis of Soils as Modified by the NCDOT
 AASHTO T89: Determining the Liquid Limit of Soils
 AASHTO T90: Determining the Plastic Limit & Plasticity Index of Soils
 AASHTO T265: Laboratory Determination of Moisture Content of Soils
 AASHTO M145: The Classification of Soils and Soil Aggregate Mixtures for Highway Construction Purposes

Mal Krajan, ET
 Technician Name:


 Signature

104-01-0703
 Certification #

Vlad Mitchev, P.E.
 Technical Responsibility:

Project Manager
 Position

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SUMMARY OF LABORATORY TEST DATA

Soil Classification and Gradation

S&ME, Inc. Raleigh, 3201 Spring Forest Road, Raleigh, North Carolina 27616

S&ME Project #:	210986	Date Report	1/3-7/2020
State Project No.:	47533.1.2	County:	Robeson
Federal ID No.:		Date Tested	12/16/19-1/7/20
Project Name:	I-95 from North of NC 211 to South of NC 20		
Client Name:	NCDOT	TIP No.:	I-5987A
Client Address:	Raleigh, NC		

Station No.	Sample No.	Boring No.	Offset	Alignment	Sample Depth (ft)	AASHTO Classification	Total % Passing				Total Mortar Fraction (%)				LL	PL	PI	Organic	Moist. %
							Sieve #				Coarse Sand	Fine Sand	Silt	Clay					
							10	40	60	200									
114+40 SB IES	Bulk 10	BULK-10 SB IES	NI	-L-	0-3.75	A-2-6 (1)	100	82	66	35.4	34	33	12	21	26	13	13	NI	18.4
167+10 SB OES	Bulk 10	BULK-10 SB OES	NI	-L-	0-3.92	A-2-6 (0)	100	89	73	35.0	27	41	10	23	23	11	12	NI	16.6
486+65 SB OES	Bulk 7	BULK-7 SB OES	NI	-L-	0-4.0	A-2-4 (0)	99	61	43	25.2	57	20	5	18	24	15	19	NI	13.9
378+15 SB OES	Bulk 8	BULK-8 SB OES	NI	-L-	0-3.92	A-2-6 (1)	99	70	53	34.9	46	21	10	23	27	13	14	NI	15.0
219+80 SB IES	Bulk 9	BULK-9 SB IES	NI	-L-	0-4.0	A-6 (2)	100	83	69	41.6	31	31	12	26	25	11	14	NI	15.5
272+65 SB OES	Bulk 9	BULK-9 SB OES	NI	-L-	0-3.42	A-6 (4)	100	92	81	48.9	19	35	15	31	29	12	17	NI	13.9
482+45 SB OSS	S-157	SB-28 OSS	NI	-L-	0-3.0	A-2-6 (0)	96	63	47	29.9	51	20	8	21	28	17	11	NI	13.4
454+50 SB OSS	S-158	SB-29 OSS	NI	-L-	0-3.0	A-2-4 (0)	99	67	50	30.1	50	23	9	19	24	15	9	NI	10.0
429+40 SB OSL	S-159	SB-30 OSL	NI	-L-	ABC-LYR	A-1-a (1)	46	24	15	6.5	68	19	6	7	NP	NP	NP	NI	11.9
429+40 SB OSL	S-160	SB-30 OSL	NI	-L-	0-3.0	A-2-6 (1)	99	69	52	34.0	47	21	9	23	34	18	16	NI	12.9
402+25 SB OSS	S-161	SB-31 OSS	NI	-L-	0-3.0	A-2-6 (1)	99	71	54	33.3	45	24	11	20	29	14	15	NI	12.2
376+30 SB OSL	S-162	SB-32 OSL	NI	-L-	0-2.0	A-2-4 (0)	99	71	54	32.4	46	25	12	18	24	14	10	NI	9.2
349+80 SB OSS	S-163	SB-33 OSS	NI	-L-	0-3.0	A-2-4 (0)	100	92	77	27.5	23	51	6	20	NP	NP	NP	NI	12.0
323+00 SB OSL	S-164	SB-34 OSL	NI	-L-	0-3.0	A-2-4 (0)	100	91	78	30.8	22	50	12	16	16	7	9	NI	8.8
298+25 SB OSS	S-165	SB-35 OSS	NI	-L-	0-3.0	A-2-4 (0)	99	65	50	25.9	50	26	8	16	18	13	5	NI	8.8
277+70 SB OSS	S-166	SB-36 OSS	NI	-L-	0-3.0	A-2-4 (0)	100	93	78	33.1	22	45	19	14	14	12	2	NI	11.4
277+70 SB OSS	S-167	SB-36 OSS	NI	-L-	3.0-5.0	A-4 (0)	100	91	78	38.7	22	41	16	20	16	12	4	NI	14.8
277+70 SB DECEL	S-168	SB-36 DECEL	NI	-L-	0-3.0	A-2-6 (0)	100	91	80	33.4	20	49	9	22	25	14	11	NI	13.3
247+70 SB OSS	S-169	SB-38 OSS	NI	-L-	0-2.5	A-2-6 (0)	100	74	54	28.5	46	29	11	15	28	12	16	NI	10.1
196+30 SB OSS	S-170	SB-40 OSS	NI	-L-	0-2.5	A-2-6 (0)	100	88	74	27.2	26	48	6	20	32	19	13	NI	15.1
180+35 SB OSL	S-171	SB-41 OSL	NI	-L-	0-3.0	A-2-4 (0)	99	85	66	27.6	34	40	6	20	23	16	7	NI	13.4
143+50 SB OSS	S-172	SB-42 OSS	NI	-L-	0-3.0	A-2-4 (0)	99	79	54	26.5	45	30	7	18	19	14	5	NI	11.0
114+40 SB OSS	S-173	SB-43 OSS	NI	-L-	0-3.0	A-2-4 (0)	100	89	67	26.6	33	42	5	20	24	16	8	NI	12.5
84+65 SB OSS	S-174	SB-44 OSS	NI	-L-	0-3.0	A-6 (5)	99	95	88	56.3	11	38	24	27	27	11	16	NI	19.3



SUMMARY OF LABORATORY TEST DATA

Soil Classification and Gradation

S&ME, Inc. Raleigh, 3201 Spring Forest Road, Raleigh, North Carolina 27616

S&ME Project #:	210986	Date Report	1/3-7/2020
State Project No.:	47533.1.2	County:	Robeson
Federal ID No.:		Date Tested	12/16/19-1/7/20
Project Name:	I-95 from North of NC 211 to South of NC 20		
Client Name:	NCDOT	TIP No.:	I-5987A
Client Address:	Raleigh, NC		

Station No.	Sample No.	Boring No.	Offset	Alignment	Sample Depth (ft)	AASHTO Classification		Total % Passing				Total Mortar Fraction (%)				LL	PL	PI	Organic	Moist. %
								Sieve #				Coarse Sand	Fine Sand	Silt	Clay					
								10	40	60	200									
62+35 SB OSS	S-175	SB-45 OSS	NI	-L-	0-3.0	A-6	(1)	100	91	78	40.6	22	42	15	22	25	13	12	NI	16.7
35+90 SB OSS	S-176	SB-46 OSS	NI	-L-	0-2.5	A-4	(0)	100	92	78	38.9	22	42	12	24	28	20	8	NI	13.6
35+90 SB OSS	S-177	SB-46 OSS	NI	-L-	2.5-5.0	A-7-6	(7)	100	92	77	44.2	23	34	6	37	46	18	28	NI	21.9
14+50 SB OSL	S-178	SB-48 OSL	NI	-L-	0-3.0	A-2-4	(0)	100	91	77	28.4	23	54	15	9	NP	NP	NP	NI	6.1
376+30 SB ISS	S-208	SB-32 ISS	NI	-L-	0-3.0	A-2-4	(0)	99	71	54	28.6	46	29	11	15	21	13	8	NI	10.5
323+00 SB ISS	S-209	SB-34 ISS	NI	-L-	0-3.0	A-2-4	(0)	98	88	78	35.4	21	47	16	16	17	13	4	NI	8.9
277+70 SB ISS	S-210	SB-36 ISS	NI	-L-	0-3.0	A-2-6	(0)	100	89	77	31.4	23	48	9	20	29	14	15	NI	12.9
227+05 SB ISL	S-211	SB-38 ISL	NI	-L-	0-3.0	A-2-6	(0)	100	70	53	28.5	48	27	10	16	24	12	12	NI	11.0
88+65 SB ISL	S-212	SB-44 ISL	NI	-L-	1.5-3.0	A-2-6	(2)	100	79	55	33.3	45	23	8	24	40	15	25	NI	13.2
482+45 SB ISS	S-221	SB-28 ISS	NI	-L-	0-2.5	A-2-6	(0)	93	61	45	27.0	52	22	4	22	28	16	12	NI	10.8
454+50 SB ISS	S-222	SB-29 ISS	NI	-L-	0-3.0	A-2-6	(0)	97	66	49	28.2	50	24	8	18	22	11	11	NI	9.8
429+40 SB ISS	S-223	SB-30 ISS	NI	-L-	0-3.0	A-2-6	(0)	99	71	53	33.4	47	22	7	24	32	19	13	NI	13.3
402+25 SB ISS	S-224	SB-31 ISS	NI	-L-	0-3.0	A-2-6	(0)	99	70	53	31.9	47	24	9	21	28	13	15	NI	11.8
217+50 SB ISS	S-231	SB-39 ISS	NI	-L-	1.5-3.0	A-2-4	(0)	98	71	52	24.5	47	31	6	16	17	13	4	NI	10.5
196+30 SB ISS	S-232	SB-40 ISS	NI	-L-	0-1.5	A-2-4	(0)	97	63	46	20.3	53	28	5	14	18	13	5	NI	9.8
196+30 SB ISL	S-233	SB-40 ISL	NI	-L-	1.5-3.0	A-2-6	(0)	97	79	64	26.9	34	40	8	18	24	13	11	NI	13.1
168+65 SB ISS	S-234	SB-41 ISS	NI	-L-	0-1.5	A-2-4	(0)	95	52	35	16.2	63	22	5	11	NP	NP	NP	NI	9.2
142+50 SB ISS	S-235	SB-42 ISS	NI	-L-	0-1.5	A-2-4	(0)	99	68	50	26.9	49	26	9	16	22	16	6	NI	10.9
142+50 SB ISL	S-236	SB-42 ISL	NI	-L-	1.5-3	A-2-4	(0)	99	62	44	23.3	55	23	7	14	23	16	7	NI	9.8
114+40 SB ISS	S-237	SB-43 ISS	NI	-L-	0-1.5	A-2-4	(0)	98	79	60	27.1	38	36	10	16	18	13	5	NI	10.7
62+35 SB ISS	S-238	SB-45 ISS	NI	-L-	0-1.5	A-2-4	(0)	98	58	40	22.5	59	20	5	17	23	14	9	NI	15.3
35+90 SB ISL	S-239	SB-46 ISL	NI	-L-	0-1.5	A-2-4	(0)	100	85	68	33.6	32	37	13	18	19	14	5	NI	13.9



SUMMARY OF LABORATORY TEST DATA

Soil Classification and Gradation

S&ME, Inc. Raleigh, 3201 Spring Forest Road, Raleigh, North Carolina 27616

S&ME Project #:	210986	Date Report	1/3-7/2020
State Project No.:	47533.1.2	County:	Robeson
Federal ID No.:		Date Tested	12/16/19-1/7/20
Project Name:	I-95 from North of NC 211 to South of NC 20		
Client Name:	NCDOT	TIP No.:	I-5987A
Client Address:	Raleigh, NC		

Station No.	Sample No.	Boring No.	Offset	Alignment	Sample Depth (ft)	AASHTO Classification		Total % Passing				Total Mortar Fraction (%)				LL	PL	PI	Organic	Moist. %
								Sieve #				Coarse Sand	Fine Sand	Silt	Clay					
								10	40	60	200									

References / Comments / Deviations: ND=Not Determined.

AASHTO T88: Particle Size Analysis of Soils as Modified by the NCDOT AASHTO T89: Determining the Liquid Limit of Soils

AASHTO T90: Determining the Plastic Limit & Plasticity Index of Soils AASHTO T265: Laboratory Determination of Moisture Content of Soils

AASHTO M145: The Classification of Soils and Soil Aggregate Mixtures for Highway Construction Purposes

Technician Name: _____ Signature _____ Certification # _____ Technical Responsibility: _____ Project Manager _____
 Position _____

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MOISTURE - DENSITY REPORT

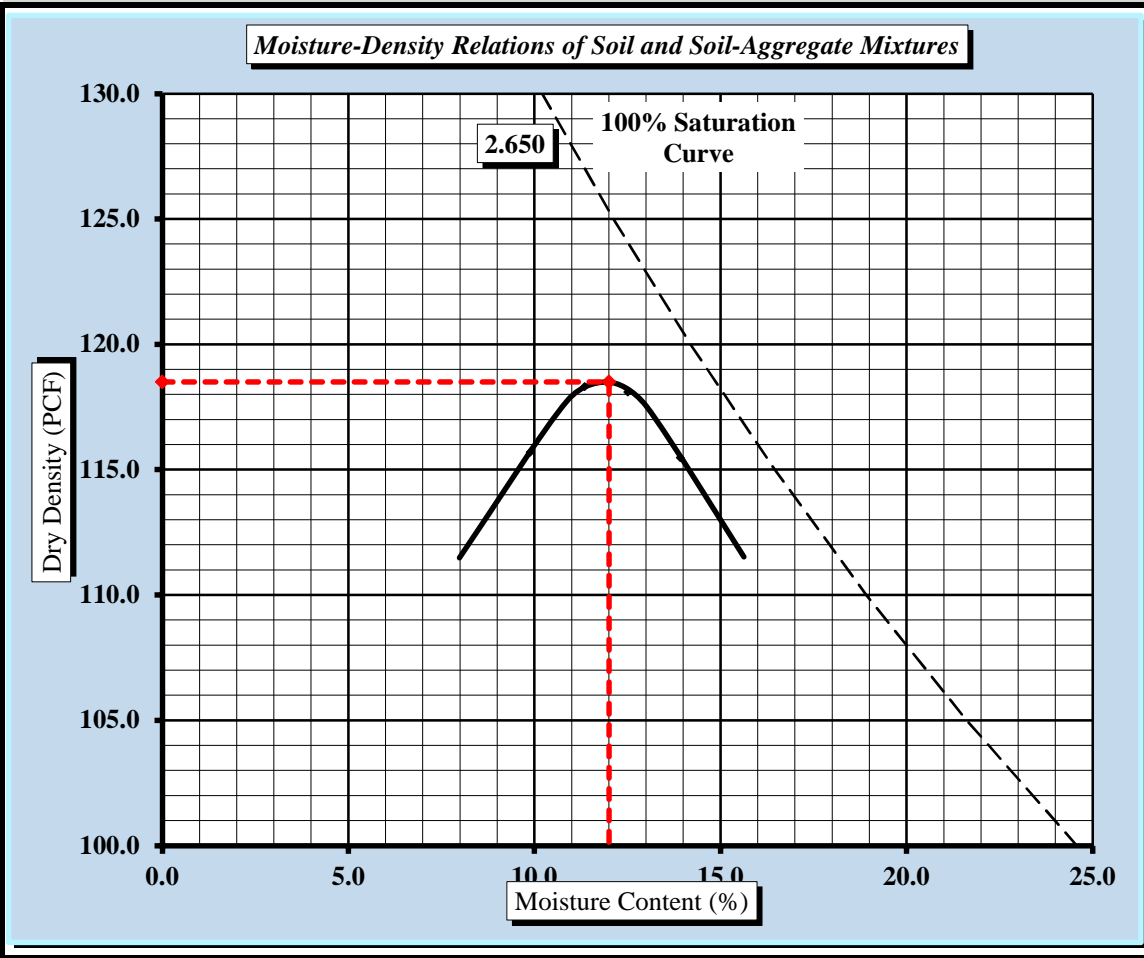


Quality Assurance

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616			
S&ME Project #:	210986	Report Date:	1/19/20
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s):	1/17 - 1/19/20
Client Name:	NCDOT		
Client Address:			
Boring #:	N/A	Sample #:	Bulk 4 OES NB
		Sample Date:	1/15/2020
Location:	-L- 274+05 NB OES	Offset:	N/A
		Depth (ft):	N/A
Sample Description:	Gray Silty Clayey Coarse to Fine SAND (A-2-4) (0)		

Maximum Dry Density	118.5	PCF.	Optimum Moisture Content	12.0%
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AASHTO T99 - - Method A




Soil Properties	
Natural Moisture Content	15.2%
Assumed Specific Gravity	2.650
Liquid Limit	19
Plastic Limit	16
Plastic Index	3
% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	100.0%
#40	87.0%
#60	73.0%
#200	25.6%
Oversize Fraction	
Bulk Gravity	
% Moisture	
% Oversize	
MDD	
Opt. MC	

Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations:

AASHTO T265: Laboratory Determination of Moisture Content of Soils
 AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET
 Technical Responsibility


 Signature

Laboratory Manager
 Position

1/20/2020
 Date

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MOISTURE - DENSITY REPORT

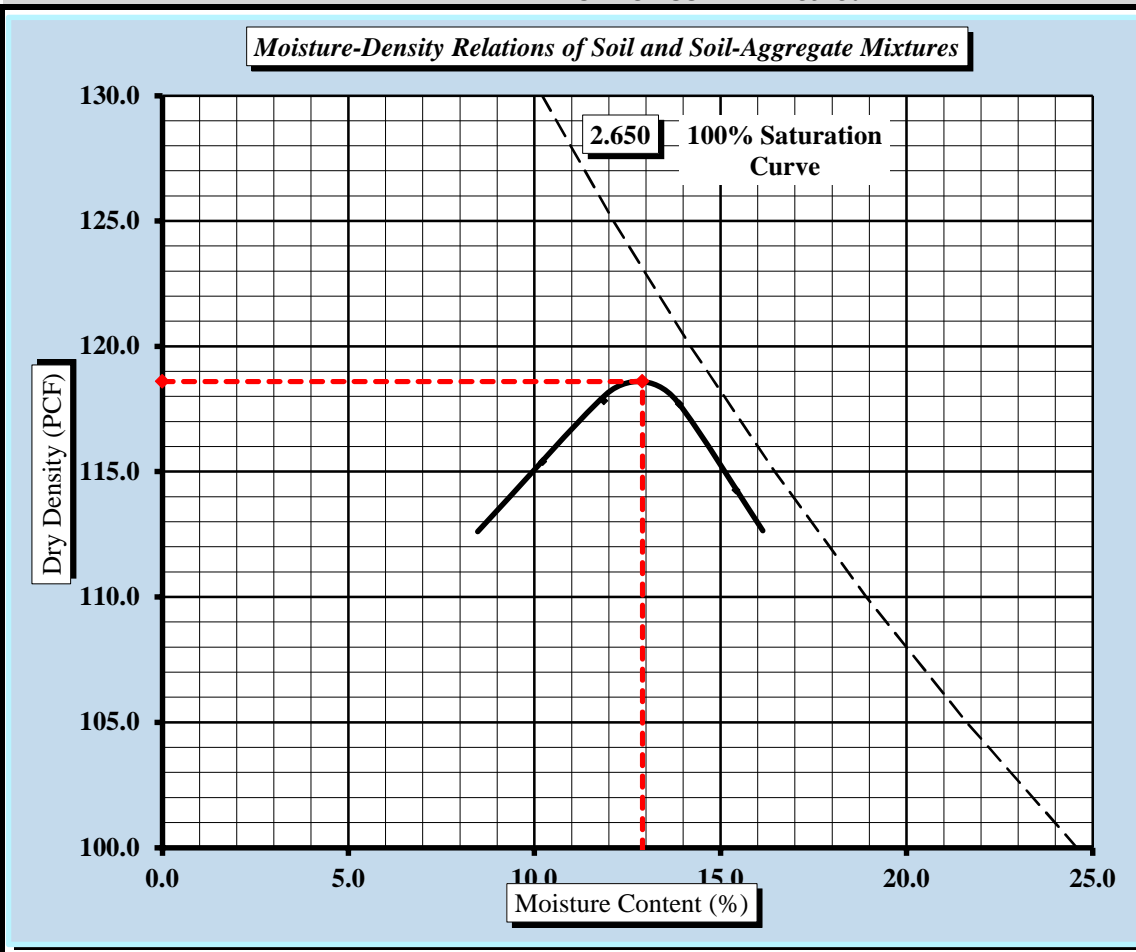


Quality Assurance

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616			
S&ME Project #:	210986	Report Date:	1/14/2020
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s):	1/10 - 1/14/20
Client Name:	NCDOT		
Client Address:			
Boring #:	N/A	Sample #:	Bulk 8 IES NB
Location:	-L- 324+50 NB IES	Offset:	N/A
Sample Description:	Tan Silty Clayey Coarse to Fine SAND (A-2-4) (0)		

Maximum Dry Density	118.6	PCF.	Optimum Moisture Content	12.9%
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AASHTO T99 - - Method A




Soil Properties	
Natural Moisture Content	12.3%
Assumed Specific Gravity	2.650
Liquid Limit	N.P.
Plastic Limit	N.P.
Plastic Index	N.P.
% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	100.0%
#40	86.0%
#60	74.0%
#200	17.9%
Oversize Fraction	
Bulk Gravity	
% Moisture	
% Oversize	
MDD	
Opt. MC	

Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations:

AASHTO T265: Laboratory Determination of Moisture Content of Soils
 AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET
 Technical Responsibility


 Signature

Laboratory Manager
 Position

1/14/2020
 Date

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MOISTURE - DENSITY REPORT

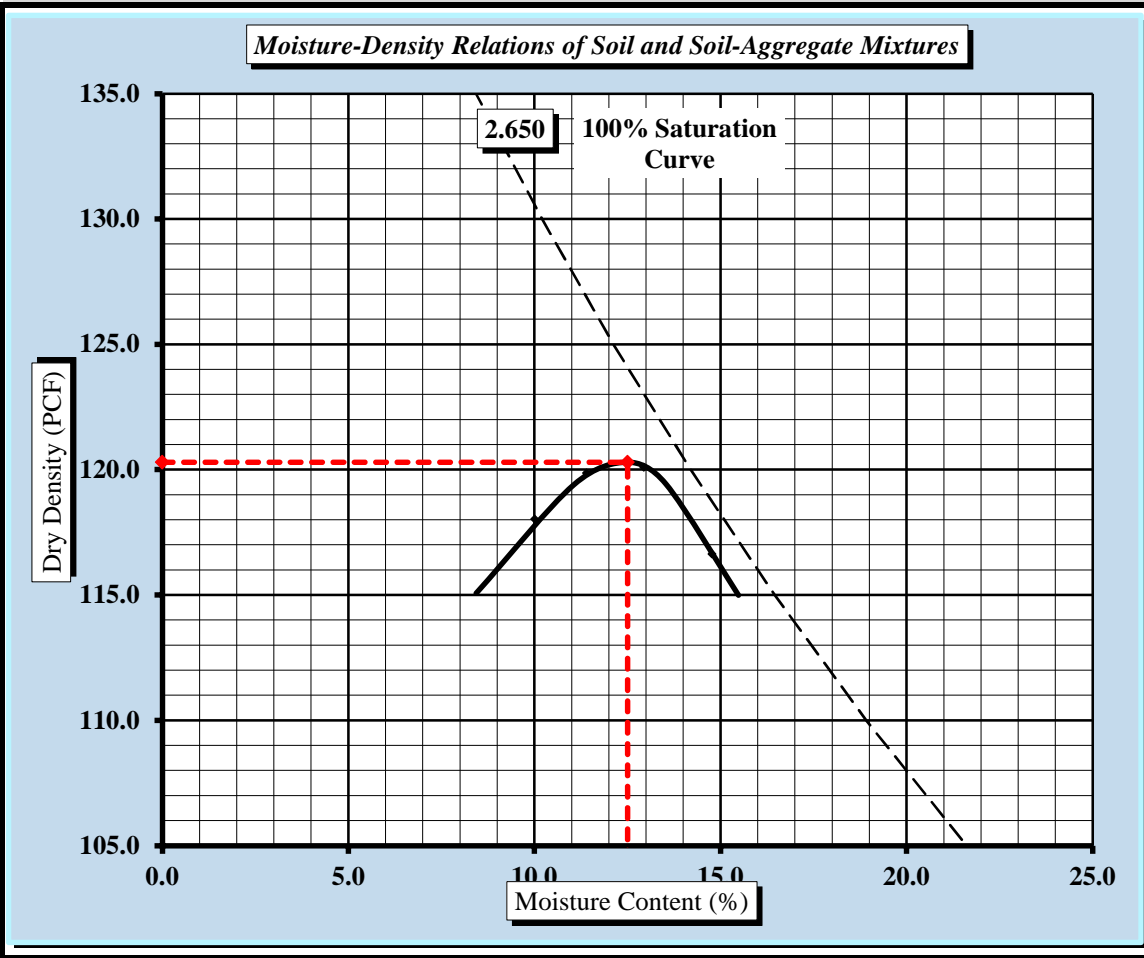


Quality Assurance

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616			
S&ME Project #:	210986	Report Date:	1/19/20
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s):	1/17 - 1/19/20
Client Name:	NCDOT		
Client Address:			
Boring #:	N/A	Sample #:	Bulk 5 OES NB
		Sample Date:	1/15/2020
Location:	-L- 378+15 NB OES	Offset:	N/A
		Depth (ft):	1.5-2.5
Sample Description:	Tan-Brown Silty Clayey Fine to Coarse SAND (A-2-6) (0)		

Maximum Dry Density	120.3	PCF.	Optimum Moisture Content	12.5%
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AASHTO T99 - - Method A



Soil Properties	
Natural Moisture Content	13.5%
Assumed Specific Gravity	2.650
Liquid Limit	32
Plastic Limit	17
Plastic Index	15
% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.0%
#40	65.0%
#60	48.0%
#200	27.8%
Oversize Fraction	
Bulk Gravity	
% Moisture	
% Oversize	
MDD	
Opt. MC	

Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations:

AASHTO T265: Laboratory Determination of Moisture Content of Soils
 AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET
 Technical Responsibility

Signature

Laboratory Manager
 Position

1/20/2020
 Date

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MOISTURE - DENSITY REPORT

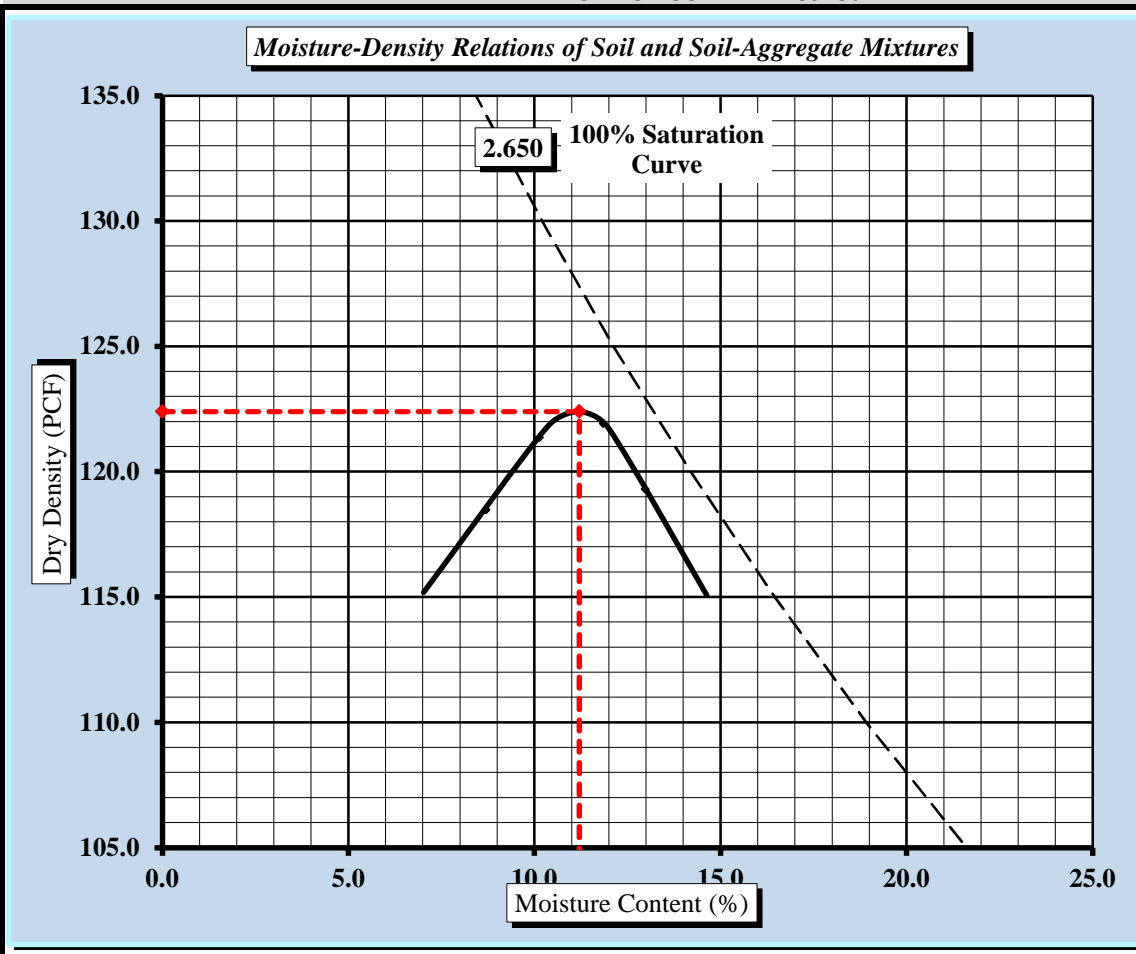


Quality Assurance

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616			
S&ME Project #:	210986	Report Date:	1/14/2020
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s):	1/10/20 - 1/14/20
Client Name:	NCDOT		
Client Address:			
Boring #:	N/A	Sample #:	Bulk 7 IES NB
Location:	-L- 430+35 NB IES	Offset:	N/A
Sample Description:	Tan-Brown Silty Clayey Fine to Coarse SAND (A-2-6) (0)		

Maximum Dry Density	122.4	PCF.	Optimum Moisture Content	11.2%
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AASHTO T99 - - Method A



Soil Properties	
Natural Moisture Content	14.7%
Assumed Specific Gravity	2.650
Liquid Limit	34
Plastic Limit	20
Plastic Index	14
% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.0%
#40	67.0%
#60	52.0%
#200	32.6%
Oversize Fraction	
Bulk Gravity	
% Moisture	
% Oversize	
MDD	
Opt. MC	

Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations:

AASHTO T265: Laboratory Determination of Moisture Content of Soils
 AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET
 Technical Responsibility

Signature

Laboratory Manager
 Position

1/14/2020
 Date

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MOISTURE - DENSITY REPORT

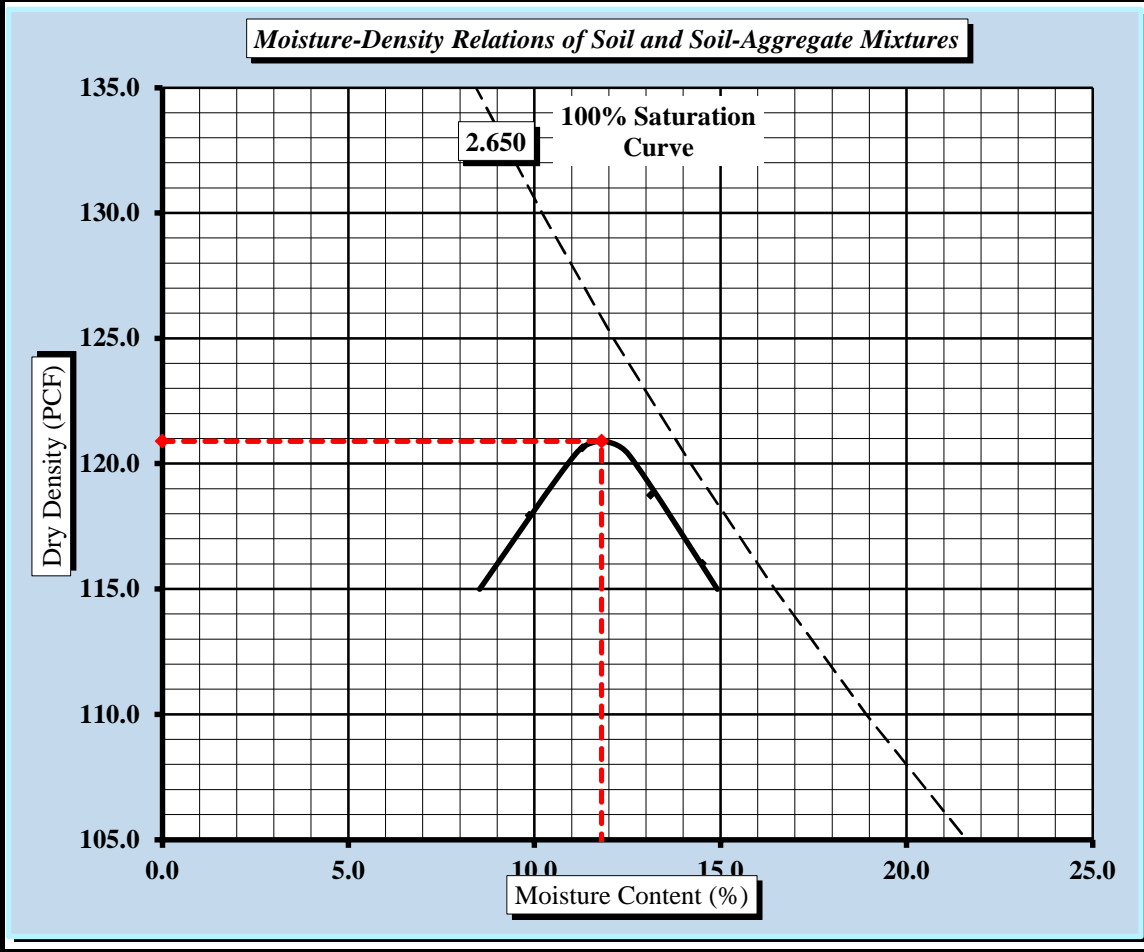


Quality Assurance

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616			
S&ME Project #:	210986	Report Date:	1/19/20
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s):	1/17 - 1/19/20
Client Name:	NCDOT		
Client Address:			
Boring #:	N/A	Sample #:	Bulk 6 OES NB
		Sample Date:	1/15/2020
Location:	-L- 483+75 NB OES	Offset:	N/A
		Depth (ft):	1.0-2.5
Sample Description:	Brown Silty Clayey Fine to Coarse SAND (A-2-4) (0)		

Maximum Dry Density	120.9	PCF.	Optimum Moisture Content	11.8%
---------------------	-------	------	--------------------------	-------

AASHTO T99 - - Method A




Soil Properties	
Natural Moisture Content	13.3%
Assumed Specific Gravity	2.650
Liquid Limit	27
Plastic Limit	20
Plastic Index	7
% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.0%
#40	69.0%
#60	51.0%
#200	27.0%
Oversize Fraction	
Bulk Gravity	
% Moisture	
% Oversize	
MDD	
Opt. MC	

Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations:

AASHTO T265: Laboratory Determination of Moisture Content of Soils
 AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET
 Technical Responsibility


 Signature

Laboratory Manager
 Position

1/20/2020
 Date

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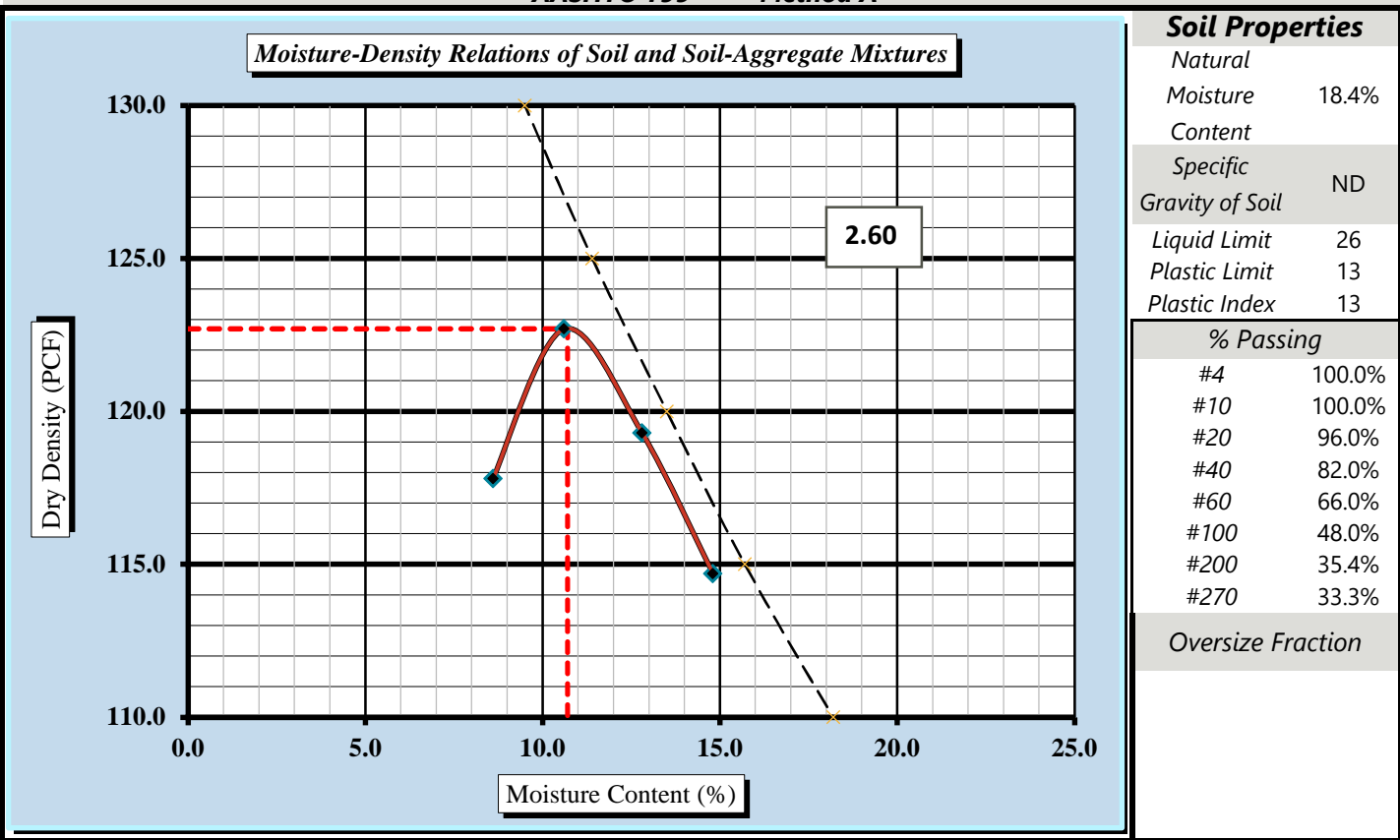
MOISTURE - DENSITY REPORT



Quality Assurance

S&ME, Inc. Charlotte: 9751 Southern Pine Boulevard, Charlotte, NC 28273			
S&ME Project #:	210986	Report Date:	1/20/20
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s):	1/10-15/20
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	NI	Sample #:	BULK 10 IES SB
Location:	-L- 114+40 SB IES	Offset:	NI
Sample Description:		Sample Date:	12/15/2019
		Depth:	45"
			A-2-6(1)

Maximum Dry Density 122.7 PCF. Optimum Moisture Content 10.7%
AASHTO T99 - - Method A



Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations: ND: Not Determined NI: No Information Provided

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Vlad Mitchev
 Technical Responsibility

Signature

Project Manager
 Position

Date

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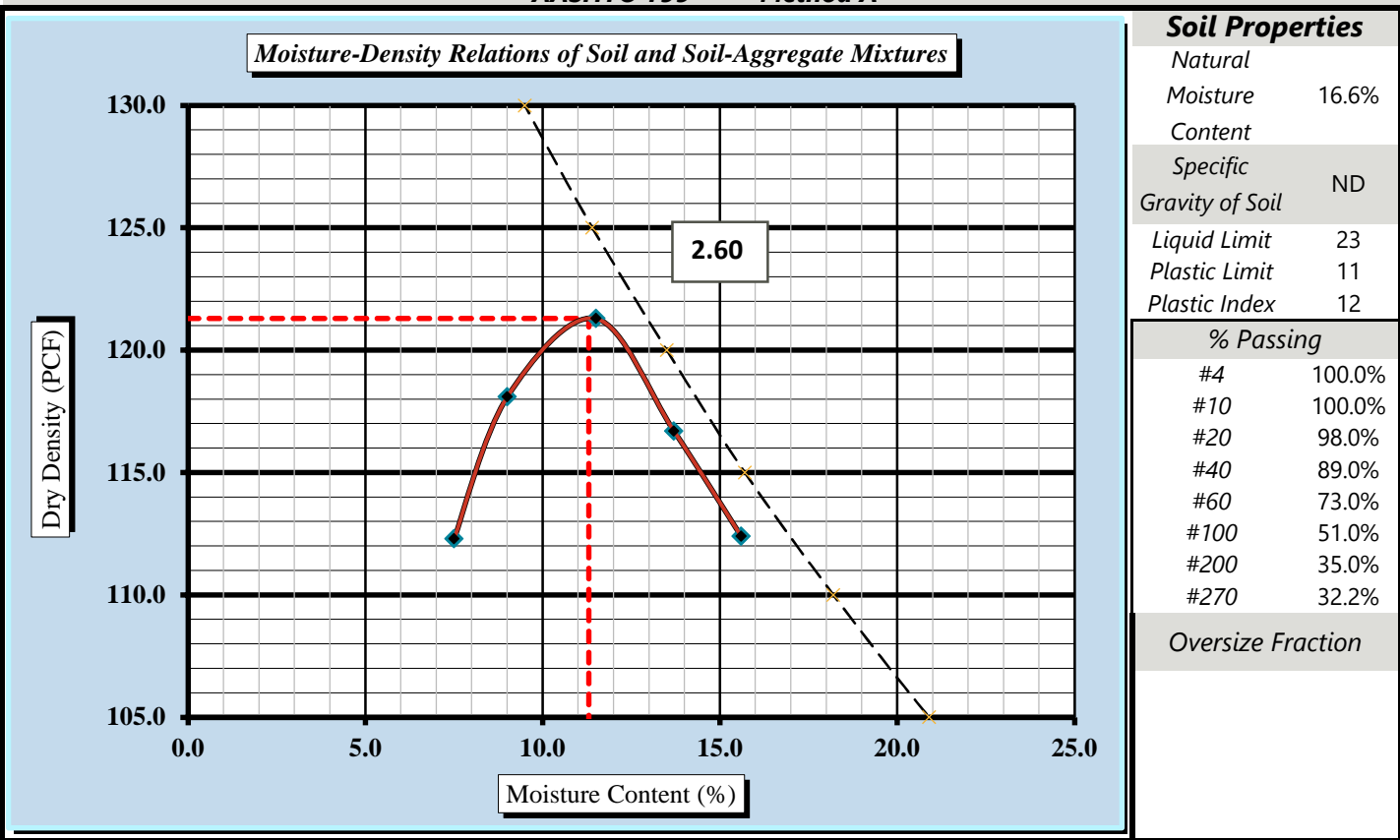
MOISTURE - DENSITY REPORT



Quality Assurance

S&ME, Inc. Charlotte: 9751 Southern Pine Boulevard, Charlotte, NC 28273			
S&ME Project #:	210986	Report Date:	1/20/20
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s):	1/13-17/20
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	NI	Sample #:	BULK 10 OES SB
Location:	-L- 167+10 SB OES	Sample Date:	12/12/2019
		Offset:	NI
		Depth:	0-47"
Sample Description:	A-2-6 (0)		

Maximum Dry Density 121.3 PCF. Optimum Moisture Content 11.3%
AASHTO T99 - - Method A



Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations: ND: Not Determined NI: No Information Provided

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Vlad Mitchev
 Technical Responsibility

Signature

Project Manager
 Position

Date

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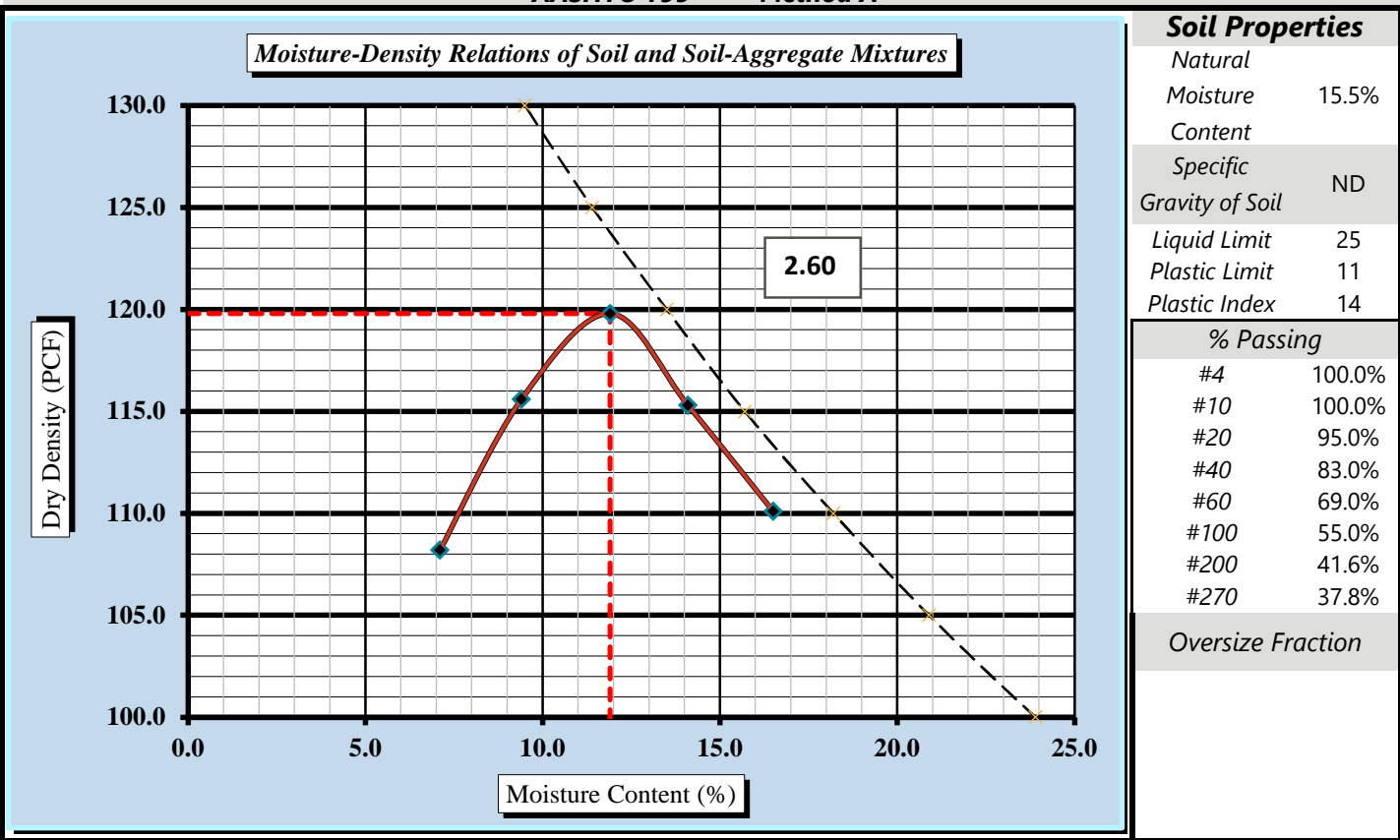
MOISTURE - DENSITY REPORT



Quality Assurance

S&ME, Inc. Charlotte: 9751 Southern Pine Boulevard, Charlotte, NC 28273			
S&ME Project #:	210986	Report Date:	1/15/20
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s):	1/10-15/20
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	NI	Sample #:	BULK 9 IES SB
Location:	-L- 219+80 SB IES	Offset:	NI
Sample Description:		Sample Date:	12/15/2019
		Depth:	48"
			A-6 (2)

Maximum Dry Density 119.8 PCF. Optimum Moisture Content 11.9%
AASHTO T99 - - Method A



Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations: ND: Not Determined NI: No Information Provided

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Vlad Mitchev
 Technical Responsibility

Signature

Project Manager
 Position

Date

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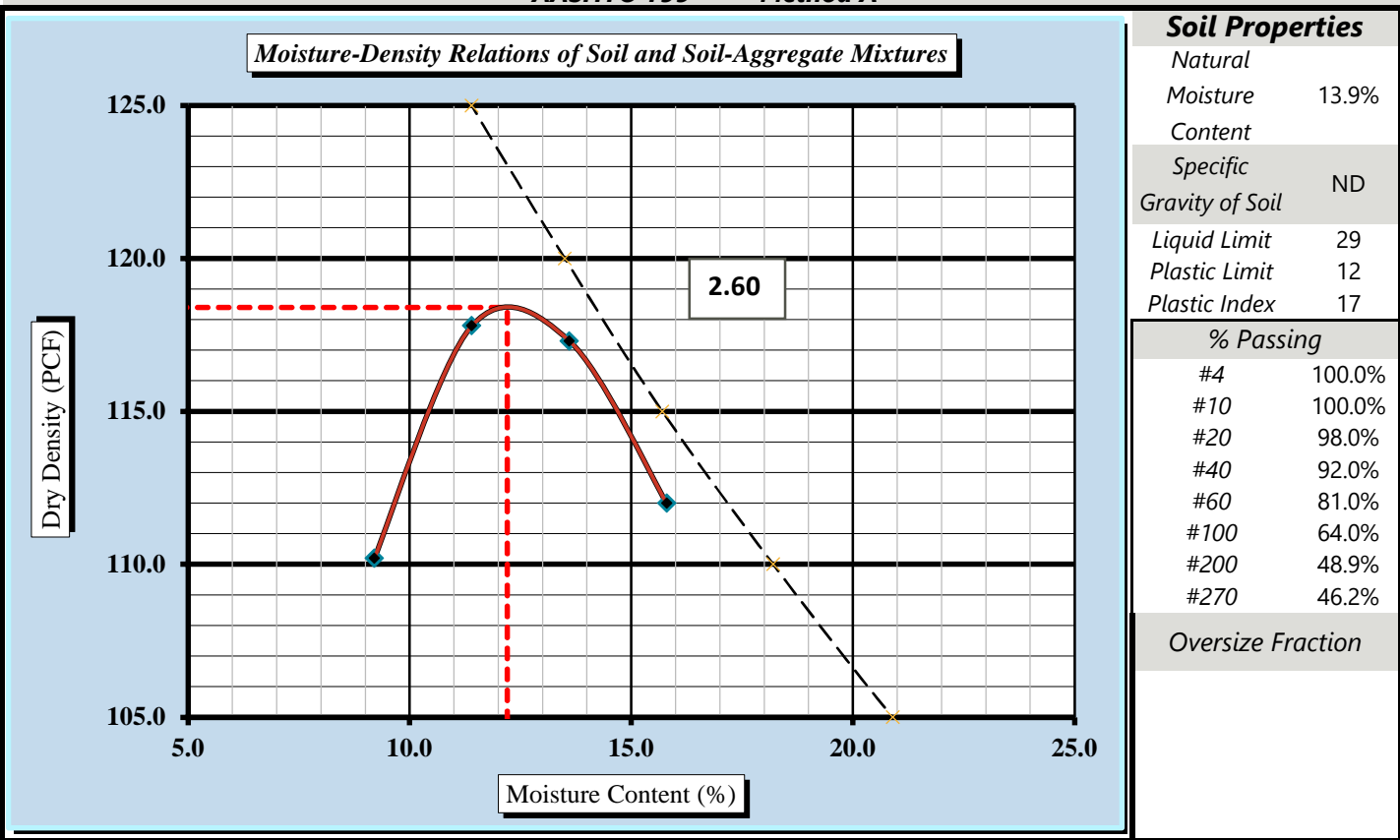
MOISTURE - DENSITY REPORT



Quality Assurance

S&ME, Inc. Charlotte: 9751 Southern Pine Boulevard, Charlotte, NC 28273			
S&ME Project #:	210986	Report Date:	1/20/20
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s):	1/13-20/20
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	NI	Sample #:	BULK 9 OES SB
Location:	-L- 272+65 SB OES	Sample Date:	12/18/2019
		Offset:	NI
		Depth:	0-41
Sample Description:	A-6 (4)		

Maximum Dry Density 118.4 PCF. Optimum Moisture Content 12.2%
AASHTO T99 - - Method A



Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation
 References / Comments / Deviations: ND: Not Determined NI: No Information Provided

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Vlad Mitchev
 Technical Responsibility

Signature

Project Manager
 Position

Date

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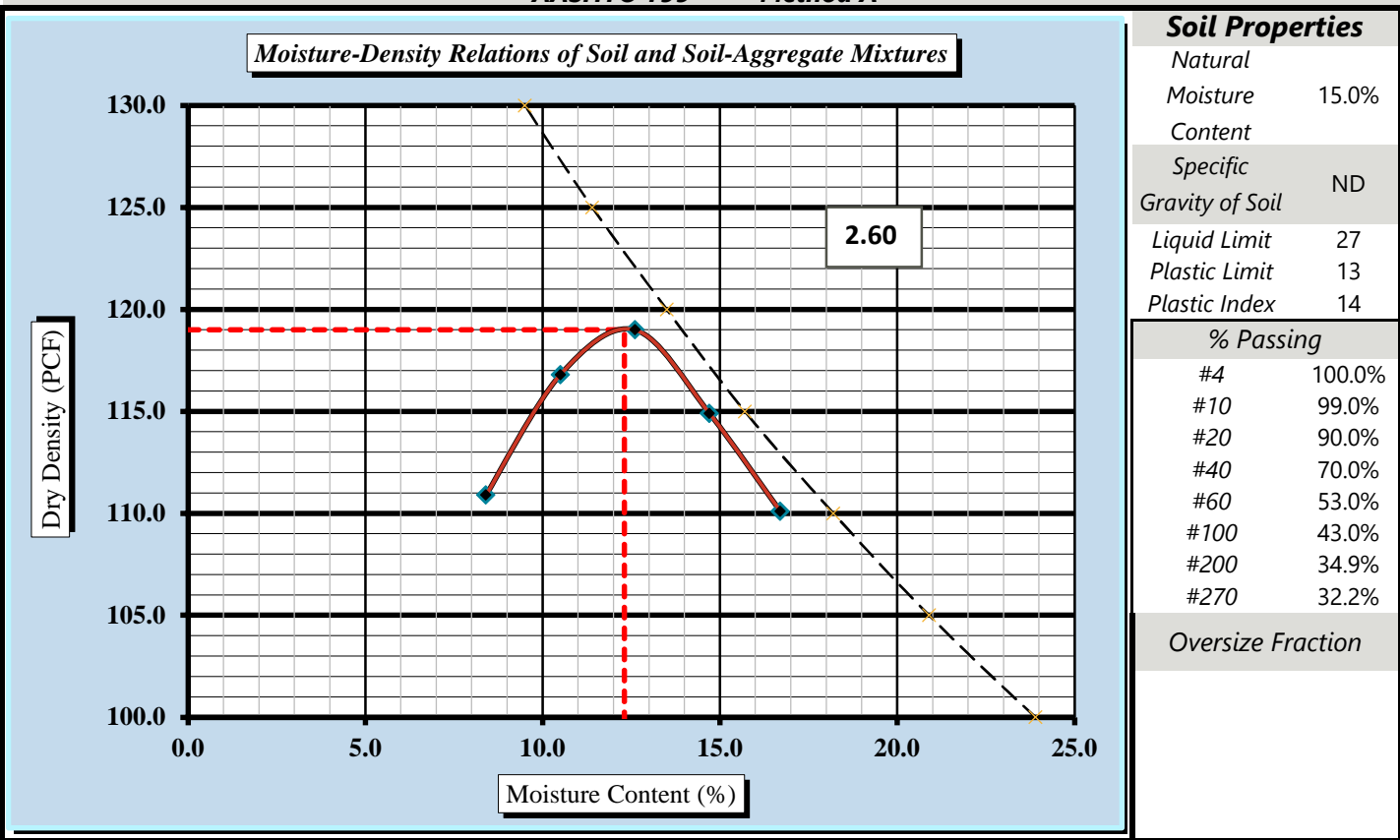
MOISTURE - DENSITY REPORT



Quality Assurance

S&ME, Inc. Charlotte: 9751 Southern Pine Boulevard, Charlotte, NC 28273			
S&ME Project #:	210986	Report Date:	1/20/20
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s):	1/13-20/20
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	NI	Sample #:	BULK 8 OES SB
Location:	-L- 378+15 SB OES	Offset:	NI
Sample Description:	A-2-6 (1)	Sample Date:	12/18/2019
		Depth:	0-47"

Maximum Dry Density 119.0 PCF. Optimum Moisture Content 12.3%
AASHTO T99 - - Method A



Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations: ND: Not Determined NI: No Information Provided

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Vlad Mitchev
 Technical Responsibility

Signature

Project Manager
 Position

Date

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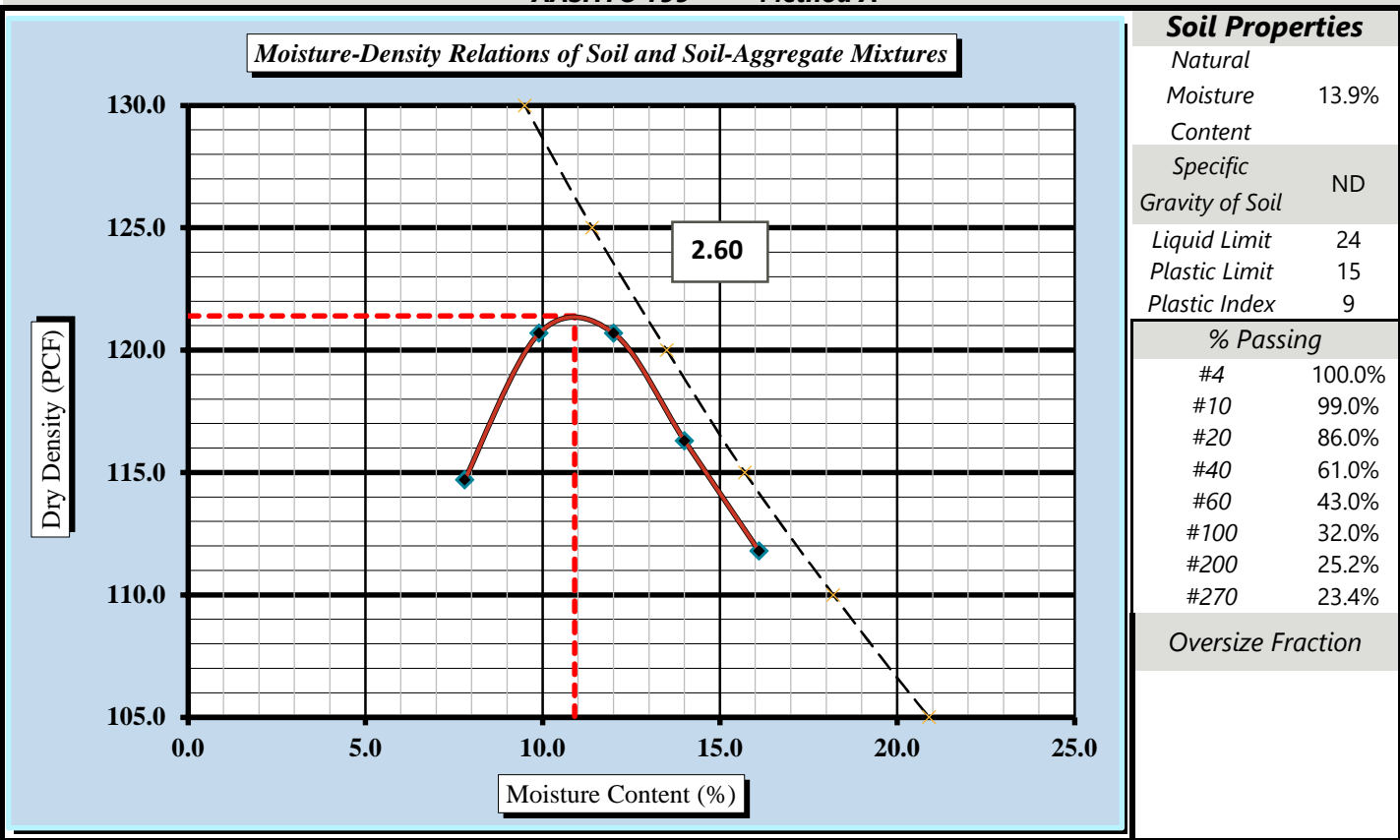
MOISTURE - DENSITY REPORT



Quality Assurance

S&ME, Inc. Charlotte: 9751 Southern Pine Boulevard, Charlotte, NC 28273			
S&ME Project #:	210986	Report Date:	1/15/20
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s):	1/10-15/20
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	NI	Sample #:	BULK 7 OES SB
Location:	-L- 486+65 SB OES	Sample Date:	12/15/2019
		Offset:	NI
		Depth:	0-48"
Sample Description:	A-2-4 (0)		

Maximum Dry Density 121.3 PCF. Optimum Moisture Content 10.9%
AASHTO T99 - - Method A



Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations: ND: Not Determined NI: No Information Provided

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Vlad Mitchev
 Technical Responsibility

Signature

Project Manager
 Position

Date

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



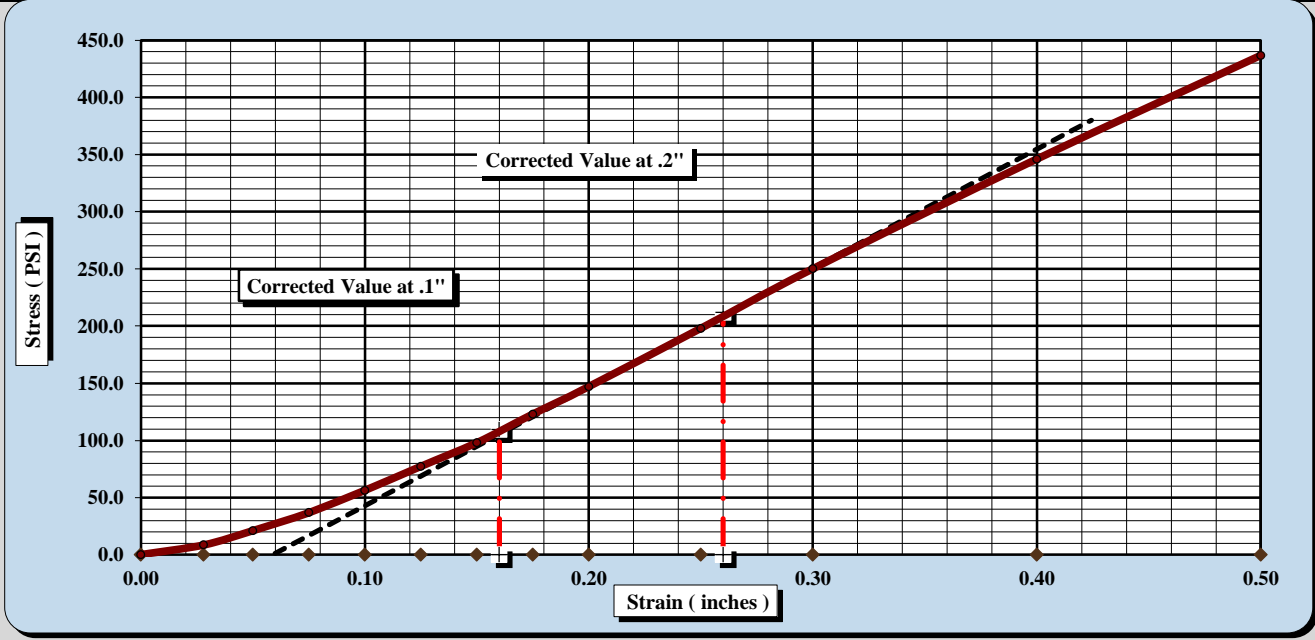
AASHTO T 193

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

Project #:	210986	Report Date:	1/25/2020
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s)	1/19 - 1/25/2020
Client Name:	NCDOT		
Client Address:			
Boring #:	N/A	Sample #:	Bulk 4 OES NB
		Sample Date:	1/15/20
Location:	-L- 274+05 NB OES	Offset:	N/A
		Depth (ft):	N/A
Sample Description:	Gray Silty Clayey Coarse to Fine SAND (A-2-4) (0)		

AASHTO T99	Method A	Maximum Dry Density:	118.5	PCF	Optimum Moisture Content:	12.0%
Compaction Test performed on grading complying with CBR spec.					% Retained on the 3/4" sieve:	0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	5.6	CBR at 0.2 in.	9.8
		CBR at 0.1 in.	10.9
		CBR at 0.2 in.	14.1



CBR Sample Preparation:
The entire gradation was used and compacted in a 6" CBR mold in accordance with AASHTO T 193, Section 5.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	118.4
Initial Dry Density (PCF)	118.2	Average Final Moisture Content	12.3%
Moisture Content of the Compacted Specimen	12.0%	Moisture Content (top 1" after soaking)	13.3%
Percent Compaction	99.7%	Percent Swell	0.0%

Soak Time:	96 hrs.	Surcharge Weight	10.0
Liquid Limit	19	Surcharge Wt. per sq. Ft.	50.9
		Plastic Index	3

Notes/Deviations/References:
 Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET
 Technical Responsibility

Signature

Laboratory Manager
 Position

1/25/2020
 Date

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



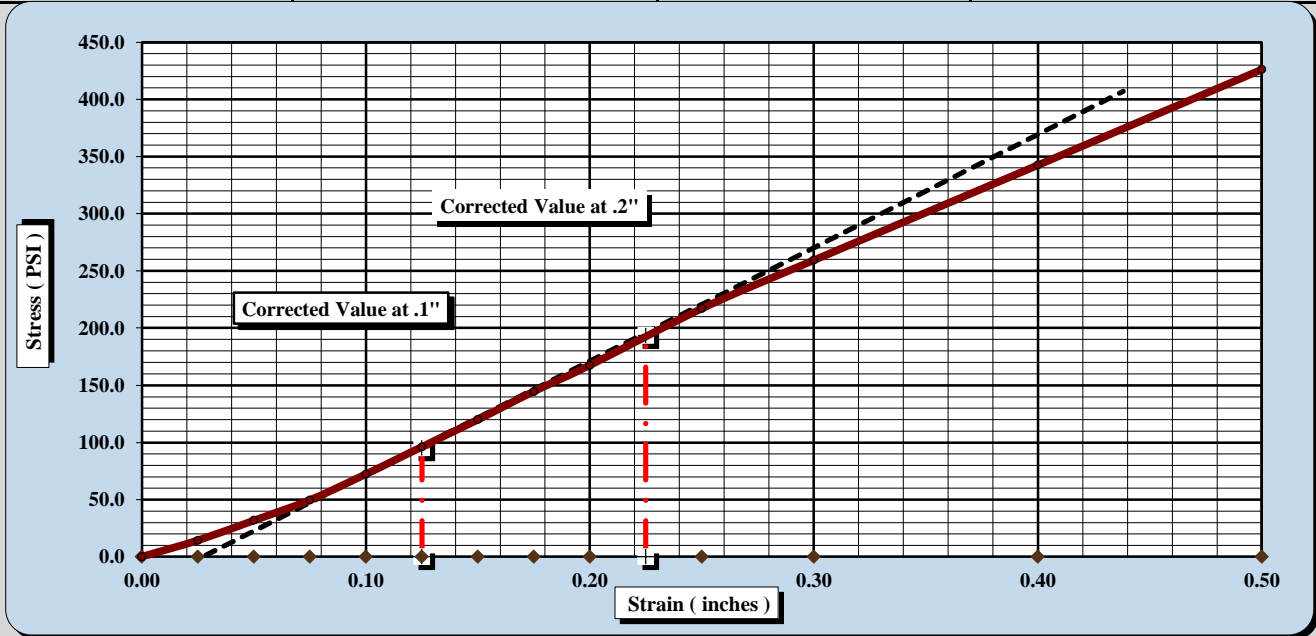
AASHTO T 193

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

Project #:	210986	Report Date:	1/21/2020
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s)	1/15 - 1/21/20
Client Name:	NCDOT		
Client Address:			
Boring #:	N/A	Sample #:	Bulk 8 IES NB
Location:	-L- 324+50 NB IES	Offset:	N/A
		Depth (ft):	N/A
Sample Description:	Tan Silty Clayey Coarse to Fine SAND (A-2-4) (0)		

Maximum Dry Density: 118.6 PCF Optimum Moisture Content: 12.9%
 Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	7.2	CBR at 0.2 in.	11.2
CBR at 0.1 in.	9.5	CBR at 0.2 in.	12.9



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with AASHTO T 193, Section 5.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	118.4
Initial Dry Density (PCF)	118.2	Average Final Moisture Content	13.3%
Moisture Content of the Compacted Specimen	13.2%	Moisture Content (top 1" after soaking)	14.0%
Percent Compaction	99.7%	Percent Swell	0.1%

Soak Time:	96 hrs.	Surcharge Weight	10.0
Liquid Limit	N.P.	Plastic Index	N.P.
		Surcharge Wt. per sq. Ft.	50.9

Notes/Deviations/References:

Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET
Technical Responsibility

Signature

Laboratory Manager
Position

1/21/2020
Date

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



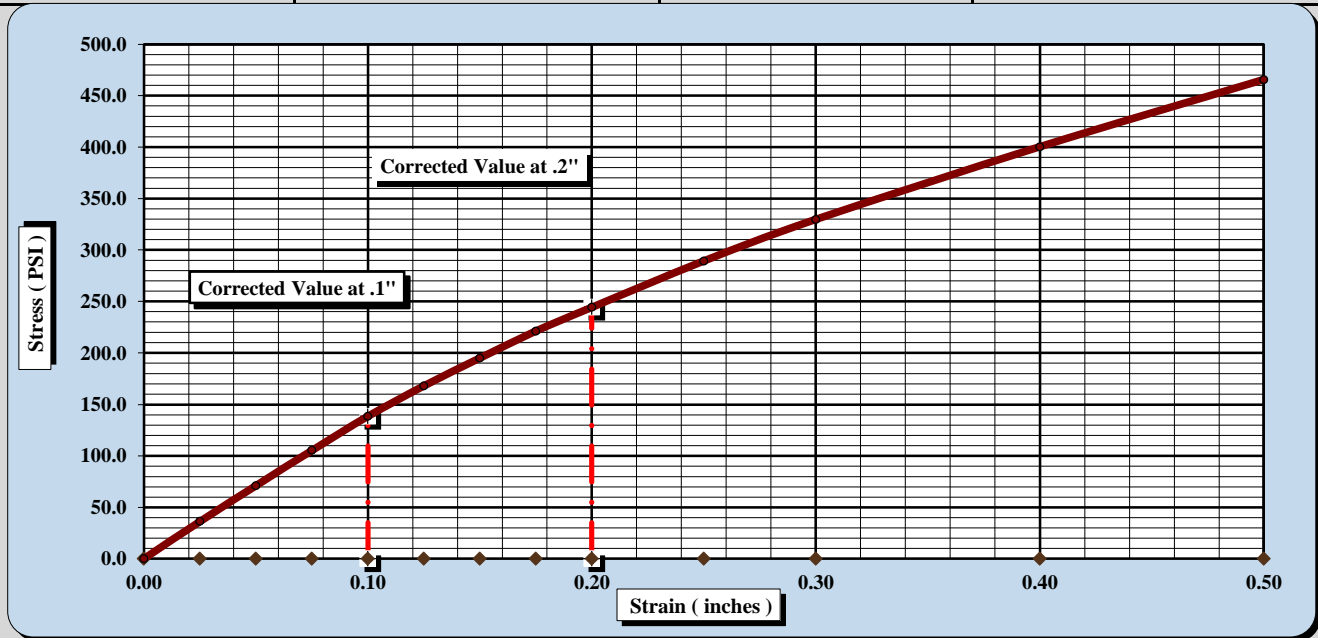
AASHTO T 193

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

Project #:	210986	Report Date:	1/25/2020
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s)	1/19 - 1/25/2020
Client Name:	NCDOT		
Client Address:			
Boring #:	N/A	Sample #:	Bulk 5 OES NB
		Sample Date:	1/15/2020
Location:	-L- 378+15 NB OES	Offset:	N/A
		Depth (ft):	1.5-2.5
Sample Description:	Tan-Brown Silty Clayey Fine to Coarse SAND (A-2-6) (0)		

AASHTO T99	Method A	Maximum Dry Density:	120.3 PCF	Optimum Moisture Content:	12.5%
Compaction Test performed on grading complying with CBR spec.				% Retained on the 3/4" sieve:	0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	13.8	CBR at 0.2 in.	16.3
CBR at 0.1 in.	13.8	CBR at 0.2 in.	16.3



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with AASHTO T 193, Section 5.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	120.8
Initial Dry Density (PCF)	120.6	Average Final Moisture Content	12.7%
Moisture Content of the Compacted Specimen	12.7%	Moisture Content (top 1" after soaking)	13.1%
Percent Compaction	100.2%	Percent Swell	0.0%

Soak Time:	96 hrs.	Surcharge Weight	10.0
Liquid Limit	32	Surcharge Wt. per sq. Ft.	50.9
		Plastic Index	15

Notes/Deviations/References:

Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET
Technical Responsibility

Signature

Laboratory Manager
Position

1/25/2020
Date

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



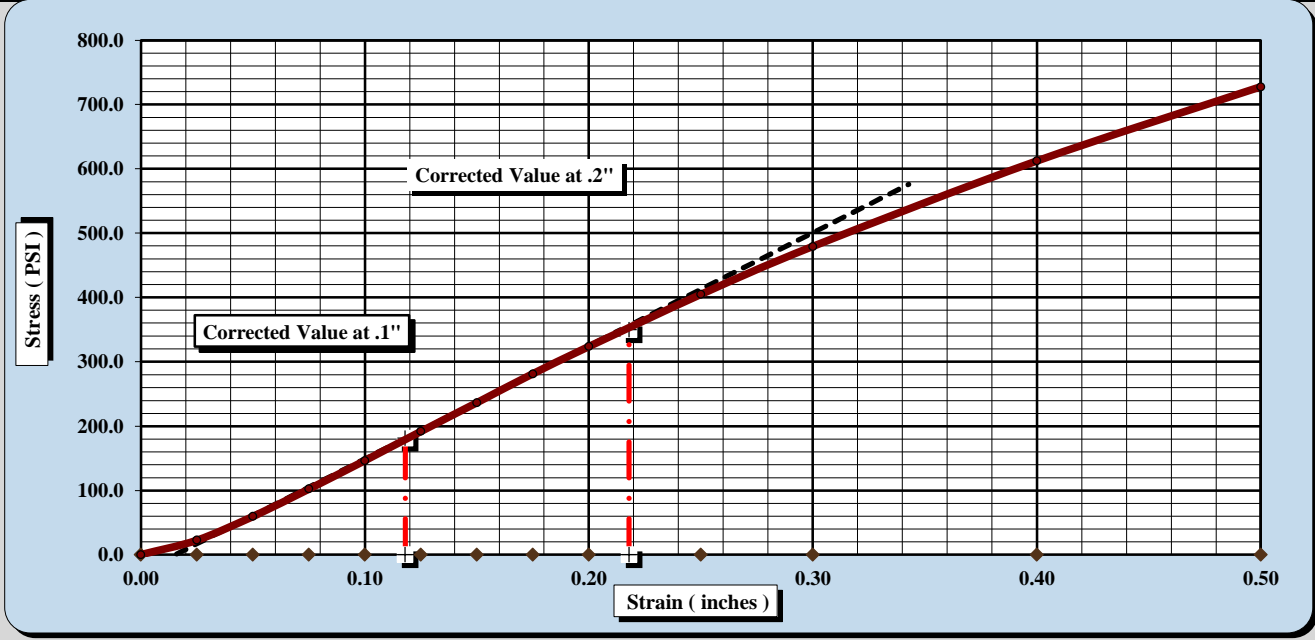
AASHTO T 193

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

Project #:	210986	Report Date:	1/21/2020
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s)	1/15 - 1/21/2020
Client Name:	NCDOT		
Client Address:			
Boring #:	N/A	Sample #:	Bulk 7 IES NB
		Sample Date:	N/A
Location:	-L- 430+35 NB IES	Offset:	N/A
		Depth (ft):	N/A
Sample Description:	Tan-Brown Silty Clayey Fine to Coarse SAND (A-2-6) (0)		

AASHTO T99	Method A	Maximum Dry Density:	122.4 PCF	Optimum Moisture Content:	11.2%
Compaction Test performed on grading complying with CBR spec.				% Retained on the 3/4" sieve:	0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	14.6	CBR at 0.2 in.	21.6
CBR at 0.1 in.	18.1	CBR at 0.2 in.	23.3



CBR Sample Preparation:
The entire gradation was used and compacted in a 6" CBR mold in accordance with AASHTO T 193, Section 5.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	122.5
Initial Dry Density (PCF)	122.3	Average Final Moisture Content	11.4%
Moisture Content of the Compacted Specimen	11.5%	Moisture Content (top 1" after soaking)	12.0%
Percent Compaction	99.9%	Percent Swell	0.1%

Soak Time:	96 hrs.	Surcharge Weight	10.0
Liquid Limit	34	Plastic Index	14
		Surcharge Wt. per sq. Ft.	50.9

Notes/Deviations/References:
 Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET
 Technical Responsibility

Signature

Laboratory Manager
 Position

1/21/2020
 Date

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



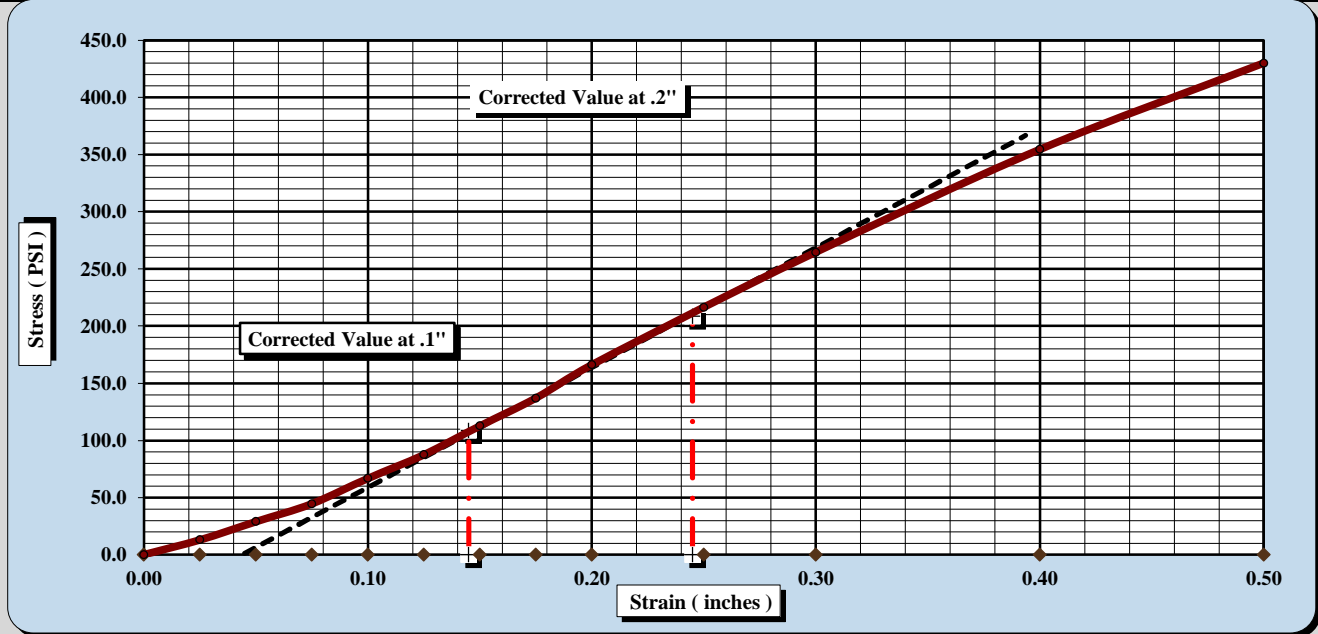
AASHTO T 193

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

Project #:	210986	Report Date:	1/25/2020
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s)	1/19 - 1/25/2020
Client Name:	NCDOT		
Client Address:			
Boring #:	N/A	Sample #:	Bulk 6 OES NB
		Sample Date:	1/15/20
Location:	-L- 483+75 NB OES	Offset:	N/A
		Depth (ft):	1.0-2.5
Sample Description:	Brown Silty Clayey Fine to Coarse SAND (A-2-4) (0)		

AASHTO T99	Method A	Maximum Dry Density:	120.9 PCF	Optimum Moisture Content:	11.8%
Compaction Test performed on grading complying with CBR spec.				% Retained on the 3/4" sieve:	0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	6.7	CBR at 0.2 in.	11.1
CBR at 0.1 in.	10.9	CBR at 0.2 in.	13.9



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with AASHTO T 193, Section 5.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	121.1
Initial Dry Density (PCF)	121.0	Average Final Moisture Content	12.1%
Moisture Content of the Compacted Specimen	12.1%	Moisture Content (top 1" after soaking)	12.8%
Percent Compaction	100.1%	Percent Swell	0.1%

Soak Time:	96 hrs.	Surcharge Weight	10.0
Liquid Limit	27	Plastic Index	7
		Surcharge Wt. per sq. Ft.	50.9

Notes/Deviations/References:

Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET
Technical Responsibility

Signature

Laboratory Manager
Position

1/25/2020
Date

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



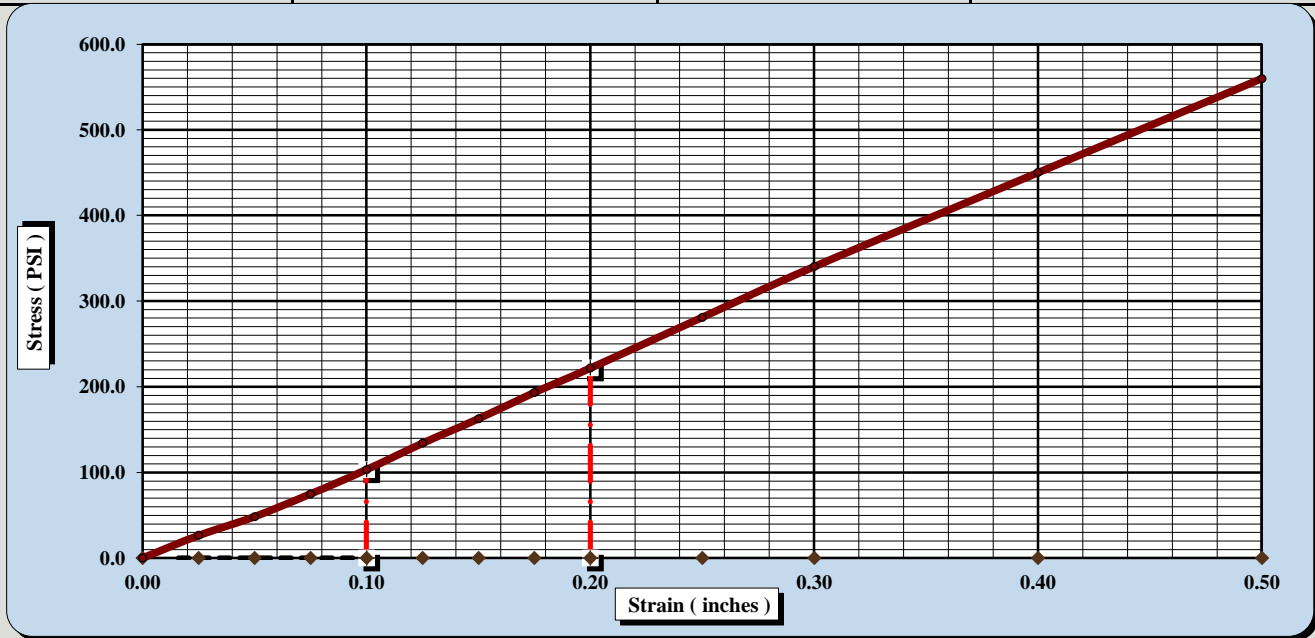
AASHTO T 193

S&ME, Inc. Charlotte: 9751 Southern Pine Boulevard, Charlotte, NC 28273

Project #:	210986	Report Date:	1/20/20
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s)	1/10-20/20
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	NI	Sample #:	BULK 10 IES (A)
		Sample Date:	12/15/19
Location:	-L- 114+40 SB IES	Offset:	NI
		Elevation:	0-45"
Sample Description:	A-2-6 (1)		

AASHTO T99	Method A	Maximum Dry Density:	122.7	PCF	Optimum Moisture Content:	10.7%
					% Retained on the 3/4" sieve:	0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	10.3	CBR at 0.2 in.	14.8
CBR at 0.1 in.	10.3	CBR at 0.2 in.	14.8



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	56		
Initial Dry Density (PCF)	123.9	Final Dry Density (PCF)	123.6
Moisture Content of the Compacted Specimen	10.7%	Moisture Content (top 1" after soaking)	11.9%
Percent Compaction	101.0%	Percent Swell	0.0%

Soak Time:	96 Hrs.	Surcharge Weight	10.0
Liquid Limit	26	Surcharge Wt. per sq. Ft.	50.9
		Assumed Apparent Relative Density	2.600
		Plastic Index	13

Notes/Deviations/References:

Test Performed as Modified by NCDOT

Vlad Mitchev

Technical Responsibility

Project Manager

Position

Date

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL



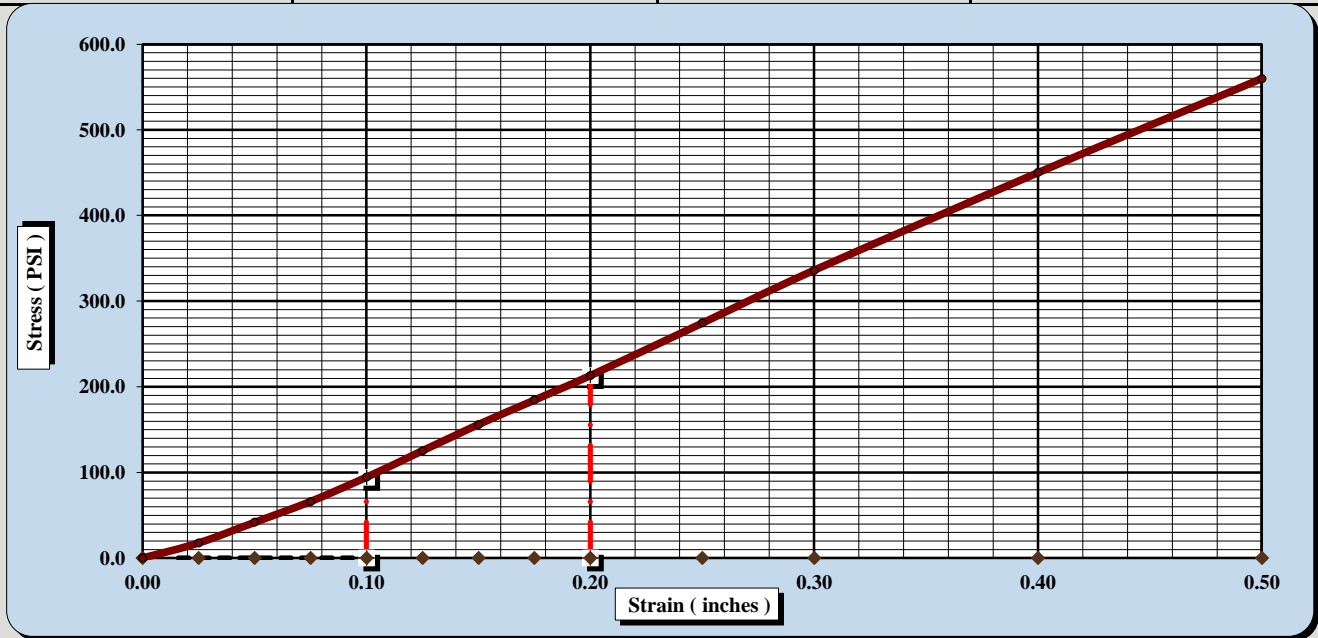
AASHTO T 193

S&ME, Inc. Charlotte: 9751 Southern Pine Boulevard, Charlotte, NC 28273

Project #:	210986	Report Date:	1/20/20
Project Name:	I-95 from North of NC 211 to South of NC 20	Test Date(s)	1/10-20/20
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	NI	Sample #:	BULK 10 IES (B)
		Sample Date:	12/15/19
Location:	-L- 114+40 SB IES	Offset:	NI
		Elevation:	0-45"
Sample Description:	A-2-6 (1)		

AASHTO T99	Method A	Maximum Dry Density:	122.7	PCF	Optimum Moisture Content:	10.7%
					% Retained on the 3/4" sieve:	0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in.	9.4	CBR at 0.2 in.	14.2
		CBR at 0.1 in.	9.4
		CBR at 0.2 in.	14.2



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	56		
Initial Dry Density (PCF)	123.4	Final Dry Density (PCF)	123.4
Moisture Content of the Compacted Specimen	10.8%	Moisture Content (top 1" after soaking)	11.8%
Percent Compaction	100.6%	Percent Swell	0.0%

Soak Time:	96 Hrs.	Surcharge Weight	10.0
Liquid Limit	26	Surcharge Wt. per sq. Ft.	50.9
		Assumed Apparent Relative Density	2.600
		Plastic Index	13

Notes/Deviations/References:

Test Performed as Modified by NCDOT

Vlad Mitchev

Technical Responsibility

Project Manager

Position

Date

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