STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

November 14, 2023

MEMORANDUM TO: Hon Yeung, PE
Project Management Team Lead

ATTENTION: Kevin Moore, PE
Project Engineer

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

DocuSigned by:
John L. Pilipchuk
52C44B94B8BE444...

STATE PROJECT: 50135.1.FS1 (I-5719)
COUNTY: GASTON

DESCRIPTION: Widen I-85 to Eight Lanes, improve interchanges, and intersections and Intersection Improvement at NC 7 & US 29/74 Construct Reduced Conflict Intersection

SUBJECT: Roadway Investigation – Design Build Inventory

The Geotechnical Engineering Unit has reviewed and presents the following prepared by Carolinas Geotechnical Group, PLLC for the above referenced project:

☒ Roadway Subsurface Investigation (521)

Please call Charles R. Lavender, III, PG at (980) 258-6410 if there are any questions concerning this memorandum.

Attachment

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NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
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RALEIGH, NC 27699-1589

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Website: www.ncdot.gov

Location:
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RALEIGH, NC 27610

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5719	1	

REFERENCE: I-5719

PROJECT: 50135

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

ROADWAY SUBSURFACE INVESTIGATION

COUNTY *GASTON*

PROJECT DESCRIPTION *WIDEN I-85 TO EIGHT LANES, IMPROVE INTERCHANGES, AND INTERSECTIONS AND INTERSECTION IMPROVEMENT AT NC 7 AND US 29/74 CONSTRUCT REDUCED CONFLICT INTERSECTION*

DESIGN BUILD INVENTORY

CONTENTS

LINE	STATION	PLAN
-L-	80+65.10 - 594+00.00	4-35
-YIRPD-	10+00.00 - 20+00.00	4
-Y2-	13+70.00 - 39+65.00	10
-Y2LPB-	10+00.00 - 19+40.40	10
-Y2LPD-	10+00.00 - 20+71.04	10
-Y2RPB-	10+00.00 - 19+72.57	10
-Y2RPD-	10+00.00 - 18+91.66	10
-Y3NB-	11+06.47 - 24+83.94	12
-Y3SB-	11+06.46 - 24+83.94	12
-Y3RPA-	10+00.00 - 24+02.03	12
-Y3RPA-SPUR-	10+00.00 - 12+71.33	12
-Y3RPB-	10+00.00 - 21+35.98	11-12
-Y3RPB-SPUR-	10+00.00 - 11+99.58	11-12
-Y3RPC-	10+00.00 - 23+83.33	11-12
-Y3RPD-	10+00.00 - 25+26.90	12
-Y4-	17+20.00 - 32+00.00	14
-Y4RPA-	10+00.00 - 27+66.91	14
-Y4RPB-	10+00.00 - 29+28.98	13-14
-Y4RPC-	10+00.00 - 23+32.94	13-14
-Y4RPD-	10+00.00 - 23+53.80	14
-Y5-	19+25.00 - 47+45.00	20
-Y5A-	11+62.51 - 24+14.09	20
-Y5C-	13+44.86 - 17+23.70	20
-Y5LPA-	10+00.00 - 17+24.91	20
-Y5LPD-	10+00.00 - 21+73.36	20
-Y5RPA-	10+00.00 - 25+76.16	20
-Y5RPD-	10+00.00 - 26+10.91	20
-Y6-	14+13.00 - 30+03.00	22
-Y6RPA-	10+00.00 - 29+61.57	22-23
-Y6RPB-	10+00.00 - 22+36.13	21-22
-Y6RPC-	10+00.00 - 26+76.60	21-23
-Y6RPD-	10+00.00 - 21+26.36	22-23
-Y7-	15+40.00 - 78+97.54	31, 36-37
-Y7E-	10+00.00 - 16+25.00	36
-Y7H-	10+00.00 - 18+70.93	36
-Y7LPD-	10+00.00 - 16+98.05	31
-Y7RPA-	10+00.00 - 25+58.00	31
-Y7RPB-	10+00.00 - 28+92.52	30-31
-Y7RPC-	10+00.00 - 29+91.12	30-31
-Y7RPD-	10+00.00 - 22+30.00	31
-Y8RPC-	10+00.00 - 17+50.00	34-35
-Y9-	18+75.00 - 43+00.00	4
-YIO-	23+00.00 - 38+33.51	8
-YII-	21+00.00 - 38+00.00	12-13
-YI2-	18+12.00 - 31+37.00	19
-YI3-	15+75.00 - 36+00.00	20
-YI4-	11+36.32 - 25+10.00	26-27
-CEMETERYRD-	10+00.00 - 14+00.00	26-27
-POWERDR-	10+97.80 - 16+93.16	22

APPENDICES

APPENDIX	TITLE	SHEETS
A	BORELOGS, CORE LOGS, AND ROCK CORE PHOTOS	38-400
B	LABORATORY TEST RESULTS (I) - FME CONSULTANTS	401-402
C	LABORATORY TEST RESULTS (II) - FALCON ENGINEERING	403-409
D	LABORATORY TEST RESULTS (III) - LKN ENGINEERING	410-416
E	LABORATORY TEST RESULTS (IV) - SUMMIT ENGINEERING AND TESTING	417-520

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF PREPARING THE SCOPE OF WORK TO BE INCLUDED IN THE REQUEST FOR PROPOSAL. 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.

SOIL AND ROCK BOUNDARIES WITHIN A BOREHOLE ARE BASED ON GEOTECHNICAL INTERPRETATION UNLESS ENCOUNTERED IN A SAMPLE. INTERPRETED BOUNDARIES MAY NOT NECESSARILY REFLECT ACTUAL SUBSURFACE CONDITIONS BETWEEN SAMPLED STRATA AND BOREHOLE INFORMATION MAY NOT NECESSARILY REFLECT ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS. 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 ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO PERFORM INDEPENDENT SUBSURFACE INVESTIGATIONS AND MAKE INTERPRETATIONS AS NECESSARY TO CONFIRM CONDITIONS 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.

FIELD PERSONNEL

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INVESTIGATED BY *CG2, PLLC*

DRAWN BY *M. BREWER, P.E.*

CHECKED BY *R. KRAL, P.E.*

SUBMITTED BY *CG2, PLLC*

DATE *NOVEMBER 2023*

Prepared in the Office of:

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SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
I-5719	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

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 206, 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,
VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	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	
	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	51 MN 10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
MATERIAL PASSING #40 LL PI	— 6 MX		— NP	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
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

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTENCE (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

U.S. STD. SIEVE SIZE	4	10	40	60	200	270
OPENING (MM)	4.76	2.00	0.42	0.25	0.075	0.053

BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)

GRAIN SIZE	MM	305	75	2.0	0.25	0.05	0.005
	IN.	12	3				

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
LL — LIQUID LIMIT		
PLASTIC RANGE (PI)	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
PL — PLASTIC LIMIT		
OM — OPTIMUM MOISTURE SL — SHRINKAGE LIMIT	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE

PLASTICITY

	PLASTICITY INDEX (PI)	DRY STRENGTH
NON PLASTIC	0-5	VERY LOW
SLIGHTLY PLASTIC	6-15	SLIGHT
MODERATELY PLASTIC	16-25	MEDIUM
HIGHLY PLASTIC	26 OR MORE	HIGH

COLOR

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.

GRADATION

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.

ANGULARITY OF GRAINS

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.

MINERALOGICAL COMPOSITION

MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LL < 31
MODERATELY COMPRESSIBLE	LL = 31 - 50
HIGHLY COMPRESSIBLE	LL > 50

PERCENTAGE OF MATERIAL

ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL	
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE	1 - 10%
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE	10 - 20%
MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME	20 - 35%
HIGHLY ORGANIC	> 10%	> 20%	HIGHLY	35% AND ABOVE

GROUND WATER

- 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

MISCELLANEOUS SYMBOLS

- ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
- SOIL SYMBOL
- ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
- INFERRED SOIL BOUNDARY
- INFERRED ROCK LINE
- ALLUVIAL SOIL BOUNDARY
- 25/025 — DIP & DIP DIRECTION OF ROCK STRUCTURES
- SPT, DPT, DMT, VST, PMT — TEST BORING
- AUGER BORING
- CORE BORING
- MW — MONITORING WELL
- PIEZOMETER INSTALLATION
- SLOPE INDICATOR INSTALLATION
- CONE PENETROMETER TEST
- SOUNDING ROD
- TEST BORING WITH CORE
- SPT N-VALUE

RECOMMENDATION SYMBOLS

- 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

ABBREVIATIONS

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
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

SAMPLE ABBREVIATIONS

S - BULK
SS - SPLIT SPOON
ST - SHELBY TUBE
RS - ROCK
RT - RECOMPACTED TRIAXIAL
CBR - CALIFORNIA BEARING RATIO

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] CME-45C
- [ ] CME-55
- [X] CME-550X
- [ ] VANE SHEAR TEST
- [ ] PORTABLE HOIST
- [X] DIEDRICH D-50
- [ ] _____

ADVANCING TOOLS:
- [ ] CLAY BITS
- [ ] 6" CONTINUOUS FLIGHT AUGER
- [X] 8" HOLLOW AUGERS
- [ ] HARD FACED FINGER BITS
- [ ] TUNG.-CARBIDE INSERTS
- [X] CASING [X] W/ ADVANCER
- [ ] TRICONE _____" STEEL TEETH
- [ ] TRICONE _____" TUNG.-CARB.
- [X] CORE BIT
- [ ] _____

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

CORE SIZE:
- [ ] -B _____ [ ] -H _____
- [X] -N Q

HAND TOOLS:
- [ ] POST HOLE DIGGER
- [X] HAND AUGER
- [X] SOUNDING ROD
- [ ] VANE SHEAR TEST
- [ ] _____

ROCK DESCRIPTION

HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.
ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:

WEATHERED ROCK (WR)	NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
CRYSTALLINE ROCK (CR)	FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
NON-CRYSTALLINE ROCK (NCR)	FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YEILD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
COASTAL PLAIN SEDIMENTARY ROCK (CP)	COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.

WEATHERING

FRESH	ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
VERY SLIGHT (V SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
SLIGHT (SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
MODERATE (MOD.)	SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.
MODERATELY SEVERE (MOD. SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. *IF TESTED, WOULD YIELD SPT REFUSAL*
SEVERE (SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. *IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF*
VERY SEVERE (V SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. *IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF*
COMPLETE	ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.

ROCK HARDNESS

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 PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
SOFT	CAN BE GROVED 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 FINGERNAIL.

FRACTURE SPACING

TERM	SPACING
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

BEDDING

TERM	THICKNESS
VERY THICKLY BEDDED	4 FEET
THICKLY BEDDED	1.5 - 4 FEET
THINLY BEDDED	0.16 - 1.5 FEET
VERY THINLY BEDDED	0.03 - 0.16 FEET
THICKLY LAMINATED	0.008 - 0.03 FEET
THINLY LAMINATED	< 0.008 FEET

INDURATION

FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.

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.

TERMS AND DEFINITIONS

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 (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.

STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.

TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

BENCH MARK: N/A

ELEVATION: FEET

NOTES:

ROADWAY DESIGN FILES PROVIDED BY NCDOT DATED 8-11-22.

BRIDGE BORING ELEVATIONS OBTAINED USING SURVEY GRADE GPS. TIN FILE USED TO OBTAIN BORING ELEVATIONS AT ALL OTHER TEST LOCATIONS.

ALIGNMENTS AND STATION RANGES LISTED ON THE TITLE SHEET ONLY INCLUDE ALIGNMENTS WITH BORINGS PERFORMED ON/NEAR THE ALIGNMENT.

N/M = NOT MEASURED

DATE: 8-15-14

PROJECT REFERENCE NO.	SHEET NO.
I-5719	2A

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SUPPLEMENTAL LEGEND, GEOLOGICAL STRENGTH INDEX (GSI) TABLES FROM AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

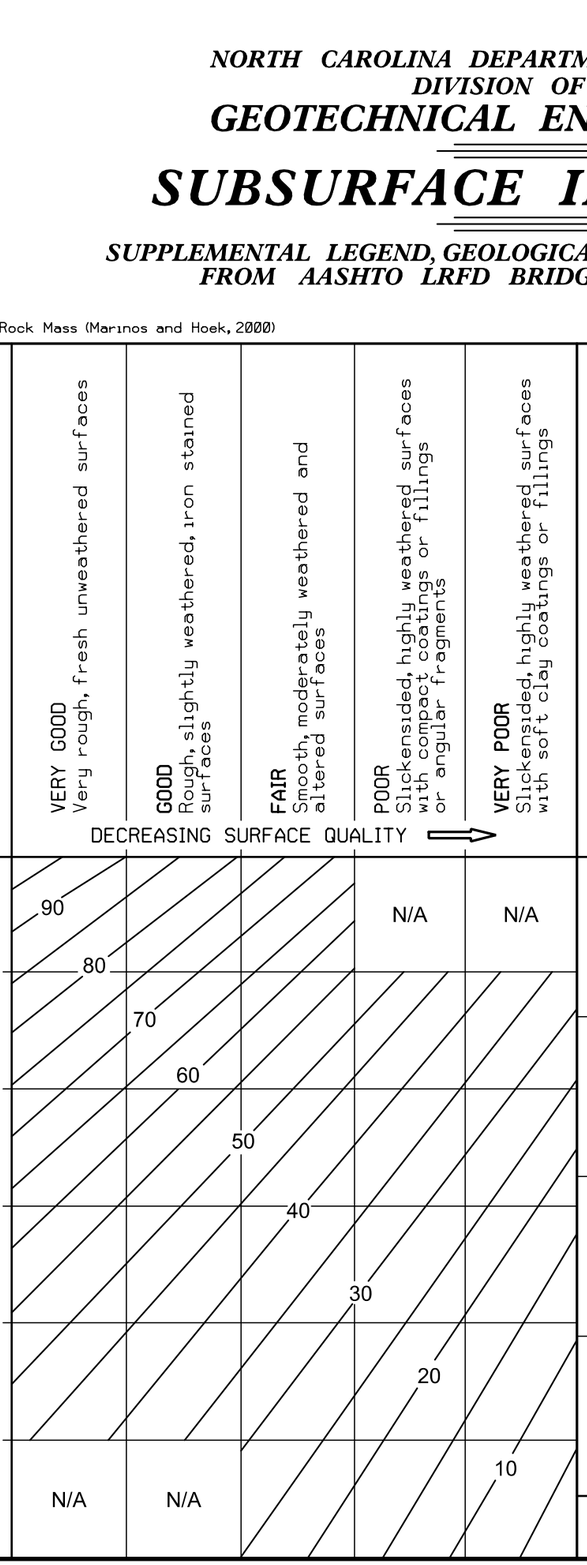
AASHTO LRFD Figure 10.4.6.4-1 — Determination of GSI for Jointed Rock Mass (Marinos and Hoek, 2000)

GEOLOGICAL STRENGTH INDEX (GSI) FOR JOINTED ROCKS (Hoek and Marinos, 2000)

From the lithology, structure and surface conditions of the discontinuities, estimate the average value of GSI. Do not try to be too precise. Quoting a range from 33 to 37 is more realistic than stating that GSI = 35. Note that the table does not apply to structurally controlled failures. Where weak planar structural planes are present in an unfavorable orientation with respect to the excavation face, these will dominate the rock mass behaviour. The shear strength of surfaces in rocks that are prone to deterioration as a result of changes in moisture content will be reduced if water is present. When working with rocks in the fair to very poor categories, a shift to the right may be made for wet conditions. Water pressure is dealt with by effective stress analysis.

STRUCTURE

- INTACT OR MASSIVE - intact rock specimens or massive in situ rock with few widely spaced discontinuities
- BLOCKY - well interlocked undisturbed rock mass consisting of cubical blocks formed by three intersecting discontinuity sets
- VERY BLOCKY - interlocked, partially disturbed mass with multi-faceted angular blocks formed by 4 or more joint sets
- BLOCKY/DISTURBED/SEAMY - folded with angular blocks formed by many intersecting discontinuity sets. Persistence of bedding planes or schistosity
- DISINTEGRATED - poorly interlocked, heavily broken rock mass with mixture of angular and rounded rock pieces
- LAMINATED/SHEARED - Lack of blockiness due to close spacing of weak schistosity or shear planes

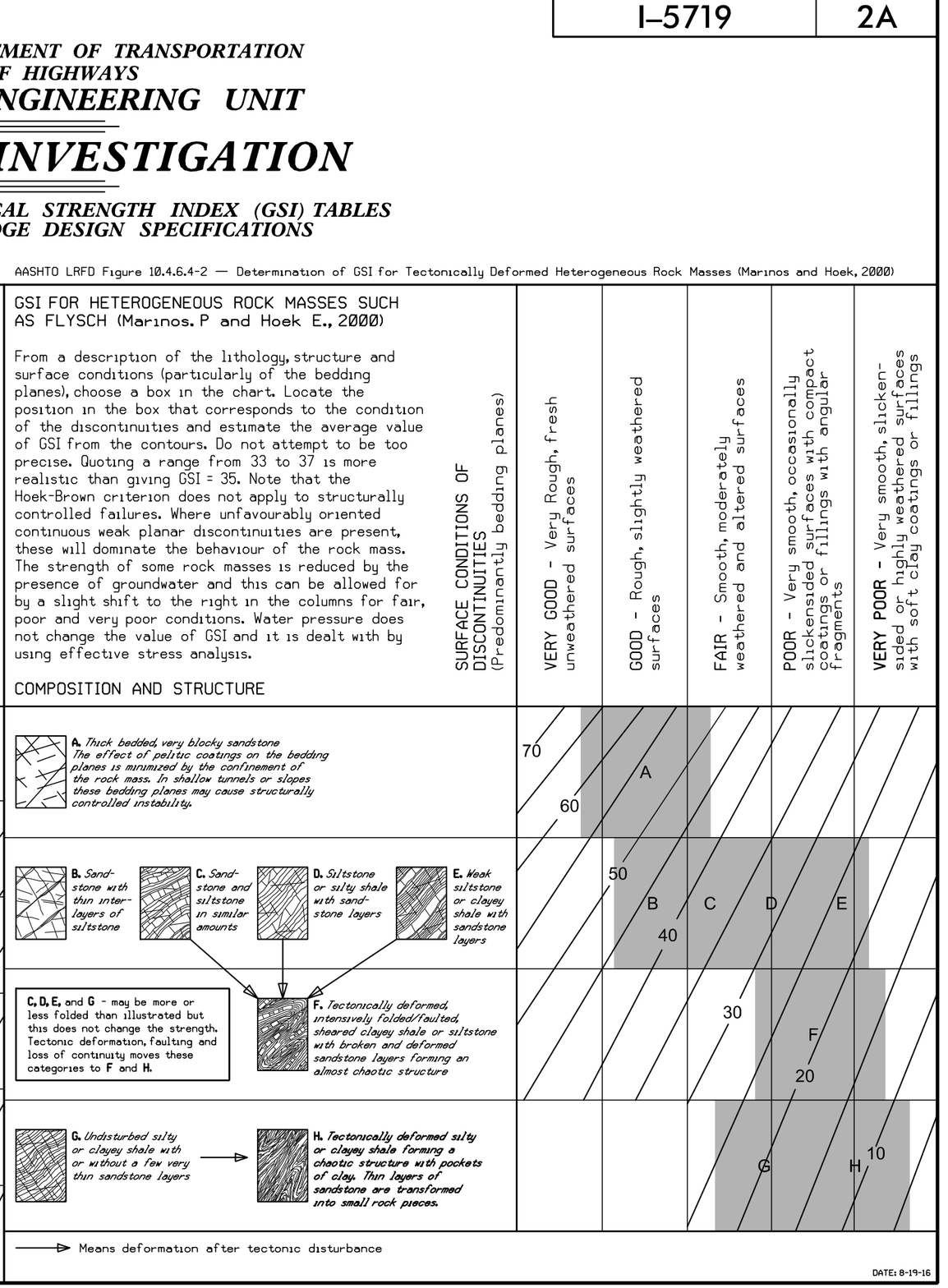


AASHTO LRFD Figure 10.4.6.4-2 — Determination of GSI for Tectonically Deformed Heterogeneous Rock Masses (Marinos and Hoek, 2000)

GSI FOR HETEROGENEOUS ROCK MASSES SUCH AS FLYSCH (Marinos. P and Hoek E., 2000)

From a description of the lithology, structure and surface conditions (particularly of the bedding planes), choose a box in the chart. Locate the position in the box that corresponds to the condition of the discontinuities and estimate the average value of GSI from the contours. Do not attempt to be too precise. Quoting a range from 33 to 37 is more realistic than giving GSI = 35. Note that the Hoek-Brown criterion does not apply to structurally controlled failures. Where unfavourably oriented continuous weak planar discontinuities are present, these will dominate the behaviour of the rock mass. The strength of some rock masses is reduced by the presence of groundwater and this can be allowed for by a slight shift to the right in the columns for fair, poor and very poor conditions. Water pressure does not change the value of GSI and it is dealt with by using effective stress analysis.

COMPOSITION AND STRUCTURE



→ Means deformation after tectonic disturbance

DATE: 8-19-16

09/08/99
9/30/2023
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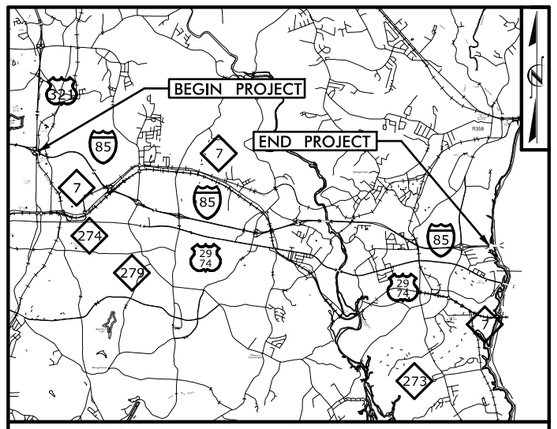
CONTRACT: **TIP PROJECT: I-5719 & U-5800**

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5719 & U-5800	3	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
50135.1.FS1	NHPP-085-1(121)27	P.E



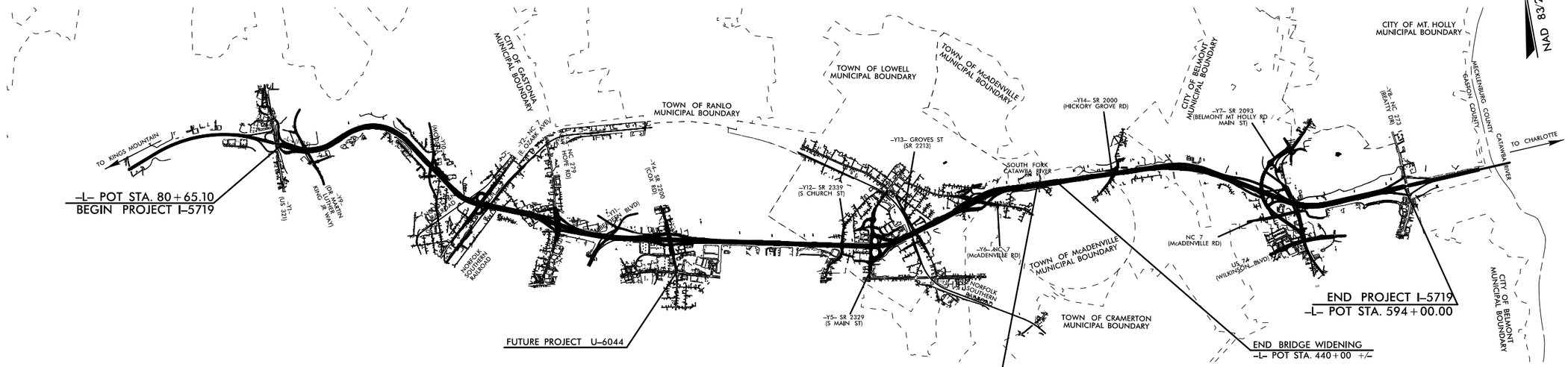
VICINITY MAP (N.T.S)

LOCATION:

I-5719: ***I-85, US 321 TO NC 273. WIDEN TO EIGHT LANES. SR 2200 (COX ROAD) INTERCHANGE. CONSTRUCT INTERCHANGE IMPROVEMENTS.***

U-5800: ***NC 7, I-85 TO US 29/74. WIDEN TO MULTI-LANES. NC 7, INTERSECTION OF NC 7/US 74 AND NC 7/US 29. CONSTRUCT NORTHBOUND THROUGH REG LANE AND INTERSECTION IMPROVEMENTS.***

TYPE OF WORK: ***GRADING, DRAINAGE, PAVING, STRUCTURES, SIGNALS AND RETAINING WALLS***



NOTE:

1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
2. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF GASTONIA, LOWELL, McADENVILLE, BELMONT, AND MT. HOLLY
3. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

100 50 0 100 200
PLANS

100 50 0 100 200
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2024 = 157,050
ADT 2044 = 176,150
K = 7 %
D = 55 %
T = 17 % *
V = 65 MPH
* TTST=13% DUAL=4%
FUNC CLASS = INTERSTATE
STATEWIDE TIER

PROJECT LENGTH

LENGTH OF ROADWAY T.I.P. PROJECT I-5719 = 9.549 MILES
LENGTH OF STRUCTURES T.I.P. PROJECT I-5719 = 0.174 MILES

TOTAL LENGTH OF T.I.P. PROJECT I-5719 = 9.723 MILES

STRUCTURE LENGTH BASED ON NORTHBOUND LANES
TOTAL LENGTH BASED ON -L- CENTERLINE

PREPARED IN THE OFFICE OF:
HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554
FOR DIVISION OF HIGHWAYS

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FY 2024

LETTING DATE:
FY 2024

DOUGLAS M. WHEATLEY, PE
PROJECT ENGINEER

KYLE HIPP, PE
PROJECT DESIGN ENGINEER

NORA A. McCANN, EIT
NCDOT CONTACT

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

PROJECT REFERENCE NO.	SHEET NO.
I-5719	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

US 321
(N CHESTER ST)

S 66°18'58.3" E

-Y1RPA- PT Sta. 23+37.61

-Y9A- PT Sta. 13+00.20

-Y9- PT Sta. 21+64.62

-Y1RPA- 20+00

-Y9- 20+00

-Y9- 25+00

-Y9- 30+00

-Y9- 35+00

-Y9- 40+00

END CONSTRUCTION
-Y1RPA- Sta. 19+50.00

END SBG
-Y1RPA- Sta. 19 + 50.00

325' UNIFORM TAPER LT
325' MEDIAN TAPER LT

-Y1RPA- PC Sta. 17+02.14
-Y1RPA- ST Sta. 14+70.50
-Y1RPA- CS Sta. 11+70.50
-Y1RPA- PC Sta. 10+00.00

-Y1RPA- 15+00

-Y9- IDR MARTIN LUTHER KING JR. BARRIER

BEGIN SBG
-Y1RPA-
Sta. 12 + 50.00

-Y1RPD- PT Sta. 22+90.80

DROP CONCRETE MEDIAN BARRIER
14' FDRS

275' UNIFORM TAPER RT

150' FDRS TAPER RT

L_8600L
L_8600R
L_8250R
L_8800L
L_9200L
L_9400L
L_9500L
L_9600L
L_9709L
L_9800L
L_9907L
L_10000L
L_10080L
L_10200L
L_9400R
L_9800R
L_10200R

Y9/L_EB1-A
Y9/L_EB1-B
Y9/L_EB2-A
Y9/L_EB2-B

RWALL_B-10
RWALL_B-9
RWALL_B-8
RWALL_B-7
RWALL_B-6
RWALL_B-5
RWALL_B-4
RWALL_B-3
RWALL_B-2

END RET. WALL
-Y1RPD- Sta. 19 + 14.44

580' UNIFORM SHLD TAPER

-Y1RPD- 20+00

-Y1RPD- PRC Sta. 17+17.49

-Y1RPD- SC Sta. 16+00.00

-L- TS Sta. 86+06.01

-Y1RPD- 15+00

-Y1RPD- SRS Sta. 13+00.00

-L- SC Sta. 89+06.01

BEGIN RET. WALL
-L- Sta. 92 + 00.00

-L- POC Sta. 91+69.33 =
-Y9- POT Sta. 29+15.17
Δ= 58°07'42"

-Y9DRWY- POT Sta. 10+00.00

S 79°01'02.4" W

-Y9B- POT Sta. 16+88.93

-Y9B- 15+00

-Y9DRWY- POT Sta. 11+72.14
S 68°01'05.0" W

-L1RPC- CS Sta. 104+00.00

MATCHLINE -L- STA 102+00
(SEE SHEET 5)

300' EOT TAPER

REVISIONS

8/17/99

9/28/2023
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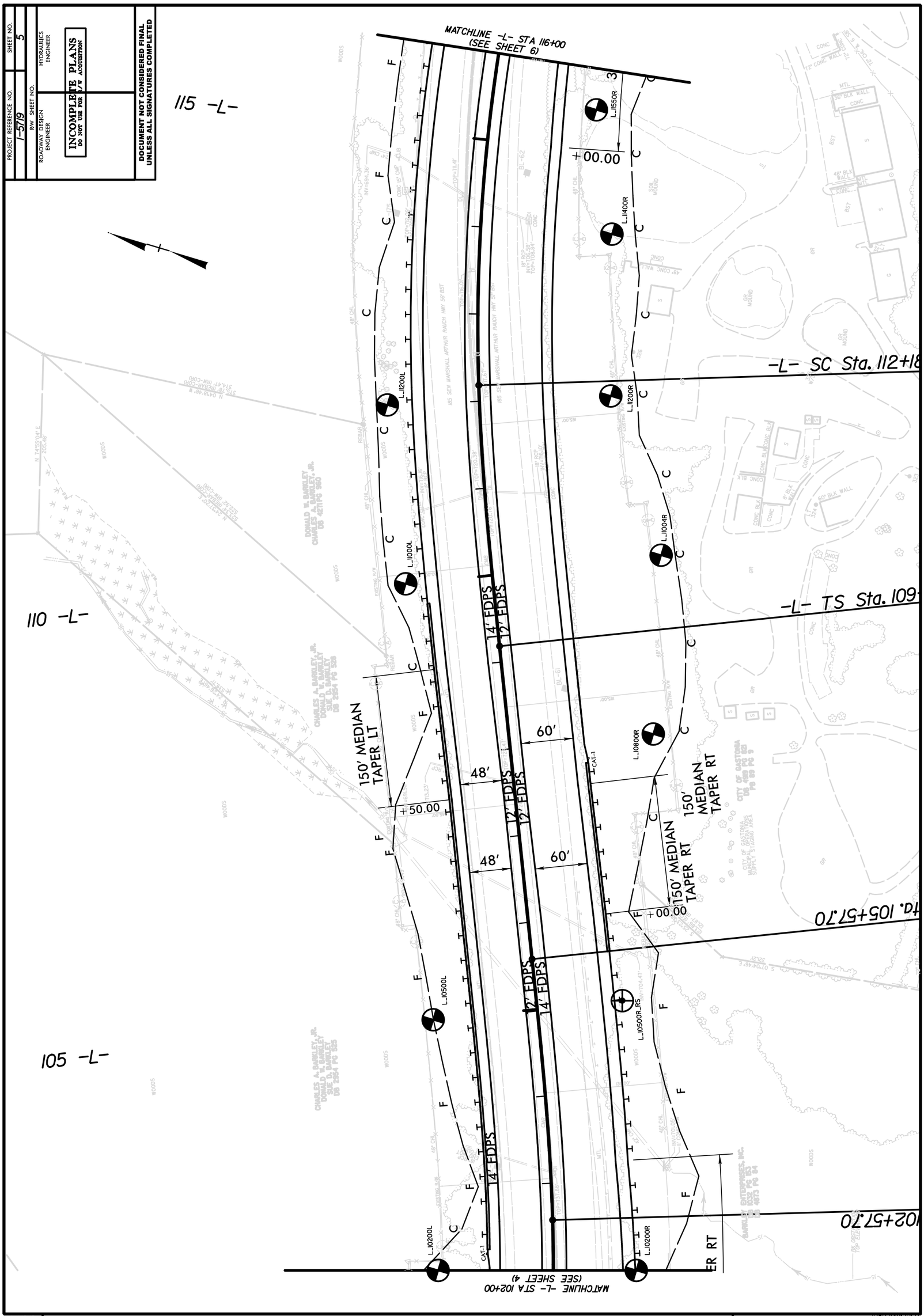

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9/28/2023
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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
I-5719	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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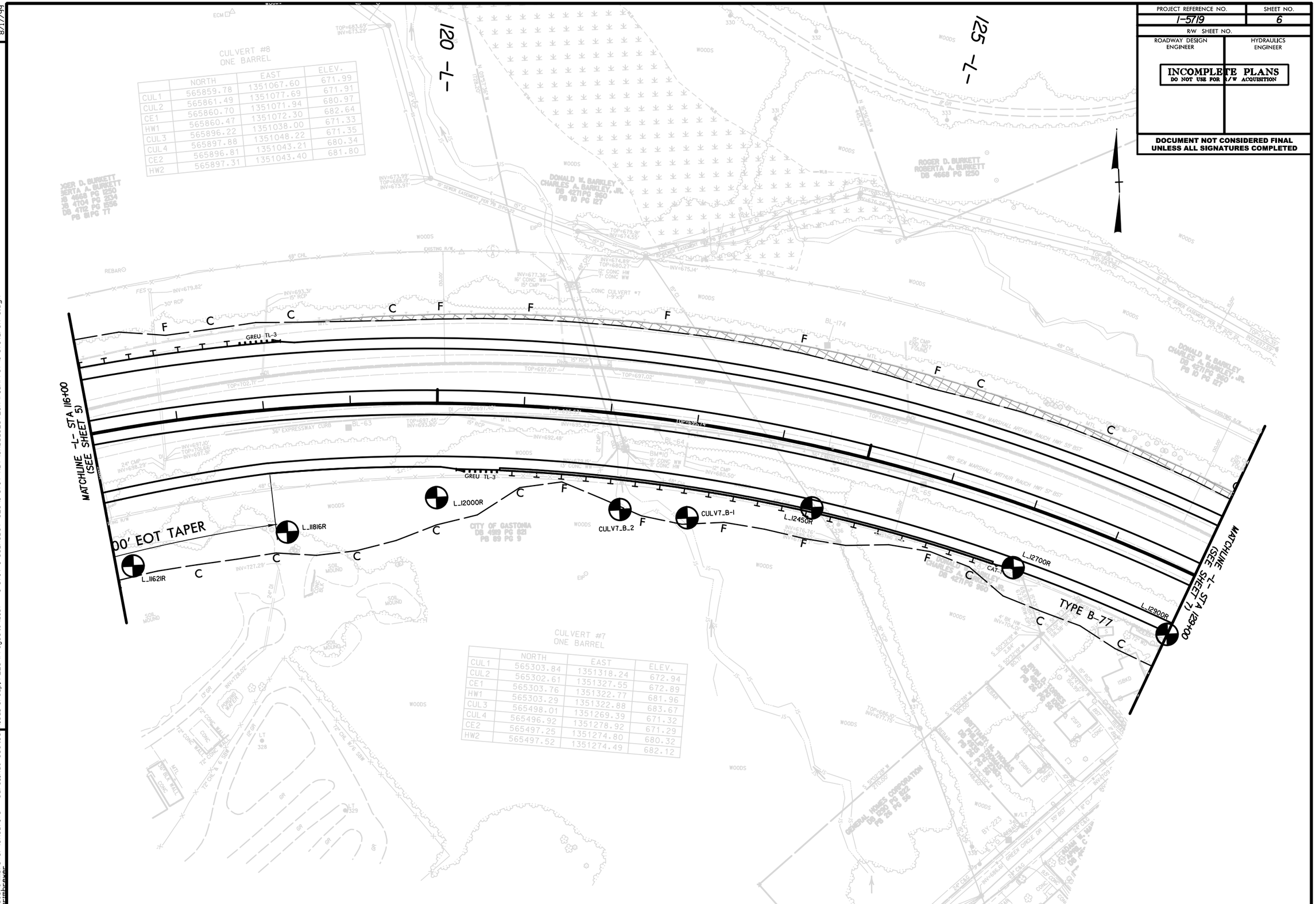

CULVERT #8
ONE BARREL

	NORTH	EAST	ELEV.
CUL1	565859.78	1351067.60	671.99
CUL2	565861.49	1351077.69	671.91
CE1	565860.70	1351071.94	680.97
HW1	565860.47	1351072.30	682.64
CUL3	565896.22	1351038.00	671.33
CUL4	565897.88	1351048.22	671.35
CE2	565896.81	1351043.21	680.34
HW2	565897.31	1351043.40	681.80

CULVERT #7
ONE BARREL

	NORTH	EAST	ELEV.
CUL1	565303.84	1351318.24	672.94
CUL2	565302.61	1351327.55	672.89
CE1	565303.76	1351322.77	681.96
HW1	565303.29	1351322.88	683.67
CUL3	565498.01	1351269.39	671.32
CUL4	565496.92	1351278.92	671.29
CE2	565497.25	1351274.80	680.32
HW2	565497.52	1351274.49	682.12

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PROJECT REFERENCE NO.	SHEET NO.
I-5719	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

130 -L-

135 -L-

140 -L-

MATCHLINE -L- STA 129+00 (SEE SHEET 6)

MATCHLINE -L- STA 143+00 (SEE SHEET 8)

-L- CS Sta. 138+11.71

-L- ST Sta. 141+11.71

L_12900R

L_13100R

L_13400R

L_13600R

L_13700L

L_13800R

L_14000L

L_14000R

L_14200L

L_14200R

GREU TL-3

CAT-1

150' MEDIAN TAPER

+ 20.00

14' FDPS

12' FDPS

REVISIONS

8/17/99

9/28/2023
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mbrewer

PROJECT REFERENCE NO.	SHEET NO.
I-5719	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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mbrewer

-Y10- PI

-Y10- 20

-L- 145

-L- 150

-L- 155

S 70° 19' 58.1" E

-SVRDI- PC Sta. 10+11.52

-SVRDI- POT Sta. 10+00.00 =
-Y10- POC Sta. 25+79.87
-Y10- PT Sta. 26+80.55

-Y10- PC Sta. 10+11.52

S 24° 53' 55.6" W

-Y10- PC Sta. 31+40.75

MATCHLINE -L- STA 143+00
(SEE SHEET 7)

MATCHLINE -L- STA 157+00
(SEE SHEET 9)

12' EDPS
12' EDPS

PROP. CONCRETE MEDIAN BARRIER

L_I4400L
L_I4600L
L_I5200L
L_I5300L
L_I5700L

L_I4400R
L_I4600R
L_I4950R
L_I5700R

Y10/L_EB1-A
Y10/L_EB1-B
Y10/L_BI-B
Y10/L_BI-A
Y10/L_EB2-B
Y10/L_EB2-A

10' MULTI-USE PATH
5' SIDEWALK
GREU TL-3
CAT-1
TYPE-III
185 SEN MARSHALL ARTHUR RAUCH HWY 56' BST

PROJECT REFERENCE NO.	SHEET NO.
I-5719	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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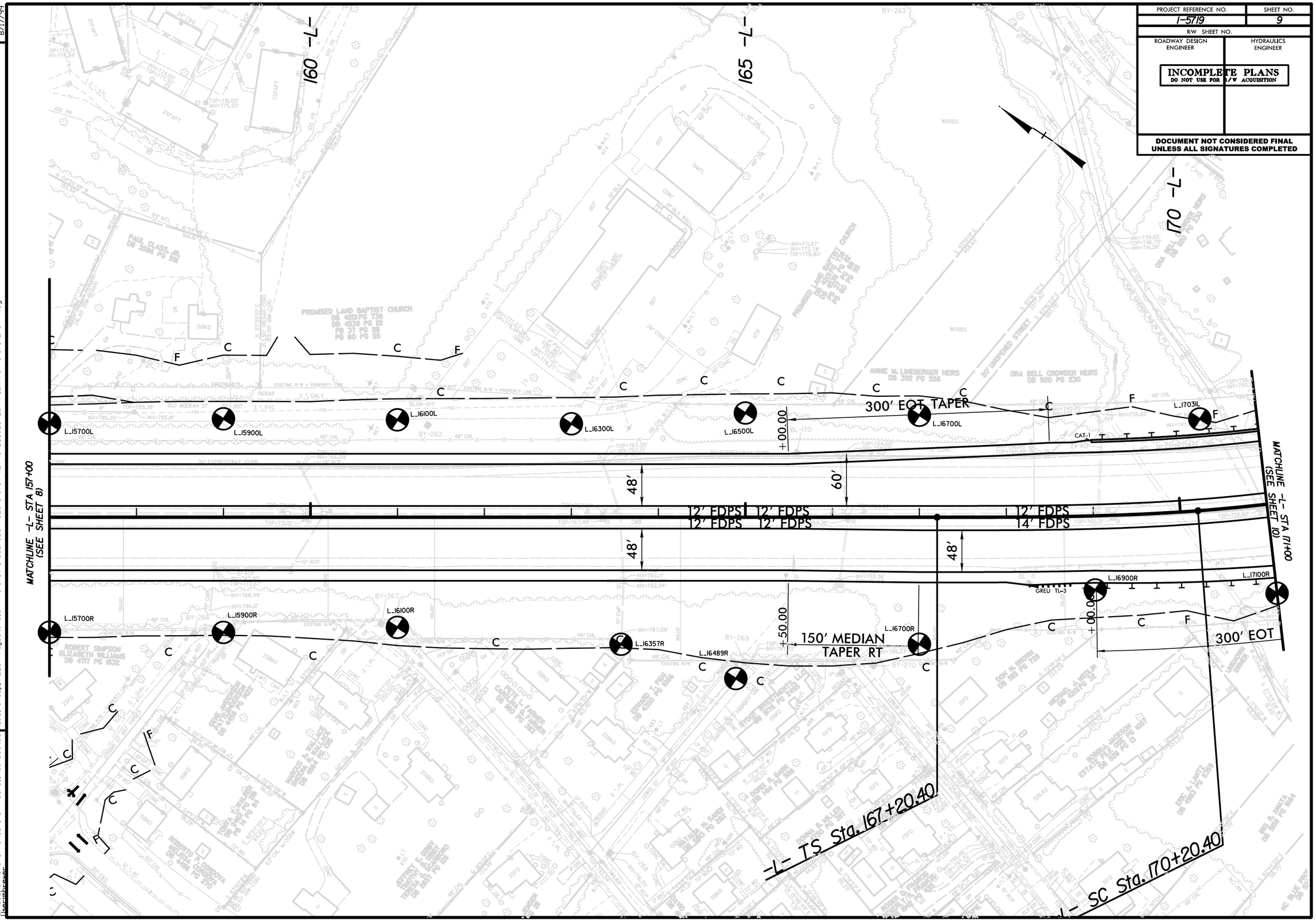

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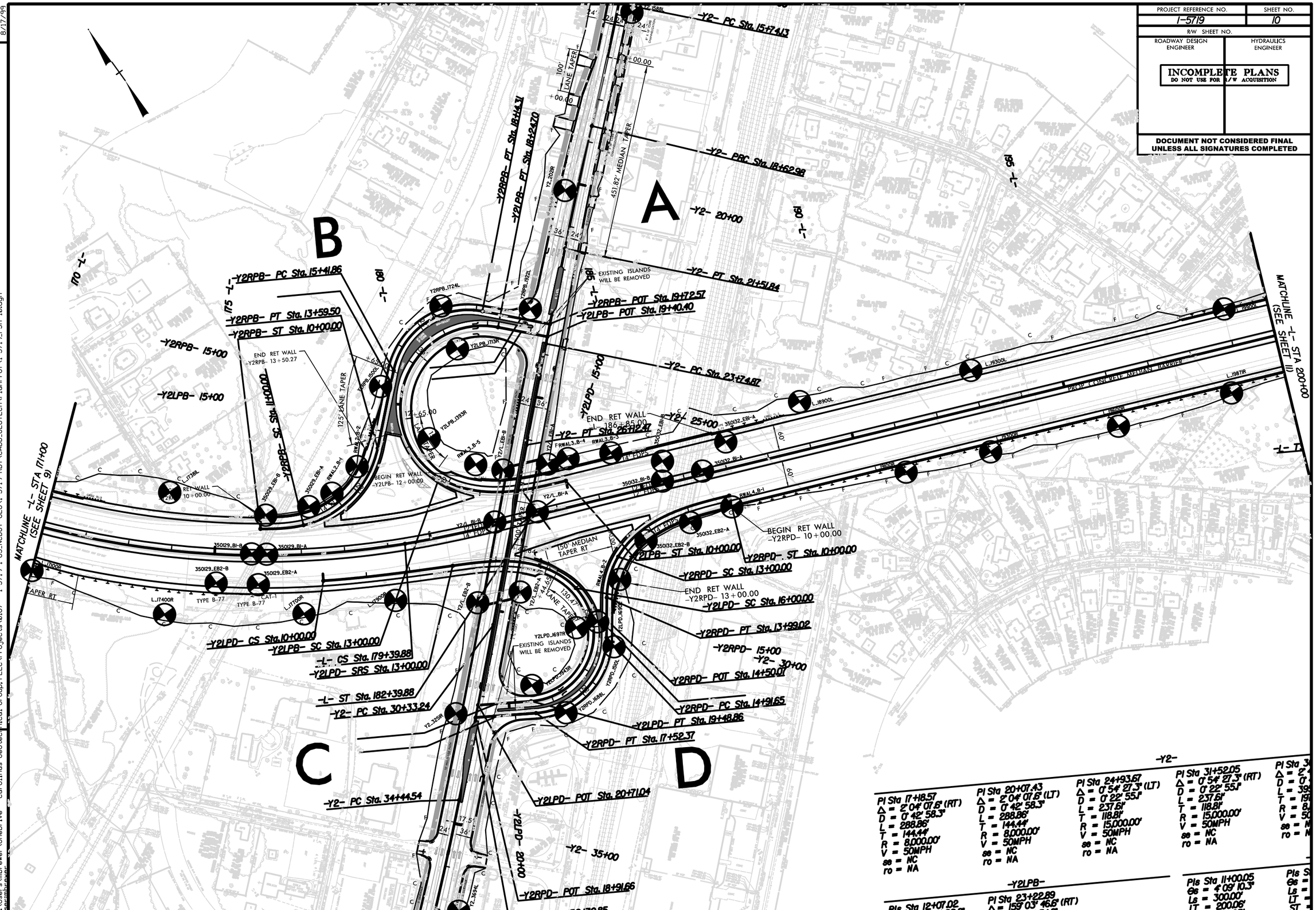
PROJECT REFERENCE NO.	SHEET NO.
I-5719	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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9/28/2023
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User:mbrewer

PROJECT REFERENCE NO.	SHEET NO.
I-5719	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

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9/28/2023
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MATCHLINE -L- STA 200+00
(SEE SHEET 10)

-Y3RPB- POT Sta. 10+00.00

-Y3RPB- PC Sta. 12+04.14

-Y3RPB- 15+00

-Y3SB- 25+00

-Y3RPB-SPUR- PT Sta. 11+99.58

-Y3SB- PC Sta. 21+92.13

-Y3RPB- PRC Sta. 19+68.30

-Y3RPB-SPUR- PC Sta. 10+00.00

MOUNTABLE CURB

300' LANE TAPER

12' FDPS

-Y3NB- PT Sta. 20+

-Y3RPB- PT Sta. 21+

-Y3NB- PC Sta. 1

130° 38' 9

BEGIN RET W
-L- Sta. 215+0

BEGIN RET WALL
-L- Sta. 216+00.00

MATCHLINE -L- STA 214+00
(SEE SHEET 12)

L_20300L

Y3RPB_I050L

Y3RPB_I250L

Y3RPB_I500L

Y3RPB_I800L

S 64° 43' 45.8" E

RWAL_Y3RPC_B-1

RWAL_Y3RPC_B-2

RWAL_Y3RPC_B-3

RWAL_Y3RPC_B-4

Y3RPC_I418R

Y3RPC_I600

CULV10_B-1

CULV10_B-2

BEGIN RET WALL
-L- 203+00.00

END RET WALL
-Y3RPC- 12+00.00

-L- ST Sta. 209+08.24

-Y3RPC- CS Sta. 15+39.30

-Y3RPC- ST Sta. 16+89.30

-Y3RPC- PCC Sta. 10+32.75

-Y3RPC- PC Sta. 10+00.00

-Y3RPC-SPUR- PC Sta. 10+00.

-Y3RPC- 15+00

-Y3RPC-SPU

-Y3

Sta. 201+52.81

B

C

5' SIDEWALK

45°

CHOATE REALTY, LLC
DB 4342 PG 2358
PB 8 PG 70

BENOY PETERS
DB 4669 PG 547

GREEN MANOR INVESTORS, LLC
DB 4699 PG 1072

ALLEN E. WRIGHT
JEANETTE H. WRIGHT
DB 1920 PG 209
DB 2417 PG 330
PB 3 PG 157
PB 9 PG 59

STATE HIGHWAY COMMISSION
DB 505 PG 455
DB 505 PG 457
PB 9 PG 59

RICHARD + EVANS
DB 564 PG 187

BUTLER RENTALS
DB 4660 PG 2
DB 4660 PG 5

GE CASTORIA
DB 4660 PG 2

MOUNTAIN RIDGE, LLC
DB 5057 PG 1555

PROJECT REFERENCE NO.	SHEET NO.
I-5719	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y11B-
PI Sta 18+47.01
Δ = 11° 08' 06.3" (LT)
D = 5° 12' 31.3"
L = 328.97'
T = 165.72'
R = 1,100.00'
V = 35MPH
e = 3%
ro = 63%

-Y3RPD-
PI Sta 19+41.20
Δ = 5° 12' 05.4" (RT)
D = 0° 35' 22.1"
L = 882.4'
T = 441.51'
R = 9720.00'
V = 50MPH
e = NC
ro = NA

PI Sta 24+67.15
Δ = 7° 25' 02.2" (RT)
D = 5° 05' 13.5"
L = 1447.9'
T = 865.04'
R = 1100.00'
V = 50MPH
e = NC
ro = NA

PI Sta 12+49.90
Δ = 2° 56' 43.8" (LT)
D = 0° 35' 22.1"
L = 499.69'
T = 249.90'
R = 9720.00'
V = 50MPH
e = NC
ro = NA

-Y3RPD-SPUR-
PI Sta 11+61.63
Δ = 102° 22' 48.6" (LT)
D = 44° 04' 25.2"
L = 232.29'
T = 161.63'
R = 130.00'
V = 50MPH
e = NC
ro = NA

-Y11- PT Sta. 18+28.5

-Y11- 20 BEGIN CONSTRUCTION
-Y11- Sta. 21+00.00
-Y11B- PC Sta. 16+81.35

-Y11B- POT Sta. 10+00.00

-Y11- 25

-Y11B- 15

-Y11- PC Sta. 32+69.30

-Y11- 35

-Y11A- 15

-Y11- PT Sta. 36+74.48

-Y11A- PT Sta. 15+70.72

-Y11A- 38

MATCHLINE -L- STA 242+00
(SEE SHEET 13)

MATCHLINE -L- STA 214+00
(SEE SHEET 11)

-L- PC Sta. 216+39.68

END RET WALL
-L- Sta. 217+40.00

END RET WALL
-L- Sta. 218+10.00

Y3NB_2394R
Y3NB_2284R
Y3SB_2302L
Y3RPA_2200R
Y3RPA_2000R
Y3RPA-SPUR_1855L
Y3SB-SPUR_1805L
Y3NB/L_EB2-A
Y3NB/L_EB1-A
Y3SB/L_EB2-A
Y3SB/L_EB2-B
Y3SB/L_EB1-A
Y3NB/L_EB1-B
Y3NB_1656L
Y3RPC_2200R
Y3RPD_2422L
Y3SB_1365L
Y3RPA_1700R
Y3RPA_1000R
Y3RPD_2200L
Y3RPD_1900L
Y3RPD_1900R
Y3RPD_1600
Y3RPD_1600L
Y3RPD_1500L
Y3RPD_1400L
Y3RPD_1300L
Y3RPD_1200L
Y3RPD_1100L
L_23250L
L_23364R
L_23200R
L_22900L
L_23000L
L_23100L
L_23200L
L_23400L
L_23656R
L_23656L
Y11/L_EB2-B
Y11/L_EB2-A
Y11/L_EB1-B
Y11/L_EB1-A
Y11/L_EB1-C
Y11/L_EB1-D
Y11/L_3400L
Y11/L_3500L
CUL VII_B-1
CUL VII_B-2
CUL VII_B-3

200' LANE TAPER
300' LANE TAPER
LANE TAPER 87'
48'
28'
16'
15'
30'
TYPE_B_77L
TYPE_B
TYPE_III
GREU_TL-3
12" EDPM
19" EDPM

CULVERT #12
TWO BARRELS

	NORTH	EAST	ELEV.
CUL1	559011.03	1360981.85	103.49
CUL2	559013.12	1360989.82	103.60
CUL3	559013.22	1360998.46	103.59
CUL4	559013.39	1361008.57	103.63
CUL5	559014.74	1361018.06	113.58
CUL6	559015.17	1361028.06	114.75
HW1	559013.29	1360860.57	101.30
CUL5	558548.01	1360861.07	101.28
CUL6	558547.90	1360861.26	101.27
CUL5	558547.84	1360862.06	101.28
CUL6	558547.81	1360862.26	101.28
HW2	558547.94	1360862.26	101.30

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
I-5719	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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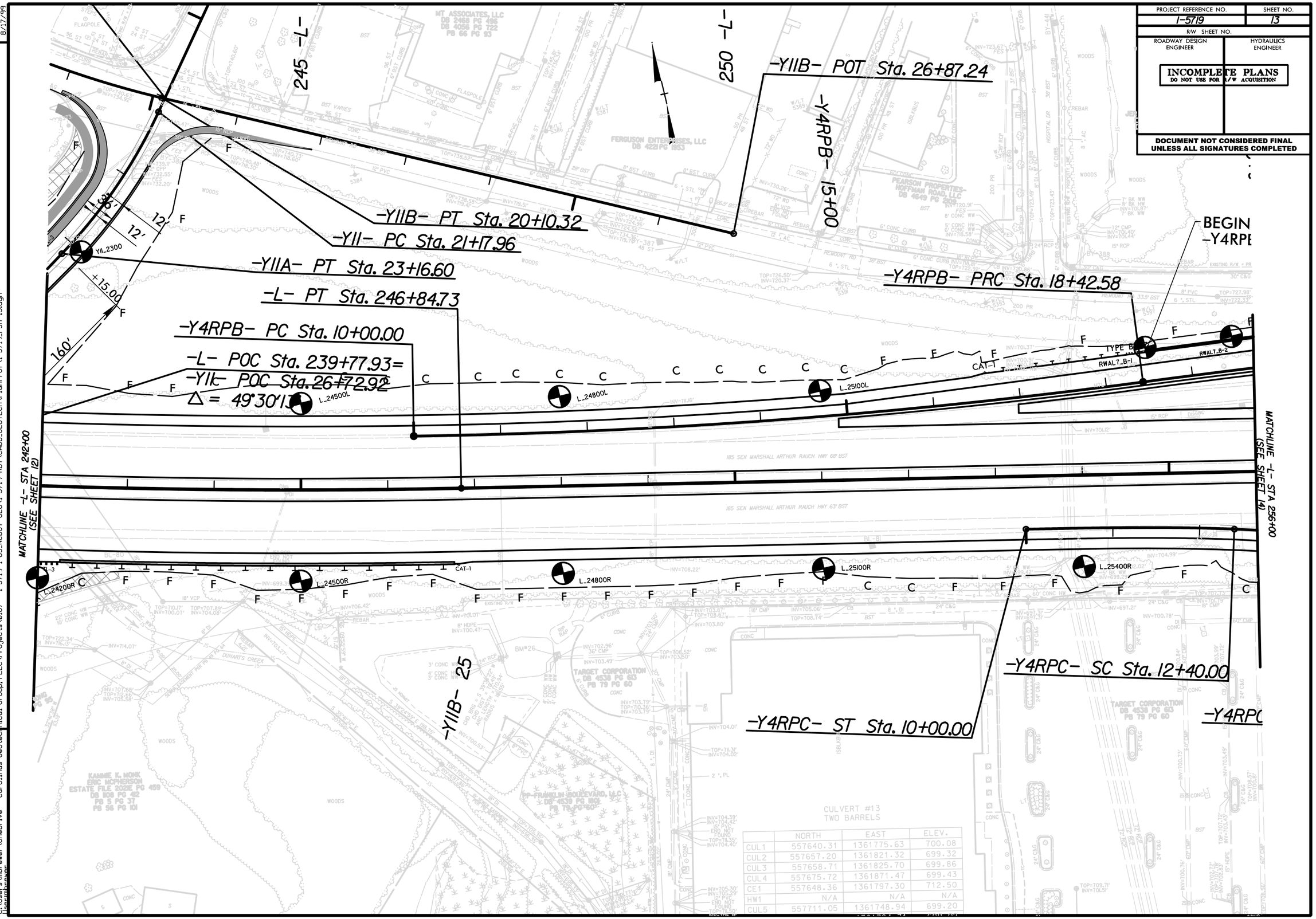

CULVERT #13
TWO BARRELS

	NORTH	EAST	ELEV.
CUL1	557640.31	1361775.63	700.08
CUL2	557657.20	1361821.32	699.32
CUL3	557658.71	1361825.70	699.86
CUL4	557675.72	1361871.47	699.43
CE1	557648.36	1361797.30	712.50
HW1	N/A	N/A	N/A
CUL5	557711.05	1361748.94	699.20

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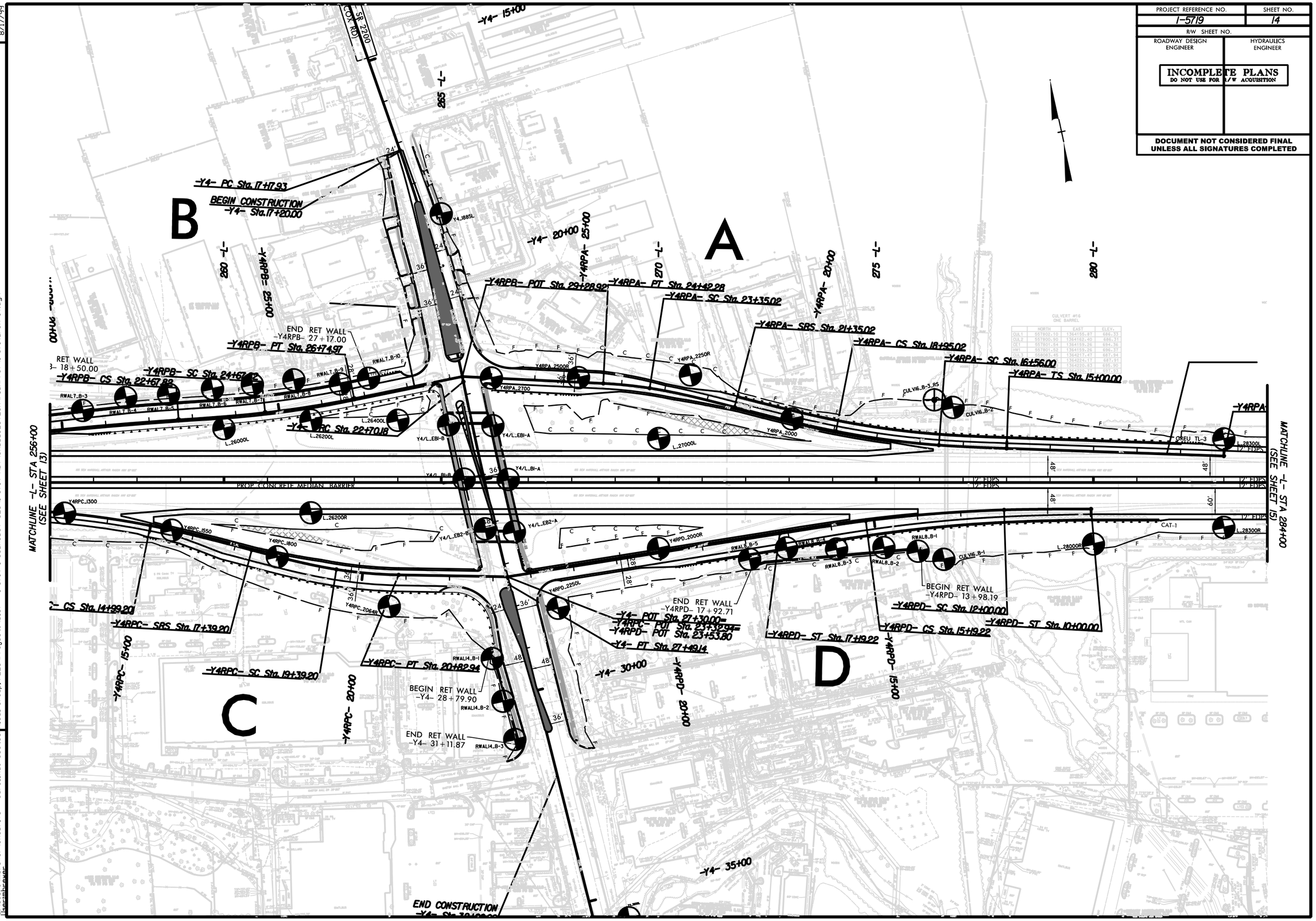
PROJECT REFERENCE NO.	SHEET NO.
I-5719	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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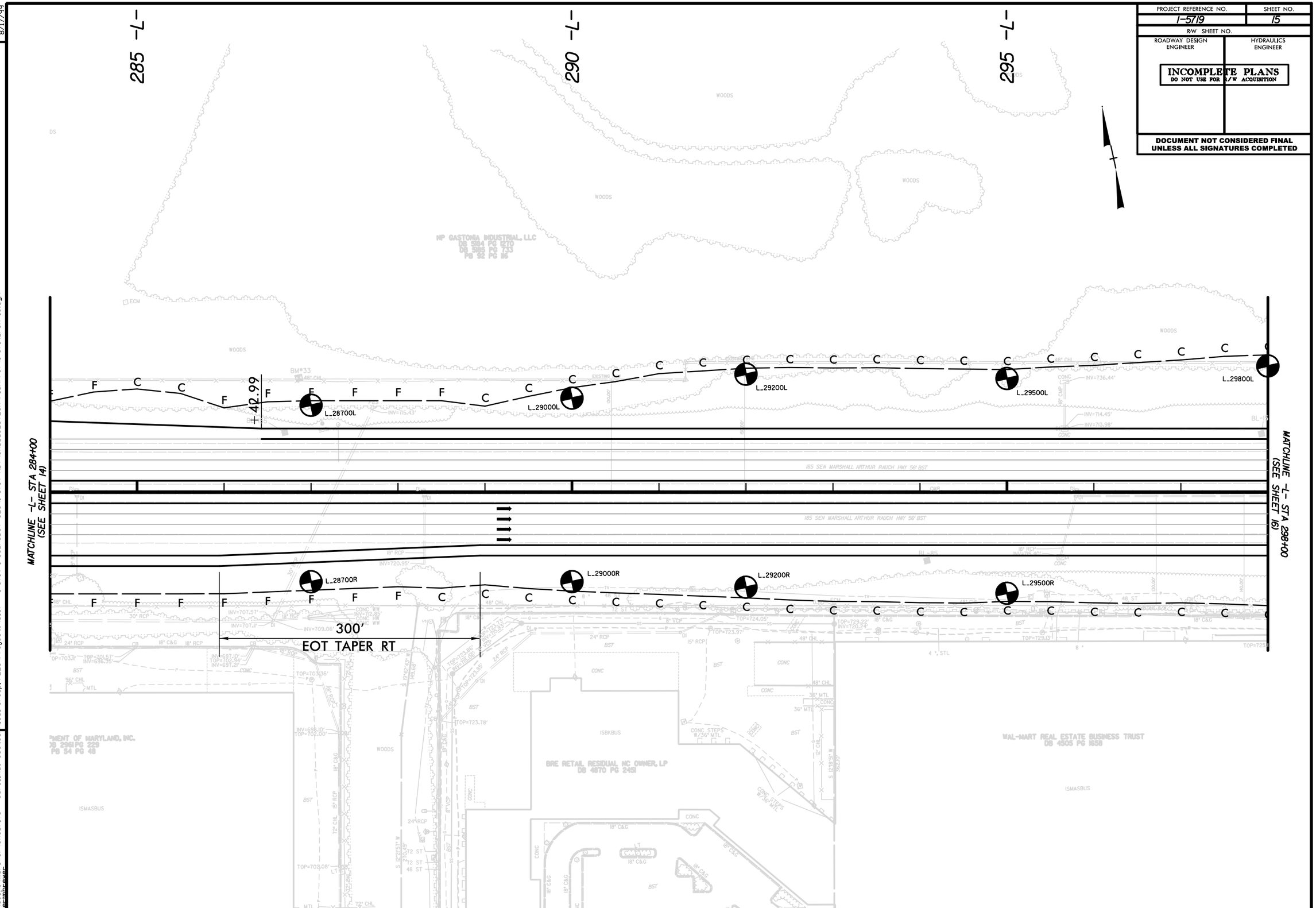
PROJECT REFERENCE NO.	SHEET NO.
I-5719	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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PROJECT REFERENCE NO.	SHEET NO.
I-5719	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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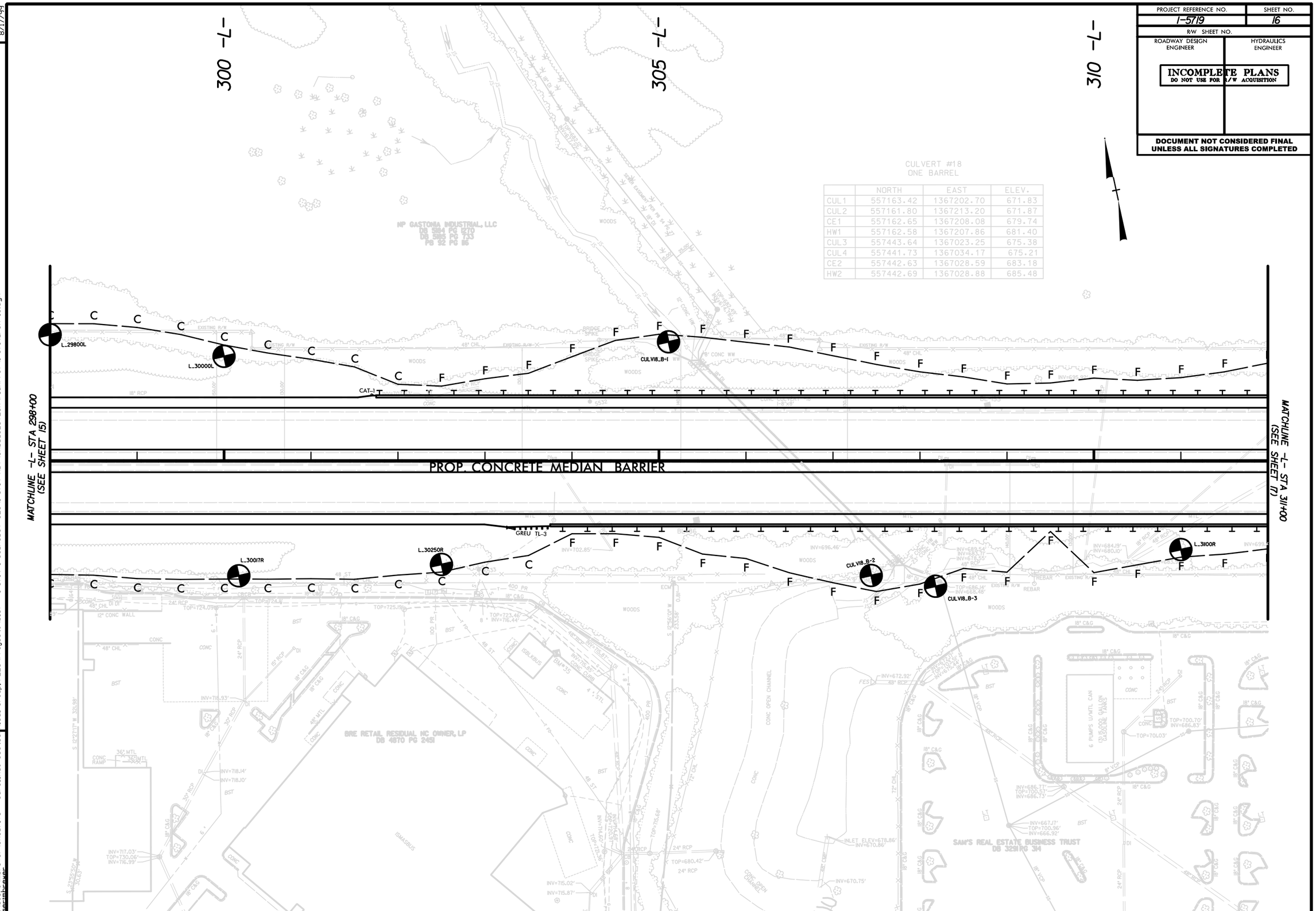

CULVERT #18
ONE BARREL

	NORTH	EAST	ELEV.
CUL1	557163.42	1367202.70	671.83
CUL2	557161.80	1367213.20	671.87
CE1	557162.65	1367208.08	679.74
HW1	557162.58	1367207.86	681.40
CUL3	557443.64	1367023.25	675.38
CUL4	557441.73	1367034.17	675.21
CE2	557442.63	1367028.59	683.18
HW2	557442.69	1367028.88	685.48

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PROJECT REFERENCE NO.	SHEET NO.
I-5719	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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315 -L-

320 -L-

WOODS

NP GASTONIA INDUSTRIAL, LLC
DB 5864 PG 1270
DB 5865 PG 723
PG 62 PG 86

CITY OF GASTONIA
DB 5045 PG 2045

S 60°10'59" E
630.07' (ECM-ECM)
626.88' (ECM-RW)

N 27°43'45" E
82.57' (ECM-ECM)
(R-40' ECM)

EXISTING R/W

48" CHL

48" CMP

F F F F F F F F F C C C

PROJECT REFERENCE NO.	SHEET NO.
I-5719	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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lisambrewer

330 -L-

335 -L-

MATCHLINE -L- STA 326+00 (SEE SHEET 17)

MATCHLINE -L- STA 340+00 (SEE SHEET 19)

L_32700L

L_33000L

CULV19_B-2_RS

L_33402L

L_33710L

L_33900L

CAT-1

GREU TL-3

48'

L_33700R

L_33900R

CULV19_B-1

CULV19_B-1_RS

27'

REBECCA B. MITCHEM
DB 1120 PG 448
DB 4120 PG 944

NP GASTONIA INDUSTRIAL, LLC
DB 5914 PG 1270
DB 5914 PG 1273
PB 92 PG 86

TOWN OF LOWELL
DB 946 PG 298
PB 21 PG 52

H. EDWARD JACKSON
DB 359 PG 521
DB 368 PG 270

RONALD P. CARVALHO
DB 4984 PG 626

JASIA P. SPENCER
DB 2369 PG 33
PB 12 PG 46

DARYLL S. TATE
FREIDA P. TATE
DB 6802 PG 150

GERTE GARDNER
DB 746 PG 3
PB 12 PG 46

ANDREW SQUARES, LLC
DB 4735 PG 1035
PB 56 PG 6

BUNK CLINTON
DB 414 PG 220

30 WEST PERSHING, LLC
DB 5048 PG 578
PB 56 PG 6

INSIDE LOWELL CITY LIMITS
INSIDE GASTONIA CITY LIMITS

185 SEN MARSHALL ARTHUR RAUCH HWY 56' BST

ISMASBUS

ISBKBUS

PROJECT REFERENCE NO.	SHEET NO.
I-5719	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-Y12- Sta.18+12.

-Y12- PT Sta. 19+13.94

-L- TS Sta. 351+05.25

340 -L-

345 -L-

350 -L-

+56.37

+96.00

-Y12- PC Sta. 24+26.35

-Y12A- POT Sta. 10+00.00

END CONSTRUCTION
-Y12A- Sta.10+90.00

-L- SC Sta. 354+05.25

L_34300L

L_34500L

L_34700L

L_35100L

L_34300R

L_34700R

L_34900R

L_35082R

12' FDPS

PROP. CONCRETE MEDIAN BARRIER

60'

48'

MATCHLINE -L- STA 340+00
(SEE SHEET 18)

MATCHLINE -L- STA 352+00
(SEE SHEET 20)

Y12/L_EB1-B

Y12/L_EB1-A

Y12/L_BI-B

Y12/L_BI-A

Y12/L_EB2-B

Y12/L_EB2-A

TYPE III GREU TL-3

GREU TL-3

185 SEN MARSHALL ARTHUR RAUCH HWY 67' BST

185 SEN MARSHALL ARTHUR RAUCH HWY 65' BST

H. EDWARD JACKSON
DB 3258 PG 74
PB 7 PG 73

DARYLL S. TATE
ESTATE FILE 14E PG 1299
DB 5363 PG 1
DB 5363 PG 4
PB 7 PG 73

COFFEY REVOCABLE LIVING TRUST
DB 4055 PG 72
DB 4075 PG 72
DB 4075 PG 72

MARK M. MITCHEM
DB 4760 PG 49

H. EDWARD JACKSON
DB 3258 PG 74
PB 7 PG 73

ISMTLBUS

SAN JUAN 345
DB 4658 PG 1632

RETSOD HOLDINGS, LLC
DB 4909 PG 840
PB 81PG 101

HOWARD WAGNER
SANITA WAGNER
DB 1252 PG 804
PB 5 PG 101

INTERNATIONAL EXPRESS HOLDINGS, INC.
DB 4902 PG 158
PB 1PG 32

PROJECT REFERENCE NO.	SHEET NO.
I-5719	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

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-Y5- PRC STA. 22+32.18
-Y5A- PT STA. 18+79.59
-Y5A- PRC STA. 15+30.25
-Y5- PRC STA. 25+44.92
-Y5B- PC STA. 10+00.00 = -Y5- POC STA. 27+36.71
END CONSTRUCTION -Y5B- Sta. 12+70.00
-Y5- SR 2329 (S. MAIN ST)
-Y5- PRC STA. 29+21.16
-Y5B- PT STA. 13+00.56 -SVRD3- POT Sta. 10+00.00
-SVRD3- BEGIN CONSTRUCTION Sta. 10+50.00
-Y5RPA- POT STA. 25+76.16 = -Y5RAB2- STA. 12+28.20, 36.00' RT
-Y5RPA- PT STA. 25+64.12
-Y5RPA- PRC STA. 24+88.07
-SVRD3- END CONSTRUCTION Sta. 17+25.00
-Y5RPA- PRC STA. 23+42.92
-SVRD3- PT Sta. 15+61.60
-Y5RPA- POT STA. 10+00.00
-SVRD3- POT Sta. 21+37.01
-Y5RPA- PT STA. 16+82.94
-Y5RPA- PT STA. 16+32.81
-Y5LPA- SC STA. 11+92.00
-Y5RPA- TS STA. 14+31.85
-L- CS Sta. 368+39.07
-Y5RPA- SC STA. 16+23.85
-L- ST Sta. 368+39.07
-Y13- SR 2213 (GROVES ST)
-Y13- PC Sta. 18+98.22
-Y13- PT Sta. 18+97.65
-Y13- PRC Sta. 22+47.23
-Y13- BEGIN CONSTRUCTION -Y13- Sta. 15+75.00
MATCHLINE -L- STA 352+00 (SEE SHEET 19)
MATCHLINE -L- STA 379+00 (SEE SHEET 21)
-Y5LPD- TS STA. 13+60.37
-Y5LPD- PT STA. 21+73.36 = -Y5RB3- STA. 12+16.86, 36.00' RT
-Y5LPD- PCC STA. 21+37.39
-Y5LPD- PCC STA. 19+87.74
-Y5LPA- ST STA. 10+00.88
-Y5LPD- SC STA. 15+52.37
-Y5RPD- POT STA. 10+00.00
-Y5RPD- TS STA. 14+75.01
-Y5RPD- SC STA. 16+67.01
-Y13A- POT Sta. 18+09.67
-Y13A- PT Sta. 17+52.76
-Y13A- PC Sta. 17+26.66
-Y13A- PT Sta. 13+22.05
-Y13A- PC Sta. 10+00.00
-Y13B- PC Sta. 10+00.00
-Y13A- PC Sta. 14+72.23
-Y13B- PT Sta. 10+68.02
-Y13- PRC Sta. 32+21.93
-Y13A- PT Sta. 15+45.15
-Y13- PRC Sta. 30+47.93
PROP CONCRETE MEDIAN BARRIER
A
D

PROJECT REFERENCE NO.	SHEET NO.
I-5719	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

380 -L-

385 -L-

390 -L-

-Y6RPB- ST Sta. 10+00.00

-Y6RPB- SC Sta. 11+80.00

L_38200L

L_38408L

L_38938L

L_39200L

RWAL9_B-1

CAT-1

GREU TL-3

60'

48'

26'

12'

MATCHLINE -L- STA 379+00
(SEE SHEET 20)

MATCHLINE -L- STA 393+00
(SEE SHEET 22)

L_38000R

L_38376R

L_38700R

L_39200R

-Y6RPC- ST Sta. 10+00.00

-Y6

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PROJECT REFERENCE NO.	SHEET NO.
I-5719	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

B

A

-Y6RPB- PT Sta. 20+35.51

-Y6RPB- SC Sta. 17+81.38

-Y6RPB- TS Sta. 15+81.38

-Y6RPB- ST Sta. 15+32.10

-Y6- POT Sta. 15+48.00=
-POWERDR- PT Sta. 16+93.16

-Y6- PT Sta. 16+16.14

-Y6- POT Sta. 19+27.90=
-Y6RPA- POT Sta. 29+61.57
-Y6RPB- POT Sta. 22+36.13

-Y6 -Y6RPA- PT Sta. 24+35.2

-L- POS STA. 403+69.42 =
-Y6- POT STA. 21+72.88
Δ = 41°56'01"

-Y6- POT Sta. 26+10.00=
-Y6RPD- POT Sta. 21+26.36

-Y6RPC- CS Sta. 17+97.70

-Y6RPB- CS Sta. 13+52.10

-Y6RPC- ST Sta. 19+77.70

-Y6RPC- TS Sta. 20+63.68

-Y6RPC- SC Sta. 22+03.68

-Y6RPC- 15+00

RPC- SC Sta. 11+80.00

RWAL9_B-1
RWAL9_B-2
RWAL9_B-3
RWAL9_B-4
RWAL9_B-5
RWAL9_B-6 F
TYPE B-77
RWALII_B-1
RWALII_B-2
RWALII_B-3
RWALII_B-4
RWALI2_B-2
RWALI2_B-3
RWALI2_B-4
RWALI2_B-5
RWALI2_B-6
RWALIO_B-1
RWALIO_B-2
RWALIO_B-3
RWALIO_B-4
RWALIO_B-5
RWALIO_B-6
RWALIO_B-7
RWALIO_B-8
RWALIO_B-9
Y6RPC_1350R
Y6RPC_2500L
Y6/L_1645L
Y6/L_EBI-A
Y6/L_EBI-B
Y6/L_BI-A
Y6/L_BI-B
Y6/L_EB2-A
Y6/L_EB2-B
POWERDR_1275L

14' SHLD
12' FDPS
PROP. CONCRETE MEDIAN BARRIER
5' SIDEWALK
2'-6" CONC C&G
CONCRETE BARRIER
GREU TL-3 TYPE B-77
CAT-1

400+00 -L-
395+00 -L-
405+00 -L-
20+00

MATCHLINE -L- STA 393+00
(SEE SHEET 21)

MATCHLINE -L- STA 407+00
(SEE SHEET 23)

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9/28/2023
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mbrewer

PROJECT REFERENCE NO.	SHEET NO.
I-5719	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

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-Y6RPA- 20+00

-L- 410

-L- 415

-Y6RPA- 15+00

-L- 420

BEGIN RET. WALL -Y6RPA- 23+20.00

-Y6RPA- SC Sta. 16+42.06

-Y6RPA- CS Sta. 13+62.06

Y6RPA_2000

Y6RPA_2250

Y6RPA_1750

Y6RPA_1500

L_41900L

L_42100L

CAT-1

GREU TL-3

RWALI2_B-2

RWALI2_B-1

TAPER

TYPE B-77

-L- SC Sta. 410+45.01

MATCHLINE -L- STA 407+00 (SEE SHEET 22)

MATCHLINE -L- STA 421+00 (SEE SHEET 24)

-L- TS Sta. 407+45.01

PC Sta. 24+69.72

Y6RPD_2050R

Y6RPD_1800L

Y6RPD_1550

Y6RPD_1310L

L_41700R

L_41900R

-Y6- 30+00

-Y6RPD- PT Sta. 18+63.69

-Y6- POT Sta. 26+24.14=

-Y6RPC- POT Sta. 26+76.60=

-Y6RPD- PT Sta. 14+25.06

-Y6RPD- PC Sta. 15+56.36

-L- ST

-Y6RPD- ST Sta. 10+00

-L- CS Sta. 417+05.56

-Y6RPD- SC Sta. 12+00.00

-Y6RPC- 15+00

-Y6- PT Sta. 26+48.34

-Y6- POT Sta. 31+52.86

S 71° 41' 44.6" E

55° 53' 17.3" E

6" CURB

CONC ISL

36'

24'

5' SIDEWALK

2'-6" CONC C&G

D

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C:\Users\mbrewer\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0167 - I-5719 I-85_NCDOT GEU\I-5719 RDY\CADD_GEOTECH\PlanProf\I-5719_PSH 23.dgn
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PROJECT REFERENCE NO.	SHEET NO.
I-5719	24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

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425 -L-

430 -L-

-L- PT Sta. 429+00.01

-L- PC Sta. 425+08.14

BEGIN BRIDGE WIDENING
-L- STA. 430+28.76

285' EOT TAPER

+93.14

L_42100L

L_42300L

L_42600L

L/SFCR_BI-A

L/SFCR_B2-A

L/SFCR_B3-A

L/SFCR_B4-A

L/SFCR_EBI-A

MATCHLINE -L- STA 421+00
(SEE SHEET 23)

MATCHLINE -L- STA 435+00
(SEE SHEET 25)

L/SFCR_EBI-B

L/SFCR_BI-B

L/SFCR_B2-B

L/SFCR_B3-B

L_42300R

300' LANE TAPER

+79.48

L_42800R

Sta. 420+05.56

BEGIN BRIDGE WIDENING
-L- STA. 430+78.72

I85 SEN MARSHALL ARTHUR RAUCH HWY 54.5' BST

I85 SEN MARSHALL ARTHUR RAUCH HWY 53' BST

SELKIRK REALTY, LLC
DB 5028 PG 2448

DYNAMO 31 PROPERTIES, LLC
DB 5258 PG 237
PB 92 PG 59

BELMONT LAND & INVESTMENT COMPANY, LLC
DB 5258 PG 237
DB 4532 PG 771
PB 92 PG 59

DICKSON RD 23' BST

WOODS

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PROJECT REFERENCE NO.	SHEET NO.
I-5719	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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440 -L-

445 -L-

-L- PC Sta. 443+44.10

-L- PRC Sta. 447+97.54

INSIDE MCADENVILLE TOWN LIMITS

SOUTH FORK CATAWBA RIVER

SOUTH FORK CATAWBA RIVER

END BRIDGE WIDENING
-L- STA. 439+99.56

BELMONT LAND & INVESTMENT COMPANY, LLC
DB 358 PG 555

L/SFCR_B5-A

L/SFCR_B7-A

L/SFCR_EB2-A
TYPE B-77

L/SFCR_EB2-B

L/SFCR_B6-B

L/SFCR_B7-B

L/SFCR_B4-B

L/SFCR_B5-B

L_44200L

L_44400L

L_44600L

L_44800L

L_44400R

L_44600R

L_44800R

GREU TL-3

CAT-1

PROP. CONCRETE MEDIAN BARRIER

185 SEN MARSHALL ARTHUR RAUCH HWY 56' BST

HPB

MATCHLINE -L- STA 435+00
(SEE SHEET 24)

MATCHLINE -L- STA 449+00
(SEE SHEET 26)

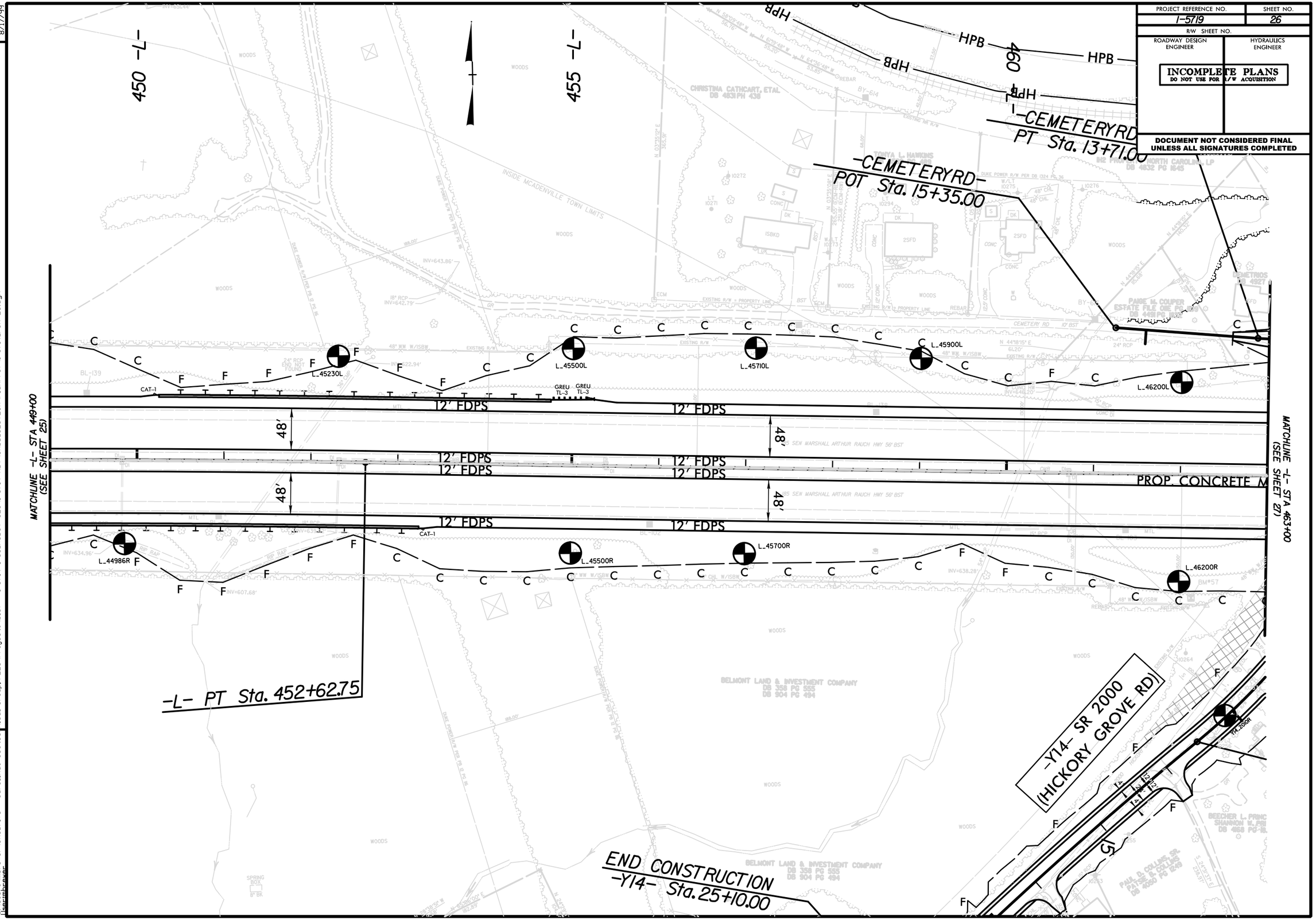
WOODS

BELMONT LAND & INVESTMENT COMPANY
DB 358 PG 555
DB 504 PG 494

PROJECT REFERENCE NO.	SHEET NO.
I-5719	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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PROJECT REFERENCE NO.	SHEET NO.
I-5719	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

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-Y14- PC Sta. 11+36.32

-CEMETERYRD- PC Sta. 10+76.64

-Y14- POC Sta. 13+77.31=
-CEMETERYRD- POT Sta. 10+00.00
-Y14- PT Sta. 14+44.26

-L- POS STA. 464+74.46 =
-Y14- POT STA. 16+57.44
Δ = 54°03'06"

-Y14- PC Sta. 18+73.18

-Y14- PRC Sta. 20+53.99

-L- POT Sta. 474+00.00= -Y14- POT Sta. 474+00.00

465 -L-

470 -L-

475 -SBL2- 475 -NBL3- 475 -L-

MATCHLINE -L- STA 463+00 (SEE SHEET 26)

MATCHLINE -L- STA 477+00 (SEE SHEET 28)

MEDIAN BARRIER

I85 SEN MARSHALL ARTHUR RAUCH HWY 55.5' BST

I85 SEN MARSHALL ARTHUR RAUCH HWY 56' BST

I85 SEN MARSHALL ARTHUR RAUCH HWY 58' BST

CEMETERYRD_I250

GREU TL-3

CAT-1

YI4_I300

YI4/L_BI-A

YI4/L_BI-B

YI4/L_EB2-A

YI4/L_EB2-B

L_46700L

L_46900L

L_47100L

L_47300L

L_47500L

L_47700L

L_46700R

L_46900R

L_47100R

L_47300R

L_47700R

CAROLINA WATER SERVICE, INC. DB 13511 PG 333

WAT LUANGPHOR PHANGAO BUDDHARAM BUDDHIST TEMPLE, INC. DB 5008 PG 307

ANDREW ESPINOLA, JR. DB 5239 PG 676

HOWARD G. OAKLEY DB 1130 PG 220

CHRISTOPHER L. KLASSETTE CHRISTIE L. KLASSETTE DB 5081 PG 324 PB 15 PG 35

JAMES W. WHITLOCK ANGELA S. WHITLOCK DB 4491 PG 1995 PB 15 PG 35

GEORGE R. BELCHER, JR. LIFE ESTATE DB 4941 PG 736 PB 15 PG 33

JIMMY R. PAYNE NANCY L. PAYNE DB 4932 PG 1128 PB 15 PG 34

SR 2099 HILLCREST DR

15719-21

PROJECT REFERENCE NO.	SHEET NO.
I-5719	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-480 -L-

-485 -L-

-SBL2- TS Sta. 485+78.42

-SBL2- SC Sta. 488+78.42

MATCHLINE -L- STA 477+00 (SEE SHEET 27)

MATCHLINE -L- STA 491+00 (SEE SHEET 28)

-NBL3- PC Sta. 477+35.55

-L- PC Sta. 481+09.90

END BARRIER, +49.89 -NBL3, 37.5' LT

L-47700L

L-47900L

L-48427L

L-48700L

L-48400

L-47700R

L-47900R

L-48160R

L-48400R

L-48700R

L-49000R

CAT-1

GREU TL-3

CIM PROPERTIES, LP
DB 3332 PG 405

DMG ROAD WORKS, LLC
DB 4857 PG 417

IAN J. MACKIN
OLLY M. HOLT-MACKIN
DB 3388 PG 695
PB 27 PG 57

EUGENE YOUNG
MARGARET YOUNG
DB 1234 PG 744
PB 27 PG 57

CHARLES P. FLOWERS
DB 5139 PG 280
PB 15 PG 34
PB 21 PG 57

SCOTT A. SIMPSON
LYNDA W. SIMPSON
DB 5036 PG 55
PB 15 PG 34

ROBERT R. JOHNSTON HEIRS
DB 78 PG 592

CHARLES B. FLOWERS, JR.
KIMBERLY M. FLOWERS
DB 5864 PG 2123
DB 5864 PG 2126
PB 15 PG 34

CHARLES B. FLOWERS, JR.
DB 2171 PG 580
PB 15 PG 34

CHARLES B. FLOWERS, JR.
KIMBERLY M. FLOWERS
DB 4875 PG 674
PB 15 PG 34

INSIDE BELMONT CITY LIMITS

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
I-5719	29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

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-L- STA 49100
MATCHLINE -L- STA 49100 (SEE SHEET 28)

-L- STA 50500
MATCHLINE -L- STA 50500 (SEE SHEET 30)

-SBL2- CS Sta. 5

495 -L-

500 -L-

-L-

185 SEN MARSHALL ARTHUR RAUCH HWY 57' BST

185 SEN MARSHALL ARTHUR RAUCH HWY 56' BST

VALLEN BELMONT REAL ESTATE, LLC
DB 5018 PG 1502
PB 57 PG 90

ALLEN J MAXWELL
DB 120 PG 635

LOYAL ORDER OF MOOSE, INC.
DB 1159 PG 235
PB 80 PG 103

LOYAL ORDER OF MOOSE, INC.
DB 1159 PG 235
PB 80 PG 103

L_49200L
CAT-1
CULV21_B-2
GREU TL-3
L_49700L
L_50000L
L_50190L
L_50500L
L_49200R
CULV21_B-1
CAT-1
L_49700R
L_50000R
L_50200R
L_50500R

CULVERT #21
ONE BARREL

	NORTH	EAST	ELEV.
CUL1	557108.09	1385502.42	603.71
CUL2	557106.07	1385510.16	603.78
CE1	557107.34	1385506.17	611.65
HW1	557107.07	1385506.27	613.76
CUL3	557472.22	1385505.21	607.24
CUL4	557470.48	1385513.52	607.17
CE2	557470.79	1385509.62	615.18
HW2	557471.25	1385509.55	617.31

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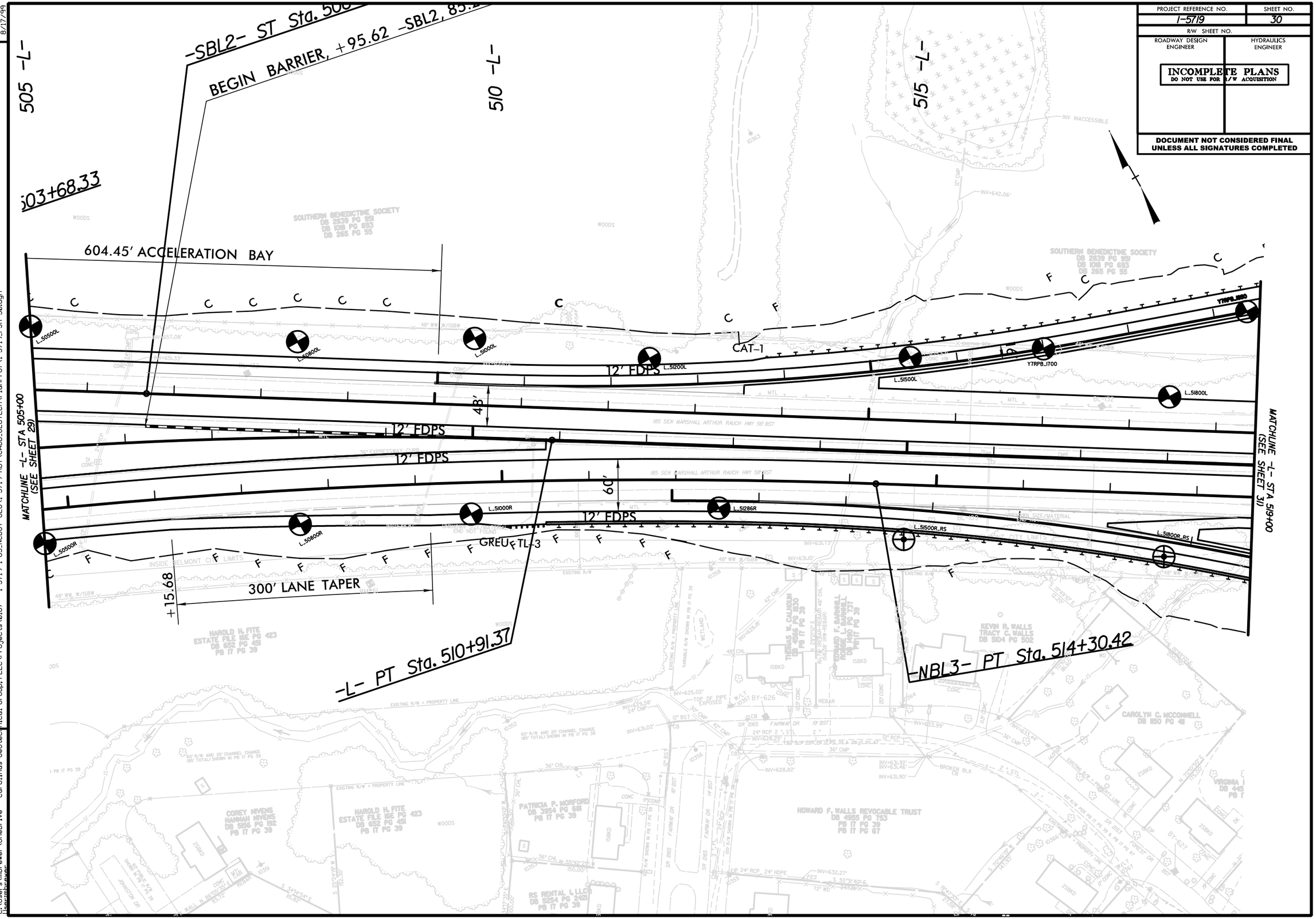
PROJECT REFERENCE NO.	SHEET NO.
I-5719	30
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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User:mbrewer

PROJECT REFERENCE NO.	SHEET NO.
I-5719	31
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

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MATCHLINE -Y7- STA 39+15.64
(SEE SHEET 36)

520 -SBL2-
520 -L-
525 -L-
530 -L-
535 -L-
540 -L-
545 -L-

-NBL3- POT Sta. 519+64.69
-SBL2- POT Sta. 520+45.47

-L- TS Sta. 541+17.05

-L- SC Sta. 544+17.05

MATCHLINE -L- STA 519+00
(SEE SHEET 30)

MATCHLINE -L- STA 547+00
(SEE SHEET 32)

-Y7- SR 2093
(BELMONT MT HOLLY RD)

PROP CONCRETE MEDIAN BARRIER

300' EOT TAPER

300' EOT TAPER RT

100' EOT TAPER RT

100' TAPER

GREU TL-3

CAT-1 8:1

12" FDPS

24' | 24'

48'

36'

38' R

2:40' R

Y7-4700
Y7-4600
Y7-4460
Y7-3960
Y7RPB_2450
Y7RPB_2700
Y7RPB_2200
Y7RPA_2250
Y7RPA_2000
Y7RPA_1767
Y7RPA_1500
Y7RPC_2900L
Y7RPC_2400
Y7RPC_2650
Y7/L_EBI-A
Y7/L_EBI-B
Y7/L_BI-A
Y7/L_BI-B
Y7/L_EB2-A
Y7/L_EB2-B
Y7LPD_1300
Y7RPD_2000
Y7-5300L
Y7-5550L
Y7-5800L
Y7-6000L
Y7-6200
Y7-6400
Y7-6600
Y7-6800
Y7-7000
L_52010L
L_52215L
L_52300R
L_52000R_RS
L_52600L
L_53200L
L_53300L
L_53753L
L_53400R
L_53800R
L_54000R
L_54200R
L_54400R
L_54200L
350150_EBI-A
350150_EBI-B
350150_BI-A
350150_BI-B
350150_EB2-B
350150_EB2-A

Ⓐ MATCHLINE -Y7- STA 70+00
(SEE SHEET 37)

PROJECT REFERENCE NO.	SHEET NO.
I-5719	32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L- 550

-L- 555

-L- ST Sta. 560

-L- CS Sta. 557+97.84

MATCHLINE -L- STA 547+00 (SEE SHEET 31)

MATCHLINE -L- STA 560+00 (SEE SHEET 33)

L_54800L

L_55100L

L_55300L

L_55600L

L_55900L

L_55900R

L_55612R

L_55300R

RWALI3_B-1

RWALI3_B-2

RWALI3_B-3

RWALI3_B-4

RWALI3_B-5

14' FDPS

+25.90 INC.

EXST

SOUTHERN BENEDICTINE SOCIETY DB 255 PG 55 PB 74 PG 74

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PROJECT REFERENCE NO.	SHEET NO.
I-5719	33
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L- STA 560+97.84

MATCHLINE -L- STA 560+00 (SEE SHEET 32)

MATCHLINE -L- STA 574+00 (SEE SHEET 34)

L-56200L

L-56500L

L-56900L

L-57200L

L-56200R

L-56500R

L-56700R

L-56900R

L-57200R

12' FDPS

12' FDPS

12' FDPS

12' FDPS

60'

60'

565 -7-

570 -7-

SOUTHERN BENEDICTINE SOCIETY
DB 265 PG 55
PB 1PG 22

LW AT MONTCROSS, LLC
DB 434 PG 2100
PB 74 PG 74

WM AT MONTCROSS, LLC
DB 434 PG 2059
PB 74 PG 74

185 SEN MARSHALL ARTHUR RAUCH HWY 68.5' BST

EASEMENT PER DB 1254 PG 775

RIP RAP

WOODS

ISBLKBUS

ISBKBUS

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
I-5719	34
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L- STA 575+00

-L- STA 580+00

-L- STA 585+00

-Y8RPB- 15+00

-Y8RPC- 15+00

MATCHLINE -L- STA 574+00 (SEE SHEET 33)

MATCHLINE -L- STA 588+00 (SEE SHEET 35)

L_57500L

L_57800L

L_58100L

L_58400L

L_58700L

L_57500R

CAT-1 L_57800R

L_58100R

GREU TL-3

Y8RPC_I300R

CAT-1

PROP. CONCRETE ME

FDPS

SOUTHERN BENEDICTINE SOCIETY DB 265 PG 55 PB 74 PG 74

WW AT MONTCROSS, LLC DB 4314 PG 2059 PB 74 PG 74

WOODS

REVISIONS

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mbrewer

PROJECT REFERENCE NO.	SHEET NO.
I-5719	35
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

590 -L-

595 -L-

600

N 68° 45' 03.1" E

N 87° 37' 07.3" E

S 70° 57' 49.9" E

250' TAPER TO EXISTING

0' EOT
PER LT/RT

L_59000L

L_59300L

12' FDPS

48'

12' FDPS

12' FDPS

DIAN BARRIER

MATCHLINE -L- STA 588+00
(SEE SHEET 34)

12' FDPS

L_59000R

L_59300R

75' FDPS
TAPER

Y8RPC_I550R

0' EOT TAPER LT/RT

INSIDE MOUNT HOLLY CITY LIMITS
INSIDE BELMONT CITY LIMITS

SOUTHERN BENEDICTINE SOCIETY
DB 5252 PG 194

MARK A. DUNCAN
DB 3938 PG 984

I85 SEN MARSHALL ARTHUR RAUCH HWY 70' BST

I85 SEN MARSHALL ARTHUR RAUCH HWY 68' BST

OFF RAMP BST VARIES

ON RAMP 315' BST

OFF RAMP 345' BST

NC HWY 273 BEATTY DR 365' BST

NC HWY 273 BEATTY DR 48' BST

144 ST

12 ST

30 ST

360 ST

REVISIONS

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9/28/2023
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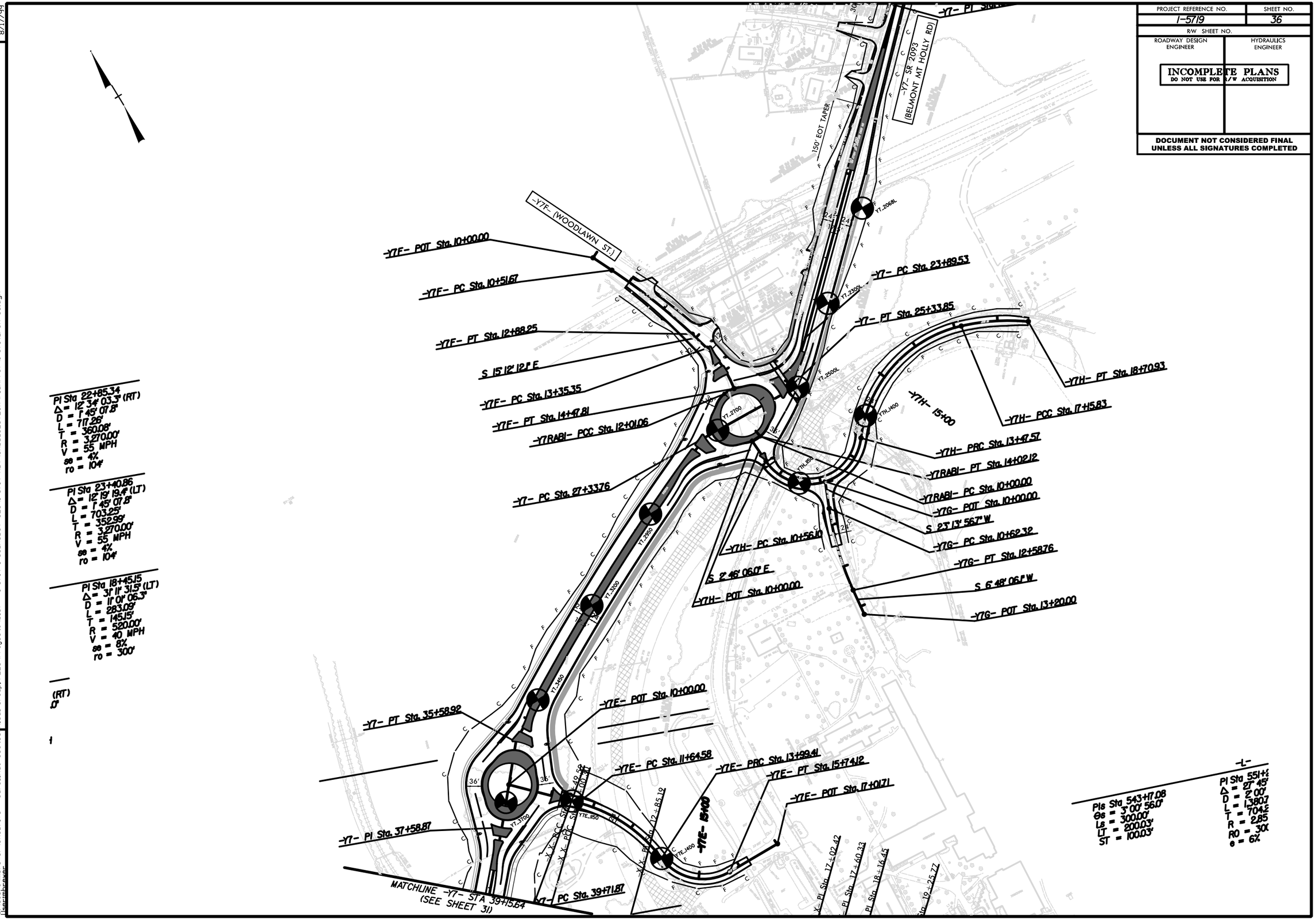
mbrewer

PROJECT REFERENCE NO.	SHEET NO.
I-5719	36
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



REVISIONS

8/17/99

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User:mbrewer

PROJECT REFERENCE NO.	SHEET NO.
I-5719	37
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

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mbrewer

S 85° 06' 05.4" E
-Y7B- PT Sta. 33+80.50
S 66° 50' 38.9" E
-Y7DRWY1- PC Sta. 10+03.87
-Y7DRWY1- PI Sta. 10+80.23
-Y7DRWY1- PT Sta. 11+48.39
END CONSTRUCTION
-Y7DRWY1- STA 11+75.00
N 88° 07' 16.7" E
-Y7DRWY1- POT Sta. 12+46.14
S 84° 10' 45" E
5.40
+72.49
55.48 = 10+00.00
18+46.05
45° 47.8' W
MATCHLINE -Y7- STA 70+00 (SEE SHEET 31)
24" RCP
+58.00
24" RCP
Y7_7200
Y7_7400
Y7_7600
Y7_7750R
-Y7- PC Sta. 73+50.12
-Y7- POT Sta. 74+18.43 = -Y7D- POT Sta. 18+92.78
-Y7- PT Sta. 77+33.70
150' TAPER
32.00'
-Y7A- PCC Sta. 241+51.13
-Y7- POT Sta. 78+97.54
-X X- PI Sta. 43+38.19
-X X- PI Sta. 44+38.19
-X X- POT Sta. 45+48.42
150' TAPER
100' EQ TAPER
33'
-Y7A- PT Sta. 35+62.80
150' TAPER
50.00'
C6LV22_B-1
-Y7C- POT Sta. 10+00.00
S 3° 20' 47.2" E
-Y7C- PC Sta. 10+21.73
-Y7C- PCC Sta. 14+08.56
-Y7C- PCC Sta. 15+43.12
N 74° 30' 16.3" E
N 63° 35' 36.4" E
S 50° 36' 7" E
-Y7A- PC Sta. 15+48.46
-Y7C- PT Sta. 22+18.49
S 27° 59' 31.9" E
-Y7C- POT Sta. 27+25.93

PROJECT REFERENCE NO.	SHEET NO.
I–5719	38

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

APPENDIX A
BORELOGS, CORE LOGS, AND ROCK CORE PHOTOS

BORELOGS
(RDWY, CULV, RWAL) – SHEETS 39 – 288

BORELOGS, CORELOGS, AND ROCK CORE PHOTOS
(BRDG) – SHEETS 289 – 400

REFERENCE: I–5719

PROJECT: 50135

Prepared in the Office of:
CAROLINAS GEOTECHNICAL GROUP
2400 CROWNPOINT EXECUTIVE DRIVE
SUITE 800
CHARLOTTE, NC 28227
(980) 339-8684

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_8600R	**STATION** 82+50	**OFFSET** 70 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 740.4 ft	**TOTAL DEPTH** 7.5 ft	**NORTHING** 565,127	**EASTING** 1,347,497	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE N/A		**DRILL METHOD** Hand Auger	**HAMMER TYPE** N/A	
DRILLER P. Tomasic	**START DATE** 08/11/23	**COMP. DATE** 08/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745											
										740.4	TOPSOIL = 3 INCHES 0.0
740											**ROADWAY EMBANKMENT**
											Soft to Medium Stiff, Red-Brown-Gray, Fine Sandy, Silty CLAY (A-6), with trace organics and gravel
										736.4	4.0
735										735.4	Medium Stiff, Red-Brown-White, Clayey, Fine Sandy SILT (A-5), with trace mica and quartz fragments 5.0
										733.4	7.0
										732.9	Loose to Medium Dense, Brown-Gray-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica and gravel 7.5
											ALLUVIAL
											Soft to Medium Stiff, Gray-Tan, Silty, Fine Sandy CLAY (A-6), with trace to little mica and wood fragments
											Boring Terminated at Elevation 732.9 ft In Alluvial Sandy CLAY (A-6)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_8250R	**STATION** 86+00	**OFFSET** 112 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 722.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 564,944	**EASTING** 1,347,798	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE N/A		**DRILL METHOD** Hand Auger	**HAMMER TYPE** N/A	
DRILLER P. Tomasic	**START DATE** 08/11/23	**COMP. DATE** 08/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										
										722.9 TOPSOIL = 2 INCHES 0.0
720										**ROADWAY EMBANKMENT**
										720.9 Soft to Medium Stiff, Brown-Tan-Orange, Fine Sandy CLAY (A-6), with trace organics, mica, and gravel 2.0
715										**RESIDUAL**
										Loose to Medium Dense, Orange-Pink-Tan-Brown, Silty Fine to Coarse SAND (A-2-4), with trace mica
										712.9 10.0
										Boring Terminated at Elevation 712.9 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_8600L	**STATION** 86+00	**OFFSET** 90 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 731.7 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 565,128	**EASTING** 1,347,882	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
735										
										731.7 TOPSOIL = 4 INCHES 0.0
730	730.7	1.0	6	2	3	5 39 16 7	SS-6025	12%		**ROADWAY EMBANKMENT** Loose, Gray-Orange-Brown, Silty Fine to Coarse SAND (A-2-4), with trace mica
	728.2	3.5	2	2	37			M		
725	725.7	6.0	5	5	11			M		
	723.2	8.5	4	4	3			M		721.7 10.0 Boring Terminated at Elevation 721.7 ft In Roadway Embankment Silty Sand (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_8800L	**STATION** 88+00	**OFFSET** 145 ft LT	**ALIGNMENT** -L-	**0 HR.** 37.8
COLLAR ELEV. 743.5 ft	**TOTAL DEPTH** 50.0 ft	**NORTHING** 565,098	**EASTING** 1,348,083	**24 HR.** 36.3
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
745										
	742.5	1.0								743.5 TOPSOIL = 4 INCHES 0.0
			4	5	5	10	SS-6013	22%		**RESIDUAL** Stiff, Red-Brown, Fine to Coarse Sandy, Silty
740	740.0	3.5	3	3	6	9		M		740.5 CLAY, Moderately Plastic, (A-7-5(6)) 3.0
	737.5	6.0								Stiff, Orange-Red-Brown, Clayey, Fine to
			1	2	2	4		M		738.0 Coarse Sandy SILT (A-5) 5.5
735	735.0	8.5								Very Loose to Medium Dense,
			3	3	3	6		M		Orange-Black-White-Tan, Silty Fine Coarse
730	730.0	13.5								SAND (A-2-4), with trace mica
			5	4	5	9		M		
725	725.0	18.5								
			4	5	6	11		M		
720	720.0	23.5								
			4	4	5	9		M		
715	715.0	28.5								
			6	7	8	15		M		
710	710.0	33.5								
			3	4	6	10		M		
705	705.0	38.5								706.5 37.0
			2	3	5	8		W		Medium Stiff to Stiff,
700	700.0	43.5								White-Black-Orange-Tan, Fine to Coarse
			3	4	5	9		W		Sandy SILT (A-4), with trace mica
695	695.0	48.5								
			3	5	7	12		W		693.5 50.0 Boring Terminated at Elevation 693.5 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL1_B-1	**STATION** 91+75	**OFFSET** 99 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 738.0 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 564,753	**EASTING** 1,348,362	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										ELEV. (ft) DEPTH (ft)
	737.0	1.0								738.0 GROUND SURFACE 0.0
			5	7	7	14		M		**RESIDUAL**
735	734.5	3.5								Medium Dense, Tan, Silty SAND (A-2-4), with trace mica 735.0 3.0
			7	6	7	13	SS-3344	20%		Stiff, Red-Brown, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-6(10))
	732.0	6.0								
			3	5	7	12		M		
730	729.5	8.5								
			4	5	6	11		M		728.0 10.0
										Boring Terminated at Elevation 728.0 ft In Residual Sandy CLAY (A-7-6)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_9200L	**STATION** 92+00	**OFFSET** 146 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 754.5 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 564,987	**EASTING** 1,348,438	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
755										
	753.5	1.0								754.5 GROUND SURFACE 0.0
			3	5	7	12	SS-4989	25%		**RESIDUAL**
750	751.0	3.5								Stiff, Red-Brown, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-5(13)) 751.5 3.0
			4	5	6	11		M		Medium Stiff to Very Stiff, Red-Brown-Gray-Orange-White, Sandy SILT (A-4), with trace mica
	748.5	6.0								
			3	4	5	9		D		
745	746.0	8.5								
			2	4	4	8		D		
	741.0	13.5								
740			3	6	11	17		D		
	736.0	18.5								
735			4	5	8	13		D		
	731.0	23.5								
730			5	5	7	12		D		
	726.0	28.5								
725			4	5	6	11		D		
	721.0	33.5								
720			4	6	7	13		M		
	716.0	38.5								
715			4	4	7	11		M		714.5 40.0
										Boring Terminated at Elevation 714.5 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_9400L	**STATION** 94+00	**OFFSET** 132 ft LT	**ALIGNMENT** -L-	**0 HR.** 24.8
COLLAR ELEV. 754.0 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 564,945	**EASTING** 1,348,620	**24 HR.** 33.4
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
755										
	753.0	1.0								754.0 GROUND SURFACE 0.0
			4	4	4	8		M		**RESIDUAL** Medium Stiff, Red-Brown, Sandy, Silty CLAY (A-6)
750	750.5	3.5								751.0 3.0
			2	2	5	7		M		Medium Stiff, Red-Brown, Sandy SILT (A-4)
	748.0	6.0								748.5 5.5
			3	4	5	9		M		Stiff, Red-Brown, Sandy, Silty CLAY (A-6)
745	745.5	8.5								746.0 8.0
			3	4	6	10	SS-4982	21%		Stiff, Red-Brown, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-5(9))
740	740.5	13.5								742.0 12.0
			3	4	6	10		D		Loose, Gray-Brown-Orange, Silty SAND (A-2-4)
735	735.5	18.5								735.0 19.0
			6	4	96/0.4	100/0.9				733.5 20.5 **WEATHERED ROCK** Gray-White-Black, (GRANITE)
730	730.5	23.5								**RESIDUAL** Medium Dense, Gray-Brown-White-Black, SAND (A-3), with some mica and iron staining
			19	17	11	28		D		
725	725.5	28.5								
			5	5	7	12		M		
720	720.5	33.5								
			5	6	8	14		M		
715	715.5	38.5								
			5	8	10	18		M		714.0 40.0 Boring Terminated at Elevation 714.0 ft In Residual SAND (A-3)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_9400R	**STATION** 94+00	**OFFSET** 100 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 738.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 564,714	**EASTING** 1,348,595	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
	737.6	1.0								738.6 TOPSOIL = 3 INCHES 0.0
			6	5	6	11		M		**ROADWAY EMBANKMENT** Stiff, Brown-Tan, Sandy SILT (A-4)
735	735.1	3.5								735.6 3.0
			3	4	3	7		M		**RESIDUAL** Loose to Medium Dense, Tan, Silty SAND (A-2-4), with trace mica
	732.6	6.0								
			4	4	6	10		M		
730	730.1	8.5								
			4	5	6	11		M		728.6 10.0 Boring Terminated at Elevation 728.6 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_9500L	**STATION** 95+00	**OFFSET** 144 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 762.8 ft	**TOTAL DEPTH** 17.5 ft	**NORTHING** 564,949	**EASTING** 1,348,714	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
765											
										762.8 GROUND SURFACE	0.0
	761.8	1.0								**RESIDUAL**	
760			8	8	10	18	SS-4973	19%		Very Stiff, Red-Brown, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-6(7))	
	759.3	3.5								759.8	3.0
			5	5	6	11		M		Stiff, Red-Brown, Sandy SILT (A-4)	
	756.8	6.0								757.3	5.5
755			3	3	4	7		D		Loose, Orange-Brown-Gray, Silty SAND (A-2-4)	
	754.3	8.5									
			4	3	5	8		D			
750											
	749.3	13.5									
			2	4	4	8		M			
	745.3	17.5								745.3	17.5
			60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 745.3 ft On Crystalline Rock (GRANITE)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_9600L	**STATION** 96+00	**OFFSET** 166 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 773.8 ft	**TOTAL DEPTH** 32.0 ft	**NORTHING** 564,968	**EASTING** 1,348,806	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
775										
										773.8 GROUND SURFACE 0.0
	772.8	1.0								**WEATHERED ROCK**
			60	40/0.1		100/0.6				Gray-White-Orange-Brown, (GRANITE)
770	770.3	3.5								770.8 3.0
			52	29	8	37		D		**RESIDUAL**
	767.8	6.0								Dense, White-Orange-Brown, Fine to Coarse SAND (A-3) 767.8 6.0
			100/0.3			100/0.3				**WEATHERED ROCK**
765	765.3	8.5								White-Gray, (GRANITE)
			4	3	97/0.4	100/0.9				
760	760.3	13.5								
			4	96/0.2		100/0.7				
										756.8 17.0
755	755.3	18.5								**RESIDUAL**
			5	5	5	10	SS-4969	16%		Loose, White-Gray-Brown, Silty Fine to Coarse SAND (A-2-4)
750	750.3	23.5								
			3	4	4	8		D		
745	745.3	28.5	60/0.0			60/0.0				745.3 28.5
										CRYSTALLINE ROCK
	741.8	32.0								White-Orange-Brown, (GRANITE)
			60/0.0			60/0.0				741.8 32.0
										Boring Terminated with Standard Penetration Test Refusal at Elevation 741.8 ft In Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_9709L	**STATION** 97+09	**OFFSET** 169 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 778.5 ft	**TOTAL DEPTH** 2.0 ft	**NORTHING** 564,973	**EASTING** 1,348,906	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
780										ELEV. (ft) DEPTH (ft)
										778.5 GROUND SURFACE 0.0
	777.5	1.0								**CRYSTALLINE ROCK**
	776.5	2.0	60/0.0			60/0.0				(GRANITE)
			60/0.0			60/0.0				776.5 2.0
										Boring Terminated with Standard Penetration Test Refusal at Elevation 776.5 ft In Crystalline Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_9800L	**STATION** 98+00	**OFFSET** 165 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 778.0 ft	**TOTAL DEPTH** 4.5 ft	**NORTHING** 564,975	**EASTING** 1,348,989	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
780										
										778.0 GROUND SURFACE 0.0
	777.0	1.0								**WEATHERED ROCK**
			18	82/0.4						Gray-Brown-Orange, (GRANITE)
775	774.5	3.5				100/0.9				774.5 3.5
	773.5	4.5	60/0.0			60/0.0				**CRYSTALLINE ROCK** 4.5
			60/0.0			60.0/0.0				(GRANITE)
										Boring Terminated with Standard Penetration Test Refusal at Elevation 773.5 ft In Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_9800R	**STATION** 98+00	**OFFSET** 110 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 744.7 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 564,701	**EASTING** 1,349,015	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745											
	743.7	1.0	3	5	4	9		M		744.7 TOPSOIL = 3 INCHES	0.0
	741.2	3.5								**RESIDUAL** Loose to Medium Dense, Pink-Tan, Silty SAND (A-2-4)	
740			3	4	3	7		M			
	738.7	6.0	3	4	6	10		M			
	736.2	8.5									
735			4	4	5	9		M		734.7	10.0
										Boring Terminated at Elevation 734.7 ft In Residual Silty SAND (A-2-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_9907L	**STATION** 99+07	**OFFSET** 152 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 775.7 ft	**TOTAL DEPTH** 2.0 ft	**NORTHING** 564,974	**EASTING** 1,349,089	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
780											
										775.7 GROUND SURFACE	0.0
775	774.7	1.0	100/0.5			100/0.5				**WEATHERED ROCK** White-Black, (GRANITE)	
	773.7	2.0	60/0.0			60/0.0				773.7	2.0
										Boring Terminated with Standard Penetration Test Refusal at Elevation 773.7 ft On Crystalline Rock (GRANITE)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_10000L	**STATION** 100+00	**OFFSET** 153 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 771.8 ft	**TOTAL DEPTH** 17.0 ft	**NORTHING** 564,989	**EASTING** 1,349,174	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
775										
										771.8 GROUND SURFACE 0.0
	770.8	1.0	6	5	8	13		M		**RESIDUAL** Medium Stiff to Very Stiff, Brown-Orange-White-Black, Clayey, Fine to Coarse Sandy SILT (A-4(0))
770	768.3	3.5	5	7	10	17		D		
	765.8	6.0	17	9	5	14	SS-4942	22%		
765	763.3	8.5	3	2	3	5		M		
										759.8 12.0
760	758.3	13.5	2	2	2	4	SS-4944	16%		Loose, Brown-Orange-White-Black, Silty Fine to Coarse SAND (A-2-4(0))
	754.8	17.0	60/0.0			60/0.0				754.8 17.0
755										Boring Terminated with Standard Penetration Test Refusal at Elevation 754.8 ft On Crystalline Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_10108L	**STATION** 101+08	**OFFSET** 144 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 769.5 ft	**TOTAL DEPTH** 45.0 ft	**NORTHING** 565,002	**EASTING** 1,349,273	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
770										769.5 GROUND SURFACE 0.0
	768.5	1.0	5	6	8	14		D		**RESIDUAL** Medium Stiff to Stiff, Orange-Gray-Brown, Sandy SILT (A-4), with some clay
765	766.0	3.5	5	5	8	13		D		
	763.5	6.0	3	4	3	7		D		
760	761.0	8.5	3	2	3	5		D		761.5 8.0
										Loose to Medium Dense, Gray-Orange-Brown-White-Black, Silty SAND (A-2-4)
755	756.0	13.5	2	3	3	6		D		
750	751.0	18.5	4	4	5	9		D		
745	746.0	23.5	3	4	5	9		D		
740	741.0	28.5	8	6	8	14		D		
735	736.0	33.5	5	5	6	11		D		
730	731.0	38.5	6	6	7	13		D		
725	726.0	43.5	9	8	11	19		D		724.5 45.0
										Boring Terminated at Elevation 724.5 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_10200L	**STATION** 102+00	**OFFSET** 132 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 758.9 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 565,013	**EASTING** 1,349,359	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
760										ELEV. (ft) DEPTH (ft)
	757.9	1.0	2	3	3	6		D		758.9 GROUND SURFACE 0.0
755	755.4	3.5	2	2	3	5		D		**RESIDUAL** Medium Stiff, Brown, Sandy SILT (A-4), with trace mica 3.0
	752.9	6.0	2	3	3	6		D		755.9 Loose to Medium Dense, Orange-Brown-Gray-Black, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments
750	750.4	8.5	2	3	3	6		D		
745	745.4	13.5	2	3	3	6	SS-4935	13%		
740	740.4	18.5	3	3	4	7		D		
735	735.4	23.5	5	5	5	10		D		
730	730.4	28.5	4	6	7	13		D		
725	725.4	33.5	4	5	7	12		D		723.9 35.0 Boring Terminated at Elevation 723.9 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_10200R	**STATION** 102+00	**OFFSET** 102 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 731.4 ft	**TOTAL DEPTH** 21.0 ft	**NORTHING** 564,788	**EASTING** 1,349,424	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										
										731.4 TOPSOIL = 6 INCHES 0.0
730	729.4	2.0	4	8	8	16		M		**RESIDUAL** Medium Dense, Tan, Silty, Clayey SAND (A-2-5)
	726.9	4.5								727.4 4.0
725	725.4	6.0	5	4	5	9		M		Loose to Medium Dense, Tan, Silty SAND (A-2-4)
			4	4	4	8		M		
720	721.9	9.5	3	4	4	8		M		
	716.9	14.5	4	5	6	11		M		
715	711.9	19.5	3	3	4	7		M		710.4 21.0 Boring Terminated at Elevation 710.4 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_10500L	**STATION** 105+00	**OFFSET** 120 ft LT	**ALIGNMENT** -L-	**0 HR.** 12.0
COLLAR ELEV. 713.7 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 565,101	**EASTING** 1,349,632	**24 HR.** 7.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715											
	712.7	1.0								713.7 GROUND SURFACE	0.0
			2	2	3	5		M		**ALLUVIAL** Soft to Medium Stiff, Gray-Brown, Sandy SILT (A-4)	
710	710.2	3.5									
			3	3	3	6		M			
	707.7	6.0									
			1	2	1	3		M		705.7	8.0
705	705.2	8.5								Loose, Gray-Brown, Silty SAND (A-2-4), with some clay	
			4	4	4	8		M			
700	700.2	13.5									
			1	2	3	5		M			
										696.7	17.0
695	695.2	18.5								**RESIDUAL** Medium Dense, Gray-Brown-Orange-White, Silty SAND (A-2-4)	
			3	5	8	13		M		693.7	20.0
										Boring Terminated at Elevation 693.7 ft In Residual Silty SAND (A-2-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_10500R_RS	**STATION** 105+00	**OFFSET** 98 ft RT	**ALIGNMENT** -L-	**0 HR.** 9.7
COLLAR ELEV. 719.8 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 564,900	**EASTING** 1,349,716	**24 HR.** 8.0
DRILL RIG/HAMMER EFF./DATE N/A		**DRILL METHOD** Rod Sounding	**HAMMER TYPE** Manual	
DRILLER P. Tomasic	**START DATE** 07/27/23	**COMP. DATE** 07/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
720											
			2	1		3				719.8 GROUND SURFACE	0.0
			2	3		5		M		**ALLUVIAL** Soft to Stiff, Orange-Tan-Gray, Fine to Coarse Sandy SILT (A-4)	
			3	5		8					
715			5	4		9					
			4	5		9					
			6	10		16					
			13	14		27					
			12	15		27					
710			20	38		58					
			40	42		82					
			25	24		49					
			28	25		53					
			15	17		32					
705			64	45		100/1.0					
			25	22		47					
			21	30		51					
			27	25		52					
			26	28		54					
700			50	48		98					
			40	42		82					
			45	55		100/1.0					
			50	48		98					
695			32	30		62					
			35	74		100/1.0					
			68	82		100/1.0					
								M		711.8	8.0
								M		Stiff to Very Stiff, Gray-Blue, Fine to Coarse Sandy CLAY (A-6), with trace organics	
								M		709.8	10.0
										709.3 Medium Dense to Dense, Gray-Blue, Clayey Fine to Coarse SAND (A-2-6)	10.5
										705.8	14.0
										704.8	15.0
										698.8	21.0
										697.8	22.0
										695.8	24.0
										694.8	25.0
										Boring Terminated at Elevation 694.8 ft	
										Hand Auger Refusal at 10.5 ft	
										Rod Sounding Refusal at 25.0 ft	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_10800R	**STATION** 108+00	**OFFSET** 165 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 763.9 ft	**TOTAL DEPTH** 44.0 ft	**NORTHING** 564,954	**EASTING** 1,350,019	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
765										763.9 / 0.0 **TOPSOIL = 6 INCHES**
	762.9	1.0	8	7	8	15				**RESIDUAL** Stiff to Very Stiff, Red-Brown, Silty, Fine to Coarse Sandy CLAY, Highly Plastic, (A-7-5(22))
760	760.4	3.5	6	8	10	18	SS-3361	25% M		760.9 / 3.0 Medium Dense to Very Dense, Tan-Gray-White, Silty SAND (A-2-4), with some rock fragments and trace mica
	757.9	6.0	4	7	5	12		M		
755	755.4	8.5	24	55	23	78		D		
750	750.4	13.5	4	6	6	12		M		
745	745.4	18.5	18	15	14	29		M		
740	740.4	23.5	4	6	7	13		M		
735	735.4	28.5	8	8	7	15		M		
730	730.4	33.5	5	9	91/0.4	100/0.9				729.4 / 34.5 **WEATHERED ROCK** Tan-White-Gray, (GRANITE)
725	725.4	38.5	6	8	9	17		M		725.9 / 38.0 **RESIDUAL** Medium Dense, Tan-Gray, Silty SAND (A-2-4), with little mica
720	720.4	43.5	100/0.2			100/0.2				721.9 / 42.0 **WEATHERED ROCK**
	719.9	44.0	60/0.0			60/0.0				719.9 / 44.0 Tan-Gray, (GRANITE) Boring Terminated with Standard Penetration Test Refusal at Elevation 719.9 ft On Crystalline Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_11000L	**STATION** 110+00	**OFFSET** 100 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 733.3 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 565,275	**EASTING** 1,350,102	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										733.3 / 0.0 GROUND SURFACE
	732.3	1.0	4	4	7	11		M		**RESIDUAL** Medium Dense, Red-Brown-Black-Gray, Clayey, Silty SAND (A-2-4)
730	729.8	3.5	2	2	3	5		M		730.3 / 3.0 Medium Stiff to Stiff, Gray-Brown-White, Sandy SILT (A-4), with some gravel-sized rock fragments
	727.3	6.0	3	2	3	5		D		
725	724.8	8.5	2	3	3	6		D		
720	719.8	13.5	3	3	3	6		D		
715	714.8	18.5	16	4	4	8		D		
710	709.8	23.5	4	4	5	9		D		708.3 / 25.0 Boring Terminated at Elevation 708.3 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_11004R	**STATION** 110+04	**OFFSET** 195 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 768.5 ft	**TOTAL DEPTH** 45.5 ft	**NORTHING** 565,004	**EASTING** 1,350,217	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
770										768.5 / 0.0 TOPSOIL = 6 INCHES
	767.5	1.0								**RESIDUAL** Loose to Very Dense, Tan-White-Gray-Red, Silty SAND (A-2-5(0)), with trace gravel-sized rock fragments
765	765.0	3.5	9	33	27	60		M		
	762.5	6.0	3	4	4	8		M		
			3	3	5	8	SS-3374	24%		
760	760.0	8.5	3	3	3	6		M		
755	755.0	13.5	100/0.2			100/0.2				756.5 / 12.0 **WEATHERED ROCK** Tan-Gray, (GRANITE)
750	750.0	18.5	4	4	5	9		M		751.0 / 17.5 **RESIDUAL** Loose, Tan-Gray, Silty SAND (A-2-4)
745	745.0	23.5	100/0.3			100/0.3				746.5 / 22.0 **WEATHERED ROCK** Tan-Gray, (GRANITE)
740	740.0	28.5	3	5	7	12		M		741.5 / 27.0 **RESIDUAL** Medium Dense, Tan-Gray-White, Silty SAND (A-2-4), with trace to little mica
735	735.0	33.5	4	6	6	12	SS-3380	19%		
730	730.0	38.5	5	6	8	14		M		
725	725.0	43.5	100/0.2			100/0.2				726.5 / 42.0 **WEATHERED ROCK** Tan-Gray, (GRANITE)
	723.0	45.5	60/0.0			60/0.0				723.0 / 45.5 Boring Terminated with Standard Penetration Test Refusal at Elevation 723.0 ft On Crystalline Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_11200L	**STATION** 112+00	**OFFSET** 105 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 729.0 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 565,354	**EASTING** 1,350,292	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										729.0 / 0.0 GROUND SURFACE
	728.0	1.0	5	5	4	9		D		**RESIDUAL** Very Loose to Medium Dense, Gray-Brown-Orange, Silty SAND (A-2-4)
725	725.5	3.5	3	2	2	4		D		
	723.0	6.0	2	3	3	6		D		
720	720.5	8.5	2	3	3	6		D		
715	715.5	13.5	3	5	5	10		D		
710	710.5	18.5	3	5	4	9		D		709.0 / 20.0 Boring Terminated at Elevation 709.0 ft In Residual Silty SAND (A-2-4)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_11200R	**STATION** 112+00	**OFFSET** 151 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 744.2 ft	**TOTAL DEPTH** 45.5 ft	**NORTHING** 565,112	**EASTING** 1,350,376	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/10/23	**COMP. DATE** 07/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745										744.2 TOPSOIL = 3 INCHES	0.0
	743.2	1.0	6	5	6	11	SS-1227	16%		**RESIDUAL** Stiff, Red-Orange, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-6(6)), with trace mica	
740	740.2	4.0	5	6	6	12	SS-1228	15%		740.7	3.5
	738.2	6.0	4	3	4	7		M		Medium Stiff to Stiff, Orange-Brown-Tan, Fine to Coarse Sandy SILT (A-4(0)), with trace mica	
735	735.2	9.0	3	5	4	9		M			
730	730.2	14.0	5	4	5	9		M		732.2	12.0
725	725.2	19.0	4	5	5	10		M		Loose to Dense, Orange-Brown-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica	
720	720.2	24.0	6	6	7	13		M			
715	715.2	29.0	6	8	8	16		M			
710	710.2	34.0	7	9	10	19		M			
705	705.2	39.0	9	10	13	23		M			
700	700.2	44.0	12	17	18	35		M		698.7 Boring Terminated at Elevation 698.7 ft In Residual Silty SAND (A-2-4)	45.5

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_11400R	**STATION** 114+00	**OFFSET** 151 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 739.8 ft	**TOTAL DEPTH** 45.0 ft	**NORTHING** 565,164	**EASTING** 1,350,554	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
740										739.8 TOPSOIL = 5 INCHES	0.0
	738.8	1.0	8	4	9	13		M		**ARTIFICIAL FILL** Loose to Medium Dense, Tan-Brown, Silty SAND (A-2-4), with some asphalt and brick debris	
735	736.3	3.5	6	7	7	14		M			
	733.8	6.0	6	6	6	12		M			
730	731.3	8.5	4	3	4	7		M		727.8	12.0
725	726.3	13.5	4	4	4	8		M		**RESIDUAL** Loose to Medium Dense, Tan-White, Silty SAND (A-2-4(0))	
720	721.3	18.5	4	4	5	9		M			
715	716.3	23.5	5	6	7	13	SS-3389	8%			
710	711.3	28.5	5	6	8	14		M			
705	706.3	33.5	7	8	9	17		M			
700	701.3	38.5	10	11	12	23		M			
695	696.3	43.5	11	12	13	25		M		694.8 Boring Terminated at Elevation 694.8 ft In Residual Silty SAND (A-2-4)	45.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_11550R	**STATION** 115+50	**OFFSET** 120 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 725.1 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 565,222	**EASTING** 1,350,685	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/11/23	**COMP. DATE** 07/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
730										
725										725.1 GROUND SURFACE 0.0
	724.1	1.0	2	3	3	6		M		**ARTIFICIAL FILL** Medium Stiff, Orange-Brown, Fine to Coarse Sandy SILT (A-4), with trace asphalt fragments
	721.6	3.5	3	2	2	4		M		722.1 3.0 **RESIDUAL** Very Loose to Medium Dense, Tan, Silty, Fine to Coarse SAND (A-2-4)
720	719.1	6.0	2	2	2	4		D		
	716.6	8.5	2	2	3	5		D		
715										
	711.6	13.5	2	3	3	6		D		
710										
	706.6	18.5	3	3	4	7		D		
705										
	701.6	23.5	3	4	5	9		D		
700										
	696.6	28.5	2	4	5	9		D		
695										
	691.6	33.5	3	5	8	13		D		690.1 35.0 Boring Terminated at Elevation 690.1 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_11621R	**STATION** 116+21	**OFFSET** 158 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 731.6 ft	**TOTAL DEPTH** 55.0 ft	**NORTHING** 565,194	**EASTING** 1,350,756	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/10/23	**COMP. DATE** 07/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										
										731.6 GROUND SURFACE 0.0
730	730.6	1.0								
	728.1	3.5	19	14	9	23		M		**ARTIFICIAL FILL** Medium Dense, Brown, Silty, Fine to Coarse Sandy GRAVEL (A-1-a), with trace concrete and rock fragments
725	725.6	6.0	3	2	3	5		M		728.6 3.0 Medium Stiff to Stiff, Brown-Black, Silty CLAY (A-7), with trace to some concrete, asphalt, organics and gravel
	723.1	8.5	3	3	4	7		M		
			4	7	4	11		M		
720	718.1	13.5								719.6 12.0
			2	1	1	2	SS-1237	25%		Very Loose, Brown-Black, Silty Fine SAND (A-2-4(0)), with trace concrete and asphalt fragments
715	713.1	18.5								714.6 17.0
			2	2	2	4	SS-1238	22%		Soft, Brown-Black, Fine Sandy SILT (A-4(1)), with trace concrete, asphalt, and organics
710	708.1	23.5	80	20/0.2		100/0.7		M		708.1 23.5 Hard, Asphalt only
	703.1	28.5	2	7	4	11		M		704.1 27.5 Medium Stiff to Stiff, Brown-Gray, Silty CLAY (A-7), with trace organics, asphalt, and tree fragments
705										
700	698.1	33.5	2	4	4	8		M		
	693.1	38.5	3	3	4	7		W		694.1 37.5 **ALLUVIAL** Medium Stiff, Gray, Fine to Coarse Sandy CLAY (A-6)
695										689.1 42.5
	688.1	43.5	6	7	5	12		M		**RESIDUAL** Stiff, Gray-Brown-Orange, Fine to Coarse Sandy CLAY (A-6), with trace mica
690										684.1 47.5
	683.1	48.5	5	4	5	9		M		Loose to Medium Dense, White-Orange-Brown-Pink, Silty Fine SAND (A-2-4), with trace mica
685	678.1	53.5	8	10	13	23		M		676.6 55.0 Boring Terminated at Elevation 676.6 ft In Residual Silty SAND (A-2-4)
680										

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_11816R	**STATION** 118+16	**OFFSET** 142 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 728.6 ft	**TOTAL DEPTH** 45.0 ft	**NORTHING** 565,225	**EASTING** 1,350,935	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/11/23	**COMP. DATE** 07/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
730										
	727.6	1.0								728.6 TOPSOIL = 8 INCHES 0.0
			2	3	3	6		D		**RESIDUAL**
725	725.1	3.5								Loose to Medium Dense, Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica
			3	3	3	6		D		
	722.6	6.0								
			3	3	3	6		D		
720	720.1	8.5								
			2	3	3	6	SS-2373	16%		
715	715.1	13.5								
			3	3	4	7		D		
710	710.1	18.5								
			3	4	5	9		D		
705	705.1	23.5								
			4	5	6	11		D		
700	700.1	28.5								
			6	6	7	13		D		
695	695.1	33.5								
			6	7	8	15		D		
690	690.1	38.5								
			7	7	11	18		D		
685	685.1	43.5								
			7	8	11	19		M		683.6 45.0
										Boring Terminated at Elevation 683.6 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_12000R	**STATION** 120+00	**OFFSET** 109 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 711.7 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 565,257	**EASTING** 1,351,108	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/11/23	**COMP. DATE** 07/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										
										711.7 TOPSOIL = 6 INCHES 0.0
	710.7	1.0	3	3	4	7		M		**RESIDUAL**
710	708.2	3.5								Medium Stiff to Stiff, Orange-Tan, Fine to Coarse Sandy SILT (A-4), with trace mica
			5	7	7	14		M		
	705.7	6.0								706.2 5.5
705			3	5	5	10		D		Loose, Pink-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica
	703.2	8.5								
			3	4	5	9		D		
700	698.2	13.5								
			4	4	6	10		D		
695	693.2	18.5								
			3	4	6	10		M		
690	688.2	23.5								
			4	4	5	9		M		
685	683.2	28.5								
			3	4	5	9		M		681.7 30.0
										Boring Terminated at Elevation 681.7 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV7_B-2	**STATION** 122+23	**OFFSET** 109 ft RT	**ALIGNMENT** -L-	**0 HR.** 3.0
COLLAR ELEV. 681.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 565,221	**EASTING** 1,351,395	**24 HR.** 2.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/11/23	**COMP. DATE** 07/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
685											
680	680.1	1.0	3	1	1	2		M		681.1 GROUND SURFACE	0.0
	677.6	3.5	WOH	WOH	WOH	0		M		**ALLUVIAL** Very Soft to Soft, Brown-Gray, Fine Sandy CLAY (A-6), with organic staining and chemical odor	
675	675.1	6.0	1	WOH	WOH	0		M		675.6 Very Soft to Soft, Black, Clayey SILT (A-5(8)), with trace fine to coarse sand and organic staining and odor	5.5
	672.6	8.5	WOH	WOH	WOH	0		41% M			
670	667.6	13.5	WOH	2	1	3		M		664.1 **RESIDUAL** Medium Dense, Yellow-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica	17.0
665	662.6	18.5	5	7	8	15		M			
660	657.6	23.5	7	10	14	24		M		656.1 Boring Terminated at Elevation 656.1 ft In Residual Silty SAND (A-2-4)	25.0

Other Samples:
ST-9 (8.0 - 10.0)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV7_B-1	**STATION** 123+05	**OFFSET** 108 ft RT	**ALIGNMENT** -L-	**0 HR.** 12.6
COLLAR ELEV. 680.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 565,234	**EASTING** 1,351,318	**24 HR.** 3.8
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/11/23	**COMP. DATE** 07/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
685										
680	679.5	1.0	3	2	2	4		M		680.5 GROUND SURFACE 0.0
	677.0	3.5	WOH	WOH	WOH	0		16% M		679.0 **ALLUVIAL** Very Loose, Brown, Silty Fine to Coarse SAND (A-2-4) 1.5
675	674.5	6.0	5	2	1	3		M		Very Soft to Soft, Gray-Tan, Fine Sandy SILT (A-4(0)), with organic staining
	672.0	8.5	2	1	2	3		M		674.0 6.5
670	667.0	13.5	2	1	2	3		28% M		**RESIDUAL** Loose, Gray-Tan, Silty Fine SAND (A-2-4(0)), with trace mica
665	662.0	18.5	1	3	2	5		M		
660	657.0	23.5	WOH	3	2	5		M		655.5 Boring Terminated at Elevation 655.5 ft In Residual Sandy SILT (A-4) 25.0

Other Samples:
ST-7 (3.0 - 5.0)
ST-8 (13.0 - 15.0)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_12450R	**STATION** 124+50	**OFFSET** 70 ft RT	**ALIGNMENT** -L-	**0 HR.** 6.0
COLLAR ELEV. 682.6 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 565,226	**EASTING** 1,351,539	**24 HR.** 5.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/12/23	**COMP. DATE** 07/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
685											
	681.6	1.0	4	3	2	5		M		682.6 TOPSOIL = 3 INCHES	0.0
680	679.1	3.5	2	2	2	4	SS-6030	26%		**RESIDUAL** Very Loose to Loose, Brown-Tan to White-Black-Gray, Silty, Clayey Fine to Coarse SAND (A-2-5(0)), with trace mica	
	676.6	6.0	2	1	2	3		M			
675	674.1	8.5	2	2	2	4		W			
670	669.1	13.5	3	2	4	6		W			
665	664.1	18.5	4	3	5	8		W		662.6	20.0
										Boring Terminated at Elevation 662.6 ft In Residual Silty SAND (A-2-5)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_12700R	**STATION** 127+00	**OFFSET** 72 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 705.5 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 565,147	**EASTING** 1,351,767	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/12/23	**COMP. DATE** 07/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
710											
	704.5	1.0	5	8	11	19				705.5 GROUND SURFACE	0.0
705	702.0	3.5	6	8	10	18	SS-6035	17%		**RESIDUAL** Very Stiff, Red-Brown, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-5(8))	3.0
	699.5	6.0	5	5	6	11		M		702.5 Stiff to Very Stiff, Tan-Red-Brown, Fine to Coarse Sandy SILT (A-4)	
700	697.0	8.5	2	3	4	7		M			
695	692.0	13.5	3	4	3	7		M		697.5 Loose, Tan-White, Silty Fine to Coarse SAND (A-2-4), with trace mica	8.0
690	687.0	18.5	3	4	3	7		M		685.5	20.0
										Boring Terminated at Elevation 685.5 ft In Residual Silty SAND (A-2-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_12900R	**STATION** 129+00	**OFFSET** 75 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 719.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 565,063	**EASTING** 1,351,940	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/12/23	**COMP. DATE** 07/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
720										719.5 GROUND SURFACE	0.0
	718.5	1.0	4	4	5	9		M		**RESIDUAL** Stiff, Red-Brown, Fine to Coarse Sandy SILT (A-4)	
715	716.0	3.5	3	3	3	6		M		716.5	3.0
	713.5	6.0	2	3	4	7		M		Loose, Brown-White, Silty Fine to Coarse SAND (A-2-4), with trace mica	
710	711.0	8.5	2	3	3	6		M			
	706.0	13.5	3	3	4	7		M			
705											
	701.0	18.5	3	4	4	8		M			
700											
	696.0	23.5	4	5	5	10		M		694.5	25.0
695										Boring Terminated at Elevation 694.5 ft In Residual Silty SAND (A-2-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_13100R	**STATION** 131+00	**OFFSET** 97 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 731.1 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 564,946	**EASTING** 1,352,094	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/12/23	**COMP. DATE** 07/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										731.1 TOPSOIL = 5 INCHES 0.0
	730.1	1.0	7	6	7	13		M		**RESIDUAL** Medium Stiff to Stiff, Brown-Orange-Tan, Fine Sandy SILT (A-4)
730	727.6	3.5	2	2	4	6		M		725.6 5.5
	725.1	6.0	2	3	2	5		M		Loose, Gray-White-Tan-Orange, Silty, Fine to Coarse SAND (A-2-4), with trace mica
725	722.6	8.5	2	3	3	6		M		
	717.6	13.5	3	3	3	6		M		
720										
	712.6	18.5	3	4	3	7		M		
715										
	707.6	23.5	4	4	4	8		M		
710										
	702.6	28.5	3	4	5	9		M		701.1 30.0
705										Boring Terminated at Elevation 701.1 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_13400R	**STATION** 134+00	**OFFSET** 93 ft RT	**ALIGNMENT** -L-	**0 HR.** 2.8
COLLAR ELEV. 707.7 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 564,776	**EASTING** 1,352,324	**24 HR.** 2.8
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/12/23	**COMP. DATE** 07/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
710											
	706.7	1.0						W		707.7 GROUND SURFACE	0.0
705	704.2	3.5	2	2	2	4				**ALLUVIAL** Very Soft to Medium Stiff, Gray-Orange-Tan-Blue, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic (A-6(8)), with organic odor	
	701.7	6.0	WOH	WOH	1	1		23% Sat.		702.2	5.5
700	699.2	8.5	WOH	2	4	6		Sat.		**RESIDUAL** Medium Stiff, Red-Orange-Gray, Fine to Coarse Sandy, Silty CLAY, Moderately Plastic (A-7-5(5))	
695	694.2	13.5	3	2	3	5		M			
			3	4	3	7		W		690.7	17.0
690	689.2	18.5	7	8	10	18		M		Very Stiff, White-Black-Tan-Orange, Fine to Coarse Sandy SILT (A-4)	
685	684.2	23.5								685.7	22.0
			18	33	55	88		M		Very Dense, Black-White-Gray, Silty Fine to Coarse SAND (A-2-4)	
										682.7	25.0
										Boring Terminated at Elevation 682.7 ft In Residual Silty SAND (A-2-4)	

Other Samples:
ST-10 (2.0 - 6.0)
ST-11 (8.0 - 10.0)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_13600R	**STATION** 136+00	**OFFSET** 83 ft RT	**ALIGNMENT** -L-	**0 HR.** 8.0
COLLAR ELEV. 726.6 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 564,650	**EASTING** 1,352,468	**24 HR.** 6.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/12/23	**COMP. DATE** 07/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										
	725.6	1.0								726.6 TOPSOIL = 4 INCHES 0.0
725	723.1	3.5	4	3	3	6		M		**RESIDUAL** Soft to Medium Stiff, Orange-Brown-Tan-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica
			2	2	2	4		M		
720	720.6	6.0	2	1	2	3				
	718.1	8.5	2	1	2	3		M		
715	713.1	13.5	3	2	5	7		W		711.6 15.0
										Boring Terminated at Elevation 711.6 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_13700L	**STATION** 137+00	**OFFSET** 75 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 743.6 ft	**TOTAL DEPTH** 8.5 ft	**NORTHING** 564,680	**EASTING** 1,352,652	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION / ELEV. (ft)	DEPTH (ft)
745											
										743.6 GROUND SURFACE	0.0
	742.6	1.0								**ROADWAY EMBANKMENT** Very Stiff, Gray-Brown, Fine Sandy SILT (A-4), with trace mica	
740	740.1	3.5	5	8	9	17		D		740.6	3.0
			6	9	11	20		M		**RESIDUAL** Medium Dense, Red-Brown-Black, Silty SAND (A-2-4)	
	737.6	6.0								738.1	5.5
			3	6	77	83	SS-4878	22%		Hard, Red-Brown, Clayey, Sandy SILT (A-5(0))	
	735.1	8.5	60/0.0			60/0.0				735.1	8.5
										Boring Terminated with Standard Penetration Test Refusal at Elevation 735.1 ft On Crystalline Rock (GRANITE)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_13800R	**STATION** 138+00	**OFFSET** 106 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 753.7 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 564,489	**EASTING** 1,352,574	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/13/23	**COMP. DATE** 07/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION / ELEV. (ft)	DEPTH (ft)
755											
										753.7 TOPSOIL = 4 INCHES	0.0
	752.7	1.0								**RESIDUAL** Loose to Medium Dense, White-Gray-Tan-Brown, Silty, Fine to Coarse SAND (A-2-4), with trace mica	
750	750.2	3.5	6	6	7	13		M			
			3	3	4	7	SS-6069	10%			
	747.7	6.0	3	3	3	6		M			
745	745.2	8.5	3	3	4	7		M			
740	740.2	13.5	4	4	5	9		M			
735	735.2	18.5	5	7	6	13		M			
730	730.2	23.5	5	5	8	13		M			
										728.7 Boring Terminated at Elevation 728.7 ft In Residual Silty SAND (A-2-4)	25.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_14000L	**STATION** 140+00	**OFFSET** 102 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 761.6 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 564,447	**EASTING** 1,352,858	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
765										
										761.6 GROUND SURFACE 0.0
760	760.6	1.0	4	4	4	8		M		**RESIDUAL** Loose to Medium Dense, Red-Brown-Gray-White, Silty Fine SAND (A-2-4)
	758.1	3.5	2	3	3	6		D		
755	755.6	6.0	2	3	2	5		D		
	753.1	8.5	2	2	3	5		D		
750	748.1	13.5	3	3	4	7		D		
745	743.1	18.5	14	10	4	14		D		741.6 20.0 Boring Terminated at Elevation 741.6 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_14000R	**STATION** 140+00	**OFFSET** 127 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 768.9 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 564,320	**EASTING** 1,352,668	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/13/23	**COMP. DATE** 07/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
770										
										768.9 TOPSOIL = 4 INCHES 0.0
	767.9	1.0	2	3	3	6		M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown-Tan, Fine to Coarse Sandy SILT (A-4), with trace mica
765	765.4	3.5	6	5	5	10		M		
	762.9	6.0	3	3	4	7		M		761.9 7.0
760	760.4	8.5	2	3	3	6		M		Loose, Gray-White-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica
755	755.4	13.5	4	3	5	8		M		
750	750.4	18.5	3	4	3	7		M		
745	745.4	23.5	3	4	5	9		M		
740	740.4	28.5	4	4	5	9		M		738.9 30.0 Boring Terminated at Elevation 738.9 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_14200L	**STATION** 142+00	**OFFSET** 103 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 767.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 564,279	**EASTING** 1,352,969	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
770											
										767.1 GROUND SURFACE	0.0
	766.1	1.0								**RESIDUAL** Medium Stiff to Stiff, Orange-Brown-Gray-White, Sandy SILT (A-4), with manganese oxide staining	
765			4	5	5	10		D			
	763.6	3.5	3	3	5	8		D			
	761.1	6.0	3	4	6	10		D			
760	758.6	8.5	4	4	7	11		D			
755	753.6	13.5	4	5	7	12		D			
750	748.6	18.5	3	6	8	14		D			
745	743.6	23.5	3	6	6	12		M		745.1 Medium Dense, Orange-Brown-Gray-White, Silty SAND (A-2-4)	22.0
										742.1 Boring Terminated at Elevation 742.1 ft In Residual Silty SAND (A-2-4)	25.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_14200R	**STATION** 142+00	**OFFSET** 114 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 769.2 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 564,161	**EASTING** 1,352,788	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/13/23	**COMP. DATE** 07/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
770											
										769.2 TOPSOIL = 2 INCHES	0.0
	768.2	1.0								**RESIDUAL** Soft to Stiff, Red-Brown-Tan-White-Gray, Fine Sandy SILT (A-4), with trace mica	
765	765.7	3.5	3	2	2	4		M			
	763.2	6.0	4	6	6	12		M		763.7	5.5
760	760.7	8.5	4	4	6	10	SS-6085	15%		Medium Dense, White-Orange-Tan-Gray, Silty, Fine to Coarse SAND (A-2-4(0)), with trace mica	
			4	5	6	11		M			
755	755.7	13.5	4	5	7	12		M			
750	750.7	18.5	5	6	7	13		M			
745	745.7	23.5	5	6	8	14		M		744.2 Boring Terminated at Elevation 744.2 ft In Residual Silty SAND (A-2-4)	25.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_14400L	**STATION** 144+00	**OFFSET** 93 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 769.3 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 564,106	**EASTING** 1,353,070	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/03/23	**COMP. DATE** 07/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
770										769.3 GROUND SURFACE 0.0
	768.3	1.0	5	5	9	14		D		**RESIDUAL** Stiff, Orange-Brown, Sandy SILT (A-4), with trace mica
765	765.8	3.5	4	5	6	11		D		766.3 3.0
	763.3	6.0	4	4	6	10		D		Loose to Medium Dense, Orange-Brown-Gray-White, Silty SAND (A-2-4), with some coarse quartz, manganese oxide staining
760	760.8	8.5	4	5	5	10		D		
	755.8	13.5	4	5	7	12		D		
755	750.8	18.5	3	5	6	11		D		749.3 20.0
750										Boring Terminated at Elevation 749.3 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_14400R	**STATION** 144+00	**OFFSET** 100 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 769.8 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 564,001	**EASTING** 1,352,908	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/13/23	**COMP. DATE** 07/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
770										769.8 GROUND SURFACE 0.0
	768.8	1.0	4	5	7	12		M		**RESIDUAL** Stiff, Red-Orange-Tan-Brown-White, Fine to Coarse Sandy SILT (A-4)
765	766.3	3.5	4	4	5	9	SS-6091	18%		761.8 8.0
	763.8	6.0	4	5	5	10		M		Medium Dense, Red-White-Black- Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica
760	761.3	8.5	4	6	7	13		M		
	756.3	13.5	5	7	9	16		M		
755	751.3	18.5	5	6	9	15		M		749.8 20.0
750										Boring Terminated at Elevation 749.8 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_14600L	**STATION** 146+00	**OFFSET** 94 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 769.7 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 563,939	**EASTING** 1,353,180	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/03/23	**COMP. DATE** 07/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
770										769.7 GROUND SURFACE 0.0
	768.7	1.0	9	8	9	17		D		**RESIDUAL** Medium Stiff to Very Stiff, Orange-Brown-White-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica
	766.2	3.5	3	5	5	10		D		
765	763.7	6.0	3	4	4	8		D		
	761.2	8.5	4	4	5	9		D		
760										
	756.2	13.5	4	4	6	10		D		754.7 15.0 Boring Terminated at Elevation 754.7 ft In Residual Sandy SILT (A-4)
755										

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_14600R	**STATION** 146+00	**OFFSET** 96 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 771.6 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 563,836	**EASTING** 1,353,021	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/13/23	**COMP. DATE** 07/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
775										771.6 TOPSOIL = 4 INCHES 0.0
	770.6	1.0	5	8	9	17		M		**RESIDUAL** Very Stiff, Red-Orange-Brown, Fine to Coarse Sandy SILT (A-4) 768.6 3.0 Loose, Orange-White-Tan-Gray, Silty, Fine to Coarse SAND (A-2-4), with trace mica
770	768.1	3.5	4	4	5	9		M		
	765.6	6.0	3	3	4	7		M		
765	763.1	8.5	3	3	4	7		M		
	758.1	13.5	3	3	4	7		M		756.6 15.0 Boring Terminated at Elevation 756.6 ft In Residual Silty SAND (A-2-4)
760										

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_14950R	**STATION** 149+50	**OFFSET** 120 ft RT	**ALIGNMENT** -L-	**0 HR.** 22.9
COLLAR ELEV. 750.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 563,529	**EASTING** 1,353,192	**24 HR.** 21.2
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/13/23	**COMP. DATE** 07/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
755										
750	749.6	1.0								750.6 TOPSOIL = 4 INCHES 0.0
	747.1	3.5	10	12	16	28	SS-6101	15%		**RESIDUAL** Very Stiff, Tan-Red-Brown, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-5(8))
745	744.6	6.0	7	9	10	19		M		745.1 5.5
	742.1	8.5	6	12	7	19		M		Medium Stiff to Very Stiff, Red-Orange-Tan-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica
740			9	7	9	16		M		
	737.1	13.5	3	3	5	8		M		
735	732.1	18.5	3	3	3	6		M		
730	727.1	23.5	2	3	4	7		M		725.6 25.0 Boring Terminated at Elevation 725.6 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_15200L	**STATION** 152+00	**OFFSET** 86 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 776.1 ft	**TOTAL DEPTH** 1.0 ft	**NORTHING** 563,432	**EASTING** 1,353,501	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/03/23	**COMP. DATE** 07/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
780										
	775.1	1.0	60/0.0			60/0.0				776.1 GROUND SURFACE 0.0
										775.1 **CRYSTALLINE ROCK** (GRANITE) 1.0
										Boring Terminated with Standard Penetration Test Refusal at Elevation 775.1 ft In Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_15300L	**STATION** 153+00	**OFFSET** 100 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 780.9 ft	**TOTAL DEPTH** 0.0 ft	**NORTHING** 563,357	**EASTING** 1,353,567	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/03/23	**COMP. DATE** 07/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
785										ELEV. (ft) DEPTH (ft)
	780.9	0.0	60/0.0			60/0.0				780.9 GROUND SURFACE 0.0
										Boring Terminated with Standard Penetration Test Refusal at Elevation 780.9 ft On Crystalline Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_15700L	**STATION** 157+00	**OFFSET** 108 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 788.9 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 563,025	**EASTING** 1,353,792	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
790										
	787.9	1.0	3	4	5	9		M		788.9 GROUND SURFACE 0.0
785	785.4	3.5	3	3	4	7		D		**RESIDUAL** Stiff, Red-Brown, Sandy CLAY (A-7) 785.9 3.0
	782.9	6.0	3	4	5	9		D		Medium Stiff to Stiff, Orange-Gray-Brown-White, Sandy SILT (A-4), with trace mica
780	780.4	8.5	3	5	6	11		D		776.9 12.0
775	775.4	13.5	3	4	4	8		D		Loose, Gray-Brown-Orange-White, Silty Fine SAND (A-2-4)
770	770.4	18.5	3	4	5	9		D		
765	765.4	23.5	3	4	5	9		D		761.9 27.0
760	760.4	28.5	3	4	4	8		M		Medium Stiff to Stiff, Gray-Brown-Orange, Fine Sandy SILT (A-4) 758.9 30.0
										Boring Terminated at Elevation 758.9 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_15700R	**STATION** 157+00	**OFFSET** 132 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 794.0 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 562,891	**EASTING** 1,353,593	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/17/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
795										ELEV. (ft) DEPTH (ft)
										794.0 GROUND SURFACE 0.0
	793.0	1.0	6	8	14	22		D		**RESIDUAL** Very Stiff, Red-Brown, Sandy, Silty CLAY (A-7)
790	790.5	3.5	11	8	7	15		D		790.0 4.0
	788.0	6.0	5	5	10	15		M		Loose to Medium Dense, Orange-Gray-Brown-Black, Silty SAND (A-2-4), with trace mica
785	785.5	8.5	5	7	10	17		D		
780	780.5	13.5	5	8	16	24		D		
775	775.5	18.5	4	4	6	10		D		
770	770.5	23.5	4	5	6	11		M		
765	765.5	28.5	5	6	10	16		M		
760	760.5	33.5	7	8	10	18		M		759.0 35.0
										Boring Terminated at Elevation 759.0 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_15900L	**STATION** 159+00	**OFFSET** 113 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 789.0 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 562,860	**EASTING** 1,353,906	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
790										
										789.0 GROUND SURFACE 0.0
	788.0	1.0	3	4	4	8		D		**RESIDUAL** Loose to Medium Dense, Gray-Brown-White-Orange-Black, Silty SAND (A-2-4), with trace gravel-sized rock fragments
785	785.5	3.5	3	3	3	6		D		
	783.0	6.0	3	3	5	8		D		
780	780.5	8.5	4	4	4	8		D		
775	775.5	13.5	4	5	6	11		D		
770	770.5	18.5	5	6	7	13		D		
765	765.5	23.5	6	7	8	15		D		
760	760.5	28.5	3	5	6	11		M		759.0 30.0
										Boring Terminated at Elevation 759.0 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_15900R	**STATION** 159+00	**OFFSET** 132 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 790.1 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 562,731	**EASTING** 1,353,697	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/17/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
795										
790										790.1 GROUND SURFACE 0.0
	789.1	1.0	7	6	8	14		D		**RESIDUAL** Stiff, Red-Brown, CLAY (A-7)
	786.6	3.5								787.1 3.0
785			3	4	5	9		M		Loose to Medium Dense, Orange-Red-Gray-Brown, Sandy SILT (A-4), with trace mica, manganese oxide staining
	784.1	6.0	3	3	4	7		M		
	781.6	8.5								
780			4	3	5	8		D		
	776.6	13.5	4	4	6	10		D		
775										
	771.6	18.5	4	6	5	11		M		
770										
	766.6	23.5	4	6	7	13		M		
765										
	761.6	28.5	4	6	8	14		M		
760										
	756.6	33.5	5	6	6	12		M		755.1 35.0
										Boring Terminated at Elevation 755.1 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_16100L	**STATION** 161+00	**OFFSET** 112 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 786.7 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 562,692	**EASTING** 1,354,014	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
790										786.7 GROUND SURFACE 0.0
	785.7	1.0	2	3	7	10	SS-4888	28%		**RESIDUAL** Stiff, Red-Gray-Brown, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-5(12)) 3.0
785	783.2	3.5	4	5	6	11		D		783.7 Medium Stiff to Stiff, Orange-Brown-White-Black-Red, Sandy SILT (A-4)
	780.7	6.0	3	3	4	7		D		
780	778.2	8.5	3	3	3	6		D		
775	773.2	13.5	3	2	4	6		D		
770	768.2	18.5	3	4	6	10		D		
765	763.2	23.5	3	3	3	6		M		
760	758.2	28.5	3	3	3	6		M		756.7 30.0
										Boring Terminated at Elevation 756.7 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_16100R	**STATION** 161+00	**OFFSET** 127 ft RT	**ALIGNMENT** -L-	**0 HR.** 37.2
COLLAR ELEV. 794.4 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 562,562	**EASTING** 1,353,814	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/14/23	**COMP. DATE** 07/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
795										
	793.4	1.0	3	4	4	8		M		794.4 GROUND SURFACE 0.0 **ROADWAY EMBANKMENT** Asphalt (0.2 ft)
790	790.9	3.5	7	7	6	13	SS-6139	16%		794.2 0.2 **RESIDUAL** Medium Stiff to Stiff, Red-Orange-Tan, Fine to Coarse Sandy, Clayey SILT (A-5(0))
	788.4	6.0	3	4	4	8		M		788.9 5.5 Loose to Medium Dense, White-Tan-Gray, Silty Fine to Coarse SAND (A-2-4), with trace mica
785	785.9	8.5	6	5	4	9		M		
780	780.9	13.5	4	5	5	10		M		
775	775.9	18.5	55	19	8	27	SS-6143	4%		776.4 18.0 Medium Dense, White-Tan-Gray, Gravelly SAND (A-1-b), with trace gravel-sized rock fragments
770	770.9	23.5	13	11	10	21		M		771.4 23.0 Medium Dense to Very Dense, White-Tan-Gray, Silty Fine to Coarse SAND (A-2-4), with trace mica
765	765.9	28.5	7	9	55	64		M		
760	760.9	33.5	9	10	10	20		M		
755	755.9	38.5	12	13	17	30		M		754.4 40.0 Boring Terminated at Elevation 754.4 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_16300L	**STATION** 163+00	**OFFSET** 107 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 780.4 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 562,521	**EASTING** 1,354,120	**24 HR.** 26.2
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
785										
780	779.4	1.0	5	3	3	6		M		780.4 GROUND SURFACE 0.0 **ROADWAY EMBANKMENT** Medium Stiff to Stiff, Gray-Brown-Red, Fine to Coarse Sandy SILT (A-4(0), with trace organics
775	776.9	3.5	2	4	4	8	SS-4881	17%		
	774.4	6.0	4	3	3	6		M		774.9 5.5 Loose, Yellow-Brown, Fine SAND (A-3)
770	771.9	8.5	4	4	7	11		21%		772.4 8.0 **RESIDUAL** Stiff, Orange-Gray-Brown, Sandy CLAY (A-7-5(6))
765	766.9	13.5	3	3	4	7		M		768.4 12.0 Medium Stiff to Stiff, Gray-Brown-White, Sandy SILT (A-4)
760	761.9	18.5	3	4	5	9		M		
755	756.9	23.5	3	3	4	7		M		
	751.9	28.5	3	2	3	5		M		750.4 30.0 Boring Terminated at Elevation 750.4 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_16357R	**STATION** 163+57	**OFFSET** 146 ft RT	**ALIGNMENT** -L-	**0 HR.** 34.0
COLLAR ELEV. 791.5 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 562,336	**EASTING** 1,353,938	**24 HR.** 31.5
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/17/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
795											
										791.5 GROUND SURFACE	0.0
790	790.5	1.0	11	13	13	26		D		Medium Dense, Yellow-Orange-Brown, Silty SAND (A-2-4)	
	788.0	3.5	6	10	12	22		D			
785	785.5	6.0	6	11	13	24		D			
	783.0	8.5	4	6	7	13		D			
780	778.0	13.5	5	6	7	13		D		779.5	12.0
775	773.0	18.5	6	6	8	14		D		Stiff, Gray-Orange-Brown-White, Sandy SILT (A-4)	
770	768.0	23.5	5	6	7	13		D		769.5	22.0
765	763.0	28.5	5	6	6	12		M		Medium Dense, Gray-Orange-Brown-White, Silty SAND (A-2-4), with trace mica	
760	758.0	33.5	4	5	7	12		M			
755	753.0	38.5	4	6	8	14		W		751.5	40.0
										Boring Terminated at Elevation 751.5 ft In Residual Silty SAND (A-2-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_16489R	**STATION** 164+89	**OFFSET** 185 ft RT	**ALIGNMENT** -L-	**0 HR.** 39.0
COLLAR ELEV. 799.0 ft	**TOTAL DEPTH** 50.0 ft	**NORTHING** 562,204	**EASTING** 1,353,977	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 08/16/23	**COMP. DATE** 08/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
800											
										799.0 GROUND SURFACE	0.0
	798.0	1.0	2	2	3	5		M		798.0 **ROADWAY EMBANKMENT**	1.0
795	795.5	3.5	2	3	3	6		M		Asphalt (0.2 ft) and ABC (0.8 ft)	
	793.0	6.0	2	1	2	3		M		Soft to Medium Stiff, Orange-Tan-Brown, Fine Sandy SILT (A-4), with trace roots and mica	
790	790.5	8.5	2	3	4	7		M			
785	785.5	13.5	4	7	8	15		M		788.0	11.0
780	780.5	18.5	4	5	6	11		M		**RESIDUAL** Loose to Medium Dense, White-Brown-Gray, Silty Fine SAND (A-2-4), with trace mica	
775	775.5	23.5	7	8	10	18		M			
770	770.5	28.5	5	6	8	14		M			
765	765.5	33.5	3	5	6	11		M			
760	760.5	38.5	4	5	6	11		W			
755	755.5	43.5	3	5	6	11		W			
750	750.5	48.5	WOH	2	4	6		W		749.0	50.0
										Boring Terminated at Elevation 749.0 ft In Residual Silty SAND (A-2-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_16500L	**STATION** 165+00	**OFFSET** 120 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 783.5 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 562,361	**EASTING** 1,354,239	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/03/23	**COMP. DATE** 07/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
785										
	782.5	1.0						D		783.5 GROUND SURFACE 0.0 **RESIDUAL** Medium Stiff to Very Stiff, Gray-Red-Brown-Orange-White, Fine to Coarse Sandy SILT (A-4(0)), with trace mica, manganese oxide staining
780	780.0	3.5	5	7	10	17		D		
	777.5	6.0	5	7	8	15		D		
775	775.0	8.5	4	4	6	10	SS-4844	19%		
			4	4	3	7		D		
770	770.0	13.5								
			3	3	6	9		D		
765	765.0	18.5								
			3	2	4	6		D		
760	760.0	23.5								
			4	4	5	9		D		
755	755.0	28.5								
			2	3	4	7		M		
750	750.0	33.5								
			2	3	5	8		M		748.5 35.0 Boring Terminated at Elevation 748.5 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_16700L	**STATION** 167+00	**OFFSET** 117 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 777.8 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 562,192	**EASTING** 1,354,346	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/03/23	**COMP. DATE** 07/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
780										
	776.8	1.0						D		777.8 GROUND SURFACE 0.0 **RESIDUAL** Stiff to Very Stiff, Red-Orange-Brown, Sandy SILT (A-4), with trace mica
775	774.3	3.5	5	7	10	17		D		
	771.8	6.0	5	5	7	12		D		772.3 5.5 Loose, White-Pink-Brown-Gray, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments and mica
770	769.3	8.5	3	3	5	8		D		
			4	3	6	9		D		
765	764.3	13.5								
			4	4	7	11		D		
760	759.3	18.5								
			5	4	6	10		D		
755	754.3	23.5								
			4	4	6	10		D		
750	749.3	28.5								
			4	3	5	8		D		747.8 30.0 Boring Terminated at Elevation 747.8 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_16700R	**STATION** 167+00	**OFFSET** 146 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 789.1 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 562,049	**EASTING** 1,354,125	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/13/23	**COMP. DATE** 07/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
790										789.1 TOPSOIL = 1 INCH	0.0
	788.1	1.0	5	6	16	22		M		**ARTIFICIAL FILL** Medium Stiff, Stiff to Very Stiff, Red-Brown-Gray, Gravelly, Fine to Coarse Sandy SILT (A-4)	
785	785.6	3.5	5	5	5	10		M		783.6	5.5
	783.1	6.0	3	3	4	7		M		**RESIDUAL** Medium Stiff, Orange-White-Tan, Fine to Coarse Sandy SILT (A-4(0))	
780	780.6	8.5	3	3	5	8	SS-6111	19%			
775	775.6	13.5	4	4	6	10		M		777.1 Loose to Medium Dense, Orange-White-Tan-Gray, Silty, Fine to Coarse SAND (A-2-4), with trace mica	12.0
770	770.6	18.5	4	4	6	10		M			
765	765.6	23.5	5	5	6	11		M			
760	760.6	28.5	4	5	7	12		M			
755	755.6	33.5	4	5	7	12		M			
750	750.6	38.5	5	6	9	15		M		749.1 Boring Terminated at Elevation 749.1 ft In Residual Silty SAND (A-2-4)	40.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_16900R	**STATION** 169+00	**OFFSET** 85 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 762.4 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 561,913	**EASTING** 1,354,288	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/13/23	**COMP. DATE** 07/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
765										762.4 GROUND SURFACE 0.0
	761.4	1.0	2	3	3	6	SS-6118	17%		**RESIDUAL** Medium Stiff to Stiff, Red-Orange-White-Tan, Fine to Coarse Sandy SILT (A-4(2)), with trace mica
760	758.9	3.5	3	4	5	9		M		
	756.4	6.0	4	4	5	9		M		754.4 8.0
755	753.9	8.5	4	4	6	10		M		Medium Dense, White-Tan-Gray, Silty Fine to Coarse SAND (A-2-4), with trace mica
750	748.9	13.5	5	4	6	10		M		747.4 15.0 Boring Terminated at Elevation 747.4 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_17031L	**STATION** 170+31	**OFFSET** 105 ft LT	**ALIGNMENT** -L-	**0 HR.** 15.2
COLLAR ELEV. 749.8 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 561,920	**EASTING** 1,354,518	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/17/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
750											
	748.8	1.0						D		749.8 GROUND SURFACE	0.0
			11	8	8	16				**ALLUVIAL** Loose to Medium Dense, Gray-Brown, Clayey, Silty, Fine to Coarse SAND (A-2-4)	
	746.3	3.5						D			
745			4	4	4	8					
	743.8	6.0						D			
			4	5	6	11					
	741.3	8.5						M			
740			4	3	4	7					
										737.8	12.0
	736.3	13.5								**RESIDUAL** Loose to Medium Dense, White-Black, Silty SAND (A-2-4), with trace mica	
735			3	4	5	9					
								M			
	731.3	18.5									
730			4	9	15	24		W		729.8	20.0
										Boring Terminated at Elevation 729.8 ft In Residual Silty SAND (A-2-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_17100R	**STATION** 171+00	**OFFSET** 103 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 753.9 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 561,736	**EASTING** 1,354,399	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/14/23	**COMP. DATE** 07/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
755											
										753.9 TOPSOIL = 3 INCHES	0.0
	752.9	1.0						M		**RESIDUAL** Stiff, Orange-Brown, Fine to Coarse Sandy SILT (A-4)	
			4	6	8	14				750.9	3.0
750	750.4	3.5						M		Loose to Medium Dense, Orange-Tan-White, Silty Fine to Coarse SAND (A-2-4)	
			6	5	5	10					
	747.9	6.0						M			
			4	5	6	11					
745	745.4	8.5						M			
			5	5	3	8					
										741.9	12.0
	740.4	13.5						M		**ALLUVIAL** Soft, Brown-Black, Silty, Fine to Coarse Sandy CLAY (A-6), with trace organics and odor	
740			1	2	1	3					
										735.9	18.0
735	735.4	18.5						M		**RESIDUAL** Loose to Medium Dense, Black-White-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica	
			3	4	6	10				733.9	20.0
										Boring Terminated at Elevation 733.9 ft In Residual Silty SAND (A-2-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_17381L	**STATION** 173+81	**OFFSET** 133 ft LT	**ALIGNMENT** -L-	**0 HR.** 36.2
COLLAR ELEV. 782.7 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 561,697	**EASTING** 1,354,761	**24 HR.** 27.2
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/03/23	**COMP. DATE** 07/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
785											
	781.7	1.0	3	4	5	9				782.7 GROUND SURFACE	0.0
780	779.2	3.5	3	3	4	7	SS-4824	21% M		**RESIDUAL** Stiff, Red-Brown, Fine to Coarse Sandy, Clayey SILT (A-5(0)), with trace mica	
	776.7	6.0	2	2	2	4		D		779.7 Soft to Medium Stiff, Red-Brown-Gray-White-Orange, Fine Sandy SILT (A-4), with trace mica	3.0
775	774.2	8.5	2	2	3	5		D			
770	769.2	13.5	2	2	3	5		D		765.7 Loose, Gray-Brown-White, Silty, Fine SAND (A-2-4), with trace to little mica	17.0
765	764.2	18.5	3	3	3	6		D			
760	759.2	23.5	21	35	65/0.3	100/0.8				759.7 **WEATHERED ROCK** Gray-Brown-White, (GRANITE)	23.0
755	754.2	28.5	5	8	10	18		M		754.7 **RESIDUAL** Medium Dense, Gray-Brown-White, Silty Fine SAND (A-2-4), with little mica	28.0
750	749.2	33.5	2	7	16	23		M		750.7 Very Stiff, Gray-Brown, SILT (A-4), with trace mica	32.0
745	744.2	38.5	10	11	16	27		M		745.7 Medium Dense, Gray-Brown-White, Silty Fine SAND (A-2-4), with trace mica	37.0
										742.7 Boring Terminated at Elevation 742.7 ft In Residual Silty SAND (A-2-4)	40.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_17400R	**STATION** 174+00	**OFFSET** 148 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 789.8 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 561,476	**EASTING** 1,354,587	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/14/23	**COMP. DATE** 07/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
790											
	788.8	1.0	5	7	9	16				789.8 TOPSOIL = 6 INCHES	0.0
	786.3	3.5	5	6	6	12	SS-6129	24% M		**RESIDUAL** Very Stiff, Brown-Red, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(16))	
785	783.8	6.0	3	5	6	11		M		786.8 Stiff, Orange-Tan-Brown-Red-Black, Fine to Coarse Sandy SILT (A-4), with trace mica	3.0
	781.3	8.5	4	4	6	10		M			
780	776.3	13.5	4	3	5	8		M		777.8 Loose to Medium Dense, White-Gray-Orange, Silty Fine to Coarse SAND (A-2-4), with trace mica	12.0
775	771.3	18.5	4	4	6	10		M			
770	766.3	23.5	3	4	7	11		M			
765	761.3	28.5	3	4	4	8		M			
760	756.3	33.5	3	4	4	8		M		754.8 Boring Terminated at Elevation 754.8 ft In Residual Silty SAND (A-2-4)	35.0
755											

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_17700R	**STATION** 177+00	**OFFSET** 137 ft RT	**ALIGNMENT** -L-	**0 HR.** 26.2
COLLAR ELEV. 790.7 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 561,289	**EASTING** 1,354,849	**24 HR.** 26.3
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/20/23	**COMP. DATE** 07/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
795											
790	789.7	1.0	16	5	7	12		M		790.7 GROUND SURFACE	0.0
										RESIDUAL Stiff to Very Stiff, Red-Brown, Sandy CLAY (A-7)	
	787.2	3.5	4	8	11	19		D		786.7	4.0
785	784.7	6.0	5	5	7	12		D		Medium Dense, Orange-Red-Brown, Silty Coarse SAND (A-2-4)	
	782.2	8.5	5	6	6	12		D		782.7	8.0
780										Loose to Medium Dense, Gray-Orange-Brown-White, Silty SAND (A-2-4)	
	777.2	13.5	4	4	6	10		D			
775	772.2	18.5	5	5	7	12		M			
770	767.2	23.5	3	7	8	15		M			
765	762.2	28.5	4	5	7	12		W		763.7 Stiff, Gray-Brown, Fine Sandy SILT (A-4)	27.0
										760.7	30.0
										Boring Terminated at Elevation 760.7 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_17900R	**STATION** 179+00	**OFFSET** 126 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 797.8 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 561,191	**EASTING** 1,355,038	**24 HR.** 27.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/20/23	**COMP. DATE** 07/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
800										797.8 GROUND SURFACE	0.0
	796.8	1.0	7	10	11	21		D		**RESIDUAL** Medium Dense to Dense, Red-Brown, Silty SAND (A-2-4)	
795	794.3	3.5	8	15	18	33		D		792.3	5.5
	791.8	6.0	5	9	11	20		D		Medium Stiff to Very Stiff, Red-Gray-Brown, Sandy SILT (A-4), with trace to little mica	
790	789.3	8.5	5	7	8	15		D			
785	784.3	13.5	4	5	6	11		M			
780	779.3	18.5	4	4	5	9		M			
775	774.3	23.5	3	4	4	8		W			
770	769.3	28.5	3	3	4	7		W		767.8	30.0
										Boring Terminated at Elevation 767.8 ft In Residual Sandy SILT (A-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL3_B-5	**STATION** 181+40	**OFFSET** 146 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 806.4 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 561,337	**EASTING** 1,355,370	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/28/23	**COMP. DATE** 06/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
810										
										806.4 GROUND SURFACE 0.0
805	805.4	1.0	9	5	6	11		D		**RESIDUAL** Loose to Medium Dense, Orange-Brown-White-Black, Silty Fine to Coarse SAND (A-2-4)
	802.9	3.5	3	4	3	7		D		
800	800.4	6.0	2	3	5	8		D		
	797.9	8.5	4	6	6	12		D		
795	792.9	13.5	4	4	6	10		D		
790	787.9	18.5	8	13	9	22		D		
785	782.9	23.5	6	9	11	20		D		781.4 25.0
										Boring Terminated at Elevation 781.4 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL3_B-4	**STATION** 183+51	**OFFSET** 109 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 808.7 ft	**TOTAL DEPTH** 45.0 ft	**NORTHING** 561,224	**EASTING** 1,355,551	**24 HR.** 36.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
810										
	807.7	1.0								808.7 TOPSOIL = 4 INCHES 0.0
805	805.2	3.5	7	10	16	26		M		**RESIDUAL** Medium Dense, Red-Orange-White, Silty Fine to Coarse SAND (A-2-4), with trace mica and quartz fragments 805.2 3.5
	802.7	6.0	42	58/0.1		100/0.6				**WEATHERED ROCK** Gray-White-Black, (GRANODIORITE)
800	800.2	8.5	100/0.3			100/0.3				
			100/0.5			100/0.5				
795	795.2	13.5	33	67/0.2		100/0.7				
790	790.2	18.5	100/0.5			100/0.5				787.2 21.5
785	785.2	23.5	15	19	46	65		D		**RESIDUAL** Dense to Very Dense, Black-Gray-White, Silty, Gravely Fine to Coarse SAND (A-1-b), with trace mica
780	780.2	28.5	50	23	34	57		D		
775	775.2	33.5	16	18	21	39		D		
770	770.2	38.5	11	14	19	33		D		771.7 37.0
765	765.2	43.5	17	19	22	41		M		Dense, Gray-Brown, Silty Fine to Coarse SAND (A-2-4), with trace mica
										763.7 45.0
										Boring Terminated at Elevation 763.7 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL3_B-3	**STATION** 184+50	**OFFSET** 99 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 808.2 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 561,177	**EASTING** 1,355,639	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
810										
	807.2	1.0	4	6	6	12		M		808.2 GROUND SURFACE 0.0
805	804.7	3.5								**RESIDUAL**
			5	6	9	15		M		Medium Dense,
	802.2	6.0								White-Orange-Gray-Brown-Pink, Silty Fine to
			5	5	7	12		M		Coarse SAND (A-2-4), with trace quartz
800	799.7	8.5								fragments and mica
			7	9	9	18		M		
795	794.7	13.5								
			7	8	8	16		M		
790	789.7	18.5								
			10	9	11	20		M		
785	784.7	23.5								
			7	10	10	20		M		
780	779.7	28.5								
			8	7	10	17		M		
775	774.7	33.5								
			6	7	9	16		M		773.2 Boring Terminated at Elevation 773.2 ft In 35.0
										Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_18900L	**STATION** 189+00	**OFFSET** 111 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 801.2 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 561,019	**EASTING** 1,356,060	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
805										
										801.2 TOPSOIL = 4 INCHES 0.0
800	800.2	1.0	6	8	13	21	SS-1178	21%		**ARTIFICIAL FILL**
	797.7	3.5								Very Stiff, Red-Orange, Silty, Fine to Coarse
			8	8	11	19	SS-1179	16%		798.2 Sandy CLAY, Highly Plastic, (A-7-5(21)), with 3.0
795	795.2	6.0								trace mica
			5	3	4	7		M		795.7 **RESIDUAL** 5.5
	792.7	8.5								Very Stiff, Red-Orange, Clayey, Fine to
790			4	5	4	9		M		Coarse Sandy SILT (A-4(1))
										Loose to Medium Dense,
	787.7	13.5	6	5	6	11		M		Brown-Tan-Orange-Gray-White, Silty Fine to
785										Coarse SAND (A-2-4), with trace mica
	782.7	18.5	6	7	7	14		M		781.2 20.0
										Boring Terminated at Elevation 781.2 ft In
										Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_19100R	**STATION** 191+00	**OFFSET** 105 ft RT	**ALIGNMENT** -L-	**0 HR.** 14.2
COLLAR ELEV. 787.2 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 560,744	**EASTING** 1,356,164	**24 HR.** 11.2
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/20/23	**COMP. DATE** 07/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
790										787.2 GROUND SURFACE	0.0
	786.2	1.0	6	7	5	12		D		**RESIDUAL** Medium Dense, Gray-Brown-White, Silty SAND (A-2-4) 784.2	3.0
785	783.7	3.5	2	3	2	5		M		Medium Stiff to Stiff, Orange-Brown, Sandy CLAY (A-7)	
	781.2	6.0	2	5	9	14		M		779.2	8.0
780	778.7	8.5	5	5	8	13		M		Stiff, Red-Gray-Brown, SILT (A-4), with trace mica	
775	773.7	13.5	3	3	4	7		M		775.2 Medium Stiff, Red-Gray-Brown, Silty CLAY (A-6)	12.0
770	768.7	18.5	4	3	5	8		M		770.2 Medium Stiff to Stiff, Gray-Brown, Fine Sandy SILT (A-4)	17.0
										767.2 Boring Terminated at Elevation 767.2 ft In Residual Sandy SILT (A-4)	20.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_19300L	**STATION** 193+00	**OFFSET** 88 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 792.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 560,847	**EASTING** 1,356,422	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
795										792.3 TOPSOIL = 3 INCHES 0.0
	791.3	1.0	3	3	2	5	SS-1175	19%		**ROADWAY EMBANKMENT** Medium Stiff, Tan-Orange-Gray, Silty, Fine to Coarse Sandy CLAY (A-6(3)) 789.3 3.0
790	788.8	3.5	5	6	8	14		M		**RESIDUAL** Stiff, Red, Silty CLAY (A-7) 786.8 5.5
	786.3	6.0	4	5	6	11		M		Loose to Medium Dense, Orange-Red-White, Silty Fine to Coarse SAND (A-2-4), with trace mica
785	783.8	8.5	3	4	5	9		M		782.3 10.0
										Boring Terminated at Elevation 782.3 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_19300R	**STATION** 193+00	**OFFSET** 105 ft RT	**ALIGNMENT** -L-	**0 HR.** 8.0
COLLAR ELEV. 781.9 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 560,668	**EASTING** 1,356,350	**24 HR.** 9.3
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/20/23	**COMP. DATE** 07/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
785											
										781.9	GROUND SURFACE 0.0
780	780.9	1.0						D			**RESIDUAL** Very Loose to Medium Dense, Gray-Brown, Silty SAND (A-2-4), with trace organics
	778.4	3.5	5	6	4	10		M			
			2	2	2	4					
775	775.9	6.0	3	4	6	10		M		776.4	5.5
	773.4	8.5	3	3	5	8					Medium Stiff to Stiff, Gray-Brown, Sandy CLAY (A-7), with iron staining
770								M			
	768.4	13.5	2	2	4	6		M		769.9	12.0
765											Medium Stiff, Gray-Brown-White, Sandy SILT (A-4)
	763.4	18.5	2	4	4	8		W		761.9	20.0
											Boring Terminated at Elevation 761.9 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_19600R	**STATION** 196+00	**OFFSET** 117 ft RT	**ALIGNMENT** -L-	**0 HR.** 8.2
COLLAR ELEV. 771.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 560,544	**EASTING** 1,356,623	**24 HR.** 2.7
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/20/23	**COMP. DATE** 07/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
775										
										771.1 GROUND SURFACE 0.0
770	770.1	1.0						D		**RESIDUAL** Stiff, Gray-Brown, Sandy SILT (A-4)
	767.6	3.5	5	4	5	9				768.1 3.0
765	765.1	6.0	WOH	WOH	WOH	0		W		Very Soft to Soft, Gray, Coarse Sandy CLAY (A-7)
	762.6	8.5	2	2	2	4		W		763.1 8.0
760			2	2	2	4		W		Loose to Medium Dense, Gray-Brown-White-Orange, Silty SAND (A-2-4)
	757.6	13.5	3	5	4	9		M		
755										
	752.6	18.5	3	3	5	8		M		
750										
	747.6	23.5	4	5	8	13		M		746.1 25.0
										Boring Terminated at Elevation 746.1 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_19871R	**STATION** 198+71	**OFFSET** 104 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 769.8 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 560,454	**EASTING** 1,356,879	**24 HR.** 1.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/20/23	**COMP. DATE** 07/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)
770										GROUND SURFACE	769.8	0.0
	768.8	1.0	2	2	1	3		M		**RESIDUAL** Soft, Gray-Brown, Sandy, Silty CLAY (A-6)	766.8	3.0
	766.3	3.5								Medium Stiff, Gray-Orange-Brown, Sandy CLAY (A-7)	764.3	5.5
765			1	3	4	7		W				
	763.8	6.0	2	1	2	3		W		Soft to Medium Stiff, Gray-Brown-Orange-White, Sandy SILT (A-4), with trace mica		
	761.3	8.5										
760			2	2	3	5		W				
	756.3	13.5								Loose, Gray-Brown-White, Silty Coarse SAND (A-2-4)	757.8	12.0
755			2	3	3	6		W			754.8	15.0
										Boring Terminated at Elevation 754.8 ft In Residual Silty SAND (A-2-4)		

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_19900L	**STATION** 199+00	**OFFSET** 88 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 776.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 560,621	**EASTING** 1,356,978	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)
780										GROUND SURFACE	776.8	0.0
	775.8	1.0	5	6	8	14				**ROADWAY EMBANKMENT** Stiff, Red-Orange, Silty CLAY, Moderately Plastic, (A-7-6(5)), with trace organics	773.8	3.0
775							SS-1172	19%		**ALLUVIAL** Medium Stiff to Stiff, Green-Orange-Yellow, Fine Sandy CLAY (A-6)		
	773.3	3.5	4	5	6	11		M				
	770.8	6.0	4	6	7	13		W				
770	768.3	8.5	3	3	3	6		W			766.8	10.0
										Boring Terminated at Elevation 766.8 ft In Alluvial Sandy CLAY (A-6)		

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL_Y3RPC_B-1	**STATION** 202+81	**OFFSET** 99 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 760.5 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 560,305	**EASTING** 1,357,260	**24 HR.** 8.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/18/23	**COMP. DATE** 07/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
765											
760										760.5 GROUND SURFACE	0.0
	759.5	1.0	9	8	4	12		M		**RESIDUAL** Medium Dense, Gray-Brown, Clayey, Silty SAND (A-2-4)	
	757.0	3.5	2	3	3	6		M		757.5	3.0
755	754.5	6.0	2	2	2	4		M		Soft to Medium Stiff, Gray-Brown-Orange, Sandy CLAY (A-7)	
	752.0	8.5	2	1	2	3		W		752.5	8.0
750										Soft to Medium Stiff, Gray-Brown-White, Sandy SILT (A-4), with trace mica	
	747.0	13.5	2	2	2	4		W			
745											
	742.0	18.5	2	2	3	5		W		740.5	20.0
										Boring Terminated at Elevation 740.5 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_20300L	**STATION** 203+00	**OFFSET** 85 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 765.1 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 560,466	**EASTING** 1,357,352	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
770										
765										765.1 GROUND SURFACE 0.0
	764.1	1.0	2	3	4	7		M		**RESIDUAL** Loose to Medium Dense, Yellow-Tan-Orange, Silty Fine to Coarse SAND (A-2-4), with trace mica
	761.6	3.5	3	3	3	6		M		
760	759.1	6.0	5	5	6	11		M		
	756.6	8.5	4	4	5	9		M		
755										
	751.6	13.5	3	3	4	7		M		750.1 15.0
										Boring Terminated at Elevation 750.1 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL_Y3RPC_B-2	**STATION** 204+04	**OFFSET** 100 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 766.7 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 560,256	**EASTING** 1,357,369	**24 HR.** 16.8
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/18/23	**COMP. DATE** 07/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
770										
										766.7 GROUND SURFACE 0.0
765	765.7	1.0	6	5	6	11		M		**RESIDUAL** Medium Stiff to Stiff, Yellow-Orange-Brown, Silty CLAY (A-7), with manganese oxide staining
	763.2	3.5	4	5	7	12		M		
760	760.7	6.0	3	4	4	8		M		
	758.2	8.5	3	5	6	11		M		758.7 8.0
755										Medium Stiff to Stiff, Purple-Orange-Gray-Brown-Black, Sandy SILT (A-4), with manganese oxide staining
	753.2	13.5	3	4	4	8		M		
750								▼		
	748.2	18.5	2	3	5	8		M		746.7 20.0
										Boring Terminated at Elevation 746.7 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL_Y3RPC_B-3	**STATION** 205+55	**OFFSET** 105 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 762.9 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 560,188	**EASTING** 1,357,498	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/18/23	**COMP. DATE** 07/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
765										
	761.9	1.0	5	5	8	13		D		762.9 GROUND SURFACE 0.0 **RESIDUAL** Stiff, Yellow-Orange-Brown, CLAY (A-7)
760	759.4	3.5	4	5	7	12		M		759.9 3.0 Medium Stiff to Stiff, Red-Gray-Brown-Orange, Fine Sandy SILT (A-4), with trace mica
	756.9	6.0	3	4	5	9		M		
755	754.4	8.5	3	4	5	9		M		
750										
	749.4	13.5	2	3	4	7		M		
745										
	744.4	18.5	2	3	4	7		M		742.9 20.0 Boring Terminated at Elevation 742.9 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL_Y3RPC_B-4	**STATION** 206+58	**OFFSET** 93 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 755.1 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 560,152	**EASTING** 1,357,591	**24 HR.** 13.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/18/23	**COMP. DATE** 07/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
760										
755										755.1 GROUND SURFACE 0.0
	754.1	1.0	11	5	6	11 9		M		**RESIDUAL** Stiff, Gray-Brown, Sandy, Silty CLAY (A-6)
	751.6	3.5								752.1 3.0
750			3	5	4	5		M		Soft to Stiff, Gray-Orange-Brown-White, Fine to Coarse Sandy SILT (A-4), with trace mica
	749.1	6.0	3	2	3	5		M		
	746.6	8.5								
745			2	2	3	5		M		
	741.6	13.5	2	2	2	4		W		
740										
	736.6	18.5	1	2	1	3		W		735.1 20.0
										Boring Terminated at Elevation 735.1 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV10_B-1	**STATION** 212+59	**OFFSET** 230 ft RT	**ALIGNMENT** -L-	**0 HR.** 12.1
COLLAR ELEV. 736.4 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 559,723	**EASTING** 1,358,029	**24 HR.** 8.7
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/24/23	**COMP. DATE** 07/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
										736.4 GROUND SURFACE 0.0
735	735.4	1.0	8	10	8	18 10		D		**ALLUVIAL** Soft to Very Stiff, White-Red-Brown, Fine to Coarse Sandy CLAY (A-6), with trace gravel
	732.9	3.5								
730	730.4	6.0	5	5	5	4 5		D		
	727.9	8.5	3	2	2			D		728.4 8.0
725			2	2	3			W		**RESIDUAL** Medium Stiff to Very Stiff, Brown-Gray-Orange, Fine Sandy SILT (A-4), with trace mica
	722.9	13.5	3	4	5	9		M		
720	717.9	18.5								
715			3	3	4	7		M		
	712.9	23.5	7	9	13	22		M		711.4 25.0
										Boring Terminated at Elevation 711.4 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV10_B-2	**STATION** 213+63	**OFFSET** 233 ft RT	**ALIGNMENT** -L-	**0 HR.** 10.5
COLLAR ELEV. 733.9 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 559,666	**EASTING** 1,358,116	**24 HR.** 11.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/24/23	**COMP. DATE** 07/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735										733.9 GROUND SURFACE	0.0
	732.9	1.0	5	7	7	14		D		**ALLUVIAL** Medium Stiff to Stiff, Gray-Brown, Fine Sandy SILT (A-2-4), with trace organics	
730	730.4	3.5	4	3	7	10		D			
	727.9	6.0	4	4	3	7		D			
725	725.4	8.5	2	2	2	4				725.9 **RESIDUAL** Very Loose to Very Dense, Gray-Brown-Orange, Silty Fine SAND (A-2-4)	8.0
720	720.4	13.5	2	2	5	7		M			
715	715.4	18.5	28	23	22	45		W			
710	710.4	23.5	27	32	50	82		M			
								D		708.9 Boring Terminated at Elevation 708.9 ft In Residual Silty SAND (A-2-4)	25.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV11_B-1	**STATION** 223+47	**OFFSET** 115 ft LT	**ALIGNMENT** -L-	**0 HR.** 6.4
COLLAR ELEV. 730.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 559,473	**EASTING** 1,359,142	**24 HR.** 5.8
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										
										730.5 GROUND SURFACE 0.0
730	729.5	1.0	4	3	4	7		M		**ROADWAY EMBANKMENT** Soft to Medium Stiff, Brown, Sandy SILT (A-2-4), with trace gravel
	727.0	3.5	3	2	1	3		M		
725	724.5	6.0	1	2	2	4				
	722.0	8.5	2	2	2	4		M		
720								W		720.5 **ALLUVIAL** Loose, Yellow-Brown, Silty Fine SAND (A-2-4) 10.0
	717.0	13.5	3	2	98/0.3	100/0.8		W		716.5 **WEATHERED ROCK** (SCHIST) 14.0
715										713.0 **RESIDUAL** Loose to Dense, Orange-Brown-White, Silty Fine SAND (A-2-4) 17.5
	712.0	18.5	24	23	14	37		M		
710	707.0	23.5	4	4	6	10		M		705.5 Boring Terminated at Elevation 705.5 ft In Residual Silty SAND (A-2-4) 25.0

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GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV11_B-2	**STATION** 224+63	**OFFSET** 145 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 725.0 ft	**TOTAL DEPTH** 11.0 ft	**NORTHING** 559,448	**EASTING** 1,359,257	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
730											
725										725.0 GROUND SURFACE	0.0
	724.0	1.0	1	2	3	5 7	SS-4770	20%		**RESIDUAL** Medium Stiff , Red-Brown, Silty, Sandy CLAY (A-6 (6))	
	721.5	3.5								722.0	3.0
720			2	2	5			M		Loose, Orange-Brown, Silty SAND (A-2-4)	
	719.0	6.0	15	18	24	42		M		719.5	5.5
	716.5	8.5								Hard, Red-Brown, Sandy CLAY (A-6), with trace gravel-sized rock fragments	
715			21	79/0.2		100/0.7				716.5	8.5
	714.0	11.0	60/0.0			60/0.0				**WEATHERED ROCK** Gray, (SCHIST)	
										714.0	11.0
										Boring Terminated with Standard Penetration Test Refusal at Elevation 714.0 ft On Crystalline Rock (SCHIST)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV11_B-3	**STATION** 225+50	**OFFSET** 135 ft LT	**ALIGNMENT** -L-	**0 HR.** 2.8
COLLAR ELEV. 719.6 ft	**TOTAL DEPTH** 8.0 ft	**NORTHING** 559,401	**EASTING** 1,359,330	**24 HR.** 2.2
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										
	718.6	1.0								719.6 GROUND SURFACE 0.0
			11	27	20	47	SS-4759	26%		718.1 **ALLUVIAL** Hard, Brown, Silty CLAY (A-6), with trace organics 1.5
	716.1	3.5						M		**RESIDUAL**
715			13	21	68	89				Very Dense, Gray-Brown, Silty Fine to Coarse SAND (A-2-4), with trace organics and gravel-sized rock fragments 713.6 6.0
	713.6	6.0	43	57/0.1		100/0.6				**WEATHERED ROCK** Gray, (METAVOLCANIC ROCK) 711.6 8.0
	711.6	8.0	60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 711.6 ft On Crystalline Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_22900L	**STATION** 229+00	**OFFSET** 110 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 734.1 ft	**TOTAL DEPTH** 6.0 ft	**NORTHING** 559,234	**EASTING** 1,359,632	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/16/23	**COMP. DATE** 06/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										ELEV. (ft) DEPTH (ft)
										734.1 GROUND SURFACE 0.0
	733.1	1.0	7	37	63/0.4	100/0.9				**WEATHERED ROCK** Orange-Gray-Brown, (MICA SCHIST)
730	730.6	3.5	100/0.5			100/0.5				
	728.1	6.0	60/0.0			60/0.0				728.1 6.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 728.1 ft On Crystalline Rock (MICA SCHIST)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_23000L	**STATION** 230+00	**OFFSET** 107 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 737.2 ft	**TOTAL DEPTH** 1.0 ft	**NORTHING** 559,192	**EASTING** 1,359,722	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/16/23	**COMP. DATE** 06/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
										737.2 GROUND SURFACE 0.0
	736.2	1.0	60/0.0			60/0.0				736.2 **CRYSTALLINE ROCK** Gray-Brown, (MICA SCHIST) 1.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 736.2 ft In Crystalline Rock (MICA SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_23100L	**STATION** 231+00	**OFFSET** 104 ft LT	**ALIGNMENT** -L-	**0 HR.** 12.0
COLLAR ELEV. 731.5 ft	**TOTAL DEPTH** 24.4 ft	**NORTHING** 559,151	**EASTING** 1,359,813	**24 HR.** 8.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735											
										731.5 GROUND SURFACE	0.0
730	730.5	1.0								**WEATHERED ROCK** White-Orange-Brown, (PHYLLITE)	
	728.0	3.5	90	10/0.1		100/0.6				728.5	3.0
			13	12	20	32				**RESIDUAL** Dense, White-Orange-Brown, Silty Fine to Coarse SAND (A-3), with trace gravel-sized rock fragments, manganese oxide staining	
725	725.5	6.0	30	30	70/0.4	100/0.9		D		726.0	5.5
	723.0	8.5	100/0.4			100/0.4				**WEATHERED ROCK** Brown-White, (PHYLLITE)	
720											
	718.0	13.5	38	62/0.4		100/0.9					
715											
	713.0	18.5	60/0.0			60/0.0				713.0 **CRYSTALLINE ROCK** White-Gray, (MICA SCHIST)	18.5
710										709.5	22.0
	708.0	23.5	25	72/0.4		100/0.9				**WEATHERED ROCK** White-Gray, (MICA SCHIST)	
										707.1	24.4
										Boring Terminated at Elevation 707.1 ft In Weathered Rock (MICA SCHIST)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_23200L	**STATION** 232+00	**OFFSET** 100 ft LT	**ALIGNMENT** -L-	**0 HR.** 8.4
COLLAR ELEV. 727.9 ft	**TOTAL DEPTH** 19.8 ft	**NORTHING** 559,110	**EASTING** 1,359,902	**24 HR.** 6.5
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/28/23	**COMP. DATE** 06/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
730											
										727.9 TOPSOIL = 4 INCHES	0.0
	726.9	1.0	6	7	9	16		M		**RESIDUAL** Very Stiff to Hard, Black-Orange-Gray-Brown-Red, Fine Sandy SILT (A-4), with trace to some mica and trace gravel-sized rock fragments	
725	724.4	3.5	7	7	12	19		M			
	721.9	6.0	9	7	11	18		M			
720	719.4	8.5	7	9	30	39		M			
715	714.4	13.5	27	22	20	42		M			
										708.9	19.0
710	709.4	18.5	30	40	60/0.3	100/0.8				708.1 **WEATHERED ROCK** White-Gray, (MICA SCHIST)	19.8
										Boring Terminated at Elevation 708.1 ft In Weathered Rock (MICA SCHIST)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_23200R	**STATION** 232+00	**OFFSET** 70 ft RT	**ALIGNMENT** -L-	**0 HR.** 6.0
COLLAR ELEV. 728.0 ft	**TOTAL DEPTH** 8.9 ft	**NORTHING** 558,952	**EASTING** 1,359,839	**24 HR.** 3.7
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
730										
	727.0	1.0	2	3	7	10		M		728.0 TOPSOIL = 3 INCHES 0.0 **ROADWAY EMBANKMENT** Stiff, Orange-Brown, Fine Sandy SILT (A-4), with trace gravel
725	724.5	3.5	14	13	8	21		M		725.0 3.0 **RESIDUAL** Medium Dense, Orange-Gray-Brown, Silty Fine SAND (A-2-4), with trace gravel-sized rock fragments
	722.0	6.0	10	15	85/0.4	100/0.9				722.0 6.0 **WEATHERED ROCK** Brown-Orange, (SCHIST)
720	719.5	8.5	100/0.4			100/0.4				719.1 8.9 Boring Terminated at Elevation 719.1 ft In Weathered Rock (SCHIST)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_23250L	**STATION** 232+50	**OFFSET** 197 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 777.5 ft	**TOTAL DEPTH** 28.0 ft	**NORTHING** 558,815	**EASTING** 1,359,840	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
780										
										777.5 GROUND SURFACE 0.0
775										**ARTIFICIAL FILL** Stiff, Brown-Orange, Fine Sandy SILT (A-4), with trace mica
										763.5 14.0 **RESIDUAL** Very Stiff to Hard, Brown-Gray, Fine Sandy SILT (A-4), with trace mica
770										760.5 17.0 **WEATHERED ROCK** Brown-Gray, (SCHIST)
765										759.0 18.5 **CRYSTALLINE ROCK** (SCHIST)
760	759.0	18.5	60/0.0			60/0.0				756.5 21.0 **WEATHERED ROCK** Brown-Orange, (SCHIST)
	754.0	23.5	15	41	59/0.3	100/0.8				
755										
750	749.5	28.0	60/0.0			60/0.0				749.5 28.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 749.5 ft On Crystalline Rock (SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_23364R	**STATION** 233+64	**OFFSET** 188 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 770.3 ft	**TOTAL DEPTH** 48.5 ft	**NORTHING** 558,782	**EASTING** 1,359,951	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
775										
770										770.3 / 0.0 TOPSOIL = 3 INCHES
	769.3	1.0								**ARTIFICIAL FILL**
			3	4	5	9	SS-1119	18%		Medium Stiff to Hard, Brown-Red-Orange-Tan, Clayey, Fine Sandy SILT (A-4(0)), with trace mica
	766.8	3.5								
765			2	2	4	6		M		
	764.3	6.0								
			4	3	5	8		M		
	761.8	8.5								
760			3	3	3	6	SS-1120	22%		
	756.8	13.5								
755			5	5	6	11		M		
	751.8	18.5								
			6	3	3	6		M		
750	746.8	23.5								
			6	6	9	15		M		
745	741.8	28.5								
			5	6	7	13		M		
740	736.8	33.5								
			6	8	10	18		M		
735	731.8	38.5								
			11	21	57	78		M		
730	726.8	43.5								726.3 / 44.0 **WEATHERED ROCK** (SCHIST)
			11	27	73/0.4	100/0.9				
725	722.8	47.5								722.8 / 47.5
	721.8	48.5	60/0.0			60/0.0				721.8 / 48.5 **CRYSTALLINE ROCK** (SCHIST) Boring Terminated with Standard Penetration Test Refusal at Elevation 721.8 ft In Crystalline Rock (SCHIST)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_23400L	**STATION** 234+00	**OFFSET** 92 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 716.6 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 559,033	**EASTING** 1,360,079	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/28/23	**COMP. DATE** 06/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
720										
										716.6 / 0.0 TOPSOIL = 3 INCHES
715	715.6	1.0								**ROADWAY EMBANKMENT**
			4	6	6	12		M		Stiff, Gray-White-Orange-Red-Tan, Fine to Coarse Sandy SILT (A-4), with trace gravel
	713.1	3.5								713.6 / 3.0
			3	5	4	9	SS-879	44%		Medium Stiff to Stiff, Black-Orange-Red-Gray, Clayey, Fine Sandy SILT (A-5(6)), with trace mica and gravel
710	710.6	6.0								
			1	3	3	6		M		
	708.1	8.5								708.6 / 8.0
			3	3	4	7		W		**ALLUVIAL**
705										Medium Stiff, Gray-Red-Brown, Fine to Coarse Sandy CLAY (A-6), with trace organics
										704.6 / 12.0
	703.1	13.5								Soft, Blue-Gray, Silty, Fine Sandy CLAY (A-6(3)), with trace organics and organic odor
			WOH	1	2	3	SS-882	27%		
700										699.6 / 17.0
	698.1	18.5								**RESIDUAL**
			8	11	10	21		M		Very Stiff, White-Orange-Tan-Gray, Fine to Coarse Sandy SILT (A-4), with trace to little mica and gravel-sized rock fragments
										696.6 / 20.0 Boring Terminated at Elevation 696.6 ft In Residual Sandy SILT (A-4)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_23616R	**STATION** 236+16	**OFFSET** 183 ft RT	**ALIGNMENT** -L-	**0 HR.** 32.8
COLLAR ELEV. 753.7 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 558,699	**EASTING** 1,360,195	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/19/23	**COMP. DATE** 07/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
755										753.7 GROUND SURFACE	0.0
	752.7	1.0						M		**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Red-Brown-Yellow, Sandy, Silty CLAY (A-6)	
750	750.2	3.5	6	4	5	9		M			
	747.7	6.0	2	3	5	8		M		748.2 Stiff, Orange-Brown, SILT (A-4), with trace sand and gravel and gravel-sized rock fragments	5.5
745	745.2	8.5	12	4	6	10		D			
			3	5	8	13		M			
740	740.2	13.5								741.7 Stiff, Red-Brown-Orange, Sandy CLAY (A-7), with trace sand	12.0
			3	3	6	9		M			
735	735.2	18.5								736.7 **RESIDUAL** Very Stiff, Red-Brown-Gray, Silty CLAY (A-6), with manganese oxide staining	17.0
			4	6	10	16		M			
730	730.2	23.5									
			3	7	11	18		M			
725	725.2	28.5								726.7 Medium Stiff to Stiff, Orange-Brown-Gray, SILT (A-4), with manganese oxide staining	27.0
			3	3	4	7		M			
720	720.2	33.5						▽			
			3	3	4	7		M			
715	715.2	38.5									
			2	4	4	8		M		713.7 Boring Terminated at Elevation 713.7 ft In Residual SILT (A-4)	40.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_23863L	**STATION** 238+63	**OFFSET** 133 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 740.2 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 558,921	**EASTING** 1,360,529	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/19/23	**COMP. DATE** 07/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
745										740.2 PAVEMENT	0.0
740	739.2	1.0	17	9	5	14				**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Gray-Brown-Orange, Sandy SILT (A-4), with trace gravel	
	736.7	3.5	3	2	4	6		M			
735	734.2	6.0	6	4	7	11		D		732.2 Stiff to Very Stiff, White-Brown-Orange-Red, Sandy SILT (A-4), with trace gravel-sized quartz fragments	8.0
	731.7	8.5	3	6	10	16		D			
730											
	726.7	13.5	4	5	5	10		D			
725											
	721.7	18.5	4	6	6	12		M			
720											
	716.7	23.5	5	4	5	9		M		718.2 Medium Stiff to Stiff, Red-Brown-Gray-Black, Sandy CLAY (A-7), with trace wood debris and gravel	22.0
715											
	711.7	28.5	3	2	3	5		M		708.2 **ALLUVIAL** Stiff, Gray-Brown-Blue, Sandy CLAY (A-7), with trace rootlets and iron oxide staining	32.0
710											
	706.7	33.5	1	3	6	9		W		705.2 Boring Terminated at Elevation 705.2 ft In Residual Sandy CLAY (A-7)	35.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_24200R	**STATION** 242+00	**OFFSET** 106 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 722.4 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 558,596	**EASTING** 1,360,784	**24 HR.** 10.2
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										ELEV. (ft) DEPTH (ft)
										722.4 GROUND SURFACE 0.0
	721.4	1.0								**ROADWAY EMBANKMENT**
720			3	4	5	9	SS-1151	29%		Medium Stiff to Stiff, Red-Orange-Pink-Brown-Black, Fine Sandy, Clayey SILT (A-5(6)), with trace mica and gravel
	718.9	3.5	3	3	4	7		M		
	716.4	6.0	2	5	7	12		M		
715								M		
	713.9	8.5	5	5	6	11				
710								M		
	708.9	13.5	2	3	3	6		W		
										707.4 15.0
										Boring Terminated at Elevation 707.4 ft In Roadway Embankment Clayey SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_24500L	**STATION** 245+00	**OFFSET** 100 ft LT	**ALIGNMENT** -L-	**0 HR.** 11.0
COLLAR ELEV. 717.4 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 558,720	**EASTING** 1,361,126	**24 HR.** 9.4
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/15/23	**COMP. DATE** 06/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										
										717.4 GROUND SURFACE 0.0
	716.4	1.0								**RESIDUAL**
715			4	6	6	12		M		Medium Dense, Orange-Gray-Brown, Clayey Fine to Coarse SAND (A-2-6)
	713.9	3.5	1	1	2	3				714.4 3.0
	711.4	6.0					SS-4669	53%		Soft, Orange-Gray-Brown, SILT (A-5(1)), with trace to some mica, manganese oxide staining
710			WOH	2	1	3		W		
	708.9	8.5								
			1	1	2	3		W		
705										
	703.9	13.5	WOH	2	1	3		W		
										702.4 15.0
										Boring Terminated at Elevation 702.4 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_24500R	**STATION** 245+00	**OFFSET** 105 ft RT	**ALIGNMENT** -L-	**0 HR.** 15.2
COLLAR ELEV. 707.9 ft	**TOTAL DEPTH** 18.9 ft	**NORTHING** 558,521	**EASTING** 1,361,078	**24 HR.** 4.4
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
710										
	706.9	1.0	2	2	2	4	SS-837	22%		707.9 TOPSOIL = 3 INCHES 0.0 **RESIDUAL** Soft to Medium Stiff, Gray-Orange-Tan, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-6(7))
705	704.4	3.5	3	3	3	6		M		
	701.9	6.0	6	7	8	15		M		702.4 5.5 Stiff to Hard, Orange-Tan-Red-White-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica
700	699.4	8.5	4	8	9	17		M		
695	694.4	13.5	14	15	21	36		M		
690	689.4	18.5	100/0.4			100/0.4				689.4 18.5 689.0 18.9 **WEATHERED ROCK** White-Gray, (GRANITE) Boring Terminated at Elevation 689.0 ft In Weathered Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_24800L	**STATION** 248+00	**OFFSET** 103 ft LT	**ALIGNMENT** -L-	**0 HR.** 12.5
COLLAR ELEV. 715.3 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 558,658	**EASTING** 1,361,417	**24 HR.** 7.4
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/15/23	**COMP. DATE** 06/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										
715										715.3 GROUND SURFACE 0.0
	714.3	1.0	3	3	1	4		M		**RESIDUAL** Very Soft to Medium Stiff, Orange-Gray-Brown, SILT (A-5(5)), with trace gravel-sized quartz fragments, manganese oxide staining
	711.8	3.5	WOH	WOH	WOH	0	SS-4664	76%		
710	709.3	6.0	WOH	WOH	1	1		M		
	706.8	8.5	WOH	1	1	2		M		
705	701.8	13.5	1	2	4	6		W		700.3 15.0 Boring Terminated at Elevation 700.3 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_24800R	**STATION** 248+00	**OFFSET** 101 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 710.5 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 558,459	**EASTING** 1,361,374	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
715										
710										710.5 / 0.0 TOPSOIL = 4 INCHES
	709.5	1.0	3	4	5	9		M		**RESIDUAL** Soft to Stiff, Gray-Orange-Red-Tan, Fine to Coarse Sandy, Silty CLAY, Moderately Plastic, (A-7-6(9))
	707.0	3.5	3	4	4	8	SS-844	26%		
705	704.5	6.0	WOH	1	2	3		W		
	702.0	8.5	1	2	2	4		W		702.5 / 8.0 Soft to Medium Stiff, Black-Orange-Brown, Fine Sandy SILT (A-5), with trace mica, manganese oxide staining
										700.5 / 10.0 Boring Terminated at Elevation 700.5 ft In Residual Sandy SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_25100L	**STATION** 251+00	**OFFSET** 103 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 712.6 ft	**TOTAL DEPTH** 14.2 ft	**NORTHING** 558,594	**EASTING** 1,361,711	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/15/23	**COMP. DATE** 06/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
715										
										712.6 / 0.0 GROUND SURFACE
710	711.6	1.0	14	24	37	61		D		**RESIDUAL** Hard, Gray-Brown, SILT (A-4), with little to some mica
	709.1	3.5	28	36	48	84		D		
	706.6	6.0	21	26	46	72		D		
705	704.1	8.5	39	61/0.4		100/0.9				704.1 / 8.5 **WEATHERED ROCK** Gray-Brown, (SCHIST)
700	699.1	13.5	71	29/0.2		100/0.7				698.4 / 14.2 Boring Terminated at Elevation 698.4 ft In Weathered Rock (SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_25100R	**STATION** 251+00	**OFFSET** 101 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 711.2 ft	**TOTAL DEPTH** 9.3 ft	**NORTHING** 558,394	**EASTING** 1,361,667	**24 HR.** 6.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715											
										711.2 GROUND SURFACE	0.0
710	710.2	1.0	2	3	5	8				**RESIDUAL** Medium Stiff to Stiff, Gray-Brown, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-6(17))	
	707.7	3.5	2	3	4	7	SS-847	22% M			
705	705.2	6.0	5	13	16	29		M		705.7 Very Stiff, Orange-Gray-Tan, Fine Sandy SILT (A-4)	5.5
	702.7	8.5	51	49/0.3		100/0.8				703.2 **WEATHERED ROCK** Red-Brown-Gray, (SCHIST)	8.0
										701.9 Boring Terminated at Elevation 701.9 ft In Weathered Rock (SCHIST)	9.3

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_25400R	**STATION** 254+00	**OFFSET** 105 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 703.2 ft	**TOTAL DEPTH** 14.2 ft	**NORTHING** 558,326	**EASTING** 1,361,959	**24 HR.** 4.4
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/03/23	**COMP. DATE** 07/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
705										
										703.2 GROUND SURFACE 0.0
	702.2	1.0	2	2	7	9				**ROADWAY EMBANKMENT** Stiff, Orange-Brown, Fine to Coarse Sandy,
700	699.7	3.5	6	5	1	6	SS-4815	27%		Silty CLAY (A-7-6(9)) 700.2 3.0
	697.2	6.0	3	4	5	9		M		Loose, Brown, Silty SAND (A-2-4), with trace gravel 697.7 5.5
695	694.7	8.5	3	4	8	12		M		**RESIDUAL** Stiff, Gray-Brown-Orange, SILT (A-4)
	689.7	13.5	60	40/0.2		100/0.7		M		
690										690.2 13.0
										689.0 **WEATHERED ROCK** Gray-Brown-Orange, (SCHIST) 14.2
										Boring Terminated at Elevation 689.0 ft In Weathered Rock (SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_26000L	**STATION** 260+00	**OFFSET** 124 ft LT	**ALIGNMENT** -L-	**0 HR.** 26.0
COLLAR ELEV. 733.0 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 558,422	**EASTING** 1,362,594	**24 HR.** 19.6
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/07/23	**COMP. DATE** 06/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
735										
	732.0	1.0	2	4	5	9		D		733.0 GROUND SURFACE 0.0 **ROADWAY EMBANKMENT** Stiff, Red-Brown, SILT (A-4), with trace roots
730	729.5	3.5	2	4	4	8		D		730.0 3.0 **RESIDUAL** Medium Stiff to Stiff, Orange-Red-Brown, Clayey, Fine Sandy SILT (A-5(6)), with manganese oxide staining and chemical odor
	727.0	6.0	3	2	4	6		D		
725	724.5	8.5	2	3	5	8		D		
720	719.5	13.5	2	3	3	6		M		
715	714.5	18.5	2	3	5	8	SS-4411	48%		
710	709.5	23.5	3	3	6	9		M		
705	704.5	28.5	2	3	4	7		M		703.0 30.0 Boring Terminated at Elevation 703.0 ft In Residual Sandy SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_26200L	**STATION** 262+00	**OFFSET** 143 ft LT	**ALIGNMENT** -L-	**0 HR.** 28.2
COLLAR ELEV. 742.1 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 558,398	**EASTING** 1,362,794	**24 HR.** 24.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/06/23	**COMP. DATE** 06/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
745										
										742.1 TOPSOIL = 6 INCHES 0.0
	741.1	1.0	2	2	3	5		M		**RESIDUAL** Medium Stiff to Stiff, Black-Orange-Tan, Fine Sandy SILT (A-5), with manganese oxide staining
740	738.6	3.5	2	2	3	5	SS-540	31%		
	736.1	6.0	2	3	4	7		M		
735	733.6	8.5	3	2	3	5		M		
730	728.6	13.5	2	2	4	6	SS-543	36%		
725	723.6	18.5	5	5	6	11		M		
720	718.6	23.5	5	5	6	11		M		
715	713.6	28.5	2	4	5	9		M		
710	708.6	33.5	3	4	5	9		M		707.1 35.0 Boring Terminated at Elevation 707.1 ft In Residual Sandy SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_26200R	**STATION** 262+00	**OFFSET** 70 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 718.2 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 558,190	**EASTING** 1,362,748	**24 HR.** 9.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/07/23	**COMP. DATE** 06/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
720										
	718.2	0.0								718.2 GROUND SURFACE 0.0
	717.2	1.0	2	2	4	6		M		**RESIDUAL** Soft to Medium Stiff, Orange-Red-Gray-Brown, Fine Sandy SILT (A-4), with manganese oxide staining
715	714.7	3.5	2	2	2	4		M		
	712.2	6.0	2	2	3	5		M		712.7 5.5 Medium Stiff, Gray-Brown-Orange, Sandy, Silty CLAY (A-6), with manganese oxide staining
710	709.7	8.5	2	2	3	5		M		
	704.7	13.5	2	3	5	8		M		703.2 15.0 Boring Terminated at Elevation 703.2 ft In Residual Sandy, Silty CLAY (A-6)
705										

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_26400L	**STATION** 264+00	**OFFSET** 143 ft LT	**ALIGNMENT** -L-	**0 HR.** 29.2
COLLAR ELEV. 746.9 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 558,355	**EASTING** 1,362,989	**24 HR.** 23.7
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/06/23	**COMP. DATE** 06/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										
	746.9	0.0								746.9 TOPSOIL = 6 INCHES 0.0
	745.9	1.0	1	2	2	4		M		**RESIDUAL** Soft to Medium Stiff, Tan-Red-Brown, Fine Sandy SILT (A-4)
745	743.4	3.5	2	2	3	5	SS-530	33%		743.9 3.0 Medium Stiff to Very Stiff, Black-Red-Purple-Orange-Brown, Fine Sandy SILT (A-5), with trace mica, manganese oxide staining
	740.9	6.0	2	2	4	6		M		
740	738.4	8.5	2	2	3	5		M		
	733.4	13.5	2	3	3	6	SS-533	37%		
735										
	728.4	18.5	2	3	4	7		M		
730	723.4	23.5	3	8	10	18		M		
	718.4	28.5	2	4	5	9	SS-536	55%		
725										
	713.4	33.5	2	3	3	6		M		714.9 32.0 Medium Stiff to Stiff, Black-Green-Tan-White, Silty, Clayey Fine SAND (A-2-6), with trace gravel-sized rock fragments, manganese oxide staining
720	708.4	38.5	6	5	9	14		M		706.9 40.0 Boring Terminated at Elevation 706.9 ft In Residual Clayey SAND (A-2-6)
715										
710										

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_27000L	**STATION** 270+00	**OFFSET** 101 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 731.1 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 558,186	**EASTING** 1,363,566	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/06/23	**COMP. DATE** 06/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735											
										731.1	0.0
										TOPSOIL = 6 INCHES	
730	730.1	1.0	2	3	3	6				**RESIDUAL**	
	727.6	3.5	2	4	4	8	SS-500	31%		Medium Stiff, Tan-Red-Brown, Fine Sandy, Clayey SILT (A-4(12))	
725	725.1	6.0	2	3	5	8	SS-501	32%		728.1	3.0
	722.6	8.5	3	3	4	7		M		Medium Stiff to Stiff, Tan-Red-Brown, Fine Sandy, Clayey SILT (A-5(4)), with manganese oxide staining	
720								M			
	717.6	13.5	3	3	4	7					
715								M		714.1	17.0
	712.6	18.5	2	3	3	6		M		Medium Stiff, Black-White-Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
										711.1	20.0
										Boring Terminated at Elevation 711.1 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV16_B-3_RS	**STATION** 276+34	**OFFSET** 190 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 690.6 ft	**TOTAL DEPTH** 6.0 ft	**NORTHING** 558,137	**EASTING** 1,364,205	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE N/A		**DRILL METHOD** Rod Sounding	**HAMMER TYPE** Manual	
DRILLER P. Tomasic	**START DATE** 07/27/23	**COMP. DATE** 07/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
695										
										690.6 TOPSOIL = 3 INCHES 0.0
690			1	3		4 10 16 30 39		M		**ALLUVIAL**
			6	4						688.1 Loose to Medium Dense, Red-Brown, Silty Fine SAND (A-2-4), with trace organics 2.5
			5	11						
685			20	10						684.6 6.0
			17	22						Boring Terminated at Elevation 684.6 ft
			23	100		100/0.5				Hand Auger Refusal at 2.5 ft
										Rod Sounding Refusal at 6.0 ft

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV16_B-1	**STATION** 276+56	**OFFSET** 177 ft RT	**ALIGNMENT** -L-	**0 HR.** 9.0
COLLAR ELEV. 692.0 ft	**TOTAL DEPTH** 23.5 ft	**NORTHING** 557,774	**EASTING** 1,364,148	**24 HR.** 3.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/08/23	**COMP. DATE** 06/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
695										
										692.0 GROUND SURFACE 0.0
	691.0	1.0								**ALLUVIAL**
690	688.5	3.5	2	2	2	4	SS-4477	23%		Soft to Medium Stiff, Blue-Gray-Orange-Brown, Fine Sandy Silty CLAY (A-6(10))
	686.0	6.0	2	3	3	6		M		686.5 5.5
685	683.5	8.5	3	2	3	5		W		Medium Stiff, Blue-Gray-Brown, Fine Sandy SILT (A-4), with trace gravel
			5	10	13	23		M		684.0 8.0
680	678.5	13.5								**RESIDUAL**
			15	25	40	65		D		Very Stiff to Hard, Gray-Brown-Orange, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments
675	673.5	18.5								
			23	20	23	43		D		
670	668.5	23.5								668.5 23.5
			60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 668.5 ft On Crystalline Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV16_B-2	**STATION** 276+77	**OFFSET** 173 ft LT	**ALIGNMENT** -L-	**0 HR.** 11.4
COLLAR ELEV. 693.6 ft	**TOTAL DEPTH** 28.8 ft	**NORTHING** 558,111	**EASTING** 1,364,243	**24 HR.** 13.9
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/06/23	**COMP. DATE** 06/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
695										
										693.6 GROUND SURFACE 0.0
	692.6	1.0						M		**ARTIFICIAL FILL**
			3	5	6	11		M		Medium Stiff to Stiff, Brown-Tan-Orange, Fine Sandy SILT (A-4), with trace gravel
690	690.1	3.5	2	2	3	5		M		688.1 5.5
	687.6	6.0	16	19	24	43		M		**RESIDUAL**
685	685.1	8.5	12	11	20	31		M		Hard, Gray-Orange-Tan, Fine Sandy SILT (A-4)
			15	24	32	56		M		
680	680.1	13.5								
			38	62/0.4		100/0.9				675.1 18.5
675	675.1	18.5								**WEATHERED ROCK**
			60	40/0.2		100/0.7				Gray-Brown, (SCHIST)
670	670.1	23.5								
			100/0.3			100/0.3				664.8 28.8
665	665.1	28.5								Boring Terminated at Elevation 664.8 ft In Weathered Rock (SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_28000R	**STATION** 280+00	**OFFSET** 142 ft RT	**ALIGNMENT** -L-	**0 HR.** 23.0
COLLAR ELEV. 701.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,735	**EASTING** 1,364,491	**24 HR.** 9.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/09/23	**COMP. DATE** 06/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
705										
	700.6	1.0								701.6 0.0 TOPSOIL = 4 INCHES
700			3	3	6	9		M		**RESIDUAL** Medium Stiff to Stiff, Gray-Black-Tan, Fine to Coarse Sandy, Silty CLAY, Moderately Plastic, (A-7-6(15)), with trace gravel-sized rock fragments, manganese oxide staining
	698.1	3.5						21%		
			3	6	5	11		M		696.1 5.5
695	695.6	6.0								Medium Stiff to Stiff, Black-Orange-White-Gray, Clayey, Fine Sandy SILT (A-5), with manganese oxide staining
			3	3	4	7		M		
	693.1	8.5								
			3	3	3	6		M		
690										
	688.1	13.5								
			2	2	3	5		M		
685										
	683.1	18.5								
			2	2	3	5		M		
680										
	678.1	23.5								
			2	4	5	9		M		676.6 25.0 Boring Terminated at Elevation 676.6 ft In Residual Sandy SILT (A-5)

Other Samples:
ST-4 (2.0 - 4.0)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_28300L	**STATION** 283+00	**OFFSET** 100 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 726.0 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,907	**EASTING** 1,364,836	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/05/23	**COMP. DATE** 06/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										
										726.0 0.0 TOPSOIL = 8 INCHES
725	725.0	1.0								**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Gray-Brown, Fine Sandy, Silty CLAY (A-7), with trace gravel
			3	3	5	8		M		723.0 3.0
	722.5	3.5								**RESIDUAL** Stiff, Black-Red-Orange-Tan, Fine Sandy, Silty, Moderately Plastic CLAY (A-7-5(22)), with manganese oxide staining
			3	4	5	9	SS-488	32%		
720	720.0	6.0								
			3	5	8	13		M		
	717.5	8.5								
			3	6	6	12		M		716.0 10.0 Boring Terminated at Elevation 716.0 ft In Residual Silty CLAY (A-7-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_28300R	**STATION** 283+00	**OFFSET** 103 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 723.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,708	**EASTING** 1,364,793	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										723.9 GROUND SURFACE 0.0
	722.9	1.0	2	5	7	12	SS-4514	25%		**ROADWAY EMBANKMENT** Stiff, Red-Orange-Gray-Brown, Fine to Coarse Sandy, Silty CLAY, Highly Plastic, (A-7-5(26)), with trace organics
720	720.4	3.5	3	3	6	9		M		
	717.9	6.0	2	5	4	9		M		
715	715.4	8.5	3	4	6	10		M		713.9 10.0
										Boring Terminated at Elevation 713.9 ft In Roadway Embankment Silty CLAY (A-7)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_28700L	**STATION** 287+00	**OFFSET** 100 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 721.1 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,821	**EASTING** 1,365,227	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/06/23	**COMP. DATE** 06/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										721.1 TOPSOIL = 4 INCHES 0.0
720	720.1	1.0	5	6	6	12	SS-491	18%		**ROADWAY EMBANKMENT** Stiff, Red-Brown-Gray-Orange-White, Fine Sandy, Silty CLAY (A-7-6(10)), with trace gravel
	717.6	3.5	8	7	7	14		M		
715	715.1	6.0	3	5	7	12		M		
	712.6	8.5	4	5	6	11		M		711.1 10.0
										Boring Terminated at Elevation 711.1 ft In Roadway Embankment Silty CLAY (A-7-6)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_28700R	**STATION** 287+00	**OFFSET** 103 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 721.2 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,623	**EASTING** 1,365,183	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
725										
										721.2 GROUND SURFACE 0.0
720	720.2	1.0	2	5	4	9		M		**ROADWAY EMBANKMENT** Soft to Stiff, Red-Orange-Gray-Brown-Yellow, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(24))
	717.7	3.5	2	3	5	8	SS-4519	35%		
715	715.2	6.0	2	2	2	4		M		
	712.7	8.5	WOH	2	4	6		M		711.2 10.0
										Boring Terminated at Elevation 711.2 ft In Roadway Embankment Silty CLAY (A-7-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_29000L	**STATION** 290+00	**OFFSET** 108 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 735.4 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,765	**EASTING** 1,365,521	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/05/23	**COMP. DATE** 06/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
										735.4 TOPSOIL = 5 INCHES 0.0
735	734.4	1.0	4	8	9	17	SS-480	22%		**RESIDUAL** Very Stiff, Brown-Red-Tan, Silty CLAY, Highly Plastic, (A-7-5(21))
	731.9	3.5	4	9	10	19		M		
730	729.4	6.0	4	5	7	12	SS-482	32%		729.9 5.5
	726.9	8.5	3	5	5	10		M		Medium Stiff to Stiff, White-Red-Orange-Tan-Black, Fine Sandy, Clayey SILT (A-5(7)), with manganese oxide staining
725	721.9	13.5	2	4	3	7		M		
720	716.9	18.5	2	4	4	8		M		
715	711.9	23.5	2	3	3	6		M		710.4 25.0
										Boring Terminated at Elevation 710.4 ft In Residual Clayey SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_29000R	**STATION** 290+00	**OFFSET** 103 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 733.8 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,559	**EASTING** 1,365,476	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										ELEV. (ft) DEPTH (ft)
										733.8 0.0 GROUND SURFACE
	732.8	1.0								**ROADWAY EMBANKMENT**
			2	4	6	10		D		Medium Stiff to Stiff,
730	730.3	3.5								Orange-Red-Brown-White, SILT (A-4), with
			3	3	4	7		D		trace organics
	727.8	6.0								
			3	2	5	7		D		
725	725.3	8.5								
			2	2	3	5		D		
720	720.3	13.5								
			2	3	5	8		D		
715	715.3	18.5								
			3	2	4	6		M		
710	710.3	23.5								
			2	2	3	5		M		
										708.8 25.0
										Boring Terminated at Elevation 708.8 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_29200L	**STATION** 292+00	**OFFSET** 136 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 744.5 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 557,749	**EASTING** 1,365,723	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/05/23	**COMP. DATE** 06/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
745										
										744.5 0.0 TOPSOIL = 4 INCHES
	743.5	1.0								**RESIDUAL**
			4	5	5	10	SS-471	32%		Medium Stiff to Stiff, Black-Red-Orange-Tan,
740	741.0	3.5								Fine Sandy, Clayey SILT (A-5), with
			4	4	5	9		M		manganese oxide staining
	738.5	6.0								
			3	3	4	7		M		
735	736.0	8.5								
			2	4	4	8		M		
730	731.0	13.5								
			3	3	4	7	SS-475	35%		
725	726.0	18.5								
			4	4	6	10		M		
720	721.0	23.5								
			3	4	6	10		M		
715	716.0	28.5								
			3	2	5	7		M		
710	711.0	33.5								
			3	2	3	5		M		
										709.5 35.0
										Boring Terminated at Elevation 709.5 ft In Residual Clayey SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_29200R	**STATION** 292+00	**OFFSET** 109 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 736.3 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,510	**EASTING** 1,365,670	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
740										
										736.3 GROUND SURFACE 0.0
	735.3	1.0	8	9	14	23		D		**RESIDUAL** Medium Stiff to Very Stiff, Red-Yellow-Brown-White-Orange, Fine Sandy, Clayey SILT (A-5(5)), with manganese oxide staining
735	732.8	3.5	4	5	7	12		D		
	730.3	6.0	3	4	7	11		D		
730	727.8	8.5	3	3	5	8	SS-4719	37%		
										724.3 12.0
725	722.8	13.5	3	3	6	9		M		Medium Stiff to Stiff, Red-Yellow-Brown-White-Orange, SILT (A-4), with manganese oxide staining
720	717.8	18.5	2	2	4	6		M		
715	712.8	23.5	2	2	5	7		M		711.3 25.0
										Boring Terminated at Elevation 711.3 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_29500L	**STATION** 295+00	**OFFSET** 131 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 739.1 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 557,680	**EASTING** 1,366,015	**24 HR.** 32.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/05/23	**COMP. DATE** 06/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
740										
										739.1 TOPSOIL = 4 INCHES 0.0
	738.1	1.0	6	7	11	18		M		**RESIDUAL** Stiff to Very Stiff, Tan-Brown-Red, Fine Sandy, Silty CLAY (A-7)
735	735.6	3.5	5	5	8	13		M		
	733.1	6.0	8	5	6	11	SS-464	26%		
730	730.6	8.5	3	4	6	10		M		732.6 6.5
										Medium Stiff to Stiff, Black-Red-Orange-Tan, Fine Sandy, Clayey SILT (A-5(2)), with trace mica, manganese oxide staining
725	725.6	13.5	3	3	4	7		M		
720	720.6	18.5	2	4	6	10		M		
715	715.6	23.5	2	2	3	5		M		
710	710.6	28.5	2	4	3	7		M		
705	705.6	33.5	3	3	4	7		M		704.1 35.0
										Boring Terminated at Elevation 704.1 ft In Residual Clayey SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_29500R	**STATION** 295+00	**OFFSET** 116 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 735.1 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,439	**EASTING** 1,365,962	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/23/23	**COMP. DATE** 06/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
740										
735										735.1 TOPSOIL = 2 INCHES 0.0
	734.1	1.0	4	5	6	11		M		**RESIDUAL**
	731.6	3.5	4	6	8	14		M		Medium Stiff to Stiff, White-Orange-Tan-Red-Brown, Clayey, Fine Sandy SILT (A-5 (5))
730	729.1	6.0	4	4	4	8	SS-808	30%		
	726.6	8.5	4	5	7	12		M		
725	721.6	13.5	3	4	5	9		M		
720	716.6	18.5	3	5	6	11		M		
715	711.6	23.5	2	4	4	8		M		
710	706.6	28.5	2	3	4	7		M		705.1 Boring Terminated at Elevation 705.1 ft In Residual Sandy SILT (A-5) 30.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_29800L	**STATION** 298+00	**OFFSET** 145 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 744.7 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 557,630	**EASTING** 1,366,311	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/05/23	**COMP. DATE** 06/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
745										744.7 TOPSOIL = 4 INCHES 0.0
	743.7	1.0	2	3	8	11		M		**ARTIFICIAL FILL**
740	741.2	3.5	4	4	4	8		M		Stiff, Red-Brown, SILT (A-5) 741.7 3.0
	738.7	6.0	3	3	3	6		M		**RESIDUAL**
735	736.2	8.5	2	3	3	6	SS-455	28%		Medium Stiff to Stiff, Black-Red-Orange-Tan, Fine Sandy, Clayey SILT (A-5(1)), with manganese oxide staining
	731.2	13.5	3	3	4	7		M		
730	726.2	18.5	4	5	6	11		M		727.7 17.0
725	721.2	23.5	3	5	7	12		M		Medium Stiff to Stiff, Black-Red-Orange-Tan, Fine Sandy SILT (A-4(3)), with trace mica, manganese oxide staining
720	716.2	28.5	4	3	6	9	SS-459	26%		
715	711.2	33.5	3	3	4	7		M		706.7 38.0
710	706.2	38.5	8	10	7	17		M		704.7 Medium Dense, Black-Orange-Green-Tan, Silty, Fine to Coarse SAND (A-2-4), with trace mica and gravel-sized rock fragments 40.0
705										Boring Terminated at Elevation 704.7 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_30000L	**STATION** 300+00	**OFFSET** 120 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 731.5 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,563	**EASTING** 1,366,501	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/05/23	**COMP. DATE** 06/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
735										
	730.5	1.0	4	6	8	14				731.5 TOPSOIL = 3 INCHES 0.0
730	728.0	3.5	4	6	6	12	SS-444	27%		**RESIDUAL** Stiff, Brown-Red, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(25))
725	725.5	6.0	4	5	7	12		M		
	723.0	8.5	3	4	6	10	SS-447	24%		723.5 8.0 Medium Stiff to Stiff, Black-Orange-Tan, Fine Sandy SILT (A-5(2)), with manganese oxide staining
720	718.0	13.5	3	4	5	9		M		
715	713.0	18.5	3	4	7	11		M		
710	708.0	23.5	3	5	5	10		M		
705	703.0	28.5	3	3	4	7		M		701.5 30.0 Boring Terminated at Elevation 701.5 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_30017R	**STATION** 300+17	**OFFSET** 132 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 734.4 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 557,313	**EASTING** 1,366,464	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										
	733.4	1.0	7	9	10	19		D		734.4 GROUND SURFACE 0.0
730	730.9	3.5	7	7	12	19		D		**RESIDUAL** Stiff to Very Stiff, Red-Orange-Brown-Gray-Yellow-White, Clayey Fine Sandy SILT (A-5(2)), with trace gravel-sized rock fragments, manganese oxide staining
	728.4	6.0	4	5	5	10	SS-4725	28%		
725	725.9	8.5	3	5	6	11		D		
	720.9	13.5	3	4	4	8		D		722.4 12.0 Medium Stiff to Stiff, Red-Orange-Brown-Gray-Yellow-White, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments, manganese oxide staining
720	715.9	18.5	3	6	7	13		D		
715	710.9	23.5	6	8	6	14		D		
710	705.9	28.5	3	4	7	11		M		
705	700.9	33.5	2	2	5	7		M		699.4 35.0 Boring Terminated at Elevation 699.4 ft In Residual Fine Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_30250R	**STATION** 302+50	**OFFSET** 119 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 725.6 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,276	**EASTING** 1,366,694	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/09/23	**COMP. DATE** 06/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
730										
725	724.6	1.0	2	2	3	5 9				725.6 / 0.0 TOPSOIL = 4 INCHES
	722.1	3.5	3	4	5		SS-560	26%		**RESIDUAL** Medium Stiff, Tan-Red, Fine Sandy, Silty CLAY (A-7-5(13))
720	719.6	6.0	2	2	3	5		M		722.6 / 3.0 Medium Stiff to Stiff, Tan-Red-White-Brown-Orange, Fine Sandy SILT (A-5), with trace mica
	717.1	8.5	2	3	4	7		M		
715										
	712.1	13.5	3	3	4	7		M		
710										
	707.1	18.5	4	5	5	10		M		
705										
	702.1	23.5	3	3	4	7		M		
700										
	697.1	28.5	3	3	5	8		M		695.6 / 30.0 Boring Terminated at Elevation 695.6 ft In Residual Sandy SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV18_B-1	**STATION** 305+11	**OFFSET** 137 ft LT	**ALIGNMENT** -L-	**0 HR.** 2.5
COLLAR ELEV. 677.4 ft	**TOTAL DEPTH** 18.5 ft	**NORTHING** 557,470	**EASTING** 1,367,004	**24 HR.** 2.8
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/02/23	**COMP. DATE** 06/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
680										
										677.4 / 0.0 GROUND SURFACE
675	676.4	1.0	1	1	2	3		22%		**ALLUVIAL** Soft to Stiff, Orange-Gray-Brown, Fine Sandy SILT (A-4(1)), with trace organics
	673.9	3.5	1	4	10	14		W		
	671.4	6.0	11	6	23	29		M		671.4 / 6.0 **RESIDUAL**
670	668.9	8.5	34	37	63/0.4	100/0.9				669.4 / 8.0 Very Stiff, Gray-Brown, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments
										WEATHERED ROCK Gray-Brown, (DIORITE)
665	663.9	13.5	45	65	35/0.3	100/0.8				
660	658.9	18.5	60/0.0			60/0.0				658.9 / 18.5 Boring Terminated with Standard Penetration Test Refusal at Elevation 658.9 ft On Crystalline Rock (DIORITE)

Other Samples:
ST-3 (1.0 - 3.0)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV18_B-2	**STATION** 307+44	**OFFSET** 132 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 677.9 ft	**TOTAL DEPTH** 3.0 ft	**NORTHING** 557,158	**EASTING** 1,367,174	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/09/23	**COMP. DATE** 06/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
680										ELEV. (ft) DEPTH (ft)
	676.9	1.0								677.9 TOPSOIL = 2 INCHES 0.0
675	674.9	3.0	6	6	22	28		W		**ROADWAY EMBANKMENT** Very Stiff, Gray-Black-Brown, Gravelly, Fine to Coarse Sandy CLAY (A-6), with boulders (rip rap) 674.9 3.0
			60/0.0			60/0.0				Boring Terminated at Elevation 674.9 ft In Roadway Embankment Sandy CLAY (A-6)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV18_B-3	**STATION** 308+18	**OFFSET** 144 ft RT	**ALIGNMENT** -L-	**0 HR.** 15.0
COLLAR ELEV. 680.7 ft	**TOTAL DEPTH** 25.7 ft	**NORTHING** 557,130	**EASTING** 1,367,244	**24 HR.** 8.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/09/23	**COMP. DATE** 06/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
685										
										680.7 TOPSOIL = 3 INCHES 0.0
680	679.7	1.0	2	3	4	7		M		**ARTIFICIAL FILL** Soft to Stiff, Orange-Tan-Gray-Red-Brown, Fine to Coarse Sandy SILT (A-4(0)), with trace gravel, organics, and root fragments
	677.2	3.5	3	4	4	8		M		
675	674.7	6.0	3	4	4	8		M		
	672.2	8.5	2	2	2	4	SS-571	21%		
670										
	667.2	13.5	4	4	3	7		W		667.7 13.0 Loose, Gray, GRAVEL (A-1-a)
665										663.7 17.0 **WEATHERED ROCK** Brown-Orange, (METAVOLCANIC ROCK)
	662.2	18.5	18	82/0.2		100/0.7				
660										
	657.2	23.5	60/0.1			60/0.1				657.2 23.5 **CRYSTALLINE ROCK**
655	655.0	25.7	60/0.0			60/0.0				655.0 Tan-Brown-Orange, (METAVOLCANIC ROCK) 25.7
										Boring Terminated with Standard Penetration Test Refusal at Elevation 655.0 ft In Crystalline Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_31100R	**STATION** 311+00	**OFFSET** 102 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 693.6 ft	**TOTAL DEPTH** 16.0 ft	**NORTHING** 557,111	**EASTING** 1,367,528	**24 HR.** 8.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION / ELEV. (ft) / DEPTH (ft)
695										
	692.6	1.0								693.6 GROUND SURFACE 0.0
			1	2	4	6	SS-4529	34%		**RESIDUAL**
690	690.1	3.5						M		Medium Stiff, Orange-Brown, Silty CLAY (A-7-5(16))
			3	3	5	8		D		690.6 3.0
	687.6	6.0								Medium Stiff to Very Stiff, Gray-Orange-Brown, SILT (A-4)
			17	14	14	28				
685	685.1	8.5								685.1 8.5
			100/0.4			100/0.4				**WEATHERED ROCK** Gray-Brown, (DIORITE)
										681.6 12.0
680	680.1	13.5								**CRYSTALLINE ROCK** (DIORITE)
			60/0.0			60/0.0				
	677.6	16.0	60/0.0							677.6 16.0
										Boring Terminated with Standard Penetration Test Refusal at Elevation 677.6 ft In Crystalline Rock (DIORITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_31319L	**STATION** 313+19	**OFFSET** 102 ft LT	**ALIGNMENT** -L-	**0 HR.** 20.5
COLLAR ELEV. 693.8 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,263	**EASTING** 1,367,785	**24 HR.** 20.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
695										
	692.8	1.0								693.8 GROUND SURFACE 0.0
			2	2	4	6	SS-4750	28%		**ROADWAY EMBANKMENT**
690	690.3	3.5	2	2	5	7		M		Medium Stiff, Orange-Yellow-Brown-Gray, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(11))
	687.8	6.0	3	5	23	28		M		
685	685.3	8.5	5	5	10	15		M		
680	680.3	13.5	5	6	6	12		M		
675	675.3	18.5	4	5	7	12				
670	670.3	23.5	14	11	89/0.4	100/0.9		M		669.3 24.5
665	665.3	28.5	100/0.3			100/0.3				**WEATHERED ROCK** Gray-Brown, (DIORITE)
	663.8	30.0	60/0.0			60/0.0				663.8 30.0
										Boring Terminated with Standard Penetration Test Refusal at Elevation 663.8 ft On Crystalline Rock (DIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_31600R	**STATION** 316+00	**OFFSET** 97 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 715.6 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,009	**EASTING** 1,368,018	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										ELEV. (ft) / DEPTH (ft)
										715.6 GROUND SURFACE 0.0
715	714.6	1.0	2	6	8	14	SS-4535	20%		**RESIDUAL** Stiff, Orange-Tan-Brown, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-6(14)), with trace rootlets
	712.1	3.5	10	13	18	31		D		712.6 3.0
710	709.6	6.0	8	14	22	36		D		Very Stiff to Hard, Orange-Brown-Black, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments
	707.1	8.5	8	10	15	25		D		
705	702.1	13.5	8	16	20	36		D		700.6 15.0 Boring Terminated at Elevation 700.6 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.
SITE DESCRIPTION I-85 Widening			**GROUND WTR (ft)**
BORING NO. L_31900L	**STATION** 319+00	**OFFSET** 96 ft LT	**ALIGNMENT** -L- **0 HR.** Dry
COLLAR ELEV. 718.5 ft	**TOTAL DEPTH** 14.4 ft	**NORTHING** 557,133	**EASTING** 1,368,352 **24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 06/02/23	**COMP. DATE** 06/02/23	**SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										ELEV. (ft) / DEPTH (ft)
	717.5	1.0	3	5	8	13	SS-4395	27%		718.5 GROUND SURFACE 0.0
715	715.0	3.5	4	6	9	15		D		**RESIDUAL** Stiff, Orange-Brown, Silty CLAY, Moderately Plastic, (A-7-6(14)), with trace sand
	712.5	6.0	5	7	13	20		M		715.5 3.0 Stiff to Hard, Orange-Brown-Gray, SILT (A-4), with trace sand and gravel-sized rock fragments, manganese oxide staining
710	710.0	8.5	16	16	29	45		D		
705	705.0	13.5	35	65/0.4		100/0.9				705.5 13.0
										704.1 **WEATHERED ROCK** (SCHIST) 14.4 Boring Terminated at Elevation 704.1 ft In Weathered Rock (SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_31900R	**STATION** 319+00	**OFFSET** 86 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 716.7 ft	**TOTAL DEPTH** 14.9 ft	**NORTHING** 556,956	**EASTING** 1,368,313	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
720										
										716.7 GROUND SURFACE 0.0
715	715.7	1.0	4	5	6	11	SS-4540	25%		**ROADWAY EMBANKMENT** Stiff, Orange-Brown, Silty CLAY, Moderately Plastic, (A-7-5(25)), with trace rootlets 3.0
	713.2	3.5	4	7	12	19		D		**RESIDUAL** Very Stiff, Orange-Brown-Gray, Silty CLAY (A-6) 5.5
710	710.7	6.0	10	13	13	26		D		Very Stiff to Hard, Gray-Orange-Brown, SILT (A-4)
	708.2	8.5	8	13	23	36		D		
705	703.2	13.5	18	37	63/0.4	100/0.9				703.2 13.5 **WEATHERED ROCK** (SCHIST) 14.9 Boring Terminated at Elevation 701.8 ft In Weathered Rock (SCHIST)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_32100L	**STATION** 321+00	**OFFSET** 100 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 722.8 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 557,094	**EASTING** 1,368,548	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/02/23	**COMP. DATE** 06/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										
										722.8 GROUND SURFACE 0.0
	721.8	1.0	3	6	9	15		M		**RESIDUAL** Medium Stiff to Very Stiff, Red-Brown-Yellow-Gray-Orange, SILT (A-5(9))
720	719.3	3.5	4	5	6	11		M		
	716.8	6.0	2	2	4	6	SS-4391	33%		
715	714.3	8.5	3	3	3	6		M		
	709.3	13.5	4	4	7	11		M		
710	704.3	18.5	2	2	4	6		M		
705										702.8 20.0 Boring Terminated at Elevation 702.8 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_32100R	**STATION** 321+00	**OFFSET** 107 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 723.4 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 556,892	**EASTING** 1,368,504	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
725										
	722.4	1.0								723.4 GROUND SURFACE 0.0
			2	3	4	7		M		**RESIDUAL** Medium Stiff to Very Stiff, Gray-Red-Brown-Orange, Sandy SILT (A-4), with manganese oxide staining
720	719.9	3.5	4	4	7	11		M		
	717.4	6.0	3	3	6	9		M		
715	714.9	8.5	3	5	7	12		D		
710	709.9	13.5	4	3	3	6		D		
705	704.9	18.5	8	14	14	28		D		703.4 20.0 Boring Terminated at Elevation 703.4 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_32300L	**STATION** 323+00	**OFFSET** 96 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 723.0 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,048	**EASTING** 1,368,743	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/02/23	**COMP. DATE** 06/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										
	722.0	1.0								723.0 GROUND SURFACE 0.0
			4	8	11	19	SS-4384	24%		**RESIDUAL** Very Stiff, Orange-Brown-Gray, SILT (A-5(12)), with some sand, manganese oxide staining
720	719.5	3.5	6	8	9	17		M		
	717.0	6.0	7	8	10	18		D		
715	714.5	8.5	10	10	10	20		D		
710	709.5	13.5	7	12	13	25		D		708.0 15.0 Boring Terminated at Elevation 708.0 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_32500L	**STATION** 325+00	**OFFSET** 100 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 724.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,009	**EASTING** 1,368,939	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/02/23	**COMP. DATE** 06/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
725											
	723.5	1.0								724.5 GROUND SURFACE	0.0
			5	6	9	15				**RESIDUAL**	
	721.0	3.5					SS-4377	32%		Stiff to Very Stiff, Red-Brown CLAY, Highly Plastic, (A-7-5(34))	
720			6	6	6	12		D		721.5	3.0
	718.5	6.0								Medium Stiff to Very Stiff , Red-Brown-Gray-Yellow, SILT (A-5(13)), with manganese oxide staining	
			3	3	4	7	SS-4379	35%			
	716.0	8.5									
715			3	2	5	7		D			
	711.0	13.5									
710			2	4	6	10		D			
	706.0	18.5									
705			3	4	8	12		M			
	701.0	23.5									
700			10	12	17	29		D		699.5 Boring Terminated at Elevation 699.5 ft In Residual SILT (A-5)	25.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_32500R	**STATION** 325+00	**OFFSET** 74 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 718.5 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 556,839	**EASTING** 1,368,902	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										
	717.5	1.0								718.5 GROUND SURFACE 0.0
			2	3	5	8		M		**ROADWAY EMBANKMENT**
715	715.0	3.5								Soft to Stiff, Red-Orange-Brown, Fine Sandy CLAY (A-7-5(12)), with trace rootlets
			3	2	4	6	SS-4552	32%		
	712.5	6.0								
			1	2	2	4		M		710.5 8.0
710	710.0	8.5								**RESIDUAL**
			WOH	3	4	7		M		Medium Stiff to Hard, Red-Brown-Orange, CLAY (A-7), with trace gravel-sized rock fragments, manganese oxide staining
705	705.0	13.5								
			6	11	20	31		M		703.5 15.0
										Boring Terminated at Elevation 703.5 ft In Residual CLAY (A-7)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_32700L	**STATION** 327+00	**OFFSET** 106 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 726.9 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 556,972	**EASTING** 1,369,135	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/02/23	**COMP. DATE** 06/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
730											
										726.9	0.0
										GROUND SURFACE	
725	725.9	1.0	3	7	10	17		D		**RESIDUAL** Very Stiff, Red-Brown, SILT (A-4), with trace gravel-sized rock fragments	
	723.4	3.5	5	6	14	20		D			
720	720.9	6.0	6	13	12	25		D		721.4	5.5
										Very Stiff, Red-Brown, SILT (A-4)	6.5
	718.4	8.5	17	17	18	35	SS-4374	8%		718.9 Very Stiff, Gray-Brown, SILT (A-4), with trace gravel-sized rock fragments	8.0
715										Dense, Gray-Brown, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments	
	713.4	13.5	27	12	26	38		M		714.9	12.0
710										Hard, Red-Brown-Gray, SILT (A-4), with trace gravel-sized rock fragments	
	708.4	18.5	6	5	9	14		D		709.9	17.0
										Stiff, Gray-Orange-Brown, SILT (A-4), with manganese oxide staining	
										706.9	20.0
										Boring Terminated at Elevation 706.9 ft In Residual SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_33000L	**STATION** 330+00	**OFFSET** 126 ft LT	**ALIGNMENT** -L-	**0 HR.** 14.5
COLLAR ELEV. 695.4 ft	**TOTAL DEPTH** 21.5 ft	**NORTHING** 556,927	**EASTING** 1,369,433	**24 HR.** 12.8
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
700											
										695.4	0.0
										GROUND SURFACE	
695	694.4	1.0	3	4	6	10	SS-4743	38%		**RESIDUAL** Medium Stiff to Stiff, Orange-Brown-Yellow-Black, Silty CLAY (A-7-5(20))	
690	691.9	3.5	3	4	5	9		M			
	689.4	6.0	2	3	5	8		M			
685	686.9	8.5	2	3	5	8		M			
	681.9	13.5	14	32	47	79		D		681.4	14.0
680										Hard, White-Gray, Sandy SILT (A-4), with trace gravel-sized rock fragments	
	676.9	18.5	25	75/0.3		100/0.8				676.9	18.5
675	673.9	21.5	60/0.0			60/0.0				**WEATHERED ROCK** Gray-Brown, (METAVOLCANIC ROCK)	
										673.9	21.5
										Boring Terminated with Standard Penetration Test Refusal at Elevation 673.9 ft On Crystalline Rock (METAVOLCANIC ROCK)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV19_B-1	**STATION** 331+98	**OFFSET** 153 ft RT	**ALIGNMENT** -L-	**0 HR.** 3.0
COLLAR ELEV. 678.1 ft	**TOTAL DEPTH** 14.5 ft	**NORTHING** 556,613	**EASTING** 1,369,567	**24 HR.** 1.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
680										
	677.1	1.0								678.1 GROUND SURFACE 0.0
675	674.6	3.5	1	1	1	2	SS-4732	41%		**ALLUVIAL** Very Soft to Soft, Orange-Gray-Brown, Fine Sandy, Clayey SILT (A-5(9)), with some organics
	672.1	6.0	1	2	2	4		M		672.6 5.5 **RESIDUAL** Medium Stiff to Very Stiff, Orange-Gray-Brown, Fine Sandy, Clayey SILT (A-4)
670	669.6	8.5	1	4	3	7	SS-4734	33%		
			7	13	15	28		W		
665	664.6	13.5								664.6 13.5
	663.6	14.5	32	68/0.2		100/0.7				663.6 14.5 **WEATHERED ROCK** Gray-Brown, (METAVOLCANIC ROCK)
			60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 663.6 ft On Crystalline Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV19_B-1_RS	**STATION** 332+08	**OFFSET** 153 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 676.2 ft	**TOTAL DEPTH** 5.0 ft	**NORTHING** 556,611	**EASTING** 1,369,576	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE N/A		**DRILL METHOD** Rod Sounding	**HAMMER TYPE** Manual	
DRILLER P. Tomasic	**START DATE** 07/27/23	**COMP. DATE** 07/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
680										
										676.2 GROUND SURFACE 0.0
675			3	2		5		M		**ALLUVIAL** Medium Stiff to Stiff, Orange-Brown-Tan, Fine Sandy SILT (A-4), with trace organics and gravel
			4	4		8				672.7 3.5
			25	10		35				671.2 5.0
			16	14		30				Boring Terminated at Elevation 671.2 ft
			15	100/0.3		100/0.3				Hand Auger Refusal at 3.5 ft
										Rod Sounding Refusal at 5.0 ft

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV19_B-2_RS	**STATION** 333+53	**OFFSET** 140 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 681.8 ft	**TOTAL DEPTH** 4.3 ft	**NORTHING** 556,866	**EASTING** 1,369,781	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE N/A		**DRILL METHOD** Rod Sounding	**HAMMER TYPE** Manual	
DRILLER P. Tomasic	**START DATE** 07/27/23	**COMP. DATE** 07/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
685											
										681.8 GROUND SURFACE	0.0
680			2	3				M		**ALLUVIAL**	
			4	5		5 9 20				679.5 Medium Stiff to Very Stiff, Tan-Brown, Fine	2.3
			8	12						678.3 Sandy SILT (A-4), with trace gravel and	3.5
			34	70		100/1.0				677.5 organics	4.3
			100/0.3			100/0.3				Boring Terminated at Elevation 677.5 ft	
										Hand Auger Refusal at 2.5 ft	
										Rod Sounding Refusal at 4.3 ft	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_33402L	**STATION** 334+00	**OFFSET** 121 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 700.4 ft	**TOTAL DEPTH** 13.5 ft	**NORTHING** 556,837	**EASTING** 1,369,825	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
705										
										700.4 GROUND SURFACE 0.0
700	699.4	1.0								**RESIDUAL**
			5	7	8	15		D		Stiff to Hard, Orange-Gray-Brown, SILT
	696.9	3.5								(A-4), with trace gravel-sized rock fragments
			4	12	16	28		D		
695	694.4	6.0								
			9	13	20	33		D		
	691.9	8.5								691.9 8.5
			29	71/0.4		100/0.9				**WEATHERED ROCK**
690										Gray-Brown, (METAVOLCANIC ROCK)
	686.9	13.5								686.9 13.5
			60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 686.9 ft On Crystalline Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_33700R	**STATION** 337+00	**OFFSET** 81 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 721.8 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,577	**EASTING** 1,370,068	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
725											
										721.8	0.0
	720.8	1.0								GROUND SURFACE	
720			4	6	9	15	SS-4556	28%		**RESIDUAL** Stiff to Very Stiff, Red-Brown, Silty CLAY (A-7-5(16))	
	718.3	3.5	4	4	7	11		D		718.8	3.0
	715.8	6.0								Medium Stiff to Stiff, Red-Brown, Fine Sandy SILT (A-4)	
715			3	3	4	7		D			
	713.3	8.5	10	10	8	18		D		713.8	8.0
										Medium Dense, Gray-Brown-Orange, Silty SAND (A-2-4), with trace gravel-sized rock fragments	
710										709.8	12.0
	708.3	13.5	2	2	3	5		D		Medium Stiff to Hard, Gray-Brown-Orange, SILT (A-4), with manganese oxide staining	
705											
	703.3	18.5	16	21	31	52		D			
700											
	698.3	23.5	7	9	12	21		D		696.8	25.0
										Boring Terminated at Elevation 696.8 ft In Residual SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_33710L	**STATION** 337+10	**OFFSET** 97 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 721.6 ft	**TOTAL DEPTH** 14.8 ft	**NORTHING** 556,747	**EASTING** 1,370,120	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/02/23	**COMP. DATE** 06/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										
										721.6 GROUND SURFACE 0.0
	720.6	1.0								
720			3	5	7	12	SS-4366	24%		**RESIDUAL** Stiff to Very Stiff, Orange-Brown-Tan-White, Fine Sandy SILT (A-4(2))
	718.1	3.5	5	6	6	12		D		
	715.6	6.0								
715			4	7	8	15		D		
	713.1	8.5	11	9	8	17		D		713.6 8.0
										Very Stiff, Red-Tan-Gray, SILT (A-4), with trace gravel-sized rock fragments, manganese oxide staining
710										709.6 12.0
	708.1	13.5	6	30	70/0.3	100/0.8				**WEATHERED ROCK** White-Gray-Red-Brown, (METAVOLCANIC ROCK)
										706.8 14.8
										Boring Terminated at Elevation 706.8 ft In Weathered Rock (METAVOLCANIC ROCK)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_33900L	**STATION** 339+00	**OFFSET** 103 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 728.0 ft	**TOTAL DEPTH** 16.5 ft	**NORTHING** 556,713	**EASTING** 1,370,307	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/01/23	**COMP. DATE** 06/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										ELEV. (ft) DEPTH (ft)
	727.0	1.0								728.0 GROUND SURFACE 0.0
725	724.5	3.5	5	95/0.4		100/0.9		M		726.5 **RESIDUAL** 1.5 Hard, Red-Brown, SILT (A-4)
	722.0	6.0	100/0.4			100/0.4				**WEATHERED ROCK** Gray, (METAVOLCANIC ROCK)
720	719.5	8.5	18	42	58/0.4	100/0.9				
			43	48	52/0.4	100/0.9				
715	714.5	13.5								
	711.5	16.5	9	10	90/0.4	100/0.9				
			60/0.0			60/0.0				712.0 16.0 711.5 16.5 **CRYSTALLINE ROCK** (METAVOLCANIC ROCK) Boring Terminated with Standard Penetration Test Refusal at Elevation 711.5 ft In Crystalline Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_33900R	**STATION** 339+00	**OFFSET** 127 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 741.0 ft	**TOTAL DEPTH** 22.5 ft	**NORTHING** 556,488	**EASTING** 1,370,258	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
745										
										741.0 GROUND SURFACE 0.0
740	740.0	1.0	3	4	5	9	SS-4563	32%		**RESIDUAL** Stiff, Red-Brown-Orange, Silty CLAY, Moderately Plastic, (A-7-5(25))
	737.5	3.5	2	5	4	9		M		735.5 5.5 Medium Stiff to Very Stiff, Orange-Brown-Gray, SILT (A-4), with manganese oxide staining
735	735.0	6.0	3	4	4	8		D		
	732.5	8.5	9	10	14	24		M		730.0 11.0 **WEATHERED ROCK** Gray, (METAVOLCANIC ROCK)
730	727.5	13.5								
			40	62	38/0.4	100/0.9				725.0 16.0 **RESIDUAL** Very Stiff, Gray-Orange-Brown, Sandy SILT (A-4)
725	722.5	18.5	6	11	14	25		D		
720	718.5	22.5								719.5 21.5 718.5 22.5 **CRYSTALLINE ROCK** (METAVOLCANIC ROCK) Boring Terminated with Standard Penetration Test Refusal at Elevation 718.5 ft In Crystalline Rock (METAVOLCANIC ROCK)
			60/0.0			60/0.0				

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_34300L	**STATION** 343+00	**OFFSET** 113 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 736.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,637	**EASTING** 1,370,700	**24 HR.** 15.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/01/23	**COMP. DATE** 06/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
740											
										736.1	0.0
										GROUND SURFACE	
735	735.1	1.0	3	5	8	13				**RESIDUAL**	
	732.6	3.5	4	6	7	13	SS-4354	22%		Medium Stiff to Stiff, Red-Orange-Gray-Brown, Silty CLAY, Moderately Plastic, (A-7-6(19)), with manganese oxide staining	
730	730.1	6.0	4	4	7	11		D			
	727.6	8.5	3	3	4	7	SS-4356	24%			
725								M			
	722.6	13.5	3	4	4	8				724.1	12.0
720								M		Medium Stiff to Stiff, Orange-Brown-Gray, SILT (A-4), with manganese oxide staining	
	717.6	18.5	2	2	4	6				719.1	17.0
715								M		Medium Stiff to Very Stiff, Orange-Brown-Gray, Silty CLAY (A-6), with manganese oxide staining	
	712.6	23.5	5	9	8	17		M		711.1	25.0
										Boring Terminated at Elevation 711.1 ft In Residual Sandy, Silty CLAY (A-6)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_34300R	**STATION** 343+00	**OFFSET** 140 ft RT	**ALIGNMENT** -L-	**0 HR.** 34.0
COLLAR ELEV. 749.6 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 556,390	**EASTING** 1,370,646	**24 HR.** 28.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/13/23	**COMP. DATE** 06/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
750											
										749.6	0.0
										GROUND SURFACE	
	748.6	1.0	2	3	3	6	SS-4598	25%		**ARTIFICIAL FILL**	
745	746.1	3.5	5	6	9	15		M		Medium Stiff, Red-Brown-Gray, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(14)), with trace organics	
	743.6	6.0	3	3	7	10	SS-4600	36%		746.6	3.0
740	741.1	8.5	3	4	6	10		M		**RESIDUAL** Stiff to Very Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(28))	
	736.1	13.5	2	2	3	5				741.6	8.0
735								M		Soft to Hard, Orange-Gray-Yellow-Brown-White, Sandy SILT (A-4), with manganese oxide staining	
	731.1	18.5	WOH	2	2	4					
730								M			
	726.1	23.5	2	3	3	6					
725								M			
	721.1	28.5	2	3	5	8		W			
720											
	716.1	33.5	3	5	10	15		M			
715											
	711.1	38.5	12	20	38	58		M		709.6	40.0
710										Boring Terminated at Elevation 709.6 ft In Residual Sandy SILT (A-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_34500L	**STATION** 345+00	**OFFSET** 134 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 750.7 ft	**TOTAL DEPTH** 21.9 ft	**NORTHING** 556,615	**EASTING** 1,370,900	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/01/23	**COMP. DATE** 06/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
755											
750	749.7	1.0	6	9	9	18				750.7 GROUND SURFACE	0.0
	747.2	3.5	4	6	8	14	SS-4338	42%		**RESIDUAL** Very Stiff, Brown, Silty CLAY, Moderately Plastic, (A-7-5), with trace organics	
745	744.7	6.0	4	9	10	19	SS-4340	28%	D		
	742.2	8.5	6	6	10	16			D	741.7 Very Stiff, Gray-Brown, Fine Sandy SILT (A-4)	9.0
740											
	737.2	13.5	10	13	15	28			D		
735	732.2	18.5	5	14	86/0.3	100/0.8				732.7 **WEATHERED ROCK** (METAVOLCANIC ROCK)	18.0
730	728.8	21.9	60/0.0			60/0.0				729.7	21.0
										728.8 **CRYSTALLINE ROCK** (METAVOLCANIC ROCK)	21.9
										Boring Terminated with Standard Penetration Test Refusal at Elevation 728.8 ft In Crystalline Rock (METAVOLCANIC ROCK)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_34700L	**STATION** 347+00	**OFFSET** 142 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 756.4 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 556,580	**EASTING** 1,371,097	**24 HR.** 28.6
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/01/23	**COMP. DATE** 06/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
760										
755	755.4	1.0	3	4	8	12		M		756.4 GROUND SURFACE 0.0
	752.9	3.5	5	6	8	14	SS-4346	32%		**RESIDUAL** Stiff, Red-Brown, CLAY (A-7)
750	750.4	6.0	4	4	7	11		M		753.4 3.0
	747.9	8.5	3	5	5	10	SS-4348	31%		Stiff, Red-Brown, Clayey SILT (A-5)
745										744.4 12.0
	742.9	13.5	3	3	4	7		M		Medium Stiff to Hard, Orange-Brown-Gray, SILT (A-4)
740	737.9	18.5	2	3	3	6		M		
735	732.9	23.5	12	20	29	49		M		
730	727.9	28.5	18	56	44/0.3	100/0.8				728.4 28.0
725	722.9	33.5	100/0.3			100/0.3				**WEATHERED ROCK** Orange-Brown, (METAVOLCANIC ROCK)
	721.4	35.0	60/0.0			60/0.0				721.4 35.0
										Boring Terminated with Standard Penetration Test Refusal at Elevation 721.4 ft On Crystalline Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_34700R	**STATION** 347+00	**OFFSET** 125 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 752.7 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 556,319	**EASTING** 1,371,040	**24 HR.** 27.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/13/23	**COMP. DATE** 06/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
755										752.7 GROUND SURFACE	0.0
	751.7	1.0	2	5	9	14		M		**ROADWAY EMBANKMENT** Stiff, Red-Brown, Silty CLAY (A-7), with trace rootlets	
750	749.2	3.5	5	7	8	15				749.7 **RESIDUAL**	3.0
	746.7	6.0	3	4	6	10	SS-4590	35%		Medium Stiff to Very Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(31)), with manganese oxide staining	
745	744.2	8.5	2	2	5	7		M			
740	739.2	13.5	2	5	4	9		M		740.7 Soft to Very Stiff, Gray-Brown-Orange-Yellow, SILT (A-5), with manganese oxide staining	12.0
735	734.2	18.5	3	2	5	7		M			
730	729.2	23.5	WOH	2	2	4		W			
725	724.2	28.5	7	7	8	15		M			
720	719.2	33.5	3	5	7	12		M		717.7 Boring Terminated at Elevation 717.7 ft In Residual SILT (A-5)	35.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_34900R	**STATION** 349+00	**OFFSET** 132 ft RT	**ALIGNMENT** -L-	**0 HR.** 37.5
COLLAR ELEV. 755.4 ft	**TOTAL DEPTH** 45.0 ft	**NORTHING** 556,269	**EASTING** 1,371,234	**24 HR.** 26.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/13/23	**COMP. DATE** 06/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
760										755.4 GROUND SURFACE	0.0
755	754.4	1.0	5	6	9	15		M		**ROADWAY EMBANKMENT** Stiff to Very Stiff, Red-Brown, Silty CLAY (A-6)	
	751.9	3.5	4	6	8	14		D		752.4 **RESIDUAL**	3.0
750	749.4	6.0	2	3	4	7		D		749.9 Stiff, Red-Brown, Silty CLAY (A-6) Medium Stiff to Very Stiff, Orange-Gray-Brown, Clayey, Fine Sandy SILT (A-5(3)), with manganese oxide staining	5.5
745	746.9	8.5	2	3	3	6		D			
740	741.9	13.5	2	3	2	5		M			
735	736.9	18.5	3	3	3	6		M			
730	731.9	23.5	3	3	6	9	SS-4584	37%			
725	726.9	28.5	3	4	4	8		M			
720	721.9	33.5	4	7	13	20		W		719.4 Medium Stiff to Hard, Gray-Brown, Sandy SILT (A-4), with trace gravel-sized rock fragments	36.0
715	716.9	38.5	15	23	30	53		M			
	711.9	43.5	4	3	5	8		W		710.4 Boring Terminated at Elevation 710.4 ft In Residual Sandy SILT (A-4)	45.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_35082R	**STATION** 350+82	**OFFSET** 126 ft RT	**ALIGNMENT** -L-	**0 HR.** 27.0
COLLAR ELEV. 750.9 ft	**TOTAL DEPTH** 29.2 ft	**NORTHING** 556,236	**EASTING** 1,371,413	**24 HR.** 25.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/13/23	**COMP. DATE** 06/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) — DEPTH (ft)
755										
750	749.9	1.0	4	6	8	14		M		750.9 — GROUND SURFACE — 0.0
	747.4	3.5	4	5	7	12		M		**ROADWAY EMBANKMENT** Stiff, Red-Brown-Gray, Sandy, Silty CLAY (A-6) 747.9 — 3.0
745	744.9	6.0	3	2	5	7		D		Stiff, Red-Brown-Gray, SILT (A-4) 745.4 — 5.5
	742.4	8.5	2	4	4	8		D		**RESIDUAL** Medium Stiff to Stiff, Orange-Brown-Yellow, SILT (A-4)
740	737.4	13.5	2	3	4	7		M		
735	732.4	18.5	2	9	16	25		D		731.9 — 19.0 Medium Dense, Gray-Brown, Silty SAND (A-2-4), with trace gravel-sized rock fragments 728.4 — 22.5 Hard, Gray-Brown, SILT (A-4)
730	727.4	23.5	22	33	45	78		D		723.9 — 27.0
725	722.4	28.5	68	32/0.2		100/0.7		D		**WEATHERED ROCK** 721.7 — Gray-Brown, (METAVOLCANIC ROCK) — 29.2 Boring Terminated at Elevation 721.7 ft In Weathered Rock (METAVOLCANIC ROCK)
720						100/0.7				

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_35100L	**STATION** 351+00	**OFFSET** 120 ft LT	**ALIGNMENT** -L-	**0 HR.** 21.0
COLLAR ELEV. 747.9 ft	**TOTAL DEPTH** 28.5 ft	**NORTHING** 556,473	**EASTING** 1,371,483	**24 HR.** 23.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/01/23	**COMP. DATE** 06/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										
	746.9	1.0	5	8	12	20	SS-4353	20%		747.9 — GROUND SURFACE — 0.0 **RESIDUAL** Very Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-6(20))
745	744.4	3.5	4	7	11	18		D		743.9 — 4.0 Medium Stiff to Very Stiff, Orange-Gray-Tan-Black, SILT (A-4(3)), with trace sand
740	741.9	6.0	10	11	15	26	SS-4355	13%		
	739.4	8.5	9	9	8	17		D		
735	734.4	13.5	4	4	4	8		D		
730	729.4	18.5	40	50	50/0.4	100/0.9				728.9 — 19.0 **WEATHERED ROCK** Blue-Gray-Orange, (METAVOLCANIC ROCK) 725.9 — 22.0
725	724.4	23.5	15	12	14	26		W		**RESIDUAL** Very Stiff, Brown-Gray-Orange-Black, Sandy, Silty CLAY (A-6), with some gravel-sized rock fragments 721.9 — 26.0
720	719.4	28.5	60/0.0			60/0.0				**CRYSTALLINE ROCK** (METAVOLCANIC ROCK) 719.4 — 28.5 Boring Terminated with Standard Penetration Test Refusal at Elevation 719.4 ft In Crystalline Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_36400L	**STATION** 363+73	**OFFSET** 75 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 728.8 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 556,376	**EASTING** 1,372,706	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
730											
	727.8	1.0						M		728.8 TOPSOIL = 3 INCHES	0.0
			6	5	5	10		M		**ROADWAY EMBANKMENT** Soft to Stiff, Tan-Red-Brown, Sandy SILT (A-4), with trace to little gravel	
725	725.3	3.5	3	2	2	4		M			
	722.8	6.0	3	3	3	6		W		720.8 **RESIDUAL**	8.0
720	720.3	8.5	4	4	7	11		M		Stiff, Tan, Fine Sandy SILT (A-4)	
										716.8 Medium Dense, Tan-Brown, Silty SAND (A-2-4)	12.0
715	715.3	13.5	5	8	10	18		M			
										711.8 Hard, Tan-Brown, Sandy SILT (A-4)	17.0
710	710.3	18.5	6	11	25	36		M		708.8 Boring Terminated at Elevation 708.8 ft In Residual Sandy SILT (A-4)	20.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_36400R	**STATION** 364+07	**OFFSET** 136 ft RT	**ALIGNMENT** -L-	**0 HR.** 4.1
COLLAR ELEV. 719.7 ft	**TOTAL DEPTH** 7.7 ft	**NORTHING** 556,175	**EASTING** 1,372,779	**24 HR.** 2.5
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/24/23	**COMP. DATE** 05/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
720											
	718.7	1.0						M		719.7 TOPSOIL = 5 INCHES	0.0
			3	2	2	4		M		**RESIDUAL** Soft to Hard, Brown-Tan, Sandy SILT (A-4)	
715	716.2	3.5	18	18	14	32		M			
	713.7	6.0	100/0.2			100/0.2				714.2	5.5
	712.0	7.7	60/0.0			60/0.0				**WEATHERED ROCK** 712.0 Tan, (METAVOLCANIC ROCK)	7.7
										Boring Terminated with Standard Penetration Test Refusal at Elevation 712.0 ft On Crystalline Rock (METAVOLCANIC ROCK)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_36592R	**STATION** 365+92	**OFFSET** 140 ft RT	**ALIGNMENT** -L-	**0 HR.** 13.3
COLLAR ELEV. 718.9 ft	**TOTAL DEPTH** 14.7 ft	**NORTHING** 556,213	**EASTING** 1,372,969	**24 HR.** 0.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/25/23	**COMP. DATE** 05/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
720											
	717.9	1.0	2	4	5	9 46	SS-3222	23%		718.9 TOPSOIL = 12 INCHES	0.0
715	715.4	3.5	6	21	25			M		**RESIDUAL** Stiff, Tan-Gray, Sandy, Silty CLAY, Highly Plastic, (A-7-6(23))	
	712.9	6.0	100/0.3			100/0.3				715.9 Dense, Tan, Silty SAND (A-2-4)	3.0
710	710.4	8.5	100/0.3			100/0.3				713.4 **WEATHERED ROCK** Tan, (METAVOLCANIC ROCK)	5.5
705	705.4	13.5	41	50	50/0.2	100/0.7				704.2 Boring Terminated at Elevation 704.2 ft In Weathered Rock (METAVOLCANIC ROCK)	14.7

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_36900R	**STATION** 369+00	**OFFSET** 125 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 734.8 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,314	**EASTING** 1,373,265	**24 HR.** 14.9
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/25/23	**COMP. DATE** 05/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										
	733.8	1.0	7	7	8	15		M		734.8 TOPSOIL = 3 INCHES 0.0
730	731.3	3.5	4	5	8	13		M		**RESIDUAL** Stiff to Very Stiff, Tan-Red, Sandy, Clayey SILT (A-5)
	728.8	6.0	7	9	9	18		M		731.8 3.0 Stiff to Very Stiff, Tan, Fine Sandy SILT (A-4)
725	726.3	8.5	4	8	10	18		M		
720	721.3	13.5	12	10	13	23		M		717.8 17.0 Dense to Very Dense, Tan, Silty SAND (A-2-4), with trace gravel-sized rock fragments
715	716.3	18.5	24	28	36	64		M		
710	711.3	23.5	15	20	18	38		M		709.8 25.0 Boring Terminated at Elevation 709.8 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_37050R	**STATION** 370+50	**OFFSET** 136 ft RT	**ALIGNMENT** -L-	**0 HR.** 27.0
COLLAR ELEV. 746.1 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 556,346	**EASTING** 1,373,412	**24 HR.** 23.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/24/23	**COMP. DATE** 05/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
750										
	745.1	1.0	5	3	6	9 10	SS-3203	35%		746.1 / 0.0 TOPSOIL = 3 INCHES
745	742.6	3.5	3	4	6			M		**RESIDUAL**
	740.1	6.0	2	4	4	8		M		Stiff, Red-Brown, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(38))
	737.6	8.5	2	3	3	6		M		743.1 / 3.0
740										Soft to Stiff, Tan-Red, Fine Sandy, Clayey SILT (A-5(6))
	732.6	13.5	3	2	4	6		M		
735	727.6	18.5	5	4	5	9	SS-3208	40%		
	722.6	23.5	WOH	1	2	3		W		
730	717.6	28.5	2	4	10	14		W		
725	712.6	33.5	4	10	14	24		W		714.1 / 32.0 Medium Dense, Tan, Silty SAND (A-2-4)
720										711.1 / 35.0 Boring Terminated at Elevation 711.1 ft In Residual Silty SAND (A-2-4)
715										

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_37600L	**STATION** 376+00	**OFFSET** 125 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 748.6 ft	**TOTAL DEPTH** 30.5 ft	**NORTHING** 556,752	**EASTING** 1,373,865	**24 HR.** 20.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/19/23	**COMP. DATE** 06/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										
										748.6 / 0.0 GROUND SURFACE
	746.6	2.0	6	6	7	13	SS-1058	26%		**RESIDUAL**
745	744.6	4.0	3	4	6	10		M		Medium Stiff to Stiff, Orange-Brown-PinkCLAY, Moderately Plastic, (A-7-5(22))
	741.6	7.0	2	4	4	8		M		740.1 / 8.5
740	739.6	9.0	2	3	2	5	SS-1061	33%		Medium Stiff, Orange-Brown-Pink, Clayey SILT (A-5 (11)), with trace mica, manganese oxide staining
	734.6	14.0	2	2	3	5		W		731.6 / 17.0
735	729.6	19.0	3	4	8	12		M		Stiff to Very Stiff, Tan-White-Black, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
	724.6	24.0	9	7	10	17		M		
730	719.6	29.0	6	8	12	20		M		718.1 / 30.5 Boring Terminated at Elevation 718.1 ft In Residual Sandy SILT (A-4)
725										
720										
715										

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_37600R	**STATION** 376+00	**OFFSET** 137 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 757.3 ft	**TOTAL DEPTH** 40.5 ft	**NORTHING** 556,501	**EASTING** 1,373,940	**24 HR.** 27.5
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
760											
										757.3	0.0
										TOPSOIL = 4 INCHES	
755	755.3	2.0	7	8	10	18		M		**RESIDUAL** Stiff to Very Stiff, Red, Silty CLAY, Highly Plastic, (A-7-5(38))	
	753.3	4.0	4	4	7	11	SS-1094	28%			
750	750.3	7.0	3	4	6	10		M			
	748.3	9.0	3	4	5	9		M		748.3	9.0
745										Stiff, Red-Pink-Brown, Fine Sandy, Clayey SILT (A-5), with manganese oxide staining	
	743.3	14.0	4	5	6	11		M			
740	738.3	19.0	4	4	8	12		M			
										735.3	22.0
735	733.3	24.0	3	5	5	10	SS-1097	24%		Medium Stiff to Very Stiff, Pink-Orange-Brown-Black-Tan, Fine Sandy SILT (A-4 (10)), with trace mica, manganese oxide staining	
730	728.3	29.0	4	5	6	11		M			
725	723.3	34.0	6	6	10	16		M			
720	718.3	39.0	2	2	5	7		W		716.8	40.5
										Boring Terminated at Elevation 716.8 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_37800R	**STATION** 378+00	**OFFSET** 118 ft RT	**ALIGNMENT** -L-	**0 HR.** 27.0
COLLAR ELEV. 748.8 ft	**TOTAL DEPTH** 30.5 ft	**NORTHING** 556,576	**EASTING** 1,374,126	**24 HR.** 25.4
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										
										748.8 TOPSOIL = 4 INCHES 0.0
	746.8	2.0								**RESIDUAL** Very Stiff, Red, Silty CLAY, Highly Plastic, (A-7-5(39))
745	744.8	4.0	7	8	8	16	SS-1099	23%		
	741.8	7.0	5	7	10	17		M		742.8 6.0
740	739.8	9.0	4	3	4	7		M		Medium Stiff to Very Stiff, Orange-Brown-Red-Black, Fine Sandy, Silty CLAY (A-7-5 (11))
			3	3	5	8		M		
735	734.8	14.0								
			5	6	9	15	SS-1101	28%		
730	729.8	19.0								
			3	5	7	12		M		
725	724.8	24.0								725.8 23.0
			2	3	4	7				Medium Stiff to Stiff, Brown-Orange-Black, Fine Sandy SILT (A-4), with manganese oxide staining
720	719.8	29.0						M		
			4	5	8	13		M		718.3 30.5
										Boring Terminated at Elevation 718.3 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_37800L	**STATION** 378+44	**OFFSET** 106 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 738.2 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 556,803	**EASTING** 1,374,105	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
740										738.2 GROUND SURFACE 0.0
	737.2	1.0	9	7	9	16	SS-3072	20%		**RESIDUAL** Very Stiff, Red-Brown-Tan, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-6(19)), with trace gravel-sized quartz fragments 735.2 — 3.0
735	734.7	3.5	8	10	15	25	SS-3073	25%		Very Stiff, Red-Brown-Tan, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(41)), with trace gravel-sized quartz fragments 732.7 — 5.5
	732.2	6.0	10	16	19	35		M		Dense to Very Dense, Red-Tan-Gray, Silty SAND (A-2-4), with trace to some gravel-sized quartz fragments
730	729.7	8.5	11	18	20	38		M		
725	724.7	13.5	24	45	52	97		D		
720	719.7	18.5								721.2 — 17.0 Very Stiff, Tan, Sandy SILT (A-4)
			14	14	14	28		M		718.2 — 20.0 Boring Terminated at Elevation 718.2 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_38000R	**STATION** 380+00	**OFFSET** 106 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 741.3 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 556,644	**EASTING** 1,374,315	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/26/23	**COMP. DATE** 05/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
745										741.3 TOPSOIL = 5 INCHES 0.0
	740.3	1.0	17	8	16	24		M		**RESIDUAL** Very Stiff , Red-Tan-Brown, Sandy, Silty CLAY (A-7-5(19))
740	737.8	3.5	8	11	15	26	SS-3249	20%		735.8 — 5.5 Stiff to Very Stiff, Red-Tan, Sandy SILT (A-4)
735	735.3	6.0	7	8	11	19		M		
	732.8	8.5	9	10	11	21		M		
730	727.8	13.5	6	5	10	15		M		
725	722.8	18.5								724.3 — 17.0 Very Dense, Tan, Silty SAND (A-2-4)
			37	41	52	93		M		721.3 — 20.0 Boring Terminated at Elevation 721.3 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_38200L	**STATION** 382+00	**OFFSET** 152 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 712.6 ft	**TOTAL DEPTH** 6.1 ft	**NORTHING** 556,948	**EASTING** 1,374,434	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/26/23	**COMP. DATE** 07/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715											
	712.6	0.0								TOPSOIL = 4 INCHES	0.0
	711.6	1.0	4	10	6	16		M		711.1 **ROADWAY EMBANKMENT** Medium Stiff, Red-Orange-Brown, Fine to Coarse Sandy, Silty CLAY (A-7), with trace gravel	1.5
710	709.1	3.5	2	60	40/0.1	100/0.6		M		708.6 **ALLUVIAL** Very Stiff, Brown-Gray, Fine to Coarse Sandy, Silty CLAY (A-7), with trace organics and gravel	4.0
	706.6	6.0	60/0.1			60/0.1				706.6 **WEATHERED ROCK** Gray, (SCHIST)	6.0
										706.5 **CRYSTALLINE ROCK** (SCHIST)	6.1
										Boring Terminated with Standard Penetration Test Refusal at Elevation 706.5 ft In Crystalline Rock (SCHIST)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_38376R	**STATION** 383+76	**OFFSET** 167 ft RT	**ALIGNMENT** -L-	**0 HR.** 4.0
COLLAR ELEV. 700.1 ft	**TOTAL DEPTH** 7.1 ft	**NORTHING** 556,692	**EASTING** 1,374,692	**24 HR.** 1.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
705										
700										700.1 GROUND SURFACE 0.0
	698.1	2.0	1	1	2	3	SS-1103	30%		**ALLUVIAL** Soft, Gray, Fine Sandy SILT (A-4(2)), with trace gravel
	696.1	4.0								696.1 **RESIDUAL** 4.0
695			30	31	24	55	SS-1104	10%		Hard, Tan-Brown, Fine Sandy SILT (A-4(0)), with trace gravel-sized rock fragments
	693.1	7.0	60/0.1			60/0.1				693.1 7.0 693.0 **CRYSTALLINE ROCK** 7.1 Gray, (SCHIST)
										Boring Terminated with Standard Penetration Test Refusal at Elevation 693.0 ft In Crystalline Rock (SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_38408L	**STATION** 384+08	**OFFSET** 143 ft LT	**ALIGNMENT** -L-	**0 HR.** 4.7
COLLAR ELEV. 719.6 ft	**TOTAL DEPTH** 15.5 ft	**NORTHING** 556,998	**EASTING** 1,374,635	**24 HR.** 3.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
720										
	718.6	1.0								719.6 — TOPSOIL = 6 INCHES — 0.0
			4	7	7	14		M		**RESIDUAL**
	716.1	3.5								Stiff to Very Stiff, Tan-Red-Black-Gray, Fine
715			6	7	9	16	SS-3067	23%		Sandy, Silty CLAY, Moderately Plastic,
	713.6	6.0								(A-7-5(18)), with trace gravel-sized quartz
			6	9	14	23		M		fragments
	711.1	8.5								
710			5	8	11	19		M		
	706.1	13.5								705.6 — 14.0
			15	85/0.3		100/0.8				**WEATHERED ROCK**
705	704.2	15.4	60/0.1			60/0.1				704.2 — Gray, (METAVOLCANIC ROCK) — 15.4
										704.1 — **CRYSTALLINE ROCK** — 15.5
										Gray, (METAVOLCANIC ROCK)
										Boring Terminated with Standard Penetration Test Refusal at Elevation 704.1 ft In Crystalline Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_38700R	**STATION** 387+00	**OFFSET** 107 ft RT	**ALIGNMENT** -L-	**0 HR.** 23.8
COLLAR ELEV. 731.3 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,841	**EASTING** 1,374,986	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/26/23	**COMP. DATE** 05/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
735										
										731.3 — TOPSOIL = 3 INCHES — 0.0
730	730.3	1.0	6	5	6	11		M		**ROADWAY EMBANKMENT**
	727.8	3.5								Stiff, Brown-Tan, Sandy, Silty CLAY,
			4	6	8	14	SS-3255	24%		Moderately Plastic, (A-7-5(24)), with trace
725	725.3	6.0								roots and gravel
			3	4	5	9		M		725.8 — 5.5
	722.8	8.5								**RESIDUAL**
			3	4	4	8		M		Medium Stiff to Stiff, Red-Tan-Black, Fine
720										Sandy SILT (A-4), with manganese oxide
	717.8	13.5	2	3	3	6		W		staining
715	712.8	18.5	3	4	6	10		W		
710	707.8	23.5	2	3	5	8		W		706.3 — 25.0
										Boring Terminated at Elevation 706.3 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_38938L	**STATION** 389+38	**OFFSET** 112 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 750.7 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 557,119	**EASTING** 1,375,152	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
755										
750	749.7	1.0	5	6	9	15 15				750.7 GROUND SURFACE 0.0 **RESIDUAL** Stiff to Very Stiff, Red-Brown, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(40))
	747.2	3.5	5	7	8		SS-3026	32% M		747.7 3.0 Stiff to Very Stiff, Tan-Red, Fine Sandy, Clayey SILT (A-5(11))
745	744.7	6.0	5	6	6	12	SS-3028	28%		742.7 8.0
	742.2	8.5	12	20	26	46		M		Dense, Brown-Green-Tan, Silty SAND (A-2-4), with some gravel-sized quartz fragments
740	737.2	13.5	4	5	44	49		M		
735	732.2	18.5	13	12	12	24		M		733.7 17.0 Very Stiff, Red-Tan-Black, Sandy SILT (A-4), with manganese oxide staining 730.7 20.0 Boring Terminated at Elevation 730.7 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_39200L	**STATION** 392+00	**OFFSET** 119 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 754.8 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,200	**EASTING** 1,375,400	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
755										
	753.8	1.0	7	8	14	22		M		754.8 TOPSOIL = 6 INCHES 0.0 **RESIDUAL** Very Stiff, Tan-Red, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(31))
750	751.3	3.5	8	11	16	27	SS-3033	30%		749.3 5.5 Medium Dense, Brown, Silty SAND (A-2-4)
	748.8	6.0	5	8	14	22		M		746.8 8.0 Medium Stiff to Very Stiff, Tan-Brown-Black, Fine Sandy SILT (A-4), with trace gravel-sized quartz fragments, manganese oxide staining
745	746.3	8.5	6	7	10	17		M		
740	741.3	13.5	11	8	10	18		M		
735	736.3	18.5	3	3	5	8		M		732.8 22.0 Medium Dense, Green-Gray, Silty SAND (A-2-4) with some gravel-sized rock fragments
730	731.3	23.5	29	13	12	25		M		729.8 25.0 Boring Terminated at Elevation 729.8 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_39200R	**STATION** 392+00	**OFFSET** 96 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 745.7 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 556,994	**EASTING** 1,375,462	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/26/23	**COMP. DATE** 05/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
750										
745										745.7 TOPSOIL = 2 INCHES 0.0
	744.7	1.0								**RESIDUAL**
			13	11	14	25		M		Very Stiff, Red, Sandy, Clayey SILT (A-5)
	742.2	3.5								742.7 3.0
			4	6	6	12		M		Medium Stiff to Stiff, Red-Tan-Black, Fine
740	739.7	6.0								Sandy SILT (A-4), with manganese oxide
			3	4	6	10		M		staining
	737.2	8.5								
			3	3	4	7		M		
735										
	732.2	13.5								
			4	5	8	13		M		730.7 15.0
										Boring Terminated at Elevation 730.7 ft In
										Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_41700R	**STATION** 417+00	**OFFSET** 130 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 695.7 ft	**TOTAL DEPTH** 30.9 ft	**NORTHING** 557,553	**EASTING** 1,377,855	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
700										
695										695.7 GROUND SURFACE 0.0
	693.8	1.9								**RESIDUAL**
			3	6	7	13	SS-4198	28%		Stiff, Red-Brown, Clayey SILT (A-5(13))
	691.3	4.4								691.7 4.0
690			3	4	7	11		D		Stiff, Red-Brown-Yellow-Orange-Gray, SILT
	688.8	6.9								(A-4(3)), with manganese oxide staining
			3	5	4	9		D		
	686.3	9.4								
685			3	3	5	8		D		
	681.3	14.4								
			3	4	5	9	SS-4202	20%		
680										
	676.3	19.4								
			3	4	10	14		D		
675										
	671.3	24.4								
			3	5	7	12		M		
670										
	666.3	29.4								
			2	4	6	10		M		664.8 30.9
665										Boring Terminated at Elevation 664.8 ft In
										Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_41900L	**STATION** 419+00	**OFFSET** 119 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 694.3 ft	**TOTAL DEPTH** 28.9 ft	**NORTHING** 557,797	**EASTING** 1,378,060	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/15/23	**COMP. DATE** 05/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
695										
	693.3	1.0	10	8	12	20				694.3 GROUND SURFACE 0.0
690	690.8	3.5	6	10	11	21	SS-2234	23% M		**RESIDUAL** Very Stiff, Red, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(27)) 691.3 3.0
	688.3	6.0	5	6	9	15				Very Stiff, Orange-Tan, SILT (A-5) 688.8 5.5
685	685.8	8.5	6	6	9	15	SS-2236	21% M		Stiff to Hard, Tan, Fine Sandy SILT (A-4(1))
	680.8	13.5	10	20	19	39		D		
680	675.8	18.5	10	13	13	26		D		
675	670.8	23.5	13	37	39	76		D		
670	665.8	28.5	100/0.4			100/0.4				665.8 28.5 **WEATHERED ROCK** 665.4 28.9 Gray, (METAVOLCANIC ROCK) Boring Terminated at Elevation 665.4 ft In Weathered Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_41900R	**STATION** 419+00	**OFFSET** 137 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 696.6 ft	**TOTAL DEPTH** 35.7 ft	**NORTHING** 557,541	**EASTING** 1,378,049	**24 HR.** 30.1
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
700										
										696.6 GROUND SURFACE 0.0
695	695.6	1.0	5	8	13	21		D		**RESIDUAL** Medium Stiff to Very Stiff, Red-Brown-Orange-Gray, Fine Sandy SILT (A-4(0)), with manganese oxide staining
	692.4	4.2	6	8	15	23		D		
690	690.6	6.0	6	7	9	16		D		
	687.4	9.2	4	4	6	10		D		
685	682.4	14.2	4	3	5	8	SS-4210	16%		
680	677.4	19.2	4	4	6	10		D		
675	672.4	24.2	2	4	5	9		D		
670	667.4	29.2	2	3	3	6		M		
665	662.4	34.2	9	10	16	26		M		660.9 35.7 Boring Terminated at Elevation 660.9 ft In Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_42100L	**STATION** 421+00	**OFFSET** 100 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 677.8 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 557,768	**EASTING** 1,378,259	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/14/23	**COMP. DATE** 06/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
680										677.8	0.0
	676.8	1.0	4	4	6	10		M		TOPSOIL = 4 INCHES **RESIDUAL** Medium Stiff, Brown-Red, Fine Sandy, Silty CLAY (A-7-5(11))	
675	674.3	3.5	4	4	5	9	SS-628	23%			
	671.8	6.0	6	6	7	13		M		672.3	5.5
670	669.3	8.5	3	6	5	11		M		Stiff, Black-Orange-Tan, Fine Sandy SILT (A-4), with manganese oxide staining	
665	664.3	13.5	6	6	8	14		M			
660	659.3	18.5	20	17	15	32		M		660.8 Hard, Tan-White, Fine Sandy SILT (A-4)	17.0
										657.8 Boring Terminated at Elevation 657.8 ft In Residual Sandy SILT (A-4)	20.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_42300R	**STATION** 423+00	**OFFSET** 85 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 667.2 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,744	**EASTING** 1,378,458	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
670										667.2 GROUND SURFACE	0.0
	665.3	1.9	4	4	6	10		M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown-Orange, Fine Sandy, Clayey, SILT (A-5(10)), with manganese oxide staining	
665	663.7	3.5	2	5	3	8	SS-4216	35%			
	660.3	6.9	3	4	5	9		M			
660	658.7	8.5	3	4	6	10		D			
655	653.7	13.5	6	7	7	14		D		652.2 Boring Terminated at Elevation 652.2 ft In Residual Clayey SILT (A-5)	15.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_42300L	**STATION** 423+00	**OFFSET** 97 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 669.7 ft	**TOTAL DEPTH** 15.9 ft	**NORTHING** 557,562	**EASTING** 1,378,449	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
670										669.7 GROUND SURFACE	0.0
	667.8	1.9	4	4	6	10		M		**RESIDUAL** Medium Stiff to Stiff, Orange-Red-Brown, Fine Sandy SILT (A-4), with manganese oxide staining	
665	665.3	4.4	2	5	3	8		M			
	662.8	6.9	3	4	5	9		M			
660	660.3	9.4	3	4	6	10		D			
655	655.3	14.4	6	7	7	14		D		653.8 Boring Terminated at Elevation 653.8 ft In Residual Sandy SILT (A-4)	15.9

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_42600L	**STATION** 426+00	**OFFSET** 133 ft LT	**ALIGNMENT** -L-	**0 HR.** 21.5
COLLAR ELEV. 637.7 ft	**TOTAL DEPTH** 23.6 ft	**NORTHING** 557,777	**EASTING** 1,378,760	**24 HR.** 8.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/13/23	**COMP. DATE** 06/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
640										637.7 TOPSOIL = 3 INCHES	0.0
	636.7	1.0	4	47	53/0.4	100/0.9				**WEATHERED ROCK** White-Tan, (GRANODIORITE)	
635	634.2	3.5	14	18	21	39		M		634.7 **RESIDUAL** Dense, Orange-White-Brown-Tan, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments	3.0
	631.7	6.0	7	9	13	22	SS-622	9%		632.2 Very Stiff to Hard, Black-Orange-Tan-Brown, Fine to Coarse Sandy, Silty CLAY (A-6(4)), with trace mica and gravel-sized rock fragments, manganese oxide staining	5.5
630	629.2	8.5	16	25	37	62		M			
625	624.2	13.5	62	38/0.2		100/0.7				624.2 **WEATHERED ROCK** Brown-Tan, (SCHIST)	13.5
620	619.2	18.5	60/0.1			60/0.1				619.2 **CRYSTALLINE ROCK** (SCHIST)	18.5
615	614.2	23.5	60/0.1			60/0.1				614.1 Boring Terminated with Standard Penetration Test Refusal at Elevation 614.1 ft In Crystalline Rock (SCHIST)	23.6

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_42800R	**STATION** 428+00	**OFFSET** 110 ft RT	**ALIGNMENT** -L-	**0 HR.** 21.0
COLLAR ELEV. 637.9 ft	**TOTAL DEPTH** 25.6 ft	**NORTHING** 557,526	**EASTING** 1,378,949	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
640										
	636.9	1.0	3	2	4	6		D		637.9 GROUND SURFACE 0.0 **RESIDUAL** Medium Stiff to Stiff, Red-Brown, Silty CLAY, Highly Plastic, (A-7-5(28))
635	633.8	4.1	3	3	6	9 10	SS-4230	31%		
	631.9	6.0	4	4	6			M		632.4 5.5 Medium Stiff to Stiff, Orange-Yellow-Brown-Gray, Fine Sandy, Silty CLAY (A-6), with manganese oxide staining
630	628.8	9.1	3	3	5	8		M		
625	623.8	14.1	2	2	4	6		M		
620	618.8	19.1	1	3	5	8		M		
615	613.8	24.1	2	4	5	9		W		612.3 25.6 Boring Terminated at Elevation 612.3 ft In Residual Sandy, Silty CLAY (A-6)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_44200L	**STATION** 442+00	**OFFSET** 104 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 644.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,688	**EASTING** 1,380,356	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/15/23	**COMP. DATE** 05/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
645										
	643.1	1.0	5	5	6	11				644.1 TOPSOIL = 6 INCHES 0.0
640	640.6	3.5	5	7	9	16	SS-2227	23%		**RESIDUAL** Stiff, Red-Brown, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(18)), with little concrete fragments 3.0
	638.1	6.0	5	6	10	16		M		641.1 Very Stiff, Orange-Tan, SILT (A-5), with manganese oxide staining
635	635.6	8.5	5	6	12	18		M		
630	630.6	13.5	10	12	14	26		M		630.4 13.7 Very Stiff to Hard, Gray-Tan, Fine Sandy SILT (A-4)
625	625.6	18.5	6	7	14	21		M		
620	620.6	23.5	9	17	19	36		M		619.1 25.0 Boring Terminated at Elevation 619.1 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_44400L	**STATION** 444+00	**OFFSET** 131 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 655.1 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 557,708	**EASTING** 1,380,557	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/10/23	**COMP. DATE** 05/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
660											
655										655.1	0.0
	654.1	1.0								TOPSOIL = 4 INCHES	
	651.6	3.5	4	6	9	15 14		M		**RESIDUAL** Stiff to Very Stiff , Red-Brown, Silty, CLAY (A-7-5(10))	
650	649.1	6.0	5	5	9		SS-354	38%		649.6	5.5
	646.6	8.5	6	11	12	23		M		Stiff to Very Stiff, White-Red-Brown-Black-Tan, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments	
645			5	4	8	12		M			
	641.6	13.5	7	8	11	19		M			
640										638.1	17.0
	636.6	18.5	4	5	8	13		M		Stiff to Hard, Black-White-Tan, SILT (A-5)	
635											
	631.6	23.5	8	12	13	25		M			
630											
	626.6	28.5	21	23	29	52		M			
625											
	621.6	33.5	5	5	6	11		M		620.1	35.0
										Boring Terminated at Elevation 620.1 ft In Residual SILT (A-5)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_44400R	**STATION** 444+00	**OFFSET** 128 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 643.2 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,449	**EASTING** 1,380,548	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/11/23	**COMP. DATE** 05/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
645										643.2 TOPSOIL = 4 INCHES 0.0
	642.2	1.0								**RESIDUAL**
			3	3	5	8	SS-377	44%		Medium Stiff to Stiff, Brown-Red, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(46)) 640.2 3.0
640	639.7	3.5								
			2	3	5	8		M		Medium Stiff to Stiff, Tan-Brown-Red to Black-Orange-Tan, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(27)), with manganese oxide staining
	637.2	6.0								
			2	2	4	6	SS-379	50%		
635	634.7	8.5								
			2	3	5	8		M		
630	629.7	13.5								
			3	4	7	11		M		
625	624.7	18.5								
			3	5	7	12		M		
620	619.7	23.5								
			3	5	7	12		M		618.2 25.0
										Boring Terminated at Elevation 618.2 ft In Residual Silty CLAY (A-7-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_44600L	**STATION** 446+00	**OFFSET** 141 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 661.3 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 557,712	**EASTING** 1,380,756	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/10/23	**COMP. DATE** 05/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
665										
										661.3 / 0.0 — TOPSOIL = 4 INCHES
660	660.3	1.0	4	7	10	17				**RESIDUAL** Stiff to Very Stiff, Black-Brown-Red, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(21))
	657.8	3.5	6	6	7	13	SS-343	32% M		
655	655.3	6.0	3	4	6	10		M		
	652.8	8.5	4	4	5	9		M		
650	647.8	13.5	3	4	5	9		M		654.3 / 7.0 — Stiff, Black-Red-Tan, SILT (A-5)
645	642.8	18.5	6	8	8	16		M		644.3 / 17.0 — Very Stiff to Hard, Brown-Black-White-Orange-Tan, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments
640	637.8	23.5	4	6	8	14		M		
635	632.8	28.5	26	36	19	55		M		
630	627.8	33.5	10	10	90/0.3	100/0.8		M		627.3 / 34.0 — **WEATHERED ROCK** Gray, (DIABASE)
625	622.8	38.5	9	11	13	24		M		624.3 / 37.0 — **RESIDUAL** Very Stiff, Black-Tan-Orange-Brown, Fine Sandy SILT (A-4)
										621.3 / 40.0 — Boring Terminated at Elevation 621.3 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_44600R	**STATION** 446+00	**OFFSET** 124 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 653.3 ft	**TOTAL DEPTH** 29.3 ft	**NORTHING** 557,447	**EASTING** 1,380,749	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/11/23	**COMP. DATE** 05/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
655										
										653.3 / 0.0 — TOPSOIL = 4 INCHES
	652.3	1.0	4	6	7	13		M		**RESIDUAL** Medium Stiff to Very Stiff , Black-Brown-Red-Tan, Fine Sandy SILT (A-7-5(11)), with manganese oxide staining
650	649.8	3.5	3	3	4	7		M		
	647.3	6.0	2	2	5	7		M		
645	644.8	8.5	2	2	3	5	SS-387	35%		
	639.8	13.5	2	2	5	7		M		
640	634.8	18.5	4	4	6	10		M		
635	629.8	23.5	4	5	11	16		M		
630	624.8	28.5	6	94/0.3		100/0.8				624.8 / 28.5 — 624.0 / 29.3 — **WEATHERED ROCK** Black-Gray, (GRANODIORITE)
625										Boring Terminated at Elevation 624.0 ft In Weathered Rock (GRANODIORITE)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_44800L	**STATION** 448+00	**OFFSET** 134 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 658.9 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 557,701	**EASTING** 1,380,955	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/10/23	**COMP. DATE** 05/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
660											
										658.9	0.0
	657.9	1.0								TOPSOIL = 4 INCHES	
			5	6	18	24		M		**RESIDUAL** Stiff to Very Stiff, Brown-Tan-Red, Fine Sandy, Silty CLAY (A-7-5(19))	
655	655.4	3.5	7	8	12	20	SS-235	36%			
	652.9	6.0	4	5	7	12		M			
650	650.4	8.5								650.9	8.0
			3	6	7	13		M		Stiff to Very Stiff, Red-White-Tan, Fine Sandy SILT (A-4)	
645	645.4	13.5	5	7	11	18		M			
640	640.4	18.5	7	9	10	19		M			
635	635.4	23.5	5	8	10	18		M			
630	630.4	28.5	5	7	11	18		M			
										626.9	32.0
625	625.4	33.5	4	5	7	12		M		Stiff, White-Brown-Tan, SILT (A-5)	
										623.9	35.0
										Boring Terminated at Elevation 623.9 ft In Residual SILT (A-5)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_44800R	**STATION** 448+00	**OFFSET** 120 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 653.9 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,447	**EASTING** 1,380,950	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/11/23	**COMP. DATE** 05/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
655											
										653.9	0.0
	652.9	1.0								TOPSOIL = 4 INCHES	
			4	5	7	12	SS-362	36%		**RESIDUAL** Stiff, Brown-Red, Silty CLAY, Highly Plastic, (A-7-5(39))	
650	650.4	3.5	4	5	7	12	SS-363	38%		650.9	3.0
	647.9	6.0	3	4	7	11		M		Stiff, Brown-Red-Tan-Black, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(24))	
645	645.4	8.5								645.9	8.0
			3	4	6	10		M		Medium Stiff to Stiff, Green-Pink-Black-Gray-Tan, Fine Sandy SILT (A-4), with manganese oxide staining	
640	640.4	13.5	6	6	8	14		M			
635	635.4	18.5	3	3	4	7		M			
630	630.4	23.5	3	5	6	11		M			
625	625.4	28.5	3	4	6	10		M			
										623.9	30.0
										Boring Terminated at Elevation 623.9 ft In Residual Sandy SILT (A-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_44986R	**STATION** 449+86	**OFFSET** 96 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 633.1 ft	**TOTAL DEPTH** 26.3 ft	**NORTHING** 557,467	**EASTING** 1,381,136	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/11/23	**COMP. DATE** 05/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
635											
										633.1 TOPSOIL = 5 INCHES	0.0
										RESIDUAL Medium Stiff to Hard, White-Tan-Brown-Black-Green, Fine Sandy SILT (A-4), with trace grave-sized rock fragments	
630	630.0	3.1									
	628.2	4.9	3	3	5	8		M			
			3	5	8	13		M			
625	625.6	7.5									
			8	10	12	22		M			
	623.3	9.8	5	8	11	19		M			
620											
	618.3	14.8	12	18	23	41		M			
615											
	613.3	19.8	14	21	27	48		M			
610											
	608.3	24.8	14	23	26	49		M		606.8	26.3
										Boring Terminated at Elevation 606.8 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_45230L	**STATION** 452+30	**OFFSET** 121 ft LT	**ALIGNMENT** -L-	**0 HR.** 20.1
COLLAR ELEV. 628.1 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,677	**EASTING** 1,381,387	**24 HR.** 11.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/10/23	**COMP. DATE** 05/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
630											
										628.1 TOPSOIL = 5 INCHES	0.0
	627.1	1.0								**ROADWAY EMBANKMENT** Medium Stiff to Very Stiff, Gray-Tan-Brown-Red-Blue, Fine to Coarse Sandy, Silty CLAY, Moderately Plastic, (A-7-5(11)), with trace gravel	
625	624.6	3.5	3	6	4	10		M			
	622.1	6.0	2	3	4	7	SS-327	28%			
620	619.6	8.5	4	5	9	14		M			
			5	6	8	14		M			
615	614.6	13.5									
			5	6	9	15		M			
610	609.6	18.5								611.1	17.0
			5	4	6	10		M		**RESIDUAL** Soft to Very Stiff, Black-Orange-Brown, Fine Sandy SILT (A-4)	
605	604.6	23.5									
			2	1	2	3		M			
600	599.6	28.5									
			7	7	8	15		M		598.1	30.0
										Boring Terminated at Elevation 598.1 ft In Residual Sandy SILT (A-4)	

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GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_45500L	**STATION** 455+00	**OFFSET** 134 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 672.3 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 557,680	**EASTING** 1,381,657	**24 HR.** 29.1
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/10/23	**COMP. DATE** 05/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
675											
										672.3	0.0
										TOPSOIL = 5 INCHES	
	671.3	1.0	5	6	10	16		M		**RESIDUAL** Very Stiff, Black-Orange-Tan, Fine Sandy SILT (A-4)	
670	668.8	3.5	7	10	13	23		M			
	666.3	6.0	8	9	11	20		M			
665	663.8	8.5	6	8	13	21		M			
										660.3	12.0
660	658.8	13.5	5	6	6	12	SS-312	25%		Medium Stiff to Stiff, Black-Orange-Tan, Fine Sandy SILT (A-4(5))	
655	653.8	18.5	3	4	6	10		M			
650	648.8	23.5	3	3	5	8		M			
645	643.8	28.5	3	3	5	8		M			
640	638.8	33.5	3	5	5	10		M		637.3	35.0
										Boring Terminated at Elevation 637.3 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_45500R	**STATION** 455+00	**OFFSET** 101 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 660.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,445	**EASTING** 1,381,648	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
665										
										660.1 GROUND SURFACE 0.0
	659.1	1.0	7	5	6	11		M		**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Orange-Brown-Gray, Clayey, Fine Sandy SILT (A-4(4)), with trace gravel
660	656.6	3.5	4	3	4	7	SS-4140	20%		
655	654.1	6.0	5	6	7	13		M		
	651.6	8.5	5	7	9	16		D		652.1 8.0
650										**RESIDUAL** Medium Dense, Orange-Gray-Brown-Black, Silty SAND (A-2-4)
	646.6	13.5	5	5	7	12	SS-4143	15%		648.1 12.0
645										Stiff, Orange-Gray-Black-Brown, Fine Sandy SILT (A-4(0))
	641.6	18.5	5	6	8	14		D		
640										638.1 22.0
	636.6	23.5	9	10	8	18		D		Medium Dense, Gray, Silty Fine SAND (A-2-4)
										635.1 25.0
										Boring Terminated at Elevation 635.1 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_45700R	**STATION** 457+00	**OFFSET** 98 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 658.7 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,440	**EASTING** 1,381,848	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
660										658.7 GROUND SURFACE	0.0
	657.7	1.0	4	3	6	9		M		**ARTIFICIAL FILL** Stiff, Orange-Gray-Brown, Sandy SILT (A-4), with trace gravel and organics	
655	655.2	3.5	3	4	8	12		M			
	652.7	6.0	2	7	10	17	SS-4148	32%		653.2	5.5
650	650.2	8.5	7	7	9	16		D		650.7 **RESIDUAL** Very Stiff, Red-Brown, Silty CLAY, Highly Plastic, (A-7-5(23)) Medium Stiff to Very Stiff, Red-Brown, Sandy SILT (A-4)	8.0
645	645.2	13.5	5	5	6	11		D			
640	640.2	18.5	3	2	4	6		M			
635	635.2	23.5	100/0.3			100/0.3				635.2	23.5
	633.7	25.0	60/0.0			60/0.0				633.7 **WEATHERED ROCK** (METAVOLCANIC ROCK) Boring Terminated with Standard Penetration Test Refusal at Elevation 633.7 ft On Crystalline Rock (METAVOLCANIC ROCK)	25.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_45710L	**STATION** 457+10	**OFFSET** 138 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 679.0 ft	**TOTAL DEPTH** 31.0 ft	**NORTHING** 557,676	**EASTING** 1,381,867	**24 HR.** 28.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/10/23	**COMP. DATE** 05/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
680										679.0 TOPSOIL = 4 INCHES	0.0
	678.0	1.0	10	9	13	22		M		**RESIDUAL** Very Stiff, Red-Brown-Tan, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(28))	
675	675.5	3.5	9	10	10	20	SS-318	38%			
	673.0	6.0	6	10	12	22		M		671.0	8.0
670	670.5	8.5	6	7	11	18		M		Stiff to Very Stiff, Red-Tan-Brown-Green-Gray, Fine Sandy SILT (A-5)	
665	665.5	13.5	5	5	7	12		M			
660	660.5	18.5	6	8	8	16		M			
655	655.5	23.5	5	4	6	10		M		657.0	22.0
	650.5	28.5	10	12	26	38		M		Stiff to Hard, Black-White-Tan, Fine Sandy SILT (A-4)	
650	648.0	31.0	60/0.0			60/0.0				648.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 648.0 ft On Crystalline Rock (GRANODIORITE)	31.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_45900L	**STATION** 459+00	**OFFSET** 129 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 675.3 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,660	**EASTING** 1,382,057	**24 HR.** 23.6
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/13/23	**COMP. DATE** 06/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
680										
675										675.3 TOPSOIL = 2 INCHES 0.0
	674.3	1.0								
			5	6	6	12		M		**RESIDUAL**
	671.8	3.5								Medium Stiff to Stiff,
670			4	3	5	8		M		Brown-Tan-Green-Orange, Fine Sandy SILT
	669.3	6.0								(A-4), with manganese oxide staining
			3	4	5	9	SS-614	36%		669.8 5.5
	666.8	8.5								Medium Stiff to Stiff, Black-Orange-Tan,
665			3	3	5	8		M		SILT (A-5(9)), with manganese oxide staining
	661.8	13.5								
			2	3	5	8		M		
660	656.8	18.5								657.3 18.0
			1	2	3	5	SS-617	56%		Medium Stiff to Stiff,
655	651.8	23.5								Black-Orange-Tan-Green, Fine Sandy, Silty
			4	6	5	11		M		CLAY (A-7-5(12))
650	646.8	28.5								
			3	5	7	12		M		645.3 30.0
										Boring Terminated at Elevation 645.3 ft In
										Residual Fine Sandy, Silty CLAY (A-7-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_46200L	**STATION** 462+00	**OFFSET** 106 ft LT	**ALIGNMENT** -L-	**0 HR.** 22.0
COLLAR ELEV. 672.1 ft	**TOTAL DEPTH** 24.9 ft	**NORTHING** 557,626	**EASTING** 1,382,355	**24 HR.** 21.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/09/23	**COMP. DATE** 05/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
675										672.1 TOPSOIL = 10 INCHES 0.0
	671.1	1.0								**RESIDUAL**
670			4	4	4	8		M		Medium Stiff to Stiff, Orange-Tan to
	668.6	3.5								Gray-White, Fine to Coarse Sandy SILT
			4	4	4	8	SS-2221	35%		(A-4(2)), with trace mica, manganese oxide
	666.1	6.0								staining
665			3	3	4	7		M		
	663.6	8.5								
			5	4	7	11		M		
660	658.6	13.5								
			13	10	12	22		M		
655	653.6	18.5								
			5	6	11	17		W		
650	648.6	23.5								648.1 24.0
			25	47	53/0.4	100/0.9				647.2 24.9 **WEATHERED ROCK**
										Gray-White, (GRANODIORITE)
										Boring Terminated at Elevation 647.2 ft In
										Weathered Rock (GRANODIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_46200R	**STATION** 462+00	**OFFSET** 123 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 678.9 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,397	**EASTING** 1,382,347	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION / ELEV. (ft)	DEPTH (ft)
680										678.9 GROUND SURFACE	0.0
	677.9	1.0	2	4	7	11		M		**RESIDUAL** Stiff, Red-Brown, Silty CLAY (A-7)	
675	675.4	3.5	4	6	8	14		M			
	672.9	6.0	3	5	6	11		D		673.4 Medium Stiff to Stiff, Red-Brown-Orange-White-Yellow, SILT (A-5(2)), with manganese oxide staining	5.5
670	670.4	8.5	3	5	6	11		D			
665	665.4	13.5	4	5	9	14	SS-4157	23%			
660	660.4	18.5	4	4	6	10		D			
655	655.4	23.5	3	3	7	10		D			
650	650.4	28.5	3	3	4	7		D		648.9 Boring Terminated at Elevation 648.9 ft In Residual SILT (A-5)	30.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_46700L	**STATION** 467+00	**OFFSET** 141 ft LT	**ALIGNMENT** -L-	**0 HR.** 31.5
COLLAR ELEV. 698.7 ft	**TOTAL DEPTH** 45.0 ft	**NORTHING** 557,643	**EASTING** 1,382,856	**24 HR.** 25.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION / ELEV. (ft)	DEPTH (ft)
700										698.7 GROUND SURFACE	0.0
	697.7	1.0	3	4	7	11		D		**RESIDUAL** Medium Stiff to Hard, Red-Gray-Brown-Orange-White, Clayey, Fine Sandy SILT (A-5(4)), with trace gravel-sized rock fragments, manganese oxide staining	
695	695.2	3.5	6	7	10	17		D			
	692.7	6.0	3	3	5	8		D			
690	690.2	8.5	2	2	4	6		D			
685	685.2	13.5	2	3	5	8	SS-4169	37%			
680	680.2	18.5	3	3	4	7		M			
675	675.2	23.5	3	3	5	8		M			
670	670.2	28.5	3	4	7	11		M			
665	665.2	33.5	3	4	6	10		M			
660	660.2	38.5	3	5	8	13		M			
655	655.2	43.5	21	17	35	52		W		653.7 Boring Terminated at Elevation 653.7 ft In Residual Sandy SILT (A-5)	45.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_46700R	**STATION** 467+00	**OFFSET** 175 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 711.9 ft	**TOTAL DEPTH** 16.8 ft	**NORTHING** 557,327	**EASTING** 1,382,845	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715											
										711.9	0.0
										TOPSOIL = 4 INCHES	
710	710.9	1.0								**RESIDUAL**	
			3	5	7	12	SS-392	26%		Stiff, Brown-Red, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(16))	
	708.4	3.5	3	5	7	12		M			
	705.9	6.0	3	5	6	11		M		706.4	5.5
705										Stiff to Hard, Red-Orange-Tan, Fine Sandy SILT (A-5(4)), with trace gravel-sized rock fragments	
	703.4	8.5	3	4	6	10	SS-395	23%			
700											
	698.4	13.5	25	16	16	32		M			
	695.1	16.8	60/0.0			60/0.0				695.1	16.8
										Boring Terminated with Standard Penetration Test Refusal at Elevation 695.1 ft On Crystalline Rock (SCHIST)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_46900L	**STATION** 469+00	**OFFSET** 100 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 683.2 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,594	**EASTING** 1,383,055	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/09/23	**COMP. DATE** 05/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
685										
										683.2 TOPSOIL = 6 INCHES 0.0
	682.2	1.0								**RESIDUAL**
			4	5	5	10		M		Medium Stiff to Stiff, Orange-Pink-Tan, Fine Sandy SILT (A-4)
680	679.7	3.5	3	4	4	8		M		
	677.2	6.0	2	3	4	7		M		
675	674.7	8.5	4	5	5	10		M		
670	669.7	13.5	6	4	5	9		M		
665	664.7	18.5	5	4	6	10		M		
										660.7 22.5
660	659.7	23.5	4	5	5	10		M		Stiff, Tan-White, SILT (A-5)
										658.2 25.0
										Boring Terminated at Elevation 658.2 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_46900R	**STATION** 469+00	**OFFSET** 104 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 682.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,390	**EASTING** 1,383,047	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
685										
	682.1	0.0								682.1 — GROUND SURFACE — 0.0
	681.1	1.0	2	1	4	5		M		**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Tan-Red-Brown, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(10)), with trace organics
680	678.6	3.5	1	6	6	12	SS-399	26%		
	676.1	6.0	2	2	3	5		M		
675	673.6	8.5	2	2	3	5		M		673.1 — 9.0
								M		**RESIDUAL** Medium Stiff to Very Stiff, Black-White-Brown-Orange-Tan-Gray, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
670	668.6	13.5	3	4	6	10		M		
665	663.6	18.5	4	5	9	14		M		
660	658.6	23.5	4	6	9	15		M		657.1 — 25.0
										Boring Terminated at Elevation 657.1 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_47100L	**STATION** 471+00	**OFFSET** 118 ft LT	**ALIGNMENT** -L-	**0 HR.** 16.0
COLLAR ELEV. 653.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,605	**EASTING** 1,383,255	**24 HR.** 15.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/09/23	**COMP. DATE** 05/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
655										
	653.1	0.0								653.1 — TOPSOIL = 8 INCHES — 0.0
	652.1	1.0	3	4	5	9	SS-2206	34%		**RESIDUAL** Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(10)), with trace mica
650	649.6	3.5	4	5	9	14		M		650.1 — 3.0 Stiff to Very Stiff, Orange-Tan, SILT (A-5), with trace gravel-sized rock fragments
	647.1	6.0	5	11	7	18		M		
645	644.6	8.5	11	7	7	14		M		645.6 — 7.5 Medium Stiff to Stiff, Orange-Brown, Fine Sandy SILT (A-4), with trace mica
640	639.6	13.5	4	3	4	7		M		
635	634.6	18.5	5	4	6	10		M		
630	629.6	23.5	6	9	10	19		M		628.1 — 25.0
										Boring Terminated at Elevation 628.1 ft In Residual Sandy SILT (A-4)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_47100R	**STATION** 471+00	**OFFSET** 120 ft RT	**ALIGNMENT** -L-	**0 HR.** 21.0
COLLAR ELEV. 647.1 ft	**TOTAL DEPTH** 24.4 ft	**NORTHING** 557,367	**EASTING** 1,383,247	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
650										647.1 GROUND SURFACE	0.0
645	645.2	1.9	3	2	2	4	SS-4229	26%		**ROADWAY EMBANKMENT** Soft, Red-Brown, SILT (A-5(9)), with trace gravel	
	642.7	4.4	2	2	4	6		M		643.1 **ALLUVIAL** Loose, Brown, Clayey, Silty SAND (A-2-4), with trace gravel	4.0
640	640.2	6.9	3	3	3	6		M		638.1	9.0
	637.7	9.4	2	3	4	7		M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown, Silty, Sandy CLAY (A-6(4))	
635	632.7	14.4	2	4	4	8		30% M			
630	627.7	19.4	14	28	72/0.3	100/0.8				627.2 **WEATHERED ROCK** Gray-Brown, (METAVOLCANIC ROCK)	19.9
625	622.7	24.4	60/0.0			60/0.0				622.7 Boring Terminated with Standard Penetration Test Refusal at Elevation 622.7 ft On Crystalline Rock (METAVOLCANIC ROCK)	24.4

Other Samples:
ST-2 (12.0 - 14.0)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_47300L	**STATION** 473+00	**OFFSET** 102 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 658.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,581	**EASTING** 1,383,455	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
660										658.6 TOPSOIL = 6 INCHES	0.0
	657.6	1.0								**RESIDUAL**	
655	655.1	3.5	5	5	6	11	SS-763	32%		Stiff, Red-Brown-Black-Orange-Tan, Fine to Coarse Sandy, Silty CLAY, Moderately Plastic, (A-7-5(23)), with manganese oxide staining	
	652.6	6.0	4	5	5	10		M		652.1	6.5
650	650.1	8.5	6	10	13	23		M		Stiff to Very Stiff, Black-White-Orange-Tan, Fine to Coarse Sandy SILT (A-4), with trace gravel-sized rock fragments, manganese oxide staining	
			5	7	9	16		M			
645	645.1	13.5									
			5	6	7	13		M			
640	640.1	18.5									
			7	7	9	16		M			
635	635.1	23.5									
			4	4	6	10		M		633.6 Boring Terminated at Elevation 633.6 ft In Residual Sandy SILT (A-4)	25.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_47300R	**STATION** 473+00	**OFFSET** 137 ft RT	**ALIGNMENT** -L-	**0 HR.** 8.5
COLLAR ELEV. 641.2 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,343	**EASTING** 1,383,446	**24 HR.** 5.9
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/25/23	**COMP. DATE** 07/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
645											
										641.2	0.0
										TOPSOIL = 2 INCHES	
640	640.2	1.0	6	4	10	14		M		**RESIDUAL** Stiff, Red-Orange-Tan, Fine to Coarse Sandy CLAY (A-7), with manganese oxide staining	
	637.7	3.5	6	4	7	11		M			
635	635.2	6.0	4	5	7	12		M			
	632.7	8.5	4	6	5	11		M		633.2	8.0
630										Stiff, Black-Orange-Tan, SILT (A-5), with manganese oxide staining	
	627.7	13.5	19	11	9	20		M		629.2	12.0
625										Medium Dense, Orange-Black, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments	
	622.7	18.5	2	4	6	10		W		624.2	17.0
620										Stiff, White-Gray-Brown, SILT (A-5)	
	617.7	23.5	32	43	23	66		Sat.		619.2	22.0
										Dense, Black-White-Gray, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments	
										616.2	25.0
										Boring Terminated at Elevation 616.2 ft In Residual Silty SAND (A-2-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_47500L	**STATION** 475+00	**OFFSET** 91 ft LT	**ALIGNMENT** -L-	**0 HR.** 21.3
COLLAR ELEV. 658.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,563	**EASTING** 1,383,654	**24 HR.** 16.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
660										
										658.1 TOPSOIL = 5 INCHES 0.0
	657.1	1.0	3	2	4	6	SS-770	25%		**ROADWAY EMBANKMENT** Medium Stiff, Red-Brown, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(24)) 655.1 3.0
655	654.6	3.5	8	9	8	17		M		Very Stiff, Gray-White-Red-Brown, Gravelly, Fine to Coarse Sandy CLAY (A-6) 652.6 5.5
	652.1	6.0	2	4	2	6		M		**RESIDUAL** Soft to Stiff, Black-Orange-Tan-Red, Fine Sandy SILT (A-5), with manganese oxide staining
650	649.6	8.5	1	1	2	3		M		
	644.6	13.5	5	6	8	14		W		
645										
	639.6	18.5	4	5	6	11		M		
640										
	634.6	23.5	3	4	6	10		M		633.1 25.0
635										Boring Terminated at Elevation 633.1 ft In Residual Sandy SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_47700L	**STATION** 477+00	**OFFSET** 106 ft LT	**ALIGNMENT** -L-	**0 HR.** 16.0
COLLAR ELEV. 676.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,571	**EASTING** 1,383,854	**24 HR.** 15.3
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/09/23	**COMP. DATE** 05/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
680											
										676.5	0.0
										TOPSOIL = 8 INCHES	
675	675.5	1.0	7	6	9	15 27		M		**RESIDUAL** Stiff to Very Stiff, Orange-Tan-Green, Fine to Coarse Sandy SILT (A-4), with trace mica, gravel-sized rock and quartz fragments	
	673.0	3.5	16	17	10			M			
670	670.5	6.0	6	7	9	16		M			
	668.0	8.5	12	8	10	18		D			
665	663.0	13.5	7	8	10	18		M			
660	658.0	18.5	8	11	13	24		M			
655	653.0	23.5	7	4	7	11		W			
										651.5	25.0
										Boring Terminated at Elevation 651.5 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_47700R	**STATION** 477+00	**OFFSET** 103 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 674.0 ft	**TOTAL DEPTH** 18.9 ft	**NORTHING** 557,362	**EASTING** 1,383,847	**24 HR.** 17.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
675											
	673.0	1.0	5	10	12	22		M		674.0 TOPSOIL = 7 INCHES	0.0
670	670.5	3.5	18	34	40	74	SS-406	6%		**RESIDUAL** Stiff, White-Brown-Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
	668.0	6.0	21	47	53/0.4					671.0	3.0
665	665.5	8.5	34	64	36/0.2	100/0.9				Very Dense, Black-Orange-White-Tan, Silty, Fine to Coarse SAND (A-2-4), with trace mica, manganese oxide staining	
						100/0.7				667.5	6.5
										WEATHERED ROCK White-Black-Orange-Tan, (GRANITE)	
660	660.5	13.5	25	61	39/0.3	100/0.8					
	655.5	18.5	100/0.4			100/0.4				655.1	18.9
										Boring Terminated at Elevation 655.1 ft In Weathered Rock (GRANITE)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_47900L	**STATION** 479+00	**OFFSET** 114 ft LT	**ALIGNMENT** -L-	**0 HR.** 12.0
COLLAR ELEV. 670.6 ft	**TOTAL DEPTH** 19.0 ft	**NORTHING** 557,571	**EASTING** 1,384,055	**24 HR.** 12.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/09/23	**COMP. DATE** 05/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
675										
670	669.6	1.0								670.6 TOPSOIL = 4 INCHES 0.0
	667.1	3.5	3	4	8	12	SS-2192	26%		**ROADWAY EMBANKMENT** Stiff, Red-Brown, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(18)) 667.6 3.0
665	664.6	6.0	7	8	9	17		M		**RESIDUAL** Stiff to Very Stiff, Orange-Tan, Fine Sandy SILT (A-4), with trace mica
	662.1	8.5	6	8	7	15		M		
660			8	10	14	24		D		
	657.1	13.5	11	13	25	38		M		657.6 13.0 Dense, Brown, Silty Fine to Coarse SAND (A-2-4)
655	652.1	18.5								652.1 18.5
	651.6	19.0	100/0.2			100/0.2				651.6 19.0 **WEATHERED ROCK** Brown, (GRANODIORITE)
			60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 651.6 ft On Crystalline Rock (GRANODIORITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_47900R	**STATION** 479+00	**OFFSET** 94 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 661.8 ft	**TOTAL DEPTH** 9.8 ft	**NORTHING** 557,364	**EASTING** 1,384,047	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
665										
	660.8	1.0								661.8 TOPSOIL = 4 INCHES 0.0
660	658.3	3.5	4	5	4	9		M		**RESIDUAL** Medium Stiff to Stiff, Black-Orange-Red-Brown-Tan, Fine to Coarse Sandy, Silty CLAY, Moderately Plastic, (A-7-5(9)), with trace mica, manganese oxide staining
	655.8	6.0	3	4	4	8	SS-412	34%		
655	653.3	8.5	2	3	6	9		M		
	652.8	9.0								652.8 9.0
	652.0	9.8	4	6	94/0.2	100/0.7				652.0 9.8 **WEATHERED ROCK** (GRANITE)
			60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 652.0 ft On Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_48160R	**STATION** 481+60	**OFFSET** 134 ft RT	**ALIGNMENT** -L-	**0 HR.** 10.0
COLLAR ELEV. 626.5 ft	**TOTAL DEPTH** 16.3 ft	**NORTHING** 557,314	**EASTING** 1,384,304	**24 HR.** 7.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
630											
										626.5	0.0
										TOPSOIL = 3 INCHES	
625	625.5	1.0	2	3	5	8		M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown-Tan, Fine Sand, Silty CLAY, Moderately Plastic, (A-7-6(7)), with trace mica, manganese oxide staining	
	623.0	3.5	3	3	3	6	SS-417	21%			
620	620.5	6.0	2	4	5	9		M			
	618.0	8.5	3	4	8	12		M		618.5	8.0
615										Stiff, Black-Orange-Tan-Brown, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
	613.0	13.5	20	18	25	43		M		614.5	12.0
	610.2	16.3	60/0.0			60/0.0				Dense, Black-Orange-White-Tan, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments	
										610.2	16.3
										Boring Terminated with Standard Penetration Test Refusal at Elevation 610.2 ft On Crystalline Rock (GRANITE)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_48400	**STATION** 484+00	**OFFSET** CL	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 644.6 ft	**TOTAL DEPTH** 9.3 ft	**NORTHING** 557,432	**EASTING** 1,384,550	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/24/23	**COMP. DATE** 07/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
645										
										644.6 GROUND SURFACE 0.0
	643.6	1.0								**ROADWAY EMBANKMENT**
			1	2	4	6		M		Medium Stiff to Stiff, Red-Brown, Silty CLAY (A-7), with trace mica and organics
640	641.6	3.0	3	5	5	10		M		
	636.6	8.0	23	19	81/0.3	100/0.8				636.1 8.5
										635.3 **WEATHERED ROCK** 9.3
										White-Gray, (METAMORPHOSED QUARTZ DIORITE)
										Boring Terminated at Elevation 635.3 ft In Weathered Rock (METAMORPHOSED QUARTZ DIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_48400R	**STATION** 484+00	**OFFSET** 108 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 641.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,324	**EASTING** 1,384,540	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
645										
										641.3 TOPSOIL = 5 INCHES 0.0
640	640.3	1.0	3	4	7	11	SS-422	17%		**ROADWAY EMBANKMENT** Stiff, Brown, Silty, Fine to Coarse Sandy CLAY (A-6(4)), with trace organics
	637.8	3.5	3	4	5	9		M		635.8 5.5
635	635.3	6.0	19	34	26	60		M		**RESIDUAL** Very Dense, Black-White-Tan, Silty, Fine to Coarse SAND (A-2-4)
	632.8	8.5	29	29	33	62		M		631.3 10.0
										Boring Terminated at Elevation 631.3 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_48427L	**STATION** 484+27	**OFFSET** 117 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 653.0 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,546	**EASTING** 1,384,587	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/08/23	**COMP. DATE** 05/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
655										
										653.0 TOPSOIL = 3 INCHES 0.0
	652.0	1.0	19	16	18	34		D		**RESIDUAL** Dense to Very Dense, Tan-Orange, Silty Fine to Coarse SAND (A-2-4)
650	649.5	3.5	16	17	20	37		D		
	647.0	6.0	20	21	38	59		D		
645	644.5	8.5	24	25	42	67		D		
	639.5	13.5	19	25	50	75		D		
635	634.5	18.5	24	25	52	77		D		
630	629.5	23.5	15	27	35	62		D		628.0 25.0
										Boring Terminated at Elevation 628.0 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_48700L	**STATION** 487+00	**OFFSET** 108 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 635.4 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,505	**EASTING** 1,384,863	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/08/23	**COMP. DATE** 05/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
640										ELEV. (ft) DEPTH (ft)
635										635.4 TOPSOIL = 3 INCHES 0.0
	634.4	1.0	3	2	4	6		M		**RESIDUAL** Medium Stiff to Stiff, Orange-Tan, SILT (A-5), with manganese oxide staining
	631.9	3.5	2	3	3	6		M		
630	629.4	6.0	3	4	5	9		M		
	626.9	8.5	3	3	5	8		M		625.4 10.0
										Boring Terminated at Elevation 625.4 ft In Residual SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_48700R	**STATION** 487+00	**OFFSET** 125 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 631.2 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,274	**EASTING** 1,384,831	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
635										
630	630.2	1.0	2	4	4	8	SS-426	26%		631.2 GROUND SURFACE 0.0
	627.7	3.5	3	6	9	15		M		**RESIDUAL** Medium Stiff to Very Stiff, Red-Brown, Silty CLAY, Highly Plastic, (A-7-5(25))
625	625.2	6.0	2	4	5	9		M		
	622.7	8.5	2	3	5	8		M		621.2 10.0
										Boring Terminated at Elevation 621.2 ft In Residual Silty CLAY (A-7-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_49000R	**STATION** 490+00	**OFFSET** 148 ft RT	**ALIGNMENT** -L-	**0 HR.** 17.5
COLLAR ELEV. 614.7 ft	**TOTAL DEPTH** 23.9 ft	**NORTHING** 557,204	**EASTING** 1,385,116	**24 HR.** 14.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
615										614.7 GROUND SURFACE 0.0
	613.7	1.0	9	7	6	13 15		M		**RESIDUAL** Medium Dense to Very Dense, Tan-White, Silty Fine SAND (A-2-4)
610	611.2	3.5	9	8	7			M		
	608.7	6.0	11	28	28	56		M		
	606.2	8.5	18	32	26	58		M		
605										
	601.2	13.5	4	7	10	17		M		602.7 12.0 Very Stiff, Tan, SILT (A-5)
600										
	596.2	18.5	6	8	11	19		M		
595										
	591.2	23.5	100/0.4			100/0.4				591.2 23.5 590.8 23.9 **WEATHERED ROCK** (GRANITE) Boring Terminated at Elevation 590.8 ft In Weathered Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_49200L	**STATION** 492+00	**OFFSET** 141 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 640.5 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,446	**EASTING** 1,385,371	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/05/23	**COMP. DATE** 05/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
645										
640										640.5 TOPSOIL = 3 INCHES 0.0
	639.5	1.0	5	7	9	16		M		**ROADWAY EMBANKMENT** Stiff to Very Stiff, White-Tan-Red-Gray-Brown, Fine Sandy SILT (A-4), with trace mica and gravel
	637.0	3.5	4	7	7	14		M		
635	634.5	6.0	4	7	13	20		M		
	632.0	8.5	2	4	7	11		M		630.5 10.0 Boring Terminated at Elevation 630.5 ft In Roadway Embankment Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_49200R	**STATION** 492+00	**OFFSET** 157 ft RT	**ALIGNMENT** -L-	**0 HR.** 13.0
COLLAR ELEV. 611.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,155	**EASTING** 1,385,305	**24 HR.** 12.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
615										
										611.5 TOPSOIL = 4 INCHES 0.0
610	610.5	1.0						M		**RESIDUAL** Loose, Red-Brown, Clayey, Fine to Coarse SAND (A-2-6)
	608.0	3.5	2	3	3	6				608.5 3.0
			2	2	4	6	SS-438	19%		Medium Stiff, Red-Brown-Tan, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-6(12))
605	605.5	6.0	3	4	6	10		M		606.0 5.5
	603.0	8.5	4	6	7	13		M		Loose to Medium Dense, Blue-Gray-White, Silty, Fine to Coarse SAND (A-2-4), with trace mica
600										
	598.0	13.5	7	8	7	15		M		
595										
	593.0	18.5	15	15	32	47		M		593.5 18.0
590										Hard, Black-Orange-White-Tan, Fine Sandy SILT (A-4), with trace mica
	588.0	23.5	46	48	45	93		M		586.5 25.0
										Boring Terminated at Elevation 586.5 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV21_B-2	**STATION** 493+32	**OFFSET** 212 ft LT	**ALIGNMENT** -L-	**0 HR.** 3.0
COLLAR ELEV. 608.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,483	**EASTING** 1,385,519	**24 HR.** 3.7
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/08/23	**COMP. DATE** 05/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
610										
	607.6	1.0								608.6 TOPSOIL = 4 INCHES 0.0
			1	2	2	4				**ROADWAY EMBANKMENT**
605	605.1	3.5					SS-2174	22%		Soft, Red-Brown, Fine Sandy SILT (A-4(1))
			1	1	2	3		W		604.1 4.5
	602.6	6.0								**ALLUVIAL** 602.6 6.0
			1	2	3	5		M		Soft, Gray-Brown, Fine Sandy CLAY (A-6), with trace organics
600	600.1	8.5								**RESIDUAL**
			2	4	4	8		M		Medium Stiff to Very Stiff, Gray-Tan-White, Fine Sandy SILT (A-4), with trace mica
595	595.1	13.5								
			5	8	9	17		M		
590	590.1	18.5								
			8	10	15	25		M		
585	585.1	23.5								
			WOH	5	7	12		M		583.6 25.0
										Boring Terminated at Elevation 583.6 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV21_B-1	**STATION** 493+96	**OFFSET** 167 ft RT	**ALIGNMENT** -L-	**0 HR.** 13.2
COLLAR ELEV. 609.0 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,100	**EASTING** 1,385,487	**24 HR.** 4.5
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
610										609.0 TOPSOIL = 2 INCHES	0.0
	608.0	1.0						M		**ALLUVIAL** Soft to Medium Stiff, Brown-Red-Tan, Fine Sandy, Silty CLAY (A-7), with trace organics	
605	605.5	3.5	1	2	2	4		23%		604.5	4.5
	603.0	6.0	3	5	12	17	SS-431			Very Stiff , Blue-Gray, Fine to Coarse Sandy SILT (A-4)	
			10	27	17	44		W		602.5	6.5
600	600.5	8.5								Dense, Blue-Gray, Silty, Fine to Coarse Sandy GRAVEL (A-1-a)	
			2	2	5	7		M		601.0	8.0
										RESIDUAL Medium Stiff to Hard, Gray-Orange-Tan-Brown, Fine Sandy SILT (A-4)	
595	595.5	13.5	21	55	43	98		M			
										592.0	17.0
590	590.5	18.5	18	10	14	24		M		Medium Dense to Very Dense, Brown-Gray, Gravelly Fine to Coarse SAND (A-1-b), with some gravel sized rock fragments	
585	585.5	23.5	15	16	47	63		M		584.0	25.0
										Boring Terminated at Elevation 584.0 ft In Residual Gravelly SAND (A-1-b)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_49700L	**STATION** 497+00	**OFFSET** 151 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 646.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,320	**EASTING** 1,385,868	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/05/23	**COMP. DATE** 05/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
650										646.1 TOPSOIL = 4 INCHES 0.0
										ROADWAY EMBANKMENT Stiff to Very Stiff, Red-Brown, Fine Sandy, Clayey SILT (A-5), with trace mica and organics
645	645.1	1.0	7	5	7	12		M		
	642.6	3.5								
			4	4	6	10		M		
640	640.1	6.0								
			6	9	14	23		M		
	637.6	8.5								
			5	7	9	16		M		
635										
	632.6	13.5								633.1 13.0
			7	9	10	19		M		**RESIDUAL** Medium Dense, Black-White-Tan, Silty Fine SAND (A-2-4), with trace mica, manganese oxide staining
630										
	627.6	18.5								
			4	6	14	20		M		
625										
	622.6	23.5								624.1 22.0
			3	4	3	7		M		Medium Stiff, Black-White-Tan, Fine Sandy SILT (A-4), with trace mica
										621.1 25.0
										Boring Terminated at Elevation 621.1 ft In Residual Sandy SILT (A-4)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_49700R	**STATION** 497+00	**OFFSET** 120 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 635.5 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,062	**EASTING** 1,385,785	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/26/23	**COMP. DATE** 05/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
640										
635										635.5 TOPSOIL = 2 INCHES 0.0
	634.5	1.0	10	6	8	14 28		M		**ROADWAY EMBANKMENT** Stiff to Very Stiff, Red-Brown, Sandy, Clayey SILT (A-5), with trace gravel
	632.0	3.5	4	14	14			M		
630	629.5	6.0	4	6	6	12 18		M		630.0 5.5 Stiff to Very Stiff, Red-Brown, Sandy, Silty CLAY (A-7), with trace gravel
	627.0	8.5	9	8	10			M		626.0 9.5 625.5 10.0 **RESIDUAL** Very Stiff, Red-Tan, Sandy SILT (A-4) Boring Terminated at Elevation 625.5 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_50000L	**STATION** 500+00	**OFFSET** 179 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 658.9 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,245	**EASTING** 1,386,168	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/05/23	**COMP. DATE** 05/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
660										
	657.9	1.0								658.9 TOPSOIL = 6 INCHES 0.0
655	655.4	3.5	7	6	7	13		M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown, Fine Sandy, Clayey SILT (A-5(2)), with trace mica
	652.9	6.0	4	4	5	9	SS-288	30%		653.4 5.5
650	650.4	8.5	5	3	4	7		M		Medium Stiff to Stiff, Brown-White-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
			4	4	5	9		M		
645	645.4	13.5	4	3	4	7		M		
640	640.4	18.5	4	4	5	9		M		636.9 22.0 Loose, Brown-White-Tan, Silty Fine SAND (A-2-4), with trace mica
635	635.4	23.5	3	4	4	8		M		633.9 25.0 Boring Terminated at Elevation 633.9 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_50000R	**STATION** 500+00	**OFFSET** 108 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 640.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 556,977	**EASTING** 1,386,067	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/26/23	**COMP. DATE** 05/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
645										
640										640.6 — TOPSOIL = 3 INCHES — 0.0
	639.6	1.0	11	7	7	14		M		**ROADWAY EMBANKMENT** Stiff, Brown, Sandy, Clayey SILT (A-5), with trace mica
	637.1	3.5	3	3	7	10		M		637.6 — 3.0 — Stiff, Red-Brown, Sandy, Silty CLAY (A-7), with trace gravel
635	634.6	6.0	3	5	7	12		M		635.1 — 5.5 — Stiff, Red-Tan, Sandy SILT (A-4)
	632.1	8.5	4	5	6	11		M		630.6 — 10.0 — Boring Terminated at Elevation 630.6 ft In Roadway Embankment Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_50190L	**STATION** 501+90	**OFFSET** 192 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 663.9 ft	**TOTAL DEPTH** 24.1 ft	**NORTHING** 557,185	**EASTING** 1,386,355	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Auger	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/13/23	**COMP. DATE** 06/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
665										
	662.9	1.0	4	5	6	11		M		663.9 — TOPSOIL = 4 INCHES — 0.0
660	660.4	3.5	3	4	5	9		M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown-Black-White-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
	657.9	6.0	2	2	3	5		M		
655	655.4	8.5	2	3	3	6		M		
650	650.4	13.5	2	3	3	6		M		
645	645.4	18.5	3	5	6	11		M		645.9 — 18.0 — Medium Dense, Black-Brown-White, Silty Fine to Coarse SAND (A-2-4), with trace mica
640	640.4	23.5	81	19/0.1		100/0.6				640.4 — 23.5 — 639.8 — 24.1 — **WEATHERED ROCK** Brown-Black-White, (GRANODIORITE) Boring Terminated at Elevation 639.8 ft In Weathered Rock (GRANODIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_50200R	**STATION** 502+00	**OFFSET** 111 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 642.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 556,902	**EASTING** 1,386,248	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/30/23	**COMP. DATE** 05/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
645										
	641.9	1.0								642.9 GROUND SURFACE 0.0
640	639.4	3.5	4	4	6	10		M		**ROADWAY EMBANKMENT** Stiff to Very Stiff, Red-Brown-Yellow, Sandy SILT (A-4), with some gravel-sized rock fragments, manganese oxide staining
	636.9	6.0	4	5	6	11		M		
635	634.4	8.5	4	6	10	16		M		
			12	4	9	13		M		632.9 10.0 Boring Terminated at Elevation 632.9 ft In Roadway Embankment Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_50500L	**STATION** 505+00	**OFFSET** 140 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 663.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,008	**EASTING** 1,386,625	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/05/23	**COMP. DATE** 05/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
665										
	662.6	1.0								663.6 TOPSOIL = 5 INCHES 0.0
660	660.1	3.5	4	5	7	12		M		**RESIDUAL** Stiff , Red-Brown-Tan, Fine Sandy, Silty CLAY (A-7-5(15)), with trace mica, manganese oxide staining
	657.6	6.0	4	7	7	14	SS-274	32%		
655	655.1	8.5	3	7	11	18		M		
			6	8	9	17		M		
650	650.1	13.5	7	10	10	20		M		650.6 13.0 Medium Dense to Very Dense, Black-White-Tan, Silty Fine SAND (A-2-4), with trace mica
645	645.1	18.5	15	15	23	38		M		
640	640.1	23.5	24	26	28	54		M		638.6 25.0 Boring Terminated at Elevation 638.6 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_50500R	**STATION** 505+00	**OFFSET** 110 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 646.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 556,782	**EASTING** 1,386,517	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/30/23	**COMP. DATE** 05/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
650										
										646.6 GROUND SURFACE 0.0
645	645.6	1.0								**ROADWAY EMBANKMENT**
			3	5	5	10	SS-4247	26%		Stiff to Very Stiff, Red-Brown, Sandy CLAY,
	643.1	3.5								Moderately Plastic, (A-7-6(11)), with
			5	5	8	13		M		manganese oxide staining
640	640.6	6.0								
			5	9	7	16		M		
	638.1	8.5								638.6 8.0
			4	6	8	14		M		**RESIDUAL**
										636.6 Stiff, Red-Brown, Sandy SILT (A-4) 10.0
										Boring Terminated at Elevation 636.6 ft In
										Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_50800L	**STATION** 508+00	**OFFSET** 110 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 666.1 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 556,842	**EASTING** 1,386,884	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 08/16/23	**COMP. DATE** 08/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
670										
										666.1 TOPSOIL = 3 INCHES 0.0
665	665.1	1.0								**RESIDUAL**
			4	5	7	12		M		Stiff, Red-Orange, Silty CLAY (A-7), with
	662.6	3.5								663.1 trace mica 3.0
			4	5	8	13		M		Stiff to Hard, Brown-Tan-Orange, Fine Sandy
660	660.1	6.0								SILT (A-4), with trace mica, manganese
			4	5	7	12		M		oxide staining
	657.6	8.5								
			4	6	7	13		M		
655										
	652.6	13.5								
			4	4	5	9		M		
650										
	647.6	18.5								
			7	9	13	22		M		
645										
	642.6	23.5								
			7	11	16	27		M		
640										
	637.6	28.5								
			10	13	17	30		M		636.1 30.0
										Boring Terminated at Elevation 636.1 ft In
										Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_50800R	**STATION** 508+00	**OFFSET** 100 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 650.0 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 556,657	**EASTING** 1,386,784	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/30/23	**COMP. DATE** 05/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
655										ELEV. (ft) DEPTH (ft)
650										650.0 GROUND SURFACE 0.0
	649.0	1.0	3	6	8	14		M		**ROADWAY EMBANKMENT** Stiff, Red-Brown-Gray, Sandy SILT (A-4), with trace mica
	646.5	3.5	4	5	6	11		M		
645	644.0	6.0	8	6	5	11		M		644.5 5.5 **RESIDUAL** Loose to Medium Dense, Red-Brown, Silty SAND (A-2-4), with trace mica
	641.5	8.5	3	4	6	10		M		640.0 10.0 Boring Terminated at Elevation 640.0 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_51000L	**STATION** 510+00	**OFFSET** 115 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 669.0 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,745	**EASTING** 1,387,064	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/05/23	**COMP. DATE** 05/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
670										669.0 TOPSOIL = 5 INCHES 0.0
	668.0	1.0	7	6	8	14		M		**ROADWAY EMBANKMENT** Stiff to Very Stiff, Red-Brown, Sandy, Silty CLAY, Highly Plastic, (A-7-5(32)), with trace mica
665	665.5	3.5	3	6	6	12	SS-267	31%		
	663.0	6.0	5	9	14	23		M		
660	660.5	8.5	4	7	9	16		M		656.0 13.0 **RESIDUAL** Stiff, White-Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
	655.5	13.5	5	6	7	13		M		
650	650.5	18.5	4	5	6	11		M		
645	645.5	23.5	2	4	7	11		M		644.0 25.0 Boring Terminated at Elevation 644.0 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_51000R	**STATION** 510+00	**OFFSET** 88 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 653.4 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 556,571	**EASTING** 1,386,961	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/30/23	**COMP. DATE** 05/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
655										ELEV. (ft) DEPTH (ft)
	652.4	1.0								653.4 GROUND SURFACE 0.0
			5	8	9	17		M		**RESIDUAL**
650	649.9	3.5								Stiff to Very Stiff, Red-Brown, CLAY, Highly Plastic (A-7-5(22))
			3	6	11	17	SS-4256	21%		
	647.4	6.0								
			8	11	12	23		M		
645	644.9	8.5								
			6	6	6	12		M		643.4 10.0
										Boring Terminated at Elevation 643.4 ft In Residual CLAY (A-7)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_51200L	**STATION** 512+00	**OFFSET** 98 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 663.6 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 556,626	**EASTING** 1,387,228	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/05/23	**COMP. DATE** 05/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
665										
										663.6 TOPSOIL = 4 INCHES 0.0
	662.6	1.0								**ROADWAY EMBANKMENT**
			4	5	6	11	SS-260	34%		Stiff , Brown-Red, Sandy, Silty CLAY (A-7-5(10)), with trace mica and organics
660	660.1	3.5								660.6 3.0
			2	3	4	7		M		Medium Stiff, Brown-Orange-Red, Fine Sandy SILT (A-4), with trace mica and organics
	657.6	6.0								
			1	3	3	6		M		
655	655.1	8.5								655.6 8.0
			1	5	4	9		M		**RESIDUAL**
										Medium Stiff to Stiff, White-Tan-Brown, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
650	650.1	13.5								
			1	2	5	7		M		
645	645.1	18.5								
			1	5	4	9		M		643.6 20.0
										Boring Terminated at Elevation 643.6 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_51286R	**STATION** 512+86	**OFFSET** 71 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 656.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 556,437	**EASTING** 1,387,213	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/30/23	**COMP. DATE** 05/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)
660												
										GROUND SURFACE	656.3	0.0
655	655.3	1.0	2	7	6	13		M		**ROADWAY EMBANKMENT** Stiff, Red-Brown, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-6(7))		
	652.8	3.5	3	5	5	10	SS-4260	18%				
650	650.3	6.0	4	7	8	15		M		**RESIDUAL** Stiff to Very Stiff, Red-Brown, CLAY (A-7)	650.8	5.5
	647.8	8.5	2	5	7	12		M			646.3	10.0
										Boring Terminated at Elevation 646.3 ft In Residual CLAY (A-7)		

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_51500L	**STATION** 515+00	**OFFSET** 110 ft LT	**ALIGNMENT** -L-	**0 HR.** 5.0
COLLAR ELEV. 642.3 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,480	**EASTING** 1,387,490	**24 HR.** 0.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/04/23	**COMP. DATE** 05/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)
645												
										GROUND SURFACE	642.3	0.0
	641.3	1.0	4	5	6	11		M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown-Gray-Blue, CLAY (A-7), with manganese oxide staining		
640	638.8	3.5	WOH	2	3	5		W				
	636.3	6.0	3	3	4	7		W			635.3	7.0
635	633.8	8.5	5	7	8	15		M		Medium Stiff to Very Stiff Stiff, Gray-White, Sandy SILT (A-4)		
	628.8	13.5	3	10	14	24		M			630.3	12.0
630										Very Stiff, Orange-Brown-White, Sandy SILT (A-4)		
625	623.8	18.5	19	16	19	35		M			625.3	17.0
										Dense, Brown, Silty SAND (A-2-4), with trace clay		
620	618.8	23.5	8	13	22	35		M			617.3	25.0
										Boring Terminated at Elevation 617.3 ft In Residual Silty SAND (A-2-4)		

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_51500R_RS	**STATION** 515+00	**OFFSET** 100 ft RT	**ALIGNMENT** -L-	**0 HR.** 8.2
COLLAR ELEV. 643.9 ft	**TOTAL DEPTH** 8.3 ft	**NORTHING** 556,301	**EASTING** 1,387,381	**24 HR.** 7.7
DRILL RIG/HAMMER EFF./DATE N/A		**DRILL METHOD** Rod Sounding	**HAMMER TYPE** Manual	
DRILLER P. Tomasic	**START DATE** 07/27/23	**COMP. DATE** 07/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
645										ELEV. (ft) DEPTH (ft)
										643.9 TOPSOIL = 3 INCHES 0.0
			1	2	12	4 6 28 47 78		M		**RESIDUAL** Stiff to Very Stiff, Orange-Tan-White, Fine to Coarse Sandy CLAY (A-6), with trace mica and organics
640			3	4	16					637.9 6.0
			24	37	61					635.6 8.3
			23	41	58					Boring Terminated at Elevation 635.6 ft
			69	79	79	100/1.0 100/1.0 100/1.0				Hand Auger Refusal at 6.0 ft
			79	77	100/0.3	100/0.3				Rod Sounding Refusal at 6.3 ft

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_51800L	**STATION** 518+00	**OFFSET** 75 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 666.1 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 556,294	**EASTING** 1,387,728	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/04/23	**COMP. DATE** 05/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
670										
	665.1	1.0								666.1 GROUND SURFACE 0.0
665			2	4	8	12	SS-4080	25%		**RESIDUAL** Stiff, Red-Brown, Sandy, Silty CLAY, Moderately Plastic, (A-7-6(16))
	662.6	3.5								663.1 3.0
			5	5	9	14		M		Stiff, Gray-Brown-Orange-White, Sandy SILT (A-4), with manganese oxide staining
660	660.1	6.0								
			6	7	8	15		M		
	657.6	8.5								
			5	6	8	14		M		656.1 10.0
										Boring Terminated at Elevation 656.1 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_51800R_RS	**STATION** 518+00	**OFFSET** 109 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 647.2 ft	**TOTAL DEPTH** 8.4 ft	**NORTHING** 556,137	**EASTING** 1,387,632	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE N/A		**DRILL METHOD** Rod Sounding	**HAMMER TYPE** Manual	
DRILLER P. Tomasic	**START DATE** 07/27/23	**COMP. DATE** 07/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
650										
			1	3		4 7 23 48 68 100/1.0		M		647.2 TOPSOIL = 4 INCHES 0.0
645			2	5		100/1.0		M		**ARTIFICIAL FILL** Medium Stiff to Stiff, Orange-Brown, Clayey, Fine Sandy SILT (A-4), with trace gravel and organics 645.2 2.0
			8	15		100/1.0				**RESIDUAL** 643.3 3.9
			22	26						Very Stiff to Hard, Orange-Tan-Gray-White, Fine to Coarse Sandy CLAY (A-6), with trace mica and gravel-sized rock fragments 641.2 6.0
			32	36						638.8 8.4
640			48	60						Boring Terminated at Elevation 638.8 ft
			57	60						Hand Auger Refusal at 3.9 ft
			64	54						Rod Sounding Refusal at 8.4 ft
			100/0.4							

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.
SITE DESCRIPTION I-85 Widening			**GROUND WTR (ft)**
BORING NO. L_52000R_RS	**STATION** 520+00	**OFFSET** 126 ft RT	**ALIGNMENT** -L-	**0 HR.** 7.1
COLLAR ELEV. 647.4 ft	**TOTAL DEPTH** 23.9 ft	**NORTHING** 556,018	**EASTING** 1,387,794	**24 HR.** 5.6
DRILL RIG/HAMMER EFF./DATE N/A		**DRILL METHOD** Rod Sounding	**HAMMER TYPE** Manual	
DRILLER P. Tomasic	**START DATE** 07/28/23	**COMP. DATE** 07/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
650										
			2	2		4 5 8 14 25 38 42		M		647.4 TOPSOIL = 1 INCH 0.0
645			2	3		41 42 41 39 39 47 60 68 75				**ARTIFICIAL FILL** Soft to Medium Stiff, Orange-Brown-Gray, Fine Sandy CLAY (A-6), with trace mica, gravel, and organics
			3	5						640.4 7.0
			6	8				W		**RESIDUAL** 639.6 7.8
			10	15						Very stiff to Hard, Orange-White-Tan, CLAY (A-7)
			19	19						
			22	20						
640			18	23						
			22	20						
			20	21						
			21	18						
635			19	20						
			22	25						
			31	29						
			38	30						
630			36	39						628.4 19.0
			35	34		80 100/1.0 100/1.0 100/1.0 100/1.0 100/1.0 100/0.4				
			38	42						
			51	50						
625			53	56						
			58	66						
			59	58						
			77	89						623.5 23.9
			83	100/0.4						Boring Terminated at Elevation 623.5 ft
										Hand Auger Refusal at 7.8 ft
										Rod Sounding Refusal at 23.9 ft

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_52010L	**STATION** 520+10	**OFFSET** 114 ft LT	**ALIGNMENT** -L-	**0 HR.** 7.5
COLLAR ELEV. 649.9 ft	**TOTAL DEPTH** 24.7 ft	**NORTHING** 556,218	**EASTING** 1,387,927	**24 HR.** 6.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/04/23	**COMP. DATE** 05/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
650										649.9 GROUND SURFACE	0.0
	648.9	1.0	1	5	6	11		M		**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Red-Brown-Orange-Gray, Clayey SILT (A-5(5)), with some organics, manganese oxide staining	
645	646.4	3.5	3	2	4	6	SS-4104	37%			
	643.9	6.0	2	2	4	6		M		643.4	6.5
	641.4	8.5	3	8	19	27		M		**RESIDUAL** Medium Stiff to Stiff, Blue-Gray-Orange, CLAY (A-7), with trace organics	9.5
640										Medium Dense, Gray-Brown, Clayey Fine to Coarse SAND (A-2-6)	
	636.4	13.5	36	50	50/0.3	100/0.8				637.9	12.0
635										**WEATHERED ROCK** Black-White, (DIORITE)	
	631.4	18.5	32	34	30	64		M		632.9	17.0
630										**RESIDUAL** Very Dense, White-Black, Silty Fine Sand (A-2-4)	
	626.4	23.5	25	65	35/0.2	100/0.7				628.9	21.0
										WEATHERED ROCK Black-White, (DIORITE)	
										625.2	24.7
										Boring Terminated at Elevation 625.2 ft In Weathered Rock (DIORITE)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_52215L	**STATION** 522+15	**OFFSET** 62 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 678.1 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 556,067	**EASTING** 1,388,075	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
680										678.1 TOPSOIL = 3 INCHES	0.0
	677.1	1.0	5	5	6	11				**ROADWAY EMBANKMENT** Stiff, Red-Brown, Silty CLAY (A-7-6(8)), with trace organics	
675	674.6	3.5	3	3	3	6	SS-2098	29%		675.1	3.0
	672.1	6.0	3	3	5	8		M		**RESIDUAL** Medium Stiff to Stiff, Orange-Tan, SILT (A-5), with trace mica, manganese oxide staining	
670	669.6	8.5	1	3	5	8		M			
	664.6	13.5	1	2	4	6		M		663.1	15.0
665										Boring Terminated at Elevation 663.1 ft In Residual SILT (A-5)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_52300R	**STATION** 523+00	**OFFSET** 77 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 680.0 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,904	**EASTING** 1,388,075	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/08/23	**COMP. DATE** 05/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
685										ELEV. (ft) DEPTH (ft)
680										680.0 TOPSOIL = 6 INCHES 0.0
	679.0	1.0								**ROADWAY EMBANKMENT**
	676.5	3.5	2	2	3	5		M		Medium Stiff to Stiff, Red-Brown. Fine to Coarse Sandy SILT (A-5), with trace gravel
675	674.0	6.0	3	5	5	10		M		
	671.5	8.5	3	2	6	8		M		
			3	4	5	9		M		670.0 10.0
										Boring Terminated at Elevation 670.0 ft In Roadway Embankment Sandy SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_52600L	**STATION** 526+00	**OFFSET** 73 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 688.7 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,876	**EASTING** 1,388,409	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/25/23	**COMP. DATE** 04/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
690										ELEV. (ft) DEPTH (ft)
	687.7	1.0								688.7 TOPSOIL = 2 INCHES 0.0
685	685.2	3.5	4	4	7	11		M		**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Purple-Red, Clayey SILT (A-5)
	682.7	6.0	3	3	5	8		M		
680	680.2	8.5	2	3	5	8		M		683.7 5.0
			4	4	3	7		M		Medium Stiff, Brown-Gray, Fine Sandy, Silty CLAY (A-7), with trace organics
										678.7 10.0
										Boring Terminated at Elevation 678.7 ft In Roadway Embankment Silty CLAY (A-7)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_52600R	**STATION** 526+00	**OFFSET** 97 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 689.7 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 555,730	**EASTING** 1,388,321	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/30/23	**COMP. DATE** 05/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
690										ELEV. (ft) DEPTH (ft)
										689.7 GROUND SURFACE 0.0
	688.7	1.0	3	7	9	16				**RESIDUAL**
										Stiff to Very Stiff, Red-Brown, Silty CLAY,
	686.2	3.5	4	5	7	12	SS-4272	29%		Highly Plastic, (A-7-5(30)), with trace mica
685								M		
	683.7	6.0	3	5	6	11		M		684.2 5.5
										Stiff, Red-Brown, Fine Sandy SILT (A-4), with
	681.2	8.5	3	5	6	11		M		trace mica, manganese oxide staining
680										
	676.2	13.5	5	5	6	11		M		674.7 15.0
675										Boring Terminated at Elevation 674.7 ft In
										Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_53200L	**STATION** 532+00	**OFFSET** 71 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 707.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,561	**EASTING** 1,388,921	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
710										
										707.9 TOPSOIL = 3 INCHES 0.0
	706.9	1.0	5	4	5	9		M		**ROADWAY EMBANKMENT**
										Stiff, Red-Brown, Fine Sandy SILT (A-5), with
705	704.4	3.5	2	4	3	7				trace gravel
										704.9 3.0
	701.9	6.0	3	4	4	8	SS-2058	29%		**RESIDUAL**
								M		Medium Stiff to Stiff, Orange-Tan, Fine
700	699.4	8.5	3	3	5	8		M		Sandy SILT (A-5(1)), with trace mica and
										gravel-sized rock fragments, manganese
										oxide staining
										697.9 10.0
										Boring Terminated at Elevation 697.9 ft In
										Residual Sandy SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_53400R	**STATION** 534+00	**OFFSET** 87 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 711.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,322	**EASTING** 1,389,009	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										ELEV. (ft) / DEPTH (ft)
										711.8 TOPSOIL = 5 INCHES 0.0
710	710.8	1.0	2	2	3	5		M		**RESIDUAL** Medium Stiff, Black-Tan-Orange-Red-Brown, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
	708.3	3.5	2	2	4	6		M		
705	705.8	6.0	1	2	3	5		M		
	703.3	8.5	2	2	4	6		M		701.8 10.0
										Boring Terminated at Elevation 701.8 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_53500L	**STATION** 535+00	**OFFSET** 71 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 712.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,405	**EASTING** 1,389,177	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										
										712.6 TOPSOIL = 3 INCHES 0.0
	711.6	1.0	4	6	9	15	SS-2053	23%		**ROADWAY EMBANKMENT** Stiff to Very Stiff , Red-Brown, Fine Sandy SILT (A-4(5)), with trace mica
710	709.1	3.5	6	9	10	19		M		
	706.6	6.0	2	4	5	9		M		707.1 5.5
705	704.1	8.5	2	3	4	7		M		**RESIDUAL** Stiff, Orange-Tan, SILT (A-5), with manganese oxide staining
										702.6 10.0
										Boring Terminated at Elevation 702.6 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_53753L	**STATION** 537+53	**OFFSET** 78 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 715.0 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,279	**EASTING** 1,389,396	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										ELEV. (ft) DEPTH (ft)
715										715.0 TOPSOIL = 3 INCHES 0.0
	714.0	1.0	6	9	8	17	SS-2045	30%		**ROADWAY EMBANKMENT** Stiff to Very Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(21))
	711.5	3.5	4	5	7	12		M		
710	709.0	6.0	4	4	9	13		M		709.5 5.5 **RESIDUAL** Stiff, Orange-Tan, SILT (A-5), with manganese oxide staining
	706.5	8.5	3	5	9	14		M		705.0 10.0 Boring Terminated at Elevation 705.0 ft In Residual SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_53800R	**STATION** 538+00	**OFFSET** 139 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 738.6 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 555,069	**EASTING** 1,389,323	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
	737.6	1.0								738.6 TOPSOIL = 4 INCHES 0.0
735	735.1	3.5	3	6	11	17		M		**ROADWAY EMBANKMENT** Stiff to Very Stiff, Gray-Red-Brown, Silty CLAY, Highly Plastic, (A-7-5(24)), with trace organics and gravel
	732.6	6.0	1	4	7	11		M		
730	730.1	8.5	4	4	6	10		M		
			3	4	4	8	SS-153	28%		
725	725.1	13.5	4	7	8	15		M		
720	720.1	18.5	3	4	5	9		M		
715	715.1	23.5	2	3	4	7		M		716.6 22.0 **RESIDUAL** Medium Stiff to Stiff, Black-Tan-Red, Fine Sandy SILT (A-4), with manganese oxide staining
710	710.1	28.5	3	4	5	9		M		
705	705.1	33.5	3	3	5	8		M		703.6 35.0 Boring Terminated at Elevation 703.6 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_54000R	**STATION** 540+00	**OFFSET** 139 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 738.6 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 554,965	**EASTING** 1,389,494	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
740										738.6 TOPSOIL = 4 INCHES	0.0
	737.6	1.0								**ROADWAY EMBANKMENT** Stiff, Red-Brown, Fine Sandy, Silty, CLAY (A-7-5(11)), with trace organics	
735	735.1	3.5	4	7	7	14	SS-159	26%		735.6	3.0
	732.6	6.0	3	2	2	4		M		**RESIDUAL** Soft to Stiff, Black-Tan-Orange-Red-Brown, Fine Sandy SILT (A-4), with manganese oxide staining	
730	730.1	8.5	2	4	5	9		M			
			3	3	4	7		M			
725	725.1	13.5	3	4	5	9		M			
720	720.1	18.5	3	4	5	9		M			
715	715.1	23.5	3	2	4	6		M			
710	710.1	28.5	2	3	4	7		M			
705	705.1	33.5	3	3	4	7		M		703.6 Boring Terminated at Elevation 703.6 ft In Residual Sandy SILT (A-4)	35.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_54200L	**STATION** 542+00	**OFFSET** 106 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 722.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 555,070	**EASTING** 1,389,792	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/21/23	**COMP. DATE** 04/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
725										722.5 GROUND SURFACE	0.0
	721.5	1.0								721.5 **ROADWAY EMBANKMENT** Medium Stiff, Tan, Fine Sandy, Clayey SILT (A-5)	1.0
720	719.0	3.5	2	4	3	7		M		Medium Stiff, Red, Fine Sandy, Clayey SILT (A-5)	
	716.5	6.0	2	3	3	6		M		717.0	5.5
715	714.0	8.5	2	2	3	5	SS-2036	51%		**RESIDUAL** Medium Stiff , Purple-Red, SILT (A-5(18)), with manganese oxide staining	
			3	3	3	6		M			
710	709.0	13.5	23	15	14	29		M		709.5 Stiff to Very Stiff, Tan-Orange, SILT (A-5), with trace mica	13.0
705	704.0	18.5	4	4	7	11		M			
700	699.0	23.5	4	4	5	9		M		697.5 Boring Terminated at Elevation 697.5 ft In Residual SILT (A-5)	25.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_54200R	**STATION** 542+00	**OFFSET** 148 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 743.3 ft	**TOTAL DEPTH** 45.0 ft	**NORTHING** 554,853	**EASTING** 1,389,661	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745											
	742.3	1.0								743.3 TOPSOIL = 5 INCHES	0.0
			3	5	7	12				**ROADWAY EMBANKMENT**	
740	739.8	3.5	3	5	5	10	SS-168	24%	M	Stiff , Red-Brown, Fine Sandy, Clayey SILT (A-5(6))	
	737.3	6.0	2	4	5	9		M		740.3	3.0
735	734.8	8.5	3	4	5	9		M		**RESIDUAL** Medium Stiff to Stiff, Black-Tan-Brown-Orange-Red, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
730	729.8	13.5	3	3	4	7		M			
725	724.8	18.5	3	5	6	11		M			
720	719.8	23.5	4	5	6	11		M			
715	714.8	28.5	3	4	6	10		M			
710	709.8	33.5	3	4	6	10		M			
705	704.8	38.5	2	3	5	8		M			
700	699.8	43.5	2	3	4	7		M		698.3 Boring Terminated at Elevation 698.3 ft In Residual Sandy SILT (A-4)	45.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_54400R	**STATION** 544+00	**OFFSET** 150 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 743.7 ft	**TOTAL DEPTH** 45.0 ft	**NORTHING** 554,747	**EASTING** 1,389,838	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
745										
	742.7	1.0								743.7 TOPSOIL = 5 INCHES 0.0
			3	4	5	9		M		**RESIDUAL**
740	740.2	3.5	4	3	5	8		M		Medium Stiff to Stiff, Orange-Black-Tan-Red-Brown, Fine Sandy SILT (A-5(0)), with trace mica, manganese oxide staining
	737.7	6.0	3	4	6	10		M		
735	735.2	8.5	3	4	5	9		M		
730	730.2	13.5	4	5	6	11	SS-183	18%		
725	725.2	18.5	3	5	6	11		M		
720	720.2	23.5	4	5	7	12		M		
715	715.2	28.5	3	4	6	10		M		
710	710.2	33.5	3	4	5	9		M		
705	705.2	38.5	3	4	6	10		M		
700	700.2	43.5	3	5	9	14		M		698.7 Boring Terminated at Elevation 698.7 ft In Residual Sandy SILT (A-5) 45.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL13_B-1	**STATION** 547+23	**OFFSET** 125 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 735.1 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 554,624	**EASTING** 1,390,154	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/30/23	**COMP. DATE** 05/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
740										
735										735.1 GROUND SURFACE 0.0
	734.1	1.0								**ROADWAY EMBANKMENT**
			3	4	3	7 16		M		Medium Stiff to Very Stiff, Red-Brown, Fine to Coarse Sandy SILT (A-4(0)), with trace wood and concrete fragments
	731.6	3.5								
730			2	13	3		SS-4278	21%		
	729.1	6.0								729.1 6.0
			3	4	3	7		W		Loose, Brown, Silty Fine SAND (A-2-4), with trace plastic debris
	726.6	8.5								726.6 8.5
725			4	3	4	7		M		**RESIDUAL**
										Medium Stiff to Stiff, Orange-Red-Brown-Black, Fine Sandy SILT (A-4(1)), with trace mica, manganese oxide staining
	721.6	13.5								
720			5	5	6	11	SS-4281	24%		
	716.6	18.5								
715			4	5	6	11		M		
	711.6	23.5								
710			4	5	7	12		M		
	706.6	28.5								
705			3	4	5	9		M		
	701.6	33.5								
			3	5	5	10		M		700.1 35.0
										Boring Terminated at Elevation 700.1 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_54800L	**STATION** 548+00	**OFFSET** 115 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 718.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 554,819	**EASTING** 1,390,314	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/21/23	**COMP. DATE** 04/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										
										718.5 TOPSOIL = 3 INCHES 0.0
	717.5	1.0								**RESIDUAL**
715	715.0	3.5	5	5	7	12		M		Stiff, Purple-Red, Fine Sandy SILT (A-4), with trace mica and organics, manganese oxide staining
	712.5	6.0	6	7	8	15		M		
710	710.0	8.5	4	5	8	13		M		
			5	6	8	14		M		
705	705.0	13.5								
			4	5	6	11		M		
700	700.0	18.5								700.5 18.0
			4	4	6	10		M		Medium Stiff to Stiff, Orange-Tan, SILT (A-4), with trace mica, manganese oxide staining
695	695.0	23.5								
			3	3	5	8		M		693.5 25.0
										Boring Terminated at Elevation 693.5 ft In Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL13_B-2	**STATION** 548+19	**OFFSET** 125 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 734.8 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 554,588	**EASTING** 1,390,248	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/31/23	**COMP. DATE** 05/31/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION / ELEV. (ft)	DEPTH (ft)
735											
	733.8	1.0								734.8 GROUND SURFACE	0.0
			6	9	12	21		D		**RESIDUAL** Stiff to Very Stiff, Red-Brown-Orange-Gray, Fine to Coarse Sandy SILT (A-4(0)), with trace mica, manganese oxide staining	
	731.3	3.5									
730			6	8	9	17		D			
	728.8	6.0									
			4	6	6	12	SS-4288	22%			
	726.3	8.5									
725			4	5	5	10		D			
	721.3	13.5									
720			4	5	6	11		D			
	716.3	18.5									
715			4	5	7	12	SS-4291	22%			
	711.3	23.5									
710			6	7	7	14		D			
	706.3	28.5									
705			4	5	5	10		M			
	701.3	33.5									
700			4	5	5	10		M		699.8	35.0
										Boring Terminated at Elevation 699.8 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL13_B-3	**STATION** 549+25	**OFFSET** 126 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 732.6 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 554,550	**EASTING** 1,390,352	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/31/23	**COMP. DATE** 05/31/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION / ELEV. (ft)	DEPTH (ft)
735											
										732.6 GROUND SURFACE	0.0
	731.6	1.0								**RESIDUAL** Very Stiff to Hard, Orange-Red-Brown, Fine to Coarse Sandy, Clayey SILT (A-5(8)), with trace mica, manganese oxide staining	
			4	8	11	19		D			
730	729.1	3.5									
			15	16	15	31		D			
	726.6	6.0									
725			4	4	6	10		D			
	724.1	8.5									
			5	5	6	11	SS-4298	21%			
720	719.1	13.5									
			4	5	7	12		D			
715	714.1	18.5									
			5	9	8	17		D			
710	709.1	23.5									
			5	6	7	13		D			
705	704.1	28.5									
			4	6	8	14		D			
700	699.1	33.5									
			3	4	7	11		M			
695	694.1	38.5									
			3	4	5	9		M		692.6	40.0
										Boring Terminated at Elevation 692.6 ft In Residual Clayey SILT (A-5)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL13_B-4	**STATION** 550+45	**OFFSET** 109 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 720.5 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 554,530	**EASTING** 1,390,476	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/31/23	**COMP. DATE** 05/31/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
725											
720										720.5	0.0
	719.5	1.0	3	4	5	9		D		**GROUND SURFACE**	
	717.0	3.5	4	4	7	11		D		**RESIDUAL** Stiff to Very Stiff, Red-Orange-Brown-Gray, Clayey, Fine to Coarse Sandy SILT (A-5(1)), with trace mica, manganese oxide staining	
715	714.5	6.0	4	4	5	9	SS-4307	21%			
	712.0	8.5	5	6	8	14		D			
710	707.0	13.5	5	5	8	13		D			
705	702.0	18.5	5	7	9	16		D			
700	697.0	23.5	3	4	5	9		M			
695	692.0	28.5	3	3	5	8		M		690.5	30.0
										Boring Terminated at Elevation 690.5 ft In Residual Clayey, Sandy SILT (A-5)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_55100L	**STATION** 551+00	**OFFSET** 79 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 702.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,697	**EASTING** 1,390,579	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/21/23	**COMP. DATE** 04/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
705											
										702.3	0.0
	701.3	1.0								TOPSOIL = 3 INCHES	
700			4	6	7	13	SS-2016	23%		**ROADWAY EMBANKMENT** Stiff, Tan-Red, Fine Sandy SILT (A-4(3)), with trace mica	
	698.8	3.5	3	3	3	6		M		698.6	3.7
	696.3	6.0								**RESIDUAL** Medium Stiff to Stiff, Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
695			3	3	5	8		M			
	693.8	8.5	2	3	4	7		M		692.3	10.0
										Boring Terminated at Elevation 692.3 ft In Residual Sandy SILT (A-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL13_B-5	**STATION** 551+52	**OFFSET** 86 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 707.9 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 554,524	**EASTING** 1,390,589	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/31/23	**COMP. DATE** 05/31/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
710										
	706.9	1.0	3	3	5	8				707.9 GROUND SURFACE 0.0
705	704.4	3.5	3	4	4	8	SS-4313	26%		**RESIDUAL** Medium Stiff, Red-Orange-Brown, Fine to Coarse Sandy, Silty CLAY, Moderately Plastic, (A-7-5(11)) 704.9 3.0
	701.9	6.0	3	3	4	7		M		Medium Stiff to Stiff, Red-Orange-Brown-Gray-White, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
700	699.4	8.5	3	4	5	9		M		
695	694.4	13.5	3	4	5	9		M		
690	689.4	18.5	3	4	5	9		M		687.9 20.0 Boring Terminated at Elevation 687.9 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_55300L	**STATION** 553+00	**OFFSET** 119 ft LT	**ALIGNMENT** -L-	**0 HR.** 5.0
COLLAR ELEV. 680.4 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 554,694	**EASTING** 1,390,776	**24 HR.** 2.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/21/23	**COMP. DATE** 04/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
685										
680	679.4	1.0	2	2	3	5				680.4 TOPSOIL = 4 INCHES 0.0
	676.9	3.5						M		**ROADWAY EMBANKMENT** Medium Stiff, Red, Silty CLAY (A-7), with trace mica 677.4 3.0
675	674.4	6.0	1	2	2	4	SS-2021	38%		Soft to Medium Stiff, Purple-Red, Silty, Fine Sandy CLAY, Moderately Plastic, (A-7-5(11)), with trace mica
	671.9	8.5	2	3	3	6		W		672.4 8.0
670			WOH	3	2	5		W		**ALLUVIAL** Medium Stiff, Brown-Orange-Gray, Fine to Coarse Sandy CLAY (A-6), with trace mica and gravel
	666.9	13.5	2	2	3	5				667.4 13.0
665								W		**RESIDUAL** Soft to Medium Stiff, Orange-Brown, Fine to Coarse Sandy SILT (A-4), with trace mica
	661.9	18.5	2	2	3	5				
660								M		
	656.9	23.5	2	2	2	4		M		655.4 25.0 Boring Terminated at Elevation 655.4 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_55300R	**STATION** 553+00	**OFFSET** 120 ft RT	**ALIGNMENT** -L-	**0 HR.** 7.0
COLLAR ELEV. 684.0 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 554,459	**EASTING** 1,390,732	**24 HR.** 5.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/31/23	**COMP. DATE** 05/31/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
685										684.0 GROUND SURFACE	0.0
	683.0	1.0	4	4	6	10		M		**RESIDUAL** Stiff, Red-Brown, Silty CLAY (A-6)	
680	680.5	3.5	5	6	8	14	SS-4320	27%		681.0 Stiff, Red-Brown, Fine to Coarse Sandy, Silty CLAY, Moderately Plastic, (A-7-5(11))	3.0
	678.0	6.0	2	2	3	5		M		678.5 Medium Stiff to Very Stiff, Orange-Gray-Brown-White, Fine Sandy SILT (A-4), with trace mica and some gravel-sized rock fragments	5.5
675	675.5	8.5	2	3	5	8		M			
670	670.5	13.5	4	10	8	18		W			
665	665.5	18.5	5	7	8	15		W			
660	660.5	23.5	6	8	10	18		W		659.0 Boring Terminated at Elevation 659.0 ft In Residual SILT (A-4)	25.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_55600L	**STATION** 556+00	**OFFSET** 111 ft LT	**ALIGNMENT** -L-	**0 HR.** 14.2
COLLAR ELEV. 680.7 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 554,648	**EASTING** 1,391,060	**24 HR.** 6.3
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/21/23	**COMP. DATE** 04/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
685										680.7 GROUND SURFACE	0.0
	679.7	1.0	1	2	3	5				**ALLUVIAL** Medium Stiff, Gray-Brown, Fine to Coarse Sandy, Clayey SILT (A-5(1)), with some organics	
680	677.2	3.5	2	2	4	6	SS-2009	44%		678.2 **RESIDUAL** Soft to Medium Stiff, Orange-Tan, Fine Sandy, Clayey SILT (A-5), with trace mica, manganese oxide staining	2.5
	674.7	6.0	2	3	3	6		M			
675	672.2	8.5	2	2	2	4		M			
670	667.2	13.5	2	2	3	5		M		668.7 Medium Stiff, Tan, Fine Sandy SILT (A-4), with trace mica	12.0
665	662.2	18.5	1	2	3	5		M			
660	657.2	23.5	1	3	4	7		M		655.7 Boring Terminated at Elevation 655.7 ft In Residual Sandy SILT (A-4)	25.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_55612R	**STATION** 556+12	**OFFSET** 127 ft RT	**ALIGNMENT** -L-	**0 HR.** 8.0
COLLAR ELEV. 678.0 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 554,410	**EASTING** 1,391,053	**24 HR.** 4.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/31/23	**COMP. DATE** 05/31/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
680											
										678.0 GROUND SURFACE	0.0
	676.1	1.9						M		**ALLUVIAL** Soft to Stiff, Gray-Brown-Blue CLAY, Highly Plastic, (A-7-6(20)), with trace organics	
675	674.5	3.5	2	2	1	3					
			4	4	6	10	SS-4327	27%			
	671.1	6.9						M		672.5 **RESIDUAL**	5.5
670	669.5	8.5	5	7	9	16				Very Stiff, Gray-Brown-Orange-White, Sandy SILT (A-4), with trace gravel, manganese oxide staining	
			4	7	10	17		D			
665	664.5	13.5									
			10	11	17	28		M			
660	659.5	18.5									
			8	9	12	21		W			
655	654.5	23.5									
			11	9	11	20		W		653.0	25.0
										Boring Terminated at Elevation 653.0 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CULV22_B-1	**STATION** 558+12	**OFFSET** 1,493 ft RT	**ALIGNMENT** -L-	**0 HR.** 12.3
COLLAR ELEV. 672.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 553,035	**EASTING** 1,391,253	**24 HR.** 10.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
675										
										672.5 TOPSOIL = 3 INCHES 0.0
	671.5	1.0								**RESIDUAL** Medium Stiff to Stiff, Black-Red-Brown, Silty, Fine Sandy CLAY, Moderately Plastic, (A-7-5(8)), with manganese oxide staining
670	669.0	3.5	5	4	8	12	SS-799	22%		
			4	4	4	8		M		
	666.5	6.0								667.0 5.5
665	664.0	8.5	6	7	8	15		M		Stiff to Very Stiff, Black-Tan-Orange, Fine Sandy SILT (A-5), with manganese oxide staining
			5	5	8	13				664.5 8.0
660	659.0	13.5						M		Stiff to Very Stiff, Black-White-Orange-Tan, Fine to Coarse Sandy SILT (A-4), with trace gravel-sized rock fragments and quartz fragments, manganese oxide staining
			7	9	11	20		M		
655	654.0	18.5								
			6	9	9	18		W		
650	649.0	23.5								
			8	7	10	17		W		647.5 25.0
										Boring Terminated at Elevation 647.5 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_55900L	**STATION** 559+00	**OFFSET** 80 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 699.1 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,609	**EASTING** 1,391,349	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/21/23	**COMP. DATE** 04/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)
700												
										GROUND SURFACE	699.1	0.0
	698.1	1.0	2	2	3	5		M		**RESIDUAL** Medium Stiff, Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	696.1	3.0
695	695.6	3.5	4	4	5	9	SS-2006	24%		Stiff, Tan, Fine Sandy CLAY, Moderately Plastic, (A-7-6(10)), with manganese oxide staining	693.6	5.5
	693.1	6.0	3	4	5	9		M		Stiff, Orange-Tan, Clayey SILT (A-5), with trace mica	689.1	10.0
690	690.6	8.5	2	3	6	9		M		Boring Terminated at Elevation 689.1 ft In Residual Clayey SILT (A-5)		

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_55900R	**STATION** 559+00	**OFFSET** 105 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 696.0 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 554,424	**EASTING** 1,391,353	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/31/23	**COMP. DATE** 05/31/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
700										
										696.0 GROUND SURFACE 0.0
695	695.0	1.0	6	7	11	18	SS-4333	44%		694.0 **RESIDUAL** Very Stiff, Red-Brown, Silty CLAY, Highly Plastic, (A-7-5(45)), with manganese oxide staining 2.0
	692.5	3.5	6	7	11	18		M		Stiff to Very Stiff, Red-Brown, Silty CLAY (A-6), with trace mica, manganese oxide staining
690	690.0	6.0	4	4	5	9		M		
	687.5	8.5	3	4	6	10		M		684.0 12.0
685	682.5	13.5	4	4	5	9		M		Stiff, Gray-Brown-White, Fine Sandy SILT (A-4) 681.0 15.0
										Boring Terminated at Elevation 681.0 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_56200L	**STATION** 562+00	**OFFSET** 83 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 701.7 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 554,622	**EASTING** 1,391,647	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/21/23	**COMP. DATE** 04/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
705											
										701.7	0.0
										TOPSOIL = 3 INCHES	
700	700.7	1.0								**ROADWAY EMBANKMENT**	
			4	5	7	12	SS-2000	33%		Stiff, Tan-Red, Clayey SILT (A-5(8)), with trace mica	
	698.2	3.5								698.7	3.0
			2	4	3	7		M		**RESIDUAL**	
695	695.7	6.0								Medium Stiff, Orange-Red, Clayey SILT (A-5), with trace mica, manganese oxide staining	
			2	4	4	8		M			
	693.2	8.5									
			2	2	3	5		M		691.7	10.0
690										Medium Stiff, Orange-Red, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
	688.2	13.5									
			2	2	3	5		M		686.7	15.0
										Boring Terminated at Elevation 686.7 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_56200R	**STATION** 562+00	**OFFSET** 85 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 701.7 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,455	**EASTING** 1,391,654	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
705											
										701.7	0.0
										TOPSOIL = 2 INCHES	
700	700.7	1.0								**RESIDUAL**	
			2	3	5	8	SS-1053	28%		Medium Stiff to Very Stiff, Red-Brown, Silty CLAY, Highly Plastic, (A-7-6(22))	
	698.2	3.5									
			5	7	10	17		M		696.2	5.5
695	695.7	6.0								Stiff to Very Stiff, Red-Orange-Maroon, Fine Sandy, Clayey SILT (A-5), with trace mica	
			4	7	11	18		M			
	693.2	8.5									
			4	6	9	15		M		691.7	10.0
										Boring Terminated at Elevation 691.7 ft In Residual Clayey SILT (A-5)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_56500L	**STATION** 565+00	**OFFSET** 103 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 698.4 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 554,655	**EASTING** 1,391,946	**24 HR.** 11.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
700											
										698.4	0.0
	697.4	1.0								TOPSOIL = 3 INCHES	
			3	5	5	10				**RESIDUAL** Stiff, Tan-Red, Silty CLAY, Moderately Plastic, (A-7-5(24))	
695	694.9	3.5								695.4	3.0
			3	3	3	6	SS-1025	42%		Medium Stiff, Tan-Orange, Fine Sandy SILT (A-5), with manganese oxide staining	
	692.4	6.0						W			
			WOH	3	4	7		W			
690	689.9	8.5						W		690.4	8.0
			3	2	3	5				Medium Stiff, Tan-White, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
685	684.9	13.5									
			1	2	4	6		M		683.4	15.0
										Boring Terminated at Elevation 683.4 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_56500R	**STATION** 565+00	**OFFSET** 108 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 698.9 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 554,444	**EASTING** 1,391,955	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
700											
										698.9	0.0
	697.9	1.0								TOPSOIL = 3 INCHES	
			2	3	4	7		M		**RESIDUAL** Medium Stiff, Red-Orange-Pink, Fine Sandy, Clayey SILT (A-5), with trace mica	
695	695.4	3.5								694.4	4.5
			6	7	9	16		M		Medium Dense, Tan-Orange, Silty, Fine to Coarse SAND (A-2-4)	
	692.9	6.0								692.9	6.0
			2	2	3	5		M		Soft to Medium Stiff, Orange-Brown-Red, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
690	690.4	8.5									
			2	2	3	5		M			
685	685.4	13.5									
			1	1	2	3		W			
680	680.4	18.5									
			1	2	5	7		W		678.9	20.0
										Boring Terminated at Elevation 678.9 ft In Residual Sandy SILT (A-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_56700R	**STATION** 567+00	**OFFSET** 105 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 712.1 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 554,455	**EASTING** 1,392,155	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
715										
	712.1	0.0								TOPSOIL = 2 INCHES 0.0
	711.1	1.0	5	7	10	17				**RESIDUAL** Very Stiff, Red, Silty CLAY, Highly Plastic, (A-7-5(34))
710	708.6	3.5	5	8	10	18	SS-1047	31%		709.1 3.0
	706.1	6.0	4	6	8	14		M		Stiff to Very Stiff, Red-Orange, Fine Sandy, Clayey SILT (A-5), with trace mica
705	703.6	8.5	4	5	5	10		M		704.1 8.0
700								M		Medium Stiff to Stiff, Orange-Tan, Fine Sandy SILT (A-4), with manganese oxide staining
	698.6	13.5	3	3	4	7		M		
695	693.6	18.5	2	3	4	7		M		692.1 20.0
										Boring Terminated at Elevation 692.1 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_56900L	**STATION** 569+00	**OFFSET** 77 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 710.0 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,646	**EASTING** 1,392,347	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
710										
	709.0	1.0	5	5	6	11				710.0 TOPSOIL = 2 INCHES 0.0
	706.5	3.5	4	4	7	11	SS-1022	31%		**RESIDUAL** Stiff, Tan-Brown, Silty CLAY, Highly Plastic, (A-7-5(26))
705	704.0	6.0	4	5	8	13		M		707.0 3.0
	701.5	8.5	4	4	6	10		M		Stiff, Tan-Orange, Silty, Fine Sandy CLAY (A-6)
700								M		704.5 5.5
										Stiff, Tan-Orange, Fine Sandy SILT (A-4), with trace mica
										700.0 10.0
										Boring Terminated at Elevation 700.0 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_56900R	**STATION** 569+00	**OFFSET** 105 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 710.5 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 554,464	**EASTING** 1,392,354	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
715										
710										710.5 GROUND SURFACE 0.0
	709.5	1.0	4	8	11	19	SS-1045	33%		**RESIDUAL** Very Stiff, Red-Orange-Black, Silty CLAY, Moderately Plastic, (A-7-5(17)), with trace mica
	707.0	3.5	4	6	7	13		M		707.5 3.0
705	704.5	6.0	2	3	4	7		M		Soft to Stiff, Red-Orange-Maroon-Black, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
	702.0	8.5	2	3	4	7		M		
700	697.0	13.5	2	2	2	4		M		695.5 15.0
										Boring Terminated at Elevation 695.5 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_57200L	**STATION** 572+00	**OFFSET** 82 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 711.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,663	**EASTING** 1,392,646	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										
										711.8 TOPSOIL = 2 INCHES 0.0
710	710.8	1.0	3	5	6	11		M		**RESIDUAL** Stiff, Red, Fine Sandy, Clayey SILT (A-5), with trace mica
	708.3	3.5	4	4	6	10		M		
705	705.8	6.0	3	4	5	9		M		706.3 5.5 Stiff, Red, Fine Sandy SILT (A-4), with trace mica
	703.3	8.5	3	4	6	10		M		701.8 10.0
										Boring Terminated at Elevation 701.8 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_57200R	**STATION** 572+00	**OFFSET** 76 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 712.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,505	**EASTING** 1,392,653	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										ELEV. (ft) DEPTH (ft)
										712.3 TOPSOIL = 3 INCHES 0.0
	711.3	1.0	4	6	9	15				**RESIDUAL**
710							SS-1043	24%		Stiff to Very Stiff, Red-Brown, Silty CLAY,
	708.8	3.5	6	10	15	25		M		Highly Plastic, (A-7-6(23)), with trace
	706.3	6.0								organics and mica
705			6	9	14	23		M		
	703.8	8.5								
			5	9	12	21		M		702.3 10.0
										Boring Terminated at Elevation 702.3 ft In Residual Silty CLAY (A-7-6)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_57500L	**STATION** 575+00	**OFFSET** 96 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 711.7 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,690	**EASTING** 1,392,946	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										
										711.7 TOPSOIL = 3 INCHES 0.0
	710.7	1.0	4	3	4	7		M		**ROADWAY EMBANKMENT**
710										Medium Stiff, Tan-Orange, Fine Sandy SILT
	708.2	3.5	3	4	3	7		M		(A-5) 708.7 3.0
										RESIDUAL
	705.7	6.0								Medium Stiff, Red-Tan-Pink, Fine Sandy,
705			4	5	8	13		M		Clayey SILT (A-5) 706.2 5.5
	703.2	8.5								Stiff, Tan-Orange-Maroon, Fine Sandy SILT
			3	4	6	10		M		(A-4), with trace mica
										701.7 10.0
										Boring Terminated at Elevation 701.7 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_57500R	**STATION** 575+00	**OFFSET** 98 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 703.9 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 554,496	**EASTING** 1,392,954	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
705										703.9 TOPSOIL = 2 INCHES	0.0
	702.9	1.0	3	4	5	9		M		**ROADWAY EMBANKMENT** Stiff, Red-Orange, Silty CLAY (A-7), with trace organics 701.4	2.5
700	700.4	3.5	4	6	9	15	SS-1040	32%		**RESIDUAL** Stiff, Red, Silty CLAY, Moderately Plastic, (A-7-5(32)) 698.4	5.5
	697.9	6.0	2	4	5	9		M		Stiff, Red-Orange-Maroon, Fine Sandy, Clayey SILT (A-5), with trace mica 695.9	8.0
695	695.4	8.5	2	3	5	8		M		Medium Stiff to Stiff, Red-Tan-Maroon-Yellow, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
690	690.4	13.5	2	4	6	10		M			
685	685.4	18.5	2	2	3	5		M		683.9	20.0
										Boring Terminated at Elevation 683.9 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_57800L	**STATION** 578+00	**OFFSET** 82 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 713.4 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,688	**EASTING** 1,393,246	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715										713.4 TOPSOIL = 2 INCHES	0.0
	712.4	1.0	3	3	5	8		M		**ROADWAY EMBANKMENT** Medium Stiff, Red, Fine Sandy, Clayey SILT (A-5), with trace mica 710.4	3.0
710	709.9	3.5	2	2	4	6	SS-1016	30%		**RESIDUAL** Medium Stiff, Tan-Orange, Silty CLAY, Moderately Plastic, (A-7-5(25)) 707.9	5.5
	707.4	6.0	5	7	10	17		M		Very Stiff, Orange-Tan, Fine Sandy, Clayey SILT (A-5), with trace mica	
705	704.9	8.5	5	7	8	15		M		703.4	10.0
										Boring Terminated at Elevation 703.4 ft In Residual Clayey SILT (A-5)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_57800R	**STATION** 578+00	**OFFSET** 85 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 711.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,521	**EASTING** 1,393,253	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715											
										711.8	TOPSOIL = 3 INCHES 0.0
710	710.8	1.0	2	2	3	5	SS-1037	35%		**ROADWAY EMBANKMENT** Medium Stiff, Red, Silty CLAY, Moderately Plastic, (A-7-5(17)), with trace organics	3.0
	708.3	3.5	3	3	4	7		M		708.8 **RESIDUAL**	
705	705.8	6.0	3	3	5	8		M		706.3 Medium Stiff, Red-Orange, Fine Sandy CLAY (A-6), with trace mica	5.5
	703.3	8.5	2	3	4	7		M		Medium Stiff, Tan-Orange-Red, Fine Sandy SILT (A-4)	
										701.8	10.0
										Boring Terminated at Elevation 701.8 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_58100L	**STATION** 581+00	**OFFSET** 82 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 712.5 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,700	**EASTING** 1,393,546	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715											
										712.5	TOPSOIL = 3 INCHES 0.0
710	711.5	1.0	4	4	5	9		M		**ROADWAY EMBANKMENT** Stiff, Red, Fine Sandy, Clayey SILT (A-5), with trace mica	
	709.0	3.5	3	7	9	16	SS-1014	24%		709.5	3.0
705	706.5	6.0	3	4	5	9		M		Very Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-6(16)), with trace mica and organics	
	704.0	8.5	3	7	10	17		M		707.0 **RESIDUAL**	5.5
										Stiff to Very Stiff, Red, Silty CLAY (A-7)	
										702.5	10.0
										Boring Terminated at Elevation 702.5 ft In Residual Silty CLAY (A-7)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_58100R	**STATION** 581+00	**OFFSET** 85 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 711.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,534	**EASTING** 1,393,553	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										ELEV. (ft) DEPTH (ft)
										711.9 TOPSOIL = 1 INCH 0.0
	710.9	1.0								**ROADWAY EMBANKMENT**
710			1	2	3	5 4	SS-1035	32%		Soft to Medium Stiff , Red-Orange, Clayey SILT (A-5(8)), with trace gravel and organics
	708.4	3.5	2	2	2			M		
	705.9	6.0	4	5	9	14		M		706.4 5.5 **RESIDUAL** Stiff, Red-Orange, Fine Sandy CLAY (A-6), with trace mica 703.9 8.0
705	703.4	8.5	4	6	7	13		M		701.9 Stiff, Tan-Orange-Maroon, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining 10.0
										Boring Terminated at Elevation 701.9 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_58400L	**STATION** 584+00	**OFFSET** 88 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 709.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,719	**EASTING** 1,393,846	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
710										
										709.6 TOPSOIL = 2 INCHES 0.0
	708.6	1.0								**ROADWAY EMBANKMENT**
			5	6	10	16	SS-1011	22%		Very Stiff, Brown, Silty, Fine Sandy CLAY, Moderately Plastic, (A-7-6(19)), with trace organics 706.6 3.0
705	706.1	3.5	6	8	10	18		M		**RESIDUAL** 704.1 5.5
	703.6	6.0	4	4	8	12		M		Very Stiff, Red-Orange, Silty CLAY (A-7) Stiff, Red-Orange, Fine Sandy, Clayey SILT (A-5), with trace mica
700	701.1	8.5	4	4	5	9		M		699.6 10.0
										Boring Terminated at Elevation 699.6 ft In Residual Clayey SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_58700L	**STATION** 587+00	**OFFSET** 94 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 711.7 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 554,737	**EASTING** 1,394,145	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										ELEV. (ft) DEPTH (ft)
										711.7 TOPSOIL = 2 INCHES 0.0
710	710.7	1.0								**ROADWAY EMBANKMENT**
			5	3	5	8		M		Medium Stiff, Red-Brown-Maroon, Fine Sandy SILT (A-4), with trace mica
	708.2	3.5								708.7 3.0
			WOH	2	2	4	SS-1008	23%		Soft to Stiff, Red-Orange-Brown, Silty CLAY, Moderately Plastic, (A-7-6(10))
705	705.7	6.0								706.2 5.5
			3	4	8	12		M		**RESIDUAL**
	703.2	8.5								Stiff, Red-Orange, Fine Sandy, Clayey SILT (A-5), with trace mica
			4	4	7	11		M		
700										699.7 12.0
	698.2	13.5								Stiff, Tan-Orange-Maroon, Fine Sandy SILT (A-4), with trace mica
			4	4	7	11		M		696.7 15.0
										Boring Terminated at Elevation 696.7 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_59000L	**STATION** 590+00	**OFFSET** 78 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 707.4 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,734	**EASTING** 1,394,445	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
710										
										707.4 TOPSOIL = 3 INCHES 0.0
	706.4	1.0								**ROADWAY EMBANKMENT**
705			4	4	6	10		M		Stiff, Red-Brown, Fine Sandy SILT (A-4), with trace organics
	703.9	3.5								704.4 3.0
			3	4	5	9	SS-1005	31%		**RESIDUAL**
	701.4	6.0								Stiff, Red-Orange, Silty CLAY, Highly Plastic, (A-7-5(32))
700			4	4	8	12		M		701.9 5.5
	698.9	8.5								Stiff, Red-Brown-Tan-Orange-Black, Fine Sandy, Clayey SILT (A-5), with trace mica, manganese oxide staining
			4	6	8	14		M		697.4 10.0
										Boring Terminated at Elevation 697.4 ft In Residual Clayey SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_59000R	**STATION** 590+00	**OFFSET** 73 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 707.5 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,583	**EASTING** 1,394,451	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
710										ELEV. (ft) DEPTH (ft)
										707.5 TOPSOIL = 3 INCHES 0.0
	706.5	1.0								**ROADWAY EMBANKMENT**
705			3	3	4	7	SS-1030	21%		Soft to Medium Stiff , Red-Brown, Silty, Fine Sandy CLAY (A-6(8)), with trace organics and gravel
	704.0	3.5	2	2	2	4		M		702.0 5.5
	701.5	6.0								**RESIDUAL**
700			2	3	5	8		M		Medium Stiff, Brown-Black-Red, Silty CLAY (A-7), with trace roots
	699.0	8.5								699.5 8.0
			3	4	6	10		M		Stiff, Tan-Orange-Brown, Fine Sandy SILT (A-4) 697.5 10.0
										Boring Terminated at Elevation 697.5 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_59300L	**STATION** 593+00	**OFFSET** 78 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 703.4 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,746	**EASTING** 1,394,745	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
705										ELEV. (ft) DEPTH (ft)
										703.4 TOPSOIL = 3 INCHES 0.0
	702.4	1.0								**RESIDUAL**
700			4	7	9	16		M		Stiff, Red-Orange, Fine Sandy, Clayey SILT (A-5), with trace mica
	699.9	3.5	4	5	8	13		M		700.4 3.0
	697.4	6.0								Stiff, Tan-Red-Maroon, Fine Sandy SILT (A-4), with trace mica
695			3	4	5	9		M		
	694.9	8.5								
			4	5	6	11		M		693.4 10.0
										Boring Terminated at Elevation 693.4 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L_59300R	**STATION** 593+00	**OFFSET** 73 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 703.0 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,595	**EASTING** 1,394,751	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION / ELEV. (ft)	DEPTH (ft)
705											
										703.0	0.0
	702.0	1.0	4	5	7	12				TOPSOIL = 3 INCHES	
700	699.5	3.5	2	3	4	7	SS-1028	41%		**ROADWAY EMBANKMENT** Stiff , Red-Brown, Silty CLAY (A-7-5(22)), with trace organics	
	697.0	6.0	2	3	5	8		M		700.5	2.5
695	694.5	8.5	2	3	4	7		M		**RESIDUAL** Medium Stiff, Tan-Orange-Red, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
								M		693.0	10.0
										Boring Terminated at Elevation 693.0 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL1_B-10	**STATION** 19+14	**OFFSET** 40 ft LT	**ALIGNMENT** -Y1RPD-	**0 HR.** Dry
COLLAR ELEV. 709.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 564,890	**EASTING** 1,347,457	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION / ELEV. (ft)	DEPTH (ft)
710											
										709.6	0.0
	708.6	1.0								GROUND SURFACE	
			3	3	4	7	SS-979	22%		**ROADWAY EMBANKMENT** Medium Stiff, Red-Brown, Clayey, Fine Sandy SILT (A-4(0)), with trace gravel	
705	706.1	3.5	3	3	4	7		M			
	703.6	6.0	2	2	3	5		M			
700	701.1	8.5	2	4	3	7		M		699.6	10.0
										Boring Terminated at Elevation 699.6 ft In Roadway Embankment Sandy SILT (A-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1 | **TIP** I-5719 | **COUNTY** GASTON | **GEOLOGIST** D. Goodnight, P.G.

SITE DESCRIPTION I-85 Widening | **GROUND WTR (ft)**

BORING NO. RWAL1_B-2 | **STATION** 11+00 | **OFFSET** 40 ft LT | **ALIGNMENT** -Y1RPD- | **0 HR.** Dry

COLLAR ELEV. 735.0 ft | **TOTAL DEPTH** 10.0 ft | **NORTHING** 564,775 | **EASTING** 1,348,257 | **24 HR.** Dry

DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022 | **DRILL METHOD** H.S. Augers | **HAMMER TYPE** Automatic

DRILLER D. Demby | **START DATE** 07/05/23 | **COMP. DATE** 07/05/23 | **SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
740										
735										735.0 GROUND SURFACE 0.0
	734.0	1.0								**RESIDUAL**
			10	5	8	13	SS-3300	19%		Stiff, Tan-Red, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-5(9))
	731.5	3.5								732.0 3.0
			6	7	8	15		M		Loose to Medium Dense, Red-Tan, Silty SAND (A-2-4), with little to some mica
730	729.0	6.0								
			5	4	6	10		M		
	726.5	8.5								
			4	3	4	7		M		725.0 10.0
										Boring Terminated at Elevation 725.0 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1 | **TIP** I-5719 | **COUNTY** GASTON | **GEOLOGIST** S. Patterson, P.G.

SITE DESCRIPTION I-85 Widening | **GROUND WTR (ft)**

BORING NO. RWAL1_B-3 | **STATION** 12+00 | **OFFSET** 41 ft LT | **ALIGNMENT** -Y1RPD- | **0 HR.** Dry

COLLAR ELEV. 729.0 ft | **TOTAL DEPTH** 15.0 ft | **NORTHING** 564,802 | **EASTING** 1,348,159 | **24 HR.** Dry

DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022 | **DRILL METHOD** H.S. Augers | **HAMMER TYPE** Automatic

DRILLER C. Odom | **START DATE** 07/07/23 | **COMP. DATE** 07/07/23 | **SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										
	728.0	1.0								729.0 GROUND SURFACE 0.0
			3	3	3	6		M		**ROADWAY EMBANKMENT** Soft to Medium Stiff, Red-Brown, Fine to Coarse Sandy SILT (A-4), with trace mica
725	725.5	3.5								724.2 4.8
			3	1	3	4		M		**RESIDUAL** Loose, Orange-White-Tan-Pink, Silty Fine to Coarse SAND (A-2-4), with trace mica
	723.0	6.0								
			2	4	3	7		M		
720	720.5	8.5								
			3	3	3	6		M		
	715.5	13.5								
715			3	4	4	8		M		714.0 15.0
										Boring Terminated at Elevation 714.0 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL1_B-4	**STATION** 13+00	**OFFSET** 41 ft LT	**ALIGNMENT** -Y1RPD-	**0 HR.** Dry
COLLAR ELEV. 727.4 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 564,831	**EASTING** 1,348,063	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										ELEV. (ft) DEPTH (ft)
										727.4 GROUND SURFACE 0.0
	726.4	1.0								**ROADWAY EMBANKMENT**
725			6	5	5	10		M		Loose, Tan, Silty SAND (A-2-4), with trace mica and gravel
	723.9	3.5								724.4 3.0
			3	3	4	7		M		**RESIDUAL**
	721.4	6.0								Loose, Tan, Silty SAND (A-2-4), with little mica
720			3	3	3	6		M		
	718.9	8.5								
			3	3	3	6		M		
715										
	713.9	13.5								
			3	3	4	7		M		712.4 15.0
										Boring Terminated at Elevation 712.4 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL1_B-5	**STATION** 14+00	**OFFSET** 40 ft LT	**ALIGNMENT** -Y1RPD-	**0 HR.** Dry
COLLAR ELEV. 722.9 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 564,859	**EASTING** 1,347,969	**24 HR.** 15.2
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										
	721.9	1.0								722.9 GROUND SURFACE 0.0
			3	4	5	9	SS-6002	18%		**ROADWAY EMBANKMENT**
720	719.4	3.5								Stiff , Brown-Blue-Gray, Fine to Coarse Sandy CLAY (A-6(3)), with trace mica, gravel, and construction debris
			2	1	2	3	SS-6003	32%		719.9 3.0
	716.9	6.0								Soft to Medium Stiff, Brown-Blue-Gray, Fine to Coarse Sandy SILT (A-4(0)), with trace mica, gravel, and construction debris
715			1	1	3	4		M		
	714.4	8.5								714.9 8.0
			2	3	5	8		M		**RESIDUAL**
										Medium Stiff to Stiff, White-Green-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica
710								M		
	709.4	13.5								
			1	2	4	6		M		
705										
	704.4	18.5								
			2	3	3	6		M		702.9 20.0
										Boring Terminated at Elevation 702.9 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL1_B-6	**STATION** 15+00	**OFFSET** 41 ft LT	**ALIGNMENT** -Y1RPD-	**0 HR.** Dry
COLLAR ELEV. 722.7 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 564,879	**EASTING** 1,347,875	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
725											
										722.7 GROUND SURFACE	0.0
	721.7	1.0	3	4	4	8		M		**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Brown-Tan-Gray, Fine to Coarse Sandy CLAY (A-6), with trace gravel	
720	719.2	3.5	4	10	6	16		M		719.7	3.0
	716.7	6.0	9	8	2	10		M		Soft to Very Stiff, Blue-Gray, Fine to Coarse Sandy, Clayey SILT (A-5(1)), with trace gravel and mica, chemical odor	
715	714.2	8.5	4	2	1	3	SS-999	26%			
710	709.2	13.5	4	3	3	6		M			
705	704.2	18.5	2	2	3	5		M		702.7	20.0
										Boring Terminated at Elevation 702.7 ft In Roadway Embankment Clayey SILT (A-5)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL1_B-7	**STATION** 16+00	**OFFSET** 41 ft LT	**ALIGNMENT** -Y1RPD-	**0 HR.** Dry
COLLAR ELEV. 721.2 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 564,887	**EASTING** 1,347,782	**24 HR.** 7.3
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										
										721.2 GROUND SURFACE 0.0
	720.2	1.0	4	3	4	7		M		**ROADWAY EMBANKMENT** Loose to Medium Dense, Red-Brown-Gray, Clayey Fine to Coarse SAND (A-2-5), with trace gravel, glass, and mica
720	717.7	3.5	4	3	8	11	SS-992	25%		
715	715.2	6.0	2	3	3	6		M		
	712.7	8.5	2	4	7	11		M		
710	707.7	13.5	4	4	4	8		W		706.2 15.0
										Boring Terminated at Elevation 706.2 ft In Roadway Embankment Clayey SAND (A-2-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL1_B-8	**STATION** 17+00	**OFFSET** 41 ft LT	**ALIGNMENT** -Y1RPD-	**0 HR.** Dry
COLLAR ELEV. 717.2 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 564,877	**EASTING** 1,347,691	**24 HR.** 7.6
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
720										
										717.2 GROUND SURFACE 0.0
	716.2	1.0								**ROADWAY EMBANKMENT**
715			3	3	4	7		M		Soft to Medium Stiff, Brown-Blue-Gray,
	713.7	3.5	2	3	4	7		M		Clayey, Fine to Coarse Sandy SILT (A-5),
	711.2	6.0						W		with trace mica, gravel, organics, and glass
710			2	1	2	3				fragments
	708.7	8.5								
			4	3	4	7		W		707.2 10.0
										Boring Terminated at Elevation 707.2 ft In Roadway Embankment Sandy SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL1_B-9	**STATION** 18+05	**OFFSET** 40 ft LT	**ALIGNMENT** -Y1RPD-	**0 HR.** 7.5
COLLAR ELEV. 712.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 564,864	**EASTING** 1,347,577	**24 HR.** 3.2
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/07/23	**COMP. DATE** 07/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
715										
										712.8 GROUND SURFACE 0.0
	711.8	1.0						M		**ROADWAY EMBANKMENT**
710			2	3	2	5				Soft to Stiff, Blue-Gray, Fine to Coarse
	709.3	3.5	8	6	4	10		M		Sandy SILT (A-4(0)), with trace gravel,
	706.8	6.0								organics, and mica
705			3	2	2	4	SS-985	33%		
	704.3	8.5								
			3	2	3	5		W		702.8 10.0
										Boring Terminated at Elevation 702.8 ft In Roadway Embankment Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2_1588L	**STATION** 15+88	**OFFSET** 34 ft LT	**ALIGNMENT** -Y2-	**0 HR.** Dry
COLLAR ELEV. 806.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 561,972	**EASTING** 1,356,271	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/03/23	**COMP. DATE** 07/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
810										
805	805.6	1.0	6	100/0.3		100/0.3				806.6 GROUND SURFACE 0.0
	803.1	3.5	60/0.0			60/0.0				805.6 **RESIDUAL** Medium Stiff, Orange-Brown, Sandy CLAY (A-7) 1.0
800	800.6	6.0	27	5	6	11 25		M		803.1 **WEATHERED ROCK** Orange-Brown, (GRANITE) 3.5
	798.1	8.5	36	15	10			M		801.1 **CRYSTALLINE ROCK** White-Black, (GRANITE) 5.5
										796.6 **RESIDUAL** Medium Dense, Orange-Brown, Silty SAND (A-2-4) 10.0
										Boring Terminated at Elevation 796.6 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2_2021R	**STATION** 20+21	**OFFSET** 27 ft RT	**ALIGNMENT** -Y2-	**0 HR.** Dry
COLLAR ELEV. 798.9 ft	**TOTAL DEPTH** 9.4 ft	**NORTHING** 561,729	**EASTING** 1,355,906	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
800										
	797.9	1.0	2	1	2	3	SS-897	30%		798.9 TOPSOIL = 6 INCHES 0.0
795	795.4	3.5	4	5	6	11		M		**RESIDUAL** Soft, Orange-Red-Brown, Fine to Coarse Sandy CLAY, Highly Plastic, (A-7-6(14)), with trace gravel-sized rock fragments 795.9 3.0
	792.9	6.0	2	4	4	8		M		Medium Stiff to Stiff, Red-Orange-Brown, Fine to Coarse Sandy SILT (A-4), with trace gravel-sized rock fragments
790	790.4	8.5	14	86/0.4		100/0.9				790.4 8.5
										789.5 **WEATHERED ROCK** Black-White-Tan, (METAGRANITE) 9.4
										Boring Terminated at Elevation 789.5 ft In Weathered Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2_3251R	**STATION** 32+51	**OFFSET** 46 ft RT	**ALIGNMENT** -Y2-	**0 HR.** Dry
COLLAR ELEV. 817.5 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 560,898	**EASTING** 1,354,998	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
820										ELEV. (ft) DEPTH (ft)
										817.5 GROUND SURFACE 0.0
	816.5	1.0	5	5	7	12				**ROADWAY EMBANKMENT**
815							SS-1204	15%		Soft to Very Stiff, Red-Orange-Tan, Clayey, Fine to Coarse Sandy SILT (A-4(1)), with trace organics
	814.0	3.5	27	13	13	26		M		
	811.5	6.0	2	2	2	4		M		
810										809.5 8.0
	809.0	8.5	5	6	7	13		M		**RESIDUAL**
										807.5 Stiff, Red-Orange, Silty CLAY (A-7) 10.0
										Boring Terminated at Elevation 807.5 ft In Residual Silty CLAY (A-7)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2_3694L	**STATION** 36+94	**OFFSET** 53 ft LT	**ALIGNMENT** -Y2-	**0 HR.** Dry
COLLAR ELEV. 822.1 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 560,526	**EASTING** 1,354,738	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
825										
										822.1 GROUND SURFACE 0.0
	821.1	1.0	6	4	6	10				**RESIDUAL**
820								M		Stiff, Red-Orange, Fine to Coarse Sandy, Clayey SILT (A-5(0)), with trace mica
	818.6	3.5	5	7	8	15	SS-1208	28%		
	816.1	6.0	3	4	4	8		M		816.6 5.5
815										Loose, Orange-Red, Silty Fine to Coarse SAND (A-2-4), with trace mica
	813.6	8.5	5	4	4	8		M		
810										
	808.6	13.5	4	4	5	9		M		807.1 15.0
										Boring Terminated at Elevation 807.1 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2LPB_1393R	**STATION** 13+93	**OFFSET** 47 ft RT	**ALIGNMENT** -Y2LPB-	**0 HR.** Dry
COLLAR ELEV. 792.2 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 561,447	**EASTING** 1,355,318	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/28/23	**COMP. DATE** 06/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
795										
										792.2 GROUND SURFACE 0.0
	791.2	1.0								**RESIDUAL**
790			3	3	4	7		D		Loose, Gray-Brown-White-Black, Silty Fine SAND (A-2-4)
	788.7	3.5	4	5	5	10		D		
	786.2	6.0	4	4	4	8		D		
785	783.7	8.5	6	4	4	8		D		
780	778.7	13.5	3	53	47/0.3	100/0.8				778.2 14.0
										WEATHERED ROCK
775										Gray-White-Brown-Black, (GRANITE)
	773.7	18.5	6	8	8	16		D		775.2 17.0
770										**RESIDUAL**
	768.7	23.5	4	4	5	9		D		Loose to Medium Dense, Gray-Brown, Silty Fine SAND (A-2-4)
										767.2 25.0
										Boring Terminated at Elevation 767.2 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2LPB_1713R	**STATION** 17+13	**OFFSET** 41 ft RT	**ALIGNMENT** -Y2LPB-	**0 HR.** Dry
COLLAR ELEV. 798.5 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 561,578	**EASTING** 1,355,492	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/28/23	**COMP. DATE** 06/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
800										
	797.5	1.0								798.5 GROUND SURFACE 0.0
			3	2	2	4		M		**RESIDUAL**
795	795.0	3.5								Very Loose, Orange-Gray-Brown, Silty Fine SAND (A-2-4) 795.5 3.0
			2	1	2	3		M		Soft, Red-Brown, Sandy CLAY (A-7)
	792.5	6.0								793.0 5.5
			2	2	2	4	SS-4793	14%		Very Loose to Loose, Orange-Gray-Brown-White, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized quartz fragments
790	790.0	8.5								
			2	3	3	6		M		
785	785.0	13.5								786.5 12.0
			6	5	4	9		D		Loose, Gray-Brown, Silty SAND (A-2-4)
780	780.0	18.5								
			4	4	5	9		D		778.5 20.0
										Boring Terminated at Elevation 778.5 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL4_B-1	**STATION** 16+30	**OFFSET** 401 ft LT	**ALIGNMENT** -Y2LPB-	**0 HR.** Dry
COLLAR ELEV. 796.4 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 560,913	**EASTING** 1,355,792	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/20/23	**COMP. DATE** 07/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
800										
	796.4	0.0								796.4 GROUND SURFACE 0.0
795	795.4	1.0	3	4	6	10		D		**RESIDUAL** Stiff, Gray-Brown-Pink, Sandy SILT (A-4), with trace mica and quartz fragments
	792.9	3.5	4	4	6	10		D		
790	790.4	6.0	4	6	9	15		D		
	787.9	8.5	5	6	8	14		M		
785	782.9	13.5	5	6	9	15		M		
780	777.9	18.5	5	6	7	13		M		
775	772.9	23.5	5	6	8	14		W		771.4 25.0 Boring Terminated at Elevation 771.4 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL4_B-2	**STATION** 16+34	**OFFSET** 94 ft LT	**ALIGNMENT** -Y2LPD-	**0 HR.** Dry
COLLAR ELEV. 802.0 ft	**TOTAL DEPTH** 11.0 ft	**NORTHING** 560,929	**EASTING** 1,355,485	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
805										
	802.0	0.0								802.0 GROUND SURFACE 0.0
800	801.0	1.0	8	6	12	18		M		**ROADWAY EMBANKMENT** Medium Dense, Tan-White, Silty SAND (A-2-4), with trace gravel
	798.5	3.5	60/0.1			60/0.1				798.5 3.5
795	796.0	6.0	60/0.1			60/0.1				**CRYSTALLINE ROCK** Tan-White-Black, (GRANITE)
	793.5	8.5	60/0.1			60/0.1				
	792.9	9.1	56	44/0.3		100/0.8				792.9 9.1
	791.0	11.0	60/0.0			60/0.0				**WEATHERED ROCK** 791.0 Tan-White, (GRANITE) 11.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 791.0 ft On Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2LPD_1690L	**STATION** 16+90	**OFFSET** 11 ft LT	**ALIGNMENT** -Y2LPD-	**0 HR.** Dry
COLLAR ELEV. 804.7 ft	**TOTAL DEPTH** 12.5 ft	**NORTHING** 560,878	**EASTING** 1,355,386	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
805										ELEV. (ft) DEPTH (ft)
	803.7	1.0	12	13	71	84		M		804.7 TOPSOIL = 3 INCHES 0.0
										ROADWAY EMBANKMENT
	801.2	3.5	22	5	7	12		M		802.7 Very Stiff, Brown-Red, Fine Sandy SILT (A-4), with trace mica and gravel 2.0
800										**RESIDUAL**
	798.7	6.0	15	25	22	47		M		Medium Dense to Very Dense, White-Black, Silty, Gravelly Fine to Coarse SAND (A-1-b), with trace gravel-sized rock fragments
	796.2	8.5	14	31	20	51		M		
795										
	792.2	12.5	60/0.0			60/0.0				792.2 12.5
										Boring Terminated with Standard Penetration Test Refusal at Elevation 792.2 ft On Crystalline Rock (GRANODIORITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2LPD_1697R	**STATION** 16+97	**OFFSET** 39 ft RT	**ALIGNMENT** -Y2LPD-	**0 HR.** Dry
COLLAR ELEV. 807.1 ft	**TOTAL DEPTH** 9.5 ft	**NORTHING** 560,897	**EASTING** 1,355,339	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
810										
										807.1 GROUND SURFACE 0.0
	806.1	1.0	10	9	9	18		M		**RESIDUAL**
805										Medium Dense, Gray-White-Black, Silty Fine to Coarse SAND (A-2-4)
	803.6	3.5	26	9	6	15		M		
800										
	798.6	8.5								798.6 8.5
	797.6	9.5	100/0.3			100/0.3				797.6 **WEATHERED ROCK** 9.5
			60/0.0			60/0.0				Gray-White (GRANITE)
										Boring Terminated with Standard Penetration Test Refusal at Elevation 797.6 ft On Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2LPD_1943R	**STATION** 19+43	**OFFSET** 36 ft RT	**ALIGNMENT** -Y2LPD-	**0 HR.** Dry
COLLAR ELEV. 817.0 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 560,849	**EASTING** 1,355,178	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
820										
	817.0	0.0								GROUND SURFACE
815	816.0	1.0	6	3	4	7		M		**RESIDUAL** Loose to Medium Dense, Gray-White-Black, Silty Fine to Coarse SAND (A-2-4), with trace mica
	813.5	3.5	6	4	4	8		M		
810	811.0	6.0	4	4	3	7		M		
	808.5	8.5	4	4	6	10		M		
805	803.5	13.5	4	4	4	8		M		
800	798.5	18.5	5	6	7	13		M		
	797.0	20.0								Boring Terminated at Elevation 797.0 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL2_B-1	**STATION** 12+00	**OFFSET** 38 ft LT	**ALIGNMENT** -Y2RPB-	**0 HR.** Dry
COLLAR ELEV. 770.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 561,477	**EASTING** 1,355,063	**24 HR.** 7.2
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
775										
	770.9	0.0								TOPSOIL = 4 INCHES
770	769.9	1.0	2	3	3	6		M		**RESIDUAL** Medium Stiff, White-Orange-Tan, Fine to Coarse Sandy SILT (A-5)
	767.4	3.5	2	2	2	4		M		Soft to Medium Stiff, Brown-White-Gray, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
765	764.9	6.0	2	2	2	4		M		
	762.4	8.5	2	2	3	5		M		
	760.9	10.0								Boring Terminated at Elevation 760.9 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL2_B-2	**STATION** 13+00	**OFFSET** 31 ft LT	**ALIGNMENT** -Y2RPB-	**0 HR.** Dry
COLLAR ELEV. 775.1 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 561,493	**EASTING** 1,355,146	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
780											
775										775.1	TOPSOIL = 2 INCHES 0.0
	774.1	1.0	3	5	4	9		M			**RESIDUAL**
	771.6	3.5	2	2	4	6		M			Medium Stiff to Stiff, Brown-White-Gray, Fine to Coarse Sandy SILT (A-4), with trace pea-sized rock fragments and mica and manganese oxide
770	769.1	6.0	3	3	4	7		M			
	766.6	8.5	3	2	3	5		M		765.1	10.0
											Boring Terminated at Elevation 765.1 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL2_B-3	**STATION** 12+00	**OFFSET** 38 ft LT	**ALIGNMENT** -Y2RPB-	**0 HR.** Dry
COLLAR ELEV. 770.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 561,477	**EASTING** 1,355,063	**24 HR.** 7.2
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
775										
770	769.9	1.0	2	3	3	6		M		770.9 TOPSOIL = 4 INCHES 0.0
	767.4	3.5	2	2	2	4		M		**RESIDUAL**
765	764.9	6.0	2	2	2	4		M		767.9 Medium Stiff, White-Orange-Tan, Fine to Coarse Sandy SILT (A-5) 3.0
	762.4	8.5	2	2	3	5		M		Soft to Medium Stiff, Brown-White-Gray, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
										760.9 10.0
										Boring Terminated at Elevation 760.9 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL2_B-4	**STATION** 13+00	**OFFSET** 31 ft LT	**ALIGNMENT** -Y2RPB-	**0 HR.** Dry
COLLAR ELEV. 775.1 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 561,493	**EASTING** 1,355,146	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
780											
775										775.1	0.0
	774.1	1.0	3	5	4	9		M		**TOPSOIL = 2 INCHES**	
	771.6	3.5	2	2	4	6		M		**RESIDUAL** Medium Stiff to Stiff, Brown-White-Gray, Fine to Coarse Sandy SILT (A-4), with trace pea-sized rock fragments and mica, manganese oxide staining	
770	769.1	6.0	3	3	4	7		M			
	766.6	8.5	3	2	3	5		M		765.1	10.0
										Boring Terminated at Elevation 765.1 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2RPB_1500L	**STATION** 15+00	**OFFSET** 22 ft LT	**ALIGNMENT** -Y2RPB-	**0 HR.** Dry
COLLAR ELEV. 785.3 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 561,611	**EASTING** 1,355,298	**24 HR.** 21.4
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
790										
785										785.3 TOPSOIL = 4 INCHES 0.0
	784.3	1.0	4	5	5	10		M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown, Fine Sandy SILT (A-5)
	781.8	3.5	4	5	5	10		M		782.3 3.0
780	779.3	6.0	5	6	7	13		M		Medium Stiff to Stiff, Red-Orange-Tan-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica
	776.8	8.5	3	3	5	8		M		
775	771.8	13.5	3	4	5	9		M		
770	766.8	18.5	3	3	4	7		M		
765	761.8	23.5	2	2	1	3		M		763.3 22.0 Soft, White-Black-Orange-Gray, Fine Sandy SILT (A-5), with trace mica 760.3 25.0 Boring Terminated at Elevation 760.3 ft In Residual Sandy SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2RPB_1724L	**STATION** 17+24	**OFFSET** 19 ft LT	**ALIGNMENT** -Y2RPB-	**0 HR.** Dry
COLLAR ELEV. 792.4 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 561,680	**EASTING** 1,355,519	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
795										
										792.4 TOPSOIL = 3 INCHES 0.0
	791.4	1.0								**RESIDUAL**
790			2	3	4	7		M		Medium Stiff to Stiff, Red-White-Tan-Brown,
	788.9	3.5								Fine to Coarse Sandy SILT (A-4)
			4	6	8	14		M		
	786.4	6.0								
785			4	6	8	14		M		
	783.9	8.5								
			4	5	5	10		M		
780										
	778.9	13.5								
			4	5	6	11		M		
										777.4 15.0
										Boring Terminated at Elevation 777.4 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2RPB_1922L	**STATION** 19+22	**OFFSET** 26 ft LT	**ALIGNMENT** -Y2RPB-	**0 HR.** Dry
COLLAR ELEV. 800.2 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 561,554	**EASTING** 1,355,682	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/28/23	**COMP. DATE** 06/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
805										
										800.2 GROUND SURFACE 0.0
800	799.2	1.0								**RESIDUAL**
			18	10	6	16		M		Medium Dense, Brown, Silty, Clayey, Fine
	796.7	3.5								SAND (A-2-6) 796.7 3.5
			100/0.5			100/0.5				**WEATHERED ROCK**
795	794.2	6.0								Black-White (GRANITE) 794.7 5.5
			11	3	2			D		**RESIDUAL**
	791.7	8.5				5				Loose, Brown, Clayey Fine SAND (A-2-6), 792.2 8.0
			2	3	5	8		M		with trace gravel-sized rock fragments
										Medium Stiff, Red-Brown, CLAY (A-7) 790.2 10.0
										Boring Terminated at Elevation 790.2 ft In Residual CLAY (A-7)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2RPD_1510L	**STATION** 15+10	**OFFSET** 19 ft LT	**ALIGNMENT** -Y2RPD-	**0 HR.** Dry
COLLAR ELEV. 810.4 ft	**TOTAL DEPTH** 11.9 ft	**NORTHING** 560,813	**EASTING** 1,355,386	**24 HR.** 8.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
815										
810										810.4 GROUND SURFACE 0.0
	809.4	1.0	12	5	5	10		M		**ROADWAY EMBANKMENT** Loose to Medium Dense, Tan, Silty SAND (A-2-4), with trace mica and gravel
	806.9	3.5								806.9 3.5
805			20	80/0.1		100/0.6				**WEATHERED ROCK** Tan-White-Gray, (GRANITE)
	804.4	6.0	50	50/0.2		100/0.7				
	801.9	8.5	100/0.5			100/0.5				
800										
	798.5	11.9	60/0.0			60/0.0				798.5 11.9
										Boring Terminated with Standard Penetration Test Refusal at Elevation 798.5 ft On Crystalline Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2RPD_1688L	**STATION** 16+88	**OFFSET** 17 ft LT	**ALIGNMENT** -Y2RPD-	**0 HR.** Dry
COLLAR ELEV. 815.5 ft	**TOTAL DEPTH** 5.5 ft	**NORTHING** 560,752	**EASTING** 1,355,205	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
820										
815										815.5 GROUND SURFACE 0.0
	814.5	1.0	28	9	6	15		M		**ROADWAY EMBANKMENT** Medium Dense, Tan-Brown, Silty SAND (A-2-4), with trace gravel and organics
	812.0	3.5								811.5 4.0
810			9	17	83/0.4	100/0.9				**WEATHERED ROCK** Tan-Gray, (GRANITE)
	810.0	5.5	60/0.0			60/0.0				810.0 5.5
										Boring Terminated with Standard Penetration Test Refusal at Elevation 810.0 ft On Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3NB_1668L	**STATION** 16+68	**OFFSET** 10 ft LT	**ALIGNMENT** -Y3NB-	**0 HR.** Dry
COLLAR ELEV. 760.8 ft	**TOTAL DEPTH** 15.5 ft	**NORTHING** 559,552	**EASTING** 1,358,429	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/18/23	**COMP. DATE** 07/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
765										
										760.8 GROUND SURFACE 0.0
760	758.8	2.0	4	7	8	15		M		**ROADWAY EMBANKMENT** Stiff to Very Stiff, Tan-Brown, Fine Sandy SILT (A-4), with trace gravel
	756.8	4.0	4	6	7	13		M		
755										
	751.8	9.0	5	6	10	16		M		
750										
	746.8	14.0	7	6	11	17		M		745.3 15.5
										Boring Terminated at Elevation 745.3 ft In Roadway Embankment Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3NB_2284R	**STATION** 22+84	**OFFSET** 32 ft RT	**ALIGNMENT** -Y3NB-	**0 HR.** Dry
COLLAR ELEV. 763.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 560,144	**EASTING** 1,358,602	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/19/23	**COMP. DATE** 06/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
765										
										763.8 GROUND SURFACE 0.0
	762.8	1.0	3	3	4	7		M		**RESIDUAL** Medium Stiff, Red-Orange-Tan, Fine Sandy SILT (A-4)
760	760.3	3.5	2	3	4	7		M		
	757.8	6.0	2	2	3	5		M		
755	755.3	8.5	2	2	3	5		M		753.8 10.0
										Boring Terminated at Elevation 753.8 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3NB_2394R	**STATION** 23+94	**OFFSET** 52 ft RT	**ALIGNMENT** -Y3NB-	**0 HR.** Dry
COLLAR ELEV. 772.5 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 560,267	**EASTING** 1,358,611	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/19/23	**COMP. DATE** 06/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
775										
	771.5	1.0								772.5 — TOPSOIL = 3 INCHES — 0.0
770			2	4	3	7		M		**RESIDUAL** Medium Stiff, Black-Orange-Tan, Fine Sandy SILT (A-5), with manganese oxide staining
	769.0	3.5								769.5 — 3.0
			3	4	3	7		M		Loose, White-Tan-Orange, Silty Fine to Coarse SAND (A-2-4), with trace mica
	766.5	6.0								
765			2	3	3	6		M		
	764.0	8.5								
			2	3	4	7		M		762.5 — 10.0
										Boring Terminated at Elevation 762.5 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPA_1000R	**STATION** 10+00	**OFFSET** 65 ft RT	**ALIGNMENT** -Y3RPA-	**0 HR.** Dry
COLLAR ELEV. 736.0 ft	**TOTAL DEPTH** 18.5 ft	**NORTHING** 559,285	**EASTING** 1,359,556	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/16/23	**COMP. DATE** 06/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
										736.0 — GROUND SURFACE — 0.0
735	735.0	1.0	4	5	7	12		D		**RESIDUAL** Stiff, Gray-Brown, Fine Sandy SILT (A-4)
	732.5	3.5								733.0 — 3.0
			5	8	17	25		D		Medium Dense to Very Dense, Gray-Orange-Brown, Fine Silty SAND (A-2-4)
730	730.0	6.0								
			31	25	34	59		D		
	727.5	8.5								728.0 — 8.0
			21	23	77/0.2	100/0.7				**WEATHERED ROCK** Orange-Brown, (METAVOLCANIC ROCK)
725										724.0 — 12.0
	722.5	13.5	60/0.0			60/0.0				**CRYSTALLINE ROCK** Gray, (METAVOLCANIC ROCK)
720										
	717.5	18.5	60/0.0			60/0.0				717.5 — 18.5
										Boring Terminated with Standard Penetration Test Refusal at Elevation 717.5 ft In Crystalline Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPA_1700R	**STATION** 17+00	**OFFSET** 45 ft RT	**ALIGNMENT** -Y3RPA-	**0 HR.** 15.0
COLLAR ELEV. 740.1 ft	**TOTAL DEPTH** 24.6 ft	**NORTHING** 559,653	**EASTING** 1,358,992	**24 HR.** 2.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/16/23	**COMP. DATE** 06/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745											
740										740.1 GROUND SURFACE	0.0
	739.1	1.0	2	2	2	4		W		**ALLUVIAL** Soft, Orange-Gray-Brown, Sandy SILT (A-4), with trace gravel	
	736.6	3.5								737.1	3.0
735			0	0	0	0	SS-4710	49%		Very Soft, Gray, Clayey, Fine Sandy SILT (A-5)	
	734.1	6.0	0	0	2	2		W			
	731.6	8.5									
730			0	0	1	1	SS-4712	50%			
	726.6	13.5	0	2	2	4		W		728.1 **RESIDUAL** Very Soft to Soft, Gray, Fine Sandy SILT (A-5)	12.0
725											
	721.6	18.5	0	0	0	0		W			
720										718.1 **WEATHERED ROCK** Orange-Brown-White, (METAVOLCANIC ROCK)	22.0
	716.6	23.5	10	71	29/0.1	100/0.6				715.5	24.6
										Boring Terminated at Elevation 715.5 ft In Weathered Rock (METAVOLCANIC ROCK)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPA_2000R	**STATION** 20+00	**OFFSET** 167 ft LT	**ALIGNMENT** -Y3RPA-	**0 HR.** 15.8
COLLAR ELEV. 753.0 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 559,880	**EASTING** 1,358,799	**24 HR.** 10.3
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/19/23	**COMP. DATE** 06/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
755											
	752.0	1.0	3	4	5	9		M		753.0 TOPSOIL = 4 INCHES	0.0
750										**RESIDUAL** Stiff to Very Stiff, Black-Tan-Orange, Fine Sandy SILT (A-5), with manganese oxide	
	749.5	3.5	4	4	7	11		M			
	747.0	6.0	5	8	10	18		M			
745	744.5	8.5	5	6	9	15		M			
740	739.5	13.5	6	14	21	35		M		741.0 Hard, Black-Brown-Tan-Orange, Fine Sandy SILT (A-4), with trace mica and gravel-sized rock fragments, manganese oxide staining	12.0
735	734.5	18.5	2	3	6	9		M		736.0 Medium Stiff to Stiff, Black-Gray-Orange-Tan, Fine Sandy SILT (A-5), with trace mica and gravel-sized rock fragments, manganese oxide staining	17.0
730	729.5	23.5	4	9	10	19		M		728.0 Boring Terminated at Elevation 728.0 ft In Residual Sandy SILT (A-5)	25.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPA_2200R	**STATION** 22+00	**OFFSET** 45 ft RT	**ALIGNMENT** -Y3RPA-	**0 HR.** 15.2
COLLAR ELEV. 754.3 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 560,028	**EASTING** 1,358,671	**24 HR.** 6.7
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/19/23	**COMP. DATE** 06/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
755										754.3 TOPSOIL = 2 INCHES 0.0
	753.3	1.0								**ROADWAY EMBANKMENT**
			2	3	1	4	SS-679	26%		Medium Stiff, Tan-Red-Brown, Clayey, Fine Sandy SILT (A-4 (2))
750	750.8	3.5	WOH	WOH	WOH	0				751.3 3.0
	748.3	6.0					SS-680	32%		Very Soft to Medium Stiff, Gray-Tan-Red-Brown, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-6(29)), with trace gravel
			2	3	3	6				
745	745.8	8.5	WOH	WOH	WOH	0		M		
								W		
	740.8	13.5	2	1	4	5				742.3 12.0
740								M		**RESIDUAL**
										Medium Stiff to Stiff, Black-Brown-White-Gray-Tan-Orange, Fine Sandy SILT (A-5), with trace mica and gravel-sized rock fragments, manganese oxide staining
	735.8	18.5	2	4	5	9				
735								M		
	730.8	23.5	3	3	5	8				729.3 25.0
730								M		Boring Terminated at Elevation 729.3 ft In Residual Sandy SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPA-SPUR_1155L	**STATION** 11+55	**OFFSET** 14 ft LT	**ALIGNMENT** -Y3RPA-SPUR-	**0 HR.** Dry
COLLAR ELEV. 734.6 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 559,896	**EASTING** 1,358,607	**24 HR.** 8.5
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/19/23	**COMP. DATE** 06/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
735										734.6 TOPSOIL = 4 INCHES 0.0
	733.6	1.0								**ROADWAY EMBANKMENT**
			4	3	8	11		M		Medium Dense, White-Brown, Silty Fine to Coarse SAND (A-2-4), with trace gravel
	731.1	3.5								731.6 3.0
730			3	3	4	7	SS-695	27%		Very Soft to Medium Stiff, White-Orange-Red-Brown, Fine Sandy SILT (A-4(0)), with trace gravel and organics
	728.6	6.0						M		
			2	2	2	4				
	726.1	8.5						W		
725			2	1	1	2				
	721.1	13.5	4	3	3	6		W		719.6 15.0
720										Boring Terminated at Elevation 719.6 ft In Roadway Embankment Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPB_1050L	**STATION** 10+50	**OFFSET** 35 ft LT	**ALIGNMENT** -Y3RPB-	**0 HR.** Dry
COLLAR ELEV. 761.8 ft	**TOTAL DEPTH** 16.0 ft	**NORTHING** 560,391	**EASTING** 1,357,544	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
765										
										761.8 GROUND SURFACE 0.0
	760.8	1.0	3	3	4	7		M		**RESIDUAL** Medium Stiff, Gray-Brown-Black, Fine Sandy SILT (A-4), with trace mica
760										757.8 4.0
	757.3	4.5	3	3	3	6		M		Loose, Brown, Silty Fine SAND (A-2-4), with trace mica
755	754.3	7.5	3	3	4	7		M		
	752.3	9.5	3	3	4	7		M		
750										
	747.3	14.5	3	2	3	5		M		745.8 16.0 Boring Terminated at Elevation 745.8 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPB_1250L	**STATION** 12+50	**OFFSET** 15 ft LT	**ALIGNMENT** -Y3RPB-	**0 HR.** Dry
COLLAR ELEV. 749.3 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 560,289	**EASTING** 1,357,713	**24 HR.** 6.6
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										749.3 TOPSOIL = 3 INCHES 0.0
	748.3	1.0								**ROADWAY EMBANKMENT**
			3	2	3	5	SS-1164	22%	L	Medium Stiff, Red, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-6(12))
	745.8	3.5							L	746.3 3.0
745			3	4	4	8		M		**ALLUVIAL**
	743.3	6.0								743.8 Medium Stiff, Gray-White, Fine to Coarse Sandy CLAY (A-6) 5.5
			3	3	5	8		M		Loose, Gray, Clayey Fine to Coarse SAND (A-2-6)
740	740.8	8.5								739.8 9.5
			5	7	5	12		W		**RESIDUAL**
										Loose to Medium Dense, Gray-White-Black, Silty Fine to Coarse SAND (A-2-4), with trace mica
735	735.8	13.5								734.3 15.0
			3	2	3	5		W		Boring Terminated at Elevation 734.3 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPB_1500L	**STATION** 15+00	**OFFSET** 35 ft LT	**ALIGNMENT** -Y3RPB-	**0 HR.** Dry
COLLAR ELEV. 757.6 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 560,206	**EASTING** 1,357,949	**24 HR.** 13.7
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
760										
										757.6 TOPSOIL = 3 INCHES 0.0
	756.6	1.0	4	5	8	13				**ARTIFICIAL FILL** Stiff, Red, Silty CLAY, Moderately Plastic, (A-7-5(13))
755							SS-1160	27%		
	754.1	3.5	4	7	7	14		M		754.6 3.0
	751.6	6.0	3	4	4	8		M		Medium Stiff to Stiff, Red-Orange, Fine Sandy SILT (A-4), with trace mica
750	749.1	8.5	5	4	5	9		M		
										745.6 12.0
745	744.1	13.5	5	4	5	9		M		**RESIDUAL** Loose to Medium Dense, White-Black-Tan, Silty Fine to Coarse SAND (A-2-4)
	739.1	18.5	4	6	6	12		M		737.6 20.0
740										Boring Terminated at Elevation 737.6 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPB_1800L	**STATION** 18+00	**OFFSET** 20 ft LT	**ALIGNMENT** -Y3RPB-	**0 HR.** Dry
COLLAR ELEV. 748.8 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 560,079	**EASTING** 1,358,220	**24 HR.** 4.8
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										
										748.8 TOPSOIL = 4 INCHES 0.0
	747.8	1.0								**RESIDUAL** Soft, Brown-White-Orange-Tan, Fine Sandy SILT (A-5(2)), with manganese oxide staining
745	745.3	3.5	2	2	1	3		M		
			WOH	1	2	3	SS-722			
	742.8	6.0						46%		
			WOH	2	2	4		M		
740	740.3	8.5	2	2	2	4		M		
										733.8 15.0
735	735.3	13.5	2	1	3	4		M		Boring Terminated at Elevation 733.8 ft In Residual Sandy SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPB-SPUR_1100L	**STATION** 11+00	**OFFSET** 35 ft LT	**ALIGNMENT** -Y3RPB-SPUR-	**0 HR.** 14.0
COLLAR ELEV. 750.8 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 560,062	**EASTING** 1,358,393	**24 HR.** 4.9
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
755											
750	749.8	1.0	6	9	13	22				750.8 TOPSOIL = 3 INCHES	0.0
	747.3	3.5	6	9	9	18		M		**ALLUVIAL** Medium Dense, Tan-Orange, Clayey Fine SAND (A-2-6) 747.8	3.0
745	744.8	6.0	4	4	9	13		18% W		Stiff to Very Stiff, Gray-Tan, Silty, Fine Sandy CLAY, Moderately Plastic, (A-7-6(10)) 743.8	7.0
	742.3	8.5	3	6	7	13		22% W		Stiff, Gray-Tan, Fine Sandy SILT (A-4(3)), with trace mica	
740	737.3	13.5	WOH	2	2	4		W		738.8 **RESIDUAL** Loose, Tan-Brown, Silty Fine SAND (A-2-4), with trace mica	12.0
735	732.3	18.5	3	2	4	6		W		730.8 Boring Terminated at Elevation 730.8 ft In Residual Silty SAND (A-2-4)	20.0
										Other Samples: ST-6 (7.0 - 9.0)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPC_1418R	**STATION** 14+18	**OFFSET** 16 ft RT	**ALIGNMENT** -Y3RPC-	**0 HR.** 12.0
COLLAR ELEV. 742.5 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 560,037	**EASTING** 1,357,770	**24 HR.** 7.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/24/23	**COMP. DATE** 07/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
745											
	741.5	1.0	5	6	6	12				742.5 GROUND SURFACE	0.0
740	739.0	3.5	2	2	3	5		M		**ALLUVIAL** Soft to Stiff, Gray-Red-Brown, Sandy, Silty CLAY (A-6), with trace gravel and organics	
	736.5	6.0	2	2	2	4		M			
735	734.0	8.5	6	3	2	5		M		734.5 **RESIDUAL** Medium Stiff, Gray-Brown, SILT (A-4)	8.0
	729.0	13.5	2	2	3	5		M		730.5 Loose to Medium Dense, White-Gray-Brown, Silty Coarse SAND (A-2-4)	12.0
730								W			
725	724.0	18.5	5	7	9	16		Sat.		722.5 Boring Terminated at Elevation 722.5 ft In Residual Silty SAND (A-2-4)	20.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPC_1600	**STATION** 16+00	**OFFSET** CL	**ALIGNMENT** -Y3RPC-	**0 HR.** 10.0
COLLAR ELEV. 740.3 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 559,925	**EASTING** 1,357,914	**24 HR.** 5.3
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/24/23	**COMP. DATE** 07/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745											
740	739.3	1.0	3	3	5	8 8		M		740.3 GROUND SURFACE **ALLUVIAL** Medium Stiff, Gray-Brown-Orange, Fine Sandy, Silty CLAY (A-6)	0.0
	736.8	3.5	5	6	2					737.3 Medium Stiff, Gray-Brown, Fine Sandy SILT (A-4)	3.0
735	734.3	6.0	2	2	3	5		W			
	731.8	8.5	2	2	2	4		W		732.3 Very Loose to Medium Dense, Gray-Brown-White, Silty, Clayey Fine SAND (A-2-4)	8.0
730	726.8	13.5	2	5	6	11		Sat.		725.3 Boring Terminated at Elevation 725.3 ft In Residual Silty SAND (A-2-4)	15.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPC_2200R	**STATION** 22+00	**OFFSET** 10 ft RT	**ALIGNMENT** -Y3RPC-	**0 HR.** 21.5
COLLAR ELEV. 759.3 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 559,481	**EASTING** 1,358,318	**24 HR.** 19.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
760											
	758.3	1.0								759.3 TOPSOIL = 3 INCHES	0.0
755	755.8	3.5	3	6	7	13		M		**ROADWAY EMBANKMENT** Stiff, Orange, Fine Sandy CLAY (A-6)	
	753.3	6.0	4	5	7	12		M		756.3 Stiff, Orange-White, Fine Sandy SILT (A-4), with trace gravel	3.0
750	750.8	8.5	3	4	5	9		M		753.8 **RESIDUAL** Loose, Orange-White, Silty Fine to Coarse SAND (A-2-4)	5.5
	745.8	13.5	3	4	5	9		M			
745	740.8	18.5	3	5	5	10		M			
			3	4	4	8		W			
740	735.8	23.5	3	3	4	7		W		734.3 Boring Terminated at Elevation 734.3 ft In Residual Silty SAND (A-2-4)	25.0
735											

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPD_1100L	**STATION** 11+00	**OFFSET** 147 ft LT	**ALIGNMENT** -Y3RPD-	**0 HR.** Dry
COLLAR ELEV. 779.3 ft	**TOTAL DEPTH** 23.5 ft	**NORTHING** 558,835	**EASTING** 1,359,757	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
780										779.3 GROUND SURFACE 0.0
										RESIDUAL Very Stiff to Hard, Yellow-Brown, Fine Sandy SILT (A-4), with trace mica
775										
770										
765										
760										
	755.8	23.5	60/0.0			60/0.0				756.3 23.0 / 755.8 23.5 **WEATHERED ROCK** (SCHIST) Boring Terminated with Standard Penetration Test Refusal at Elevation 755.8 ft On Crystalline Rock (SCHIST)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPD_1200L	**STATION** 12+00	**OFFSET** 139 ft LT	**ALIGNMENT** -Y3RPD-	**0 HR.** 29.5
COLLAR ELEV. 779.2 ft	**TOTAL DEPTH** 37.5 ft	**NORTHING** 558,878	**EASTING** 1,359,667	**24 HR.** 29.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
780										779.2 TOPSOIL = 3 INCHES 0.0
										RESIDUAL Hard, Brown, Fine Sandy SILT (A-4), with trace mica
775										
770										
765										
760										
755										
750										
745	745.7	33.5	11	12	42	54		M		744.2 35.0 **WEATHERED ROCK** Brown, (SCHIST)
	741.7	37.5	60/0.0			60/0.0				741.7 37.5 Boring Terminated with Standard Penetration Test Refusal at Elevation 741.7 ft On Crystalline Rock (SCHIST)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPD_1300L	**STATION** 13+00	**OFFSET** 130 ft LT	**ALIGNMENT** -Y3RPD-	**0 HR.** Dry
COLLAR ELEV. 777.1 ft	**TOTAL DEPTH** 24.5 ft	**NORTHING** 558,920	**EASTING** 1,359,577	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
780										
										777.1 TOPSOIL = 3 INCHES 0.0
	776.1	1.0								**RESIDUAL**
775			21	10	19	29	SS-1117	4%		Medium Dense to Dense, Yellow-Orange,
	773.6	3.5								Silty Fine to Coarse SAND (A-2-4), with trace
			15	9	41	50		M		mica
	771.1	6.0								
770			11	18	13	31		M		
	768.6	8.5								
			8	10	14	24		M		
765										765.1 12.0
	763.6	13.5								Hard, Yellow-Orange-Brown-Red, Fine
			10	14	17	31		M		Sandy SILT (A-4), with trace mica,
760										manganese oxide staining
	758.6	18.5								758.1 19.0
			27	27	73/0.1	100/0.6				**WEATHERED ROCK**
755										Orange-Brown, (SCHIST)
	753.6	23.5								
	752.6	24.5	100/0.2			100/0.2				752.6 24.5
			60/0.0			60/0.0				Boring Terminated with Standard
										Penetration Test Refusal at Elevation 752.6
										ft On Crystalline Rock (SCHIST)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPD_1400L	**STATION** 14+00	**OFFSET** 134 ft LT	**ALIGNMENT** -Y3RPD-	**0 HR.** Dry
COLLAR ELEV. 775.3 ft	**TOTAL DEPTH** 13.0 ft	**NORTHING** 558,949	**EASTING** 1,359,481	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
780										
775	775.3	0.0	0							775.3 GROUND SURFACE 0.0
										RESIDUAL
										Very Stiff to Hard, Yellow, Fine Sandy SILT
										(A-4)
770										768.3 7.0
										WEATHERED ROCK
765										Gray-Brown, (SCHIST)
	762.3	13.0	60/0.0			60/0.0				762.3 13.0
										Boring Terminated with Standard
										Penetration Test Refusal at Elevation 762.3
										ft On Crystalline Rock (SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPD_1500L	**STATION** 15+00	**OFFSET** 127 ft LT	**ALIGNMENT** -Y3RPD-	**0 HR.** Dry
COLLAR ELEV. 774.1 ft	**TOTAL DEPTH** 28.5 ft	**NORTHING** 558,988	**EASTING** 1,359,389	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)
775												
	774.1	0.0	0							GROUND SURFACE	774.1	0.0
770										**RESIDUAL** Very Stiff to Hard, Yellow-Orange, Fine Sandy SILT (A-4), with trace mica		
765												
760												
755												
750											749.1	25.0
	745.6	28.5	60/0.0							**WEATHERED ROCK** Tan-Orange, (SCHIST)	745.6	28.5
										Boring Terminated with Standard Penetration Test Refusal at Elevation 745.6 ft On Crystalline Rock (SCHIST)		

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPD_1600	**STATION** 16+00	**OFFSET** CL	**ALIGNMENT** -Y3RPD-	**0 HR.** 6.0
COLLAR ELEV. 731.4 ft	**TOTAL DEPTH** 8.8 ft	**NORTHING** 559,140	**EASTING** 1,359,337	**24 HR.** 7.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)
735												
										TOPSOIL = 3 INCHES	731.4	0.0
730	730.4	1.0	15	85/0.2		100/0.7				**WEATHERED ROCK** Gray-Tan-Brown (SCHIST)		
	727.9	3.5	100/0.5			100/0.5						
725	725.4	6.0	100/0.4			100/0.4						
	722.9	8.5	100/0.3			100/0.3					722.6	8.8
										Boring Terminated at Elevation 722.6 ft In Weathered Rock (SCHIST)		

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPD_1600L	**STATION** 16+00	**OFFSET** 130 ft LT	**ALIGNMENT** -Y3RPD-	**0 HR.** 42.0
COLLAR ELEV. 772.0 ft	**TOTAL DEPTH** 49.1 ft	**NORTHING** 559,017	**EASTING** 1,359,294	**24 HR.** 43.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
775										
										772.0 — 0.0 TOPSOIL = 3 INCHES
	771.0	1.0								**RESIDUAL** Hard, Orange-Yellow-Pink-Brown-Black, Fine Sandy SILT (A-4(0)), with trace mica, manganese oxide staining
770			8	23	25	48		M		
	768.5	3.5								
			12	27	31	58		M		
	766.0	6.0								
765			11	23	29	52		M		
	763.5	8.5								
			13	19	25	44	SS-1114	16%		
760										
	758.5	13.5								
			11	15	23	38		M		
755										
	753.5	18.5								
			11	15	20	35		M		
750										
	748.5	23.5								
			15	17	21	38		M		
745										
	743.5	28.5								
			11	18	24	42		M		
740										
	738.5	33.5								
			11	17	18	35		M		
735										
	733.5	38.5								733.0 — 39.0 **WEATHERED ROCK** Orange-Yellow, (SCHIST)
			14	24	76/0.4	100/0.9				
730										
	728.5	43.5	100/0.2			100/0.2				
725										
	723.5	48.5	90	10/0.1		100/0.6				722.9 — 49.1 Boring Terminated at Elevation 722.9 ft In Weathered Rock (SCHIST)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPD_1900L	**STATION** 19+00	**OFFSET** 86 ft LT	**ALIGNMENT** -Y3RPD-	**0 HR.** 39.7
COLLAR ELEV. 764.2 ft	**TOTAL DEPTH** 45.0 ft	**NORTHING** 559,161	**EASTING** 1,359,024	**24 HR.** 35.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
765										
										764.2 — 0.0 TOPSOIL = 3 INCHES
	763.2	1.0								**ARTIFICIAL FILL** Medium Stiff to Very Stiff, Tan-Brown-Orange, Fine Sandy SILT (A-4(0)), with trace gravel
			7	4	6	10		M		
760	760.7	3.5								
			6	8	9	17		M		
	758.2	6.0								
			5	5	6	11	SS-1107	9%		
755	755.7	8.5								
			4	3	4	7		M		
750	750.7	13.5								750.2 — 14.0 Stiff, Brown-Black, Fine Sandy SILT (A-4), with trace organics and mulch
			4	5	6	11		M		747.2 — 17.0 Very Stiff, Brown-Orange-White, Fine Sandy SILT (A-4), with trace gravel
745	745.7	18.5								
			10	13	16	29		M		
740	740.7	23.5								742.2 — 22.0 **RESIDUAL** Loose to Very Dense, Orange-Brown-Gray, Silty Fine to Coarse SAND (A-2-4), with trace mica
			3	2	2	4	SS-1110	14%		
735	735.7	28.5								
			3	3	3	6		M		
730	730.7	33.5								
			6	8	12	20		M		
725	725.7	38.5								
			25	40	49	89		M		
720	720.7	43.5								719.2 — 45.0 Boring Terminated at Elevation 719.2 ft In Residual Silty SAND (A-2-4)
			26	44	43	87		M		

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPD_1900R	**STATION** 19+00	**OFFSET** 15 ft RT	**ALIGNMENT** -Y3RPD-	**0 HR.** Dry
COLLAR ELEV. 734.0 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 559,256	**EASTING** 1,359,060	**24 HR.** 3.5
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735										734.0 TOPSOIL = 3 INCHES	0.0
	733.0	1.0	6	21	23	44				**ROADWAY EMBANKMENT** Hard, Brown-Black, Fine Sandy SILT (A-4(0)), with little organics and trace quartz fragments	
730	730.5	3.5	2	5	3	8	SS-1144	23%		731.0	3.0
	728.0	6.0	2	1	2	3		M		Loose, Gray-Brown-Black, Silty Fine SAND (A-2-4), with trace to little organics	
725	725.5	8.5	2	2	3	5	SS-1146	22%		728.5 **ALLUVIAL**	5.5
								W		Soft to Medium Stiff, Gray-Tan, Clayey, Fine Sandy SILT (A-4(0)), with trace organics, mica and quartz fragments	
										724.0	10.0
										Boring Terminated at Elevation 724.0 ft In Alluvial Fine Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPD_2200L	**STATION** 22+00	**OFFSET** 35 ft LT	**ALIGNMENT** -Y3RPD-	**0 HR.** Dry
COLLAR ELEV. 755.8 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 559,320	**EASTING** 1,358,763	**24 HR.** 22.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
760										755.8 GROUND SURFACE	0.0
755	754.8	1.0	4	6	8	14		M		**ARTIFICIAL FILL** Medium Stiff to Stiff, White-Orange-Tan, Fine Sandy SILT (A-4), with trace gravel	
	752.3	3.5	5	4	4	8		M			
750	749.8	6.0	3	4	5	9		M		747.8	8.0
	747.3	8.5	3	2	3	5	SS-729	28%		Medium Stiff, Red-Brown, Fine to Coarse Sandy, Silty CLAY, Moderately Plastic, (A-7-6(14)), with trace sub-rounded gravel	
745	742.3	13.5	4	5	4	9		M		743.8	12.0
	737.3	18.5	5	7	16	23		M		Stiff to Very Stiff, Orange-Tan, Fine Sandy SILT (A-4), with trace gravel and glass	
740	732.3	23.5	4	3	3	6		M		733.8	22.0
735	727.3	28.5	3	2	2	4		M		Soft to Medium Stiff, White-Orange-Tan-Red, Silty, Fine to Coarse Sandy CLAY (A-6), with trace gravel	
730										725.8	30.0
										Boring Terminated at Elevation 725.8 ft In Artificial Fill Sandy CLAY (A-6)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3RPD_2422L	**STATION** 24+22	**OFFSET** 62 ft LT	**ALIGNMENT** -Y3RPD-	**0 HR.** Dry
COLLAR ELEV. 761.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 559,402	**EASTING** 1,358,533	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
765										ELEV. (ft) DEPTH (ft)
										761.8 GROUND SURFACE 0.0
760	760.8	1.0								**ROADWAY EMBANKMENT**
	758.3	3.5	4	4	4	8	SS-734	18%		Soft to Stiff, Red-Brown, Fine to Coarse Sandy CLAY (A-6(5)), with trace gravel and brick fragments
			2	2	2	4		M		
755	755.8	6.0	WOH	1	2	3		M		
	753.3	8.5	8	12	3	15		M		751.8 10.0
										Boring Terminated at Elevation 751.8 ft In Roadway Embankment Sandy CLAY (A-6)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3SB_1365L	**STATION** 13+65	**OFFSET** 15 ft LT	**ALIGNMENT** -Y3SB-	**0 HR.** Dry
COLLAR ELEV. 765.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 559,289	**EASTING** 1,358,356	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
770										
										765.6 GROUND SURFACE 0.0
765	764.6	1.0								**ROADWAY EMBANKMENT**
	762.1	3.5	1	1	3	4	SS-1142	21%		Soft, Red-Orange, Fine to Coarse Sandy, Clayey SILT (A-4(2)), with trace gravel 3.0
			2	2	3	5		M		762.6
760	759.6	6.0	3	3	4	7		M		**RESIDUAL** Loose, White-Orange, Silty Fine SAND (A-2-4)
	757.1	8.5	3	3	5	8		M		755.6 10.0
										Boring Terminated at Elevation 755.6 ft In Residual Silty Fine SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3SB_2302L	**STATION** 23+02	**OFFSET** 2 ft RT	**ALIGNMENT** -Y3SB-	**0 HR.** Dry
COLLAR ELEV. 763.1 ft	**TOTAL DEPTH** 10.5 ft	**NORTHING** 560,156	**EASTING** 1,358,471	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/17/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
765										
										763.1 GROUND SURFACE 0.0
	761.1	2.0	2	3	5	8		M		**ROADWAY EMBANKMENT** Medium Stiff, Red, Silty CLAY (A-7)
760	759.1	4.0	4	4	2	6		M		757.1 6.0
	756.1	7.0	3	2	2	4		M		**RESIDUAL** Soft to Medium Stiff, Brown, Fine Sandy SILT (A-4)
755	754.1	9.0	3	2	3	5		M		752.6 10.5
										Boring Terminated at Elevation 752.6 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4_1885L	**STATION** 18+85	**OFFSET** 45 ft LT	**ALIGNMENT** -Y4-	**0 HR.** Dry
COLLAR ELEV. 768.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 558,798	**EASTING** 1,363,188	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/08/23	**COMP. DATE** 06/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
770										
										768.8 GROUND SURFACE 0.0
	767.8	1.0	3	4	6	10	SS-4500	25%		**RESIDUAL** Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(29))
765	765.3	3.5	4	5	7	12		M		763.3 5.5
	762.8	6.0	3	3	5	8		D		Medium Stiff, Red-Brown, SILT (A-4)
760	760.3	8.5	3	2	4	6		D		758.8 10.0
										Boring Terminated at Elevation 758.8 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL14_B-1	**STATION** 29+04	**OFFSET** 79 ft RT	**ALIGNMENT** -Y4-	**0 HR.** 26.5
COLLAR ELEV. 711.2 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 557,773	**EASTING** 1,363,084	**24 HR.** 20.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/08/23	**COMP. DATE** 06/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
715										
	710.2	1.0	5	4	5	9		D		711.2 GROUND SURFACE 0.0
710	707.7	3.5	2	3	3	6		M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown-Orange-Purple-White-Gray, Clayey, Fine Sandy SILT (A-5), with trace organics and mica, manganese oxide staining
	705.2	6.0	2	2	5	7	SS-4506	58%		
705	702.7	8.5	3	2	4	6		M		
700	697.7	13.5	3	3	4	7		M		
695	692.7	18.5	3	4	6	10	SS-4509	40%		
690	687.7	23.5	2	3	6	9		M		
685	682.7	28.5	2	3	5	8		M		
680	677.7	33.5	3	6	6	12		M		
675	672.7	38.5	4	15	27	42		M		671.2 40.0 Boring Terminated at Elevation 671.2 ft In Residual Clayey, Sandy SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL14_B-2	**STATION** 30+05	**OFFSET** 80 ft RT	**ALIGNMENT** -Y4-	**0 HR.** 25.0
COLLAR ELEV. 711.0 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,672	**EASTING** 1,363,087	**24 HR.** 13.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/08/23	**COMP. DATE** 06/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										
	710.0	1.0	2	2	3	5		D		711.0 GROUND SURFACE 0.0
710	707.5	3.5	2	2	4	6		D		**RESIDUAL** Medium Stiff to Stiff, Orange-Brown-Gray-Red-Black-White, Fine Sandy SILT (A-4(6)), with trace gravel-sized rock fragments
	705.0	6.0	2	2	4	6		M		
705	702.5	8.5	2	2	3	5	SS-4495	44%		
700	697.5	13.5	2	2	4	6		W		
695	692.5	18.5	6	5	5	10		M		
690	687.5	23.5	4	3	6	9		M		
685	682.5	28.5	2	2	3	5		M		681.0 30.0 Boring Terminated at Elevation 681.0 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL14_B-3	**STATION** 30+97	**OFFSET** 75 ft RT	**ALIGNMENT** -Y4-	**0 HR.** Dry
COLLAR ELEV. 710.9 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,580	**EASTING** 1,363,095	**24 HR.** 10.5
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/09/23	**COMP. DATE** 06/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
715										
										710.9 GROUND SURFACE 0.0
710	709.9	1.0	5	7	12	19		M		**ROADWAY EMBANKMENT** Stiff to Very Stiff, Gray-Tan-Red, Fine Sandy, Silty CLAY (A-7), with trace gravel
	707.4	3.5	6	8	11	19		M		
705	704.9	6.0	5	7	8	15		M		
	702.4	8.5	4	5	6	11		M		702.9 8.0 **RESIDUAL** Stiff, Tan-Red-Brown, Fine Sandy, Silty CLAY (A-7)
700										698.9 12.0 Medium Stiff, Black-Orange-Tan, Fine Sandy SILT (A-5), with manganese oxide staining
	697.4	13.5	2	2	4	6		W		695.9 15.0 Boring Terminated at Elevation 695.9 ft In Residual Sandy SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4RPA_2000	**STATION** 20+00	**OFFSET** 6 ft RT	**ALIGNMENT** -Y4RPA-	**0 HR.** Dry
COLLAR ELEV. 731.6 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 558,164	**EASTING** 1,363,876	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/06/23	**COMP. DATE** 06/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										
										731.6 TOPSOIL = 4 INCHES 0.0
730	730.6	1.0								
	728.1	3.5	3	4	5	9	SS-495	26%		**RESIDUAL** Medium Stiff to Stiff, Red-Orange-Tan-Black-White, Clayey SILT (A-5(13)), with manganese oxide staining
725	725.6	6.0	3	4	5	9		M		
	723.1	8.5	3	2	4	6		M		
720			3	3	4	7		M		
	718.1	13.5	2	4	4	8		M		716.6 15.0 Boring Terminated at Elevation 716.6 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4RPA_2250R	**STATION** 22+50	**OFFSET** 48 ft RT	**ALIGNMENT** -Y4RPA-	**0 HR.** Dry
COLLAR ELEV. 749.0 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 558,313	**EASTING** 1,363,669	**24 HR.** 10.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/06/23	**COMP. DATE** 06/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
750										749.0 GROUND SURFACE 0.0
	748.0	1.0	6	9	11	20		M		**ARTIFICIAL FILL** Medium Dense, Gray-Black, Silty Fine to Coarse Sandy GRAVEL (A-1-b), with trace asphalt fragments 746.0 3.0
745	745.5	3.5	5	2	2	4	SS-515	23%		Medium Stiff, Gray-Red-Brown, Fine to Coarse Sandy, Silty CLAY, Moderately Plastic, (A-6(10))
	743.0	6.0	2	3	4	7		M		741.0 8.0
740	740.5	8.5	1	1	2	3	SS-517	23%		Soft to Medium Stiff, Gray-Red-Brown, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-6(15))
735	735.5	13.5	3	3	3	6		W		
730	730.5	18.5	4	9	12	21		M		731.0 18.0 **RESIDUAL** Stiff to Very Stiff, Tan-Red-Brown, Silty CLAY (A-7)
725	725.5	23.5	6	7	6	13		M		724.0 25.0 Boring Terminated at Elevation 724.0 ft In Residual Silty CLAY (A-7)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4RPA_2500R	**STATION** 25+00	**OFFSET** 11 ft RT	**ALIGNMENT** -Y4RPA-	**0 HR.** Dry
COLLAR ELEV. 747.5 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 558,362	**EASTING** 1,363,416	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/06/23	**COMP. DATE** 06/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										
	746.5	1.0	2	3	3	6		M		747.5 GROUND SURFACE 0.0 **ROADWAY EMBANKMENT** Medium Stiff to Stiff, Black-Red-Brown, Silty CLAY (A-7), with trace organics and gravel
745	744.0	3.5	4	5	4	9		M		
	741.5	6.0	2	3	3	6		M		742.0 5.5 **RESIDUAL** Medium Stiff, Tan-Red-Brown, Fine Sandy SILT (A-5)
740	739.0	8.5	2	3	4	7		M		737.5 10.0 Boring Terminated at Elevation 737.5 ft In Residual Sandy SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4RPA_2700	**STATION** 27+00	**OFFSET** CL	**ALIGNMENT** -Y4RPA-	**0 HR.** Dry
COLLAR ELEV. 753.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 558,404	**EASTING** 1,363,220	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/06/23	**COMP. DATE** 06/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
755											
	752.3	1.0								753.3	0.0
			3	3	5	8				TOPSOIL = 4 INCHES	
750	749.8	3.5					SS-510	26%		**RESIDUAL** Medium Stiff to Stiff, Orange-Tan, Fine Sandy SILT (A-5(3)), manganese oxide staining	
			4	4	7	11		M			
	747.3	6.0									
			2	4	4	8		M			
745	744.8	8.5									
			2	3	5	8		M		743.3	10.0
										Boring Terminated at Elevation 743.3 ft In Residual Sandy SILT (A-5)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL7_B-1	**STATION** 18+50	**OFFSET** 39 ft LT	**ALIGNMENT** -Y4RPB-	**0 HR.** Dry
COLLAR ELEV. 711.2 ft	**TOTAL DEPTH** 8.5 ft	**NORTHING** 558,555	**EASTING** 1,362,086	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/15/23	**COMP. DATE** 06/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
715											
	710.2	1.0								711.2 GROUND SURFACE	0.0
710			2	3	5	8	SS-4654	23%		**RESIDUAL** Medium Stiff, Red-BrownCLAY, Moderately Plastic, (A-7-6(16))	
	707.7	3.5								708.2	3.0
			5	7	8	15		D		Stiff, Orange-Brown, SILT (A-4)	
705	705.2	6.0								705.2	6.0
			34	66/0.3		100/0.8				**WEATHERED ROCK** Gray-Orange-Brown (SCHIST)	
	702.7	8.5								702.7	8.5
			60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 702.7 ft On Crystalline Rock (SCHIST)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1 | **TIP** I-5719 | **COUNTY** GASTON | **GEOLOGIST** M. Hachey, P.G.

SITE DESCRIPTION I-85 Widening | **GROUND WTR (ft)**

BORING NO. RWAL7_B-10 | **STATION** 27+17 | **OFFSET** 40 ft LT | **ALIGNMENT** -Y4RPB- | **0 HR.** Dry

COLLAR ELEV. 752.2 ft | **TOTAL DEPTH** 10.0 ft | **NORTHING** 558,464 | **EASTING** 1,362,944 | **24 HR.** Dry

DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023 | **DRILL METHOD** H.S. Augers | **HAMMER TYPE** Automatic

DRILLER J. Kiker | **START DATE** 06/07/23 | **COMP. DATE** 06/07/23 | **SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
755										
										752.2 GROUND SURFACE 0.0
	751.2	1.0								**ROADWAY EMBANKMENT**
750			2	4	3	7		M		Medium Stiff, Orange-Red-Brown, Gravelly SILT (A-4)
	748.7	3.5								749.2 3.0
			2	2	3	5				**RESIDUAL**
	746.2	6.0					SS-4434	32%		Soft to Medium Stiff, Orange-Brown-Tan, Clayey SILT (A-5(11)), manganese oxide staining
745			2	1	2	3		M		
	743.7	8.5								
			1	3	2	5		M		742.2 10.0
										Boring Terminated at Elevation 742.2 ft In Residual Clayey SILT (A-5)

WBS 50135.1.FS1 | **TIP** I-5719 | **COUNTY** GASTON | **GEOLOGIST** M. Hachey, P.G.

SITE DESCRIPTION I-85 Widening | **GROUND WTR (ft)**

BORING NO. RWAL7_B-2 | **STATION** 19+50 | **OFFSET** 39 ft LT | **ALIGNMENT** -Y4RPB- | **0 HR.** Dry

COLLAR ELEV. 723.7 ft | **TOTAL DEPTH** 15.0 ft | **NORTHING** 558,544 | **EASTING** 1,362,186 | **24 HR.** Dry

DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023 | **DRILL METHOD** H.S. Augers | **HAMMER TYPE** Automatic

DRILLER J. Kiker | **START DATE** 06/15/23 | **COMP. DATE** 06/15/23 | **SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
725										
										723.7 GROUND SURFACE 0.0
	722.7	1.0								**RESIDUAL**
720			3	4	7	11	SS-4649	38%		Stiff, Red-Brown-Yellow, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(23))
	720.2	3.5								720.7 3.0
			3	2	5	7		D		Soft to Medium Stiff, Red-Orange-Brown, Fine Sandy SILT (A-4), with trace mica
	717.7	6.0								
			3	2	2	4		M		
715	715.2	8.5								
			2	2	2	4		M		
710	710.2	13.5								
			WOH	2	3	5		M		708.7 15.0
										Boring Terminated at Elevation 708.7 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL7_B-3	**STATION** 20+50	**OFFSET** 39 ft LT	**ALIGNMENT** -Y4RPB-	**0 HR.** Dry
COLLAR ELEV. 731.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 558,532	**EASTING** 1,362,286	**24 HR.** 20.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/14/23	**COMP. DATE** 06/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
735										
										731.5 GROUND SURFACE 0.0
730	730.5	1.0	3	4	6	10		M		**RESIDUAL** Stiff, Red-Brown-Yellow, Clayey SILT (A-5(2))
	728.0	3.5	4	4	5	9	SS-4643	31%	D	
725	725.5	6.0	2	3	5	8			D	726.0 5.5 Soft to Medium Stiff, Orange-Gray-Brown, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
	723.0	8.5	2	3	4	7			D	
720	718.0	13.5	2	3	3	6			D	
715	713.0	18.5	2	1	3	4			M	
710	708.0	23.5	1	2	3	5		M		706.5 25.0 Boring Terminated at Elevation 706.5 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL7_B-4	**STATION** 21+51	**OFFSET** 60 ft LT	**ALIGNMENT** -Y4RPB-	**0 HR.** Dry
COLLAR ELEV. 738.8 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 558,540	**EASTING** 1,362,389	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/19/23	**COMP. DATE** 07/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
	737.8	1.0	6	7	6	13		D		738.8 GROUND SURFACE 0.0 **ROADWAY EMBANKMENT** Stiff, Orange-Gray-Brown, Silty CLAY (A-6)
735	735.3	3.5	3	3	4	7		D		735.8 3.0 Stiff, Gray-Orange-Brown, Fine Sandy, Clayey SILT (A-4)
	732.8	6.0	2	2	3	5		D		730.8 8.0 **RESIDUAL** Medium Stiff to Stiff, Gray-Orange-Brown, Sandy SILT (A-4), manganese oxide staining
730	730.3	8.5	3	5	8	13		D		
725	725.3	13.5	2	3	5	8		D		
720	720.3	18.5	3	4	7	11		D		
715	715.3	23.5	2	3	5	8		M		
710	710.3	28.5	4	5	8	13		M		708.8 30.0 Boring Terminated at Elevation 708.8 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL7_B-5	**STATION** 22+49	**OFFSET** 60 ft LT	**ALIGNMENT** -Y4RPB-	**0 HR.** Dry
COLLAR ELEV. 742.9 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 558,526	**EASTING** 1,362,487	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/19/23	**COMP. DATE** 07/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
745										
	741.9	1.0								742.9 GROUND SURFACE 0.0
			3	4	4	8		D		**RESIDUAL** Medium Stiff to Stiff, Red-Gray-Orange-Brown, SILT (A-4), manganese oxide staining
740	739.4	3.5								
			2	3	4	7		D		
	736.9	6.0								
			3	3	6	9		D		
735	734.4	8.5								
			4	5	7	12		D		
730	729.4	13.5								
			3	5	7	12		D		
725	724.4	18.5								
			3	5	6	11		D		
720	719.4	23.5								
			2	4	4	8		M		
715	714.4	28.5								
			2	3	6	9		M		712.9 30.0 Boring Terminated at Elevation 712.9 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL7_B-6	**STATION** 23+51	**OFFSET** 66 ft LT	**ALIGNMENT** -Y4RPB-	**0 HR.** Dry
COLLAR ELEV. 746.0 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 558,517	**EASTING** 1,362,588	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/19/23	**COMP. DATE** 07/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										
										746.0 GROUND SURFACE 0.0
745	745.0	1.0								**RESIDUAL** Stiff, Red-Brown, Silty CLAY (A-6)
			4	4	6	10		M		743.0 3.0
	742.5	3.5								Medium Stiff to Stiff, Red-Yellow-Brown, SILT (A-4), manganese oxide staining
			2	3	3	6		D		
740	740.0	6.0								
			2	3	4	7		D		
	737.5	8.5								
			2	5	6	11		D		
735	732.5	13.5								
			3	4	7	11		D		
730	727.5	18.5								
			4	5	8	13		D		
725	722.5	23.5								
			2	3	4	7		M		721.0 25.0 Boring Terminated at Elevation 721.0 ft In Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL7_B-7	**STATION** 24+45	**OFFSET** 68 ft LT	**ALIGNMENT** -Y4RPB-	**0 HR.** Dry
COLLAR ELEV. 749.0 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 558,507	**EASTING** 1,362,680	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/19/23	**COMP. DATE** 07/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
750										749.0 GROUND SURFACE	0.0
	748.0	1.0	4	5	8	13		D		**RESIDUAL** Stiff, Red-Brown, CLAY (A-7)	
745	745.5	3.5	4	5	6	11		D		743.5	5.5
	743.0	6.0	4	3	6	9		D		Medium Stiff to Stiff, Orange-Yellow-Brown, SILT (A-4), manganese oxide staining	
740	740.5	8.5	3	4	6	10		D			
735	735.5	13.5	3	3	5	8		D			
730	730.5	18.5	3	4	5	9		D		729.0 Boring Terminated at Elevation 729.0 ft In Residual SILT (A-4)	20.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.
SITE DESCRIPTION I-85 Widening			**GROUND WTR (ft)**
BORING NO. RWAL7_B-8	**STATION** 25+44	**OFFSET** 67 ft LT	**ALIGNMENT** -Y4RPB-	**0 HR.** Dry
COLLAR ELEV. 751.8 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 558,497	**EASTING** 1,362,775	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic
DRILLER D. Demby	**START DATE** 07/19/23	**COMP. DATE** 07/19/23	**SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
755										751.8 GROUND SURFACE 0.0
	750.8	1.0	6	2	4	6		M		**RESIDUAL** Medium Stiff, Red-Brown, Silty CLAY (A-6)
750	748.3	3.5	1	5	6	11		D		748.8 3.0
	745.8	6.0	3	5	7	12		D		Stiff, Red-Orange-Yellow-Brown, SILT (A-4), manganese oxide staining
745	743.3	8.5	5	5	6	11		D		
740	738.3	13.5	3	4	5	9		D		
735	733.3	18.5	3	4	5	9		D		731.8 Boring Terminated at Elevation 731.8 ft In Residual SILT (A-4) 20.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL7_B-9	**STATION** 26+50	**OFFSET** 40 ft LT	**ALIGNMENT** -Y4RPB-	**0 HR.** Dry
COLLAR ELEV. 748.2 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 558,465	**EASTING** 1,362,877	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/07/23	**COMP. DATE** 06/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										ELEV. (ft) DEPTH (ft)
										748.2 GROUND SURFACE 0.0
	747.2	1.0	2	2	2	4		M		**ROADWAY EMBANKMENT** Medium Stiff, Orange-Brown-Red-Tan, SILT (A-4), with construction debris
745	744.7	3.5	2	2	3	5		M		
	742.2	6.0	2	2	2	4		M		740.2 8.0
740	739.7	8.5	2	2	2	4		M		**RESIDUAL** 738.2 Medium Stiff, Orange-Brown-Tan, Fine SILT (A-4) 10.0
										Boring Terminated at Elevation 738.2 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4RPC_1300	**STATION** 13+00	**OFFSET** CL	**ALIGNMENT** -Y4RPC-	**0 HR.** Dry
COLLAR ELEV. 713.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 558,310	**EASTING** 1,362,195	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										
										713.3 GROUND SURFACE 0.0
	712.3	1.0	4	4	4	8	SS-851	40%		**RESIDUAL** Soft to Medium Stiff, Red-Orange-Black-Brown, Fine to Coarse Sandy, Clayey, SILT (A-5(8)), manganese oxide staining
710	709.8	3.5	2	3	3	6		M		
	707.3	6.0	2	2	3	5		M		
705	704.8	8.5	1	2	2	4		M		703.3 10.0
										Boring Terminated at Elevation 703.3 ft In Residual Sandy SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4RPC_1550	**STATION** 15+50	**OFFSET** CL	**ALIGNMENT** -Y4RPC-	**0 HR.** Dry
COLLAR ELEV. 716.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 558,219	**EASTING** 1,362,427	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
720										
										716.6 GROUND SURFACE 0.0
715	715.6	1.0	1	2	3	5				**RESIDUAL**
	713.1	3.5	2	2	2	4	SS-855	48%		Soft to Medium Stiff,
710	710.6	6.0	2	2	3	5		M		Black-Red-Orange-Brown, Fine Sandy SILT
	708.1	8.5	2	1	2	3		M		(A-5(4)), manganese oxide staining
								M		706.6 10.0
										Boring Terminated at Elevation 706.6 ft In Residual Sandy SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4RPC_1800	**STATION** 18+00	**OFFSET** CL	**ALIGNMENT** -Y4RPC-	**0 HR.** 6.3
COLLAR ELEV. 709.4 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 558,108	**EASTING** 1,362,651	**24 HR.** 2.1
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
710										709.4 GROUND SURFACE 0.0
	708.4	1.0	1	2	3	5				**RESIDUAL**
705	705.9	3.5	2	2	3	5	SS-859	37%		Medium Stiff to Stiff, Black-Orange-Tan, Fine
	703.4	6.0	2	4	5	9		M		Sandy SILT (A-4(1)), with manganese oxide
700	700.9	8.5	3	4	6	10		M		staining
	695.9	13.5	5	5	8	13		M		
695										
	690.9	18.5	3	4	3	7		M		689.4 20.0
690										Boring Terminated at Elevation 689.4 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4RPC_2064R	**STATION** 20+64	**OFFSET** 73 ft RT	**ALIGNMENT** -Y4RPC-	**0 HR.** 11.2
COLLAR ELEV. 708.7 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,941	**EASTING** 1,362,878	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/28/23	**COMP. DATE** 06/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
710										
	707.7	1.0								708.7 GROUND SURFACE 0.0
										707.2 **ROADWAY EMBANKMENT** 1.5
										Asphalt (0.4 ft) and ABC (1.1 ft)
705	705.2	3.5	9	2	4	6		M		**RESIDUAL**
			WOH	1	2	3		49% W		Soft to Stiff, White-Black-Red-Orange, Fine Sandy, Silty CLAY (A-7-5(17)), with trace gravel-sized rock fragments, manganese oxide staining
	702.7	6.0	WOH	2	2	4		W		
700	700.2	8.5	2	2	2	4		M		
695	695.2	13.5	3	3	6	9		W		
										690.7 18.0
690	690.2	18.5	3	2	3	5		W		Medium Stiff to Stiff, White-Black-Orange-Tan, Fine Sandy SILT (A-5), with trace clay, manganese oxide staining
685	685.2	23.5	2	4	5	9		W		683.7 25.0
										Boring Terminated at Elevation 683.7 ft In Residual Sandy SILT (A-5)
										Other Samples: ST-5 (3.0 - 5.0)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL8_B-1	**STATION** 14+06	**OFFSET** 83 ft LT	**ALIGNMENT** -Y4RPD-	**0 HR.** 5.5
COLLAR ELEV. 692.8 ft	**TOTAL DEPTH** 27.5 ft	**NORTHING** 557,805	**EASTING** 1,364,094	**24 HR.** 4.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/08/23	**COMP. DATE** 06/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
695										
	691.8	1.0	2	1	1	2				692.8 GROUND SURFACE 0.0
690	689.3	3.5	1	2	1	3	SS-4484	49% M		**ALLUVIAL** Very Soft to Medium Stiff, Red-Brown-Gray, Clayey, Fine Sandy SILT (A-4)
	686.8	6.0	2	3	3	6	SS-4486	29% Sat.		
685	684.3	8.5	3	WOH	1	1				680.8 12.0
680	679.3	13.5	2	6	8	14		M		**RESIDUAL** Stiff, Gray-Brown, SILT (A-4)
675	674.3	18.5	10	17	83	100/0.9				674.3 18.5
670	669.3	23.5	9	8	14	22		Sat.		**WEATHERED ROCK** Gray-Brown (METAVOLCANIC ROCK)
	665.3	27.5	60/0.0			60/0.0				670.8 22.0
										RESIDUAL Very Stiff, Gray, SILT (A-4)
										665.3 27.5
										Boring Terminated with Standard Penetration Test Refusal at Elevation 665.3 ft On Crystalline Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL8_B-2	**STATION** 14+85	**OFFSET** 66 ft LT	**ALIGNMENT** -Y4RPD-	**0 HR.** 22.0
COLLAR ELEV. 704.5 ft	**TOTAL DEPTH** 24.4 ft	**NORTHING** 557,830	**EASTING** 1,364,019	**24 HR.** 14.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/08/23	**COMP. DATE** 06/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
705											
	703.5	1.0								704.5 GROUND SURFACE	0.0
			5	5	10	15		M		**ARTIFICIAL FILL** Soft to Stiff, Red-Brown-Gray-Orange, Fine Sandy, Silty CLAY, Moderately Plastic, (A-6(14)), with trace organics and gravel	
	701.0	3.5									
700			2	2	4	6	SS-4471	23%			
	698.5	6.0									
			2	2	2	4		M			
	696.0	8.5									
695			WOH	2	11	13		W			
								W		693.5 **ALLUVIAL** Soft, Gray-Brown-Orange, CLAY (A-7), with trace rootlets	11.0
	691.0	13.5									
690			1	1	2	3					
										688.0 **WEATHERED ROCK** Gray-Brown-Orange (METAVOLCANIC ROCK)	16.5
	686.0	18.5									
685			58	85	15/0.1	100/0.6					
						100/0.9					
	681.0	23.5	29	71/0.4						680.1 Boring Terminated at Elevation 680.1 ft In Weathered Rock (METAVOLCANIC ROCK)	24.4

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL8_B-3	**STATION** 15+95	**OFFSET** 55 ft LT	**ALIGNMENT** -Y4RPD-	**0 HR.** Dry
COLLAR ELEV. 714.6 ft	**TOTAL DEPTH** 19.7 ft	**NORTHING** 557,850	**EASTING** 1,363,912	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/08/23	**COMP. DATE** 06/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715											
	713.6	1.0								714.6 GROUND SURFACE	0.0
			3	4	5	9				**ARTIFICIAL FILL** Stiff to Very Stiff, Red-Brown-Gray-Black, Silty CLAY (A-7-5(8)), with trace gravel and organics	
	711.1	3.5									
710			5	8	7	15	SS-4463	27%			
	708.6	6.0									
			6	13	14	27		M			
	706.1	8.5								706.6	8.0
705			6	7	8	15		D		**RESIDUAL** Medium Stiff to Stiff, Gray-Tan-Brown-Orange-Black, SILT (A-4)	
	701.1	13.5									
700			3	3	5	8		D			
	696.1	18.5								696.1	18.5
695	694.9	19.7	20	9	91/0.2	100/0.7				694.9 **WEATHERED ROCK** Orange-Gray (METAVOLCANIC ROCK)	19.7
			60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 694.9 ft On Crystalline Rock (METAVOLCANIC ROCK)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL8_B-4	**STATION** 17+09	**OFFSET** 35 ft LT	**ALIGNMENT** -Y4RPD-	**0 HR.** Dry
COLLAR ELEV. 723.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,877	**EASTING** 1,363,800	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/08/23	**COMP. DATE** 06/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
725										723.5 GROUND SURFACE	0.0
	722.5	1.0	3	3	4	7		M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown, Silty CLAY (A-7-5(18))	
720	720.0	3.5	3	4	5	9	SS-4457	34%			
	717.5	6.0	2	2	3	5		M		718.0 Medium Stiff, Red-Brown, Silty CLAY (A-6)	5.5
715	715.0	8.5	2	3	4	7		D		715.5 Medium Stiff to Stiff, Orange-Gray-Brown, SILT (A-4), manganese oxide staining	8.0
710	710.0	13.5	3	3	4	7		D			
705	705.0	18.5	3	4	6	10		M			
700	700.0	23.5	2	3	5	8		M		698.5 Boring Terminated at Elevation 698.5 ft In Residual SILT (A-4)	25.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL8_B-5	**STATION** 17+97	**OFFSET** 47 ft LT	**ALIGNMENT** -Y4RPD-	**0 HR.** Dry
COLLAR ELEV. 721.7 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 557,870	**EASTING** 1,363,711	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/07/23	**COMP. DATE** 06/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										721.7 GROUND SURFACE 0.0
	720.7	1.0	4	5	5	10	SS-4450	28%		**RESIDUAL** Stiff, Red-Brown, Fine Sandy, Clayey SILT (A-5(16)) 3.0
720	718.2	3.5	4	4	6	10		M		Stiff, Red-Brown, Fine Sandy, Silty CLAY (A-7-5(17))
715	715.7	6.0	3	3	6	9	SS-4452	25%		713.7 8.0
	713.2	8.5	3	3	5	8		D		Medium Stiff to Stiff, Gray-Red-Orange-Tan-Brown, SILT (A-4)
710	708.2	13.5	2	3	3	6		M		
705	703.2	18.5	3	3	6	9		M		701.7 Boring Terminated at Elevation 701.7 ft In Residual SILT (A-4) 20.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4RPD_2000R	**STATION** 20+00	**OFFSET** 10 ft RT	**ALIGNMENT** -Y4RPD-	**0 HR.** Dry
COLLAR ELEV. 730.2 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,939	**EASTING** 1,363,512	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/07/23	**COMP. DATE** 06/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										ELEV. (ft) DEPTH (ft)
730										730.2 GROUND SURFACE 0.0
	729.2	1.0	2	3	5	8 12	SS-4442	32%		**RESIDUAL** Medium Stiff to Stiff, Red-Brown, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(25)), with manganese oxide staining
	726.7	3.5	3	4	8			M		
725	724.2	6.0	4	6	6	12 15		M		
	721.7	8.5	5	6	9			M		720.2 10.0
										Boring Terminated at Elevation 720.2 ft In Residual CLAY (A-7-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4RPD_2250L	**STATION** 22+50	**OFFSET** 90 ft LT	**ALIGNMENT** -Y4RPD-	**0 HR.** Dry
COLLAR ELEV. 727.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,854	**EASTING** 1,363,256	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/07/23	**COMP. DATE** 06/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										
	726.8	1.0	4	6	9	15	SS-4446	29%		727.8 GROUND SURFACE 0.0
725	724.3	3.5	5	5	7	12		M		**RESIDUAL** Stiff, Red-Brown, Silty CLAY, Highly Plastic, (A-7-5(42))
	721.8	6.0	3	4	6	10		M		722.3 5.5
720	719.3	8.5	2	3	4	7		M		Medium Stiff to Stiff, Orange-Brown, Fine Sandy SILT (A-4)
										717.8 10.0
										Boring Terminated at Elevation 717.8 ft In Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5_2066L	**STATION** 20+66	**OFFSET** 39 ft LT	**ALIGNMENT** -Y5-	**0 HR.** Dry
COLLAR ELEV. 741.3 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 557,759	**EASTING** 1,372,092	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
745										
										741.3 TOPSOIL = 2 INCHES 0.0
740	740.3	1.0	7	5	6	11		M		**RESIDUAL**
	737.8	3.5	5	6	11	17	SS-3198	23%		Stiff to Hard, Red-Tan-Gray, Clayey, Fine Sandy SILT (A-4(11))
735	735.3	6.0	7	7	9	16		M		
	732.8	8.5	6	6	6	12		M		
730										
	727.8	13.5	7	6	10	16		M		
725										
	722.8	18.5	25	24	15	39		M		721.3 20.0
										Boring Terminated at Elevation 721.3 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5_2310L	**STATION** 23+10	**OFFSET** 116 ft LT	**ALIGNMENT** -Y5-	**0 HR.** Dry
COLLAR ELEV. 728.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,483	**EASTING** 1,372,062	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										
										728.3 TOPSOIL = 3 INCHES 0.0
	727.3	1.0	5	6	8	14				**RESIDUAL**
725	725.3	3.0	4	4	5	9	SS-3150	30%		Stiff, Red-Tan, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(36)) 3.0
	722.3	6.0	3	5	7	12		M		725.3 Stiff to Very Stiff, Tan, Fine Sandy SILT (A-4)
720	719.8	8.5	4	5	12	17		M		
								M		718.3 10.0
										Boring Terminated at Elevation 718.3 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5_2595L	**STATION** 25+95	**OFFSET** 53 ft LT	**ALIGNMENT** -Y5-	**0 HR.** Dry
COLLAR ELEV. 723.5 ft	**TOTAL DEPTH** 14.4 ft	**NORTHING** 557,268	**EASTING** 1,371,947	**24 HR.** 12.2
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										ELEV. (ft) DEPTH (ft)
	722.5	1.0								723.5 TOPSOIL = 2 INCHES 0.0
720	720.0	3.5	6	8	10	18		M		**RESIDUAL** Very Stiff to Hard, Tan, Clayey, Fine to Coarse Sandy SILT (A-4(8))
	717.5	6.0	33	48	45	93	SS-3155	11%		
715	715.0	8.5	26	32	39	71		M		
			12	21	22	43		M		711.5 12.0
710	710.0	13.5	60	40/0.4		100/0.9				709.1 **WEATHERED ROCK** Tan, (METAVOLCANIC ROCK) 14.4
										Boring Terminated at Elevation 709.1 ft In Weathered Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5_2850L	**STATION** 28+50	**OFFSET** 52 ft LT	**ALIGNMENT** -Y5-	**0 HR.** 17.0
COLLAR ELEV. 712.9 ft	**TOTAL DEPTH** 19.7 ft	**NORTHING** 557,033	**EASTING** 1,371,914	**24 HR.** 4.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/19/23	**COMP. DATE** 06/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										
	710.9	2.0	3	4	5	9	SS-1055	19%		712.9 TOPSOIL = 2 INCHES 0.0
710	708.9	4.0	5	6	10	16		M		**RESIDUAL** Stiff, Tan-Gray, Fine Sandy, Silty CLAY, Moderately Plastic, (A-6(13))
	705.9	7.0	100/0.3			100/0.3				708.9 4.0
705	703.9	9.0	4	9	12	21		M		Very Stiff, Tan-Gray, Fine Sandy SILT (A-4), with trace mica
										705.9 7.0
700	698.9	14.0	100/0.3			100/0.3				**WEATHERED ROCK** Gray, (SCHIST) 703.9 9.0
										RESIDUAL Very Stiff, Brown-Orange-Gray, Fine Sandy SILT (A-4), with trace mica
695	693.9	19.0	27	73/0.2		100/0.7				698.9 14.0
										WEATHERED ROCK Gray, (SCHIST)
										693.2 19.7
										Boring Terminated at Elevation 693.2 ft In Weathered Rock (SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5_3050L	**STATION** 30+50	**OFFSET** 25 ft LT	**ALIGNMENT** -Y5-	**0 HR.** 11.3
COLLAR ELEV. 710.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,825	**EASTING** 1,371,894	**24 HR.** 0.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/14/23	**COMP. DATE** 06/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
715										
710										710.6 / 0.0 TOPSOIL = 4 INCHES
	709.6	1.0	3	4	4	8, 10		M		**RESIDUAL** Medium Stiff to Stiff, Gray-Tan-Blue, Fine Sandy CLAY (A-6(7))
	707.1	3.5	3	4	6			18% M		
705	704.6	6.0	13	22	39	61		M		705.1 / 5.5 Hard, Orange-Tan-Gray, Fine Sandy SILT (A-4)
	702.1	8.5	18	20	33	53		M		
700										
	697.1	13.5	5	13	17	30		M		
695										
	692.1	18.5	100/0.4			100/0.4				692.1 / 18.5 **WEATHERED ROCK** Tan-Orange, (SCHIST)
690										688.6 / 22.0
	687.1	23.5	7	10	9	19		M		**RESIDUAL** Very Stiff, Orange-Tan, Fine Sandy SILT (A-4)
										685.6 / 25.0 Boring Terminated at Elevation 685.6 ft In Residual Sandy SILT (A-4)

Other Samples:
ST-1 (2.0 - 4.0)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5_3300L	**STATION** 33+00	**OFFSET** 80 ft LT	**ALIGNMENT** -Y5-	**0 HR.** 18.1
COLLAR ELEV. 721.2 ft	**TOTAL DEPTH** 19.0 ft	**NORTHING** 556,576	**EASTING** 1,371,832	**24 HR.** 5.3
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										
720										721.2 / 0.0 TOPSOIL = 2 INCHES
	720.2	1.0	5	7	10	17, 27	SS-3129	24% M		**RESIDUAL** Very Stiff, Tan-Red, Sandy, Silty CLAY, Moderately Plastic, (A-7-5(25))
	717.7	3.5	7	12	15					715.7 / 5.5
715	715.2	6.0	7	11	13	24		M		Very Stiff, Tan, Fine Sandy, Clayey SILT (A-5), with trace gravel-sized quartz fragments
	712.7	8.5	6	6	7	13		M		713.2 / 8.0 Stiff, Tan, Fine Sandy SILT (A-4), with trace gravel-sized quartz fragments
710										
	707.7	13.5	32	55	45/0.4	100/0.9				707.2 / 14.0 **WEATHERED ROCK** Tan, (METAVOLCANIC ROCK)
705										
	702.7	18.5	100/0.5			100/0.5				702.2 / 19.0 Boring Terminated at Elevation 702.2 ft In Weathered Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5_3900L	**STATION** 39+00	**OFFSET** 72 ft LT	**ALIGNMENT** -Y5-	**0 HR.** Dry
COLLAR ELEV. 737.5 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 556,021	**EASTING** 1,371,692	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
740										737.5 TOPSOIL = 2 INCHES	0.0
	736.5	1.0								**ROADWAY EMBANKMENT** Stiff, Red-Brown, Silty CLAY, Highly Plastic, (A-7-5(37)), with trace gravel	
735	734.0	3.5	6	5	7	12	SS-3188	27%		734.5	3.0
	731.5	6.0	5	6	9	15		M		Stiff, Tan-Brown-Gray, Sandy SILT (A-4), with trace gravel	
730	729.0	8.5	6	8	14	22		M		732.0	5.5
			8	12	16	28		M		**RESIDUAL** Very Stiff, Gray-Tan, Fine Sandy SILT (A-4)	
725	724.0	13.5	5	9	16	25		M		722.5	15.0
										Boring Terminated at Elevation 722.5 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5_4150L	**STATION** 41+50	**OFFSET** 40 ft LT	**ALIGNMENT** -Y5-	**0 HR.** Dry
COLLAR ELEV. 740.5 ft	**TOTAL DEPTH** 13.9 ft	**NORTHING** 555,771	**EASTING** 1,371,662	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745										740.5 TOPSOIL = 4 INCHES	0.0
740	739.5	1.0						M		**ROADWAY EMBANKMENT** Very Stiff, Red-Brown, Fine Sandy, Clayey SILT (A-5), with trace gravel and organics	
	737.0	3.5	5	9	9	18		M		737.5	3.0
735	734.5	6.0	7	8	13	21		M		**RESIDUAL** Stiff to Very Stiff, Tan-Red-Brown, Fine Sandy, Clayey SILT (A-5)	
	732.0	8.5	4	6	9	15		M		732.5	8.0
730			5	5	5	10		M		Stiff, Red-Tan-Black, Fine to Coarse Sandy, Clayey SILT (A-5)	
	727.0	13.5	100/0.4			100/0.4				729.0	11.5
										WEATHERED ROCK Gray-Tan, (METAVOLCANIC ROCK)	
										726.6	13.9
										Boring Terminated at Elevation 726.6 ft In Weathered Rock (METAVOLCANIC ROCK)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5_4350	**STATION** 43+50	**OFFSET** CL	**ALIGNMENT** -Y5-	**0 HR.** Dry
COLLAR ELEV. 742.2 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,593	**EASTING** 1,371,547	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
745										
										742.2 TOPSOIL = 2 INCHES 0.0
	741.2	1.0	6	4	6	10		M		**ROADWAY EMBANKMENT** Stiff, Tan-Red, Sandy SILT (A-4), with trace gravel
740	738.7	3.5	3	3	2	5		M		739.2 3.0 **RESIDUAL** Stiff to Medium Stiff, Tan-Red, Sandy, Clayey SILT (A-5), with trace gravel
	736.2	6.0	4	6	7	13		M		
735	733.7	8.5	3	3	4	7		M		732.2 10.0 Boring Terminated at Elevation 732.2 ft In Residual Clayey SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5A_1495	**STATION** 14+95	**OFFSET** 4 ft LT	**ALIGNMENT** -Y5A-	**0 HR.** Dry
COLLAR ELEV. 738.5 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 557,291	**EASTING** 1,371,518	**24 HR.** 10.5
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
740										
										738.5 TOPSOIL = 3 INCHES 0.0
	737.5	1.0	5	5	8	13		M		**RESIDUAL** Stiff, Tan-Red, Sandy, Clayey SILT (A-5)
735	735.0	3.5	3	5	7	12		M		735.5 3.0 Stiff, Red-Tan-Black, Sandy SILT (A-4), with manganese oxide staining
	732.5	6.0	WOH	3	6	9		M		
730	730.0	8.5	3	4	5	9		▼		
								M		726.5 12.0 Very Stiff, Tan, Sandy, Clayey SILT (A-5)
725	725.0	13.5	4	7	9	16		M		
										721.5 17.0 Stiff to Very Stiff, Tan, Fine Sandy SILT (A-4)
720	720.0	18.5	3	6	9	15		M		718.5 20.0 Boring Terminated at Elevation 718.5 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5A_1750	**STATION** 17+50	**OFFSET** 3 ft LT	**ALIGNMENT** -Y5A-	**0 HR.** Dry
COLLAR ELEV. 732.2 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,472	**EASTING** 1,371,683	**24 HR.** 11.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735											
										732.2	0.0
	731.2	1.0								TOPSOIL = 6 INCHES	
730			16	83	17/0.1	100/0.6				730.7	1.5
	728.7	3.5								**RESIDUAL** Dense , White-Tan, Silty SAND (A-2-4)	
			56	44/0.3		100/0.8				**WEATHERED ROCK** White-Tan, (MICA SCHIST)	
	726.2	6.0								726.7	5.5
725			8	11	19	30		M		**RESIDUAL** Very Stiff, White-Tan, Sandy, Clayey SILT (A-5)	
	723.7	8.5								724.2	8.0
			50	50/0.3		100/0.8				**WEATHERED ROCK** White-Tan, (MICA SCHIST)	
720										720.2	12.0
	718.7	13.5								**RESIDUAL** Medium Dense, White-Tan, Sandy SILT (A-4)	
			5	8	6	14		M		717.2	15.0
										Boring Terminated at Elevation 717.2 ft In Residual Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5A_1950	**STATION** 19+50	**OFFSET** 10 ft LT	**ALIGNMENT** -Y5A-	**0 HR.** Dry
COLLAR ELEV. 728.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,473	**EASTING** 1,371,886	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/22/23	**COMP. DATE** 05/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										
										728.3 GROUND SURFACE 0.0
	727.3	1.0								**ROADWAY EMBANKMENT**
			4	1	2	3		M		Soft to Stiff, Gray-Tan-Red-Brown, Sandy SILT (A-4), with trace gravel and organics
725	724.8	3.5								
			2	4	5	9		M		
	722.3	6.0								722.8 5.5
			4	9	14	23		M		**RESIDUAL** Stiff to Very Stiff, Tan, Fine Sandy SILT (A-4)
720	719.8	8.5								
			5	5	8	13		M		718.3 10.0
										Boring Terminated at Elevation 718.3 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5C_1550	**STATION** 15+50	**OFFSET** CL	**ALIGNMENT** -Y5C-	**0 HR.** Dry
COLLAR ELEV. 735.2 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,654	**EASTING** 1,371,394	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										ELEV. (ft) DEPTH (ft)
735										735.2 TOPSOIL = 2 INCHES 0.0
	734.2	1.0	5	6	5	11		M		**ARTIFICIAL FILL**
	731.7	3.5								Stiff, Brown-Red, Sandy, Clayey SILT (A-5), with trace gravel and wood fragments 732.2 3.0
			3	1	2	3		W		**ALLUVIAL**
730	729.2	6.0								Soft, Gray-Tan, Sandy SILT (A-4) 729.7 5.5
			4	5	7	12		M		**RESIDUAL**
	726.7	8.5								Stiff, Tan-Gray, Sandy, Silty CLAY (A-7) 727.2 8.0
			5	12	16	28		M		Very Stiff, Gray-Tan, Sandy SILT (A-4) 725.2 10.0
										Boring Terminated at Elevation 725.2 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5LPA_1200	**STATION** 12+00	**OFFSET** CL	**ALIGNMENT** -Y5LPA-	**0 HR.** Dry
COLLAR ELEV. 723.5 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 556,354	**EASTING** 1,372,011	**24 HR.** 7.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										
										723.5 TOPSOIL = 2 INCHES 0.0
	722.5	1.0								**ROADWAY EMBANKMENT**
			5	5	4	9		M		Stiff, Red-Tan, Sandy SILT (A-4), with little gravel 720.5 3.0
720	720.0	3.5								
			2	2	3	5		M		Medium to Very Stiff, Red-Tan, Sandy, Clayey SILT (A-5), with little gravel
	717.5	6.0								
			2	2	3	5		M		
715	715.0	8.5								
			2	4	12	16		M		713.5 10.0
										Boring Terminated at Elevation 713.5 ft In Roadway Embankment Clayey SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5LPA_1500L	**STATION** 15+00	**OFFSET** 54 ft LT	**ALIGNMENT** -Y5LPA-	**0 HR.** Dry
COLLAR ELEV. 736.0 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 556,584	**EASTING** 1,372,062	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
740											
										736.0	0.0
735	735.0	1.0	9	7	8	15		M		TOPSOIL = 2 INCHES **ROADWAY EMBANKMENT** Stiff, Tan, Sandy SILT (A-4), with trace gravel	
	732.5	3.5	6	11	11	22		M		733.0	3.0
730	730.0	6.0	7	11	10	21		M		Medium Dense, Tan, Silty Sand (A-2-4) with trace gravel	
	727.5	8.5	5	8	9	17		M		728.0	8.0
725										Very Stiff, Red-Tan, Sandy, Clayey SILT (A-5), with trace wood fragments and gravel	
	722.5	13.5	6	8	10	18		M			
720										719.0	17.0
	717.5	18.5	6	9	9	18		M		Very Stiff, Tan, Sandy SILT (A-4)	
										716.0	20.0
										Boring Terminated at Elevation 716.0 ft In Roadway Embankment Sandy SILT (A-4)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5LPD_1578	**STATION** 15+78	**OFFSET** 4 ft RT	**ALIGNMENT** -Y5LPD-	**0 HR.** Dry
COLLAR ELEV. 732.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 556,128	**EASTING** 1,371,994	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										
										732.3 TOPSOIL = 2 INCHES 0.0
	731.3	1.0								**ROADWAY EMBANKMENT**
730			23	7	7	14		M		Medium Dense, Brown, Silty SAND (A-2-4), with little gravel 729.3 3.0
	728.8	3.5	15	7	10	17		M		Medium Dense, Brown-Gray, Clayey SAND (A-2-6), with some gravel and cobbles 726.8 5.5
	726.3	6.0	46	53	40	93		M		Very Dense, Brown-Gray, Silty SAND (A-2-4), with some gravel 724.3 8.0
725	723.8	8.5	3	3	4	7		M		Medium Stiff, Brown, Sandy, Clayey SILT (A-5), with trace gravel and organics 722.3 10.0
										Boring Terminated at Elevation 722.3 ft In Roadway Embankment Clayey SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5LPD_1850	**STATION** 18+50	**OFFSET** CL	**ALIGNMENT** -Y5LPD-	**0 HR.** Dry
COLLAR ELEV. 740.6 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 555,880	**EASTING** 1,372,014	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745											
740	739.6	1.0	9	6	9	15		M		740.6 TOPSOIL = 2 INCHES	0.0
	737.1	3.5	4	5	6	11		M		**ROADWAY EMBANKMENT** Stiff, Tan-Red-Brown, Fine Sandy, Clayey SILT (A-5), with trace gravel	
735	734.6	6.0	6	7	8	15		M			
	732.1	8.5	5	4	8	12		M			
730	727.1	13.5	5	5	8	13		M		725.6 Boring Terminated at Elevation 725.6 ft In Roadway Embankment Clayey SILT (A-5)	15.0
725											

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5RPA_1050R	**STATION** 10+50	**OFFSET** 50 ft RT	**ALIGNMENT** -Y5RPA-	**0 HR.** Dry
COLLAR ELEV. 742.2 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 556,587	**EASTING** 1,373,344	**24 HR.** 17.7
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745											
										742.2 TOPSOIL = 2 INCHES	0.0
740	741.2	1.0	7	5	8	13	SS-3072	38%		**RESIDUAL** Stiff, Tan-Red, Sandy, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(24))	
	738.7	3.5	4	5	6	11		M		739.2 Stiff to Very Stiff, Red-Tan-Black, Fine to Coarse Sandy, Silty CLAY (A-7-6(11))	3.0
735	736.2	6.0	4	6	9	15		M			
	733.7	8.5	4	7	7	14	SS-3075	24%			
730	728.7	13.5	4	5	8	13		M		730.2 Medium Dense to Dense, Tan, Silty SAND (A-2-4)	12.0
725	723.7	18.5	6	10	28	38		M		722.2 Boring Terminated at Elevation 722.2 ft In Residual Silty SAND (A-2-4)	20.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5RPA_1250R	**STATION** 12+50	**OFFSET** 49 ft RT	**ALIGNMENT** -Y5RPA-	**0 HR.** Dry
COLLAR ELEV. 734.5 ft	**TOTAL DEPTH** 20.8 ft	**NORTHING** 556,543	**EASTING** 1,373,150	**24 HR.** 9.3
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735										734.5	0.0
	733.5	1.0								TOPSOIL = 2 INCHES	
			5	5	6	11		M		**ARTIFICIAL FILL** Stiff, Red-Brown, Sandy, Silty CLAY (A-7), with trace organics	
	731.0	3.5								731.5	3.0
730			2	2	2	4		M		Soft, Tan, Sandy SILT (A-4), with trace gravel	
	728.5	6.0								729.0	5.5
			3	4	6	10	SS-3080	30%		Stiff, Tan, Sandy, Silty CLAY (A-7-5 (14))	
	726.0	8.5								726.5	8.0
725			5	6	10	16		M		**RESIDUAL** Very Stiff, Tan-Gray, Sandy, Silty CLAY (A-7), with trace gravel-sized quartz fragments	
	721.0	13.5								722.5	12.0
720			9	15	20	35		M		Dense, Tan-Brown, Silty SAND (A-2-4)	
	716.0	18.5								717.5	17.0
715			35	65/0.2		100/0.7				**WEATHERED ROCK** Tan, (METAVOLCANIC ROCK)	
	713.7	20.8	60/0.0			60/0.0				713.7	20.8
										Boring Terminated with Standard Penetration Test Refusal at Elevation 713.7 ft On Crystalline Rock (METAVOLCANIC ROCK)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5RPA_1500R	**STATION** 15+05	**OFFSET** 9 ft RT	**ALIGNMENT** -Y5RPA-	**0 HR.** Dry
COLLAR ELEV. 724.4 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 556,449	**EASTING** 1,372,909	**24 HR.** 2.7
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
725										724.4	0.0
	723.4	1.0								TOPSOIL = 2 INCHES	
			5	5	6	11				**RESIDUAL** Stiff, Tan-Red, Fine Sandy, Clayey SILT (A-5 (10))	
	720.9	3.5					SS-3098	34%		721.4	3.0
720			4	8	10	18		M		Very Stiff, Tan, Fine Sandy SILT (A-4)	
	718.4	6.0									
			7	11	14	25		M			
	715.9	8.5								716.4	8.0
715			6	8	14	22		M		Medium Dense, Tan, Silty SAND (A-2-4)	
										712.4	12.0
	710.9	13.5								Very Stiff, Tan, Fine Sandy SILT (A-4)	
710			9	15	15	30		M		709.4	15.0
										Boring Terminated at Elevation 709.4 ft In Residual Sandy SILT (A-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5RPA_1746R	**STATION** 17+46	**OFFSET** 34 ft RT	**ALIGNMENT** -Y5RPA-	**0 HR.** Dry
COLLAR ELEV. 732.1 ft	**TOTAL DEPTH** 18.8 ft	**NORTHING** 556,454	**EASTING** 1,372,674	**24 HR.** 11.2
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735											
										732.1	0.0
										TOPSOIL = 2 INCHES	
730	731.1	1.0	8	6	8	14				**RESIDUAL** Stiff, Tan-Red, Silty CLAY, Moderately Plastic, (A-7-5(17))	
	728.6	3.5	4	6	8	14	SS-3103	36%		729.1	3.0
	726.1	6.0	4	6	10	16		M		Stiff, Tan-Black, Fine Sandy, Clayey SILT (A-5(10)), with manganese oxide staining	
725	723.6	8.5	6	10	10	20	SS-3105	27%			
								M			
720	718.6	13.5	100/0.5			100/0.5				718.6	13.5
										WEATHERED ROCK Tan, (METAVOLCANIC ROCK)	
715	713.6	18.5	100/0.3			100/0.3				713.3	18.8
										Boring Terminated at Elevation 713.3 ft In Weathered Rock (METAVOLCANIC ROCK)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5RPA_2000	**STATION** 20+00	**OFFSET** CL	**ALIGNMENT** -Y5RPA-	**0 HR.** Dry
COLLAR ELEV. 730.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 556,477	**EASTING** 1,372,425	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										
										730.8 TOPSOIL = 1 INCH 0.0
730	729.8	1.0	7	4	6	10				**RESIDUAL** Stiff, Tan-Red, Sandy, Silty CLAY, Highly Plastic, (A-7-5(48)) 3.0
	727.3	3.5	5	4	6	10	SS-3109	34%		727.8
725	724.8	6.0	7	15	23	38		M		Stiff to Hard, Tan-Black, Fine Sandy SILT (A-4), with trace gravel-sized quartz fragments, manganese oxide staining
	722.3	8.5	7	12	17	29		M		
								M		720.8 10.0
										Boring Terminated at Elevation 720.8 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5RPA_2250	**STATION** 22+50	**OFFSET** CL	**ALIGNMENT** -Y5RPA-	**0 HR.** Dry
COLLAR ELEV. 713.3 ft	**TOTAL DEPTH** 18.9 ft	**NORTHING** 556,609	**EASTING** 1,372,214	**24 HR.** 13.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/16/23	**COMP. DATE** 06/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
715										
	712.3	1.0	4	4	10	14 37		M		713.3 0.0 TOPSOIL = 2 INCHES **RESIDUAL** Stiff to Hard, Black-Tan-Brown, Fine Sandy SILT (A-5)
710	709.8	3.5	8	16	21			M		
	707.3	6.0	20	35	65/0.3	100/0.8				706.8 6.5 **WEATHERED ROCK** White-Tan-Orange-Brown, (SCHIST)
705	704.8	8.5	39	61/0.4		100/0.9				
700	699.8	13.5	100/0.3			100/0.3				
695	694.8	18.5	100/0.4			100/0.4				694.4 18.9 Boring Terminated at Elevation 694.4 ft In Weathered Rock (SCHIST)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5RPA_2500	**STATION** 25+00	**OFFSET** CL	**ALIGNMENT** -Y5RPA-	**0 HR.** 13.4
COLLAR ELEV. 709.7 ft	**TOTAL DEPTH** 24.8 ft	**NORTHING** 556,742	**EASTING** 1,372,010	**24 HR.** 2.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/14/23	**COMP. DATE** 06/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
710										
	708.7	1.0	2	4	4	8		M		709.7 0.0 TOPSOIL = 3 INCHES **ARTIFICIAL FILL** Medium Stiff, Blue-White-Gray-Orange-Red-Brown, Fine Sandy, Silty CLAY (A-6(9)), with trace gravel
705	706.2	3.5	2	2	3	5	SS-659	20%		
	703.7	6.0	1	2	4	6		W		701.7 8.0 **RESIDUAL** Very Stiff to Hard, White-Brown-Green-Red-Tan-Orange, Fine Sandy SILT (A-4)
700	701.2	8.5	9	9	10	19		W		
695	696.2	13.5	20	22	31	53		M		
690	691.2	18.5	11	21	46	67		M		
685	686.2	23.5	46	50	50/0.3	100/0.8				685.7 24.0 684.9 24.8 **WEATHERED ROCK** White-Orange-Tan, (SCHIST) Boring Terminated at Elevation 684.9 ft In Weathered Rock (SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5RPD_1687L	**STATION** 16+87	**OFFSET** 53 ft LT	**ALIGNMENT** -Y5RPD-	**0 HR.** 1.8
COLLAR ELEV. 707.3 ft	**TOTAL DEPTH** 8.5 ft	**NORTHING** 556,106	**EASTING** 1,372,554	**24 HR.** 1.9
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/24/23	**COMP. DATE** 05/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
710											
										707.3	0.0
	706.3	1.0								TOPSOIL = 4 INCHES	
705			3	1	2	3		W		**ARTIFICIAL FILL** Soft, Tan-Brown, Sandy, Clayey SILT (A-5), with trace organics	
	703.8	3.5								704.3	3.0
			3	5	14	19		W		**RESIDUAL** Medium Dense, Tan-Brown, Silty SAND (A-2-4), with some gravel-sized rock fragments	
	701.3	6.0								701.8	5.5
700	700.1	7.2	40	60/0.2		100/0.7				**WEATHERED ROCK** Tan-Gray, (METAMORPHOSED QUARTZ DIORITE)	
	698.8	8.5	100/0.2			100/0.2				698.8	8.5
			60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 698.8 ft On Crystalline Rock (METAMORPHOSED QUARTZ DIORITE)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5RPD_1950L	**STATION** 19+50	**OFFSET** 60 ft LT	**ALIGNMENT** -Y5RPD-	**0 HR.** 7.8
COLLAR ELEV. 699.4 ft	**TOTAL DEPTH** 9.0 ft	**NORTHING** 555,973	**EASTING** 1,372,341	**24 HR.** 0.4
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/24/23	**COMP. DATE** 05/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
700										
										699.4 GROUND SURFACE 0.0
	698.4	1.0								**RESIDUAL**
			4	3	3	6		M		Medium Stiff, Tan, Sandy, Clayey SILT (A-5)
695	695.9	3.5								696.4 3.0
			8	7	6	13		M		Medium Dense, Tan, Silty SAND (A-2-4)
	693.4	6.0								694.2 5.2
			100/0.3			100/0.3				**WEATHERED ROCK**
	691.4	8.0								White-Tan, (METAMORPHOSED QUARTZ DIORITE)
	690.4	9.0	100/0.2			100/0.2				690.4 9.0
			60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 690.4 ft On Crystalline Rock (METAMORPHOSED QUARTZ DIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5RPD_2200L	**STATION** 22+00	**OFFSET** 76 ft LT	**ALIGNMENT** -Y5RPD-	**0 HR.** Dry
COLLAR ELEV. 707.3 ft	**TOTAL DEPTH** 12.9 ft	**NORTHING** 555,817	**EASTING** 1,372,149	**24 HR.** 6.4
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
710										
										707.3 TOPSOIL = 6 INCHES 0.0
	706.3	1.0								**ROADWAY EMBANKMENT**
705			7	3	3	6 12	SS-3175	19%		Medium Stiff, Brown, Fine to Coarse Sandy, Silty CLAY (A-7-5 (8)), with trace gravel and organics 704.3 3.0
	703.8	3.5								Stiff, Red-Tan, Sandy, Clayey SILT (A-5) 701.8 5.5
			4	4	8			M		**RESIDUAL**
	701.3	6.0								Very Dense, Tan, Silty SAND (A-2-4)
700			7	18	45	63		M		698.8 8.5
	698.8	8.5								**WEATHERED ROCK**
			100/0.2			100/0.2				Tan-Gray, (METAVOLCANIC ROCK)
695										694.5 12.8
	694.5	12.8	60/0.1			60/0.1				694.4 12.9
										CRYSTALLINE ROCK
										Tan-Gray, (METAVOLCANIC ROCK)
										Boring Terminated with Standard Penetration Test Refusal at Elevation 694.4 ft In Crystalline Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5RPD_2450L	**STATION** 24+50	**OFFSET** 30 ft LT	**ALIGNMENT** -Y5RPD-	**0 HR.** N/M
COLLAR ELEV. 735.2 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 555,743	**EASTING** 1,371,883	**24 HR.** 22.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/23/23	**COMP. DATE** 05/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
735	734.2	1.0	14	8	14	22		M		735.2 GROUND SURFACE 0.0
	731.7	3.5								**ARTIFICIAL FILL**
			8	7	10	17		M		Very Stiff. Red-Brown, Fine Sandy, Clayey SILT (A-5), with trace gravel 732.2 3.0
730	729.2	6.0	4	5	7			M		**RESIDUAL**
						12				Very Stiff, Red-Brown, Fine Sandy, Clayey SILT (A-5) 729.7 5.5
	726.7	8.5	4	4	5	9		M		Medium Stiff to Stiff, Tan-Red-Black, Fine Sandy SILT (A-4), manganese oxide staining
725										
	721.7	13.5	3	4	6	10		M		
720										
	716.7	18.5	3	3	4	7		M		
715										
	711.7	23.5	3	5	6	11		M		710.2 25.0
										Boring Terminated at Elevation 710.2 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6_1645L	**STATION** 16+45	**OFFSET** 82 ft LT	**ALIGNMENT** -Y6-	**0 HR.** Dry
COLLAR ELEV. 743.1 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,719	**EASTING** 1,376,115	**24 HR.** 12.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745											
	742.1	1.0	4	6	8	14		M		743.1 TOPSOIL = 3 INCHES	0.0
740	739.6	3.5	3	5	7	12	SS-3017	34%		**ARTIFICIAL FILL** Stiff, Tan-Brown, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(22)), with trace organics	
	737.1	6.0	3	5	7	12		M		737.6 **RESIDUAL**	5.5
735	734.6	8.5	4	4	6	10		M		Medium Stiff to Stiff, Red-Tan-Black, Fine Sandy SILT (A-4), manganese oxide staining	
730	729.6	13.5	2	3	3	6		W		728.1 Boring Terminated at Elevation 728.1 ft In Residual Sandy SILT (A-4)	15.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL12_B-1	**STATION** 23+56	**OFFSET** 31 ft LT	**ALIGNMENT** -Y6RPA-	**0 HR.** Dry
COLLAR ELEV. 713.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,663	**EASTING** 1,376,924	**24 HR.** 18.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/15/23	**COMP. DATE** 05/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715											
	712.6	1.0	5	4	5	9		M		713.6 TOPSOIL = 4 INCHES	0.0
710	710.1	3.5	3	5	5	10		M		**ROADWAY EMBANKMENT** Stiff, Orange-Tan, SILT (A-5), with trace gravel	
	707.6	6.0	5	4	6	10		M			
705	705.1	8.5	3	5	6	11	SS-2254	26%		705.6 Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(19))	8.0
700	700.1	13.5	5	5	6	11		M		701.1 Medium Stiff to Stiff, Tan, Clayey SILT (A-5)	12.5
695	695.1	18.5	3	3	5	8		M			
690	690.1	23.5	4	14	18	32		M		689.6 688.6 **RESIDUAL** Hard, Green-Tan, Fine Sandy SILT (A-4) Boring Terminated at Elevation 688.6 ft In Residual Sandy SILT (A-4)	24.0 25.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL12_B-2	**STATION** 24+53	**OFFSET** 18 ft LT	**ALIGNMENT** -Y6RPA-	**0 HR.** 27.0
COLLAR ELEV. 715.0 ft	**TOTAL DEPTH** 31.8 ft	**NORTHING** 557,649	**EASTING** 1,376,828	**24 HR.** 15.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/15/23	**COMP. DATE** 05/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
715										715.0 TOPSOIL = 8 INCHES 0.0
	714.0	1.0								**ROADWAY EMBANKMENT**
			3	4	7	11		M		Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-6(23)), with trace construction debris, boulder fill, organic staining, organic odor
	711.5	3.5								
710			4	5	9	14		M		
	709.0	6.0								
			4	5	8	13		M		
	706.5	8.5								
705			5	6	5	11	SS-2245	24%		
	701.5	13.5						M		
700			3	6	9	15				
	696.5	18.5								696.0 19.0
695			4	8	10	18		M		**RESIDUAL** Medium Dense, Gray-Tan, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments
	691.5	23.5								691.5 23.5
690			30	70/0.1		100/0.6				**WEATHERED ROCK** Yellow-Tan (METAVOLCANIC ROCK)
	688.0	27.0								688.0 27.0
	686.5	28.5								**RESIDUAL**
685			30	36	27	63		M		Hard, Yellow-Tan, Fine Sandy SILT (A-4)
	683.2	31.8	60/0.0			60/0.0				683.2 31.8
										Boring Terminated with Standard Penetration Test Refusal at Elevation 683.2 ft On Crystalline Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL12_B-3	**STATION** 25+59	**OFFSET** 34 ft LT	**ALIGNMENT** -Y6RPA-	**0 HR.** Dry
COLLAR ELEV. 715.9 ft	**TOTAL DEPTH** 21.9 ft	**NORTHING** 557,604	**EASTING** 1,376,731	**24 HR.** 10.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/15/23	**COMP. DATE** 05/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										715.9 TOPSOIL = 4 INCHES 0.0
715	714.9	1.0								**ROADWAY EMBANKMENT**
			2	3	4	7		M		Medium Stiff to Stiff, Orange-Tan, Fine Sandy, Clayey SILT (A-5), with trace gravel
	712.4	3.5								
710			5	5	6	11		M		
	709.9	6.0								
			5	8	10	18		M		
	707.4	8.5								707.9 8.0
705			12	12	12	24	SS-2268	24%		Very Stiff, Red-Brown, Fine Sandy, Silty CLAY (A-6(9)), with trace organics and gravel
	702.4	13.5								701.9 14.0
			5	12	20	32		D		**RESIDUAL**
700										Very Stiff to Hard, Red-Green-Tan, Fine to Coarse Sandy SILT (A-4)
	697.4	18.5								
			5	5	15	20		D		
695	694.0	21.9	60/0.0			60/0.0				694.0 21.9
										Boring Terminated with Standard Penetration Test Refusal at Elevation 694.0 ft On Crystalline Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL12_B-4	**STATION** 26+50	**OFFSET** 26 ft LT	**ALIGNMENT** -Y6RPA-	**0 HR.** Dry
COLLAR ELEV. 720.6 ft	**TOTAL DEPTH** 20.2 ft	**NORTHING** 557,586	**EASTING** 1,376,642	**24 HR.** 10.5
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
725										
720	719.6	1.0	4	5	5	10		M		720.6 GROUND SURFACE 0.0 **ROADWAY EMBANKMENT** Stiff to Very Stiff, Fine Sandy, Clayey SILT (A-4(5)), with trace gravel, asphalt, and organics
	717.1	3.5	2	5	10	15		M		
715	714.6	6.0	7	9	17	26		M		
	712.1	8.5	6	7	19	26	SS-2275	17%		
710										708.6 12.0 **ALLUVIAL** Medium Stiff, Brown-Gray, Fine Sandy CLAY (A-6), with trace gravel and organics
	707.1	13.5	3	3	4	7		M		703.6 17.0 **RESIDUAL** Hard, Black-Tan, SILT (A-4)
705	702.1	18.5	9	13	30	43		M		700.4 20.2 Boring Terminated with Standard Penetration Test Refusal at Elevation 700.4 ft On Crystalline Rock (METAVOLCANIC ROCK)
	700.4	20.2	60/0.0			60/0.0				

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL12_B-5	**STATION** 27+50	**OFFSET** 27 ft LT	**ALIGNMENT** -Y6RPA-	**0 HR.** Dry
COLLAR ELEV. 728.0 ft	**TOTAL DEPTH** 25.3 ft	**NORTHING** 557,557	**EASTING** 1,376,546	**24 HR.** 13.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										728.0 TOPSOIL = 5 INCHES 0.0
	727.0	1.0	5	4	7	11		M		**ROADWAY EMBANKMENT** Stiff, Orange, SILT (A-5)
725	724.5	3.5	6	6	8	14		M		723.0 5.0 **RESIDUAL** Stiff to Hard, Orange-Red-Gray, Fine Sandy, Clayey SILT (A-5)
	722.0	6.0	3	5	7	12		M		
720	719.5	8.5	3	6	12	18		M		
715	714.5	13.5	2	9	40	49		M		711.0 17.0 **WEATHERED ROCK** Gray, (METAVOLCANIC ROCK)
710	709.5	18.5	100/0.4			100/0.4				
										705.0 23.0 **RESIDUAL**
705	704.5	23.5	12	20	9	29		D		702.7 25.3 Very Stiff, Brown-Gray, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments
	702.7	25.3	60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation 702.7 ft On Crystalline Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL12_B-6	**STATION** 28+50	**OFFSET** 27 ft LT	**ALIGNMENT** -Y6RPA-	**0 HR.** Dry
COLLAR ELEV. 740.7 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 557,529	**EASTING** 1,376,450	**24 HR.** 13.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745											
740	739.7	1.0								740.7	0.0
			5	5	6	11		M		TOPSOIL = 6 INCHES **ROADWAY EMBANKMENT** Soft to Stiff, Orange-Tan-Red, Fine Sandy SILT (A-5), with trace gravel	
	737.2	3.5	3	2	2	4		M			
735	734.7	6.0	4	4	4	8		M			
	732.2	8.5	4	4	6	10	SS-2290	31%		733.2	7.5
730										Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(24)), with trace organics, organic odor	
	727.2	13.5	5	4	6	10		M		726.7	14.0
725										**ALLUVIAL** Stiff, Gray-Brown, Fine Sandy CLAY (A-6)	
	722.2	18.5	3	6	18	24		M		721.7 720.7	19.0 20.0
										RESIDUAL Very Stiff, Orange-Brown, Fine Sandy CLAY (A-6), with trace gravel-sized quartz fragments Boring Terminated at Elevation 720.7 ft In Residual Sandy CLAY (A-6)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6RPA_1500	**STATION** 15+00	**OFFSET** CL	**ALIGNMENT** -Y6RPA-	**0 HR.** Dry
COLLAR ELEV. 683.3 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,765	**EASTING** 1,377,765	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/14/23	**COMP. DATE** 06/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
685										683.3	0.0
	682.3	1.0								TOPSOIL = 3 INCHES	
			4	5	6	11	SS-633	25%		**RESIDUAL** Stiff, Brown-Red, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(22))	
680	679.8	3.5								680.3	3.0
			3	4	6	10		M		Medium Stiff to Stiff, Black-Red-Tan-Orange, Fine Sandy SILT (A-5), manganese oxide staining	
	677.3	6.0	3	3	5	8		M			
675	674.8	8.5	3	6	6	12		M			
670	669.8	13.5	1	1	4	5		M		668.3	15.0
										Boring Terminated at Elevation 668.3 ft In Residual Sandy SILT (A-5)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6RPA_1750	**STATION** 17+50	**OFFSET** 50 ft RT	**ALIGNMENT** -Y6RPA-	**0 HR.** 11.1
COLLAR ELEV. 653.5 ft	**TOTAL DEPTH** 21.0 ft	**NORTHING** 557,824	**EASTING** 1,377,515	**24 HR.** 5.8
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/14/23	**COMP. DATE** 06/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
655										653.5 GROUND SURFACE	0.0
	652.5	1.0	2	1	2	3		M		**RESIDUAL** Soft, Orange-Tan-Red-Brown-Gray, Clayey, Fine to Coarse Sandy SILT (A-4), with trace organics and gravel-sized rock and quartz fragments	
650	650.0	3.5	2	1	2	3		M			
	647.5	6.0	16	15	13	28		M		646.5	7.0
645	645.0	8.5	35	43	41	84		M		Very Dense, White-Gray, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments	
640	640.0	13.5	47	53/0.4		100/0.4				640.0	13.5
										WEATHERED ROCK White-Gray, (SCHIST)	
635	635.0	18.5	100/0.2			100/0.2					
	632.5	21.0	60/0.0			60/0.0				632.5	21.0
										Boring Terminated with Standard Penetration Test Refusal at Elevation 632.5 ft On Crystalline Rock (SCHIST)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6RPA_2000	**STATION** 20+00	**OFFSET** 30 ft RT	**ALIGNMENT** -Y6RPA-	**0 HR.** 16.5
COLLAR ELEV. 684.2 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,788	**EASTING** 1,377,263	**24 HR.** 10.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/16/23	**COMP. DATE** 06/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
685										684.2 TOPSOIL = 4 INCHES	0.0
	683.2	1.0	3	2	3	5		M		**ARTIFICIAL FILL** Soft to Stiff, Black-Tan-Gray-Red, Fine Sandy SILT (A-5), with trace gravel	
680	680.7	3.5	2	3	7	10		M			
	678.2	6.0	3	2	2	4		M		676.2	8.0
675	675.7	8.5	3	2	3	5		M		**RESIDUAL** Medium Stiff, Tan-Brown-Red, Fine Sandy SILT (A-5), with trace mica, manganese oxide staining	
670	670.7	13.5	2	2	4	6		M		672.2	12.0
										Medium Stiff, Black-Red-Brown, Fine Sandy, Silty CLAY (A-7), with trace gravel-sized rock fragments	
665	665.7	18.5	13	17	18	35		M		667.2	17.0
										Hard, Brown-Tan-White, Fine Sandy SILT (A-4)	
660	660.7	23.5	6	11	27	38		W		659.2	25.0
										Boring Terminated at Elevation 659.2 ft In Residual Sandy SILT (A-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6RPA_2250	**STATION** 22+50	**OFFSET** CL	**ALIGNMENT** -Y6RPA-	**0 HR.** Dry
COLLAR ELEV. 705.1 ft	**TOTAL DEPTH** 23.9 ft	**NORTHING** 557,718	**EASTING** 1,377,020	**24 HR.** 17.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/15/23	**COMP. DATE** 05/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
710										
705										705.1 0.0 TOPSOIL = 4 INCHES
	704.1	1.0	4	2	4	6		M		**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Orange-Tan-Red-Brown, Fine Sandy, Clayey SILT (A-5), with trace gravel and organics
	701.6	3.5	2	2	3	5		M		
700	699.1	6.0	5	5	5	10		M		
	696.6	8.5	4	4	6	10		M		
695	691.6	13.5	3	4	5	9		M		
690								▼		689.1 16.0 **RESIDUAL** Very Stiff, Yellow-Tan, Fine Sandy SILT (A-4), with trace gravel-sized quartz fragments
	686.6	18.5	4	7	18	25		M		
685	681.6	23.5	100/0.4			100/0.4				681.6 23.5 681.2 23.9 **WEATHERED ROCK** Yellow-Tan, (METAVOLCANIC ROCK) Boring Terminated at Elevation 681.2 ft In Weathered Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL11_B-1	**STATION** 18+97	**OFFSET** 8 ft RT	**ALIGNMENT** -Y6RPB-	**0 HR.** Dry
COLLAR ELEV. 740.5 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,415	**EASTING** 1,376,014	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
745										
740										740.5 0.0 GROUND SURFACE
	739.5	1.0	7	3	5	8		M		739.5 1.0 **ROADWAY EMBANKMENT** Loose, Gray, GRAVEL (A-1-a)
	737.0	3.5	3	3	3	6		M		**RESIDUAL** Medium Stiff, Red-Purple, SILT (A-5), manganese oxide staining
735	734.5	6.0	2	2	4	6		M		
	732.0	8.5	3	2	3	5		W		730.5 10.0 Boring Terminated at Elevation 730.5 ft In Residual SILT (A-5)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL11_B-2	**STATION** 20+03	**OFFSET** 19 ft RT	**ALIGNMENT** -Y6RPB-	**0 HR.** Dry
COLLAR ELEV. 743.7 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,439	**EASTING** 1,376,117	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
745										
	742.7	1.0								743.7 GROUND SURFACE 0.0
			6	4	3	7		M		742.2 **ROADWAY EMBANKMENT** 1.5 Stiff, Red, Clayey SILT (A-5), with trace gravel
740	740.2	3.5								**RESIDUAL**
			2	2	3	5		M		Medium Stiff, Orange-Tan-Purple, SILT (A-5), manganese oxide staining
	737.7	6.0								
			2	2	3	5		M		
735	735.2	8.5								
			2	3	4	7		M		733.7 10.0
										Boring Terminated at Elevation 733.7 ft In Residual SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL11_B-3	**STATION** 21+00	**OFFSET** 21 ft RT	**ALIGNMENT** -Y6RPB-	**0 HR.** Dry
COLLAR ELEV. 741.1 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 557,465	**EASTING** 1,376,211	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
745										
										741.1 TOPSOIL = 3 INCHES 0.0
	740.1	1.0	7	6	8	14		M		**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Orange, Fine Sandy, Clayey SILT (A-5)
740	737.6	3.5	3	3	3	6		M		
735	735.1	6.0	2	3	3	6		M		735.1 6.0
	732.6	8.5	3	3	3	6		M		**RESIDUAL** Medium Stiff, Gray-Tan-Purple, SILT (A-5), manganese oxide staining
730										
	727.6	13.5	3	3	4	7		M		
725										
	722.6	18.5	2	2	5	7		M		721.1 20.0
										Boring Terminated at Elevation 721.1 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL11_B-4	**STATION** 21+70	**OFFSET** 18 ft RT	**ALIGNMENT** -Y6RPB-	**0 HR.** Dry
COLLAR ELEV. 741.8 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 557,487	**EASTING** 1,376,277	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745											
										741.8	0.0
										TOPSOIL = 2 INCHES	
	740.8	1.0								**ROADWAY EMBANKMENT**	
740			4	4	6	10	SS-2299	36%		Stiff, Red, Silty CLAY, Moderately Plastic, (A-7-5(34))	
	738.3	3.5								738.8	3.0
			3	4	5	9		M		**RESIDUAL**	
	735.8	6.0								Medium Stiff to Stiff,	
735			3	5	6	11		M		Orange-Tan-Purple-White, SILT (A-5),	
	733.3	8.5								manganese oxide staining	
			4	4	5	9		M			
730											
	728.3	13.5									
			4	4	6	10		M			
725											
	723.3	18.5									
			3	2	4	6		M		721.8	20.0
										Boring Terminated at Elevation 721.8 ft In Residual SILT (A-5)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL9_B-1	**STATION** 13+44	**OFFSET** 41 ft LT	**ALIGNMENT** -Y6RPB-	**0 HR.** Dry
COLLAR ELEV. 753.9 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 557,227	**EASTING** 1,375,494	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
755											
										753.9	0.0
	752.9	1.0								TOPSOIL = 3 INCHES	
			5	10	16	26		M		**RESIDUAL**	
750	750.4	3.5								Very Stiff, Red-Tan-Brown, Silty CLAY, Moderately Plastic, (A-7-5(33))	
			6	7	11	18	SS-3040	35%			
	747.9	6.0								748.4	5.5
			4	6	7	13		M		Stiff, Tan-Black-Red, Fine Sandy SILT (A-4),	
745	745.4	8.5								manganese oxide staining	
			4	4	6	10		M			
	740.4	13.5									
740			5	6	8	14		M			
	735.4	18.5									
735			3	5	5	10		M		733.9	20.0
										Boring Terminated at Elevation 733.9 ft In Residual Sandy SILT (A-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL9_B-2	**STATION** 14+45	**OFFSET** 28 ft LT	**ALIGNMENT** -Y6RPB-	**0 HR.** Dry
COLLAR ELEV. 752.5 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,257	**EASTING** 1,375,590	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
755										
										752.5 TOPSOIL = 3 INCHES 0.0
	751.5	1.0								**RESIDUAL**
750			5	6	11	17		M		Very Stiff, Red-Brown, Fine Sandy, Silty CLAY (A-7)
	749.0	3.5								749.5 3.0
			6	7	10	17	SS-3046	23%		Stiff to Very Stiff, Red-Tan-Black, Clayey SILT (A-5(11)), with trace gravel-sized rock fragments and mica, manganese oxide staining
	746.5	6.0								
745			5	6	10	16		M		
	744.0	8.5								
			5	5	6	11	SS-3048	31%		
740										
	739.0	13.5								
			10	8	13	21		M		
735										
	734.0	18.5								
			4	5	5	10		M		
730										
	729.0	23.5								
			3	5	6	11		M		727.5 25.0
										Boring Terminated at Elevation 727.5 ft In Residual Clayey SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL9_B-3	**STATION** 15+50	**OFFSET** 27 ft LT	**ALIGNMENT** -Y6RPB-	**0 HR.** Dry
COLLAR ELEV. 754.2 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,303	**EASTING** 1,375,684	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
755										
										754.2 TOPSOIL = 4 INCHES 0.0
	753.2	1.0								**RESIDUAL**
			3	4	8	12	SS-3052	31%		Stiff, Brown, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(37))
750	750.7	3.5								751.2 3.0
			5	6	9	15		M		Stiff, Red-Tan, Fine Sandy, Clayey SILT (A-5)
	748.2	6.0								
			4	5	8	13		M		
745	745.7	8.5								
			5	6	9	15		M		746.2 8.0
										Stiff to Very Stiff, Tan, Fine Sandy SILT (A-4)
740	740.7	13.5								
			9	9	11	20		M		
	735.7	18.5								
735			5	8	15	23		M		
	730.7	23.5								
730			7	11	14	25		M		729.2 25.0
										Boring Terminated at Elevation 729.2 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL9_B-4	**STATION** 16+44	**OFFSET** 39 ft LT	**ALIGNMENT** -Y6RPB-	**0 HR.** Dry
COLLAR ELEV. 756.3 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,356	**EASTING** 1,375,763	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
760										
	756.3	0.0								756.3 TOPSOIL = 6 INCHES 0.0
755	755.3	1.0	5	4	7	11		M		**RESIDUAL** Stiff, Red-Brown, Fine Sandy, Silty CLAY (A-7)
	752.8	3.5	5	4	5	9		M		753.3 3.0
750	750.3	6.0	3	5	8	13	SS-3061	37%		Medium Stiff to Stiff, Red-Tan-Black, Clayey SILT (A-5(12)), manganese oxide staining
	747.8	8.5	3	5	5	10		M		
745	742.8	13.5	3	6	7	13		M		
740	737.8	18.5	3	3	3	6		W		
735	732.8	23.5	3	3	4	7		W		731.3 25.0
										Boring Terminated at Elevation 731.3 ft In Residual Clayey SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL9_B-5	**STATION** 17+74	**OFFSET** 26 ft LT	**ALIGNMENT** -Y6RPB-	**0 HR.** Dry
COLLAR ELEV. 760.2 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,400	**EASTING** 1,375,887	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
765										
760	759.2	1.0	8	5	8	13	SS-3008	32%		760.2 GROUND SURFACE 0.0
	756.7	3.5	3	3	5	8		M		**RESIDUAL** Stiff, Red-Brown, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(23))
755	754.2	6.0	3	4	5	9		M		757.2 3.0
	751.7	8.5	3	3	4	7		M		Medium Stiff to Stiff , Red-Tan-Black-Brown, Fine Sandy, Clayey SILT (A-5(15)), with manganese oxide staining
750	746.7	13.5	3	3	5	8	SS-3012	36%		
745	741.7	18.5	3	3	5	8		M		
740	736.7	23.5	3	6	8	14		M		
735	731.7	28.5	5	4	11	15		M		730.2 30.0
										Boring Terminated at Elevation 730.2 ft In Residual Clayey SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL9_B-6	**STATION** 18+98	**OFFSET** 46 ft LT	**ALIGNMENT** -Y6RPB-	**0 HR.** 27.8
COLLAR ELEV. 757.5 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,466	**EASTING** 1,375,997	**24 HR.** 26.6
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
760										
	757.5	0.0								TOPSOIL = 8 INCHES
	756.5	1.0	7	9	14	23		M		**RESIDUAL** Very Stiff, Red-Brown, Fine Sandy, Silty CLAY (A-7-5(21))
755	754.0	3.5	6	9	12	21	SS-3001	32%		
	751.5	6.0	4	8	16	24		M		
750	749.0	8.5	34	23	22	45	SS-3003	2%		749.5 8.0 Dense, White, Fine to Coarse SAND (A-1-a), with some quartz fragments
	745.5	12.0								Soft to Medium Stiff, Tan-Red-Black, Fine Sandy SILT (A-4), manganese oxide staining
745	744.0	13.5	3	3	4	7		M		
740	739.0	18.5	2	3	4	7		M		
735	734.0	23.5	WOH	WOH	3	3		M		
730	729.0	28.5	3	3	5	8		M		727.5 30.0 Boring Terminated at Elevation 727.5 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL10_B-1	**STATION** 15+53	**OFFSET** 8 ft LT	**ALIGNMENT** -Y6RPC-	**0 HR.** 12.1
COLLAR ELEV. 735.8 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,108	**EASTING** 1,375,886	**24 HR.** 7.3
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
	735.8	0.0								GROUND SURFACE
735	734.8	1.0	3	3	3	6		M		**RESIDUAL** Medium Stiff to Stiff, Red-Purple-Orange, SILT (A-5), with trace sand, manganese oxide staining
	732.3	3.5	2	3	3	6		M		
730	729.8	6.0	2	2	3	5		M		
	727.3	8.5	3	2	4	6		M		
725	722.3	13.5	3	3	6	9		M		720.8 15.0 Boring Terminated at Elevation 720.8 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL10_B-2	**STATION** 16+50	**OFFSET** 11 ft LT	**ALIGNMENT** -Y6RPC-	**0 HR.** 11.2
COLLAR ELEV. 734.5 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,114	**EASTING** 1,375,984	**24 HR.** 4.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
735										734.5 GROUND SURFACE 0.0
	733.5	1.0	2	4	4	8		W		**RESIDUAL** Medium Stiff, Orange-Tan-Purple, SILT (A-5), with manganese oxide staining
730	731.0	3.5	3	3	3	6		W		
	728.5	6.0	2	3	4	7		W		
	726.0	8.5	2	3	4	7		W		
725										722.5 12.0
720	721.0	13.5	4	5	6	11		M		Stiff, Orange-Tan, Fine Sandy SILT (A-4), with manganese oxide staining
										719.5 15.0
										Boring Terminated at Elevation 719.5 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL10_B-3	**STATION** 17+51	**OFFSET** 6 ft RT	**ALIGNMENT** -Y6RPC-	**0 HR.** Dry
COLLAR ELEV. 736.2 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,095	**EASTING** 1,376,085	**24 HR.** 3.4
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										736.2 GROUND SURFACE 0.0
735	735.2	1.0	2	2	3	5		M		**RESIDUAL** Medium Stiff to Stiff, Orange-Tan, SILT (A-5), with manganese oxide staining
	732.7	3.5	3	3	3	6		M		
730	730.2	6.0	3	4	4	8		W		
	727.7	8.5	2	4	5	9		W		
725	722.7	13.5	2	4	5	9		M		721.2 15.0
										Boring Terminated at Elevation 721.2 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL10_B-4	**STATION** 18+46	**OFFSET** 5 ft RT	**ALIGNMENT** -Y6RPC-	**0 HR.** Dry
COLLAR ELEV. 730.4 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,090	**EASTING** 1,376,179	**24 HR.** 6.4
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735											
730										730.4 GROUND SURFACE	0.0
	729.4	1.0	2	2	5	7		M		**RESIDUAL** Medium Stiff, Orange-Tan, SILT (A-5), with manganese oxide staining	
	726.9	3.5	3	4	3	7		M			
725	724.4	6.0	3	2	4	6		M			
	721.9	8.5	2	2	4	6		W		720.4	10.0
										Boring Terminated at Elevation 720.4 ft In Residual SILT (A-5)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL10_B-5	**STATION** 19+48	**OFFSET** 2 ft RT	**ALIGNMENT** -Y6RPC-	**0 HR.** Dry
COLLAR ELEV. 730.7 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,082	**EASTING** 1,376,281	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735											
730										730.7 GROUND SURFACE	0.0
	729.7	1.0	3	4	5	9		M		**RESIDUAL** Stiff, Orange-Tan, SILT (A-5), manganese oxide staining	
	727.2	3.5	4	4	6	10		M			
725	724.7	6.0	4	4	5	9		M			
	722.2	8.5	4	5	5	10		M		720.7	10.0
										Boring Terminated at Elevation 720.7 ft In Residual SILT (A-5)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL10_B-6	**STATION** 20+48	**OFFSET** 15 ft RT	**ALIGNMENT** -Y6RPC-	**0 HR.** Dry
COLLAR ELEV. 730.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,058	**EASTING** 1,376,379	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
735										
										730.6 GROUND SURFACE 0.0
730	729.6	1.0	2	2	5	7		M		**ROADWAY EMBANKMENT** Medium Stiff, Orange-Tan, Clayey SILT (A-5), with trace gravel
	727.1	3.5	4	4	5	9		M		727.6 3.0 **RESIDUAL** Medium Stiff to Stiff, Orange-Tan, SILT (A-5)
725	724.6	6.0	3	4	4	8		M		
	722.1	8.5	3	4	5	9		M		720.6 10.0 Boring Terminated at Elevation 720.6 ft In Residual SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL10_B-7	**STATION** 21+55	**OFFSET** 17 ft RT	**ALIGNMENT** -Y6RPC-	**0 HR.** Dry
COLLAR ELEV. 729.6 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,046	**EASTING** 1,376,486	**24 HR.** 3.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										
	728.6	1.0	6	8	7	15	SS-2314	32%		729.6 GROUND SURFACE 0.0 **ROADWAY EMBANKMENT** Stiff, Red, Silty CLAY, Moderately Plastic, (A-7-5(17)), with trace gravel
725	726.1	3.5	4	3	5	8		D		726.6 3.0 **RESIDUAL** Medium Stiff to Stiff, Orange-Tan, SILT (A-5)
	723.6	6.0	4	3	5	8		D		
720	721.1	8.5	4	4	6	10		D		
	716.1	13.5	4	6	7	13		D		714.6 15.0 Boring Terminated at Elevation 714.6 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL10_B-8	**STATION** 22+44	**OFFSET** 24 ft RT	**ALIGNMENT** -Y6RPC-	**0 HR.** Dry
COLLAR ELEV. 728.5 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,039	**EASTING** 1,376,578	**24 HR.** 11.8
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										ELEV. (ft) DEPTH (ft)
										728.5 GROUND SURFACE 0.0
	727.5	1.0								**ROADWAY EMBANKMENT**
			2	2	3	5				Medium Stiff, Red, Silty CLAY, Moderately Plastic, (A-7-5(20))
725	725.0	3.5					SS-2319	31%		725.5 3.0
			3	4	5	9		M		**RESIDUAL**
	722.5	6.0								Stiff, Orange-Tan, SILT (A-5)
			3	4	5	9		M		
720	720.0	8.5								
			4	4	5	9		M		
										716.5 12.0
715	715.0	13.5								Stiff, Pink-Tan, Fine Sandy SILT (A-4)
			5	6	5	11		M		713.5 15.0
										Boring Terminated at Elevation 713.5 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. RWAL10_B-9	**STATION** 23+50	**OFFSET** 28 ft RT	**ALIGNMENT** -Y6RPC-	**0 HR.** Dry
COLLAR ELEV. 728.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,053	**EASTING** 1,376,687	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										
										728.3 GROUND SURFACE 0.0
	727.3	1.0								**RESIDUAL**
			3	5	6	11		M		Medium Stiff to Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(24))
725	724.8	3.5								
			3	4	5	9	SS-4226	35%		
	722.3	6.0								
			2	3	5	8		M		720.3 8.0
720	719.8	8.5								Stiff, Orange-Gray-Brown, SILT (A-4)
			2	5	10	15		D		718.3 10.0
										Boring Terminated at Elevation 718.3 ft In Residual SILT (A-4)

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GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6RPC_1350R	**STATION** 13+50	**OFFSET** 39 ft RT	**ALIGNMENT** -Y6RPC-	**0 HR.** 15.0
COLLAR ELEV. 738.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,039	**EASTING** 1,375,691	**24 HR.** 12.2
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/26/23	**COMP. DATE** 05/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										ELEV. (ft) DEPTH (ft)
	737.6	1.0								738.6 GROUND SURFACE 0.0
			4	4	4	8		M		**RESIDUAL** Medium Stiff to Stiff, Red-Tan-Black, Fine Sandy SILT (A-4), manganese oxide staining
735	735.1	3.5	3	5	6	11		M		
	732.6	6.0								733.1 5.5
			3	4	4	8	SS-3268	55%		Medium Stiff, Red-Tan-Black, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(31))
730	730.1	8.5								730.6 8.0
			3	5	5	10		M		Medium Stiff, Red-Tan-Black, Fine Sandy SILT (A-4), with manganese oxide staining
725	725.1	13.5								
			2	3	5	8		M		
720	720.1	18.5								721.6 17.0
			3	6	10	16		M		Medium Dense, Red-Tan-Black, Silty SAND (A-2-4), with manganese oxide staining
715	715.1	23.5								716.6 22.0
			4	5	5	10		M		Stiff, Tan-Black, Sandy SILT (A-4), manganese oxide staining
										713.6 25.0
										Boring Terminated at Elevation 713.6 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6RPC_2500L	**STATION** 25+00	**OFFSET** 43 ft LT	**ALIGNMENT** -Y6RPC-	**0 HR.** Dry
COLLAR ELEV. 729.7 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,173	**EASTING** 1,376,799	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/19/23	**COMP. DATE** 05/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										
	728.7	1.0								729.7 GROUND SURFACE 0.0
			3	4	6	10	SS-4220	31%		**RESIDUAL** Medium Stiff to Stiff, Silty CLAY, Moderately Plastic, (A-7-5(24)), manganese oxide staining
	726.2	3.5								
725			2	4	4	8	SS-4221	37%		
	723.7	6.0								
			2	4	8	12		M		
	721.2	8.5								721.7 8.0
720			6	6	8	14		D		Stiff, Gray-Brown-Orange, Fine Sandy Silt (A-4)
	716.2	13.5								
715			7	6	8	14		M		714.7 15.0
										Boring Terminated at Elevation 714.7 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6RPD_1310L	**STATION** 13+10	**OFFSET** 23 ft LT	**ALIGNMENT** -Y6RPD-	**0 HR.** Dry
COLLAR ELEV. 679.6 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,577	**EASTING** 1,377,680	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
680										ELEV. (ft) 679.6 GROUND SURFACE DEPTH (ft) 0.0
	677.6	2.0	3	2	4	6				**RESIDUAL** Medium Stiff to Stiff, Red-Brown CLAY, Moderately Plastic, (A-7-5(28))
	676.1	3.5	4	3	5	8	SS-4193	33%		
675								M		
	673.6	6.0	3	4	6	10		M		
	671.1	8.5	2	4	4	8		M		671.6 8.0 Medium Stiff, Red-Brown, Silty CLAY (A-6)
670										667.6 12.0 Medium Stiff, Orange-Gray-White-Brown, SILT (A-4), with manganese oxide staining
	666.1	13.5	2	2	4	6		M		664.6 15.0 Boring Terminated at Elevation 664.6 ft In Residual SILT (A-4)
665										

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6RPD_1550	**STATION** 15+50	**OFFSET** CL	**ALIGNMENT** -Y6RPD-	**0 HR.** Dry
COLLAR ELEV. 694.4 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,531	**EASTING** 1,377,446	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
695										ELEV. (ft) 694.4 GROUND SURFACE DEPTH (ft) 0.0
	693.4	1.0	4	4	4	8				**RESIDUAL** Medium Stiff, Red-Orange-Brown, Silty CLAY, Moderately Plastic, (A-7-6(21))
	690.9	3.5	3	3	5	8	SS-4189	26%		
690								M		
	688.4	6.0	3	3	5	8		M		
	685.9	8.5	3	3	4	7		M		686.4 8.0 Medium Stiff, Orange-Brown, SILT (A-4)
685										684.4 10.0 Boring Terminated at Elevation 684.4 ft In Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6RPD_1800L	**STATION** 18+00	**OFFSET** 46 ft LT	**ALIGNMENT** -Y6RPD-	**0 HR.** Dry
COLLAR ELEV. 709.3 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,387	**EASTING** 1,377,244	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
710										709.3 GROUND SURFACE 0.0
	708.3	1.0	5	5	8	13		D		**RESIDUAL** Stiff, Red-Brown, SILT (A-4), manganese oxide staining
	705.8	3.5								706.3 3.0
705			3	3	4	7	SS-4185	21%		Medium Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(24))
	703.3	6.0	3	3	5	8		M		703.8 5.5
700	700.8	8.5	2	4	5	9		M		Medium Stiff to Stiff, Red-Brown, SILT (A-4), with manganese oxide staining
	695.8	13.5	4	5	8	13		M		694.3 15.0
695										Boring Terminated at Elevation 694.3 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6RPD_2050R	**STATION** 20+50	**OFFSET** 25 ft RT	**ALIGNMENT** -Y6RPD-	**0 HR.** Dry
COLLAR ELEV. 722.2 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,301	**EASTING** 1,377,001	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										722.2 GROUND SURFACE 0.0
	721.2	1.0	7	5	6	11		M		**RESIDUAL** Stiff to Very Stiff, Orange-Red-Brown-Blue-Gray, Sandy SILT (A-4), with some gravel-sized rock fragments, manganese oxide staining
720	718.7	3.5	4	3	7	10		M		
	716.2	6.0	8	6	8	14		M		
715	713.7	8.5	6	8	9	17		M		712.2 10.0
										Boring Terminated at Elevation 712.2 ft In Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_2068L	**STATION** 20+68	**OFFSET** 49 ft LT	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 732.1 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,433	**EASTING** 1,390,717	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										ELEV. (ft) DEPTH (ft)
										732.1 GROUND SURFACE 0.0
	731.1	1.0								**RESIDUAL**
730			3	5	6	11	SS-4040	27%		Stiff to Very Stiff, Red-Brown, Fine to Coarse Sandy, Silty CLAY, Moderately Plastic, (A-7-5(17)), with trace organics
	728.6	3.5								729.1 3.0
			3	7	10	17	SS-4041	25%		Very Stiff, Orange-Brown, Fine to Coarse Sandy, Clayey SILT (A-5(1))
	726.1	6.0								
725			6	7	12	19		M		
	723.6	8.5								
			4	7	9	16		M		722.1 10.0
										Boring Terminated at Elevation 722.1 ft In Residual Clayey SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_2300L	**STATION** 23+00	**OFFSET** 29 ft LT	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 738.1 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,288	**EASTING** 1,390,536	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
										738.1 GROUND SURFACE 0.0
	737.1	1.0								**RESIDUAL**
735			4	5	9	14		M		Stiff to Very Stiff, Red-Brown-Orange-Purple, Silty CLAY, Moderately Plastic, (A-7-6(23))
	734.6	3.5								
			7	10	12	22	SS-4045	31%		
	731.6	6.5								
730			5	7	10	17		M		
	729.6	8.5								
			5	6	11	17		M		728.1 10.0
										Boring Terminated at Elevation 728.1 ft In Residual CLAY (A-7-6)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_2500L	**STATION** 25+00	**OFFSET** 25 ft LT	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 734.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,159	**EASTING** 1,390,376	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
735										734.9 GROUND SURFACE 0.0
	733.9	1.0	2	4	8	12	SS-4048	33%		**RESIDUAL** Stiff to Very Stiff, Red-Brown, Silty CLAY, Highly Plastic, (A-7-5(31))
730	731.4	3.5	6	8	12	20		M		
	728.4	6.5	4	5	8	13		M		726.9 8.0
	726.4	8.5								Stiff, Orange-Brown, Fine Sandy SILT (A-4)
725			3	5	6	11		M		724.9 10.0
										Boring Terminated at Elevation 724.9 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_2700	**STATION** 27+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 729.7 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,171	**EASTING** 1,390,167	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										729.7 GROUND SURFACE 0.0
	728.7	1.0	3	5	11	16		M		**RESIDUAL**
										727.7 Very Stiff, Red-Brown, CLAY (A-7) 2.0
	726.2	3.5	5	8	12	20	SS-4034	20%		Stiff to Very Stiff, Orange-Purple-Brown, Clayey, Fine to Coarse Sandy SILT (A-5 (2)), manganese oxide staining
725										
	723.7	6.0	5	7	12	19		M		
	721.2	8.5								
720			4	9	11	20		M		
	716.2	13.5								
715			5	6	7	13		M		
	711.2	18.5								
710			4	7	11	18		M		
	706.2	23.5								
705			3	4	6	10		M		704.7 25.0
										Boring Terminated at Elevation 704.7 ft In Residual Sandy SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_2950	**STATION** 29+50	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 731.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 557,087	**EASTING** 1,389,935	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
735										
										731.6 GROUND SURFACE 0.0
730	730.6	1.0	3	5	9	14				**RESIDUAL** Stiff, Red-Brown, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(22))
	728.1	3.5	5	6	7	13	SS-4026	27%		728.6 3.0
725	725.6	6.0	3	7	9	16		M		Stiff to Very Stiff, Orange-Brown-Purple, Fine Sandy, Clayey SILT (A-5(9)), manganese oxide staining
	723.1	8.5	3	6	8	14		M		
720							SS-4029	26%		
	718.1	13.5	5	8	11	19		M		
715										
	713.1	18.5	5	6	11	17		M		
710										
	708.1	23.5	3	4	8	12		M		706.6 25.0
										Boring Terminated at Elevation 706.6 ft In Residual SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_3200	**STATION** 32+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 714.7 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 556,977	**EASTING** 1,389,710	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										
										714.7 GROUND SURFACE 0.0
	713.7	1.0	4	5	7	12		M		**RESIDUAL** Soft to Very Stiff, Yellow-Red-Brown, Silty CLAY (A-7-5(22))
710	711.2	3.5	4	4	12	16	SS-4022	31%		
	708.7	6.0	3	4	10	14		M		
705	706.2	8.5	5	5	9	14		M		
	701.2	13.5	2	2	2	4		W		699.7 15.0
700										Boring Terminated at Elevation 699.7 ft In Residual CLAY (A-7-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_3450	**STATION** 34+50	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 709.2 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,857	**EASTING** 1,389,491	**24 HR.** 20.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
710										709.2 GROUND SURFACE	0.0
	708.2	1.0	3	4	7	11		M		**RESIDUAL** Stiff, Red-Brown, CLAY (A-7), with trace organics	
705	705.7	3.5	3	6	7	13	SS-4015	32%		706.2 Soft to Stiff, Red-Orange-Brown-Gray-White, SILT (A-4), with trace mica	3.0
	703.2	6.0	3	4	6	10		M			
700	700.7	8.5	3	3	4	7		M			
695	695.7	13.5	3	3	5	8	SS-4018	32%			
690	690.7	18.5	2	3	3	6		M			
685	685.7	23.5	2	1	3	4		M		684.2 Boring Terminated at Elevation 684.2 ft In Residual Sandy SILT (A-4)	25.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_3700	**STATION** 37+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 706.9 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 556,694	**EASTING** 1,389,306	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
710										
	705.9	1.0	3	10	13	23		D		706.9 GROUND SURFACE 0.0
705	703.4	3.5	9	16	19	35	SS-4063	24%		**RESIDUAL** Very Stiff to Hard, Red-Brown, Silty CLAY, Highly Plastic, (A-7-5(28)), with manganese oxide staining
	700.9	6.0	9	16	24	40		D		
700	698.4	8.5	9	14	20	34		D		
695	693.4	13.5	5	9	12	21		M		695.9 Very Stiff, Gray, Sandy CLAY (A-7) 11.0
690	688.4	18.5	2	3	4	7		M		690.9 Medium Stiff, Gray-White-Black, SILT (A-4) 16.0
										686.9 Boring Terminated at Elevation 686.9 ft In Residual SILT (A-4) 20.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_3950	**STATION** 39+50	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 707.5 ft	**TOTAL DEPTH** 24.1 ft	**NORTHING** 556,507	**EASTING** 1,389,139	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
710											
										707.5	0.0
										GROUND SURFACE	
	706.5	1.0								**RESIDUAL**	
705			5	3	8	11	SS-4000	46%		Stiff, Red-Brown, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-6(12)), with manganese oxide staining	
	704.0	3.5								704.5	3.0
			7	9	16	25				Very Stiff, Red-Brown, SILT (A-4), with trace sand, manganese oxide staining	
	701.5	6.0									
700			7	8	12	20					
	699.0	8.5								699.5	8.0
			7	15	16	31				Hard, Yellow-Brown-Black-White, Fine Sandy SILT (A-4)	
695										695.5	12.0
	694.0	13.5								**WEATHERED ROCK**	
			31	41	59/0.3	100/0.8				Gray-Brown-White, (GRANODIORITE)	
690										690.5	17.0
	689.0	18.5								**RESIDUAL**	
			27	46	35	81				Hard, Gray-Orange-Brown, SILT (A-4), with manganese oxide staining	
685										686.5	21.0
	684.0	23.5								**WEATHERED ROCK**	
			90	10/0.1		100/0.6				Gray-Brown-White, (GRANODIORITE)	
										683.4	24.1
										Boring Terminated at Elevation 683.4 ft In Weathered Rock (GRANODIORITE)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_4200	**STATION** 42+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** 12.0
COLLAR ELEV. 675.7 ft	**TOTAL DEPTH** 16.2 ft	**NORTHING** 556,311	**EASTING** 1,388,986	**24 HR.** 9.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/08/23	**COMP. DATE** 05/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
680										
										675.7 TOPSOIL = 5 INCHES 0.0
675	674.7	1.0								**RESIDUAL**
			4	6	8	14	SS-302	16%		Medium Dense, Orange-Brown-Gray, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-6(5))
	672.2	3.5								
			4	6	7	13		M		670.2 5.5
670	669.7	6.0								
			9	10	19	29		M		Medium Dense, Black-Orange-White-Tan-Brown, Silty Fine to Coarse SAND (A-2-4)
	667.2	8.5								
			10	9	10	19		M		
665										
	662.2	13.5								
			7	3	4	7		W		659.7 16.0
660	659.5	16.2								659.5 **CRYSTALLINE ROCK** 16.2
			60/0.0			60/0.0				Black-Orange-White, (GRANODIORITE)
										Boring Terminated with Standard Penetration Test Refusal at Elevation 659.5 ft On Crystalline Rock (GRANODIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_4450	**STATION** 44+50	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 684.3 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,091	**EASTING** 1,388,867	**24 HR.** 10.3
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
685										684.3 TOPSOIL = 4 INCHES 0.0
	683.3	1.0	3	4	5	9		M		**RESIDUAL** Stiff, Orange-Tan, SILT (A-5)
680	680.8	3.5	3	4	7	11		M		
	678.3	6.0	6	5	5	10		M		678.8 5.5
675	675.8	8.5	4	6	7	13		D		Stiff, Orange-Tan, Fine Sandy SILT (A-4), with trace mica
670	670.8	13.5	5	6	7	13		D		
665	665.8	18.5	5	8	6	14		M		
660	660.8	23.5	5	6	7	13		M		659.3 25.0 Boring Terminated at Elevation 659.3 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_4700	**STATION** 47+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 706.0 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 555,854	**EASTING** 1,388,788	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
710										706.0 TOPSOIL = 3 INCHES 0.0
705	705.0	1.0	4	8	12	20	SS-2065	27%		**RESIDUAL** Very Stiff, Red-Brown, Silty CLAY, Highly Plastic, (A-7-5(29))
	702.5	3.5	4	9	14	23		M		
700	700.0	6.0	6	7	10	17		M		698.5 7.5
	697.5	8.5	3	4	6	10		M		Stiff to Very Stiff, Orange-Tan, SILT (A-4), with manganese oxide staining
695	692.5	13.5	4	4	6	10		M		
690	687.5	18.5	6	7	11	18		M		
685	682.5	23.5	5	7	8	15		M		681.0 25.0 Boring Terminated at Elevation 681.0 ft In Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_5300L	**STATION** 53+00	**OFFSET** 35 ft LT	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 706.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 555,264	**EASTING** 1,388,803	**24 HR.** 19.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/04/23	**COMP. DATE** 05/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
710											
										706.6	0.0
										TOPSOIL = 5 INCHES	
705	705.6	1.0	2	3	3	6		M		**RESIDUAL** Medium Stiff, Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
	703.1	3.5	3	3	4	7		M			
700	700.6	6.0	2	4	4	8		M			
	698.1	8.5	2	3	5	8		M			
695											
	693.1	13.5	3	3	4	7		M			
690										689.6	17.0
	688.1	18.5	2	2	3	5		M		Medium Stiff, Tan, SILT (A-5), with trace mica	
685											
	683.1	23.5	2	3	3	6		M		681.6	25.0
										Boring Terminated at Elevation 681.6 ft In Residual Sandy SILT (A-5)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_5550R	**STATION** 55+50	**OFFSET** 26 ft RT	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 709.0 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 555,008	**EASTING** 1,388,807	**24 HR.** 17.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/04/23	**COMP. DATE** 05/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
710										
										709.0 GROUND SURFACE 0.0
	708.0	1.0	2	2	3	5		M		**RESIDUAL** Medium Stiff to Stiff, Black-Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
705	705.5	3.5	1	3	4	7		M		
	703.0	6.0	2	2	6	8		M		
700	700.5	8.5	3	3	5	8		M		
695	695.5	13.5	4	6	9	15		M		
										692.0 17.0
690	690.5	18.5	2	3	7	10		M		Stiff, Black-Orange-Tan, Fine Sandy SILT (A-5), with trace mica, manganese oxide staining
685	685.5	23.5	3	5	7	12		M		684.0 25.0
										Boring Terminated at Elevation 684.0 ft In Residual Sandy SILT (A-5)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_5800L	**STATION** 58+00	**OFFSET** 100 ft LT	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 738.6 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 554,838	**EASTING** 1,389,021	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
740										738.6 TOPSOIL = 3 INCHES	0.0
	737.6	1.0	3	4	6	10		M		**RESIDUAL** Medium Stiff to Stiff, Orange-Tan-Red-Black, Clayey, Fine to Coarse Sandy SILT (A-5(3))	
735	735.1	3.5	3	4	6	10	SS-129	22%			
	732.6	6.0	3	3	4	7		M			
730	730.1	8.5	3	3	5	8		M			
725	725.1	13.5	3	4	5	9		M			
720	720.1	18.5	3	5	7	12	SS-133	23%		720.6 Medium Stiff to Stiff, Black-Orange-Tan-Red, Fine to Coarse Sandy SILT (A-4(0)), with trace mica, manganese oxide staining	18.0
715	715.1	23.5	3	4	6	10		M			
710	710.1	28.5	3	5	6	11		M		708.6 Boring Terminated at Elevation 708.6 ft In Residual Sandy SILT (A-4)	30.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_6000L	**STATION** 60+00	**OFFSET** 22 ft LT	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 738.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 554,635	**EASTING** 1,389,061	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										738.1 TOPSOIL = 2 INCHES 0.0
	737.1	1.0	3	4	8	12	SS-121	33%		**ARTIFICIAL FILL** Stiff, Brown-Red, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(23)) 735.1 3.0
735	734.6	3.5	4	4	5	9		M		**RESIDUAL** Medium Stiff to Stiff, Black-Orange-Tan-Red, Fine Sandy SILT (A-4), manganese oxide staining
	732.1	6.0	3	3	4	7		M		
730	729.6	8.5	3	3	3	6		M		
725	724.6	13.5	3	2	3	5		M		
720	719.6	18.5	1	3	5	8		M		
715	714.6	23.5	2	3	4	7		M		713.1 Boring Terminated at Elevation 713.1 ft In Residual Sandy SILT (A-4) 25.0

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_6200	**STATION** 62+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 734.7 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 554,471	**EASTING** 1,389,174	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										ELEV. (ft) DEPTH (ft)
										734.7 TOPSOIL = 3 INCHES 0.0
	733.7	1.0	1	3	6	9	SS-116	25%		**ARTIFICIAL FILL** Medium Stiff to Stiff , Brown-Red, Fine Sandy, Silty CLAY (A-7-6(9))
730	731.2	3.5	1	4	2	6		M		729.2 5.5
	728.7	6.0	3	5	6	11		M		**RESIDUAL** Stiff, Tan-Red-Brown, Fine Sandy SILT (A-4)
725	726.2	8.5	4	3	6	9		M		
	721.2	13.5	2	4	6	10		M		719.7 15.0
720										Boring Terminated at Elevation 719.7 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_6400	**STATION** 64+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 730.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,328	**EASTING** 1,389,315	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										
										730.9 GROUND SURFACE 0.0
	729.9	1.0	8	3	7	10		D		**RESIDUAL** Stiff, Red-Brown, SILT (A-4), manganese oxide staining
730	727.4	3.5	4	4	5	9		D		
	724.9	6.0	3	5	5	10		D		
725	722.4	8.5	2	5	7	12		D		720.9 10.0
										Boring Terminated at Elevation 720.9 ft In Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_6600	**STATION** 66+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 727.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,186	**EASTING** 1,389,455	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
730										
										727.6 GROUND SURFACE 0.0
	726.6	1.0	3	7	8	15	SS-4114	26%		**RESIDUAL** Stiff, Red-Brown, Silty CLAY, Highly Plastic, (A-7-5(30)), manganese oxide staining
725	724.1	3.5	4	5	6	11		D		724.6 3.0 Medium Stiff to Stiff, Red-Brown, SILT (A-4), manganese oxide staining
	721.6	6.0	3	3	4	7		D		
720	719.1	8.5	2	3	5	8		D		717.6 10.0 Boring Terminated at Elevation 717.6 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_6800	**STATION** 68+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 728.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,044	**EASTING** 1,389,595	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										
										728.3 GROUND SURFACE 0.0
	727.3	1.0	2	3	3	6	SS-4118	27%		**RESIDUAL** Medium Stiff to Very Stiff, Yellow-Red-Brown, Sandy CLAY, Moderately Plastic, (A-7-5(10)), manganese oxide staining
725	724.8	3.5	2	3	3	6		M		
	722.3	6.0	3	3	6	9		M		
720	719.8	8.5	3	6	10	16		M		718.3 10.0 Boring Terminated at Elevation 718.3 ft In Residual CLAY (A-7-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_7000	**STATION** 70+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 731.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 553,901	**EASTING** 1,389,736	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										ELEV. (ft) DEPTH (ft)
										731.9 GROUND SURFACE 0.0
	730.9	1.0								**RESIDUAL**
730	728.4	3.5	5	5	4	9	SS-4122	19%		Stiff, Red-Brown, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-6(12))
			4	7	10	17		D		728.9 3.0
	725.9	6.0	6	8	10	18		D		Stiff to Very Stiff, Red-Brown, SILT (A-4)
725	723.4	8.5	4	5	7	12		D		721.9 10.0
										Boring Terminated at Elevation 721.9 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_7200	**STATION** 72+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 736.6 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 553,759	**EASTING** 1,389,876	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
										736.6 GROUND SURFACE 0.0
	735.6	1.0								**RESIDUAL**
735	733.1	3.5	3	5	5	10	SS-4126	33%		Stiff, Red-Brown, Silty CLAY, Highly Plastic, (A-7-6(27))
			3	4	6	10		M		731.1 5.5
	730.6	6.0	3	4	6	10		D		Stiff, Red-Brown, SILT (A-4)
730	728.1	8.5	2	4	5	9		D		726.6 10.0
										Boring Terminated at Elevation 726.6 ft In Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_7400	**STATION** 74+00	**OFFSET** CL	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 738.7 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 553,615	**EASTING** 1,390,015	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										ELEV. (ft) 738.7 GROUND SURFACE DEPTH (ft) 0.0
	737.7	1.0						M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown, SILT (A-4), with manganese oxide staining
735	735.2	3.5	17	6	3	9		M		
	732.7	6.0	2	3	5	8		M		
730	730.2	8.5	2	2	3	5		M		728.7 10.0 Boring Terminated at Elevation 728.7 ft In Residual SILT (A-4)
			2	2	3	5				

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_7600	**STATION** 76+00	**OFFSET** 5 ft RT	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 735.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 553,439	**EASTING** 1,390,105	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
	734.8	1.0	1	2	5	7		M		735.8 GROUND SURFACE 0.0 **RESIDUAL** Medium Stiff, Red-Brown, CLAY (A-7)
735	732.3	3.5	2	4	4	8		M		732.8 3.0 Medium Stiff, Yellow-Red-Brown, SILT (A-4), manganese oxide staining
	729.8	6.0	2	2	3	5		M		
730	727.3	8.5	2	2	3	5		M		725.8 10.0 Boring Terminated at Elevation 725.8 ft In Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7_7750R	**STATION** 77+50	**OFFSET** 25 ft RT	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 734.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 553,291	**EASTING** 1,390,110	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/16/23	**COMP. DATE** 05/16/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
735										734.8 GROUND SURFACE 0.0
	733.8	1.0	4	5	4	9	SS-4135	23%		**RESIDUAL** Stiff, Red-Brown, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-6(14))
	731.3	3.5								
730			1	4	5	9		M		
	728.8	6.0								729.3 5.5
			2	4	5	9		D		Medium Stiff to Stiff, Yellow-Brown, SILT (A-4)
	726.3	8.5								
725			2	3	4	7		D		724.8 10.0
										Boring Terminated at Elevation 724.8 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7E_1150	**STATION** 11+50	**OFFSET** CL	**ALIGNMENT** -Y7E-	**0 HR.** Dry
COLLAR ELEV. 696.6 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 556,397	**EASTING** 1,389,544	**24 HR.** 10.1
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										696.6 GROUND SURFACE 0.0
700										
	695.6	1.0								**RESIDUAL** Medium Stiff to Stiff, Gray-Orange-Brown-Blue-Black-White, Sandy CLAY (A-7)
695			1	3	3	6		M		
	693.1	3.5	1	3	2	5		M		
	690.6	6.0								
690			3	4	6	10		M		
	688.1	8.5	3	3	6	9		M		
685										
	683.1	13.5	2	3	3	6		M		681.6 15.0
										Boring Terminated at Elevation 681.6 ft In Residual CLAY (A-7)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7E_1400	**STATION** 14+00	**OFFSET** CL	**ALIGNMENT** -Y7E-	**0 HR.** Dry
COLLAR ELEV. 708.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,618	**EASTING** 1,389,437	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
710										708.6 GROUND SURFACE	0.0
	707.6	1.0								**RESIDUAL** Stiff, Red-Brown, Fine to Coarse Sandy CLAY, Highly Plastic, (A-7-5(25))	
705	705.1	3.5	2	4	5	9	SS-4007	26% M			
	702.6	6.0	2	5	10	15				703.1	5.5
700	700.1	8.5	5	10	11	21	SS-4009	35% M		Very Stiff, Red-Brown, Fine to Coarse Sandy, Silty CLAY (A-7-5(13)), with trace mica	
			3	5	6	11				700.6 Medium Stiff to Stiff, Orange-Gray-Brown, SILT (A-4), with trace mica, manganese oxide staining	8.0
695	695.1	13.5									
			2	3	4	7		M			
690	690.1	18.5	2	4	4	8		M			
685	685.1	23.5									
			3	4	4	8		M		683.6 Boring Terminated at Elevation 683.6 ft In Residual SILT (A-4)	25.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7H_1150	**STATION** 11+50	**OFFSET** CL	**ALIGNMENT** -Y7H-	**0 HR.** Dry
COLLAR ELEV. 735.0 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,022	**EASTING** 1,390,475	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
735										735.0 GROUND SURFACE	0.0
	734.0	1.0								**RESIDUAL** Medium Stiff, Red-Brown, CLAY (A-7)	
	731.5	3.5	3	3	3	6		M		732.0	3.0
730	729.0	6.0	9	10	18	28		M		Stiff to Very Stiff, Purple-Red-Brown, SILT (A-4), with manganese oxide staining	
	726.5	8.5	4	9	10	19		M			
725			4	7	8	15		M			
	721.5	13.5									
720			4	5	9	14		M		720.0 Boring Terminated at Elevation 720.0 ft In Residual SILT (A-4)	15.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7H_1400	**STATION** 14+00	**OFFSET** CL	**ALIGNMENT** -Y7H-	**0 HR.** Dry
COLLAR ELEV. 732.7 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 556,969	**EASTING** 1,390,264	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										ELEV. (ft) DEPTH (ft)
										732.7 GROUND SURFACE 0.0
	731.7	1.0	3	5	7	12		M		**RESIDUAL** Stiff, Red-Brown-Purple, SILT (A-4), with trace mica, manganese oxide staining
730	729.2	3.5	2	5	7	12	SS-4058	28%		
	726.7	6.0	3	5	6	11		M		
725	724.2	8.5	3	4	6	10		M		
720	719.2	13.5	3	5	6	11		M		717.7 15.0 Boring Terminated at Elevation 717.7 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7LPD_1300	**STATION** 13+00	**OFFSET** CL	**ALIGNMENT** -Y7LPD-	**0 HR.** Dry
COLLAR ELEV. 738.3 ft	**TOTAL DEPTH** 40.0 ft	**NORTHING** 555,162	**EASTING** 1,389,150	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/02/23	**COMP. DATE** 05/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										ELEV. (ft) DEPTH (ft)
										738.3 TOPSOIL = 4 INCHES 0.0
	737.3	1.0	2	4	6	10		M		**RESIDUAL** Stiff , Red-Brown, Fine Sandy, Silty CLAY (A-7-5(8))
735	734.8	3.5	2	3	7	10	SS-141	24%		
	732.3	6.0	3	4	5	9		M		732.8 5.5 Medium Stiff to Stiff, White-Black-Orange-Tan-Red, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
730	729.8	8.5	2	4	7	11		M		
725	724.8	13.5	3	5	5	10		M		
720	719.8	18.5	4	4	4	8		M		
715	714.8	23.5	4	3	5	8		M		
710	709.8	28.5	3	5	9	14		M		
705	704.8	33.5	4	4	6	10		M		
700	699.8	38.5	2	4	5	9		M		698.3 40.0 Boring Terminated at Elevation 698.3 ft In Residual Sandy SILT (A-4)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPA_1500	**STATION** 15+00	**OFFSET** CL	**ALIGNMENT** -Y7RPA-	**0 HR.** Dry
COLLAR ELEV. 716.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,180	**EASTING** 1,389,596	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/21/23	**COMP. DATE** 04/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										ELEV. (ft) DEPTH (ft)
										716.3 GROUND SURFACE 0.0
715	715.3	1.0	5	4	5	9 13	SS-2041	30%		**ROADWAY EMBANKMENT** Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(19)), with trace mica
	712.8	3.5	4	5	8			M		
710	710.3	6.0	3	3	5	8 6		M		710.8 5.5 **RESIDUAL** Medium Stiff, Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
	707.8	8.5	2	2	4			M		706.3 10.0 Boring Terminated at Elevation 706.3 ft In Residual Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPA_1767	**STATION** 17+67	**OFFSET** CL	**ALIGNMENT** -Y7RPA-	**0 HR.** Dry
COLLAR ELEV. 712.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,370	**EASTING** 1,389,409	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										
										712.8 TOPSOIL = 2 INCHES 0.0
	711.8	1.0	3	3	6	9	SS-2049	26%		**ROADWAY EMBANKMENT** Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(11)) 709.8 3.0
710	709.3	3.5	3	6	9	15		M		**RESIDUAL** Stiff, Orange, Silty CLAY (A-7) 707.3 5.5
	706.8	6.0	3	4	6	10		M		Stiff, Orange-Tan, SILT (A-5), manganese oxide staining
705	704.3	8.5	2	4	5	9		M		702.8 10.0 Boring Terminated at Elevation 702.8 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPA_2000	**STATION** 20+00	**OFFSET** CL	**ALIGNMENT** -Y7RPA-	**0 HR.** Dry
COLLAR ELEV. 713.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,536	**EASTING** 1,389,245	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
715										ELEV. (ft) DEPTH (ft)
	712.8	1.0								713.8 GRAVEL = 3 INCHES 0.0
			11	6	7	13		M		**RESIDUAL** Stiff, Orange-Tan, Fine Sandy SILT (A-4), with trace mica
710	710.3	3.5	4	5	5	10		D		
	707.8	6.0	2	2	4	6		M		708.3 5.5 Medium Stiff, Orange-Tan, SILT (A-5), manganese oxide staining
705	705.3	8.5	2	2	4	6		M		703.8 10.0 Boring Terminated at Elevation 703.8 ft In Residual SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPA_2250	**STATION** 22+50	**OFFSET** CL	**ALIGNMENT** -Y7RPA-	**0 HR.** Dry
COLLAR ELEV. 719.3 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 555,691	**EASTING** 1,389,049	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										
	718.3	1.0								719.3 TOPSOIL = 2 INCHES 0.0
			8	8	12	20	SS-2086	29%		**RESIDUAL** Very Stiff, Red, Silty CLAY, Highly Plastic, (A-7-5(30)), with trace organics
715	715.8	3.5	7	12	13	25		M		
	713.3	6.0	5	5	8	13		M		713.8 5.5 Stiff, Tan-Orange, SILT (A-5)
710	710.8	8.5	5	6	7	13		M		
	705.8	13.5	4	5	6	11		M		704.3 15.0 Boring Terminated at Elevation 704.3 ft In Residual SILT (A-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPB_1700	**STATION** 17+00	**OFFSET** CL	**ALIGNMENT** -Y7RPB-	**0 HR.** 15.8
COLLAR ELEV. 657.5 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 556,414	**EASTING** 1,387,628	**24 HR.** 5.4
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/04/23	**COMP. DATE** 05/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
660										657.5	0.0
	656.5	1.0	2	3	6	9	SS-4085	33%		GROUND SURFACE **RESIDUAL** Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(20))	
655	654.0	3.5	5	5	6	11		M		654.5 Stiff, Orange-Brown, SILT (A-4), manganese oxide staining	3.0
	651.5	6.0	3	4	5	9		M			
650	649.0	8.5	4	4	6	10		M			
645	644.0	13.5	8	13	12	25		M		645.5 Very Stiff, Orange-Gray-Brown, Coarse Sandy SILT (A-4), with trace gravel-sized rock fragments	12.0
640	639.0	18.5	21	17	13	30		Sat.		637.5 Boring Terminated at Elevation 637.5 ft In Residual Sandy SILT (A-4)	20.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPB_1950	**STATION** 19+38	**OFFSET** CL	**ALIGNMENT** -Y7RPB-	**0 HR.** Dry
COLLAR ELEV. 669.8 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 556,336	**EASTING** 1,387,853	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/04/23	**COMP. DATE** 05/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
670										669.8 GROUND SURFACE	0.0
	668.8	1.0	2	4	4	8	SS-4098	36%		**RESIDUAL** Medium Stiff, Red-Brown, Silty CLAY, Moderately Plastic, (A-7-5(14)), with trace mica	
665	666.3	3.5	3	4	4	8		M		666.8 Medium Stiff to Very Stiff, Red-Brown-Yellow-Gray-White, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	3.0
	663.8	6.0	5	8	14	22		M			
660	661.3	8.5	4	8	9	17		M			
655	656.3	13.5	3	3	6	9		M		654.8 Boring Terminated at Elevation 654.8 ft In Residual Sandy SILT (A-4)	15.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPB_2200	**STATION** 22+00	**OFFSET** CL	**ALIGNMENT** -Y7RPB-	**0 HR.** 14.0
COLLAR ELEV. 649.2 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,241	**EASTING** 1,388,097	**24 HR.** 4.5
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/04/23	**COMP. DATE** 05/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
650										649.2 GROUND SURFACE	0.0
	648.2	1.0	5	4	2	6		M		**RESIDUAL** Soft to Stiff, Red-Orange-Brown, Sandy CLAY, Moderately Plastic, (A-7-5(10)), with trace mica	
645	645.7	3.5	2	2	1	3		M			
	643.2	6.0	7	3	4	7		M			
640	640.7	8.5	4	6	8	14		M		639.7	9.5
										Medium Dense to Dense, Gray-Brown-White-Black, Silty Fine SAND (A-2-4)	
635	635.7	13.5	3	15	17	32		W			
630	630.7	18.5	11	13	18	31		M			
625	625.7	23.5	6	11	18	29		M		624.2 Boring Terminated at Elevation 624.2 ft In Residual Silty SAND (A-2-4)	25.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPB_2450	**STATION** 24+50	**OFFSET** CL	**ALIGNMENT** -Y7RPB-	**0 HR.** Dry
COLLAR ELEV. 669.1 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,132	**EASTING** 1,388,322	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
670										669.1 TOPSOIL = 8 INCHES	0.0
	668.1	1.0	3	4	7	11		M		**RESIDUAL** Stiff, Orange-tan, SILT (A-5), with trace mica, manganese oxide staining	
665	665.6	3.5	2	4	5	9		M		663.6	5.5
	663.1	6.0	9	9	10	19		M		Very Stiff, Orange-Tan, Fine Sandy SILT (A-4)	
660	660.6	8.5	8	11	12	23		D		661.1 Medium Dense to Dense, Tan, Silty, Fine to Coarse SAND (A-2-4), with trace mica	8.0
655	655.6	13.5	12	20	22	42		D			
650	650.6	18.5	12	20	28	48		D			
645	645.6	23.5	21	22	19	41		D		644.1 Boring Terminated at Elevation 644.1 ft In Residual Silty SAND (A-2-4)	25.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPB_2700	**STATION** 27+00	**OFFSET** CL	**ALIGNMENT** -Y7RPB-	**0 HR.** Dry
COLLAR ELEV. 691.6 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 556,006	**EASTING** 1,388,539	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
695											
										691.6	TOPSOIL = 8 INCHES 0.0
690	690.6	1.0									**RESIDUAL**
			2	4	7	11		M			Stiff, Orange, SILT (A-5), manganese oxide staining
	688.1	3.5								688.6	3.0
			4	4	5	9		M			Stiff to Very Stiff, Gray-Tan, Fine Sandy SILT (A-4), with trace mica
685	685.6	6.0									
			5	7	8	15		M			
	683.1	8.5									
			8	11	13	24		M			
680											
	678.1	13.5									
			8	9	10	19		M		677.6	14.0
675											Very Stiff to Hard, Green-Tan, SILT (A-5)
	673.1	18.5									
			9	11	21	32		M			
670										669.6	22.0
	668.1	23.5									Medium Dense, Tan, Silty Fine to Coarse SAND (A-2-4)
			9	12	15	27		M		666.6	25.0
											Boring Terminated at Elevation 666.6 ft In Residual Silty SAND (A-2-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPC_2150	**STATION** 21+50	**OFFSET** CL	**ALIGNMENT** -Y7RPC-	**0 HR.** Dry
COLLAR ELEV. 691.0 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,762	**EASTING** 1,388,071	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/25/23	**COMP. DATE** 07/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
695										
										691.0 TOPSOIL = 4 INCHES 0.0
690	690.0	1.0								**RESIDUAL**
			4	7	10	17		M		Very Stiff, Red-Brown, Fine Sandy SILT (A-5)
	687.5	3.5								
			6	8	12	20		M		
685	685.0	6.0								
			5	7	9	16		M		684.0 7.0
	682.5	8.5								Very Stiff, Tan-Orange-Brown, Fine Sandy SILT (A-4)
			4	6	10	16		M		681.0 10.0
										Boring Terminated at Elevation 681.0 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPC_2400	**STATION** 24+00	**OFFSET** CL	**ALIGNMENT** -Y7RPC-	**0 HR.** Dry
COLLAR ELEV. 704.2 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,606	**EASTING** 1,388,266	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/26/23	**COMP. DATE** 07/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
705											
	703.2	1.0	6	8	14	22		M		704.2 TOPSOIL = 3 INCHES	0.0
700	700.7	3.5	5	7	8	15		M		**RESIDUAL** Stiff to Very Stiff, Red-Brown, Fine to Coarse Sandy SILT (A-5)	
	698.2	6.0	6	7	10	17		M			
695	695.7	8.5	5	5	9	14		M		694.2 Boring Terminated at Elevation 694.2 ft In Residual Sandy SILT (A-5)	10.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPC_2650	**STATION** 26+50	**OFFSET** CL	**ALIGNMENT** -Y7RPC-	**0 HR.** Dry
COLLAR ELEV. 715.1 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 555,465	**EASTING** 1,388,472	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/26/23	**COMP. DATE** 07/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720										
715	714.1	1.0	6	9	11	20		M		715.1 TOPSOIL = 4 INCHES 0.0
	711.6	3.5	6	7	10	17		M		**RESIDUAL** Very Stiff, Red-Brown, Fine to Coarse Sandy SILT (A-5)
710	709.1	6.0	4	6	6	12		M		709.6 5.5 Stiff, Black-Red-Orange-Tan, Fine to Coarse Sandy SILT (A-4), with trace mica, manganese oxide staining
	706.6	8.5	4	4	5	9		M		705.1 Boring Terminated at Elevation 705.1 ft In Residual Sandy SILT (A-4) 10.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPC_2900L	**STATION** 29+00	**OFFSET** 15 ft LT	**ALIGNMENT** -Y7RPC-	**0 HR.** 22.3
COLLAR ELEV. 700.2 ft	**TOTAL DEPTH** 25.0 ft	**NORTHING** 555,347	**EASTING** 1,388,693	**24 HR.** 13.6
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/04/23	**COMP. DATE** 05/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
705										
700										700.2 TOPSOIL = 6 INCHES 0.0
	699.2	1.0	2	3	4	7		M		**RESIDUAL** Medium Stiff, Black-Orange-Tan-Brown, Clayey, Fine to Coarse Sandy SILT (A-4), with trace mica, manganese oxide staining
	696.7	3.5	2	2	3	5	SS-247	33%		
695	694.2	6.0	1	2	3	5		M		
	691.7	8.5	2	2	4	6		M		
690										
	686.7	13.5	1	3	3	6		M		687.2 13.0 Medium Stiff to Stiff, Black-Orange-Tan-Brown, Fine Sandy SILT (A-5), with trace mica, manganese oxide staining
685										
	681.7	18.5	2	2	4	6		M		
680										
	676.7	23.5	2	4	5	9		M		675.2 25.0 Boring Terminated at Elevation 675.2 ft In Residual Sandy SILT (A-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7RPD_2000	**STATION** 20+00	**OFFSET** CL	**ALIGNMENT** -Y7RPD-	**0 HR.** Dry
COLLAR ELEV. 739.0 ft	**TOTAL DEPTH** 35.0 ft	**NORTHING** 554,988	**EASTING** 1,389,091	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/30/23	**COMP. DATE** 05/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										739.0 GROUND SURFACE 0.0
	738.0	1.0	6	7	9	16		D		**RESIDUAL** Medium Stiff to Very Stiff , Red-Brown-Yellow-Orange, Fine Sandy, Clayey SILT (A-5(9)), with trace mica, manganese oxide staining
735	735.5	3.5	4	6	4	10	SS-4264	26%		
	733.0	6.0	3	6	6	12		D		
730	730.5	8.5	2	3	5	8		D		
	725.5	13.5	5	6	7	13		D		
725										
	720.5	18.5	4	5	7	12		D		
720										
	715.5	23.5	5	5	8	13		M		
715										
	710.5	28.5	4	4	7	11		M		707.0 32.0 Medium Stiff, Red-Brown, Silty CLAY (A-6), manganese oxide staining
710										
	705.5	33.5	3	3	4	7		M		704.0 35.0 Boring Terminated at Elevation 704.0 ft In Residual Sandy, Silty CLAY (A-6)
705										

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y8RPC_1300R	**STATION** 13+00	**OFFSET** 20 ft RT	**ALIGNMENT** -Y8RPC-	**0 HR.** Dry
COLLAR ELEV. 707.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,541	**EASTING** 1,394,022	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
710										ELEV. (ft) DEPTH (ft)
										707.9 TOPSOIL = 2 INCHES 0.0
	706.9	1.0	3	3	2	5		M		**ROADWAY EMBANKMENT** Medium Stiff, Red-Tan, Fine Sandy, Clayey SILT (A-5), with trace mica
705	704.4	3.5	2	2	3	5		M		704.9 3.0 Soft to Stiff, Red-Gray-Brown, Silty CLAY (A-7), with trace mica
	701.9	6.0	2	1	2	3		M		
700	699.4	8.5	2	2	3	5		M		697.9 10.0 Boring Terminated at Elevation 697.9 ft In Roadway Embankment Silty CLAY (A-7)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y8RPC_1550R	**STATION** 15+50	**OFFSET** 19 ft RT	**ALIGNMENT** -Y8RPC-	**0 HR.** Dry
COLLAR ELEV. 704.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 554,496	**EASTING** 1,394,265	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
705										704.9 GROUND SURFACE 0.0
	703.9	1.0	3	3	4	7	SS-1033	29%		**ROADWAY EMBANKMENT** Medium Stiff , Red, Silty CLAY (A-7-5(11)), with trace gravel and organics
700	701.4	3.5	2	3	4	7		M		699.4 5.5 Medium Stiff, Red-Orange, Fine Sandy, Clayey SILT (A-5), with trace gravel
	698.9	6.0	2	4	4	8		M		696.9 8.0 Stiff, Red-Brown, Silty CLAY (A-7), with trace gravel
695	696.4	8.5	3	4	6	10		M		694.9 10.0 Boring Terminated at Elevation 694.9 ft In Roadway Embankment Silty CLAY (A-7)

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GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y11_2300	**STATION** 23+00	**OFFSET** 15 ft LT	**ALIGNMENT** -Y11-	**0 HR.** 16.5
COLLAR ELEV. 726.8 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 558,949	**EASTING** 1,360,921	**24 HR.** 12.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/15/23	**COMP. DATE** 06/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
730										726.8 GROUND SURFACE 0.0
	725.8	1.0	5	3	5	8		D		**RESIDUAL** Medium Stiff, Orange-Brown, SILT (A-4), with trace sand and mica
725	723.3	3.5	3	5	6	11	SS-4674	26%		723.8 3.0 Medium Stiff to Stiff, Red-Brown-Black, Fine Sandy, Moderately Plastic CLAY (A-7-5(15)), with trace mica and gravel-sized quartz fragments
	720.8	6.0	3	3	4	7		M		
720	718.3	8.5	3	4	10	14		M		
										714.8 12.0
715	713.3	13.5	3	3	4	7		W		Medium Stiff, Orange-Gray-Brown, SILT (A-4), with trace sand
710	708.3	18.5	2	2	3	5		W		706.8 20.0 Boring Terminated at Elevation 706.8 ft In Residual SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y11_3100	**STATION** 31+00	**OFFSET** CL	**ALIGNMENT** -Y11-	**0 HR.** Dry
COLLAR ELEV. 749.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 558,529	**EASTING** 1,360,239	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										749.9 TOPSOIL = 6 INCHES 0.0
	748.9	1.0	3	6	7	13	SS-814	30%		**RESIDUAL** Medium Stiff to Stiff, Tan-Red-Black, Fine Sandy, Silty CLAY, Moderately Plastic, (A-7-5(17)), with trace mica, manganese oxide staining
745	746.4	3.5	4	5	7	12		M		
	743.9	6.0	3	4	5	9		M		
740	741.4	8.5	3	3	4	7		M		739.9 10.0 Boring Terminated at Elevation 739.9 ft In Residual Sandy, Silty CLAY (A-7-5)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y11_3400	**STATION** 34+00	**OFFSET** CL	**ALIGNMENT** -Y11-	**0 HR.** Dry
COLLAR ELEV. 762.7 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 558,361	**EASTING** 1,359,991	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/26/23	**COMP. DATE** 06/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
765										ELEV. (ft) DEPTH (ft)
										762.7 TOPSOIL = 3 INCHES 0.0
	761.7	1.0	3	7	8	15		M		**ROADWAY EMBANKMENT** Stiff, Red-Brown, Fine Sandy SILT (A-4), with trace mica and gravel
760	759.2	3.5	7	5	8	13		M		757.2 5.5
	756.7	6.0	4	5	8	13		M		**RESIDUAL** Stiff to Very Stiff, Red-Orange-White, Fine Sandy SILT (A-4), with trace mica and gravel-sized rock fragments
755	754.2	8.5	7	9	10	19		M		752.7 10.0
										Boring Terminated at Elevation 752.7 ft In Residual Fine Sandy SILT (A-4)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y14_1300	**STATION** 13+00	**OFFSET** CL	**ALIGNMENT** -Y14-	**0 HR.** Dry
COLLAR ELEV. 704.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,806	**EASTING** 1,382,821	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
705										704.9 GROUND SURFACE 0.0
	703.9	1.0	5	2	2	4		M		**RESIDUAL** Soft to Very Stiff, Red-Yellow-Brown, Silty, Fine to Coarse Sandy CLAY, Moderately Plastic, (A-7-6(10)), with trace organics, manganese oxide staining
	701.4	3.5	2	2	4	6				
700	698.9	6.0					SS-4177	20%		
	696.4	8.5	4	7	11	18		M		696.9 8.0
695			7	10	16	26		D		Very Stiff, Red-Yellow-Brown, SILT (A-4) 694.9 10.0
										Boring Terminated at Elevation 694.9 ft In Residual SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y14_2010R	**STATION** 20+10	**OFFSET** 2 ft RT	**ALIGNMENT** -Y14-	**0 HR.** Dry
COLLAR ELEV. 675.4 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,242	**EASTING** 1,382,397	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
680										ELEV. (ft) DEPTH (ft)
675										675.4 GROUND SURFACE 0.0
	674.4	1.0	4	5	6	11 13	SS-4161	30%		**RESIDUAL** Stiff, Red, Silty CLAY, Moderately Plastic, (A-7-5(22))
	671.9	3.5	4	5	8			M		
670	669.4	6.0	3	4	6	10		M		
	666.9	8.5	4	4	7	11		M		665.4 10.0 Boring Terminated at Elevation 665.4 ft In Residual Silty CLAY (A-7-5)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. CEMETERYRD_1250	**STATION** 12+50	**OFFSET** CL	**ALIGNMENT** -CEMETERYRD-	**0 HR.** Dry
COLLAR ELEV. 685.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 557,681	**EASTING** 1,382,565	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/02/23	**COMP. DATE** 06/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
690										
685										685.9 TOPSOIL = 4 INCHES 0.0
	684.9	1.0	5	9	10	19		M		**ROADWAY EMBANKMENT** Very Stiff, White-Red-Brown, Fine to Coarse Sandy CLAY (A-6), with trace gravel 682.9 3.0
	682.4	3.5	5	8	10	18		M		**RESIDUAL**
680	679.9	6.0	3	6	7	13		M		Very Stiff, Tan-Red, Fine Sandy SILT (A-5) 680.4 5.5 Stiff, Orange-Black-Red-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
	677.4	8.5	4	5	8	13		M		675.9 10.0 Boring Terminated at Elevation 675.9 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.
SITE DESCRIPTION I-85 Widening			**GROUND WTR (ft)**
BORING NO. POWERDR_1275L	**STATION** 12+75	**OFFSET** 43 ft LT	**ALIGNMENT** -POWERDR-	**0 HR.** Dry
COLLAR ELEV. 741.8 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 557,882	**EASTING** 1,376,345	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic
DRILLER D. Demby	**START DATE** 05/17/23	**COMP. DATE** 05/17/23	**SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745										741.8 TOPSOIL = 5 INCHES	0.0
740	740.8	1.0	11	8	9	17		M		**RESIDUAL** Very Stiff, Red-Brown-Tan, Fine Sandy, Silty CLAY, Highly Plastic, (A-7-5(49))	
	738.3	3.5	4	7	10	17	SS-3022	29%			
735	735.8	6.0	4	9	12	21		M		733.8	8.0
	733.3	8.5	4	6	7	13		M		Stiff, Red-Brown-Tan, Fine Sandy, Clayey SILT (A-5)	
730										729.8	12.0
	728.3	13.5	2	3	5	8		M		Medium Stiff to Stiff, Red-Tan-Black, Sandy SILT (A-4), with manganese oxide staining	
										726.8	15.0
										Boring Terminated at Elevation 726.8 ft In Residual Sandy SILT (A-4)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350129_EB1-A	**STATION** 177+23	**OFFSET** 109 ft LT	**ALIGNMENT** -L-	**0 HR.** 12.0
COLLAR ELEV. 768.8 ft	**TOTAL DEPTH** 90.0 ft	**NORTHING** 561,483	**EASTING** 1,355,002	**24 HR.** 8.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
770										ELEV. (ft) DEPTH (ft)
										768.8 GROUND SURFACE 0.0
	767.8	1.0								**RESIDUAL**
			4	3	3	6		M		Loose, White-Gray, Clayey Fine to Coarse SAND (A-2-6), with trace mica and pea-sized rock fragments
765	765.3	3.5								
			2	3	3	6		M		
	762.8	6.0						M		
			2	3	4	7				
760	760.3	8.5								760.8 8.0
			2	4	6	10		M		Medium Stiff to Stiff, Orange-Tan-Gray, Fine to Coarse Sandy CLAY (A-6)
755	755.3	13.5								
			2	2	4	6		M		
750	750.3	18.5								751.8 17.0
			2	3	4	7		M		Loose, White-Orange-Tan-Gray, Clayey Fine to Coarse SAND (A-2-6), with trace mica, manganese oxide staining
										746.8 22.0
745	745.3	23.5								Medium Stiff to Very Stiff, White-Gray-Orange-Black, Fine to Coarse Sandy SILT (A-4), with trace to little mica, manganese oxide staining
			2	2	4	6		M		
740	740.3	28.5								
			5	5	9	14		M		
735	735.3	33.5								
			2	3	6	9		M		
730	730.3	38.5								
			2	4	9	13		M		
725	725.3	43.5								
			3	3	6	9		M		
720	720.3	48.5								
			3	4	7	11		M		
715	715.3	53.5								
			3	8	11	19		M		
710	710.3	58.5								
			5	9	16	25		M		
705	705.3	63.5								
			5	8	13	21		M		
700	700.3	68.5								
			6	9	15	24		M		
695	695.3	73.5								
			4	7	10	17		M		
690	690.3	78.5								

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350129_EB1-A	**STATION** 177+23	**OFFSET** 109 ft LT	**ALIGNMENT** -L-	**0 HR.** 12.0
COLLAR ELEV. 768.8 ft	**TOTAL DEPTH** 90.0 ft	**NORTHING** 561,483	**EASTING** 1,355,002	**24 HR.** 8.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
690						Match Line				
			6	10	16	26		M		Medium Stiff to Very Stiff, White-Gray-Orange-Black, Fine to Coarse Sandy SILT (A-4), with trace to little mica, manganese oxide staining *(continued)*
685	685.3	83.5								
			8	9	16	25		M		
680	680.3	88.5								
			7	11	18	29		M		678.8 90.0
										Boring Terminated at Elevation 678.8 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350129_EB1-B	**STATION** 176+18	**OFFSET** 93 ft LT	**ALIGNMENT** -L-	**0 HR.** 8.3
COLLAR ELEV. 765.6 ft	**TOTAL DEPTH** 78.6 ft	**NORTHING** 561,525	**EASTING** 1,354,910	**24 HR.** 8.3
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
770										
765	764.6	1.0								765.6 GROUND SURFACE 0.0
			2	3	4	7 26		M		**RESIDUAL** Loose, Orange-Red-Tan, Clayey Fine to Coarse SAND (A-2-6)
	762.1	3.5								762.6 3.0
760	759.6	6.0	5	10	16			M		Loose to Medium Dense, Orange-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica
			5	2	3	5 4				
	757.1	8.5						▼		
755			1	2	2			M		
	752.1	13.5								
750			1	3	2	5		M		
	747.1	18.5								748.1 17.5
745			2	2	3	5		M		Medium Stiff to Hard, White-Orange-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica, manganese oxide staining
	742.1	23.5								
740			2	3	5	8		M		
	737.1	28.5								
735			3	3	4	7		M		
	732.1	33.5								
730			2	3	6	9		M		
	727.1	38.5								
725			4	6	3	9		M		
	722.1	43.5								
720			2	5	9	14		M		
	717.1	48.5								
715			3	5	10	15		M		
	712.1	53.5								
710			7	10	12	22		M		
	707.1	58.5								
705			7	10	14	24		M		
	702.1	63.5								
700			6	12	20	32		M		
	697.1	68.5								
695			31	52	47	99		M		
	692.1	73.5	100/0.4			100/0.4				692.1 73.5 **WEATHERED ROCK** Orange-White-Gray, (GRANITE)
690										

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350129_EB1-B	**STATION** 176+18	**OFFSET** 93 ft LT	**ALIGNMENT** -L-	**0 HR.** 8.3
COLLAR ELEV. 765.6 ft	**TOTAL DEPTH** 78.6 ft	**NORTHING** 561,525	**EASTING** 1,354,910	**24 HR.** 8.3
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
690						Match Line				
	687.1	78.5	60/0.1			60/0.1				**WEATHERED ROCK** Orange-White-Gray, (GRANITE) *(continued)* 687.0 78.6
										Boring Terminated with Standard Penetration Test Refusal at Elevation 687.0 ft In Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350129_B1-A	**STATION** 176+20	**OFFSET** 3 ft LT	**ALIGNMENT** -L-	**0 HR.** 10.1
COLLAR ELEV. 769.5 ft	**TOTAL DEPTH** 63.4 ft	**NORTHING** 561,451	**EASTING** 1,354,859	**24 HR.** 13.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/08/23	**COMP. DATE** 08/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
770										
										769.5 / 0.0 GROUND SURFACE
	767.0	2.5	3	4	6	10		M		**ROADWAY EMBANKMENT**
										767.6 / 1.9 Asphalt (1.2 ft) and ABC (0.7 ft)
765										Loose to Medium Dense, Tan, Silty SAND (A-2-4), with little gravel
	761.8	7.7	1	2	2	4		M		
760										759.5 / 10.0 **RESIDUAL**
	756.8	12.7	2	1	2	3		W		Very Loose, Tan, Silty SAND (A-2-4), with trace mica
755								▼		
	751.8	17.7	32	68/0.2		100/0.7				752.5 / 17.0 **WEATHERED ROCK**
750										Tan-Gray, (GRANITE)
	746.8	22.7	3	2	4	6		Sat.		748.5 / 21.0 **RESIDUAL**
745										Loose to Dense, Tan-Gray-White, Silty SAND (A-2-4), with trace mica
	741.8	27.7	3	8	35	43		Sat.		
740										
	736.8	32.7	4	7	11	18		Sat.		
735										
	731.8	37.7	6	10	15	25		Sat.		
730										
	726.8	42.7	9	9	11	20		Sat.		
725										
	721.8	47.7	7	7	8	15		Sat.		
720										
	716.8	52.7	14	18	18	36		Sat.		
715										
	711.8	57.7	27	47	53/0.3	100/0.8				711.3 / 58.2 **WEATHERED ROCK**
710										Tan, (GRANITE)
	706.8	62.7	51	49/0.2		100/0.7				706.1 / 63.4 Boring Terminated at Elevation 706.1 ft In Weathered Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350129_B1-B	**STATION** 175+85	**OFFSET** 3 ft LT	**ALIGNMENT** -L-	**0 HR.** 11.7
COLLAR ELEV. 768.4 ft	**TOTAL DEPTH** 57.8 ft	**NORTHING** 561,472	**EASTING** 1,354,831	**24 HR.** 11.8
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/09/23	**COMP. DATE** 08/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
770										
										768.4 / 0.0 GROUND SURFACE
	765.9	2.5	4	5	6	11		M		**ROADWAY EMBANKMENT**
										766.7 / 1.7 Asphalt (1.0 ft) and ABC (0.7 ft)
765										Medium Dense, Tan-Brown, Silty SAND (A-2-4), with little gravel
	760.7	7.7	1	1	1	2		W		761.9 / 6.5 **RESIDUAL**
760										Very Loose to Dense, Tan-Gray, Silty SAND (A-2-4), with trace mica
	755.7	12.7	3	8	38	46		M		
755										
	750.7	17.7	5	6	4	10		W		
750										
	745.7	22.7	2	4	4	8		W		
745										
	740.7	27.7	4	4	5	9		W		
740										
	735.7	32.7	3	4	8	12		W		
735										
	730.7	37.7	10	11	13	24		W		
730										
	725.7	42.7	12	12	19	31		W		
725										
	720.7	47.7	60/0.0			60/0.0				721.4 / 47.0 **CRYSTALLINE ROCK**
720										Tan-Gray, (GRANITE)
	715.7	52.7	38	62/0.3		100/0.8				717.4 / 51.0 **WEATHERED ROCK**
715										Tan-Gray, (GRANITE)
	710.7	57.7	60/0.1			60/0.1				710.7 / 57.7 710.6 / 57.8 **CRYSTALLINE ROCK**
710										Tan-Gray, (GRANITE)
										Boring Terminated with Standard Penetration Test Refusal at Elevation 710.6 ft In Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350129_EB2-A	**STATION** 176+01	**OFFSET** 67 ft RT	**ALIGNMENT** -L-	**0 HR.** 13.0
COLLAR ELEV. 771.0 ft	**TOTAL DEPTH** 50.0 ft	**NORTHING** 561,405	**EASTING** 1,354,803	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/13/23	**COMP. DATE** 07/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
775										
770	770.0	1.0	4	4	6	10		D		771.0 GROUND SURFACE 0.0 **RESIDUAL** Medium Stiff to Stiff, Tan-Gray, Fine Sandy SILT (A-4), with trace mica
	767.5	3.5	3	3	4	7		D		
765	765.0	6.0	3	3	4	7		D		
	762.5	8.5	4	4	5	9		D		
760	757.5	13.5	2	2	3	5		M		
755	752.5	18.5	3	2	4	6		W		
750	747.5	23.5	3	4	4	8		W		
745	742.5	28.5	4	5	7	12		W		
740	737.5	33.5	4	5	9	14		W		
735	732.5	38.5	60	40/0.3		100/0.8				732.5 38.5 **WEATHERED ROCK** Gray-White-Tan, (GRANITE)
730	727.5	43.5	100/0.2			100/0.2				
725	722.5	48.5	23	77/0.4		100/0.9				721.0 50.0 Boring Terminated at Elevation 721.0 ft In Weathered Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350129_EB2-B	**STATION** 175+07	**OFFSET** 66 ft RT	**ALIGNMENT** -L-	**0 HR.** 11.0
COLLAR ELEV. 767.2 ft	**TOTAL DEPTH** 38.0 ft	**NORTHING** 561,465	**EASTING** 1,354,726	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/13/23	**COMP. DATE** 07/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
770										767.2 GROUND SURFACE 0.0 **RESIDUAL** Stiff to Very Stiff, Gray-Tan, Fine Sandy SILT (A-4), with trace mica
	766.2	1.0	5	5	5	10		D		
765	763.7	3.5	3	4	5	9		D		
	761.2	6.0	3	4	5	9		D		
760	758.7	8.5	4	5	5	10		M		
755	753.7	13.5	4	5	6	11		M		
750	748.7	18.5	6	6	7	13		M		
745	743.7	23.5	5	9	13	22		W		
740	738.7	28.5	100/0.5			100/0.5				740.2 27.0 **WEATHERED ROCK** Gray-White, (GRANITE)
735	733.7	33.5	60/0.1			60/0.1				733.7 33.5 **CRYSTALLINE ROCK** Gray-White, (GRANITE)
730	729.2	38.0	60/0.0			60/0.0				729.2 38.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 729.2 ft In Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/7/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350132_EB1-A	**STATION** 187+13	**OFFSET** 61 ft LT	**ALIGNMENT** -L-	**0 HR.** 27.0
COLLAR ELEV. 796.7 ft	**TOTAL DEPTH** 69.1 ft	**NORTHING** 561,043	**EASTING** 1,355,868	**24 HR.** 27.5
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers		**HAMMER TYPE** Automatic
DRILLER D. Demby	**START DATE** 06/29/23	**COMP. DATE** 06/29/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
800											
										796.7 GROUND SURFACE	0.0
795	795.7	1.0	4	5	6	11		M		**RESIDUAL** Loose to Dense, White-Gray-Pink, Silty Fine to Coarse SAND (A-2-4), with trace mica and quartz	
	793.2	3.5	5	9	7	16		M			
790	790.7	6.0	4	5	5	10		M			
	788.2	8.5	4	4	5	9		M			
785	783.2	13.5	5	6	7	13		M			
780	778.2	18.5	5	5	7	12		M			
775	773.2	23.5	4	6	8	14		M			
770	768.2	28.5	5	7	8	15		W			
765	763.2	33.5	5	7	8	15		W			
760	758.2	38.5	5	6	8	14		W			
755	753.2	43.5	5	8	10	18		W			
750	748.2	48.5	7	13	19	32		W			
745	743.2	53.5	5	9	14	23		Sat.			
740	738.2	58.5	14	17	22	39		Sat.			
735	733.2	63.5	14	50	50/0.4	100/0.9				732.7 **WEATHERED ROCK** Gray-Brown, (GRANITE)	64.0
730	728.2	68.5	56	44/0.1		100/0.6				727.6 Boring Terminated at Elevation 727.6 ft In Weathered Rock (GRANITE)	69.1

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350132_EB1-B	**STATION** 185+61	**OFFSET** 52 ft LT	**ALIGNMENT** -L-	**0 HR.** 22.0
COLLAR ELEV. 795.6 ft	**TOTAL DEPTH** 67.7 ft	**NORTHING** 561,092	**EASTING** 1,355,724	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/10/23	**COMP. DATE** 08/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
800										
795										795.6 GROUND SURFACE 0.0
	792.9	2.7								793.7 **ROADWAY EMBANKMENT** Asphalt (1.1 ft) and ABC (0.8 ft) 1.9
790			2	1	2	3		M		**RESIDUAL** Very Loose to Very Dense, Tan-White, Silty SAND (A-2-4), with trace to little mica
	787.9	7.7								
785			4	6	8	14		M		
	782.9	12.7								
780			4	7	10	17		M		
	777.9	17.7								
775			5	7	9	16		M		
	772.9	22.7						▽		
770			4	7	9	16		M		
	767.9	27.7								
765			4	7	11	18		W		
	762.9	32.7								
760			4	5	8	13		Sat.		
	757.9	37.7								
755			4	6	10	16		Sat.		
	752.9	42.7								
750			4	4	5	9		Sat.		
	747.9	47.7								
745			6	7	10	17		Sat.		
	742.9	52.7								
740			8	10	12	22		W		
	737.9	57.7								
735			14	19	25	44		W		
	732.9	62.7								
730			21	35	42	77		W		731.1 64.5 **WEATHERED ROCK** Tan, (GRANITE)
	727.9	67.7	60/0.0			60/0.0				727.9 67.7 Boring Terminated with Standard Penetration Test Refusal at Elevation 727.9 ft On Crystalline Rock (GRANITE)

Note:
Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350132_EB1-B	**STATION** 185+61	**OFFSET** 52 ft LT	**ALIGNMENT** -L-	**0 HR.** 22.0
COLLAR ELEV. 795.6 ft	**TOTAL DEPTH** 67.7 ft	**NORTHING** 561,092	**EASTING** 1,355,724	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/10/23	**COMP. DATE** 08/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
720						Match Line				Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350132_B1-A	**STATION** 186+45	**OFFSET** 8 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 796.9 ft	**TOTAL DEPTH** 74.1 ft	**NORTHING** 561,020	**EASTING** 1,355,785	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 08/07/23	**COMP. DATE** 08/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
800										
										796.9 GROUND SURFACE 0.0
795										795.4 **ROADWAY EMBANKMENT** Asphalt (1.0 ft) and ABC (0.5 ft) 1.5
	793.4	3.5	4	3	2	5		M		**RESIDUAL** Loose to Medium Dense, Gray-Brown-Pink-Black, Silty Fine to Coarse SAND (A-2-4), with trace mica and gravel-sized rock fragments
790										
	788.4	8.5	5	7	8	15		M		
785										
	783.4	13.5	4	6	8	14		M		
780										
	778.4	18.5	4	6	7	13		M		
775										
	773.4	23.5	4	6	8	14		M		
770										
	768.4	28.5	4	5	9	14		M		
765										
	763.4	33.5	4	6	9	15		M		
760										
	758.4	38.5	4	8	10	18		M		
755										
	753.4	43.5	5	8	10	18		M		753.9 43.0 Medium Dense, White-Tan, Fine to Coarse SAND (A-3), with trace mica
750										
	748.4	48.5	5	9	12	21		M		748.9 48.0 Medium Dense, Gray-Brown, Silty Fine to Coarse SAND (A-2-4), with trace mica
745										
	743.4	53.5	8	9	15	24		M		
740										
	738.4	58.5	8	10	14	24		M		
735										
	733.4	63.5	15	28	72/0.4	100/0.9				732.9 64.0 **WEATHERED ROCK** Gray-Brown-Orange, (GRANITE)
730										
	728.4	68.5	42	58/0.4		100/0.9				
725										
	723.4	73.5	72	28/0.1		100/0.6				722.8 74.1 Boring Terminated at Elevation 722.8 ft In Weathered Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350132_B1-B	**STATION** 185+50	**OFFSET** 8 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 795.6 ft	**TOTAL DEPTH** 59.4 ft	**NORTHING** 561,055	**EASTING** 1,355,697	**24 HR.** 23.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 08/08/23	**COMP. DATE** 08/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
800										
										795.6 GROUND SURFACE 0.0
795										794.1 **ROADWAY EMBANKMENT** Asphalt (1.0 ft) and ABC (0.5 ft) 1.5
	792.1	3.5	4	2	3	5		M		**RESIDUAL** Loose, White-Tan, Fine to Coarse SAND (A-3), with trace mica
790										
	787.1	8.5	6	5	7	12		M		787.6 8.0 Medium Dense, Gray-Brown-White, Silty Fine to Coarse SAND (A-2-4), with trace mica
785										
	782.1	13.5	5	6	7	13		M		
780										
	777.1	18.5	4	5	8	13		M		
775										
	772.1	23.5	4	6	9	15		M		
770										
	767.1	28.5	4	5	6	11		M		
765										
	762.1	33.5	4	5	8	13		M		
760										
	757.1	38.5	4	5	8	13		M		
755										
	752.1	43.5	4	6	7	13		M		
750										
	747.1	48.5	100/0.2			100/0.2				747.1 48.5 **WEATHERED ROCK** White-Gray, (GRANITE)
745										
	742.1	53.5	12	39	61/0.2	100/0.7				
740										
	737.1	58.5	47	53/0.4		100/0.9				736.2 59.4 Boring Terminated at Elevation 736.2 ft In Weathered Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350132_EB2-A	**STATION** 185+90	**OFFSET** 100 ft RT	**ALIGNMENT** -L-	**0 HR.** 24.0
COLLAR ELEV. 798.4 ft	**TOTAL DEPTH** 69.1 ft	**NORTHING** 560,940	**EASTING** 1,355,693	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/11/23	**COMP. DATE** 08/11/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
800										ELEV. (ft) 798.4 GROUND SURFACE — DEPTH (ft) 0.0
										ROADWAY EMBANKMENT Very Loose, Tan, Silty SAND (A-2-4), with some mica and trace organics
795	795.7	2.7	1	WOH	1	1		M		793.9 — 4.5
										RESIDUAL Loose to Dense, Tan-White, Silty SAND (A-2-4), with trace to little mica
790	790.7	7.7	2	4	6	10		M		
785	785.7	12.7	6	10	15	25		M		
780	780.7	17.7	4	6	9	15		M		
775	775.7	22.7	5	5	7	12		W		
770	770.7	27.7	4	6	9	15		W		
765	765.7	32.7	5	8	10	18		W		
760	760.7	37.7	6	9	14	23		W		
755	755.7	42.7	6	9	11	20		W		
750	750.7	47.7	9	8	10	18		W		
745	745.7	52.7	8	11	23	34		W		
740	740.7	57.7	5	7	15	22		M		
735	735.7	62.7	5	10	14	24		M		
730	730.7	67.7	9	12	88/0.4	100/0.9		M		729.7 — 68.7
										729.3 — 69.1 **WEATHERED ROCK** Tan, (GRANITE)
										Boring Terminated at Elevation 729.3 ft In Weathered Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350132_EB2-B	**STATION** 184+81	**OFFSET** 116 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 798.1 ft	**TOTAL DEPTH** 18.7 ft	**NORTHING** 560,966	**EASTING** 1,355,586	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/05/23	**COMP. DATE** 07/05/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
800										ELEV. (ft) 798.1 GROUND SURFACE — DEPTH (ft) 0.0
	797.1	1.0		5	2	1		M		**ROADWAY EMBANKMENT** Very Loose to Medium Dense, Tan, Silty SAND (A-2-4), with trace gravel and mica
795	794.6	3.5		WOH	5	8		M		792.6 — 5.5
	792.1	6.0		100/0.2						**WEATHERED ROCK** White-Tan-Black, (GRANITE)
790	789.6	8.5		60/0.0						789.6 — 8.5
										789.1 — 9.0 **CRYSTALLINE ROCK** White-Tan-Black, (GRANITE)
785	784.6	13.5		17	83/0.4					**WEATHERED ROCK** Tan-White, (GRANITE)
780	779.6	18.5		100/0.2						779.4 — 18.7
										Boring Terminated at Elevation 779.4 ft In Weathered Rock (GRANITE)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350138_EB1-A	**STATION** 372+23	**OFFSET** 62 ft LT	**ALIGNMENT** -L-	**0 HR.** 9.0
COLLAR ELEV. 728.7 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 556,585	**EASTING** 1,373,522	**24 HR.** 3.9
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
730										
	727.7	1.0								728.7 0.0 GROUND SURFACE
			3	2	2	4		W		**RESIDUAL** Soft to Very Stiff, Tan-Red-Black, Sandy SILT (A-4), with manganese oxide staining
725	725.2	3.5								
			2	3	3	6		M		
	722.7	6.0								
			2	3	6	9		W		
720	720.2	8.5								
			3	3	4	7		W		
715	715.2	13.5								
			4	9	12	21		M		
710	710.2	18.5								
			3	5	8	13		M		
705	705.2	23.5								706.2 22.5 **WEATHERED ROCK** Tan, (METAVOLCANIC ROCK)
			38	62/0.3		100/0.8				
700	700.2	28.5	60/0.0			60/0.0				700.2 28.5 **CRYSTALLINE ROCK**
	698.7	30.0	60/0.0			60/0.0				698.7 30.0 Tan-Gray, (METAVOLCANIC ROCK)
										Boring Terminated with Standard Penetration Test Refusal at Elevation 698.7 ft In Crystalline Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350138_EB1-B	**STATION** 371+52	**OFFSET** 63 ft LT	**ALIGNMENT** -L-	**0 HR.** 16.9
COLLAR ELEV. 727.5 ft	**TOTAL DEPTH** 23.7 ft	**NORTHING** 556,565	**EASTING** 1,373,454	**24 HR.** 3.2
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/18/23	**COMP. DATE** 05/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
730										
										727.5 0.0 TOPSOIL = 12 INCHES
	726.5	1.0						M		**RESIDUAL** Stiff to Hard, Tan, Fine Sandy SILT (A-4)
725			5	5	6	11				
	724.0	3.5						M		722.3 5.2
			26	27	44	71				**WEATHERED ROCK** Tan, (METAVOLCANIC ROCK)
	721.5	6.0								
720			100/0.4			100/0.4				
	719.0	8.5								
			75	25/0.2		100/0.7				
715										
	714.0	13.5	100/0.4			100/0.4				
710										
	709.0	18.5	100/0.3			100/0.3				
705										
	704.0	23.5	100/0.2			100/0.2				703.8 23.7
										Boring Terminated at Elevation 703.8 ft In Weathered Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350138_B1-A	**STATION** 372+02	**OFFSET** 8 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 729.7 ft	**TOTAL DEPTH** 59.5 ft	**NORTHING** 556,527	**EASTING** 1,373,517	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/27/23	**COMP. DATE** 08/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
730										729.7 GROUND SURFACE	0.0
	726.9	2.8								727.9 Asphalt (0.7 ft) and ABC (1.1 ft)	1.8
725			2	3	4	7		M		**ROADWAY EMBANKMENT** Medium Stiff, Orange-Tan, Sandy, Silty CLAY (A-7), with trace gravel	
	721.9	7.8								723.7 **RESIDUAL**	6.0
720			3	7	8	15		M		Stiff to Very Stiff, Tan-White, Fine Sandy SILT (A-4)	
	716.9	12.8									
715			4	6	10	16		M			
	711.9	17.8								711.4 **WEATHERED ROCK**	18.3
710			23	61	39/0.3	100/0.8				Tan-Gray, (METAVOLCANIC ROCK)	
	706.9	22.8								708.2 **RESIDUAL**	21.5
705			18	25	35	60		W		Hard, Tan-Brown, Fine Sandy SILT (A-4)	
	701.9	27.8	100/0.5			100/0.5				703.7 **WEATHERED ROCK**	26.0
700										Tan, (METAVOLCANIC ROCK)	
	696.9	32.8	100/0.5			100/0.5					
695											
	691.9	37.8	24	17	31	48		Sat.		692.7 **RESIDUAL**	37.0
690										Dense, Tan, Silty SAND (A-2-4), with trace gravel-sized rock fragments	
	687.3	42.4	60/0.0			60/0.0				688.3	41.4
685										687.3 **WEATHERED ROCK** Tan, (METAVOLCANIC ROCK)	42.4
										CRYSTALLINE ROCK White-Tan-Gray, (METAVOLCANIC ROCK)	
680							RS-7			REC=98% RQD=73% GSI=50-60	
675										670.2 Boring Terminated at Elevation 670.2 ft In Crystalline Rock (METAVOLCANIC ROCK)	59.5

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350138_B1-A	**STATION** 372+02	**OFFSET** 8 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 729.7 ft	**TOTAL DEPTH** 59.5 ft	**NORTHING** 556,527	**EASTING** 1,373,517	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/27/23	**COMP. DATE** 08/01/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 17.1 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
687.3											Begin Coring @ 42.4 ft	
	687.3	42.4	2.1	*N=60/0.0*	(2.0)	(1.1)		(16.7)	(12.5)		687.3 **CRYSTALLINE ROCK**	42.4
685	685.2	44.5		5:00/1.0 2:01/1.0	95%	52%		98%	73%		Slight to Very Slight Weathering, Hard to Very Hard, White-Tan-Gray, Felsic (METAVOLCANIC ROCK), with Close to Moderately Close Fracture Spacing	
			5.0	1:00/0.1	(5.0)	(4.5)					RS-7: 47.4-48.2' Unit Weight: 166.9 pcf Unconfined Compressive Strength: 13,830 psi (3,109 ksf)	
				5:06/1.0 3:28/1.0 6:17/1.0 7:15/1.0	100%	90%	RS-7				GSI=45-55	
680	680.2	49.5		13:32/1.0								
			5.0	14:40/1.0 18:17/1.0 23:24/1.0 14:16/1.0	(4.7) 94%	(2.4) 48%						
675	675.2	54.5		11:24/1.0								
			5.0	9:34/1.0 6:47/1.0 7:32/1.0 9:58/1.0	(5.0) 100%	(4.4) 88%						
	670.2	59.5		12:06/1.0							670.2 Boring Terminated at Elevation 670.2 ft In Crystalline Rock (METAVOLCANIC ROCK)	59.5

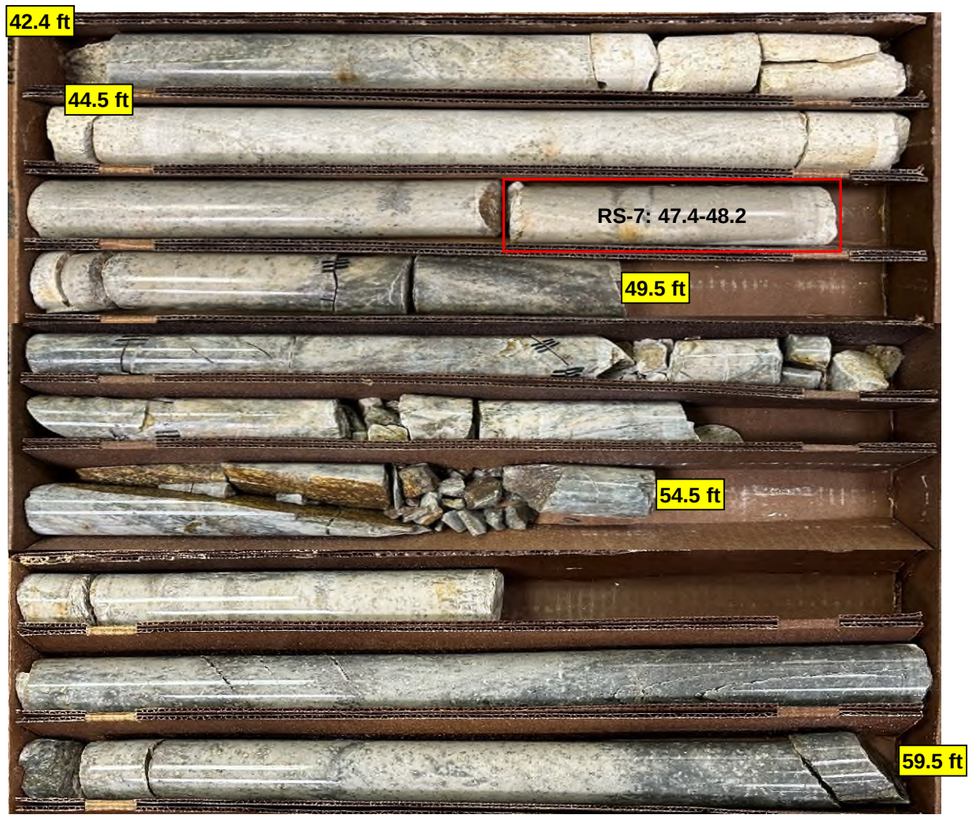
CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - 350138_B1-A

42.4 to 59.5 Feet



GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350138_B1-B	**STATION** 371+49	**OFFSET** 7 ft LT	**ALIGNMENT** -L-	**0 HR.** 4.3
COLLAR ELEV. 729.3 ft	**TOTAL DEPTH** 37.7 ft	**NORTHING** 556,511	**EASTING** 1,373,466	**24 HR.** 9.3
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary		**HAMMER TYPE** Automatic
DRILLER C. Odom	**START DATE** 08/01/23	**COMP. DATE** 08/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
730										729.3 GROUND SURFACE	0.0
	726.6	2.7	3	5	7	12		M		728.0 **ROADWAY EMBANKMENT** Asphalt (1.3 ft)	1.3
725										**RESIDUAL** Stiff to Very Stiff, Tan-White, Sandy SILT (A-4)	
	721.6	7.7	1	4	14	18		M			
720											
	716.6	12.7	12	14	16	30		M			
715										713.3 Medium Dense to Very Dense, Tan, Silty SAND (A-2-4)	16.0
	711.6	17.7	3	7	10	17		W			
710											
	706.6	22.7	13	26	57	83		W			
705										703.3 **WEATHERED ROCK** Tan, (METAVOLCANIC ROCK)	26.0
	701.6	27.7	49	51/0.4		100/0.9					
700											
	696.6	32.7	100/0.2			100/0.2					
695											
	691.6	37.7	60/0.0			60/0.0				691.6 Boring Terminated with Standard Penetration Test Refusal at Elevation 691.6 ft On Crystalline Rock (METAVOLCANIC ROCK)	37.7

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350138_EB2-A	**STATION** 371+28	**OFFSET** 58 ft RT	**ALIGNMENT** -L-	**0 HR.** 10.5
COLLAR ELEV. 727.9 ft	**TOTAL DEPTH** 28.7 ft	**NORTHING** 556,443	**EASTING** 1,373,465	**24 HR.** 5.5
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/25/23	**COMP. DATE** 05/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
730											
	726.9	1.0	11	4	6	10		M		727.9 TOPSOIL = 3 INCHES	0.0
725	724.4	3.5	10	4	4	8		M		**ROADWAY EMBANKMENT** Loose to Medium Dense, Tan-Gray, Silty SAND (A-2-4), with some gravel	2.0
	721.9	6.0	WOH	2	3	5		W		725.9 **RESIDUAL** Medium Stiff to Very Stiff, Tan-Black, Fine Sandy SILT (A-4), with manganese oxide staining	
720	719.4	8.5	3	3	5	8		W			
715	714.4	13.5	5	7	15	22		M			
710	709.4	18.5	100/0.2			100/0.2				710.4 **WEATHERED ROCK** Tan-Gray (METAVOLCANIC ROCK)	17.5
705	704.4	23.5	100/0.4			100/0.4					
700	699.4	28.5	100/0.2			100/0.2				699.2 Boring Terminated at Elevation 699.2 ft In Weathered Rock (METAVOLCANIC ROCK)	28.7

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350138_EB2-B	**STATION** 371+96	**OFFSET** 56 ft RT	**ALIGNMENT** -L-	**0 HR.** 16.0
COLLAR ELEV. 728.4 ft	**TOTAL DEPTH** 23.7 ft	**NORTHING** 556,464	**EASTING** 1,373,529	**24 HR.** 5.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/25/23	**COMP. DATE** 05/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
730											
	727.4	1.0	9	2	1	3		W		728.4 TOPSOIL = 3 INCHES	0.0
725	724.9	3.5	1	2	1	3		W		**RESIDUAL** Soft to Very Stiff, Tan, Sandy SILT (A-4)	
	722.4	6.0	2	1	3	4		W			
720	719.9	8.5	3	5	10	15		M		717.4	11.0
715	714.9	13.5	100/0.2			100/0.2				**WEATHERED ROCK** Tan-Gray, (METAVOLCANIC ROCK)	
710	709.9	18.5	28	72/0.3		100/0.8					
705	704.9	23.5	100/0.2			100/0.2				704.7 Boring Terminated at Elevation 704.7 ft In Weathered Rock (METAVOLCANIC ROCK)	23.7

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_EB1-A	**STATION** 430+40	**OFFSET** 59 ft LT	**ALIGNMENT** -L-	**0 HR.** 34.0
COLLAR ELEV. 647.3 ft	**TOTAL DEPTH** 75.8 ft	**NORTHING** 557,685	**EASTING** 1,379,196	**24 HR.** 11.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/01/23	**COMP. DATE** 05/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
650										
										647.3 GROUND SURFACE 0.0
	646.3	1.0								**ROADWAY EMBANKMENT**
645			2	2	4	6		M		Soft to Medium Stiff, Red-Orange-Tan, Fine Sandy SILT (A-5), with trace gravel
	643.8	3.5								
			1	2	2	4		M		
	641.3	6.0								
640			1	2	2	4		M		
	638.8	8.5								
			2	1	2	3		M		
635										635.3 12.0
	633.8	13.5								Medium Stiff to Stiff,
			2	3	5	8		M		Black-Gray-Red-Orange-Brown, Fine Sandy,
630										Silty CLAY (A-7), with trace gravel
	628.8	18.5								
			2	3	4	7		M		
625										
	623.8	23.5								
			2	3	5	8		M		
620										
	618.8	28.5								
			3	4	4	8		M		
615										
	613.8	33.5								
			4	3	5	8		M		
610										
	608.8	38.5								
			2	2	3	5		M		
605										
	603.8	43.5								605.3 42.0
			6	6	7	13		M		**RESIDUAL**
600										Medium Stiff to Stiff,
	598.8	48.5								Black-White-Orange-Tan, Fine Sandy SILT
			1	2	3	5		M		(A-4)
595										
	593.8	53.5								
			5	4	7	11		M		
590										
	588.8	58.5								589.3 58.0
			6	8	12	20		M		Medium Dense, Orange-Black-White-Gray,
585										Silty Fine to Coarse SAND (A-2-4), with trace
	583.8	63.5								gravel-sized rock fragments
			7	12	19	31		M		
580										
	578.8	68.5								
			6	10	16	26		M		
575										
	573.8	73.5								573.8 73.5
			79	21/0.1		100/0.6				**WEATHERED ROCK**
	571.5	75.8	60/0.0			60/0.0				571.5 Orange-White-Black-Gray, (DIORITE) 75.8
										Boring Terminated with Standard

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
570						Match Line				Penetration Test Refusal at Elevation 571.5 ft On Crystalline Rock (DIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_EB1-B	**STATION** 430+82	**OFFSET** 49 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 645.8 ft	**TOTAL DEPTH** 79.3 ft	**NORTHING** 557,576	**EASTING** 1,379,234	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/26/23	**COMP. DATE** 07/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
650										
645										645.8 GROUND SURFACE 0.0 644.9 Asphalt (0.9 ft) 0.9 **ROADWAY EMBANKMENT** Soft to Stiff, Red-Orange, Silty CLAY (A-7), with trace mica and gravel
	642.8	3.0	3	1	2	3		M		
640	637.8	8.0	2	1	2	3		M		
635	632.8	13.0	WOH	6	3	9		M		
630	627.8	18.0	2	2	4	6		M		
625	622.8	23.0	3	6	6	12		W		623.3 22.5 Stiff, Gray-Red-Brown, Fine Sandy CLAY (A-6), with trace pea gravel
620	617.8	28.0	WOH	WOH	WOH	0		W		618.3 27.5 Very Soft, Gray-Brown-Red, Silty CLAY (A-7)
615	612.8	33.0	3	3	4	7		W		613.3 32.5 **RESIDUAL** Medium Stiff, Brown, Silty CLAY (A-7), with trace organics
610	607.8	38.0	3	5	10	15		M		608.3 37.5 Stiff to Very Stiff, Red-Brown-Yellow-Orange-Black, Fine Sandy SILT (A-4), with trace mica
605	602.8	43.0	7	10	15	25		M		
600	597.8	48.0	3	3	6	9		M		
595	592.8	53.0	5	7	6	13		M		593.3 52.5 Stiff, Gray-Orange-Brown, Fine Sandy, Clayey SILT (A-5), with trace gravel-sized rock fragments
590	587.8	58.0	3	4	7	11		M		
585	582.8	63.0	7	8	10	18		M		583.3 62.5 Medium Dense, White-Gray, Silty Fine SAND (A-2-4), with trace mica
580	577.8	68.0	33	67/0.4		100/0.9				577.8 68.0 **WEATHERED ROCK** Gray, (METAMORPHOSED QUARTZ DIORITE)
575	572.8	73.0	8	38	62/0.3	100/0.8				
570										

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
570						Match Line				
	567.8	78.0	26	49	51/0.3	100/0.8				**WEATHERED ROCK** Gray, (METAMORPHOSED QUARTZ DIORITE) *(continued)* 566.5 79.3 Boring Terminated at Elevation 566.5 ft In Weathered Rock (METAMORPHOSED QUARTZ DIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G./ R. Kral, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B1-A	**STATION** 431+52	**OFFSET** 59 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 617.2 ft	**TOTAL DEPTH** 49.9 ft	**NORTHING** 557,681	**EASTING** 1,379,307	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/24/23	**COMP. DATE** 04/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
620										617.2 GROUND SURFACE	0.0
615	614.7	2.5	2	6	6	12		M		616.0 Asphalt (0.5 ft) and ABC (0.7 ft)	1.2
	612.7	4.5	2	2	4	6		M		**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Red, Brown-Gray-Red, Silty CLAY (A-7)	
610	609.7	7.5	3	11	19	30		M		610.2 Very Stiff to Hard, Red-Tan, Fine Sandy SILT (A-4), with trace gravel	7.0
605	607.7	9.5	4	6	8	14		M		608.2 **RESIDUAL** Soft to Stiff, Gray-Red-Tan, Fine Sandy SILT (A-4)	9.0
	604.7	12.5	1	1	1	2		M			
600	599.7	17.5	1	1	1	2		M			
595	594.7	22.5	1	1	2	3		M			
590	589.7	27.5	2	1	4	5		M		587.1	30.1
585	586.3	30.9	60/0.0			60/0.0	RS-1			586.3 **WEATHERED ROCK** Black-Gray, (DIABASE) **CRYSTALLINE ROCK** Black-Gray, (DIABASE) REC=98% RQD=79% GSI=60-65	30.9
580											
575											
570										567.3 Boring Terminated at Elevation 567.3 ft In Crystalline Rock (DIABASE)	49.9

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G./ R. Kral, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B1-A	**STATION** 431+52	**OFFSET** 59 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 617.2 ft	**TOTAL DEPTH** 49.9 ft	**NORTHING** 557,681	**EASTING** 1,379,307	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/24/23	**COMP. DATE** 04/26/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 19.0 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
586.3											Begin Coring @ 30.9 ft	
585	586.3	30.9	4.0	*N=60/0.0* 9:05/1.0 9:37/1.0 10:49/1.0 4:50/1.0	(4.0) 100%	(2.4) 60%		(18.7) 98%	(15.1) 79%		586.3 **CRYSTALLINE ROCK** Fresh to Slight Weathering, Very Hard, Black-Gray, (DIABASE), with Close to Wide Fracture Spacing	30.9
	582.3	34.9	5.0	4:27/1.0 4:57/1.0 7:15/1.0 9:54/1.0 12:32/1.0	(5.0) 100%	(3.9) 78%					RS-1: 38.1-38.5' Unit Weight: 176.7 pcf Unconfined Compressive Strength: 18,020 psi (2,595 ksf)	
580	577.3	39.9	5.0	9:24/1.0 8:26/1.0 12:02/1.0 9:40/1.0 9:46/1.0	(4.7) 94%	(3.8) 76%	RS-1				GSI=60-65	
575	572.3	44.9	5.0	9:24/1.0 9:32/1.0 9:26/1.0 9:35/1.0 8:06/1.0	(5.0) 100%	(5.0) 100%						
570	567.3	49.9									567.3 Boring Terminated at Elevation 567.3 ft In Crystalline Rock (DIABASE)	49.9

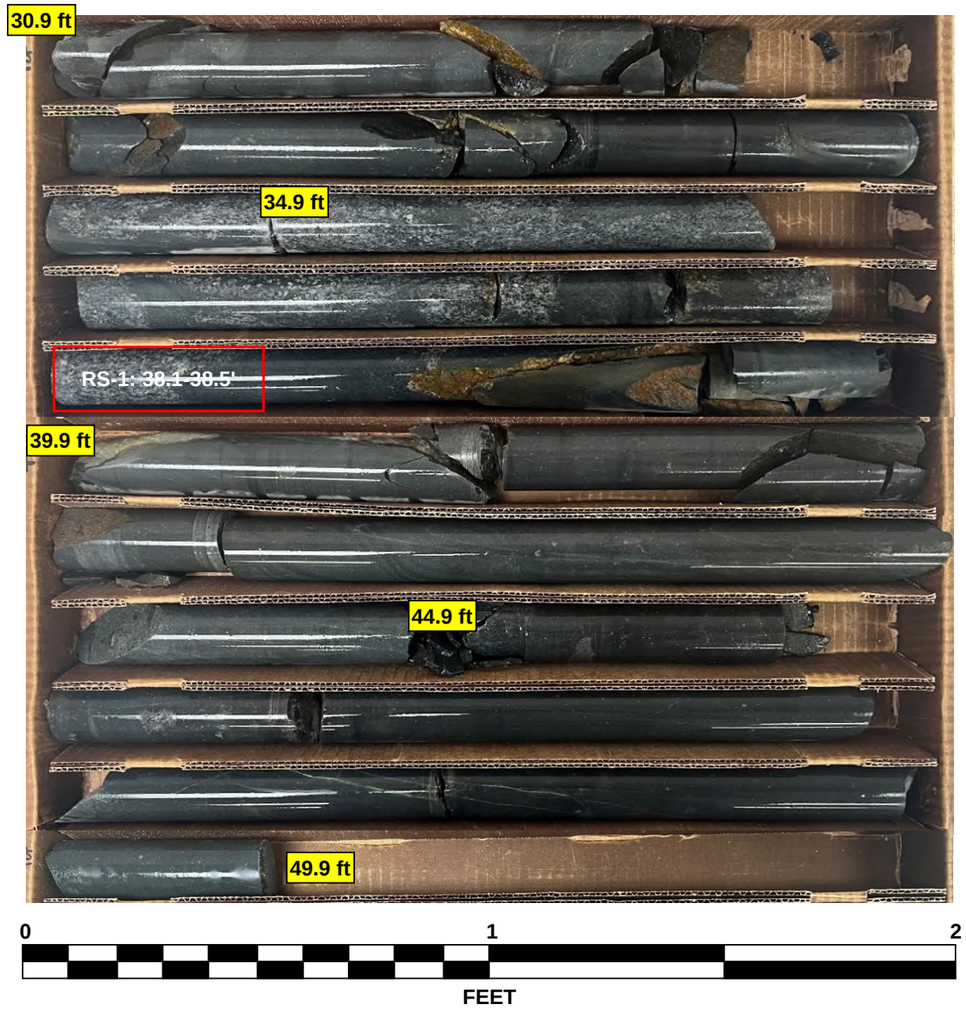
CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B1-A

30.9 to 49.9 Feet



GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B1-B	**STATION** 432+32	**OFFSET** 73 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 619.0 ft	**TOTAL DEPTH** 54.2 ft	**NORTHING** 557,547	**EASTING** 1,379,383	**24 HR.** 17.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/18/23	**COMP. DATE** 04/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
620										619.0 / 0.0 GROUND SURFACE
	618.0	1.0								**RESIDUAL** Soft to Medium Stiff, Gray-Black-Orange-Brown, Fine to Coarse Sandy SILT (A-4), with trace gravel-sized rock fragments
615	615.5	3.5	1	3	3	6		M		
	613.0	6.0	2	2	3	5		M		
610	610.5	8.5	2	2	3	5		M		
	606.0	13.0	2	2	2	4		M		
605			1	2	4	6		M		
600	601.0	18.0	1	2	3	5		W		
595	596.0	23.0	2	2	6	8		W		
590	591.0	28.0	37	63/0.4		100/0.9				591.0 / 28.0 **WEATHERED ROCK** Black-White-Gray, (GRANODIORITE)
	587.5	31.5	60/0.0			60/0.0				587.5 / 31.5 **CRYSTALLINE ROCK** White-Blue-Gray, (GRANODIORITE) REC=92% RQD=72% GSI=50-60
585										
580										
575										
570										
565										564.8 / 54.2 Boring Terminated at Elevation 564.8 ft In Crystalline Rock (GRANODIORITE)

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B1-B	**STATION** 432+32	**OFFSET** 73 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 619.0 ft	**TOTAL DEPTH** 54.2 ft	**NORTHING** 557,547	**EASTING** 1,379,383	**24 HR.** 17.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/18/23	**COMP. DATE** 04/18/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 22.7 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft) / DEPTH (ft)
587.55											Begin Coring @ 31.5 ft
	587.5	31.5	2.7	*N=60/0.0* 6:29/1.0 5:56/1.0 2:10/0.7	(2.5) 93%	(2.3) 85%		(20.8) 92%	(16.4) 72%		587.5 / 31.5 **CRYSTALLINE ROCK** Fresh to Slight Weathering, Hard to Very Hard, White-Blue Gray, (GRANODIORITE), with Very Close to Wide Fracture Spacing and Quartz Veining GSI=50-60
585	584.8	34.2	5.0	3:27/1.0 1:51/1.0 2:47/1.0 2:24/1.0 3:03/1.0	(3.4) 68%	(0.6) 12%					
580	579.8	39.2	5.0	2:35/1.0 4:28/1.0 3:16/1.0 7:49/1.0 6:14/1.0	(4.9) 98%	(3.8) 76%					
575	574.8	44.2	5.0	4:51/1.0 3:13/1.0 3:58/1.0 4:53/1.0 5:25/1.0	(5.0) 100%	(5.0) 100%					
570	569.8	49.2	5.0	4:23/1.0 5:15/1.0 5:24/1.0 6:40/1.0 5:26/1.0	(5.0) 100%	(4.7) 94%					
565	564.8	54.2									564.8 / 54.2 Boring Terminated at Elevation 564.8 ft In Crystalline Rock (GRANODIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

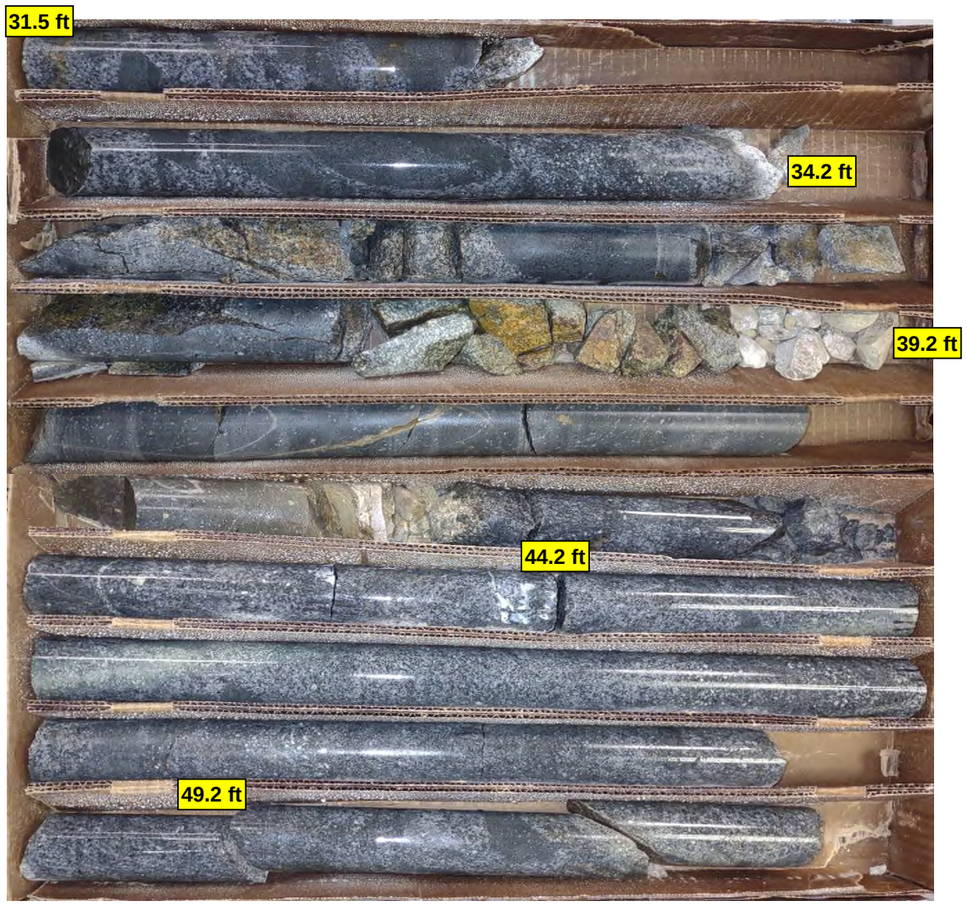
CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B1-B

31.5 to 54.2 Feet



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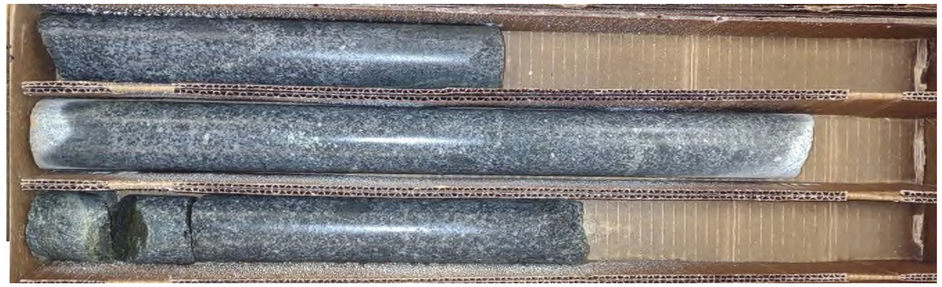

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GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B2-A	**STATION** 432+51	**OFFSET** 56 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 614.3 ft	**TOTAL DEPTH** 35.1 ft	**NORTHING** 557,675	**EASTING** 1,379,406	**24 HR.** 11.3
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
615										614.3 GROUND SURFACE	0.0
	611.7	2.6	5	3	3	6		W		**ROADWAY EMBANKMENT** Medium Stiff, Brown-Black, Fine Sandy CLAY (A-6), with trace concrete fragments	
610	609.4	4.9	1	1	3	4		W		609.8 Soft to Very Stiff, Tan-Brown, Fine Sandy, Silty CLAY (A-7), with trace gravel	4.5
	606.4	7.9	5	8	7	15		M			
605	604.0	10.3	3	4	6	10		M			
600	600.8	13.5	1	3	4	7		M			
595	595.8	18.5	3	4	8	12				596.3 **RESIDUAL** Medium Dense, Gray-Black-Brown, Silty Fine to Coarse SAND (A-2-4)	18.0
	594.2	20.1	60/0.0			60/0.0				594.2 **CRYSTALLINE ROCK** Black-White-Gray, (GRANODIORITE) REC=98% RQD=92% GSI=70-80	20.1
590											
585											
580										579.2 Boring Terminated at Elevation 579.2 ft In Crystalline Rock (GRANODIORITE)	35.1

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B2-A	**STATION** 432+51	**OFFSET** 56 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 614.3 ft	**TOTAL DEPTH** 35.1 ft	**NORTHING** 557,675	**EASTING** 1,379,406	**24 HR.** 11.3
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/24/23	**COMP. DATE** 04/24/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 15.0 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
594.17											Begin Coring @ 20.1 ft	
	594.2	20.1	5.0	*N=60/0.0* 4:01/1.0 4:10/1.0 4:24/1.0 3:43/1.0 5:35/1.0	(5.0) 100%	(4.2) 84%		(14.7) 98%	(13.8) 92%		594.2 **CRYSTALLINE ROCK** Fresh, Very Hard, Black-White-Gray, (GRANODIORITE), with close to wide fracture spacing GSI=70-80	20.1
590	589.2	25.1	5.0	5:32/1.0 4:18/1.0 5:52/1.0 7:16/1.0 7:33/1.0	(5.0) 100%	(5.0) 100%						
585	584.2	30.1	5.0	7:14/1.0 6:38/1.0 6:15/1.0 4:54/1.0 7:03/1.0	(4.7) 94%	(4.6) 92%						
580	579.2	35.1									579.2 Boring Terminated at Elevation 579.2 ft In Crystalline Rock (GRANODIORITE)	35.1

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B2-A

20.1 to 35.1 Feet



0 1 2

FEET

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B2-B	**STATION** 433+36	**OFFSET** 72 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 611.6 ft	**TOTAL DEPTH** 50.9 ft	**NORTHING** 557,544	**EASTING** 1,379,487	**24 HR.** 10.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/13/23	**COMP. DATE** 04/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
615											
										611.6 GROUND SURFACE	0.0
610	610.1	1.5	3	5	9	14 16		M		**RESIDUAL** Stiff to Very Stiff, Orange-Brown, Fine Sandy, Silty CLAY (A-7)	
	608.1	3.5	5	7	9			M			
605	605.6	6.0	3	4	6	10		M		606.1 Stiff, Gray-Orange-Brown, Silty, Fine to Coarse Sandy CLAY (A-6)	5.5
	603.1	8.5	3	4	20	24		M		603.6 Very Stiff, Orange-Tan-Brown, Fine Sandy, Silty CLAY (A-7)	8.0
600								M		599.6 Dense to Very Dense, White-Blue-Gray, Silty Fine to Coarse SAND (A-2-4)	12.0
	598.1	13.5	10	7	49	56		M			
595											
	593.1	18.5	9	10	29	39		M			
590	590.2	21.4	60/0.0			60/0.0				590.2 **CRYSTALLINE ROCK** White-Blue-Gray, (GRANODIORITE) REC=82% RQD=36% GSI=30-35	21.4
585											
580											
575											
570							RS-2				
565										560.7 Boring Terminated with Standard Penetration Test Refusal at Elevation 560.7 ft In Crystalline Rock (GRANODIORITE)	50.9

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B2-B	**STATION** 433+36	**OFFSET** 72 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 611.6 ft	**TOTAL DEPTH** 50.9 ft	**NORTHING** 557,544	**EASTING** 1,379,487	**24 HR.** 10.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/13/23	**COMP. DATE** 04/14/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 29.5 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
590											Begin Coring @ 21.4 ft	
	590.2	21.4	4.5	*N=60/0.0* 4:56/1.0 3:45/1.0 3:25/1.0 3:41/1.0 1:05/0.5	(2.4) 53%	(0.4) 9%		(24.1) 82%	(10.5) 36%		590.2 **CRYSTALLINE ROCK** Fresh to Slight Weathering, Hard to Very Hard, White-Blue-Gray, (GRANODIORITE), with Very Close to Close Fracture Spacing	21.4
585	585.7	25.9	5.0	2:19/1.0 2:02/1.0 4:09/1.0 3:42/1.0 3:00/1.0	(2.5) 50%	(0.5) 10%					RS-2: 41.4-41.9' Unit Weight: 186.8 pcf Unconfined Compressive Strength: 22,140 psi (3,188 ksf)	
580	580.7	30.9	5.0	7:22/1.0 6:21/1.0 5:07/1.0 4:42/1.0 3:24/1.0	(5.0) 100%	(2.0) 40%					GSI=30-35	
575	575.7	35.9	5.0	3:58/1.0 4:11/1.0 2:39/1.0 2:42/1.0 5:04/1.0	(4.7) 94%	(2.1) 42%						
570	570.7	40.9	5.0	7:02/1.0 5:27/1.0 5:26/1.0 2:50/1.0 5:59/1.0	(5.0) 100%	(2.4) 48%	RS-2					
565	565.7	45.9	5.0	6:38/1.0 4:54/1.0 4:10/1.0 6:23/1.0 4:06/1.0	(4.5) 90%	(3.1) 62%						
	560.7	50.9									560.7 Boring Terminated with Standard Penetration Test Refusal at Elevation 560.7 ft In Crystalline Rock (GRANODIORITE)	50.9

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B2-B

21.4 to 50.9 Feet





GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B3-A	**STATION** 433+62	**OFFSET** 59 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 605.0 ft	**TOTAL DEPTH** 45.8 ft	**NORTHING** 557,674	**EASTING** 1,379,517	**24 HR.** 4.9
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/21/23	**COMP. DATE** 04/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
605											
	605.0	0.0	2	2	3	5		M		605.0 GROUND SURFACE	0.0
	601.9	3.1						M		**RESIDUAL** Medium Stiff to Stiff, Tan-Red-Brown, Fine Sandy, Silty CLAY (A-7), with trace gravel-sized rock fragments	
600			5	3	8	11					
	599.0	6.0						▼		599.5	5.5
	596.6	8.4	5	5	7	12		M		Medium Stiff to Stiff, Brown-White-Gray-Green-Blue-Black, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments	
595			2	3	5	8		M			
	591.6	13.4									
590			3	4	9	13		M			
	586.6	18.4									
585			5	6	6	12		M			
	581.6	23.4									
580			4	6	8	14		M			
	576.8	28.2	60/0.0			60/0.0				576.8 **CRYSTALLINE ROCK** Black-White-Blue-Gray, (GRANODIORITE) REC=96% RQD=84% GSI=75-85	28.2
575											
570											
565											
560										559.2 Boring Terminated with Standard Penetration Test Refusal at Elevation 559.2 ft In Crystalline Rock (GRANODIORITE)	45.8

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B3-A	**STATION** 433+62	**OFFSET** 59 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 605.0 ft	**TOTAL DEPTH** 45.8 ft	**NORTHING** 557,674	**EASTING** 1,379,517	**24 HR.** 4.9
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 04/21/23	**COMP. DATE** 04/21/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 17.6 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
576.76											Begin Coring @ 28.2 ft	
575	576.8	28.2	2.6	*N=60/0.0* 3:26/1.0 3:15/1.0 1:43/0.6	(2.0) 77%	(1.7) 65%		(16.9) 96%	(14.8) 84%		576.8 **CRYSTALLINE ROCK** Fresh, Very Hard, Black-White-Blue-Gray, (GRANODIORITE), with Very Close to Moderately Close Fracture Spacing GSI=75-85	28.2
	574.2	30.8	5.0	3:50/1.0 5:53/1.0 5:40/1.0 6:02/1.0 4:55/1.0	(5.0) 100%	(3.4) 68%						
570	569.2	35.8	5.0	3:02/1.0 2:39/1.0 3:49/1.0 4:03/1.0 4:35/1.0	(4.9) 98%	(4.7) 94%						
565	564.2	40.8	5.0	3:07/1.0 3:19/1.0 3:13/1.0 3:42/1.0 5:36/1.0	(5.0) 100%	(5.0) 100%						
560	559.2	45.8									559.2 Boring Terminated with Standard Penetration Test Refusal at Elevation 559.2 ft In Crystalline Rock (GRANODIORITE)	45.8

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B3-A

28.2 to 45.8 Feet



0 1 2

FEET

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B3-B	**STATION** 434+24	**OFFSET** 76 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 607.9 ft	**TOTAL DEPTH** 30.2 ft	**NORTHING** 557,537	**EASTING** 1,379,574	**24 HR.** 6.2
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/13/23	**COMP. DATE** 04/13/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
610											
	606.9	1.0	5	6	9	15		M		607.9 GROUND SURFACE	0.0
605	604.4	3.5	5	6	10	16		M		**RESIDUAL** Stiff to Very Stiff, Red-Brown, Silty CLAY (A-7), with trace gravel-sized rock fragments	
	601.9	6.0	29	36	64/0.3	100/0.8				602.4	5.5
600										601.4 Hard, Gray-Brown, Fine to Coarse Sandy SILT (A-4), with trace gravel-sized rock fragments	6.5
	597.7	10.2	60/0.0			60/0.0				597.7 **WEATHERED ROCK** Gray-Blue-Brown, (GRANODIORITE)	10.2
595										**CRYSTALLINE ROCK** White-Blue-Gray, (GRANODIORITE) REC=99% RQD=80% GSI=60-65	
590											
585											
580										577.7	30.2
										Boring Terminated with Standard Penetration Test Refusal at Elevation 577.7 ft In Crystalline Rock (GRANODIORITE)	

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B3-B	**STATION** 434+24	**OFFSET** 76 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 607.9 ft	**TOTAL DEPTH** 30.2 ft	**NORTHING** 557,537	**EASTING** 1,379,574	**24 HR.** 6.2
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/13/23	**COMP. DATE** 04/13/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 20.0 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
597.68												
595	597.7	10.2	5.0	*N=60/0.0* 4:24/1.0 3:16/1.0 3:47/1.0 4:42/1.0 5:45/1.0	(5.0) 100%	(4.1) 82%		(19.4) 97%	(15.9) 80%		Begin Coring @ 10.2 ft	
	592.7	15.2	5.0	5:10/1.0 3:45/1.0 4:52/1.0 4:17/1.0 3:59/1.0	(4.8) 96%	(3.7) 74%					597.7 **CRYSTALLINE ROCK** Fresh to Very Slight Weathering, Very Hard, White-Blue-Gray, (GRANODIORITE), with Close to Wide Fracture Spacing GSI=60-65	10.2
590	587.7	20.2	5.0	7:13/1.0 6:37/1.0 4:01/1.0 3:29/1.0 2:48/1.0	(5.0) 100%	(3.6) 72%						
585	582.7	25.2	5.0	5:30/1.0 5:01/1.0 3:08/1.0 5:07/1.0 5:10/1.0	(4.6) 92%	(4.5) 90%						
580	577.7	30.2									577.7 Boring Terminated with Standard Penetration Test Refusal at Elevation 577.7 ft In Crystalline Rock (GRANODIORITE)	30.2

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

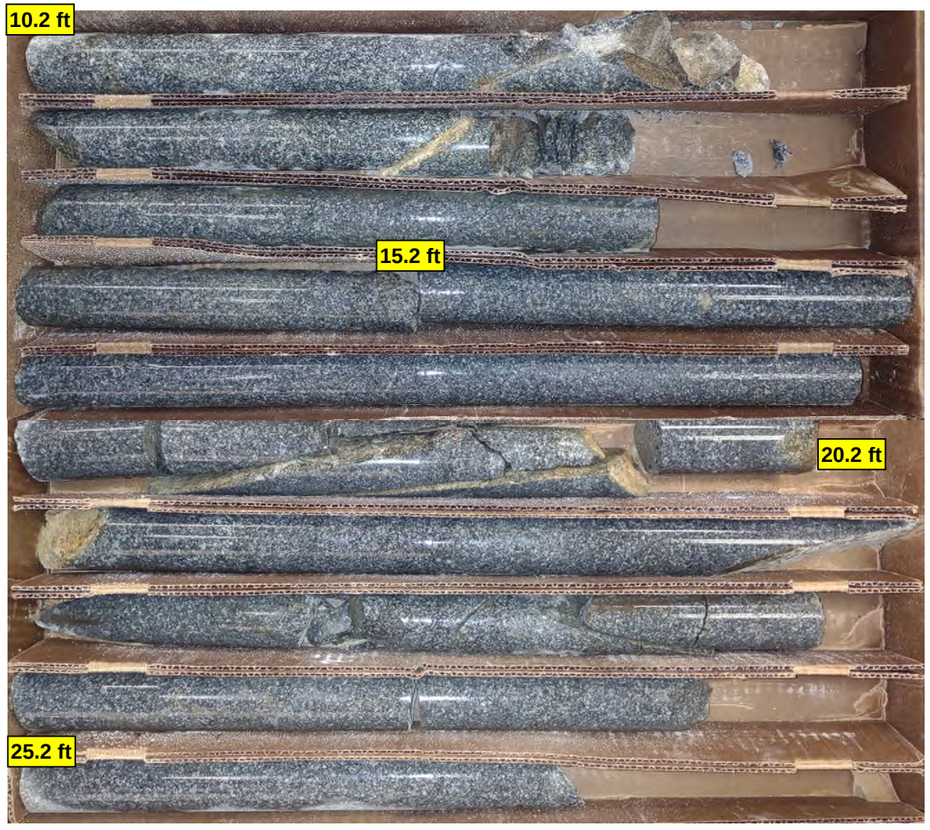
CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B3-B

10.2 to 30.2 Feet



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FEET



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FEET

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B4-A	**STATION** 434+56	**OFFSET** 53 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 597.5 ft	**TOTAL DEPTH** 38.8 ft	**NORTHING** 557,664	**EASTING** 1,379,611	**24 HR.** 0.2
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
600										ELEV. (ft) DEPTH (ft)
	596.5	1.0								597.5 GROUND SURFACE 0.0
595			10	22	78/0.4			M		**RESIDUAL**
	594.0	3.5	100/0.3			100/0.9 100/0.3				596.0 Stiff, White-Brown-Black-Gray, Fine to Coarse Sandy SILT (A-4), with trace gravel-sized rock fragments 1.5
	591.7	5.8	60/0.0			60/0.0				**WEATHERED ROCK**
590										591.7 White-Brown-Black-Gray, (GRANODIORITE) 5.8
							RS-3			**CRYSTALLINE ROCK**
585										Green-Blue-White-Black, (GRANODIORITE)
										REC=71%
580										RQD=47%
										GSI=50-60
575										
570	569.3	28.2	60/0.0			60/0.0				
565										
560										558.7 38.8
										Boring Terminated with Standard Penetration Test Refusal at Elevation 558.7 ft In Crystalline Rock (GRANODIORITE)

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B4-A	**STATION** 434+56	**OFFSET** 53 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 597.5 ft	**TOTAL DEPTH** 38.8 ft	**NORTHING** 557,664	**EASTING** 1,379,611	**24 HR.** 0.2
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/20/23	**COMP. DATE** 04/20/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 33.0 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
591.65											ELEV. (ft) DEPTH (ft)
											Begin Coring @ 5.8 ft
590	591.7	5.8	3.0	*N=60/0.0* 5:25/1.0 6:59/1.0 4:20/1.0	(2.9) 97%	(2.5) 83%		(23.4) 71%	(15.4) 47%		591.7 **CRYSTALLINE ROCK** 5.8
	588.7	8.8					RS-3				Fresh to Very Slight Weathering, Very Hard to Hard,
			5.0	2:53/1.0 1:38/1.0 1:52/1.0 1:29/1.0 1:40/1.0	(1.8) 36%	(0.7) 14%					Green-Blue-White-Black, (GRANODIORITE), with Very Close to Wide Fracture Spacing
585	583.7	13.8									RS-3: 8.2-8.7'
			5.0	2:04/1.0 3:37/1.0 4:20/1.0 2:46/1.0 3:10/1.0	(3.8) 76%	(1.5) 30%					Unit Weight: 175.0 pcf
580	578.7	18.8									Unconfined Compressive Strength: 11,00 psi (1,584 ksf)
			5.0	2:15/1.0 2:37/1.0 2:06/1.0 3:17/1.0 5:15/1.0	(1.8) 36%	(0.0) 0%					GSI=50-60
575	573.7	23.8									
			5.0	1:42/1.0 1:21/1.0 8:49/1.0 5:17/1.0 3:27/1.0	(3.1) 62%	(0.9) 18%					
570	568.7	28.8									
			5.0	*N=60/0.0* 2:51/1.0 3:08/1.0 3:46/1.0 3:10/1.0 3:02/1.0	(5.0) 100%	(4.9) 98%					
565	563.7	33.8									
			5.0	3:28/1.0 5:03/1.0 3:46/1.0 3:15/1.0 3:20/1.0	(5.0) 100%	(4.9) 98%					
560	558.7	38.8									558.7 38.8
											Boring Terminated with Standard Penetration Test Refusal at Elevation 558.7 ft In Crystalline Rock (GRANODIORITE)

CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B4-A

5.8 to 38.8 Feet





GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B4-B	**STATION** 435+30	**OFFSET** 73 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 601.5 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,536	**EASTING** 1,379,680	**24 HR.** Caved
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/12/23	**COMP. DATE** 04/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
605										601.5 GROUND SURFACE 0.0
600	599.5	2.0	8	8	19	27		M		**RESIDUAL** Very Stiff, Gray-Red-Brown, Fine Sandy CLAY (A-6), with trace gravel-sized rock fragments 597.5 4.0
	597.1	4.4								
595	595.7	5.8	100/0.2			100/0.2				**WEATHERED ROCK** Brown-Blue-Gray, (GRANODIORITE) 595.7 5.8
			60/0.0			60/0.0				**CRYSTALLINE ROCK** White-Blue-Gray, (GRANODIORITE) REC=95% RQD=69% GSI=50-55
590										
585										
580										
575										571.5 30.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 571.5 ft In Crystalline Rock (GRANODIORITE)

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B4-B	**STATION** 435+30	**OFFSET** 73 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 601.5 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 557,536	**EASTING** 1,379,680	**24 HR.** Caved
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/12/23	**COMP. DATE** 04/12/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 24.2 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
											ELEV. (ft) DEPTH (ft)
595.7											Begin Coring @ 5.8 ft
595	595.7	5.8	4.2	*N=60/0.0* 4:12/1.0 6:43/1.0 6:14/1.0 3:17/1.0	(3.0) 71%	(1.3) 31%		(22.9) 95%	(16.6) 69%		595.7 **CRYSTALLINE ROCK** 5.8 Fresh to Slight Weathering, Hard to Very Hard, White-Blue-Gray, (GRANODIORITE), with Very Close to Wide Fracture Spacing
	591.5	10.0									GSI=50-55
590			5.0	1:17/0.2 3:18/1.0 2:19/1.0 4:33/1.0 8:13/1.0 8:16/1.0	(5.0) 100%	(2.1) 42%					
585	586.5	15.0	5.0	6:32/1.0 4:52/1.0 4:21/1.0 4:17/1.0 4:11/1.0	(5.0) 100%	(5.0) 100%					
580	581.5	20.0	5.0	5:03/1.0 5:20/1.0 4:29/1.0 5:32/1.0 9:25/1.0	(4.9) 98%	(3.2) 64%					
575	576.5	25.0	5.0	5:51/1.0 6:15/1.0 7:06/1.0 6:57/1.0 7:46/1.0	(5.0) 100%	(5.0) 100%					
	571.5	30.0									571.5 30.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 571.5 ft In Crystalline Rock (GRANODIORITE)

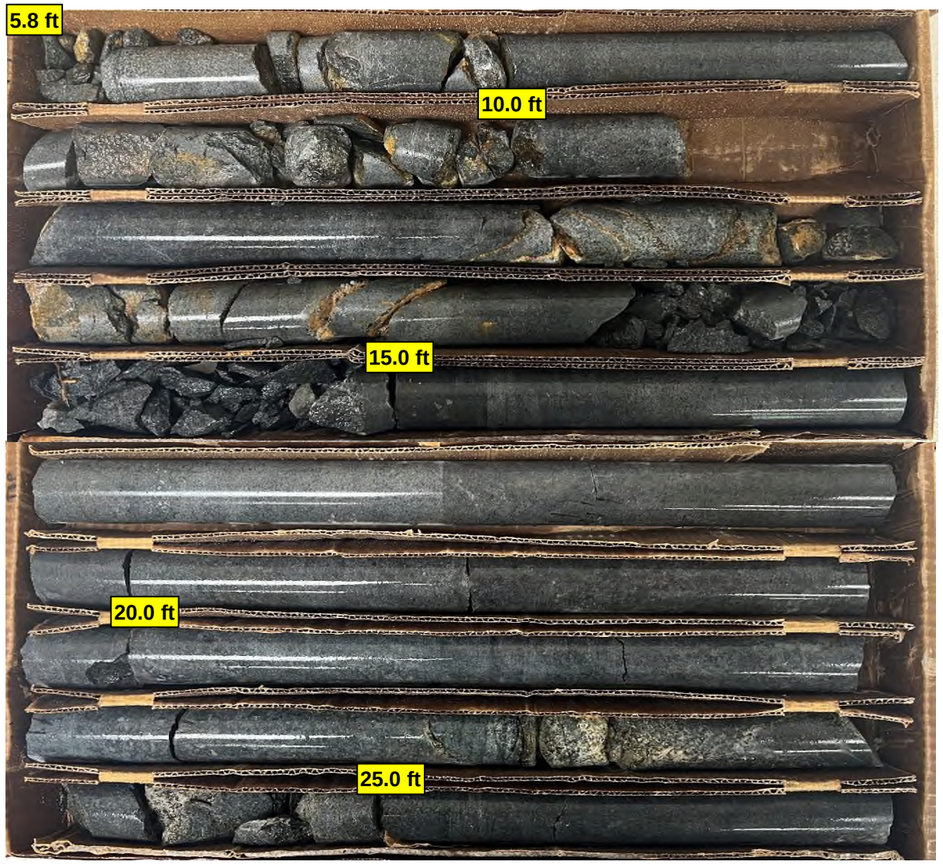
CAROLINAS GEOTECHNICAL GROUP

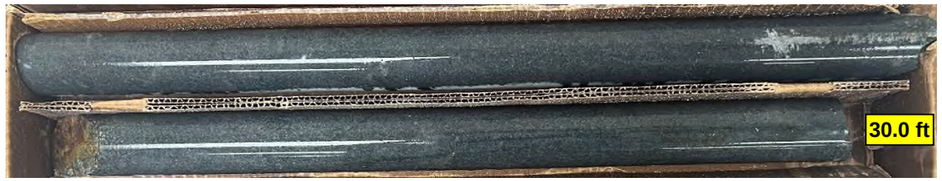
TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B4-B

5.8 to 30.0 Feet





GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B5-A	**STATION** 435+54	**OFFSET** 47 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 593.0 ft	**TOTAL DEPTH** 64.7 ft	**NORTHING** 557,655	**EASTING** 1,379,709	**24 HR.** 4.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/19/23	**COMP. DATE** 04/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
595											
	592.0	1.0	4	3	3	6		Sat.		593.0 GROUND SURFACE	0.0
590	589.5	3.5	WOH	1	2	3		Sat.		**ARTIFICIAL FILL** Soft to Medium Stiff, Gray-Red-Brown, Fine to Coarse Sandy CLAY (A-6), with little gravel	
	587.0	6.0	WOH	1	1	2		Sat.		587.5 **ALLUVIAL** Soft to Hard, Blue-Gray, Fine Sandy, Silty CLAY (A-7), with trace organics	5.5
585	584.5	8.5	WOH	1	2	3		Sat.			
580	580.0	13.0	2	13	18	31		W			
575	575.0	18.0	2	3	1	4		M		576.0 **RESIDUAL** Soft to Stiff, Orange-Green-White-Gray, Clayey, Fine Sandy SILT (A-4)	17.0
570	570.0	23.0	2	4	5	9		M			
565	564.0	29.0	60	40/0.4		100/0.9				564.0 **WEATHERED ROCK** Black-White, (GRANODIORITE)	29.0
560	559.0	34.0	10	15	30	45		M		560.0 **RESIDUAL** Dense, Black-White-Gray, Silty Fine SAND (A-2-4)	33.0
555	554.0	39.0	39	50	50/0.1	100/0.6				553.5	39.5
550	552.0	41.0	60/0.0			60/0.0				552.0 **WEATHERED ROCK** Black-White, (GRANODIORITE) **CRYSTALLINE ROCK** Green-Blue-Gray, (GRANODIORITE) REC: 99% RQD: 68% GSI: 50-55	41.0
545											
540											
535											
530										528.3 Boring Terminated with Standard Penetration Test Refusal at Elevation 528.3 ft In Crystalline Rock (GRANODIORITE)	64.7

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B5-A	**STATION** 435+54	**OFFSET** 47 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 593.0 ft	**TOTAL DEPTH** 64.7 ft	**NORTHING** 557,655	**EASTING** 1,379,709	**24 HR.** 4.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/19/23	**COMP. DATE** 04/19/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 23.7 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
552.04											Begin Coring @ 41.0 ft	
550	552.0	41.0	3.7	*N=60/0.0* 3:21/1.0 6:57/1.0 3:26/1.0 2:21/0.7	(3.7) 100%	(0.7) 19%		(23.6) 100%	(16.0) 68%		552.0 **CRYSTALLINE ROCK** Fresh to Slight Weathering, Moderately Hard to Hard, Green-Blue-Gray, (GRANODIORITE), with Very Close to Wide Fracture Spacing GSI: 50-55	41.0
	548.3	44.7	5.0	3:25/1.0 2:50/1.0 3:31/1.0 3:15/1.0 2:34/1.0	(5.0) 100%	(3.0) 60%						
545	543.3	49.7	5.0	2:28/1.0 3:07/1.0 3:53/1.0 3:43/1.0 3:33/1.0	(5.0) 100%	(2.5) 50%						
540	538.3	54.7	5.0	4:08/1.0 4:03/1.0 3:19/1.0 4:27/1.0 3:48/1.0	(4.9) 98%	(4.8) 96%						
535	533.3	59.7	5.0	4:05/1.0 6:08/1.0 3:33/1.0 5:09/1.0 3:40/1.0	(5.0) 100%	(5.0) 100%						
530	528.3	64.7									528.3 Boring Terminated with Standard Penetration Test Refusal at Elevation 528.3 ft In Crystalline Rock (GRANODIORITE)	64.7

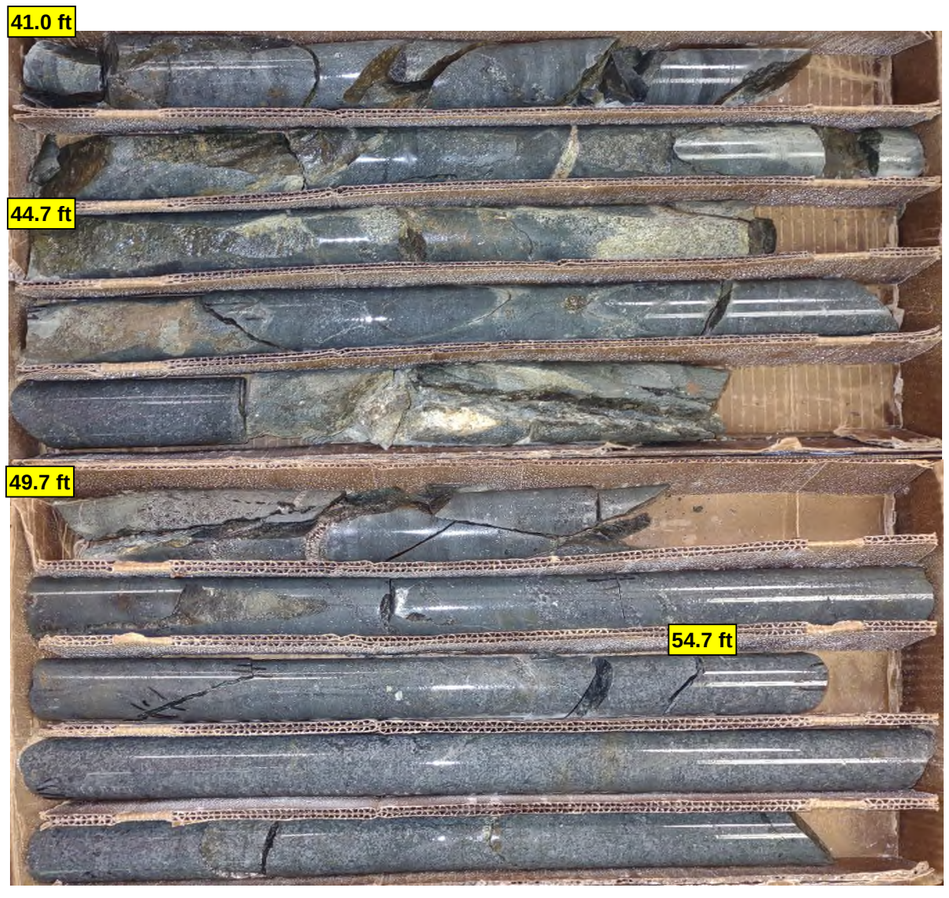
CAROLINAS GEOTECHNICAL GROUP

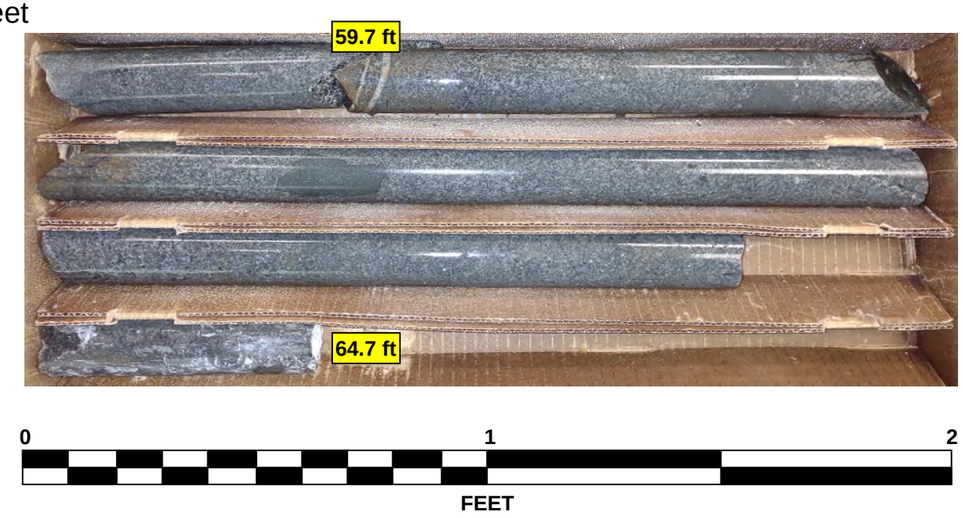
TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B5-A

41.0 to 64.7 Feet





GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B5-B	**STATION** 436+07	**OFFSET** 71 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 595.2 ft	**TOTAL DEPTH** 29.4 ft	**NORTHING** 557,535	**EASTING** 1,379,757	**24 HR.** 5.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/17/23	**COMP. DATE** 04/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
600											
595										595.2 GROUND SURFACE	0.0
	593.0	2.2	3	3	2	5		M		**ARTIFICIAL FILL** Soft to Medium Stiff, Brown-Red, Silty, Fine to Coarse Sandy CLAY (A-6), with trace gravel and organics	
590	590.8	4.4	2	1	2	3		M		588.7	6.5
	588.4	6.8	WOH	WOH	1	1		Sat.		**ALLUVIAL** Very Loose to Medium Dense, Brown, Clayey Fine to Coarse SAND (A-2-6), with trace organics and gravel	
	586.4	8.8	1	1	2	3		Sat.			
585											
	581.6	13.6	12	5	6	11		Sat.		580.2	15.0
580	578.9	16.3	60/0.0			60/0.0				578.9 **WEATHERED ROCK** (DIABASE)	16.3
										CRYSTALLINE ROCK White-Green-Gray-Blue, (DIABASE) REC=98% RQD=96% GSI=75-85	
575											
570										565.8	29.4
										Boring Terminated at Elevation 565.8 ft In Crystalline Rock (DIABASE)	

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B5-B	**STATION** 436+07	**OFFSET** 71 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 595.2 ft	**TOTAL DEPTH** 29.4 ft	**NORTHING** 557,535	**EASTING** 1,379,757	**24 HR.** 5.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/17/23	**COMP. DATE** 04/17/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 13.1 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
578.91											Begin Coring @ 16.3 ft	
	578.9	16.3	3.1	*N=60/0.0* 8:20/1.1 5:18/1.0 8:30/1.0	(2.9) 94%	(2.6) 84%		(12.9) 98%	(12.6) 96%		578.9 **CRYSTALLINE ROCK** Fresh to Very Slight Weathering, Hard, White-Green-Blue-Gray, (DIABASE), with Close to Wide Fracture Spacing GSI=75-85	16.3
575	575.8	19.4	5.0	4:00/1.0 4:15/1.0 4:16/1.0 4:25/1.0 6:13/1.0	(5.0) 100%	(5.0) 100%						
570	570.8	24.4	5.0	5:51/1.0 4:44/1.0 4:37/1.0 5:36/1.0 6:12/1.0	(5.0) 100%	(5.0) 100%						
	565.8	29.4									565.8 Boring Terminated at Elevation 565.8 ft In Crystalline Rock (DIABASE)	29.4

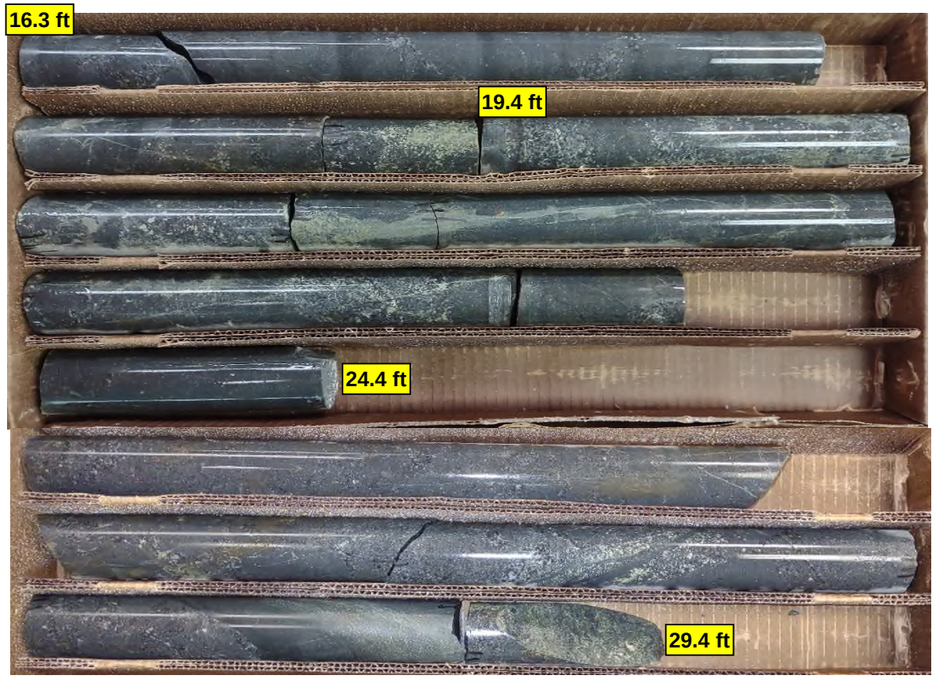
CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B5-B

16.3 to 29.4 Feet



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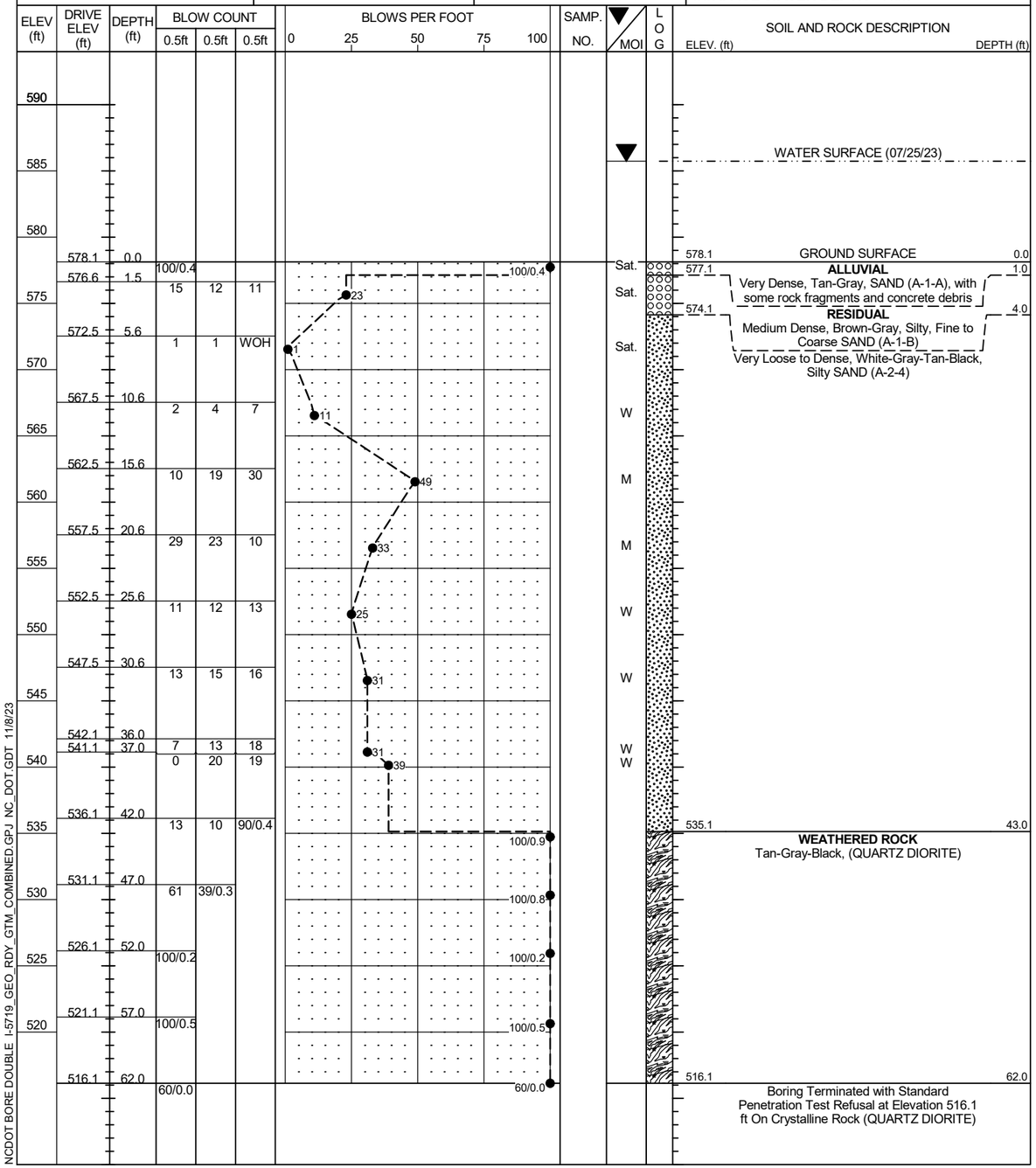
FEET

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B6-B	**STATION** 437+42	**OFFSET** 52 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 578.1 ft	**TOTAL DEPTH** 62.0 ft	**NORTHING** 557,549	**EASTING** 1,379,893	**24 HR.** N/M
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary		**HAMMER TYPE** Automatic
DRILLER C. Odom	**START DATE** 07/25/23	**COMP. DATE** 07/26/23	**SURFACE WATER DEPTH** 7.6ft	



NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B7-A	**STATION** 438+45	**OFFSET** 54 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 591.9 ft	**TOTAL DEPTH** 30.7 ft	**NORTHING** 557,651	**EASTING** 1,380,000	**24 HR.** 2.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/26/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
595											
										591.9	0.0
										GROUND SURFACE	
590										**ROADWAY EMBANKMENT** Soft, Red-Brown-Gray-Tan, Silty CLAY (A-7), with trace mica	
	589.0	2.9	1	1	2	3		M			
	586.7	5.2	1	1	2	3		M			
585											
	583.5	8.4	WOH	WOH	2	2		W		583.9	8.0
	581.3	10.6	2	2	3	5		W		**ALLUVIAL** Soft, Gray, Fine Sandy SILT (A-4), with trace mica	
580										581.6	10.3
										Very loose, Gray, Silty Fine SAND (A-2-4), with trace mica	
	577.5	14.4	10	10	5	15		M		577.9	14.0
575	574.9	17.0	60/0.0			60/0.0				**RESIDUAL** Stiff, White-Black-Gray, Fine Sandy SILT (A-4)	
										574.9	17.0
										CRYSTALLINE ROCK Green-White-Blue-Gray, (DIABASE) REC=99% RQD=98% GSI=80-85	
570											
565										561.2	30.7
										Boring Terminated at Elevation 561.2 ft In Crystalline Rock (DIABASE)	

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B7-A	**STATION** 438+45	**OFFSET** 54 ft LT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 591.9 ft	**TOTAL DEPTH** 30.7 ft	**NORTHING** 557,651	**EASTING** 1,380,000	**24 HR.** 2.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/26/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 13.7 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
574.92											Begin Coring @ 17.0 ft	
	574.9	17.0	3.7	*N=60/0.0* 3:40/0.7 7:40/1.0 5:03/1.0 4:50/1.0	(3.5) 95%	(3.4) 92%		(13.5) 99%	(13.4) 98%		574.9	17.0
	571.2	20.7									**CRYSTALLINE ROCK** Fresh, Very Hard, Green-White-Blue-Gray, (DIABASE), with Close to Wide Fracture Spacing	
570			5.0	4:34/1.0 4:11/1.0 4:31/1.0 4:10/1.0 3:50/1.0	(5.0) 100%	(5.0) 100%					GSI=80-85	
	566.2	25.7										
565			5.0	3:45/1.0 4:32/1.0 5:17/1.0 4:03/1.0 3:39/1.0	(5.0) 100%	(5.0) 100%					561.2	30.7
	561.2	30.7									Boring Terminated at Elevation 561.2 ft In Crystalline Rock (DIABASE)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B7-A

17.0 to 30.7 Feet



GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B7-B	**STATION** 438+90	**OFFSET** 67 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 593.7 ft	**TOTAL DEPTH** 39.1 ft	**NORTHING** 557,529	**EASTING** 1,380,040	**24 HR.** 5.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
595										593.7 GROUND SURFACE	0.0
	591.0	2.7	4	53	3	56		W		**ROADWAY EMBANKMENT** Soft to Hard, Red-Brown, Gravelly, Silty CLAY (A-7)	
590	588.4	5.3	WOH	1	1	2		W			
	586.0	7.7	2	3	2	5		Sat.		586.7	7.0
585	584.0	9.7	1	1	1	2		Sat.		**ALLUVIAL** Soft to Medium Stiff, Gray, Silty Fine to Coarse SAND (A-2-4), with trace mica and organics	
	579.6	14.1	2	15	74	89		W		578.8	14.9
580										**RESIDUAL** Loose to Very Dense, Black-White, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments	
575	574.6	19.1	7	6	3	9		M		572.7	21.0
	569.6	24.1	60/0.0			60/0.0				**WEATHERED ROCK** (DIABASE)	
570										569.6	24.1
565							RS-4			**CRYSTALLINE ROCK** Blue-White-Black-Gray, (DIABASE) REC: 100% RQD: 78% GSI: 55-65	
560											
555										554.6	39.1
										Boring Terminated at Elevation 554.6 ft In Crystalline Rock (DIABASE)	

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_B7-B	**STATION** 438+90	**OFFSET** 67 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 593.7 ft	**TOTAL DEPTH** 39.1 ft	**NORTHING** 557,529	**EASTING** 1,380,040	**24 HR.** 5.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 15.0 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
569.57											Begin Coring @ 24.1 ft	
	569.6	24.1	5.0	*N=60/0.0* 4:51/1.0 3:32/1.0 2:38/1.0 5:34/1.0 3:26/1.0	(5.0) 100%	(1.8) 36%		(15.0) 100%	(11.7) 78%		569.6 **CRYSTALLINE ROCK** Fresh to Slight Weathering, Hard to Very Hard, Blue-White-Black-Gray, (DIABASE), with Very Close to Wide Fracture Spacing	24.1
565	564.6	29.1	5.0	4:19/1.0 3:22/1.0 4:10/1.0 3:12/1.0 4:29/1.0	(5.0) 100%	(5.0) 100%	RS-4				RS-4: 31.8-32.3' Unit Weight: 176.7 pcf Unconfined Compressive Strength: 25,490 psi (3,671 ksf) GSI: 55-65	
560	559.6	34.1	5.0	4:12/1.0 3:31/1.0 4:32/1.0 5:00/1.0 4:52/1.0	(5.0) 100%	(4.9) 98%						
555	554.6	39.1									554.6	39.1
											Boring Terminated at Elevation 554.6 ft In Crystalline Rock (DIABASE)	

CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - L/SFCR_B7-B

24.1 to 39.1 Feet



0 1 2

FEET

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_EB2-A	**STATION** 439+85	**OFFSET** 62 ft LT	**ALIGNMENT** -L-	**0 HR.** 26.4
COLLAR ELEV. 633.0 ft	**TOTAL DEPTH** 47.3 ft	**NORTHING** 557,654	**EASTING** 1,380,140	**24 HR.** 24.8
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/01/23	**COMP. DATE** 05/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
635										633.0 GROUND SURFACE 0.0
	632.0	1.0	1	2	3	5		M		**ROADWAY EMBANKMENT** Soft to Very Stiff, Orange-Red-Brown-Tan, Fine Sandy, Silty CLAY (A-7), with trace gravel and organics
630	629.5	3.5	2	3	2	5		M		
	627.0	6.0	2	1	3	4		M		
625	624.5	8.5	2	2	4	6		M		
620	619.5	13.5	1	2	3	5		M		
615	614.5	18.5	3	8	8	16		M		612.0 21.0 **RESIDUAL** Stiff to Hard, Black-Orange-Red-Brown to Black-White-Gray, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments
610	609.5	23.5	4	6	8	14		M		
605	604.5	28.5	4	5	7	12		M		
600	599.5	33.5	7	8	7	15		M		
595	594.5	38.5	3	4	10	14		M		
590	589.5	43.5	14	17	28	45		M		
	585.7	47.3	60/0.0			60/0.0				585.7 47.3 Boring Terminated with Standard Penetration Test Refusal at Elevation 585.7 ft On Crystalline Rock (DIORITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. L/SFCR_EB2-B	**STATION** 439+86	**OFFSET** 49 ft RT	**ALIGNMENT** -L-	**0 HR.** N/M
COLLAR ELEV. 633.0 ft	**TOTAL DEPTH** 51.0 ft	**NORTHING** 557,543	**EASTING** 1,380,137	**24 HR.** 23.7
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/26/23	**COMP. DATE** 07/26/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
635										633.0 GROUND SURFACE 0.0
										632.3 Concrete (0.7 ft) 0.7
630	629.0	4.0	2	3	5	8		M		**ROADWAY EMBANKMENT** Medium Stiff to Stiff, Red-Gray, Silty CLAY (A-7), with trace mica and gravel
625	624.0	9.0	3	3	5	8		M		
620	619.0	14.0	2	3	4	7		M		
615	614.0	19.0	2	3	4	7		M		
610	609.0	24.0	2	3	5	8		M		
605	604.0	29.0	2	3	3	6		M		
600	599.0	34.0	4	6	8	14		W		599.5 33.5 **RESIDUAL** Stiff, Brown-Gray-Orange, Silty CLAY (A-7) with trace organics and mica
595	594.0	39.0	4	4	7	11		W		
590	589.0	44.0	2	3	2	5		W		589.5 43.5 Medium Stiff, Orange-Brown, Fine Sandy SILT (A-4), with trace mica
585	584.0	49.0	17	83/0.2		100/0.7				584.0 49.0 **WEATHERED ROCK**
	582.0	51.0	60/0.0			60/0.0				582.0 51.0 White-Gray, (METAMORPHOSED QUARTZ DIORITE) Boring Terminated with Standard Penetration Test Refusal at Elevation 582.0 ft On Crystalline Rock (METAMORPHOSED QUARTZ DIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350150_EB1-A	**STATION** 544+82	**OFFSET** 104 ft LT	**ALIGNMENT** -L-	**0 HR.** 32.0
COLLAR ELEV. 730.9 ft	**TOTAL DEPTH** 65.7 ft	**NORTHING** 554,933	**EASTING** 1,390,030	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/26/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735											
730										730.9 GROUND SURFACE	0.0
	729.4	1.5						M		**ROADWAY EMBANKMENT** Medium Stiff to Very Stiff, Red, Silty CLAY (A-7)	
	727.4	3.5	4	2	3	5		M			
725	724.4	6.5	5	6	14	20		D			
	722.4	8.5	5	5	7	12		M		723.9	7.0
720			3	5	5	10		M		**RESIDUAL** Stiff, Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
	717.4	13.5	4	5	6	11		M			
715											
	712.4	18.5	4	4	7	11		M			
710											
	707.4	23.5	6	5	6	11		M			
705											
	702.4	28.5	2	3	7	10		M			
700								▽			
	697.4	33.5	3	3	6	9		M			
695											
	692.4	38.5	3	4	7	11		M			
690											
	687.4	43.5	3	5	7	12		M			
685											
	682.4	48.5	3	5	12	17		M			
680										678.9	52.0
	677.4	53.5	29	25	27	52		M		Very Dense, Gray-Tan-White, Silty Fine SAND (A-2-4)	
675											
	672.4	58.5	11	41	59/0.4	100/0.9				671.9	59.0
670										**WEATHERED ROCK** Gray-White-Tan, (DIORITE)	
	667.4	63.5	100/0.2			100/0.2					
	665.2	65.7	60/0.0			60/0.0				665.2	65.7
										Boring Terminated with Standard Penetration Test Refusal at Elevation 665.2 ft On Crystalline Rock (DIORITE)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350150_EB1-B	**STATION** 544+53	**OFFSET** 114 ft LT	**ALIGNMENT** -L-	**0 HR.** 17.0
COLLAR ELEV. 730.4 ft	**TOTAL DEPTH** 63.0 ft	**NORTHING** 554,955	**EASTING** 1,390,010	**24 HR.** 18.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/28/23	**COMP. DATE** 04/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735											
730										730.4 GROUND SURFACE	0.0
	729.0	1.4						M		**RESIDUAL** Medium Stiff to Very Stiff, Red, Silty CLAY (A-7)	
	726.6	3.8	3	2	4	6		M			
725	724.4	6.0	6	6	13	19		M			
	721.5	8.9	5	7	10	17		M		722.4	8.0
720			3	4	6	10		M		Medium Stiff to Very Stiff, Orange-Tan, SILT (A-5), with manganese oxide staining	
	716.5	13.9	4	5	7	12		M			
715											
	711.5	18.9	4	4	6	10		M			
710											
	706.5	23.9	3	2	4	6		M			
705											
	701.5	28.9	2	4	5	9		M			
700											
	696.5	33.9	4	6	10	16		M			
695											
	691.5	38.9	5	10	11	21		M			
690											
	686.5	43.9	10	22	20	42		M		688.4	42.0
685										Hard, Green-White-Tan, Fine Sandy SILT (A-4)	
	681.5	48.9	11	11	21	32		M			
680											
	676.5	53.9	11	15	26	41		M			
675										673.4	57.0
	671.5	58.9	23	77/0.3		100/0.3				**WEATHERED ROCK** Green-White-Tan, (DIORITE)	
670											
	667.4	63.0	60/0.0			60/0.0				667.4	63.0
										Boring Terminated with Standard Penetration Test Refusal at Elevation 667.4 ft On Crystalline Rock (DIORITE)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350150_B1-A	**STATION** 545+80	**OFFSET** 8 ft LT	**ALIGNMENT** -L-	**0 HR.** 17.5
COLLAR ELEV. 711.8 ft	**TOTAL DEPTH** 65.4 ft	**NORTHING** 554,805	**EASTING** 1,390,074	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/10/23	**COMP. DATE** 07/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715											
										711.8 GROUND SURFACE	0.0
710	709.8	2.0	6	5	7	12		M		710.2 **ROADWAY EMBANKMENT** Asphalt (0.6 ft) and ABC (1.0 ft)	1.6
	707.8	4.0	3	2	4	6		M		707.8 Stiff, Brown-Orange, Fine Sandy SILT (A-4), with trace mica	4.0
705										**RESIDUAL** Medium Stiff to Stiff, Tan-Orange-Brown, Fine Sandy, Clayey SILT (A-5), with trace mica, manganese oxide staining	
	702.8	9.0	4	5	10	15		M			
700											
	697.8	14.0	2	2	4	6		M			
695								▽			
	692.8	19.0	2	3	5	8		M			
690										689.8	22.0
	687.8	24.0	2	3	4	7		M		Medium Stiff to Hard, White-Brown-Tan, Fine Sandy SILT (A-4), with trace mica	
685											
	682.8	29.0	3	4	8	12		W			
680											
	677.8	34.0	5	8	11	19		W			
675											
	673.8	38.0	12	17	24	41		W			
670											
	668.8	43.0	100/0.3			100/0.3				668.8	43.0
	665.4	46.4	60/0.0			60/0.0				**WEATHERED ROCK** White-Black, (METAMORPHOSED QUARTZ DIORITE)	
665										665.4	46.4
660							RS-5			**CRYSTALLINE ROCK** White-Gray-Black, (METAMORPHOSED QUARTZ DIORITE) REC=82% RQD=66% GSI=50-55	
655											
							RS-6				
650										646.4	65.4
										Boring Terminated at Elevation 646.4 ft In Crystalline Rock (METAMORPHOSED QUARTZ DIORITE)	

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350150_B1-A	**STATION** 545+80	**OFFSET** 8 ft LT	**ALIGNMENT** -L-	**0 HR.** 17.5
COLLAR ELEV. 711.8 ft	**TOTAL DEPTH** 65.4 ft	**NORTHING** 554,805	**EASTING** 1,390,074	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/10/23	**COMP. DATE** 07/10/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 19.0 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
665.4											Begin Coring @ 46.4 ft	
	665.4	46.4	4.0	*N=60/0.0* 2:05/1.0 5:07/1.0 3:13/1.0 2:45/1.0	(3.2) 80%	(1.9) 48%		(15.6) 82%	(12.6) 66%		665.4 **CRYSTALLINE ROCK** Moderately Weathered to Fresh, Hard to Very Hard, White-Gray-Black (METAMORPHOSED QUARTZ DIORITE), with Very Close to Moderately Wide Fracture Spacing	46.4
	661.4	50.4									RS-5: 53.1-53.6' Unit Weight: 175.5 pcf Unconfined Compressive Strength: 21,590 psi (3,109 ksf)	
660			5.0	3:11/1.0 3:19/1.0 3:39/1.0 3:57/1.0 4:40/1.0	(2.8) 56%	(2.7) 54%	RS-5					
	656.4	55.4									RS-6: 58.5-59.0' Unit Weight: 175.3 pcf Unconfined Compressive Strength: 17,500 psi (2,520 ksf)	
655			5.0	4:24/1.0 3:51/1.0 4:05/1.0 4:08/1.0 4:08/1.0	(4.8) 96%	(4.8) 96%	RS-6					
	651.4	60.4									GSI= 50-55	
650			5.0	4:09/1.0 4:21/1.0 2:13/1.0 3:38/1.0 3:00/1.0	(4.8) 96%	(3.2) 64%						
	646.4	65.4									646.4 Boring Terminated at Elevation 646.4 ft In Crystalline Rock (METAMORPHOSED QUARTZ DIORITE)	65.4

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - 350150_B1-A

46.4 to 65.4 Feet



0 1 2

FEET

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350150_B1-B	**STATION** 545+36	**OFFSET** 9 ft LT	**ALIGNMENT** -L-	**0 HR.** 16.0
COLLAR ELEV. 712.1 ft	**TOTAL DEPTH** 43.4 ft	**NORTHING** 554,824	**EASTING** 1,390,035	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers		**HAMMER TYPE** Automatic
DRILLER C. Odom	**START DATE** 07/12/23	**COMP. DATE** 07/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715											
										712.1 GROUND SURFACE	0.0
										710.5 **ROADWAY EMBANKMENT** Asphalt (0.6 ft) and ABC (1.0 ft)	1.6
710	710.1	2.0	4	5	3	8		M		709.1 Medium Stiff, Brown-Gray, Silty CLAY (A-7), with trace gravel	3.0
	708.1	4.0	2	2	3	5		M		**RESIDUAL** Medium Stiff to Stiff, Tan-Brown-Orange-Yellow, Fine Sandy, Clayey SILT (A-5), with trace mica, manganese oxide staining	
705											
	702.8	9.3	3	5	6	11		W			
700										700.1	12.0
	697.8	14.3	4	9	11	20		M		Very Stiff to Hard, Gray-Black-Orange, Fine Sandy SILT (A-4), with trace mica and saprolite	
695											
	692.8	19.3	8	9	13	22		M			
690											
	687.8	24.3	5	6	12	18		W			
685											
	682.8	29.3	9	9	11	20		W			
680											
	677.8	34.3	12	22	38	60		W			
675											
	672.8	39.3	25	25	34	59		W		671.1	41.0
670										**WEATHERED ROCK**	
	668.7	43.4	60/0.0			60/0.0				668.7 Black-White, (METAMORPHOSED QUARTZ DIORITE)	43.4
										Boring Terminated with Standard Penetration Test Refusal at Elevation 668.7 ft On Crystalline Rock (METAMORPHOSED QUARTZ DIORITE)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350150_EB2-A	**STATION** 546+68	**OFFSET** 133 ft RT	**ALIGNMENT** -L-	**0 HR.** 20.0
COLLAR ELEV. 734.6 ft	**TOTAL DEPTH** 79.2 ft	**NORTHING** 554,639	**EASTING** 1,390,098	**24 HR.** 33.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/01/23	**COMP. DATE** 05/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
735										734.6 0.0 GROUND SURFACE
	733.6	1.0								**ROADWAY EMBANKMENT**
			4	5	8	13		M		Stiff, Red-Brown, Fine Sandy SILT (A-4), with trace gravel
	731.1	3.5								731.6 3.0
730			4	5	7	12		M		**RESIDUAL**
	728.6	6.0								Stiff, Orange-Tan-Purple, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
			4	5	7	12		M		
	726.1	8.5								
725			4	5	8	13		M		
	721.1	13.5								
720			4	5	10	15		M		
	716.1	18.5								
715			4	6	7	13		M		
	711.1	23.5								
710			2	5	7	12		M		
	706.1	28.5								
705			4	5	6	11		M		
	701.1	33.5								
700			4	5	7	12		M		
	696.1	38.5								697.1 37.5
695			WOH	2	4	6		M		Medium Stiff to Stiff, Orange-Tan, SILT (A-5), with trace mica
	691.1	43.5								
690			2	4	7	11		M		
	686.1	48.5								
685			3	5	7	12		M		
	681.1	53.5								682.6 52.0
680			2	8	10	18		M		Very Stiff, Tan-White, Fine Sandy SILT (A-4), with trace mica
	676.1	58.5								
675			7	12	19	31		M		
	671.1	63.5								672.6 62.0
670			25	40	46	86		M		Very Dense, Tan-White, Silty Fine SAND (A-2-4)
	666.1	68.5								
665			35	90	10/0.1	100/0.6				665.6 69.0
	661.1	73.5								**WEATHERED ROCK**
660			45	85	15/0.1	100/0.6				Tan-White, (DIORITE)
	656.1	78.5								
			56	44/0.2		100/0.7				655.4 79.2

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350150_EB2-A	**STATION** 546+68	**OFFSET** 133 ft RT	**ALIGNMENT** -L-	**0 HR.** 20.0
COLLAR ELEV. 734.6 ft	**TOTAL DEPTH** 79.2 ft	**NORTHING** 554,639	**EASTING** 1,390,098	**24 HR.** 33.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/01/23	**COMP. DATE** 05/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
655						Match Line				Boring Terminated at Elevation 655.4 ft In Weathered Rock (DIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350150_EB2-B	**STATION** 546+36	**OFFSET** 113 ft RT	**ALIGNMENT** -L-	**0 HR.** 24.0
COLLAR ELEV. 734.7 ft	**TOTAL DEPTH** 79.7 ft	**NORTHING** 554,671	**EASTING** 1,390,076	**24 HR.** 33.5
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/01/23	**COMP. DATE** 05/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
735										734.7 / 0.0 GROUND SURFACE
	733.7	1.0	3	4	5	9		M		**ROADWAY EMBANKMENT** Stiff, Gray-Red-Brown, Fine Sandy SILT (A-4), with trace organics and gravel
	731.2	3.5								731.2 / 3.5
730			3	4	3	7		M		**RESIDUAL** Medium Stiff to Very Stiff, Orange-Tan-Purple, SILT (A-4), with trace mica, manganese oxide staining
	728.7	6.0	3	4	5	9		M		
	726.2	8.5								
725			3	5	6	11		M		
	721.2	13.5	6	6	10	16		M		
720										
	716.2	18.5	4	6	8	14		M		
715										
	711.2	23.5	6	6	7	13		M		
710										
	706.2	28.5	4	4	8	12		M		
705										
	701.2	33.5	3	5	7	12		M		
700										
	696.2	38.5	3	4	10	14		M		697.2 / 37.5 Stiff to Hard, Tan-White, SILT (A-5), with manganese oxide staining
695										
	691.2	43.5	3	5	8	13		M		
690										
	686.2	48.5	7	10	11	21		M		
685										
	681.2	53.5	5	10	21	31		M		
680										
	676.2	58.5	15	48	51	99		D		
675										
	671.2	63.5	7	16	26	42		M		
670										
	666.2	68.5	40	51	49/0.3	100/0.8				665.7 / 69.0 **WEATHERED ROCK** Tan-White, (DIORITE)
665										
	661.2	73.5	61	40/0.2		100/0.7				
660										
	656.2	78.5	23	77	23/0.2	100/0.7				655.0 / 79.7 Boring Terminated at Elevation 655.0 ft In Weathered Rock (DIORITE)
655										

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. 350150_EB2-B	**STATION** 546+36	**OFFSET** 113 ft RT	**ALIGNMENT** -L-	**0 HR.** 24.0
COLLAR ELEV. 734.7 ft	**TOTAL DEPTH** 79.7 ft	**NORTHING** 554,671	**EASTING** 1,390,076	**24 HR.** 33.5
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 05/01/23	**COMP. DATE** 05/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
655						Match Line				

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2/L_EB1-A	**STATION** 26+47	**OFFSET** 56 ft LT	**ALIGNMENT** -Y2-	**0 HR.** Dry
COLLAR ELEV. 808.9 ft	**TOTAL DEPTH** 29.0 ft	**NORTHING** 561,241	**EASTING** 1,355,505	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
810										
	807.9	1.0								808.9 GROUND SURFACE 0.0
			42	41	50	91		D		**RESIDUAL** Medium Dense to Very Dense, Gray-White-Black, Silty, Gravelly, Fine to Coarse SAND (A-1-b), with trace mica
805	805.4	3.5	10	12	17	29		D		
	802.9	6.0	4	51	49/0.1	100/0.6				802.4 6.5
800	800.4	8.5	100/0.3			100/0.3				**WEATHERED ROCK** Gray-white-Black (GRANITE)
795	795.4	13.5	100/0.3			100/0.3				
790	790.4	18.5	100/0.2			100/0.2				
785	785.4	23.5	40	60/0.3		100/0.8				
780	780.4	28.5	100/0.5			100/0.5				779.9 29.0 Boring Terminated at Elevation 779.9 ft In Weathered Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2/L_EB1-B	**STATION** 26+79	**OFFSET** 43 ft RT	**ALIGNMENT** -Y2-	**0 HR.** 38.0
COLLAR ELEV. 808.3 ft	**TOTAL DEPTH** 60.0 ft	**NORTHING** 561,290	**EASTING** 1,355,414	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/28/23	**COMP. DATE** 06/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
810										
	807.3	1.0								808.3 GROUND SURFACE 0.0
			7	100/0.4		100/0.9				**WEATHERED ROCK** Orange-Brown-White-Black, (GRANITE)
805	804.8	3.5	82	18/0.3		100/0.8				
	802.3	6.0	16	15	10	25		D		802.8 5.5
800	799.8	8.5	5	5	18	23		D		**RESIDUAL** Medium Dense to Very Dense, White-Brown-Orange-Black, Silty Fine to Coarse SAND (A-2-4), with trace mica
795	794.8	13.5	15	8	7	15		M		
790	789.8	18.5	5	5	7	12		M		
785	784.8	23.5	7	8	11	19		M		
780	779.8	28.5	9	26	12	38		M		
775	774.8	33.5	6	6	8	14		M		
770	769.8	38.5	4	5	12	17		M		
765	764.8	43.5	12	17	19	36		M		
760	759.8	48.5	8	9	16	25		M		
755	754.8	53.5	9	12	15	27		W		
750	749.8	58.5	16	26	37	63		W		748.3 60.0 Boring Terminated at Elevation 748.3 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2/L_B1-A	**STATION** 27+59	**OFFSET** 52 ft LT	**ALIGNMENT** -Y2-	**0 HR.** N/M
COLLAR ELEV. 789.7 ft	**TOTAL DEPTH** 41.7 ft	**NORTHING** 561,166	**EASTING** 1,355,422	**24 HR.** 18.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** SPT Core Boring		**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 08/09/23	**COMP. DATE** 08/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
790										789.7 GROUND SURFACE	0.0
										787.6 **ROADWAY EMBANKMENT** 1.5 ft Asphalt and 0.6 ft ABC	2.1
										786.7 Medium Stiff, Brown, Fine Sandy SILT (A-4), with trace mica **RESIDUAL**	3.0
785	786.2	3.5	3	5	15	20		M		Medium Dense to Dense, Gray-White-Brown-Orange, Silty Fine to Coarse SAND (A-2-4), with trace mica and gravel-sized quartz fragments	
780	781.2	8.5	10	7	11	18		M			
775	776.2	13.5	12	17	24	41		M			
770	771.2	18.5	3	4	7	11		M			
765	766.2	23.5	8	14	17	31		M		763.0 **WEATHERED ROCK**	26.7
760	761.2	28.5	60/0.0			60/0.0	RS-8	M		761.2 White-Gray-Black (GRANITE) **CRYSTALLINE ROCK** (GRANITE) REC=99% RQD=98% GSI=80-85	28.5
755											
750										748.0	41.7
										Boring Terminated at Elevation 748.0 ft In Crystalline Rock (GRANITE)	

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2/L_B1-A	**STATION** 27+59	**OFFSET** 52 ft LT	**ALIGNMENT** -Y2-	**0 HR.** N/M
COLLAR ELEV. 789.7 ft	**TOTAL DEPTH** 41.7 ft	**NORTHING** 561,166	**EASTING** 1,355,422	**24 HR.** 18.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** SPT Core Boring		**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 08/09/23	**COMP. DATE** 08/09/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 13.2 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
761.2											Begin Coring @ 28.5 ft	
760	761.2	28.5	3.2	*N=60/0.0* 3:40/1.0 3:50/1.0 3:36/1.0	(3.2) 100%	(3.2) 100%		(13.1) 99%	(13.0) 98%		761.2 **CRYSTALLINE ROCK** Fresh, Hard, Gray-White-Black (GRANITE), with Close to Moderately Close Fracture Spacing	28.5
	758.0	31.7	5.0	0:48/0.2 3:50/1.0 4:15/1.0 3:30/1.0 3:44/1.0 4:45/1.0	(4.9) 98%	(4.8) 96%	RS-8				RS-8: 34.3-35.0' Unit Weight: 166.7 pcf Unconfined Compressive Strength: 11,090 psi (1,597 ksf)	
755	753.0	36.7	5.0	5:16/1.0 5:11/1.0 7:12/1.0 11:11/1.0 13:08/1.0	(5.0) 100%	(5.0) 100%						
750	748.0	41.7									748.0	41.7
											Boring Terminated at Elevation 748.0 ft In Crystalline Rock (GRANITE)	

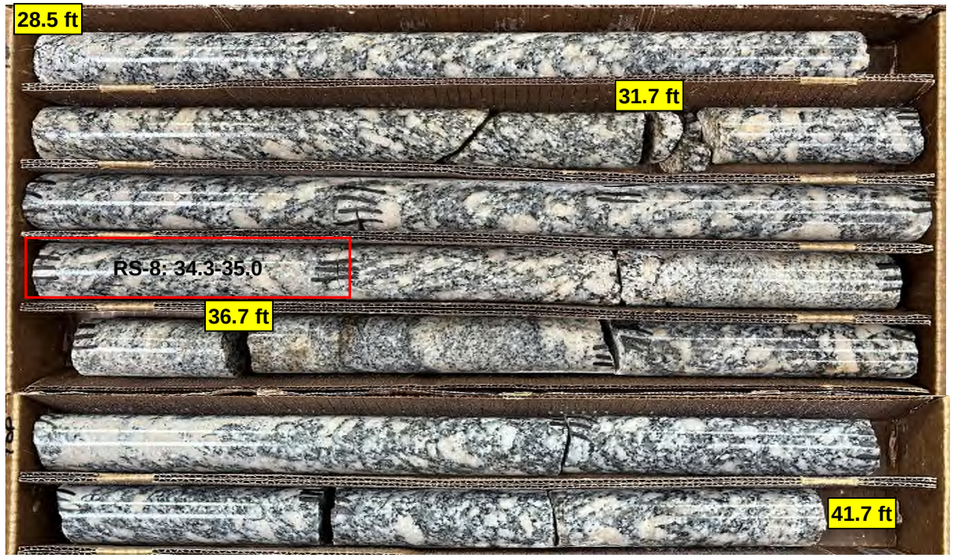
CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - Y2/L_B1-A

28.5 to 41.7 Feet



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FEET

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2/L_B1-B	**STATION** 28+00	**OFFSET** 39 ft RT	**ALIGNMENT** -Y2-	**0 HR.** N/M
COLLAR ELEV. 786.8 ft	**TOTAL DEPTH** 53.5 ft	**NORTHING** 561,204	**EASTING** 1,355,329	**24 HR.** 16.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary		**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 08/09/23	**COMP. DATE** 08/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
790										
										786.8 GROUND SURFACE 0.0
785										**ROADWAY EMBANKMENT**
										784.7 1.5 ft Asphalt and 0.6 ft ABC 2.1
	783.3	3.5	5	4	7	11		M		**RESIDUAL**
780										Medium Dense to Dense,
	778.3	8.5	6	6	7	13		M		Pink-Orange-Brown-Gray-White, Silty Fine to
775										Coarse SAND (A-2-4), with trace mica and
	773.3	13.5	5	5	7	12		M		gravel-sized quartz fragments
770										
	768.3	18.5	3	4	6	10		M		
765										
	763.3	23.5	4	5	8	13		M		
760										
	758.3	28.5	5	7	10	17		M		
755										
	753.3	33.5	4	6	8	14		M		
750										
	748.3	38.5	10	12	19	31		M		
745										
	743.3	43.5	8	10	17	27		M		
740										
	738.3	48.5	100/0.3			100/0.3				738.3 48.5 **WEATHERED ROCK**
735										Gray-Brown-White (GRANITE)
	733.3	53.5	60/0.0			60/0.0				733.3 53.5
										Boring Terminated with Standard Penetration Test Refusal at Elevation 733.3 ft On Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2/L_EB2-A	**STATION** 29+48	**OFFSET** 47 ft LT	**ALIGNMENT** -Y2-	**0 HR.** Dry
COLLAR ELEV. 814.3 ft	**TOTAL DEPTH** 30.6 ft	**NORTHING** 561,039	**EASTING** 1,355,282	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
815										
	813.3	1.0						M		814.3 GROUND SURFACE 0.0
			1	1	1	2		M		**ROADWAY EMBANKMENT** Very Soft to Medium Stiff, Black-Brown-Orange-Red, Fine to Coarse Sandy SILT (A-4), with trace gravel
810	810.8	3.5	1	2	4	6		M		808.8 5.5
	808.3	6.0	5	6	9	15		M		**RESIDUAL** Stiff to Very Stiff, Red-Black-White, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments
805	805.8	8.5	10	9	9	18		M		
800	800.8	13.5	4	4	6	10		M		
										796.8 17.5
795	795.8	18.5	100/0.3			100/0.3				**WEATHERED ROCK** Red-Black-White (GRANITE)
										791.2 23.1
790	790.8	23.5	31	18	41	59		M		**RESIDUAL** Very Dense, White-Black-Gray, Gravelly Fine to Coarse SAND (A-1-b)
										788.3 26.0
785	785.8	28.5	100/0.4			100/0.4				**WEATHERED ROCK** Black-White (GRANITE)
	783.8	30.5	60/0.1			60/0.1				783.8 30.5 783.7 30.6 **CRYSTALLINE ROCK** Black-White (GRANITE) Boring Terminated with Standard Penetration Test Refusal at Elevation 783.7 ft In Crystalline Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y2/L_EB2-B	**STATION** 29+90	**OFFSET** 45 ft RT	**ALIGNMENT** -Y2-	**0 HR.** 26.5
COLLAR ELEV. 814.8 ft	**TOTAL DEPTH** 63.7 ft	**NORTHING** 561,076	**EASTING** 1,355,188	**24 HR.** 42.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/30/23	**COMP. DATE** 06/30/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
815										
	813.8	1.0						M		814.8 GROUND SURFACE 0.0
			5	5	5	10		M		**ROADWAY EMBANKMENT** Stiff, Red, Silty CLAY (A-7), with trace gravel
810	811.3	3.5	3	4	5	9		M		811.8 3.0
	808.8	6.0	4	3	3	6		M		**RESIDUAL** Loose, Orange-Red, Clayey Fine to Coarse SAND (A-2-6), with trace mica 5.5
805	806.3	8.5	6	24	10	34		M		809.3 Loose to Dense, Red-Gray-Orange-Brown-Black, Silty Fine to Coarse SAND (A-2-4), with trace mica
	801.3	13.5	4	3	5	8		M		
800										
	796.3	18.5	4	4	5	9		M		
795										
	791.3	23.5	7	5	7	12		M		
790										
	786.3	28.5	6	10	11	21		M		
785										
	781.3	33.5	9	11	12	23		M		
780										
	776.3	38.5	6	10	8	18		M		
775										
	771.3	43.5	10	8	11	19		M		
770										
	766.3	48.5	9	12	14	26		W		
765										
	761.3	53.5	10	15	21	36		W		759.3 55.5 Very Dense, Gray-White-Black, Silty, Gravelly Fine to Coarse SAND (A-1-b), with trace mica
760										
	756.3	58.5	37	42	16	58		W		
755										
	751.3	63.5	100/0.2			100/0.2				751.3 63.5 751.1 63.7 **WEATHERED ROCK** Gray-Brown (GRANITE) Boring Terminated at Elevation 751.1 ft In Weathered Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3NB/L_EB1-A	**STATION** 17+81	**OFFSET** 51 ft LT	**ALIGNMENT** -Y3NB-	**0 HR.** 4.5
COLLAR ELEV. 738.8 ft	**TOTAL DEPTH** 50.0 ft	**NORTHING** 559,670	**EASTING** 1,358,394	**24 HR.** 1.3
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/23/23	**COMP. DATE** 06/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
740										738.8 / 0.0 GROUND SURFACE
	736.8	2.0	4	7	5	12		W		**ROADWAY EMBANKMENT** Soft to Stiff, Brown-Red-Tan, Fine Sandy SILT (A-4), with trace gravel, mica, and organics
735	733.8	5.0	2	2	2	4		W		731.8 / 7.0
	731.3	7.5	WOH	WOH	WOH	0		Sat.		**ALLUVIAL** Very Soft, Gray-Tan, Fine Sandy SILT (A-4), with trace roots and mica / 729.8 / 9.0 Loose, Gray-Tan, Silty, Fine to Coarse Sandy GRAVEL (A-1-b)
730	728.8	10.0	WOH	4	3	7		Sat.		724.8 / 14.0
	723.8	15.0	1	2	2	4		Sat.		**RESIDUAL** Soft, White-Brown, Fine Sandy SILT (A-4), with trace mica / 720.8 / 18.0 Medium Dense to Dense, White-Tan-Brown, Silty Fine SAND (A-2-4), with trace mica
725	718.8	20.0	4	7	7	14		Sat.		
	713.8	25.0	11	14	17	31		W		
720	708.8	30.0	3	7	11	18		W		
	703.8	35.0	4	5	9	14		W		
715	698.8	40.0	68	32/0.3		100/0.8				698.8 / 40.0 **WEATHERED ROCK** Gray-Orange (GRANITE)
	693.8	45.0	100/0.4			100/0.4				
710	688.8	50.0	60/0.0			60/0.0				688.8 / 50.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 688.8 ft On Crystalline Rock (GRANITE)
705										
700										
695										
690										

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3NB/L_EB1-B	**STATION** 17+49	**OFFSET** 21 ft RT	**ALIGNMENT** -Y3NB-	**0 HR.** N/M
COLLAR ELEV. 744.3 ft	**TOTAL DEPTH** 41.5 ft	**NORTHING** 559,632	**EASTING** 1,358,463	**24 HR.** 7.6
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/18/23	**COMP. DATE** 07/18/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
745										744.3 / 0.0 GROUND SURFACE
	743.1	1.2	2	3	4	7		M		**ROADWAY EMBANKMENT** Medium Stiff, Red-Brown, Fine Sandy SILT (A-4), with trace gravel
740	737.8	6.5	4	3	5	8		M		733.3 / 11.0
	732.8	11.5	WOH	WOH	WOH	0		Sat.		**ALLUVIAL** Very Loose, Gray-Black-Red-Orange, Silty Fine to Coarse SAND (A-2-4), with trace organics and gravel-sized quartz fragments
735	727.8	16.5	WOH	WOH	WOH	0		Sat.		
	722.8	21.5	3	1	2	3		M		723.3 / 21.0 **RESIDUAL** Very Loose, Gray-White, Silty Fine SAND (A-2-4), with trace mica
730	717.8	26.5	2	1	2	3		M		
	712.8	31.5	WOH	2	2	4		W		
725	707.8	36.5	5	43	57/0.2	100/0.7				707.3 / 37.0 **WEATHERED ROCK** (GRANITE)
	702.8	41.5	60/0.0			60/0.0				702.8 / 41.5 Boring Terminated with Standard Penetration Test Refusal at Elevation 702.8 ft On Crystalline Rock (GRANITE)
720										
715										
710										
705										

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3NB/L_B1-A	**STATION** 18+78	**OFFSET** 41 ft LT	**ALIGNMENT** -Y3NB-	**0 HR.** N/M
COLLAR ELEV. 741.7 ft	**TOTAL DEPTH** 53.5 ft	**NORTHING** 559,766	**EASTING** 1,358,412	**24 HR.** 5.1
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 08/06/23	**COMP. DATE** 08/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
745										741.7 PAVEMENT 0.0
740	738.2	3.5	4	3	2	5		M		**ROADWAY EMBANKMENT** Medium Stiff, Brown-Red, Fine Sandy SILT (A-4), with trace mica and clay
735	733.2	8.5	WOH	2	2	4		W		734.7 7.0 **ALLUVIAL** Soft, Brown-Gray, Fine Sandy CLAY (A-6), with trace organics
730	728.2	13.5	4	5	6	11		M		729.7 12.0 **RESIDUAL** Medium Dense to Dense, White-Brown-Gray-Orange, Silty Fine to Coarse SAND (A-2-4), with trace mica
725	723.2	18.5	5	6	7	13		M		
720	718.2	23.5	7	6	5	11		M		
715	713.2	28.5	9	9	9	18		W		
710	708.2	33.5	11	16	20	36		W		
705	703.2	38.5	11	9	9	18		W		
700	698.2	43.5	20	13	21	34		M		
695	693.2	48.5	19	81/0.4		100/0.9				693.2 48.5 **WEATHERED ROCK** White-Gray-Black (GRANITE)
690	688.2	53.5	60/0.0			60/0.0				688.2 53.5 Boring Terminated with Standard Penetration Test Refusal at Elevation 688.2 ft On Crystalline Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3NB/L_B1-B	**STATION** 18+43	**OFFSET** 22 ft RT	**ALIGNMENT** -Y3NB-	**0 HR.** N/M
COLLAR ELEV. 740.9 ft	**TOTAL DEPTH** 43.1 ft	**NORTHING** 559,726	**EASTING** 1,358,472	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 08/07/23	**COMP. DATE** 08/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
745										
740	737.8	3.1	5	2	3	5		W		740.9 PAVEMENT 0.0 **ROADWAY EMBANKMENT** Medium Stiff, Brown-Orange, Fine Sandy SILT (A-4), with trace gavel
735	732.8	8.1	WOH	WOH	WOH	0		W		733.9 7.0 **ALLUVIAL** Very Soft, Gray, Fine Sandy CLAY (A-6), with trace organics
730	727.8	13.1	8	9	6	15		W		728.9 12.0 **RESIDUAL** Loose to Very Dense, Brown-Orange-White-Yellow, Silty Fine to Coarse SAND (A-2-4), with trace mica and gravel-sized rock fragments
725	722.8	18.1	8	7	8	15		M		
720	717.8	23.1	2	2	7	9		M		
715	712.8	28.1	3	5	9	14		M		
710	707.8	33.1	5	7	9	16		M		
705	702.8	38.1	10	12	79	91		M		
700	697.8	43.1	60/0.0			60/0.0				700.4 40.5 **WEATHERED ROCK** (GRANITE) 697.8 43.1 Boring Terminated with Standard Penetration Test Refusal at Elevation 697.8 ft On Crystalline Rock (GRANITE)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3NB/L_EB2-A	**STATION** 19+83	**OFFSET** 52 ft LT	**ALIGNMENT** -Y3NB-	**0 HR.** 19.2
COLLAR ELEV. 746.3 ft	**TOTAL DEPTH** 54.9 ft	**NORTHING** 559,874	**EASTING** 1,358,411	**24 HR.** 9.4
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/28/23	**COMP. DATE** 06/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
750										
										746.3 GROUND SURFACE 0.0
745	745.3	1.0	4	3	3	6		M		**ROADWAY EMBANKMENT** Medium Stiff, Orange-Black-Tan, Fine to Coarse Sandy SILT (A-4), with trace gravel
	742.8	3.5	3	3	4	7		M		743.3 3.0
740	740.3	6.0	2	2	2	4		W		Medium Stiff, Orange-Tan-Brown-Gray, Fine to Coarse Sandy CLAY (A-6), with trace gravel
	737.8	8.5	1	2	3	5		Sat.		740.8 5.5 **ALLUVIAL** Soft to Medium Stiff, Blue-Gray-Brown, Fine Sandy, Silty, CLAY (A-7), with trace organics
735	732.8	13.5	6	5	3	8		M		734.3 12.0 **RESIDUAL** Medium Stiff to Stiff, Tan-White-Gray, Fine to Coarse Sandy SILT (A-4)
730	727.8	18.5	3	7	9	16		M		729.3 17.0 Medium Dense to Very Dense, White-Gray-Pink, Silty Fine to Coarse SAND (A-2-4)
725	722.8	23.5	6	5	7	12		M		
720	717.8	28.5	9	14	25	39		M		
715	712.8	33.5	23	23	19	42		M		
710	707.8	38.5	44	14	13	27		M		
705	702.8	43.5	21	39	29	68		M		
700	697.8	48.5	36	43	48	91		M		
695	692.8	53.5	31	48	52/0.4	100/0.9		M		692.3 54.0 **WEATHERED ROCK** 691.4 54.9 Orange-White-Gray, (GRANITE) Boring Terminated at Elevation 691.4 ft In Weathered Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3NB/L_EB2-B	**STATION** 19+31	**OFFSET** 22 ft RT	**ALIGNMENT** -Y3NB-	**0 HR.** N/M
COLLAR ELEV. 746.8 ft	**TOTAL DEPTH** 53.0 ft	**NORTHING** 559,813	**EASTING** 1,358,479	**24 HR.** 11.5
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/17/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										
										746.8 GROUND SURFACE 0.0
745	746.2	0.6	2	3	7	10		M		**ROADWAY EMBANKMENT** Medium Stiff to Very Stiff, Brown-Red-Tan, Fine Sandy SILT (A-4), with trace mica and gravel
	743.0	3.8	8	9	11	20		M		
740										
	738.0	8.8	2	2	3	5		M		734.8 12.0 **ALLUVIAL** Loose, Gray-White, Clayey Fine SAND (A-2-6), with trace mica
735	733.0	13.8	3	2	5	7		M		
730	728.0	18.8	3	3	2	5		W		729.8 17.0 Medium Stiff, Gray-White, Silty CLAY (A-7)
725	723.0	23.8	3	3	7	10		W		723.8 23.0 **RESIDUAL** Loose to Very Dense, Gray-White, Silty Fine SAND (A-2-4), with trace mica
720	718.0	28.8	5	7	14	21		M		
715	713.0	33.8	9	13	18	31		M		
710	708.0	38.8	11	13	23	36		M		
705	703.0	43.8	12	25	36	61		M		
700	698.0	48.8	46	54/0.3		100/0.8				698.0 48.8 **WEATHERED ROCK** Red-Brown-Gray (GRANITE)
695	693.8	53.0	60/0.0			60/0.0				693.8 53.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 693.8 ft On Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3SB/L_EB1-A	**STATION** 17+37	**OFFSET** 5 ft LT	**ALIGNMENT** -Y3SB-	**0 HR.** 3.7
COLLAR ELEV. 739.0 ft	**TOTAL DEPTH** 36.3 ft	**NORTHING** 559,608	**EASTING** 1,358,530	**24 HR.** 0.8
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/23/23	**COMP. DATE** 06/23/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
740										739.0 GROUND SURFACE 0.0
	737.0	2.0								**ROADWAY EMBANKMENT**
	735.5	3.5	4	3	6	9		W		Organic Muck and Rip rap 737.0 2.0
735			2	3	3	6		W		Medium Stiff to Stiff, Red-Brown-Gray, Silty CLAY (A-7), with trace gravel
	733.0	6.0	2	1	3	4		W		733.5 5.5
	730.5	8.5								Soft, Gray, Fine Sandy CLAY (A-6)
730			2	2	3	5		Sat.		730.0 9.0
	725.5	13.5	2	1	10	11		W		**ALLUVIAL**
725										Medium Dense, Gray-Tan, Silty Fine to Coarse SAND (A-2-4), with trace roots and organics
	720.5	18.5	6	4	6	10		M		724.5 14.5
720										**RESIDUAL**
	715.5	23.5	10	18	29	47		M		Stiff to Hard, Orange-Brown-Gray-Black, Fine Sandy SILT (A-4), with trace mica
715										
	710.5	28.5	23	25	33	58		M		
710										
	705.5	33.5	100/0.3			100/0.3				705.5 33.5
705										**WEATHERED ROCK**
	702.7	36.3	60/0.0			60/0.0				Gray (SCHIST)
										702.7 36.3
										Boring Terminated with Standard Penetration Test Refusal at Elevation 702.7 ft On Crystalline Rock (SCHIST)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3SB/L_EB1-B	**STATION** 16+94	**OFFSET** 47 ft RT	**ALIGNMENT** -Y3SB-	**0 HR.** 5.0
COLLAR ELEV. 740.1 ft	**TOTAL DEPTH** 38.6 ft	**NORTHING** 559,561	**EASTING** 1,358,578	**24 HR.** 1.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/20/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
745										
740	739.1	1.0	2	2	2	4		M		740.1 GROUND SURFACE 0.0
	736.6	3.5	2	23	7	30		M		**ROADWAY EMBANKMENT**
735	734.1	6.0	3	2	4	6		M		Soft to Hard, Black-Orange-Tan, Fine Sandy SILT (A-4), with trace mica and gravel
	731.6	8.5	3	2	2	4		W		732.1 8.0
730										**ALLUVIAL**
	726.6	13.5	3	2	7	9		M		Soft to Medium Stiff, Brown-Gray, Fine Sandy, Silty CLAY (A-7), with trace gravel
725										728.1 12.0
	721.6	18.5	6	10	11	21		M		Loose, Gray-Brown-Red, Clayey SAND (A-2-6), with trace mica and gravel
720										
	716.6	23.5	17	22	30	52		M		723.1 17.0
715										**RESIDUAL**
	711.6	28.5	42	68/0.4		100/0.9				Medium Dense to Very Dense, Orange-Tan, Silty Fine to Coarse SAND (A-2-4)
710										711.6 28.5
	706.6	33.5	100/0.5			100/0.5				**WEATHERED ROCK**
705										Orange-Tan (SCHIST)
	701.6	38.5	60/0.1			60/0.1				701.6 38.5
										701.5 38.6
										CRYSTALLINE ROCK (SCHIST)
										Boring Terminated with Standard Penetration Test Refusal at Elevation 701.5 ft In Crystalline Rock (SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3SB/L_B1-A	**STATION** 18+21	**OFFSET** 8 ft LT	**ALIGNMENT** -Y3SB-	**0 HR.** N/M
COLLAR ELEV. 740.4 ft	**TOTAL DEPTH** 42.6 ft	**NORTHING** 559,692	**EASTING** 1,358,534	**24 HR.** 3.2
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary		**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 08/06/23	**COMP. DATE** 08/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745											
740										740.4 PAVEMENT	0.0
	736.9	3.5	6	5	6	11		M		Stiff, Brown-Gray, Fine Sandy SILT (A-4), with trace mica and gravel	
735										733.4	7.0
	731.9	8.5	WOH	WOH	WOH	0		W		**ALLUVIAL** Very Loose, Gray-Brown, Clayey Fine SAND (A-2-6)	
730										727.4	13.0
	726.9	13.5	5	8	12	20		M		**RESIDUAL** Medium Dense to Very Dense, Gray-White, Silty Fine SAND (A-2-4), with trace gravel-sized quartz fragments	
725											
	721.9	18.5	6	26	44	70		M			
720										718.4	22.0
	716.9	23.5	16	14	13	27		Sat.		Medium Dense, White-Tan, Silty, Gravelly Fine to Coarse SAND (A-1-b)	
715										712.4	28.0
	711.9	28.5	8	13	17	30		M		Medium Dense, White-Brown-Gray, Silty Fine to Coarse SAND (A-2-4), with trace mica and gravel-sized rock fragments	
710										706.4	34.0
	706.9	33.5	9	10	90/0.4	100/0.9				**WEATHERED ROCK** White-Gray-Brown (GRANODIORITE)	
705										703.4	37.0
	701.9	38.5	40	51	48	99		M		**RESIDUAL** Very Dense, Orange-Brown, Silty Fine to Coarse SAND (A-2-4), with trace mica	
700										699.4	41.0
	697.8	42.6	60/0.0			60/0.0				697.8 **WEATHERED ROCK** White-Gray-Brown (GRANODIORITE)	42.6
										Boring Terminated with Standard Penetration Test Refusal at Elevation 697.8 ft On Crystalline Rock (GRANITE)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3SB/L_B1-B	**STATION** 17+94	**OFFSET** 43 ft RT	**ALIGNMENT** -Y3SB-	**0 HR.** 2.6
COLLAR ELEV. 739.9 ft	**TOTAL DEPTH** 59.5 ft	**NORTHING** 559,661	**EASTING** 1,358,583	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/07/23	**COMP. DATE** 08/08/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
740										739.9 PAVEMENT	0.0
	737.2	2.7								**ROADWAY EMBANKMENT** Medium Dense, Tan-Brown, Silty Fine SAND (A-2-4), with trace gravel	
735			5	8	7	15		M		733.9 **ALLUVIAL** Medium Stiff, Gray, Fine Sandy CLAY (A-6), with trace gravel	6.0
	732.2	7.7									
730			3	2	3	5		W		728.9 **RESIDUAL** Medium Dense to Dense, Orange-Tan-Gray, Silty Fine SAND (A-2-4)	11.0
	727.2	12.7									
725			5	8	8	16		W			
	722.2	17.7									
720			22	17	20	37		W			
	717.2	22.7									
715			19	15	85/0.2	100/0.7				716.2 **WEATHERED ROCK** Orange-Tan, (METAVOLCANIC ROCK)	23.7
	712.7	27.2									
710			56	44/0.2		100/0.7					
	707.7	32.2								709.4 **RESIDUAL** Dense to Very Dense, Orange-Tan, Silty Fine SAND (A-2-4)	30.5
705			8	27	42	69		Sat.			
	702.7	37.2									
700			12	16	22	38		Sat.			
	697.7	42.2								698.9 **WEATHERED ROCK**	41.0
	696.8	43.1	100/0.3			100/0.3				696.8 Tan-Brown, (METAVOLCANIC ROCK)	43.1
695			60/0.0			60/0.0				**CRYSTALLINE ROCK** Gray, (QUARTZ SERICITE SCHIST)	
							RS-9			REC=98% RQD=85% GSI=60-70	
690										691.6	48.3
										Gray, (GRANITE)	
										689.2 REC=100% RQD=100% GSI=80-90	50.7
685										White-Gray, (QUARTZITE)	
										REC=100% RQD=73% GSI=50-60	
										680.4	59.5
										Boring Terminated at Elevation 680.4 ft In Crystalline Rock (QUARTZITE)	

Note:
Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3SB/L_B1-B	**STATION** 17+94	**OFFSET** 43 ft RT	**ALIGNMENT** -Y3SB-	**0 HR.** 2.6
COLLAR ELEV. 739.9 ft	**TOTAL DEPTH** 59.5 ft	**NORTHING** 559,661	**EASTING** 1,358,583	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/07/23	**COMP. DATE** 08/08/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 16.4 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
696.8											Begin Coring @ 43.1 ft	
695	696.8	43.1	1.6	*N=60/0.0*	(1.5) 94%	(1.5) 94%		(5.1) 98%	(4.4) 85%		696.8 **CRYSTALLINE ROCK** Hard to Very Hard, Very Slight to Slight Weathering, Gray, (QUARTZ SERICITE SCHIST), with Close Fracture Spacing	43.1
	695.2	44.7	5.0	3:29/1.0 3:41/0.6 4:33/1.0 3:51/1.0 3:24/1.0 4:14/1.0 5:13/1.0	(5.0) 100%	(4.3) 86%	RS-9				691.6 RS-9: 46.4-47.2' Unit Weight: 166.5 pcf Unconfined Compressive Strength: 19,820 psi (2,854 ksf)	48.3
690	690.2	49.7	5.0	9:51/1.0 4:31/1.0 7:01/1.0 8:17/1.0 4:55/1.0	(5.0) 100%	(3.6) 72%		(2.4) 100%	(2.4) 100%		689.2 GSI=60-70 Very Hard, Fresh to Very Slight Weathering, Gray, (GRANITE), with Close Fracture Spacing	50.7
685	685.2	54.7	4.8	5:52/1.0 4:52/1.0 6:03/1.0 4:38/1.0 5:34/0.8	(4.8) 100%	(3.8) 79%		(8.8) 100%	(6.4) 73%		GSI=80-90 Very Hard, Very Slight to Slight Weathering, White-Gray, (QUARTZITE), with Close Fracture Spacing	
	680.4	59.5									680.4 GSI=50-60 Boring Terminated at Elevation 680.4 ft In Crystalline Rock (QUARTZITE)	59.5

Note:
Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

CAROLINAS GEOTECHNICAL GROUP

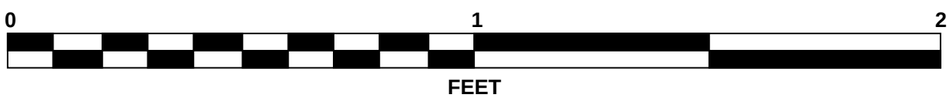
TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - Y3SB/L_B1-B

43.1 to 59.5 Feet





GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3SB/L_EB2-A	**STATION** 18+99	**OFFSET** 2 ft RT	**ALIGNMENT** -Y3SB-	**0 HR.** 15.0
COLLAR ELEV. 739.8 ft	**TOTAL DEPTH** 39.6 ft	**NORTHING** 559,769	**EASTING** 1,358,551	**24 HR.** 4.8
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
740										739.8 GROUND SURFACE 0.0
	738.8	1.0	3	4	3	7		M		**ROADWAY EMBANKMENT** Medium Stiff, Black, Fine to Coarse Sandy SILT (A-4), with trace gravel
	736.3	3.5	3	1	3	4				736.8 3.0 Soft, Tan, Fine Sandy, Silty CLAY (A-7), with trace organics
735	733.8	6.0	WOH	1	3	4		M		734.3 5.5 **ALLUVIAL** Soft, Gray-White, Silty CLAY (A-7), with trace organics
	731.3	8.5	7	8	7	15		M		731.8 8.0 Medium Dense, Gray-White, Silty, Gravelly Fine to Coarse SAND (A-1-b)
730										728.8 11.0 **WEATHERED ROCK** Orange-Brown-Tan-Gray-White, (SCHIST)
	726.3	13.5	43	43	57/0.4	100/0.9				
725										
	721.3	18.5	52	48/0.4		100/0.9				
720										717.8 22.0 **RESIDUAL** Very Stiff to Hard, Black-Orange-Brown-Tan, Fine Sandy SILT (A-5), with trace mica, manganese oxide staining
	716.3	23.5	6	15	20	35		M		
715										
	711.3	28.5	6	8	10	18		M		
710										
	706.3	33.5	9	20	49	69		M		707.8 32.0 Very Dense, Black-Tan-Brown, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments
705										
	701.3	38.5	60/0.0			60/0.0				701.3 38.5
	700.2	39.6	60/0.0			60/0.0				700.2 39.6 **CRYSTALLINE ROCK** (SCHIST) Boring Terminated with Standard Penetration Test Refusal at Elevation 700.2 ft In Crystalline Rock (SCHIST)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y3SB/L_EB2-B	**STATION** 18+80	**OFFSET** 40 ft RT	**ALIGNMENT** -Y3SB-	**0 HR.** 8.7
COLLAR ELEV. 738.9 ft	**TOTAL DEPTH** 39.9 ft	**NORTHING** 559,747	**EASTING** 1,358,588	**24 HR.** 3.5
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										738.9 GROUND SURFACE 0.0
	737.9	1.0	3	3	3	6		M		**ROADWAY EMBANKMENT** Soft to Medium Stiff, Red-Brown, Fine Sandy, Silty CLAY (A-7), with trace gravel, petroleum odor
735	735.4	3.5	3	1	2	3		M		733.4 5.5 **ALLUVIAL** Very Soft, Gray-Tan, Clayey, Fine to Coarse Sandy SILT (A-4(3)), with trace organics
	732.9	6.0	WOH	WOH	WOH	0		W 29% W		
730	730.4	8.5	WOH	WOH	WOH	0				726.9 12.0 **RESIDUAL** Loose to Dense, White-Gray, Silty Fine to Coarse SAND (A-2-4)
	725.4	13.5	3	2	3	5		W		
725										
	720.4	18.5	5	8	14	22		M		
720										
	715.4	23.5	14	25	24	49		M		
715										
	710.4	28.5	17	21	33	54		M		710.9 28.0 Hard, White-Black-Orange-Brown, Fine Sandy SILT (A-4), with manganese oxide staining
710										
	705.4	33.5	13	14	21	35		M		
705										
	700.1	38.8	60/0.0			60/0.0				700.1 38.8
700	699.0	39.9	60/0.0			60/0.0				699.0 39.9 **CRYSTALLINE ROCK** (SCHIST) Boring Terminated with Standard Penetration Test Refusal at Elevation 699.0 ft In Crystalline Rock (SCHIST) Other Samples: ST-12 (6.0 - 8.0)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4/L_EB1-A	**STATION** 23+83	**OFFSET** 46 ft LT	**ALIGNMENT** -Y4-	**0 HR.** N/M
COLLAR ELEV. 754.9 ft	**TOTAL DEPTH** 79.8 ft	**NORTHING** 558,296	**EASTING** 1,363,200	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/17/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION — ELEV. (ft)	DEPTH (ft)
755										754.9 GROUND SURFACE	0.0
	751.6	3.3								**ROADWAY EMBANKMENT** Medium Stiff, Gray-Brown, Fine Sandy SILT (A-4), with trace mica	
750			2	3	3	6		M			
	746.6	8.3								748.9	6.0
745			5	6	7	13		M		Medium Stiff to Stiff, Red, Silty CLAY (A-7), with trace mica and gravel	
	741.6	13.3									
740			3	3	4	7		M			
	736.6	18.3								737.9	17.0
735			3	3	4	7		M		**RESIDUAL** Medium Stiff to Very Stiff, Orange-Red-Gray-Black, SILT (A-5), with trace mica, manganese oxide staining	
	731.6	23.3									
730			6	9	13	22		M			
	726.6	28.3									
725			3	3	5	8		M			
	721.6	33.3									
720			3	3	5	8		M			
	716.6	38.3								717.9	37.0
715			3	4	6	10		M		Stiff to Very Stiff, Orange-Brown-Gray, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments	
	711.6	43.3									
710			3	4	5	9		M			
	706.6	48.3									
705			3	7	7	14		M			
	701.6	53.3									
700			2	3	6	9		M			
	696.6	58.3									
695			5	7	13	20		M			
	691.6	63.3									
690			22	12	9	21		W			
	686.6	68.3								686.6	68.3
685			79	21/0.1		100/0.6				**WEATHERED ROCK** Gray-Tan (SCHIST)	
	681.6	73.3									
680			100/0.4			100/0.4					
	676.6	78.3								677.9	77.0
			14	14	24	38				**RESIDUAL** Hard, Brown-Gray, Fine Sandy SILT (A-4),	
										675.1	79.8

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4/L_EB1-A	**STATION** 23+83	**OFFSET** 46 ft LT	**ALIGNMENT** -Y4-	**0 HR.** N/M
COLLAR ELEV. 754.9 ft	**TOTAL DEPTH** 79.8 ft	**NORTHING** 558,296	**EASTING** 1,363,200	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/17/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
675						Match Line				with trace gravel-sized rock fragments Boring Terminated at Elevation 675.1 ft In Residual Sandy SILT (A-4)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4/L_EB1-B	**STATION** 23+60	**OFFSET** 53 ft RT	**ALIGNMENT** -Y4-	**0 HR.** 38.1
COLLAR ELEV. 754.3 ft	**TOTAL DEPTH** 65.0 ft	**NORTHING** 558,320	**EASTING** 1,363,101	**24 HR.** 28.4
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/07/23	**COMP. DATE** 06/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
755										754.3 / 0.0 GROUND SURFACE
	753.3	1.0						M		**ROADWAY EMBANKMENT** Medium Stiff, Red-Brown, Fine Sandy, Silty CLAY (A-6), with trace organics
	750.8	3.5	3	3	5	8		M		751.3 / 3.0
750			3	3	6	9		M		**RESIDUAL** Medium Stiff to Stiff, Red-Brown, Silty CLAY (A-7)
	748.3	6.0	2	4	4	8		M		
	745.8	8.5	2	3	4	7		M		
745										
	742.3	12.0								742.3 / 12.0
	740.8	13.5	2	3	4	7		D		Medium Stiff to Stiff, Orange-Red-Tan-Brown-Yellow, Fine Sandy SILT (A-4)
740										
	735.8	18.5	8	7	7	14		M		
735										
	730.8	23.5	3	2	3	5		M		
730										
	725.8	28.5	3	5	6	11		M		
725										
	723.3	31.0								723.3 / 31.0
	720.8	33.5	9	4	3	7		M		Medium Stiff to Hard, Brown-Gray-White-Black-Orange-Yellow, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments
720										
	715.8	38.5	5	6	9	15		M		
715										
	710.8	43.5	6	9	21	30		M		
710										
	705.8	48.5	25	18	82/0.3	100/0.8				705.8 / 48.5 **WEATHERED ROCK** Gray (METAVOLCANIC ROCK)
705										
	702.3	52.0								702.3 / 52.0 **RESIDUAL** Hard, Yellow-Brown, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments
	700.8	53.5	13	21	31	52		M		
700										
	695.8	58.5	34	30	70/0.3	100/0.8				695.8 / 58.5 **WEATHERED ROCK** Orange-Brown-Gray (METAVOLCANIC ROCK)
695										
	690.8	63.5	37	22	78/0.4	100/0.9				689.3 / 65.0 Boring Terminated at Elevation 689.3 ft In Weathered Rock (METAVOLCANIC ROCK)
690										

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4/L_B1-A	**STATION** 25+12	**OFFSET** 54 ft LT	**ALIGNMENT** -Y4-	**0 HR.** N/M
COLLAR ELEV. 724.8 ft	**TOTAL DEPTH** 53.4 ft	**NORTHING** 558,168	**EASTING** 1,363,208	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/03/23	**COMP. DATE** 08/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										724.8 / 0.0 PAVEMENT
	722.1	2.7						M		**ROADWAY EMBANKMENT** Soft to Medium Stiff, Tan, Fine Sandy, Silty CLAY (A-7), with trace gravel
			2	2	2	4				719.8 / 5.0
720										**RESIDUAL** Soft to Medium Stiff, Tan, Fine Sandy SILT (A-4)
	717.1	7.7	1	1	2	3		W		
715										
	712.1	12.7	1	2	3	5		W		
710										
	707.1	17.7	2	2	3	5		W		
705										
	702.1	22.7	2	17	22	39		Sat.		701.6 / 23.2 Dense, Tan, Silty Fine to Coarse SAND (A-2-4), with some gravel-sized rock fragments
700										698.1 / 26.7 Medium Stiff to Hard, Tan, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments
	697.1	27.7	3	3	4	7		Sat.		
695										
	692.1	32.7	3	3	5	8		Sat.		
690										
	687.1	37.7	14	25	51	76		M		685.6 / 39.2 **WEATHERED ROCK** Tan, (METAVOLCANIC ROCK)
685										
	682.1	42.7	100/0.5			100/0.5				678.8 / 46.0 **RESIDUAL** Very Stiff, Tan, Fine Sandy SILT (A-4)
680										
	677.1	47.7	14	11	10	21		W		673.8 / 51.0 **WEATHERED ROCK** Tan, (METAVOLCANIC ROCK)
675										671.4 / 53.4 Boring Terminated at Elevation 671.4 ft In Weathered Rock (METAVOLCANIC ROCK)
	672.1	52.7	51	49/0.2		100/0.7				

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** R. Kral, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4/L_B1-B	**STATION** 24+89	**OFFSET** 45 ft RT	**ALIGNMENT** -Y4-	**0 HR.** N/M
COLLAR ELEV. 723.4 ft	**TOTAL DEPTH** 68.0 ft	**NORTHING** 558,190	**EASTING** 1,363,109	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/06/23	**COMP. DATE** 08/07/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
725										723.4 PAVEMENT	0.0
										RESIDUAL Medium Stiff to Hard, Brown-Tan, Fine Sandy SILT (A-4), with trace mica	
720	720.5	2.9	3	2	4	6		M			
715	715.5	7.9	1	2	3	5		M			
710	710.5	12.9	3	4	5	9		M			
705	705.5	17.9	2	2	3	5		M			
700	700.5	22.9	3	6	10	16		W			
695	695.5	27.9	9	14	21	35		M			
690	690.5	32.9	42	58/0.3		100/0.8				690.5 **WEATHERED ROCK** Brown-Tan, (METAVOLCANIC ROCK)	32.9
685	685.5	37.9	46	54/0.3		100/0.8					
680	680.5	42.9	60/0.0			60/0.0				680.5 **CRYSTALLINE ROCK** Brown-Tan-Green, (METAVOLCANIC ROCK)	42.9
675	675.2	48.2	100/0.2			100/0.2				675.2 REC: 11% RQD: 0% GSI: 30-35	48.2
670	670.5	52.9	100/0.2			100/0.2				**WEATHERED ROCK** Brown-Tan-Green, (METAVOLCANIC ROCK)	
665	665.5	57.9	21	18	82/0.4	100/0.9				663.4 **RESIDUAL** Hard, Tan-Gray-Green, Fine Sandy SILT (A-4)	60.0
660	660.5	62.9	31	35	47	82		M		657.0 **CRYSTALLINE ROCK** Tan-Gray-Green, (METAVOLCANIC ROCK)	66.4
	655.5	67.9	60/0.1			60/0.1				655.4 Boring Terminated with Standard Penetration Test Refusal at Elevation 655.4 ft In Crystalline Rock (METAVOLCANIC ROCK)	68.0

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** R. Kral, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4/L_B1-B	**STATION** 24+89	**OFFSET** 45 ft RT	**ALIGNMENT** -Y4-	**0 HR.** N/M
COLLAR ELEV. 723.4 ft	**TOTAL DEPTH** 68.0 ft	**NORTHING** 558,190	**EASTING** 1,363,109	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/06/23	**COMP. DATE** 08/07/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 5.3 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
680.5											Begin Coring @ 42.9 ft	
	680.5	42.9	2.3	N=60/0.0	(0.0)	(0.0)		(0.6)	(0.0)		680.5 **CRYSTALLINE ROCK** Severely Weathered, Brown-Tan-Green, (METAVOLCANIC ROCK)	42.9
	678.2	45.2		3:40/1.0 4:16/1.0	0%	0%		11%	0%		GSI: 30-35	
			3.0	1:19/0.3	(0.6)	(0.0)						
675	675.2	48.2		3:15/1.0 3:29/1.0 4:23/1.0	20%	0%					675.2 **WEATHERED ROCK** Brown-Tan-Green, (METAVOLCANIC ROCK)	48.2
				N=100/0.2								
670				N=100/0.2								
665				N=100/0.9							663.4 **RESIDUAL** Hard, Tan-Gray-Green, Fine Sandy SILT (A-4)	60.0
660				N=82							657.0 **CRYSTALLINE ROCK** Tan-Gray-Green, (METAVOLCANIC ROCK)	66.4
				N=60/0.1							655.4 Boring Terminated with Standard Penetration Test Refusal at Elevation 655.4 ft In Crystalline Rock (METAVOLCANIC ROCK)	68.0

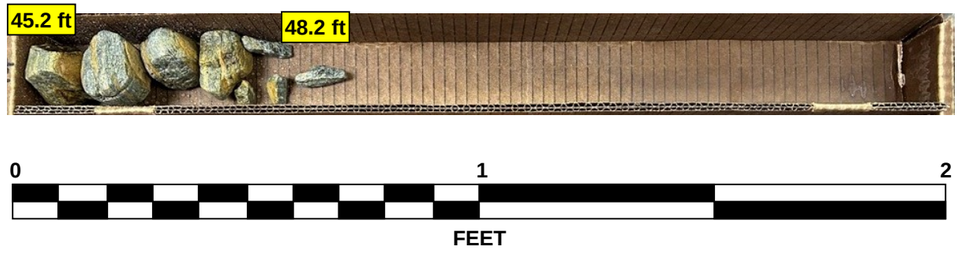
CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - Y4/L_B1-B

45.2 to 48.2 Feet



GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4/L_EB2-A	**STATION** 26+33	**OFFSET** 40 ft LT	**ALIGNMENT** -Y4-	**0 HR.** 18.0
COLLAR ELEV. 743.0 ft	**TOTAL DEPTH** 79.0 ft	**NORTHING** 558,047	**EASTING** 1,363,196	**24 HR.** 34.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary		**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 07/16/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
745										
										743.0 / 0.0 PAVEMENT
										ROADWAY EMBANKMENT Stiff to Very Stiff, Red, Silty CLAY (A-7), with trace gravel and mica
740	741.0	2.0	3	5	7	12		M		
	739.0	4.0	4	4	6	10		M		
735										
	734.0	9.0	5	7	9	16		M		
730										
	729.0	14.0	3	3	4	7		M		730.0 / 13.0 **RESIDUAL** Medium Stiff, Orange-Tan-Red, Fine Sandy, Clayey SILT (A-5), with trace mica, manganese oxide staining
725										
	724.0	19.0	2	3	4	7		M		
720										
	719.0	24.0	2	2	3	5		M		
715										
	714.0	29.0	WOH	2	3	5		M		
710										
	709.0	34.0	2	3	4	7		M		710.0 / 33.0 Soft to Hard, Orange-Brown-Gray-Tan-White-Black, Fine Sandy SILT (A-4), with trace mica and trace to little gravel-sized rock fragments, manganese oxide staining
705										
	704.0	39.0	WOH	2	2	4		M		
700										
	699.0	44.0	3	4	7	11		W		
695										
	694.0	49.0	23	10	8	18		W		
690										
	689.0	54.0	19	24	20	44		W		
685										
	684.0	59.0	7	3	4	7		W		
680										
	679.0	64.0	4	6	13	19		M		
675										
	674.0	69.0	100/0.4			100/0.4				674.0 / 69.0 **WEATHERED ROCK** (METAVOLCANIC ROCK)
670										671.0 / 72.0 **RESIDUAL** Very Stiff, Brown-Gray-Orange, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments
665										666.0 / 77.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4/L_EB2-A	**STATION** 26+33	**OFFSET** 40 ft LT	**ALIGNMENT** -Y4-	**0 HR.** 18.0
COLLAR ELEV. 743.0 ft	**TOTAL DEPTH** 79.0 ft	**NORTHING** 558,047	**EASTING** 1,363,196	**24 HR.** 34.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary		**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 07/16/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
665						Match Line				
	664.0	79.0	60/0.0			60/0.0				664.0 / 79.0 **WEATHERED ROCK** (METAVOLCANIC ROCK) *(continued)* Boring Terminated with Standard Penetration Test Refusal at Elevation 664.0 ft On Crystalline Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4/L_EB2-B	**STATION** 26+11	**OFFSET** 23 ft RT	**ALIGNMENT** -Y4-	**0 HR.** 31.0
COLLAR ELEV. 744.3 ft	**TOTAL DEPTH** 74.1 ft	**NORTHING** 558,068	**EASTING** 1,363,132	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/17/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
745										744.3	PAVEMENT 0.0
	741.3	3.0									**ROADWAY EMBANKMENT** Medium Stiff, Red, Silty CLAY (A-7), with trace mica
740			3	3	4	7		M			
	736.3	8.0									
735			3	4	4	8		M			
	731.3	13.0								732.3	12.0
730			3	3	4	7		M			**RESIDUAL** Medium Stiff, Orange-Red, Tan, Silty CLAY (A-7), with trace mica
	726.3	18.0								727.3	17.0
725			2	3	3	6		M			Medium Stiff, Tan-Pink-Brown, SILT (A-5), with trace mica
	721.3	23.0									
720			2	3	3	6		M			
	716.3	28.0									
715			2	2	3	5		M			
	711.3	33.0									
710			2	2	6	8		M			
	706.3	38.0									
705			3	3	5	8		M			
	701.3	43.0								702.3	42.0
700			10	12	8	20		W			Very Stiff to Hard, Tan-Brown-Gray-Green, Fine Sandy SILT (A-4), with trace mica and trace to little gravel-sized rock fragments
	696.3	48.0									
695			6	8	12	20		M			
	691.3	53.0									
690			5	7	9	16		M			
	686.3	58.0									
685			5	7	13	20		M			
	681.3	63.0									
680			12	28	49	77		M			
	676.3	68.0									
675			24	28	30	58		M			
	671.3	73.0								670.8	73.5
			42	30	70/0.1	100/0.6				670.2	74.1
											WEATHERED ROCK (METAVOLCANIC ROCK) Boring Terminated at Elevation 670.2 ft In Weathered Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y4/L_EB2-B	**STATION** 26+11	**OFFSET** 23 ft RT	**ALIGNMENT** -Y4-	**0 HR.** 31.0
COLLAR ELEV. 744.3 ft	**TOTAL DEPTH** 74.1 ft	**NORTHING** 558,068	**EASTING** 1,363,132	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/17/23	**COMP. DATE** 07/17/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
665						Match Line				

Note:
Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T./M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5/L_EB1-A	**STATION** 34+67	**OFFSET** 19 ft LT	**ALIGNMENT** -Y5-	**0 HR.** 33.0
COLLAR ELEV. 753.3 ft	**TOTAL DEPTH** 63.7 ft	**NORTHING** 556,445	**EASTING** 1,371,727	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/19/23	**COMP. DATE** 07/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
755										753.3 PAVEMENT	0.0
750	750.3	3.0	2	2	3	5		M		Medium Stiff, Orange-Brown-Tan, Silty CLAY (A-7), with trace mica and gravel	
745	745.3	8.0	2	2	3	5		M		746.3	7.0
740	740.3	13.0	4	3	5	8		M		Medium Stiff to Stiff, Orange-Brown-Gray, Fine Sandy, Clayey SILT (A-5), with trace gravel and trace to little mica	
735	735.3	18.0	3	4	5	9		M			
730	730.3	23.0	4	5	9	14		M		731.3 **RESIDUAL**	22.0
725	725.3	28.0	2	2	3	5		M		Medium Stiff to Stiff, Orange-Red-Black, Silty CLAY (A-7), with trace mica, manganese oxide staining	
720	720.3	33.0	2	2	4	6		M		721.3	32.0
715	715.3	38.0	WOH	2	3	5		M		Medium Stiff to Very Stiff, Gray-Tan-Red-Black, SILT (A-5), with trace to little mica, manganese oxide staining	
710	710.3	43.0	5	8	11	19		M			
705	705.3	48.0	12	22	30	52		M		706.3 Hard, Gray-Brown-White, Fine Sandy SILT (A-4), with trace mica	47.0
700	700.3	53.0	100/0.5			100/0.5				700.3 **WEATHERED ROCK** Gray-Brown-White (METAVOLCANIC ROCK)	53.0
695	695.3	58.0	55	45/0.1		100/0.6					
690	690.3	63.0	28	72/0.2		100/0.7				689.6 Boring Terminated at Elevation 689.6 ft In Weathered Rock (METAVOLCANIC ROCK)	63.7

Note:
Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T./M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5/L_EB1-B	**STATION** 34+64	**OFFSET** 31 ft RT	**ALIGNMENT** -Y5-	**0 HR.** 36.0
COLLAR ELEV. 753.3 ft	**TOTAL DEPTH** 73.7 ft	**NORTHING** 556,459	**EASTING** 1,371,679	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/19/23	**COMP. DATE** 07/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
755										
										753.3 / 0.0 PAVEMENT
										Stiff, Brown-Red-Gray-Tan, Fine Sandy, Silty CLAY (A-7), with trace mica, gravel, and organics
750	750.2	3.1	3	3	7	10		M		
745	745.2	8.1	2	3	6	9		M		
740	740.2	13.1	3	5	8	13		M		
735	735.2	18.1	4	5	7	12		M		
730	730.2	23.1	3	4	5	9		M		
725	725.2	28.1	1	2	3	5		M		
720	720.2	33.1	2	3	5	8		M		
715	715.2	38.1	100/0.3			100/0.3				715.2 / 38.1 WEATHERED ROCK
										Brown-Gray-Tan (SCHIST)
										711.3 / 42.0 RESIDUAL
710	710.2	43.1	28	24	24	48		M		Very Stiff to Hard, Brown-Gray-Tan, Fine Sandy SILT (A-4), with trace mica and gravel-sized rock fragments
705	705.2	48.1	20	12	11	23		M		
700	700.2	53.1	WOH	3	2	5		W		701.3 / 52.0 Medium Stiff, Gray-Brown-Tan, SILT (A-5), with trace mica
695	695.2	58.1	4	8	18	26		M		696.3 / 57.0 Very Stiff to Hard, Tan-Gray-Brown-Black, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
690	690.2	63.1	28	35	42	77		M		
685	685.2	68.1	18	16	34	50		M		
680	680.2	73.1	75	25/0.1		100/0.6				680.2 / 73.1 679.6 / 73.7 WEATHERED ROCK Gray-White-Tan (METAVOLCANIC ROCK) Boring Terminated at Elevation 679.6 ft In Weathered Rock (METAVOLCANIC ROCK)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T./M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5/L_EB1-B	**STATION** 34+64	**OFFSET** 31 ft RT	**ALIGNMENT** -Y5-	**0 HR.** 36.0
COLLAR ELEV. 753.3 ft	**TOTAL DEPTH** 73.7 ft	**NORTHING** 556,459	**EASTING** 1,371,679	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/19/23	**COMP. DATE** 07/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
675						Match Line				Note: Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T./M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5/L_B1-A	**STATION** 36+00	**OFFSET** 28 ft LT	**ALIGNMENT** -Y5-	**0 HR.** 9.5
COLLAR ELEV. 732.3 ft	**TOTAL DEPTH** 44.3 ft	**NORTHING** 556,313	**EASTING** 1,371,706	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary		**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 08/02/23	**COMP. DATE** 08/02/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										732.3 GROUND SURFACE 0.0
730	728.8	3.5	6	5	6	11		M		**ROADWAY EMBANKMENT** Asphalt (2.5 ft) 729.8 2.5 **RESIDUAL** Stiff, Red-Gray-Tan, Silty CLAY (A-7), with trace mica, gravel-sized rock fragments
725	723.8	8.5	5	36	64/0.3	100/0.8				723.3 9.0 **WEATHERED ROCK** Gray-Tan, (METAVOLCANIC ROCK)
720	718.8	13.5	100/0.3			100/0.3				
715	713.8	18.5	75	25/0.3		100/0.8				
710	708.8	23.5	100/0.4			100/0.4				
705	703.8	28.5	40	54	32	86		M		705.3 27.0 **RESIDUAL** Hard, White-Gray-Orange, Fine Sandy SILT (A-4), with trace mica
700	698.8	33.5	38	62/0.3		100/0.8				698.8 33.5 **WEATHERED ROCK** Brown-Orange-Black (METAVOLCANIC ROCK)
695	693.8	38.5	22	38	62/0.4	100/0.9				
690	688.8	43.5	36	64/0.3		100/0.8				688.0 44.3 Boring Terminated at Elevation 688.0 ft In Weathered Rock (METAVOLCANIC ROCK)

Note:
Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T./M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5/L_B1-B	**STATION** 36+02	**OFFSET** 47 ft RT	**ALIGNMENT** -Y5-	**0 HR.** 12.2
COLLAR ELEV. 732.2 ft	**TOTAL DEPTH** 68.9 ft	**NORTHING** 556,328	**EASTING** 1,371,632	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 08/01/23	**COMP. DATE** 08/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735											
										732.2	0.0
										GROUND SURFACE **ROADWAY EMBANKMENT** Asphalt (2.6 ft)	
730	728.7	3.5	2	2	3	5		M		729.6	2.6
										Medium Stiff, Red-Black-Gray-Tan, Fine Sandy CLAY (A-6), with trace mica	
725	723.7	8.5	2	2	4	6		M		725.2	7.0
										RESIDUAL Medium Stiff, Orange-Black, Silty CLAY (A-7), with trace mica, manganese oxide staining	
720	718.7	13.5	2	1	3	4		M		720.2	12.0
										Medium Stiff to Hard, Orange-Black, SILT (A-5), with trace mica, manganese oxide staining	
715	713.7	18.5	3	3	6	9		M			
710	708.7	23.5	5	8	13	21		M			
705	703.7	28.5	3	5	9	14		M			
700	698.7	33.5	8	13	20	33		M			
695	693.7	38.5	5	6	8	14		M			
690	688.7	43.5	10	15	21	36		M		690.2	42.0
										Very Stiff to Hard, Orange-Black, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
685	683.7	48.5	7	7	10	17		M			
680	678.7	53.5	7	9	14	23		M			
675	673.7	58.5	19	25	43	68		M			
670	668.7	63.5	6	12	18	30		M			
665	663.7	68.5	100/0.4			100/0.4				663.7 663.3	68.5 68.9
										WEATHERED ROCK Brown-Orange-Black (METAVOLCANIC ROCK)	
										Boring Terminated at Elevation 663.3 ft In Weathered Rock (METAVOLCANIC ROCK)	
										Note: Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T./M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5/L_B1-B	**STATION** 36+02	**OFFSET** 47 ft RT	**ALIGNMENT** -Y5-	**0 HR.** 12.2
COLLAR ELEV. 732.2 ft	**TOTAL DEPTH** 68.9 ft	**NORTHING** 556,328	**EASTING** 1,371,632	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 08/01/23	**COMP. DATE** 08/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
655						Match Line				

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5/L_EB2-A	**STATION** 37+57	**OFFSET** 18 ft LT	**ALIGNMENT** -Y5-	**0 HR.** N/M
COLLAR ELEV. 758.5 ft	**TOTAL DEPTH** 74.8 ft	**NORTHING** 556,163	**EASTING** 1,371,660	**24 HR.** 30.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/18/23	**COMP. DATE** 07/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
760										758.5 PAVEMENT 0.0
	755.0	3.5	2	4	6	10		M		Medium Stiff to Stiff, Red, Silty CLAY (A-7), with trace mica and gravel
750	750.0	8.5	2	3	5	8		M		
745	745.0	13.5	3	5	7	12		M		746.5 12.0 **RESIDUAL** Stiff, Red, Silty CLAY (A-7)
740	740.0	18.5	3	3	6	9		M		741.5 17.0 Medium Stiff to Very Stiff, Tan-Brown-Orange, Fine Sandy, Clayey SILT (A-5), with trace mica, manganese oxide staining
735	735.0	23.5	2	3	4	7		M		
730	730.0	28.5	2	4	5	9		M		
725	725.0	33.5	WOH	2	3	5		M		
720	720.0	38.5	3	5	7	12		M		
715	715.0	43.5	3	5	7	12		M		
710	710.0	48.5	3	8	17	25		M		
705	705.0	53.5	15	61	39/0.1	100/0.6				704.5 54.0 **WEATHERED ROCK** Tan-Brown-Orange (METAVOLCANIC ROCK)
700	700.0	58.5	14	14	23	37		M		702.0 56.5 **RESIDUAL** Very Stiff to Hard, Brown-Orange-Gray, Fine Sandy, Clayey SILT (A-5)
695	695.0	63.5	18	34	32	66		M		
690	690.0	68.5	12	9	21	30		M		
685	685.0	73.5	22	52	48/0.3	100/0.8				684.5 74.0 683.7 74.8 **WEATHERED ROCK** Brown-Orange-Gray (METAVOLCANIC ROCK) Boring Terminated at Elevation 683.7 ft In

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5/L_EB2-A	**STATION** 37+57	**OFFSET** 18 ft LT	**ALIGNMENT** -Y5-	**0 HR.** N/M
COLLAR ELEV. 758.5 ft	**TOTAL DEPTH** 74.8 ft	**NORTHING** 556,163	**EASTING** 1,371,660	**24 HR.** 30.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/18/23	**COMP. DATE** 07/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
680						Match Line				Weathered Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T./M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5/L_EB2-B	**STATION** 37+51	**OFFSET** 30 ft RT	**ALIGNMENT** -Y5-	**0 HR.** 35.5
COLLAR ELEV. 758.6 ft	**TOTAL DEPTH** 69.9 ft	**NORTHING** 556,179	**EASTING** 1,371,615	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/20/23	**COMP. DATE** 07/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
760										
										758.6 PAVEMENT 0.0
										Medium Stiff, Red-Gray-Tan, Silty CLAY (A-7), with trace mica and gravel
755	755.1	3.5	2	3	2	5		M		
750	750.1	8.5	2	2	3	5		M		
745	745.1	13.5	2	3	3	6		M		
740	740.1	18.5	2	3	4	7		M		741.6 17.0
										RESIDUAL Medium Stiff, Red-Tan-Brown, Silty CLAY (A-7), with trace mica, manganese oxide staining
735	735.1	23.5	2	4	4	8		M		
730	730.1	28.5	2	3	4	7		M		
725	725.1	33.5	1	2	3	5		M		726.6 32.0
										Medium Stiff to Hard, Orange-Tan-Brown, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
720	720.1	38.5	3	3	7	10		M		
715	715.1	43.5	3	5	7	12		M		
710	710.1	48.5	6	9	14	23		M		
705	705.1	53.5	11	35	44	79		M		
700	700.1	58.5	15	20	23	43		M		
695	695.1	63.5	13	17	24	41		M		
690	690.1	68.5	10	25	75/0.4	100/0.9		M		689.6 69.0 688.7 69.9
										WEATHERED ROCK Orange-Gray-Tan, (METAVOLCANIC ROCK)
										Boring Terminated at Elevation 688.7 ft In Weathered Rock (METAVOLCANIC ROCK)
										Note: Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T./M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y5/L_EB2-B	**STATION** 37+51	**OFFSET** 30 ft RT	**ALIGNMENT** -Y5-	**0 HR.** 35.5
COLLAR ELEV. 758.6 ft	**TOTAL DEPTH** 69.9 ft	**NORTHING** 556,179	**EASTING** 1,371,615	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/20/23	**COMP. DATE** 07/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
680						Match Line				Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6/L_EB1-A	**STATION** 20+69	**OFFSET** 52 ft LT	**ALIGNMENT** -Y6-	**0 HR.** Dry
COLLAR ELEV. 736.9 ft	**TOTAL DEPTH** 28.6 ft	**NORTHING** 557,509	**EASTING** 1,376,485	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
740										
										736.9 GROUND SURFACE 0.0
	735.9	1.0								**ROADWAY EMBANKMENT**
735			2	3	4	7		M		Medium Stiff to Stiff, Black-Red-Brown, Fine Sandy, Silty CLAY (A-7), with trace gravel
	733.4	3.5	2	3	4	7		M		
	730.9	6.0	2	3	4	7		M		
730	728.4	8.5	5	6	7	13		M		
725										724.9 12.0
	723.4	13.5	19	79	21/0.2	100/0.7				**RESIDUAL**
										722.9 Stiff, Red-Brown, Fine to Coarse Sandy SILT (A-5) 14.0
720										**WEATHERED ROCK**
	718.4	18.5	55	45/0.4		100/0.9				White, (GRANITE)
715										
	713.4	23.5	26	74/0.4		100/0.9				
710										
	708.4	28.5	60/0.1			60/0.0				708.4 28.5
										708.3 28.6 **CRYSTALLINE ROCK**
										White, (GRANITE)
										Boring Terminated with Standard Penetration Test Refusal at Elevation 708.3 ft In Crystalline Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6/L_EB1-B	**STATION** 19+68	**OFFSET** 31 ft RT	**ALIGNMENT** -Y6-	**0 HR.** 33.3
COLLAR ELEV. 743.9 ft	**TOTAL DEPTH** 63.7 ft	**NORTHING** 557,478	**EASTING** 1,376,358	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/14/23	**COMP. DATE** 07/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
745										
										743.9 GROUND SURFACE 0.0
	742.9	1.0								**ROADWAY EMBANKMENT**
740			2	1	2	3		M		Soft, Tan-Red, Silty CLAY (A-7), with trace gravel
	740.4	3.5	WOH	1	2	3		M		
	737.9	6.0	2	1	2	3		M		
735	735.4	8.5	2	2	2	4		M		735.9 8.0
										RESIDUAL
730	730.4	13.5	4	4	6	10		M		Soft to Hard, Orange-Tan-Gray, SILT (A-5), with trace gravel-sized rock and quartz fragments, manganese oxide staining
725	725.4	18.5	2	3	4	7		M		
720	720.4	23.5	2	2	4	6		M		
715	715.4	28.5	2	2	4	6		M		
710	710.4	33.5	WOH	3	3	6		M		
705	705.4	38.5	4	5	7	12		M		
700	700.4	43.5	20	26	40	66		M		
695	695.4	48.5	13	10	11	21		M		
690	690.4	53.5	22	40	32	72		M		
685	685.4	58.5	15	18	18	36		M		
	680.4	63.5	100/0.2			100/0.2				680.4 63.5
										680.2 63.7 **WEATHERED ROCK**
										Tan-Gray, (GRANITE)
										Boring Terminated at Elevation 680.2 ft In Weathered Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6/L_B1-A	**STATION** 22+14	**OFFSET** 47 ft LT	**ALIGNMENT** -Y6-	**0 HR.** 9.7
COLLAR ELEV. 716.4 ft	**TOTAL DEPTH** 35.9 ft	**NORTHING** 557,442	**EASTING** 1,376,614	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/27/23	**COMP. DATE** 07/28/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
720											
										716.4 GROUND SURFACE	0.0
715										715.8 **ROADWAY EMBANKMENT** Asphalt (0.6 ft) Medium Stiff, Brown-Orange, Fine Sandy SILT (A-4), with trace mica	0.6
	713.1	3.3	5	4	3	7		M			
710										709.4	7.0
	708.1	8.3	19	81/0.2		100/0.7				708.1 **RESIDUAL** Medium Dense, Brown-Black-Gray, Silty Fine to Coarse SAND (A-2-4)	8.3
705										**WEATHERED ROCK** Brown-Black-Gray, (GRANITE)	
	703.1	13.3									
	702.5	13.9	100/0.2			100/0.2					
700	700.6	15.8	60/0.1 60/0.0			60/0.1 60/0.0				700.6 **CRYSTALLINE ROCK** Gray-White, (GRANITE) REC=100% RQD=97% GSI=75-85	15.8
695							RS-10			694.3	22.1
	693.6	22.8	5	7	13	20		W		**RESIDUAL** Very Stiff, Brown-White-Gray, Fine Sandy SILT (A-4), with trace mica and gravel-sized rock fragments	
	691.0	25.4								691.0	25.4
690			60/0.0			60/0.0				**CRYSTALLINE ROCK** Gray-White, (GRANITE) REC= 98% RQD= 95% GSI= 75-85	
685										680.5	35.9
										Boring Terminated at Elevation 680.5 ft In Crystalline Rock (GRANITE)	

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6/L_B1-A	**STATION** 22+14	**OFFSET** 47 ft LT	**ALIGNMENT** -Y6-	**0 HR.** 9.7
COLLAR ELEV. 716.4 ft	**TOTAL DEPTH** 35.9 ft	**NORTHING** 557,442	**EASTING** 1,376,614	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/27/23	**COMP. DATE** 07/28/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 17.5 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
700.6											Begin Coring @ 15.8 ft	
700	700.6	15.8	5.0	*N=60/0.0* 6:24/1.0 4:16/1.0 2:50/1.0 2:51/1.0 2:50/1.0	(5.0) 100%	(5.0) 100%		(6.3) 100%	(6.1) 97%		700.6 **CRYSTALLINE ROCK** Fresh, Very Hard, Gray-White, (GRANITE), with Close to Moderately Wide Fracture Spacing RS-10: 20.8-21.5' Unit Weight: 177.3 pcf Unconfined Compressive Strength: 8,670 psi (1,248 ksf)	15.8
695	695.6	20.8	2.0	3:15/1.0 2:20/1.0 *N=20*	(1.3) 65%	(1.1) 55%	RS-10				694.3	22.1
	693.6	22.8									GSI=75-85	
	691.0	25.4									691.0	25.4
690	690.5	25.9	0.5	*N=60/0.0* 1:35/0.5	(0.5) 100%	(0.5) 100%		(10.3) 98%	(10.0) 95%		**RESIDUAL** **CRYSTALLINE ROCK** Fresh, Very Hard, Gray-White, (GRANITE), with Close to Moderately Wide Fracture Spacing GSI= 75-85	
			5.0	2:59/1.0 2:31/1.0 4:30/1.0 2:53/1.0 3:08/1.0	(4.8) 96%	(4.5) 90%						
685	685.5	30.9	5.0	2:54/1.0 3:05/1.0 3:08/1.0 2:53/1.0 3:16/1.0	(5.0) 100%	(5.0) 100%					680.5	35.9
	680.5	35.9									Boring Terminated at Elevation 680.5 ft In Crystalline Rock (GRANITE)	

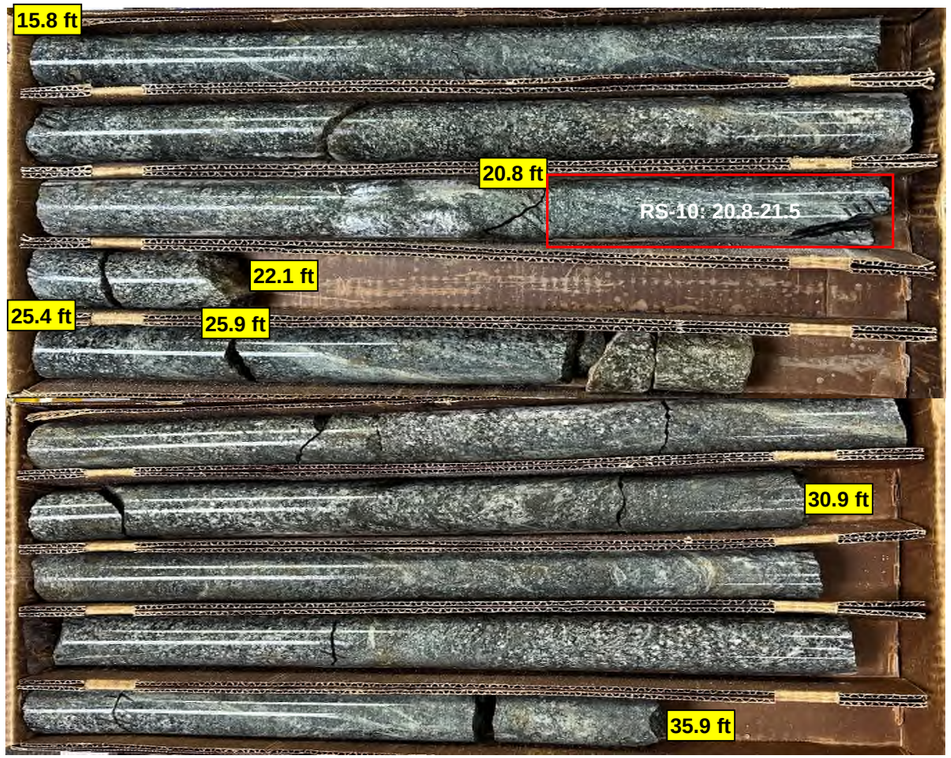
CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - Y6/L_B1-A

15.8 to 35.9 Feet



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FEET

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6/L_B1-B	**STATION** 21+11	**OFFSET** 44 ft RT	**ALIGNMENT** -Y6-	**0 HR.** N/M
COLLAR ELEV. 720.4 ft	**TOTAL DEPTH** 43.7 ft	**NORTHING** 557,405	**EASTING** 1,376,482	**24 HR.** 18.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary		**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 07/27/23	**COMP. DATE** 07/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
725											
720										720.4 PAVEMENT	0.0
	716.7	3.7	2	2	3	5		M		**RESIDUAL** Medium Stiff, Tan-Brown, SILT (A-5), with trace mica, manganese oxide staining	
715										712.4	8.0
	711.7	8.7	2	4	6	10		M		Stiff to Very Stiff, White-Tan-Orange-Gray, Fine Sandy SILT (A-4), with trace mica	
710											
	706.7	13.7	5	7	10	17		M			
705											
	701.7	18.7	14	30	70/0.4	100/0.9				701.2	19.2
700										**WEATHERED ROCK** White-Tan-Gray, (MICA SCHIST)	
	696.7	23.7								698.4	22.0
695			15	17	18	35		M		**RESIDUAL** Hard, Gray-Brown-Orange, Fine Sandy SILT (A-4), with trace mica	
	691.7	28.7								691.2	29.2
690			20	57	43/0.1	100/0.6				**WEATHERED ROCK** Brown-Red-Orange, (MICA SCHIST), with graphite	
	686.7	33.7								687.4	33.0
685			70	30/0.1		100/0.6				Gray-White, (GRANITE)	
	681.7	38.7									
680			8	92/0.4		100/0.9					
	676.7	43.7	60/0.0			60/0.0				676.7 Boring Terminated with Standard Penetration Test Refusal at Elevation 676.7 ft On Crystalline Rock (GRANITE)	43.7

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6/L_EB2-A	**STATION** 24+01	**OFFSET** 50 ft LT	**ALIGNMENT** -Y6-	**0 HR.** Dry
COLLAR ELEV. 730.2 ft	**TOTAL DEPTH** 19.0 ft	**NORTHING** 557,365	**EASTING** 1,376,784	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
735										
730	729.2	1.0	2	1	1	2 8		M		730.2 0.0 GROUND SURFACE **ROADWAY EMBANKMENT** Very Soft to Stiff, Red-Brown, Fine to Coarse Sandy, Silty CLAY (A-7), with trace gravel
	726.7	3.5	3	4	4			M		
725	724.2	6.0	31	29	30	59		M		724.0 6.2 **RESIDUAL** Medium Dense to Very Dense, Orange-Brown-White, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments
	721.7	8.5	4	9	22	31		M		
720										
	716.7	13.5	27	16	7	23		M		
715										
	711.7	18.5								711.7 18.5
	711.2	19.0	100/0.4			100/0.4				711.2 19.0 **WEATHERED ROCK** Orange-White, (GRANITE) Boring Terminated with Standard Penetration Test Refusal at Elevation 711.2 ft On Crystalline Rock (GRANITE)
			60/0.0			60/0.0				

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y6/L_EB2-B	**STATION** 22+94	**OFFSET** 45 ft RT	**ALIGNMENT** -Y6-	**0 HR.** Dry
COLLAR ELEV. 735.6 ft	**TOTAL DEPTH** 38.8 ft	**NORTHING** 557,325	**EASTING** 1,376,647	**24 HR.** 35.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
740										
735	734.6	1.0	2	3	6	9 15		M		735.6 0.0 TOPSOIL = 4 INCHES **ROADWAY EMBANKMENT** Stiff, Red, Silty CLAY (A-7), with trace organics
	732.1	3.5	5	6	9			M		732.6 3.0 **RESIDUAL** Stiff, Red, Silty CLAY (A-7)
730	729.6	6.0	5	6	8	14		M		
	727.1	8.5	5	5	8	13		M		727.6 8.0 Stiff, Red-Orange, Fine Sandy SILT (A-4)
725										
	722.1	13.5	10	12	10	22		D		723.6 12.0 Very Stiff, Yellow-Tan, SILT (A-5), with manganese oxide staining
720										
	717.1	18.5	4	7	11	18		D		
715										
	712.1	23.5	100/0.5			100/0.5				713.1 22.5 **WEATHERED ROCK** Gray, (GRANITE)
710										
	707.1	28.5	100/0.4			100/0.4				
705										
	702.1	33.5	21	22	36	58		D		703.6 32.0 **RESIDUAL** Hard, Gray, Fine Sandy SILT (A-4)
700										
	697.1	38.5	100/0.2			100/0.2				697.1 38.5 696.8 38.8 **WEATHERED ROCK** Gray, (GRANITE) Boring Terminated at Elevation 696.8 ft In Weathered Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_EB1-A	**STATION** 48+86	**OFFSET** 38 ft LT	**ALIGNMENT** -Y7-	**0 HR.** 36.0
COLLAR ELEV. 699.2 ft	**TOTAL DEPTH** 78.3 ft	**NORTHING** 555,666	**EASTING** 1,388,794	**24 HR.** 11.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/25/23	**COMP. DATE** 04/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
700										
										699.2 GROUND SURFACE 0.0
	698.1	1.1								697.7 **ROADWAY EMBANKMENT** 1.5
	695.9	3.3	3	4	3	7		M		Medium Stiff, Red-Brown, Silty CLAY (A-7), with trace rootlets
695			2	3	5	8		M		**RESIDUAL**
	693.1	6.1	3	3	5	8		M		Medium Stiff to Stiff, Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
690	690.9	8.3	3	3	5	8		M		
	685.9	13.3	4	4	7	11		M		
685										
	680.9	18.3	3	4	8	12		M		
680										
	675.9	23.3	2	2	3	5		M		677.2 22.0
675										Medium Stiff to Stiff, Gray-Tan-White, Fine Sandy SILT (A-4), with trace to little mica
	670.9	28.3	3	3	4	7		M		
670										
	665.9	33.3	3	4	3	7		M		
665										
	660.9	38.3	3	7	8	15		M		
660										
	655.9	43.3	8	10	15	25		M		655.2 44.0
655										Very Stiff to Hard, Tan-Gray, SILT (A-5), with trace gravel-sized rock fragments
	650.9	48.3	10	14	26	40		M		
650										
	645.9	53.3	23	40	30	70		M		
645										
	640.9	58.3	25	24	30	54		M		642.2 57.0
640										Hard, Gray-White-Tan, Fine to Coarse Sandy SILT (A-4)
	635.9	63.3	17	18	24	42		M		
635										
	630.9	68.3	100/0.3			100/0.3				630.9 68.3
630										**WEATHERED ROCK**
	625.9	73.3	100/0.3			100/0.3				Gray-White-Tan (METAMORPHOSED QUARTZ DIORITE)
625										
	620.9	78.3	100/0.0			100/0.0				620.9 78.3
										Boring Terminated with Standard

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_EB1-A	**STATION** 48+86	**OFFSET** 38 ft LT	**ALIGNMENT** -Y7-	**0 HR.** 36.0
COLLAR ELEV. 699.2 ft	**TOTAL DEPTH** 78.3 ft	**NORTHING** 555,666	**EASTING** 1,388,794	**24 HR.** 11.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 04/25/23	**COMP. DATE** 04/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
620						Match Line				Penetration Test Refusal at Elevation 620.9 ft On Crystalline Rock (METAMORPHOSED QUARTZ DIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_EB1-B	**STATION** 48+41	**OFFSET** 33 ft RT	**ALIGNMENT** -Y7-	**0 HR.** 39.0
COLLAR ELEV. 705.2 ft	**TOTAL DEPTH** 68.9 ft	**NORTHING** 555,720	**EASTING** 1,388,729	**24 HR.** 34.5
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers		**HAMMER TYPE** Automatic
DRILLER D. Demby	**START DATE** 04/25/23	**COMP. DATE** 04/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
710											
705										705.2 GROUND SURFACE	0.0
	703.3	1.9	7	7	10	17		M		**ROADWAY EMBANKMENT** Very Stiff, Red-Brown, Silty CLAY (A-7)	
	701.7	3.5	7	10	15	25		M			
700										699.2	6.0
	698.8	6.4	4	4	5	9		M		Stiff, Red-Brown, Fine Sandy, Clayey SILT (A-5), with trace mica	
	696.7	8.5	4	4	5	9		M		697.2	8.0
695										**RESIDUAL** Medium Stiff to Stiff, Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
	691.7	13.5	3	4	3	7		M			
690											
	686.7	18.5	3	4	5	9		M			
685											
	681.7	23.5	3	4	5	9		M			
680											
	676.7	28.5	3	4	5	9		M			
675											
	671.7	33.5	3	2	4	6		M			
670											
	666.7	38.5	2	3	4	7		M			
665										663.2	42.0
	661.7	43.5	3	4	8	12		M		Stiff to Hard, Gray-Tan-White, Fine Sandy SILT (A-4), with trace to little mica	
660											
	656.7	48.5	14	22	30	52		M			
655											
	651.7	53.5	27	33	34	67		M			
650											
	646.7	58.5	100/0.2			100/0.2				646.7 **WEATHERED ROCK** Gray-White-Tan (METAMORPHOSED QUARTZ DIORITE)	58.5
645											
	641.7	63.5	100/0.4			100/0.4					
640											
	636.7	68.5	100/0.4			100/0.4				636.3 Boring Terminated at Elevation 636.3 ft In Weathered Rock (METAMORPHOSED QUARTZ DIORITE)	68.9

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_B1-A	**STATION** 49+90	**OFFSET** 37 ft LT	**ALIGNMENT** -Y7-	**0 HR.** 26.0
COLLAR ELEV. 704.5 ft	**TOTAL DEPTH** 109.1 ft	**NORTHING** 555,566	**EASTING** 1,388,785	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/13/23	**COMP. DATE** 07/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
705										704.5 / 0.0 GROUND SURFACE
	702.5	2.0	6	6	7	13		M		**ROADWAY EMBANKMENT** Asphalt, CSS, and Drainage Sand 702.0 / 2.5
700	700.5	4.0	3	4	5	9		M		**RESIDUAL** Medium Stiff to Stiff, Tan-Orange-Red-Black, Fine Sandy, Clayey SILT (A-5), with trace mica, manganese oxide staining
695	695.7	8.8	2	3	4	7		M		
690	690.7	13.8	3	3	4	7		M		691.5 / 13.0 Soft to Stiff, Orange-Brown-White-Black, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
685	685.7	18.8	2	3	4	7		M		
680	680.7	23.8	2	2	4	6		M		
675	675.7	28.8	1	2	3	5		M		
670	670.7	33.8	2	2	2	4		M		
665	665.7	38.8	2	2	7	9		M		
660	660.7	43.8	2	3	5	8		M		
655	655.7	48.8	3	3	7	10		M		656.5 / 48.0 Loose to Very Dense, White-Brown-Orange, Silty Fine SAND (A-2-4), with trace mica
650	650.7	53.8	5	7	9	16		M		
645	645.7	58.8	5	13	20	33		M		
640	640.7	63.8	12	16	24	40		M		
635	635.7	68.8	20	34	46	80		M		
630	630.7	73.8	25	25	53	78		M		
625	625.7	78.8				100/0.2				625.7 / 78.8

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_B1-A	**STATION** 49+90	**OFFSET** 37 ft LT	**ALIGNMENT** -Y7-	**0 HR.** 26.0
COLLAR ELEV. 704.5 ft	**TOTAL DEPTH** 109.1 ft	**NORTHING** 555,566	**EASTING** 1,388,785	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/13/23	**COMP. DATE** 07/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
625						Match Line				
	620.7	83.8	100/0.2			100/0.2				**WEATHERED ROCK** (METAMORPHOSED QUARTZ DIORITE) *(continued)*
620	615.7	88.8	100/0.2			100/0.3				
615	610.7	93.8	100/0.3			100/0.2				
610	605.7	98.8	100/0.2			100/0.2				
605	600.7	103.8	100/0.2			100/0.2				600.7 / 103.8 **CRYSTALLINE ROCK** (METAMORPHOSED QUARTZ DIORITE) 598.5 / 106.0
600	595.7	108.8	60/0.1			60/0.1				**WEATHERED ROCK** (METAMORPHOSED QUARTZ DIORITE) 595.4 / 109.1
			100/0.3			100/0.3				Boring Terminated at Elevation 595.4 ft In Weathered Rock (METAMORPHOSED QUARTZ DIORITE)

Note:
Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_B1-B	**STATION** 49+46	**OFFSET** 44 ft RT	**ALIGNMENT** -Y7-	**0 HR.** N/M
COLLAR ELEV. 701.7 ft	**TOTAL DEPTH** 92.8 ft	**NORTHING** 555,614	**EASTING** 1,388,707	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/24/23	**COMP. DATE** 07/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
705										701.7 / 0.0 PAVEMENT
700	698.7	3.0	3	3	5	8		M		**ROADWAY EMBANKMENT** Medium Stiff, Red-Brown, Silty CLAY (A-7), with trace mica
695	693.7	8.0	3	5	7	12		M		694.7 / 7.0 **RESIDUAL** Medium Stiff to Stiff, Red-Orange-Black, Fine Sandy SILT (A-4), with trace mica
690	688.7	13.0	3	3	6	9		M		
685	683.7	18.0	3	3	3	6		M		
680	678.7	23.0	3	4	8	12		M		679.2 / 22.5 Stiff, Tan-Brown, SILT (A-5), with trace mica, manganese oxide staining
675	673.7	28.0	2	3	4	7		M		674.2 / 27.5 Medium Stiff, Red-Orange-Tan, Fine Sandy SILT (A-4), with trace mica
670	668.7	33.0	2	3	5	8		M		
665	663.7	38.0	2	3	6	9		M		664.2 / 37.5 Loose to Dense, White-Brown-Gray-Orange, Silty Fine to Coarse SAND (A-2-4), with trace mica
660	658.7	43.0	6	8	9	17		M		
655	653.7	48.0	3	4	10	14		M		
650	648.7	53.0	7	9	16	25		M		
645	643.7	58.0	8	14	21	35		M		
640	638.7	63.0	7	13	21	34		M		
635	633.7	68.0	31	69/0.4		100/0.9				633.7 / 68.0 **WEATHERED ROCK** White-Brown-Gray, (METAMORPHOSED QUARTZ DIORITE)
630	628.7	73.0	30	39	61/0.4	100/0.9				
625										

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_B1-B	**STATION** 49+46	**OFFSET** 44 ft RT	**ALIGNMENT** -Y7-	**0 HR.** N/M
COLLAR ELEV. 701.7 ft	**TOTAL DEPTH** 92.8 ft	**NORTHING** 555,614	**EASTING** 1,388,707	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/24/23	**COMP. DATE** 07/24/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
625						Match Line				
620	623.7	78.0	46	54/0.2		100/0.7				**WEATHERED ROCK** White-Brown-Gray, (METAMORPHOSED QUARTZ DIORITE) *(continued)*
615	618.7	83.0	80	20/0.1		100/0.6				
610	613.7	88.0	60/0.1			60/0.1				613.7 / 88.0 **CRYSTALLINE ROCK** (METAMORPHOSED QUARTZ DIORITE)
	612.9	88.8	60/0.0			60/0.0				612.9 / 88.8 REC=100% RQD=100% GSI= 80-90 608.9 / 92.8 Boring Terminated at Elevation 608.9 ft In Crystalline Rock (METAMORPHOSED QUARTZ DIORITE)

CAROLINAS GEOTECHNICAL GROUP

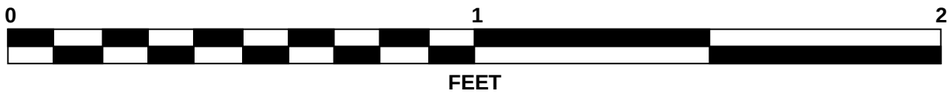
TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - Y7/L_B1-B

88.8 to 93.0 Feet





GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_B1-B	**STATION** 49+46	**OFFSET** 44 ft RT	**ALIGNMENT** -Y7-	**0 HR.** N/M
COLLAR ELEV. 701.7 ft	**TOTAL DEPTH** 92.8 ft	**NORTHING** 555,614	**EASTING** 1,388,707	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** SPT Core Boring		**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 07/24/23	**COMP. DATE** 07/24/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 4.0 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
612.9											Begin Coring @ 88.8 ft
610	612.9	88.8	4.0	*N=60/0.0* 4:55/1.0 2:25/1.0 3:32/1.0 4:19/1.0	(4.0) 100%	(4.0) 100%		(4.0) 100%	(4.0) 100%		612.9 Fresh, Moderately Hard to Hard, Gray-Black-White, (METAMORPHOSED QUARTZ DIORITE), with Very Close Fracture Spacing 88.8
	608.9	92.8									608.9 GSI= 80-90 92.8
											Boring Terminated at Elevation 608.9 ft In Crystalline Rock (METAMORPHOSED QUARTZ DIORITE)

NCDOT CORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_EB2-A	**STATION** 51+38	**OFFSET** 39 ft LT	**ALIGNMENT** -Y7-	**0 HR.** 28.4
COLLAR ELEV. 707.0 ft	**TOTAL DEPTH** 98.9 ft	**NORTHING** 555,421	**EASTING** 1,388,788	**24 HR.** 25.6
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
710										
	707.0	0.0								TOPSOIL = 4 INCHES
705	706.0	1.0	2	2	4	6		M		**RESIDUAL** Medium Stiff to Stiff, Black-Orange-Tan-Red-Brown, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
	703.5	3.5	3	3	5	8		M		
700	701.0	6.0	2	4	6	10		M		
	698.5	8.5	2	2	3	5		M		
695	695.0	12.0								Soft to Medium Stiff, Black-Orange-Tan, Silty, Fine Sandy CLAY (A-6), with manganese oxide staining
	693.5	13.5	1	2	1	3		M		
690	688.5	18.5	1	2	3	5		M		
685	685.0	22.0								Medium Stiff to Stiff, White-Black-Orange-Tan, SILT (A-5), with trace mica, manganese oxide staining
	683.5	23.5	2	2	3	5		M		
680	678.5	28.5	3	4	6	10		M		
675	673.5	33.5	2	3	6	9		M		
670	668.5	38.5	2	4	5	9		M		
665	665.0	42.0								Medium Stiff to Hard, Black-White-Orange-Brown, Fine Sandy SILT (A-4), with trace mica and gravel-sized rock fragments
	663.5	43.5	6	4	4	8		M		
660	658.5	48.5	2	4	6	10		M		
655	653.5	53.5	2	3	5	8		M		
650	648.5	58.5	3	5	9	14		M		
645	643.5	63.5	7	11	16	27		M		
640	638.5	68.5	7	13	20	33		M		
635	633.5	73.5	11	15	26	41		M		
630						1				

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_EB2-A	**STATION** 51+38	**OFFSET** 39 ft LT	**ALIGNMENT** -Y7-	**0 HR.** 28.4
COLLAR ELEV. 707.0 ft	**TOTAL DEPTH** 98.9 ft	**NORTHING** 555,421	**EASTING** 1,388,788	**24 HR.** 25.6
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/03/23	**COMP. DATE** 05/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
630						Match Line				
	628.5	78.5	28	49	51/0.2	100/0.7				629.0 / 78.0 **WEATHERED ROCK** Brown-Black-White (METAMORPHOSED QUARTZ DIORITE)
625	623.5	83.5	20	26	32	58				625.0 / 82.0 **RESIDUAL** Hard, Black-Orange-Brown, Fine Sandy SILT (A-4), with trace mica
620	618.5	88.5	62	38/0.2		100/0.7				618.5 / 88.5 **WEATHERED ROCK** Brown-Black-White (METAMORPHOSED QUARTZ DIORITE)
615	613.5	93.5	17	43	57/0.2	100/0.7				
610	608.5	98.5	100/0.4			100/0.4				608.1 / 98.9 Boring Terminated at Elevation 608.1 ft In Weathered Rock (METAMORPHOSED QUARTZ DIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_EB2-B	**STATION** 50+92	**OFFSET** 39 ft RT	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 703.0 ft	**TOTAL DEPTH** 98.7 ft	**NORTHING** 555,464	**EASTING** 1,388,708	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/04/23	**COMP. DATE** 05/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
705										
	702.0	1.0								703.0 GROUND SURFACE 0.0
			2	1	3	4		M		**RESIDUAL** Soft to Medium Stiff, Black-White-Orange-Tan, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining
700	699.5	3.5								
			1	3	3	6		M		
	697.0	6.0								
			1	3	3	6		M		
695	694.5	8.5								
			1	2	4	6		M		
690	689.5	13.5								
			1	2	3	5		M		
685	684.5	18.5								
			1	2	4	6		M		
680	679.5	23.5								681.0 22.0
			2	2	3	5		M		Medium Stiff, Black-Orange-Tan-White, Silty, Fine Sandy CLAY (A-6), with trace mica, manganese oxide staining
675	674.5	28.5								
			1	2	5	7		M		
670	669.5	33.5								
			1	3	4	7		M		
665	664.5	38.5								666.0 37.0
			1	4	6	10		M		Stiff to Very Stiff, Black-white-Orange-Tan, Fine Sandy SILT (A-5), with trace mica, manganese oxide staining
660	659.5	43.5								
			3	6	9	15		M		
655	654.5	48.5								
			4	8	12	20		M		
650	649.5	53.5								
			4	5	9	14		M		
645	644.5	58.5								646.0 57.0
			8	11	19	30		M		Very Stiff to Hard, White-Black-Orange-Brown, Fine Sandy SILT (A-4), with trace mica
640	639.5	63.5								
			9	16	18	34		M		
635	634.5	68.5								
			19	31	40	71		M		
630	629.5	73.5								
			13	24	35	59		M		
625										625.0 78.0

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y7/L_EB2-B	**STATION** 50+92	**OFFSET** 39 ft RT	**ALIGNMENT** -Y7-	**0 HR.** Dry
COLLAR ELEV. 703.0 ft	**TOTAL DEPTH** 98.7 ft	**NORTHING** 555,464	**EASTING** 1,388,708	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 05/04/23	**COMP. DATE** 05/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
625						Match Line				
	624.5	78.5	40	60/0.4		100/0.9				**WEATHERED ROCK** Black-White-Brown, (METAMORPHOSED QUARTZ DIORITE)
620	619.5	83.5	29	19	36	55		M		621.0 82.0 **RESIDUAL** Hard, Black-White-Orange-Tan, Fine Sandy SILT (A-4), with trace mica
615	614.5	88.5	100/0.2			100/0.2				614.5 88.5 **WEATHERED ROCK** Black-White-Brown, (METAMORPHOSED QUARTZ DIORITE)
610	609.5	93.5	100/0.2			100/0.2				
605	604.5	98.5	100/0.2			100/0.2				604.3 98.7 Boring Terminated at Elevation 604.3 ft In Weathered Rock (METAMORPHOSED QUARTZ DIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y9/L_EB1-A	**STATION** 27+46	**OFFSET** 21 ft LT	**ALIGNMENT** -Y9-	**0 HR.** 46.0
COLLAR ELEV. 756.1 ft	**TOTAL DEPTH** 57.0 ft	**NORTHING** 565,018	**EASTING** 1,348,342	**24 HR.** 43.0
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/10/23	**COMP. DATE** 07/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
760											
										756.1	0.0
										GROUND SURFACE	
755	755.1	1.0	4	5	6	11		M		**RESIDUAL** Stiff, Red-Orange, Fine to Coarse Sandy SILT (A-4), with trace mica	
	752.6	3.5	4	3	5	8		M		753.1	3.0
750	750.1	6.0	8	6	8	14		M		Loose to Very Dense, White-Tan-Brown-Orange, Silty Fine to Coarse SAND (A-2-4), with trace mica	
	747.6	8.5	20	8	13	21		M			
745	742.6	13.5	4	3	4	7		M			
740	737.6	18.5	6	17	40	57		M			
735	732.6	23.5	4	6	6	12		M			
730	727.6	28.5	5	6	8	14		M			
725	722.6	33.5	5	6	8	14		M			
720	717.6	38.5	5	6	5	11		M			
715	712.6	43.5	4	4	7	11		M			
710	707.6	48.5	4	6	10	16		M			
705	702.6	53.5	7	14	25	39		M			
700	699.1	57.0	60/0.0			60/0.0		M		700.1	56.0
										699.1	57.0
										WEATHERED ROCK Black-White, (GRANITE)	
										Boring Terminated with Standard Penetration Test Refusal at Elevation 699.1 ft On Crystalline Rock (GRANITE)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y9/L_EB1-B	**STATION** 27+15	**OFFSET** 20 ft RT	**ALIGNMENT** -Y9-	**0 HR.** 45.5
COLLAR ELEV. 756.5 ft	**TOTAL DEPTH** 57.5 ft	**NORTHING** 565,034	**EASTING** 1,348,294	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/10/23	**COMP. DATE** 07/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
760										
										756.5 GROUND SURFACE 0.0
755	755.5	1.0								
	754.0	2.5	5	6	8	14		M		**RESIDUAL** Loose to Medium Dense, Orange-Brown, Clayey, Silty Fine to Coarse SAND (A-2-4), with trace mica
			3	4	5	9		M		
750	750.5	6.0								750.5 6.0
	749.0	7.5	100/0.4			100/0.4				**WEATHERED ROCK** White-Black, (GRANITE)
			54	46/0.3		100/0.8				
745	744.0	12.5	90	10/0.3		100/0.8				
740	739.0	17.5	9	4	4	8		M		740.5 16.0 **RESIDUAL** Loose to Dense, White-Brown-Orange-Gray, Silty Fine to Coarse SAND (A-2-4), with trace mica
735	734.0	22.5	4	3	4	7		M		
730	729.0	27.5	4	4	5	9		M		
725	724.0	32.5	3	5	7	12		M		
720	719.0	37.5	5	6	6	12		M		
715	714.0	42.5	4	5	8	13		M		
710	709.0	47.5	7	9	11	20		M		
705	704.0	52.5	12	18	28	46		M		
700	699.0	57.5	60/0.0			60/0.0		M		699.5 57.0
										699.0 57.5
										WEATHERED ROCK White-Black, (GRANITE)
										Boring Terminated with Standard Penetration Test Refusal at Elevation 699.0 ft On Crystalline Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y9/L_B1-A	**STATION** 29+33	**OFFSET** 26 ft LT	**ALIGNMENT** -Y9-	**0 HR.** N/M
COLLAR ELEV. 733.5 ft	**TOTAL DEPTH** 68.8 ft	**NORTHING** 564,843	**EASTING** 1,348,409	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 08/10/23	**COMP. DATE** 08/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										ELEV. (ft) DEPTH (ft)
										733.5 GROUND SURFACE 0.0
										RESIDUAL Medium Dense, Orange, Clayey Fine to Coarse SAND (A-2-6), with trace mica
730	730.0	3.5	3	6	7	13		M		
										726.5 7.0
725	725.0	8.5	3	3	4	7		M		Loose to Very Dense, White-Gray-Orange-Brown, Silty Fine to Coarse SAND (A-2-4), with trace mica
720	720.0	13.5	3	4	6	10		M		
715	715.0	18.5	2	3	5	8		M		
710	710.0	23.5	2	3	4	7		M		
705	705.0	28.5	3	2	5	7		M		
700	700.0	33.5	3	2	4	6		M		
695	695.0	38.5	4	6	8	14		M		
690	690.0	43.5	12	11	12	23		M		
685	685.0	48.5	30	27	23	50		M		
680	680.0	53.5	12	15	27	42		M		
675	675.0	58.5	22	40	45	85		M		
670	670.0	63.5	45	55/0.3		100/0.8		M		670.0 63.5 **WEATHERED ROCK** Gray-Brown, (GRANITE)
665	665.0	68.5	100/0.3			100/0.3		M		664.7 68.8 Boring Terminated at Elevation 664.7 ft In Weathered Rock (GRANITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y9/L_B1-B	**STATION** 29+00	**OFFSET** 22 ft RT	**ALIGNMENT** -Y9-	**0 HR.** 12.4
COLLAR ELEV. 732.5 ft	**TOTAL DEPTH** 58.3 ft	**NORTHING** 564,858	**EASTING** 1,348,353	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/10/23	**COMP. DATE** 08/10/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
735										
										732.5 GROUND SURFACE 0.0
										ROADWAY EMBANKMENT Asphalt (2.0 ft) 730.5 2.0
730	729.7	2.8	5	6	5	11		M		Medium Dense, Red-Tan, Silty SAND (A-2-4), with little mica
										726.5 6.0
725	724.7	7.8	2	3	4	7		M		**RESIDUAL** Loose to Medium Dense, Red-Tan, Silty SAND (A-2-4), with little to somme mica
720	719.7	12.8	2	4	4	8		M		
715	714.7	17.8	2	3	4	7		M		
710	709.7	22.8	2	3	5	8		W		
705	704.7	27.8	2	2	4	6		W		
700	699.7	32.8	2	3	4	7		W		
695	694.7	37.8	4	5	8	13		W		
690	689.7	42.8	9	13	17	30		Sat.		
685	684.7	47.8	21	40	60/0.4	100/0.9				684.2 48.3 **WEATHERED ROCK** Tan-White, (GRANITE)
680	679.7	52.8	16	63	37/0.1	100/0.6				
675	674.7	57.8	100/0.5			100/0.5				674.2 58.3 Boring Terminated at Elevation 674.2 ft In Weathered Rock (GRANITE)

Note:
Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y9/L_EB2-A	**STATION** 30+72	**OFFSET** 21 ft LT	**ALIGNMENT** -Y9-	**0 HR.** 11.0
COLLAR ELEV. 736.2 ft	**TOTAL DEPTH** 69.3 ft	**NORTHING** 564,710	**EASTING** 1,348,449	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers		**HAMMER TYPE** Automatic
DRILLER D. Demby	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
740											
										736.2 GROUND SURFACE	0.0
735	735.2	1.0	4	4	5	9		M		**RESIDUAL** Loose, Brown, Clayey SAND (A-2-6)	
	732.7	3.5	3	3	4	7		M		733.2 Medium Stiff, Red-Brown, Sandy CLAY (A-6)	3.0
730	730.2	6.0	4	8	9	17		M		730.7 Loose to Very Dense, Red-Tan-White, Silty SAND (A-2-4), with trace to little mica	5.5
	727.7	8.5	3	4	5	9		M			
725											
	722.7	13.5	3	4	5	9		M			
720											
	717.7	18.5	2	4	3	7		W			
715											
	712.7	23.5	3	4	5	9		W			
710											
	707.7	28.5	3	3	3	6		W			
705											
	702.7	33.5	4	5	5	10		W			
700											
	697.7	38.5	3	5	4	9		W			
695											
	692.7	43.5	5	7	10	17		W			
690											
	687.7	48.5	6	8	12	20		W			
685											
	682.7	53.5	9	12	20	32		M			
680											
	677.7	58.5	14	20	28	48		M			
675											
	672.7	63.5	29	39	52	91		M			
670											
	667.7	68.5	25	75/0.3		100/0.8				669.2 **WEATHERED ROCK** Tan-White, (GRANITE)	67.0
										666.9 Boring Terminated at Elevation 666.9 ft In Weathered Rock (GRANITE)	69.3

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y9/L_EB2-B	**STATION** 30+49	**OFFSET** 19 ft RT	**ALIGNMENT** -Y9-	**0 HR.** 22.7
COLLAR ELEV. 734.4 ft	**TOTAL DEPTH** 78.7 ft	**NORTHING** 564,718	**EASTING** 1,348,404	**24 HR.** 17.2
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
735										734.4 GROUND SURFACE 0.0
	733.4	1.0	4	6	7	13		M		**RESIDUAL** Stiff, Brown, Sandy CLAY (A-6)
730	730.9	3.5	3	5	5	10		M		
	728.4	6.0	4	6	8	14		M		728.9 5.5 Medium Dense, Red-Tan, Clayey SAND (A-2-6)
725	725.9	8.5	4	4	5	9		M		726.4 8.0 Loose to Very Dense, Red-Tan, Silty SAND (A-2-4), with trace to little mica
720	720.9	13.5	2	3	3	6		M		
715	715.9	18.5	2	3	3	6		W		
710	710.9	23.5	2	3	3	6		W		
705	705.9	28.5	3	3	5	8		W		
700	700.9	33.5	3	4	5	9		W		
695	695.9	38.5	3	4	8	12		W		
690	690.9	43.5	4	5	9	14		W		
685	685.9	48.5	4	5	9	14		W		
680	680.9	53.5	6	12	14	26		W		
675	675.9	58.5	8	11	15	26		W		
670	670.9	63.5	9	14	21	35		W		
665	665.9	68.5	8	24	33	57		W		
660	660.9	73.5	22	54	46/0.3	100/0.8		W		660.4 74.0 **WEATHERED ROCK** Gray-White-Tan, (GRANITE)
	655.9	78.5	100/0.2			100/0.2				655.7 78.7

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y9/L_EB2-B	**STATION** 30+49	**OFFSET** 19 ft RT	**ALIGNMENT** -Y9-	**0 HR.** 22.7
COLLAR ELEV. 734.4 ft	**TOTAL DEPTH** 78.7 ft	**NORTHING** 564,718	**EASTING** 1,348,404	**24 HR.** 17.2
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
655						Match Line				Boring Terminated at Elevation 655.7 ft In Weathered Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y10/L_EB1-A	**STATION** 27+69	**OFFSET** 12 ft LT	**ALIGNMENT** -Y10-	**0 HR.** N/M
COLLAR ELEV. 797.4 ft	**TOTAL DEPTH** 22.7 ft	**NORTHING** 563,283	**EASTING** 1,353,646	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/04/23	**COMP. DATE** 08/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
800											
										797.4 GROUND SURFACE	0.0
										ROADWAY EMBANKMENT	
795	794.5	2.9	3	2	3	5		M		795.1 Concrete (1.3 ft) and ABC (1.0 ft)	2.3
										Loose to Medium Dense, Tan, Silty SAND (A-2-4), with trace gravel	
790	789.7	7.7	12	14	7	21		M			
785	784.7	12.7	5	5	8	13		M			
										781.4	16.0
780	779.7	17.7	60/0.0			60/0.0				779.7 **WEATHERED ROCK** Tan, (GRANITE)	17.7
										CRYSTALLINE ROCK Tan, (GRANITE)	
775	774.7	22.7	60/0.0			60/0.0				774.7	22.7
										Boring Terminated with Standard Penetration Test Refusal at Elevation 774.7 ft In Crystalline Rock (GRANITE)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y10/L_EB1-B	**STATION** 27+52	**OFFSET** 6 ft RT	**ALIGNMENT** -Y10-	**0 HR.** Dry
COLLAR ELEV. 797.5 ft	**TOTAL DEPTH** 20.9 ft	**NORTHING** 563,306	**EASTING** 1,353,637	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/06/23	**COMP. DATE** 07/06/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
800											
										797.5 GROUND SURFACE	0.0
	796.5	1.0								797.0 **ROADWAY EMBANKMENT** Asphalt (0.5 ft)	0.5
795	794.0	3.5	5	14	6	20		M		Medium Stiff to Very Stiff, Gray-Brown-Pink, Fine Sandy SILT (A-4), with trace mica and gravel	
	791.5	6.0	2	2	3	5		M			
790	789.0	8.5	4	3	2	5		M			
			2	4	11	15		M			
785	784.0	13.5								785.0	12.5
			3	5	5	10		M		**RESIDUAL** Stiff, Orange-Brown, Fine Sandy, Silty CLAY (A-7)	
780	779.0	18.5								780.5	17.0
	776.6	20.9	15	9	11	20		M		Very Stiff, Black-Red-Orange-Tan, Fine to Coarse Sandy SILT (A-4), with trace gravel-sized rock fragments	
			60/0.0			60/0.0				777.0	20.5
										776.6 **WEATHERED ROCK** (GRANITE)	20.9
										Boring Terminated with Standard Penetration Test Refusal at Elevation 776.6 ft On Crystalline Rock (GRANITE)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y10/L_B1-A	**STATION** 29+17	**OFFSET** 28 ft LT	**ALIGNMENT** -Y10-	**0 HR.** 11.0
COLLAR ELEV. 777.1 ft	**TOTAL DEPTH** 16.1 ft	**NORTHING** 563,142	**EASTING** 1,353,598	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary		**HAMMER TYPE** Automatic
DRILLER C. Odom	**START DATE** 08/09/23	**COMP. DATE** 08/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
780											
										777.1 GROUND SURFACE	0.0
775										775.4 **ROADWAY EMBANKMENT** Asphalt (1.0 ft) and ABC (0.7 ft)	1.7
	774.2	2.9	3	4	5	9		M		Loose, Tan, Silty SAND (A-2-4), with trace gravel	
770										771.1 **WEATHERED ROCK** Tan-Gray, (GRANITE)	6.0
	769.2	7.9	45	55/0.2		100/0.7		▽			
765										766.1 **RESIDUAL** Very Dense, Tan-Gray, Silty SAND (A-2-4)	11.0
	764.2	12.9	5	27	57	84		M			
										761.6	15.5
	761.0	16.1	60/0.0			60/0.0				761.0 **CRYSTALLINE ROCK** Gray, (GRANITE)	16.1
										Boring Terminated with Standard Penetration Test Refusal at Elevation 761.0 ft In Crystalline Rock (GRANITE)	

Note:
Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y10/L_B1-B	**STATION** 28+86	**OFFSET** 20 ft RT	**ALIGNMENT** -Y10-	**0 HR.** N/M
COLLAR ELEV. 777.6 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 563,190	**EASTING** 1,353,567	**24 HR.** 21.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/09/23	**COMP. DATE** 08/09/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
780											
										777.6 GROUND SURFACE	0.0
										776.2 **ROADWAY EMBANKMENT** Asphalt (1.0 ft) and ABC (0.3 ft)	1.4
775	774.8	2.8	4	5	5	10		M		Loose to Medium Dense, Gray-Tan, Silty SAND (A-2-4), with trace organics and mica	
770	769.8	7.8	60/0.1			60/0.1	RS-11			770.6	7.0
										769.7 **CRYSTALLINE ROCK** (GRANITE)	7.9
765										**CRYSTALLINE ROCK** Gray-Black (GRANITE)	
										REC=83% RQD=73% GSI=50-60	
760											
755											
750										747.6	30.0
										Boring Terminated at Elevation 747.6 ft In Crystalline Rock (GRANITE)	

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y10/L_B1-B	**STATION** 28+86	**OFFSET** 20 ft RT	**ALIGNMENT** -Y10-	**0 HR.** N/M
COLLAR ELEV. 777.6 ft	**TOTAL DEPTH** 30.0 ft	**NORTHING** 563,190	**EASTING** 1,353,567	**24 HR.** 21.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/09/23	**COMP. DATE** 08/09/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 22.1 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
769.7											Begin Coring @ 7.9 ft	
	769.7	7.9	2.1	2:57/1.0	(2.0)	(1.8)		(18.4)	(16.2)		769.7 **CRYSTALLINE ROCK**	7.9
	767.6	10.0		2:30/1.0	95%	86%		83%	73%		Slight to Very Slight Weathering, Hard to Very Hard, Gray-Black, (GRANITE), with Moderately Close to Wide Fracture Spacing	
765			5.0	0:18/0.1	(2.4)	(1.7)	RS-11				RS-11: 10.0-10.6'	
				2:17/1.0	48%	34%					Unit Weight: 162.1 pcf	
				2:10/1.0							Unconfined Compressive Strength: 5,300 psi (763 ksf)	
	762.6	15.0		1:36/1.0								
				0:23/1.0							GSI=50-60	
760			5.0	0:58/1.0								
				2:41/1.0	(5.0)	(4.7)						
				4:35/1.0	100%	94%						
				4:40/1.0								
	757.6	20.0		3:58/1.0								
				3:59/1.0								
755			5.0	0:58/1.0	(4.0)	(3.0)						
				1:29/1.0	80%	60%						
				3:50/1.0								
				5:46/1.0								
	752.6	25.0		6:32/1.0								
750			5.0	5:11/1.0	(5.0)	(5.0)						
				2:55/1.0	100%	100%						
				2:55/1.0								
				3:00/1.0								
	747.6	30.0		3:34/1.0							747.6	30.0
											Boring Terminated at Elevation 747.6 ft In Crystalline Rock (GRANITE)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

CAROLINAS GEOTECHNICAL GROUP

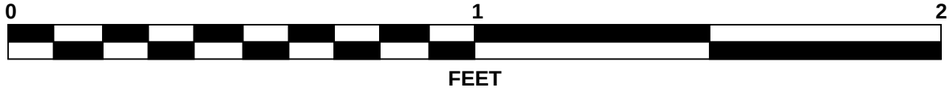
TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - Y10/L_B1-B

7.9 to 30.0 Feet





GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y10/L_EB2-A	**STATION** 30+54	**OFFSET** 12 ft LT	**ALIGNMENT** -Y10-	**0 HR.** N/M
COLLAR ELEV. 796.4 ft	**TOTAL DEPTH** 22.9 ft	**NORTHING** 563,024	**EASTING** 1,353,526	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/04/23	**COMP. DATE** 08/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
800											
										796.4 GROUND SURFACE	0.0
795	793.9	2.5	3	1	1	2		M		**ROADWAY EMBANKMENT** 794.3 Concrete (1.2 ft) and ABC (1.0 ft)	2.1
										Very Loose to Medium Dense, Tan-Brown, Silty SAND (A-2-4), with trace gravel and organics	
790	788.5	7.9	4	5	6	11		M			
785	783.5	12.9	54	41	30	71		M		785.9 **RESIDUAL** Very Dense, Orange-Gray, Silty SAND (A-2-4)	10.5
780	778.5	17.9	60/0.0			60/0.0				778.5 **CRYSTALLINE ROCK** Tan-Gray, (GRANITE)	17.9
775	773.5	22.9	60/0.0			60/0.0				773.5 Boring Terminated with Standard Penetration Test Refusal at Elevation 773.5 ft In Crystalline Rock (GRANITE)	22.9

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y10/L_EB2-B	**STATION** 30+45	**OFFSET** 4 ft RT	**ALIGNMENT** -Y10-	**0 HR.** N/M
COLLAR ELEV. 796.6 ft	**TOTAL DEPTH** 28.5 ft	**NORTHING** 563,039	**EASTING** 1,353,515	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/04/23	**COMP. DATE** 08/04/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
800										
										796.6 GROUND SURFACE 0.0
795	793.6	3.0	4	2	2	4		M		**ROADWAY EMBANKMENT** 794.7 1.0 ft Asphalt and 0.9 ft ABC 1.9 Loose, Tan, Silty SAND (A-2-4), with little mica and gravel
790	788.9	7.7	3	13	18	31		M		788.4 8.2
785	783.9	12.7	60/0.0			60/0.0		M		**RESIDUAL** Dense, Tan, Silty SAND (A-2-4) 783.9 12.7
780	778.9	17.7	55	45/0.2		100/0.7				**CRYSTALLINE ROCK** Tan-Gray, (GRANITE) 780.6 16.0
775	773.9	22.7	45	55/0.3		100/0.8				**WEATHERED ROCK** White-Tan, (GRANITE)
770	768.9	27.7	74	26/0.3		100/0.8				768.1 28.5 Boring Terminated at Elevation 768.1 ft In Weathered Rock (GRANITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y11/L_EB1-A	**STATION** 25+13	**OFFSET** 28 ft LT	**ALIGNMENT** -Y11-	**0 HR.** 12.6
COLLAR ELEV. 713.5 ft	**TOTAL DEPTH** 18.5 ft	**NORTHING** 558,823	**EASTING** 1,360,749	**24 HR.** 8.6
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/15/23	**COMP. DATE** 06/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
715										713.5 GROUND SURFACE	0.0
	712.5	1.0						D		**RESIDUAL** Medium Stiff, Red-Yellow-Orange-Gray-Brown, SILT (A-4), with trace sand	2.5
710	710.0	3.5	2	4	4	8		M		711.0	
	707.5	6.0	2	4	7	11		M		709.5 Medium Stiff, Red-Brown, CLAY (A-7)	4.0
			2	2	4	6				707.5 Stiff, Gray-Orange-Brown, SILT (A-6), with trace sand and mica	6.0
705	705.0	8.5	3	6	5	11		M		705.0 Medium Stiff, Gray-Orange-Brown, Silty CLAY (A-6)	8.5
700	700.0	13.5	60/0.0			60/0.0				Stiff, Orange-Gray, CLAY (A-7), with trace sand	
695	695.0	18.5	60/0.0			60/0.0				700.0 **CRYSTALLINE ROCK** Gray-Brown, (SCHIST)	13.5
										695.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 695.0 ft In Crystalline Rock (SCHIST)	18.5

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y11/L_EB1-B	**STATION** 25+59	**OFFSET** 24 ft RT	**ALIGNMENT** -Y11-	**0 HR.** 13.0
COLLAR ELEV. 714.4 ft	**TOTAL DEPTH** 23.9 ft	**NORTHING** 558,842	**EASTING** 1,360,682	**24 HR.** 8.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/15/23	**COMP. DATE** 06/15/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
715										714.4 GROUND SURFACE	0.0
	713.4	1.0						M		**RESIDUAL** Medium Stiff, Red-Brown, SILT (A-4), with trace sand, mica, and organics	3.0
	710.9	3.5	2	3	3	6		D		711.4 Soft, Red-Brown, Silty CLAY (A-6)	5.0
710			2	2	2	4		M		709.4 Very Soft to Soft, Red-Gray-Brown, CLAY (A-7), with trace gravel and sand	
	708.4	6.0	1	2	2	4					
705	705.9	8.5	1	1	0	1		W			
	700.9	13.5	54	46/0.4		100/0.9				700.9 **WEATHERED ROCK** Gray, (SCHIST)	13.5
695	695.9	18.5	75	25/0.1		100/0.6					
	690.9	23.5	100/0.4			100/0.4				690.5 Boring Terminated at Elevation 690.5 ft In Weathered Rock (SCHIST)	23.9

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T./M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y11/L_B1-A	**STATION** 26+54	**OFFSET** 11 ft LT	**ALIGNMENT** -Y11-	**0 HR.** N/M
COLLAR ELEV. 721.8 ft	**TOTAL DEPTH** 63.6 ft	**NORTHING** 558,761	**EASTING** 1,360,621	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 08/02/23	**COMP. DATE** 08/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)
725										
										721.8 GROUND SURFACE 0.0
720										720.8 **ROADWAY EMBANKMENT** 1.0 Asphalt (1.0 ft) Stiff, Tan-Gray-Pink, Fine Sandy, Silty CLAY (A-7), with trace mica
	718.3	3.5	2	6	4	10		M		
715	713.3	8.5	3	4	6	10		M		
710	708.3	13.5	2	5	5	10		M		708.8 13.0 **ALLUVIAL** Stiff, Gray, Fine Sandy CLAY (A-6), with trace mica
705	703.3	18.5	WOH	3	4	7		M		704.8 17.0 **RESIDUAL** Medium Stiff, Gray-Orange-Brown, Silty CLAY (A-7), with trace mica
700	698.3	23.5	5	5	8	13		M		699.8 22.0 Stiff to Very Stiff, Black-Tan-Gray, Fine Sandy SILT (A-4), with trace mica
695	693.3	28.5	7	15	12	27		M		
690	688.3	33.5	100/0.4			100/0.4				688.3 33.5 **WEATHERED ROCK** Gray-White-Black (SCHIST)
685	683.3	38.5	82	18/0.1		100/0.6				
680	678.3	43.5	66	34/0.3		100/0.8				
675	673.3	48.5	100/0.2			100/0.2				
670	668.3	53.5	100/0.3			100/0.3				
665	663.3	58.5	100/0.4			100/0.4				
660	658.3	63.5	60/0.1			60/0.1				658.3 63.5 658.2 63.6 **CRYSTALLINE ROCK** (SCHIST) Boring Terminated with Standard Penetration Test Refusal at Elevation 658.2 ft In Crystalline Rock (SCHIST)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T./M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y11/L_B1-B	**STATION** 27+00	**OFFSET** 45 ft RT	**ALIGNMENT** -Y11-	**0 HR.** N/M
COLLAR ELEV. 722.2 ft	**TOTAL DEPTH** 68.7 ft	**NORTHING** 558,783	**EASTING** 1,360,552	**24 HR.** 9.5
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 08/03/23	**COMP. DATE** 08/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
725										
										722.2 GROUND SURFACE 0.0
720										720.8 **ROADWAY EMBANKMENT** 1.4 Asphalt (1.1 ft) and ABC (0.3 ft) Medium Stiff to Stiff, Orange-Gray-Brown, Fine Sandy, Silty CLAY (A-6), with trace mica and asphalt fragments
	718.7	3.5	2	2	3	5		M		
715	713.7	8.5	4	4	6	10		M		
710	708.7	13.5	2	2	2	4		M		709.2 13.0 **ALLUVIAL** Soft, Gray, Fine Sandy CLAY (A-6), with trace mica and organics
705	703.7	18.5	7	12	16	28		M		705.2 17.0 **RESIDUAL** Very Stiff to Hard, Gray-Red-White-Black, Fine Sandy SILT (A-4), with trace mica
700	698.7	23.5	3	7	9	16		M		
695	693.7	28.5	13	21	30	51		M		
690	688.7	33.5	12	14	14	28		M		
685	683.7	38.5	28	72/0.4		100/0.9				683.7 38.5 **WEATHERED ROCK** Gray-White-Black (SCHIST)
680	678.7	43.5	26	58	42/0.1	100/0.6				
675	673.7	48.5	33	67/0.4		100/0.9				
670	668.7	53.5	25	50	50/0.3	100/0.8				
665	663.7	58.5	100/0.5			100/0.5				
660	658.7	63.5	66	44/0.3		100/0.8				
655	653.7	68.5	100/0.2			100/0.2				653.5 68.7 Boring Terminated at Elevation 653.5 ft In Weathered Rock (SCHIST)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y11/L_EB2-A	**STATION** 28+04	**OFFSET** 21 ft LT	**ALIGNMENT** -Y11-	**0 HR.** 9.5
COLLAR ELEV. 718.9 ft	**TOTAL DEPTH** 34.1 ft	**NORTHING** 558,671	**EASTING** 1,360,500	**24 HR.** 6.8
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
720										718.9 GROUND SURFACE	0.0
	717.9	1.0	6	7	10	17		M		**ROADWAY EMBANKMENT** Very Stiff, Tan-Red-Black, Fine Sandy CLAY (A-6), with manganese oxide staining	
715	715.4	3.5	6	9	9	18		M		713.4 **ALLUVIAL** Soft, Black-Tan-Orange, Silty, Fine to Coarse Sandy CLAY (A-6)	5.5
	712.9	6.0	2	2	2	4		W		710.9 **RESIDUAL** Medium Stiff, Gray-Tan-Orange, Fine Sandy SILT (A-5)	8.0
710	710.4	8.5	3	3	4	7		W		706.9 Hard, White-Orange-Tan-Gray, Fine Sandy SILT (A-4)	12.0
705	705.4	13.5	10	12	21	33		M		701.9 **WEATHERED ROCK** Black-White-Gray (MICACEOUS METAGRANITE)	17.0
700	700.4	18.5	54	46/0.3		100/0.8					
695	695.4	23.5	62	38/0.2		100/0.7				691.9 **RESIDUAL** Hard, Gray-White, Fine Sandy SILT (A-5), with some mica	27.0
690	690.4	28.5	11	15	17	32		M		688.4 **WEATHERED ROCK** Black-White-Gray (MICACEOUS METAGRANITE)	30.5
685	685.4	33.5	90	10/0.1		100/0.6				684.8 Boring Terminated at Elevation 684.8 ft In Weathered Rock (MICACEOUS METAGRANITE)	34.1

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y11/L_EB2-B	**STATION** 28+46	**OFFSET** 9 ft RT	**ALIGNMENT** -Y11-	**0 HR.** 13.0
COLLAR ELEV. 721.9 ft	**TOTAL DEPTH** 38.6 ft	**NORTHING** 558,674	**EASTING** 1,360,449	**24 HR.** 6.2
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/27/23	**COMP. DATE** 06/27/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
725										721.9 GROUND SURFACE	0.0
	720.9	1.0	5	6	6	12		M		**ROADWAY EMBANKMENT** Stiff to Very Stiff, Brown-Red, Fine Sandy SILT (A-5)	
720	718.4	3.5	6	6	9	15		M			
	715.9	6.0	4	4	6	10		M		712.9 Stiff, Orange-Tan-Gray, Fine to Coarse Sandy CLAY (A-6), with trace subrounded gravel	9.0
715	713.4	8.5	2	3	10	13		M		709.9 **RESIDUAL** Very Stiff to Hard, Brown-White-Black, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	12.0
710	708.4	13.5	4	7	10	17		M			
705	703.4	18.5	3	7	10	17		W			
700	698.4	23.5	8	12	32	44		W		695.9 **WEATHERED ROCK** Brown-White-Black-Gray, (MICACEOUS METAGRANITE)	26.0
695	693.4	28.5	18	29	71/0.2	100/0.7					
690	688.4	33.5	16	12	88/0.4	100/0.9				683.3 Boring Terminated with Standard Penetration Test Refusal at Elevation 683.3 ft On Crystalline Rock (MICACEOUS METAGRANITE)	38.6
685	683.3	38.6	60/0.0			60/0.0					

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y12/L_EB1-A	**STATION** 20+82	**OFFSET** 17 ft LT	**ALIGNMENT** -Y12-	**0 HR.** Dry
COLLAR ELEV. 745.6 ft	**TOTAL DEPTH** 38.9 ft	**NORTHING** 556,709	**EASTING** 1,370,502	**24 HR.** 30.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/14/23	**COMP. DATE** 06/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
750										
745	744.6	1.0	2	1	2	3		M		745.6 GROUND SURFACE 0.0
	742.1	3.5	2	1	3	4		M		**ROADWAY EMBANKMENT** Soft, Orange-Brown-Red, Gravelly SILT (A-4), with trace organics and gravel
740	739.6	6.0	2	1	2	3		M		
	737.1	8.5	2	2	2	4		M		
735	732.1	13.5	3	4	5	9		M		733.6 12.0 Stiff, Red-Brown-Gray, CLAY (A-7), with trace organics, sand, and gravel
730	727.1	18.5	5	6	9	15		M		730.1 15.5 Stiff, Gray-Brown, Silty CLAY (A-6)
725	722.1	23.5	10	13	87/0.4	100/0.9				721.6 24.0 **WEATHERED ROCK** Gray-Brown-Orange, (METAVOLCANIC ROCK)
720	717.1	28.5	56	44/0.4		100/0.9				
715	712.1	33.5	50	50/0.4		100/0.9				
710	707.1	38.5	100/0.4			100/0.4				706.7 38.9 Boring Terminated at Elevation 706.7 ft In Weathered Rock (METAVOLCANIC ROCK)

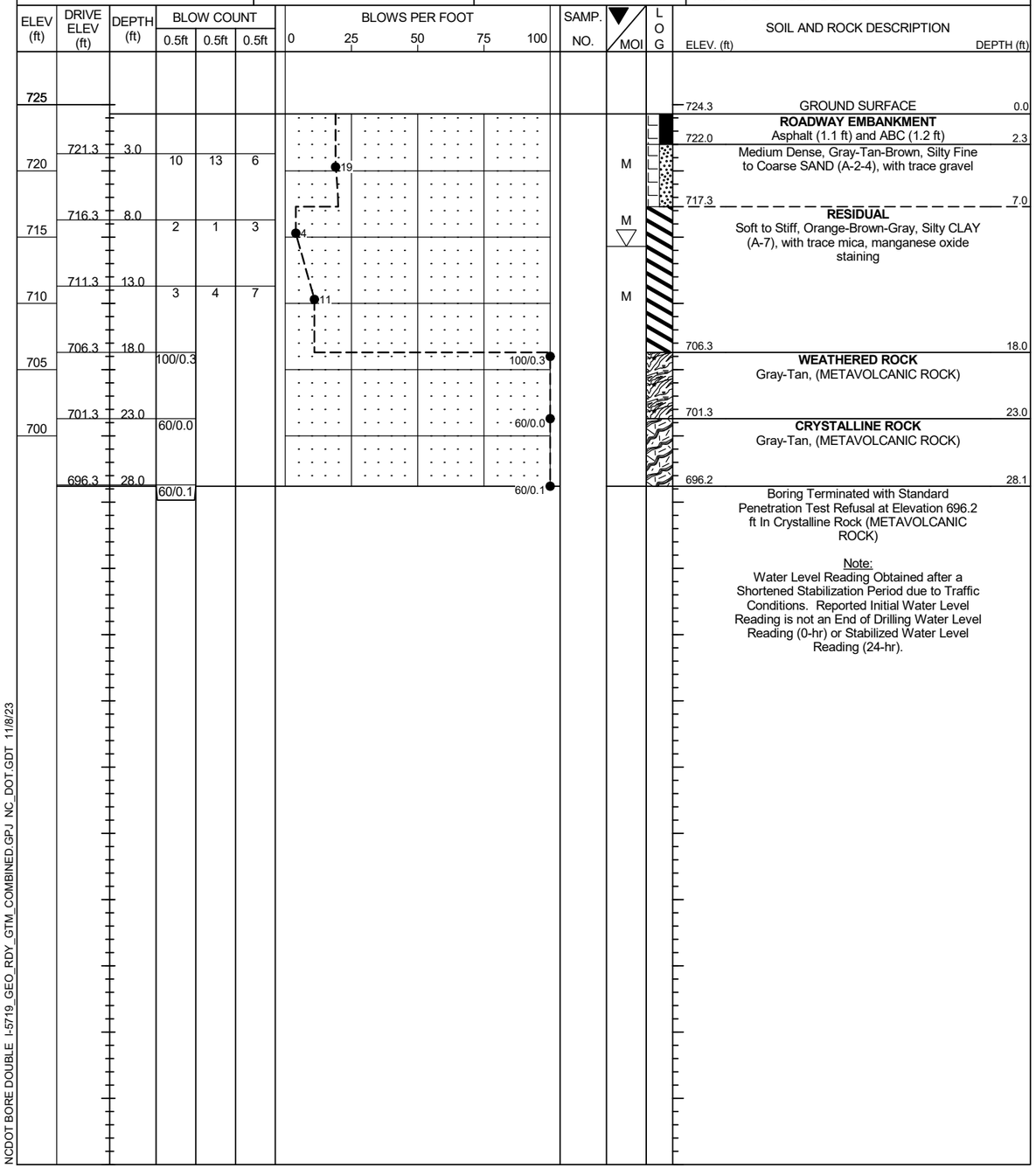
WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** T. Wenner, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y12/L_EB1-B	**STATION** 20+84	**OFFSET** 5 ft RT	**ALIGNMENT** -Y12-	**0 HR.** Dry
COLLAR ELEV. 746.3 ft	**TOTAL DEPTH** 39.2 ft	**NORTHING** 556,712	**EASTING** 1,370,480	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 07/14/23	**COMP. DATE** 07/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										
										746.3 GROUND SURFACE 0.0
745	745.3	1.0	5	5	5	10		M		745.1 **ROADWAY EMBANKMENT** 1.2 Asphalt (0.8 ft) and ABC (0.4 ft) Medium Stiff to Very Stiff, Tan-Orange, Fine Sandy SILT (A-5), with trace gravel
	742.8	3.5	3	3	4	7		M		
740	740.3	6.0	2	3	4	7		M		
	737.8	8.5	3	3	4	7		M		
735	732.8	13.5	4	8	8	16		M		
730	727.8	18.5	3	3	5	8		M		726.8 19.5 **ALLUVIAL** Medium Stiff to Very Stiff, Green-Gray, Silty CLAY (A-7), with trace organics
725	722.8	23.5	5	6	10	16		M		721.8 24.5 **RESIDUAL** Very Stiff, Orange-Brown, SILT (A-5)
720	717.8	28.5	53	47/0.3		100/0.8				717.8 28.5 **WEATHERED ROCK** Tan, (METAVOLCANIC ROCK)
715	712.8	33.5	20	80/0.4		100/0.9				
710	707.8	38.5	58	42/0.2		100/0.7				707.1 39.2 Boring Terminated at Elevation 707.1 ft In Weathered Rock (METAVOLCANIC ROCK)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y12/L_B1-A	**STATION** 22+18	**OFFSET** 20 ft LT	**ALIGNMENT** -Y12-	**0 HR.** 10.0
COLLAR ELEV. 724.3 ft	**TOTAL DEPTH** 28.1 ft	**NORTHING** 556,576	**EASTING** 1,370,476	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary		**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 08/02/23	**COMP. DATE** 08/02/23	**SURFACE WATER DEPTH** N/A	



Note:
Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y12/L_B1-B	**STATION** 22+15	**OFFSET** 21 ft RT	**ALIGNMENT** -Y12-	**0 HR.** 6.8
COLLAR ELEV. 723.9 ft	**TOTAL DEPTH** 39.8 ft	**NORTHING** 556,587	**EASTING** 1,370,437	**24 HR.** 7.8
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/02/23	**COMP. DATE** 08/03/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
725										723.9 GROUND SURFACE	0.0
	721.4	2.5								**ROADWAY EMBANKMENT** Asphalt (1.1 ft) and ABC (1.2 ft) 721.6	2.3
720			3	4	6	10		M		**RESIDUAL** Stiff to Medium Stiff, Red-Tan, Sandy SILT (A-4)	
	716.4	7.5									
715			2	3	3	6		Sat.			
	711.4	12.5								710.9	13.0
710			8	92/0.2		100/0.7				**WEATHERED ROCK** Tan, (METAVOLCANIC ROCK)	
	706.4	17.5									
705			65	35/0.1		100/0.6					
	701.4	22.5								702.9	21.0
700			60/0.0			60/0.0				701.4 **CRYSTALLINE ROCK** Gray, (METAVOLCANIC ROCK) REC=89% RQD=67% GSI=45-55	22.5
695							RS-12				
690										688.1 Gray, (METAVOLCANIC ROCK) REC=100% RQD=95% GSI=75-85	35.8
685										684.1 Boring Terminated at Elevation 684.1 ft In Crystalline Rock (METAVOLCANIC ROCK)	39.8

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y12/L_B1-B	**STATION** 22+15	**OFFSET** 21 ft RT	**ALIGNMENT** -Y12-	**0 HR.** 6.8
COLLAR ELEV. 723.9 ft	**TOTAL DEPTH** 39.8 ft	**NORTHING** 556,587	**EASTING** 1,370,437	**24 HR.** 7.8
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 08/02/23	**COMP. DATE** 08/03/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 17.3 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
701.4											Begin Coring @ 22.5 ft	
700	701.4	22.5	2.3	*N=60/0.0* 2:49/1.0 2:23/1.0	(2.0) 87%	(0.8) 35%		(11.9) 89%	(8.9) 67%		701.4 Moderate to Slight Weathering, Moderately Hard to Hard, Gray, (METAVOLCANIC ROCK), with Close to Medium Close Fracture Spacing	22.5
	699.1	24.8	5.0	1:10/0.3 3:34/1.0 3:01/1.0 2:52/1.0 7:28/1.0 10:12/1.0	(4.9) 98%	(4.1) 82%					RS-12: 28.5-29.4' Unit Weight: 180.6 pcf Unconfined Compressive Strength: 15,330 psi (2,207 ksf) GSI=45-55	
695	694.1	29.8	5.0	2:35/1.0 2:17/1.0 3:12/1.0 4:19/1.0 2:59/1.0	(4.0) 80%	(3.0) 60%	RS-12					
690	689.1	34.8	5.0	5:19/1.0 5:06/1.0 5:10/1.0 5:19/1.0 6:19/1.0	(5.0) 100%	(4.8) 96%		(4.0) 100%	(3.8) 95%		688.1 Very Slight Weathering to Fresh, Very Hard, Gray, (METAVOLCANIC ROCK), with Close to Medium Close Fracture Spacing GSI=75-85	35.8
685	684.1	39.8									684.1 Boring Terminated at Elevation 684.1 ft In Crystalline Rock (METAVOLCANIC ROCK)	39.8

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

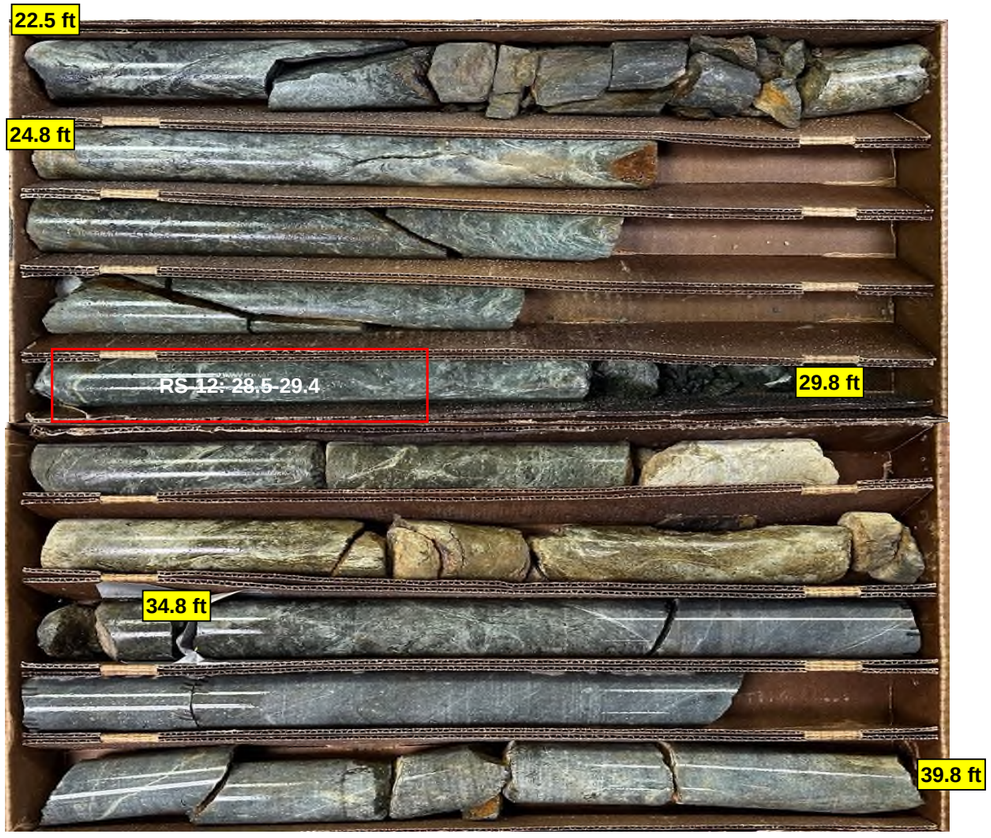
CAROLINAS GEOTECHNICAL GROUP

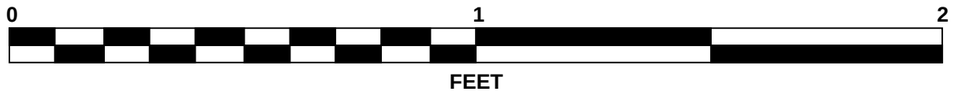
TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - Y12/L_B1-B

22.5 to 39.8 Feet





GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y12/L_EB2-A	**STATION** 23+58	**OFFSET** 18 ft LT	**ALIGNMENT** -Y12-	**0 HR.** 34.0
COLLAR ELEV. 748.0 ft	**TOTAL DEPTH** 53.5 ft	**NORTHING** 556,439	**EASTING** 1,370,445	**24 HR.** 28.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/14/23	**COMP. DATE** 06/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
750										
	747.0	1.0	3	3	3	6		M		748.0 GROUND SURFACE 0.0 **ROADWAY EMBANKMENT** Medium Stiff to Stiff, Red-Brown, Fine to Coarse Sandy, Silty CLAY (A-6), with trace gravel and sand
745	744.5	3.5	6	9	4	13		D		
	742.0	6.0	2	3	6	9		D		742.5 5.5 **RESIDUAL** Soft to Hard, Red-Orange-Yellow-Gray-Brown, SILT (A-4) with trace gravel-sized quartz fragments, mica, and sand, manganese oxide staining
740	739.5	8.5	2	2	4	6		D		
	734.5	13.5	2	2	2	4		D		
735	729.5	18.5	2	2	3	5		M		
730	724.5	23.5	2	3	5	8		M		
725	719.5	28.5	2	4	6	10		M		
720	714.5	33.5	9	10	12	22		M		
715	709.5	38.5	3	9	14	23		M		
710	704.5	43.5	14	19	28	47		D		
705	699.5	48.5	60/0.0			60/0.0				699.5 48.5 **CRYSTALLINE ROCK** Gray, (METAVOLCANIC ROCK)
700	694.5	53.5	60/0.0			60/0.0				694.5 53.5 Boring Terminated with Standard Penetration Test Refusal at Elevation 694.5 ft In Crystalline Rock (METAVOLCANIC ROCK)
695										

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Hachey, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y12/L_EB2-B	**STATION** 23+56	**OFFSET** 20 ft RT	**ALIGNMENT** -Y12-	**0 HR.** 36.0
COLLAR ELEV. 747.2 ft	**TOTAL DEPTH** 48.5 ft	**NORTHING** 556,449	**EASTING** 1,370,408	**24 HR.** 27.0
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 06/14/23	**COMP. DATE** 06/14/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
750										
	746.2	1.0	3	3	5	8		M		747.2 GROUND SURFACE 0.0 **RESIDUAL** Medium Stiff to Very Stiff, Red-Brown, CLAY (A-7)
745	743.7	3.5	4	7	9	16		D		
	741.2	6.0	4	4	7	11		D		741.7 5.5 Medium Stiff to Very Stiff, Gray-Red-Orange-Brown-Black, SILT (A-5), with manganese oxide staining
740	738.7	8.5	2	2	4	6		D		
	733.7	13.5	2	2	4	6		M		
735	728.7	18.5	2	3	5	8		D		
730	723.7	23.5	2	1	4	5		M		
725	718.7	28.5	9	9	10	19		M		
720	713.7	33.5	9	12	27	39		M		
715	708.7	38.5	11	100/0.4		100/0.9		D		708.7 38.5 **WEATHERED ROCK** Gray-Brown-Orange, (METAVOLCANIC ROCK)
710	703.7	43.5	100/0.4			100/0.4				
705	698.7	48.5	60/0.0			60/0.0				698.7 48.5 Boring Terminated with Standard Penetration Test Refusal at Elevation 698.7 ft On Crystalline Rock (METAVOLCANIC ROCK)
700										
695										

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y13/L_EB1-A	**STATION** 26+51	**OFFSET** 19 ft LT	**ALIGNMENT** -Y12-	**0 HR.** 28.3
COLLAR ELEV. 754.7 ft	**TOTAL DEPTH** 65.5 ft	**NORTHING** 556,685	**EASTING** 1,373,639	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/19/23	**COMP. DATE** 06/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
755										754.7 GROUND SURFACE	0.0
	752.7	2.0	5	5	5	10		M		**RESIDUAL** Stiff, Red, Silty CLAY (A-7)	
750	750.7	4.0	5	5	7	12		M			
	747.7	7.0	6	6	5	11		M		748.7 Medium Stiff to Stiff, Brown-Red-Orange, Fine Sandy, Clayey SILT (A-5), with trace mica, manganese oxide staining	6.0
745	745.7	9.0	2	2	3	5		M			
740	740.7	14.0	2	3	8	11		M			
	735.7	19.0	2	4	6	10		M		737.7 Stiff, Tan-White-Yellow, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	17.0
735											
730	730.7	24.0	2	1	3	4		W		732.7 Soft to Stiff, Tan-Brown-Black, SILT (A-5), with manganese oxide staining	22.0
	725.7	29.0	4	6	7	13		M			
725											
	720.7	34.0	3	10	12	22		M		722.7 Very Stiff to Hard, Gray-White-Orange-Tan-Brown-Black, Fine Sandy SILT (A-4), with trace mica	32.0
720											
715	715.7	39.0	10	10	13	23		M			
	710.7	44.0	12	16	20	36		M			
710											
	705.7	49.0	2	5	11	16		W			
705											
	700.7	54.0	27	35	36	71		W			
700											
	695.7	59.0	11	16	27	43		W			
695											
690	690.7	64.0	20	50	49	99		M		689.2 Boring Terminated at Elevation 689.2 ft In Residual Sandy SILT (A-4)	65.5

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y13/L_EB1-B	**STATION** 26+49	**OFFSET** 41 ft RT	**ALIGNMENT** -Y12-	**0 HR.** 29.0
COLLAR ELEV. 754.3 ft	**TOTAL DEPTH** 69.2 ft	**NORTHING** 556,666	**EASTING** 1,373,582	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/19/23	**COMP. DATE** 06/19/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
755										754.3 GROUND SURFACE	0.0
	752.3	2.0	5	5	6	11		M		**ROADWAY EMBANKMENT** Stiff, Red-Brown, Silty CLAY (A-7), with trace gravel	
750	750.3	4.0	4	5	8	13		M		750.3 **RESIDUAL** Stiff, Red, Silty CLAY (A-7)	4.0
	747.3	7.0	5	6	9	15		M			
745	745.3	9.0	2	3	5	8		M		745.3 Soft to Medium Stiff, Orange-Red-Brown-Black, Fine Sandy, Clayey SILT (A-5), with trace mica, manganese oxide staining	9.0
740	740.3	14.0	1	2	2	4		M			
	735.3	19.0	2	1	3	4		M			
735											
730	730.3	24.0	2	1	2	3		W			
	725.3	29.0	2	3	5	8		W		727.3 Medium Stiff to Hard, Brown-Black-Tan, Fine Sandy SILT (A-4), with trace mica and gravel-sized quartz fragments, manganese oxide staining	27.0
725											
	720.3	34.0	4	7	10	17		W			
720											
715	715.3	39.0	6	9	12	21		W			
	710.3	44.0	5	5	6	11		W			
710											
	705.3	49.0	11	17	17	34		M			
705											
	700.3	54.0	17	31	25	56		M			
700											
695	695.3	59.0	34	63	37/0.2	100/0.7				695.3 **WEATHERED ROCK** Tan-Gray, (METAVOLCANIC ROCK)	59.0
	690.3	64.0	100/0.4			100/0.4					
690											
	685.3	69.0	100/0.2			100/0.2				685.1 Boring Terminated at Elevation 685.1 ft In Weathered Rock (METAVOLCANIC ROCK)	69.2

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y13/L_B1-A	**STATION** 27+70	**OFFSET** 26 ft LT	**ALIGNMENT** -Y12-	**0 HR.** 8.2
COLLAR ELEV. 731.6 ft	**TOTAL DEPTH** 43.0 ft	**NORTHING** 556,577	**EASTING** 1,373,689	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** Mud Rotary		**HAMMER TYPE** Automatic
DRILLER J. Kiker	**START DATE** 07/31/23	**COMP. DATE** 07/31/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735											
										731.6 GROUND SURFACE	0.0
730										Asphalt (0.7 ft) and ABC (1.1 ft)	
	728.6	3.0								729.8	1.8
			2	2	2	4		M		**ROADWAY EMBANKMENT** Soft, Orange-Brown-Tan, CLAY (A-7), with trace gravel and asphalt fragments	
725										724.6	7.0
	723.6	8.0								**RESIDUAL** Medium Stiff to Hard, Gray-White-Tan-Orange-Black, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
			2	4	4	8		M			
720											
	718.6	13.0									
			6	14	26	40		M			
715											
	713.6	18.0									
			8	21	27	48		M			
710											
	708.6	23.0									
			10	15	20	35		M			
705											
	703.6	28.0									
			11	15	20	35		M			
700											
	698.6	33.0									
			16	14	22	36		M			
695											
	693.6	38.0									
			13	17	16	33		M			
690											
	688.6	43.0								690.6	41.0
			60/0.0			60/0.0				**WEATHERED ROCK** 688.6 Gray-White, (METAVOLCANIC ROCK)	43.0
										Hard, Gray-White-Orange, SILT (A-5), with trace mica	37.0
										694.6	

Boring Terminated with Standard Penetration Test Refusal at Elevation 688.6 ft On Crystalline Rock (METAVOLCANIC ROCK)

Note:
Water Level Reading Obtained after a Shortened Stabilization Period due to Traffic Conditions. Reported Initial Water Level Reading is not an End of Drilling Water Level Reading (0-hr) or Stabilized Water Level Reading (24-hr).

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y13/L_B1-B	**STATION** 27+63	**OFFSET** 39 ft RT	**ALIGNMENT** -Y12-	**0 HR.** 11.5
COLLAR ELEV. 731.1 ft	**TOTAL DEPTH** 55.5 ft	**NORTHING** 556,559	**EASTING** 1,373,626	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/31/23	**COMP. DATE** 08/01/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
735											
730										731.1 GROUND SURFACE	0.0
										729.4 Asphalt (1.3 ft) and ABC (0.4 ft)	1.7
	727.6	3.5	3	4	5	9		M		**RESIDUAL** Medium Stiff to Stiff, Orange-Gray-White-Tan-Brown, SILT (A-5), with trace mica and gravel-sized rock fragments	
725											
	722.6	8.5	3	3	4	7		M			
720											
	717.6	13.5	3	2	5	7		M			
715											
	712.6	18.5	4	5	8	13		M			
710										709.1	22.0
	707.6	23.5	2	10	12	22		M		Very Stiff to Hard, Gray-Orange-White-Brown, Fine to Coarse Sandy SILT (A-4), with trace mica and gravel-sized rock fragments, manganese oxide staining	
705											
	702.6	28.5	9	11	28	39		M			
700											
	697.6	33.5	6	12	32	44		M			
695										694.1	37.0
	692.6	38.5	60/0.0			60/0.0	RS-13			692.6 **WEATHERED ROCK** Gray-White, (METAVOLCANIC ROCK)	38.5
690										**CRYSTALLINE ROCK** (METAVOLCANIC ROCK) REC=96% RQD=80% GSI=60-70	
685											
680										675.6	55.5
										Boring Terminated at Elevation 675.6 ft In Crystalline Rock (METAVOLCANIC ROCK)	

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** P. Tomasic, G.I.T.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y13/L_B1-B	**STATION** 27+63	**OFFSET** 39 ft RT	**ALIGNMENT** -Y12-	**0 HR.** 11.5
COLLAR ELEV. 731.1 ft	**TOTAL DEPTH** 55.5 ft	**NORTHING** 556,559	**EASTING** 1,373,626	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG23639 CME-550X 90% 03/10/2023		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER J. Kiker	**START DATE** 07/31/23	**COMP. DATE** 08/01/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 17.0 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN ROD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA ROD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft)	DEPTH (ft)
692.6											Begin Coring @ 38.5 ft	
	692.6	38.5	2.0	*N=60/0.0* 3:08/1.0 2:42/1.0	(1.9) 95%	(1.9) 95%		(16.3) 96%	(13.6) 80%		692.6 **CRYSTALLINE ROCK** Fresh to Moderate Weathering, Medium Hard to Very Hard, Gray-White-Tan (METAVOLCANIC ROCK), with Very Close to Wide Fracture Spacing	38.5
690	690.6	40.5										
			5.0	2:17/1.0 1:56/1.0 2:40/1.0 2:57/1.0 2:59/1.0	(4.6) 92%	(3.7) 74%					RS-13: 43.3-44.1' Unit Weight: 139.0 pcf Unconfined Compressive Strength: 9,330 psi (1,343 ksf)	
	685.6	45.5					RS-13					
685			5.0	2:09/1.0 2:14/1.0 1:53/1.0 1:54/1.0 2:06/1.0	(4.8) 96%	(3.3) 66%					GSI=60-70	
	680.6	50.5										
680			5.0	2:31/1.0 1:59/1.0 2:13/1.0 2:09/1.0 2:01/1.0	(5.0) 100%	(4.7) 94%						
	675.6	55.5									675.6 Boring Terminated at Elevation 675.6 ft In Crystalline Rock (METAVOLCANIC ROCK)	55.5

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - Y13/L_B1-B

38.5 to 55.5 Feet



0 1 2

FEET

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y13/L_EB2-A	**STATION** 29+13	**OFFSET** 33 ft LT	**ALIGNMENT** -Y12-	**0 HR.** 30.4
COLLAR ELEV. 755.4 ft	**TOTAL DEPTH** 49.1 ft	**NORTHING** 556,449	**EASTING** 1,373,750	**24 HR.** 28.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
760											
755										755.4 GROUND SURFACE	0.0
	753.4	2.0	2	2	3	5		M		**RESIDUAL** Medium Stiff, Red, Silty CLAY (A-7)	
	751.4	4.0									
750			3	3	5	8		M			
	748.4	7.0								749.4	6.0
	746.4	9.0	2	2	3	5		M		Medium Stiff, Orange-Brown, Fine Sandy, Clayey SILT (A-5), with trace mica, manganese oxide staining	
745			2	2	3	5		M			
	741.4	14.0									
740			3	2	3	5		M			
	736.4	19.0								738.4	17.0
735			3	4	5	9		M		Medium Stiff to Very Stiff, Brown-Tan-Gray-Orange, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
	731.4	24.0									
730			3	3	3	6		M			
	726.4	29.0									
725			3	6	10	16		M			
	721.4	34.0									
720			3	5	7	12		M			
	716.4	39.0									
715			6	6	9	15		M			
	711.4	44.0	100/0.2			100/0.2				711.4	44.0
710										**WEATHERED ROCK** Brown, (METAVOLCANIC ROCK)	
	706.4	49.0	60/0.1			60/0.1				706.3	49.1
										Boring Terminated with Standard Penetration Test Refusal at Elevation 706.3 ft In Crystalline Rock (METAVOLCANIC ROCK)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** M. Brewer, P.E.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y13/L_EB2-B	**STATION** 28+94	**OFFSET** 28 ft RT	**ALIGNMENT** -Y12-	**0 HR.** 31.0
COLLAR ELEV. 755.3 ft	**TOTAL DEPTH** 54.5 ft	**NORTHING** 556,442	**EASTING** 1,373,687	**24 HR.** 29.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/20/23	**COMP. DATE** 06/20/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
760											
755										755.3 GROUND SURFACE	0.0
	753.3	2.0	2	2	2	4		M		**ROADWAY EMBANKMENT** Soft, Red, Silty CLAY (A-7), with trace gravel and asphalt fragments	
	751.3	4.0								751.8	3.5
750			3	4	5	9		M		**RESIDUAL** Stiff, Red-Orange, Silty CLAY (A-7)	
	748.3	7.0								748.3	7.0
	746.3	9.0	3	3	5	8		M		Medium Stiff, Tan-Orange, Fine Sandy, Clayey SILT (A-5), with trace mica	
745			3	3	4	7		M			
	741.3	14.0								741.3	14.0
740			2	2	3	5		M		Medium Stiff to Very Stiff, Pink-Red-Brown-Tan-Orange-White, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
	736.3	19.0									
735			2	4	4	8		M			
	731.3	24.0									
730			2	2	3	5		M			
	726.3	29.0									
725			3	4	4	8		M			
	721.3	34.0									
720			5	8	9	17		M			
	716.3	39.0									
715			7	8	19	27		M			
	711.3	44.0	100/0.5			100/0.5				711.3	44.0
710										**WEATHERED ROCK** Tan-Brown-Orange-Gray, (METAVOLCANIC ROCK)	
	706.3	49.0	100/0.2			100/0.2					
705											
	701.3	54.0	100/0.5			100/0.5				700.8	54.5
										Boring Terminated at Elevation 700.8 ft In Weathered Rock (METAVOLCANIC ROCK)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/9/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y14/L_EB1-A	**STATION** 14+77	**OFFSET** 24 ft LT	**ALIGNMENT** -Y14-	**0 HR.** 30.0
COLLAR ELEV. 700.0 ft	**TOTAL DEPTH** 32.3 ft	**NORTHING** 557,637	**EASTING** 1,382,755	**24 HR.** 27.2
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
700										700.0 GROUND SURFACE	0.0
	699.0	1.0	3	5	8	13		M		**RESIDUAL** Stiff to Very Stiff, Brown-Red, Silty CLAY (A-7)	
695	696.5	3.5	7	12	13	25		M		694.5	5.5
	694.0	6.0	5	6	8	14		M		Stiff, Black-Tan-Red, Fine Sandy SILT (A-4), with manganese oxide staining	
690	691.5	8.5	4	5	6	11		M			
	686.5	13.5	3	4	5	9		M			
685	681.5	18.5	4	5	7	12		M			
680	676.5	23.5	11	13	13	26		M		678.0	22.0
675	671.5	28.5	2	3	4	7		M		Medium Dense, Brown-Black-White-Gray, Clayey, Gravelly Fine to Coarse SAND (A-1-b)	
670	667.7	32.3	60/0.0			60/0.0		M		673.0	27.0
										Medium Stiff, Orange-White-Tan, Fine Sandy SILT (A-5), with trace mica, manganese oxide staining	
										667.7	32.3
										Boring Terminated with Standard Penetration Test Refusal at Elevation 667.7 ft On Crystalline Rock (GRANODIORITE)	

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y14/L_EB1-B	**STATION** 15+17	**OFFSET** 23 ft RT	**ALIGNMENT** -Y14-	**0 HR.** 36.0
COLLAR ELEV. 696.8 ft	**TOTAL DEPTH** 59.9 ft	**NORTHING** 557,635	**EASTING** 1,382,693	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG24113 CME-550X 74% 04/08/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER D. Demby	**START DATE** 06/12/23	**COMP. DATE** 06/12/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
700										696.8 GROUND SURFACE	0.0
	695.8	1.0	4	6	9	15		M		**RESIDUAL** Stiff to Very Stiff, Red-Brown, Silty, Fine to Coarse Sandy CLAY (A-6), with trace organics	
695	693.3	3.5	7	7	11	18		M		691.3	5.5
	690.8	6.0	5	6	8	14		M		Stiff, Black-Red-Brown, Fine Sandy SILT (A-4), with trace mica, manganese oxide staining	
690	688.3	8.5	4	4	6	10		M			
	683.3	13.5	4	3	6	9		M			
685	678.3	18.5	4	4	3	7		M		679.8	17.0
680	673.3	23.5	2	2	4	6		M		Medium Stiff, White-Black-Tan-Orange-Green, Fine Sandy SILT (A-5), with trace mica, manganese oxide staining	
675	668.3	28.5	3	2	3	5		M			
	663.3	33.5	2	3	5	8		M			
670	658.3	38.5	4	4	8	12		M		654.8	42.0
665	653.3	43.5	6	7	12	19		M		Very Stiff to Hard, Brown-Green-Black-White, Fine Sandy SILT (A-4), with trace mica	
660	648.3	48.5	11	14	20	34		M			
655	643.3	53.5	34	42	58/0.4	100/0.9		M		642.8	54.0
650	638.3	58.5	100/0.3			100/0.3		M		**WEATHERED ROCK** (GRANODIORITE)	
645	637.0	59.8	60/0.1			60/0.1		M		637.0	59.8
640	636.9	59.9								636.9 **CRYSTALLINE ROCK** (GRANODIORITE)	59.9
										Boring Terminated with Standard Penetration Test Refusal at Elevation 636.9 ft In Crystalline Rock (GRANODIORITE)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y14/L_B1-A	**STATION** 16+36	**OFFSET** 18 ft LT	**ALIGNMENT** -Y14-	**0 HR.** 9.0
COLLAR ELEV. 669.0 ft	**TOTAL DEPTH** 20.1 ft	**NORTHING** 557,516	**EASTING** 1,382,652	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/24/23	**COMP. DATE** 07/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
670										669.0 / 0.0 GROUND SURFACE
	666.9	2.1								**ROADWAY EMBANKMENT**
			7	6	15	21				667.1 / 1.9 Asphalt (0.8 ft) and ABC (1.1 ft)
665	664.9	4.1						M		Very Stiff, Brown, Sandy CLAY (A-6), with trace gravel
	663.8	5.2	100/0.2			100/0.2				665.0 / 4.0
			60/0.1			60/0.1				663.8 / 5.2 **WEATHERED ROCK**
660										Brown-Gray, (QUARTZ DIORITE)
										663.7 / 5.3 **CRYSTALLINE ROCK**
										Black-White, (QUARTZ DIORITE)
655							RS-14			REC=95% RQD=94% GSI=75-85
650										648.9 / 20.1
										Boring Terminated at Elevation 648.9 ft In Crystalline Rock (QUARTZ DIORITE)

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y14/L_B1-A	**STATION** 16+36	**OFFSET** 18 ft LT	**ALIGNMENT** -Y14-	**0 HR.** 9.0
COLLAR ELEV. 669.0 ft	**TOTAL DEPTH** 20.1 ft	**NORTHING** 557,516	**EASTING** 1,382,652	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 07/24/23	**COMP. DATE** 07/25/23	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 14.8 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS ELEV. (ft) / DEPTH (ft)
663.7											Begin Coring @ 5.3 ft
	663.7	5.3	4.8	2:15/1.0 5:22/1.0 5:11/1.0 6:03/1.0 4:48/0.8	(4.3) 90%	(4.2) 88%		(14.1) 95%	(13.9) 94%		663.7 / 5.3 Very Slight to Fresh Weathering, Hard to Very Hard, Black-White (QUARTZ DIORITE), with Close to Moderately Close Fracture Spacing
660	658.9	10.1	5.0	4:01/1.0 4:00/1.0 3:56/1.0 3:20/1.0 3:27/1.0	(5.0) 100%	(5.0) 100%	RS-14				RS-14: 10.1-10.8' Unit Weight: 177.3 pcf Unconfined Compressive Strength: 9,400 psi (1,354 ksf) GSI=75-85
655	653.9	15.1	5.0	4:38/1.0 3:03/1.0 3:16/1.0 4:23/1.0 5:49/1.0	(4.8) 96%	(4.7) 94%					
650	648.9	20.1									648.9 / 20.1 Boring Terminated at Elevation 648.9 ft In Crystalline Rock (QUARTZ DIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

CAROLINAS GEOTECHNICAL GROUP

TIP NO. I-5719 WBS NO. 50135.1.FS1

Widen I-85 to Eight Lanes, Improve Interchanges, and Intersections and Intersection Improvement at NC 7 and US 29/ 74 Construct Reduced Conflict Intersection, Gaston County, North Carolina

Rock Core Photographs - Y14/L_B1-A

5.3 to 20.1 Feet



0 1 2

FEET

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** D. Goodnight, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y14/L_B1-B	**STATION** 16+64	**OFFSET** 23 ft RT	**ALIGNMENT** -Y14-	**0 HR.** 5.6
COLLAR ELEV. 668.2 ft	**TOTAL DEPTH** 11.5 ft	**NORTHING** 557,519	**EASTING** 1,382,603	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers		**HAMMER TYPE** Automatic
DRILLER C. Odom	**START DATE** 07/25/23	**COMP. DATE** 07/25/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
670										668.2 GROUND SURFACE	0.0
	665.8	2.4								**ROADWAY EMBANKMENT** 666.2 Asphalt (0.9 ft) and ABC (1.1 ft)	2.0
665	664.2	4.0	7	6	6	12		M		Stiff, Brown, Sandy CLAY (A-6), with trace gravel 664.2	4.0
			21	35	53	88.				**RESIDUAL**	
	661.7	6.5	60/0.0			60/0.0		M		Very Dense, Gray-Black, Silty SAND (A-2-4) 661.7	6.5
660										**CRYSTALLINE ROCK** Black-White, (QUARTZ DIORITE)	
	656.7	11.5	60/0.0			60/0.0				656.7	11.5
										Boring Terminated with Standard Penetration Test Refusal at Elevation 656.7 ft In Crystalline Rock (QUARTZ DIORITE)	

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y14/L_EB2-A	**STATION** 18+21	**OFFSET** 28 ft LT	**ALIGNMENT** -Y14-	**0 HR.** 43.0
COLLAR ELEV. 699.8 ft	**TOTAL DEPTH** 45.5 ft	**NORTHING** 557,364	**EASTING** 1,382,546	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
700										
	698.8	1.0	4	4	5	9		M		699.8 0.0 GROUND SURFACE **RESIDUAL** Medium Stiff to Stiff, Black-Red-Brown-White, Fine Sandy SILT (A-5), with manganese oxide staining
	696.3	3.5	3	3	4	7		M		
695	693.8	6.0	2	3	4	7		M		
	691.3	8.5	3	5	5	10		M		
690	686.3	13.5	3	5	5	10		M		
685	681.3	18.5	4	4	5	9		M		
	676.3	23.5	3	5	8	13		M		
680	671.3	28.5	4	4	6	10		M		
675	666.3	33.5	21	18	29	47		M		666.8 33.0 Loose to Dense, Black-White, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments
670	661.3	38.5	3	3	5	8		M		
665	656.3	43.5	100/0.2			100/0.2				656.3 43.5 **WEATHERED ROCK**
660	654.3	45.5	60/0.0			60/0.0				654.3 45.5 Black-White-Gray, (GRANODIORITE) Boring Terminated with Standard Penetration Test Refusal at Elevation 654.3 ft On Crystalline Rock (GRANODIORITE)

WBS 50135.1.FS1	**TIP** I-5719	**COUNTY** GASTON	**GEOLOGIST** S. Patterson, P.G.	
SITE DESCRIPTION I-85 Widening				**GROUND WTR (ft)**
BORING NO. Y14/L_EB2-B	**STATION** 18+22	**OFFSET** 28 ft RT	**ALIGNMENT** -Y14-	**0 HR.** 30.0
COLLAR ELEV. 682.3 ft	**TOTAL DEPTH** 37.0 ft	**NORTHING** 557,398	**EASTING** 1,382,501	**24 HR.** 20.0
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 06/22/23	**COMP. DATE** 06/22/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
685										
	681.3	1.0	2	4	4	8		M		682.3 0.0 GROUND SURFACE **RESIDUAL** Medium Stiff to Stiff, Pink-Black-Orange-Tan-White, Fine Sandy SILT (A-5), with trace mica, manganese oxide staining
680	678.8	3.5	3	3	4	7		M		
	676.3	6.0	3	5	6	11		M		
675	673.8	8.5	4	5	6	11		M		
670	668.8	13.5	3	4	4	8		M		
665	663.8	18.5	4	4	5	9		M		
	658.8	23.5	2	2	3	5		M		
660	653.8	28.5	3	4	6	10		M		
655	648.8	33.5	14	32	68/0.4	100/0.9				648.3 34.0 **WEATHERED ROCK**
650	645.3	37.0	60/0.0			60/0.0				645.3 37.0 Black-White, (GRANODIORITE) Boring Terminated with Standard Penetration Test Refusal at Elevation 645.3 ft On Crystalline Rock (GRANODIORITE)

NCDOT BORE DOUBLE I-5719_GEO_RDY_GTM_COMBINED.GPJ NC_DOT.GDT 11/8/23

PROJECT REFERENCE NO.	SHEET NO.
I–5719	401

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

APPENDIX B
LABORATORY TEST RESULTS (I) – FME CONSULTANTS

REFERENCE: I–5719

PROJECT: 50135

Prepared in the Office of:

F&ME CONSULTANTS, INC.
1825 BLANDING STREET
COLUMBIA, SC 29201
NCDOT LAB CERT. NO. 130-0212

PROJECT REFERENCE NO.	SHEET NO.
I–5719	402

ROCK TEST RESULTS

SAMPLE NO.	BORING	STATION	OFFSET	DEPTH INTERVAL	ROCK TYPE	UNIT WEIGHT (PCF)	UNCONFINED COMPRESSIVE STRENGTH
RS–1	L/SFCR B1–A	431+52 –L–	59' LT	38.1' – 38.5'	DIABASE	176.7	18,020 psi (2,595 ksf)
RS–2	L/SFCR B2–B	433+36 –L–	72' RT	41.4' – 41.9'	GRANODIORITE	186.8	22,140 psi (3,188 ksf)
RS–3	L/SFCR B4–A	434+56 –L–	53' LT	8.2 – 8.7'	GRANODIORITE	175.0	11,000 psi (1,584 ksf)
RS–4	L/SFCR B7–B	438+90 –L–	67' RT	31.8 – 32.3'	DIABASE	176.7	25,490 psi (3,671 ksf)
RS–5	350150 B1–A	545+80 –L–	8' LT	53.1 – 53.6'	METAMORPHOSED QUARTZ DIORITE	175.5	21,590 psi (3,109 ksf)
RS–6	350150 B1–A	545+80 –L–	8' LT	58.5 – 59.5'	METAMORPHOSED QUARTZ DIORITE	175.3	17,500 psi (2,520 ksf)
RS–7	350138 B1–A	372+02 –L–	8' LT	47.4 – 48.2'	METAVOLCANIC ROCK	166.9	13,830 psi (3,109 ksf)
RS–8	Y2/L B1–A	27+59 –Y2–	52' LT	34.3 – 35.0'	GRANITE	166.7	11,090 psi (1,597 ksf)
RS–9	Y3SB/L B1–B	17+94 –Y3SB–	43' RT	46.4 – 47.2'	QUARTZ SERICITE SCHIST	166.5	19,820 psi (2,854 ksf)
RS–10	Y6/L B1–A	22+14 –Y6–	47' LT	20.8 – 21.5'	GRANITE	177.3	8,670 psi (1,248 ksf)
RS–11	Y10/L B1–B	28+86 –Y10–	20' RT	10.0 – 10.6'	GRANODIORITE	162.1	5,300 psi (763 ksf)
RS–12	Y12/L B1–B	22+15 –Y12–	21' RT	28.5 – 29.4'	METAVOLCANIC ROCK	180.6	15,330 psi (2,207 ksf)
RS–13	Y13/L B1–B	27+63 –Y13–	39' RT	43.3 – 44.1'	METAVOLCANIC ROCK	139.0	9,330 psi (1,343 ksf)
RS–14	Y14/L B1–A	16+36 –Y14–	18' LT	10.1 – 10.8'	QUARTZ DIORITE	177.3	9,400 psi (1,354 ksf)

Alex M Abernathy

AUTHORIZED SIGNATURE
NCDOT CERT NO. 130–04–0212

LAB TESTING PERFORMED BY NCDOT LAB CERT NO. 130–0212

PROJECT REFERENCE NO.	SHEET NO.
I–5719	403

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

APPENDIX B
LABORATORY TEST RESULTS (II) – FALCON ENGINEERING

REFERENCE: I–5719

PROJECT: 50135

Prepared in the Office of:
FALCON ENGINEERING
FALCON ENGINEERING, INC.
1210 TRINITY ROAD, SUITE 110
CARY, NC 27513
PHONE: 919.871.0800
www.falconengineers.com
Firm License: C-3193
NCDOT LAB CERT NO. 105-0803

PROJECT REFERENCE NO.	SHEET NO.
I–5719	404

LABORATORY TEST RESULTS

I-85 Widening
Gaston County, NC
NCDOT Project: I-5719
Falcon Engineering Project No: G23033.00

SAMPLE NO.	SAMPLE LOCATION	DEPTH INTERVAL	AASHTO CLASS.	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	PERCENT BY WEIGHT C.SAND	PERCENT BY WEIGHT F.SAND	PERCENT BY WEIGHT SILT	PERCENT BY WEIGHT CLAY	PERCENT PASSING SIEVE #10	PERCENT PASSING SIEVE #40	PERCENT PASSING SIEVE #200	MOISTURE (%)	BULK DENSITY (pcf)	ORGANICS (%)
2174	CULV21_B-2	1.0-2.5	A-4(1)	31	9	32	30	10	28	100	85	42	22	N/A	N/A
354	L_44400L	3.5-5.0	A-7-5(10)	48	12	12	21	32	35	99	93	73	38	N/A	N/A
377	L_44400R	1.0-2.5	A-7-5(46)	83	36	1	6	31	62	100	100	96	44	N/A	N/A
379	L_44400R	6.0-7.5	A-7-5(27)	67	20	2	12	52	34	100	99	92	50	N/A	N/A
343	L_44600L	1.0-2.5	A-7-5(21)	60	25	12	11	23	54	96	89	76	32	N/A	N/A
387	L_44600R	8.5-10.0	A-7-5(11)	51	12	8	25	38	29	100	97	73	35	N/A	N/A
235	L_44800L	3.5-5.0	A-7-5(19)	58	13	3	6	34	57	100	99	94	36	N/A	N/A
363	L_44800R	3.5-5.0	A-7-5(24)	67	17	2	8	28	62	100	99	92	38	N/A	N/A
312	L_45500L	13.5-15.0	A-4(5)	40	5	9	25	48	18	100	95	75	25	N/A	N/A
318	L_45700L	3.5-5.0	A-7-5(28)	75	23	8	9	21	62	100	96	86	38	N/A	N/A
2221	L_46200L	3.5-5.0	A-4(2)	40	3	15	33	29	23	100	94	59	35	N/A	N/A
2192	L_47900L	1.0-2.5	A-7-5(18)	59	28	26	10	17	47	98	78	65	26	N/A	N/A
288	L_50000L	3.5-5.0	A-5(2)	46	2	20	31	30	19	100	89	56	30	N/A	N/A
274	L_50500L	3.5-5.0	A-7-5(15)	48	13	4	13	49	34	100	98	89	32	N/A	N/A
267	L_51000L	3.5-5.0	A-7-5(32)	71	33	11	8	17	64	100	94	82	31	N/A	N/A
260	L_51200L	1.0-2.5	A-7-5(10)	55	15	21	22	20	37	100	90	62	34	N/A	N/A
4080	L_51800L	1.0-2.5	A-7-6(16)	49	22	14	17	24	45	98	91	71	25	N/A	N/A
2098	L_52300L	1.0-2.5	A-7-6(8)	43	15	21	21	21	37	99	89	61	29	N/A	N/A
2058	L_53200L	3.5-5.0	A-5(1)	42	1	20	25	34	21	100	92	60	29	N/A	N/A
2053	L_53500L	1.0-2.5	A-4(5)	39	9	18	24	21	37	100	94	62	23	N/A	N/A
2045	L_53800L	1.0-2.5	A-7-5(21)	56	22	9	10	24	57	100	96	82	30	N/A	N/A
153	L_53800R	8.5-10.0	A-7-5(24)	65	26	13	12	18	57	100	93	77	28	N/A	N/A
159	L_54000R	1.0-2.5	A-7-5(11)	54	14	16	18	20	46	100	95	69	26	N/A	N/A
2036	L_54200L	6.0-7.5	A-5(18)	59	10	1	6	61	32	100	99	96	51	N/A	N/A
168	L_54200R	1.0-2.5	A-5(6)	48	9	16	25	18	41	100	96	62	24	N/A	N/A
183	L_54400R	13.5-15.0	A-5(0)	47	0	21	34	28	17	100	92	52	18	N/A	N/A
2016	L_55100L	1.0-2.5	A-4(3)	39	5	18	21	24	37	99	92	65	23	N/A	N/A
2006	L_55900L	3.5-5.0	A-7-6(10)	41	19	22	18	19	41	99	88	62	24	N/A	N/A
1053	L_56200R	1.0-2.5	A-7-6(22)	55	27	13	13	14	60	100	94	76	28	N/A	N/A

Reviewed By

Certification: 105-0803

Falcon Engineering, Inc. 1210 Trinity Road, Suite 110, Cary, NC 27513

AUTHORIZED SIGNATURE
NCDOT CERT NO. 105–02–0803

FALCON ENGINEERING

LABORATORY TEST RESULTS

I-85 Widening
Gaston County, NC
NCDOT Project: I-5719
Falcon Engineering Project No: G23033.00

SAMPLE NO.	SAMPLE LOCATION	DEPTH INTERVAL	AASHTO CLASS.	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	PERCENT BY WEIGHT C.SAND	PERCENT BY WEIGHT F.SAND	PERCENT BY WEIGHT SILT	PERCENT BY WEIGHT CLAY	PERCENT PASSING SIEVE #10	PERCENT PASSING SIEVE #40	PERCENT PASSING SIEVE #200	MOISTURE (%)	BULK DENSITY (pcf)	ORGANICS (%)
1025	L_56500L	1.0-2.5	A-7-5(24)	67	22	7	14	27	52	100	97	83	42	N/A	N/A
1047	L_56700R	1.0-2.5	A-7-5(34)	74	32	5	9	14	72	100	98	86	31	N/A	N/A
1022	L_56900L	1.0-2.5	A-7-5(26)	68	35	17	12	12	59	98	90	71	31	N/A	N/A
1045	L_56900R	1.0-2.5	A-7-5(17)	70	18	16	14	17	53	98	88	70	33	N/A	N/A
1043	L_57200R	1.0-2.5	A-7-6(23)	57	30	14	13	10	63	100	94	75	24	N/A	N/A
1040	L_57500R	3.5-5.0	A-7-5(32)	66	25	2	4	27	67	100	99	96	32	N/A	N/A
1016	L_57800L	3.5-5.0	A-7-5(25)	64	22	4	10	24	62	100	99	87	30	N/A	N/A
1037	L_57800R	1.0-2.5	A-7-5(17)	54	16	10	10	31	49	100	95	83	35	N/A	N/A
1014	L_58100L	3.5-5.0	A-7-6(16)	49	22	15	16	22	47	100	92	72	24	N/A	N/A
1035	L_58100R	1.0-2.5	A-5(8)	49	9	17	17	31	35	100	90	69	32	N/A	N/A
1101	L_58400L	1.0-2.5	A-7-6(19)	53	24	13	13	17	57	100	93	76	22	N/A	N/A
1008	L_58700L	3.5-5.0	A-7-6(10)	42	19	20	18	18	44	97	86	63	23	N/A	N/A
1005	L_59000L	3.5-5.0	A-7-5(32)	67	30	6	8	21	65	100	97	88	31	N/A	N/A
1030	L_59000R	1.0-2.5	A-6(8)	38	15	18	18	23	41	97	86	65	21	N/A	N/A
1028	L_59300R	1.0-2.5	A-7-5(22)	59	15	1	4	39	56	100	99	96	41	N/A	N/A
4040	Y7_2100	1.0-2.5	A-7-5(17)	63	20	15	15	14	56	100	94	72	27	N/A	N/A
4045	Y7_2300	3.5-5.0	A-7-6(23)	52	24	8	10	30	52	100	96	85	31	N/A	N/A
4048	Y7_2500L	1.0-2.5	A-7-5(31)	66	27	5	6	22	67	100	97	90	33	N/A	N/A
4063	Y7_3700	3.5-5.0	A-7-5(28)	68	28	11	9	19	61	100	94	82	24	N/A	N/A
4000	Y7_3950	1.0-2.5	A-7-6(12)	45	21	19	23	21	37	100	91	63	46	N/A	N/A
2065	Y7_4700	1.0-2.5	A-7-5(29)	69	28	10	8	16	66	100	96	84	27	N/A	N/A
121	Y7_6000L	1.0-2.5	A-7-5(23)	67	21	8	13	27	52	100	95	82	33	N/A	N/A
116	Y7_6200	1.0-2.5	A-7-6(9)	43	14	18	16	22	44	98	89	67	25	N/A	N/A
141	Y7LPD_1300	3.5-5.0	A-7-5(8)	45	12	19	18	21	42	100	92	66	24	N/A	N/A
2041	Y7RPA_1500	1.0-2.5	A-7-5(19)	58	22	12	14	25	49	100	96	75	30	N/A	N/A
2049	Y7RPA_1750	1.0-2.5	A-7-5(11)	48	17	21	17	16	46	100	91	65	26	N/A	N/A
2086	Y7RPA_2250	1.0-2.5	A-7-5(31)	69	27	6	7	21	66	100	97	89	29	N/A	N/A
4085	Y7RPB_1700	1.0-2.5	A-7-5(20)	57	21	11	15	26	48	100	95	79	33	N/A	N/A
137	Y7RPD_2000	3.5-5.0	A-5(9)	51	9	12	18	29	41	98	93	73	26	N/A	N/A

Reviewed By

Certification: 105-0803

Falcon Engineering, Inc. 1210 Trinity Road, Suite 110, Cary, NC 27513

AUTHORIZED SIGNATURE
NCDOT CERT NO. 105-02-0803

PROJECT REFERENCE NO.	SHEET NO.
I–5719	406

FALCON ENGINEERING

LABORATORY TEST RESULTS

I-85 Widening
Gaston County, NC
NCDOT Project: I-5719
Falcon Engineering Project No: G23033.00

SAMPLE		DEPTH	AASHTO	ATTERBERG LIMITS		PERCENT BY WEIGHT				PERCENT PASSING SIEVE			MOISTURE	BULK DENSITY	ORGANICS
NO.	LOCATION	INTERVAL	CLASS.	LL	PI	C.SAND	F.SAND	SILT	CLAY	#10	#40	#200	(%)	(pcf)	(%)
1033	Y8RPC_1550R	1.0-2.5	A-7-5(11)	47	12	12	16	28	44	100	94	75	29	N/A	N/A

Reviewed By

Certification: 105-0803

Falcon Engineering, Inc. 1210 Trinity Road, Suite 110, Cary, NC 27513

AUTHORIZED SIGNATURE
NCDOT CERT NO. 105–02–0803

PROJECT REFERENCE NO.	SHEET NO.
I–5719	407

LABORATORY TEST RESULTS

I-85 Widening
Gaston County, NC
NCDOT Project: I-5719
Falcon Engineering Project No: G23033.00

SAMPLE NO.	SAMPLE LOCATION	DEPTH INTERVAL	AASHTO CLASS.	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	PERCENT BY WEIGHT C.SAND	PERCENT BY WEIGHT F.SAND	PERCENT BY WEIGHT SILT	PERCENT BY WEIGHT CLAY	PERCENT PASSING SIEVE #10	PERCENT PASSING SIEVE #40	PERCENT PASSING SIEVE #200	MOISTURE (%)	BULK DENSITY (pcf)	ORGANICS (%)
3222	L_36600R	1.0-2.5	A-7-6(23)	46	27	4	18	37	41	99	96	83	23	N/A	N/A
3203	L_37050R	1.0-2.5	A-7-5(38)	73	31	1	7	26	66	100	100	94	35	N/A	N/A
3208	L_37050R	18.5-20.0	A-5(6)	48	6	5	36	42	17	99	97	69	40	N/A	N/A
3249	L_38000R	3.5-5.0	A-7-5(19)	51	15	2	5	40	53	100	100	95	20	N/A	N/A
3255	L_38700R	3.5-5.0	A-7-5(24)	53	22	2	9	29	60	99	98	92	24	N/A	N/A
4210	L_41900R	13.5-15.0	A-4(0)	27	0	14	32	40	14	100	95	63	16	N/A	N/A
4198	L_41700R	1.0-2.5	A-5(13)	47	8	1	6	41	52	100	99	96	28	N/A	N/A
4202	L_41700R	13.5-15.0	A-4(3)	38	0	1	21	62	16	100	100	87	20	N/A	N/A
362	L_44800R	1.0-2.5	A-5(8)	49	5	6	21	40	33	99	95	80	35	N/A	N/A
4140	L_45500R	3.5-5.0	A-4(4)	36	10	18	25	30	27	89	78	57	20	N/A	N/A
4143	L_45500R	13.5-15.0	A-4(0)	31	2	21	36	26	17	100	90	50	15	N/A	N/A
4148	L_45700R	6.0-7.5	A-7-5(23)	59	28	9	18	18	55	100	96	76	32	N/A	N/A
4157	L_46200R	13.5-15.0	A-5(2)	44	0	14	28	41	17	100	95	66	23	N/A	N/A
392	L_46700R	1.0-2.5	A-7-5(16)	53	16	11	12	31	46	100	94	80	26	N/A	N/A
395	L_46700R	8.5-10.0	A-5(4)	49	0	13	17	49	21	100	92	76	23	N/A	N/A
399	L_46900R	3.5-5.0	A-7-5(10)	47	17	17	20	28	35	94	85	64	26	N/A	N/A
406	L_47700R	3.5-5.0	A-2-4(0)	17	1	48	28	15	9	98	63	28	6	N/A	N/A
417	L_48160R	3.5-5.0	A-7-6(7)	41	16	28	18	20	34	97	78	56	21	N/A	N/A
426	L_48700R	1.0-2.5	A-7-5(25)	64	34	21	8	14	57	98	83	71	26	N/A	N/A
4247	L_50500R	1.0-2.5	A-7-6(11)	44	20	21	22	18	39	99	87	62	26	N/A	N/A
431	CULV21_B-1	3.5-5.0	A-4(1)	32	7	18	36	26	20	84	74	47	23	N/A	N/A
540	L_26200L	3.5-5.0	A-5(4)	41	1	2	27	48	23	100	99	83	31	N/A	N/A
543	L_26200L	13.5-15.0	A-5(3)	45	2	4	41	43	12	100	98	69	36	N/A	N/A
530	L_26400L	3.5-5.0	A-5(5)	46	0	2	21	68	9	100	99	88	33	N/A	N/A
536	L_26400L	28.5-30.0	A-5(8)	52	4	3	31	51	15	100	98	79	55	N/A	N/A
501	L_27000L	3.5-5.0	A-5(4)	43	0	0	23	61	16	100	100	90	32	N/A	N/A
500	L_27000L	1.0-2.5	A-5(12)	46	8	0	15	41	44	100	100	94	31	N/A	N/A
488	L_28300L	3.5-5.0	A-7-5(22)	56	23	9	13	29	49	100	94	82	32	N/A	N/A
480	L_29000L	1.0-2.5	A-7-5(21)	56	26	11	16	17	56	99	93	75	22	N/A	N/A

Reviewed By

Certification: 105-0803

Falcon Engineering, Inc. 1210 Trinity Road, Suite 110, Cary, NC 27513

AUTHORIZED SIGNATURE
NCDOT CERT NO. 105–02–0803

PROJECT REFERENCE NO.	SHEET NO.
I–5719	408

LABORATORY TEST RESULTS

I-85 Widening
Gaston County, NC
NCDOT Project: I-5719
Falcon Engineering Project No: G23033.00

SAMPLE NO.	SAMPLE LOCATION	DEPTH INTERVAL	AASHTO CLASS.	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	PERCENT BY WEIGHT C.SAND	PERCENT BY WEIGHT F.SAND	PERCENT BY WEIGHT SILT	PERCENT BY WEIGHT CLAY	PERCENT PASSING SIEVE #10	PERCENT PASSING SIEVE #40	PERCENT PASSING SIEVE #200	MOISTURE (%)	BULK DENSITY (pcf)	ORGANICS (%)
482	L_29000L	6.0-7.5	A-5(7)	49	4	9	19	42	30	100	95	80	30	N/A	N/A
471	L_29200L	1.0-2.5	A-5(11)	52	8	8	12	31	49	100	96	81	32	N/A	N/A
475	L_29200L	13.5-15.0	A-5(5)	47	2	6	26	45	23	100	97	78	35	N/A	N/A
464	L_29500L	6.0-7.5	A-5(2)	44	1	16	25	31	28	92	85	61	26	N/A	N/A
455	L_29800L	8.5-10.0	A-5(1)	43	0	10	36	37	17	100	94	65	28	N/A	N/A
459	L_29800L	28.5-30.0	A-4(3)	40	3	12	28	47	13	100	93	70	26	N/A	N/A
444	L_30000L	1.0-2.5	A-7-5(25)	63	28	11	13	19	57	100	94	79	27	N/A	N/A
4395	L_31900L	1.0-2.5	A-7-6(14)	44	16	6	11	47	36	92	87	80	27	N/A	N/A
4391	L_32100L	6.0-7.5	A-5(9)	50	2	1	12	63	24	100	100	95	33	N/A	N/A
4384	L_32300L	1.0-2.5	A-5(12)	44	10	3	9	55	33	100	99	91	24	N/A	N/A
4377	L_32500L	1.0-2.5	A-7-5(34)	68	28	3	5	24	68	100	98	94	32	N/A	N/A
4379	L_32500L	6.0-7.5	A-5(13)	53	6	1	5	56	38	100	100	97	35	N/A	N/A
4374	L_32700L	8.5-10.0	A-2-4(0)	29	2	44	17	28	11	71	45	31	8	N/A	N/A
4366	L_33700L	1.0-2.5	A-4(2)	34	3	16	22	39	23	100	91	69	24	N/A	N/A
4356	L_34300L	6.0-7.5	A-7-6(19)	44	21	6	11	43	40	98	94	86	22	N/A	N/A
4354	L_34300L	1.0-2.5	A-7-6(19)	47	18	4	8	41	47	100	97	91	24	N/A	N/A
4338	L_34500L	1.0-2.5	A-7-5(28)	67	24	6	7	43	44	100	95	88	42	N/A	N/A
4340	L_34500L	6.0-7.5	A-7-5(33)	64	25	1	3	39	57	100	100	98	28	N/A	N/A
4346	L_34700L	3.5-5.0	A-5(12)	53	4	0	4	43	53	100	100	98	32	N/A	N/A
4348	L_34700L	8.5-10.0	A-5(7)	48	1	1	11	60	28	100	99	94	31	N/A	N/A
4353	L_35100L	1.0-2.5	A-7-6(20)	46	17	1	5	52	42	100	99	96	20	N/A	N/A
4355	L_35100L	6.0-7.5	A-4(3)	33	2	5	8	66	21	100	96	91	13	N/A	N/A
3072	L_37800L	1.0-2.5	A-7-6(19)	44	19	4	7	38	51	100	97	92	20	N/A	N/A
3073	L_37800L	3.5-5.0	A-7-5(41)	80	35	2	4	28	66	95	93	90	25	N/A	N/A
3026	L_38938L	1.0-2.5	A-7-5(40)	74	32	1	5	18	76	99	98	95	32	N/A	N/A
3028	L_38938L	6.0-7.5	A-5(11)	53	6	4	18	50	28	100	98	86	28	N/A	N/A
3033	L_39200L	3.5-5.0	A-7-5(31)	69	24	1	9	23	67	100	100	94	30	N/A	N/A
4216	L_42300R	3.5-5.0	A-5(10)	49	8	1	29	38	32	100	99	80	35	N/A	N/A
3040	RWAL9_B-1	3.5-5.0	A-7-5(33)	71	24	0	5	28	67	100	100	97	35	N/A	N/A

Reviewed By

Certification: 105-0803

Falcon Engineering, Inc. 1210 Trinity Road, Suite 110, Cary, NC 27513

AUTHORIZED SIGNATURE
NCDOT CERT NO. 105-02-0803

FALCON ENGINEERING

LABORATORY TEST RESULTS

I-85 Widening
Gaston County, NC
NCDOT Project: I-5719
Falcon Engineering Project No: G23033.00

SAMPLE NO.	SAMPLE LOCATION	DEPTH INTERVAL	AASHTO CLASS.	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	PERCENT BY WEIGHT C.SAND	PERCENT BY WEIGHT F.SAND	PERCENT BY WEIGHT SILT	PERCENT BY WEIGHT CLAY	PERCENT PASSING SIEVE #10	PERCENT PASSING SIEVE #40	PERCENT PASSING SIEVE #200	MOISTURE (%)	BULK DENSITY (pcf)	ORGANICS (%)
3046	RWAL9_B-2	3.5-5.0	A-5(11)	46	7	0	8	56	36	100	100	95	23	N/A	N/A
3048	RWAL9_B-2	8.5-10.0	A-5(11)	51	4	0	6	64	30	100	100	98	31	N/A	N/A
3052	RWAL9_B-3	1.0-2.5	A-7-5(37)	69	33	3	8	17	72	100	98	92	31	N/A	N/A
3061	RWAL9_B-4	6.0-7.5	A-5(12)	59	5	3	17	43	37	100	99	87	37	N/A	N/A
3008	RWAL9_B-5	1.0-2.5	A-7-5(23)	55	21	7	8	36	49	100	96	88	32	N/A	N/A
3012	RWAL9_B-5	13.5-15.0	A-5(15)	57	10	2	18	49	31	100	99	88	36	N/A	N/A
3001	RWAL9_B-6	3.5-5.0	A-7-5(21)	55	15	0	5	45	50	100	100	98	32	N/A	N/A
3003	RWAL9_B-6	8.5-10.0	A-1-a(0)	23	1	59	20	8	13	38	20	9	2	N/A	N/A
4226	RWAL10_B-9	3.5-5.0	A-7-5(24)	58	17	0	6	41	53	100	100	97	35	N/A	N/A
4278	RWAL13_B-1	3.5-5.0	A-4(0)	40	5	23	27	19	31	81	71	44	21	N/A	N/A
4281	RWAL13_B-1	13.5-15.0	A-4(1)	40	1	17	34	31	18	100	95	56	27	N/A	N/A
4288	RWAL13_B-2	6.0-7.5	A-4(0)	40	0	20	34	25	21	100	94	52	22	N/A	N/A
4291	RWAL13_B-2	18.5-20.0	A-4(0)	37	1	24	35	25	16	100	93	47	22	N/A	N/A
4295	RWAL13_B-3	1.0-2.5	A-5(8)	50	9	15	20	21	44	100	93	69	26	N/A	N/A

Reviewed By

Certification: 105-0803

Falcon Engineering, Inc. 1210 Trinity Road, Suite 110, Cary, NC 27513

AUTHORIZED SIGNATURE
NCDOT CERT NO. 105–02–0803

PROJECT REFERENCE NO.	SHEET NO.
I–5719	410

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

APPENDIX D
LABORATORY TEST RESULTS (III) – LKN ENGINEERING

REFERENCE: I–5719

PROJECT: 50135

Prepared in the Office of:

LKN ENGINEERING AND TESTING,PC
207 S.BROAD STREET UNIT 3
MOORESVILLE,NC 28115
NCDOT LAB CERT.NO.
148-0723

NCDOT MATERIALS AND TESTS SOIL TEST REPORT

LKN ENGINEERING AND TESTING, PC
207 SOUTH BROAD STREET, SUITE 3, MOORESVILLE, NC 28115

PROJECT NAME:	I-85 Widening			**COUNTY:**	Gaston
T.I.P. ID #:	I-5719	**CLIENT PROJECT #:**	167	**LKN LAB #:**	P20230025.02-00
DATE SAMPLED:	Varies	**DATE RECEIVED:**	7/27/23	**DATE REPORTED:**	8/3/23
SAMPLED FROM:	Soil Borings - Split Spoon	**SAMPLED BY:**		Carolinas Geotechnical Group	
SUBMITTED BY:	Steven Putnam			**STANDARD SPECIFICATION**	
LABORATORY:	LKN Engineering and Testing, PC			**NCDOT CERT:**	148-0723 / 148-01-0723

Sample Number:	Boring Number	Station / Alignment	Offset (ft)	Depth / Interval (ft)	AASHTO Class.	L.L.	P.I.	% Passing by Weight				% Passing by Sieve			% Moisture	% Organic
								C. Sand	F. Sand	Silt	Clay	#10	#40	#200		
SS-6025	L_8600L	86+00 -L-	90' LT	1.0' - 2.5'	A-2-4 (0)	35	5	35.1%	20.2%	22.7%	22.0%	60.2%	44.5%	29.4%	11.9%	ND
SS-6013	L_8800L	88+00 -L-	145' LT	1.0' - 2.5'	A-7-5 (6)	54	16	34.5%	18.2%	11.4%	35.9%	97.3%	73.5%	48.7%	22.3%	ND
SS-3344	RWAL1_B-1	91+75 -L-	99' RT	3.5' - 5.0'	A-7-6 (10)	48	23	31.0%	14.7%	12.2%	42.1%	99.3%	78.1%	19.5%	19.5%	ND
SS-4989	L_9200L	92+00 -L-	146' LT	1.0' - 2.5'	A-7-5 (13)	54	20	22.7%	15.1%	16.0%	46.2%	99.8%	84.8%	64.9%	25.2%	ND
SS-4982	L_9400L	94+00 -L-	132' LT	8.5' - 10.0'	A-7-5 (9)	55	24	38.2%	13.3%	15.0%	33.5%	98.5%	70.8%	49.9%	20.8%	ND
SS-4973	L_9500L	95+00 -L-	144' LT	1.0' - 2.5'	A-7-6 (7)	51	22	37.2%	19.3%	13.3%	30.2%	99.4%	74.4%	46.0%	18.7%	ND
SS-4969	L_9600L	96+00 -L-	166' LT	18.5' - 20.0'	A-2-4 (0)	38	0	45.7%	28.8%	18.1%	7.4%	97.4%	66.8%	29.5%	15.7%	ND
SS-4942	L_10000L	100+00 -L-	153' LT	6.0' - 7.5'	A-4 (0)	40	0	36.6%	25.3%	16.9%	21.2%	96.7%	73.0%	40.7%	22.4%	ND
SS-4944	L_10000L	100+00 -L-	153' LT	13.5' - 15.0'	A-2-4 (0)	34	0	46.9%	31.8%	15.9%	5.4%	97.4%	66.6%	26.0%	16.3%	ND
SS-4935	L_10200L	102+00 -L-	132' LT	13.5' - 15.0'	A-2-4 (0)	28	0	50.4%	29.3%	13.9%	6.4%	99.2%	66.7%	24.2%	13.4%	ND
SS-3361	L_10800R	108+00 -L-	165' RT	1.0' - 2.5'	A-7-5 (22)	67	32	21.2%	12.4%	11.9%	54.5%	98.7%	83.1%	67.6%	25.2%	ND
SS-3380	L_11004R	110+04 -L-	195' RT	33.5' - 35.0'	A-2-4 (0)	29	0	44.4%	29.0%	18.4%	8.2%	91.9%	62.1%	28.9%	19.3%	ND
SS-3374	L_11004R	110+04 -L-	195' RT	6.0' - 7.5'	A-2-5 (0)	45	0	41.4%	27.8%	21.0%	9.8%	97.1%	68.4%	34.4%	24.1%	ND
SS-1227	L_11200R	112+00 -L-	151' RT	1.0' - 2.5'	A-7-6 (6)	43	17	37.3%	14.1%	16.2%	32.4%	99.3%	72.3%	50.7%	15.8%	ND
SS-1228	L_11200R	112+00 -L-	151' RT	4.0' - 5.5'	A-4 (0)	34	0	41.6%	23.7%	18.6%	16.1%	98.5%	69.9%	38.2%	14.9%	ND
SS-3389	L_11400R	114+00 -L-	151' RT	23.5' - 25.0'	A-2-4 (0)	33	0	47.5%	29.9%	17.5%	5.1%	96.2%	63.1%	26.5%	7.7%	ND
SS-1237	L_11621R	116+21 -L-	158 RT	13.5' - 15.0'	A-2-4 (0)	36	0	41.7%	21.6%	16.0%	20.7%	75.0%	54.3%	30.0%	25.4%	ND
SS-1238	L_11621R	116+21 -L-	158 RT	18.5' - 20.0'	A-4 (1)	37	9	31.0%	25.4%	19.2%	24.4%	82.4%	66.4%	39.7%	22.0%	ND
SS-2373	L_11816R	118+16 -L-	142' RT	8.5' - 10.0'	A-2-4 (0)	34	0	47.1%	25.7%	19.1%	8.1%	95.5%	60.5%	30.7%	16.2%	ND
SS-6030	L_12450R	124+50 -L-	70' RT	3.5' - 5.0'	A-2-5 (0)	41	2	46.0%	23.8%	11.8%	18.4%	93.0%	63.9%	35.1%	25.6%	ND
SS-6035	L_12700R	127+00 -L-	72' RT	1.0' - 2.5'	A-7-5 (8)	52	22	33.5%	17.2%	13.0%	36.3%	99.3%	76.7%	51.0%	17.2%	ND
SS-4878	L_13700L	137+00 -L-	75' LT	6.0' - 7.5'	A-5 (0)	44	4	40.2%	23.2%	12.3%	24.3%	94.7%	68.4%	38.2%	22.1%	ND
SS-6069	L_13800R	138+00 -L-	106' RT	3.5' - 5.0'	A-2-4 (0)	36	0	42.6%	33.8%	12.8%	10.8%	98.3%	73.6%	27.7%	9.9%	ND
SS-6085	L_14200R	142+00 -L-	114' RT	6.0' - 7.5'	A-2-4 (0)	36	0	36.9%	33.0%	22.9%	7.2%	97.9%	74.8%	35.0%	15.1%	ND
SS-6091	L_14400R	144+00 -L-	100' RT	3.5' - 5.0'	A-4 (0)	37	0	28.4%	31.0%	22.9%	17.7%	97.5%	79.8%	45.7%	18.2%	ND
SS-6101	L_14950R	149+50 -L-	120' RT	1.0' - 2.5'	A-7-5 (8)	49	17	29.1%	16.7%	13.7%	40.5%	99.3%	78.5%	56.7%	15.2%	ND
SS-4888	L_16100L	161+00 -L-	112' LT	1.0' - 2.5'	A-7-5 (12)	60	24	29.9%	16.1%	11.6%	42.4%	99.6%	79.7%	56.4%	28.2%	ND
SS-6139	L_16100R	161+00 -L-	127' RT	3.5' - 5.0'	A-5 (0)	41	0	35.2%	24.6%	14.0%	26.2%	95.9%	72.2%	43.0%	16.1%	ND

Remarks:

Steven Putnam

AUTHORIZED SIGNATURE
NCDOT CERT NO. 148-01-0723

NCDOT MATERIALS AND TESTS SOIL TEST REPORT

LKN ENGINEERING AND TESTING, PC
207 SOUTH BROAD STREET, SUITE 3, MOORESVILLE, NC 28115

PROJECT NAME:	I-85 Widening			**COUNTY:**	Gaston
T.I.P. ID #:	I-5719	**CLIENT PROJECT #:**	167	**LKN LAB #:**	P20230025.02-00
DATE SAMPLED:	Varies	**DATE RECEIVED:**	7/27/23	**DATE REPORTED:**	8/3/23
SAMPLED FROM:	Soil Borings - Split Spoon	**SAMPLED BY:**		Carolinas Geotechnical Group	
SUBMITTED BY:	Steven Putnam			**STANDARD SPECIFICATION**	
LABORATORY:	LKN Engineering and Testing, PC			**NCDOT CERT:**	148-0723 / 148-01-0723

Sample Number:	Boring Number	Station / Alignment	Offset (ft)	Depth / Interval (ft)	AASHTO Class.	L.L.	P.I.	% Passing by Weight				% Passing by Sieve			% Moisture	% Organic
								C. Sand	F. Sand	Silt	Clay	#10	#40	#200		
SS-6143	L_16100R	161+00 -L-	127' RT	18.5' - 20.0'	A-1-b (0)	24	0	54.8%	26.8%	12.8%	5.6%	55.6%	32.8%	12.6%	4.0%	ND
SS-4881	L_16300L	163+00 -L-	107' LT	3.5' - 5.0'	A-4 (0)	30	0	38.2%	23.8%	14.7%	23.3%	95.3%	70.4%	39.7%	17.2%	ND
SS-4883	L_16300L	163+00 -L-	114' LT	8.5' - 10.0'	A-7-5 (6)	52	15	33.9%	16.7%	15.1%	34.3%	97.6%	73.1%	51.1%	20.7%	ND
SS-4844	L_16500L	165+00 -L-	120' LT	6.0' - 7.5'	A-4 (0)	37	0	21.5%	32.1%	26.8%	19.6%	99.6%	88.3%	55.1%	19.1%	ND
SS-6111	L_16700R	167+00 -L-	146' RT	8.5' - 10.0'	A-4 (0)	38	0	41.6%	26.0%	22.3%	10.1%	97.8%	68.8%	37.6%	18.9%	ND
SS-6118	L_16900R	169+00 -L-	85' RT	1.0' - 2.5'	A-4 (2)	37	9	34.2%	18.9%	13.5%	33.4%	99.5%	75.3%	49.6%	17.4%	ND
SS-4824	L_17381L	173+81 -L-	133' LT	1.0' - 2.5'	A-5 (0)	46	0	31.4%	24.7%	14.8%	29.1%	97.9%	81.6%	46.1%	21.1%	ND
SS-6129	L_17400R	174+00 -L-	148' RT	1.0' - 2.5'	A-7-5 (16)	60	25	20.9%	16.9%	10.3%	51.9%	99.7%	84.0%	64.1%	24.1%	ND
SS-1179	L_18900L	189+00 -L-	111' LT	3.5' - 5.0'	A-4 (1)	40	7	35.6%	19.3%	18.8%	26.3%	95.8%	69.9%	46.9%	15.9%	ND
SS-1178	L_18900L	189+00 -L-	111' LT	1.0' - 2.5'	A-7-5 (21)	65	32	23.3%	12.3%	9.9%	54.5%	98.8%	81.3%	65.6%	20.9%	ND
SS-1175	L_19300L	193+00 -L-	88' LT	1.0' - 2.5'	A-6 (3)	32	12	34.3%	15.1%	14.9%	35.7%	97.3%	71.7%	51.9%	19.1%	ND
SS-1172	L_19900L	199+00 -L-	88' LT	1.0' - 2.5'	A-7-6 (5)	45	18	37.0%	17.7%	14.5%	30.8%	97.7%	72.1%	46.8%	19.4%	ND
SS-4732	CULV11_B-2	224+63 -L-	145' LT	1.0' - 2.5'	A-5 (9)	48	8	7.8%	14.5%	51.5%	26.2%	94.5%	89.9%	78.1%	40.8%	ND
SS-4770	CULV11_B-2	224+63 -L-	145' LT	1.0' - 2.5'	A-6 (6)	35	12	7.6%	36.4%	20.3%	35.7%	99.8%	94.9%	63.3%	19.8%	ND
SS-4759	CULV11_B-3	225+50 -L-	135' LT	1.0' - 2.5'	A-2-4 (0)	33	0	31.0%	30.0%	28.6%	10.4%	74.6%	60.0%	33.4%	26.3%	ND
SS-1119	L_23364R	233+64 -L-	188 RT	1.0' - 2.5'	A-4 (0)	34	0	12.9%	42.8%	25.3%	19.0%	78.8%	73.7%	42.0%	17.6%	ND
SS-1120	L_23364R	233+64 -L-	188' RT	8.5' - 10.0'	A-4 (0)	38	0	11.6%	42.1%	26.0%	20.3%	94.7%	89.3%	52.5%	22.0%	ND
SS-882	L_23400L	234+00 -L-	92' LT	13.5' - 15.0'	A-6 (3)	36	12	16.8%	40.8%	20.3%	22.1%	98.8%	90.2%	49.6%	27.0%	ND
SS-879	L_23400L	234+00 -L-	92' LT	3.5' - 5.0'	A-5 (6)	46	6	7.2%	28.6%	36.4%	27.8%	98.3%	94.5%	71.1%	44.1%	ND
SS-1151	L_24200R	242+00 -L-	106' RT	1.0' - 2.5'	A-5 (6)	44	4	2.9%	19.8%	35.7%	41.6%	97.4%	95.7%	80.6%	29.1%	ND
SS-4669	L_24500L	245+00 -L-	100' LT	3.5' - 5.0'	A-5 (1)	49	0	17.3%	36.7%	27.0%	19.0%	99.2%	90.7%	53.4%	52.6%	ND
SS-837	L_24500R	245+00 -L-	105' RT	1.0' - 2.5'	A-7-6 (7)	43	19	23.9%	24.8%	14.8%	36.5%	94.0%	79.8%	52.6%	21.5%	ND
SS-4664	L_24800L	248+00 -L-	103' LT	3.5' - 5.0'	A-5 (5)	66	0	4.3%	43.1%	16.7%	35.9%	100.0%	99.3%	65.1%	75.8%	ND
SS-844	L_24800R	248+00 -L-	101' RT	3.5' - 5.0'	A-7-6 (9)	44	20	16.9%	31.4%	17.5%	34.2%	97.1%	88.6%	56.0%	26.0%	ND
SS-847	L_25100R	251+00 -L-	101' RT	1.0' - 2.5'	A-7-6 (17)	45	26	6.9%	31.9%	28.9%	32.3%	99.5%	95.7%	71.9%	21.8%	ND
SS-4815	L_25400R	254+00 -L-	105' RT	1.0' - 2.5'	A-7-6 (9)	42	14	4.7%	31.1%	35.0%	29.2%	91.4%	88.9%	67.7%	26.7%	ND
SS-4514	L_28300R	283+00 -L-	103' RT	1.0' - 2.5'	A-7-5 (26)	61	29	8.2%	13.8%	25.1%	52.9%	97.3%	92.8%	79.0%	24.5%	ND
SS-491	L_28700L	287+00 -L-	100' LT	1.0' - 2.5'	A-7-6 (10)	41	15	13.0%	19.8%	26.7%	40.5%	97.1%	87.9%	69.9%	18.1%	ND

Remarks:

Steven Putnam

AUTHORIZED SIGNATURE
NCDOT CERT NO. 148-01-0723

NCDOT MATERIALS AND TESTS SOIL TEST REPORT

LKN ENGINEERING AND TESTING, PC
207 SOUTH BROAD STREET, SUITE 3, MOORESVILLE, NC 28115

PROJECT NAME:	I-85 Widening			**COUNTY:**	Gaston
T.I.P. ID #:	I-5719	**CLIENT PROJECT #:**	167	**LKN LAB #:**	P20230025.02-00
DATE SAMPLED:	Varies	**DATE RECEIVED:**	7/27/23	**DATE REPORTED:**	8/18/23
SAMPLED FROM:	Soil Borings - Split Spoon	**SAMPLED BY:**		Carolinas Geotechnical Group	
SUBMITTED BY:	Steven Putnam			**STANDARD SPECIFICATION**	
LABORATORY:	LKN Engineering and Testing, PC			**NCDOT CERT:**	148-0723 / 148-01-0723

Sample Number:	Boring Number	Station / Alignment	Offset (ft)	Depth / Interval (ft)	AASHTO Class.	L.L.	P.I.	% Passing by Weight				% Passing by Sieve			% Moisture	% Organic
								C. Sand	F. Sand	Silt	Clay	#10	#40	#200		
SS-4519	L_28700R	287+00 -L-	103' RT	3.5' - 5.0'	A-7-5 (24)	65	26	8.5%	13.8%	25.8%	51.9%	97.1%	92.1%	78.9%	34.6%	ND
SS-4719	L_29200R	292+00 -L-	109' RT	8.5' - 10.0'	A-5 (5)	51	0	5.5%	16.1%	53.8%	24.6%	99.8%	96.8%	81.2%	37.3%	ND
SS-808	L_29500R	295+00 -L-	116' RT	6.0' - 7.5'	A-5 (5)	50	0	5.6%	17.9%	52.9%	23.6%	99.9%	96.9%	82.6%	29.5%	ND
SS-447	L_30000L	300+00 -L-	120' LT	8.5' - 10.0'	A-5 (2)	44	0	13.9%	24.9%	42.0%	19.2%	99.0%	90.0%	66.9%	23.8%	ND
SS-4725	L_30017R	300+17 -L-	132' RT	6.0' - 7.5'	A-5 (4)	47	0	12.1%	14.1%	32.2%	41.6%	99.9%	92.4%	77.8%	27.9%	ND
SS-571	CULV18_B-3	308+18 -L-	144' RT	8.5' - 10.0'	A-4 (0)	27	1	15.6%	24.0%	41.2%	19.2%	92.3%	83.6%	61.7%	20.7%	ND
SS-4529	L_31100R	311+00 -L-	102' RT	1.0' - 2.5'	A-7-5 (16)	49	14	3.4%	10.6%	48.2%	37.8%	98.3%	96.4%	87.7%	34.4%	ND
SS-4750	L_31319L	313+19 -L-	102' LT	1.0' - 2.5'	A-7-5 (11)	47	17	14.0%	20.8%	31.3%	33.9%	97.6%	90.2%	68.1%	27.9%	ND
SS-4535	L_31600R	316+00 -L-	97' RT	1.0' - 2.5'	A-7-6 (14)	43	16	7.2%	13.7%	49.3%	29.8%	99.5%	95.4%	83.3%	19.9%	ND
SS-4540	L_31900R	319+00 -L-	86' RT	1.0' - 2.5'	A-7-5 (25)	57	23	3.1%	5.9%	43.7%	47.3%	96.4%	94.2%	89.7%	25.2%	ND
SS-4552	L_32500R	325+00 -L-	74' RT	3.5' - 5.0'	A-7-5 (12)	50	11	7.2%	11.4%	31.4%	50.0%	95.2%	90.3%	81.9%	31.8%	ND
SS-4743	L_33000L	330+00 -L-	126' LT	1.0' - 2.5'	A-7-5 (20)	60	13	2.6%	7.5%	65.7%	24.2%	99.9%	98.0%	92.4%	38.1%	ND
SS-4734	CULV19_B-1	331+98 -L-	153' RT	6.0' - 7.5'	A-4 (5)	28	7	5.4%	14.1%	55.3%	25.2%	97.2%	93.6%	83.2%	32.6%	ND
SS-4556	L_33700R	337+00 -L-	81' RT	1.0' - 2.5'	A-7-5 (16)	52	12	3.4%	8.3%	38.5%	49.8%	99.9%	98.6%	89.7%	28.0%	ND
SS-4563	L_33900R	339+00 -L-	127' RT	1.0' - 2.5'	A-7-5 (25)	58	19	0.9%	5.5%	49.0%	44.6%	100.0%	99.4%	95.6%	32.0%	ND
SS-4598	L_34300R	343+00 -L-	140' RT	1.0' - 2.5'	A-7-5 (14)	52	21	3.3%	8.1%	30.0%	58.6%	72.5%	71.1%	66.3%	25.4%	ND
SS-4600	L_34300R	343+00 -L-	140' RT	6.0' - 7.5'	A-7-5 (28)	70	17	0.2%	1.4%	38.3%	60.1%	100.0%	99.9%	99.0%	36.1%	ND
SS-4590	L_34700R	347+00 -L-	125' RT	3.5' - 5.0'	A-7-5 (31)	73	21	0.7%	6.6%	34.3%	58.4%	100.0%	99.6%	95.0%	34.8%	ND
SS-1103	L_38376R	383+76 -L-	167' RT	2.0' - 3.5'	A-4 (2)	32	7	19.4%	22.3%	35.7%	22.6%	85.1%	74.5%	54.6%	30.3%	ND
SS-1104	L_38376R	383+76 -L-	167' RT	4.0' - 5.5'	A-4 (0)	29	0	41.9%	20.3%	29.6%	8.2%	87.4%	58.4%	36.4%	10.0%	ND
SS-4584	L_34900R	349+00 -L-	132' RT	3.5' - 5.0'	A-5 (3)	41	0	3.6%	22.7%	60.7%	13.0%	98.3%	95.8%	80.3%	36.8%	ND
SS-3067	L_38408L	384+08 -L-	143' LT	3.5' - 5.0'	A-7-5 (18)	55	21	7.3%	19.7%	32.7%	40.3%	95.5%	90.9%	75.5%	22.8%	ND
SS-2234	L_41900L	419+00 -L-	119' LT	1.0' - 2.5'	A-7-5 (27)	62	26	2.4%	16.1%	28.3%	53.2%	99.9%	98.7%	86.7%	22.8%	ND
SS-2236	L_41900L	419+00 -L-	119' LT	6.0' - 7.5'	A-4 (1)	35	0	3.6%	23.2%	50.7%	22.5%	97.0%	95.1%	78.8%	20.9%	ND
SS-4230	L_42800R	428+00 -L-	110' RT	3.5' - 5.0'	A-7-5 (28)	62	28	4.2%	14.3%	32.6%	48.9%	99.9%	97.9%	85.5%	31.0%	ND
SS-2227	L_44200L	442+00 -L-	104' LT	1.0' - 2.5'	A-7-5 (18)	51	19	7.6%	12.0%	24.0%	56.4%	99.2%	94.7%	82.3%	23.3%	ND
SS-327	L_45230L	452+30 -L-	121' LT	3.5' - 5.0'	A-7-5 (11)	53	16	16.4%	20.3%	36.3%	27.0%	93.6%	83.3%	64.3%	28.1%	ND
SS-4169	L_46700L	467+00 -L-	141' LT	13.5' - 15.0'	A-5 (4)	50	0	8.3%	22.5%	53.5%	15.7%	100.0%	95.3%	75.5%	37.1%	ND

Remarks:

Steven Putnam

AUTHORIZED SIGNATURE
NCDOT CERT NO. 148-01-0723

NCDOT MATERIALS AND TESTS SOIL TEST REPORT

LKN ENGINEERING AND TESTING, PC
207 SOUTH BROAD STREET, SUITE 3, MOORESVILLE, NC 28115

PROJECT NAME:	I-85 Widening			**COUNTY:**	Gaston
T.I.P. ID #:	I-5719	**CLIENT PROJECT #:**	167	**LKN LAB #:**	P20230025.02-00
DATE SAMPLED:	Varies	**DATE RECEIVED:**	7/27/23	**DATE REPORTED:**	8/18/23
SAMPLED FROM:	Soil Borings - Split Spoon			**SAMPLED BY:**	Carolinas Geotechnical Group
SUBMITTED BY:	Steven Putnam			**STANDARD SPECIFICATION**	
LABORATORY:	LKN Engineering and Testing, PC			**NCDOT CERT:**	148-0723 / 148-01-0723

Sample Number:	Boring Number	Station / Alignment	Offset (ft)	Depth / Interval (ft)	AASHTO Class.	L.L.	P.I.	% Passing by Weight				% Passing by Sieve			% Moisture	% Organic
								C. Sand	F. Sand	Silt	Clay	#10	#40	#200		
SS-2206	L_47100L	471+00 -L-	118' LT	1.0' - 2.5'	A-7-5 (10)	50	19	19.2%	27.3%	30.2%	23.3%	99.0%	88.7%	58.3%	33.8%	ND
SS-4229	L_47100R	471+00 -L-	120' RT	1.0' - 2.5'	A-5 (9)	52	8	9.0%	17.4%	36.2%	37.4%	94.7%	88.7%	74.5%	26.1%	ND
SS-763	L_47300L	473+00 -L-	102' LT	1.0' - 2.5'	A-7-5 (23)	58	25	9.8%	13.8%	25.5%	50.9%	99.4%	93.2%	79.8%	31.5%	ND
SS-770	L_47500L	475+00 -L-	91' LT	1.0' - 2.5'	A-7-5 (24)	63	27	14.4%	9.2%	26.6%	49.8%	98.9%	88.4%	77.7%	24.9%	ND
SS-412	L_47900R	479+00 -L-	94' RT	3.5' - 5.0'	A-7-5 (9)	51	18	20.9%	22.7%	22.1%	34.3%	93.7%	80.7%	57.2%	33.8%	ND
SS-422	L_48400R	484+00 -L-	108' RT	1.0' - 2.5'	A-6 (4)	37	14	35.8%	16.2%	16.8%	31.2%	94.3%	68.5%	48.3%	16.5%	ND
SS-438	L_49200R	492+00 -L-	157' RT	3.5' - 5.0'	A-7-6 (12)	48	22	26.3%	15.7%	20.1%	37.9%	99.3%	81.0%	60.7%	19.3%	ND
SS-4256	L_51000R	510+00 -L-	87' RT	3.5' - 5.0'	A-7-5 (22)	69	33	23.7%	12.0%	12.0%	52.3%	98.8%	83.6%	65.0%	20.8%	ND
SS-4260	L_51286R	512+86 -L-	71' RT	3.5' - 5.0'	A-4 (3)	35	10	26.6%	25.7%	17.8%	29.9%	99.8%	87.9%	51.3%	31.8%	ND
SS-4260	L_51286R	512+86 -L-	71' RT	3.5' - 5.0'	A-6 (7)	40	16	25.6%	16.4%	15.2%	42.8%	95.3%	80.1%	57.4%	17.7%	ND
SS-4104	L_52010L	520+10 -L-	114' LT	3.5' - 5.0'	A-5 (5)	48	8	22.3%	21.5%	26.9%	29.3%	98.5%	88.8%	58.9%	36.7%	ND
SS-4272	L_52600R	526+00 -L-	97' RT	1.0' - 2.5'	A-7-5 (30)	70	33	12.8%	9.7%	13.3%	64.2%	100.0%	93.5%	79.6%	28.6%	ND
SS-2021	L_55300L	553+00 -L-	119' LT	3.5' - 5.0'	A-7-5 (11)	52	18	19.7%	20.3%	18.1%	41.9%	99.9%	90.4%	62.6%	38.0%	ND
SS-4320	L_55300R	553+00 -L-	120' RT	3.5' - 5.0'	A-7-5 (11)	49	18	21.5%	16.9%	16.1%	45.5%	99.6%	89.3%	63.9%	27.2%	ND
SS-2009	L_55600L	556+00 -L-	111' LT	1.0' - 2.5'	A-5 (1)	43	9	36.9%	19.6%	18.6%	24.9%	88.9%	70.9%	41.1%	43.9%	ND
SS-4327	L_55612R	556+12 -L-	127' RT	3.5' - 5.0'	A-7-6 (20)	59	35	21.3%	21.0%	15.0%	42.7%	99.8%	88.0%	62.1%	27.0%	ND
SS-799	CULV22_B-1	558+12 -L-	1493' RT	1.0' - 2.5'	A-7-5 (8)	50	17	21.0%	20.2%	23.1%	35.7%	90.9%	80.3%	57.1%	21.8%	ND
SS-4333	L_55900R	559+00 -L-	105' RT	1.0' - 2.5'	A-7-5 (45)	91	35	5.0%	4.8%	22.1%	68.1%	99.9%	97.1%	91.6%	44.3%	ND
SS-2000	L_56200L	562+00 -L-	83' LT	1.0' - 2.5'	A-5 (8)	51	10	12.1%	24.8%	15.7%	47.4%	100.0%	96.7%	68.1%	32.5%	ND
SS-999	RWAL1_B-6	15+00 -Y1RPD-	42' LT	8.5' - 10.0'	A-5 (1)	46	5	34.2%	20.6%	20.4%	24.8%	92.5%	71.0%	45.0%	25.9%	ND
SS-979	RWAL1_B-10	19+14 -Y1RPD-	40' LT	1.0' - 2.5'	A-4 (0)	35	0	11.6%	28.4%	34.8%	25.2%	92.2%	85.7%	61.9%	22.0%	ND
SS-3300	RWAL1_B-2	11+00 -Y1RPD-	40' LT	1.0' - 2.5'	A-7-5 (9)	50	19	30.6%	15.7%	14.3%	39.4%	99.1%	77.0%	55.9%	18.8%	ND
SS-6003	RWAL1_B-5	14+00 -Y1RPD-	40' LT	3.5' - 5.0'	A-4 (0)	38	0	35.9%	25.2%	18.2%	20.7%	96.8%	75.4%	41.7%	32.2%	ND
SS-6002	RWAL1_B-5	14+00 -Y1RPD-	40' LT	1.0' - 2.5'	A-6 (3)	38	12	35.9%	19.5%	16.4%	28.2%	99.0%	73.9%	47.4%	18.2%	ND
SS-992	RWAL1_B-7	16+00 -Y1RPD-	41' LT	3.5' - 5.0'	A-2-5 (0)	42	0	39.3%	23.4%	19.1%	18.2%	85.2%	64.7%	34.7%	24.9%	ND
SS-985	RWAL1_B-9	18+05 -Y1RPD-	40' LT	6.0' - 7.5'	A-4 (0)	36	0	37.5%	22.0%	18.6%	21.9%	89.5%	68.1%	39.6%	32.5%	ND
SS-897	Y2_2021R	20+21 -Y2-	27' RT	1.0' - 2.5'	A-7-6 (14)	57	29	31.1%	12.8%	8.8%	47.3%	98.3%	75.7%	56.8%	29.7%	ND
SS-1204	Y2_3251R	32+51 -Y2-	46' RT	1.0' - 2.5'	A-4 (1)	37	10	34.8%	22.2%	14.7%	28.3%	92.5%	70.2%	41.6%	14.9%	ND

Remarks:

Steven Putnam

AUTHORIZED SIGNATURE
NCDOT CERT NO. 148-01-0723

NCDOT MATERIALS AND TESTS SOIL TEST REPORT

LKN ENGINEERING AND TESTING, PC
207 SOUTH BROAD STREET, SUITE 3, MOORESVILLE, NC 28115

PROJECT NAME:	I-85 Widening			**COUNTY:**	Gaston
T.I.P. ID #:	I-5719	**CLIENT PROJECT #:**	167	**LKN LAB #:**	P20230025.02-00
DATE SAMPLED:	Varies	**DATE RECEIVED:**	7/27/23	**DATE REPORTED:**	8/18/23
SAMPLED FROM:	Soil Borings - Split Spoon			**SAMPLED BY:**	Carolinas Geotechnical Group
SUBMITTED BY:	Steven Putnam			**STANDARD SPECIFICATION**	
LABORATORY:	LKN Engineering and Testing, PC			**NCDOT CERT:**	148-0723 / 148-01-0723

Sample Number:	Boring Number	Station / Alignment	Offset (ft)	Depth / Interval (ft)	AASHTO Class.	L.L.	P.I.	% Passing by Weight				% Passing by Sieve			% Moisture	% Organic
								C. Sand	F. Sand	Silt	Clay	#10	#40	#200		
SS- 1208	Y2_3694L	36+94 -Y2-	53' LT	3.5' - 5.0'	A-5 (0)	46	0	23.7%	29.8%	12.3%	34.2%	99.9%	88.1%	51.3%	27.6%	ND
SS-4793	Y2LPB_1713R	17+13 -Y2LPB-	41' RT	6.0' - 7.5'	A-2-4 (0)	32	0	45.8%	31.9%	13.5%	8.8%	95.2%	67.4%	25.1%	14.4%	ND
SS-4710	Y3RPA_1700R	17+00 -Y3RPA-	45' RT	3.5' - 5.0'	A-5 (1)	44	0	6.4%	44.8%	32.8%	16.0%	98.5%	95.9%	59.1%	48.8%	ND
SS-4712	Y3RPA_1700R	17+00 -Y3RPA-	45' RT	8.5' - 10.0'	A-5 (2)	48	0	3.0%	49.0%	38.9%	9.1%	100.0%	100.0%	62.9%	50.2%	ND
SS-1164	Y3RPB_1250L	12+50 -Y3RPB-	15' LT	1.0' - 2.5'	A-7-6 (12)	41	16	9.4%	15.7%	35.8%	39.1%	96.9%	91.4%	76.8%	21.6%	ND
SS-1160	Y3RPB_1500L	15+00 -Y3RPB-	35' LT	1.0' - 2.5'	A-7-5 (13)	58	24	29.7%	13.8%	10.1%	46.4%	98.5%	77.0%	57.9%	27.2%	ND
SS-1156	Y3RPB_SPUR_1100L	11+00 -Y3RPB-SPUR-	35' LT	3.0' - 5.0'	A-7-6 (10)	46	21	17.9%	30.5%	16.0%	35.6%	99.2%	87.2%	58.4%	17.6%	ND
SS-1117	Y3RPD_1300L	13+00 -Y3RPD-	130' LT	1.0' - 2.5'	A-2-4 (0)	27	0	27.8%	53.7%	15.4%	3.1%	67.6%	58.4%	18.2%	3.7%	ND
SS-1114	Y3RPD_1600L	16+00 -Y3RPD-	130' LT	8.5' - 10.0'	A-4 (0)	34	0	4.8%	51.1%	30.9%	13.2%	99.9%	97.2%	55.4%	16.4%	ND
SS-1107	Y3RPD_1900L	19+00 -Y3RPD-	86' LT	6.0' - 7.5'	A-4 (0)	23	0	12.1%	60.2%	17.3%	10.4%	93.4%	87.6%	35.5%	8.6%	ND
SS-1110	Y3RPD_1900L	19+00 -Y3RPD-	86' LT	23.5' - 25.0'	A-2-4 (0)	31	0	20.3%	56.7%	15.5%	7.5%	95.5%	86.5%	30.5%	14.4%	ND
SS-1144	Y3RPD_1900R	19+00 -Y3RPD-	15' RT	1.0' - 2.5'	A-4 (0)	35	0	12.3%	44.1%	23.4%	20.2%	90.9%	85.1%	46.4%	22.7%	ND
SS-1146	Y3RPD_1900R	19+00 -Y3RPD-	15' RT	6.0' - 7.5'	A-4 (0)	26	4	7.4%	47.5%	17.9%	27.2%	98.7%	94.7%	53.7%	21.6%	ND
SS-729	Y3RPD_2200L	22+00 -Y3RPD-	35' LT	8.5' - 10.0'	A-7-6 (14)	46	19	5.6%	28.7%	18.7%	47.0%	99.0%	96.0%	72.0%	27.7%	ND
SS-734	Y3RPD_2422L	24+22 -Y3RPD-	62' LT	1.0' - 2.5'	A-6 (5)	39	13	22.6%	26.2%	14.7%	36.5%	95.3%	81.3%	54.4%	18.2%	ND
SS-1142	Y3SB_1365L	13+65 -Y3SB-	15' LT	1.0' - 2.5'	A-4 (2)	37	8	18.6%	30.0%	19.1%	32.3%	91.5%	81.2%	52.3%	21.0%	ND
SS-4500	Y4_1885L	18+85 -Y4-	45' L	1.0' - 2.5'	A-7-5 (29)	59	24	0.3%	9.5%	35.6%	54.6%	100.0%	99.9%	95.3%	24.8%	ND
SS-510	Y4RPA_2700	27+00 -Y4RPA-	CL	1.0' - 2.5'	A-5 (3)	42	0	1.1%	25.7%	55.1%	18.1%	100.0%	99.8%	80.9%	25.7%	ND
SS-4654	RWAL7_B-1	18+50 -Y4RPB-	39' LT	1.0' - 2.5'	A-7-6 (16)	46	20	5.6%	23.8%	22.0%	48.6%	99.4%	96.6%	78.1%	23.0%	ND
SS-4649	RWAL7_B-2	19+50 -Y4RPB-	39' LT	1.0' - 2.5'	A-7-5 (23)	69	21	2.7%	22.0%	29.3%	46.0%	100.0%	98.8%	80.8%	37.6%	ND
SS-4643	RWAL7_B-3	20+50 -Y4RPB-	39' LT	3.5' - 5.0'	A-5 (2)	42	0	2.6%	35.8%	29.9%	31.7%	100.0%	98.7%	73.0%	30.9%	ND
SS-851	Y4RPC_1300	13+00 -Y4RPC-	CL	1.0' - 2.5'	A-5 (8)	55	3	1.1%	25.9%	41.0%	32.0%	100.0%	99.6%	81.7%	40.2%	ND
SS-855	Y4RPC_1550	15+50 -Y4RPC-	CL	1.0' - 2.5'	A-5 (4)	50	0	5.5%	26.7%	50.1%	17.7%	96.5%	93.7%	74.4%	48.4%	ND
SS-859	Y4RPC_1800	18+00 -Y4RPC-	CL	1.0' - 2.5'	A-4 (1)	39	0	1.6%	37.1%	53.8%	7.5%	99.9%	99.7%	65.8%	37.0%	ND
SS-1055	Y5_2850L	28+50 -Y5-	52' LT	2.0' - 3.5'	A-6 (13)	36	18	6.5%	18.3%	45.8%	29.4%	96.5%	92.9%	77.7%	18.5%	ND
SS-4129	Y5_3300L	33+00 -Y5-	80' LT	1.0' - 2.5'	A-7-5 (25)	58	23	3.0%	9.1%	36.0%	51.9%	96.9%	95.1%	88.8%	24.4%	ND
SS-2254	RWAL12_B-1	23+56 -Y6RPA-	31' LT	8.5' - 10.0'	A-7-5 (19)	53	19	6.4%	13.3%	32.0%	48.3%	97.8%	93.7%	82.6%	26.3%	ND
SS-2245	RWAL12_B-2	24+53 -Y6RPA-	18' LT	8.5' - 10.0'	A-7-6 (23)	51	24	5.0%	10.9%	28.4%	55.7%	98.1%	95.0%	86.4%	24.1%	ND

Remarks:

Steven Putnam

AUTHORIZED SIGNATURE
NCDOT CERT NO. 148-01-0723

NCDOT MATERIALS AND TESTS SOIL TEST REPORT

LKN ENGINEERING AND TESTING, PC
207 SOUTH BROAD STREET, SUITE 3, MOORESVILLE, NC 28115

PROJECT NAME:	I-85 Widening			**COUNTY:**	Gaston
T.I.P. ID #:	I-5719	**CLIENT PROJECT #:**	167	**LKN LAB #:**	P20230025.02-00
DATE SAMPLED:	Varies	**DATE RECEIVED:**	7/27/23	**DATE REPORTED:**	8/18/23
SAMPLED FROM:	Soil Borings - Split Spoon	**SAMPLED BY:**		Carolinas Geotechnical Group	
SUBMITTED BY:	Steven Putnam			**STANDARD SPECIFICATION**	
LABORATORY:	LKN Engineering and Testing, PC			**NCDOT CERT:**	148-0723 / 148-01-0723

Sample Number:	Boring Number	Station / Alignment	Offset (ft)	Depth / Interval (ft)	AASHTO Class.	L.L.	P.I.	% Passing by Weight				% Passing by Sieve			% Moisture	% Organic
								C. Sand	F. Sand	Silt	Clay	#10	#40	#200		
SS-689	Y5RPA_2500	25+00 -Y5RPA-	CL	3.5' - 5.0'	A-6 (9)	32	12	6.9%	14.2%	46.7%	32.2%	97.9%	93.1%	81.7%	20.3%	ND
SS-633	Y6RPA_1500	15+00 -Y6RPA-	CL	1.0' - 2.5'	A-7-5 (22)	55	18	0.7%	13.4%	48.1%	37.8%	99.9%	99.7%	91.2%	25.2%	ND
SS-2268	RWAL12_B-3	25+59 -Y6RPA-	34' LT	8.5' - 10.0'	A-6 (9)	36	12	7.1%	16.5%	35.1%	41.3%	97.0%	92.9%	79.5%	23.9%	ND
SS-2275	RWAL12_B-4	26+50 -Y6RPA-	26' LT	8.5' - 10.0'	A-4 (5)	31	9	9.4%	19.3%	37.6%	33.7%	93.8%	88.1%	71.9%	17.2%	ND
SS-2290	RWAL12_B-6	28+50 -Y6RPA-	27' LT	8.5' - 10.0'	A-7-5 (24)	54	24	4.0%	10.2%	24.9%	60.9%	98.8%	96.1%	87.6%	31.4%	ND
SS-2299	RWAL11_B-4	21+70 -Y6RPB-	18' RT	1.0' - 2.5'	A-7-5 (34)	75	23	0.3%	4.0%	34.3%	61.4%	100.0%	99.9%	97.5%	35.7%	ND
SS-2314	RWAL10_B-7	21+55 -Y6RPC-	17' RT	1.0' - 2.5'	A-7-5 (17)	62	23	10.9%	7.2%	27.6%	54.3%	79.5%	71.6%	67.5%	22.4%	ND
SS-2319	RWAL10_B-8	22+44 -Y6RPC-	24' RT	1.0' - 2.5'	A-7-5 (20)	53	19	3.5%	12.0%	37.9%	46.6%	97.8%	95.6%	86.6%	31.0%	ND
SS-4446	Y4RPD_2250L	22+50 -Y4RPD-	90' LT	1.0' - 2.5'	A-7-5 (42)	76	38	2.2%	10.8%	21.9%	65.1%	98.6%	97.3%	89.7%	29.1%	ND
SS-4189	Y6RPD_1550	15+50 -Y6RPD-	CL	1.0' - 2.5'	A-7-6 (21)	50	22	4.1%	11.7%	28.4%	55.8%	97.3%	94.9%	85.7%	26.0%	ND
SS-4041	Y7_2068L	20+68 -Y7-	49' LT	1.0' - 2.5'	A-5 (1)	44	2	32.6%	16.3%	21.0%	30.1%	97.2%	76.9%	52.5%	24.6%	ND
SS-302	Y7_4200	42+00 -Y7-	CL	1.0' - 2.5'	A-6 (5)	40	19	35.6%	19.0%	14.7%	30.7%	99.6%	79.8%	47.5%	16.2%	ND
SS-4114	Y7_6600	66+00 -Y7-	CL	1.0' - 2.5'	A-7-5 (30)	76	30	12.5%	6.6%	23.1%	57.8%	97.7%	89.0%	80.3%	26.3%	ND
SS-4122	Y7_7000	70+00 -Y7-	CL	1.0' - 2.5'	A-7-6 (12)	48	21	23.7%	14.6%	17.2%	44.5%	99.6%	86.2%	63.4%	18.8%	ND
SS-4135	Y7_7750R	77+50 -Y7-	25' RT	1.0' - 2.5'	A-7-6 (14)	48	20	16.9%	13.5%	16.6%	53.0%	99.6%	90.8%	71.6%	23.0%	ND
SS-4098	Y7RPB_1950	19+38 -Y7RPB-	CL	1.0' - 3.5'	A-7-5 (14)	57	19	19.1%	19.8%	23.8%	37.3%	99.8%	88.8%	67.2%	36.0%	ND
SS-4074	Y7RPB_2200	22+00 -Y7RPB-	CL	3.5' - 5.0'	A-7-5 (10)	49	19	19.3%	23.9%	18.4%	38.4%	99.8%	92.1%	59.8%	35.6%	ND
SS-4674	Y11_2300	23+00 -Y11-	15' LT	3.5' - 5.0'	A-7-5 (15)	56	20	9.2%	32.6%	9.2%	49.0%	98.9%	93.7%	69.7%	25.8%	ND
SS-814	Y11_3100	31+00 -Y11-	CL	1.0' - 2.5'	A-7-5 (17)	62	18	6.2%	22.2%	23.0%	48.6%	98.0%	94.9%	74.4%	30.4%	ND
SS-4177	Y14_1300	13+00 -Y14-	CL	3.5' - 5.0'	A-7-6 (10)	47	23	31.0%	13.0%	14.3%	41.7%	93.8%	70.4%	54.8%	20.0%	ND
SS-4161	Y14_2010R	20+10 -Y14-	2' RT	1.0' - 2.5'	A-7-5 (22)	59	21	9.0%	9.4%	22.0%	59.6%	99.6%	95.0%	83.4%	29.5%	ND

Remarks:

Steven Putnam
AUTHORIZED SIGNATURE
NCDOT CERT NO. 148-01-0723

PROJECT REFERENCE NO.	SHEET NO.
I–5719	417

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

APPENDIX E
LABORATORY TEST RESULTS (IV) – SUMMIT ENGINEERING AND TESTING

REFERENCE: I–5719

PROJECT: 50135

Prepared in the Office of:

SUMMIT ENGINEERING, LABORATORY AND TESTING, INC.
3575 CENTRE CIRCLE DRIVE
FORT MILL, SC 29715
NCDOT LAB CERT. NO. 119-0705

NCDOT MATERIALS AND TESTS SOIL TEST REPORT

SUMMIT Engineering, Laboratory, and Testing, Inc.
3575 CENTRE CIRCLE DRIVE FORT MILL, SC 29715

PROJECT NAME:	I-85 Widening			**COUNTY:**	Gaston
T.I.P. ID #:	I-5719	**CLIENT PROJECT #:**	167		
DATE SAMPLED:	Varies	**DATE RECEIVED:**	7/27/23	**DATE REPORTED:**	8/24/23
SAMPLED FROM:	Soil Borings - Split Spoon	**SAMPLED BY:**	Carolinas Geotechnical Group		
SUBMITTED BY:	M. Hourani			**STANDARD SPECIFICATION**	
LABORATORY:	SUMMIT Engineering, Laboratory and Testing, Inc.			**NCDOT CERT:**	119-0705 / 119-01-0705

Sample Number:	Boring Number	Station / Alignment	Offset (ft)	Depth / Interval (ft)	AASHTO Class.	L.L.	P.I.	% Passing by Weight				% Passing by Sieve			% Moisture	% Organic
								C. Sand	F. Sand	Silt	Clay	#10	#40	#200		
SS-4425	RWAL8_B-5	17+97 -Y4RPD-	47' LT	6.0 - 7.5	A-7-5(17)	51	13	0.8%	15.7%	61.7%	21.8%	100.0%	99.8%	92.2%	25.3%	ND
SS-722	Y3RPB_1800L	18+00 -Y3RPB-	20' LT	3.5 - 5.0	A-5(2)	42	8	4.8%	58.8%	31.9%	4.4%	100.0%	98.7%	46.6%	46.4%	ND
SS-680	Y3RPA_2200R	22+00 -Y3RPA-	45' RT	3.5 - 5.0	A-7-6(29)	60	34	5.6%	20.5%	28.6%	45.4%	100.0%	96.8%	79.4%	32.1%	ND
SS-679	Y3RPA_2200R	22+00 -Y3RPA-	45' RT	1.0 - 2.5	A-4(2)	29	9	10.6%	43.8%	20.9%	24.6%	92.1%	86.3%	53.1%	25.8%	ND
SS-695	Y3RPA-SPUR_1155L	11+55 -Y3RPA-SPUR-	14'LT	3.5 - 5.0	A-4(0)	NP	NP	12.4%	45.8%	26.3%	15.5%	98.0%	91.9%	52.5%	26.9%	ND
SS-495	Y4RPA_2000	20+00 -Y4RPA-	6' RT	1.0 - 2.5	A-5(13)	56	5	0.7%	11.7%	56.4%	31.2%	100.0%	99.9%	94.4%	26.0%	ND
SS-515	Y4RPA_2250R	22+50 -Y4RPA-	48' RT	3.5 - 5.0	A-6(10)	40	17	15.2%	21.2%	27.6%	36.1%	97.0%	86.1%	68.5%	22.5%	ND
SS-517	Y4RPA_2250R	22+50 -Y4RPA-	48' RT	8.5 - 10.0	A-7-6(15)	42	16	3.6%	19.0%	30.7%	46.6%	100.0%	98.0%	85.6%	23.2%	ND
SS-4442	Y4RPD_2000R	20+00 -Y4RPD-	10' RT	2.0 - 3.5	A-7-5(25)	60	26	1.8%	17.4%	36.5%	44.3%	93.5%	92.6%	82.8%	32.2%	ND
SS-3198	Y5_2066L	20+66 -Y5-	39' LT	3.5 - 5.0	A-4(11)	39	8	0.6%	2.0%	73.3%	24.2%	100.0%	99.7%	98.7%	22.7%	ND
SS-3150	Y5_2310L	23+60 -Y5-	116' LT	1.0 - 2.5	A-7-5(36)	69	31	1.7%	7.0%	34.4%	56.9%	99.8%	99.2%	93.2%	30.3%	ND
SS-3155	Y5_2595L	25+95 -Y5-	53' LT	3.5 - 5.0	A-4(8)	33	8	12.5%	18.1%	51.3%	18.1%	100.0%	93.0%	75.6%	11.0%	ND
SS-3188	Y5_3900L	39+00 -Y5-	72' LT	1.0 - 2.5	A-7-5(37)	64	32	0.7%	5.3%	40.8%	53.2%	100.0%	99.8%	95.4%	27.0%	ND
SS-3072	Y5RPA_1050R	10+50 -Y5RPA-	50' RT	1.0 - 2.5	A-7-5(24)	71	16	1.4%	11.7%	36.2%	50.7%	100.0%	99.6%	91.3%	38.4%	ND
SS-3074	Y5RPA_1050R	10+50 -Y5RPA-	50' RT	8.5 - 10.0	A-7-6(11)	41	13	7.1%	22.6%	49.7%	20.7%	100.0%	99.3%	78.9%	24.3%	ND
SS-3080	Y5RPA_1250R	12+50 -Y5RPA-	49' RT	6.0 - 7.5	A-7-5(14)	46	13	6.1%	11.5%	34.2%	48.2%	99.6%	95.1%	86.8%	29.9%	ND
SS-3098	Y5RPA_1500R	15+05 -Y5RPA-	9' RT	1.0 - 2.5	A-5(10)	53	8	5.4%	25.7%	35.9%	33.0%	100.0%	98.1%	77.5%	33.7%	ND
SS-3105	Y5RPA_1746R	17+46 -Y5RPA-	34' RT	6.0 - 7.5	A-5(10)	43	10	2.1%	27.8%	48.6%	21.5%	99.9%	98.5%	83.4%	27.2%	ND
SS-3103	Y5RPA_1746R	17+46 -Y5RPA-	34' RT	1.0 - 2.5	A-7-5(17)	58	21	1.4%	16.2%	38.9%	43.5%	78.8%	78.2%	70.6%	35.8%	ND
SS-3109	Y5RPA_2000	20+00 -Y5RPA-	0	1.0 - 2.5	A-7-5(48)	91	37	1.7%	5.9%	14.4%	78.0%	99.4%	98.4%	93.8%	34.4%	ND
SS-3175	Y5RPD_2200L	22+00 -Y5RPD-	76' LT	1.0 - 2.5	A-7-5(8)	46	13	19.6%	14.6%	44.7%	21.1%	94.3%	82.1%	65.4%	19.0%	ND
SS-3017	Y6_1645L	16+45 -Y6-	83' LT	3.5 - 5.0	A-7-5(22)	67	18	3.5%	20.4%	33.1%	43.1%	100.0%	98.5%	82.8%	34.2%	ND
SS-3268	Y6RPC_1350R	13+50 -Y6RPC-	39' RT	6.0 - 7.5	A-7-5(31)	77	27	3.0%	17.5%	47.9%	31.6%	100.0%	98.9%	86.0%	54.6%	ND
SS-4220	Y6RPC_2500L	25+00 -Y6RPC-	43' LT	1.0 - 2.5	A-7-5(24)	60	19	1.3%	11.7%	31.9%	55.1%	100.0%	99.9%	91.6%	30.6%	ND
SS-4221	Y6RPC_2500L	25+00 -Y6RPC-	43' LT	3.5 - 5.0	A-7-5(24)	72	14	2.0%	9.6%	37.5%	50.8%	100.0%	99.7%	93.4%	37.4%	ND
SS-4193	Y6RPD_1310L	13+10 -Y6RPD-	23' LT	1.0 - 2.5	A-7-5(28)	61	23	2.1%	8.7%	40.7%	48.5%	100.0%	98.6%	93.8%	32.8%	ND
SS-4185	Y6RPD_1800L	18+00 -Y6RPD-	46' LT	3.5 - 5.0	A-7-5(24)	60	18	1.6%	8.0%	44.2%	46.2%	100.0%	99.2%	94.3%	21.0%	ND

AUTHORIZED SIGNATURE
NCDOT CERT NO. 119–01–0705

NCDOT MATERIALS AND TESTS SOIL TEST REPORT

SUMMIT Engineering, Laboratory, and Testing, Inc.
3575 CENTRE CIRCLE DRIVE FORT MILL, SC 29715

PROJECT NAME: I-85 Widening **COUNTY:** Gaston
T.I.P. ID #: I-5719 **CLIENT PROJECT #:** 167
DATE SAMPLED: Varies **DATE RECEIVED:** 7/27/23 **DATE REPORTED:** 8/24/23
SAMPLED FROM: Soil Borings - Split Spoon **SAMPLED BY:** Carolinas Geotechnical Group
SUBMITTED BY: M. Hourani **STANDARD SPECIFICATION**
LABORATORY: SUMMIT Engineering, Laboratory and Testing, Inc. **NCDOT CERT:** 119-0705 / 119-01-0705

Sample Number:	Boring Number	Station / Alignment	Offset (ft)	Depth / Interval (ft)	AASHTO Class.	L.L.	P.I.	% Passing by Weight				% Passing by Sieve			% Moisture	% Organic
								C. Sand	F. Sand	Silt	Clay	#10	#40	#200		
SS-447	CULV16_B-1	276+56 -L-	177' RT	1.0 - 2.5	A-6(10)	34	12	2.0%	27.3%	63.4%	7.4%	100.0%	99.1%	82.9%	23.3%	ND
SS-4411	L_26000L	260+00 -L-	124' LT	18.5 - 20.0	A-5(6)	63	3	1.3%	48.6%	37.9%	12.3%	100.0%	99.7%	65.8%	48.0%	ND
SS-533	L_26400L	264+00 -L-	143' LT	13.5 - 15.0	A-5(9)	45	7	1.2%	27.1%	56.0%	15.6%	98.4%	97.9%	82.5%	36.8%	ND
SS-560	L_30250R	302+50 -L-	119' RT	1.0 - 2.5	A-7-5(13)	53	11	5.7%	20.7%	37.6%	36.1%	100.0%	97.2%	80.7%	26.2%	ND
SS-1061	L_37600L	376+00 -L-	125' LT	9.0 - 10.5	A-5(11)	49	6	2.1%	7.0%	63.3%	27.6%	100.0%	98.7%	94.1%	32.5%	ND
SS-1058	L_37600L	376+00 -L-	125'LT	2.0 - 3.5	A-7-5(22)	52	17	0.1%	4.0%	60.2%	35.8%	98.5%	98.5%	96.9%	26.0%	ND
SS-1094	L_37600R	376+00 -L-	137' RT	3.5 - 5.0	A-7-5(38)	73	31	3.3%	4.2%	21.1%	71.4%	100.0%	98.2%	93.9%	27.6%	ND
SS-1097	L_37600R	376+00 -L-	137'RT	24.0 - 25.5	A-4(10)	36	10	1.1%	17.1%	64.2%	17.6%	100.0%	99.6%	91.8%	24.1%	ND
SS-1011	L_37800R	378+00 -L-	118' RT	14.0 - 15.5	A-7-5(11)	52	13	4.0%	40.5%	41.4%	14.1%	100.0%	98.1%	69.6%	27.9%	ND
SS-1099	L_37800R	378+00 -L-	118' RT	2.0 - 3.5	A-7-5(39)	73	39	1.2%	6.6%	20.7%	71.6%	89.8%	88.9%	85.7%	23.1%	ND
SS-628	L_42100L	421+00 -L-	100' LT	3.5 - 5	A-7-5(11)	45	12	1.8%	27.1%	37.2%	33.9%	100.0%	99.4%	80.9%	22.9%	ND
SS-622	L_42600L	426+00 -L-	133' LT	6.0 - 7.5	A-6(4)	39	12	23.9%	36.8%	36.1%	3.1%	100.0%	82.7%	52.7%	9.1%	ND
SS-362	L_44800R	448+00 -L-	120' RT	1.0 - 2.5	A-7-5(39)	84	38	1.6%	5.3%	18.3%	74.8%	87.2%	86.4%	82.6%	35.5%	ND
SS-614	L_45900L	459+00 -L-	129' LT	6.0 - 7.5	A-5(9)	51	4	2.6%	17.6%	44.6%	35.3%	100.0%	98.3%	86.7%	36.3%	ND
SS-617	L_45900L	459+00 -L-	129'LT	18.5 - 20	A-7-5(12)	54	11	6.1%	26.5%	46.8%	20.6%	99.9%	96.5%	76.1%	56.3%	ND
SS-4298	RWAL13_B-3	549+25 -L-	126' RT	8.5 - 10	A-5(4)	52	8	21.6%	30.9%	27.6%	19.9%	100.0%	92.1%	53.2%	21.0%	ND
SS-4307	RWAL13_B-4	550+45 -L-	109' RT	6.0 - 7.5	A-5(1)	48	6	25.4%	35.4%	25.1%	14.1%	100.0%	91.5%	46.4%	21.0%	ND
SS-4313	RWAL13_B-5	551+52 -L-	86' RT	1.0 - 2.5	A-7-5(11)	52	17	15.8%	25.6%	36.9%	20.8%	99.8%	95.7%	62.5%	25.6%	ND
SS-4506	RWAL14_B-1	29+04 -Y4-	79' RT	6.0 - 7.5	A-5(12)	64	5	2.5%	25.6%	57.4%	13.5%	100.0%	98.9%	82.5%	58.2%	ND
SS-4509	RWAL14_B-1	29+04 -Y4-	79' RT	18.5 - 20	A-5(7)	46	5	1.5%	31.3%	55.9%	11.3%	100.0%	99.3%	82.2%	39.6%	ND
SS-4495	RWAL14_B-2	30+05 -Y4-	80' RT	8.5 - 10	A-4(6)	40	5	0.8%	36.9%	53.1%	9.2%	100.0%	99.7%	79.3%	44.3%	ND
SS-4434	RWAL7_B-10	27+17 -Y4RPB-	40'LT	3.5 - 5	A-5(11)	55	5	2.9%	19.1%	47.2%	30.8%	99.8%	97.7%	86.6%	31.7%	ND
SS-4484	RWAL8_B-1	14+06 -Y4RPD-	83' LT	1.0 - 2.5	A-4(4)	32	8	9.3%	37.6%	33.4%	19.7%	100.0%	95.0%	66.4%	49.3%	ND
SS-4486	RWAL8_B-1	14+06 -Y4RPD-	83'LT	6.0 - 7.5	A-4(5)	31	9	12.2%	28.5%	29.5%	29.8%	100.0%	92.4%	69.3%	28.5%	ND
SS-4471	RWAL8_B-2	14+85 -Y4RPD-	66' LT	3.5 - 5.0	A-6(14)	38	16	5.4%	14.8%	35.4%	44.4%	100.0%	96.7%	85.8%	23.2%	ND
SS-4463	RWAL8_B-3	15+95 -Y4RPD-	55' LT	1.0 - 2.5	A-7-5(8)	51	11	18.7%	10.0%	19.7%	51.5%	86.1%	72.6%	64.3%	26.7%	ND
SS-4457	RWAL8_B-4	17+09 -Y4RPD-	35' LT	3.5 - 5.0	A-7-5(18)	61	11	2.3%	9.8%	36.9%	51.0%	100.0%	98.8%	92.3%	34.4%	ND
SS-4450	RWAL8_B-5	17+97 -Y4RPD-	47' LT	1.0 - 2.5	A-5(16)	62	7	0.8%	12.9%	43.2%	43.1%	100.0%	99.7%	93.3%	28.2%	ND

AUTHORIZED SIGNATURE
NCDOT CERT NO. 119-01-0705

NCDOT MATERIALS AND TESTS SOIL TEST REPORT

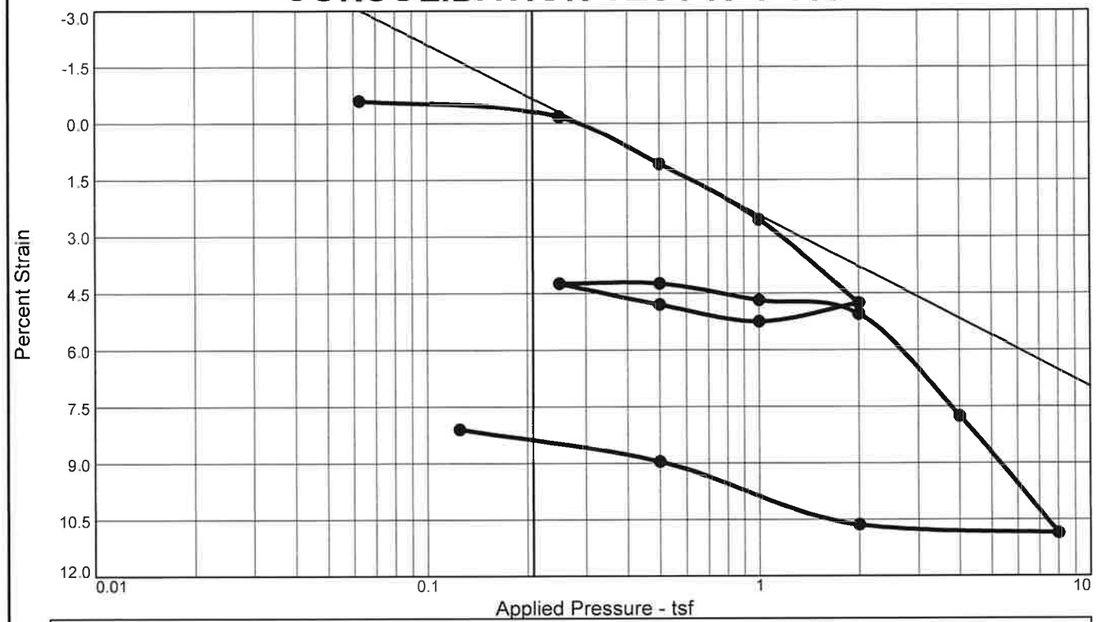
SUMMIT Engineering, Laboratory, and Testing, Inc.
3575 CENTRE CIRCLE DRIVE FORT MILL, SC 29715

PROJECT NAME: I-85 Widening **COUNTY:** Gaston
T.I.P. ID #: I-5719 **CLIENT PROJECT #:** 167
DATE SAMPLED: Varies **DATE RECEIVED:** 7/27/23 **DATE REPORTED:** 8/24/23
SAMPLED FROM: Soil Borings - Split Spoon - Shelby Tube **SAMPLED BY:** Carolinas Geotechnical Group
SUBMITTED BY: M. Hourani **STANDARD SPECIFICATION**
LABORATORY: SUMMIT Engineering, Laboratory and Testing, Inc. **NCDOT CERT:** 119-0705 / 119-01-0705

Sample Number:	Boring Number	Station / Alignment	Offset (ft)	Depth / Interval (ft)	AASHTO Class.	L.L.	P.I.	% Passing by Weight				% Passing by Sieve			% Moisture	% Organic
								C. Sand	F. Sand	Silt	Clay	#10	#40	#200		
SS-4034	Y7_2700	27+00 -Y7-	0	3.5 - 5.0	A-5(2)	48	7	28.4%	27.8%	24.7%	19.1%	100.0%	84.9%	49.2%	20.3%	ND
SS-4026	Y7_2950	29+50 -Y7-	0	1.0 - 2.5	A-7-5(22)	58	26	11.2%	15.0%	21.3%	52.5%	100.0%	95.1%	76.6%	27.3%	ND
SS-4029	Y7_2950	29+50 -Y7-	0	8.5 - 10.0	A-5(9)	50	6	7.3%	14.8%	45.7%	32.2%	100.0%	96.9%	82.0%	25.6%	ND
SS-4022	Y7_3200	32+00 -Y7-	0	3.5 - 5.0	A-7-5(22)	72	14	5.1%	8.7%	25.1%	61.0%	100.0%	97.5%	88.4%	31.4%	ND
SS-4018	Y7_3450	34+50 -Y7-	0	13.5 - 15	A-7-5(6)	55	18	32.4%	25.3%	24.9%	17.5%	100.0%	80.4%	48.0%	31.8%	ND
SS-4013	Y7_3450	34+50 -Y7-	0	3.5 - 5.0	A-7-5(4)	61	11	27.7%	20.1%	21.5%	30.7%	100.0%	83.7%	56.6%	31.6%	ND
SS-129	Y7_5800L	58+00 -Y7-	100' LT	3.5 - 5.0	A-5(3)	54	5	23.4%	26.0%	29.4%	21.2%	100.0%	88.9%	55.4%	22.2%	ND
SS-133	Y7_5800L	58+00 -Y7-	100' LT	18.5 - 20.0	A-4(0)	NP	NP	28.2%	30.5%	29.1%	12.1%	100.0%	86.4%	47.1%	22.6%	ND
SS-4118	Y7_6800	68+00 -Y7-	0	1.0 - 2.5	A-7-5(10)	48	16	22.2%	16.0%	15.1%	46.8%	99.2%	87.9%	63.8%	26.9%	ND
SS-4126	Y7_7200	72+00 -Y7-	0	1.0 - 2.5	A-7-6(27)	61	37	15.4%	12.0%	20.6%	51.9%	100.0%	92.2%	74.3%	32.7%	ND
SS-4007	Y7E_1400	14+00 -Y7E-	0	1.0 - 2.5	A-7-5(25)	73	33	18.0%	14.0%	9.7%	58.3%	100.0%	90.6%	70.0%	25.6%	ND
SS-4009	Y7E_1400	14+00 -Y7E-	0	6.0 - 7.5	A-7-5(13)	71	14	19.2%	17.2%	19.9%	43.8%	100.0%	90.0%	66.8%	35.1%	ND
SS-4058	Y7H_1400	14+00 -Y7H-	0	3.5 - 5.0	A-7-5(14)	62	15	17.4%	14.7%	24.3%	43.7%	100.0%	91.6%	70.7%	27.9%	ND
SS-247	Y7RPC_2900L	29+00 -Y7RPC-	15' LT	3.5 - 5.0	A-5(5)	46	7	15.0%	28.7%	40.2%	16.1%	100.0%	93.4%	64.3%	33.3%	ND
SS-3022	POWERDR 1275L	12+75 -POWERDR-	43' LT	3.5 - 5.0	A-7-5(49)	81	41	1.8%	6.2%	28.6%	63.4%	100.0%	98.9%	94.7%	28.6%	ND
ST-1	Y5_3050L	30+50 -Y5-	25' LT	2.0 - 4.0	A-6(7)	38	19	7.1%	17.9%	37.8%	37.2%	68.1%	65.1%	55.3%	18.0%	ND
ST-2	L_47100R	471+00 -L-	120' RT	12.0 - 14.0	A-6(4)	40	12	18.0%	36.0%	19.0%	27.0%	99.9%	94.3%	52.4%	29.9%	ND
ST-3	CULV18_B-1	305+11 -L-	137' LT	1.0 - 3.0	A-4(1)	25	4	8.3%	37.0%	37.2%	17.4%	99.5%	98.1%	62.8%	22.0%	ND
ST-4	L_28000R	280+00 -L-	142' RT	2.0 - 4.0	A-7-6(15)	43	20	6.7%	11.6%	43.8%	38.0%	94.6%	90.1%	77.6%	21.4%	ND
ST-5	Y4RPC_2064R	20+64 -Y4RPC-	73' RT	3.0 - 5.0	A-7-5(17)	53	17	1.2%	13.6%	62.3%	22.9%	96.9%	96.4%	84.4%	49.2%	ND
ST-6	Y3RPB_SPUR_1100L	11+00 -Y3RPB_SPUR-	35' LT	7.0 -9.0	A-4(3)	34	9	21.6%	26.4%	16.9%	35.1%	96.9%	95.7%	52.6%	21.7%	ND
ST-7	CULV7_B-1	123+05 -L-	108' RT	3.0 - 5.0	A-4(0)	24	9	46.4%	15.5%	16.2%	21.9%	99.3%	65.1%	40.5%	16.1%	ND
ST-8	CULV7_B-1	123+05 -L-	108' RT	13.0 - 15.0	A-2-4(0)	NP	NP	45.4%	30.3%	18.5%	5.8%	98.5%	69.3%	26.9%	28.3%	ND
ST-9	CULV7_B-2	122+23 -L-	109' RT	8.0 - 10.0	A-5(8)	49	10	13.3%	20.7%	45.0%	20.9%	98.1%	89.3%	67.8%	41.2%	ND
ST-10	L_13400R	134+00 -L-	93' RT	2.0 - 4.0	A-6(8)	38	17	17.1%	23.4%	25.7%	33.8%	97.5%	87.9%	60.0%	22.9%	ND
ST-11	L_13400R	134+00 -L-	93' RT	8.0 - 10.0	A-7-5(5)	50	17	34.8%	20.3%	13.4%	31.5%	97.0%	73.7%	47.0%	26.1%	ND
ST-12	Y3SB_EB2-B	18+80 -Y3SB-	40' RT	6.0 - 8.0	A-4(3)	35	9	19.8%	32.1%	19.3%	28.8%	95.7%	84.0%	53.5%	29.2%	ND

AUTHORIZED SIGNATURE
NCDOT CERT NO. 119–01–0705

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
3	0.50	0.0012		10	1.00	0.0010					
4	1.00	0.0013		11	2.00	0.0579					
5	2.00	0.0010		12	4.00	0.0005					
6	1.00	0.0017		13	8.00	0.0002					
7	0.50	0.0003		14	2.00	0.0004					
8	0.25	0.0002		15	0.50	0.0001					
9	0.50	0.0005									

MATERIAL DESCRIPTION	USCS	AASHTO
Olive-Brown Sandy Lean Clay	CL	A-6(7)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf) Init.	Dry Dens. (pcf) Final	Moisture Init.	Moisture Final	Saturation Init.	Saturation Final	Void Ratio Init.	Void Ratio Final	P_c (tsf)	C_c
38	19	2.613		103.8	103.8	18.0 %	18.9 %	82.3 %	100.0 %	0.571	0.444	0.3	0.07

Preparation Process: Sample trimmmed from shelby tube

Condition of Test: Inundated after application of seating load

D2435 Method	C_r	Swell Press. (tsf)	Swell %
	0.01		

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group

Project: I-5719: I-85
TIP No.: I-5719

Loc.: Y5_3050L, Station 30+50 **Depth:** 2'-4' **Sample No.:** ST-1

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO T216 Method B

Checked By: MH

Title: Lab Manager

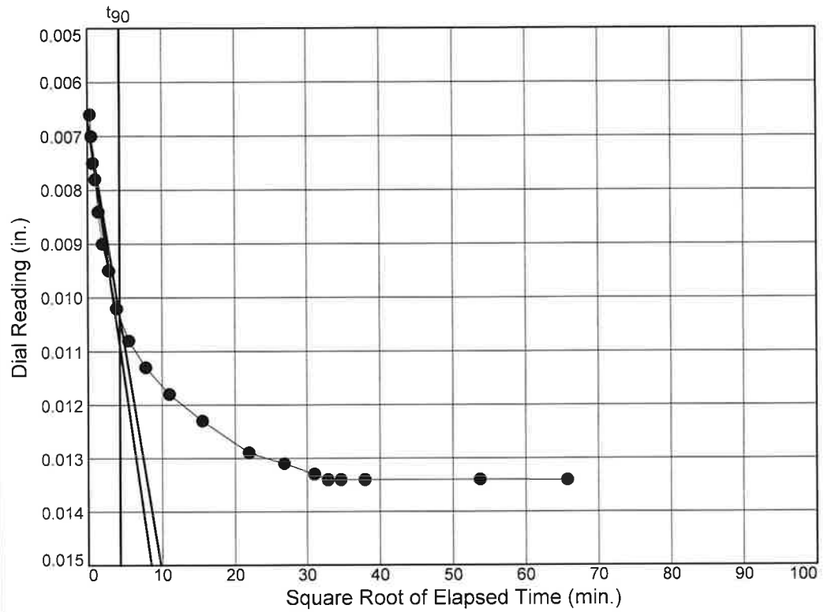
Figure

Tested By: FG

Dial Reading vs. Time

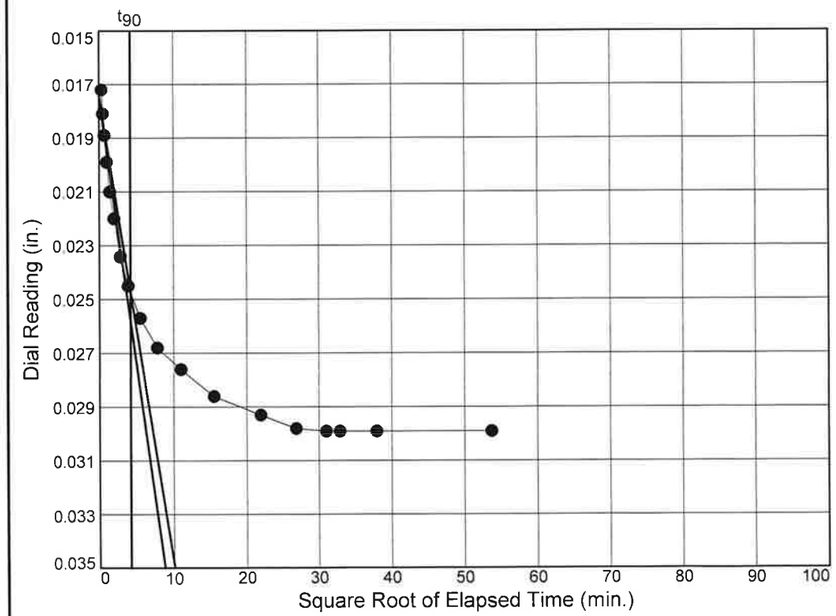
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y5_3050L, Station 30+50 Depth: 2'-4' Sample Number: ST-1



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0067
D_{90} = 0.0104
D_{100} = 0.0108
T_{90} = 18.34 min.

C_v @ T_{90}
0.0012 cm.2/sec.



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0175
D_{90} = 0.0247
D_{100} = 0.0255
T_{90} = 17.30 min.

C_v @ T_{90}
0.0013 cm.2/sec.

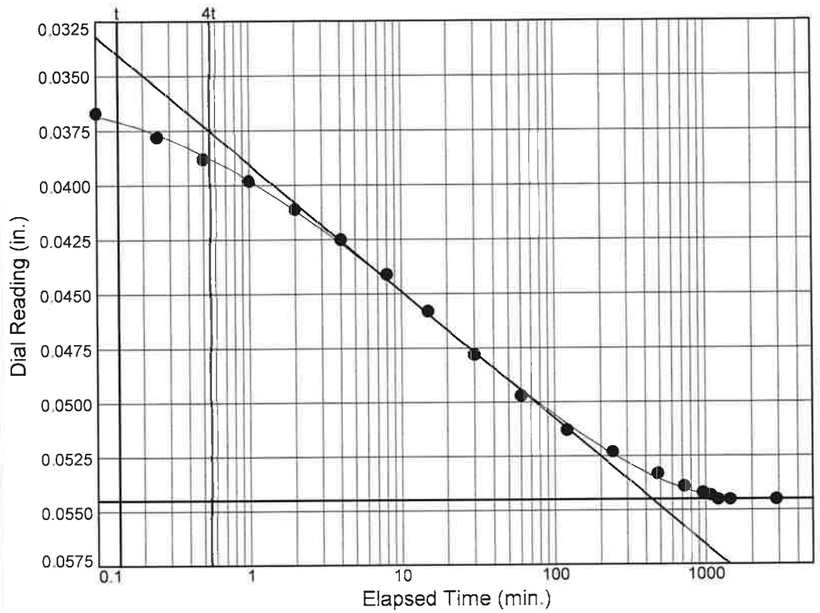
Figure

Summit Engineering

Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

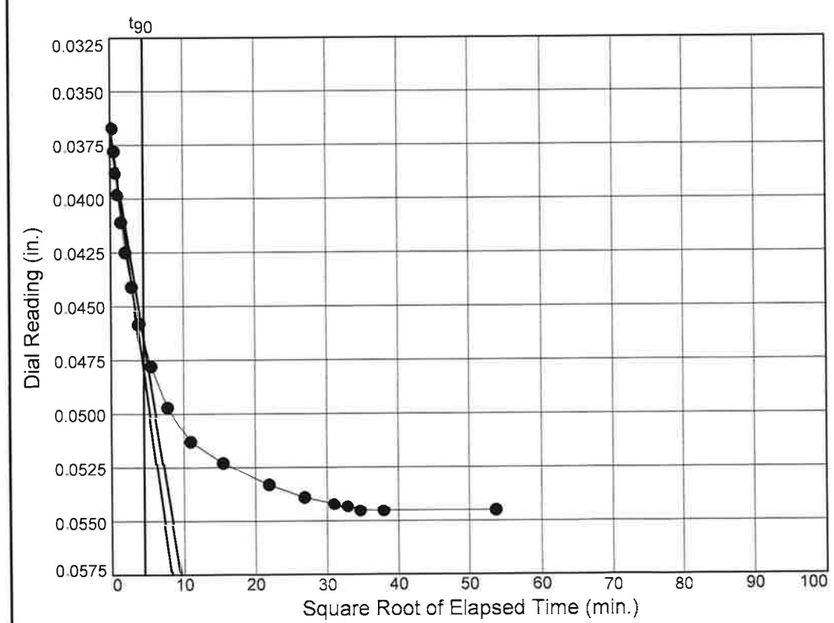
Location: Y5_3050L, Station 30+50 Depth: 2'-4' Sample Number: ST-1



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0354
D_{50} = 0.0449
D_{100} = 0.0545
T_{50} = 10.19 min.

C_v @ T_{50}
0.0005 cm.2/sec.

C_α = 0.000



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0369
D_{90} = 0.0465
D_{100} = 0.0476
T_{90} = 19.95 min.

C_v @ T_{90}
0.0010 cm.2/sec.

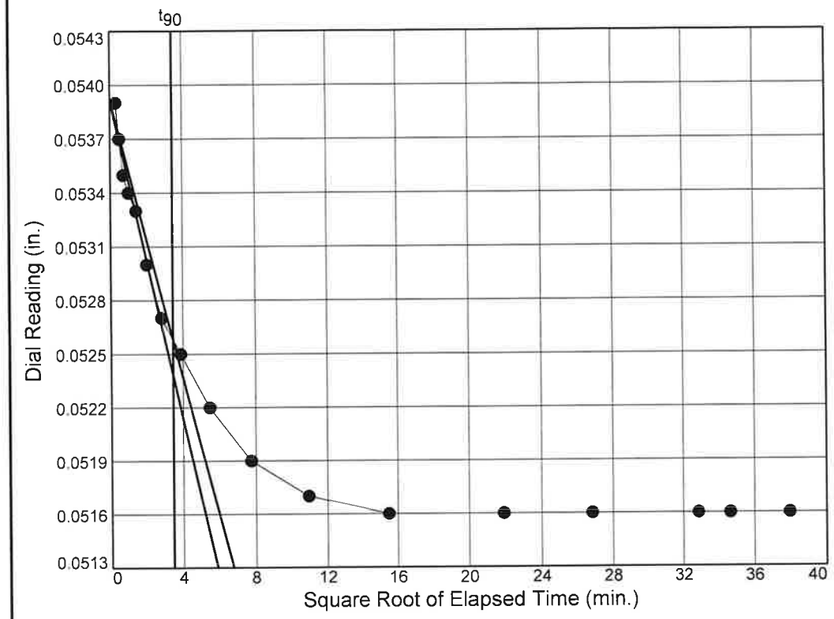
Figure

Summit Engineering

Dial Reading vs. Time

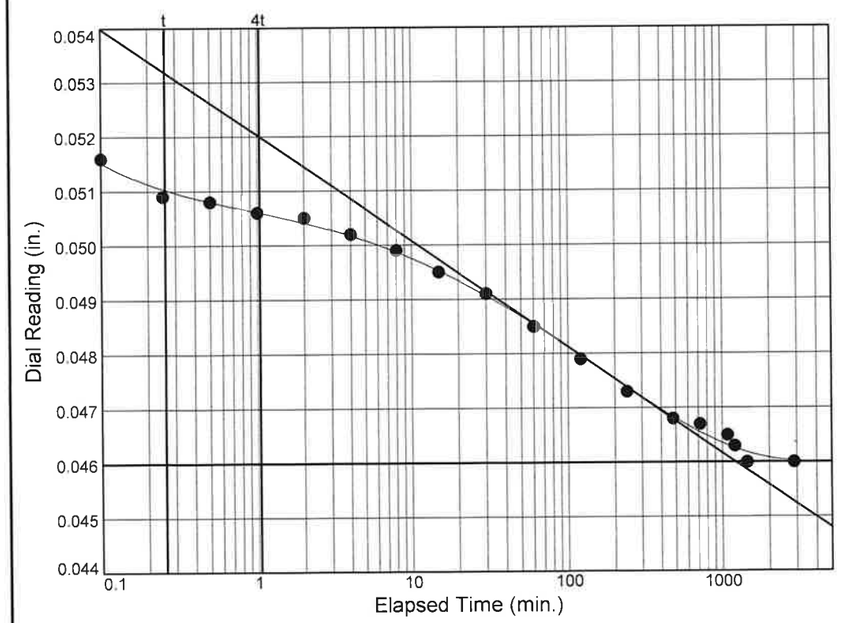
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y5_3050L, Station 30+50 Depth: 2'-4' Sample Number: ST-1



Load No.= 6
Load= 1.00 tsf
D_0 = 0.0539
D_{90} = 0.0526
D_{100} = 0.0524
T_{90} = 11.86 min.

C_v @ T_{90}
0.0017 cm.2/sec.



Load No.= 7
Load= 0.50 tsf
D_0 = 0.0515
D_{50} = 0.0487
D_{100} = 0.0460
T_{50} = 47.56 min.

C_v @ T_{50}
0.0001 cm.2/sec.

C_α = 0.000

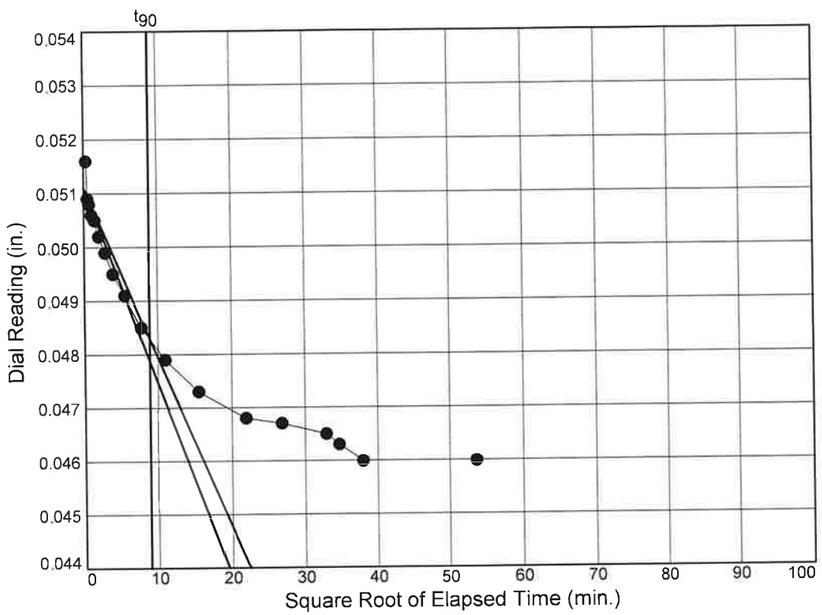
Figure

Summit Engineering

Dial Reading vs. Time

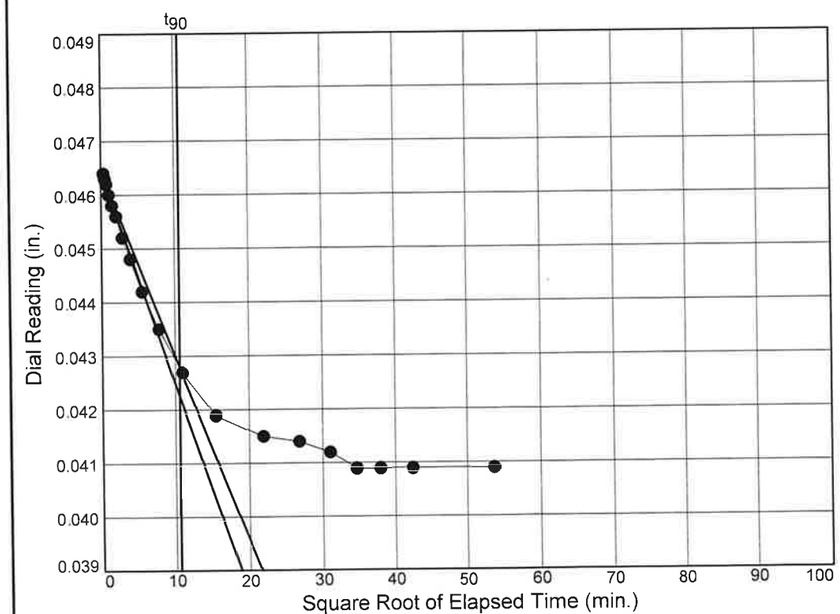
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y5_3050L, Station 30+50 Depth: 2'-4' Sample Number: ST-1



Load No.= 7
Load= 0.50 tsf
D_0 = 0.0511
D_{90} = 0.0483
D_{100} = 0.0480
T_{90} = 78.71 min.

C_v @ T_{90}
0.0003 cm.2/sec.



Load No.= 8
Load= 0.25 tsf
D_0 = 0.0464
D_{90} = 0.0428
D_{100} = 0.0424
T_{90} = 111.64 min.

C_v @ T_{90}
0.0002 cm.2/sec.

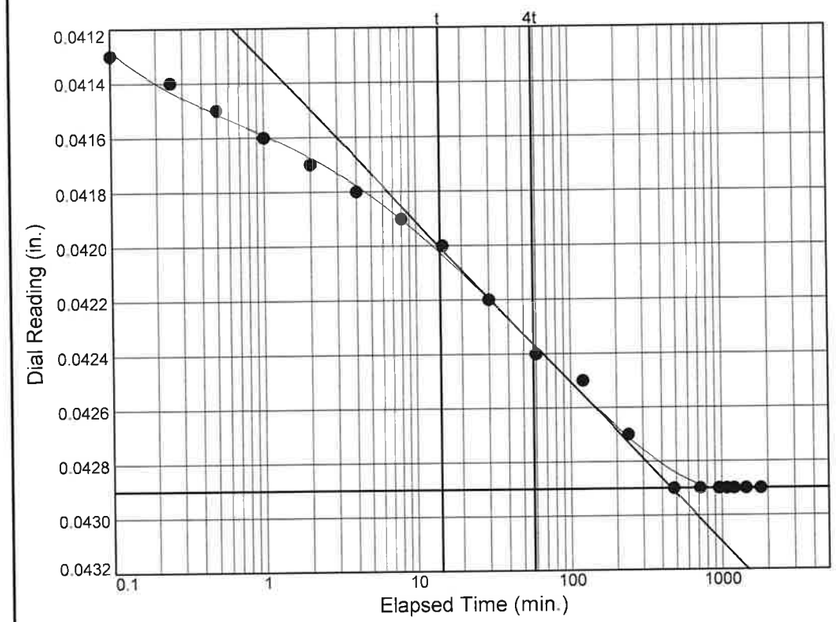
Figure

Summit Engineering

Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

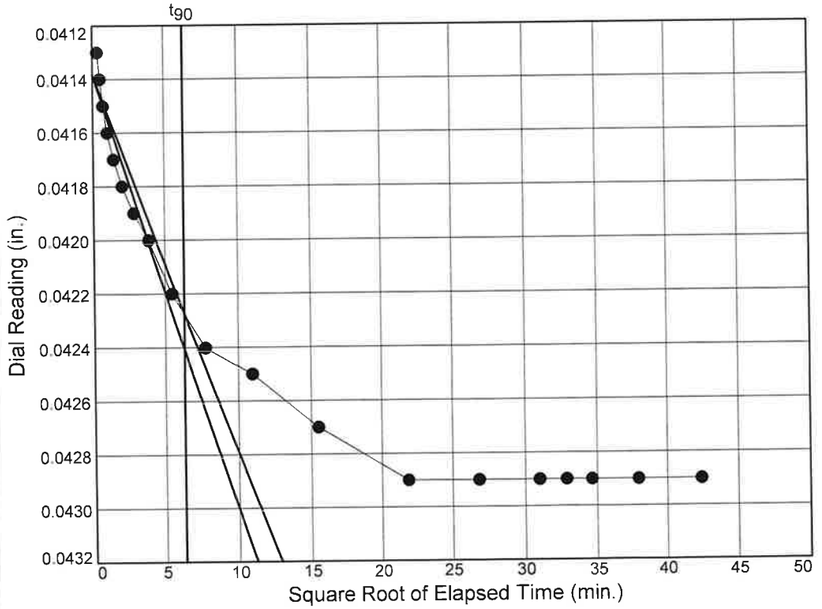
Location: Y5_3050L, Station 30+50 Depth: 2'-4' Sample Number: ST-1



Load No.= 9
Load= 0.50 tsf
D_0 = 0.0417
D_{50} = 0.0423
D_{100} = 0.0429
T_{50} = 43.95 min.

C_v @ T_{50}
0.0001 cm.2/sec.

C_α = 0.000



Load No.= 9
Load= 0.50 tsf
D_0 = 0.0414
D_{90} = 0.0423
D_{100} = 0.0424
T_{90} = 39.80 min.

C_v @ T_{90}
0.0005 cm.2/sec.

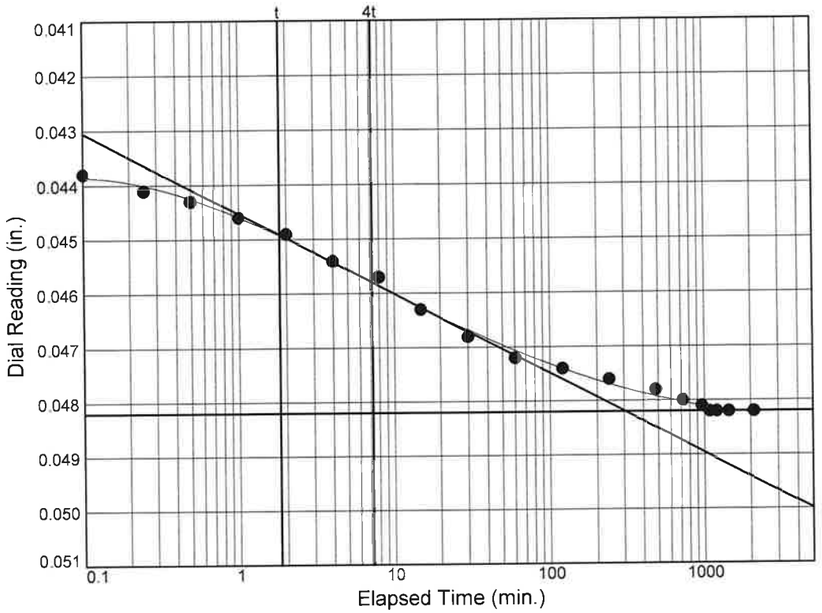
Figure

Summit Engineering

Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

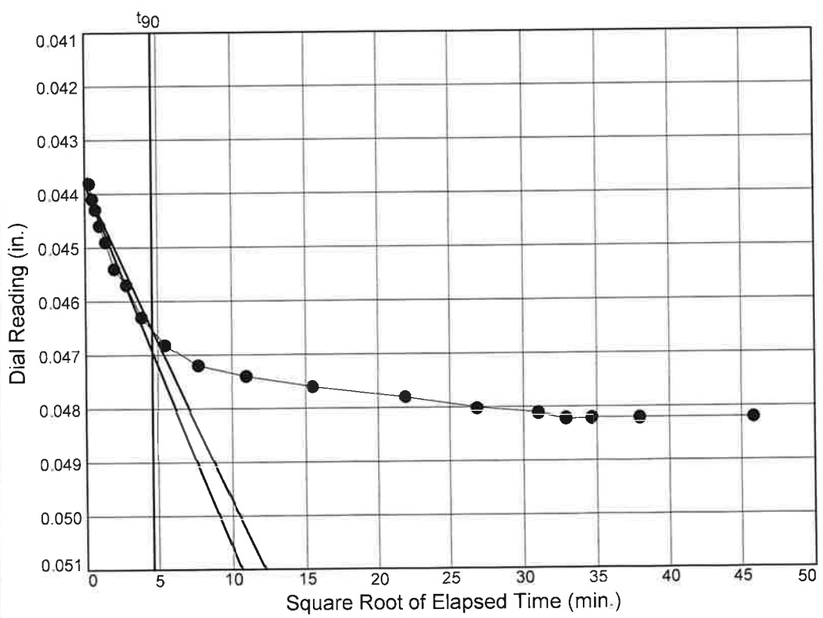
Location: Y5_3050L, Station 30+50 Depth: 2'-4' Sample Number: ST-1



Load No.= 10
Load= 1.00 tsf
D_0 = 0.0441
D_{50} = 0.0461
D_{100} = 0.0482
T_{50} = 12.17 min.

C_v @ T_{50}
0.0004 cm.2/sec.

C_α = 0.000



Load No.= 10
Load= 1.00 tsf
D_0 = 0.0438
D_{90} = 0.0465
D_{100} = 0.0468
T_{90} = 21.17 min.

C_v @ T_{90}
0.0010 cm.2/sec.

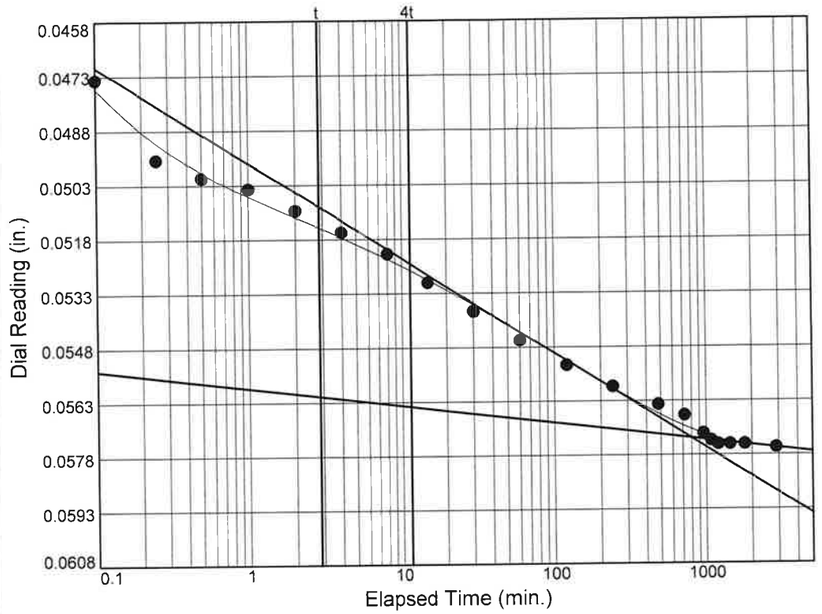
Figure

Summit Engineering

Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

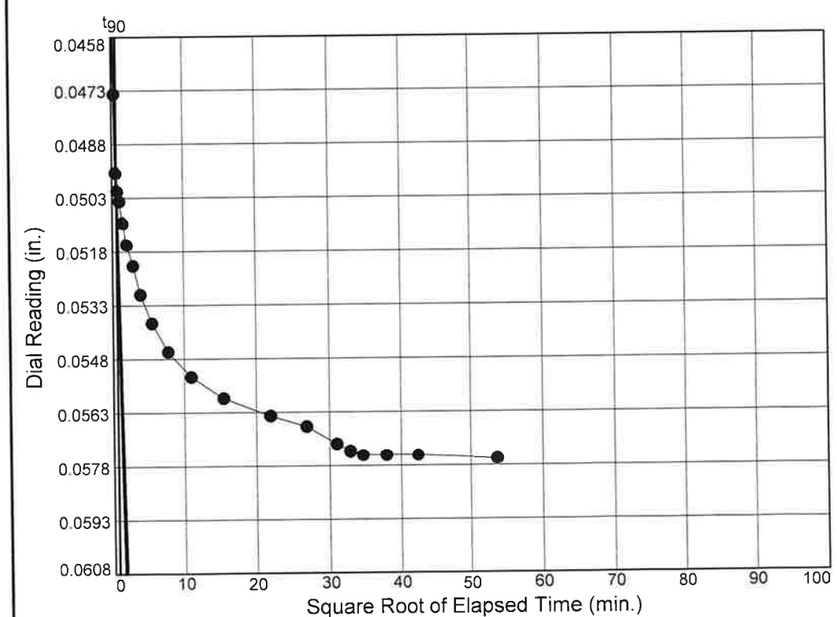
Location: Y5_3050L, Station 30+50 Depth: 2'-4' Sample Number: ST-1



Load No.= 11
Load= 2.00 tsf
D_0 = 0.0503
D_{50} = 0.0538
D_{100} = 0.0573
T_{50} = 35.75 min.

C_v @ T_{50}
0.0001 cm.2/sec.

C_α = 0.001



Load No.= 11
Load= 2.00 tsf
D_0 = 0.0436
D_{90} = 0.0498
D_{100} = 0.0505
T_{90} = 0.36 min.

C_v @ T_{90}
0.0579 cm.2/sec.

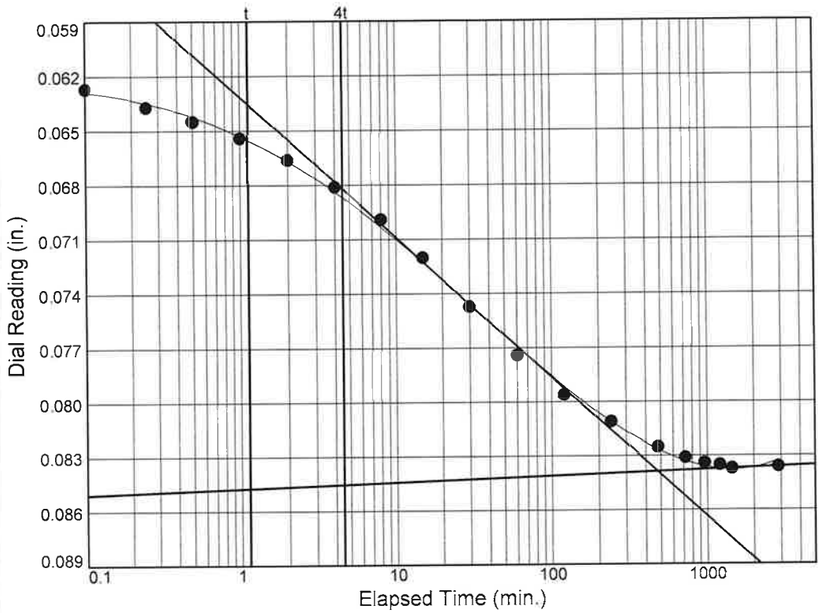
Figure

Summit Engineering

Dial Reading vs. Time

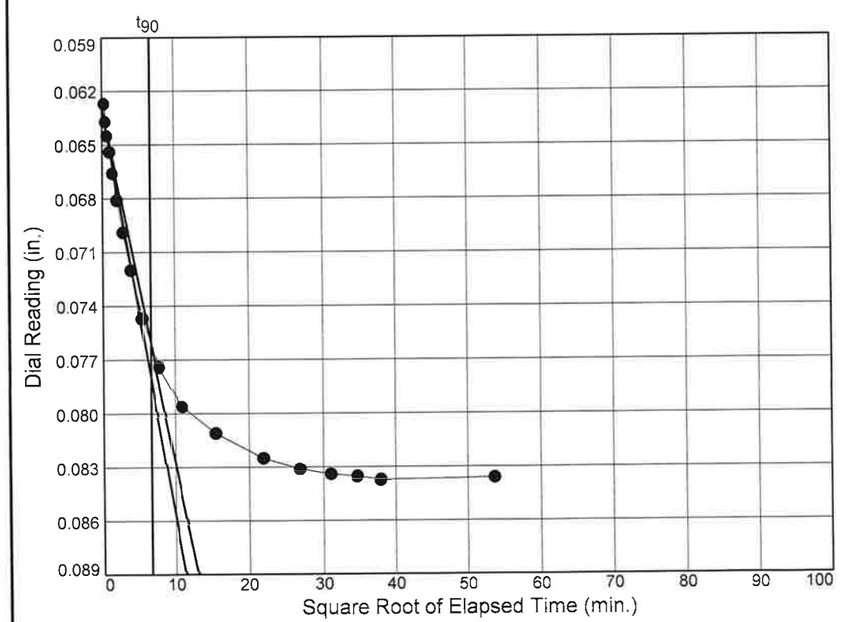
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y5_3050L, Station 30+50 Depth: 2'-4' Sample Number: ST-1



Load No.= 12
Load= 4.00 tsf
D_0 = 0.0623
D_{50} = 0.0731
D_{100} = 0.0839
T_{50} = 19.28 min.

C_v @ T_{50}
0.0002 cm.2/sec.



Load No.= 12
Load= 4.00 tsf
D_0 = 0.0629
D_{90} = 0.0760
D_{100} = 0.0775
T_{90} = 43.68 min.

C_v @ T_{90}
0.0005 cm.2/sec.

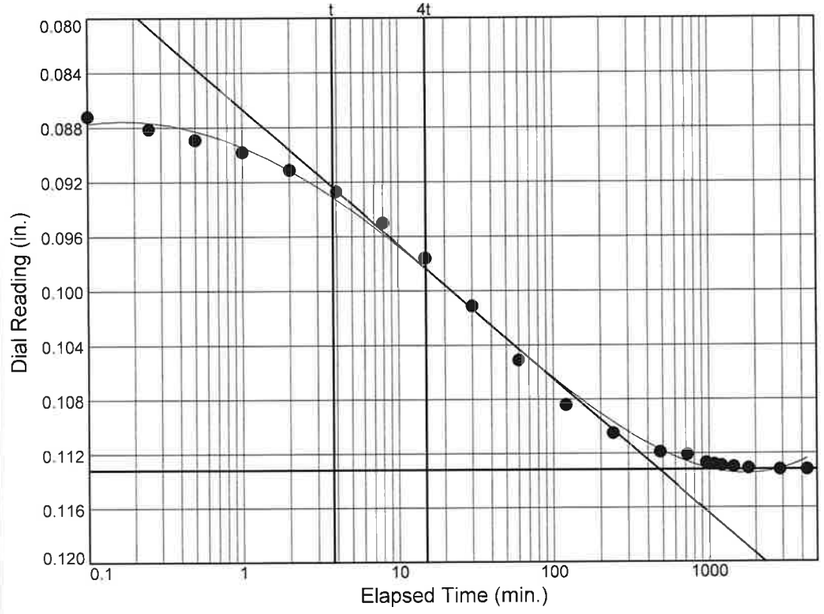
Figure

Summit Engineering

Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

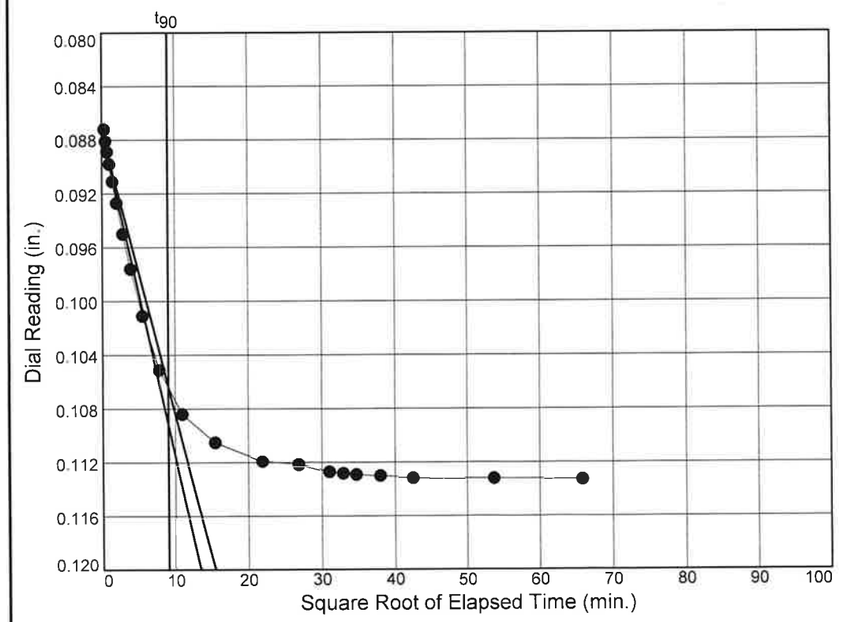
Location: Y5_3050L, Station 30+50 Depth: 2'-4' Sample Number: ST-1



Load No.= 13
Load= 8.00 tsf
D_0 = 0.0878
D_{50} = 0.1005
D_{100} = 0.1132
T_{50} = 24.93 min.

C_v @ T_{50}
0.0002 cm.2/sec.

C_α = 0.000



Load No.= 13
Load= 8.00 tsf
D_0 = 0.0874
D_{90} = 0.1064
D_{100} = 0.1085
T_{90} = 81.45 min.

C_v @ T_{90}
0.0002 cm.2/sec.

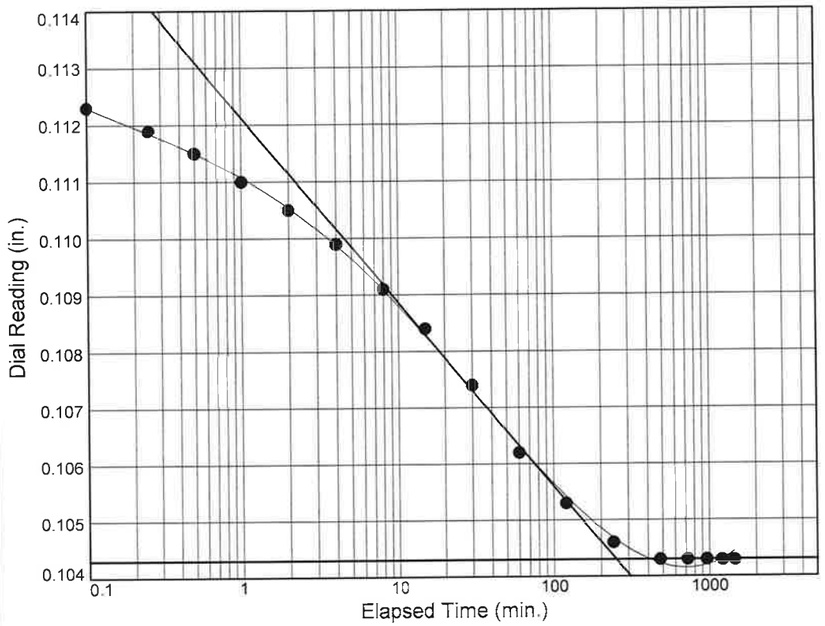
Figure

Summit Engineering

Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

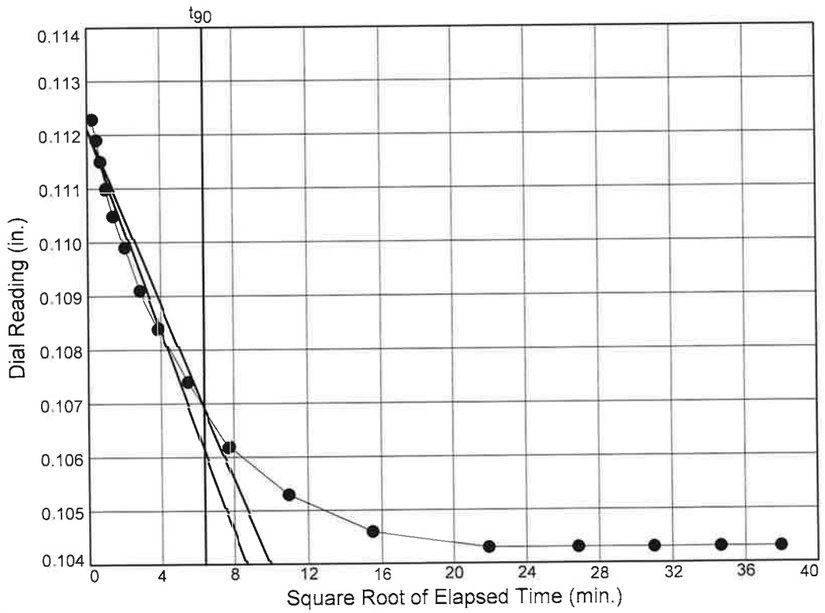
Location: Y5_3050L, Station 30+50 Depth: 2'-4' Sample Number: ST-1



Load No.= 14
Load= 2.00 tsf
D_0 = 0.1132
D_{50} = 0.1087
D_{100} = 0.1043
T_{50} = 10.44 min.

C_v @ T_{50}
0.0004 cm.2/sec.

C_α = 0.000



Load No.= 14
Load= 2.00 tsf
D_0 = 0.1121
D_{90} = 0.1069
D_{100} = 0.1063
T_{90} = 40.71 min.

C_v @ T_{90}
0.0004 cm.2/sec.

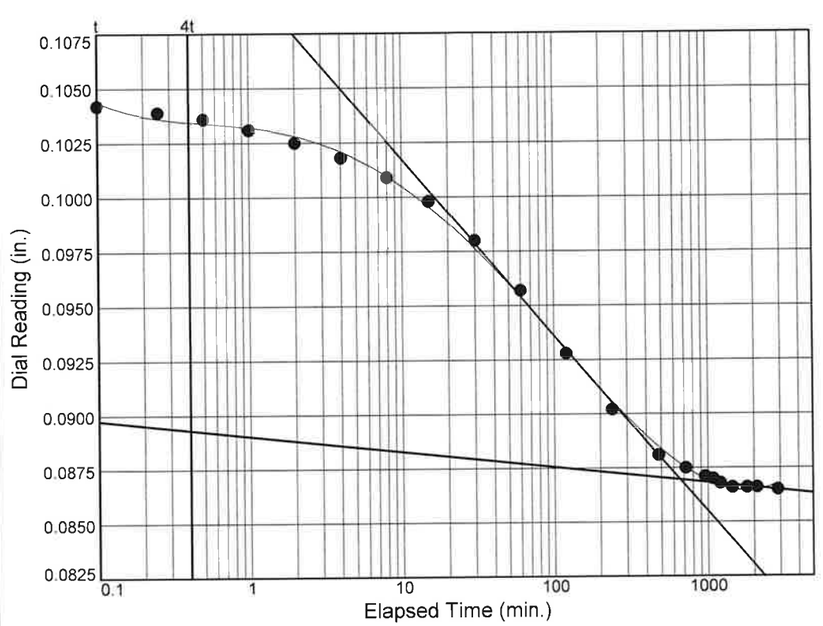
Figure

Summit Engineering

Dial Reading vs. Time

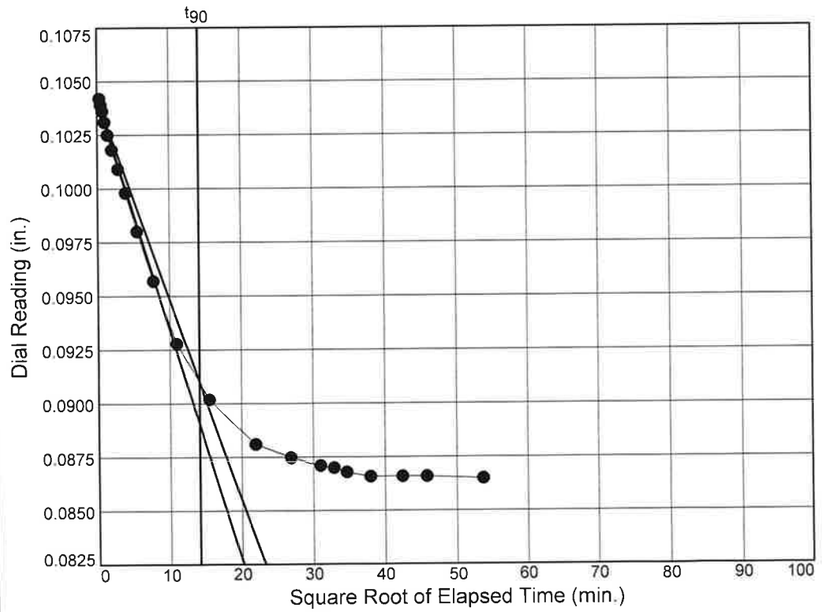
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y5_3050L, Station 30+50 Depth: 2'-4' Sample Number: ST-1



Load No.= 15
Load= 0.50 tsf
D_0 = 0.1053
D_{50} = 0.0961
D_{100} = 0.0870
T_{50} = 48.29 min.

C_v @ T_{50}
0.0001 cm.2/sec.



Load No.= 15
Load= 0.50 tsf
D_0 = 0.1042
D_{90} = 0.0910
D_{100} = 0.0895
T_{90} = 198.51 min.

C_v @ T_{90}
0.0001 cm.2/sec.

Figure

Summit Engineering

CONSOLIDATION TEST DATA

9/30/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: Y5_3050L, Station 30+50
Depth: 2'-4'
Sample Number: ST-1
Material Description: Olive-Brown Sandy Lean Clay
Sample Date: 07-30-23 **Liquid Limit:** 38 **Plasticity Index:** 19
USCS: CL **AASHTO:** A-6(7)
Preparation Process: Sample trimmmed from shelby tube
Condition of Test: Inundated after application of seating load
Final Density: 103.8
Testing Remarks: AASHTO T216 Method B
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE
Wet w+t = 157.85 g.
Dry w+t = 133.77 g.
Tare Wt. = 0.00 g.
Moisture = 18.0 %

VOID RATIO
Spec. Gr. = 2.613
Est. Ht. Solids = 0.636 in.
Init. V.R. = 0.571
Init. Sat. = 82.3 %

AFTER TEST
Wet w+t = 159.06 g.
Dry w+t = 133.77 g.
Tare Wt. = 0.00 g.
Moisture = 18.9 %

Dry Wt. = 133.77* g.

UNIT WEIGHT
Height = 1.000 in.
Diameter = 2.500 in.
Weight = 157.85 g.
Dry Dens. = 103.8 pcf

TEST START
Height = 1.000 in.
Diameter = 2.500 in.

* Final dry weight used as mineral solids weight

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			0.571	
0.13	0.00000	0.00600	-0.00600			0.581	0.6 Swell
0.50	0.00550	0.00600	-0.00168*			0.574	0.2 Swell
1.00	0.01490	0.00150	0.01076*	0.0012		0.554	1.1 Comprs.
2.00	0.03240	0.00250	0.02552*	0.0013		0.531	2.6 Comprs.
4.00	0.05860	0.00410	0.04761*	0.0010		0.496	4.8 Comprs.
2.00	0.05530	0.00370	0.05243*	0.0017		0.489	5.2 Comprs.
1.00	0.04930	0.00330	0.04798*	0.0003		0.496	4.8 Comprs.
0.50	0.04360	0.00270	0.04239*	0.0002		0.505	4.2 Comprs.
1.00	0.04540	0.00250	0.04237*	0.0005		0.505	4.2 Comprs.
2.00	0.05100	0.00280	0.04683*	0.0010		0.498	4.7 Comprs.
4.00	0.06130	0.00370	0.05053*	0.0579		0.492	5.1 Comprs.
8.00	0.08920	0.00560	0.07751*	0.0005		0.449	7.8 Comprs.
16.00	0.12160	0.00840	0.10853*	0.0002		0.401	10.9 Comprs.
4.00	0.11080	0.00650	0.10635*	0.0004		0.404	10.6 Comprs.
1.00	0.09090	0.00440	0.08954*	0.0001		0.431	9.0 Comprs.
0.25	0.08410	0.00350	0.08094*			0.444	8.1 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

TEST RESULTS SUMMARY

Compression index (C_c), tsf = 0.07 Preconsolidation pressure (P_p), tsf = 0.3 Void ratio at P_p (e_m) = 0.574
Recompression index (C_r) = 0.01

Pressure: 0.13 ksf — TEST READINGS — **Load No. 1**

No.	Elapsed Time	Dial Reading
1	0	0.00000
2	0.1	0.00000
3	0.25	0.00000
4	0.5	0.00000
5	1	0.00000

Void Ratio = 0.581 Swell = 0.6%

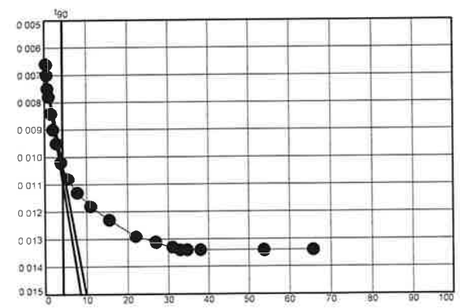
Pressure: 0.50 ksf — TEST READINGS — **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0.1	0.00000	11	120	0.00510
2	0.25	0.00360	12	240	0.00510
3	0.50	0.00380	13	480	0.00530
4	1	0.00420	14	720	0.00540
5	2	0.00420	15	960	0.00550
6	4	0.00440	16	1080	0.00550
7	8	0.00460	17	1440	0.00550
8	15	0.00470			
9	30	0.00500			
10	60	0.00500			

Void Ratio = 0.574 Swell = 0.2%

Pressure: 1.00 ksf — TEST READINGS — **Load No. 3**

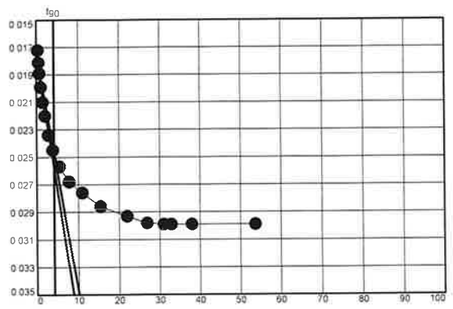
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00550	12	120	0.01330
2	0.1	0.00810	13	240	0.01380
3	0.25	0.00850	14	480	0.01440
4	0.50	0.00900	15	720	0.01460
5	1	0.00930	16	960	0.01480
6	2	0.00990	17	1080	0.01490
7	4	0.01050	18	1200	0.01490
8	8	0.01100	19	1440	0.01490
9	15	0.01170	20	2880	0.01490
10	30	0.01230	21	4320	0.01490
11	60	0.01280			



Void Ratio = 0.554 Compression = 1.1% >>> CALCULATED USING D_{100}
D_0 = 0.0067 D_{90} = 0.0104 D_{100} = 0.0108 C_v at 18.34 min. = 0.0012 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 4**

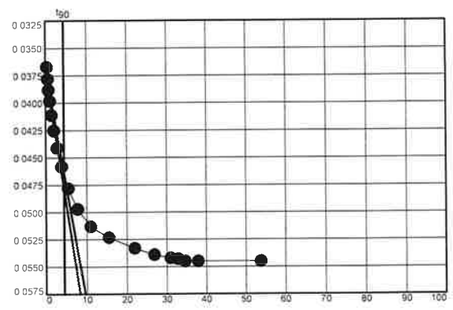
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01490	11	60	0.02930
2	0.10	0.01970	12	120	0.03010
3	0.25	0.02060	13	240	0.03110
4	0.50	0.02140	14	480	0.03180
5	1	0.02240	15	720	0.03230
6	2	0.02350	16	960	0.03240
7	4	0.02450	17	1080	0.03240
8	8	0.02590	18	1440	0.03240
9	15	0.02700	19	2880	0.03240
10	30	0.02820			



Void Ratio = 0.531 **Compression** = 2.6% >>> CALCULATED USING D_{100}
D_0 = 0.0175 **D_{90}** = 0.0247 **D_{100}** = 0.0255 **C_v at 17.30 min.** = 0.0013 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 5**

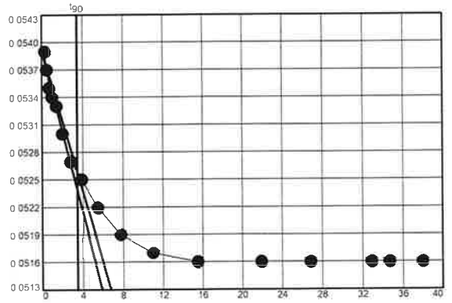
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03240	11	60	0.05380
2	0.10	0.04080	12	120	0.05540
3	0.25	0.04190	13	240	0.05640
4	0.50	0.04290	14	480	0.05740
5	1	0.04390	15	720	0.05800
6	2	0.04520	16	960	0.05830
7	4	0.04660	17	1080	0.05840
8	8	0.04820	18	1200	0.05860
9	15	0.04990	19	1440	0.05860
10	30	0.05190	20	2880	0.05860



Void Ratio = 0.496 **Compression** = 4.8% >>> CALCULATED USING D_{100}
D_0 = 0.0369 **D_{90}** = 0.0465 **D_{100}** = 0.0476 **C_v at 19.95 min.** = 0.0010 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 6**

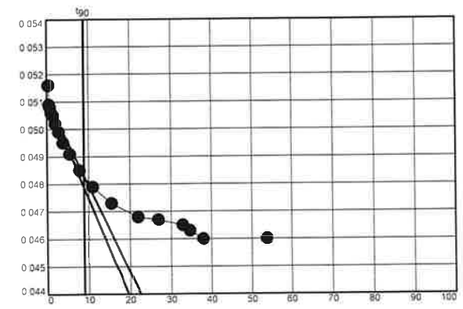
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05860	11	60	0.05560
2	0.10	0.05760	12	120	0.05540
3	0.25	0.05740	13	240	0.05530
4	0.50	0.05720	14	480.00	0.05530
5	1	0.05710	15	720	0.05530
6	2	0.05700	16	1080	0.05530
7	4	0.05670	17	1200	0.05530
8	8	0.05640	18	1440	0.05530
9	15	0.05620			
10	30	0.05590			



Void Ratio = 0.489 **Compression** = 5.2% >>> CALCULATED USING D_{100}
D_0 = 0.0539 **D_{90}** = 0.0526 **D_{100}** = 0.0524 **C_v at 11.86 min.** = 0.0017 cm.^{2}/sec.

Pressure: 1.00 ksf — TEST READINGS — **Load No. 7**

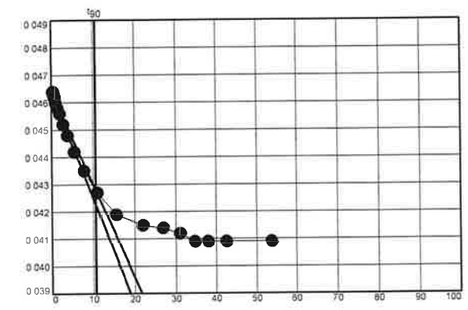
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05530	11	60	0.05180
2	0.10	0.05490	12	120	0.05120
3	0.25	0.05420	13	240	0.05060
4	0.50	0.05410	14	480	0.05010
5	1	0.05390	15	720	0.05000
6	2	0.05380	16	1080	0.04980
7	4	0.05350	17	1200	0.04960
8	8	0.05320	18	1440	0.04930
9	15	0.05280	19	2880	0.04930
10	30	0.05240			



Void Ratio = 0.496 **Compression** = 4.8% >>> CALCULATED USING D_{100}
D_0 = 0.0511 **D_{90}** = 0.0483 **D_{100}** = 0.0480 **C_v at 78.71 min.** = 0.0003 cm.^{2}/sec.

Pressure: 0.50 ksf — TEST READINGS — **Load No. 8**

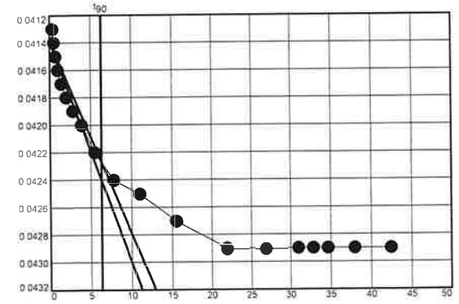
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04930	11	60	0.04620
2	0.10	0.04910	12	120	0.04540
3	0.25	0.04900	13	240	0.04460
4	0.50	0.04890	14	480	0.04420
5	1	0.04870	15	720	0.04410
6	2	0.04850	16	960	0.04390
7	4	0.04830	17	1200	0.04360
8	8	0.04790	18	1440	0.04360
9	15	0.04750	19	1800	0.04360
10	30	0.04690	20	2880	0.04360



Void Ratio = 0.505 **Compression** = 4.2% >>> CALCULATED USING D_{100}
D_0 = 0.0464 **D_{90}** = 0.0428 **D_{100}** = 0.0424 **C_v at 111.64 min.** = 0.0002 cm.^{2}/sec.

Pressure: 1.00 ksf — TEST READINGS — **Load No. 9**

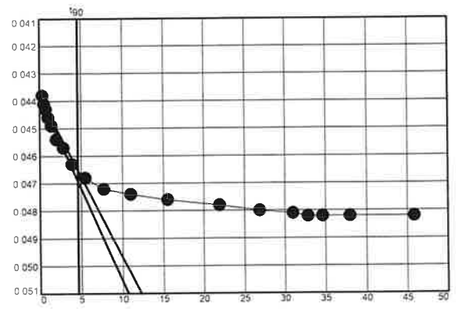
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04360	11	60	0.04490
2	0.10	0.04380	12	120	0.04500
3	0.25	0.04390	13	240	0.04520
4	0.50	0.04400	14	480	0.04540
5	1	0.04410	15	720	0.04540
6	2	0.04420	16	960	0.04540
7	4	0.04430	17	1080	0.04540
8	8	0.04440	18	1200	0.04540
9	15	0.04450	19	1440	0.04540
10	30	0.04470	20	1800	0.04540



Void Ratio = 0.505 **Compression** = 4.2% >>> CALCULATED USING D_{100}
D_0 = 0.0414 **D_{90}** = 0.0423 **D_{100}** = 0.0424 **C_v at 39.80 min.** = 0.0005 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04540	11	60	0.05000
2	0.10	0.04660	12	120	0.05020
3	0.25	0.04690	13	240	0.05040
4	0.50	0.04710	14	480	0.05060
5	1	0.04740	15	720	0.05080
6	2	0.04770	16	960	0.05090
7	4	0.04820	17	1080	0.05100
8	8	0.04850	18	1200	0.05100
9	15	0.04910	19	1440	0.05100
10	30	0.04960	20	2100	0.05100

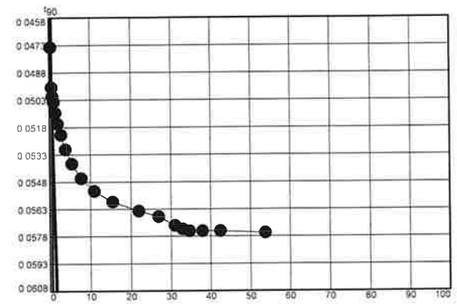


Void Ratio = 0.498 **Compression** = 4.7% >>> CALCULATED USING D_{100}

D_0 = 0.0438 D_{90} = 0.0465 D_{100} = 0.0468 C_v **at 21.17 min.** = 0.0010 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 11**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05100	12	120	0.05900
2	0.10	0.05110	13	240	0.05960
3	0.25	0.05330	14	480	0.06010
4	0.50	0.05380	15	720	0.06040
5	1	0.05410	16	960	0.06090
6	2	0.05470	17	1080	0.06110
7	4	0.05530	18	1200	0.06120
8	8	0.05590	19	1440	0.06120
9	15	0.05670	20	1800	0.06120
10	30	0.05750	21	2880	0.06130
11	60	0.05830			

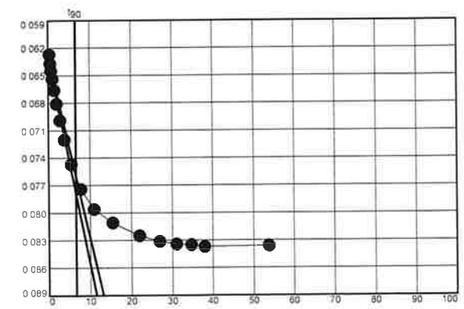


Void Ratio = 0.492 **Compression** = 5.1% >>> CALCULATED USING D_{100}

D_0 = 0.0436 D_{90} = 0.0498 D_{100} = 0.0505 C_v **at 0.36 min.** = 0.0579 cm.^{2}/sec.

Pressure: 8.00 ksf — TEST READINGS — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.06130	11	60	0.08300
2	0.10	0.06830	12	120	0.08520
3	0.25	0.06930	13	240	0.08670
4	0.50	0.07010	14	480	0.08810
5	1	0.07100	15	720	0.08870
6	2	0.07220	16	960	0.08900
7	4	0.07370	17	1200	0.08910
8	8	0.07550	18	1440	0.08930
9	15	0.07760	19	2880	0.08920
10	30	0.08030			

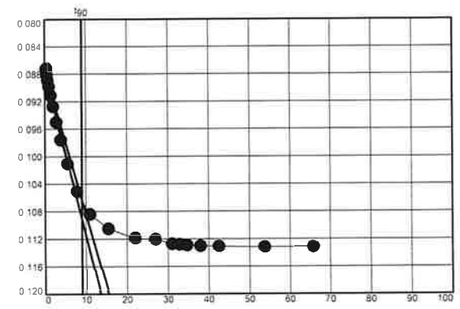


Void Ratio = 0.449 **Compression** = 7.8% >>> CALCULATED USING D_{100}

D_0 = 0.0629 D_{90} = 0.0760 D_{100} = 0.0775 C_v **at 43.68 min.** = 0.0005 cm.^{2}/sec.

Pressure: 16.00 ksf — TEST READINGS — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08920	12	120	0.11680
2	0.10	0.09560	13	240	0.11890
3	0.25	0.09650	14	480	0.12030
4	0.50	0.09730	15	720	0.12050
5	1	0.09820	16	960	0.12110
6	2	0.09950	17	1080	0.12120
7	4	0.10110	18	1200	0.12130
8	8	0.10340	19	1440	0.12140
9	15	0.10600	20	1800	0.12150
10	30	0.10950	21	2880	0.12160
11	60	0.11350	22	4320	0.12160

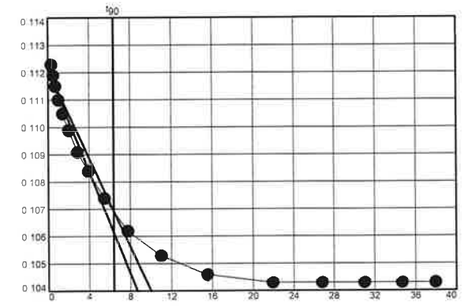


Void Ratio = 0.401 **Compression** = 10.9% >>> CALCULATED USING D_{100}

D_0 = 0.0874 D_{90} = 0.1064 D_{100} = 0.1085 C_v **at 81.45 min.** = 0.0002 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.12160	11	60	0.11270
2	0.10	0.11880	12	120	0.11180
3	0.25	0.11840	13	240	0.11110
4	0.50	0.11800	14	480	0.11080
5	1	0.11750	15	720	0.11080
6	2	0.11700	16	960	0.11080
7	4	0.11640	17	1200	0.11080
8	8	0.11560	18	1440	0.11080
9	15	0.11490			
10	30	0.11390			

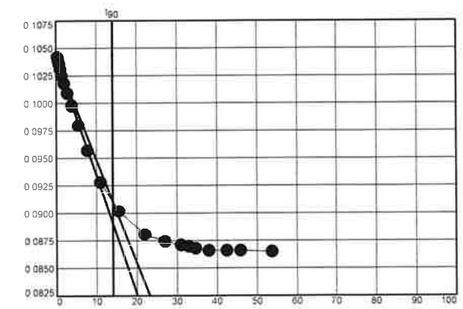


Void Ratio = 0.404 **Compression** = 10.6% >>> CALCULATED USING D_{100}

D_0 = 0.1121 D_{90} = 0.1069 D_{100} = 0.1063 C_v **at 40.71 min.** = 0.0004 cm.^{2}/sec.

Pressure: 1.00 ksf — TEST READINGS — **Load No. 15**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.11080	12	120	0.09720
2	0.10	0.10860	13	240	0.09460
3	0.25	0.10830	14	480	0.09250
4	0.50	0.10800	15	720	0.09190
5	1	0.10750	16	960	0.09150
6	2	0.10690	17	1080	0.09140
7	4	0.10620	18	1200	0.09120
8	8	0.10530	19	1440	0.09100
9	15	0.10420	20	1800	0.09100
10	30	0.10240	21	2100	0.09100
11	60	0.10010	22	2880	0.09090



Void Ratio = 0.431 **Compression** = 9.0% >>> CALCULATED USING D_{100}

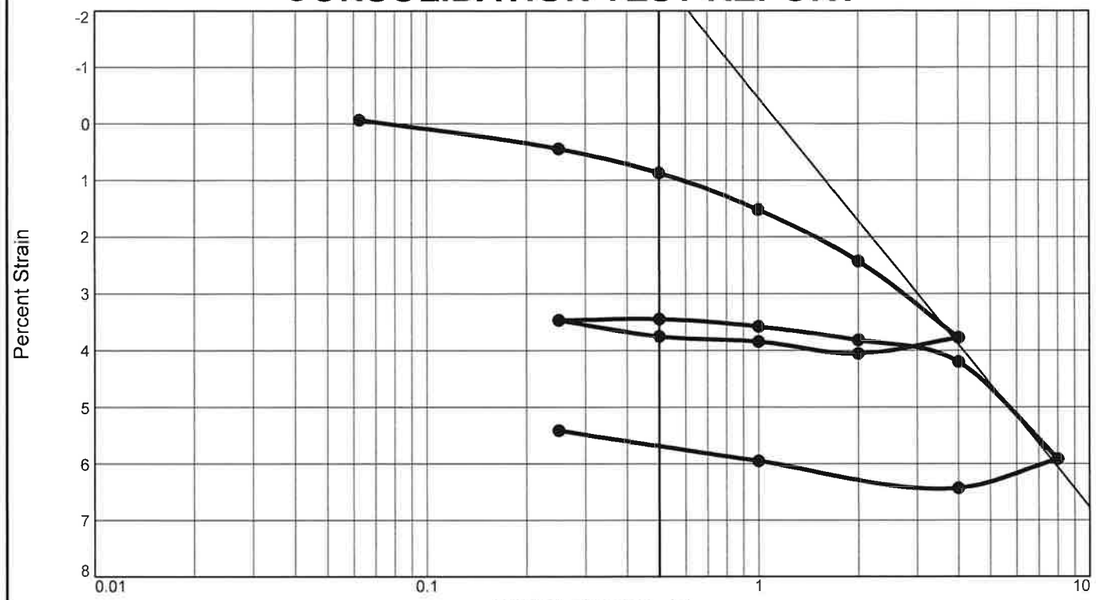
D_0 = 0.1042 D_{90} = 0.0910 D_{100} = 0.0895 C_v **at 198.51 min.** = 0.0001 cm.^{2}/sec.

Pressure: 0.25 ksf | **TEST READINGS** | **Load No. 16**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.09090	11	60	0.08830	21	2880	0.08410
2	0.10	0.09050	12	120	0.08750			
3	0.25	0.09010	13	240	0.08640			
4	0.50	0.09000	14	480	0.08530			
5	1.0	0.09000	15	720	0.08460			
6	2	0.08990	16	960	0.08440			
7	4	0.08980	17	1080	0.08430			
8	8	0.08950	18	1200	0.08420			
9	15	0.08920	19	1440	0.08410			
10	30	0.08890	20	1680	0.08410			

Void Ratio = 0.444 **Compression** = 8.1%

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
3	0.50	0.0049		10	0.25	0.0040		17	1.00	0.0041	
4	1.00	0.0048		11	0.50	0.0005		18	0.25	0.0021	
5	2.00	0.0082		12	1.00	0.0169					
6	4.00	0.0046		13	2.00	0.0044					
7	2.00	0.0050		14	4.00	0.0042					
8	1.00	0.0042		15	8.00	0.0044					
9	0.50	0.0845		16	4.00	0.0035					

MATERIAL DESCRIPTION	USCS	AASHTO
Dark-Brown Sandy Silt	ML	A-6(4)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf) Init.	Dry Dens. (pcf) Final	Moisture Init.	Moisture Final	Saturation Init.	Saturation Final	Void Ratio Init.	Void Ratio Final	P_c (tsf)	C_c
40	12	2.647		88.6	88.7	29.9 %	30.0 %	91.5 %	100.0 %	0.865	0.764	1.8	0.13

Preparation Process: Sample trimmed from shelby tube

Condition of Test: Innundated after application of seating load

D2435 Method	C_r	Swell Press. (tsf)	Swell %
	0.01		

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group

Project: I-5719: I-85
TIP No.: I-5719

Loc.: L_47700R, Station 477+00 **Depth:** 12'-14' **Sample No.:** ST-2

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO T216 Method B

Checked By: MH

Title: Lab Manager

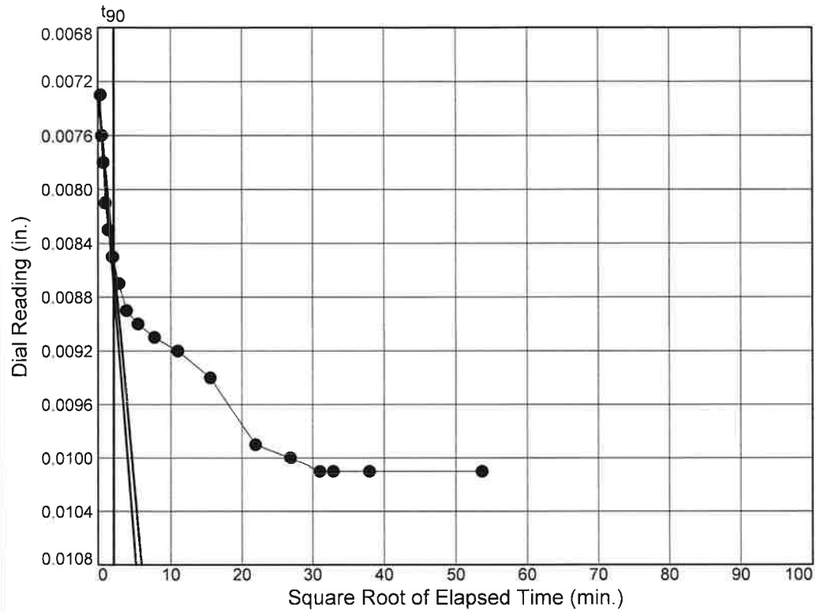
Figure

Tested By: FG

Dial Reading vs. Time

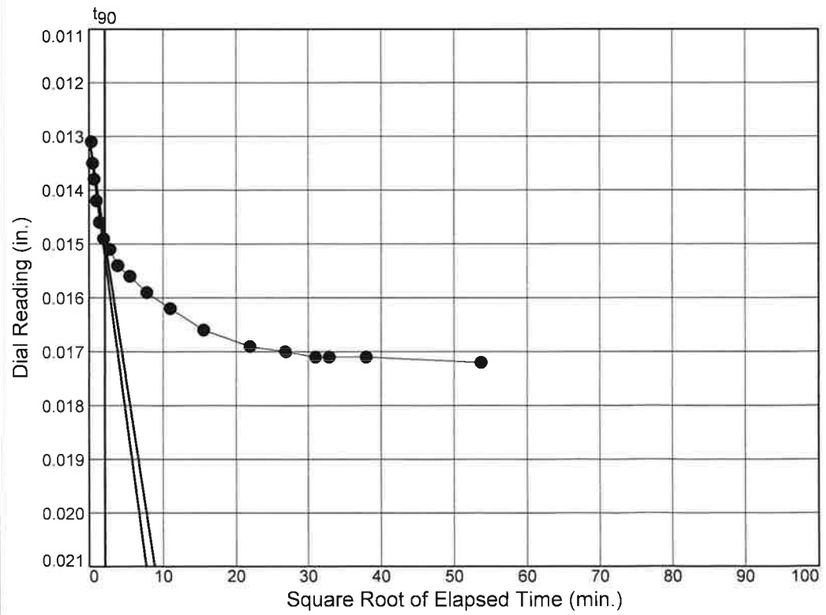
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_47700R, Station 477+00 Depth: 12'-14' Sample Number: ST-2



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0073
D_{90} = 0.0085
D_{100} = 0.0087
T_{90} = 4.59 min.

C_v @ T_{90}
0.0049 cm.2/sec.



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0130
D_{90} = 0.0149
D_{100} = 0.0152
T_{90} = 4.59 min.

C_v @ T_{90}
0.0048 cm.2/sec.

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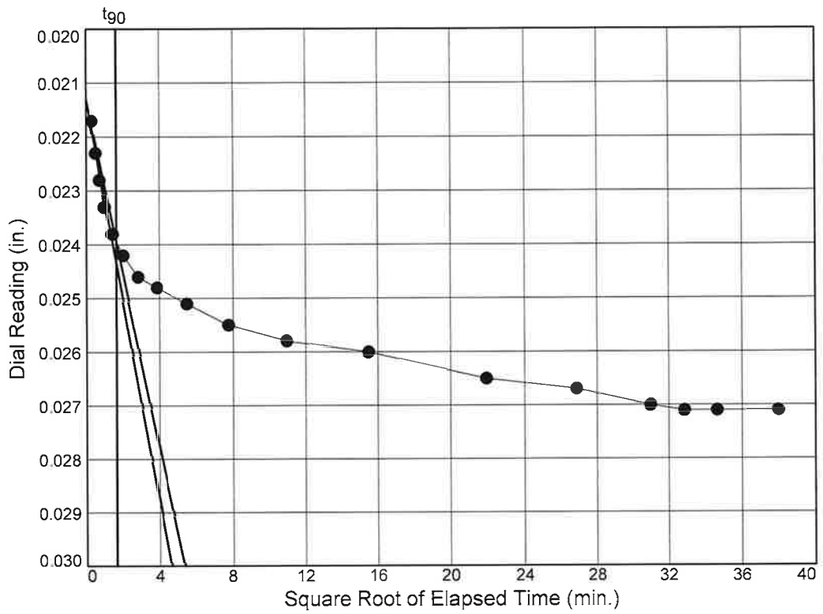
Figure

Dial Reading vs. Time

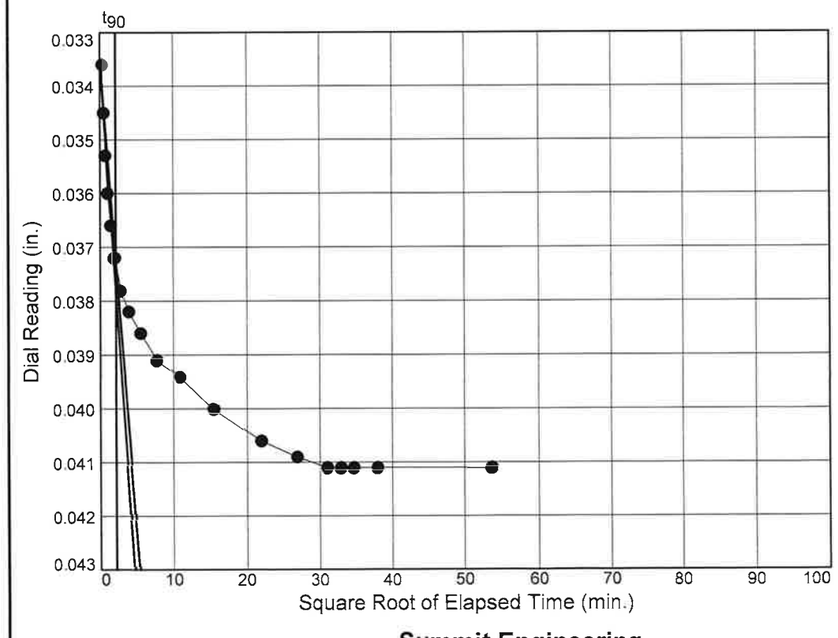
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_47700R, Station 477+00 Depth: 12'-14' Sample Number: ST-2



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0213
D_{90} = 0.0239
D_{100} = 0.0242
T_{90} = 2.64 min.

C_v @ T_{90}
0.0082 cm.2/sec.



Load No.= 6
Load= 4.00 tsf
D_0 = 0.0335
D_{90} = 0.0373
D_{100} = 0.0377
T_{90} = 4.56 min.

C_v @ T_{90}
0.0046 cm.2/sec.

Figure

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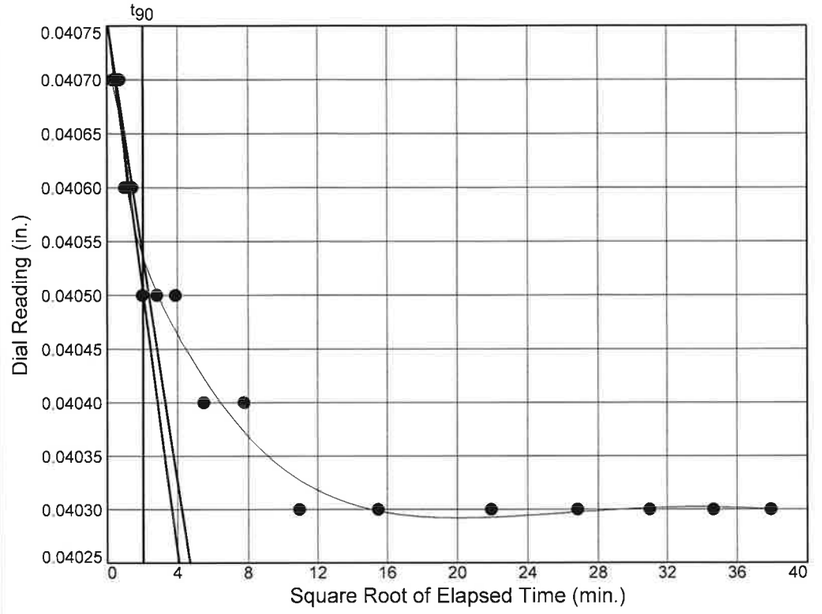
Dial Reading vs. Time

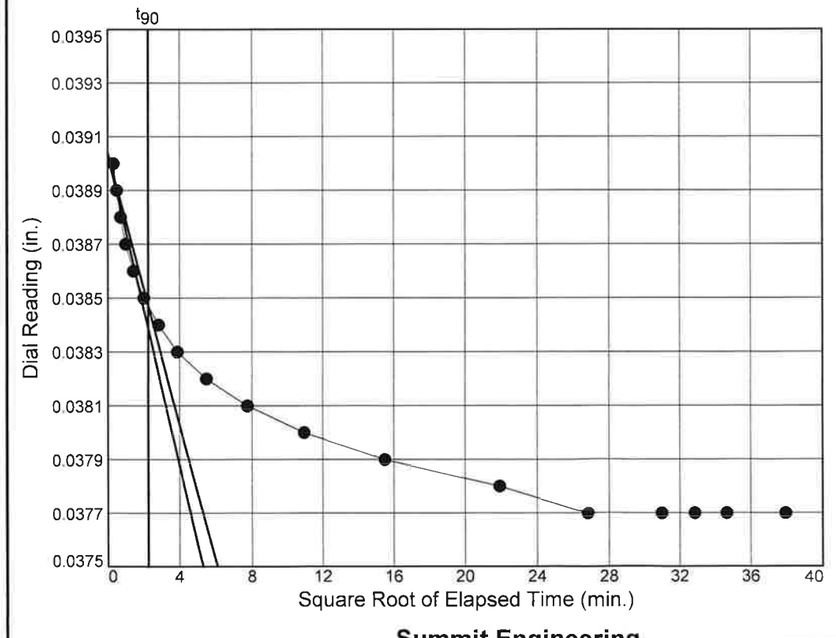
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_47700R, Station 477+00 Depth: 12'-14' Sample Number: ST-2



Load No.= 7
Load= 2.00 tsf
D_0 = 0.0408
D_{90} = 0.0405
D_{100} = 0.0405
T_{90} = 4.18 min.

C_v @ T_{90}
0.0050 cm.2/sec.



Load No.= 8
Load= 1.00 tsf
D_0 = 0.0390
D_{90} = 0.0385
D_{100} = 0.0384
T_{90} = 5.05 min.

C_v @ T_{90}
0.0042 cm.2/sec.

Figure

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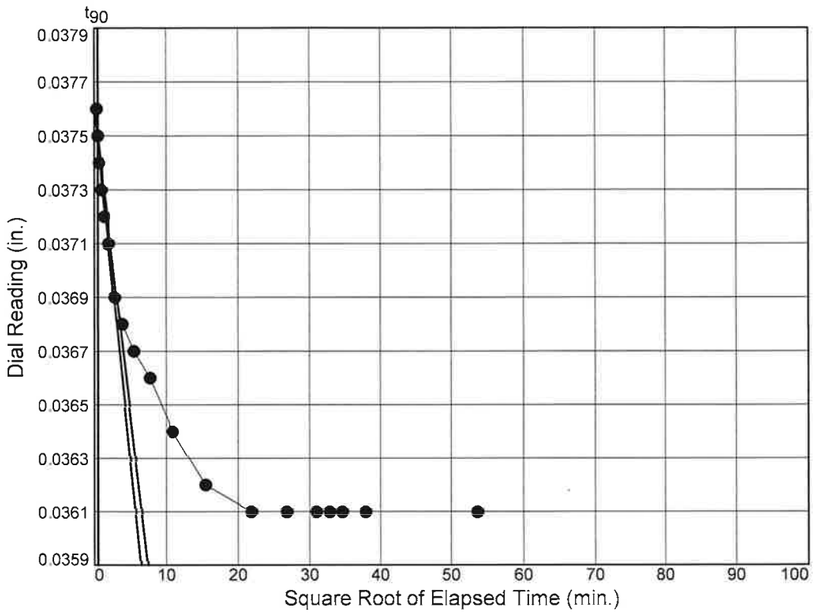
Dial Reading vs. Time

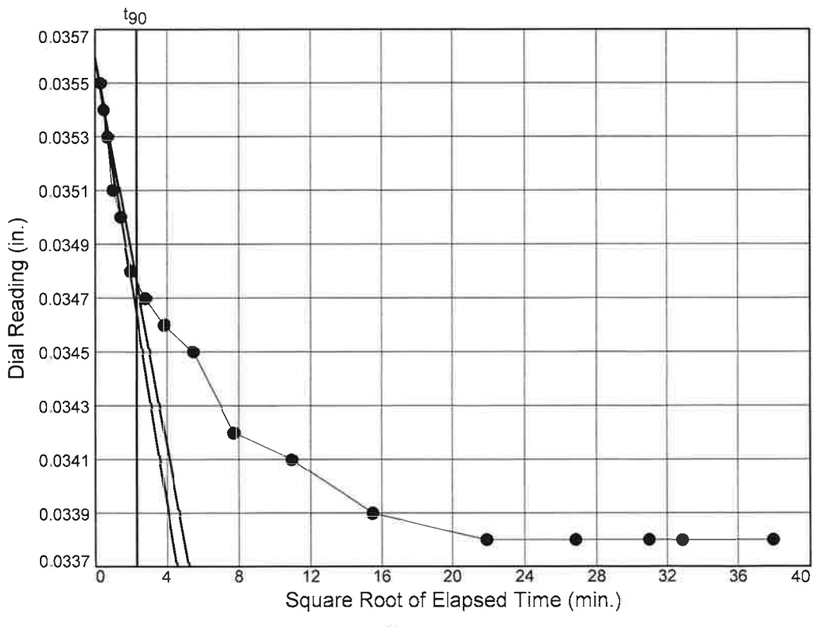
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_47700R, Station 477+00 Depth: 12'-14' Sample Number: ST-2



Load No.= 9
Load= 0.50 tsf
D_0 = 0.0376
D_{90} = 0.0375
D_{100} = 0.0375
T_{90} = 0.25 min.

C_v @ T_{90}
0.0845 cm.2/sec.



Load No.= 10
Load= 0.25 tsf
D_0 = 0.0356
D_{90} = 0.0348
D_{100} = 0.0347
T_{90} = 5.29 min.

C_v @ T_{90}
0.0040 cm.2/sec.

Figure

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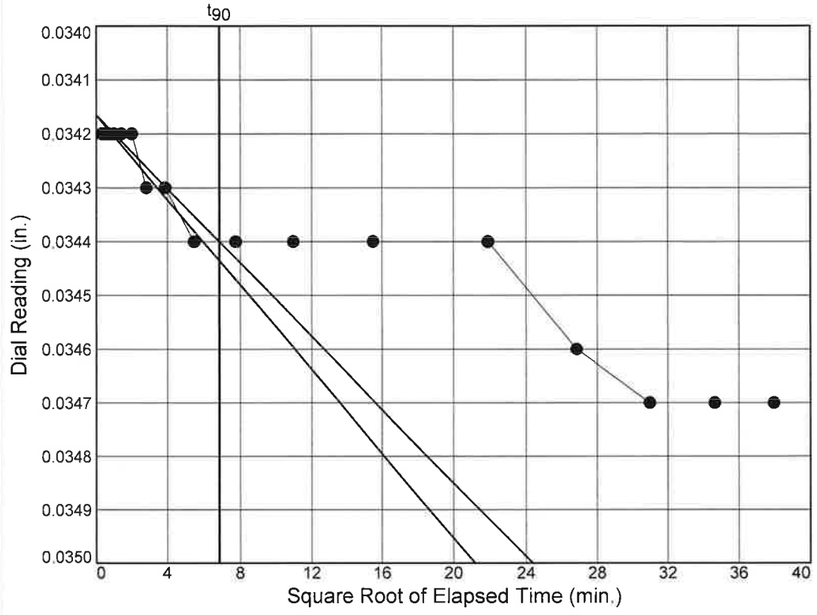
Dial Reading vs. Time

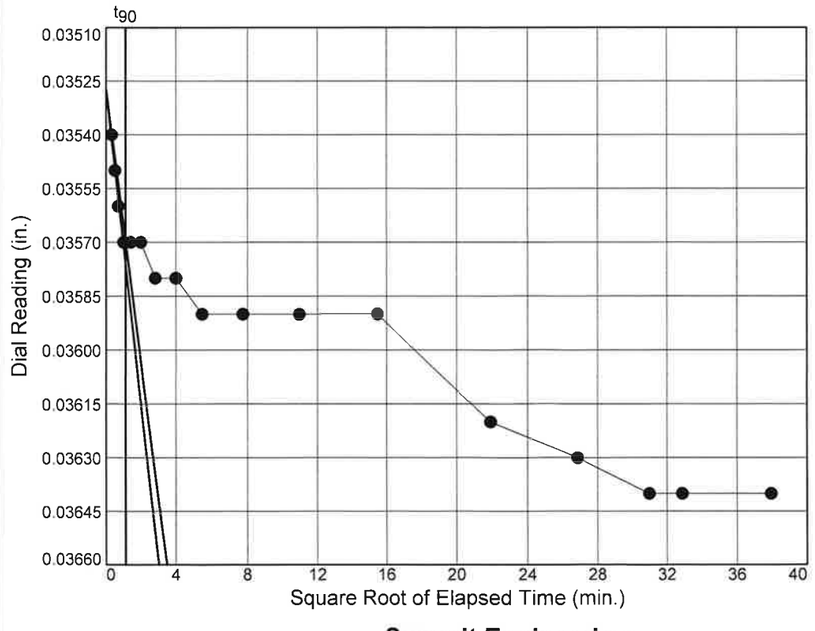
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_47700R, Station 477+00 Depth: 12'-14' Sample Number: ST-2



Load No.= 11
Load= 0.50 tsf
D_0 = 0.0342
D_{90} = 0.0344
D_{100} = 0.0344
T_{90} = 47.03 min.

C_v @ T_{90}
0.0005 cm.2/sec.



Load No.= 12
Load= 1.00 tsf
D_0 = 0.0353
D_{90} = 0.0357
D_{100} = 0.0357
T_{90} = 1.25 min.

C_v @ T_{90}
0.0169 cm.2/sec.

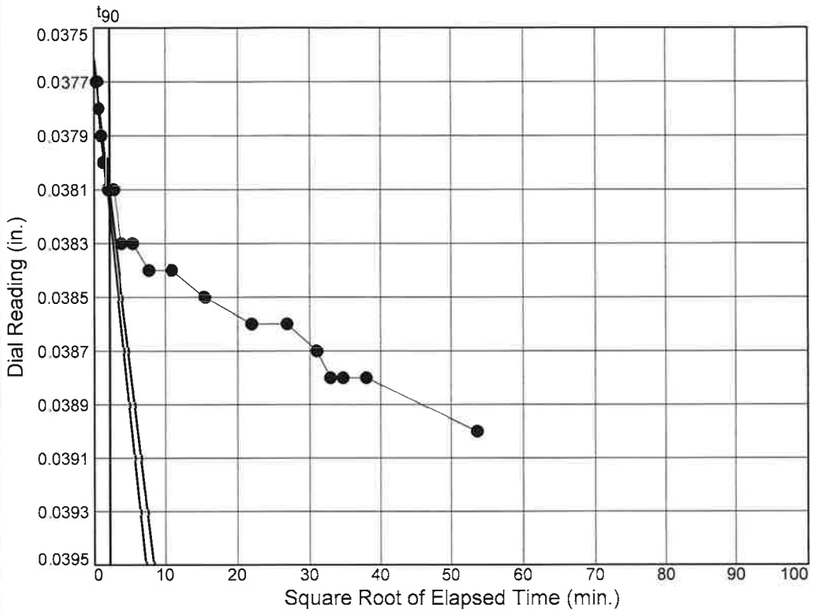
Figure

Summit Engineering

Dial Reading vs. Time

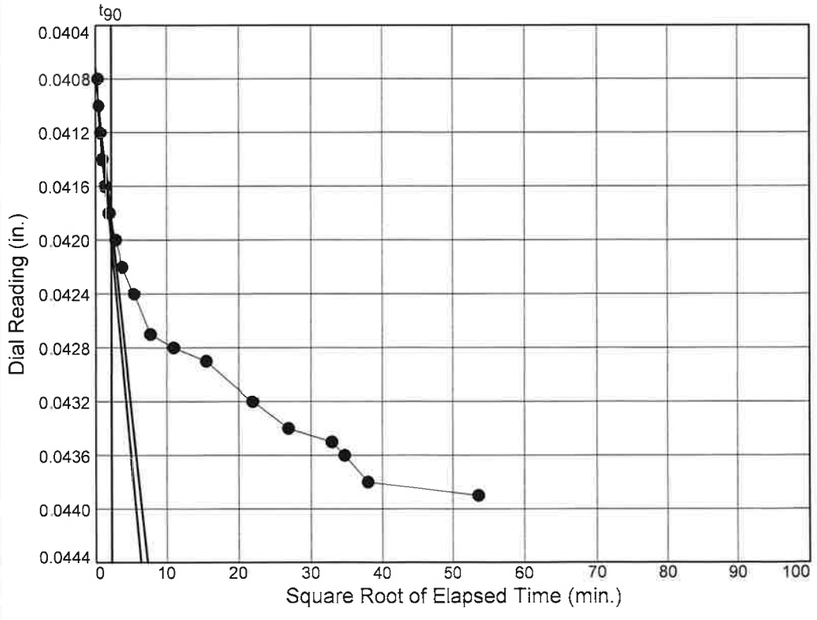
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_47700R, Station 477+00 Depth: 12'-14' Sample Number: ST-2



Load No.= 13
Load= 2.00 tsf
D_0 = 0.0376
D_{90} = 0.0381
D_{100} = 0.0382
T_{90} = 4.78 min.

C_v @ T_{90}
0.0044 cm.2/sec.



Load No.= 14
Load= 4.00 tsf
D_0 = 0.0407
D_{90} = 0.0419
D_{100} = 0.0420
T_{90} = 5.04 min.

C_v @ T_{90}
0.0042 cm.2/sec.

Figure

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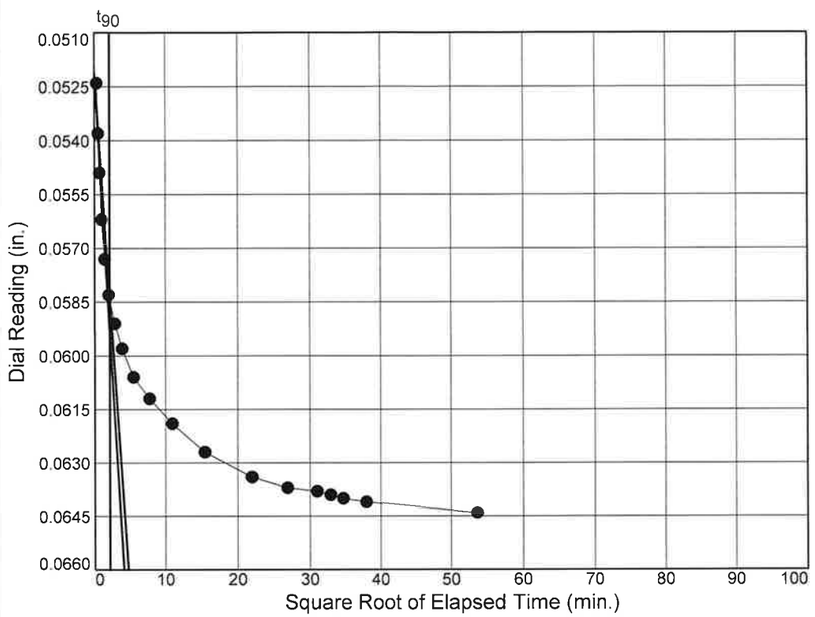
Dial Reading vs. Time

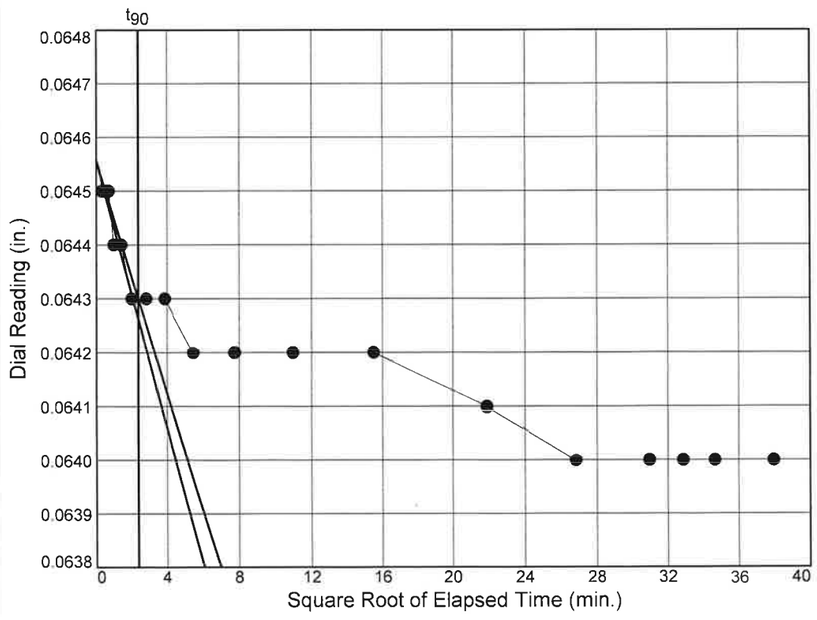
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_47700R, Station 477+00 Depth: 12'-14' Sample Number: ST-2



Load No.= 15
Load= 8.00 tsf
D_0 = 0.0521
D_{90} = 0.0584
D_{100} = 0.0591
T_{90} = 4.58 min.

C_v @ T_{90}
0.0044 cm.2/sec.



Load No.= 16
Load= 4.00 tsf
D_0 = 0.0646
D_{90} = 0.0643
D_{100} = 0.0643
T_{90} = 5.64 min.

C_v @ T_{90}
0.0035 cm.2/sec.

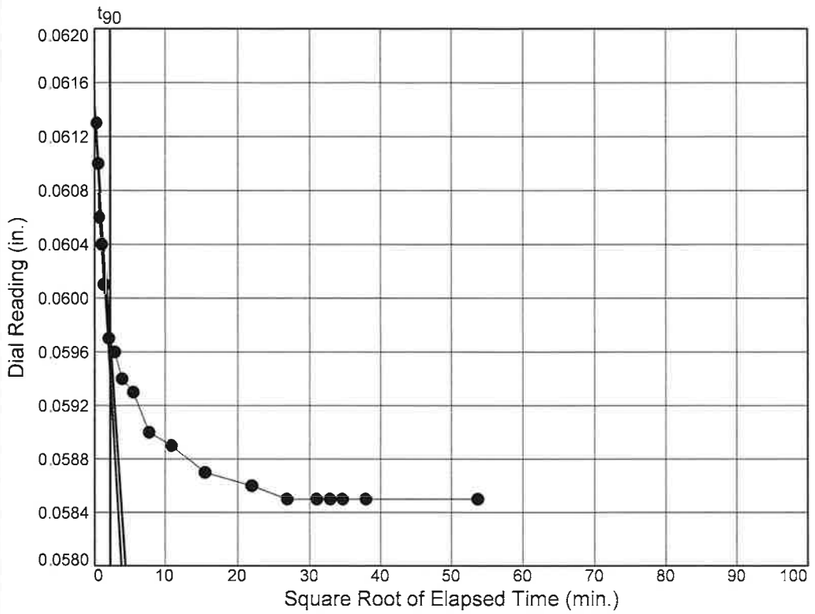
Figure

Summit Engineering

Dial Reading vs. Time

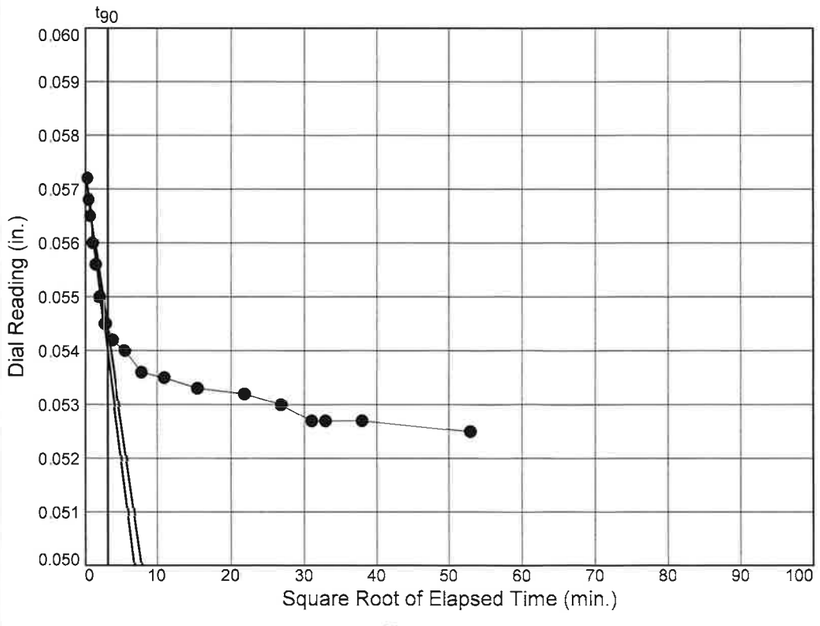
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_47700R, Station 477+00 Depth: 12'-14' Sample Number: ST-2



Load No.= 17
Load= 1.00 tsf
D_0 = 0.0614
D_{90} = 0.0597
D_{100} = 0.0595
T_{90} = 4.86 min.

C_v @ T_{90}
0.0041 cm.2/sec.



Load No.= 18
Load= 0.25 tsf
D_0 = 0.0573
D_{90} = 0.0544
D_{100} = 0.0541
T_{90} = 9.50 min.

C_v @ T_{90}
0.0021 cm.2/sec.

Figure

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CONSOLIDATION TEST DATA

9/30/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: L_47700R, Station 477+00
Depth: 12'-14' **Sample Number:** ST-2
Material Description: Dark-Brown Sandy Silt
Sample Date: 09-01-23 **Liquid Limit:** 40 **Plasticity Index:** 12
USCS: ML **AASHTO:** A-6(4)
Preparation Process: Sample trimmed from shelby tube
Condition of Test: Innundated after application of seating load
Final Density: 88.7
Testing Remarks: AASHTO T216 Method B
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE		VOID RATIO		AFTER TEST	
Wet w+t =	148.31 g.	Spec. Gr. =	2.647	Wet w+t =	148.42 g.
Dry w+t =	114.17 g.	Est. Ht. Solids =	0.536 in.	Dry w+t =	114.17 g.
Tare Wt. =	0.00 g.	Init. V.R. =	0.865	Tare Wt. =	0.00 g.
Moisture =	29.9 %	Init. Sat. =	91.5 %	Moisture =	30.0 %
UNIT WEIGHT		TEST START		Dry Wt. =	114.17* g.
Height =	1.000 in.	Height =	1.000 in.		
Diameter =	2.500 in.	Diameter =	2.500 in.		
Weight =	148.31 g.				
Dry Dens. =	88.6 pcf				

* Final dry weight used as mineral solids weight

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.2/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			0.865	
0.13	0.00000	0.00070	-0.00070			0.866	0.1 Swell
0.50	0.00600	0.00070	0.00443*			0.857	0.4 Comprs.
1.00	0.01150	0.00140	0.00868*	0.0049		0.849	0.9 Comprs.
2.00	0.01980	0.00260	0.01515*	0.0048		0.837	1.5 Comprs.
4.00	0.03120	0.00410	0.02424*	0.0082		0.820	2.4 Comprs.
8.00	0.04740	0.00630	0.03772*	0.0046		0.795	3.8 Comprs.
4.00	0.04560	0.00530	0.04051*	0.0050		0.789	4.1 Comprs.
2.00	0.04250	0.00480	0.03841*	0.0042		0.793	3.8 Comprs.
1.00	0.03970	0.00360	0.03749*	0.0845		0.795	3.7 Comprs.
0.50	0.03680	0.00300	0.03467*	0.0040		0.800	3.5 Comprs.
1.00	0.03750	0.00280	0.03443*	0.0005		0.801	3.4 Comprs.
2.00	0.03990	0.00350	0.03575*	0.0169		0.798	3.6 Comprs.
4.00	0.04380	0.00480	0.03815*	0.0044		0.794	3.8 Comprs.
8.00	0.05030	0.00640	0.04199*	0.0042		0.787	4.2 Comprs.
16.00	0.07300	0.00860	0.05914*	0.0044		0.755	5.9 Comprs.
8.00	0.07190	0.00790	0.06427*	0.0035		0.745	6.4 Comprs.
2.00	0.06400	0.00550	0.05948*	0.0041		0.754	5.9 Comprs.
0.50	0.05610	0.00360	0.05411*	0.0021		0.764	5.4 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

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TEST RESULTS SUMMARY

Compression index (C_c), tsf = 0.13 **Preconsolidation pressure (P_p), tsf** = 1.8 **Void ratio at P_p (e_m)** = 0.823

Recompression index (C_r) = 0.01

Pressure: 0.13 ksf — TEST READINGS — **Load No. 1**

No.	Elapsed Time	Dial Reading
1	0	0.00000
2	0.1	0.00000
3	0.250	0.00000
4	1	0.00000
5	5	0.00000

Void Ratio = 0.866 **Swell** = 0.1%

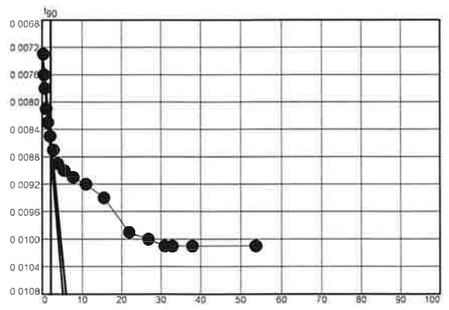
Pressure: 0.50 ksf — TEST READINGS — **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00000	11	60	0.00530
2	0.10	0.00400	12	120	0.00540
3	0.25	0.00420	13	240	0.00560
4	0.50	0.00440	14	480	0.00560
5	1	0.00450	15	720	0.00580
6	2	0.00470	16	960	0.00590
7	4	0.00480	17	1080	0.00600
8	8	0.00500	18	1440	0.00600
9	15	0.00510	19	2880	0.00600
10	30	0.00520			

Void Ratio = 0.857 **Compression** = 0.4%

Pressure: 1.00 ksf — TEST READINGS — **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00600	11	60	0.01050
2	0.1	0.00870	12	120	0.01060
3	0.25	0.00900	13	240	0.01080
4	0.50	0.00920	14	480	0.01130
5	1	0.00950	15	720	0.01140
6	2	0.00970	16	960	0.01150
7	4	0.00990	17	1080	0.01150
8	8	0.01010	18	1440	0.01150
9	15	0.01030	19	2880	0.01150
10	30	0.01040			

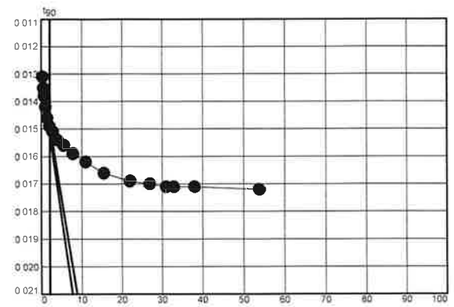


Void Ratio = 0.849 **Compression** = 0.9% >>> CALCULATED USING D_{100}

D_0 = 0.0073 **D_{90}** = 0.0085 **D_{100}** = 0.0087 **C_v at 4.59 min.** = 0.0049 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01150	11	60	0.01850
2	0.10	0.01570	12	120	0.01880
3	0.25	0.01610	13	240	0.01920
4	0.50	0.01640	14	480	0.01950
5	1	0.01680	15	720	0.01960
6	2	0.01720	16	960	0.01970
7	4	0.01750	17	1080	0.01970
8	8	0.01770	18	1440	0.01970
9	15	0.01800	19	2880	0.01980
10	30	0.01820			

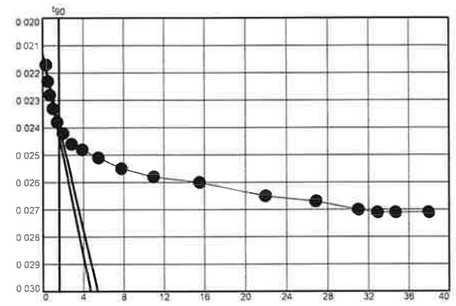


Void Ratio = 0.837 **Compression** = 1.5% >>> CALCULATED USING D_{100}

D_0 = 0.0130 **D_{90}** = 0.0149 **D_{100}** = 0.0152 **C_v at 4.59 min.** = 0.0048 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01980	11	60	0.02960
2	0.10	0.02580	12	120	0.02990
3	0.25	0.02640	13	240	0.03010
4	0.50	0.02690	14	480	0.03060
5	1	0.02740	15	720	0.03080
6	2	0.02790	16	960	0.03110
7	4	0.02830	17	1080	0.03120
8	8	0.02870	18	1200	0.03120
9	15	0.02890	19	1440	0.03120
10	30	0.02920			

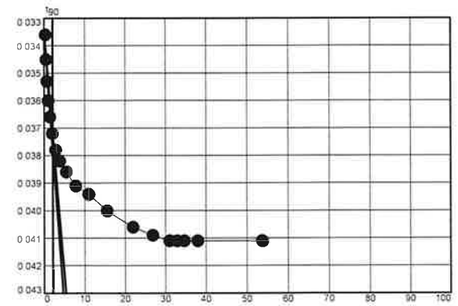


Void Ratio = 0.820 **Compression** = 2.4% >>> CALCULATED USING D_{100}

D_0 = 0.0213 **D_{90}** = 0.0239 **D_{100}** = 0.0242 **C_v at 2.64 min.** = 0.0082 cm.^{2}/sec.

Pressure: 8.00 ksf — TEST READINGS — **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03120	11	60	0.04540
2	0.10	0.03990	12	120	0.04570
3	0.25	0.04080	13	240	0.04630
4	0.50	0.04160	14	480	0.04690
5	1	0.04230	15	720	0.04720
6	2	0.04290	16	960	0.04740
7	4	0.04350	17	1080	0.04740
8	8	0.04410	18	1200	0.04740
9	15	0.04450	19	1440	0.04740
10	30	0.04490	20	2880	0.04740

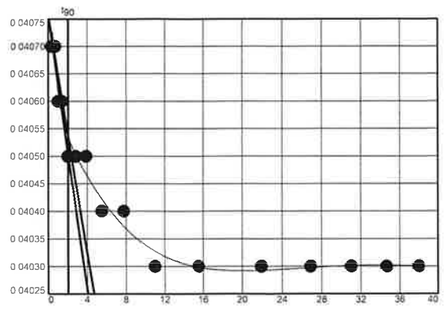


Void Ratio = 0.795 **Compression** = 3.8% >>> CALCULATED USING D_{100}

D_0 = 0.0335 **D_{90}** = 0.0373 **D_{100}** = 0.0377 **C_v at 4.56 min.** = 0.0046 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04740	11	60	0.04570
2	0.10	0.04600	12	120	0.04560
3	0.25	0.04600	13	240	0.04560
4	0.50	0.04600	14	480	0.04560
5	1	0.04590	15	720	0.04560
6	2	0.04590	16	960	0.04560
7	4	0.04580	17	1200	0.04560
8	8	0.04580	18	1440	0.04560
9	15	0.04580			
10	30	0.04570			

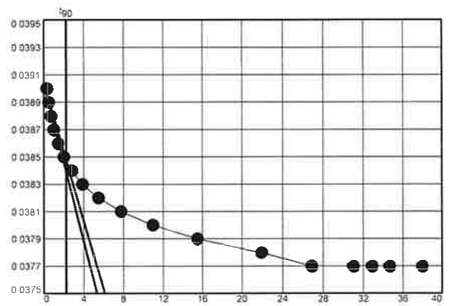


Void Ratio = 0.789 **Compression** = 4.1% >>> CALCULATED USING D_{100}

D_0 = 0.0408 **D_{90}** = 0.0405 **D_{100}** = 0.0405 **C_v at 4.18 min.** = 0.0050 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 8**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04560	11	60	0.04290
2	0.10	0.04380	12	120	0.04280
3	0.25	0.04370	13	240	0.04270
4	0.50	0.04360	14	480	0.04260
5	1	0.04350	15	720	0.04250
6	2	0.04340	16	960	0.04250
7	4	0.04330	17	1080	0.04250
8	8	0.04320	18	1200	0.04250
9	15	0.04310	19	1440	0.04250
10	30	0.04300			

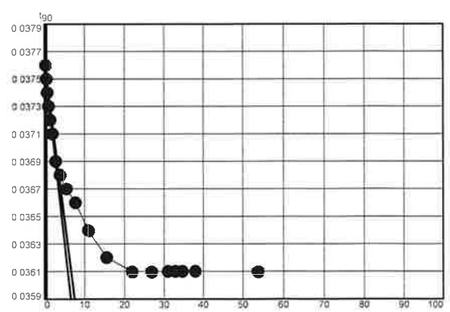


Void Ratio = 0.793 **Compression** = 3.8% >>> CALCULATED USING D_{100}

D_0 = 0.0390 **D_{90}** = 0.0385 **D_{100}** = 0.0384 **C_v at 5.05 min.** = 0.0042 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04250	11	60	0.04020
2	0.10	0.04120	12	120	0.04000
3	0.25	0.04110	13	240	0.03980
4	0.50	0.04100	14	480	0.03970
5	1	0.04090	15	720	0.03970
6	2	0.04080	16	960	0.03970
7	4	0.04070	17	1080	0.03970
8	8	0.04050	18	1200	0.03970
9	15	0.04040	19	1440	0.03970
10	30	0.04030	20	2880	0.03970

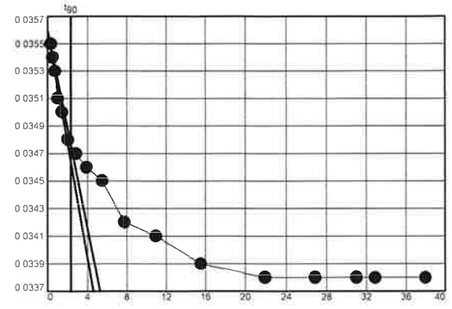


Void Ratio = 0.795 **Compression** = 3.7% >>> CALCULATED USING D_{100}

D_0 = 0.0376 **D_{90}** = 0.0375 **D_{100}** = 0.0375 **C_v at 0.25 min.** = 0.0845 cm.^{2}/sec.

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03970	11	60	0.03720
2	0.10	0.03850	12	120	0.03710
3	0.25	0.03840	13	240	0.03690
4	0.50	0.03830	14	480	0.03680
5	1	0.03810	15	720	0.03680
6	2	0.03800	16	960	0.03680
7	4	0.03780	17	1080	0.03680
8	8	0.03770	18	1440	0.03680
9	15	0.03760			
10	30	0.03750			

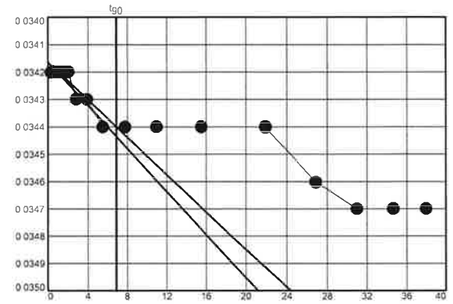


Void Ratio = 0.800 **Compression** = 3.5% >>> CALCULATED USING D_{100}

D_0 = 0.0356 **D_{90}** = 0.0348 **D_{100}** = 0.0347 **C_v at 5.29 min.** = 0.0040 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 11**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03680	11	60	0.03720
2	0.10	0.03700	12	120	0.03720
3	0.25	0.03700	13	240	0.03720
4	0.50	0.03700	14	480	0.03720
5	1	0.03700	15	720	0.03740
6	2	0.03700	16	960	0.03750
7	4	0.03700	17	1200	0.03750
8	8	0.03710	18	1440	0.03750
9	15	0.03710			
10	30	0.03720			

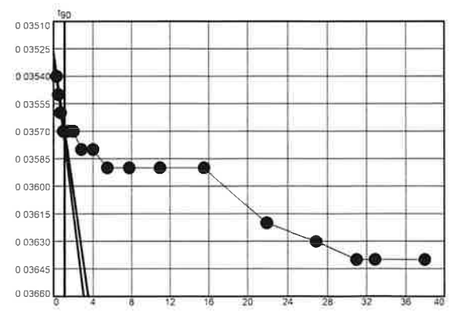


Void Ratio = 0.801 **Compression** = 3.4% >>> CALCULATED USING D_{100}

D_0 = 0.0342 **D_{90}** = 0.0344 **D_{100}** = 0.0344 **C_v at 47.03 min.** = 0.0005 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03750	11	60	0.03940
2	0.10	0.03890	12	120	0.03940
3	0.25	0.03900	13	240	0.03940
4	0.50	0.03910	14	480	0.03970
5	1	0.03920	15	720	0.03980
6	2	0.03920	16	960	0.03990
7	4	0.03920	17	1080	0.03990
8	8	0.03930	18	1440	0.03990
9	16	0.03930			
10	30	0.03940			

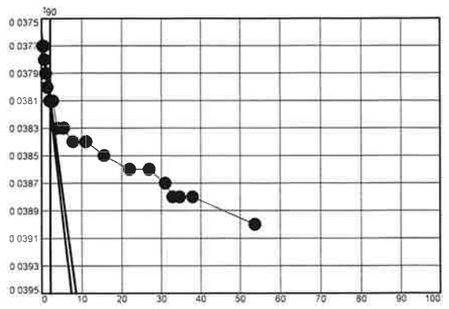


Void Ratio = 0.798 **Compression** = 3.6% >>> CALCULATED USING D_{100}

D_0 = 0.0353 **D_{90}** = 0.0357 **D_{100}** = 0.0357 **C_v at 1.25 min.** = 0.0169 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03990	11	60	0.04320
2	0.10	0.04250	12	120	0.04320
3	0.25	0.04250	13	240	0.04330
4	0.50	0.04260	14	480	0.04340
5	1	0.04270	15	720	0.04340
6	2	0.04280	16	960	0.04350
7	4	0.04290	17	1080	0.04360
8	8	0.04290	18	1200	0.04360
9	15	0.04310	19	1440	0.04360
10	30	0.04310	20	2880	0.04380

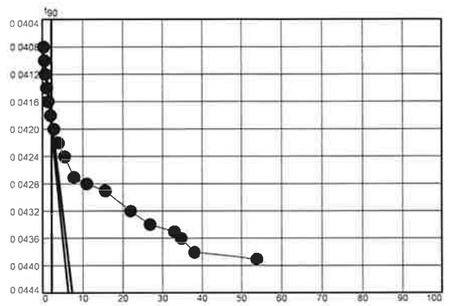


Void Ratio = 0.794 **Compression** = 3.8% >>> CALCULATED USING D_{100}

D_0 = 0.0376 D_{90} = 0.0381 D_{100} = 0.0382 C_v **at 4.78 min.** = 0.0044 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04380	11	60	0.04910
2	0.10	0.04720	12	120	0.04920
3	0.25	0.04740	13	240	0.04930
4	0.50	0.04760	14	480	0.04960
5	1	0.04780	15	720	0.04980
6	2	0.04800	16	1080	0.04990
7	4	0.04820	17	1200	0.05000
8	8	0.04840	18	1440	0.05020
9	15	0.04860	19	2880	0.05030
10	30	0.04880			

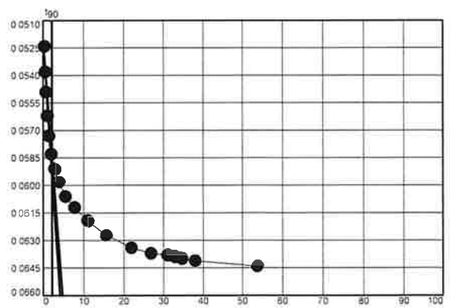


Void Ratio = 0.787 **Compression** = 4.2% >>> CALCULATED USING D_{100}

D_0 = 0.0407 D_{90} = 0.0419 D_{100} = 0.0420 C_v **at 5.04 min.** = 0.0042 cm.^{2}/sec.

Pressure: 16.00 ksf — **TEST READINGS** — **Load No. 15**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05030	11	60	0.06980
2	0.10	0.06100	12	120	0.07050
3	0.25	0.06240	13	240	0.07130
4	0.50	0.06350	14	480	0.07200
5	1	0.06480	15	720	0.07230
6	2	0.06590	16	960	0.07240
7	4	0.06690	17	1080	0.07250
8	8	0.06770	18	1200	0.07260
9	15	0.06840	19	1440	0.07270
10	30	0.06920	20	2880	0.07300

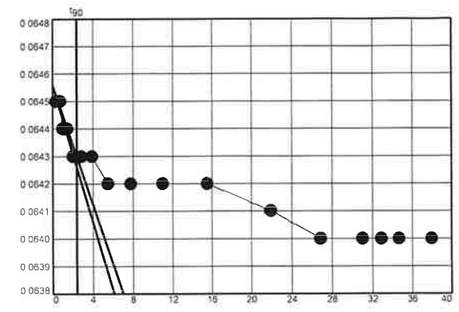


Void Ratio = 0.755 **Compression** = 5.9% >>> CALCULATED USING D_{100}

D_0 = 0.0521 D_{90} = 0.0584 D_{100} = 0.0591 C_v **at 4.58 min.** = 0.0044 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 16**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07300	11	60	0.07210
2	0.10	0.07240	12	120	0.07210
3	0.25	0.07240	13	240	0.07210
4	0.50	0.07240	14	480	0.07200
5	1	0.07230	15	720	0.07190
6	2	0.07230	16	960	0.07190
7	4	0.07220	17	1080	0.07190
8	8	0.07220	18	1200	0.07190
9	15	0.07220	19	1440	0.07190
10	30	0.07210			

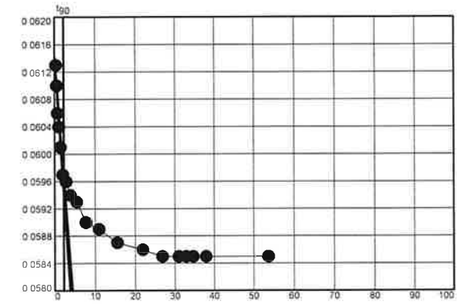


Void Ratio = 0.745 **Compression** = 6.4% >>> CALCULATED USING D_{100}

D_0 = 0.0646 D_{90} = 0.0643 D_{100} = 0.0643 C_v **at 5.64 min.** = 0.0035 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 17**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07190	11	60	0.06450
2	0.10	0.06680	12	120	0.06440
3	0.25	0.06650	13	240	0.06420
4	0.50	0.06610	14	480	0.06410
5	1	0.06590	15	720	0.06400
6	2	0.06560	16	960	0.06400
7	4	0.06520	17	1080	0.06400
8	8	0.06510	18	1200	0.06400
9	15	0.06490	19	1440	0.06400
10	30	0.06480	20	2880	0.06400

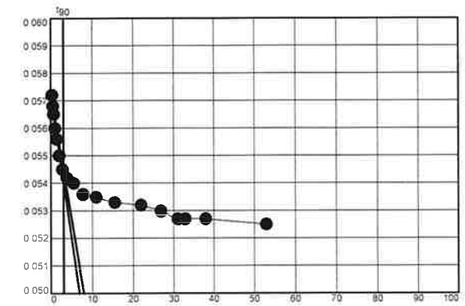


Void Ratio = 0.754 **Compression** = 5.9% >>> CALCULATED USING D_{100}

D_0 = 0.0614 D_{90} = 0.0597 D_{100} = 0.0595 C_v **at 4.86 min.** = 0.0041 cm.^{2}/sec.

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 18**

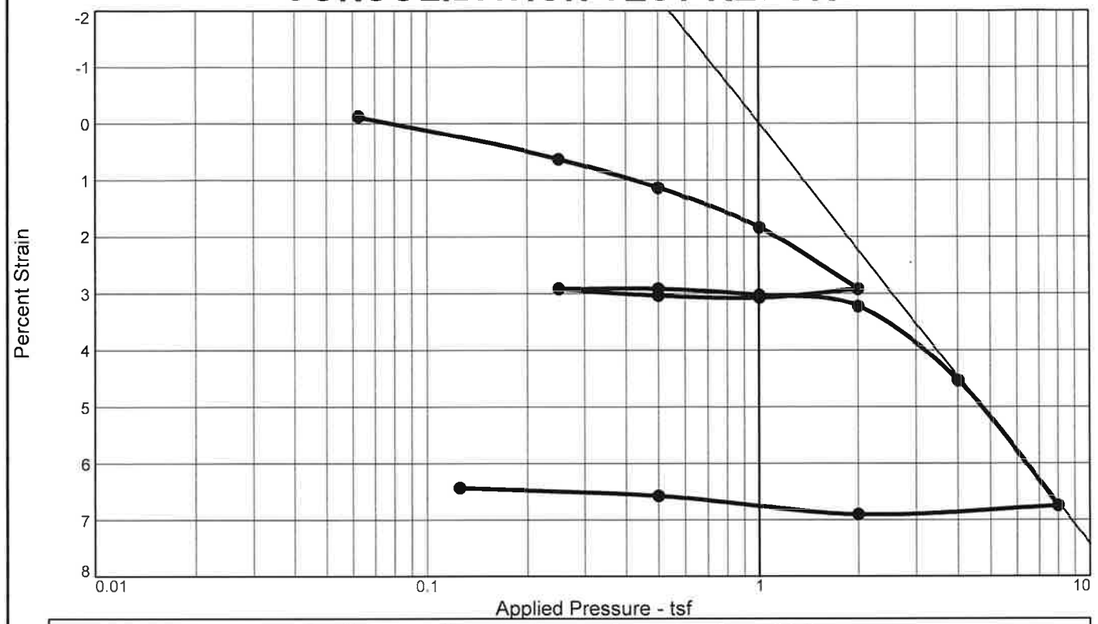
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.06400	11	60	0.05720
2	0.10	0.06080	12	120	0.05710
3	0.25	0.06040	13	240	0.05690
4	0.50	0.06010	14	480	0.05680
5	1	0.05960	15	720	0.05660
6	2	0.05920	16	960	0.05630
7	4	0.05860	17	1080	0.05630
8	8	0.05810	18	1440	0.05630
9	15	0.05780	19	2800	0.05610
10	30	0.05760			



Void Ratio = 0.764 **Compression** = 5.4% >>> CALCULATED USING D_{100}

D_0 = 0.0573 D_{90} = 0.0544 D_{100} = 0.0541 C_v **at 9.50 min.** = 0.0021 cm.^{2}/sec.

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
3	0.50	0.0014		10	1.00	0.0171					
4	1.00	0.0049		11	2.00	0.0639					
5	2.00	0.0046		12	4.00	0.0045					
6	1.00	0.0002		13	8.00	0.0081					
7	0.50	0.0019		14	2.00	0.0038					
8	0.25	0.0021		15	0.50	0.0283					
9	0.50	0.0328									

MATERIAL DESCRIPTION	USCS	AASHTO
Dark-Brown Sandy Silty Clay	CL-ML	A-4(1)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf) Init.	Dry Dens. (pcf) Final	Moisture Init.	Moisture Final	Saturation Init.	Saturation Final	Void Ratio Init.	Void Ratio Final	P_c (tsf)	C_c
25	4	2.681		99.7	99.7	22.0 %	22.2 %	86.9 %	100.0 %	0.679	0.571	2.0	0.12

Preparation Process: Sample trimmed from shelby tube

Condition of Test: Inundated after application of seating load

D2435 Method	C_r	Swell Press. (tsf)	Swell %
	0.01		

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group

Project: I-5719: I-85
TIP No.: I-5719

Loc.: CULV18_B-1, Station 305+11 **Depth:** 1'-3' **Sample No.:** ST-3

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO T216 Method B

Checked By: MH
Title: Lab Manager

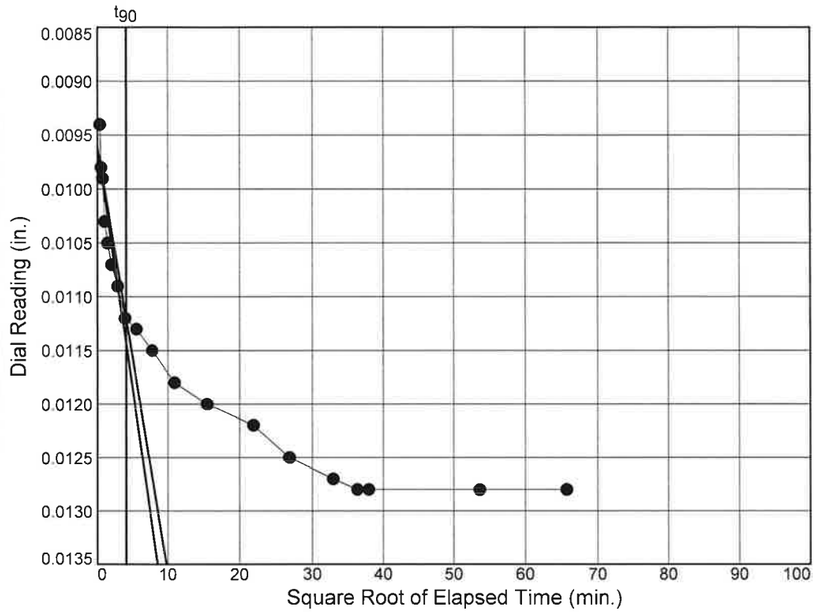
Figure

Tested By: FG

Dial Reading vs. Time

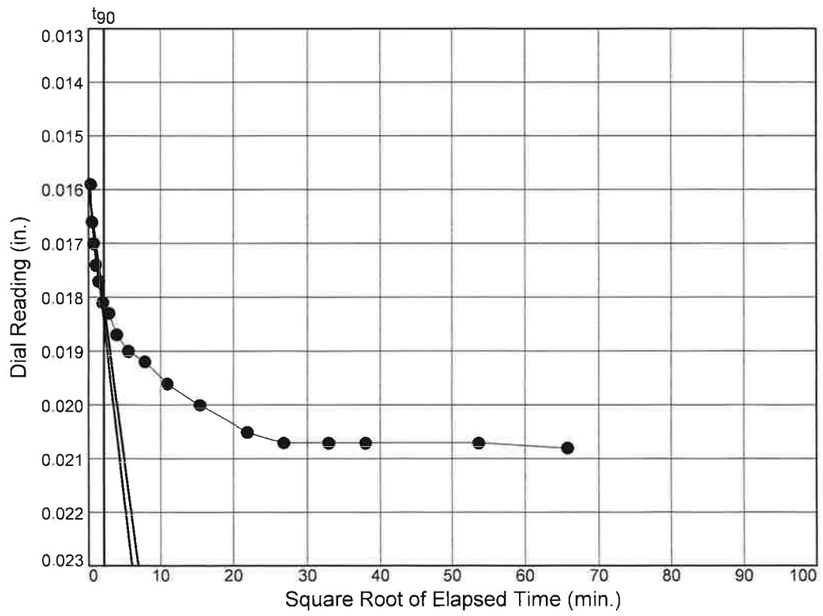
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV18_B-1, Station 305+11 Depth: 1'-3' Sample Number: ST-3



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0096
D_{90} = 0.0112
D_{100} = 0.0114
T_{90} = 16.07 min.

C_v @ T_{90}
0.0014 cm.2/sec.



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0159
D_{90} = 0.0181
D_{100} = 0.0184
T_{90} = 4.48 min.

C_v @ T_{90}
0.0049 cm.2/sec.

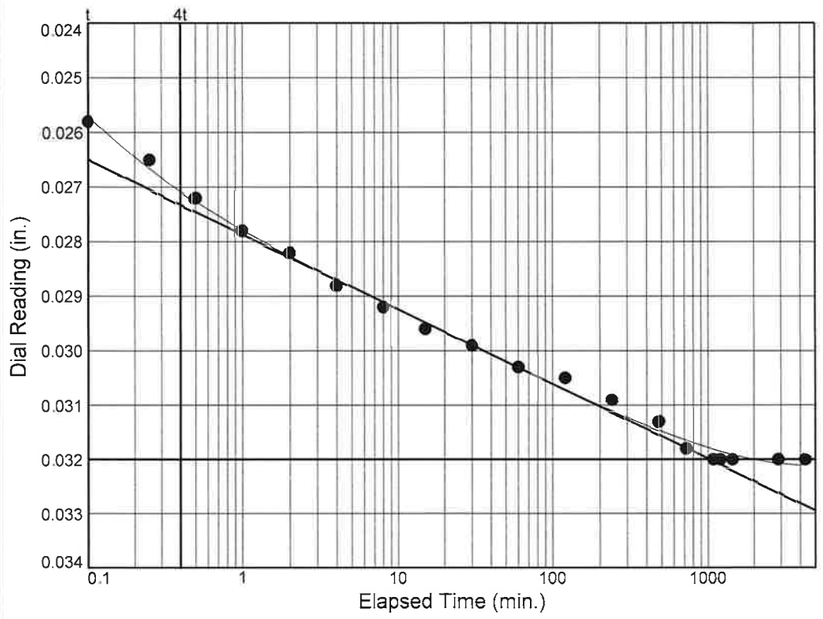
Summit Engineering

Figure

Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

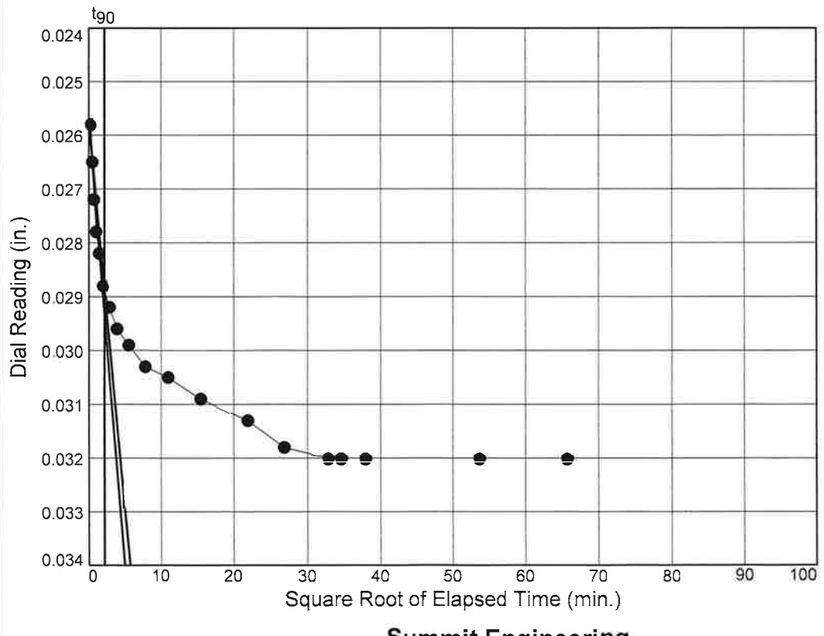
Location: CULV18_B-1, Station 305+11 Depth: 1'-3' Sample Number: ST-3



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0243
D_{50} = 0.0282
D_{100} = 0.0320
T_{50} = 1.72 min.

C_v @ T_{50}
0.0029 cm.2/sec.

C_α = 0.000



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0257
D_{90} = 0.0289
D_{100} = 0.0292
T_{90} = 4.64 min.

C_v @ T_{90}
0.0046 cm.2/sec.

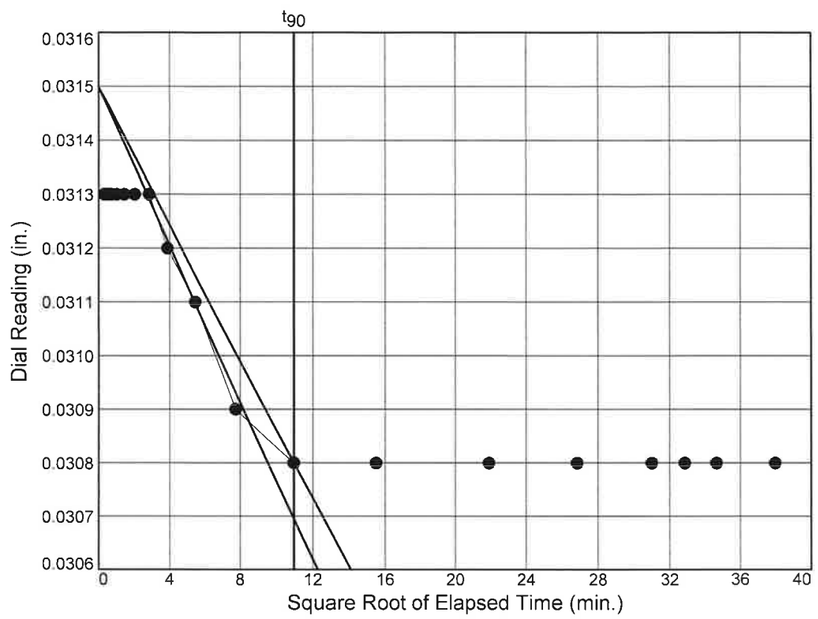
Figure

Summit Engineering

Dial Reading vs. Time

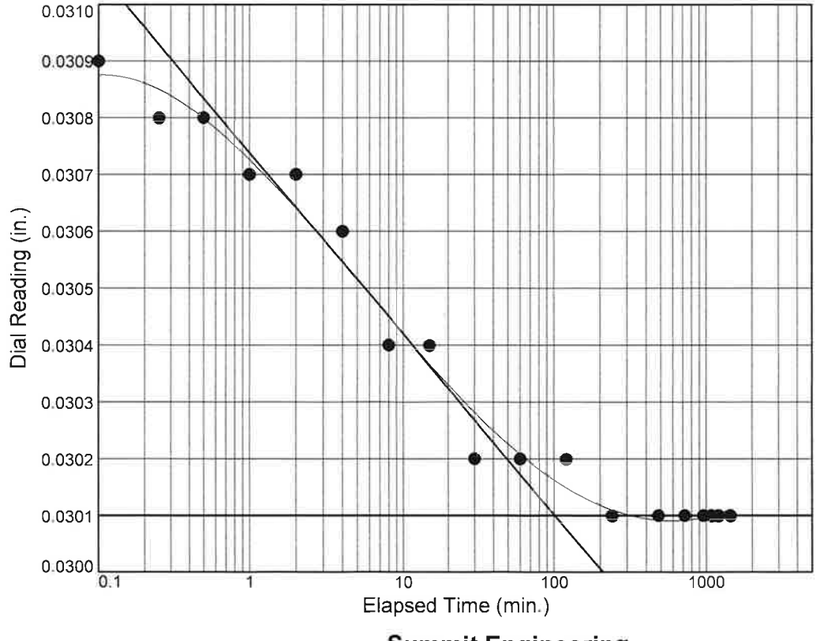
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV18_B-1, Station 305+11 Depth: 1'-3' Sample Number: ST-3



Load No.= 6
Load= 1.00 tsf
D_0 = 0.0315
D_{90} = 0.0308
D_{100} = 0.0307
T_{90} = 120.42 min.

C_v @ T_{90}
0.0002 cm.2/sec.



Load No.= 7
Load= 0.50 tsf
D_0 = 0.0308
D_{50} = 0.0305
D_{100} = 0.0301
T_{50} = 8.07 min.

C_v @ T_{50}
0.0006 cm.2/sec.

C_α = 0.000

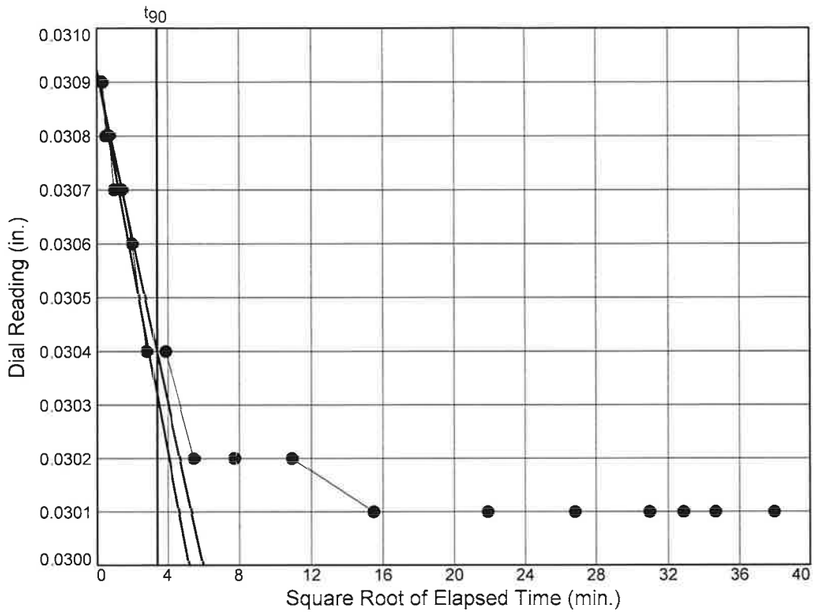
Figure

Summit Engineering

Dial Reading vs. Time

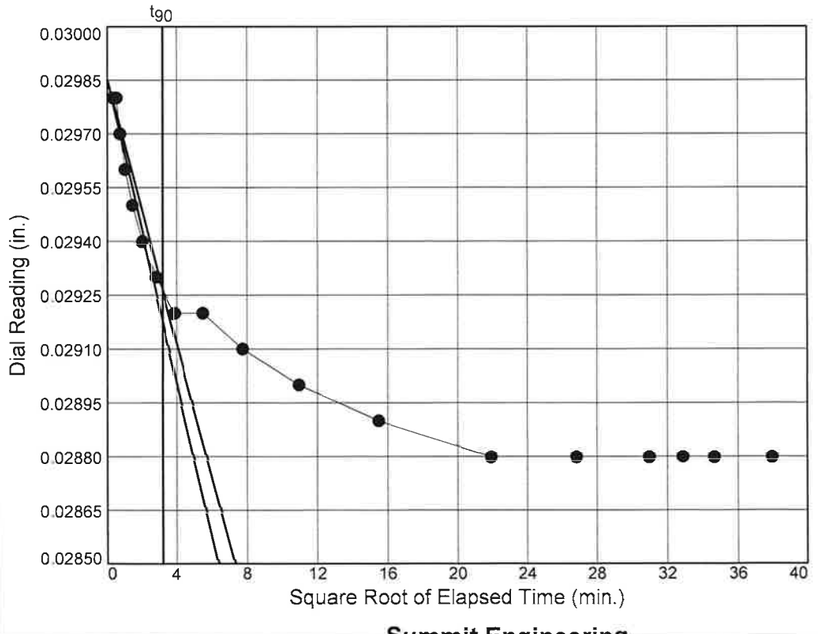
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV18_B-1, Station 305+11 Depth: 1'-3' Sample Number: ST-3



Load No.= 7
Load= 0.50 tsf
D_0 = 0.0309
D_{90} = 0.0304
D_{100} = 0.0303
T_{90} = 11.49 min.

C_v @ T_{90}
0.0019 cm.2/sec.



Load No.= 8
Load= 0.25 tsf
D_0 = 0.0299
D_{90} = 0.0293
D_{100} = 0.0292
T_{90} = 10.11 min.

C_v @ T_{90}
0.0021 cm.2/sec.

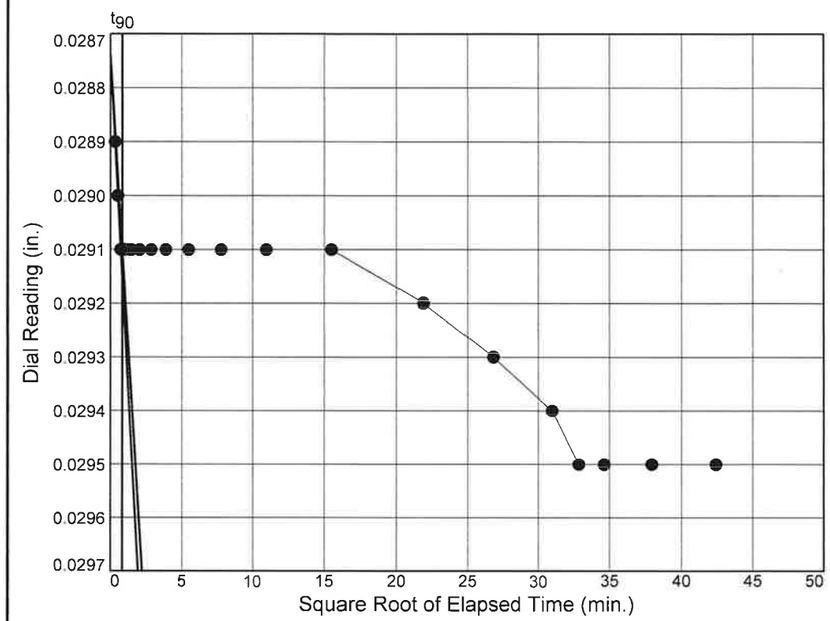
Figure

Summit Engineering

Dial Reading vs. Time

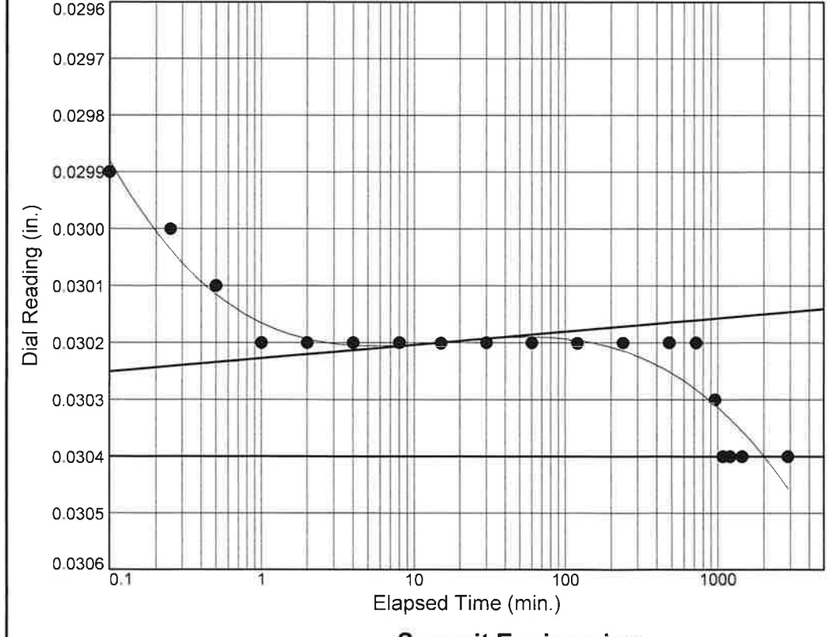
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV18_B-1, Station 305+11 Depth: 1'-3' Sample Number: ST-3



Load No.= 9
Load= 0.50 tsf
D_0 = 0.0287
D_{90} = 0.0291
D_{100} = 0.0291
T_{90} = 0.66 min.

C_v @ T_{90}
0.0328 cm.2/sec.



Load No.= 10
Load= 1.00 tsf
D_0 = 0.0295
D_{50} = 0.0300
D_{100} = 0.0304
T_{50} = 0.14 min.

C_v @ T_{50}
0.0347 cm.2/sec.

C_α = 0.000

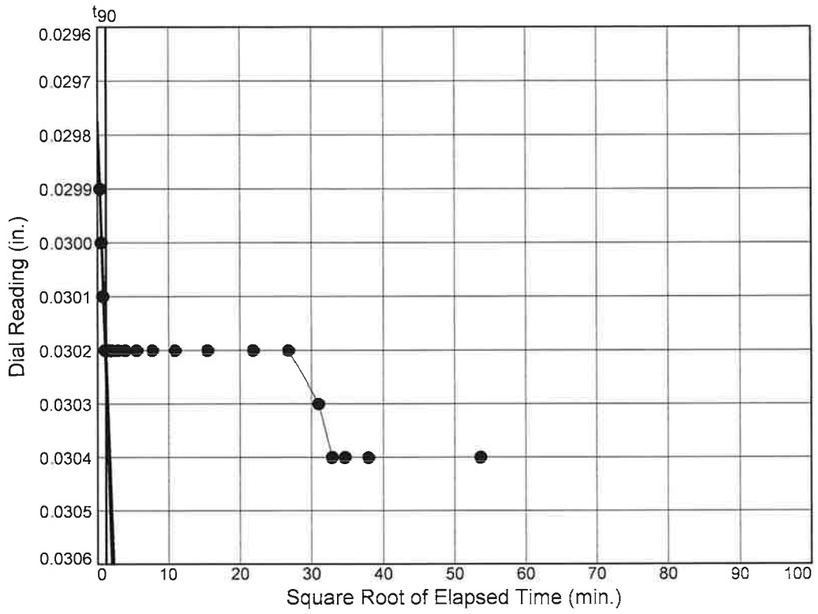
Figure

Summit Engineering

Dial Reading vs. Time

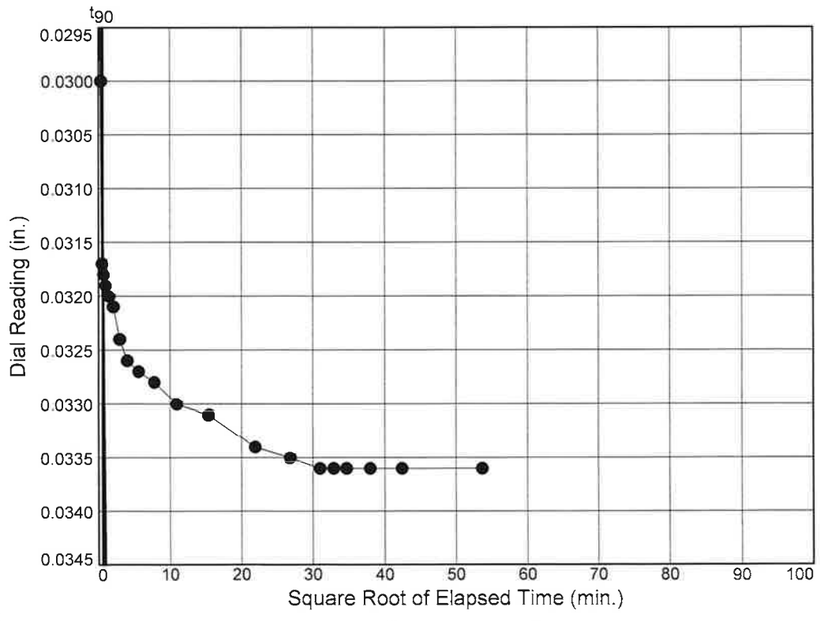
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV18_B-1, Station 305+11 Depth: 1'-3' Sample Number: ST-3



Load No.= 10
Load= 1.00 tsf
D_0 = 0.0298
D_{90} = 0.0302
D_{100} = 0.0302
T_{90} = 1.26 min.

C_v @ T_{90}
0.0171 cm.2/sec.



Load No.= 11
Load= 2.00 tsf
D_0 = 0.0271
D_{90} = 0.0317
D_{100} = 0.0323
T_{90} = 0.34 min.

C_v @ T_{90}
0.0639 cm.2/sec.

Figure

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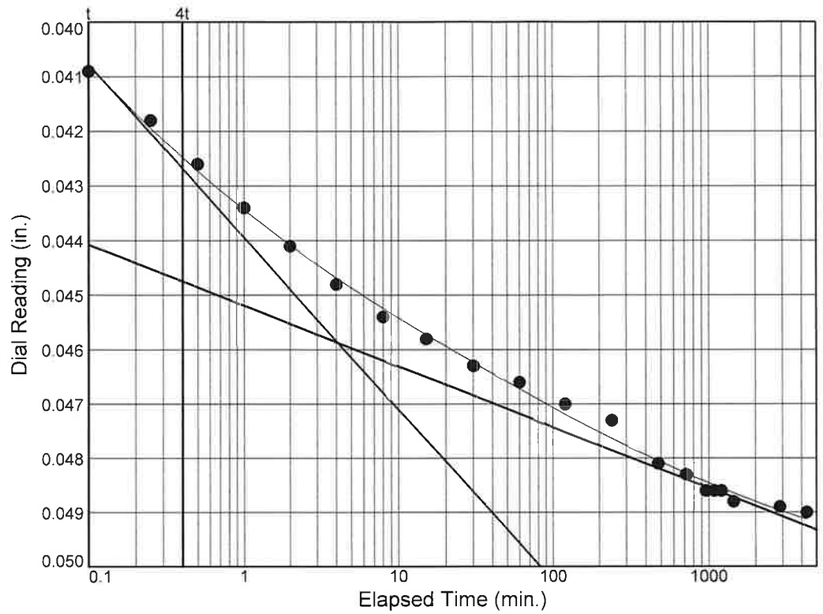
Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

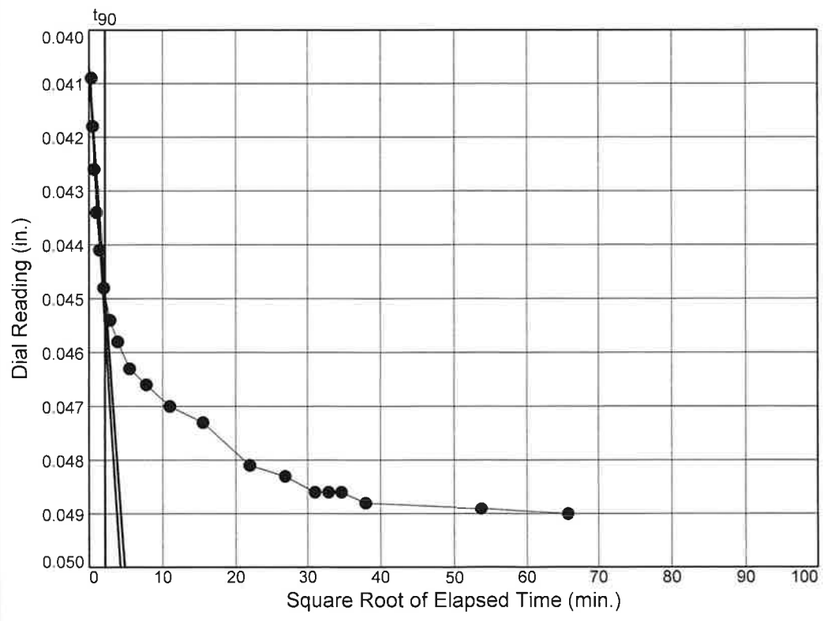
Location: CULV18_B-1, Station 305+11 Depth: 1'-3' Sample Number: ST-3



Load No.= 12
Load= 4.00 tsf
D_0 = 0.0391
D_{50} = 0.0425
D_{100} = 0.0459
T_{50} = 0.40 min.

C_v @ T_{50}
0.0122 cm.2/sec.

C_α = 0.002



Load No.= 12
Load= 4.00 tsf
D_0 = 0.0407
D_{90} = 0.0449
D_{100} = 0.0454
T_{90} = 4.67 min.

C_v @ T_{90}
0.0045 cm.2/sec.

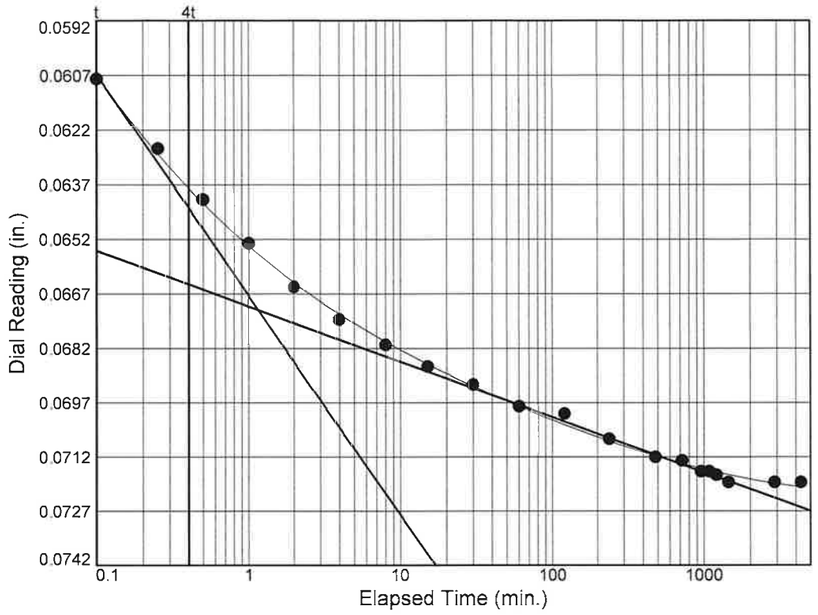
Figure

Summit Engineering

Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

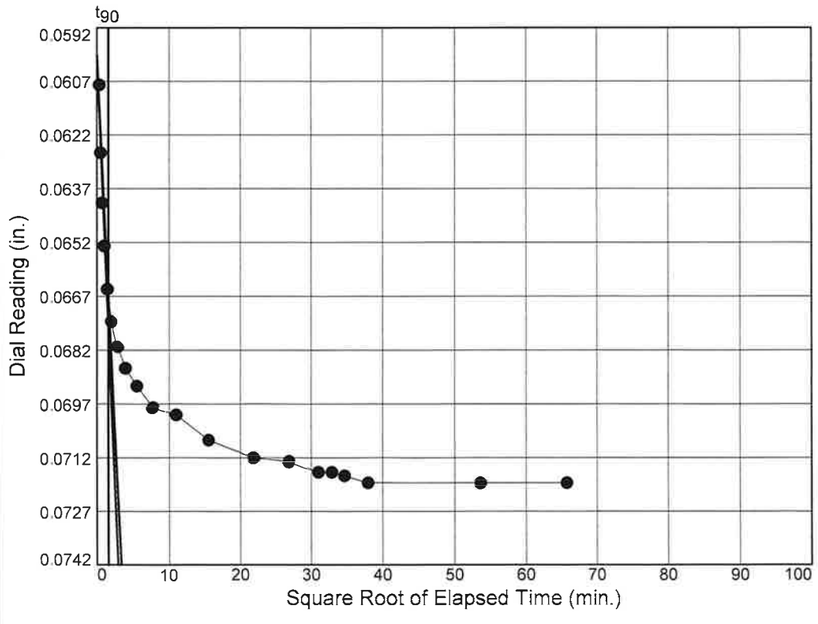
Location: CULV18_B-1, Station 305+11 Depth: 1'-3' Sample Number: ST-3



Load No.= 13
Load= 8.00 tsf
D_0 = 0.0576
D_{50} = 0.0623
D_{100} = 0.0671
T_{50} = 0.20 min.

C_v @ T_{50}
0.0234 cm.2/sec.

C_α = 0.003



Load No.= 13
Load= 8.00 tsf
D_0 = 0.0600
D_{90} = 0.0667
D_{100} = 0.0675
T_{90} = 2.46 min.

C_v @ T_{90}
0.0081 cm.2/sec.

Figure

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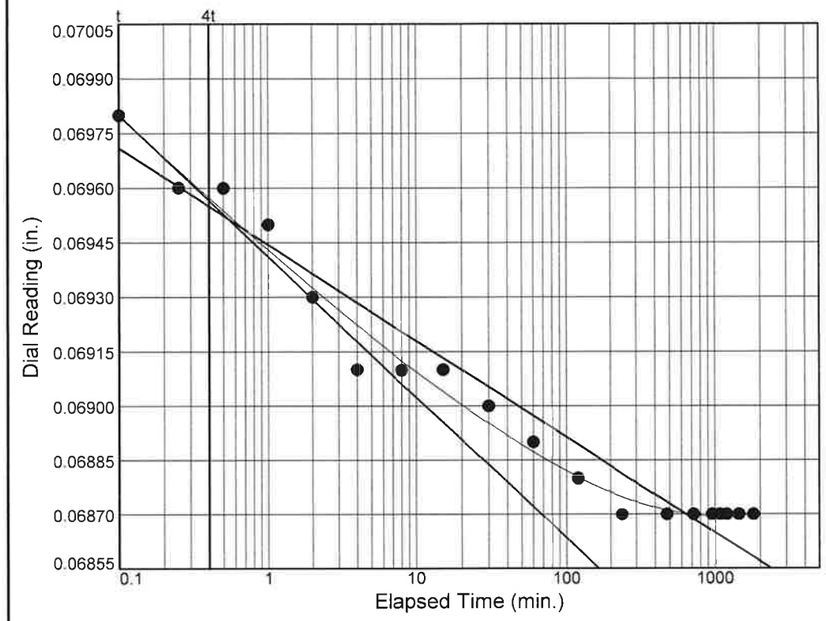
Dial Reading vs. Time

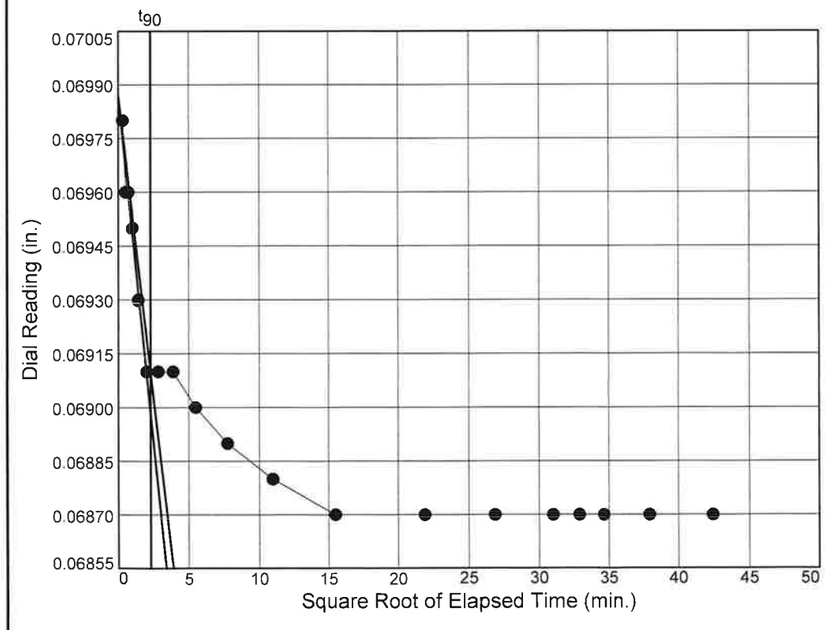
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV18_B-1, Station 305+11 Depth: 1'-3' Sample Number: ST-3



Load No.= 14
Load= 2.00 tsf
D_0 = 0.0700
D_{50} = 0.0698
D_{100} = 0.0695
T_{50} = 0.12 min.

C_v @ T_{50}
0.0386 cm.2/sec.



Load No.= 14
Load= 2.00 tsf
D_0 = 0.0699
D_{90} = 0.0691
D_{100} = 0.0690
T_{90} = 5.16 min.

C_v @ T_{90}
0.0038 cm.2/sec.

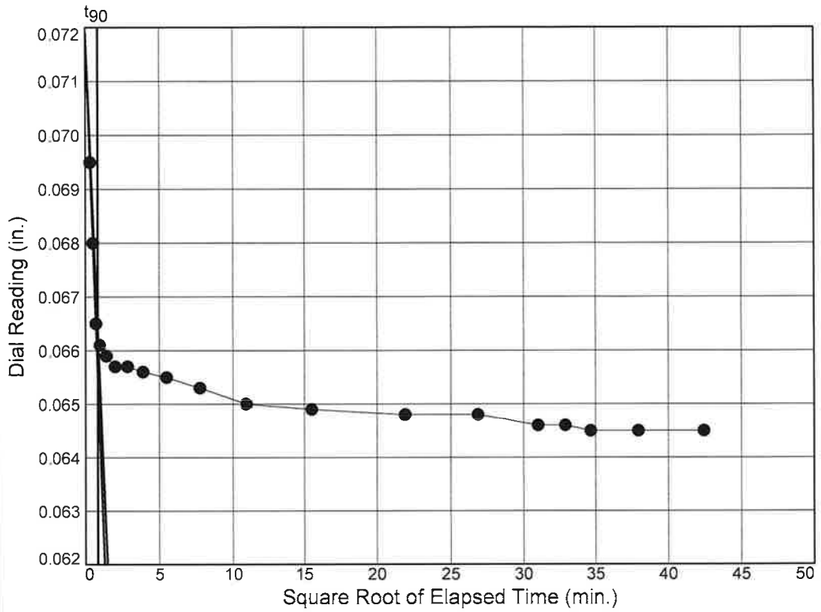
Figure

Summit Engineering

Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV18_B-1, Station 305+11 Depth: 1'-3' Sample Number: ST-3



Load No.= 15
Load= 0.50 tsf
D_0 = 0.0719
D_{90} = 0.0663
D_{100} = 0.0657
T_{90} = 0.70 min.

C_v @ T_{90}
0.0283 cm.^{2}/sec.

Figure

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CONSOLIDATION TEST DATA

9/30/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: CULV18_B-1, Station 305+11
Depth: 1'-3' **Sample Number:** ST-3
Material Description: Dark-Brown Sandy Silty Clay
Sample Date: 07-30-23 **Liquid Limit:** 25 **Plasticity Index:** 4
USCS: CL-ML **AASHTO:** A-4(1)
Preparation Process: Sample trimmed from shelby tube
Condition of Test: Inundated after application of seating load
Final Density: 99.7
Testing Remarks: AASHTO T216 Method B
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE		VOID RATIO		AFTER TEST	
Wet w+t =	156.69 g.	Spec. Gr. =	2.681	Wet w+t =	156.97 g.
Dry w+t =	128.43 g.	Est. Ht. Solids =	0.596 in.	Dry w+t =	128.43 g.
Tare Wt. =	0.00 g.	Init. V.R. =	0.679	Tare Wt. =	0.00 g.
Moisture =	22.0 %	Init. Sat. =	86.9 %	Moisture =	22.2 %
UNIT WEIGHT		TEST START		Dry Wt. =	128.43* g.
Height =	1.000 in.	Height =	1.000 in.		
Diameter =	2.500 in.	Diameter =	2.500 in.		
Weight =	156.69 g.				
Dry Dens. =	99.7 pcf				

* Final dry weight used as mineral solids weight

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			0.679	
0.13	0.00000	0.00120	-0.00120			0.681	0.1 Swell
0.50	0.00900	0.00120	0.00630*			0.669	0.6 Comprs.
1.00	0.01530	0.00250	0.01139*	0.0014		0.660	1.1 Comprs.
2.00	0.02450	0.00370	0.01837*	0.0049		0.648	1.8 Comprs.
4.00	0.03790	0.00590	0.02923*	0.0046		0.630	2.9 Comprs.
2.00	0.03640	0.00560	0.03072*	0.0002		0.628	3.1 Comprs.
1.00	0.03470	0.00460	0.03034*	0.0019		0.628	3.0 Comprs.
0.50	0.03270	0.00390	0.02920*	0.0021		0.630	2.9 Comprs.
1.00	0.03350	0.00400	0.02914*	0.0328		0.630	2.9 Comprs.
2.00	0.03510	0.00470	0.03025*	0.0171		0.628	3.0 Comprs.
4.00	0.03960	0.00600	0.03226*	0.0639		0.625	3.2 Comprs.
8.00	0.05720	0.00820	0.04538*	0.0045		0.603	4.5 Comprs.
16.00	0.08230	0.01040	0.06749*	0.0081		0.566	6.7 Comprs.
4.00	0.07760	0.00890	0.06901*	0.0038		0.563	6.9 Comprs.
1.00	0.07120	0.00670	0.06571*	0.0283		0.569	6.6 Comprs.
0.25	0.06860	0.00480	0.06439*			0.571	6.4 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

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TEST RESULTS SUMMARY

Compression index (C_c), tsf = 0.12 **Preconsolidation pressure (P_p), tsf** = 2.0 **Void ratio at P_p (e_m)** = 0.630

Recompression index (C_r) = 0.01

Pressure: 0.13 ksf — TEST READINGS — **Load No. 1**

No.	Elapsed Time	Dial Reading
1	0	0.00000
2	0.10	0.00000
3	0.25	0.00000
4	0.5	0.00000
5	1	0.00000
6	5	0.00000

Void Ratio = 0.681 **Swell** = 0.1%

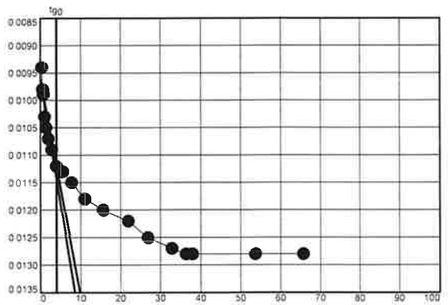
Pressure: 0.50 ksf — TEST READINGS — **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00000	11	60	0.00810
2	0.10	0.00550	12	120	0.00830
3	0.25	0.00590	13	240	0.00840
4	0.50	0.00620	14	480	0.00880
5	1	0.00660	15	720	0.00900
6	2	0.00680	16	1080	0.00900
7	4	0.00720	17	1440	0.00900
8	8	0.00750	18	2880	0.00900
9	15	0.00760	19	4320	0.00900
10	30	0.00770			

Void Ratio = 0.669 **Compression** = 0.6%

Pressure: 1.00 ksf — TEST READINGS — **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00900	11	60	0.01400
2	0.10	0.01190	12	120	0.01430
3	0.25	0.01230	13	240	0.01450
4	0.50	0.01240	14	480	0.01470
5	1	0.01280	15	720	0.01500
6	2	0.01300	16	1080	0.01520
7	4	0.01320	17	1320	0.01530
8	8	0.01340	18	1440	0.01530
9	15	0.01370	19	2880	0.01530
10	30	0.01380	20	4320	0.01530

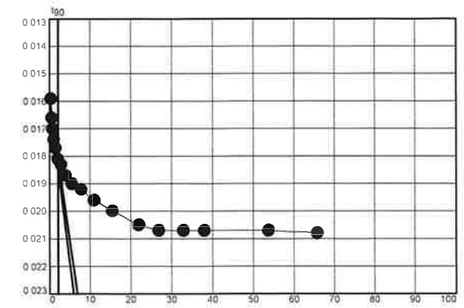


Void Ratio = 0.660 **Compression** = 1.1% >>> CALCULATED USING D_{100}

D_0 = 0.0096 **D_{90}** = 0.0112 **D_{100}** = 0.0114 **C_v at 16.07 min.** = 0.0014 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01530	11	60	0.02290
2	0.1	0.01960	12	120	0.02330
3	0.25	0.02030	13	240	0.02370
4	0.50	0.02070	14	480	0.02420
5	1	0.02110	15	720	0.02440
6	2	0.02140	16	1080	0.02440
7	4	0.02180	17	1440	0.02440
8	8	0.02200	18	2880	0.02440
9	15	0.02240	19	4320	0.02450
10	30	0.02270			

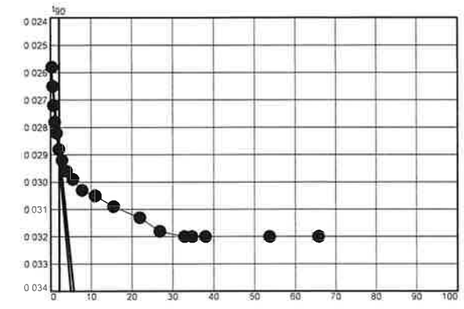


Void Ratio = 0.648 **Compression** = 1.8% >>> CALCULATED USING D_{100}

D_0 = 0.0159 **D_{90}** = 0.0181 **D_{100}** = 0.0184 **C_v at 4.48 min.** = 0.0049 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02450	11	60	0.03620
2	0.10	0.03170	12	120	0.03640
3	0.25	0.03240	13	240	0.03680
4	0.50	0.03310	14	480	0.03720
5	1	0.03370	15	720	0.03770
6	2	0.03410	16	1080	0.03790
7	4	0.03470	17	1200	0.03790
8	8	0.03510	18	1440	0.03790
9	15	0.03550	19	2880	0.03790
10	30	0.03580	20	4320	0.03790

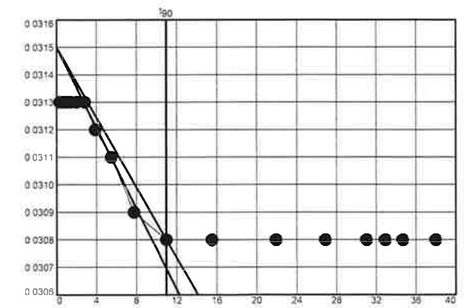


Void Ratio = 0.630 **Compression** = 2.9% >>> CALCULATED USING D_{100}

D_0 = 0.0257 **D_{90}** = 0.0289 **D_{100}** = 0.0292 **C_v at 4.64 min.** = 0.0046 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03790	11	60	0.03650
2	0.10	0.03690	12	120	0.03640
3	0.250	0.03690	13	240	0.03640
4	0.50	0.03690	14	480	0.03640
5	1	0.03690	15	720	0.03640
6	2	0.03690	16	960	0.03640
7	4	0.03690	17	1080	0.03640
8	8	0.03690	18	1200	0.03640
9	15	0.03680	19	1440	0.03640
10	30	0.03670			

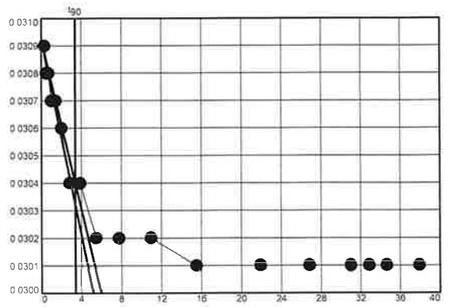


Void Ratio = 0.628 **Compression** = 3.1% >>> CALCULATED USING D_{100}

D_0 = 0.0315 **D_{90}** = 0.0308 **D_{100}** = 0.0307 **C_v at 120.42 min.** = 0.0002 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03640	11	60	0.03480
2	0.10	0.03550	12	120	0.03480
3	0.25	0.03540	13	240	0.03470
4	0.50	0.03540	14	480	0.03470
5	1	0.03530	15	720	0.03470
6	2	0.03530	16	960	0.03470
7	4	0.03520	17	1080	0.03470
8	8	0.03500	18	1200	0.03470
9	15	0.03500	19	1440	0.03470
10	30	0.03480			

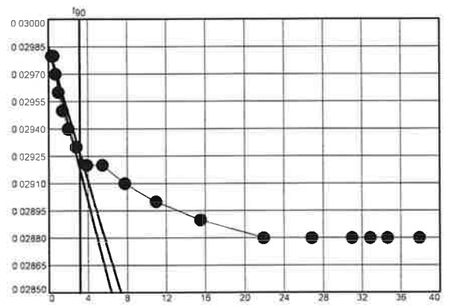


Void Ratio = 0.628 **Compression** = 3.0% >>> CALCULATED USING D_{100}

D_0 = 0.0309 **D_{90}** = 0.0304 **D_{100}** = 0.0303 **C_v at 11.49 min.** = 0.0019 cm.^{2}/sec.

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 8**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03470	11	60	0.03300
2	0.10	0.03370	12	120	0.03290
3	0.25	0.03370	13	240	0.03280
4	0.50	0.03360	14	480	0.03270
5	1	0.03350	15	720	0.03270
6	2	0.03340	16	960	0.03270
7	4	0.03330	17	1080	0.03270
8	8	0.03320	18	1200	0.03270
9	15	0.03310	19	1440	0.03270
10	30	0.03310			

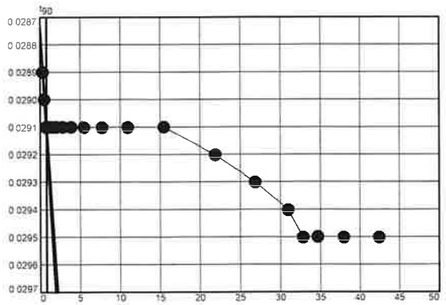


Void Ratio = 0.630 **Compression** = 2.9% >>> CALCULATED USING D_{100}

D_0 = 0.0299 **D_{90}** = 0.0293 **D_{100}** = 0.0292 **C_v at 10.11 min.** = 0.0021 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03270	11	60	0.03310
2	0.10	0.03290	12	120	0.03310
3	0.25	0.03300	13	240	0.03310
4	0.50	0.03310	14	480	0.03320
5	1	0.03310	15	720	0.03330
6	2	0.03310	16	960	0.03340
7	4	0.03310	17	1080	0.03350
8	8	0.03310	18	1200	0.03350
9	15	0.03310	19	1440	0.03350
10	30	0.03310	20	1800	0.03350

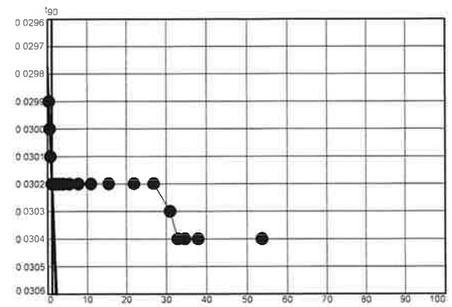


Void Ratio = 0.630 **Compression** = 2.9% >>> CALCULATED USING D_{100}

D_0 = 0.0287 **D_{90}** = 0.0291 **D_{100}** = 0.0291 **C_v at 0.66 min.** = 0.0328 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03350	11	60	0.03490
2	0.10	0.03460	12	120	0.03490
3	0.25	0.03470	13	240	0.03490
4	0.50	0.03480	14	480	0.03490
5	1	0.03490	15	720	0.03490
6	2	0.03490	16	960	0.03500
7	4	0.03490	17	1080	0.03510
8	8	0.03490	18	1200	0.03510
9	15	0.03490	19	1440	0.03510
10	30	0.03490	20	2880	0.03510

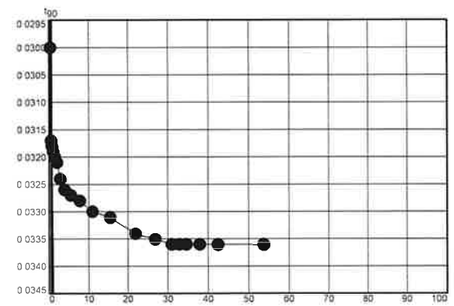


Void Ratio = 0.628 **Compression** = 3.0% >>> CALCULATED USING D_{100}

D_0 = 0.0298 **D_{90}** = 0.0302 **D_{100}** = 0.0302 **C_v at 1.26 min.** = 0.0171 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 11**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03510	12	120	0.03900
2	0.10	0.03600	13	240	0.03910
3	0.25	0.03770	14	480	0.03940
4	0.50	0.03780	15	720	0.03950
5	1	0.03790	16	960	0.03960
6	2	0.03800	17	1080	0.03960
7	4	0.03810	18	1200	0.03960
8	8	0.03840	19	1440	0.03960
9	15	0.03860	20	1800	0.03960
10	30	0.03870	21	2880	0.03960
11	60	0.03880			

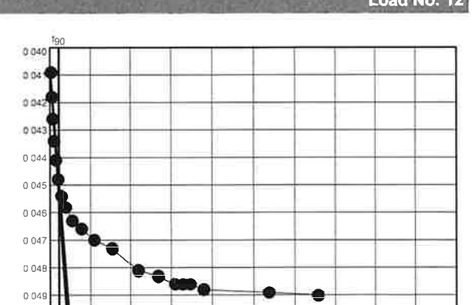


Void Ratio = 0.625 **Compression** = 3.2% >>> CALCULATED USING D_{100}

D_0 = 0.0271 **D_{90}** = 0.0317 **D_{100}** = 0.0323 **C_v at 0.34 min.** = 0.0639 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03960	12	120	0.05520
2	0.10	0.04910	13	240	0.05550
3	0.25	0.05000	14	480	0.05630
4	0.50	0.05080	15	720	0.05650
5	1	0.05160	16	960	0.05680
6	2	0.05230	17	1080	0.05680
7	4	0.05300	18	1200	0.05680
8	8	0.05360	19	1440	0.05700
9	15	0.05400	20	2880	0.05710
10	30	0.05450	21	4320	0.05720
11	60	0.05480			

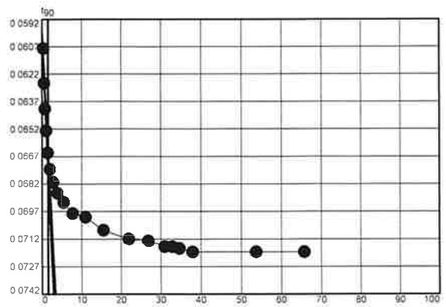


Void Ratio = 0.603 **Compression** = 4.5% >>> CALCULATED USING D_{100}

D_0 = 0.0407 **D_{90}** = 0.0449 **D_{100}** = 0.0454 **C_v at 4.67 min.** = 0.0045 cm.^{2}/sec.

Pressure: 16.00 ksf — **TEST READINGS** — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05720	12	120	0.08040
2	0.10	0.07120	13	240	0.08110
3	0.25	0.07310	14	480	0.08160
4	0.50	0.07450	15	720	0.08170
5	1	0.07570	16	960	0.08200
6	2	0.07690	17	1080	0.08200
7	4	0.07780	18	1200	0.08210
8	8	0.07850	19	1440	0.08230
9	15	0.07910	20	2880	0.08230
10	30	0.07960	21	4320	0.08230
11	60	0.08020			

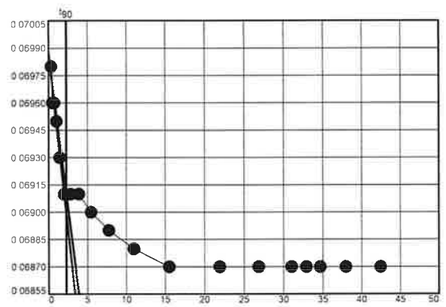


Void Ratio = 0.566 **Compression** = 6.7% >>> CALCULATED USING D_{100}

D_0 = 0.0600 **D_{90}** = 0.0667 **D_{100}** = 0.0675 **C_v at 2.46 min.** = 0.0081 $cm.^2/sec.$

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08230	11	60	0.07780
2	0.10	0.07870	12	120	0.07770
3	0.25	0.07850	13	240	0.07760
4	0.50	0.07850	14	480	0.07760
5	1	0.07840	15	720	0.07760
6	2	0.07820	16	960	0.07760
7	4	0.07800	17	1080	0.07760
8	8	0.07800	18	1200	0.07760
9	15	0.07800	19	1440	0.07760
10	30	0.07790	20	1800	0.07760

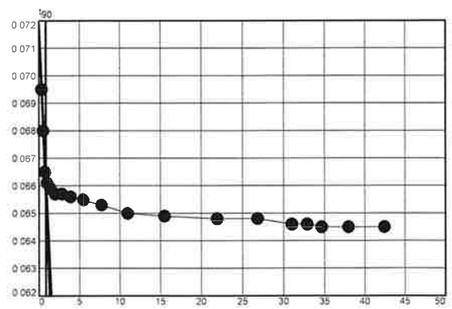


Void Ratio = 0.563 **Compression** = 6.9% >>> CALCULATED USING D_{100}

D_0 = 0.0699 **D_{90}** = 0.0691 **D_{100}** = 0.0690 **C_v at 5.16 min.** = 0.0038 $cm.^2/sec.$

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 15**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07760	11	60	0.07200
2	0.10	0.07620	12	120	0.07170
3	0.25	0.07470	13	240	0.07160
4	0.50	0.07320	14	480	0.07150
5	1	0.07280	15	720	0.07150
6	2	0.07260	16	960	0.07130
7	4	0.07240	17	1080	0.07130
8	8	0.07240	18	1200	0.07120
9	15	0.07230	19	1440	0.07120
10	30	0.07220	20	1800	0.07120



Void Ratio = 0.569 **Compression** = 6.6% >>> CALCULATED USING D_{100}

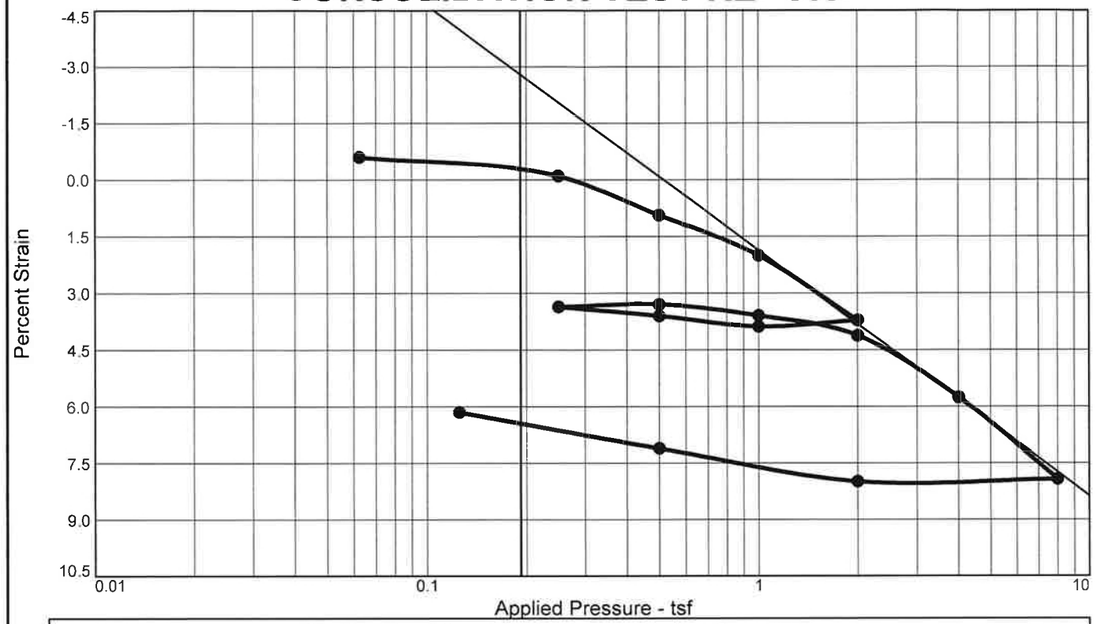
D_0 = 0.0719 **D_{90}** = 0.0663 **D_{100}** = 0.0657 **C_v at 0.70 min.** = 0.0283 $cm.^2/sec.$

Pressure: 0.25 ksf — **TEST READINGS** — **Load No. 16**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07120	11	60	0.06930
2	0.10	0.07010	12	120	0.06920
3	0.25	0.07010	13	240	0.06910
4	0.50	0.07000	14	480	0.06890
5	1	0.07000	15	720	0.06870
6	2	0.06990	16	960	0.06860
7	4	0.06980	17	1080	0.06860
8	8	0.06970	18	1200	0.06860
9	15	0.06960	19	1440	0.06860
10	30	0.06950			

Void Ratio = 0.571 **Compression** = 6.4%

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
3	0.50	0.0089		10	1.00	0.0085					
4	1.00	0.0089		11	2.00	0.0043					
5	2.00	0.0088		12	4.00	0.0044					
6	1.00	0.0020		13	8.00	0.0070					
7	0.50	0.0012		14	2.00	0.0068					
8	0.25	0.0032		15	0.50	0.0018					
9	0.50	0.0641									

MATERIAL DESCRIPTION	USCS	AASHTO
Tan-BrownLean Clay with Sand	CL	A-7-6(15)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf) Init.	Dry Dens. (pcf) Final	Moisture Init.	Moisture Final	Saturation Init.	Saturation Final	Void Ratio Init.	Void Ratio Final	P_c (tsf)	C_c
42	20	2.851		104.0	105.6	21.4 %	23.2 %	85.9 %	100.0 %	0.711	0.605	0.5	0.11

	D2435 Method	C_r	Swell Press. (tsf)	Swell %
Preparation Process: Sample trimmed from shleby tube				
Condition of Test: Inundated after application of seating load		0.02		

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Loc.: L_28000R, Station 280+00 **Depth:** 2'-4' **Sample No.:** ST-4

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO T216 Method B

Checked By: MH
Title: Lab Manager

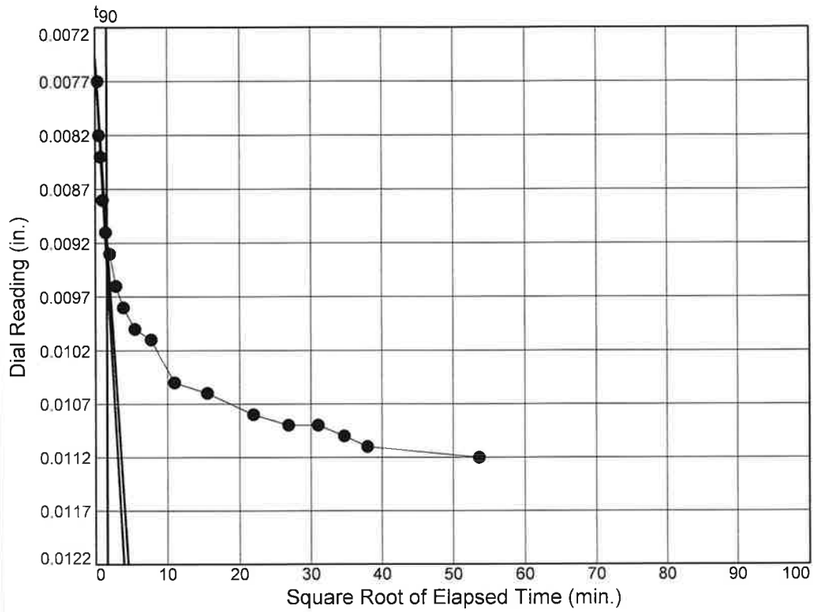
Figure

Tested By: FG

Dial Reading vs. Time

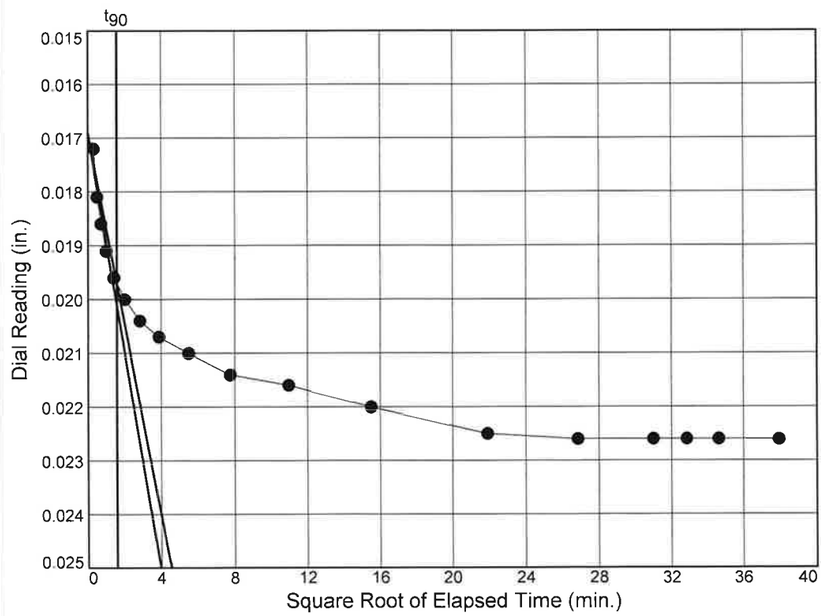
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_28000R, Station 280+00 Depth: 2'-4' Sample Number: ST-4



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0075
D_{90} = 0.0092
D_{100} = 0.0093
T_{90} = 2.51 min.

C_v @ T_{90}
0.0089 cm.2/sec.



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0169
D_{90} = 0.0197
D_{100} = 0.0200
T_{90} = 2.47 min.

C_v @ T_{90}
0.0089 cm.2/sec.

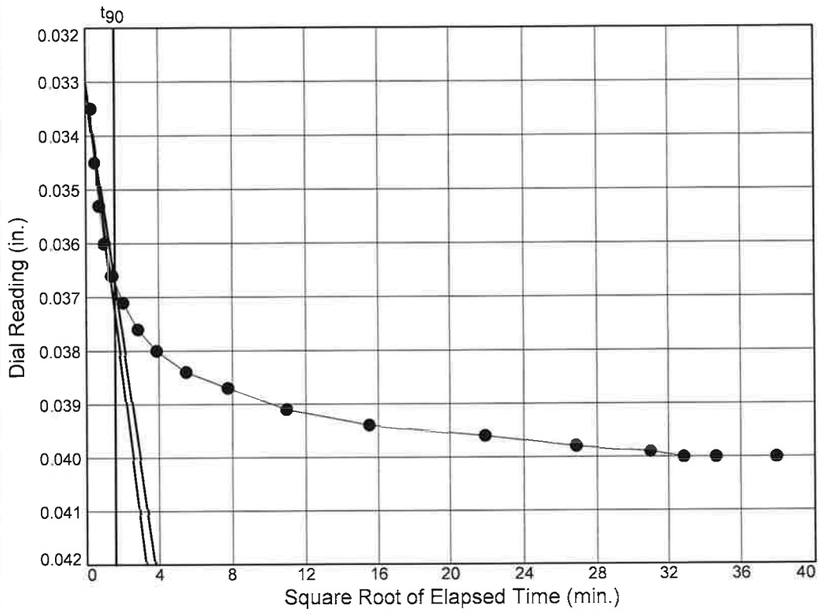
Figure

Summit Engineering

Dial Reading vs. Time

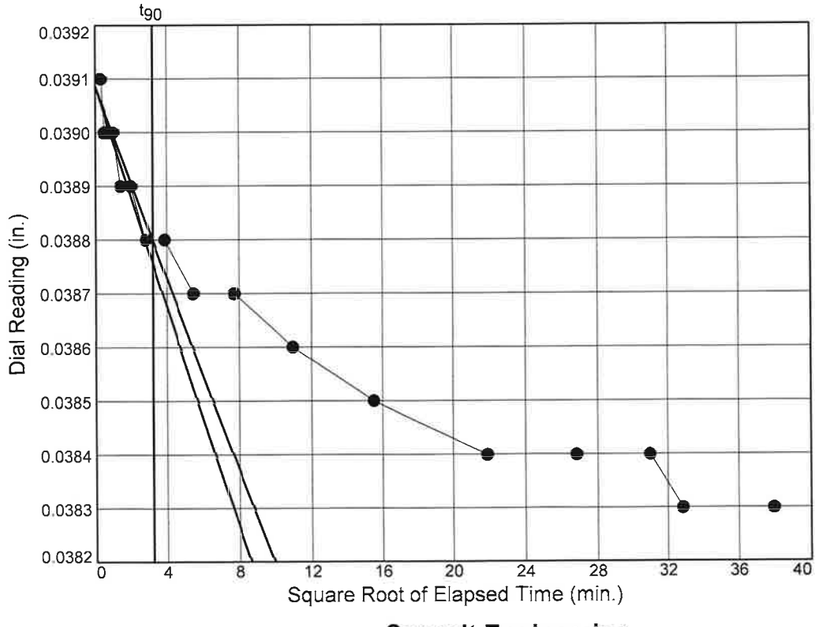
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_28000R, Station 280+00 Depth: 2'-4' Sample Number: ST-4



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0330
D_{90} = 0.0367
D_{100} = 0.0371
T_{90} = 2.42 min.

C_v @ T_{90}
0.0088 cm.2/sec.



Load No.= 6
Load= 1.00 tsf
D_0 = 0.0391
D_{90} = 0.0388
D_{100} = 0.0388
T_{90} = 10.28 min.

C_v @ T_{90}
0.0020 cm.2/sec.

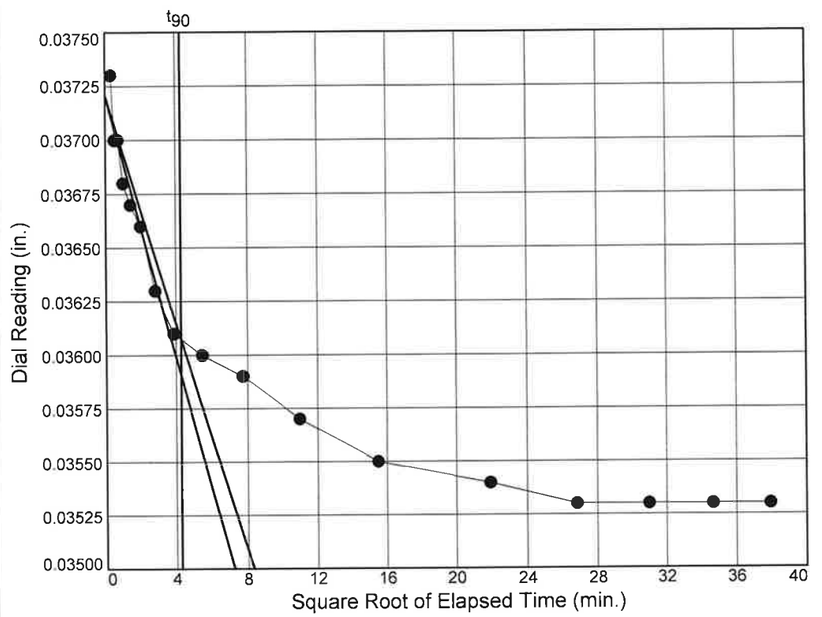
Figure

Summit Engineering

Dial Reading vs. Time

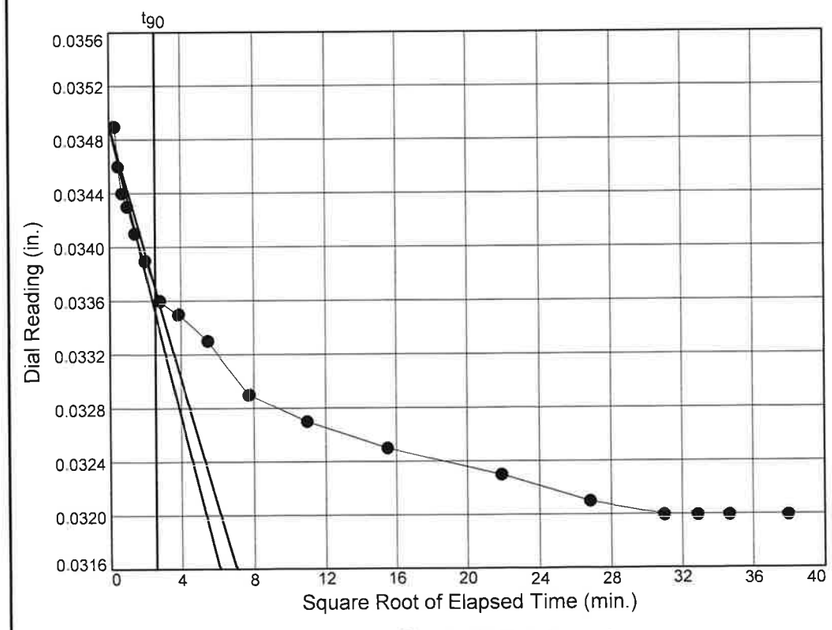
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_28000R, Station 280+00 Depth: 2'-4' Sample Number: ST-4



Load No.= 7
Load= 0.50 tsf
D_0 = 0.0372
D_{90} = 0.0361
D_{100} = 0.0359
T_{90} = 18.20 min.

C_v @ T_{90}
0.0012 cm.2/sec.



Load No.= 8
Load= 0.25 tsf
D_0 = 0.0349
D_{90} = 0.0337
D_{100} = 0.0336
T_{90} = 6.59 min.

C_v @ T_{90}
0.0032 cm.2/sec.

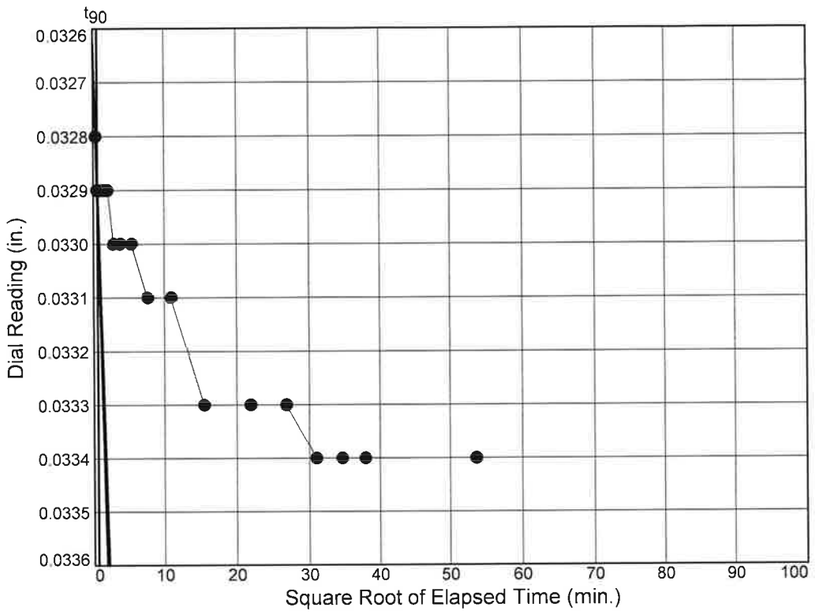
Figure

Summit Engineering

Dial Reading vs. Time

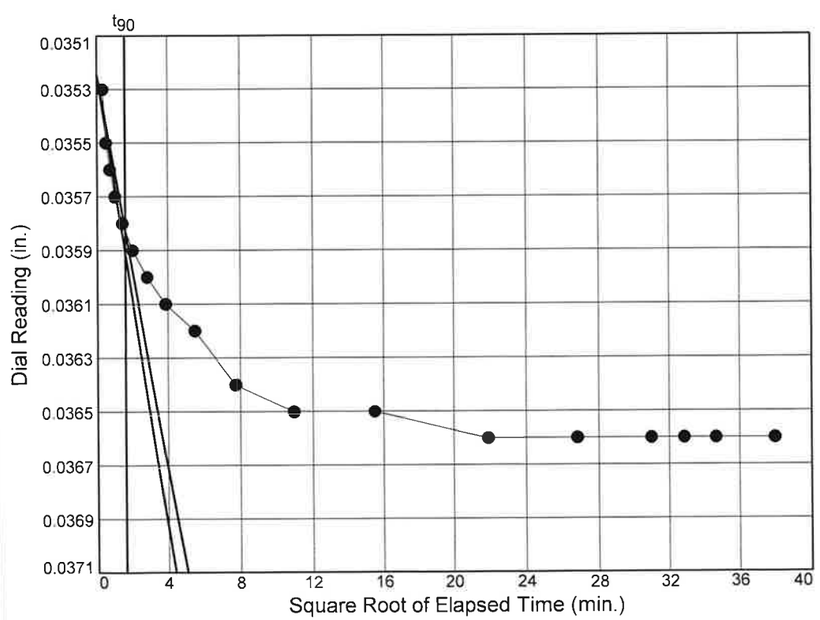
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_28000R, Station 280+00 Depth: 2'-4' Sample Number: ST-4



Load No.= 9
Load= 0.50 tsf
D_0 = 0.0326
D_{90} = 0.0329
D_{100} = 0.0329
T_{90} = 0.33 min.

C_v @ T_{90}
0.0641 cm.2/sec.



Load No.= 10
Load= 1.00 tsf
D_0 = 0.0352
D_{90} = 0.0358
D_{100} = 0.0359
T_{90} = 2.49 min.

C_v @ T_{90}
0.0085 cm.2/sec.

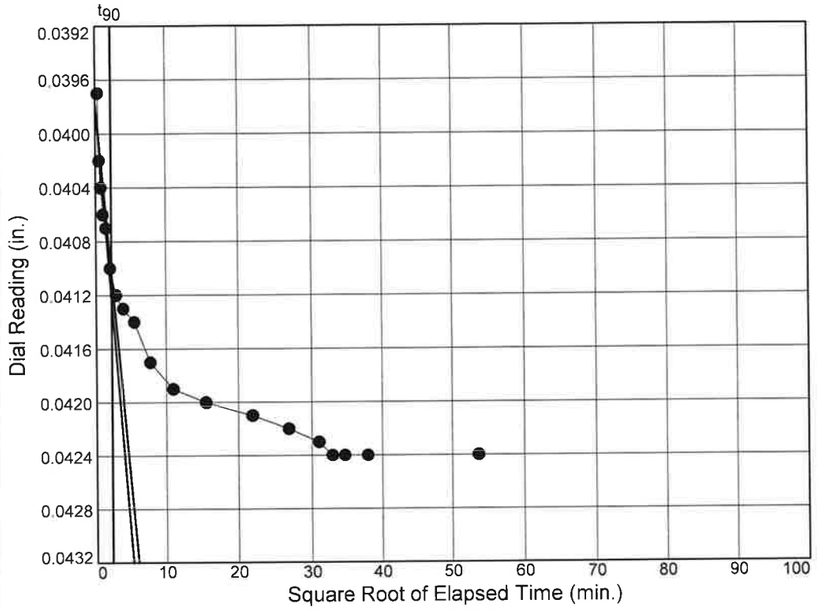
Figure

Summit Engineering

Dial Reading vs. Time

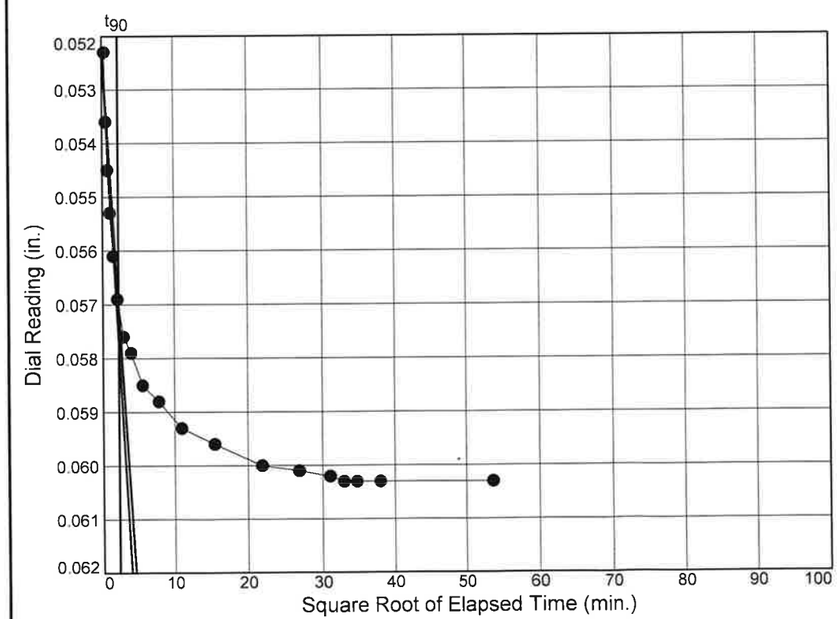
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_28000R, Station 280+00 Depth: 2'-4' Sample Number: ST-4



Load No.= 11
Load= 2.00 tsf
D_0 = 0.0398
D_{90} = 0.0411
D_{100} = 0.0412
T_{90} = 4.90 min.

C_v @ T_{90}
0.0043 cm.2/sec.



Load No.= 12
Load= 4.00 tsf
D_0 = 0.0523
D_{90} = 0.0570
D_{100} = 0.0576
T_{90} = 4.62 min.

C_v @ T_{90}
0.0044 cm.2/sec.

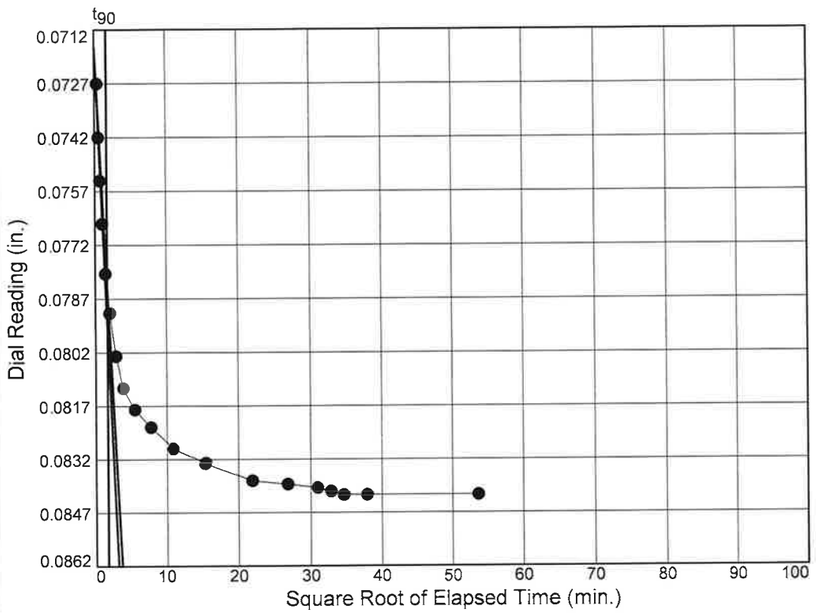
Figure

Summit Engineering

Dial Reading vs. Time

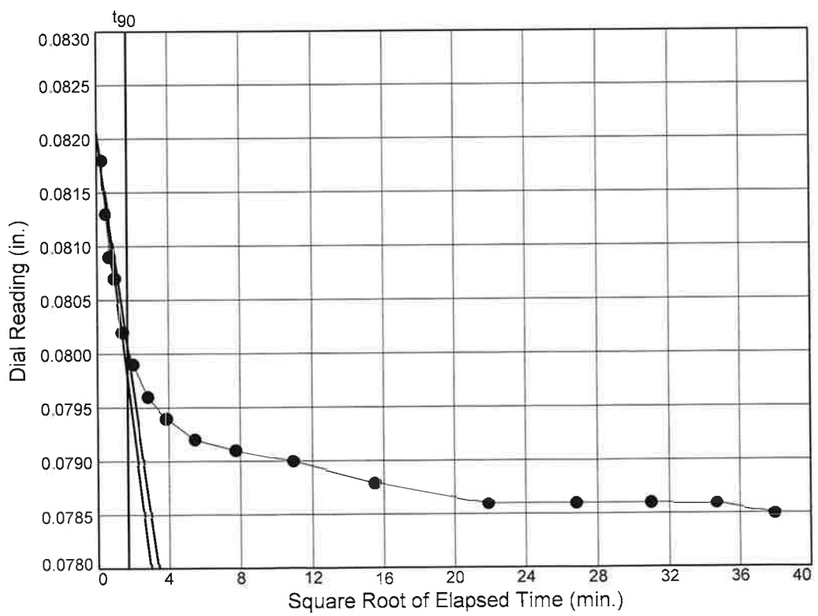
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_28000R, Station 280+00 Depth: 2'-4' Sample Number: ST-4



Load No.= 13
Load= 8.00 tsf
D_0 = 0.0717
D_{90} = 0.0785
D_{100} = 0.0792
T_{90} = 2.78 min.

C_v @ T_{90}
0.0070 cm.2/sec.



Load No.= 14
Load= 2.00 tsf
D_0 = 0.0821
D_{90} = 0.0801
D_{100} = 0.0798
T_{90} = 2.82 min.

C_v @ T_{90}
0.0068 cm.2/sec.

Figure

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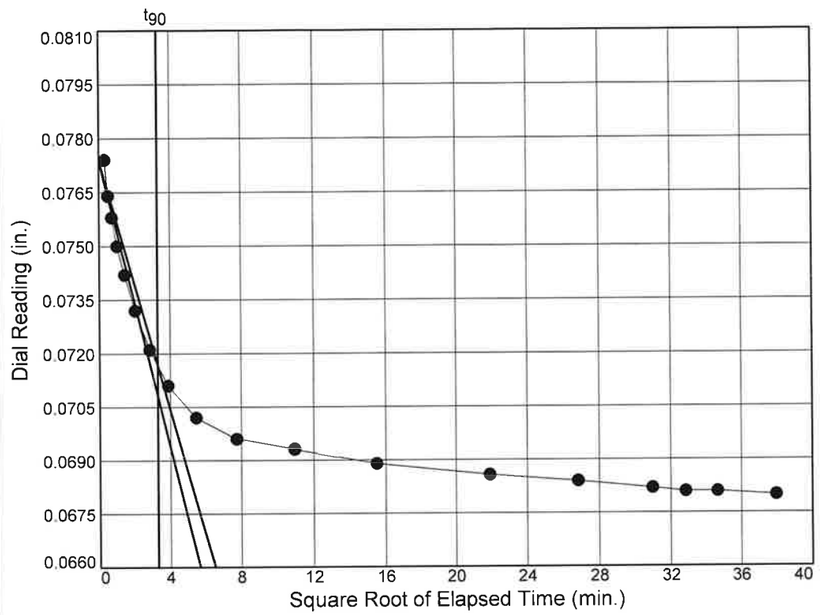
Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

Location: L_28000R, Station 280+00 Depth: 2'-4' Sample Number: ST-4



Load No.= 15
Load= 0.50 tsf
D_0 = 0.0774
D_{90} = 0.0717
D_{100} = 0.0710
T_{90} = 10.69 min.

C_v @ T_{90}
0.0018 cm.2/sec.

Figure

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CONSOLIDATION TEST DATA

10/2/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: L_28000R, Station 280+00
Depth: 2'-4' **Sample Number:** ST-4
Material Description: Tan-BrownLean Clay with Sand
Sample Date: 09-02-23 **Liquid Limit:** 42 **Plasticity Index:** 20
USCS: CL **AASHTO:** A-7-6(15)
Preparation Process: Sample trimmed from shleby tube
Condition of Test: Inundated after application of seating load
Final Density: 105.6
Testing Remarks: AASHTO T216 Method B
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE		VOID RATIO		AFTER TEST	
Wet w+t =	162.77 g.	Spec. Gr.	= 2.851	Wet w+t =	165.16 g.
Dry w+t =	134.07 g.	Est. Ht. Solids	= 0.585 in.	Dry w+t =	134.07 g.
Tare Wt. =	0.00 g.	Init. V.R.	= 0.711	Tare Wt. =	0.00 g.
Moisture =	21.4 %	Init. Sat.	= 85.9 %	Moisture =	23.2 %
UNIT WEIGHT		TEST START		Dry Wt. =	134.07* g.
Height =	1.000 in.	Height	= 1.000 in.		
Diameter =	2.500 in.	Diameter	= 2.500 in.		
Weight =	162.77 g.				
Dry Dens. =	104.0 pcf				

* Final dry weight used as mineral solids weight

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			0.711	
0.13	0.00000	0.00600	-0.00600			0.721	0.6 Swell
0.50	0.00620	0.00600	-0.00099*			0.712	0.1 Swell
1.00	0.01270	0.00150	0.00934*	0.0089		0.695	0.9 Comprs.
2.00	0.02510	0.00250	0.02002*	0.0089		0.676	2.0 Comprs.
4.00	0.04410	0.00410	0.03713*	0.0088		0.647	3.7 Comprs.
2.00	0.04200	0.00370	0.03877*	0.0020		0.644	3.9 Comprs.
1.00	0.03860	0.00330	0.03595*	0.0012		0.649	3.6 Comprs.
0.50	0.03470	0.00270	0.03356*	0.0032		0.653	3.4 Comprs.
1.00	0.03590	0.00250	0.03293*	0.0641		0.654	3.3 Comprs.
2.00	0.03940	0.00280	0.03589*	0.0085		0.649	3.6 Comprs.
4.00	0.04610	0.00370	0.04119*	0.0043		0.640	4.1 Comprs.
8.00	0.06590	0.00560	0.05756*	0.0044		0.612	5.8 Comprs.
16.00	0.09260	0.00840	0.07923*	0.0070		0.575	7.9 Comprs.
4.00	0.08500	0.00650	0.07984*	0.0068		0.574	8.0 Comprs.
1.00	0.07240	0.00440	0.07104*	0.0018		0.589	7.1 Comprs.
0.25	0.06180	0.00350	0.06148*			0.605	6.1 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

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TEST RESULTS SUMMARY

Compression index (C_c), tsf = 0.11 **Preconsolidation pressure (P_p), tsf** = 0.5 **Void ratio at P_p (e_m)** = 0.694
Recompression index (C_r) = 0.02

Pressure: 0.13 ksf — TEST READINGS — **Load No. 1**

No.	Elapsed Time	Dial Reading
1	0	0.00000
2	0.1	0.00000
3	0.25	0.00000
4	0.5	0.00000
5	1	0.00000
6	5	0.00000

Void Ratio = 0.721 **Swell** = 0.6%

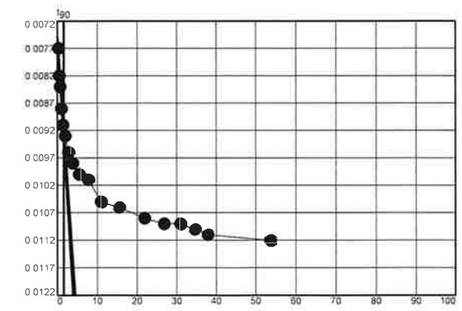
Pressure: 0.50 ksf — TEST READINGS — **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00000	11	60	0.00560
2	0.10	0.00360	12	120	0.00580
3	0.25	0.00410	13	240	0.00590
4	0.50	0.00450	14	480	0.00600
5	1	0.00480	15	720	0.00610
6	2	0.00490	16	960	0.00610
7	4	0.00500	17	1080	0.00610
8	8	0.00520	18	1200	0.00620
9	15	0.00540	19	1440	0.00620
10	30	0.00550	20	2880	0.00620

Void Ratio = 0.712 **Swell** = 0.1%

Pressure: 1.00 ksf — TEST READINGS — **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00620	11	60	0.01160
2	0.10	0.00920	12	120	0.01200
3	0.25	0.00970	13	240	0.01210
4	0.50	0.00990	14	480	0.01230
5	1	0.01030	15	720	0.01240
6	2	0.01060	16	960	0.01240
7	4	0.01080	17	1200	0.01250
8	8	0.01110	18	1440	0.01260
9	15	0.01130	19	2880	0.01270
10	30	0.01150			



Void Ratio = 0.695 **Compression** = 0.9% >>> CALCULATED USING D_{100}
D_0 = 0.0075 **D_{90}** = 0.0092 **D_{100}** = 0.0093 **C_v at 2.51 min.** = 0.0089 cm.^{2}/sec.

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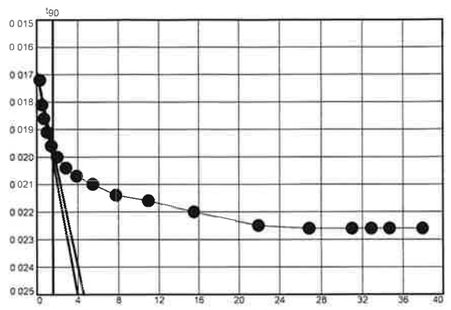
Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01270	11	60	0.02390
2	0.10	0.01970	12	120	0.02410
3	0.25	0.02060	13	240	0.02450
4	0.50	0.02110	14	480	0.02500
5	1	0.02160	15	720	0.02510
6	2	0.02210	16	960	0.02510
7	4	0.02250	17	1080	0.02510
8	8	0.02290	18	1200	0.02510
9	15	0.02320	19	1440	0.02510
10	30	0.02350			

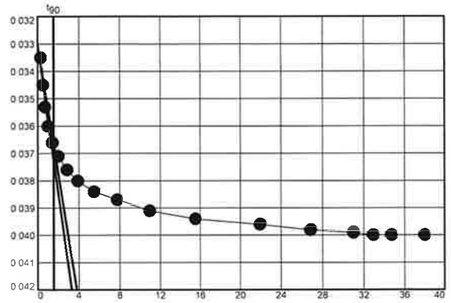


Void Ratio = 0.676 **Compression** = 2.0% >>> CALCULATED USING D_{100}

D_0 = 0.0169 D_{90} = 0.0197 D_{100} = 0.0200 C_v **at 2.47 min.** = 0.0089 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02510	11	60	0.04280
2	0.10	0.03760	12	120	0.04320
3	0.25	0.03860	13	240	0.04350
4	0.50	0.03940	14	480	0.04370
5	1	0.04010	15	720	0.04390
6	2	0.04070	16	960	0.04400
7	4	0.04120	17	1080	0.04410
8	8	0.04170	18	1200	0.04410
9	15	0.04210	19	1440	0.04410
10	30	0.04250			

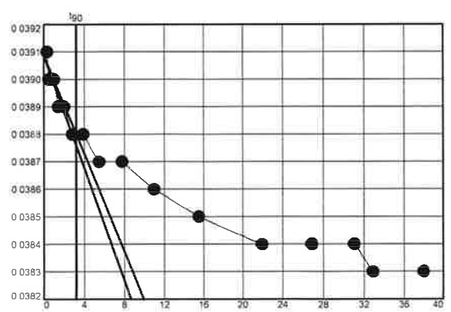


Void Ratio = 0.647 **Compression** = 3.7% >>> CALCULATED USING D_{100}

D_0 = 0.0330 D_{90} = 0.0367 D_{100} = 0.0371 C_v **at 2.42 min.** = 0.0088 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04410	11	60	0.04240
2	0.10	0.04280	12	120	0.04230
3	0.25	0.04270	13	240	0.04220
4	0.50	0.04270	14	480	0.04210
5	1	0.04270	15	720	0.04210
6	2	0.04260	16	960	0.04210
7	4	0.04260	17	1080	0.04200
8	8	0.04250	18	1440	0.04200
9	15	0.04250			
10	30	0.04240			

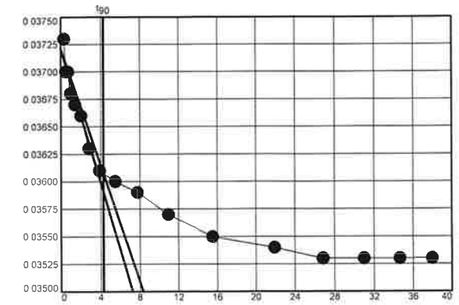


Void Ratio = 0.644 **Compression** = 3.9% >>> CALCULATED USING D_{100}

D_0 = 0.0391 D_{90} = 0.0388 D_{100} = 0.0388 C_v **at 10.28 min.** = 0.0020 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04200	11	60	0.03920
2	0.10	0.04060	12	120	0.03900
3	0.25	0.04030	13	240	0.03880
4	0.50	0.04030	14	480	0.03870
5	1	0.04010	15	720	0.03860
6	2	0.04000	16	960	0.03860
7	4	0.03990	17	1200	0.03860
8	8	0.03960	18	1440	0.03860
9	15	0.03940			
10	30	0.03930			

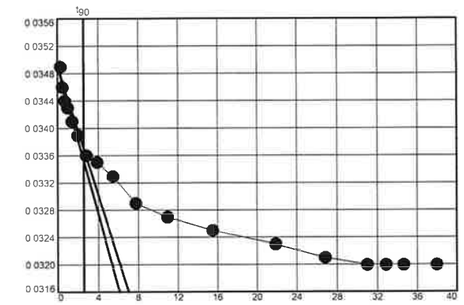


Void Ratio = 0.649 **Compression** = 3.6% >>> CALCULATED USING D_{100}

D_0 = 0.0372 D_{90} = 0.0361 D_{100} = 0.0359 C_v **at 18.20 min.** = 0.0012 cm.^{2}/sec.

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 8**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03860	11	60	0.03560
2	0.10	0.03760	12	120	0.03540
3	0.25	0.03730	13	240	0.03520
4	0.50	0.03710	14	480	0.03500
5	1	0.03700	15	720	0.03480
6	2	0.03680	16	960	0.03470
7	4	0.03660	17	1080	0.03470
8	8	0.03630	18	1200	0.03470
9	15	0.03620	19	1440	0.03470
10	30	0.03600			

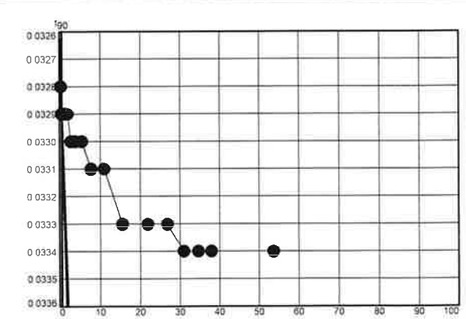


Void Ratio = 0.653 **Compression** = 3.4% >>> CALCULATED USING D_{100}

D_0 = 0.0349 D_{90} = 0.0337 D_{100} = 0.0336 C_v **at 6.59 min.** = 0.0032 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03470	11	60	0.03560
2	0.10	0.03530	12	120	0.03560
3	0.25	0.03540	13	240	0.03580
4	0.50	0.03540	14	480	0.03580
5	1	0.03540	15	720	0.03580
6	2	0.03540	16	960	0.03590
7	4	0.03540	17	1200	0.03590
8	8	0.03550	18	1440	0.03590
9	15	0.03550	19	2880	0.03590
10	30	0.03550			

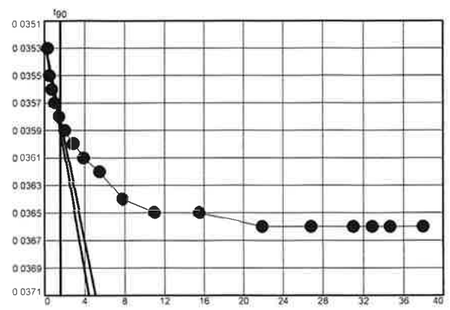


Void Ratio = 0.654 **Compression** = 3.3% >>> CALCULATED USING D_{100}

D_0 = 0.0326 D_{90} = 0.0329 D_{100} = 0.0329 C_v **at 0.33 min.** = 0.0641 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03590	11	60	0.03920
2	0.10	0.03810	12	120	0.03930
3	0.25	0.03830	13	240	0.03930
4	0.50	0.03840	14	480	0.03940
5	1	0.03850	15	720	0.03940
6	2	0.03860	16	960	0.03940
7	4	0.03870	17	1080	0.03940
8	8	0.03880	18	1200	0.03940
9	15	0.03890	19	1440	0.03940
10	30	0.03900			

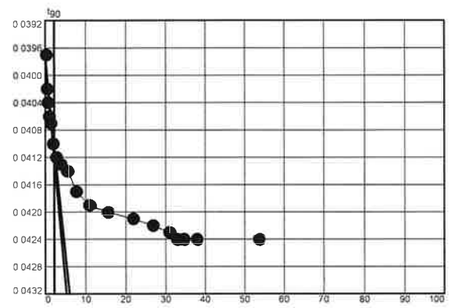


Void Ratio = 0.649 **Compression** = 3.6% >>> CALCULATED USING D_{100}

D_0 = 0.0352 D_{90} = 0.0358 D_{100} = 0.0359 C_v **at 2.49 min.** = 0.0085 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 11**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03940	11	60	0.04540
2	0.10	0.04340	12	120	0.04560
3	0.25	0.04390	13	240	0.04570
4	0.50	0.04410	14	480	0.04580
5	1	0.04430	15	720	0.04590
6	2	0.04440	16	960	0.04600
7	4	0.04470	17	1080	0.04610
8	8	0.04490	18	1200	0.04610
9	15	0.04500	19	1440	0.04610
10	30	0.04510	20	2880	0.04610

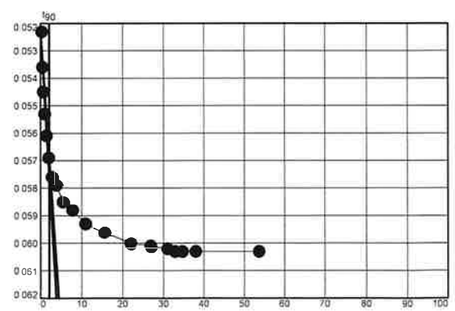


Void Ratio = 0.640 **Compression** = 4.1% >>> CALCULATED USING D_{100}

D_0 = 0.0398 D_{90} = 0.0411 D_{100} = 0.0412 C_v **at 4.90 min.** = 0.0043 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04610	11	60	0.06440
2	0.10	0.05790	12	120	0.06490
3	0.25	0.05920	13	240	0.06520
4	0.50	0.06010	14	480	0.06560
5	1	0.06090	15	720	0.06570
6	2	0.06170	16	960	0.06580
7	4	0.06250	17	1080	0.06590
8	8	0.06320	18	1200	0.06590
9	15	0.06350	19	1440	0.06590
10	30	0.06410	20	2880	0.06590

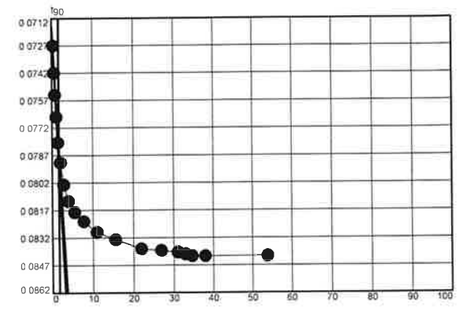


Void Ratio = 0.612 **Compression** = 5.8% >>> CALCULATED USING D_{100}

D_0 = 0.0523 D_{90} = 0.0570 D_{100} = 0.0576 C_v **at 4.62 min.** = 0.0044 cm.^{2}/sec.

Pressure: 16.00 ksf — **TEST READINGS** — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.06590	11	60	0.09070
2	0.10	0.08110	12	120	0.09130
3	0.25	0.08260	13	240	0.09170
4	0.50	0.08380	14	480	0.09220
5	1	0.08500	15	720	0.09230
6	2	0.08640	16	960	0.09240
7	4	0.08750	17	1080	0.09250
8	8	0.08870	18	1200	0.09260
9	15	0.08960	19	1440	0.09260
10	30	0.09020	20	2880	0.09260

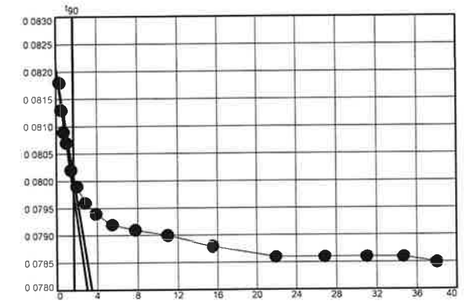


Void Ratio = 0.575 **Compression** = 7.9% >>> CALCULATED USING D_{100}

D_0 = 0.0717 D_{90} = 0.0785 D_{100} = 0.0792 C_v **at 2.78 min.** = 0.0070 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.09260	11	60	0.08560
2	0.10	0.08830	12	120	0.08550
3	0.25	0.08780	13	240	0.08530
4	0.50	0.08740	14	480	0.08510
5	1	0.08720	15	720	0.08510
6	2	0.08670	16	960	0.08510
7	4	0.08640	17	1200	0.08510
8	8	0.08610	18	1440	0.08500
9	15	0.08590			
10	30	0.08570			

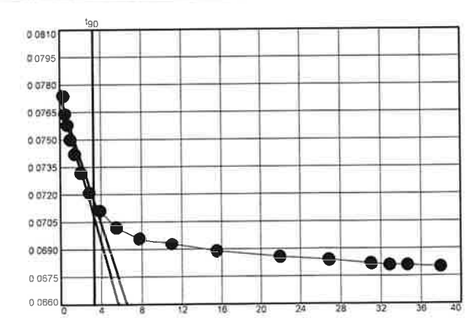


Void Ratio = 0.574 **Compression** = 8.0% >>> CALCULATED USING D_{100}

D_0 = 0.0821 D_{90} = 0.0801 D_{100} = 0.0798 C_v **at 2.82 min.** = 0.0068 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 15**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08500	11	60	0.07400
2	0.10	0.08180	12	120	0.07370
3	0.25	0.08080	13	240	0.07330
4	0.50	0.08020	14	480	0.07298
5	1	0.07940	15	720	0.07280
6	2	0.07860	16	960	0.07260
7	4	0.07760	17	1080	0.07250
8	8	0.07650	18	1200	0.07250
9	15	0.07550	19	1440	0.07240
10	30	0.07460			



Void Ratio = 0.589 **Compression** = 7.1% >>> CALCULATED USING D_{100}

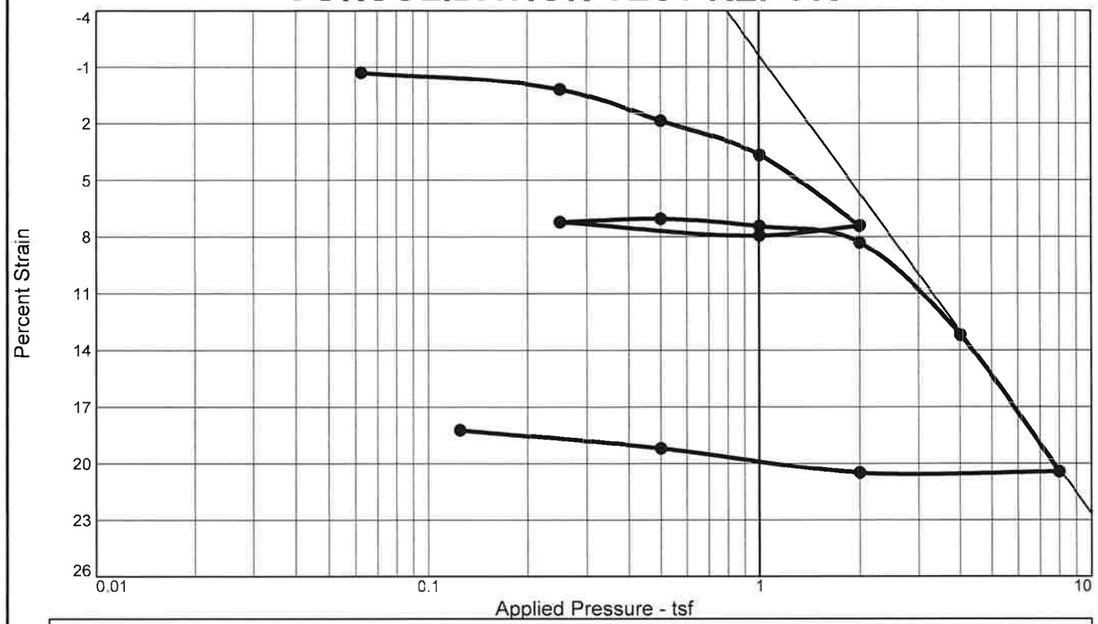
D_0 = 0.0774 D_{90} = 0.0717 D_{100} = 0.0710 C_v **at 10.69 min.** = 0.0018 cm.^{2}/sec.

Pressure: 0.25 ksf — **TEST READINGS** — **Load No. 16**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07240	11	60	0.06400
2	0.10	0.07140	12	120	0.06330
3	0.25	0.07040	13	240	0.06270
4	0.50	0.06990	14	480	0.06240
5	1	0.06960	15	720	0.06200
6	2	0.06890	16	960	0.06190
7	4	0.06820	17	1080	0.06180
8	8	0.06710	18	1200	0.06180
9	15	0.06610	19	1400	0.06180
10	30	0.06500			

Void Ratio = 0.605 **Compression =** 6.1%

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
2	0.25	0.0343		10	2.00	0.0045					
3	0.50	0.0184		11	4.00	0.0148					
4	1.00	0.0317		12	8.00	0.0125					
5	2.00	0.0167		13	2.00	0.0371					
6	1.00	0.0084		14	0.50	0.0207					
8	0.50	0.0606		15	0.13	0.0058					
9	1.00	0.0086									

MATERIAL DESCRIPTION	USCS	AASHTO
Dark Orange-Brown Elastic Silt with Sand	MH	A-7-5(17)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf) Init.	Dry Dens. (pcf) Final	Moisture Init.	Moisture Final	Saturation Init.	Saturation Final	Void Ratio Init.	Void Ratio Final	P_c (tsf)	C_c
53	17	2.737		69.0	64.2	49.2 %	38.9 %	91.2 %	100.0 %	1.477	1.026	1.8	0.60

Preparation Process: Sampled trimmed from shelby tube

Condition of Test: Inundated after application of seating load

D2435 Method	C_r	Swell Press. (tsf)	Swell %
	0.04		

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group

Project: I-5719: I-85
TIP No.: I-5719

Loc.: Y4RPC_2050R, Station 20+50 **Depth:** 3'-5' **Sample No.:** ST-5

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO T216 Method B

Checked By: MH
Title: Lab Manager

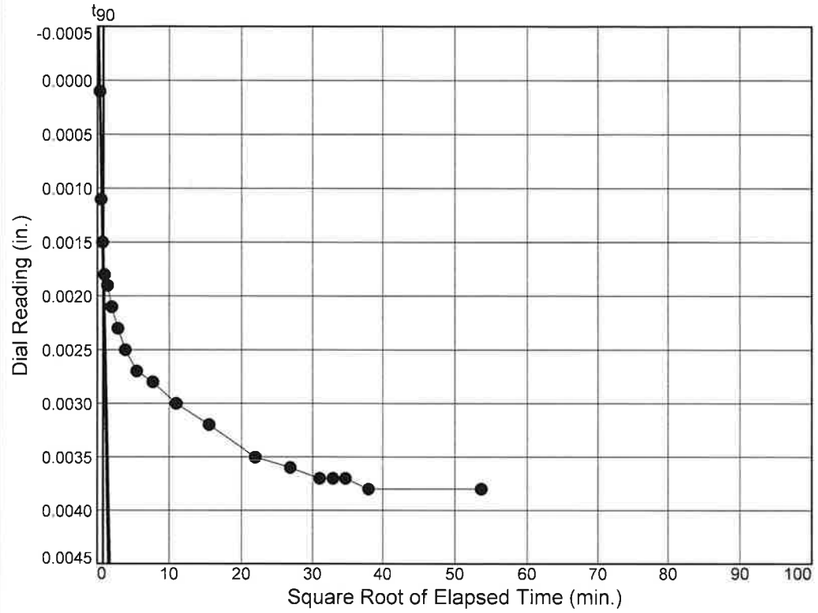
Figure

Tested By: FG

Dial Reading vs. Time

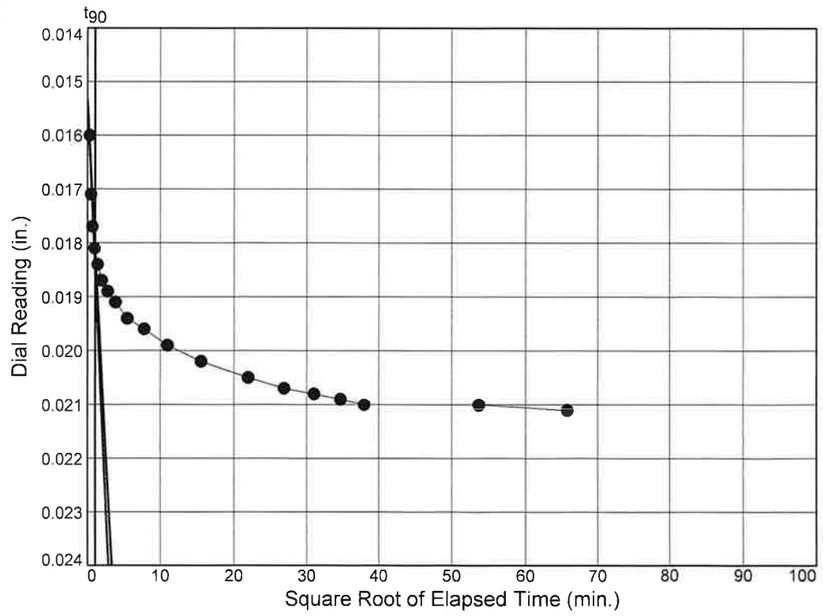
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y4RPC_2050R, Station 20+50 Depth: 3'-5' Sample Number: ST-5



Load No.= 2
Load= 0.25 tsf
D_0 = -0.0009
D_{90} = 0.0016
D_{100} = 0.0019
T_{90} = 0.66 min.

C_v @ T_{90}
0.0343 cm.2/sec.



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0154
D_{90} = 0.0182
D_{100} = 0.0185
T_{90} = 1.20 min.

C_v @ T_{90}
0.0184 cm.2/sec.

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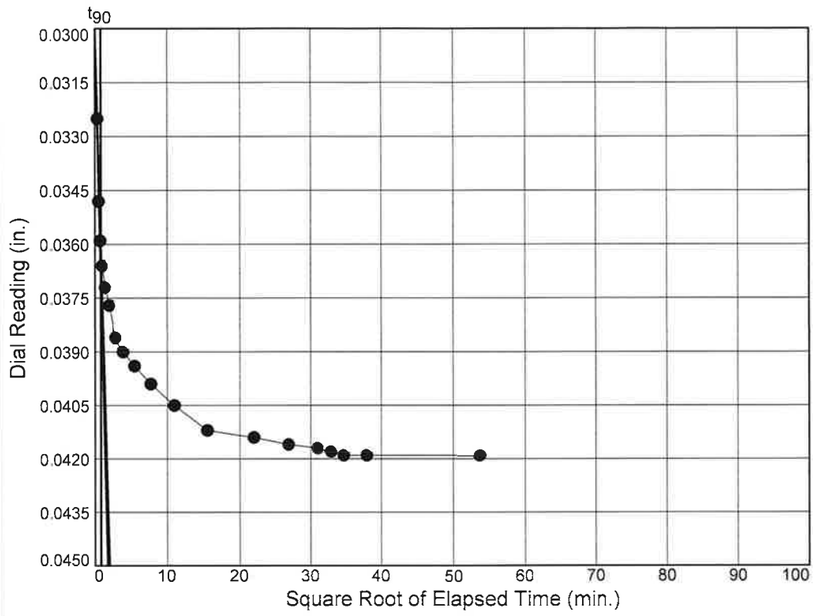
Figure

Dial Reading vs. Time

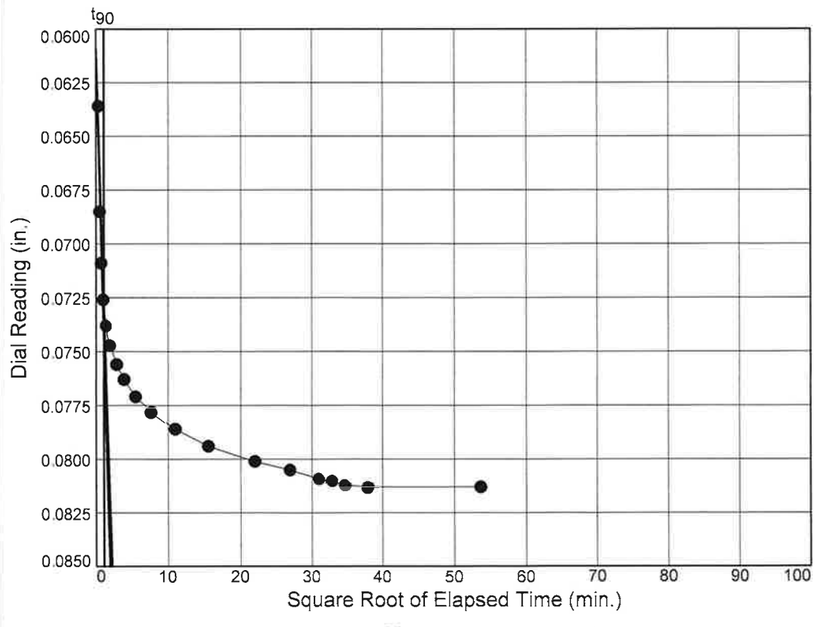
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y4RPC_2050R, Station 20+50 Depth: 3'-5' Sample Number: ST-5



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0300
D_{90} = 0.0362
D_{100} = 0.0369
T_{90} = 0.67 min.

C_v @ T_{90}
0.0317 cm.2/sec.



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0610
D_{90} = 0.0729
D_{100} = 0.0742
T_{90} = 1.18 min.

C_v @ T_{90}
0.0167 cm.2/sec.

Figure

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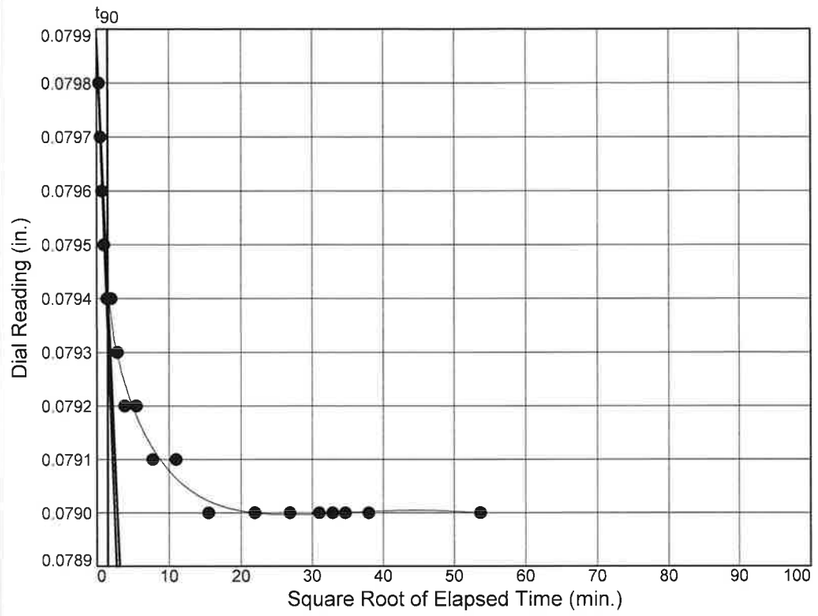
Dial Reading vs. Time

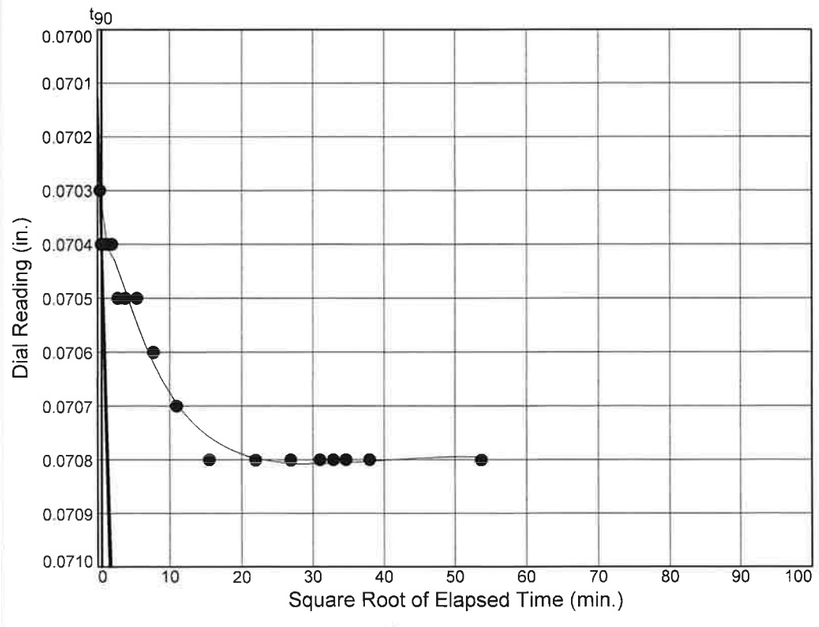
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y4RPC_2050R, Station 20+50 Depth: 3'-5' Sample Number: ST-5



Load No.= 6
Load= 1.00 tsf
D_0 = 0.0799
D_{90} = 0.0794
D_{100} = 0.0794
T_{90} = 2.29 min.

C_v @ T_{90}
0.0084 cm.2/sec.



Load No.= 8
Load= 0.50 tsf
D_0 = 0.0701
D_{90} = 0.0704
D_{100} = 0.0704
T_{90} = 0.33 min.

C_v @ T_{90}
0.0606 cm.2/sec.

Figure

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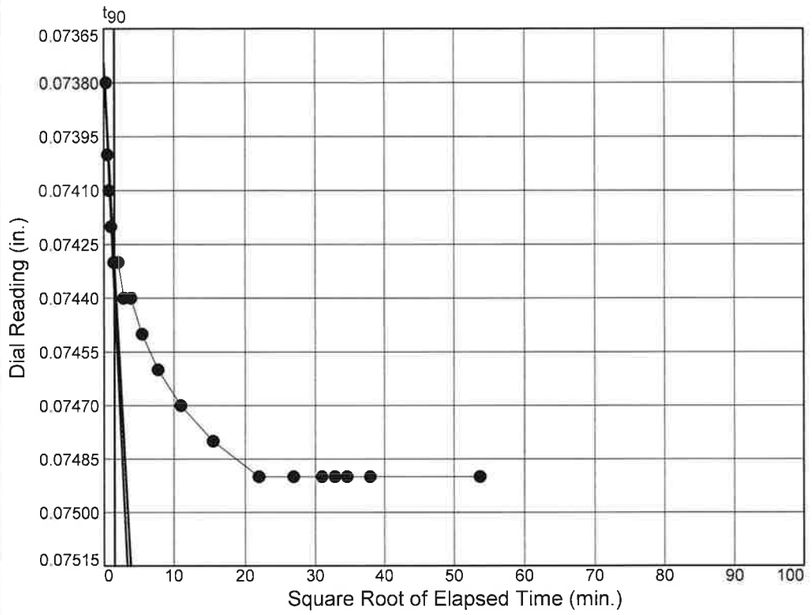
Dial Reading vs. Time

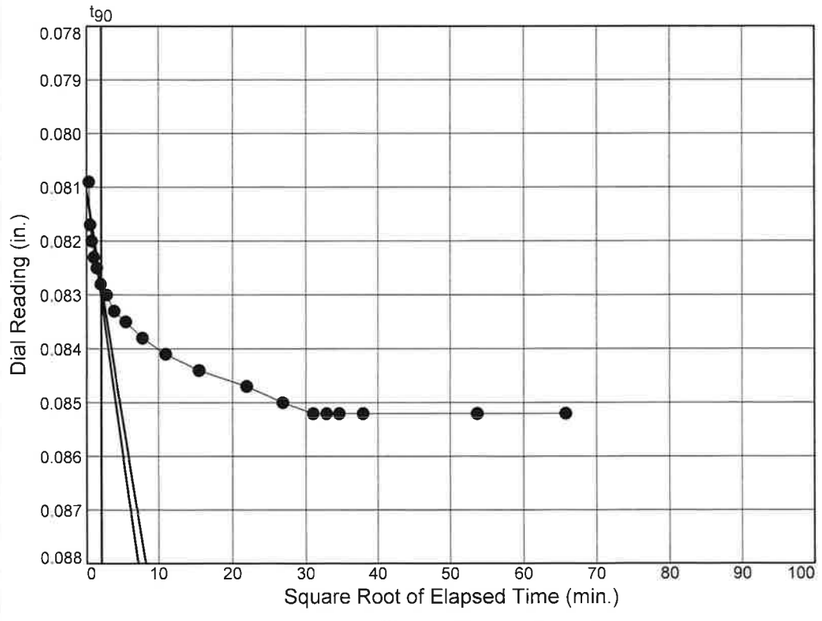
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y4RPC_2050R, Station 20+50 Depth: 3'-5' Sample Number: ST-5



Load No.= 9
Load= 1.00 tsf
D_0 = 0.0737
D_{90} = 0.0743
D_{100} = 0.0744
T_{90} = 2.27 min.

C_v @ T_{90}
0.0086 cm.2/sec.



Load No.= 10
Load= 2.00 tsf
D_0 = 0.0811
D_{90} = 0.0828
D_{100} = 0.0830
T_{90} = 4.28 min.

C_v @ T_{90}
0.0045 cm.2/sec.

Figure

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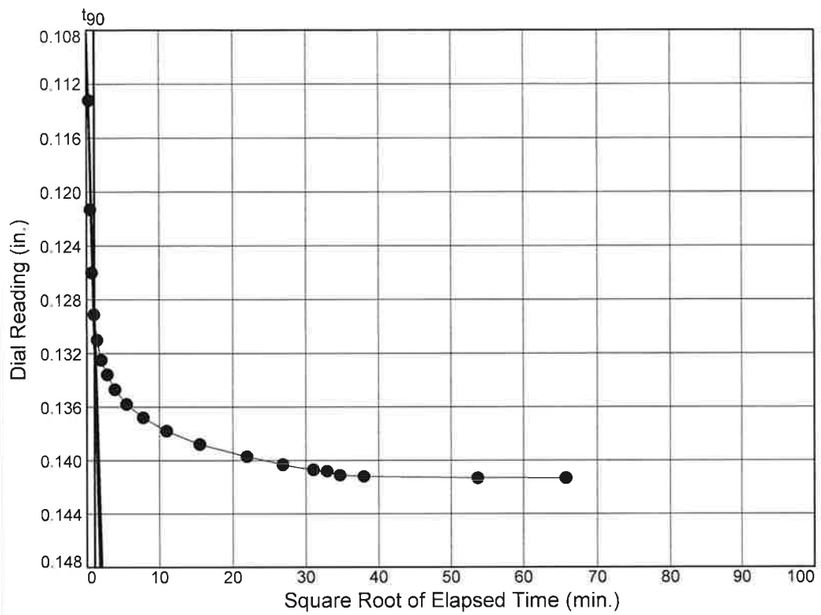
Dial Reading vs. Time

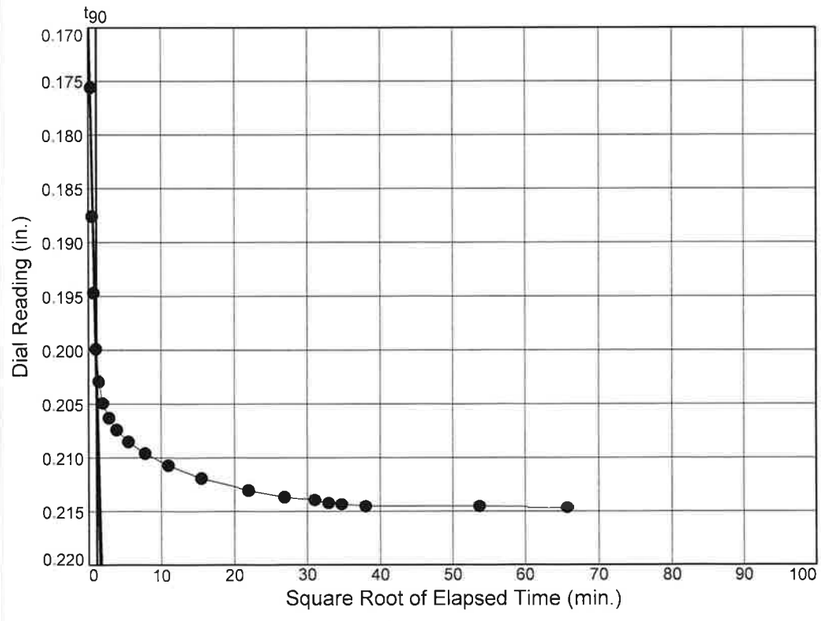
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y4RPC_2050R, Station 20+50 Depth: 3'-5' Sample Number: ST-5



Load No.= 11
Load= 4.00 tsf
D_0 = 0.1083
D_{90} = 0.1295
D_{100} = 0.1319
T_{90} = 1.19 min.

C_v @ T_{90}
0.0148 cm.2/sec.



Load No.= 12
Load= 8.00 tsf
D_0 = 0.1678
D_{90} = 0.2006
D_{100} = 0.2043
T_{90} = 1.21 min.

C_v @ T_{90}
0.0125 cm.2/sec.

Figure

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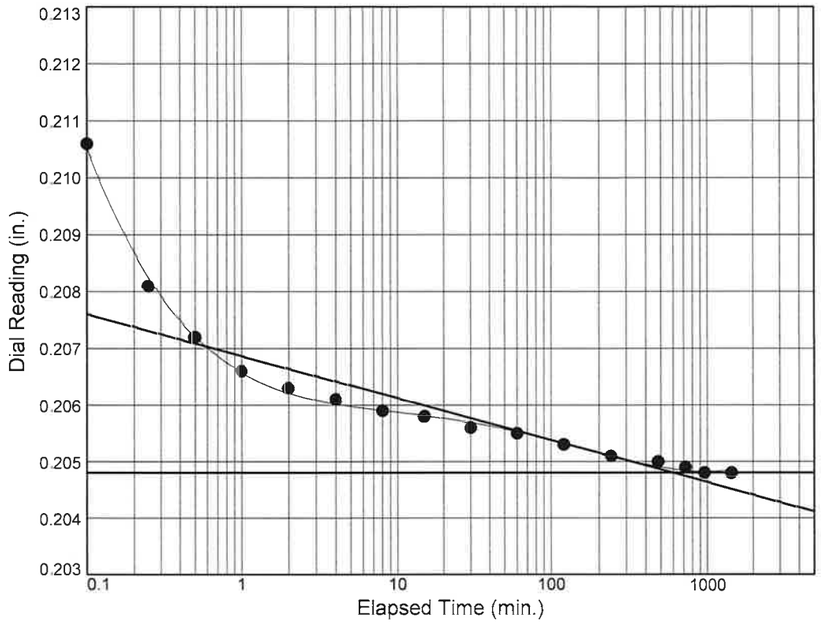
Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

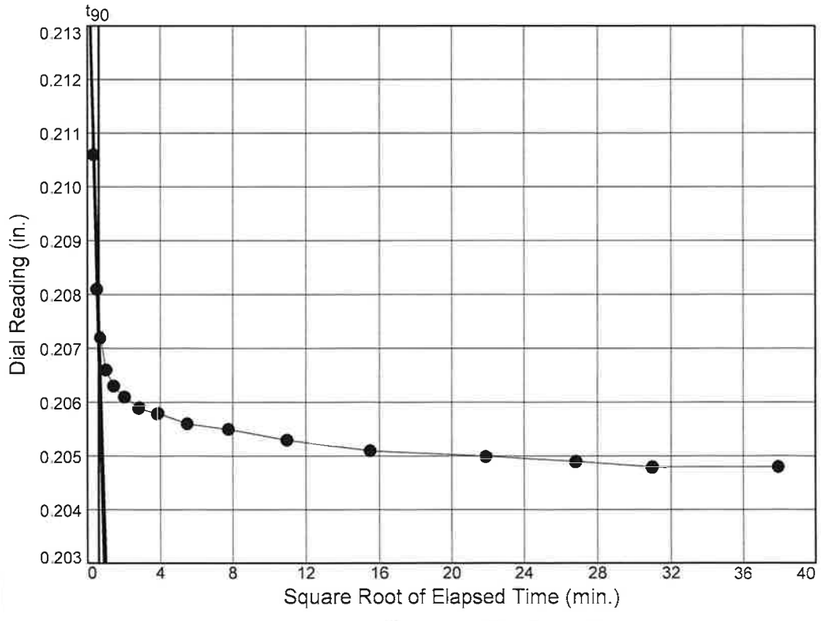
Location: Y4RPC_2050R, Station 20+50 Depth: 3'-5' Sample Number: ST-5



Load No.= 13
Load= 2.00 tsf
D_0 = 0.2146
D_{50} = 0.2097
D_{100} = 0.2048
T_{50} = 0.13 min.

C_v @ T_{50}
0.0250 cm.2/sec.

C_α = 0.000



Load No.= 13
Load= 2.00 tsf
D_0 = 0.2149
D_{90} = 0.2076
D_{100} = 0.2068
T_{90} = 0.38 min.

C_v @ T_{90}
0.0371 cm.2/sec.

Figure

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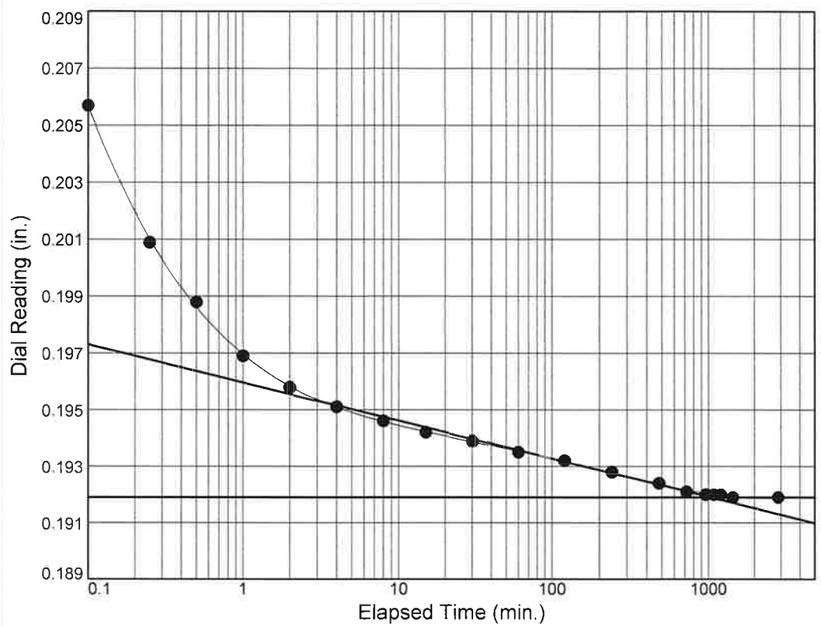
Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

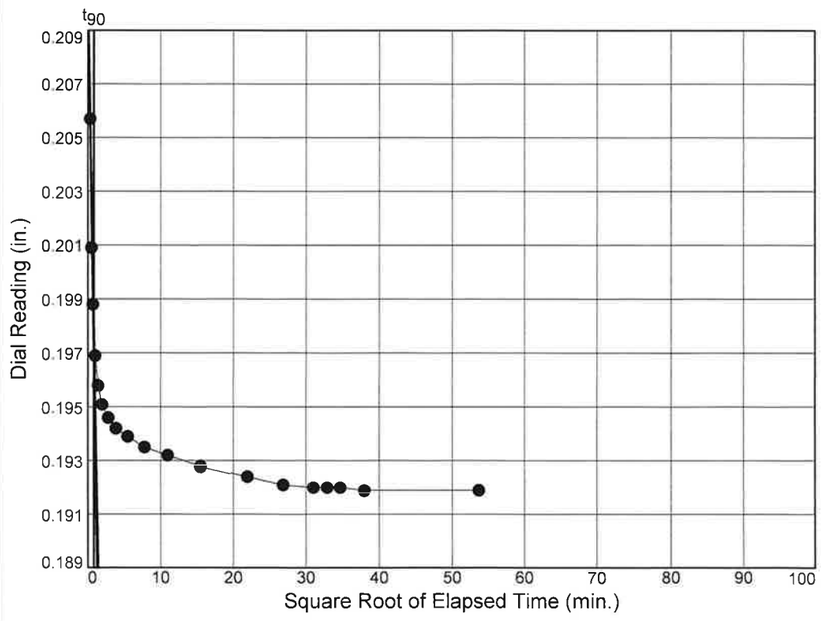
Location: Y4RPC_2050R, Station 20+50 Depth: 3'-5' Sample Number: ST-5



Load No.= 14
Load= 0.50 tsf
D_0 = 0.2048
D_{50} = 0.1984
D_{100} = 0.1919
T_{50} = 0.55 min.

C_v @ T_{50}
0.0062 cm.2/sec.

C_α = 0.000



Load No.= 14
Load= 0.50 tsf
D_0 = 0.2107
D_{90} = 0.1980
D_{100} = 0.1965
T_{90} = 0.70 min.

C_v @ T_{90}
0.0207 cm.2/sec.

Figure

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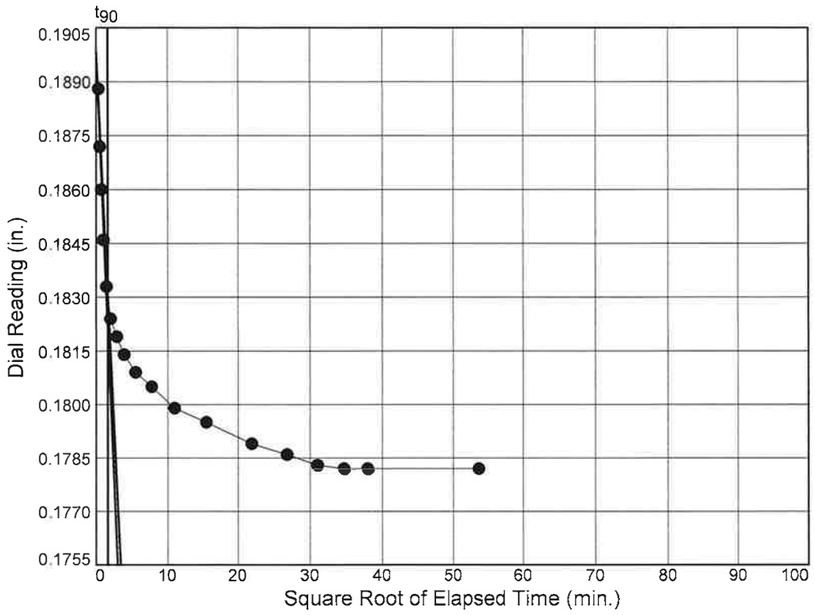
Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

Location: Y4RPC_2050R, Station 20+50 Depth: 3'-5' Sample Number: ST-5



Load No.= 15
Load= 0.13 tsf
D_0 = 0.1898
D_{90} = 0.1830
D_{100} = 0.1822
T_{90} = 2.58 min.

C_v @ T_{90}
0.0058 cm.^{2}/sec.

Figure

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CONSOLIDATION TEST DATA

9/30/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: Y4RPC_2050R, Station 20+50
Depth: 3'-5' **Sample Number:** ST-5
Material Description: Dark Orange-Brown Elastic Silt with Sand
Sample Date: 07-30-23 **Liquid Limit:** 53 **Plasticity Index:** 17
USCS: MH **AASHTO:** A-7-5(17)
Preparation Process: Sampled trimmed from shelby tube
Condition of Test: Inundated after application of seating load
Final Density: 64.2
Testing Remarks: AASHTO T216 Method B
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE		VOID RATIO		AFTER TEST	
Wet w+t =	132.60 g.	Spec. Gr. =	2.737	Wet w+t =	123.48 g.
Dry w+t =	88.87 g.	Est. Ht. Solids =	0.404 in.	Dry w+t =	88.87 g.
Tare Wt. =	0.00 g.	Init. V.R. =	1.477	Tare Wt. =	0.00 g.
Moisture =	49.2 %	Init. Sat. =	91.2 %	Moisture =	38.9 %
UNIT WEIGHT		TEST START		Dry Wt. =	88.87* g.
Height =	1.000 in.	Height =	1.000 in.		
Diameter =	2.500 in.	Diameter =	2.500 in.		
Weight =	132.60 g.				
Dry Dens. =	69.0 pcf	* Final dry weight used as mineral solids weight			

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			1.477	
0.13	0.00000	0.00700	-0.00700			1.495	0.7 Swell
0.50	0.01080	0.00700	0.00189*	0.0343		1.473	0.2 Comprs.
1.00	0.02280	0.00170	0.01848*	0.0184		1.432	1.8 Comprs.
2.00	0.04480	0.00290	0.03685*	0.0317		1.386	3.7 Comprs.
4.00	0.08590	0.00460	0.07417*	0.0167		1.294	7.4 Comprs.
2.00	0.08340	0.00440	0.07936*	0.0084		1.281	7.9 Comprs.
0.50	0.07350	0.00280	0.07212*			1.299	7.2 Comprs.
1.00	0.07440	0.00360	0.07043*	0.0606		1.303	7.0 Comprs.
2.00	0.07860	0.00370	0.07436*	0.0086		1.293	7.4 Comprs.
4.00	0.08990	0.00470	0.08301*	0.0045		1.272	8.3 Comprs.
8.00	0.14810	0.00680	0.13188*	0.0148		1.151	13.2 Comprs.
16.00	0.22350	0.00890	0.20427*	0.0125		0.971	20.4 Comprs.
4.00	0.21210	0.00730	0.20677*	0.0371		0.970	20.5 Comprs.
1.00	0.19470	0.00280	0.19655*	0.0207		1.002	19.2 Comprs.
0.25	0.18180	0.00360	0.18225*	0.0058		1.026	18.2 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

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TEST RESULTS SUMMARY

Compression index (C_c), tsf = 0.60 **Preconsolidation pressure (P_p), tsf** = 1.8 **Void ratio at P_p (e_m)** = 1.308

Recompression index (C_r) = 0.04

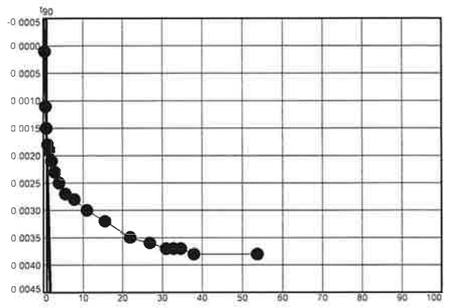
Pressure: 0.13 ksf — **TEST READINGS** — **Load No. 1**

No.	Elapsed Time	Dial Reading
1	0	0.00000
2	0.1	0.00000
3	0.25	0.00000
4	0.50	0.00000
5	5	0.00000

Void Ratio = 1.495 **Swell** = 0.7%

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00000	11	60	0.00980
2	0.10	0.00710	12	120	0.01000
3	0.25	0.00810	13	240	0.01020
4	0.50	0.00850	14	480	0.01050
5	1	0.00880	15	720	0.01060
6	2	0.00890	16	960	0.01070
7	4	0.00910	17	1080	0.01070
8	8	0.00930	18	1200	0.01070
9	15	0.00950	19	1440	0.01080
10	30	0.00970	20	2880	0.01080

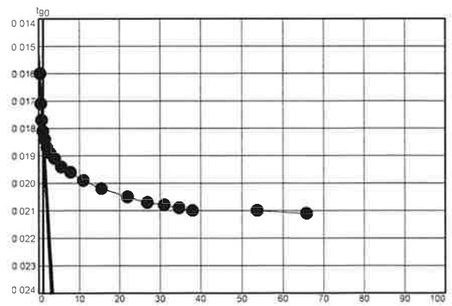


Void Ratio = 1.473 **Compression** = 0.2% >>> CALCULATED USING D_{100}

D_0 = -0.0009 **D_{90}** = 0.0016 **D_{100}** = 0.0019 **C_v at 0.66 min.** = 0.0343 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01080	11	60	0.02130
2	0.10	0.01770	12	120	0.02160
3	0.25	0.01880	13	240	0.02190
4	0.50	0.01940	14	480	0.02220
5	1	0.01980	15	720	0.02240
6	2	0.02010	16	960	0.02250
7	4	0.02040	17	1200	0.02260
8	8	0.02060	18	1440	0.02270
9	15	0.02080	19	2880	0.02270
10	30	0.02110	20	4320	0.02280

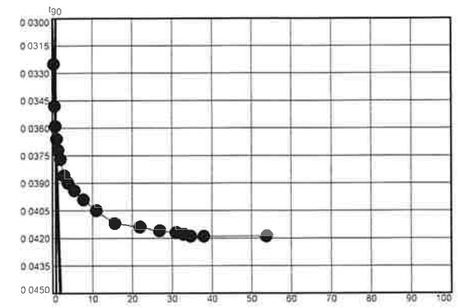


Void Ratio = 1.432 **Compression** = 1.8% >>> CALCULATED USING D_{100}

D_0 = 0.0154 **D_{90}** = 0.0182 **D_{100}** = 0.0185 **C_v at 1.20 min.** = 0.0184 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02280	11	60	0.04280
2	0.10	0.03540	12	120	0.04340
3	0.25	0.03770	13	240	0.04410
4	0.50	0.03880	14	480	0.04430
5	1	0.03950	15	720	0.04450
6	2	0.04010	16	960	0.04460
7	4	0.04060	17	1080	0.04470
8	8	0.04150	18	1200	0.04480
9	15	0.04190	19	1440	0.04480
10	30	0.04230	20	2880	0.04480

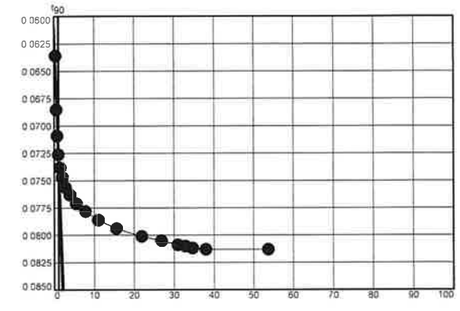


Void Ratio = 1.386 **Compression** = 3.7% >>> CALCULATED USING D_{100}

D_0 = 0.0300 **D_{90}** = 0.0362 **D_{100}** = 0.0369 **C_v at 0.67 min.** = 0.0317 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04480	11	60	0.08240
2	0.10	0.06820	12	120	0.08320
3	0.25	0.07310	13	240	0.08400
4	0.50	0.07550	14	480	0.08470
5	1	0.07720	15	720	0.08510
6	2	0.07840	16	960	0.08550
7	4	0.07930	17	1080	0.08560
8	8	0.08020	18	1200	0.08580
9	15	0.08090	19	1440	0.08590
10	30	0.08170	20	2880	0.08590

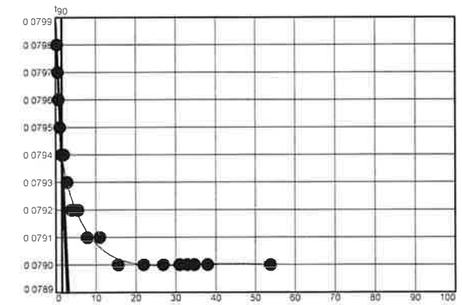


Void Ratio = 1.294 **Compression** = 7.4% >>> CALCULATED USING D_{100}

D_0 = 0.0610 **D_{90}** = 0.0729 **D_{100}** = 0.0742 **C_v at 1.18 min.** = 0.0167 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08590	11	60	0.08350
2	0.1	0.08420	12	120	0.08350
3	0.25	0.08410	13	240	0.08340
4	0.50	0.08400	14	480	0.08340
5	1	0.08390	15	720	0.08340
6	2	0.08380	16	960	0.08340
7	4	0.08380	17	1080	0.08340
8	8	0.08370	18	1200	0.08340
9	15	0.08360	19	1440	0.08340
10	30	0.08360	20	2880	0.08340



Void Ratio = 1.281 **Compression** = 7.9% >>> CALCULATED USING D_{100}

D_0 = 0.0799 **D_{90}** = 0.0794 **D_{100}** = 0.0794 **C_v at 2.29 min.** = 0.0084 cm.^{2}/sec.

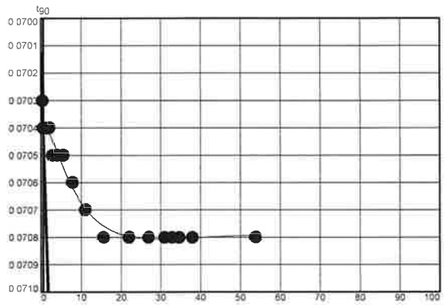
Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08340	11	60	0.07430
2	0.10	0.07630	12	120	0.07400
3	0.25	0.07580	13	240	0.07390
4	0.50	0.07550	14	480	0.07370
5	1	0.07530	15	720	0.07360
6	2	0.07510	16	960	0.07350
7	4	0.07490	17	1080	0.07350
8	8	0.07470	18	1200	0.07350
9	15	0.07460	19	1440	0.07350
10	30	0.07450	20	2880	0.07350

Void Ratio = 1.299 **Compression** = 7.2%

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 8**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07350	11	60	0.07420
2	0.10	0.07390	12	120	0.07430
3	0.25	0.07400	13	240	0.07440
4	0.50	0.07400	14	480	0.07440
5	1	0.07400	15	720	0.07440
6	2	0.07400	16	960	0.07440
7	4	0.07400	17	1080	0.07440
8	8	0.07410	18	1200	0.07440
9	15	0.07410	19	1440	0.07440
10	30	0.07410	20	2880	0.07440

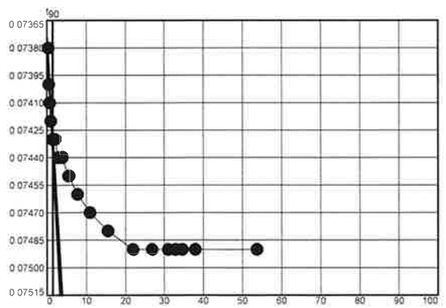


Void Ratio = 1.303 **Compression** = 7.0% >>> CALCULATED USING D_{100}

D_0 = 0.0701 D_{90} = 0.0704 D_{100} = 0.0704 C_v **at 0.33 min.** = 0.0606 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07440	11	60	0.07830
2	0.10	0.07750	12	120	0.07840
3	0.25	0.07770	13	240	0.07850
4	0.50	0.07780	14	480	0.07860
5	1	0.07790	15	720	0.07860
6	2	0.07800	16	960	0.07860
7	4	0.07800	17	1080	0.07860
8	8	0.07810	18	1200	0.07860
9	15	0.07810	19	1440	0.07860
10	30	0.07820	20	2880	0.07860

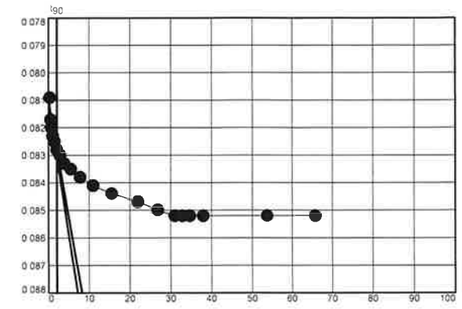


Void Ratio = 1.293 **Compression** = 7.4% >>> CALCULATED USING D_{100}

D_0 = 0.0737 D_{90} = 0.0743 D_{100} = 0.0744 C_v **at 2.27 min.** = 0.0086 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07860	12	120	0.08880
2	0.10	0.08560	13	240	0.08910
3	0.25	0.08640	14	480	0.08940
4	0.50	0.08670	15	720	0.08970
5	1	0.08700	16	960	0.08990
6	2	0.08720	17	1080	0.08990
7	4	0.08750	18	1200	0.08990
8	8	0.08770	19	1440	0.08990
9	15	0.08800	20	2880	0.08990
10	30	0.08820	21	4320	0.08990
11	60	0.08850			

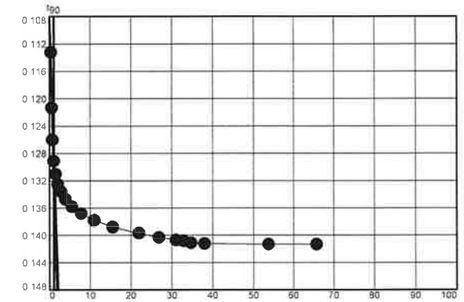


Void Ratio = 1.272 **Compression** = 8.3% >>> CALCULATED USING D_{100}

D_0 = 0.0811 D_{90} = 0.0828 D_{100} = 0.0830 C_v **at 4.28 min.** = 0.0045 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 11**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08990	12	120	0.14460
2	0.10	0.12000	13	240	0.14560
3	0.25	0.12810	14	480	0.14650
4	0.50	0.13280	15	720	0.14710
5	1	0.13590	16	960	0.14750
6	2	0.13780	17	1080	0.14760
7	4	0.13930	18	1200	0.14790
8	8	0.14040	19	1440	0.14800
9	15	0.14150	20	2880	0.14810
10	30	0.14260	21	4320	0.14810
11	60	0.14360			

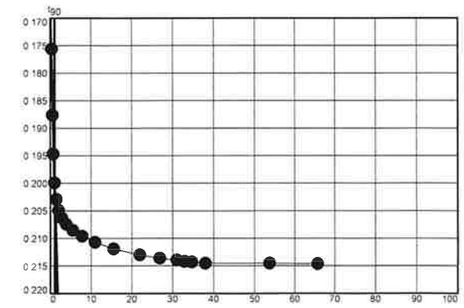


Void Ratio = 1.151 **Compression** = 13.2% >>> CALCULATED USING D_{100}

D_0 = 0.1083 D_{90} = 0.1295 D_{100} = 0.1319 C_v **at 1.19 min.** = 0.0148 cm.^{2}/sec.

Pressure: 16.00 ksf — **TEST READINGS** — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.14810	12	120	0.21960
2	0.10	0.18450	13	240	0.22080
3	0.25	0.19650	14	480	0.22190
4	0.50	0.20360	15	720	0.22250
5	1	0.20880	16	960	0.22280
6	2	0.21180	17	1080	0.22310
7	4	0.21380	18	1200	0.22320
8	8	0.21520	19	1440	0.22340
9	15	0.21630	20	2880	0.22340
10	30	0.21740	21	4320	0.22350
11	60	0.21850			

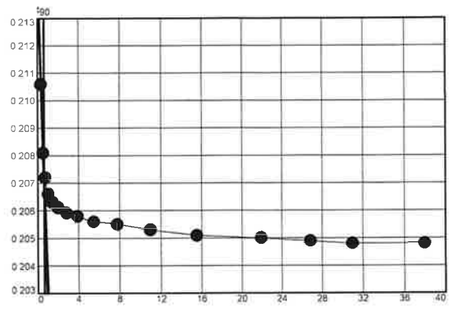


Void Ratio = 0.971 **Compression** = 20.4% >>> CALCULATED USING D_{100}

D_0 = 0.1678 D_{90} = 0.2006 D_{100} = 0.2043 C_v **at 1.21 min.** = 0.0125 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.22350	11	60	0.21280
2	0.10	0.21790	12	120	0.21260
3	0.25	0.21540	13	240	0.21240
4	0.50	0.21450	14	480	0.21230
5	1	0.21390	15	720	0.21220
6	2	0.21360	16	960	0.21210
7	4	0.21340	17	1440	0.21210
8	8	0.21320			
9	15	0.21310			
10	30	0.21290			

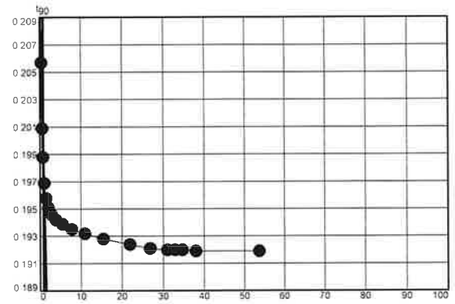


Void Ratio = 0.970 **Compression** = 20.5% >>> CALCULATED USING D_{100}

D_0 = 0.2149 D_{90} = 0.2076 D_{100} = 0.2068 C_v **at 0.38 min.** = 0.0371 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.21210	11	60	0.19630
2	0.10	0.20850	12	120	0.19600
3	0.25	0.20370	13	240	0.19560
4	0.50	0.20160	14	480	0.19520
5	1	0.19970	15	720	0.19490
6	2	0.19860	16	960	0.19480
7	4	0.19790	17	1080	0.19480
8	8	0.19740	18	1200	0.19480
9	15	0.19700	19	1440	0.19470
10	30	0.19670	20	2880	0.19470

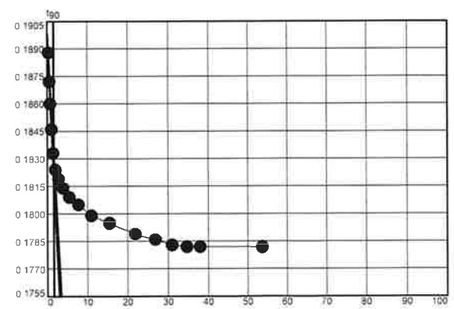


Void Ratio = 1.002 **Compression** = 19.2% >>> CALCULATED USING D_{100}

D_0 = 0.2107 D_{90} = 0.1980 D_{100} = 0.1965 C_v **at 0.70 min.** = 0.0207 cm.^{2}/sec.

Pressure: 0.25 ksf — **TEST READINGS** — **Load No. 15**

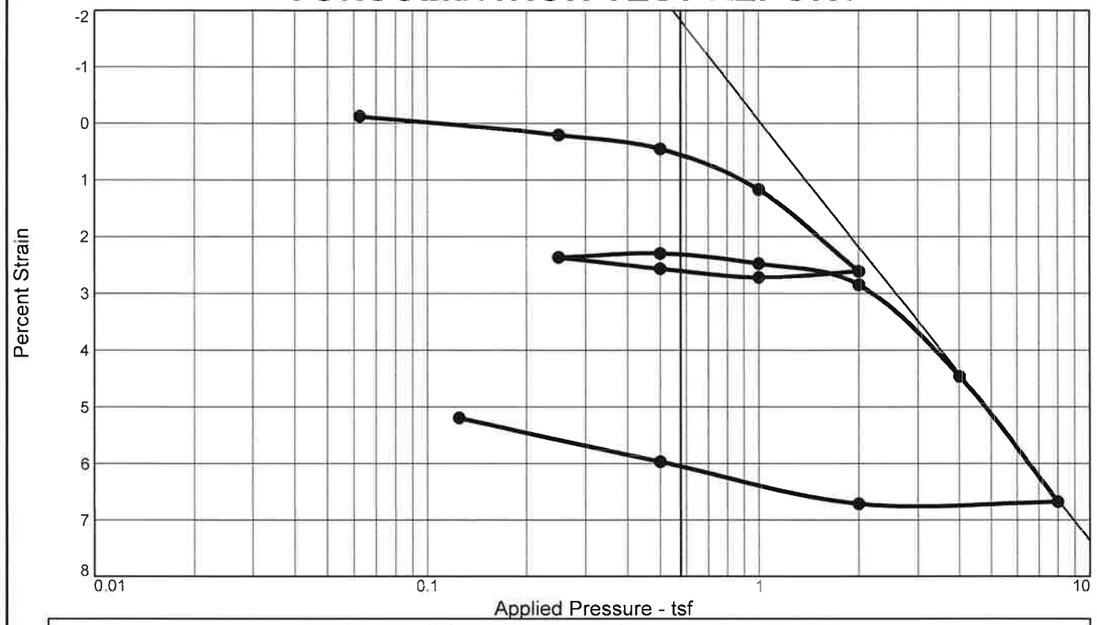
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.19470	11	60	0.18410
2	0.10	0.19240	12	120	0.18350
3	0.25	0.19080	13	240	0.18310
4	0.50	0.18960	14	480	0.18250
5	1	0.18820	15	720	0.18220
6	2	0.18690	16	960	0.18190
7	4	0.18600	17	1200	0.18180
8	8	0.18550	18	1440	0.18180
9	15	0.18500	19	2880	0.18180
10	30	0.18450			



Void Ratio = 1.026 **Compression** = 18.2% >>> CALCULATED USING D_{100}

D_0 = 0.1898 D_{90} = 0.1830 D_{100} = 0.1822 C_v **at 2.58 min.** = 0.0058 cm.^{2}/sec.

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
2	0.25	0.0217		9	0.50	0.0079		16	0.13	0.0019	
3	0.50	0.0024		10	1.00	0.0143					
4	1.00	0.0049		11	2.00	0.0148					
5	2.00	0.0083		12	4.00	0.0088					
6	1.00	0.0161		13	8.00	0.0138					
7	0.50	0.0182		14	2.00	0.0297					
8	0.25	0.0042		15	0.50	0.0070					

MATERIAL DESCRIPTION	USCS	AASHTO
Grey-Brown Sandy Silt	ML	A-4(3)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf) Init.	Dry Dens. (pcf) Final	Moisture Init.	Moisture Final	Saturation Init.	Saturation Final	Void Ratio Init.	Void Ratio Final	P_c (tsf)	C_c
34	9	2.630		98.4	99.2	21.7 %	22.7 %	85.3 %	100.0 %	0.669	0.583	1.3	0.12

Preparation Process: Sample trimmed from shelby tube

Condition of Test: Innundated after application of seating load

D2435 Method	C_r	Swell Press. (tsf)	Swell %
	0.01		

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group

Project: I-5719: I-85
TIP No.: I-5719

Loc.: Y3RPB_SPUR_1100L, Station 11+00 **Sample No.:** ST-6

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO T216 Method B

Checked By: MH

Title: Lab Manager

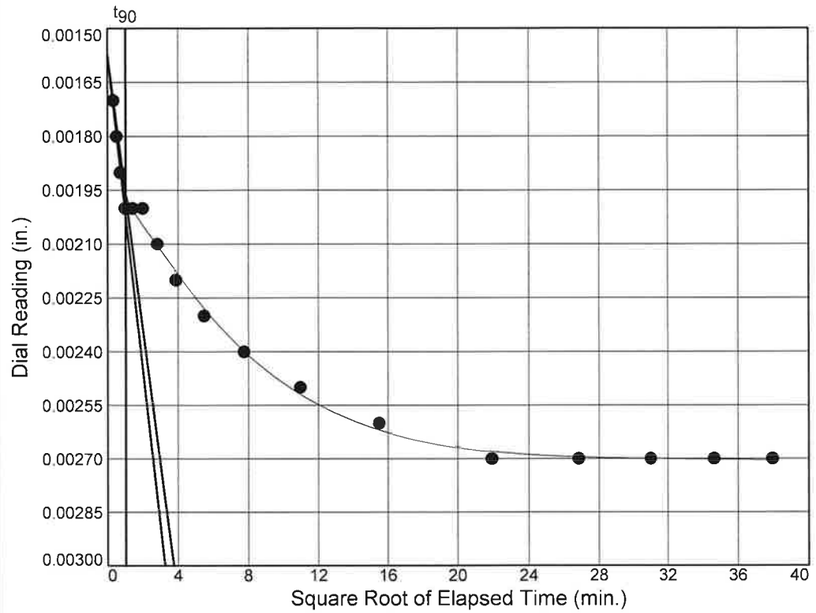
Figure

Tested By: FG

Dial Reading vs. Time

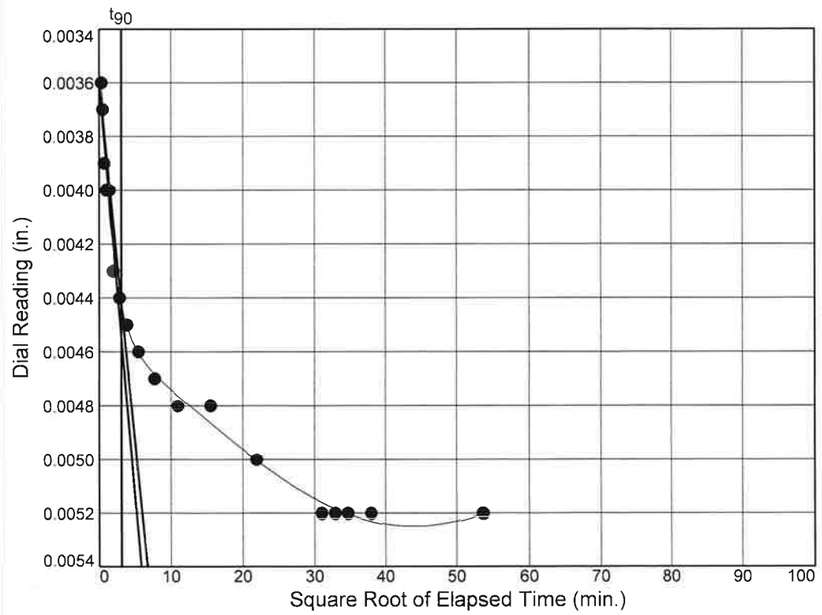
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3RPB_SPUR_1100L, Station 11+00 Depth: 7'-9' Sample Number: ST-6



Load No.= 2
Load= 0.25 tsf
D_0 = 0.0016
D_{90} = 0.0020
D_{100} = 0.0020
T_{90} = 1.05 min.

C_v @ T_{90}
0.0217 cm.2/sec.



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0036
D_{90} = 0.0044
D_{100} = 0.0045
T_{90} = 9.59 min.

C_v @ T_{90}
0.0024 cm.2/sec.

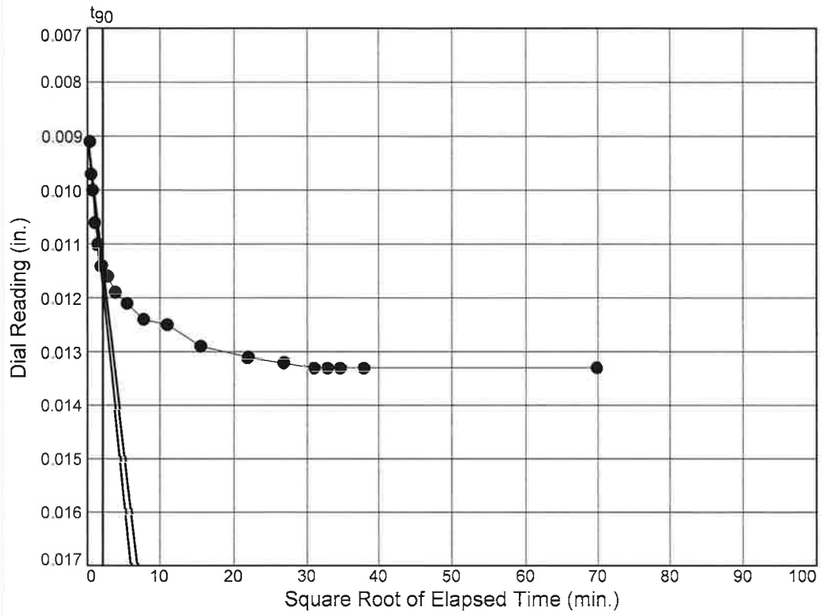
Figure

Summit Engineering

Dial Reading vs. Time

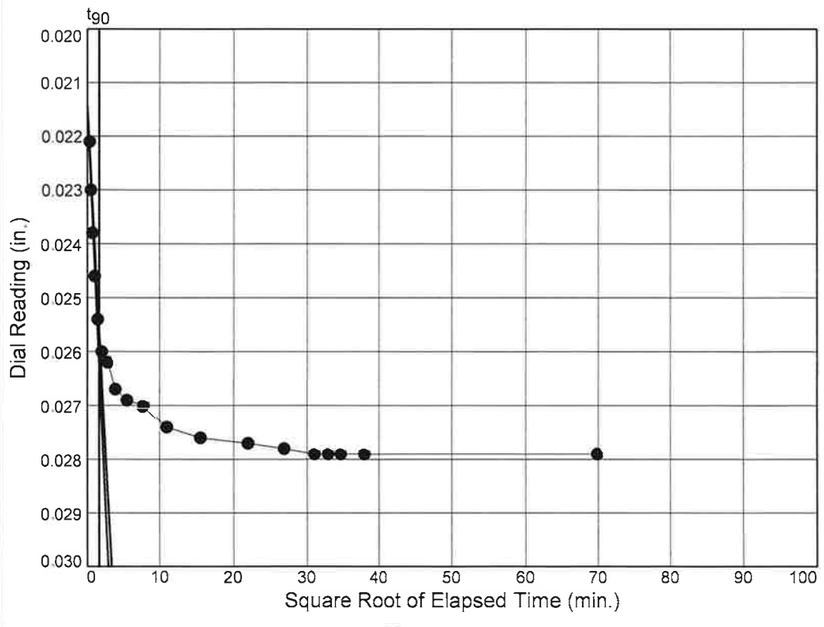
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3RPB_SPUR_1100L, Station 11+00 Depth: 7'-9' Sample Number: ST-6



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0090
D_{90} = 0.0114
D_{100} = 0.0117
T_{90} = 4.52 min.

C_v @ T_{90}
0.0049 cm.2/sec.



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0215
D_{90} = 0.0256
D_{100} = 0.0261
T_{90} = 2.63 min.

C_v @ T_{90}
0.0083 cm.2/sec.

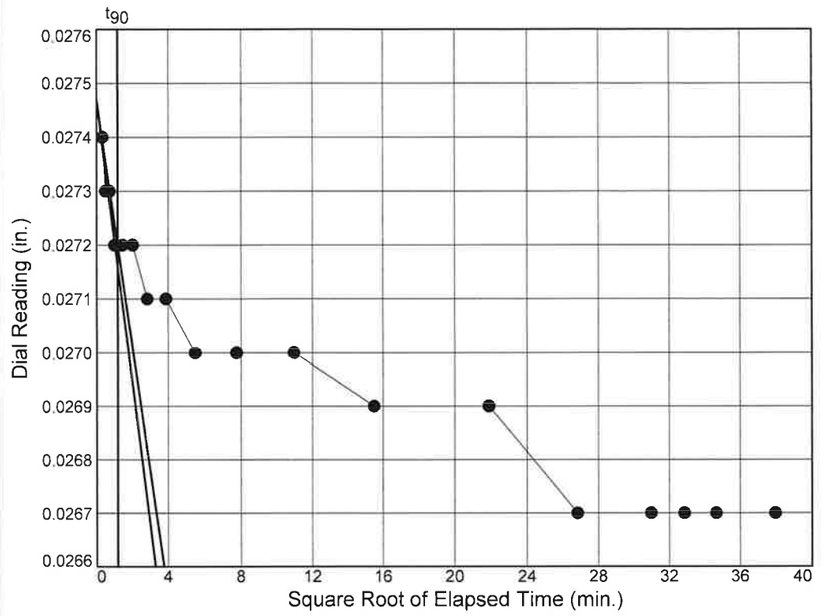
Figure

Summit Engineering

Dial Reading vs. Time

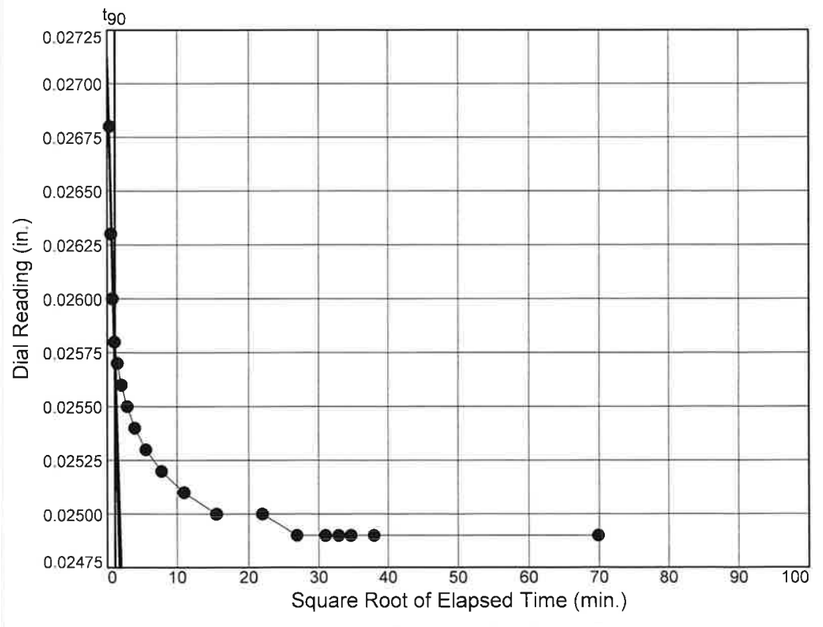
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3RPB_SPUR_1100L, Station 11+00 Depth: 7'-9' Sample Number: ST-6



Load No.= 6
Load= 1.00 tsf
D_0 = 0.0275
D_{90} = 0.0272
D_{100} = 0.0272
T_{90} = 1.34 min.

C_v @ T_{90}
0.0161 cm.2/sec.



Load No.= 7
Load= 0.50 tsf
D_0 = 0.0271
D_{90} = 0.0258
D_{100} = 0.0256
T_{90} = 1.18 min.

C_v @ T_{90}
0.0182 cm.2/sec.

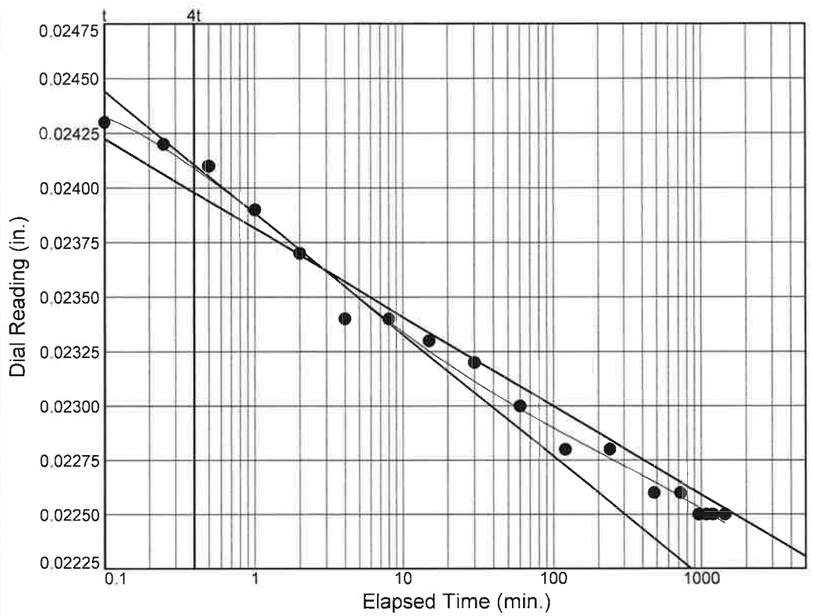
Figure

Summit Engineering

Dial Reading vs. Time

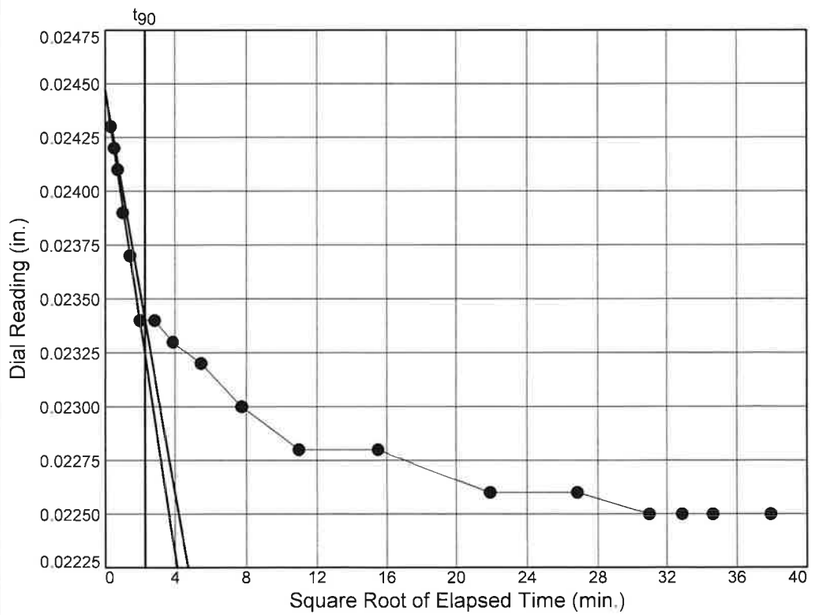
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3RPB_SPUR_1100L, Station 11+00 Depth: 7'-9' Sample Number: ST-6



Load No.= 8
Load= 0.25 tsf
D_0 = 0.0246
D_{50} = 0.0241
D_{100} = 0.0236
T_{50} = 0.39 min.

C_v @ T_{50}
0.0129 cm.2/sec.



Load No.= 8
Load= 0.25 tsf
D_0 = 0.0245
D_{90} = 0.0234
D_{100} = 0.0233
T_{90} = 5.19 min.

C_v @ T_{90}
0.0042 cm.2/sec.

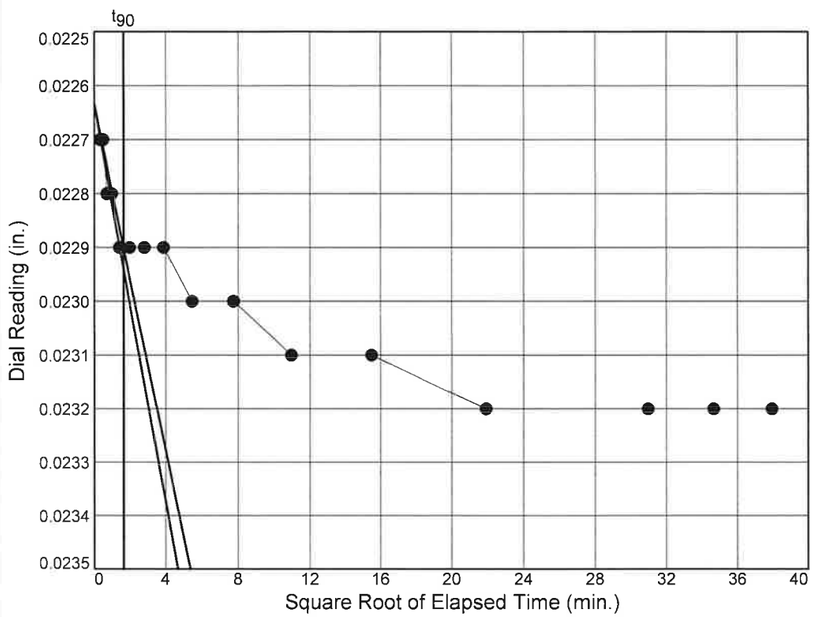
Figure

Summit Engineering

Dial Reading vs. Time

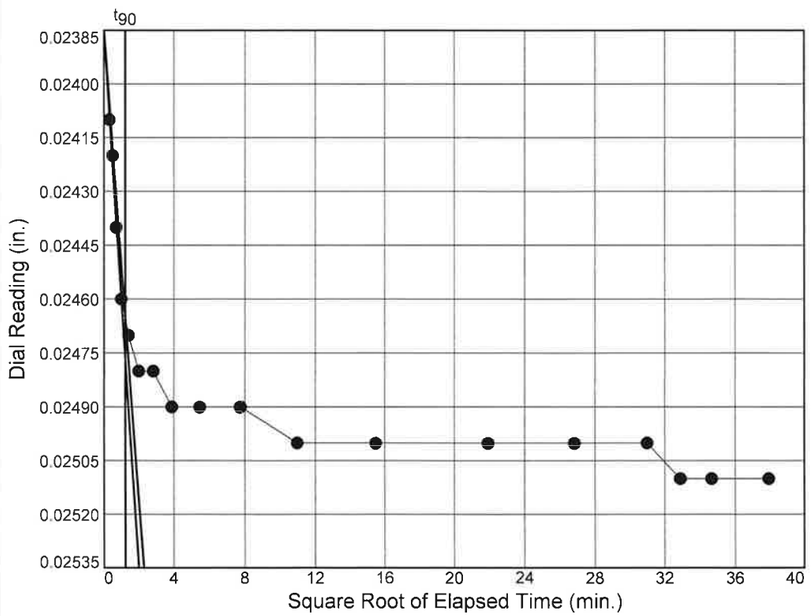
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3RPB_SPUR_1100L, Station 11+00 Depth: 7'-9' Sample Number: ST-6



Load No.= 9
Load= 0.50 tsf
D_0 = 0.0226
D_{90} = 0.0229
D_{100} = 0.0229
T_{90} = 2.75 min.

C_v @ T_{90}
0.0079 cm.2/sec.



Load No.= 10
Load= 1.00 tsf
D_0 = 0.0239
D_{90} = 0.0247
D_{100} = 0.0247
T_{90} = 1.51 min.

C_v @ T_{90}
0.0143 cm.2/sec.

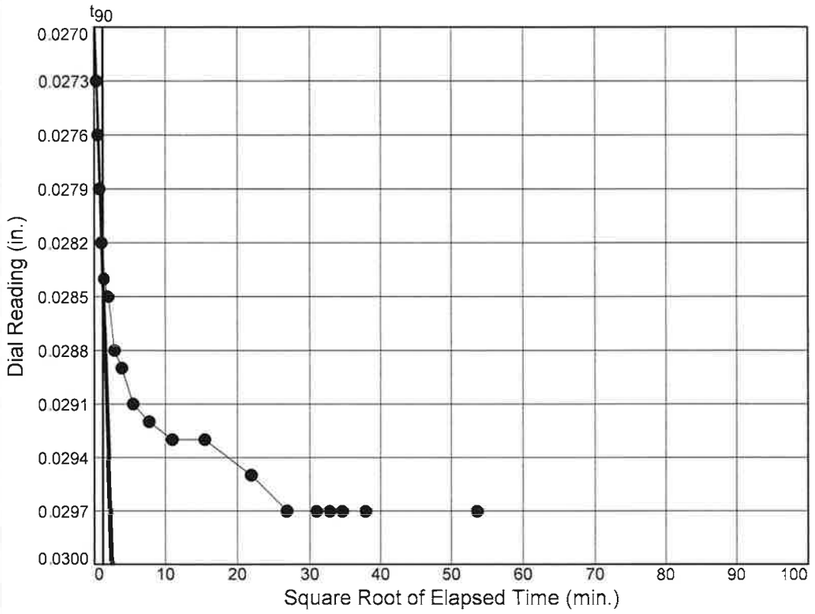
Figure

Summit Engineering

Dial Reading vs. Time

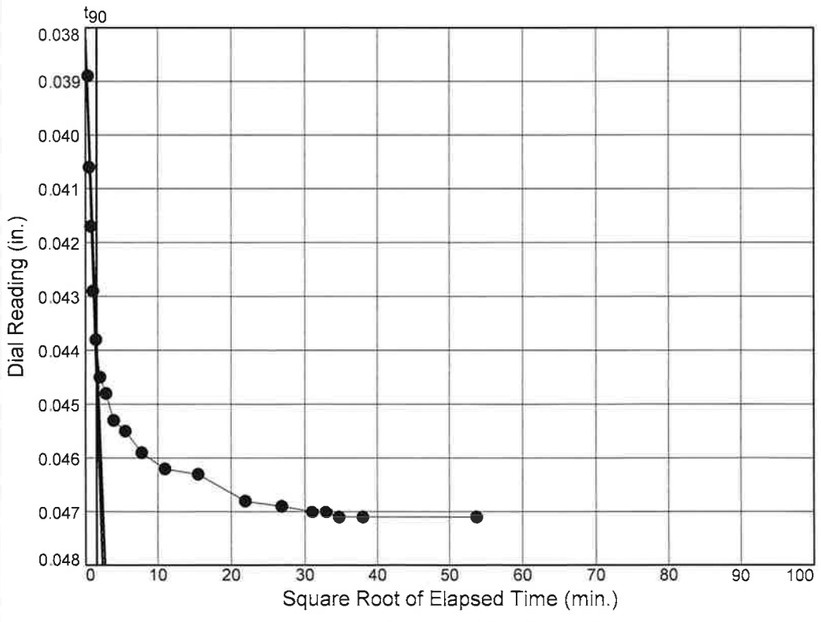
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3RPB_SPUR_1100L, Station 11+00 Depth: 7'-9' Sample Number: ST-6



Load No.= 11
Load= 2.00 tsf
D_0 = 0.0269
D_{90} = 0.0283
D_{100} = 0.0285
T_{90} = 1.46 min.

C_v @ T_{90}
0.0148 cm.2/sec.



Load No.= 12
Load= 4.00 tsf
D_0 = 0.0382
D_{90} = 0.0440
D_{100} = 0.0446
T_{90} = 2.38 min.

C_v @ T_{90}
0.0088 cm.2/sec.

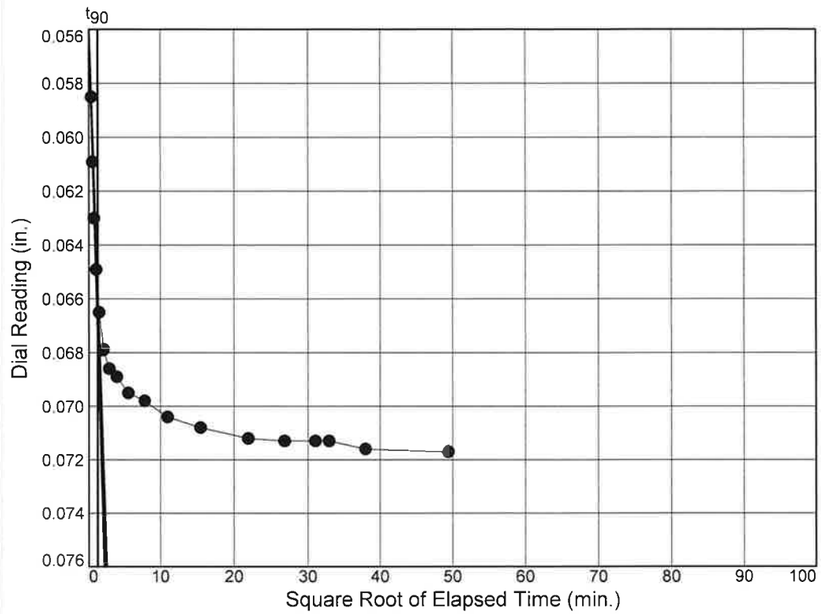
Figure

Summit Engineering

Dial Reading vs. Time

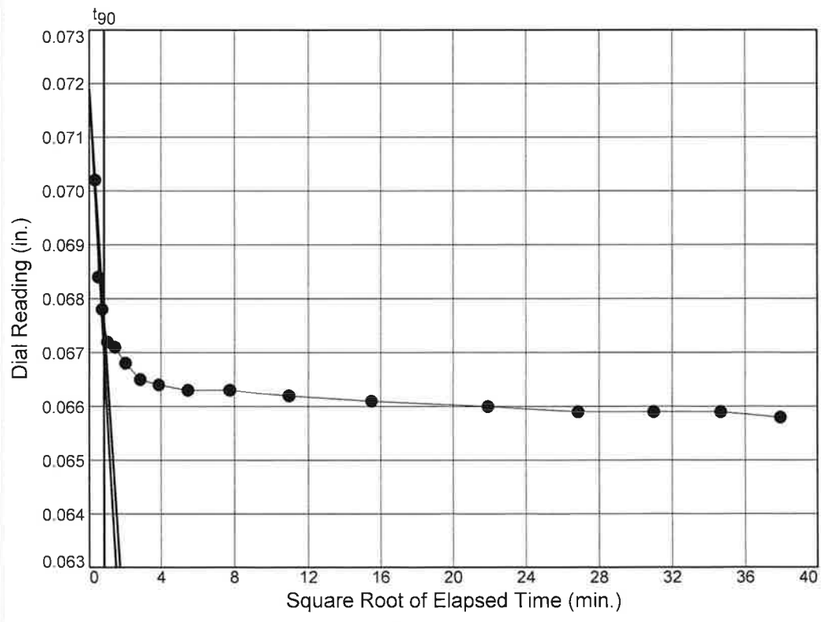
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3RPB_SPUR_1100L, Station 11+00 Depth: 7'-9' Sample Number: ST-6



Load No.= 13
Load= 8.00 tsf
D_0 = 0.0560
D_{90} = 0.0657
D_{100} = 0.0668
T_{90} = 1.45 min.

C_v @ T_{90}
0.0138 cm.2/sec.



Load No.= 14
Load= 2.00 tsf
D_0 = 0.0719
D_{90} = 0.0676
D_{100} = 0.0671
T_{90} = 0.66 min.

C_v @ T_{90}
0.0297 cm.2/sec.

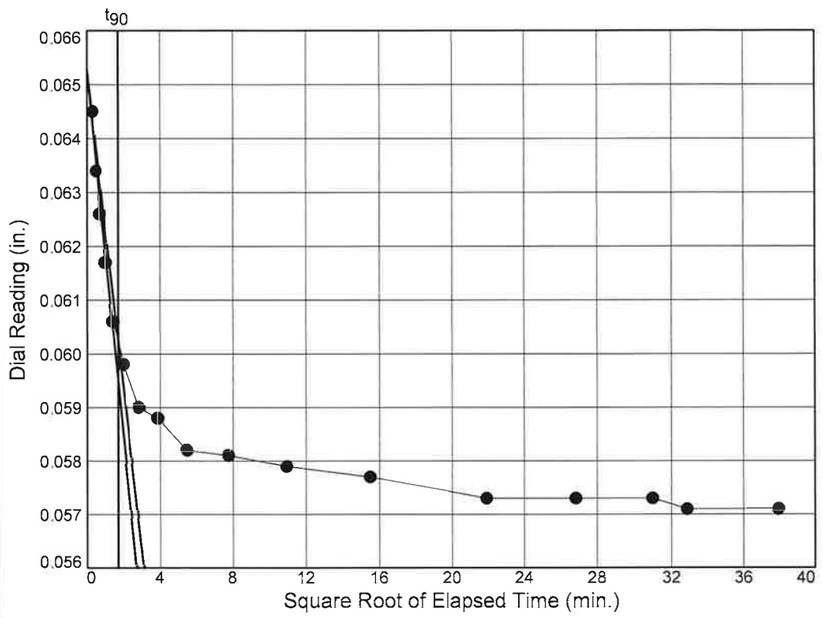
Figure

Summit Engineering

Dial Reading vs. Time

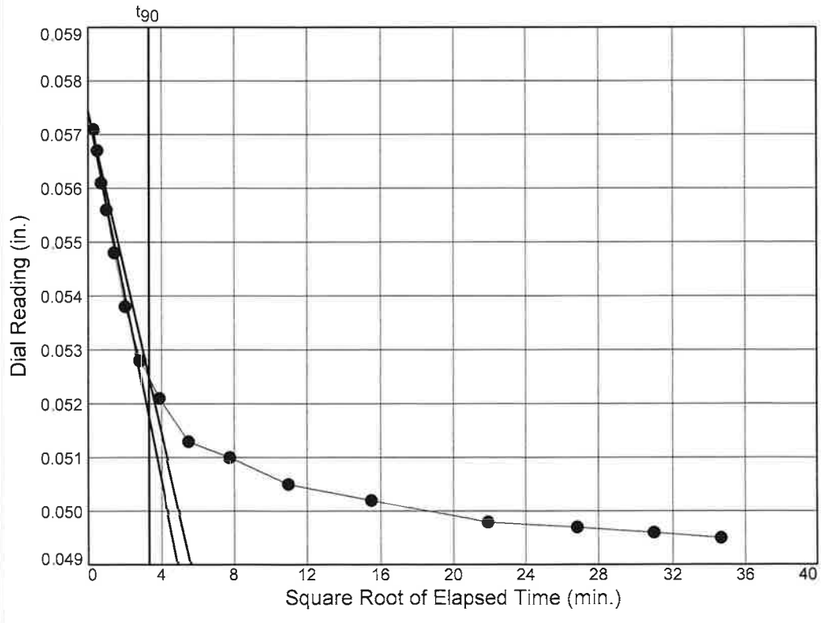
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3RPB_SPUR_1100L, Station 11+00 Depth: 7'-9' Sample Number: ST-6



Load No.= 15
Load= 0.50 tsf
D_0 = 0.0653
D_{90} = 0.0602
D_{100} = 0.0597
T_{90} = 2.85 min.

C_v @ T_{90}
0.0070 cm.^{2}/sec.



Load No.= 16
Load= 0.13 tsf
D_0 = 0.0574
D_{90} = 0.0525
D_{100} = 0.0519
T_{90} = 10.91 min.

C_v @ T_{90}
0.0019 cm.^{2}/sec.

Figure

Summit Engineering

CONSOLIDATION TEST DATA

9/30/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: Y3RPB_SPUR_1100L, Station 11+00
Depth: 7'-9' **Sample Number:** ST-6
Material Description: Grey-Brown Sandy Silt
Sample Date: 09-01-23 **Liquid Limit:** 34 **Plasticity Index:** 9
USCS: ML **AASHTO:** A-4(3)
Preparation Process: Sample trimmed from shelby tube
Condition of Test: Innundated after application of seating load
Final Density: 99.2
Testing Remarks: AASHTO T216 Method B
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE		VOID RATIO		AFTER TEST	
Wet w+t =	154.23 g.	Spec. Gr. =	2.630	Wet w+t =	155.53 g.
Dry w+t =	126.73 g.	Est. Ht. Solids =	0.599 in.	Dry w+t =	126.73 g.
Tare Wt. =	0.00 g.	Init. V.R. =	0.669	Tare Wt. =	0.00 g.
Moisture =	21.7 %	Init. Sat. =	85.3 %	Moisture =	22.7 %
UNIT WEIGHT		TEST START		Dry Wt. =	126.73* g.
Height =	1.000 in.	Height =	1.000 in.		
Diameter =	2.500 in.	Diameter =	2.500 in.		
Weight =	154.23 g.				
Dry Dens. =	98.4 pcf				

* Final dry weight used as mineral solids weight

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			0.669	
0.13	0.00000	0.00120	-0.00120			0.671	0.1 Swell
0.50	0.00390	0.00120	0.00201*	0.0217		0.666	0.2 Comprs.
1.00	0.00770	0.00250	0.00452*	0.0024		0.662	0.5 Comprs.
2.00	0.01700	0.00370	0.01170*	0.0049		0.650	1.2 Comprs.
4.00	0.03380	0.00590	0.02607*	0.0083		0.626	2.6 Comprs.
2.00	0.03230	0.00560	0.02717*	0.0161		0.624	2.7 Comprs.
1.00	0.02950	0.00460	0.02563*	0.0182		0.627	2.6 Comprs.
0.50	0.02640	0.00390	0.02328*	0.0042		0.630	2.4 Comprs.
1.00	0.02720	0.00400	0.02293*	0.0079		0.631	2.3 Comprs.
2.00	0.02980	0.00470	0.02475*	0.0143		0.628	2.5 Comprs.
4.00	0.03570	0.00600	0.02845*	0.0148		0.622	2.8 Comprs.
8.00	0.05530	0.00820	0.04459*	0.0088		0.595	4.5 Comprs.
16.00	0.08210	0.01040	0.06677*	0.0138		0.558	6.7 Comprs.
4.00	0.07470	0.00890	0.06710*	0.0297		0.557	6.7 Comprs.
1.00	0.06380	0.00670	0.05967*	0.0070		0.570	6.0 Comprs.
0.25	0.05430	0.00480	0.05193*	0.0019		0.583	5.2 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

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TEST RESULTS SUMMARY

Compression index (C_c), tsf = 0.12 **Preconsolidation pressure (P_p), tsf** = 1.3 **Void ratio at P_p (e_m)** = 0.641

Recompression index (C_r) = 0.01

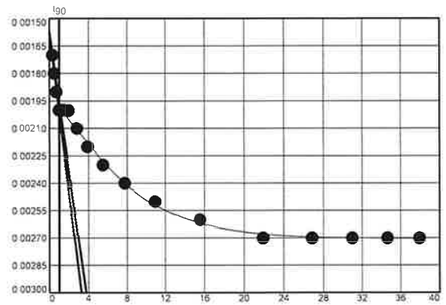
Pressure: 0.13 ksf — TEST READINGS — **Load No. 1**

No.	Elapsed Time	Dial Reading
1	0.10	0.00000
2	0.5	0.00000
3	1	0.00000
4	5	0.00000
5	10	0.00000

Void Ratio = 0.671 **Swell** = 0.1%

Pressure: 0.50 ksf — TEST READINGS — **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00000	11	60	0.00360
2	0.10	0.00290	12	120	0.00370
3	0.25	0.00300	13	240	0.00380
4	0.50	0.00310	14	480	0.00390
5	1	0.00320	15	720	0.00390
6	2	0.00320	16	960	0.00390
7	4	0.00320	17	1200	0.00390
8	8	0.00330	18	1440	0.00390
9	15	0.00340			
10	30	0.00350			

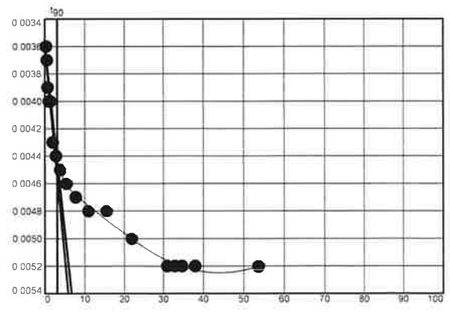


Void Ratio = 0.666 **Compression** = 0.2% >>> CALCULATED USING D_{100}

D_0 = 0.0016 **D_{90}** = 0.0020 **D_{100}** = 0.0020 **C_v at 1.05 min.** = 0.0217 cm.^{2}/sec.

Pressure: 1.00 ksf — TEST READINGS — **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00390	11	60	0.00720
2	0.10	0.00610	12	120	0.00730
3	0.25	0.00620	13	240	0.00730
4	0.50	0.00640	14	480	0.00750
5	1	0.00650	15	960	0.00770
6	2	0.00650	16	1080	0.00770
7	4	0.00680	17	1200	0.00770
8	8	0.00690	18	1440	0.00770
9	15	0.00700	19	2880	0.00770
10	30	0.00710			

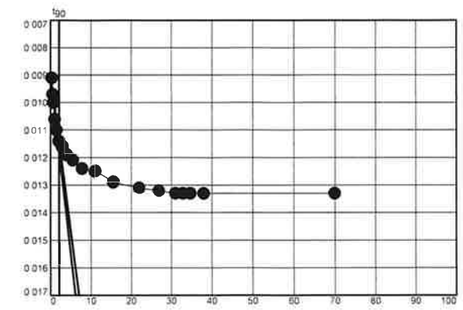


Void Ratio = 0.662 **Compression** = 0.5% >>> CALCULATED USING D_{100}

D_0 = 0.0036 **D_{90}** = 0.0044 **D_{100}** = 0.0045 **C_v at 9.59 min.** = 0.0024 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00770	11	60	0.01610
2	0.10	0.01280	12	120	0.01620
3	0.25	0.01340	13	240	0.01660
4	0.50	0.01370	14	480	0.01680
5	1	0.01430	15	720	0.01690
6	2	0.01470	16	960	0.01700
7	4	0.01510	17	1080	0.01700
8	8	0.01530	18	1200	0.01700
9	15	0.01560	19	1440	0.01700
10	30	0.01580	20	4880	0.01700

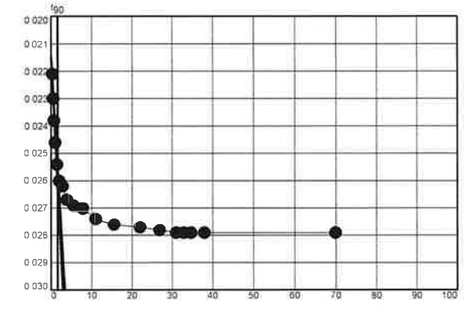


Void Ratio = 0.650 **Compression** = 1.2% >>> CALCULATED USING D_{100}

D_0 = 0.0090 **D_{90}** = 0.0114 **D_{100}** = 0.0117 **C_v at 4.52 min.** = 0.0049 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01700	11	60	0.03290
2	0.10	0.02800	12	120	0.03330
3	0.25	0.02890	13	240	0.03350
4	0.50	0.02970	14	480	0.03360
5	1	0.03050	15	720	0.03370
6	2	0.03130	16	960	0.03380
7	4	0.03190	17	1080	0.03380
8	8	0.03210	18	1200	0.03380
9	15	0.03260	19	1440	0.03380
10	30	0.03280	20	4880	0.03380

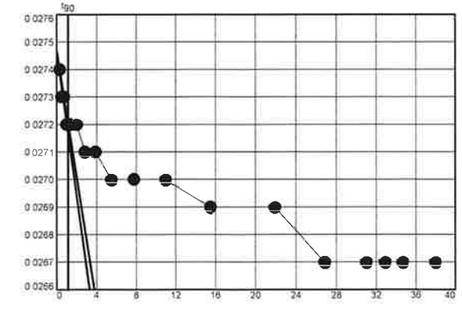


Void Ratio = 0.626 **Compression** = 2.6% >>> CALCULATED USING D_{100}

D_0 = 0.0215 **D_{90}** = 0.0256 **D_{100}** = 0.0261 **C_v at 2.63 min.** = 0.0083 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03380	11	60	0.03260
2	0.10	0.03300	12	120	0.03260
3	0.25	0.03290	13	240	0.03250
4	0.50	0.03290	14	480	0.03250
5	1	0.03280	15	720	0.03230
6	2	0.03280	16	960	0.03230
7	4	0.03280	17	1080	0.03230
8	8	0.03270	18	1200	0.03230
9	15	0.03270	19	1440	0.03230
10	30	0.03260			

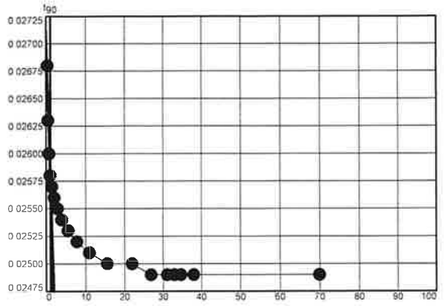


Void Ratio = 0.624 **Compression** = 2.7% >>> CALCULATED USING D_{100}

D_0 = 0.0275 **D_{90}** = 0.0272 **D_{100}** = 0.0272 **C_v at 1.34 min.** = 0.0161 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03230	11	60	0.02980
2	0.10	0.03140	12	120	0.02970
3	0.25	0.03090	13	240	0.02960
4	0.50	0.03060	14	480	0.02960
5	1	0.03040	15	720	0.02950
6	2	0.03030	16	960	0.02950
7	4	0.03020	17	1080	0.02950
8	8	0.03010	18	1200	0.02950
9	15	0.03000	19	1440	0.02950
10	30	0.02990	20	4880	0.02950

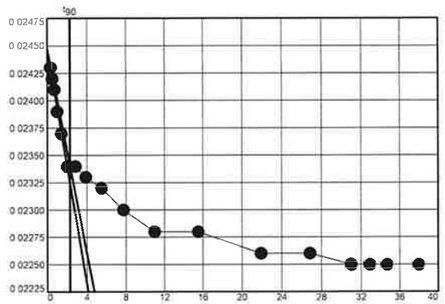


Void Ratio = 0.627 **Compression** = 2.6% >>> CALCULATED USING D_{100}

D_0 = 0.0271 **D_{90}** = 0.0258 **D_{100}** = 0.0256 **C_v at 1.18 min.** = 0.0182 cm.^{2}/sec.

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 8**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02950	11	60	0.02690
2	0.10	0.02820	12	120	0.02670
3	0.25	0.02810	13	240	0.02670
4	0.50	0.02800	14	480	0.02650
5	1	0.02780	15	720	0.02650
6	2	0.02760	16	960	0.02640
7	4	0.02730	17	1080	0.02640
8	8	0.02730	18	1200	0.02640
9	15	0.02720	19	1440	0.02640
10	30	0.02710			

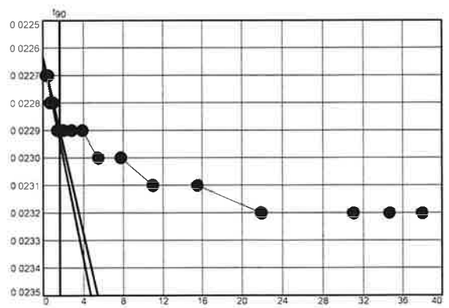


Void Ratio = 0.630 **Compression** = 2.4% >>> CALCULATED USING D_{100}

D_0 = 0.0245 **D_{90}** = 0.0234 **D_{100}** = 0.0233 **C_v at 5.19 min.** = 0.0042 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02640	11	60	0.02700
2	0.10	0.02670	12	120	0.02710
3	0.25	0.02670	13	240	0.02710
4	0.50	0.02680	14	480	0.02720
5	1	0.02680	15	960	0.02720
6	2	0.02690	16	1200	0.02720
7	4	0.02690	17	1440	0.02720
8	8	0.02690			
9	15	0.02690			
10	30	0.02700			

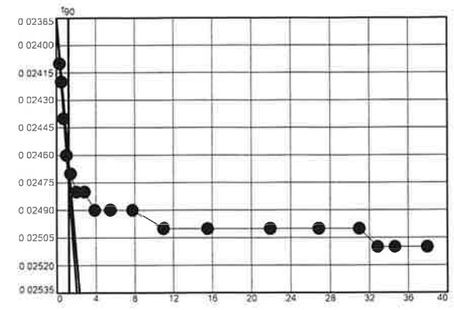


Void Ratio = 0.631 **Compression** = 2.3% >>> CALCULATED USING D_{100}

D_0 = 0.0226 **D_{90}** = 0.0229 **D_{100}** = 0.0229 **C_v at 2.75 min.** = 0.0079 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02720	11	60	0.02960
2	0.10	0.02880	12	120	0.02970
3	0.25	0.02890	13	240	0.02970
4	0.50	0.02910	14	480	0.02970
5	1	0.02930	15	720	0.02970
6	2	0.02940	16	960	0.02970
7	4	0.02950	17	1080	0.02980
8	8	0.02950	18	1200	0.02980
9	15	0.02960	19	1440	0.02980
10	30	0.02960			

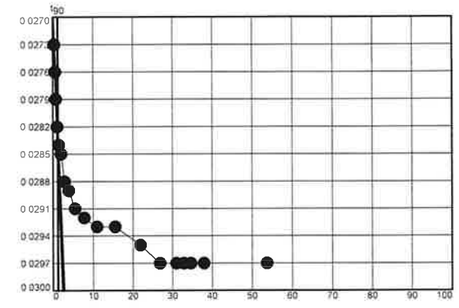


Void Ratio = 0.628 **Compression** = 2.5% >>> CALCULATED USING D_{100}

D_0 = 0.0239 **D_{90}** = 0.0247 **D_{100}** = 0.0247 **C_v at 1.51 min.** = 0.0143 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 11**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02980	11	60	0.03520
2	0.10	0.03330	12	120	0.03530
3	0.25	0.03360	13	240	0.03530
4	0.50	0.03390	14	480	0.03550
5	1	0.03420	15	720	0.03570
6	2	0.03440	16	960	0.03570
7	4	0.03450	17	1080	0.03570
8	8	0.03480	18	1200	0.03570
9	15	0.03490	19	1440	0.03570
10	30	0.03510	20	2880	0.03570

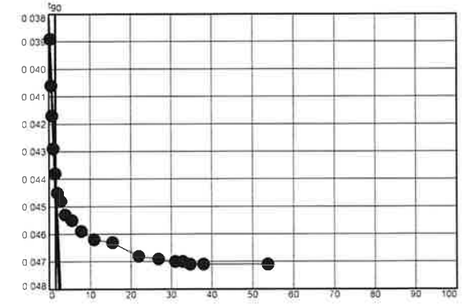


Void Ratio = 0.622 **Compression** = 2.8% >>> CALCULATED USING D_{100}

D_0 = 0.0269 **D_{90}** = 0.0283 **D_{100}** = 0.0285 **C_v at 1.46 min.** = 0.0148 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03570	11	60	0.05410
2	0.10	0.04710	12	120	0.05440
3	0.25	0.04880	13	240	0.05450
4	0.50	0.04990	14	480	0.05500
5	1	0.05110	15	720	0.05510
6	2	0.05200	16	960	0.05520
7	4	0.05270	17	1080	0.05520
8	8	0.05300	18	1200	0.05530
9	15	0.05350	19	1440	0.05530
10	30	0.05370	20	2880	0.05530

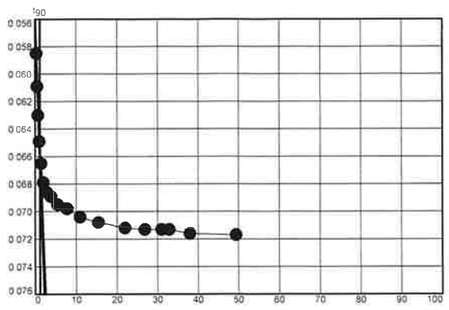


Void Ratio = 0.595 **Compression** = 4.5% >>> CALCULATED USING D_{100}

D_0 = 0.0382 **D_{90}** = 0.0440 **D_{100}** = 0.0446 **C_v at 2.38 min.** = 0.0088 cm.^{2}/sec.

Pressure: 16.00 ksf — **TEST READINGS** — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05530	11	60	0.08020
2	0.10	0.06890	12	120	0.08080
3	0.25	0.07130	13	240	0.08120
4	0.50	0.07340	14	480	0.08160
5	1	0.07530	15	720	0.08170
6	2	0.07690	16	960	0.08170
7	4	0.07830	17	1080	0.08170
8	8	0.07900	18	1440	0.08200
9	15	0.07930	19	2440	0.08210
10	30	0.07990			

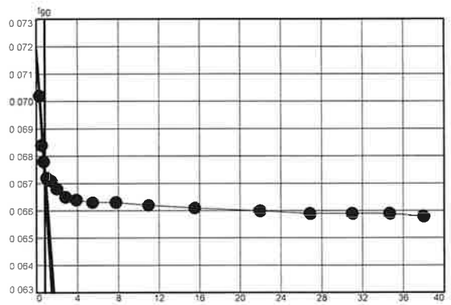


Void Ratio = 0.558 **Compression** = 6.7% >>> CALCULATED USING D_{100}

D_0 = 0.0560 D_{90} = 0.0657 D_{100} = 0.0668 C_v **at 1.45 min.** = 0.0138 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08210	11	60	0.07520
2	0.10	0.07910	12	120	0.07510
3	0.25	0.07730	13	240	0.07500
4	0.50	0.07670	14	480	0.07490
5	1	0.07610	15	720	0.07480
6	2	0.07600	16	960	0.07480
7	4	0.07570	17	1200	0.07480
8	8	0.07540	18	1440	0.07470
9	15	0.07530			
10	30	0.07520			

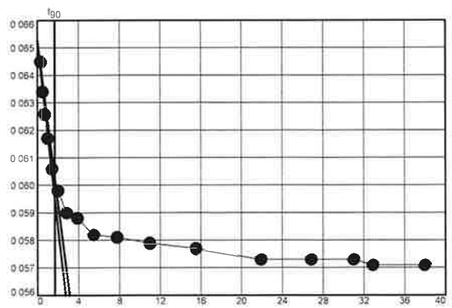


Void Ratio = 0.557 **Compression** = 6.7% >>> CALCULATED USING D_{100}

D_0 = 0.0719 D_{90} = 0.0676 D_{100} = 0.0671 C_v **at 0.66 min.** = 0.0297 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 15**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07470	11	60	0.06480
2	0.10	0.07120	12	120	0.06460
3	0.25	0.07010	13	240	0.06440
4	0.50	0.06930	14	480	0.06400
5	1	0.06840	15	720	0.06400
6	2	0.06730	16	960	0.06400
7	4	0.06650	17	1080	0.06380
8	8	0.06570	18	1440	0.06380
9	15	0.06550			
10	30	0.06490			

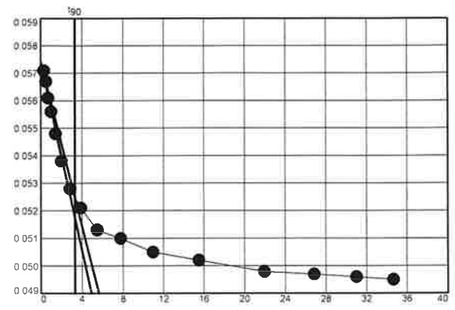


Void Ratio = 0.570 **Compression** = 6.0% >>> CALCULATED USING D_{100}

D_0 = 0.0653 D_{90} = 0.0602 D_{100} = 0.0597 C_v **at 2.85 min.** = 0.0070 cm.^{2}/sec.

Pressure: 0.25 ksf — **TEST READINGS** — **Load No. 16**

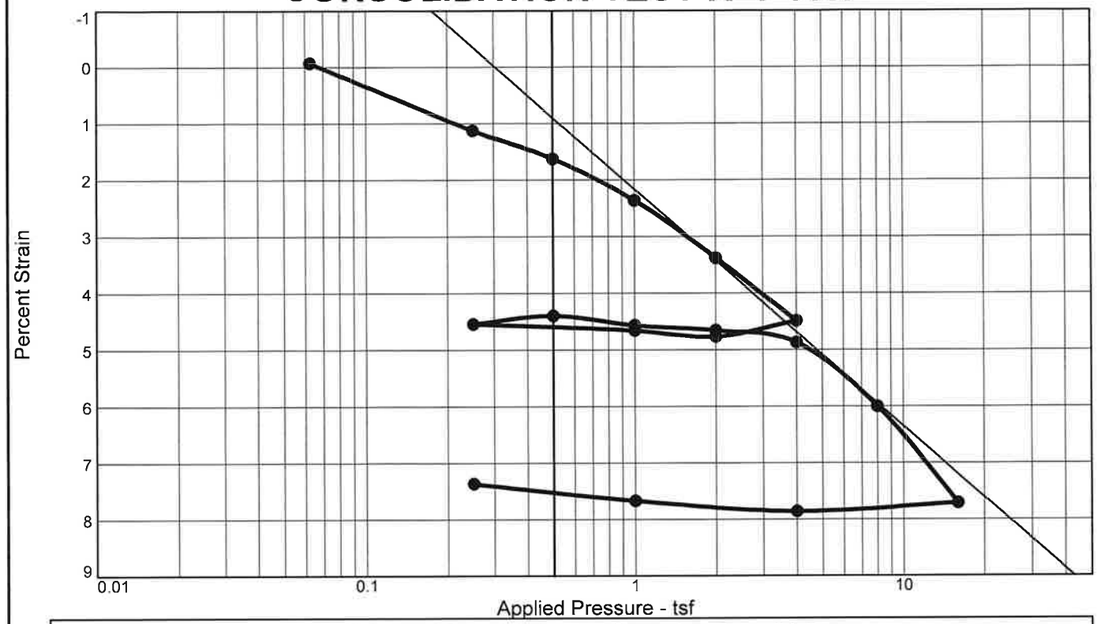
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.06380	11	60	0.05580
2	0.10	0.06190	12	120	0.05530
3	0.25	0.06150	13	240	0.05500
4	0.50	0.06090	14	480	0.05460
5	1	0.06040	15	720	0.05450
6	2	0.05960	16	960	0.05440
7	4	0.05860	17	1200	0.05430
8	8	0.05760			
9	15	0.05690			
10	30	0.05610			



Void Ratio = 0.583 **Compression** = 5.2% >>> CALCULATED USING D_{100}

D_0 = 0.0574 D_{90} = 0.0525 D_{100} = 0.0519 C_v **at 10.91 min.** = 0.0019 cm.^{2}/sec.

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
1	0.06	0.0046		8	1.00	0.0079		15	16.00	0.0278	
2	0.25	0.0040		9	0.25	0.0252		16	4.00	0.0552	
3	0.50	0.0044		10	0.50	0.0002		17	1.00	0.0288	
4	1.00	0.0078		11	1.00	0.0022					
5	2.00	0.0084		12	2.00	0.0087					
6	4.00	0.0136		13	4.00	0.0251					
7	2.00	0.0317		14	8.00	0.0137					

MATERIAL DESCRIPTION	USCS	AASHTO
Light-Grey Clayey Sand	SC	A-4(0)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf) Init.	Dry Dens. (pcf) Final	Moisture Init.	Moisture Final	Saturation Init.	Saturation Final	Void Ratio Init.	Void Ratio Final	P_c (tsf)	C_c
24	9	2.603		113.4	110.2	16.1 %	12.8 %	97.0 %	100.0 %	0.433	0.328	0.8	0.06

Preparation Process:	D2435 Method	C_r	Swell Press. (tsf)	Swell %
Sample trimmed from shelby tube		0.01		

Condition of Test: Inundated after application of seating load

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Loc.: CULV7_B-1, Station 123+05 **Depth:** 3'-5' **Sample No.:** ST-7

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO T216 Method B
Organic Content: 2.1%

Checked By: MH
Title: Lab Manager

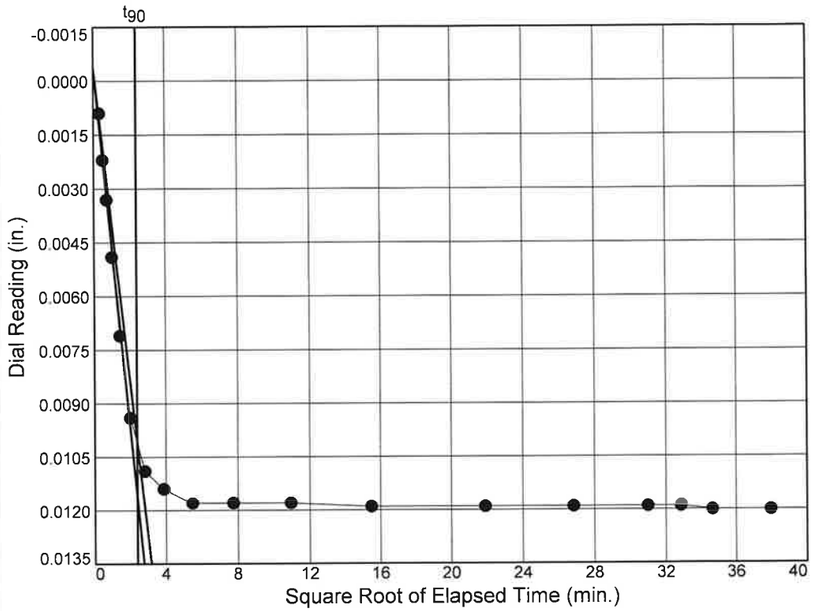
Figure

Tested By: FG

Dial Reading vs. Time

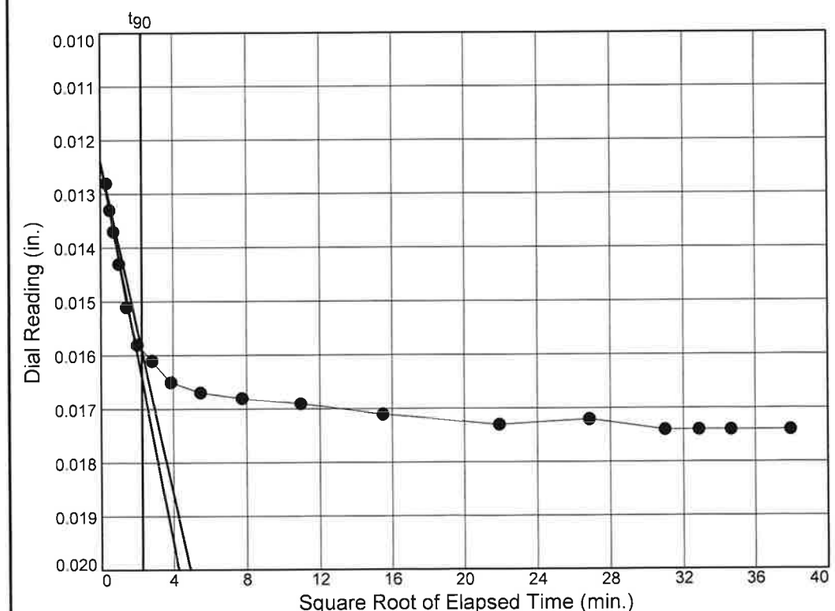
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 3'-5' Sample Number: ST-7



Load No.= 2
Load= 0.25 tsf
D_0 = -0.0004
D_{90} = 0.0101
D_{100} = 0.0113
T_{90} = 5.69 min.

C_v @ T_{90}
0.0040 cm.2/sec.



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0124
D_{90} = 0.0159
D_{100} = 0.0163
T_{90} = 5.06 min.

C_v @ T_{90}
0.0044 cm.2/sec.

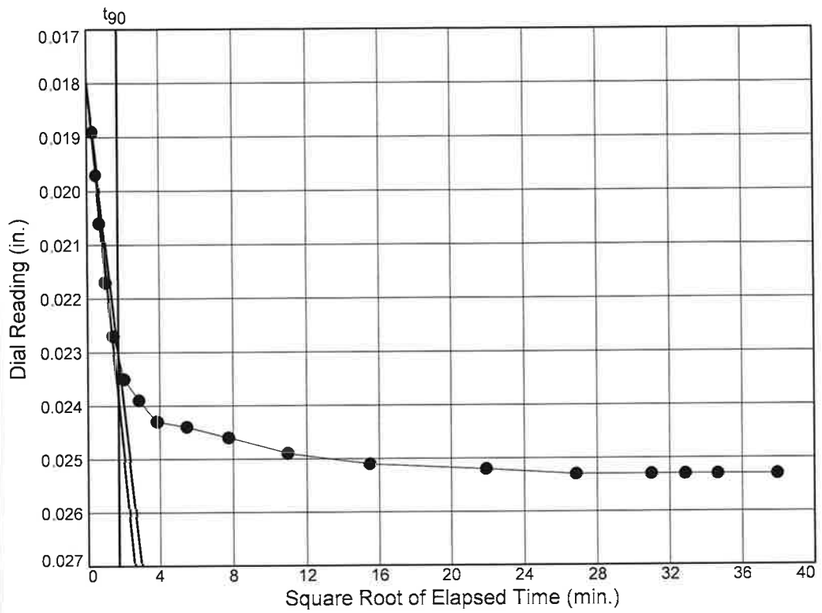
Figure

Summit Engineering

Dial Reading vs. Time

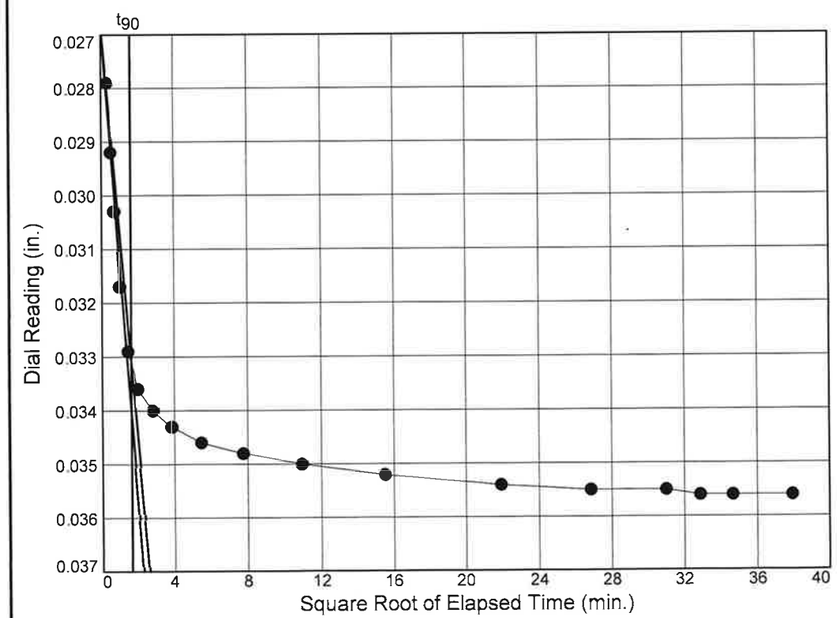
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 3'-5' Sample Number: ST-7



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0180
D_{90} = 0.0231
D_{100} = 0.0236
T_{90} = 2.82 min.

C_v @ T_{90}
0.0078 cm.2/sec.



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0269
D_{90} = 0.0331
D_{100} = 0.0338
T_{90} = 2.56 min.

C_v @ T_{90}
0.0084 cm.2/sec.

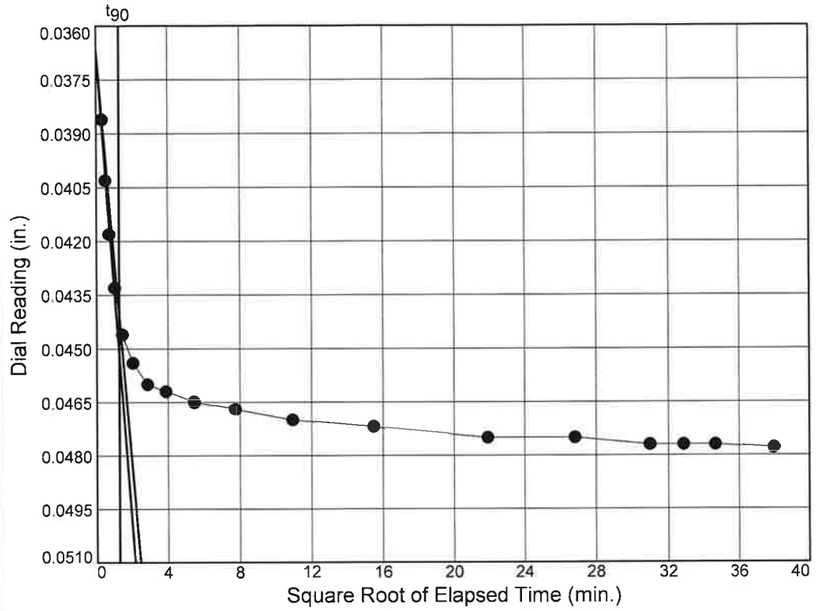
Figure

Summit Engineering

Dial Reading vs. Time

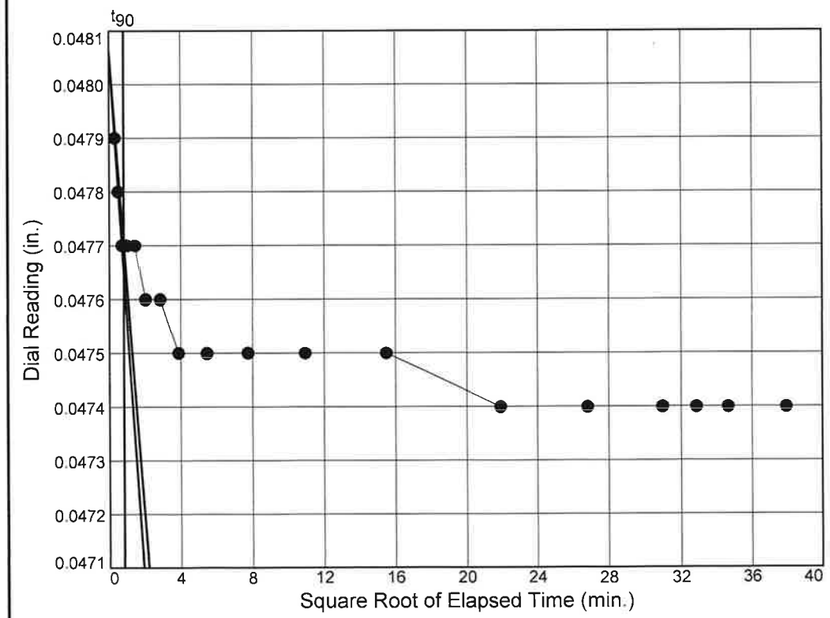
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 3'-5' Sample Number: ST-7



Load No.= 6
Load= 4.00 tsf
D_0 = 0.0367
D_{90} = 0.0441
D_{100} = 0.0449
T_{90} = 1.55 min.

C_v @ T_{90}
0.0136 cm.2/sec.



Load No.= 7
Load= 2.00 tsf
D_0 = 0.0481
D_{90} = 0.0477
D_{100} = 0.0477
T_{90} = 0.65 min.

C_v @ T_{90}
0.0317 cm.2/sec.

Figure

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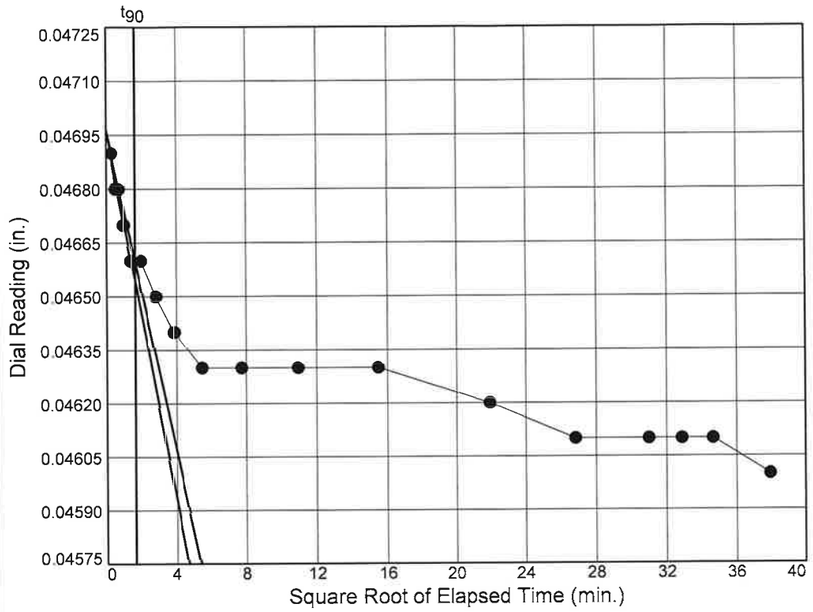
Dial Reading vs. Time

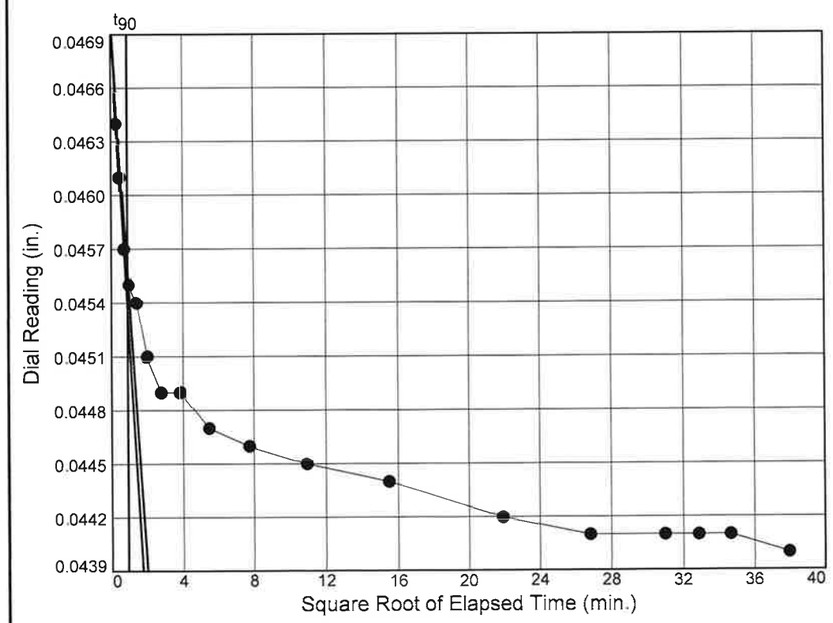
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 3'-5' Sample Number: ST-7



Load No.= 8
Load= 1.00 tsf
D_0 = 0.0470
D_{90} = 0.0466
D_{100} = 0.0466
T_{90} = 2.61 min.

C_v @ T_{90}
0.0079 cm.2/sec.



Load No.= 9
Load= 0.25 tsf
D_0 = 0.0470
D_{90} = 0.0456
D_{100} = 0.0454
T_{90} = 0.82 min.

C_v @ T_{90}
0.0252 cm.2/sec.

Figure

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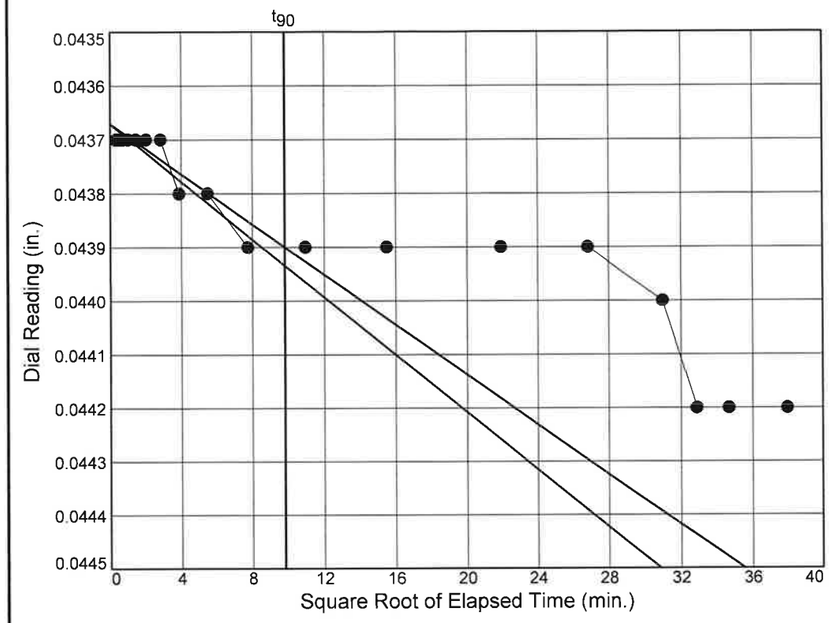
Dial Reading vs. Time

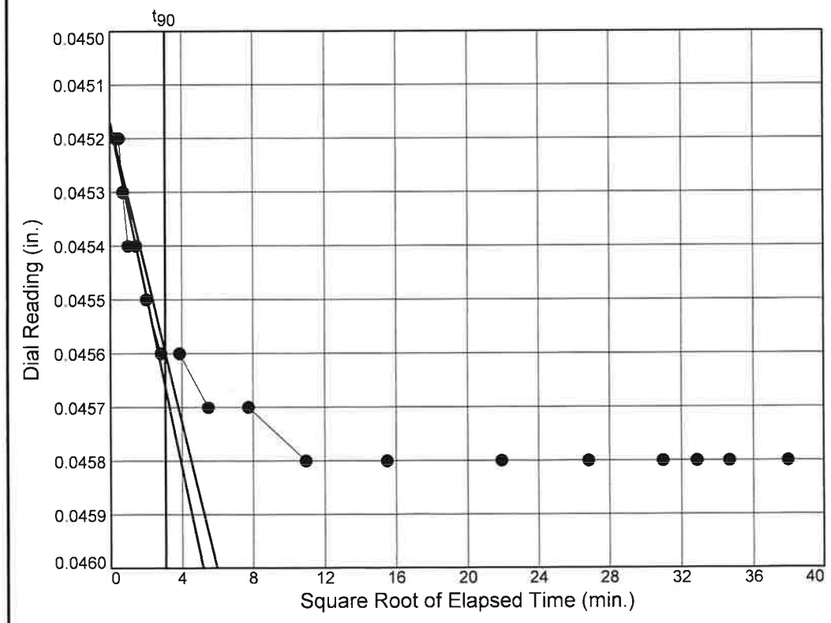
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 3'-5' Sample Number: ST-7



Load No.= 10
Load= 0.50 tsf
D_0 = 0.0437
D_{90} = 0.0439
D_{100} = 0.0439
T_{90} = 95.99 min.

C_v @ T_{90}
0.0002 cm.2/sec.



Load No.= 11
Load= 1.00 tsf
D_0 = 0.0452
D_{90} = 0.0456
D_{100} = 0.0456
T_{90} = 9.43 min.

C_v @ T_{90}
0.0022 cm.2/sec.

Figure

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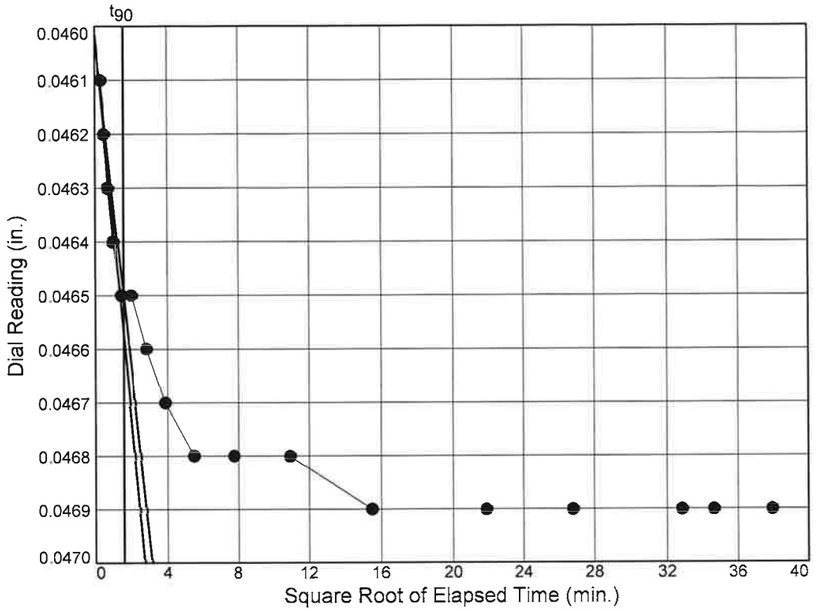
Dial Reading vs. Time

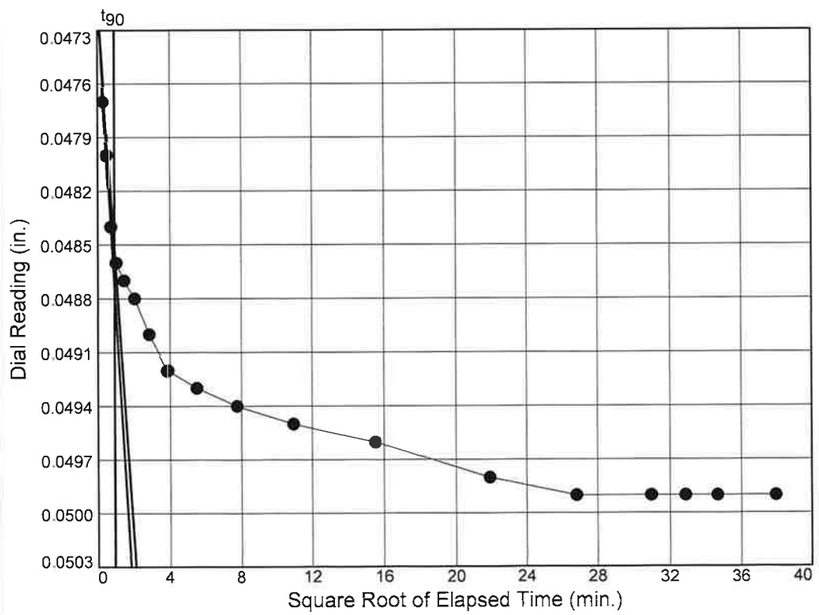
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 3'-5' Sample Number: ST-7



Load No.= 12
Load= 2.00 tsf
D_0 = 0.0460
D_{90} = 0.0465
D_{100} = 0.0466
T_{90} = 2.38 min.

C_v @ T_{90}
0.0087 cm.2/sec.



Load No.= 13
Load= 4.00 tsf
D_0 = 0.0471
D_{90} = 0.0485
D_{100} = 0.0487
T_{90} = 0.82 min.

C_v @ T_{90}
0.0251 cm.2/sec.

Figure

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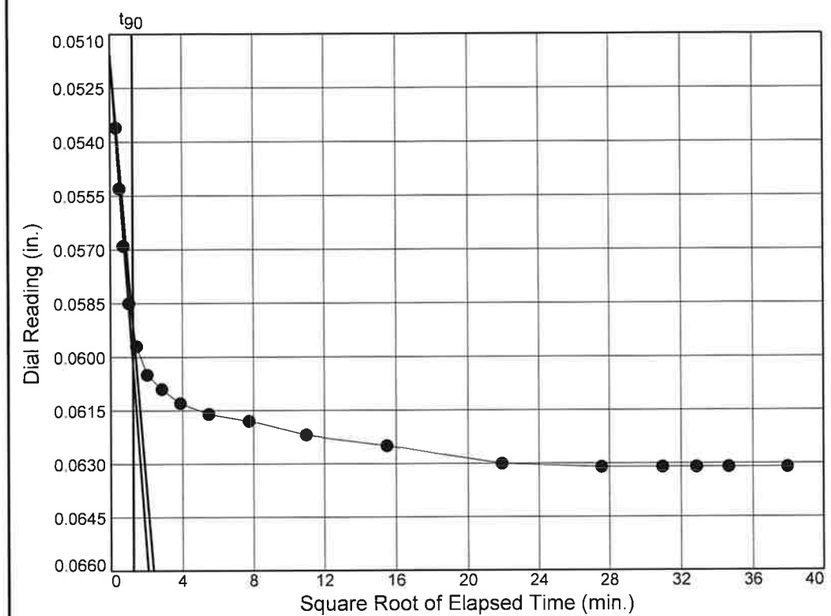
Dial Reading vs. Time

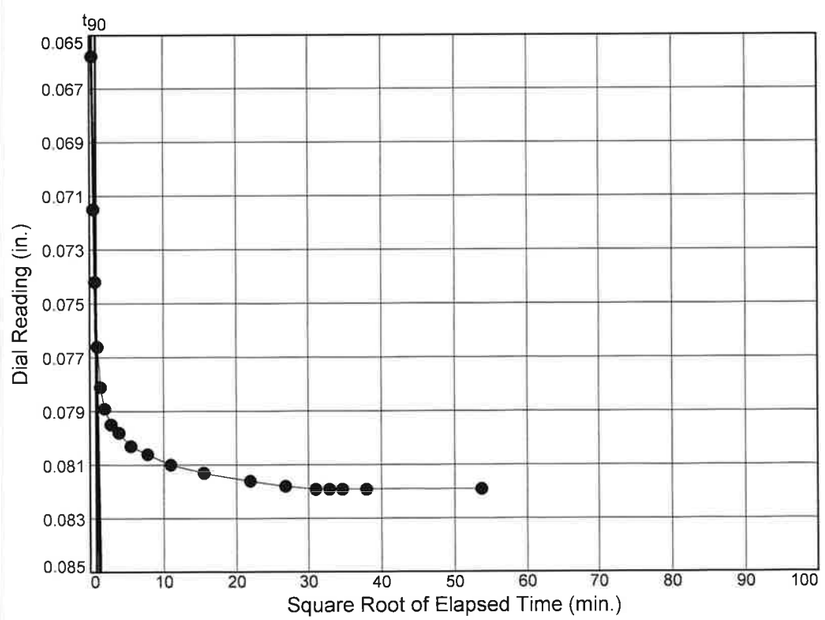
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 3'-5' Sample Number: ST-7



Load No.= 14
Load= 8.00 tsf
D_0 = 0.0516
D_{90} = 0.0591
D_{100} = 0.0600
T_{90} = 1.49 min.

C_v @ T_{90}
0.0137 cm.2/sec.



Load No.= 15
Load= 16.00 tsf
D_0 = 0.0597
D_{90} = 0.0753
D_{100} = 0.0771
T_{90} = 0.71 min.

C_v @ T_{90}
0.0278 cm.2/sec.

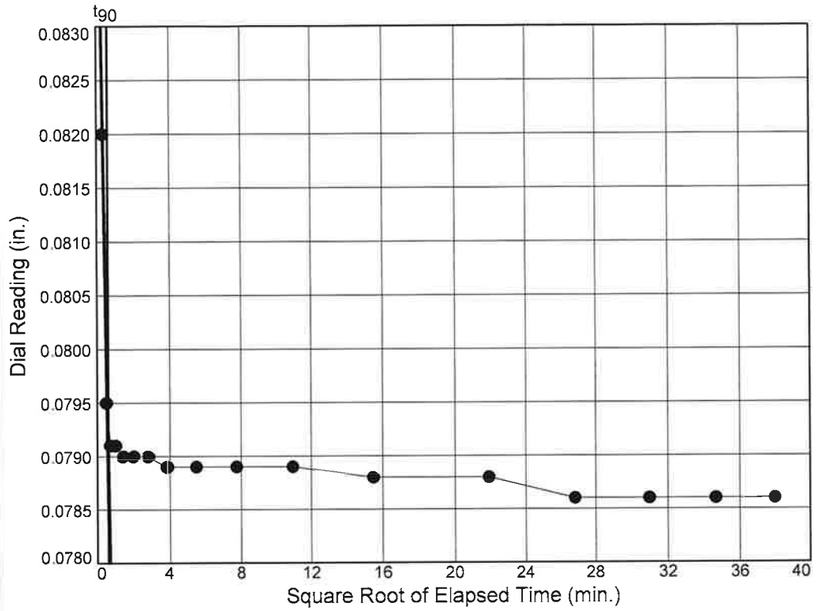
Figure

Summit Engineering

Dial Reading vs. Time

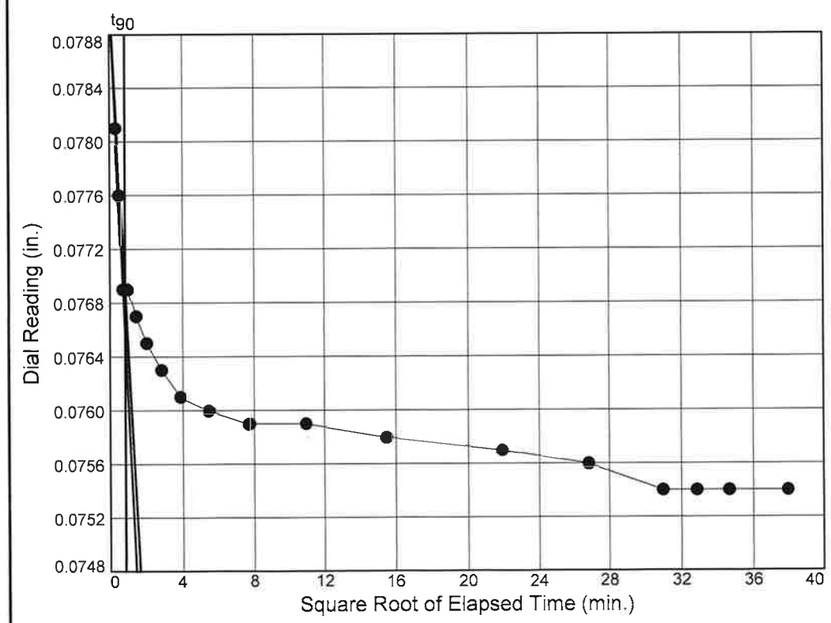
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 3'-5' Sample Number: ST-7



Load No.= 16
Load= 4.00 tsf
D_0 = 0.0863
D_{90} = 0.0793
D_{100} = 0.0786
T_{90} = 0.35 min.

C_v @ T_{90}
0.0552 cm.^{2}/sec.



Load No.= 17
Load= 1.00 tsf
D_0 = 0.0791
D_{90} = 0.0769
D_{100} = 0.0767
T_{90} = 0.67 min.

C_v @ T_{90}
0.0288 cm.^{2}/sec.

Figure

Summit Engineering

CONSOLIDATION TEST DATA

10/12/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: CULV7_B-1, Station 123+05
Depth: 3'-5' **Sample Number:** ST-7
Material Description: Light-Grey Clayey Sand
Sample Date: 09-02-23 **Liquid Limit:** 24 **Plasticity Index:** 9
USCS: SC **AASHTO:** A-4(0)
Preparation Process: Sample trimmed from shelby tube
Condition of Test: Inundated after application of seating load
Final Density: 110.2
Testing Remarks: AASHTO T216 Method B
Organic Content: 2.1%
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE		VOID RATIO		AFTER TEST	
Wet w+t =	169.68 g.	Spec. Gr. =	2.603	Wet w+t =	164.74 g.
Dry w+t =	146.10 g.	Est. Ht. Solids =	0.698 in.	Dry w+t =	146.10 g.
Tare Wt. =	0.00 g.	Init. V.R. =	0.433	Tare Wt. =	0.00 g.
Moisture =	16.1 %	Init. Sat. =	97.0 %	Moisture =	12.8 %
UNIT WEIGHT		TEST START		Dry Wt. =	146.10* g.
Height =	1.000 in.	Height =	1.000 in.		
Diameter =	2.500 in.	Diameter =	2.500 in.		
Weight =	169.68 g.				
Dry Dens. =	113.4 pcf				

* Final dry weight used as mineral solids weight

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			0.433	
0.13	0.00000	0.00070	-0.00070*	0.0046		0.434	0.1 Swell
0.50	0.01270	0.00070	0.01126*	0.0040		0.417	1.1 Comprs.
1.00	0.01880	0.00140	0.01628*	0.0044		0.410	1.6 Comprs.
2.00	0.02790	0.00260	0.02363*	0.0078		0.399	2.4 Comprs.
4.00	0.03970	0.00410	0.03382*	0.0084		0.385	3.4 Comprs.
8.00	0.05410	0.00630	0.04488*	0.0136		0.369	4.5 Comprs.
4.00	0.05270	0.00530	0.04766*	0.0317		0.365	4.8 Comprs.
2.00	0.05080	0.00480	0.04656*	0.0079		0.366	4.7 Comprs.
0.50	0.04700	0.00300	0.04541*	0.0252		0.368	4.5 Comprs.
1.00	0.04780	0.00360	0.04393*	0.0002		0.370	4.4 Comprs.
2.00	0.04930	0.00350	0.04565*	0.0022		0.368	4.6 Comprs.
4.00	0.05170	0.00480	0.04655*	0.0087		0.366	4.7 Comprs.
8.00	0.05630	0.00640	0.04869*	0.0251		0.363	4.9 Comprs.
16.00	0.07170	0.00860	0.05998*	0.0137		0.347	6.0 Comprs.
32.00	0.09160	0.00970	0.07706*	0.0278		0.323	7.7 Comprs.
8.00	0.08650	0.00790	0.07855*	0.0552		0.321	7.9 Comprs.
2.00	0.08090	0.00550	0.07666*	0.0288		0.323	7.7 Comprs.

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End-Of-Load Summary (Continued)

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
0.50	0.07590	0.00360	0.07364*			0.328	7.4 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

Compression index (C_c), tsf = 0.06 **Preconsolidation pressure (P_p), tsf** = 0.8 **Void ratio at P_p (e_m)** = 0.402

Recompression index (C_r) = 0.01

Pressure: 0.13 ksf — **TEST READINGS** — **Load No. 1**

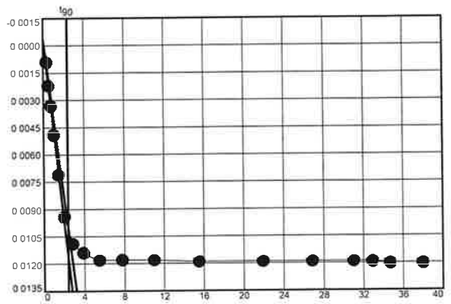
No.	Elapsed Time	Dial Reading
1	0	0.00000
2	0.10	0.00000
3	0.25	0.00000
4	0.50	0.00000
5	1	0.00000
6	2	0.00000
7	5	0.00000

Void Ratio = 0.434 **Swell** = 0.1% >>> CALCULATED USING D_{100}

D_0 = -0.0007 D_{90} = -0.0007 D_{100} = -0.0007 **C_v at 5.00 min.** = 0.0046 cm.^{2}/sec.

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00000	11	60	0.01250
2	0.10	0.00160	12	120	0.01250
3	0.25	0.00290	13	240	0.01260
4	0.50	0.00400	14	480	0.01260
5	1	0.00560	15	720	0.01260
6	2	0.00780	16	960	0.01260
7	4	0.01010	17	1080	0.01260
8	8	0.01160	18	1200	0.01270
9	15	0.01210	19	1440	0.01270
10	30	0.01250			

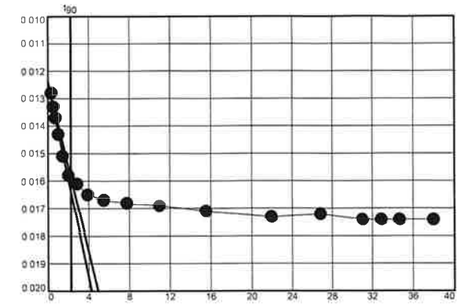


Void Ratio = 0.417 **Compression** = 1.1% >>> CALCULATED USING D_{100}

D_0 = -0.0004 D_{90} = 0.0101 D_{100} = 0.0113 **C_v at 5.69 min.** = 0.0040 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01270	11	60	0.01820
2	0.10	0.01420	12	120	0.01830
3	0.25	0.01470	13	240	0.01850
4	0.50	0.01510	14	480	0.01870
5	1	0.01570	15	720	0.01860
6	2	0.01650	16	960	0.01880
7	4	0.01720	17	1080	0.01880
8	8	0.01750	18	1200	0.01880
9	15	0.01790	19	1440	0.01880
10	30	0.01810			

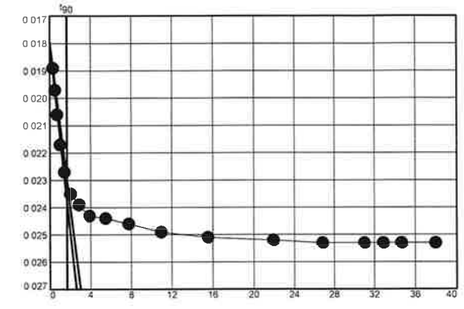


Void Ratio = 0.410 **Compression** = 1.6% >>> CALCULATED USING D_{100}

D_0 = 0.0124 D_{90} = 0.0159 D_{100} = 0.0163 **C_v at 5.06 min.** = 0.0044 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01880	11	60	0.02720
2	0.10	0.02150	12	120	0.02750
3	0.25	0.02230	13	240	0.02770
4	0.50	0.02320	14	480	0.02780
5	1	0.02430	15	720	0.02790
6	2	0.02530	16	960	0.02790
7	4	0.02610	17	1080	0.02790
8	8	0.02650	18	1200	0.02790
9	15	0.02690	19	1440	0.02790
10	30	0.02700			

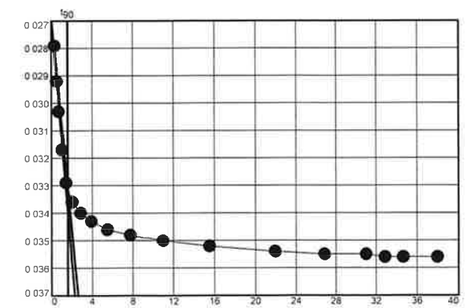


Void Ratio = 0.399 **Compression** = 2.4% >>> CALCULATED USING D_{100}

D_0 = 0.0180 D_{90} = 0.0231 D_{100} = 0.0236 **C_v at 2.82 min.** = 0.0078 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02790	11	60	0.03890
2	0.10	0.03200	12	120	0.03910
3	0.25	0.03330	13	240	0.03930
4	0.50	0.03440	14	480	0.03950
5	1	0.03580	15	720	0.03960
6	2	0.03700	16	960	0.03960
7	4	0.03770	17	1080	0.03970
8	8	0.03810	18	1200	0.03970
9	15	0.03840	19	1440	0.03970
10	30	0.03870			

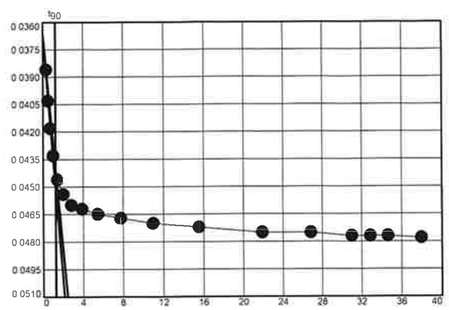


Void Ratio = 0.385 **Compression** = 3.4% >>> CALCULATED USING D_{100}

D_0 = 0.0269 D_{90} = 0.0331 D_{100} = 0.0338 **C_v at 2.56 min.** = 0.0084 cm.^{2}/sec.

Pressure: 8.00 ksf — TEST READINGS — **Load No. 6**

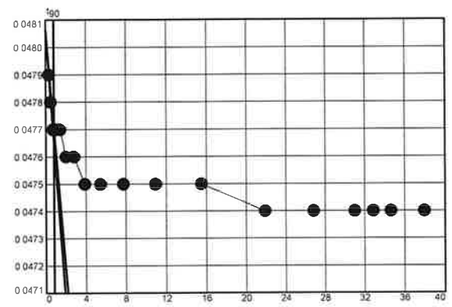
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03970	11	60	0.05300
2	0.10	0.04490	12	120	0.05330
3	0.25	0.04660	13	240	0.05350
4	0.50	0.04810	14	480	0.05380
5	1	0.04960	15	720	0.05380
6	2	0.05090	16	960	0.05400
7	4	0.05170	17	1080	0.05400
8	8	0.05230	18	1200	0.05400
9	15	0.05250	19	1440	0.05410
10	30	0.05280			



Void Ratio = 0.369 **Compression** = 4.5% >>> CALCULATED USING D_{100}
D_0 = 0.0367 **D_{90}** = 0.0441 **D_{100}** = 0.0449 **C_v at 1.55 min.** = 0.0136 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 7**

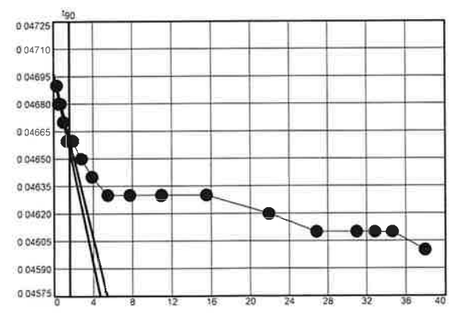
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05410	11	60	0.05280
2	0.10	0.05320	12	120	0.05280
3	0.25	0.05310	13	240	0.05280
4	0.50	0.05300	14	480	0.05270
5	1	0.05300	15	720	0.05270
6	2	0.05300	16	960	0.05270
7	4	0.05290	17	1080	0.05270
8	8	0.05290	18	1200	0.05270
9	15	0.05280	19	1440	0.05270
10	30	0.05280			



Void Ratio = 0.365 **Compression** = 4.8% >>> CALCULATED USING D_{100}
D_0 = 0.0481 **D_{90}** = 0.0477 **D_{100}** = 0.0477 **C_v at 0.65 min.** = 0.0317 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 8**

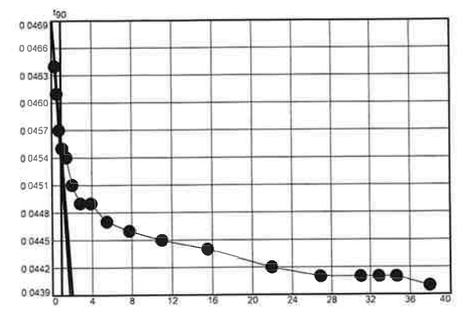
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05270	11	60	0.05110
2	0.10	0.05170	12	120	0.05110
3	0.25	0.05160	13	240	0.05110
4	0.50	0.05160	14	480	0.05100
5	1	0.05150	15	720	0.05090
6	2	0.05140	16	960	0.05090
7	4	0.05140	17	1080	0.05090
8	8	0.05130	18	1200	0.05090
9	15	0.05120	19	1440	0.05080
10	30	0.05110			



Void Ratio = 0.366 **Compression** = 4.7% >>> CALCULATED USING D_{100}
D_0 = 0.0470 **D_{90}** = 0.0466 **D_{100}** = 0.0466 **C_v at 2.61 min.** = 0.0079 cm.^{2}/sec.

Pressure: 0.50 ksf — TEST READINGS — **Load No. 9**

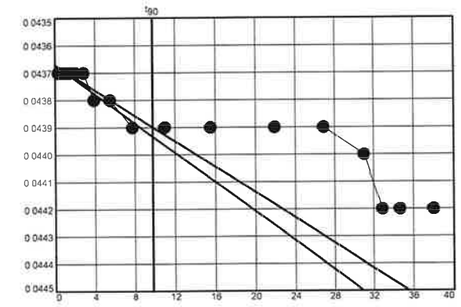
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05080	11	60	0.04760
2	0.10	0.04940	12	120	0.04750
3	0.25	0.04910	13	240	0.04740
4	0.50	0.04870	14	480	0.04720
5	1	0.04850	15	720	0.04710
6	2	0.04840	16	960	0.04710
7	4	0.04810	17	1080	0.04710
8	8	0.04790	18	1200	0.04710
9	15	0.04790	19	1440	0.04700
10	30	0.04770			



Void Ratio = 0.368 **Compression** = 4.5% >>> CALCULATED USING D_{100}
D_0 = 0.0470 **D_{90}** = 0.0456 **D_{100}** = 0.0454 **C_v at 0.82 min.** = 0.0252 cm.^{2}/sec.

Pressure: 1.00 ksf — TEST READINGS — **Load No. 10**

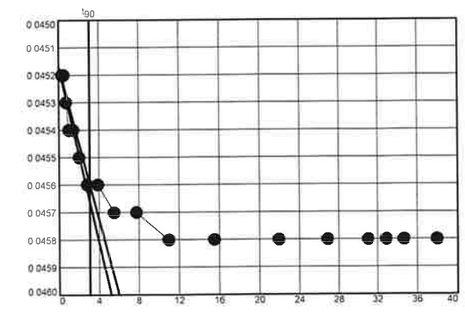
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04700	11	60	0.04750
2	0.10	0.04730	12	120	0.04750
3	0.25	0.04730	13	240	0.04750
4	0.50	0.04730	14	480	0.04750
5	1	0.04730	15	720	0.04750
6	2	0.04730	16	960	0.04760
7	4	0.04730	17	1080	0.04780
8	8	0.04730	18	1200	0.04780
9	15	0.04740	19	1440	0.04780
10	30	0.04740			



Void Ratio = 0.370 **Compression** = 4.4% >>> CALCULATED USING D_{100}
D_0 = 0.0437 **D_{90}** = 0.0439 **D_{100}** = 0.0439 **C_v at 95.99 min.** = 0.0002 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 11**

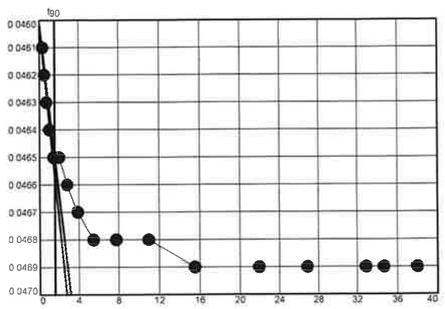
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04780	11	60	0.04920
2	0.10	0.04870	12	120	0.04930
3	0.25	0.04870	13	240	0.04930
4	0.50	0.04880	14	480	0.04930
5	1	0.04890	15	720	0.04930
6	2	0.04890	16	960	0.04930
7	4	0.04900	17	1080	0.04930
8	8	0.04910	18	1200	0.04930
9	15	0.04910	19	1440	0.04930
10	30	0.04920			



Void Ratio = 0.368 **Compression** = 4.6% >>> CALCULATED USING D_{100}
D_0 = 0.0452 **D_{90}** = 0.0456 **D_{100}** = 0.0456 **C_v at 9.43 min.** = 0.0022 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04930	11	60	0.05160
2	0.10	0.05090	12	120	0.05160
3	0.25	0.05100	13	240	0.05170
4	0.50	0.05110	14	480	0.05170
5	1	0.05120	15	720	0.05170
6	2	0.05130	16	1080	0.05170
7	4	0.05130	17	1200	0.05170
8	8	0.05140	18	1440	0.05170
9	15	0.05150			
10	30	0.05160			

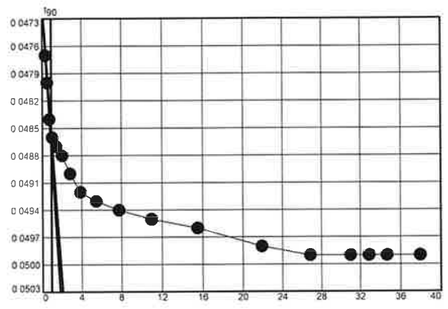


Void Ratio = 0.366 **Compression =** 4.7% >>> CALCULATED USING D_{100}

D_0 = 0.0460 **D_{90} =** 0.0465 **D_{100} =** 0.0466 **C_v at 2.38 min. =** 0.0087 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05170	11	60	0.05580
2	0.10	0.05410	12	120	0.05590
3	0.25	0.05440	13	240	0.05600
4	0.50	0.05480	14	480	0.05620
5	1	0.05500	15	720	0.05630
6	2	0.05510	16	960	0.05630
7	4	0.05520	17	1080	0.05630
8	8	0.05540	18	1200	0.05630
9	15	0.05560	19	1440	0.05630
10	30	0.05570			

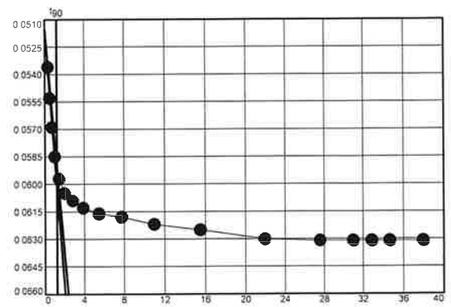


Void Ratio = 0.363 **Compression =** 4.9% >>> CALCULATED USING D_{100}

D_0 = 0.0471 **D_{90} =** 0.0485 **D_{100} =** 0.0487 **C_v at 0.82 min. =** 0.0251 cm.^{2}/sec.

Pressure: 16.00 ksf — **TEST READINGS** — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05630	11	60	0.07040
2	0.10	0.06220	12	120	0.07080
3	0.25	0.06390	13	240	0.07110
4	0.50	0.06550	14	480	0.07160
5	1	0.06710	15	760	0.07170
6	2	0.06830	16	960	0.07170
7	4	0.06910	17	1080	0.07170
8	8	0.06950	18	1200	0.07170
9	15	0.06990	19	1440	0.07170
10	30	0.07020			

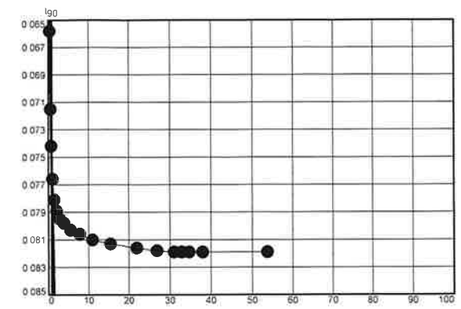


Void Ratio = 0.347 **Compression =** 6.0% >>> CALCULATED USING D_{100}

D_0 = 0.0516 **D_{90} =** 0.0591 **D_{100} =** 0.0600 **C_v at 1.49 min. =** 0.0137 cm.^{2}/sec.

Pressure: 32.00 ksf — **TEST READINGS** — **Load No. 15**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07170	11	60	0.09030
2	0.10	0.07550	12	120	0.09070
3	0.25	0.08120	13	240	0.09100
4	0.50	0.08390	14	480	0.09130
5	1	0.08630	15	720	0.09150
6	2	0.08780	16	960	0.09160
7	4	0.08860	17	1080	0.09160
8	8	0.08920	18	1200	0.09160
9	15	0.08950	19	1440	0.09160
10	30	0.09000	20	2880	0.09160

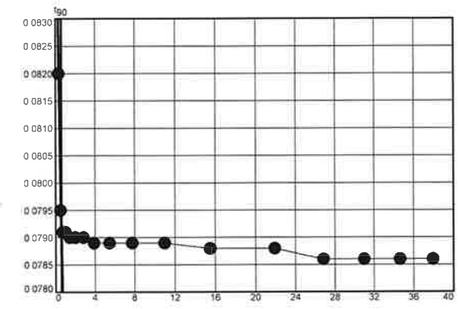


Void Ratio = 0.323 **Compression =** 7.7% >>> CALCULATED USING D_{100}

D_0 = 0.0597 **D_{90} =** 0.0753 **D_{100} =** 0.0771 **C_v at 0.71 min. =** 0.0278 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 16**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.09160	11	60	0.08680
2	0.10	0.08990	12	120	0.08680
3	0.25	0.08740	13	240	0.08670
4	0.50	0.08700	14	480	0.08670
5	1	0.08700	15	720	0.08650
6	2	0.08690	16	960	0.08650
7	4	0.08690	17	1200	0.08650
8	8	0.08690	18	1440	0.08650
9	15	0.08680			
10	30	0.08680			

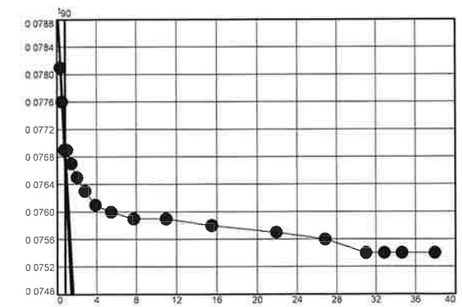


Void Ratio = 0.321 **Compression =** 7.9% >>> CALCULATED USING D_{100}

D_0 = 0.0863 **D_{90} =** 0.0793 **D_{100} =** 0.0786 **C_v at 0.35 min. =** 0.0552 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 17**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08650	11	60	0.08140
2	0.10	0.08360	12	120	0.08140
3	0.25	0.08310	13	240	0.08130
4	0.50	0.08240	14	480	0.08120
5	1	0.08240	15	720	0.08110
6	2	0.08220	16	960	0.08090
7	4	0.08200	17	1080	0.08090
8	8	0.08180	18	1200	0.08090
9	15	0.08160	19	1440	0.08090
10	30	0.08150			



Void Ratio = 0.323 **Compression =** 7.7% >>> CALCULATED USING D_{100}

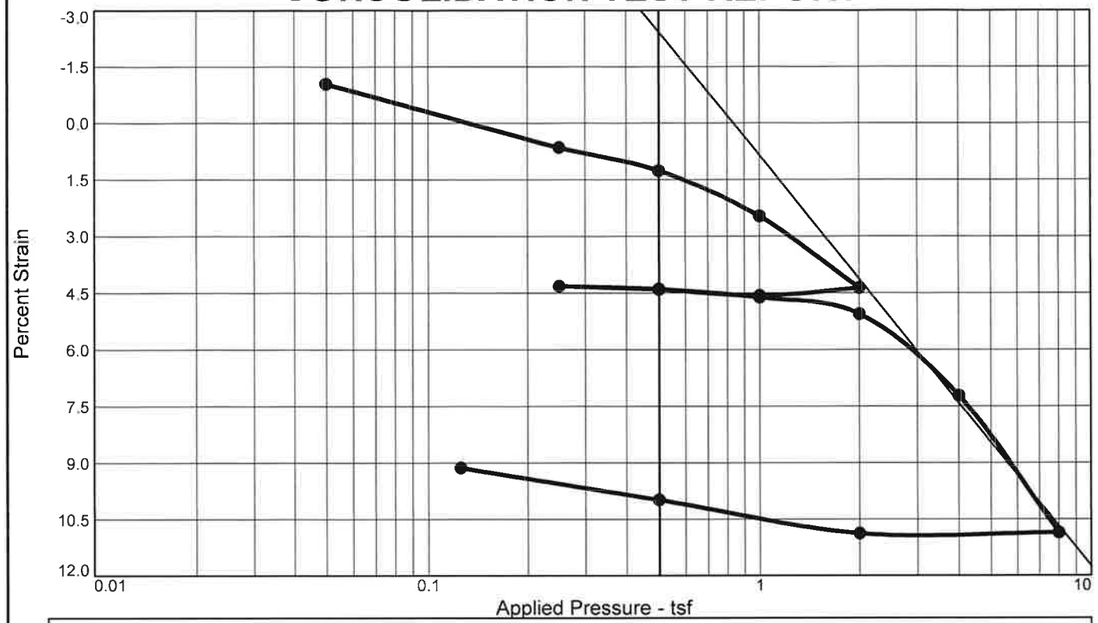
D_0 = 0.0791 **D_{90} =** 0.0769 **D_{100} =** 0.0767 **C_v at 0.67 min. =** 0.0288 cm.^{2}/sec.

Pressure: 0.50 ksf | **TEST READINGS** | **Load No. 18**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08090	11	60	0.07670
2	0.10	0.07970	12	120	0.07650
3	0.25	0.07930	13	240	0.07640
4	0.50	0.07900	14	480	0.07610
5	1	0.07850	15	720	0.07600
6	2	0.07810	16	960	0.07590
7	4.0	0.07760	17	1200	0.07590
8	8	0.07730	18	1440	0.07590
9	15	0.07720			
10	30	0.07680			

Void Ratio = 0.328 **Compression** = 7.4%

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
2	0.25	0.0343		9	0.50	0.0319		16	0.13	0.0076	
3	0.50	0.0020		10	1.00	0.0024					
4	1.00	0.0172		11	2.00	0.0032					
5	2.00	0.0087		12	4.00	0.0075					
6	1.00	0.0052		13	8.00	0.0039					
7	0.50	0.0319		14	2.00	0.0072					
8	0.25	0.0301		15	0.50	0.0073					

MATERIAL DESCRIPTION	USCS	AASHTO
Light-Grey Silty Sand	SM	A-2-4(0)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf) Init.	Dry Dens. (pcf) Final	Moisture Init.	Moisture Final	Saturation Init.	Saturation Final	Void Ratio Init.	Void Ratio Final	P_c (tsf)	C_c
NP	NP	2.658		88.2	88.6	28.3 %	28.7 %	85.4 %	100.0 %	0.880	0.709	1.2	0.20

Preparation Process: Sample trimmed from shelby tube

Condition of Test: Inundated after application of seating load

D2435 Method	C_r	Swell Press. (tsf)	Swell %
	0.02		

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group

Project: I-5719: I-85
TIP No.: I-5719

Loc.: CULV7_B-1, Station 123+05 **Depth:** 13'-15' **Sample No.:** ST-8

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO T216 Method B

Checked By: MH

Title: Lab Manager

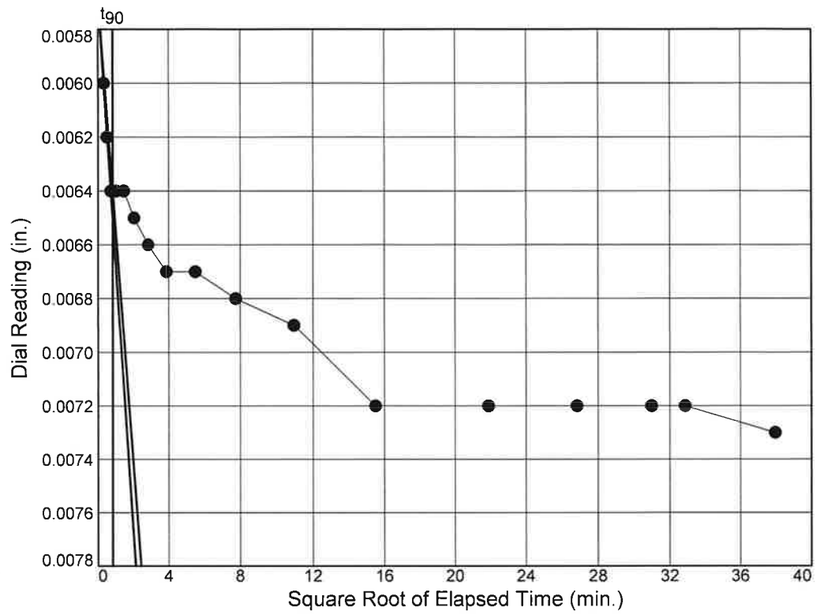
Figure

Tested By: FG

Dial Reading vs. Time

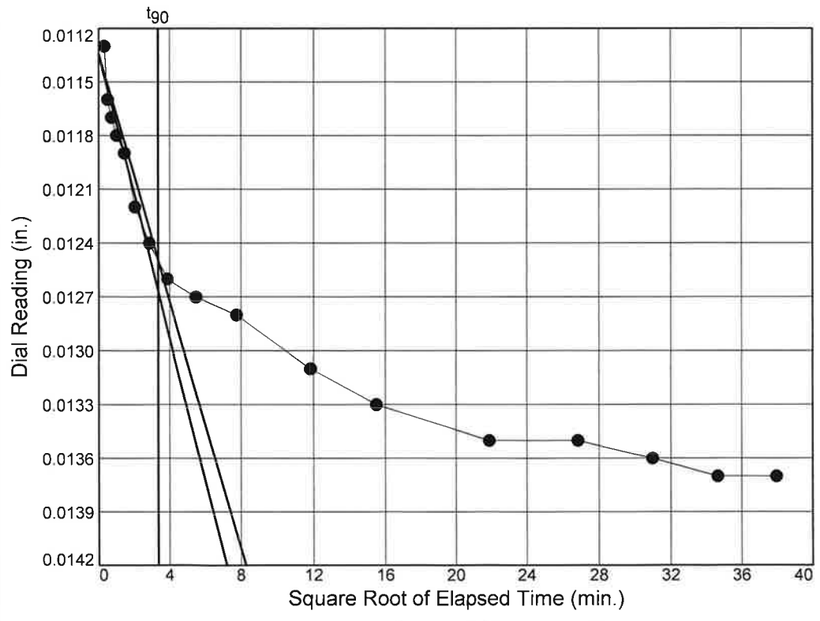
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 13'-15' Sample Number: ST-8



Load No.= 2
Load= 0.25 tsf
D_0 = 0.0057
D_{90} = 0.0064
D_{100} = 0.0065
T_{90} = 0.66 min.

C_v @ T_{90}
0.0343 cm.2/sec.



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0113
D_{90} = 0.0125
D_{100} = 0.0126
T_{90} = 11.12 min.

C_v @ T_{90}
0.0020 cm.2/sec.

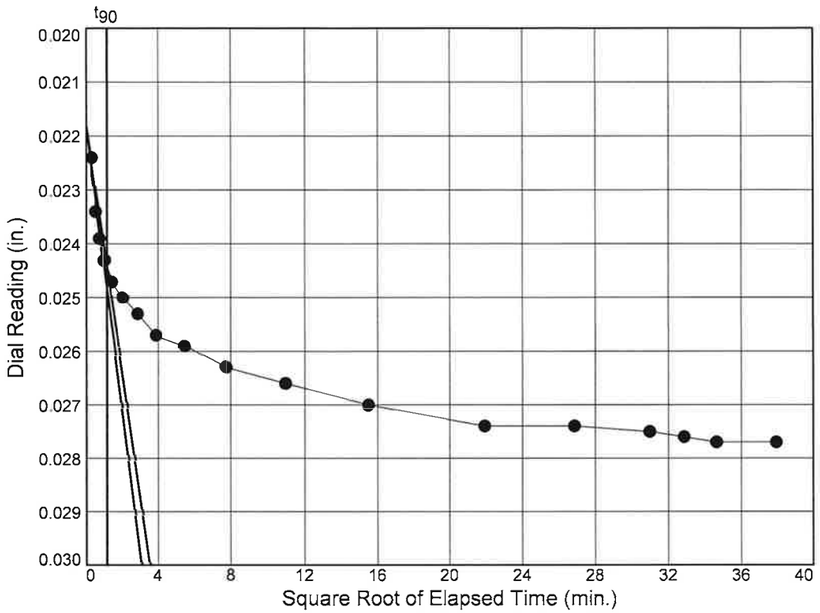
Summit Engineering

Figure

Dial Reading vs. Time

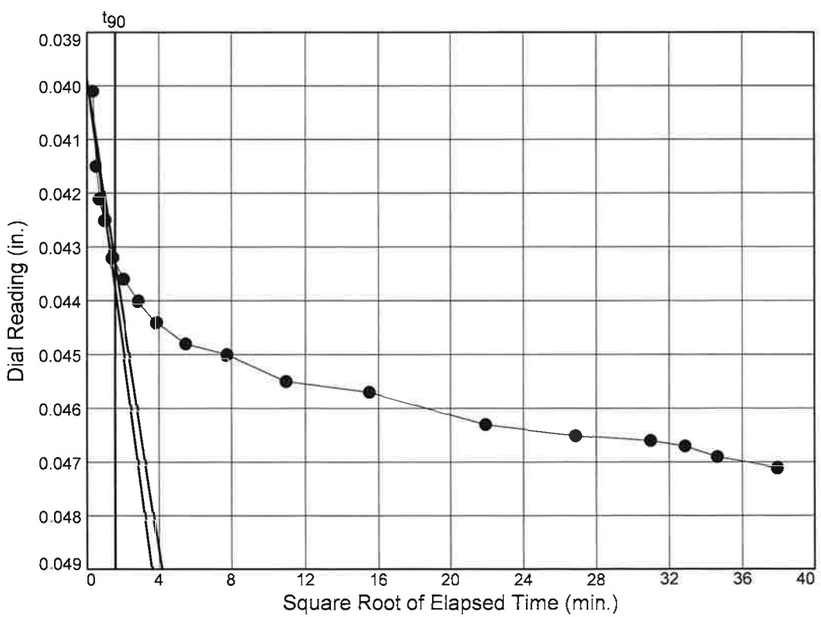
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 13'-15' Sample Number: ST-8



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0218
D_{90} = 0.0244
D_{100} = 0.0247
T_{90} = 1.26 min.

C_v @ T_{90}
0.0172 cm.^{2}/sec.



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0399
D_{90} = 0.0433
D_{100} = 0.0437
T_{90} = 2.40 min.

C_v @ T_{90}
0.0087 cm.^{2}/sec.

Figure

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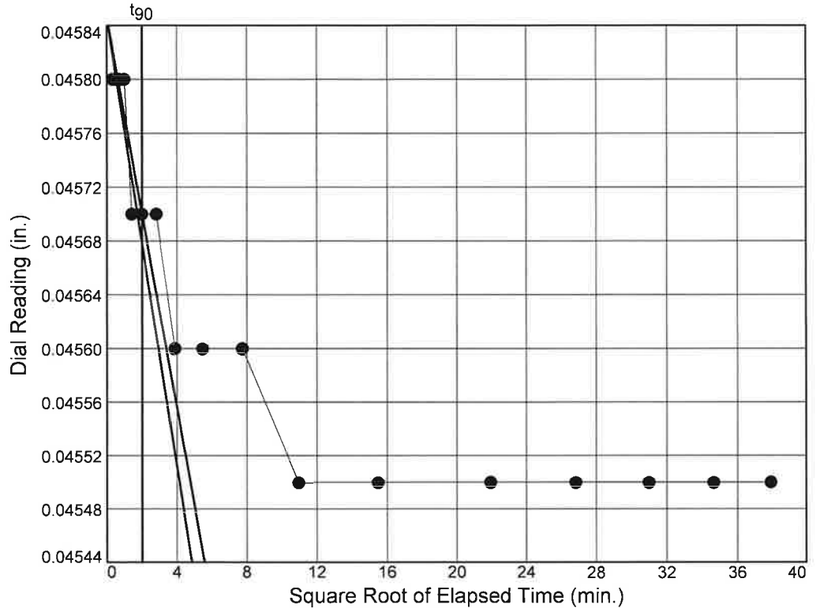
Dial Reading vs. Time

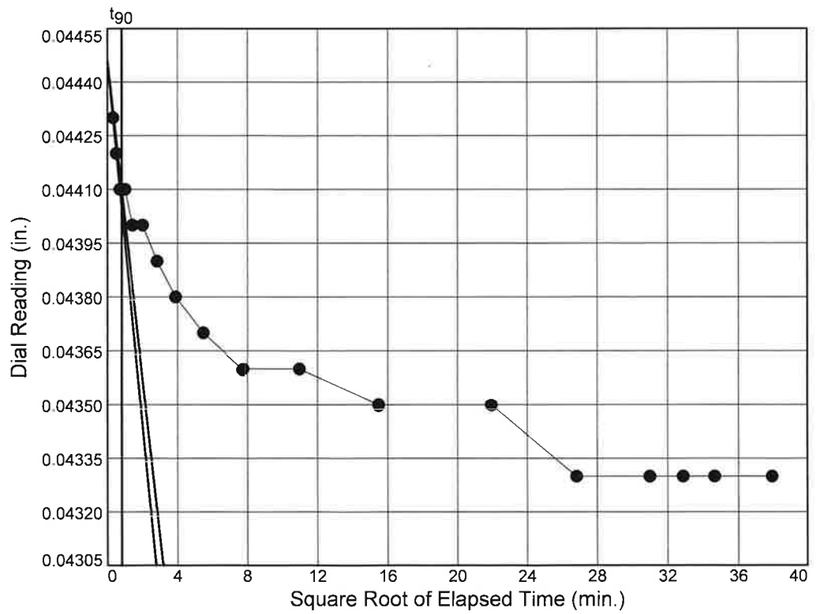
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 13'-15' Sample Number: ST-8



Load No.= 6
Load= 1.00 tsf
D_0 = 0.0458
D_{90} = 0.0457
D_{100} = 0.0457
T_{90} = 4.03 min.

C_v @ T_{90}
0.0052 cm.^{2}/sec.



Load No.= 7
Load= 0.50 tsf
D_0 = 0.0445
D_{90} = 0.0441
D_{100} = 0.0441
T_{90} = 0.65 min.

C_v @ T_{90}
0.0319 cm.^{2}/sec.

Figure

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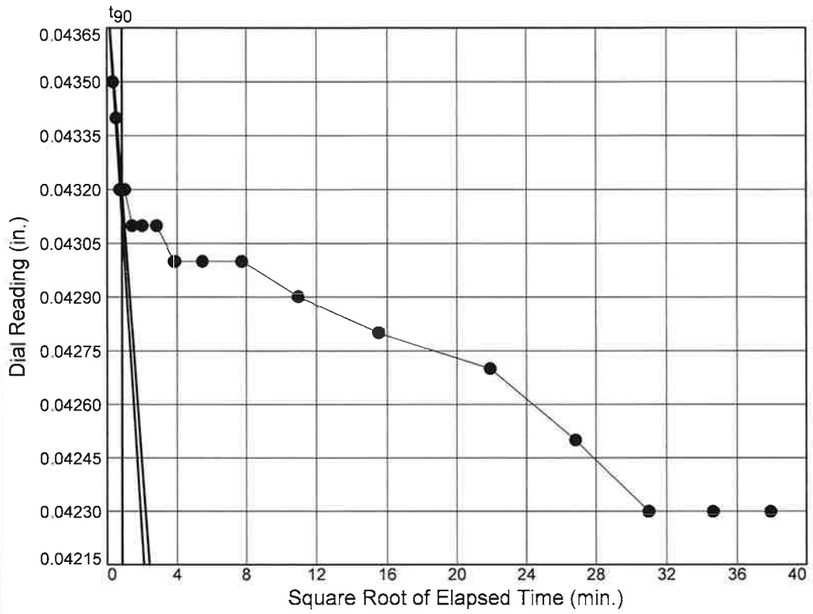
Dial Reading vs. Time

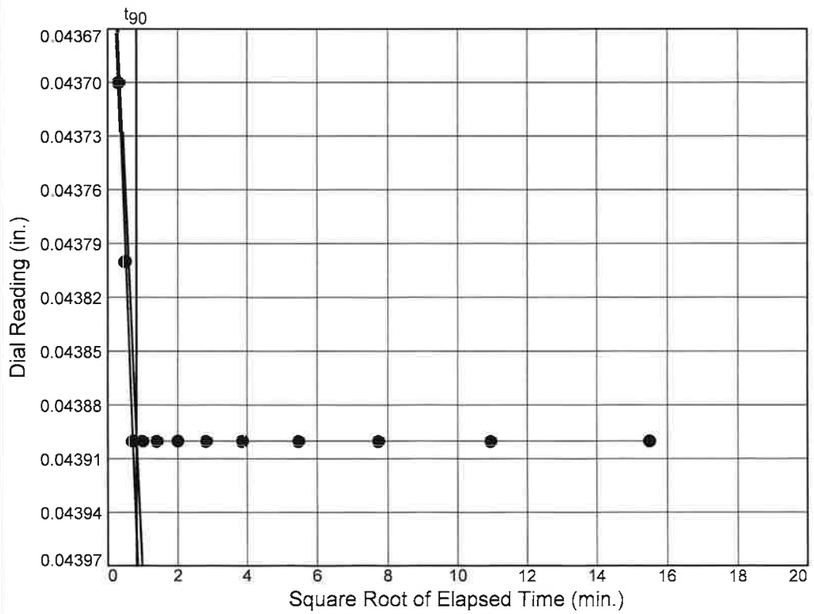
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 13'-15' Sample Number: ST-8



Load No.= 8
Load= 0.25 tsf
D_0 = 0.0438
D_{90} = 0.0432
D_{100} = 0.0431
T_{90} = 0.69 min.

C_v @ T_{90}
0.0301 cm.2/sec.



Load No.= 9
Load= 0.50 tsf
D_0 = 0.0435
D_{90} = 0.0439
D_{100} = 0.0439
T_{90} = 0.65 min.

C_v @ T_{90}
0.0319 cm.2/sec.

Figure

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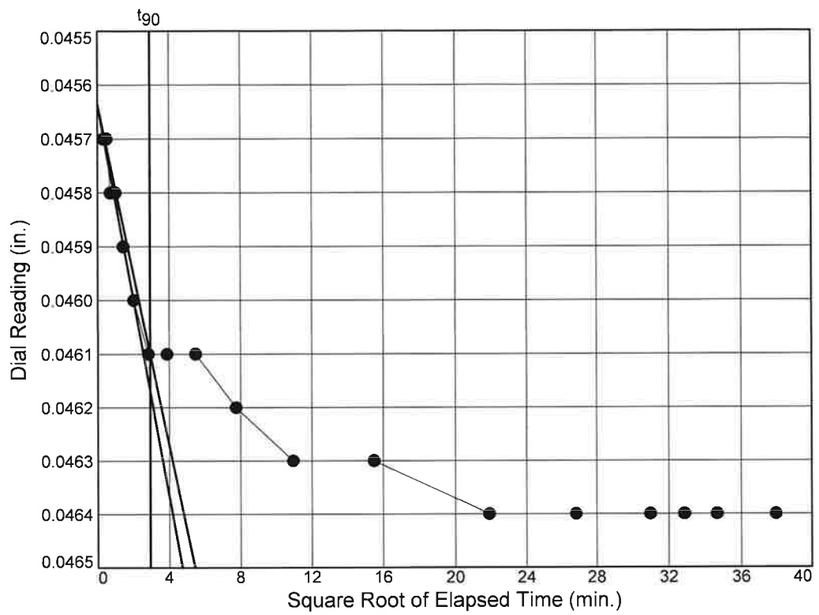
Dial Reading vs. Time

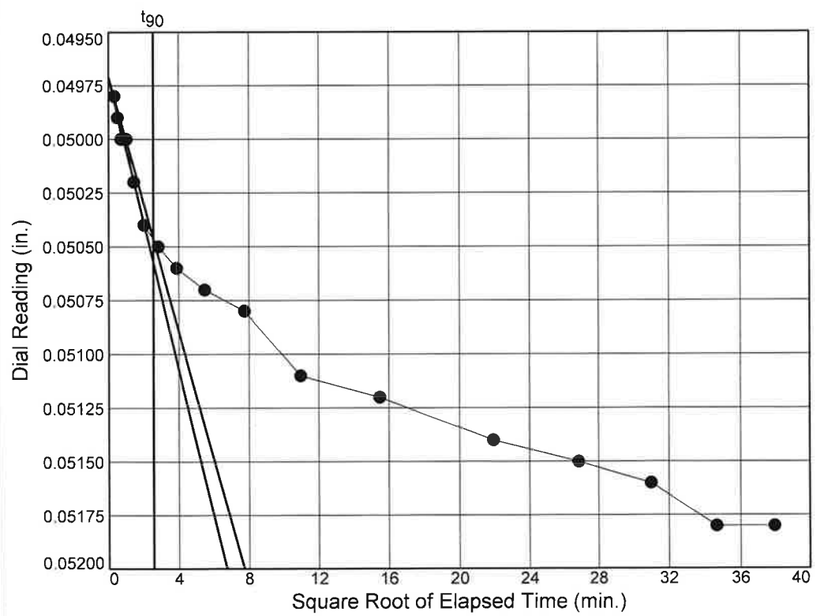
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 13'-15' Sample Number: ST-8



Load No.= 10
Load= 1.00 tsf
D_0 = 0.0456
D_{90} = 0.0461
D_{100} = 0.0462
T_{90} = 8.56 min.

C_v @ T_{90}
0.0024 cm.2/sec.



Load No.= 11
Load= 2.00 tsf
D_0 = 0.0497
D_{90} = 0.0505
D_{100} = 0.0505
T_{90} = 6.45 min.

C_v @ T_{90}
0.0032 cm.2/sec.

Figure

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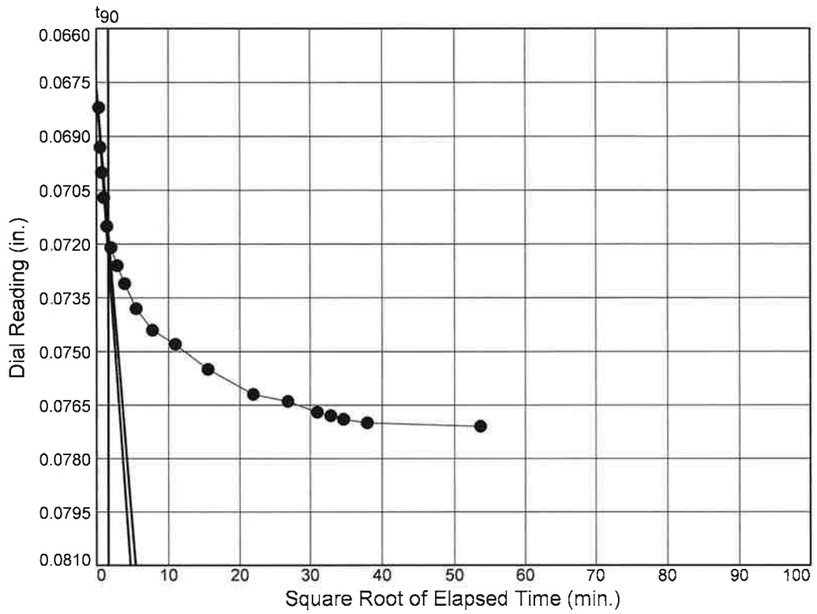
Dial Reading vs. Time

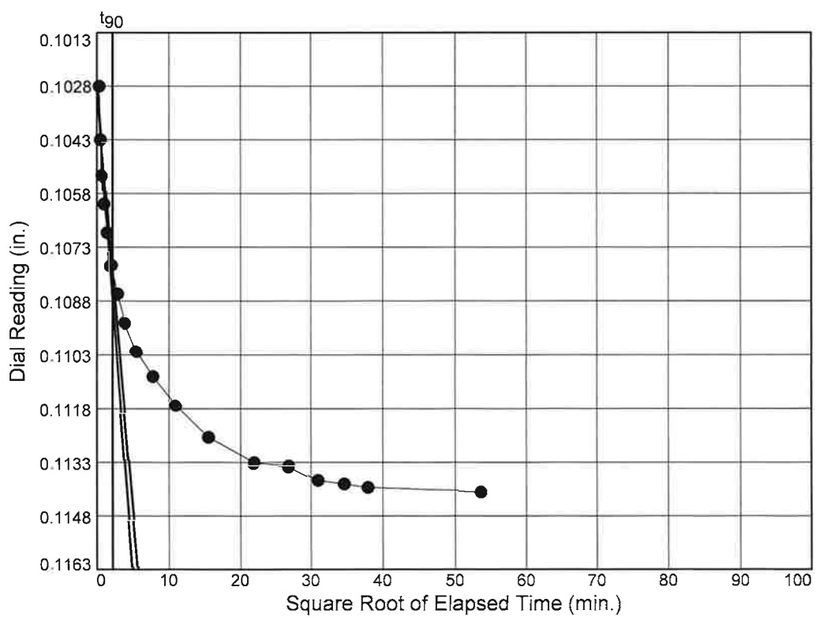
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 13'-15' Sample Number: ST-8



Load No.= 12
Load= 4.00 tsf
D_0 = 0.0677
D_{90} = 0.0717
D_{100} = 0.0722
T_{90} = 2.62 min.

C_v @ T_{90}
0.0075 cm.2/sec.



Load No.= 13
Load= 8.00 tsf
D_0 = 0.1028
D_{90} = 0.1080
D_{100} = 0.1085
T_{90} = 4.66 min.

C_v @ T_{90}
0.0039 cm.2/sec.

Figure

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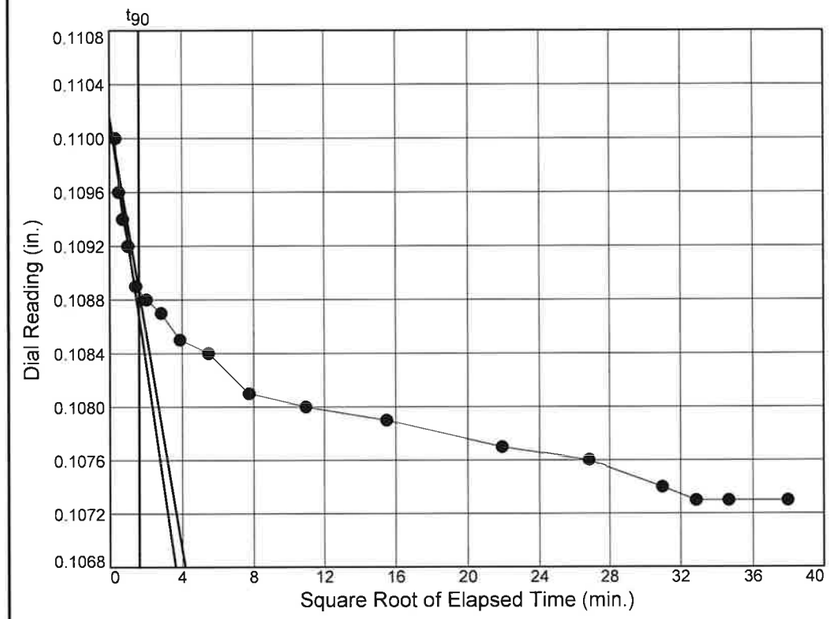
Dial Reading vs. Time

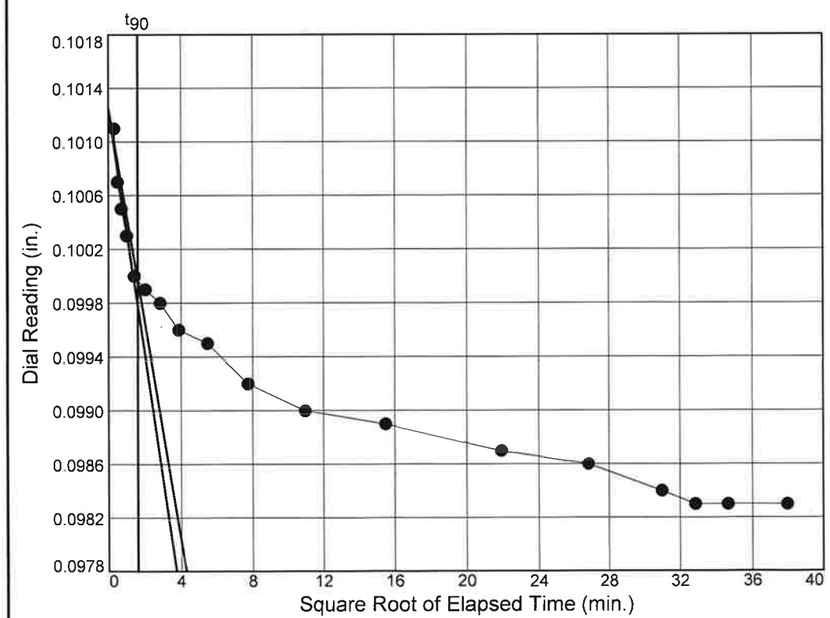
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 13'-15' Sample Number: ST-8



Load No.= 14
Load= 2.00 tsf
D_0 = 0.1102
D_{90} = 0.1089
D_{100} = 0.1087
T_{90} = 2.51 min.

C_v @ T_{90}
0.0072 cm.2/sec.



Load No.= 15
Load= 0.50 tsf
D_0 = 0.1013
D_{90} = 0.1000
D_{100} = 0.0998
T_{90} = 2.51 min.

C_v @ T_{90}
0.0073 cm.2/sec.

Figure

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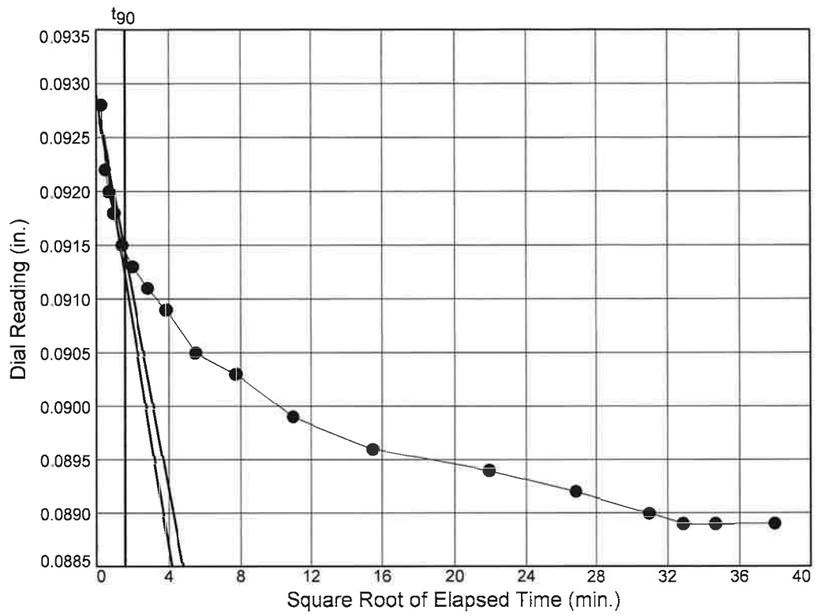
Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-1, Station 123+05 Depth: 13'-15' Sample Number: ST-8



Load No.= 16
Load= 0.13 tsf
D_0 = 0.0929
D_{90} = 0.0914
D_{100} = 0.0913
T_{90} = 2.49 min.

C_v @ T_{90}
0.0076 cm.^{2}/sec.

Figure

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CONSOLIDATION TEST DATA

10/9/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: CULV7_B-1, Station 123+05
Depth: 13'-15' **Sample Number:** ST-8
Material Description: Light-Grey Silty Sand
Sample Date: 09-02-23 **Liquid Limit:** NP **Plasticity Index:** NP
USCS: SM **AASHTO:** A-2-4(0)
Preparation Process: Sample trimmed from shelby tube
Condition of Test: Inundated after application of seating load
Final Density: 88.6
Testing Remarks: AASHTO T216 Method B
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE		VOID RATIO		AFTER TEST	
Wet w+t =	145.89 g.	Spec. Gr.	= 2.658	Wet w+t =	146.39 g.
Dry w+t =	113.71 g.	Est. Ht. Solids	= 0.532 in.	Dry w+t =	113.71 g.
Tare Wt. =	0.00 g.	Init. V.R.	= 0.880	Tare Wt. =	0.00 g.
Moisture =	28.3 %	Init. Sat.	= 85.4 %	Moisture =	28.7 %
UNIT WEIGHT		TEST START		Dry Wt. =	113.71* g.
Height =	1.000 in.	Height	= 1.000 in.		
Diameter =	2.500 in.	Diameter	= 2.500 in.		
Weight =	145.89 g.				
Dry Dens. =	88.2 pcf				

* Final dry weight used as mineral solids weight

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			0.880	
0.10	0.00000	0.01040	-0.01040*			0.900	1.0 Swell
0.50	0.00850	0.00120	0.00648*	0.0343		0.868	0.6 Comprs.
1.00	0.01620	0.00250	0.01262*	0.0020		0.857	1.3 Comprs.
2.00	0.03140	0.00370	0.02471*	0.0172		0.834	2.5 Comprs.
4.00	0.05300	0.00590	0.04367*	0.0087		0.798	4.4 Comprs.
2.00	0.05110	0.00560	0.04568*	0.0052		0.794	4.6 Comprs.
1.00	0.04790	0.00460	0.04406*	0.0319		0.797	4.4 Comprs.
0.50	0.04620	0.00390	0.04314*	0.0301		0.799	4.3 Comprs.
1.00	0.04790	0.00400	0.04394*	0.0319		0.798	4.4 Comprs.
2.00	0.05110	0.00470	0.04615*	0.0024		0.794	4.6 Comprs.
4.00	0.05780	0.00600	0.05055*	0.0032		0.785	5.1 Comprs.
8.00	0.08530	0.00820	0.07215*	0.0075		0.745	7.2 Comprs.
16.00	0.12450	0.01040	0.10852*	0.0039		0.676	10.9 Comprs.
4.00	0.11620	0.00890	0.10873*	0.0072		0.676	10.9 Comprs.
1.00	0.10500	0.00670	0.09983*	0.0073		0.693	10.0 Comprs.
0.25	0.09370	0.00480	0.09128*	0.0076		0.709	9.1 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

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TEST RESULTS SUMMARY

Compression index (C_c), tsf = 0.20 **Preconsolidation pressure (P_p), tsf** = 1.2 **Void ratio at P_p (e_m)** = 0.825

Recompression index (C_r) = 0.02

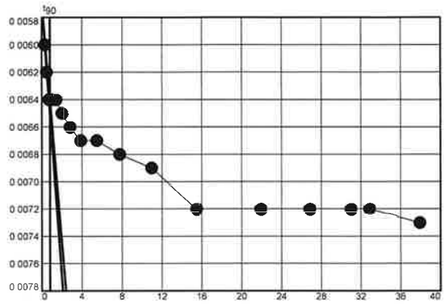
Pressure: 0.10 ksf — TEST READINGS — **Load No. 1**

No.	Elapsed Time	Dial Reading
1	0	0.00000
2	0.10	0.00000
3	0.25	0.00000
4	0.50	0.00000
5	1	0.00000
6	2	0.00000
7	5	0.00000

Void Ratio = 0.900 **Swell** = 1.0%

Pressure: 0.50 ksf — TEST READINGS — **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00000	11	60	0.00800
2	0.10	0.00720	12	120	0.00810
3	0.25	0.00740	13	240	0.00840
4	0.50	0.00760	14	480	0.00840
5	1	0.00760	15	720	0.00840
6	2	0.00760	16	960	0.00840
7	4	0.00770	17	1080	0.00840
8	8	0.00780	18	1440	0.00850
9	15	0.00790			
10	30	0.00790			

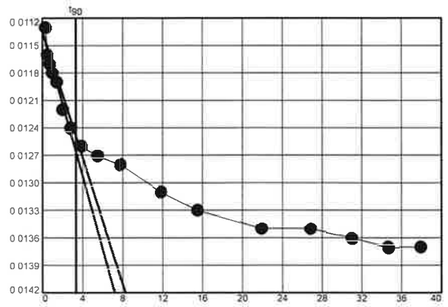


Void Ratio = 0.868 **Compression** = 0.6% >>> CALCULATED USING D_{100}

D_0 = 0.0057 **D_{90}** = 0.0064 **D_{100}** = 0.0065 **C_v at 0.66 min.** = 0.0343 cm.^{2}/sec.

Pressure: 1.00 ksf — TEST READINGS — **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00850	11	60	0.01530
2	0.10	0.01380	12	140	0.01560
3	0.25	0.01410	13	240	0.01580
4	0.50	0.01420	14	480	0.01600
5	1	0.01430	15	720	0.01600
6	2	0.01440	16	960	0.01610
7	4	0.01470	17	1200	0.01620
8	8	0.01490	18	1440	0.01620
9	15	0.01510			
10	30	0.01520			

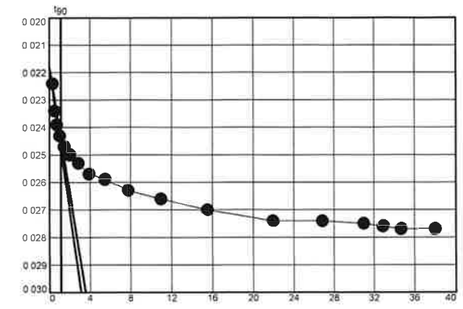


Void Ratio = 0.857 **Compression** = 1.3% >>> CALCULATED USING D_{100}

D_0 = 0.0113 **D_{90}** = 0.0125 **D_{100}** = 0.0126 **C_v at 11.12 min.** = 0.0020 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01620	11	60	0.03000
2	0.10	0.02610	12	120	0.03030
3	0.25	0.02710	13	240	0.03070
4	0.50	0.02760	14	480	0.03110
5	1	0.02800	15	720	0.03110
6	2	0.02840	16	960	0.03120
7	4	0.02870	17	1080	0.03130
8	8	0.02900	18	1200	0.03140
9	15	0.02940	19	1440	0.03140
10	30	0.02960			

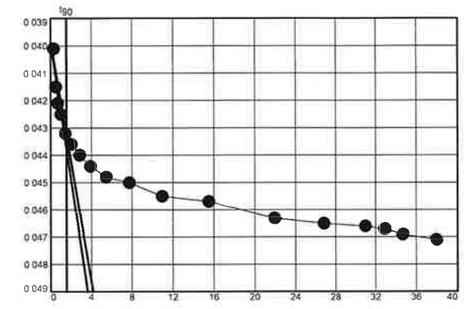


Void Ratio = 0.834 **Compression** = 2.5% >>> CALCULATED USING D_{100}

D_0 = 0.0218 **D_{90}** = 0.0244 **D_{100}** = 0.0247 **C_v at 1.26 min.** = 0.0172 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03140	11	60	0.05090
2	0.10	0.04600	12	120	0.05140
3	0.25	0.04740	13	240	0.05160
4	0.50	0.04800	14	480	0.05220
5	1	0.04840	15	720	0.05240
6	2	0.04910	16	960	0.05250
7	4	0.04950	17	1080	0.05260
8	8	0.04990	18	1200	0.05280
9	15	0.05030	19	1440	0.05300
10	30	0.05070			

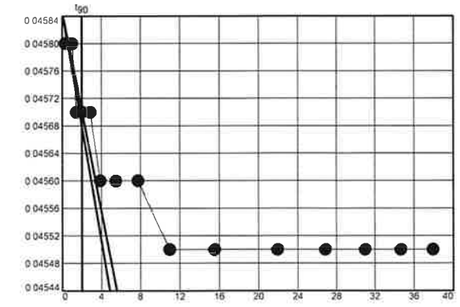


Void Ratio = 0.798 **Compression** = 4.4% >>> CALCULATED USING D_{100}

D_0 = 0.0399 **D_{90}** = 0.0433 **D_{100}** = 0.0437 **C_v at 2.40 min.** = 0.0087 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05300	11	60	0.05120
2	0.10	0.05140	12	120	0.05110
3	0.25	0.05140	13	240	0.05110
4	0.50	0.05140	14	480	0.05110
5	1	0.05140	15	720	0.05110
6	2	0.05130	16	960	0.05110
7	4	0.05130	17	1200	0.05110
8	8	0.05130	18	1440	0.05110
9	15	0.05120			
10	30	0.05120			

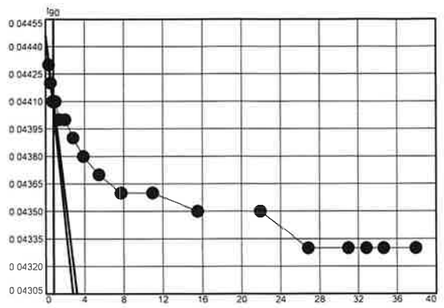


Void Ratio = 0.794 **Compression** = 4.6% >>> CALCULATED USING D_{100}

D_0 = 0.0458 **D_{90}** = 0.0457 **D_{100}** = 0.0457 **C_v at 4.03 min.** = 0.0052 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05110	11	60	0.04820
2	0.10	0.04890	12	120	0.04820
3	0.25	0.04880	13	240	0.04810
4	0.50	0.04870	14	480	0.04810
5	1	0.04870	15	720	0.04790
6	2	0.04860	16	960	0.04790
7	4	0.04860	17	1080	0.04790
8	8	0.04850	18	1200	0.04790
9	15	0.04840	19	1440	0.04790
10	30	0.04830			

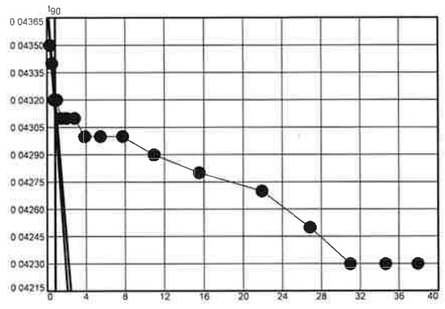


Void Ratio = 0.797 **Compression** = 4.4% >>> CALCULATED USING D_{100}

D_0 = 0.0445 **D_{90}** = 0.0441 **D_{100}** = 0.0441 **C_v at 0.65 min.** = 0.0319 cm.^{2}/sec.

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 8**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04790	11	60	0.04690
2	0.10	0.04740	12	120	0.04680
3	0.25	0.04730	13	240	0.04670
4	0.50	0.04710	14	480	0.04660
5	1	0.04710	15	720	0.04640
6	2	0.04700	16	960	0.04620
7	4	0.04700	17	1200	0.04620
8	8	0.04700	18	1440	0.04620
9	15	0.04690			
10	30	0.04690			

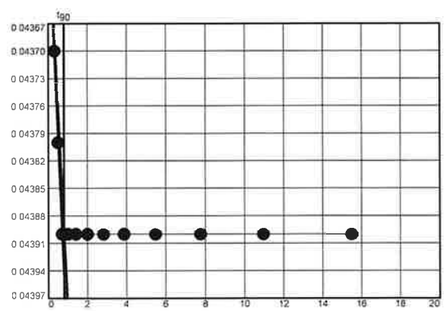


Void Ratio = 0.799 **Compression** = 4.3% >>> CALCULATED USING D_{100}

D_0 = 0.0438 **D_{90}** = 0.0432 **D_{100}** = 0.0431 **C_v at 0.69 min.** = 0.0301 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04620	11	60	0.04790
2	0.10	0.04770	12	120	0.04790
3	0.25	0.04780	13	240	0.04790
4	0.50	0.04790			
5	1	0.04790			
6	2	0.04790			
7	4	0.04790			
8	8	0.04790			
9	15	0.04790			
10	30	0.04790			

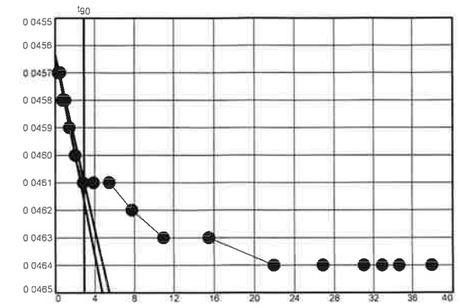


Void Ratio = 0.798 **Compression** = 4.4% >>> CALCULATED USING D_{100}

D_0 = 0.0435 **D_{90}** = 0.0439 **D_{100}** = 0.0439 **C_v at 0.65 min.** = 0.0319 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04790	11	60	0.05090
2	0.10	0.05040	12	120	0.05100
3	0.25	0.05040	13	240	0.05100
4	0.50	0.05050	14	480	0.05110
5	1	0.05050	15	720	0.05110
6	2	0.05060	16	960	0.05110
7	4	0.05070	17	1080	0.05110
8	8	0.05080	18	1200	0.05110
9	15	0.05080	19	1440	0.05110
10	30	0.05080			

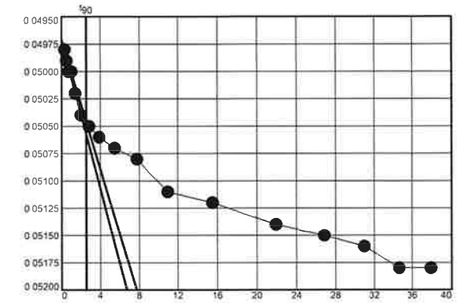


Void Ratio = 0.794 **Compression** = 4.6% >>> CALCULATED USING D_{100}

D_0 = 0.0456 **D_{90}** = 0.0461 **D_{100}** = 0.0462 **C_v at 8.56 min.** = 0.0024 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 11**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05110	11	60	0.05680
2	0.10	0.05580	12	120	0.05710
3	0.25	0.05590	13	240	0.05720
4	0.50	0.05600	14	480	0.05740
5	1	0.05600	15	720	0.05750
6	2	0.05620	16	960	0.05760
7	4	0.05640	17	1200	0.05780
8	8	0.05650	18	1440	0.05780
9	15	0.05660			
10	30	0.05670			

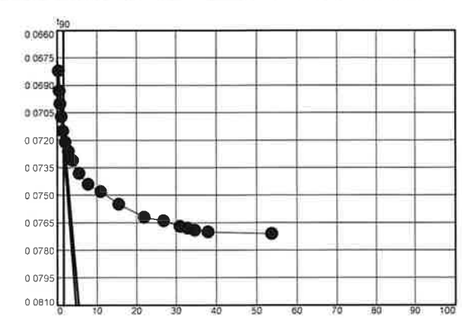


Void Ratio = 0.785 **Compression** = 5.1% >>> CALCULATED USING D_{100}

D_0 = 0.0497 **D_{90}** = 0.0505 **D_{100}** = 0.0505 **C_v at 6.45 min.** = 0.0032 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05780	11	60	0.08260
2	0.10	0.07640	12	120	0.08300
3	0.25	0.07750	13	240	0.08370
4	0.50	0.07820	14	480	0.08440
5	1	0.07890	15	720	0.08460
6	2	0.07970	16	960	0.08490
7	4	0.08030	17	1080	0.08500
8	8	0.08080	18	1200	0.08510
9	15	0.08130	19	1440	0.08520
10	30	0.08200	20	2880	0.08530

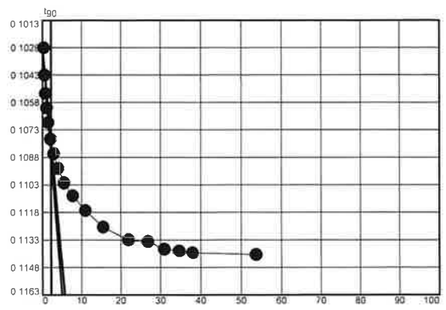


Void Ratio = 0.745 **Compression** = 7.2% >>> CALCULATED USING D_{100}

D_0 = 0.0677 **D_{90}** = 0.0717 **D_{100}** = 0.0722 **C_v at 2.62 min.** = 0.0075 cm.^{2}/sec.

Pressure: 16.00 ksf — **TEST READINGS** — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08530	11	60	0.12130
2	0.10	0.11320	12	120	0.12210
3	0.25	0.11470	13	240	0.12300
4	0.50	0.11570	14	480	0.12370
5	1	0.11650	15	720	0.12380
6	2	0.11730	16	960	0.12420
7	4	0.11820	17	1200	0.12430
8	8	0.11900	18	1440	0.12440
9	15	0.11980	19	2880	0.12450
10	30	0.12060			

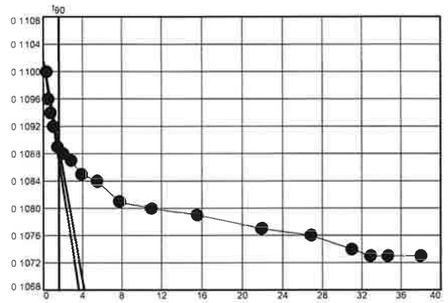


Void Ratio = 0.676 **Compression** = 10.9% >>> CALCULATED USING D_{100}

D_0 = 0.1028 **D_{90}** = 0.1080 **D_{100}** = 0.1085 **C_v at 4.66 min.** = 0.0039 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.12450	11	60	0.11700
2	0.10	0.11890	12	120	0.11690
3	0.25	0.11850	13	240	0.11680
4	0.50	0.11830	14	480	0.11660
5	1	0.11810	15	720	0.11650
6	2	0.11780	16	960	0.11630
7	4	0.11770	17	1080	0.11620
8	8	0.11760	18	1200	0.11620
9	15	0.11740	19	1440	0.11620
10	30	0.11730			

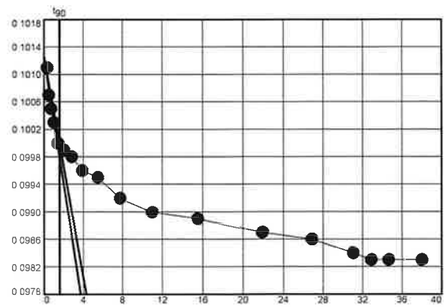


Void Ratio = 0.676 **Compression** = 10.9% >>> CALCULATED USING D_{100}

D_0 = 0.1102 **D_{90}** = 0.1089 **D_{100}** = 0.1087 **C_v at 2.51 min.** = 0.0072 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 15**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.11620	11	60	0.10590
2	0.10	0.10780	12	120	0.10570
3	0.25	0.10740	13	240	0.10560
4	0.50	0.10720	14	480	0.10540
5	1	0.10700	15	720	0.10530
6	2	0.10670	16	960	0.10510
7	4	0.10660	17	1080	0.10500
8	8	0.10650	18	1200	0.10500
9	15	0.10630	19	1440	0.10500
10	30	0.10620			

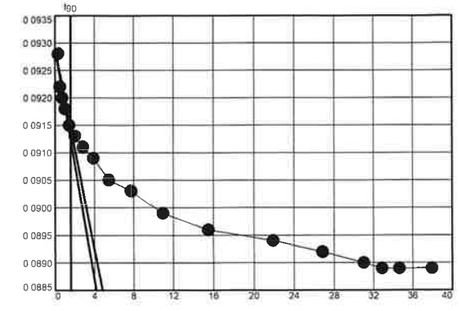


Void Ratio = 0.693 **Compression** = 10.0% >>> CALCULATED USING D_{100}

D_0 = 0.1013 **D_{90}** = 0.1000 **D_{100}** = 0.0998 **C_v at 2.51 min.** = 0.0073 cm.^{2}/sec.

Pressure: 0.25 ksf — **TEST READINGS** — **Load No. 16**

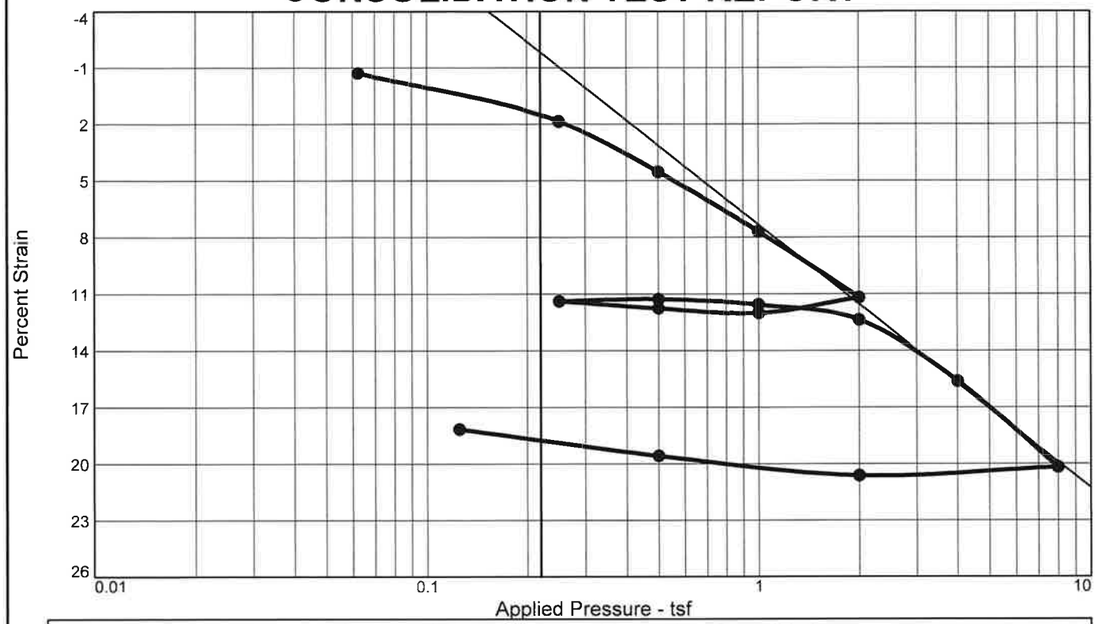
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.10500	11	60	0.09510
2	0.10	0.09760	12	120	0.09470
3	0.25	0.09700	13	240	0.09440
4	0.50	0.09680	14	480	0.09420
5	1	0.09660	15	720	0.09400
6	2	0.09630	16	960	0.09380
7	4	0.09610	17	1080	0.09370
8	8	0.09590	18	1200	0.09370
9	15	0.09570	19	1440	0.09370
10	30	0.09530			



Void Ratio = 0.709 **Compression** = 9.1% >>> CALCULATED USING D_{100}

D_0 = 0.0929 **D_{90}** = 0.0914 **D_{100}** = 0.0913 **C_v at 2.49 min.** = 0.0076 cm.^{2}/sec.

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
2	0.25	0.0018		9	0.50	0.0102		16	0.13	0.0005	
3	0.50	0.0017		10	1.00	0.0101					
4	1.00	0.0019		11	2.00	0.0039					
5	2.00	0.0031		12	4.00	0.0030					
6	1.00	0.0073		13	8.00	0.0029					
7	0.50	0.0064		14	2.00	0.0048					
8	0.25	0.0032		15	0.50	0.0023					

MATERIAL DESCRIPTION	USCS	AASHTO
Dark-Grey Sandy Silt	ML	A-5(8)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf) Init.	Dry Dens. (pcf) Final	Moisture Init.	Moisture Final	Saturation Init.	Saturation Final	Void Ratio Init.	Void Ratio Final	P_c (tsf)	C_c
49	10	2.562		78.0	70.3	41.2 %	27.3 %	100.5 %	100.0 %	1.050	0.678	0.4	0.29

Preparation Process: Sample trimmed from shelby tube

Condition of Test: Inundated after application of seating load

D2435 Method	C_r	Swell Press. (tsf)	Swell %
	0.03		

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group

Project: I-5719: I-85
TIP No.: I-5719

Loc.: CULV7_B-2, Station 122+23 **Depth:** 8'-10' **Sample No.:** ST-9

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO T216 Method B

Checked By: MH

Title: Lab Manager

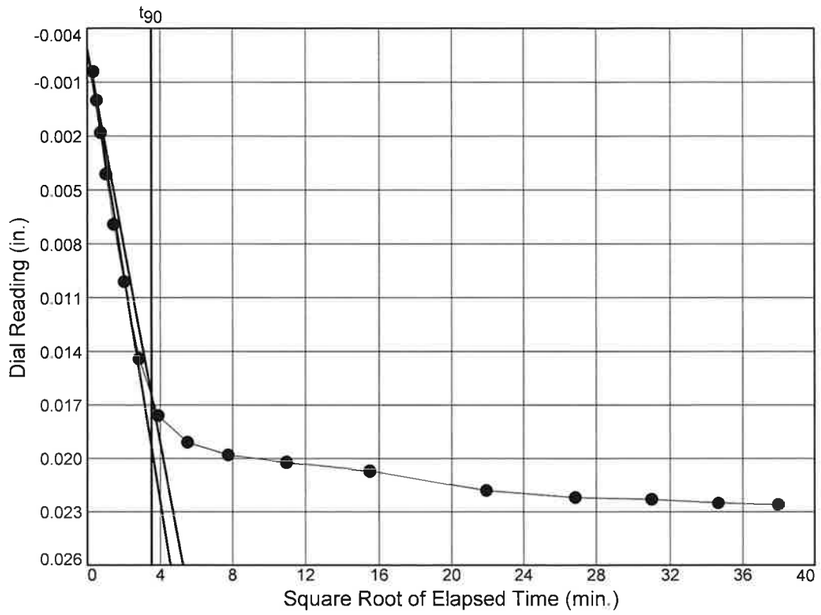
Figure

Tested By: FG

Dial Reading vs. Time

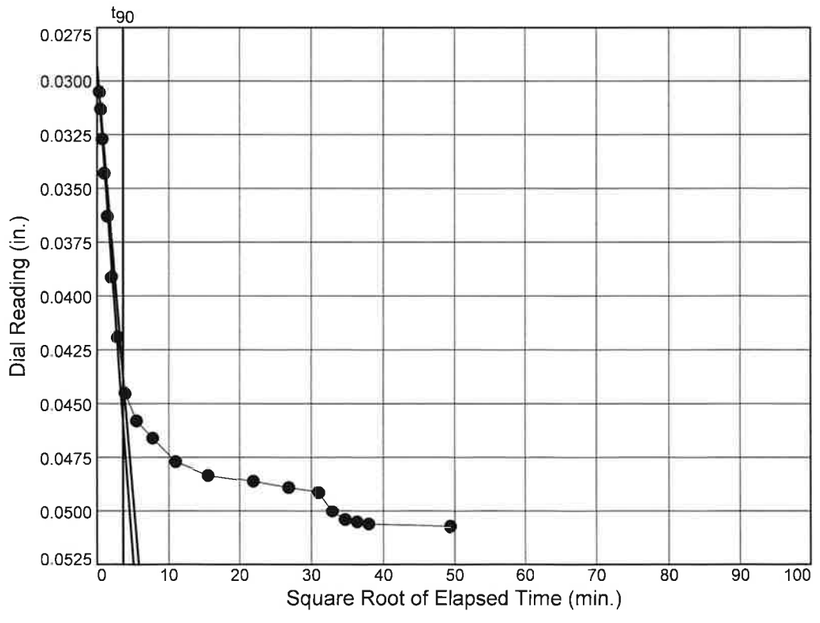
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-2, Station 122+23 Depth: 8'-10' Sample Number: ST-9



Load No.= 2
Load= 0.25 tsf
D_0 = -0.0028
D_{90} = 0.0165
D_{100} = 0.0186
T_{90} = 12.30 min.

C_v @ T_{90}
0.0018 cm.2/sec.



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0294
D_{90} = 0.0438
D_{100} = 0.0454
T_{90} = 12.78 min.

C_v @ T_{90}
0.0017 cm.2/sec.

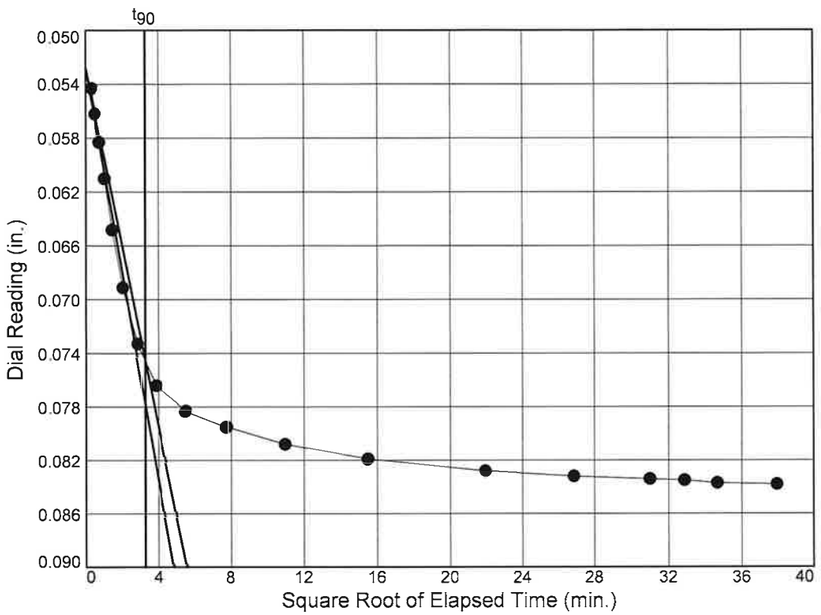
Summit Engineering

Figure

Dial Reading vs. Time

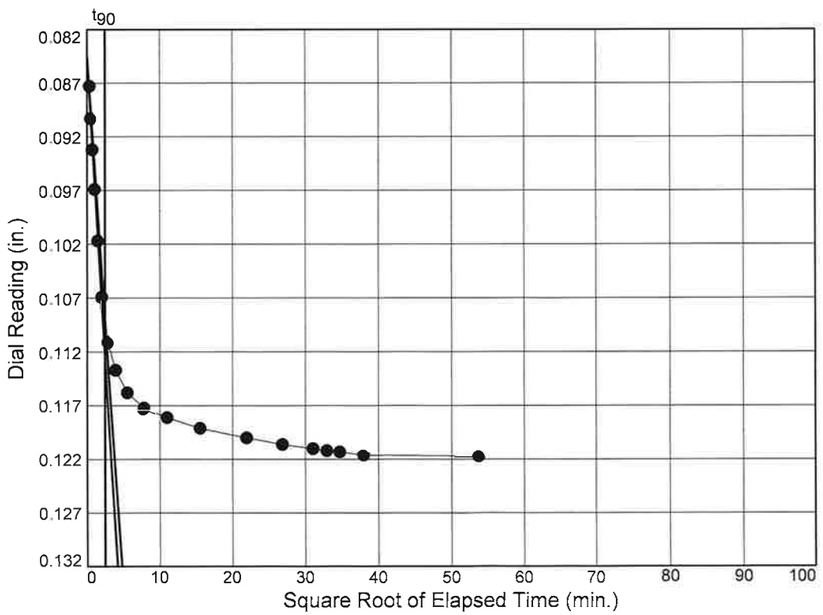
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-2, Station 122+23 Depth: 8'-10' Sample Number: ST-9



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0528
D_{90} = 0.0746
D_{100} = 0.0770
T_{90} = 10.63 min.

C_v @ T_{90}
0.0019 cm.2/sec.



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0846
D_{90} = 0.1091
D_{100} = 0.1118
T_{90} = 5.91 min.

C_v @ T_{90}
0.0031 cm.2/sec.

Figure

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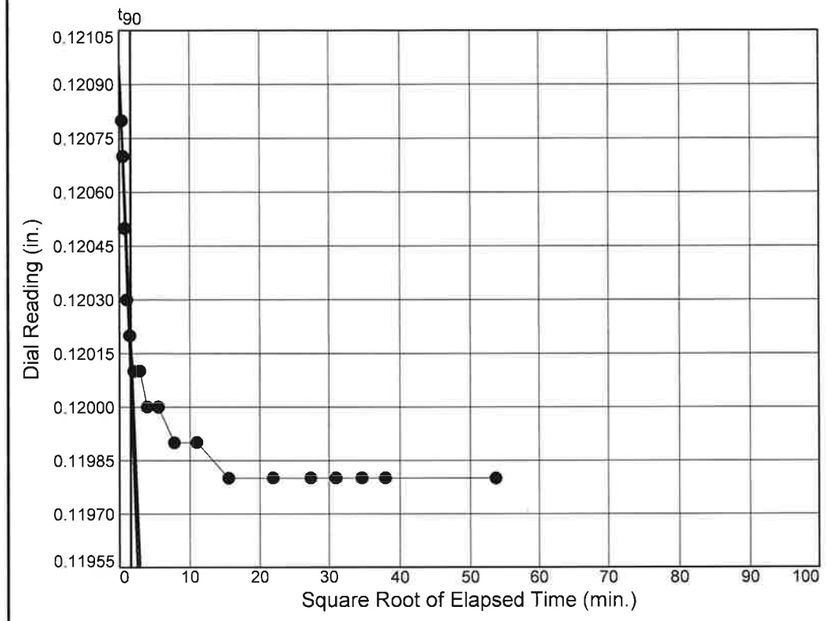
Dial Reading vs. Time

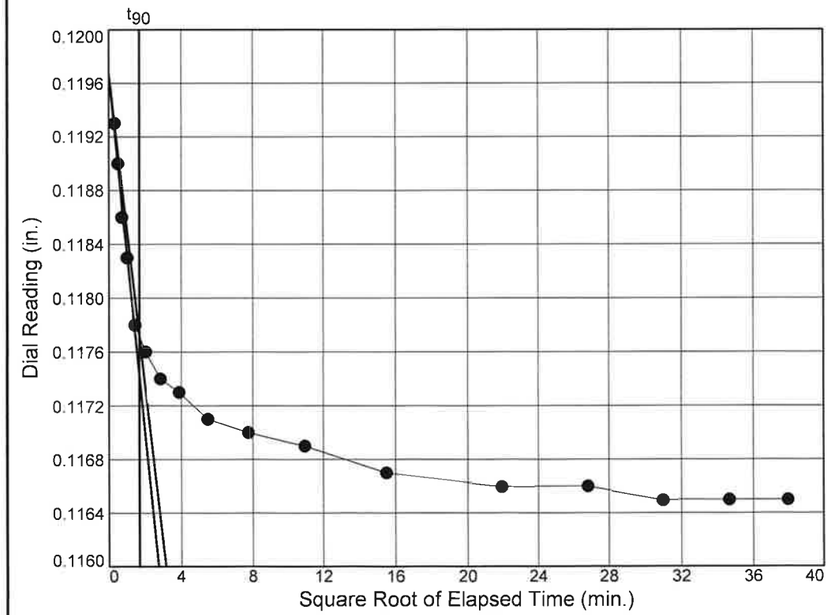
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-2, Station 122+23 Depth: 8'-10' Sample Number: ST-9



Load No.= 6
Load= 1.00 tsf
D_0 = 0.1210
D_{90} = 0.1202
D_{100} = 0.1201
T_{90} = 2.43 min.

C_v @ T_{90}
0.0073 cm.2/sec.



Load No.= 7
Load= 0.50 tsf
D_0 = 0.1197
D_{90} = 0.1177
D_{100} = 0.1175
T_{90} = 2.75 min.

C_v @ T_{90}
0.0064 cm.2/sec.

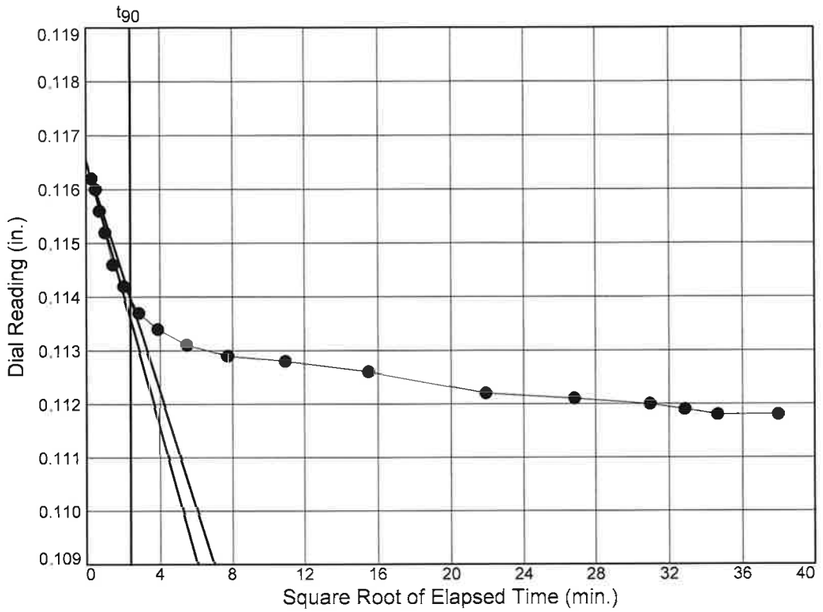
Figure

Summit Engineering

Dial Reading vs. Time

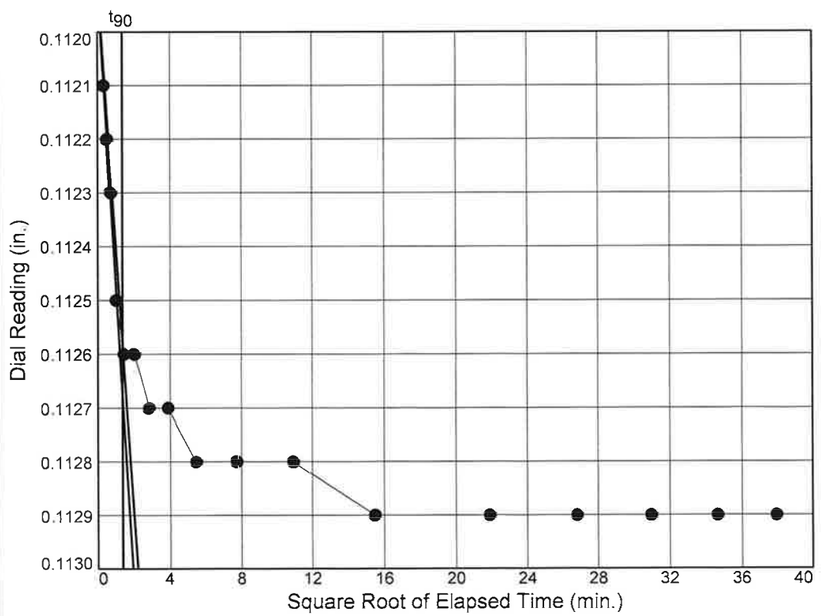
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-2, Station 122+23 Depth: 8'-10' Sample Number: ST-9



Load No.= 8
Load= 0.25 tsf
D_0 = 0.1165
D_{90} = 0.1140
D_{100} = 0.1137
T_{90} = 5.60 min.

C_v @ T_{90}
0.0032 cm.2/sec.



Load No.= 9
Load= 0.50 tsf
D_0 = 0.1119
D_{90} = 0.1126
D_{100} = 0.1127
T_{90} = 1.76 min.

C_v @ T_{90}
0.0102 cm.2/sec.

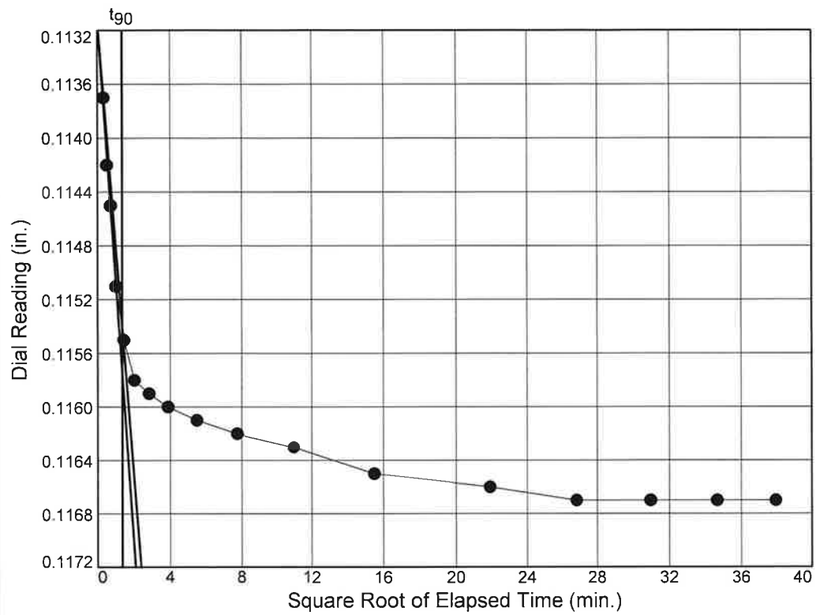
Figure

Summit Engineering

Dial Reading vs. Time

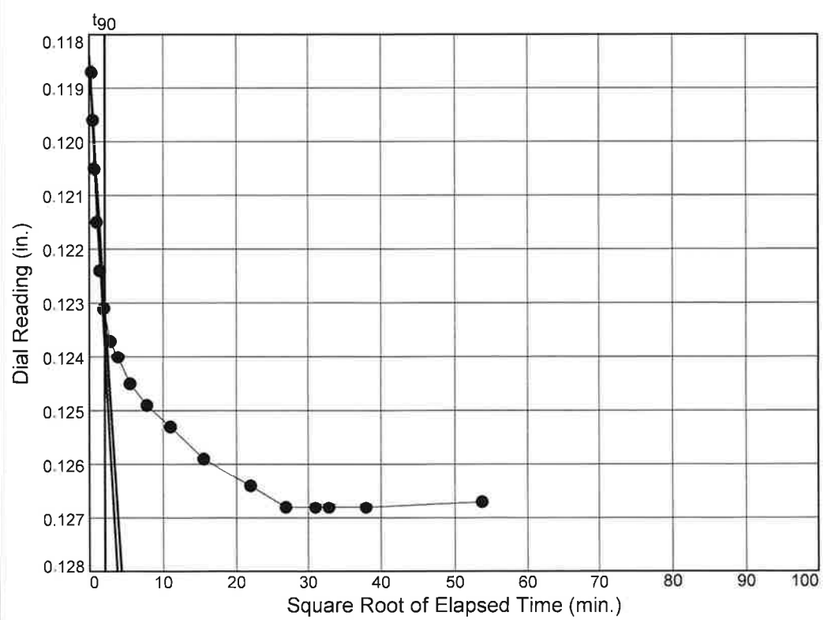
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-2, Station 122+23 Depth: 8'-10' Sample Number: ST-9



Load No.= 10
Load= 1.00 tsf
D_0 = 0.1131
D_{90} = 0.1154
D_{100} = 0.1157
T_{90} = 1.77 min.

C_v @ T_{90}
0.0101 cm.2/sec.



Load No.= 11
Load= 2.00 tsf
D_0 = 0.1184
D_{90} = 0.1232
D_{100} = 0.1237
T_{90} = 4.54 min.

C_v @ T_{90}
0.0039 cm.2/sec.

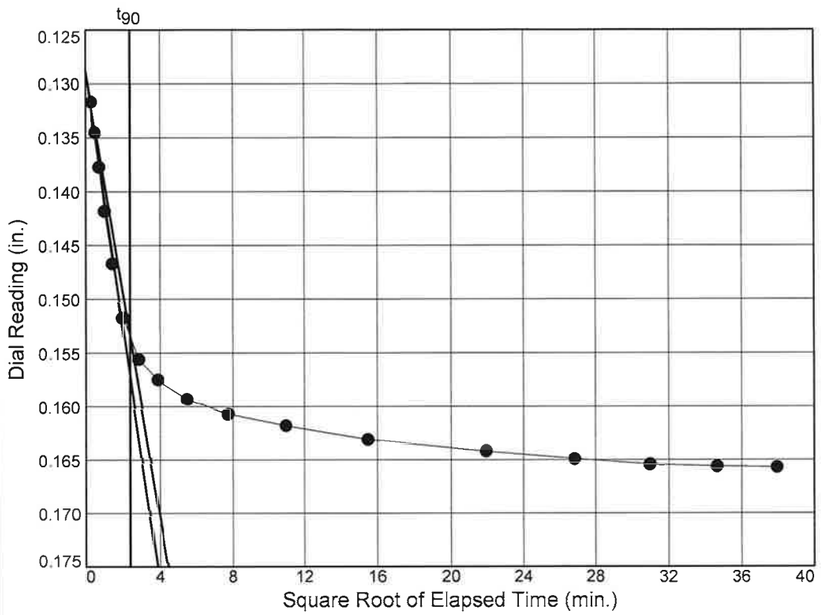
Figure

Summit Engineering

Dial Reading vs. Time

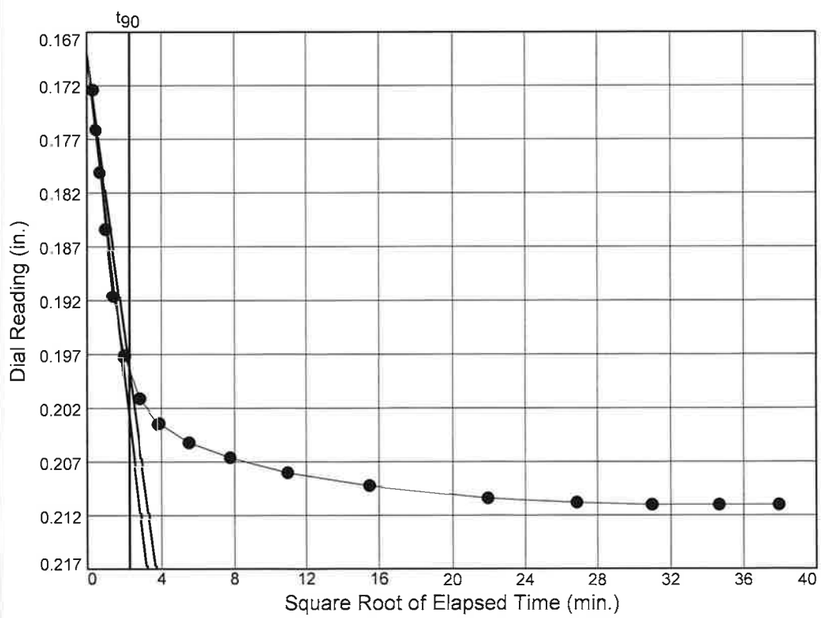
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-2, Station 122+23 Depth: 8'-10' Sample Number: ST-9



Load No.= 12
Load= 4.00 tsf
D_0 = 0.1288
D_{90} = 0.1534
D_{100} = 0.1561
T_{90} = 5.57 min.

C_v @ T_{90}
0.0030 cm.2/sec.



Load No.= 13
Load= 8.00 tsf
D_0 = 0.1691
D_{90} = 0.1984
D_{100} = 0.2017
T_{90} = 5.17 min.

C_v @ T_{90}
0.0029 cm.2/sec.

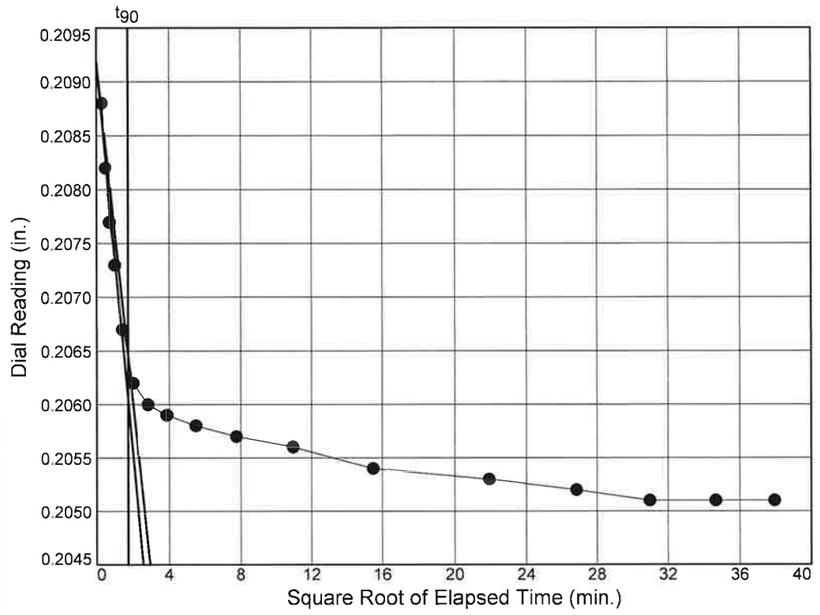
Figure

Summit Engineering

Dial Reading vs. Time

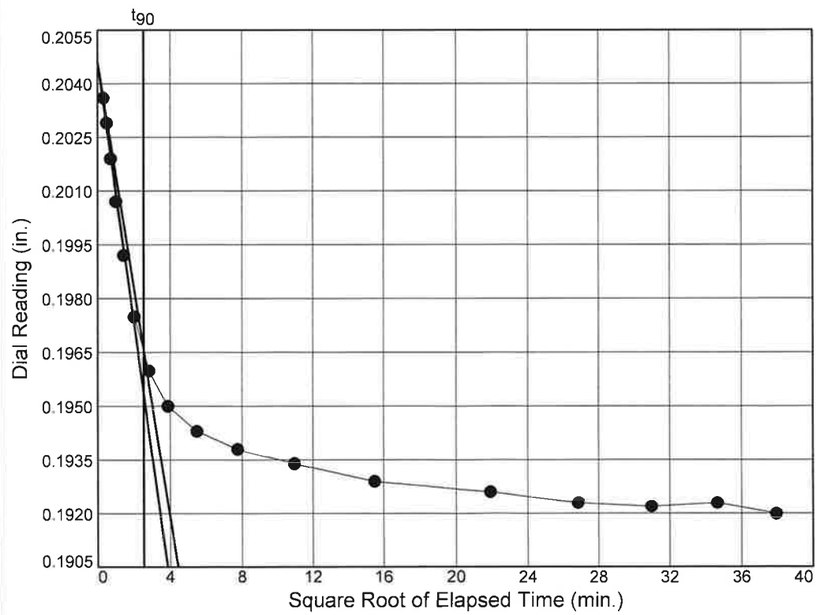
Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-2, Station 122+23 Depth: 8'-10' Sample Number: ST-9



Load No.= 14
Load= 2.00 tsf
D_0 = 0.2092
D_{90} = 0.2064
D_{100} = 0.2061
T_{90} = 2.97 min.

C_v @ T_{90}
0.0048 cm.2/sec.



Load No.= 15
Load= 0.50 tsf
D_0 = 0.2046
D_{90} = 0.1966
D_{100} = 0.1957
T_{90} = 6.36 min.

C_v @ T_{90}
0.0023 cm.2/sec.

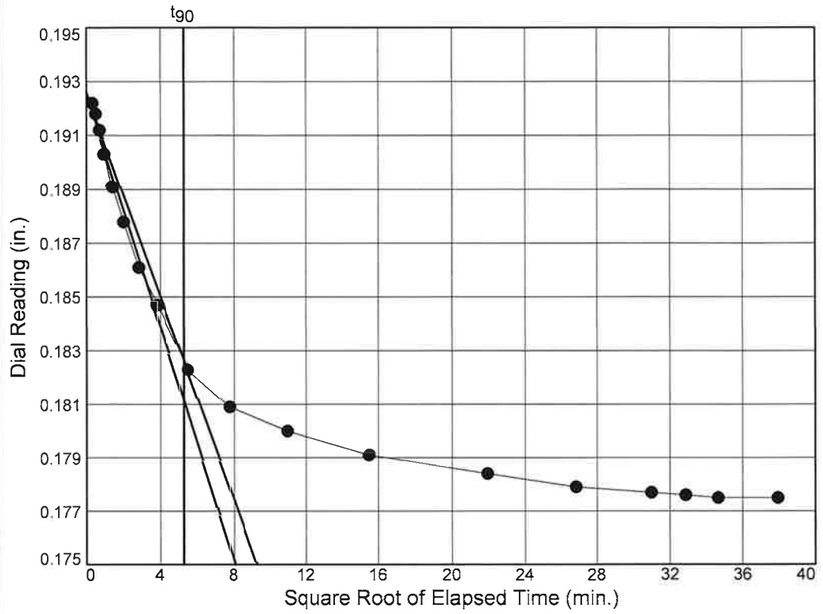
Figure

Summit Engineering

Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

Location: CULV7_B-2, Station 122+23 Depth: 8'-10' Sample Number: ST-9



Load No.= 16
Load= 0.13 tsf
D_0 = 0.1926
D_{90} = 0.1827
D_{100} = 0.1816
T_{90} = 27.45 min.

C_v @ T_{90}
0.0005 cm.^{2}/sec.

Summit Engineering

Figure

CONSOLIDATION TEST DATA

10/9/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: CULV7_B-2, Station 122+23
Depth: 8'-10' **Sample Number:** ST-9
Material Description: Dark-Grey Sandy Silt
Sample Date: 09-02-23 **Liquid Limit:** 49 **Plasticity Index:** 10
USCS: ML **AASHTO:** A-5(8)
Preparation Process: Sample trimmed from shelby tube
Condition of Test: Inundated after application of seating load
Final Density: 70.3
Testing Remarks: AASHTO T216 Method B
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE		VOID RATIO		AFTER TEST	
Wet w+t =	141.92 g.	Spec. Gr. =	2.562	Wet w+t =	127.92 g.
Dry w+t =	100.51 g.	Est. Ht. Solids =	0.488 in.	Dry w+t =	100.51 g.
Tare Wt. =	0.00 g.	Init. V.R. =	1.050	Tare Wt. =	0.00 g.
Moisture =	41.2 %	Init. Sat. =	100.5 %	Moisture =	27.3 %
UNIT WEIGHT		TEST START		Dry Wt. =	100.51* g.
Height =	1.000 in.	Height =	1.000 in.		
Diameter =	2.500 in.	Diameter =	2.500 in.		
Weight =	141.92 g.				
Dry Dens. =	78.0 pcf				

* Final dry weight used as mineral solids weight

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			1.050	
0.13	0.00000	0.00700	-0.00700*			1.065	0.7 Swell
0.50	0.02960	0.00700	0.01862*	0.0018		1.012	1.9 Comprs.
1.00	0.05240	0.00170	0.04536*	0.0017		0.957	4.5 Comprs.
2.00	0.08670	0.00290	0.07700*	0.0019		0.893	7.7 Comprs.
4.00	0.12630	0.00460	0.11181*	0.0031		0.821	11.2 Comprs.
2.00	0.12420	0.00440	0.12009*	0.0073		0.804	12.0 Comprs.
1.00	0.12010	0.00360	0.11750*	0.0064		0.809	11.8 Comprs.
0.50	0.11460	0.00280	0.11370*	0.0032		0.817	11.4 Comprs.
1.00	0.11570	0.00280	0.11265*	0.0102		0.819	11.3 Comprs.
2.00	0.12040	0.00370	0.11568*	0.0101		0.813	11.6 Comprs.
4.00	0.13140	0.00470	0.12373*	0.0039		0.797	12.4 Comprs.
8.00	0.17250	0.00680	0.15612*	0.0030		0.730	15.6 Comprs.
16.00	0.21990	0.00890	0.20168*	0.0029		0.637	20.2 Comprs.
4.00	0.21240	0.00730	0.20613*	0.0048		0.628	20.6 Comprs.
1.00	0.19720	0.00520	0.19566*	0.0023		0.649	19.6 Comprs.
0.25	0.18110	0.00360	0.18155*	0.0005		0.678	18.2 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

Summit Engineering

TEST RESULTS SUMMARY

Compression index (C_c), tsf = 0.29 **Preconsolidation pressure (P_p), tsf** = 0.4 **Void ratio at P_p (e_m)** = 0.967

Recompression index (C_r) = 0.03

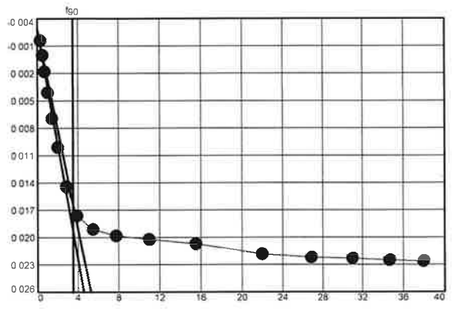
Pressure: 0.13 ksf — TEST READINGS — **Load No. 1**

No.	Elapsed Time	Dial Reading
1	0	0.00000
2	0.10	0.00000
3	0.25	0.00000
4	0.5	0.00000
5	1	0.00000
6	2	0.00000
7	5	0.00000

Void Ratio = 1.065 **Swell** = 0.7%

Pressure: 0.50 ksf — TEST READINGS — **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00000	11	60	0.02680
2	0.1	0.00540	12	120	0.02720
3	0.25	0.00700	13	240	0.02770
4	0.50	0.00880	14	480	0.02880
5	1	0.01110	15	720	0.02920
6	2	0.01390	16	960	0.02930
7	4	0.01710	17	1200	0.02950
8	8	0.02140	18	1440	0.02960
9	15	0.02460			
10	30	0.02610			

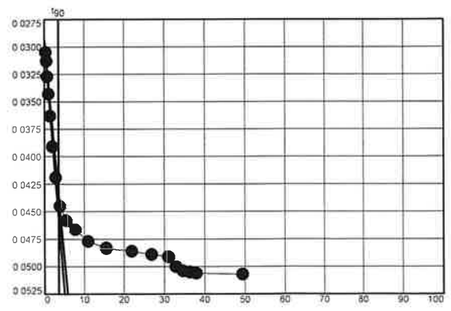


Void Ratio = 1.012 **Compression** = 1.9% >>> CALCULATED USING D_{100}

D_0 = -0.0028 **D_{90}** = 0.0165 **D_{100}** = 0.0186 **C_v at 12.30 min.** = 0.0018 cm.^{2}/sec.

Pressure: 1.00 ksf — TEST READINGS — **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02960	12	120	0.04940
2	0.10	0.03220	13	240	0.05000
3	0.25	0.03300	14	480	0.05030
4	0.50	0.03440	15	720	0.05060
5	1	0.03600	16	960	0.05080
6	2	0.03800	17	1080	0.05170
7	4	0.04080	18	1200	0.05210
8	8	0.04360	19	1320	0.05220
9	15	0.04620	20	1440	0.05230
10	30	0.04750	21	2440	0.05240
11	60	0.04830			

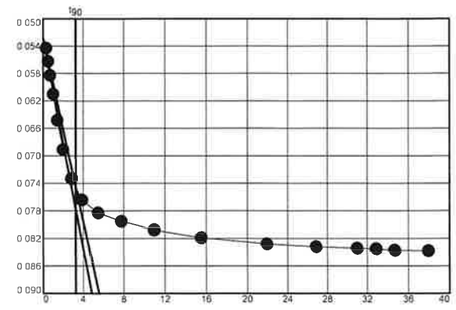


Void Ratio = 0.957 **Compression** = 4.5% >>> CALCULATED USING D_{100}

D_0 = 0.0294 **D_{90}** = 0.0438 **D_{100}** = 0.0454 **C_v at 12.78 min.** = 0.0017 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.05240	11	60	0.08240
2	0.10	0.05720	12	120	0.08370
3	0.25	0.05910	13	240	0.08480
4	0.50	0.06120	14	480	0.08570
5	1	0.06390	15	720	0.08610
6	2	0.06770	16	960	0.08630
7	4	0.07200	17	1080	0.08640
8	8	0.07620	18	1200	0.08660
9	15	0.07930	19	1440	0.08670
10	30	0.08120			

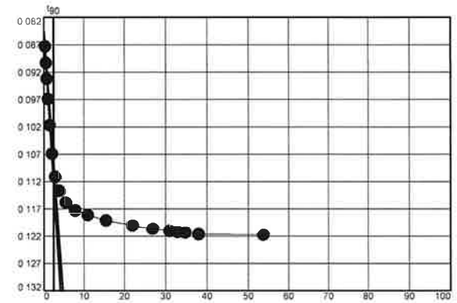


Void Ratio = 0.893 **Compression** = 7.7% >>> CALCULATED USING D_{100}

D_0 = 0.0528 **D_{90}** = 0.0746 **D_{100}** = 0.0770 **C_v at 10.63 min.** = 0.0019 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08670	11	60	0.12180
2	0.10	0.09190	12	120	0.12270
3	0.25	0.09490	13	240	0.12370
4	0.50	0.09780	14	480	0.12460
5	1	0.10150	15	720	0.12520
6	2	0.10630	16	960	0.12560
7	4	0.11150	17	1080	0.12580
8	8	0.11570	18	1200	0.12590
9	15	0.11830	19	1440	0.12620
10	30	0.12040	20	2880	0.12630

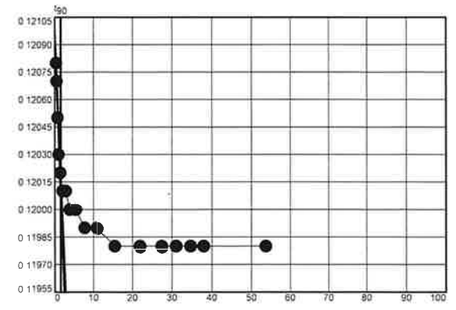


Void Ratio = 0.821 **Compression** = 11.2% >>> CALCULATED USING D_{100}

D_0 = 0.0846 **D_{90}** = 0.1091 **D_{100}** = 0.1118 **C_v at 5.91 min.** = 0.0031 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.12630	11	60	0.12430
2	0.10	0.12520	12	120	0.12430
3	0.25	0.12510	13	240	0.12420
4	0.50	0.12490	14	480	0.12420
5	1	0.12470	15	750	0.12420
6	2	0.12460	16	960	0.12420
7	4	0.12450	17	1200	0.12420
8	8	0.12450	18	1440	0.12420
9	15	0.12440	19	2880	0.12420
10	30	0.12440			

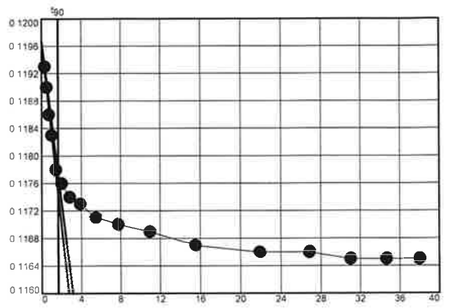


Void Ratio = 0.804 **Compression** = 12.0% >>> CALCULATED USING D_{100}

D_0 = 0.1210 **D_{90}** = 0.1202 **D_{100}** = 0.1201 **C_v at 2.43 min.** = 0.0073 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 7**

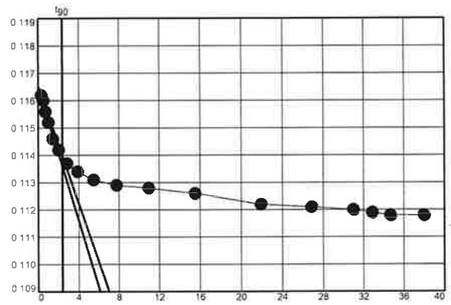
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.12420	11	60	0.12060
2	0.10	0.12290	12	120	0.12050
3	0.25	0.12260	13	240	0.12030
4	0.50	0.12220	14	480	0.12020
5	1	0.12190	15	720	0.12020
6	2	0.12140	16	960	0.12010
7	4	0.12120	17	1200	0.12010
8	8	0.12100	18	1440	0.12010
9	15	0.12090			
10	30	0.12070			



Void Ratio = 0.809 **Compression** = 11.8% >>> CALCULATED USING D_{100}
D_0 = 0.1197 **D_{90}** = 0.1177 **D_{100}** = 0.1175 **C_v at 2.75 min.** = 0.0064 cm.^{2}/sec.

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 8**

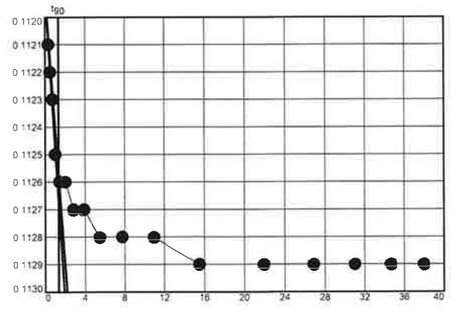
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.12010	11	60	0.11570
2	0.10	0.11900	12	120	0.11560
3	0.25	0.11880	13	240	0.11540
4	0.50	0.11840	14	480	0.11500
5	1	0.11800	15	720	0.11490
6	2	0.11740	16	960	0.11480
7	4	0.11700	17	1080	0.11470
8	8	0.11650	18	1200	0.11460
9	15	0.11620	19	1440	0.11460
10	30	0.11590			



Void Ratio = 0.817 **Compression** = 11.4% >>> CALCULATED USING D_{100}
D_0 = 0.1165 **D_{90}** = 0.1140 **D_{100}** = 0.1137 **C_v at 5.60 min.** = 0.0032 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 9**

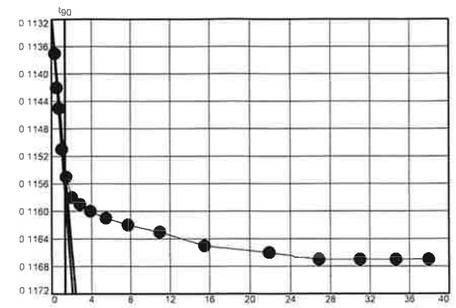
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.11460	11	60	0.11560
2	0.10	0.11490	12	120	0.11560
3	0.25	0.11500	13	240	0.11570
4	0.50	0.11510	14	480	0.11570
5	1	0.11530	15	720	0.11570
6	2	0.11540	16	960	0.11570
7	4	0.11540	17	1200	0.11570
8	8	0.11550	18	1440	0.11570
9	15	0.11550			
10	30	0.11560			



Void Ratio = 0.819 **Compression** = 11.3% >>> CALCULATED USING D_{100}
D_0 = 0.1119 **D_{90}** = 0.1126 **D_{100}** = 0.1127 **C_v at 1.76 min.** = 0.0102 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 10**

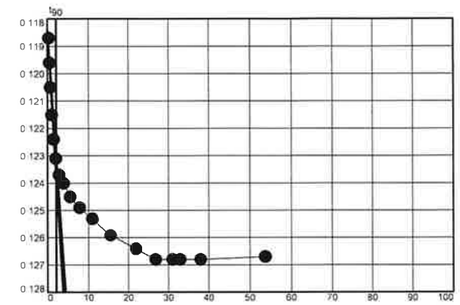
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.11570	11	60	0.11990
2	0.10	0.11740	12	120	0.12000
3	0.25	0.11790	13	240	0.12020
4	0.50	0.11820	14	480	0.12030
5	1	0.11880	15	720	0.12040
6	2	0.11920	16	960	0.12040
7	4	0.11950	17	1200	0.12040
8	8	0.11960	18	1440	0.12040
9	15	0.11970			
10	30	0.11980			



Void Ratio = 0.813 **Compression** = 11.6% >>> CALCULATED USING D_{100}
D_0 = 0.1131 **D_{90}** = 0.1154 **D_{100}** = 0.1157 **C_v at 1.77 min.** = 0.0101 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 11**

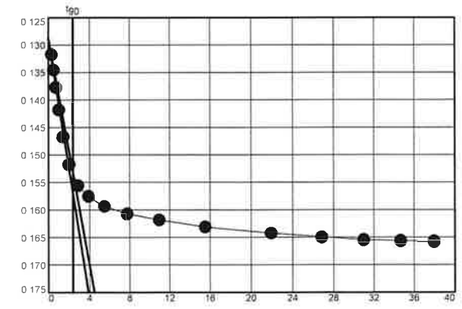
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.12040	11	60	0.12960
2	0.10	0.12340	12	120	0.13000
3	0.25	0.12430	13	240	0.13060
4	0.50	0.12520	14	480	0.13110
5	1	0.12620	15	720	0.13150
6	2	0.12710	16	960	0.13150
7	4	0.12780	17	1080	0.13150
8	8	0.12840	18	1440	0.13150
9	15	0.12870	19	2880	0.13140
10	30	0.12920			



Void Ratio = 0.797 **Compression** = 12.4% >>> CALCULATED USING D_{100}
D_0 = 0.1184 **D_{90}** = 0.1232 **D_{100}** = 0.1237 **C_v at 4.54 min.** = 0.0039 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 12**

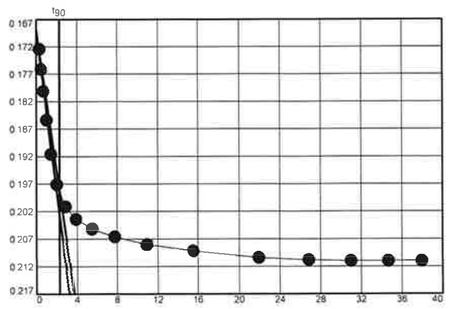
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.13140	11	60	0.16750
2	0.10	0.13850	12	120	0.16860
3	0.25	0.14130	13	240	0.16990
4	0.50	0.14450	14	480	0.17100
5	1	0.14860	15	720	0.17170
6	2	0.15350	16	960	0.17220
7	4	0.15850	17	1200	0.17240
8	8	0.16240	18	1440	0.17250
9	15	0.16430			
10	30	0.16610			



Void Ratio = 0.730 **Compression** = 15.6% >>> CALCULATED USING D_{100}
D_0 = 0.1288 **D_{90}** = 0.1534 **D_{100}** = 0.1561 **C_v at 5.57 min.** = 0.0030 cm.^{2}/sec.

Pressure: 16.00 ksf — TEST READINGS — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.17250	11	60	0.21550
2	0.10	0.18130	12	120	0.21690
3	0.25	0.18500	13	240	0.21810
4	0.50	0.18900	14	480	0.21930
5	1	0.19430	15	720	0.21970
6	2	0.20050	16	960	0.21990
7	4	0.20600	17	1200	0.21990
8	8	0.21000	18	1440	0.21990
9	15	0.21230			
10	30	0.21410			

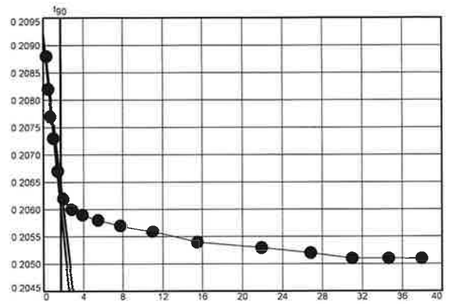


Void Ratio = 0.637 **Compression =** 20.2% >>> CALCULATED USING D_{100}

D_0 = 0.1691 **D_{90} =** 0.1984 **D_{100} =** 0.2017 **C_v at 5.17 min. =** 0.0029 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.21990	11	60	0.21300
2	0.10	0.21610	12	120	0.21290
3	0.25	0.21550	13	240	0.21270
4	0.50	0.21500	14	480	0.21260
5	1	0.21460	15	720	0.21250
6	2	0.21400	16	960	0.21240
7	4	0.21350	17	1200	0.21240
8	8	0.21330	18	1440	0.21240
9	15	0.21320			
10	30	0.21310			

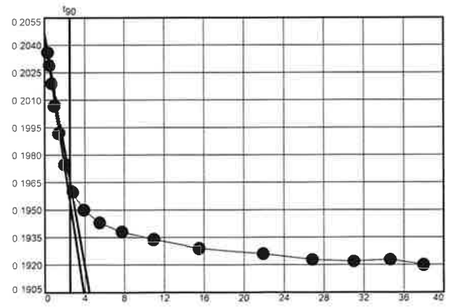


Void Ratio = 0.628 **Compression =** 20.6% >>> CALCULATED USING D_{100}

D_0 = 0.2092 **D_{90} =** 0.2064 **D_{100} =** 0.2061 **C_v at 2.97 min. =** 0.0048 cm.^{2}/sec.

Pressure: 1.00 ksf — TEST READINGS — **Load No. 15**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.21240	11	60	0.19900
2	0.10	0.20880	12	120	0.19860
3	0.25	0.20810	13	240	0.19810
4	0.50	0.20710	14	480	0.19780
5	1	0.20590	15	720	0.19750
6	2	0.20440	16	960	0.19740
7	4	0.20270	17	1200	0.19750
8	8	0.20120	18	1440	0.19720
9	15	0.20020			
10	30	0.19950			

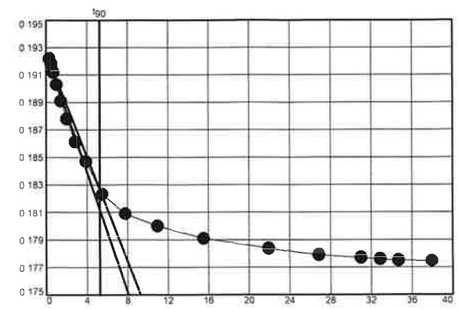


Void Ratio = 0.649 **Compression =** 19.6% >>> CALCULATED USING D_{100}

D_0 = 0.2046 **D_{90} =** 0.1966 **D_{100} =** 0.1957 **C_v at 6.36 min. =** 0.0023 cm.^{2}/sec.

Pressure: 0.25 ksf — TEST READINGS — **Load No. 16**

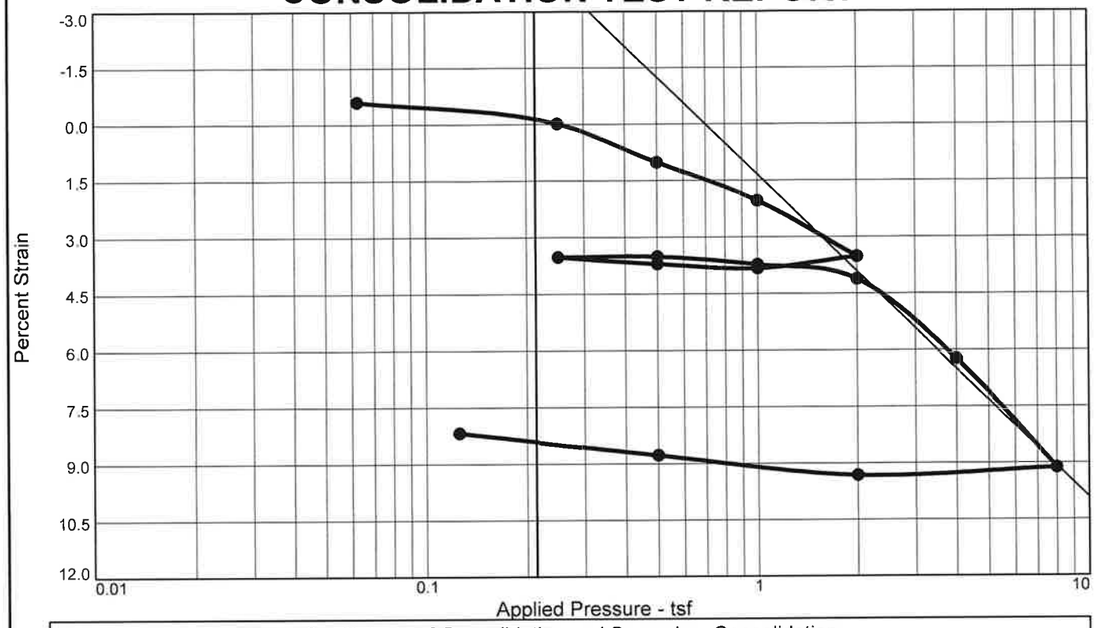
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.19720	11	60	0.18450
2	0.10	0.19580	12	120	0.18360
3	0.25	0.19540	13	240	0.18270
4	0.50	0.19480	14	480	0.18200
5	1	0.19390	15	720	0.18150
6	2	0.19270	16	960	0.18130
7	4	0.19140	17	1080	0.18120
8	8	0.18970	18	1200	0.18110
9	15	0.18830	19	1440	0.18110
10	30	0.18590			



Void Ratio = 0.678 **Compression =** 18.2% >>> CALCULATED USING D_{100}

D_0 = 0.1926 **D_{90} =** 0.1827 **D_{100} =** 0.1816 **C_v at 27.45 min. =** 0.0005 cm.^{2}/sec.

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
2	0.25	0.0172		9	0.50	0.0276		16	0.13	0.0069	
3	0.50	0.0046		10	1.00	0.0089					
4	1.00	0.0024		11	2.00	0.0012					
5	2.00	0.0306		12	4.00	0.0083					
6	1.00	0.0003		13	8.00	0.0148					
7	0.50	0.0088		14	2.00	0.0246					
8	0.25	0.0020		15	0.50	0.0138					

MATERIAL DESCRIPTION	USCS	AASHTO
Orange-Brown Sandy Lean Clay	CL	A-6(8)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf) Init.	Dry Dens. (pcf) Final	Moisture Init.	Moisture Final	Saturation Init.	Saturation Final	Void Ratio Init.	Void Ratio Final	P_c (tsf)	C_c
38	17	2.629		94.1	93.8	22.9 %	22.5 %	80.9 %	98.3 %	0.744	0.602	0.8	0.15

Preparation Process: Sample trimmed from shelby tube

Condition of Test: Inundated after application of seating load

D2435 Method	C_r	Swell Press. (tsf)	Swell %
	0.01		

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group

Project: I-5719: I-85
TIP No.: I-5719

Loc.: L_13400R, Station 134+00 **Depth:** 2'-3' **Sample No.:** ST-10

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO 216 Method B

Checked By: MH

Title: Lab Manager

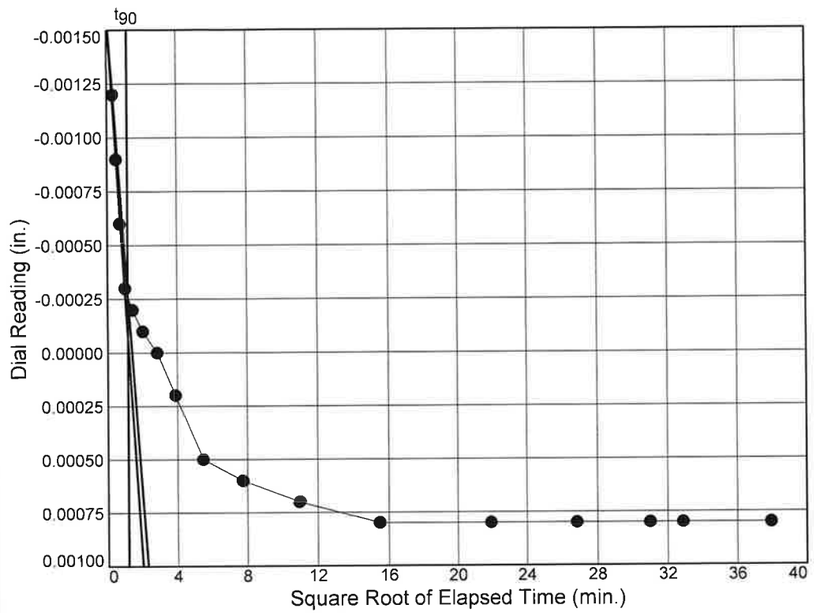
Figure

Tested By: FG

Dial Reading vs. Time

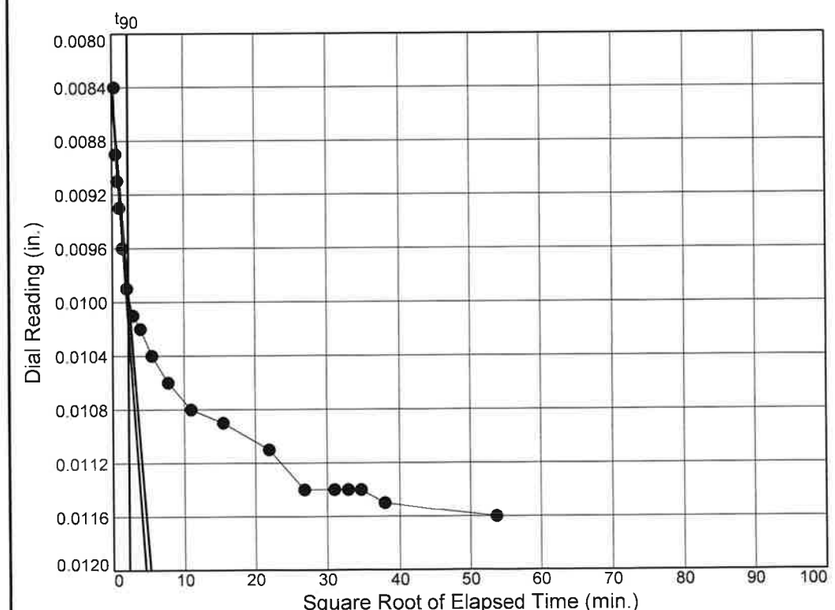
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 2'-3' Sample Number: ST-10



Load No.= 2
Load= 0.25 tsf
D_0 = -0.0016
D_{90} = -0.0003
D_{100} = -0.0001
T_{90} = 1.33 min.

C_v @ T_{90}
0.0172 cm.2/sec.



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0084
D_{90} = 0.0099
D_{100} = 0.0101
T_{90} = 4.87 min.

C_v @ T_{90}
0.0046 cm.2/sec.

Figure

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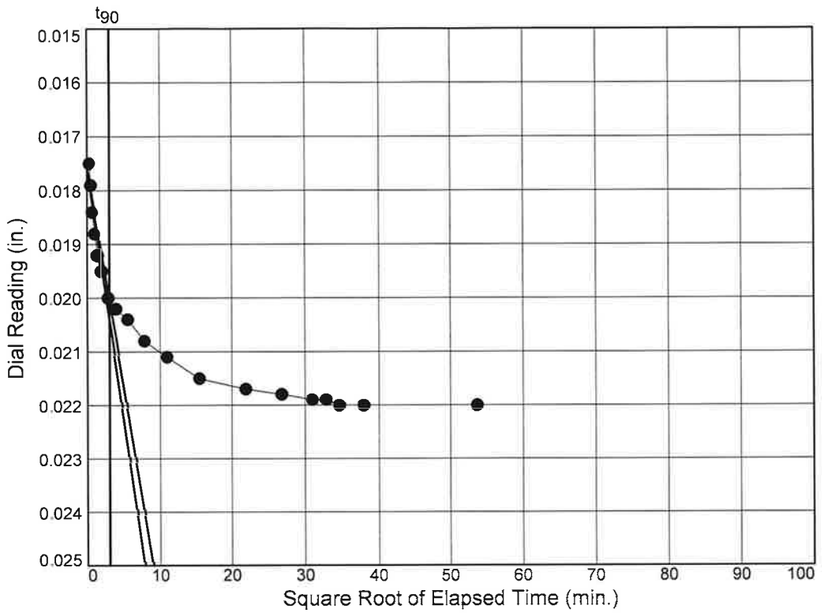
Dial Reading vs. Time

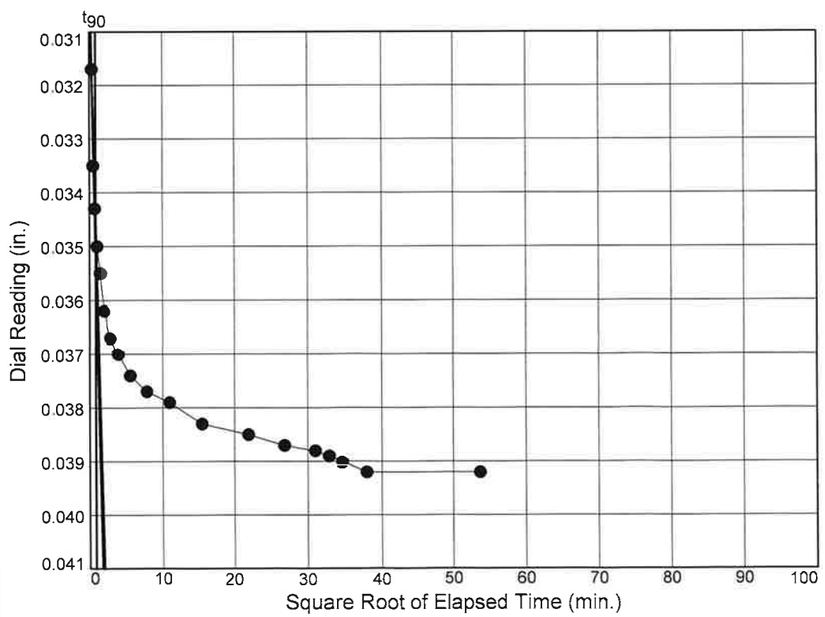
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 2'-3' Sample Number: ST-10



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0176
D_{90} = 0.0200
D_{100} = 0.0203
T_{90} = 8.97 min.

C_v @ T_{90}
0.0024 cm.^{2}/sec.



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0298
D_{90} = 0.0346
D_{100} = 0.0351
T_{90} = 0.70 min.

C_v @ T_{90}
0.0306 cm.^{2}/sec.

Figure

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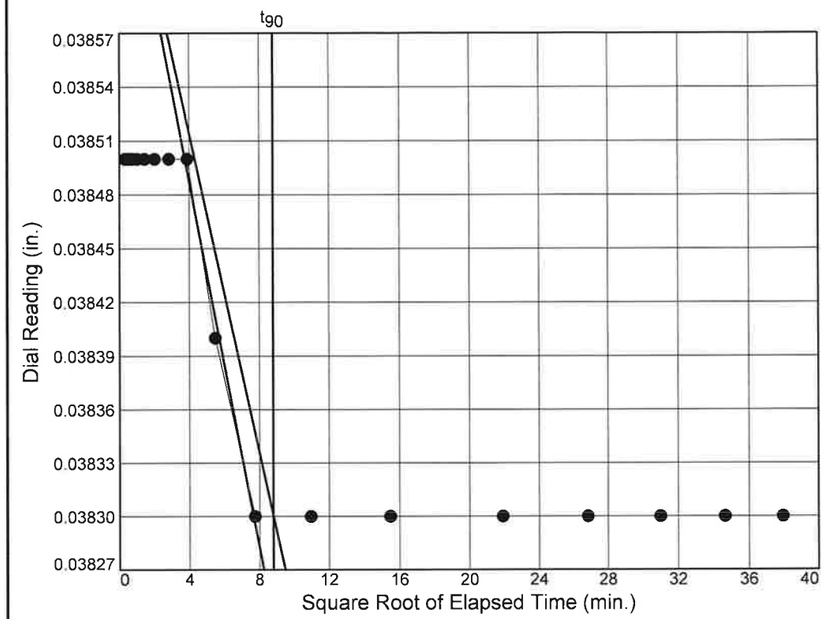
Dial Reading vs. Time

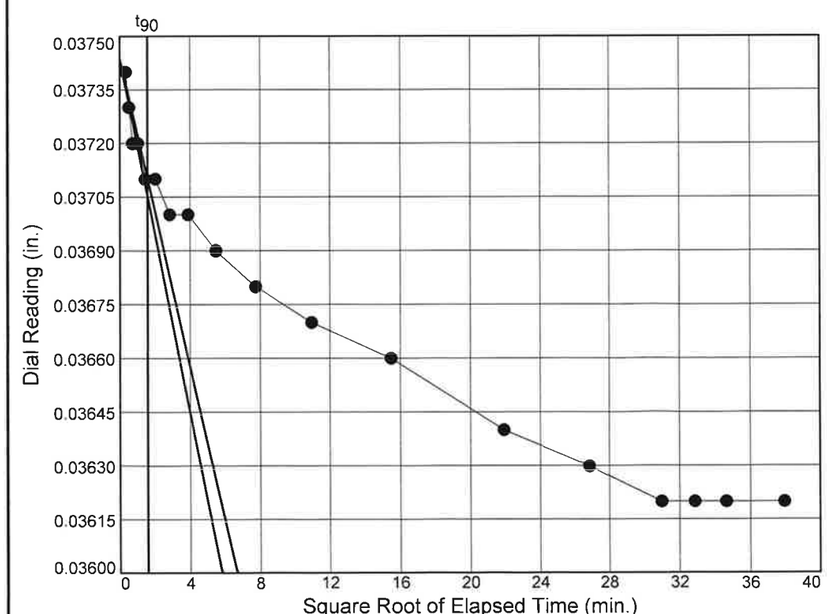
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 2'-3' Sample Number: ST-10



Load No.= 6
Load= 1.00 tsf
D_0 = 0.0387
D_{90} = 0.0383
D_{100} = 0.0383
T_{90} = 77.53 min.

C_v @ T_{90}
0.0003 cm.^{2}/sec.



Load No.= 7
Load= 0.50 tsf
D_0 = 0.0374
D_{90} = 0.0371
D_{100} = 0.0371
T_{90} = 2.41 min.

C_v @ T_{90}
0.0088 cm.^{2}/sec.

Figure

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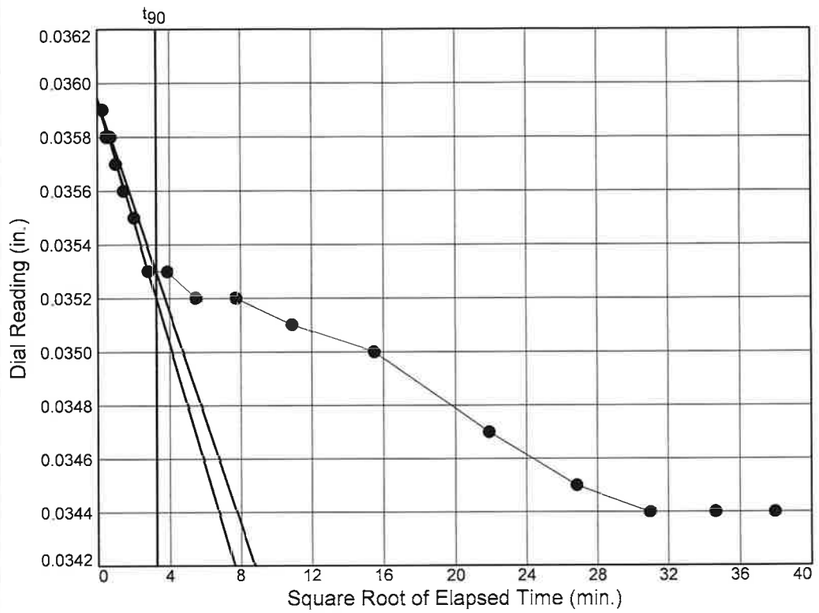
Dial Reading vs. Time

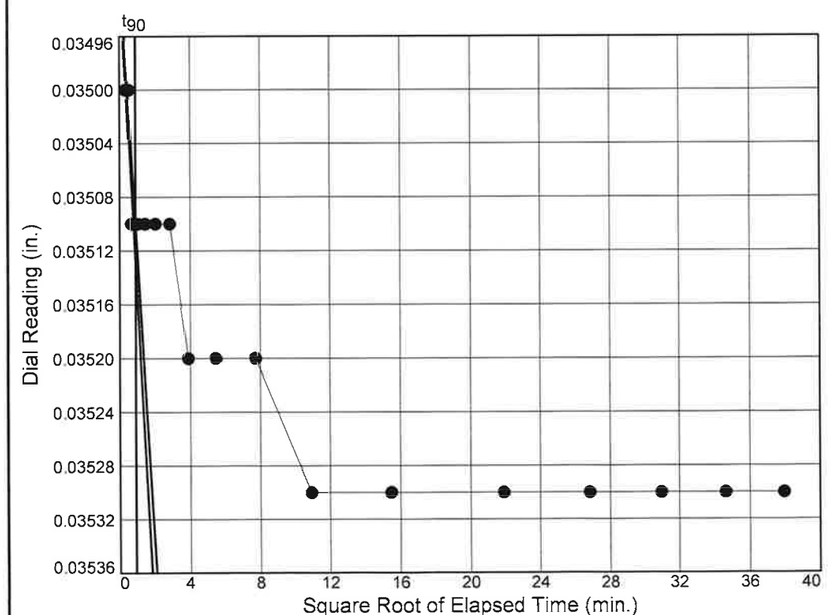
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 2'-3' Sample Number: ST-10



Load No.= 8
Load= 0.25 tsf
D_0 = 0.0359
D_{90} = 0.0353
D_{100} = 0.0352
T_{90} = 10.52 min.

C_v @ T_{90}
0.0020 cm.2/sec.



Load No.= 9
Load= 0.50 tsf
D_0 = 0.0349
D_{90} = 0.0351
D_{100} = 0.0351
T_{90} = 0.77 min.

C_v @ T_{90}
0.0276 cm.2/sec.

Figure

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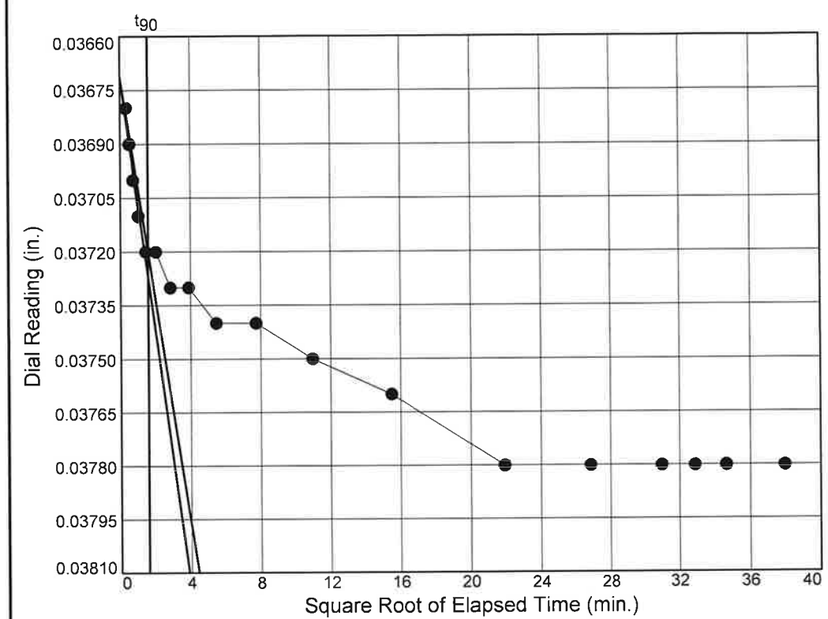
Dial Reading vs. Time

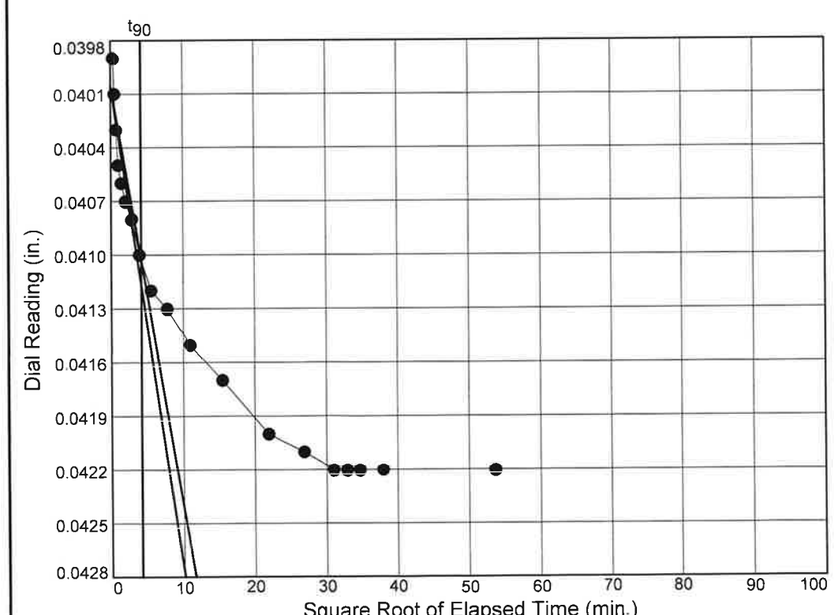
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 2'-3' Sample Number: ST-10



Load No.= 10
Load= 1.00 tsf
D_0 = 0.0367
D_{90} = 0.0372
D_{100} = 0.0373
T_{90} = 2.38 min.

C_v @ T_{90}
0.0089 cm.2/sec.



Load No.= 11
Load= 2.00 tsf
D_0 = 0.0401
D_{90} = 0.0410
D_{100} = 0.0411
T_{90} = 16.98 min.

C_v @ T_{90}
0.0012 cm.2/sec.

Figure

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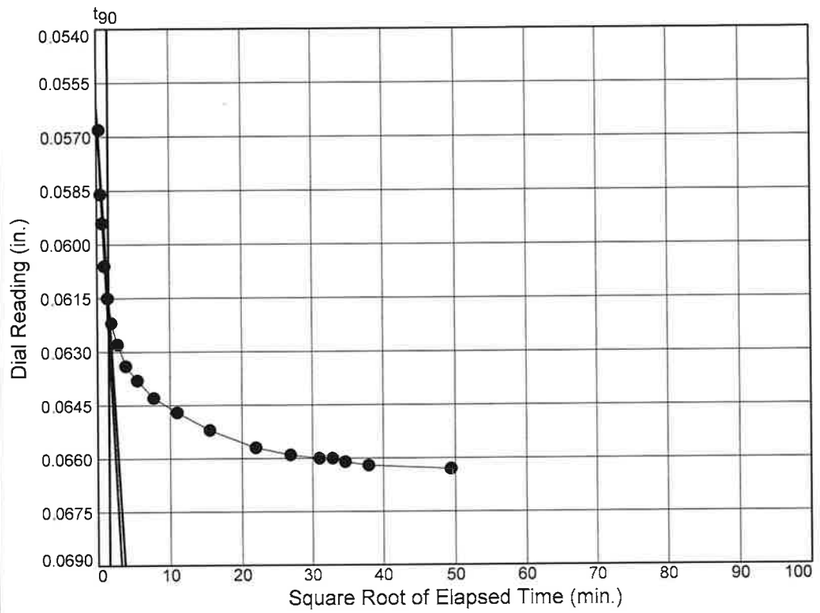
Dial Reading vs. Time

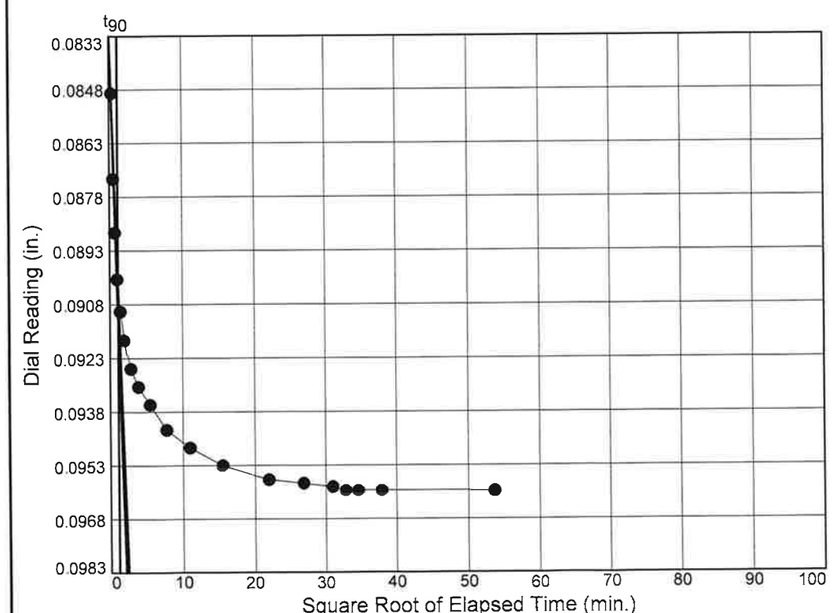
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 2'-3' Sample Number: ST-10



Load No.= 12
Load= 4.00 tsf
D_0 = 0.0562
D_{90} = 0.0617
D_{100} = 0.0623
T_{90} = 2.43 min.

C_v @ T_{90}
0.0083 cm.2/sec.



Load No.= 13
Load= 8.00 tsf
D_0 = 0.0831
D_{90} = 0.0904
D_{100} = 0.0912
T_{90} = 1.29 min.

C_v @ T_{90}
0.0148 cm.2/sec.

Figure

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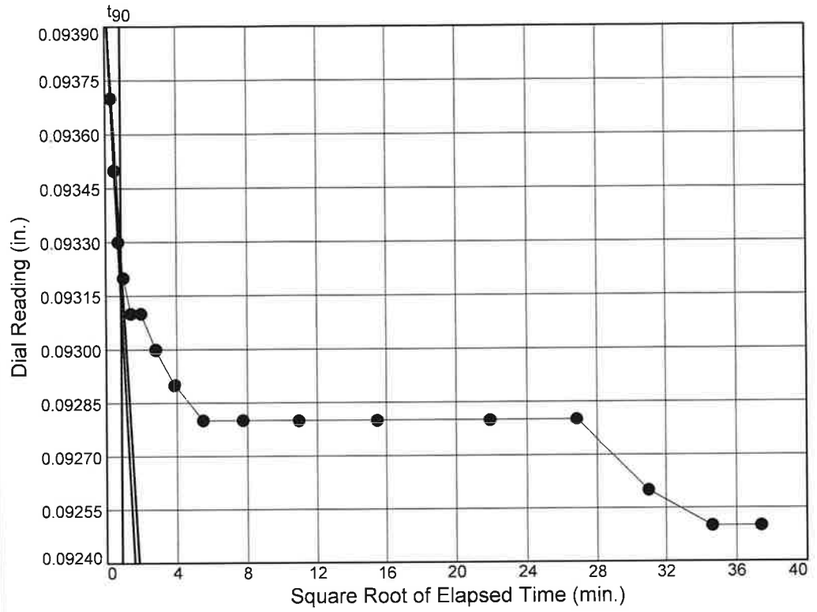
Dial Reading vs. Time

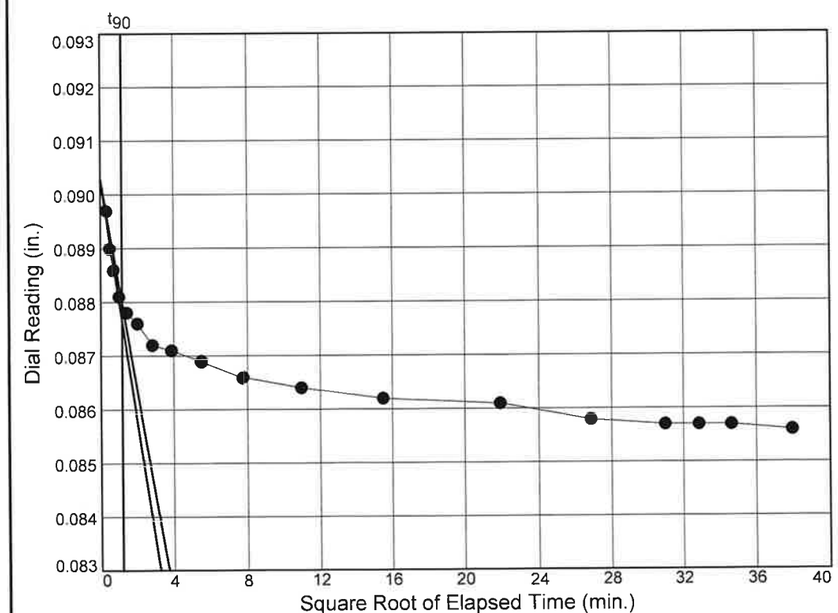
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 2'-3' Sample Number: ST-10



Load No.= 14
Load= 2.00 tsf
D_0 = 0.0940
D_{90} = 0.0932
D_{100} = 0.0932
T_{90} = 0.76 min.

C_v @ T_{90}
0.0246 cm.2/sec.



Load No.= 15
Load= 0.50 tsf
D_0 = 0.0903
D_{90} = 0.0880
D_{100} = 0.0877
T_{90} = 1.37 min.

C_v @ T_{90}
0.0138 cm.2/sec.

Figure

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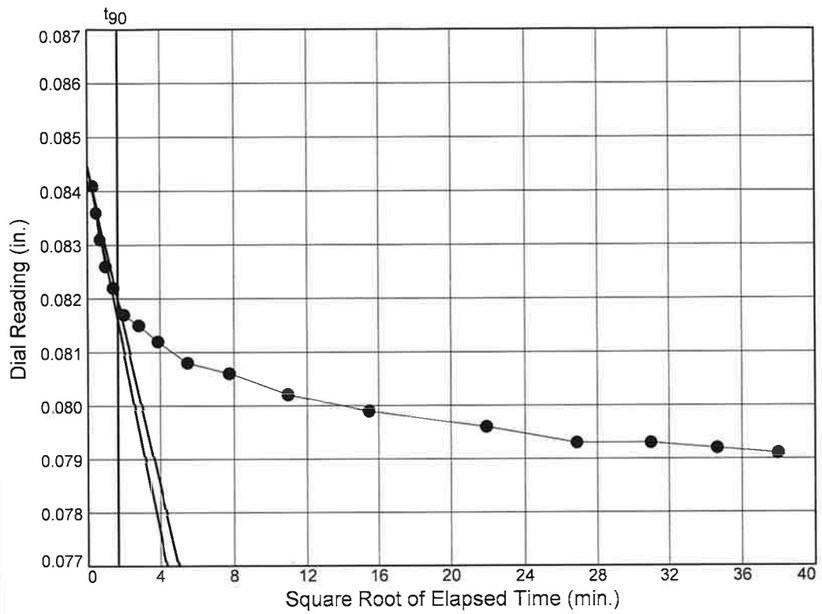
Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 2'-3' Sample Number: ST-10



Load No.= 16
Load= 0.13 tsf
D_0 = 0.0845
D_{90} = 0.0820
D_{100} = 0.0817
T_{90} = 2.77 min.

C_v @ T_{90}
0.0069 cm.^{2}/sec.

Figure

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CONSOLIDATION TEST DATA

10/2/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: L_13400R, Station 134+00
Depth: 2'-3' **Sample Number:** ST-10
Material Description: Orange-Brown Sandy Lean Clay
Sample Date: 09-02-23 **Liquid Limit:** 38 **Plasticity Index:** 17
USCS: CL **AASHTO:** A-6(8)
Preparation Process: Sample trimmed from shelby tube
Condition of Test: Inundated after application of seating load
Final Density: 93.8
Testing Remarks: AASHTO 216 Method B
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE		VOID RATIO		AFTER TEST	
Wet w+t =	149.00 g.	Spec. Gr.	= 2.629	Wet w+t =	148.52 g.
Dry w+t =	121.24 g.	Est. Ht. Solids	= 0.573 in.	Dry w+t =	121.24 g.
Tare Wt. =	0.00 g.	Init. V.R.	= 0.744	Tare Wt. =	0.00 g.
Moisture =	22.9 %	Init. Sat.	= 80.9 %	Moisture =	22.5 %
UNIT WEIGHT		TEST START		Dry Wt. =	121.24* g.
Height =	1.000 in.	Height	= 1.000 in.		
Diameter =	2.500 in.	Diameter	= 2.500 in.		
Weight =	149.00 g.				
Dry Dens. =	94.1 pcf				

* Final dry weight used as mineral solids weight

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			0.744	
0.13	0.00000	0.00600	-0.00600			0.755	0.6 Swell
0.50	0.00680	0.00600	-0.00012*	0.0172		0.744	0.0 Swell
1.00	0.01310	0.00150	0.01012*	0.0046		0.727	1.0 Comprs.
2.00	0.02450	0.00250	0.02030*	0.0024		0.709	2.0 Comprs.
4.00	0.04330	0.00410	0.03514*	0.0306		0.683	3.5 Comprs.
2.00	0.04200	0.00370	0.03826*	0.0003		0.678	3.8 Comprs.
1.00	0.03950	0.00330	0.03706*	0.0088		0.680	3.7 Comprs.
0.50	0.03710	0.00270	0.03523*	0.0020		0.683	3.5 Comprs.
1.00	0.03780	0.00250	0.03512*	0.0276		0.683	3.5 Comprs.
2.00	0.04060	0.00280	0.03725*	0.0089		0.679	3.7 Comprs.
4.00	0.04590	0.00370	0.04114*	0.0012		0.673	4.1 Comprs.
8.00	0.07190	0.00560	0.06228*	0.0083		0.636	6.2 Comprs.
16.00	0.10440	0.00840	0.09120*	0.0148		0.585	9.1 Comprs.
4.00	0.09900	0.00650	0.09316*	0.0246		0.582	9.3 Comprs.
1.00	0.09000	0.00440	0.08772*	0.0138		0.591	8.8 Comprs.
0.25	0.08260	0.00350	0.08171*	0.0069		0.602	8.2 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

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TEST RESULTS SUMMARY

Compression index (C_c), tsf = 0.15 **Preconsolidation pressure (P_p), tsf** = 0.8 **Void ratio at P_p (e_m)** = 0.715

Recompression index (C_r) = 0.01

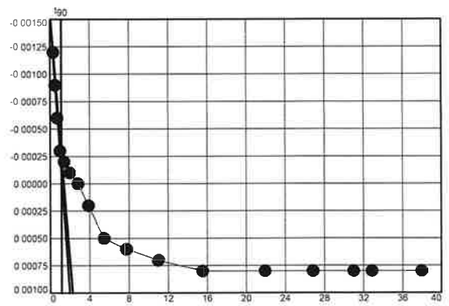
Pressure: 0.13 ksf — TEST READINGS — **Load No. 1**

No.	Elapsed Time	Dial Reading
1	0	0.00000
2	0.1	0.00000
3	0.25	0.00000
4	0.50	0.00000
5	1	0.00000
6	5	0.00000

Void Ratio = 0.755 **Swell** = 0.6%

Pressure: 0.50 ksf — TEST READINGS — **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00000	11	60	0.00660
2	0.10	0.00480	12	120	0.00670
3	0.25	0.00510	13	240	0.00680
4	0.50	0.00540	14	480	0.00680
5	1	0.00570	15	720	0.00680
6	2	0.00580	16	960	0.00680
7	4	0.00590	17	1080	0.00680
8	8	0.00600	18	1440	0.00680
9	15	0.00620			
10	30	0.00650			

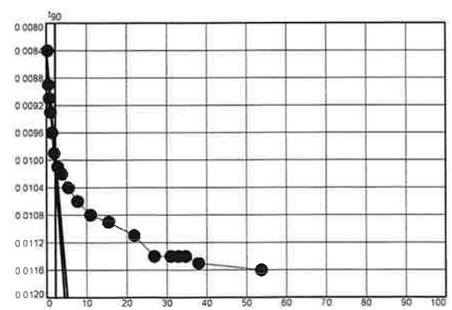


Void Ratio = 0.744 **Swell** = 0.0% >>> CALCULATED USING D_{100}

D_0 = -0.0016 **D_{90}** = -0.0003 **D_{100}** = -0.0001 **C_v at 1.33 min.** = 0.0172 cm.^{2}/sec.

Pressure: 1.00 ksf — TEST READINGS — **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00680	11	60	0.01210
2	0.10	0.00990	12	120	0.01230
3	0.25	0.01040	13	240	0.01240
4	0.50	0.01060	14	480	0.01260
5	1	0.01080	15	720	0.01290
6	2	0.01110	16	960	0.01290
7	4	0.01140	17	1080	0.01290
8	8	0.01160	18	1200	0.01290
9	15	0.01170	19	1440	0.01300
10	30	0.01190	20	2880	0.01310

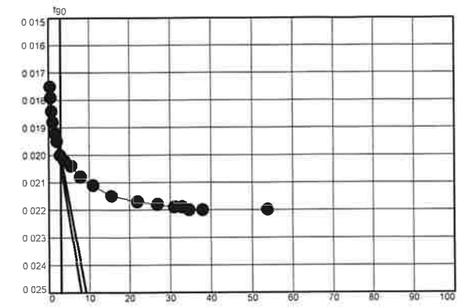


Void Ratio = 0.727 **Compression** = 1.0% >>> CALCULATED USING D_{100}

D_0 = 0.0084 **D_{90}** = 0.0099 **D_{100}** = 0.0101 **C_v at 4.87 min.** = 0.0046 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01310	11	60	0.02330
2	0.10	0.02000	12	120	0.02360
3	0.25	0.02040	13	240	0.02400
4	0.50	0.02090	14	480	0.02420
5	1	0.02130	15	720	0.02430
6	2	0.02170	16	960	0.02440
7	4	0.02200	17	1080	0.02440
8	8	0.02250	18	1200	0.02450
9	15	0.02270	19	1440	0.02450
10	30	0.02290	20	2880	0.02450

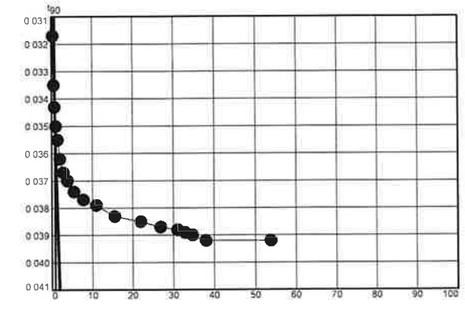


Void Ratio = 0.709 **Compression** = 2.0% >>> CALCULATED USING D_{100}

D_0 = 0.0176 **D_{90}** = 0.0200 **D_{100}** = 0.0203 **C_v at 8.97 min.** = 0.0024 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02450	11	60	0.04180
2	0.10	0.03580	12	120	0.04200
3	0.25	0.03760	13	240	0.04240
4	0.50	0.03840	14	480	0.04260
5	1	0.03910	15	720	0.04280
6	2	0.03960	16	960	0.04290
7	4	0.04030	17	1080	0.04300
8	8	0.04080	18	1200	0.04310
9	15	0.04110	19	1440	0.04330
10	30	0.04150	20	2880	0.04330

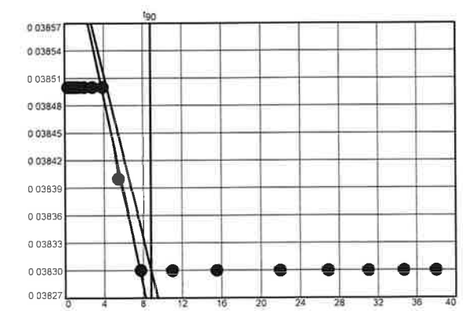


Void Ratio = 0.683 **Compression** = 3.5% >>> CALCULATED USING D_{100}

D_0 = 0.0298 **D_{90}** = 0.0346 **D_{100}** = 0.0351 **C_v at 0.70 min.** = 0.0306 cm.^{2}/sec.

Pressure: 2.00 ksf — TEST READINGS — **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04330	11	60	0.04200
2	0.10	0.04220	12	120	0.04200
3	0.25	0.04220	13	240	0.04200
4	0.50	0.04220	14	480	0.04200
5	1	0.04220	15	720	0.04200
6	2	0.04220	16	960	0.04200
7	4	0.04220	17	1200	0.04200
8	8	0.04220	18	1440	0.04200
9	15	0.04220			
10	30	0.04210			

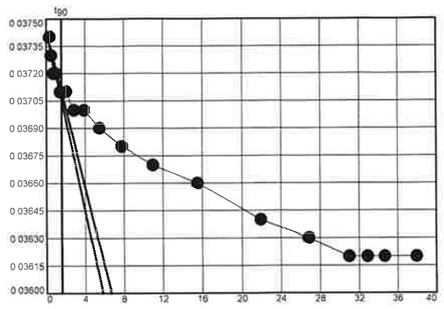


Void Ratio = 0.678 **Compression** = 3.8% >>> CALCULATED USING D_{100}

D_0 = 0.0387 **D_{90}** = 0.0383 **D_{100}** = 0.0383 **C_v at 77.53 min.** = 0.0003 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04200	11	60	0.04010
2	0.10	0.04070	12	120	0.04000
3	0.25	0.04060	13	240	0.03990
4	0.50	0.04050	14	480	0.03970
5	1	0.04050	15	720	0.03960
6	2	0.04040	16	960	0.03950
7	4	0.04040	17	1080	0.03950
8	8	0.04030	18	1200	0.03950
9	15	0.04030	19	1440	0.03950
10	30	0.04020			

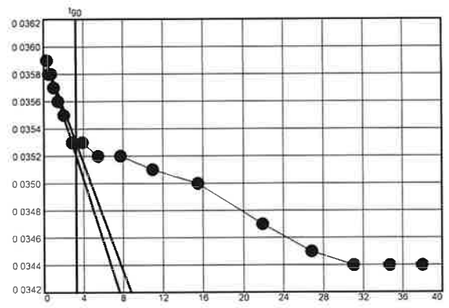


Void Ratio = 0.680 **Compression** = 3.7% >>> CALCULATED USING D_{100}

D_0 = 0.0374 **D_{90}** = 0.0371 **D_{100}** = 0.0371 **C_v at 2.41 min.** = 0.0088 cm.^{2}/sec.

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 8**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03950	11	60	0.03790
2	0.10	0.03860	12	120	0.03780
3	0.25	0.03850	13	240	0.03770
4	0.50	0.03850	14	480	0.03740
5	1	0.03840	15	720	0.03720
6	2	0.03830	16	960	0.03710
7	4	0.03820	17	1200	0.03710
8	8	0.03800	18	1440	0.03710
9	15	0.03800			
10	30	0.03790			

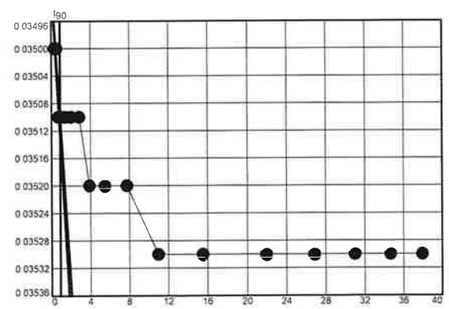


Void Ratio = 0.683 **Compression** = 3.5% >>> CALCULATED USING D_{100}

D_0 = 0.0359 **D_{90}** = 0.0353 **D_{100}** = 0.0352 **C_v at 10.52 min.** = 0.0020 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03710	11	60	0.03770
2	0.10	0.03750	12	120	0.03780
3	0.25	0.03750	13	240	0.03780
4	0.50	0.03760	14	480	0.03780
5	1	0.03760	15	720	0.03780
6	2	0.03760	16	960	0.03780
7	4	0.03760	17	1200	0.03780
8	8	0.03760	18	1440	0.03780
9	15	0.03770			
10	30	0.03770			

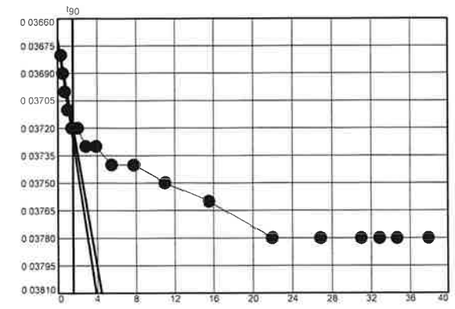


Void Ratio = 0.683 **Compression** = 3.5% >>> CALCULATED USING D_{100}

D_0 = 0.0349 **D_{90}** = 0.0351 **D_{100}** = 0.0351 **C_v at 0.77 min.** = 0.0276 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03780	11	60	0.04020
2	0.10	0.03960	12	120	0.04030
3	0.25	0.03970	13	240	0.04040
4	0.50	0.03980	14	480	0.04060
5	1	0.03990	15	720	0.04060
6	2	0.04000	16	960	0.04060
7	4	0.04000	17	1080	0.04060
8	8	0.04010	18	1200	0.04060
9	15	0.04010	19	1440	0.04060
10	30	0.04020			

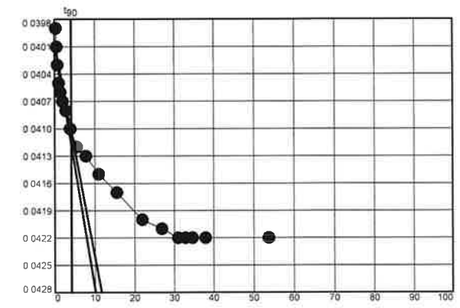


Void Ratio = 0.679 **Compression** = 3.7% >>> CALCULATED USING D_{100}

D_0 = 0.0367 **D_{90}** = 0.0372 **D_{100}** = 0.0373 **C_v at 2.38 min.** = 0.0089 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 11**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04060	11	60	0.04500
2	0.10	0.04360	12	120	0.04520
3	0.25	0.04380	13	240	0.04540
4	0.50	0.04400	14	480	0.04570
5	1	0.04420	15	720	0.04580
6	2	0.04430	16	960	0.04590
7	4	0.04440	17	1080	0.04590
8	8	0.04450	18	1200	0.04590
9	15	0.04470	19	1440	0.04590
10	30	0.04490	20	2880	0.04590

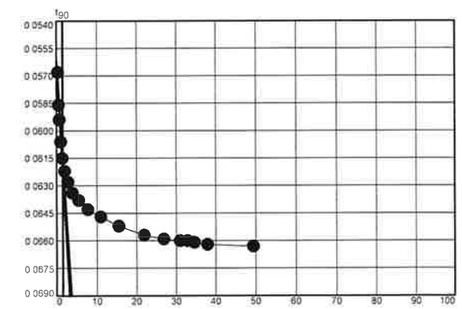


Void Ratio = 0.673 **Compression** = 4.1% >>> CALCULATED USING D_{100}

D_0 = 0.0401 **D_{90}** = 0.0410 **D_{100}** = 0.0411 **C_v at 16.98 min.** = 0.0012 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04590	11	60	0.06990
2	0.10	0.06240	12	120	0.07030
3	0.25	0.06420	13	240	0.07080
4	0.50	0.06500	14	480	0.07130
5	1	0.06620	15	720	0.07150
6	2	0.06710	16	960	0.07160
7	4	0.06780	17	1080	0.07160
8	8	0.06840	18	1200	0.07170
9	15	0.06900	19	1440	0.07180
10	30	0.06940	20	2440	0.07190

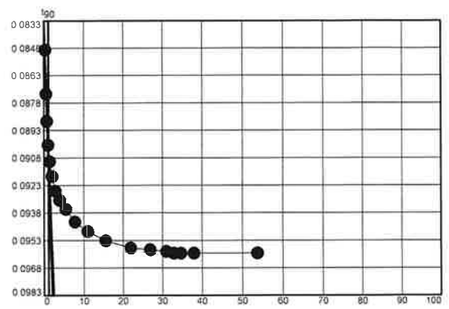


Void Ratio = 0.636 **Compression** = 6.2% >>> CALCULATED USING D_{100}

D_0 = 0.0562 **D_{90}** = 0.0617 **D_{100}** = 0.0623 **C_v at 2.43 min.** = 0.0083 cm.^{2}/sec.

Pressure: 16.00 ksf — TEST READINGS — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07190	11	60	0.10270
2	0.10	0.09330	12	120	0.10320
3	0.25	0.09570	13	240	0.10370
4	0.50	0.09720	14	480	0.10410
5	1	0.09850	15	720	0.10420
6	2	0.09940	16	960	0.10430
7	4	0.10020	17	1080	0.10440
8	8	0.10100	18	1200	0.10440
9	15	0.10150	19	1440	0.10440
10	30	0.10200	20	2880	0.10440

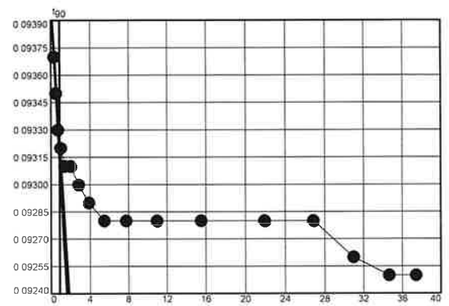


Void Ratio = 0.585 **Compression** = 9.1% >>> CALCULATED USING D_{100}

D_0 = 0.0831 D_{90} = 0.0904 D_{100} = 0.0912 C_v **at 1.29 min.** = 0.0148 cm.^{2}/sec.

Pressure: 4.00 ksf — TEST READINGS — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.10440	11	60	0.09930
2	0.10	0.10020	12	120	0.09930
3	0.25	0.10000	13	240	0.09930
4	0.50	0.09980	14	480	0.09930
5	1	0.09970	15	720	0.09930
6	2	0.09960	16	960	0.09910
7	4	0.09960	17	1200	0.09900
8	8	0.09950	18	1400	0.09900
9	15	0.09940			
10	30	0.09930			

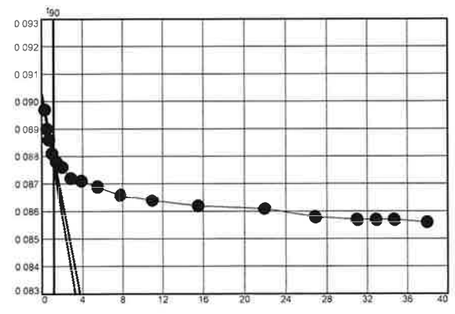


Void Ratio = 0.582 **Compression** = 9.3% >>> CALCULATED USING D_{100}

D_0 = 0.0940 D_{90} = 0.0932 D_{100} = 0.0932 C_v **at 0.76 min.** = 0.0246 cm.^{2}/sec.

Pressure: 1.00 ksf — TEST READINGS — **Load No. 15**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.09900	11	60	0.09100
2	0.10	0.09410	12	120	0.09080
3	0.25	0.09340	13	240	0.09060
4	0.50	0.09300	14	480	0.09050
5	1	0.09250	15	720	0.09020
6	2	0.09220	16	960	0.09010
7	4	0.09200	17	1080	0.09010
8	8	0.09160	18	1200	0.09010
9	15	0.09150	19	1440	0.09000
10	30	0.09130			

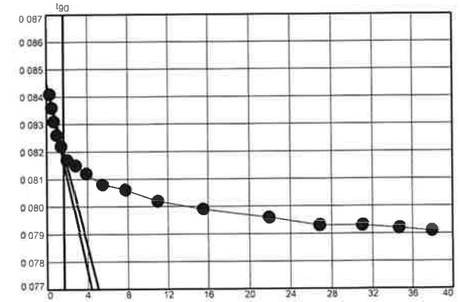


Void Ratio = 0.591 **Compression** = 8.8% >>> CALCULATED USING D_{100}

D_0 = 0.0903 D_{90} = 0.0880 D_{100} = 0.0877 C_v **at 1.37 min.** = 0.0138 cm.^{2}/sec.

Pressure: 0.25 ksf — TEST READINGS — **Load No. 16**

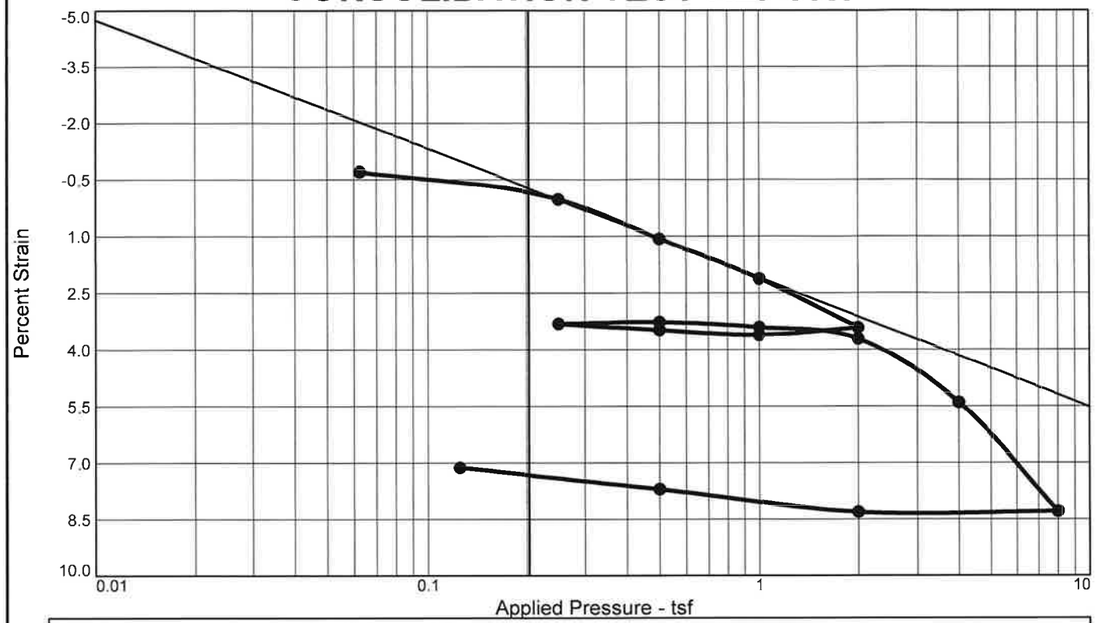
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.09000	11	60	0.08410
2	0.10	0.08760	12	120	0.08370
3	0.25	0.08710	13	240	0.08340
4	0.50	0.08660	14	480	0.08310
5	1	0.08610	15	720	0.08280
6	2	0.08570	16	960	0.08280
7	4	0.08520	17	1200	0.08270
8	8	0.08500	18	1440	0.08260
9	15	0.08470			
10	30	0.08430			



Void Ratio = 0.602 **Compression** = 8.2% >>> CALCULATED USING D_{100}

D_0 = 0.0845 D_{90} = 0.0820 D_{100} = 0.0817 C_v **at 2.77 min.** = 0.0069 cm.^{2}/sec.

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
1	0.06	0.0046		8	0.25	0.0046		16	0.13	0.0035	
2	0.25	0.0088		9	0.50	0.0073					
3	0.50	0.0621		10	1.00	0.0025					
4	1.00	0.0088		11	2.00	0.0152					
5	2.00	0.0149		13	8.00	0.0077					
6	1.00	0.0152		14	2.00	0.0133					
7	0.50	0.0092		15	0.50	0.0066					

MATERIAL DESCRIPTION	USCS	AASHTO
Light-Brown Micaceous Silty Sand	SM	A-7-5(5)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf)		Moisture		Saturation		Void Ratio		P_c (tsf)	C_c
				Init.	Final	Init.	Final	Init.	Final	Init.	Final		
50	17	2.640		93.4	92.5	26.1 %	24.8 %	90.2 %	100.0 %	0.764	0.638	0.2	0.06

Preparation Process: Sample trimmed from shelby tube

Condition of Test: Inundated after application of seating load

D2435 Method	C_r	Swell Press. (tsf)	Swell %
	0.01		

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group

Project: I-5719: I-85
TIP No.: I-5719

Loc.: L_13400R, Station 134+00 **Depth:** 8'-10' **Sample No.:** ST-11

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO T216 Method B

Checked By: MH

Title: Lab Manager

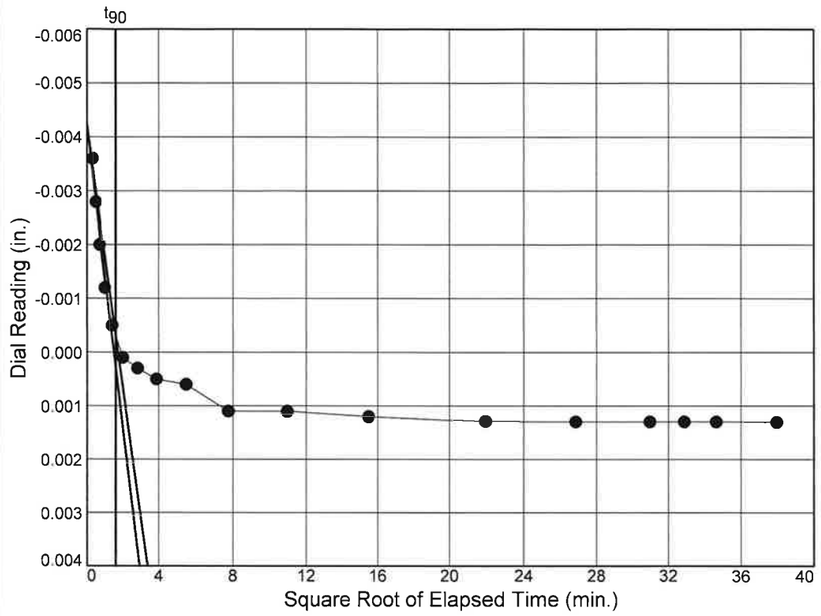
Figure

Tested By: FG

Dial Reading vs. Time

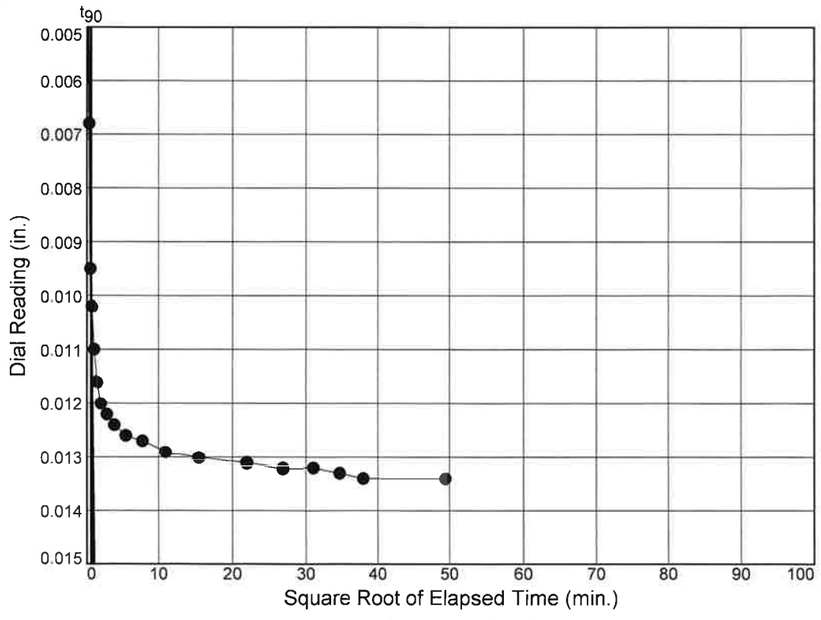
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 8'-10' Sample Number: ST-11



Load No.= 2
Load= 0.25 tsf
D_0 = -0.0042
D_{90} = -0.0003
D_{100} = 0.0001
T_{90} = 2.61 min.

C_v @ T_{90}
0.0088 cm.2/sec.



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0022
D_{90} = 0.0098
D_{100} = 0.0107
T_{90} = 0.36 min.

C_v @ T_{90}
0.0621 cm.2/sec.

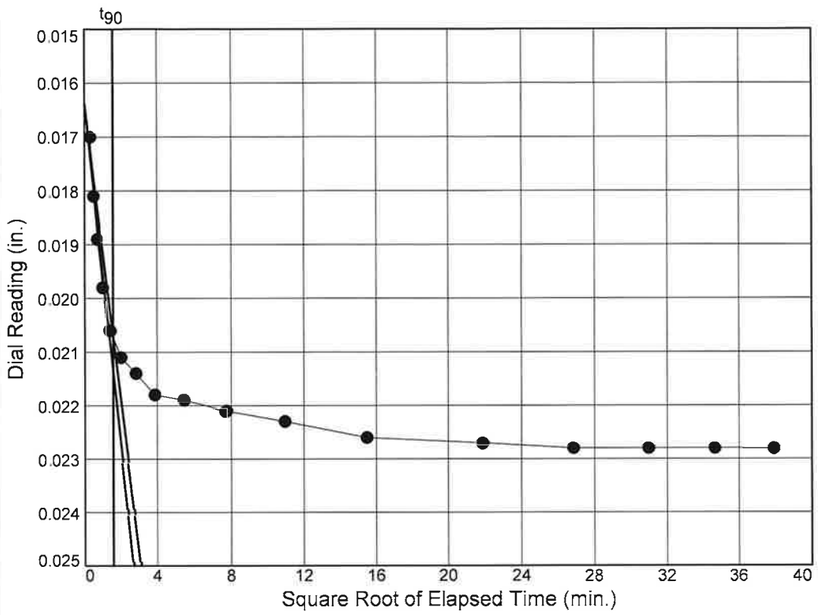
Figure

Summit Engineering

Dial Reading vs. Time

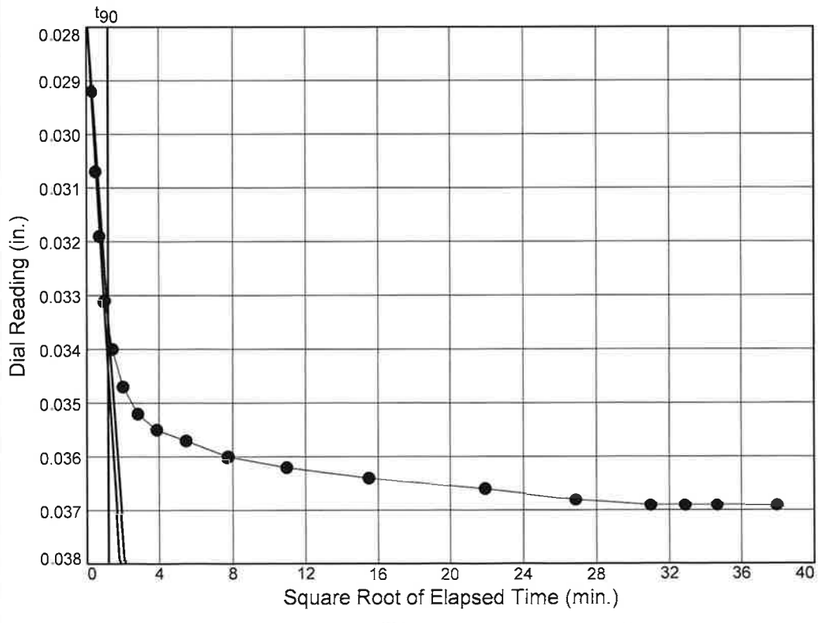
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 8'-10' Sample Number: ST-11



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0164
D_{90} = 0.0207
D_{100} = 0.0212
T_{90} = 2.49 min.

C_v @ T_{90}
0.0088 cm.2/sec.



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0277
D_{90} = 0.0335
D_{100} = 0.0342
T_{90} = 1.43 min.

C_v @ T_{90}
0.0149 cm.2/sec.

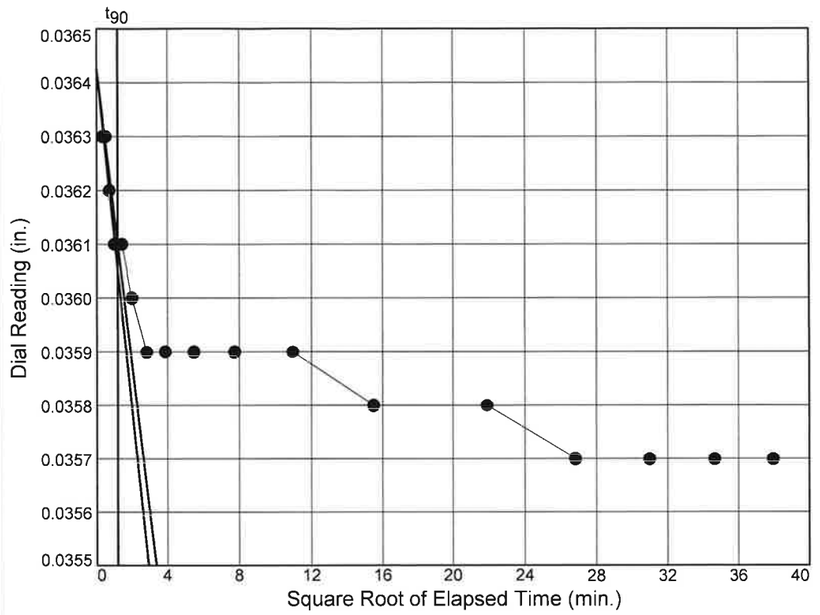
Figure

Summit Engineering

Dial Reading vs. Time

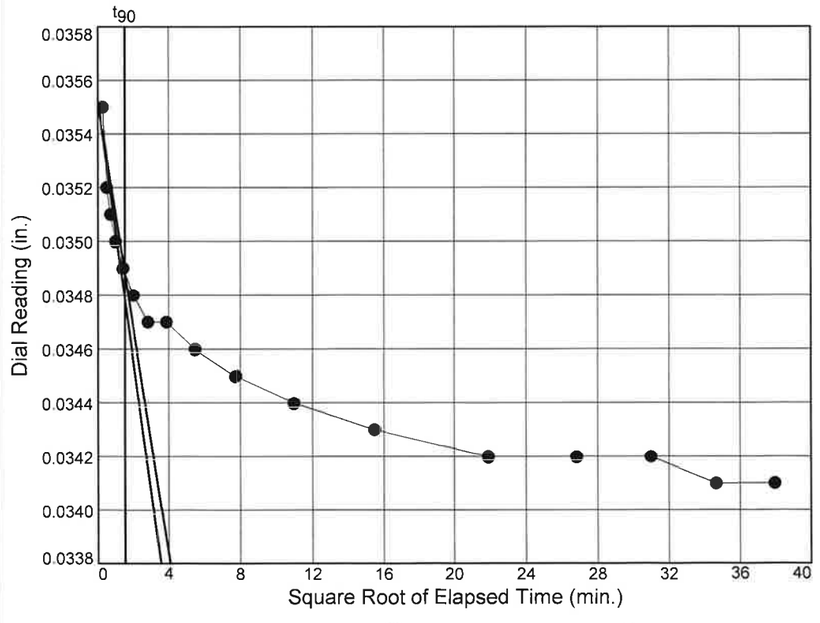
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 8'-10' Sample Number: ST-11



Load No.= 6
Load= 1.00 tsf
D_0 = 0.0364
D_{90} = 0.0361
D_{100} = 0.0361
T_{90} = 1.39 min.

C_v @ T_{90}
0.0152 cm.2/sec.



Load No.= 7
Load= 0.50 tsf
D_0 = 0.0355
D_{90} = 0.0349
D_{100} = 0.0348
T_{90} = 2.29 min.

C_v @ T_{90}
0.0092 cm.2/sec.

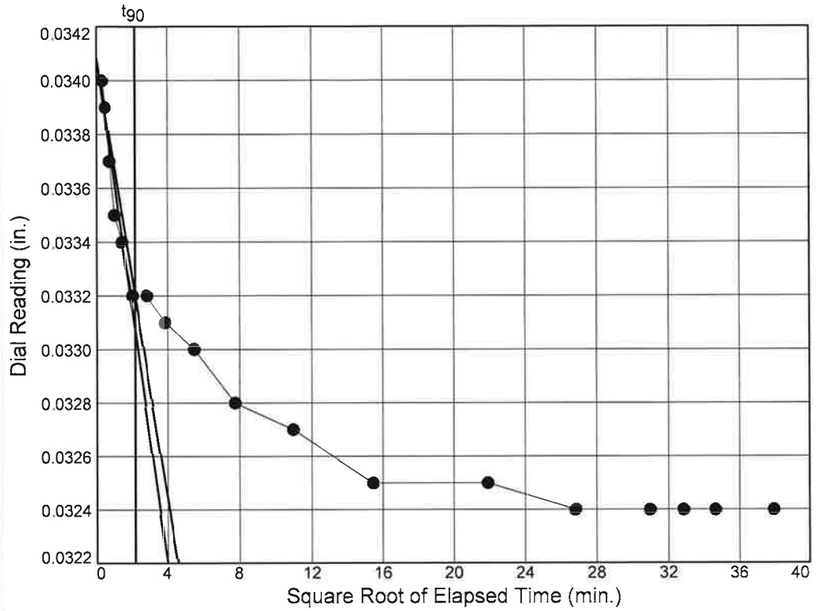
Figure

Summit Engineering

Dial Reading vs. Time

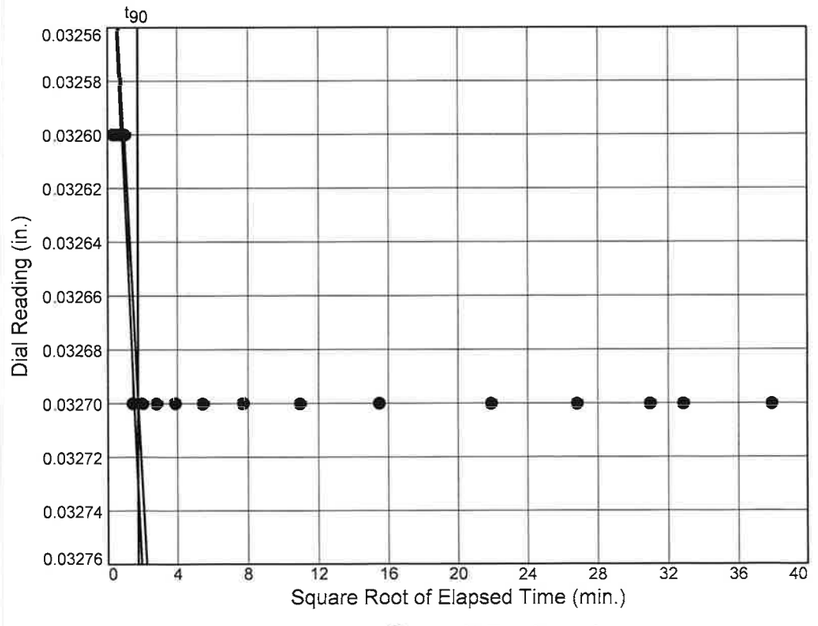
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 8'-10' Sample Number: ST-11



Load No.= 8
Load= 0.25 tsf
D_0 = 0.0341
D_{90} = 0.0332
D_{100} = 0.0331
T_{90} = 4.61 min.

C_v @ T_{90}
0.0046 cm.2/sec.



Load No.= 9
Load= 0.50 tsf
D_0 = 0.0325
D_{90} = 0.0327
D_{100} = 0.0327
T_{90} = 2.93 min.

C_v @ T_{90}
0.0073 cm.2/sec.

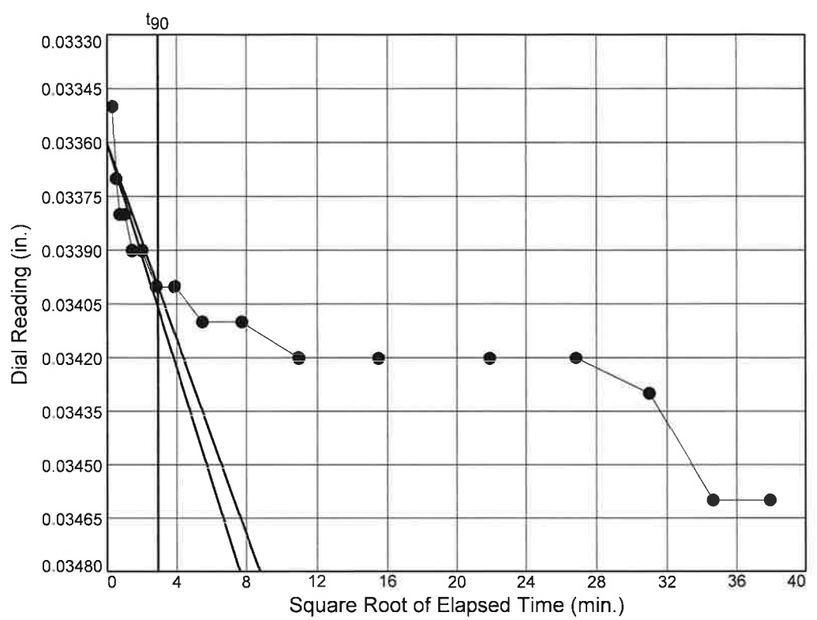
Figure

Summit Engineering

Dial Reading vs. Time

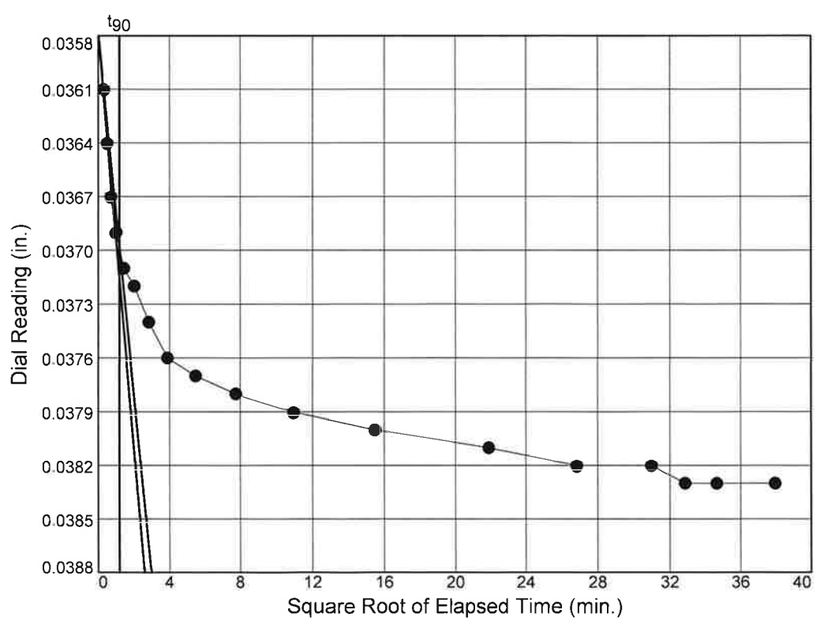
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 8'-10' Sample Number: ST-11



Load No.= 10
Load= 1.00 tsf
D_0 = 0.0336
D_{90} = 0.0340
D_{100} = 0.0340
T_{90} = 8.49 min.

C_v @ T_{90}
0.0025 cm.2/sec.



Load No.= 11
Load= 2.00 tsf
D_0 = 0.0358
D_{90} = 0.0370
D_{100} = 0.0371
T_{90} = 1.40 min.

C_v @ T_{90}
0.0152 cm.2/sec.

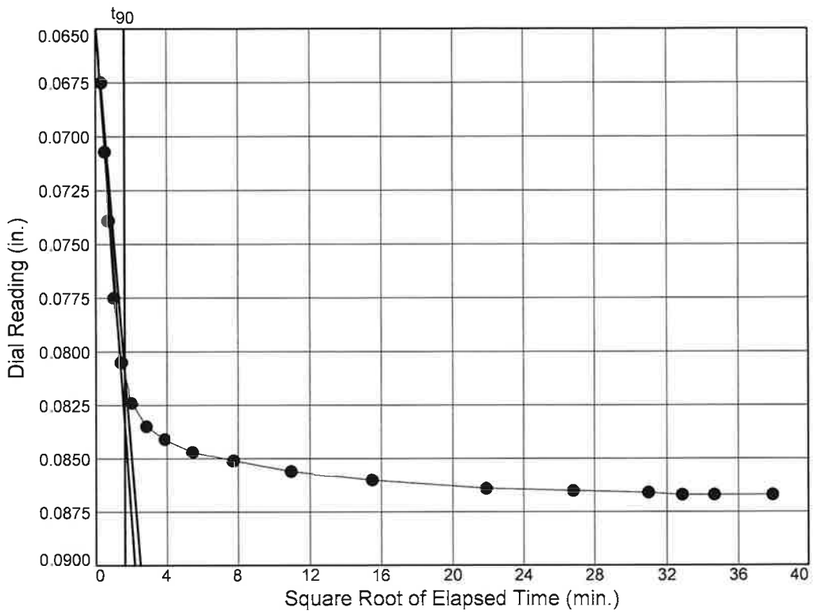
Figure

Summit Engineering

Dial Reading vs. Time

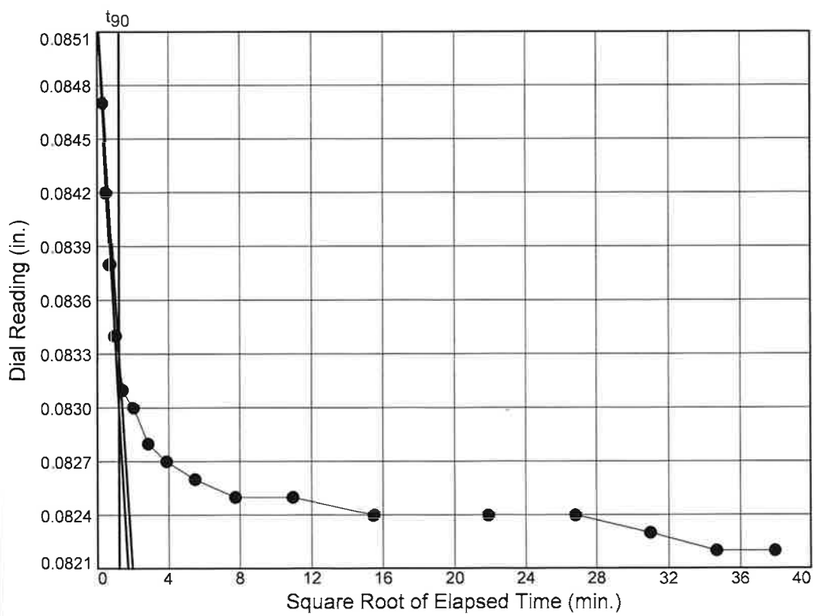
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 8'-10' Sample Number: ST-11



Load No.= 13
Load= 8.00 tsf
D_0 = 0.0647
D_{90} = 0.0811
D_{100} = 0.0829
T_{90} = 2.54 min.

C_v @ T_{90}
0.0077 cm.2/sec.



Load No.= 14
Load= 2.00 tsf
D_0 = 0.0852
D_{90} = 0.0833
D_{100} = 0.0830
T_{90} = 1.43 min.

C_v @ T_{90}
0.0133 cm.2/sec.

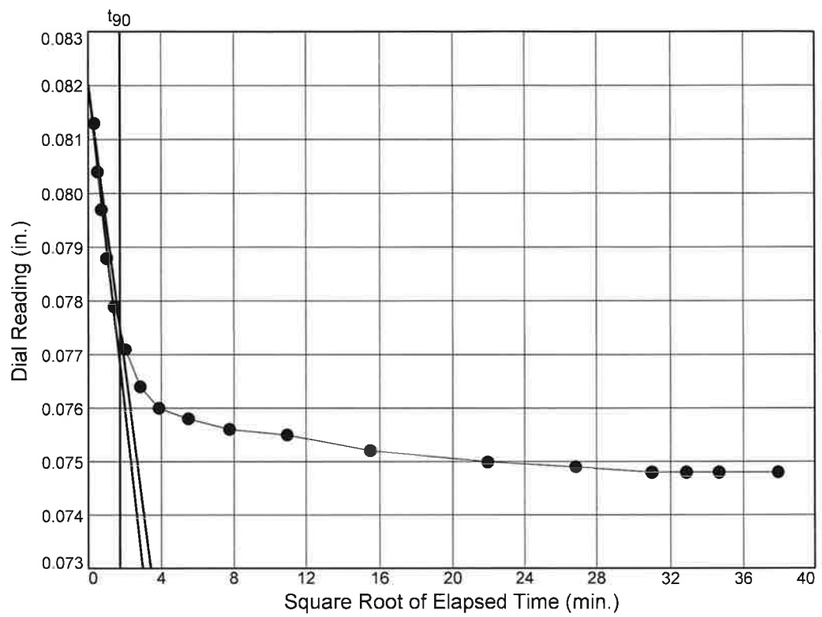
Figure

Summit Engineering

Dial Reading vs. Time

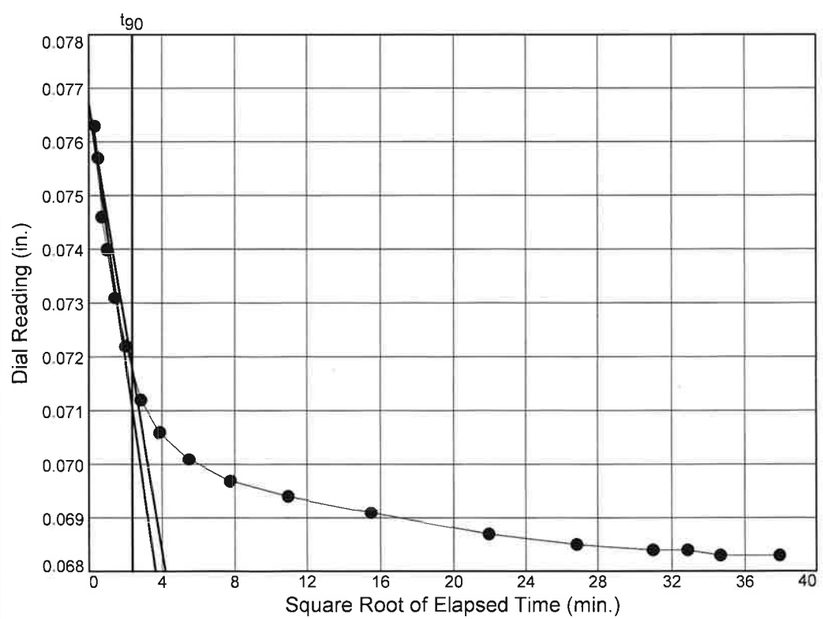
Project No.: CG2240023167
Project: I-5719: I-85

Location: L_13400R, Station 134+00 Depth: 8'-10' Sample Number: ST-11



Load No.= 15
Load= 0.50 tsf
D_0 = 0.0820
D_{90} = 0.0775
D_{100} = 0.0770
T_{90} = 2.92 min.

C_v @ T_{90}
0.0066 cm.2/sec.



Load No.= 16
Load= 0.13 tsf
D_0 = 0.0767
D_{90} = 0.0718
D_{100} = 0.0712
T_{90} = 5.54 min.

C_v @ T_{90}
0.0035 cm.2/sec.

Figure

Summit Engineering

CONSOLIDATION TEST DATA

10/9/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: L_13400R, Station 134+00
Depth: 8'-10' **Sample Number:** ST-11
Material Description: Light-Brown Micaceous Silty Sand
Sample Date: 09-02-23 **Liquid Limit:** 50 **Plasticity Index:** 17
USCS: SM **AASHTO:** A-7-5(5)
Preparation Process: Sample trimmed from shelby tube
Condition of Test: Inundated after application of seating load
Final Density: 92.5
Testing Remarks: AASHTO T216 Method B
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE		VOID RATIO		AFTER TEST	
Wet w+t =	151.80 g.	Spec. Gr.	= 2.640	Wet w+t =	150.29 g.
Dry w+t =	120.38 g.	Est. Ht. Solids	= 0.567 in.	Dry w+t =	120.38 g.
Tare Wt. =	0.00 g.	Init. V.R.	= 0.764	Tare Wt. =	0.00 g.
Moisture =	26.1 %	Init. Sat.	= 90.2 %	Moisture =	24.8 %
UNIT WEIGHT		TEST START		Dry Wt. =	120.38* g.
Height =	1.000 in.	Height	= 1.000 in.		
Diameter =	2.500 in.	Diameter	= 2.500 in.		
Weight =	151.80 g.				
Dry Dens. =	93.4 pcf	* Final dry weight used as mineral solids weight			

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			0.764	
0.13	0.00000	0.00700	-0.00700*	0.0046		0.776	0.7 Swell
0.50	0.00830	0.00700	0.00014*	0.0088		0.764	0.0 Comprs.
1.00	0.01510	0.00170	0.01070*	0.0621		0.745	1.1 Comprs.
2.00	0.02570	0.00290	0.02123*	0.0088		0.727	2.1 Comprs.
4.00	0.04150	0.00460	0.03418*	0.0149		0.704	3.4 Comprs.
2.00	0.04010	0.00440	0.03606*	0.0152		0.700	3.6 Comprs.
1.00	0.03770	0.00360	0.03481*	0.0092		0.703	3.5 Comprs.
0.50	0.03520	0.00280	0.03310*	0.0046		0.706	3.3 Comprs.
1.00	0.03550	0.00280	0.03272*	0.0073		0.706	3.3 Comprs.
2.00	0.03830	0.00370	0.03404*	0.0025		0.704	3.4 Comprs.
4.00	0.04300	0.00470	0.03712*	0.0152		0.699	3.7 Comprs.
8.00	0.06440	0.00680	0.05395*			0.669	5.4 Comprs.
16.00	0.09560	0.00890	0.08290*	0.0077		0.618	8.3 Comprs.
4.00	0.08950	0.00730	0.08304*	0.0133		0.618	8.3 Comprs.
1.00	0.08000	0.00520	0.07699*	0.0066		0.628	7.7 Comprs.
0.25	0.07190	0.00360	0.07123*	0.0035		0.638	7.1 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

TEST RESULTS SUMMARY

Compression index (C_c), tsf = 0.06 **Preconsolidation pressure (P_p), tsf** = 0.2 **Void ratio at P_p (e_m)** = 0.767
Recompression index (C_r) = 0.01

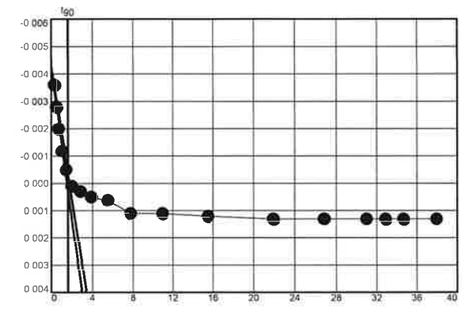
Pressure: 0.13 ksf — TEST READINGS — **Load No. 1**

No.	Elapsed Time	Dial Reading
1	0	0.00000
2	0.10	0.00000
3	0.25	0.00000
4	0.50	0.00000
5	1	0.00000
6	2	0.00000
7	5	0.00000

Void Ratio = 0.776 **Swell** = 0.7% >>> CALCULATED USING D_{100}
D_0 = -0.0070 D_{90} = -0.0070 D_{100} = -0.0070 C_v **at 5.00 min.** = 0.0046 cm.^{2}/sec.

Pressure: 0.50 ksf — TEST READINGS — **Load No. 2**

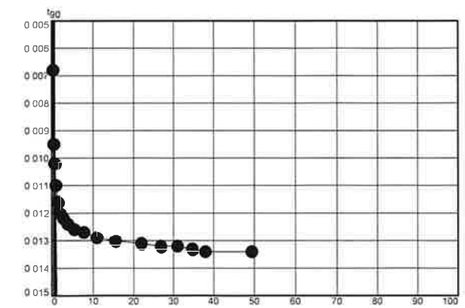
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00000	11	60	0.00810
2	0.10	0.00340	12	120	0.00810
3	0.25	0.00420	13	240	0.00820
4	0.50	0.00500	14	480	0.00830
5	1	0.00580	15	720	0.00830
6	2	0.00650	16	960	0.00830
7	4	0.00710	17	1080	0.00830
8	8	0.00730	18	1200	0.00830
9	15	0.00750	19	1440	0.00830
10	30	0.00760			



Void Ratio = 0.764 **Compression** = 0.0% >>> CALCULATED USING D_{100}
D_0 = -0.0042 D_{90} = -0.0003 D_{100} = 0.0001 C_v **at 2.61 min.** = 0.0088 cm.^{2}/sec.

Pressure: 1.00 ksf — TEST READINGS — **Load No. 3**

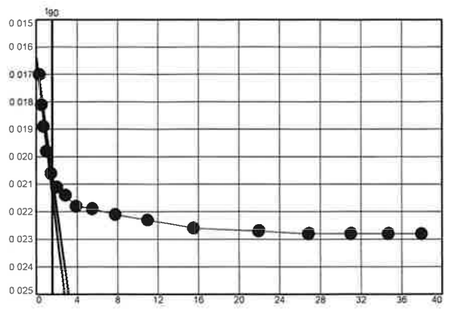
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00830	11	60	0.01440
2	0.10	0.00850	12	120	0.01460
3	0.25	0.01120	13	240	0.01470
4	0.50	0.01190	14	480	0.01480
5	1	0.01270	15	720	0.01490
6	2	0.01330	16	960	0.01490
7	4	0.01370	17	1200	0.01500
8	8	0.01390	18	1440	0.01510
9	15	0.01410	19	2440	0.01510
10	30	0.01430			



Void Ratio = 0.745 **Compression** = 1.1% >>> CALCULATED USING D_{100}
D_0 = 0.0022 D_{90} = 0.0098 D_{100} = 0.0107 C_v **at 0.36 min.** = 0.0621 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01510	11	60	0.02500
2	0.10	0.01990	12	120	0.02520
3	0.25	0.02100	13	240	0.02550
4	0.50	0.02180	14	480	0.02560
5	1	0.02270	15	720	0.02570
6	2	0.02350	16	960	0.02570
7	4	0.02400	17	1200	0.02570
8	8	0.02430	18	1440	0.02570
9	15	0.02470			
10	30	0.02480			

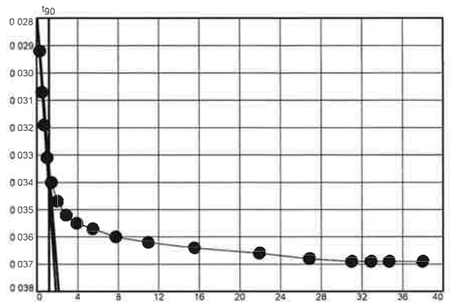


Void Ratio = 0.727 **Compression** = 2.1% >>> CALCULATED USING D_{100}

D_0 = 0.0164 **D_{90}** = 0.0207 **D_{100}** = 0.0212 **C_v at 2.49 min.** = 0.0088 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02570	11	60	0.04060
2	0.10	0.03380	12	120	0.04080
3	0.25	0.03530	13	240	0.04100
4	0.50	0.03650	14	480	0.04120
5	1	0.03770	15	720	0.04140
6	2	0.03860	16	960	0.04150
7	4	0.03930	17	1080	0.04150
8	8	0.03980	18	1200	0.04150
9	15	0.04010	19	1440	0.04150
10	30	0.04030			

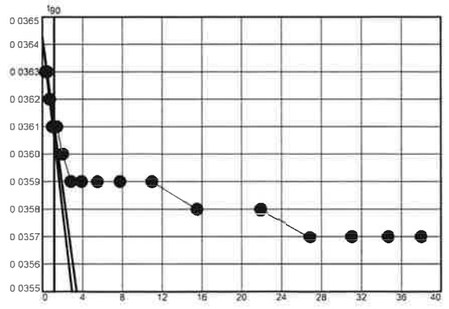


Void Ratio = 0.704 **Compression** = 3.4% >>> CALCULATED USING D_{100}

D_0 = 0.0277 **D_{90}** = 0.0335 **D_{100}** = 0.0342 **C_v at 1.43 min.** = 0.0149 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04150	11	60	0.04030
2	0.10	0.04070	12	120	0.04030
3	0.25	0.04070	13	240	0.04020
4	0.50	0.04060	14	480	0.04020
5	1	0.04050	15	720	0.04010
6	2	0.04050	16	960	0.04010
7	4	0.04040	17	1200	0.04010
8	8	0.04030	18	1440	0.04010
9	15	0.04030			
10	30	0.04030			

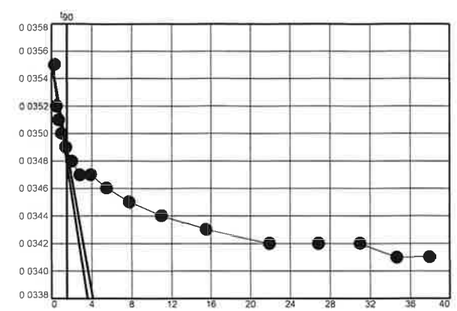


Void Ratio = 0.700 **Compression** = 3.6% >>> CALCULATED USING D_{100}

D_0 = 0.0364 **D_{90}** = 0.0361 **D_{100}** = 0.0361 **C_v at 1.39 min.** = 0.0152 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04010	11	60	0.03810
2	0.10	0.03910	12	120	0.03800
3	0.25	0.03880	13	240	0.03790
4	0.50	0.03870	14	480	0.03780
5	1	0.03860	15	720	0.03780
6	2	0.03850	16	960	0.03780
7	4	0.03840	17	1200	0.03770
8	8	0.03830	18	1440	0.03770
9	15	0.03830			
10	30	0.03820			

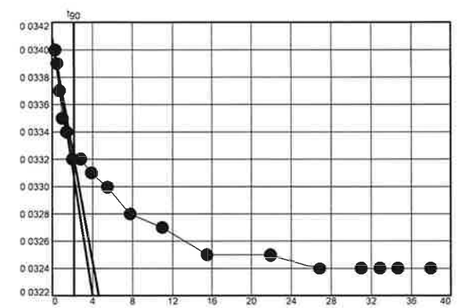


Void Ratio = 0.703 **Compression** = 3.5% >>> CALCULATED USING D_{100}

D_0 = 0.0355 **D_{90}** = 0.0349 **D_{100}** = 0.0348 **C_v at 2.29 min.** = 0.0092 cm.^{2}/sec.

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 8**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03770	11	60	0.03560
2	0.10	0.03680	12	120	0.03550
3	0.25	0.03670	13	240	0.03530
4	0.50	0.03650	14	480	0.03530
5	1	0.03630	15	720	0.03520
6	2	0.03620	16	960	0.03520
7	4	0.03600	17	1080	0.03520
8	8	0.03600	18	1200	0.03520
9	15	0.03590	19	1440	0.03520
10	30	0.03580			

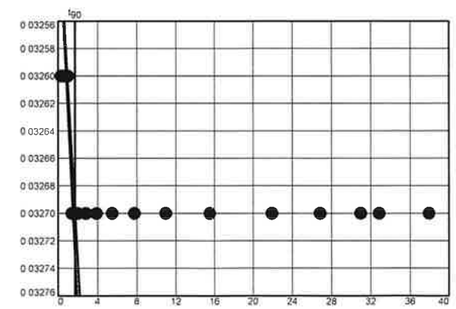


Void Ratio = 0.706 **Compression** = 3.3% >>> CALCULATED USING D_{100}

D_0 = 0.0341 **D_{90}** = 0.0332 **D_{100}** = 0.0331 **C_v at 4.61 min.** = 0.0046 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03520	11	60	0.03550
2	0.10	0.03540	12	120	0.03550
3	0.25	0.03540	13	240	0.03550
4	0.50	0.03540	14	480	0.03550
5	1	0.03540	15	720	0.03550
6	2	0.03550	16	960	0.03550
7	4	0.03550	17	1080	0.03550
8	8	0.03550	18	1440	0.03550
9	15	0.03550			
10	30	0.03550			

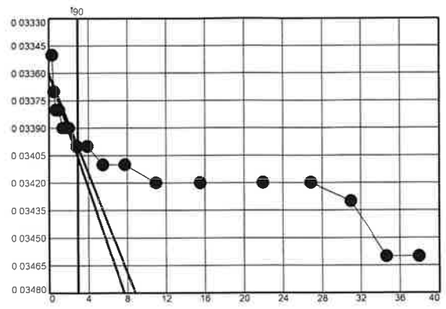


Void Ratio = 0.706 **Compression** = 3.3% >>> CALCULATED USING D_{100}

D_0 = 0.0325 **D_{90}** = 0.0327 **D_{100}** = 0.0327 **C_v at 2.93 min.** = 0.0073 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03550	11	60	0.03780
2	0.10	0.03720	12	120	0.03790
3	0.25	0.03740	13	240	0.03790
4	0.50	0.03750	14	480	0.03790
5	1	0.03750	15	720	0.03790
6	2	0.03760	16	960	0.03800
7	4	0.03760	17	1200	0.03830
8	8	0.03770	18	1440	0.03830
9	15	0.03770			
10	30	0.03780			

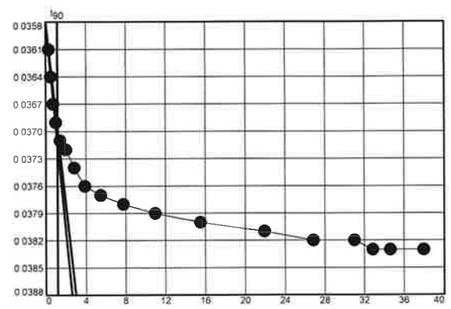


Void Ratio = 0.704 **Compression** = 3.4% >>> CALCULATED USING D_{100}

D_0 = 0.0336 **D_{90}** = 0.0340 **D_{100}** = 0.0340 **C_v at 8.49 min.** = 0.0025 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 11**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03830	11	60	0.04250
2	0.10	0.04080	12	120	0.04260
3	0.25	0.04110	13	240	0.04270
4	0.50	0.04140	14	480	0.04280
5	1	0.04160	15	720	0.04290
6	2	0.04180	16	960	0.04290
7	4	0.04190	17	1080	0.04300
8	8	0.04210	18	1200	0.04300
9	15	0.04230	19	1440	0.04300
10	30	0.04240			



Void Ratio = 0.699 **Compression** = 3.7% >>> CALCULATED USING D_{100}

D_0 = 0.0358 **D_{90}** = 0.0370 **D_{100}** = 0.0371 **C_v at 1.40 min.** = 0.0152 cm.^{2}/sec.

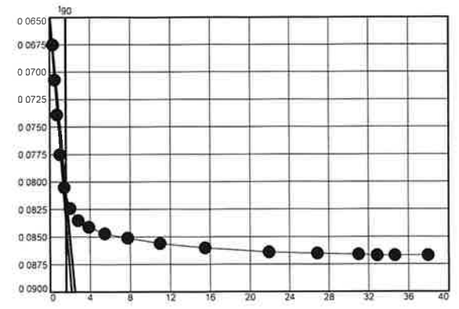
Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04300	11	60	0.06320
2	0.10	0.05310	12	120	0.06350
3	0.25	0.05520	13	240	0.06390
4	0.50	0.05700	14	480	0.06400
5	1	0.05900	15	720	0.06420
6	2	0.06040	16	960	0.06420
7	4	0.06150	17	1080	0.06430
8	8	0.06210	18	1200	0.06430
9	15	0.06250	19	1440	0.06440
10	30	0.06290			

Void Ratio = 0.669 **Compression** = 5.4%

Pressure: 16.00 ksf — **TEST READINGS** — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.06440	11	60	0.09400
2	0.10	0.07640	12	120	0.09450
3	0.25	0.07960	13	240	0.09490
4	0.50	0.08280	14	480	0.09530
5	1	0.08640	15	720	0.09540
6	2	0.08940	16	960	0.09550
7	4	0.09130	17	1080	0.09560
8	8	0.09240	18	1200	0.09560
9	15	0.09300	19	1440	0.09560
10	30	0.09360			

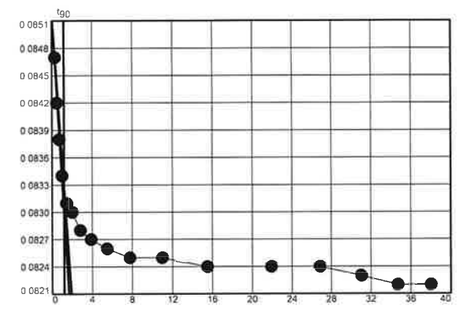


Void Ratio = 0.618 **Compression** = 8.3% >>> CALCULATED USING D_{100}

D_0 = 0.0647 **D_{90}** = 0.0811 **D_{100}** = 0.0829 **C_v at 2.54 min.** = 0.0077 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.09560	11	60	0.08980
2	0.10	0.09200	12	120	0.08980
3	0.25	0.09150	13	240	0.08970
4	0.50	0.09110	14	480	0.08970
5	1	0.09070	15	720	0.08970
6	2	0.09040	16	960	0.08960
7	4	0.09030	17	1200	0.08950
8	8	0.09010	18	1440	0.08950
9	15	0.09000			
10	30	0.08990			

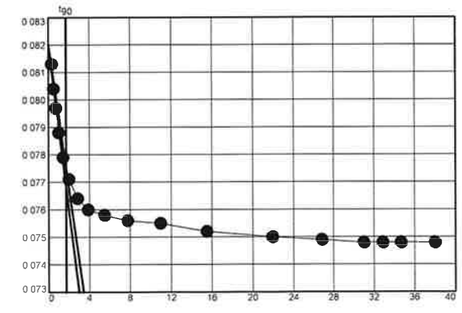


Void Ratio = 0.618 **Compression** = 8.3% >>> CALCULATED USING D_{100}

D_0 = 0.0852 **D_{90}** = 0.0833 **D_{100}** = 0.0830 **C_v at 1.43 min.** = 0.0133 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 15**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08950	11	60	0.08080
2	0.10	0.08650	12	120	0.08070
3	0.25	0.08560	13	240	0.08040
4	0.50	0.08490	14	480	0.08020
5	1	0.08400	15	720	0.08010
6	2	0.08310	16	960	0.08000
7	4	0.08230	17	1080	0.08000
8	8	0.08160	18	1200	0.08000
9	15	0.08120	19	1440	0.08000
10	30	0.08100			

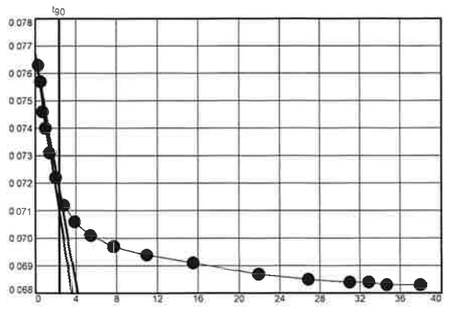


Void Ratio = 0.628 **Compression** = 7.7% >>> CALCULATED USING D_{100}

D_0 = 0.0820 **D_{90}** = 0.0775 **D_{100}** = 0.0770 **C_v at 2.92 min.** = 0.0066 cm.^{2}/sec.

Pressure: 0.25 ksf | **TEST READINGS** | **Load No. 16**

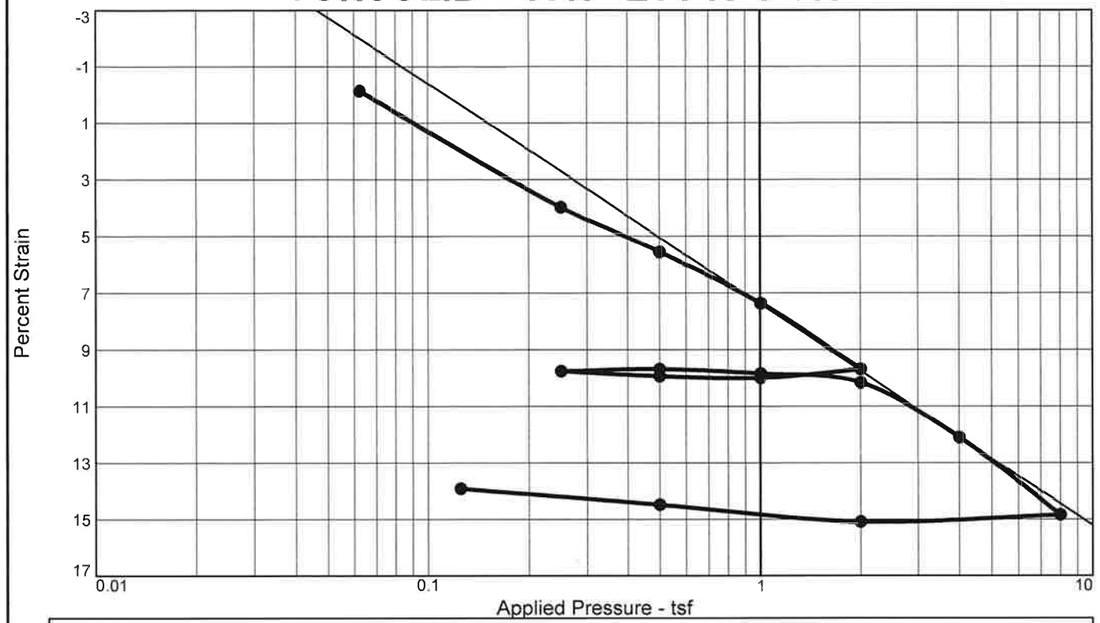
No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08000	11	60	0.07330
2	0.10	0.07990	12	120	0.07300
3	0.25	0.07930	13	240	0.07270
4	0.50	0.07820	14	480	0.07230
5	1	0.07760	15	720	0.07210
6	2	0.07670	16	960	0.07200
7	4	0.07580	17	1080	0.07200
8	8	0.07480	18	1200	0.07190
9	15	0.07420	19	1440	0.07190
10	30	0.07370			



Void Ratio = 0.638 **Compression =** 7.1% >>> CALCULATED USING D_{100}

D_0 = 0.0767 **D_{90} =** 0.0718 **D_{100} =** 0.0712 **C_v at 5.54 min. =** 0.0035 cm.^{2}/sec.

CONSOLIDATION TEST REPORT



Coefficients of Consolidation and Secondary Consolidation

No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α	No.	Load (tsf)	C_v (cm.2/sec.)	C_α
1	0.06	0.0046		8	0.25	0.0105		15	0.50	0.0033	
2	0.25	0.0024		9	0.50	0.0106		16	0.13	0.0017	
3	0.50	0.0021		10	1.00	0.0043					
4	1.00	0.0032		11	2.00	0.0039					
5	2.00	0.0036		12	4.00	0.0058					
6	1.00	0.0200		13	8.00	0.0061					
7	0.50	0.0559		14	2.00	0.0203					

MATERIAL DESCRIPTION	USCS	AASHTO
Light Orange-Brown Sandy Silt	ML	A-4(3)

LL	PI	Sp. Gr.	Overburden (tsf)	Dry Dens. (pcf) Init.	Dry Dens. (pcf) Final	Moisture Init.	Moisture Final	Saturation Init.	Saturation Final	Void Ratio Init.	Void Ratio Final	P_c (tsf)	C_c
35	9	2.664		68.8	83.0	29.2 %	20.6 %	89.3 %	89.8 %	0.871	0.611	1.0	0.15

Preparation Process: Sample trimmed from shelby tube

Condition of Test: Inundated after applicaton of seating load

D2435 Method	C_r	Swell Press. (tsf)	Swell %
	0.01		

Project No. CG2240023167 **Client:** Carolinas Geotechnical Group

Project: I-5719: I-85
TIP No.: I-5719

Loc.: Y3SB_EB2-B, Station 18+80 **Depth:** 6'-8' **Sample No.:** ST-12

Summit Engineering

Pineville, North Carolina

Remarks:
AASHTO T216 Method B

Checked By: MH

Title: Lab Manager

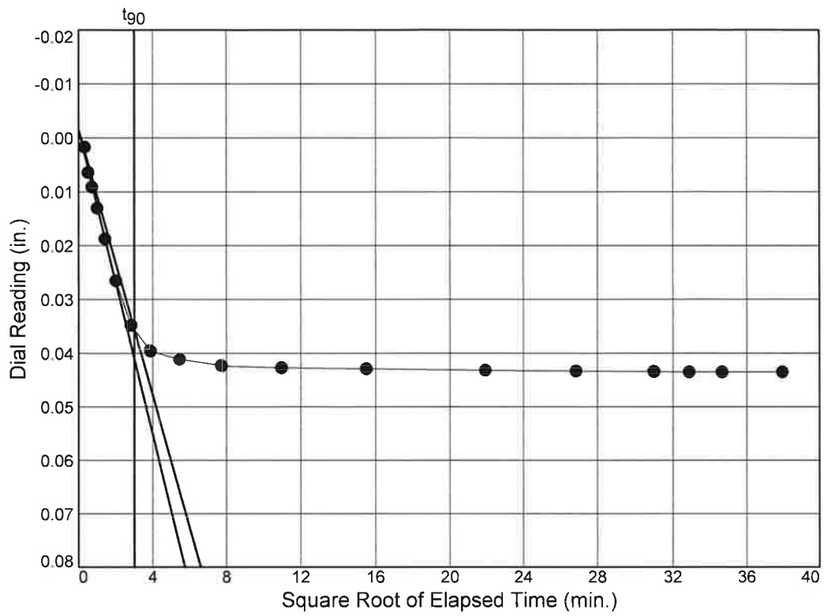
Figure

Tested By: FG

Dial Reading vs. Time

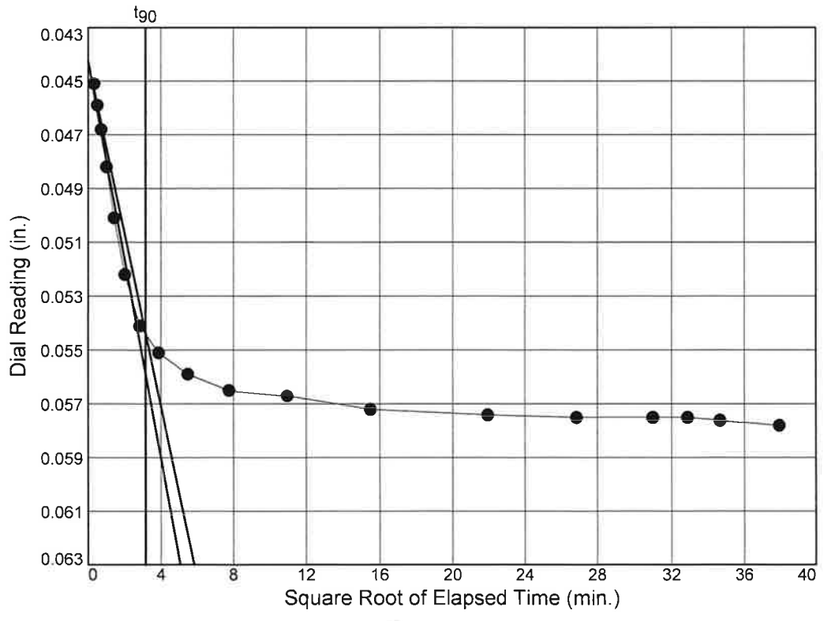
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3SB_EB2-B, Station 18+80 Depth: 6'-8' Sample Number: ST-12



Load No.= 2
Load= 0.25 tsf
D_0 = -0.0015
D_{90} = 0.0356
D_{100} = 0.0397
T_{90} = 9.04 min.

C_v @ T_{90}
0.0024 cm.2/sec.



Load No.= 3
Load= 0.50 tsf
D_0 = 0.0443
D_{90} = 0.0544
D_{100} = 0.0555
T_{90} = 9.93 min.

C_v @ T_{90}
0.0021 cm.2/sec.

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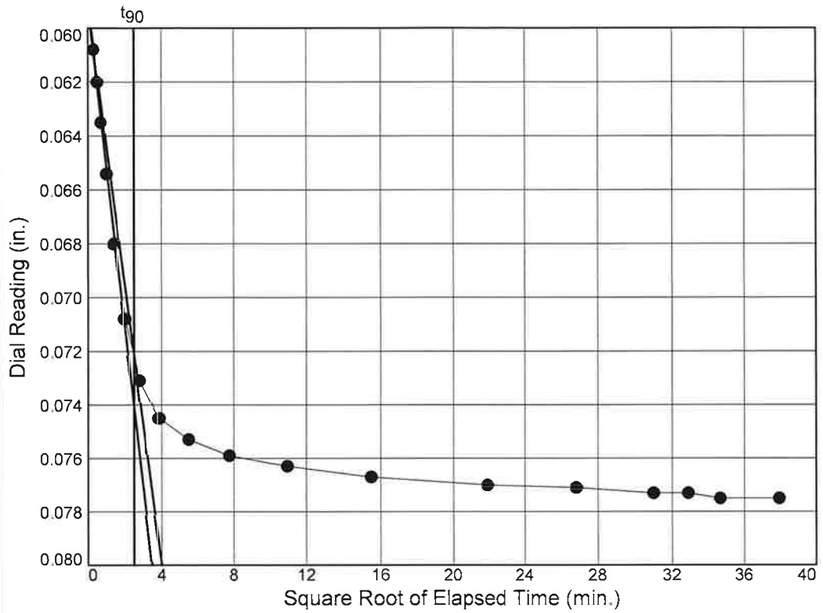
Figure

Dial Reading vs. Time

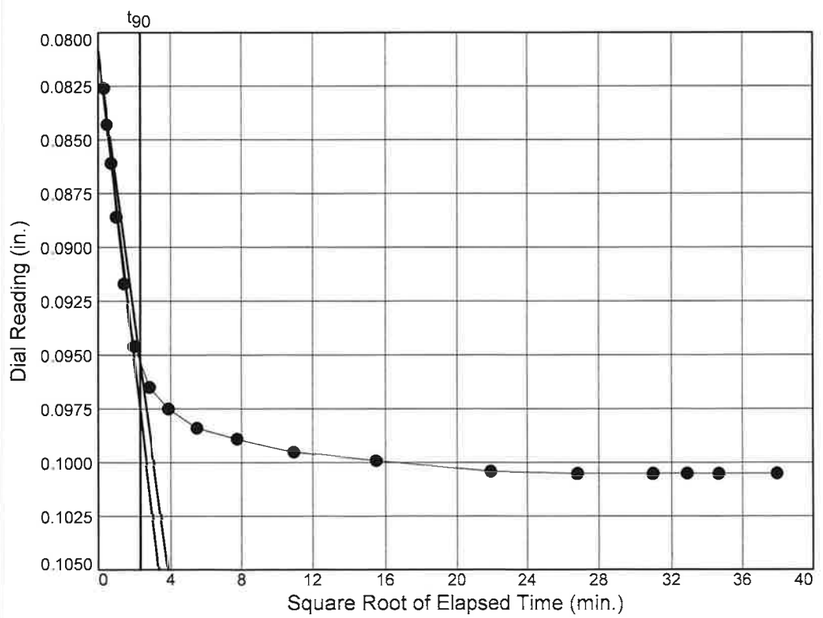
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3SB_EB2-B, Station 18+80 Depth: 6'-8' Sample Number: ST-12



Load No.= 4
Load= 1.00 tsf
D_0 = 0.0591
D_{90} = 0.0722
D_{100} = 0.0736
T_{90} = 6.23 min.

C_v @ T_{90}
0.0032 cm.2/sec.



Load No.= 5
Load= 2.00 tsf
D_0 = 0.0809
D_{90} = 0.0953
D_{100} = 0.0969
T_{90} = 5.32 min.

C_v @ T_{90}
0.0036 cm.2/sec.

Figure

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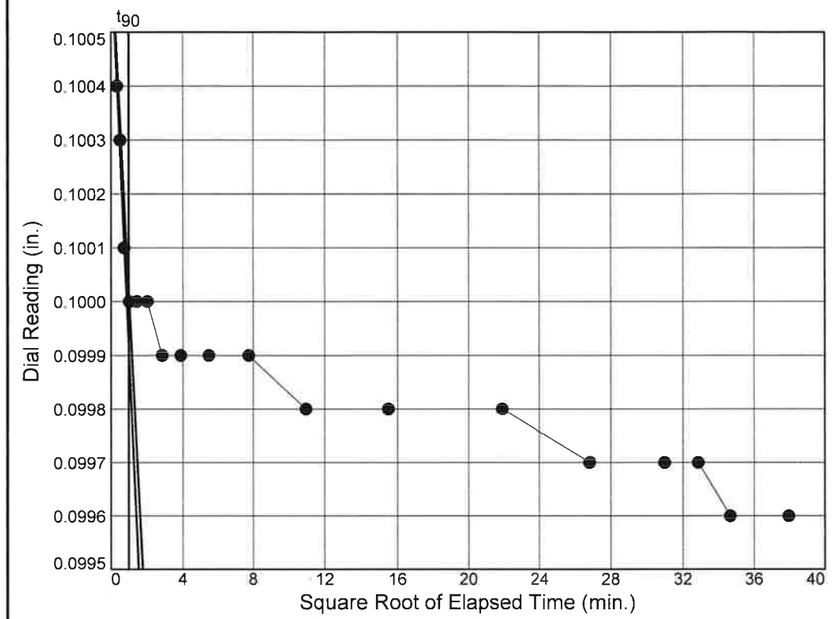
Dial Reading vs. Time

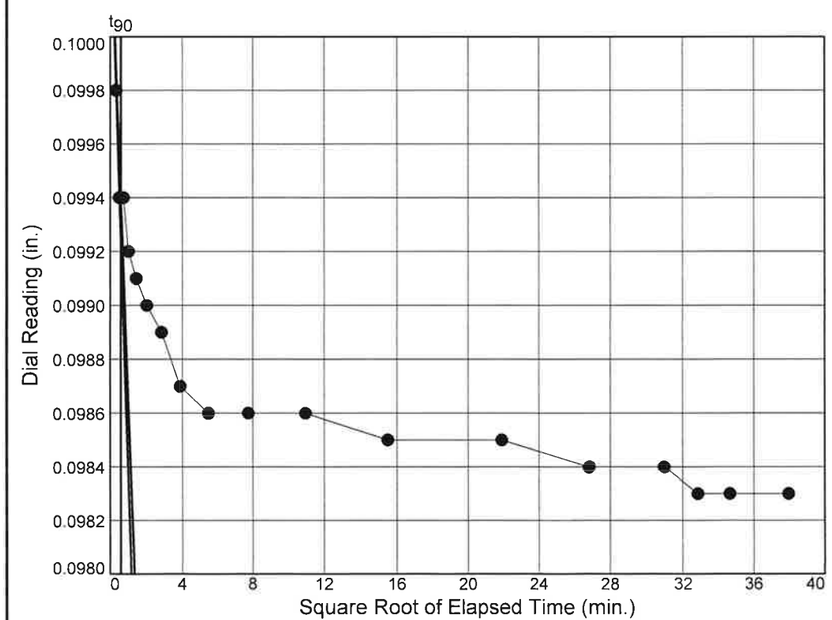
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3SB_EB2-B, Station 18+80 Depth: 6'-8' Sample Number: ST-12



Load No.= 6
Load= 1.00 tsf
D_0 = 0.1007
D_{90} = 0.1000
D_{100} = 0.0999
T_{90} = 0.92 min.

C_v @ T_{90}
0.0200 cm.2/sec.



Load No.= 7
Load= 0.50 tsf
D_0 = 0.1005
D_{90} = 0.0994
D_{100} = 0.0993
T_{90} = 0.33 min.

C_v @ T_{90}
0.0559 cm.2/sec.

Figure

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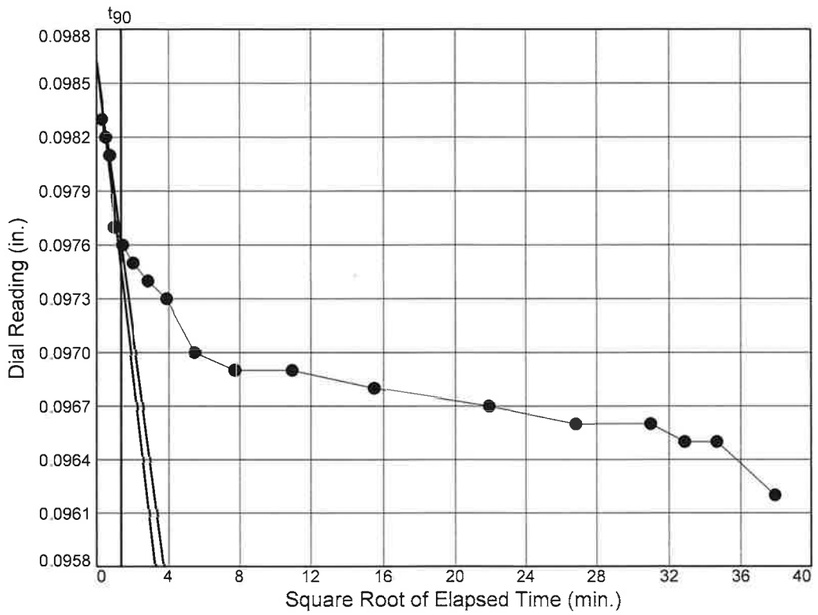
Dial Reading vs. Time

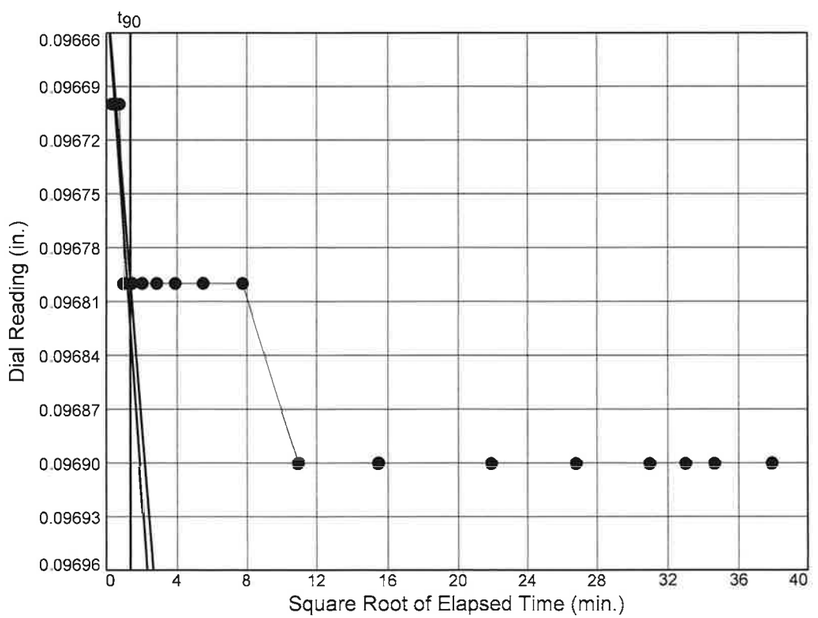
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3SB_EB2-B, Station 18+80 Depth: 6'-8' Sample Number: ST-12



Load No.= 8
Load= 0.25 tsf
D_0 = 0.0986
D_{90} = 0.0976
D_{100} = 0.0975
T_{90} = 1.76 min.

C_v @ T_{90}
0.0105 cm.^{2}/sec.



Load No.= 9
Load= 0.50 tsf
D_0 = 0.0966
D_{90} = 0.0968
D_{100} = 0.0968
T_{90} = 1.76 min.

C_v @ T_{90}
0.0106 cm.^{2}/sec.

Figure

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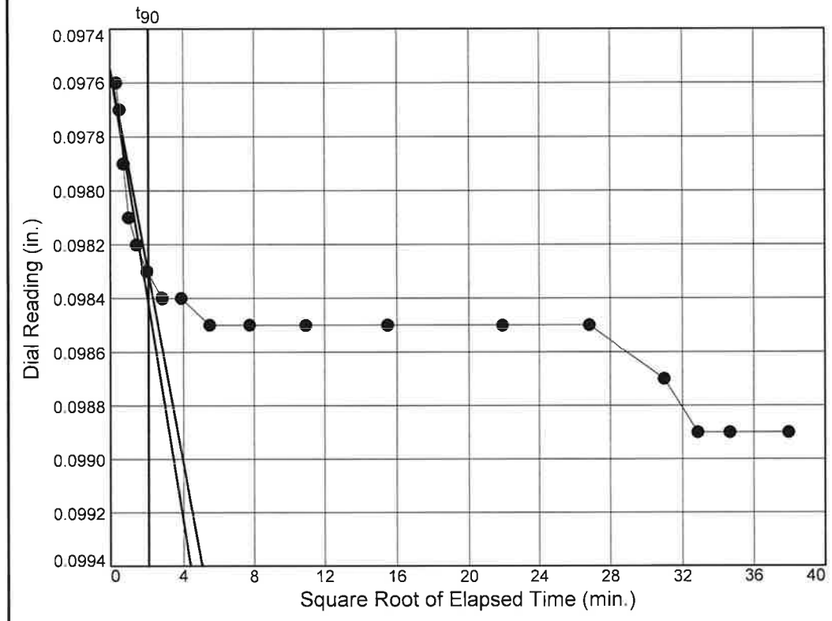
Dial Reading vs. Time

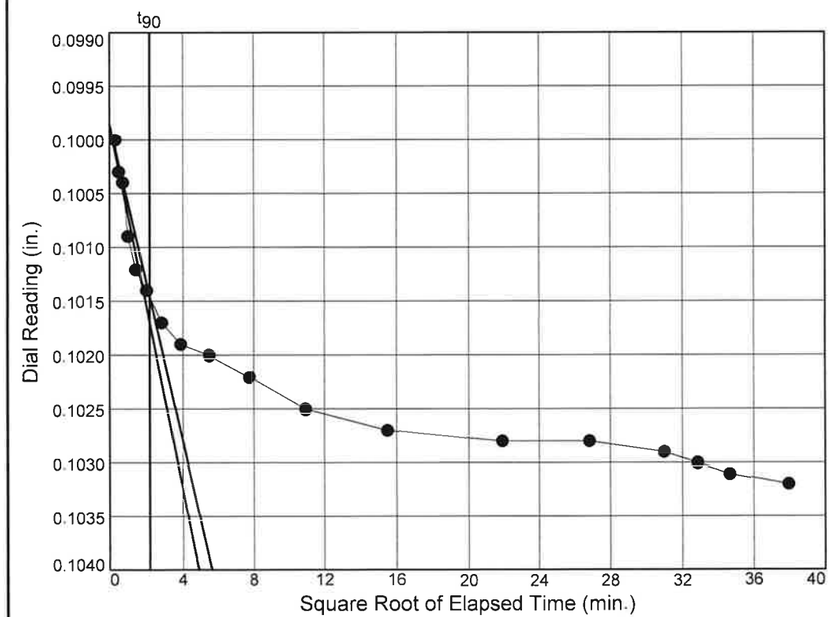
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3SB_EB2-B, Station 18+80 Depth: 6'-8' Sample Number: ST-12



Load No.= 10
Load= 1.00 tsf
D_0 = 0.0975
D_{90} = 0.0983
D_{100} = 0.0984
T_{90} = 4.29 min.

C_v @ T_{90}
0.0043 cm.^{2}/sec.



Load No.= 11
Load= 2.00 tsf
D_0 = 0.0999
D_{90} = 0.1015
D_{100} = 0.1016
T_{90} = 4.72 min.

C_v @ T_{90}
0.0039 cm.^{2}/sec.

Figure

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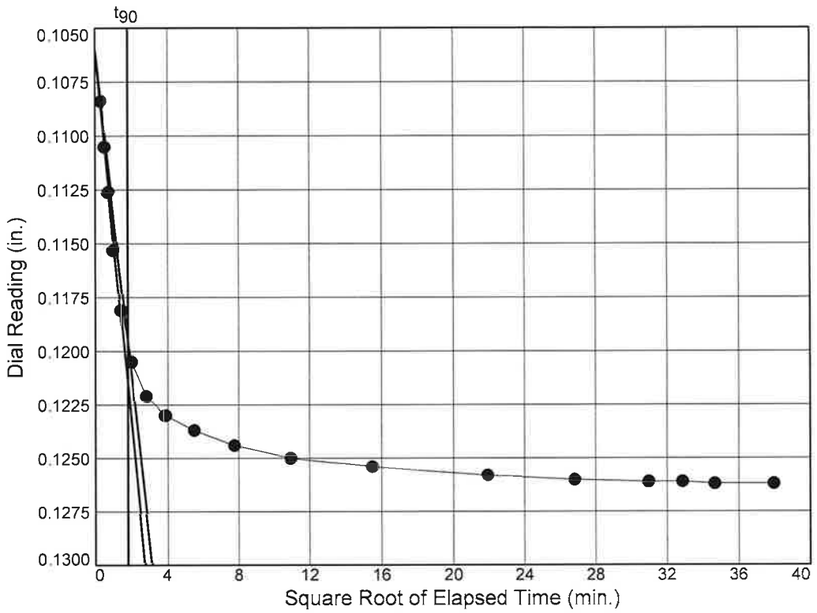
Dial Reading vs. Time

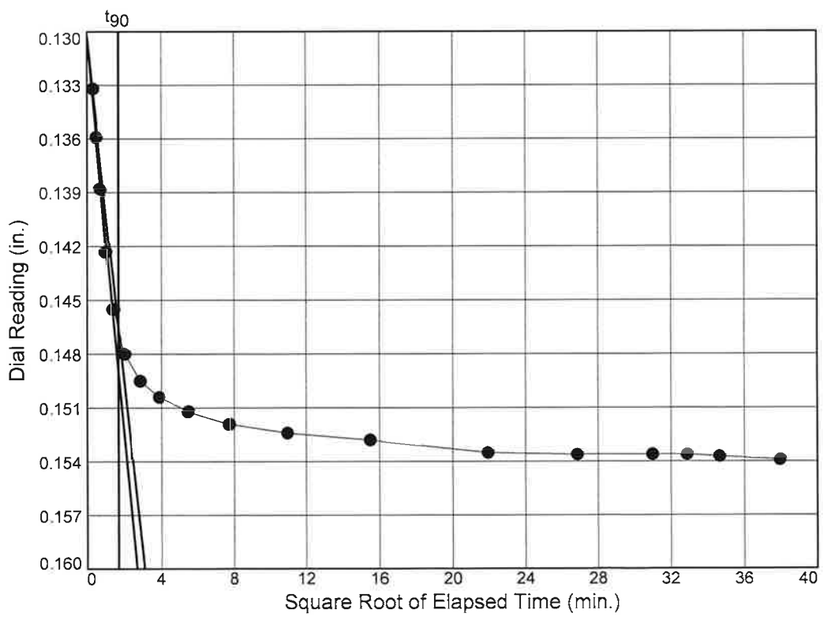
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3SB_EB2-B, Station 18+80 Depth: 6'-8' Sample Number: ST-12



Load No.= 12
Load= 4.00 tsf
D_0 = 0.1060
D_{90} = 0.1195
D_{100} = 0.1210
T_{90} = 3.09 min.

C_v @ T_{90}
0.0058 cm.2/sec.



Load No.= 13
Load= 8.00 tsf
D_0 = 0.1303
D_{90} = 0.1466
D_{100} = 0.1484
T_{90} = 2.78 min.

C_v @ T_{90}
0.0061 cm.2/sec.

Figure

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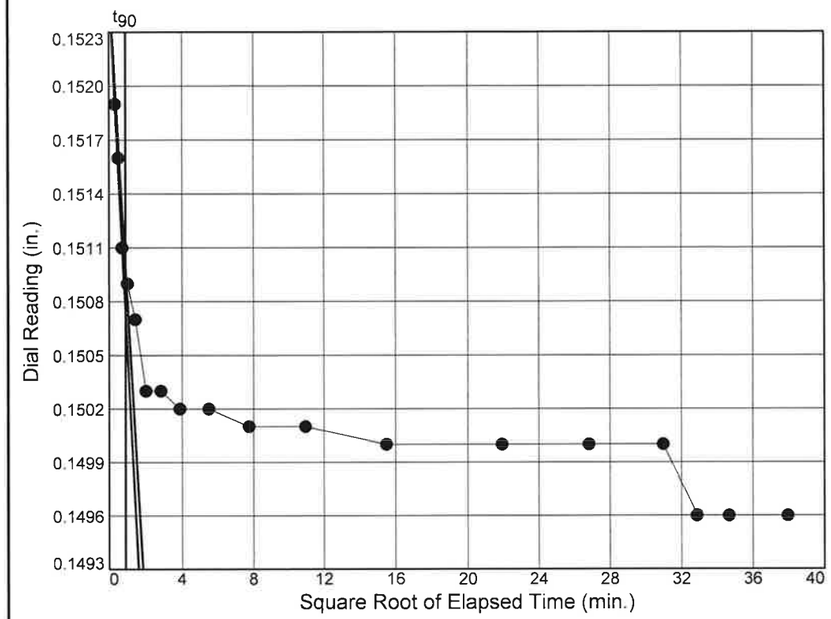
Dial Reading vs. Time

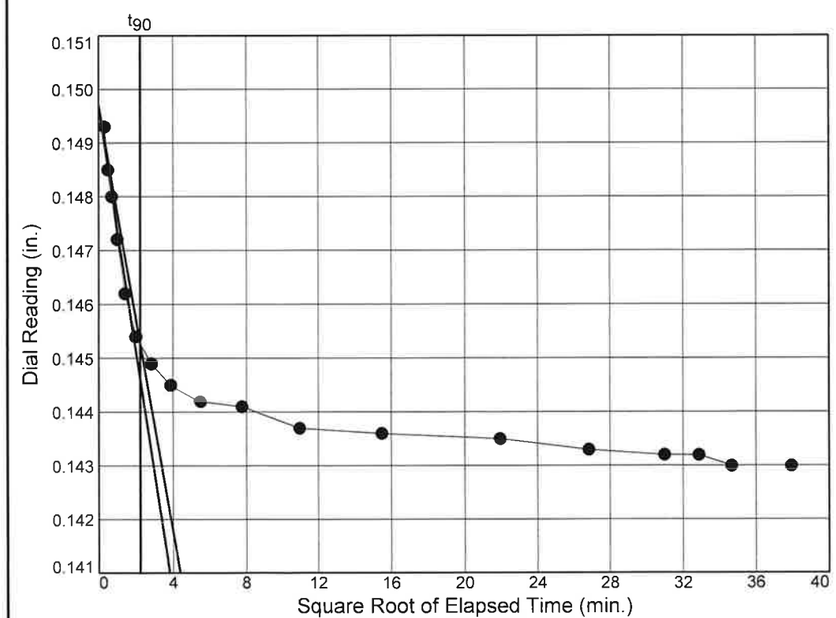
Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3SB_EB2-B, Station 18+80 Depth: 6'-8' Sample Number: ST-12



Load No.= 14
Load= 2.00 tsf
D_0 = 0.1526
D_{90} = 0.1510
D_{100} = 0.1508
T_{90} = 0.81 min.

C_v @ T_{90}
0.0203 cm.2/sec.



Load No.= 15
Load= 0.50 tsf
D_0 = 0.1497
D_{90} = 0.1453
D_{100} = 0.1448
T_{90} = 4.97 min.

C_v @ T_{90}
0.0033 cm.2/sec.

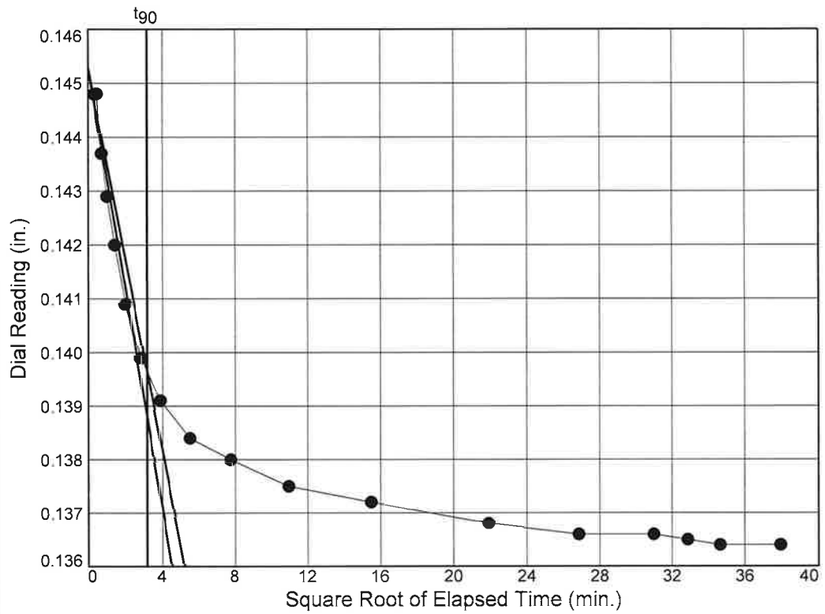
Figure

Summit Engineering

Dial Reading vs. Time

Project No.: CG2240023167
Project: I-5719: I-85

Location: Y3SB_EB2-B, Station 18+80 Depth: 6'-8' Sample Number: ST-12



Load No.= 16
Load= 0.13 tsf
D_0 = 0.1453
D_{90} = 0.1396
D_{100} = 0.1390
T_{90} = 9.95 min.

C_v @ T_{90}
0.0017 cm.^{2}/sec.

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Figure

CONSOLIDATION TEST DATA

10/12/2023

Client: Carolinas Geotechnical Group
Project: I-5719: I-85
TIP No.: I-5719
Project Number: CG2240023167
Location: Y3SB_EB2-B, Station 18+80
Depth: 6'-8' **Sample Number:** ST-12
Material Description: Light Orange-Brown Sandy Silt
Sample Date: 09-02-23 **Liquid Limit:** 35 **Plasticity Index:** 9
USCS: ML **AASHTO:** A-4(3)
Preparation Process: Sampled trimmed from shelby tube
Condition of Test: Inundated after applicaton of seating load
Final Density: 83.0
Testing Remarks: AASHTO T216 Method B
Tested By: FG **Checked by:** MH **Title:** Lab Manager

Test Specimen Data

NATURAL MOISTURE		VOID RATIO		AFTER TEST	
Wet w+t =	147.96 g.	Spec. Gr.	= 2.664	Wet w+t =	138.10 g.
Dry w+t =	114.52 g.	Est. Ht. Solids	= 0.534 in.	Dry w+t =	114.52 g.
Tare Wt. =	0.00 g.	Init. V.R.	= 0.871	Tare Wt. =	0.00 g.
Moisture =	29.2 %	Init. Sat.	= 89.3 %	Moisture =	20.6 %
UNIT WEIGHT		TEST START		Dry Wt. =	114.52* g.
Height =	1.000 in.	Height	= 1.000 in.		
Diameter =	2.500 in.	Diameter	= 2.500 in.		
Weight =	114.52 g.				
Dry Dens. =	68.8 pcf				

* Final dry weight used as mineral solids weight

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (cm.^{2}/sec.)	C_α	Void Ratio	% Strain
start	0.00000		0.00000			0.871	
0.13	0.00000	0.00120	-0.00120*	0.0046		0.873	0.1 Swell
0.50	0.04470	0.00120	0.03974*			0.797	4.0 Comprs.
1.00	0.06030	0.00250	0.05553*	0.0021		0.767	5.6 Comprs.
2.00	0.08120	0.00370	0.07363*	0.0032		0.733	7.4 Comprs.
4.00	0.10640	0.00590	0.09691*	0.0036		0.690	9.7 Comprs.
2.00	0.10520	0.00560	0.09994*	0.0200		0.684	10.0 Comprs.
1.00	0.10290	0.00460	0.09928*	0.0559		0.685	9.9 Comprs.
0.50	0.10010	0.00390	0.09751*	0.0105		0.689	9.8 Comprs.
1.00	0.10090	0.00400	0.09682*	0.0106		0.690	9.7 Comprs.
2.00	0.10360	0.00470	0.09839*	0.0043		0.687	9.8 Comprs.
4.00	0.10920	0.00600	0.10164*	0.0039		0.681	10.2 Comprs.
8.00	0.13440	0.00820	0.12100*	0.0058		0.645	12.1 Comprs.
16.00	0.16430	0.01040	0.14839*	0.0061		0.594	14.8 Comprs.
4.00	0.15850	0.00890	0.15079*	0.0203		0.589	15.1 Comprs.
1.00	0.14970	0.00670	0.14477*	0.0033		0.600	14.5 Comprs.
0.25	0.14120	0.00480	0.13902*	0.0017		0.611	13.9 Comprs.

*CALCULATED USING D_{100} INSTEAD OF FINAL READING

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TEST RESULTS SUMMARY

Compression index (C_c), tsf = 0.15 **Preconsolidation pressure (P_p), tsf** = 1.0 **Void ratio at P_p (e_m)** = 0.735

Recompression index (C_r) = 0.01

Pressure: 0.13 ksf — **TEST READINGS** — **Load No. 1**

No.	Elapsed Time	Dial Reading
1	0	0.00000
2	0.10	0.00000
3	0.25	0.00000
4	0.5	0.00000
5	1	0.00000
6	2	0.00000
7	5	0.00000

Void Ratio = 0.873 **Swell** = 0.1% >>> CALCULATED USING D_{100}

D_0 = -0.0012 **D_{90}** = -0.0012 **D_{100}** = -0.0012 **C_v at 5.00 min.** = 0.0046 cm.2/sec.

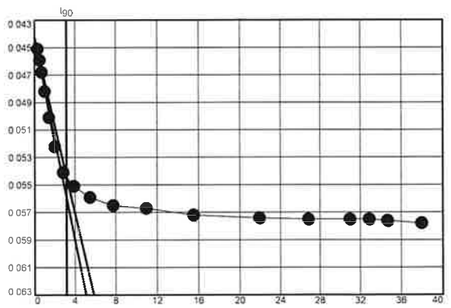
Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00000	11	60	0.04360
2	0.10	0.00290	12	120	0.04390
3	0.25	0.00760	13	240	0.04410
4	0.50	0.01030	14	480	0.04440
5	1	0.01420	15	720	0.04450
6	2	0.01990	16	960	0.04460
7	4	0.02770	17	1080	0.04470
8	8	0.03600	18	1200	0.04470
9	15	0.04080	19	1440	0.04470
10	30	0.04240			

Void Ratio = 0.797 **Compression** = 4.0%

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04470	11	60	0.05900
2	0.10	0.04760	12	120	0.05920
3	0.25	0.04840	13	240	0.05970
4	0.50	0.04930	14	480	0.05990
5	1	0.05070	15	720	0.06000
6	2	0.05260	16	960	0.06000
7	4	0.05470	17	1080	0.06000
8	8	0.05660	18	1200	0.06010
9	15	0.05760	19	1440	0.06030
10	30	0.05840			

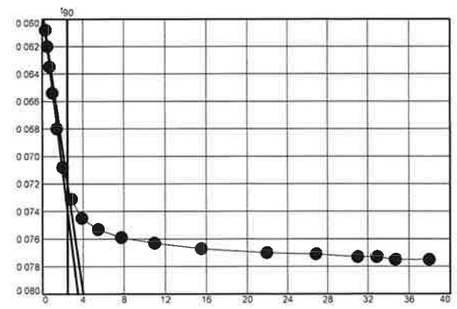


Void Ratio = 0.767 **Compression** = 5.6% >>> CALCULATED USING D_{100}

D_0 = 0.0443 **D_{90}** = 0.0544 **D_{100}** = 0.0555 **C_v at 9.93 min.** = 0.0021 cm.2/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.06030	11	60	0.07960
2	0.10	0.06450	12	120	0.08000
3	0.25	0.06570	13	240	0.08040
4	0.50	0.06720	14	480	0.08070
5	1	0.06910	15	720	0.08080
6	2	0.07170	16	960	0.08100
7	4	0.07450	17	1080	0.08100
8	8	0.07680	18	1200	0.08120
9	15	0.07820	19	1440	0.08120
10	30	0.07900			

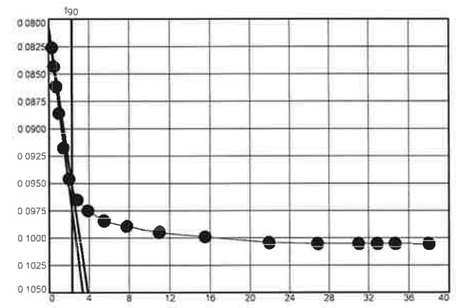


Void Ratio = 0.733 **Compression** = 7.4% >>> CALCULATED USING D_{100}

D_0 = 0.0591 **D_{90}** = 0.0722 **D_{100}** = 0.0736 **C_v at 6.23 min.** = 0.0032 cm.2/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 5**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.08120	11	60	0.10480
2	0.10	0.08850	12	120	0.10540
3	0.25	0.09020	13	240	0.10580
4	0.50	0.09200	14	480	0.10630
5	1	0.09450	15	720	0.10640
6	2	0.09760	16	960	0.10640
7	4	0.10050	17	1080	0.10640
8	8	0.10240	18	1200	0.10640
9	15	0.10340	19	1440	0.10640
10	30	0.10430			

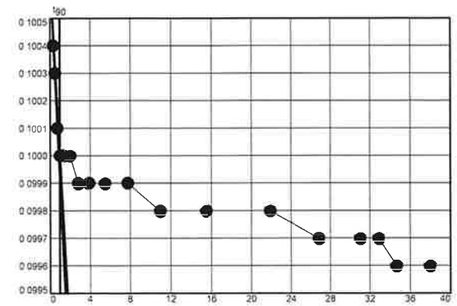


Void Ratio = 0.690 **Compression** = 9.7% >>> CALCULATED USING D_{100}

D_0 = 0.0809 **D_{90}** = 0.0953 **D_{100}** = 0.0969 **C_v at 5.32 min.** = 0.0036 cm.2/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 6**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.10640	11	60	0.10550
2	0.10	0.10600	12	120	0.10540
3	0.25	0.10590	13	240	0.10540
4	0.50	0.10570	14	480	0.10540
5	1	0.10560	15	720	0.10530
6	2	0.10560	16	960	0.10530
7	4	0.10560	17	1080	0.10530
8	8	0.10550	18	1200	0.10520
9	15	0.10550	19	1440	0.10520
10	30	0.10550			

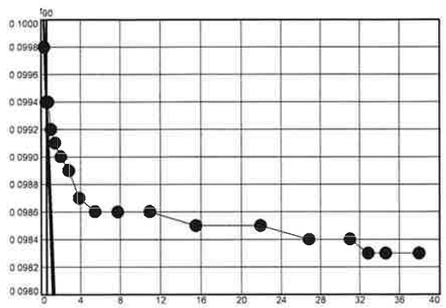


Void Ratio = 0.684 **Compression** = 10.0% >>> CALCULATED USING D_{100}

D_0 = 0.1007 **D_{90}** = 0.1000 **D_{100}** = 0.0999 **C_v at 0.92 min.** = 0.0200 cm.2/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.10520	11	60	0.10320
2	0.10	0.10440	12	120	0.10320
3	0.25	0.10400	13	240	0.10310
4	0.50	0.10400	14	480	0.10310
5	1	0.10380	15	720	0.10300
6	2	0.10370	16	960	0.10300
7	4	0.10360	17	1080	0.10290
8	8	0.10350	18	1200	0.10290
9	15	0.10330	19	1440	0.10290
10	30	0.10320			

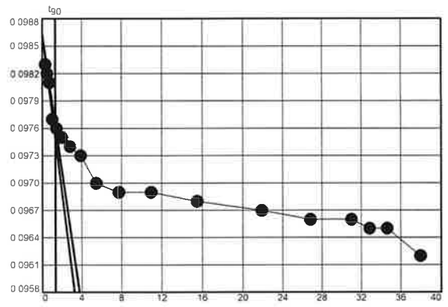


Void Ratio = 0.685 **Compression** = 9.9% >>> CALCULATED USING D_{100}

D_0 = 0.1005 **D_{90}** = 0.0994 **D_{100}** = 0.0993 **C_v at 0.33 min.** = 0.0559 cm.^{2}/sec.

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 8**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.10290	11	60	0.10080
2	0.10	0.10220	12	120	0.10080
3	0.25	0.10210	13	240	0.10070
4	0.50	0.10200	14	480	0.10060
5	1	0.10160	15	720	0.10050
6	2	0.10150	16	960	0.10050
7	4	0.10140	17	1080	0.10040
8	8	0.10130	18	1200	0.10040
9	15	0.10120	19	1440	0.10010
10	30	0.10090			

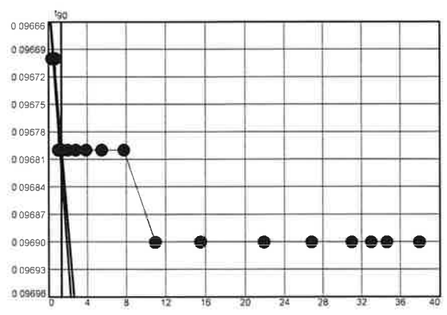


Void Ratio = 0.689 **Compression** = 9.8% >>> CALCULATED USING D_{100}

D_0 = 0.0986 **D_{90}** = 0.0976 **D_{100}** = 0.0975 **C_v at 1.76 min.** = 0.0105 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.10010	11	60	0.10080
2	0.10	0.10070	12	120	0.10090
3	0.25	0.10070	13	240	0.10090
4	0.50	0.10070	14	480	0.10090
5	1	0.10080	15	720	0.10090
6	2	0.10080	16	960	0.10090
7	4	0.10080	17	1090	0.10090
8	8	0.10080	18	1200	0.10090
9	15	0.10080	19	1440	0.10090
10	30	0.10080			

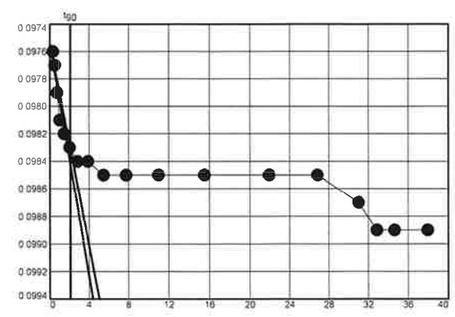


Void Ratio = 0.690 **Compression** = 9.7% >>> CALCULATED USING D_{100}

D_0 = 0.0966 **D_{90}** = 0.0968 **D_{100}** = 0.0968 **C_v at 1.76 min.** = 0.0106 cm.^{2}/sec.

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.10090	11	60	0.10320
2	0.10	0.10230	12	120	0.10320
3	0.25	0.10240	13	240	0.10320
4	0.50	0.10260	14	480	0.10320
5	1	0.10280	15	720	0.10320
6	2	0.10290	16	960	0.10340
7	4	0.10300	17	1080	0.10360
8	8	0.10310	18	1200	0.10360
9	15	0.10310	19	1440	0.10360
10	30	0.10320			

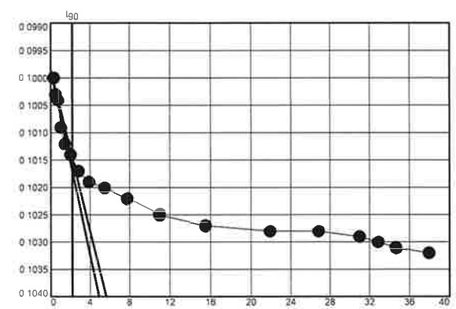


Void Ratio = 0.687 **Compression** = 9.8% >>> CALCULATED USING D_{100}

D_0 = 0.0975 **D_{90}** = 0.0983 **D_{100}** = 0.0984 **C_v at 4.29 min.** = 0.0043 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 11**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.10360	11	60	0.10820
2	0.10	0.10600	12	120	0.10850
3	0.25	0.10630	13	240	0.10870
4	0.50	0.10640	14	480	0.10880
5	1	0.10690	15	720	0.10880
6	2	0.10720	16	960	0.10890
7	4	0.10740	17	1080	0.10900
8	8	0.10770	18	1200	0.10910
9	15	0.10790	19	1440	0.10920
10	30	0.10800			

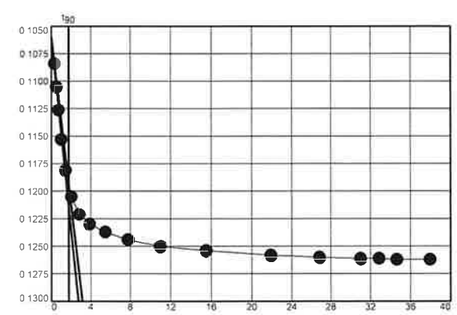


Void Ratio = 0.681 **Compression** = 10.2% >>> CALCULATED USING D_{100}

D_0 = 0.0999 **D_{90}** = 0.1015 **D_{100}** = 0.1016 **C_v at 4.72 min.** = 0.0039 cm.^{2}/sec.

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.10920	11	60	0.13260
2	0.10	0.11660	12	120	0.13320
3	0.25	0.11870	13	240	0.13360
4	0.50	0.12080	14	480	0.13400
5	1	0.12350	15	720	0.13420
6	2	0.12630	16	960	0.13430
7	4	0.12870	17	1080	0.13430
8	8	0.13030	18	1200	0.13440
9	15	0.13120	19	1440	0.13440
10	30	0.13190			

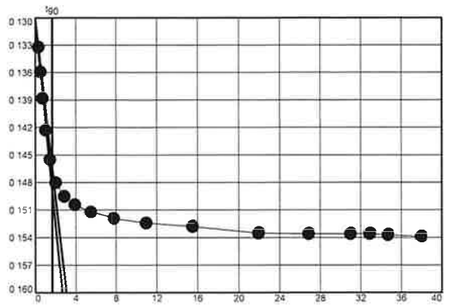


Void Ratio = 0.645 **Compression** = 12.1% >>> CALCULATED USING D_{100}

D_0 = 0.1060 **D_{90}** = 0.1195 **D_{100}** = 0.1210 **C_v at 3.09 min.** = 0.0058 cm.^{2}/sec.

Pressure: 16.00 ksf — **TEST READINGS** — **Load No. 13**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.13440	11	60	0.16230
2	0.10	0.14360	12	120	0.16280
3	0.25	0.14630	13	240	0.16320
4	0.50	0.14920	14	480	0.16390
5	1	0.15270	15	720	0.16400
6	2	0.15590	16	960	0.16400
7	4	0.15840	17	1080	0.16400
8	8	0.15990	18	1200	0.16410
9	15	0.16080	19	1440	0.16430
10	30	0.16160			

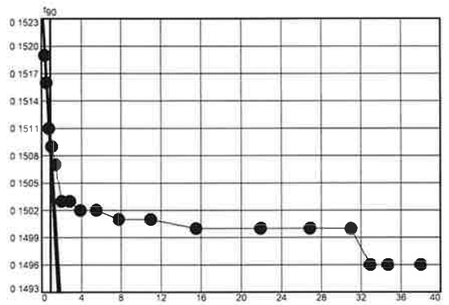


Void Ratio = 0.594 **Compression =** 14.8% >>> CALCULATED USING D_{100}

D_0 = 0.1303 **D_{90} =** 0.1466 **D_{100} =** 0.1484 **C_v at 2.78 min. =** 0.0061 cm.^{2}/sec.

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 14**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.16430	11	60	0.15900
2	0.10	0.16080	12	120	0.15900
3	0.25	0.16050	13	240	0.15890
4	0.50	0.16000	14	480	0.15890
5	1	0.15980	15	720	0.15890
6	2	0.15960	16	960	0.15890
7	4	0.15920	17	1080	0.15850
8	8	0.15920	18	1200	0.15850
9	15	0.15910	19	1440	0.15850
10	30	0.15910			

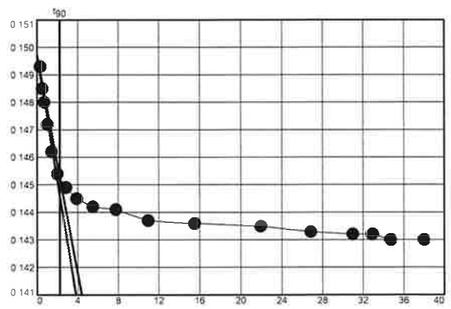


Void Ratio = 0.589 **Compression =** 15.1% >>> CALCULATED USING D_{100}

D_0 = 0.1526 **D_{90} =** 0.1510 **D_{100} =** 0.1508 **C_v at 0.81 min. =** 0.0203 cm.^{2}/sec.

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 15**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.15850	11	60	0.15080
2	0.10	0.15600	12	120	0.15040
3	0.25	0.15520	13	240	0.15030
4	0.50	0.15470	14	480	0.15020
5	1	0.15390	15	720	0.15000
6	2	0.15290	16	960	0.14990
7	4	0.15210	17	1080	0.14990
8	8	0.15160	18	1200	0.14970
9	15	0.15120	19	1440	0.14970
10	30	0.15090			

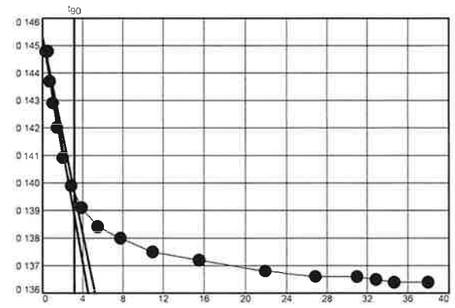


Void Ratio = 0.600 **Compression =** 14.5% >>> CALCULATED USING D_{100}

D_0 = 0.1497 **D_{90} =** 0.1453 **D_{100} =** 0.1448 **C_v at 4.97 min. =** 0.0033 cm.^{2}/sec.

Pressure: 0.25 ksf — **TEST READINGS** — **Load No. 16**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.14970	11	60	0.14280
2	0.10	0.14960	12	120	0.14230
3	0.25	0.14960	13	240	0.14200
4	0.50	0.14850	14	480	0.14160
5	1	0.14770	15	720	0.14140
6	2	0.14680	16	960	0.14140
7	4	0.14570	17	1080	0.14130
8	8	0.14470	18	1200	0.14120
9	15	0.14390	19	1440	0.14120
10	30	0.14320			



Void Ratio = 0.611 **Compression =** 13.9% >>> CALCULATED USING D_{100}

D_0 = 0.1453 **D_{90} =** 0.1396 **D_{100} =** 0.1390 **C_v at 9.95 min. =** 0.0017 cm.^{2}/sec.