

REFERENCE: A-0009C

PROJECT: 32572

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

ROADWAY
SUBSURFACE INVESTIGATION

COUNTY GRAHAM

PROJECT DESCRIPTION WIDEN US 129, NC 143, AND NC 28 (CLIMBING/PASSING LANE) FROM ROBBINSVILLE TO STECOAH

PAVEMENT AND SUBGRADE INVESTIGATION

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	A-0009C	1	68

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT, AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

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

FIELD PERSONNEL

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INVESTIGATED BY CG2

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DATE MAY 2022

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DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION										GRADATION										ROCK DESCRIPTION										TERMS AND DEFINITIONS																	
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, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i>										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.										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:										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 DISLOGGED 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 (ROD) - 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 (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.																	
SOIL LEGEND AND AASHTO CLASSIFICATION										ANGULARITY OF GRAINS										WEATHERED ROCK (WR)										CRISTALLINE ROCK (CR)																	
GENERAL CLASS.		GRANULAR MATERIALS (≤ 35% PASSING #200)					SILT-CLAY MATERIALS (> 35% PASSING #200)					ORGANIC MATERIALS					CRYSTALLINE ROCK (CR)		NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.								FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.																				
GROUP CLASS.	A-1-a	A-1-b	A-3	A-2-4	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7	A-1-A-2 A-3	A-4, A-5 A-6, A-7			NON-CRYSTALLINE ROCK (NCR)	FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.								COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.																						
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																	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										MISCELLANEOUS SYMBOLS										ROCK HARDNESS										FRACTIONAL PARTS																	
PRIMARY SOIL TYPE		COMPACTNESS OR CONSISTENCY		RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)				RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)				ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION		25/025 DIP & DIP DIRECTION OF ROCK STRUCTURES		SLOPE INDICATOR INSTALLATION		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. <i>IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF</i>		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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i>		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.																			
GENERAL		VERY LOOSE		< 4				N/A				SOIL SYMBOL		TEST BORING		CONE PENETROMETER TEST		SEVERE (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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i>		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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i>		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.																			
GENERAL		LOOSE		4 TO 10								ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT		AUGER BORING		CONE PENETROMETER TEST		SEVERE (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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i>		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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i>		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.																			
GENERAL		MEDIUM DENSE		10 TO 30								INFERRED SOIL BOUNDARY		CORE BORING		SOUNDING ROD		SEVERE (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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i>		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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i>		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.																			
GENERAL		DENSE		30 TO 50								INFERRED ROCK LINE		MONITORING WELL		TEST BORING WITH CORE		SEVERE (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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i>		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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i>		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.																			
GENERAL		VERY DENSE		> 50								ALLUVIAL SOIL BOUNDARY		PIEZOMETER INSTALLATION		SPT N-VALUE		SEVERE (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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i>		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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i>		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.																			
TEXTURE OR GRAIN SIZE										RECOMMENDATION SYMBOLS										ROCK HARDNESS										FRACTIONAL PARTS																	
U.S. STD. SIEVE SIZE OPENING (MM)		4		10		40		60		200		270		X		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		X		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		VERY HARD		CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.			
BOULDER (BLDR.)		COBBLE (COB.)		GRAVEL (GR.)		COARSE SAND (CSE, SD.)		FINE SAND (F SD.)		SILT (SL.)		CLAY (CL.)		SHALLOW UNDERCUT		UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		VERY HARD		CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.			
GRAIN SIZE										RECOMMENDATION SYMBOLS										ROCK HARDNESS										FRACTIONAL PARTS																	
GRAIN SIZE		MM		305		75		2.0		0.25		0.05		0.005		X		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		X		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		VERY HARD		CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.	
SOIL MOISTURE - CORRELATION OF TERMS										RECOMMENDATION SYMBOLS										ROCK HARDNESS										FRACTIONAL PARTS																	
SOIL MOISTURE SCALE (ATTERBERG LIMITS)		FIELD MOISTURE DESCRIPTION		GUIDE FOR FIELD MOISTURE DESCRIPTION						AR - AUGER REFUSAL		MED. - MEDIUM		VST - VANE SHEAR TEST		X		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		X		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		VERY HARD		CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.	
SOIL MOISTURE SCALE (ATTERBERG LIMITS)		FIELD MOISTURE DESCRIPTION		GUIDE FOR FIELD MOISTURE DESCRIPTION						BT - BORING TERMINATED		MICA - MICACEOUS		WEA. - WEATHERED		X		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		X		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		VERY HARD		CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.	
SOIL MOISTURE SCALE (ATTERBERG LIMITS)		FIELD MOISTURE DESCRIPTION		GUIDE FOR FIELD MOISTURE DESCRIPTION						CL. - CLAY		MOD. - MODERATELY		UNIT WEIGHT		X		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		X		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		VERY HARD		CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.	
SOIL MOISTURE SCALE (ATTERBERG LIMITS)		FIELD MOISTURE DESCRIPTION		GUIDE FOR FIELD MOISTURE DESCRIPTION						CPT - CONE PENETRATION TEST		NP - NON PLASTIC		DRY UNIT WEIGHT		X		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		X		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		VERY HARD		CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.	
SOIL MOISTURE SCALE (ATTERBERG LIMITS)		FIELD MOISTURE DESCRIPTION		GUIDE FOR FIELD MOISTURE DESCRIPTION						CSE. - COARSE		ORG. - ORGANIC		SAMPLE ABBREVIATIONS		X		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		X		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		VERY HARD		CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.	
SOIL MOISTURE SCALE (ATTERBERG LIMITS)		FIELD MOISTURE DESCRIPTION		GUIDE FOR FIELD MOISTURE DESCRIPTION						DPT - DILATOMETER TEST		PMT - PRESSUREMETER TEST		S - BULK		X		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		X		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		VERY HARD		CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.	
SOIL MOISTURE SCALE (ATTERBERG LIMITS)		FIELD MOISTURE DESCRIPTION		GUIDE FOR FIELD MOISTURE DESCRIPTION						DMT - DYNAMIC PENETRATION TEST		SAP. - SAPROLITIC		SS - SPLIT SPOON		X		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		X		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		VERY HARD		CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.	
SOIL MOISTURE SCALE (ATTERBERG LIMITS)		FIELD MOISTURE DESCRIPTION		GUIDE FOR FIELD MOISTURE DESCRIPTION						e - VOID RATIO		SD. - SAND, SANDY		ST - SHELBY TUBE		X		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		X		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		VERY HARD		CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLO									

Tip No. A-0009C| WBS No. 32572.1.FS10| Graham County

ABBREVIATIONS

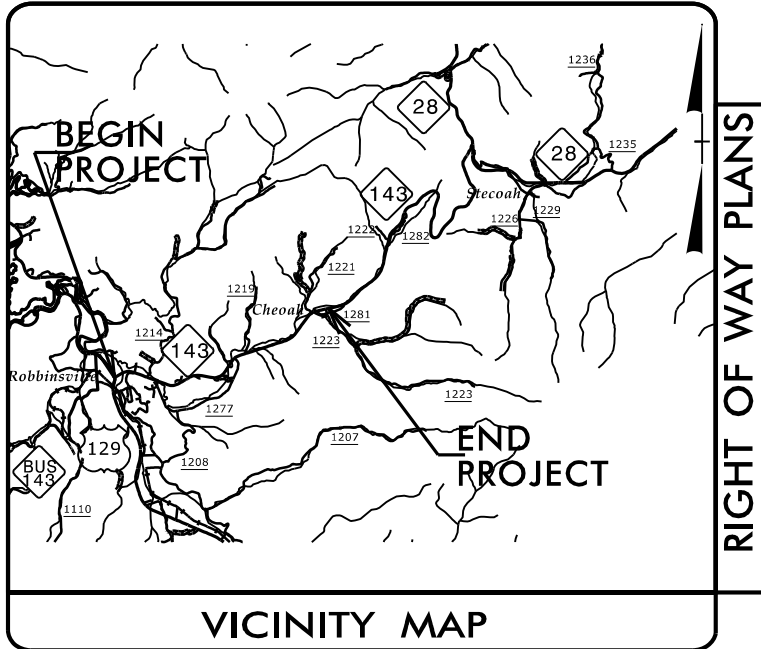
RT LN = Right Lane	CR = Crown
LT LN = Left Lane	S = Super
OSL = Outside Lane	C = Cut
ISL = Inside Lane	F = Fill
OSML = Outside Mid-Lane	DCP = Dynamic Cone Penetrometer
ISML = Inside Mid-Lane	M = Moist
PS = Paved Shoulder	W = Wet
LTL = Left Turn Lane	N/A = Not Observed
RTL = Right Turn Lane	NSR = No Sample Recovered
MID = Middle Lane	S- = Soil Grab Sample
CTL = Center Turn Lane	Ref- = Soil Reference Sample
ISWP = Inside Wheel Path	SS- = Split Spoon Sample
OSWP = Outside Wheel Path	RE = Roadway Embankment
PS = Paved Shoulder	F. = Fine
FW = From White Line	Cse. = Coarse
FY = From Yellow Line	ABC = Aggregate Base Course
RT = Right	STBC = Soil Type Base Course
LT = Left	CSS = Cement Stabilized Soil
(I) = Inside	SG = Subgrade
(O) = Outside	Sa. = Sand/Sandy
BOC = Back of Curb	Si. = Silt/Silty
C&G = Curb and Gutter	Cl. = Clay/Clayey
EOP = Edge of Pavement	WR = Weathered Rock

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\$\$\$\$\$USERNAME\$\$\$\$\$

TIP PROJECT: A-0009CA

CONTRACT:

See Sheet 1A For Index of Sheets



VICINITY MAP

RIGHT OF WAY PLANS

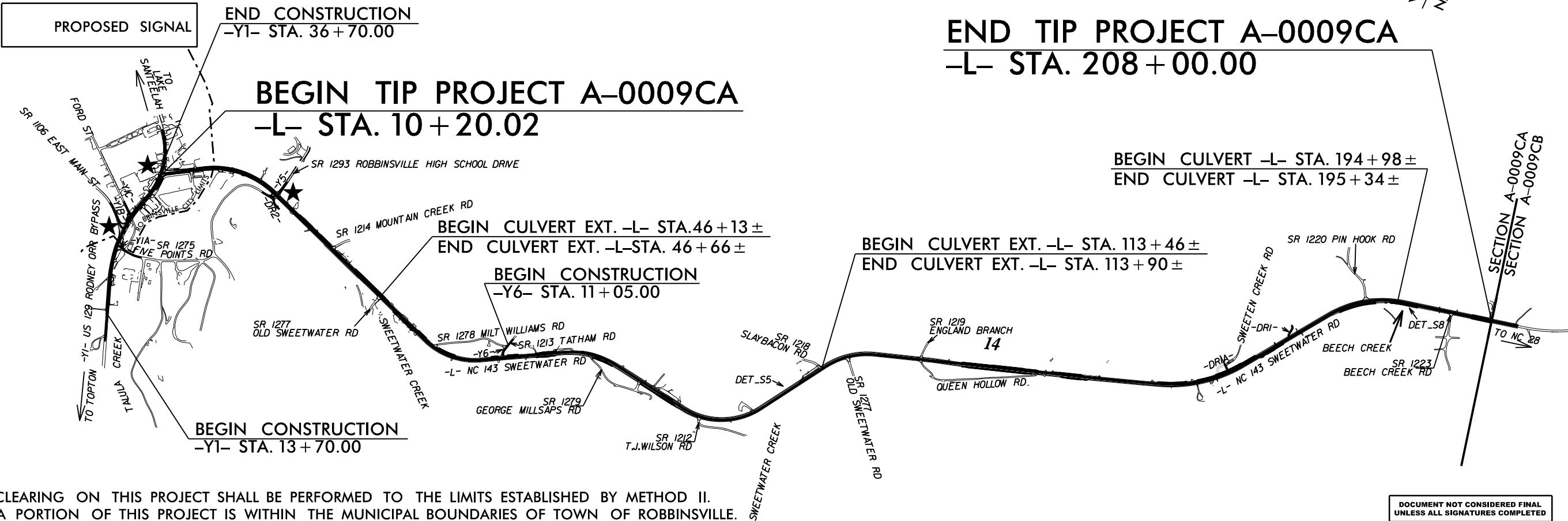
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GRAHAM COUNTY

LOCATION: UPGRADE US 129 FROM SOUTH OF SR 1275 (FIVE POINTS ROAD) TO NC 143
AND UPGRADE NC 143 FROM US 129 TO SR 1223 (BEECH CREEK ROAD)

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	A-0009CA	3	68
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
32572.1.13	APD-0074(178)	PE	
32572.2.13	APD-0074(178)	ROW, UTIL.	
32572.3.13	APD-0074(178)	CONST.	



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF TOWN OF ROBBINSVILLE.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2019 = 6300
ADT 2045 = 8800
K = 11 %
D = 57.5 %
T = 7 % *
50MPH - BEGIN PROJECT TO
FIVE POINTS RD
60MPH - FIVE POINTS RD TO
END OF PROJECT
* TTST = 2% DUAL = 5%
FUNC CLASS =
RURAL ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT A-0009CA = 3.746 MILES
LENGTH STRUCTURE TIP PROJECT A-0009CA = 0.027 MILES
TOTAL LENGTH TIP PROJECT A-0009CA = 3.746 MILES

NCDOT CONTACT: WANDA H. AUSTIN, PE

PLANS PREPARED BY:

TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO. C-0275

PLANS PREPARED FOR:

NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION 14
252 Webster Rd
Sylva, NC 28779

RIGHT OF WAY DATE:

JULY 16, 2021

LETTING DATE:

AUGUST 16, 2022

2018 STANDARD SPECIFICATIONS

JIMMY L. TERRY, PE
PROJECT ENGINEER

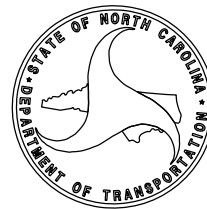
AUSTIN TURNER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN
ENGINEER

SIGNATURE: _____ P.E.

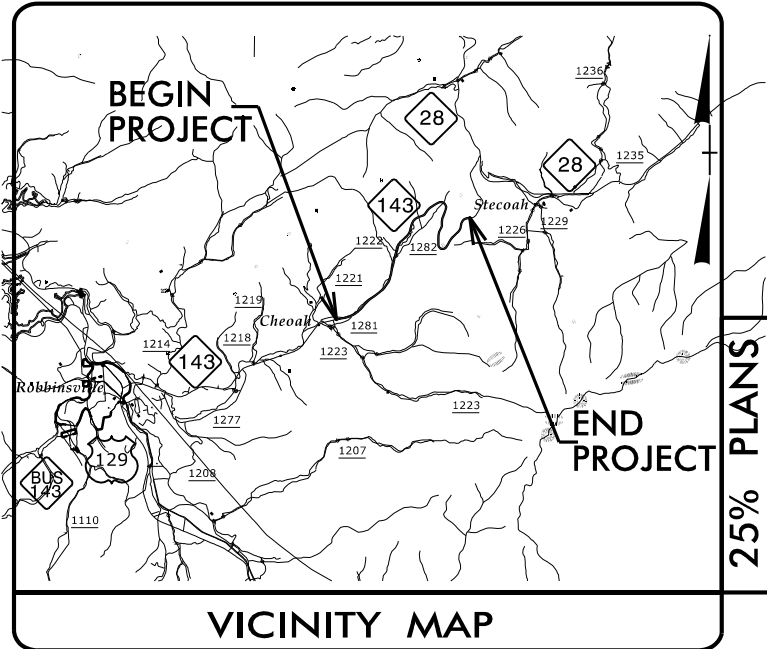


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\$\$\$USERNAME\$\$\$

CONTRACT: TIP PROJECT: A-0009CB

CONTRACT: TIP PROJECT: A-0009CB

See Sheet 1A For Index of Sheets



VICINITY MAP

25% PLANS

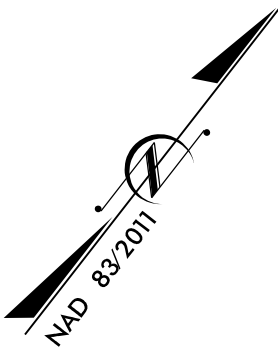
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GRAHAM COUNTY

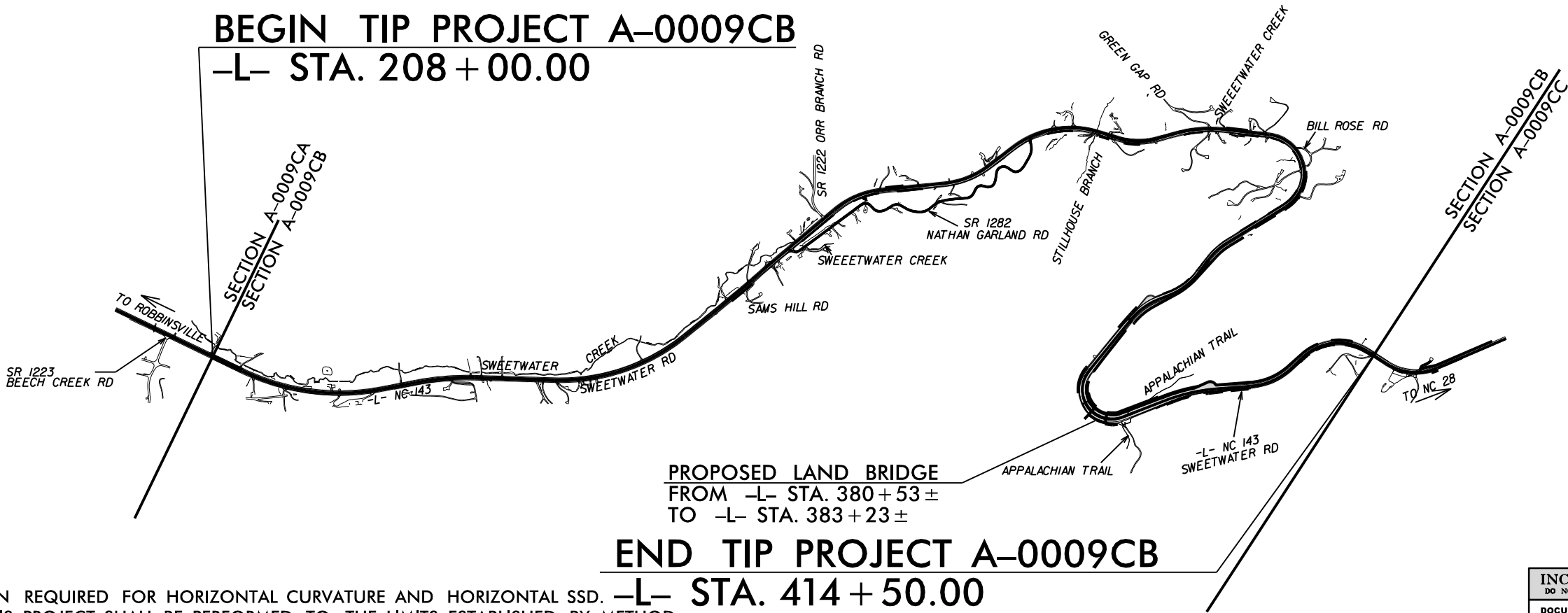
LOCATION: UPGRADE NC 143 FROM SR 1223 (BEECH CREEK RD) TO 0.5 MILES NORTH OF APPALACHIAN TRAIL

TYPE OF WORK: GRADING, PAVING, DRAINAGE, CULVERTS, RETAINING WALLS, AND LAND BRIDGE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	A-0009CB	3A	68
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
32572.1.FS10	APD-0074(178)	PE	
32572.2.13	APD-0074(178)	ROW, UTIL.	
32572.3.13	APD-0074(178)	CONST.	



BEGIN TIP PROJECT A-0009CB
-L- STA. 208 + 00.00



PROPOSED LAND BRIDGE
FROM -L- STA. 380 + 53 ±
TO -L- STA. 383 + 23 ±

END TIP PROJECT A-0009CB
-L- STA. 414 + 50.00

DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVATURE AND HORIZONTAL SSD. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD _____. THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

GRAPHIC SCALES



DESIGN DATA

ADT 2019 = 6300
ADT 2045 = 8800
K = 11 %
D = 57.5 %
T = 7 % *
V = 60 MPH
* TTST = 2% DUAL = 5%
FUNC CLASS =
RURAL ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT A-0009CB = 3.911 MILES
TOTAL LENGTH TIP PROJECT A-0009CB = 3.911 MILES

NCDOT CONTACT: WANDA H. AUSTIN, PE

PLANS PREPARED BY:	PLANS PREPARED FOR:
TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 14 252 Webster Rd Sylva, NC 28779

RIGHT OF WAY DATE:
SEPTEMBER 2021

LETTING DATE:
SEPTEMBER 20, 2022

2018 STANDARD SPECIFICATIONS

JIMMY L. TERRY, PE
PROJECT ENGINEER

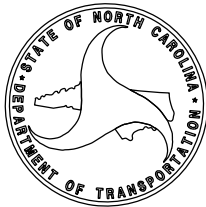
AUSTIN TURNER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN
ENGINEER

SIGNATURE: _____ P.E.

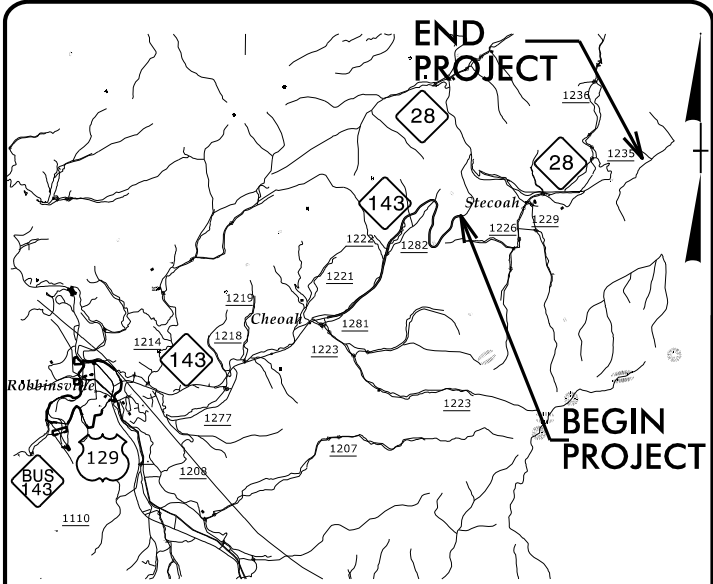


03-MAY-2022 15:48
C:\Users\mbrewer\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\CADD_GEOTECH\PlanProj\A-0009C_CEO_PD\LrDy_tsh.dgn
\$\$\$\$\$SERNAME\$\$\$\$\$

TIP PROJECT: A-0009CC

CONTRACT:

See Sheet 1A For Index of Sheets



VICINITY MAP

3R GUIDELINES WERE USED FROM
-L- 414+50 TO -L- STA 474+20
AND FROM -Y2- 12+60± TO 23+00±
TO MINIMIZE IMPACTS TO USFD PROPERTY
AND NATURAL RESOURCES.

BEGIN TIP PROJECT A-0009CC
-L- STA. 414 + 50.00

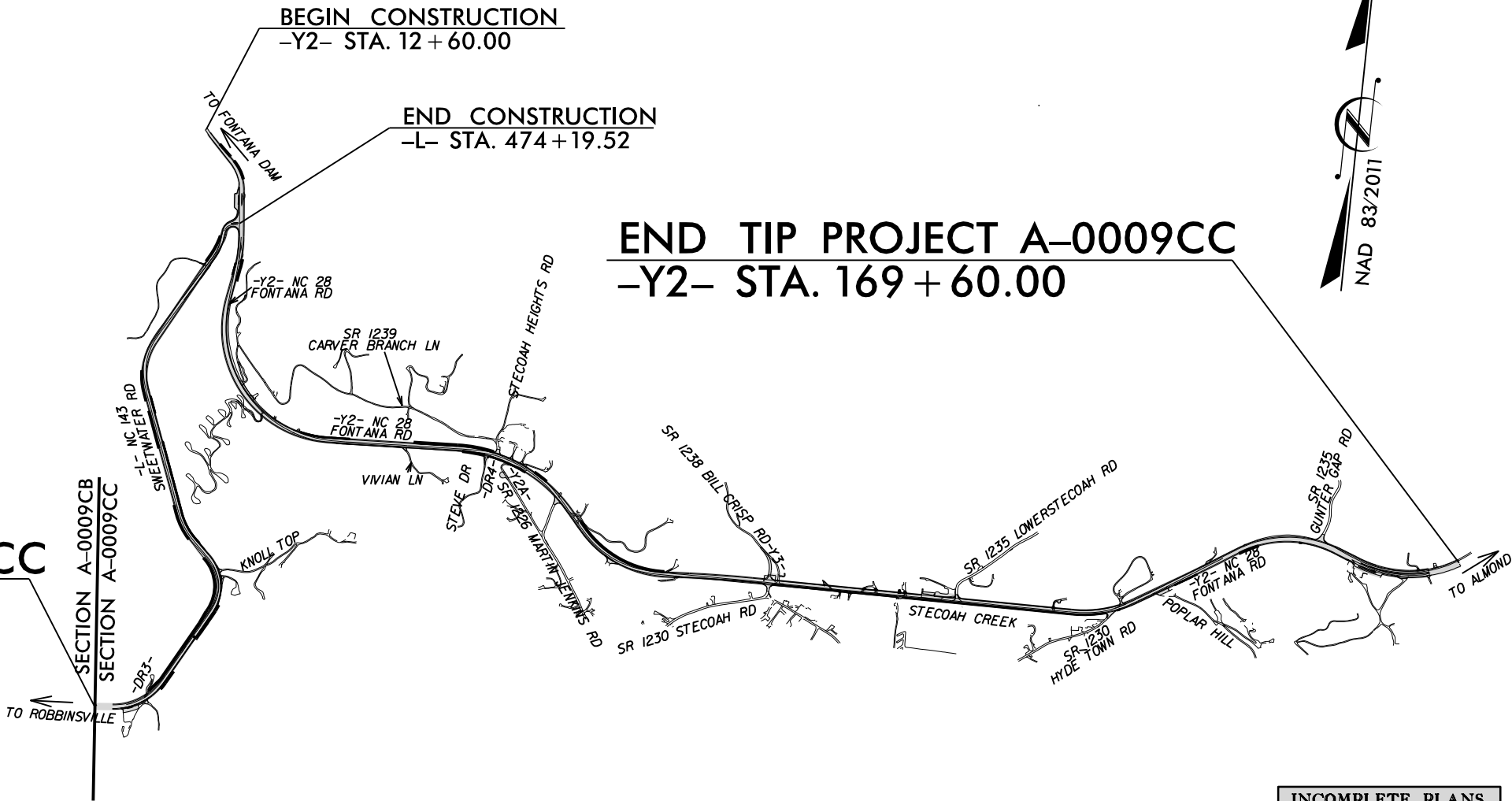
25% PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GRAHAM COUNTY

LOCATION: UPGRADE NC 143 FROM 0.5 MILES NORTH OF APPALACHIAN TRAIL TO NC 28
UPGRADE NC 28 FROM 0.2 MILES WEST OF NC 143 TO 0.3 MILES EAST
OF SR 1235 (GUNTERS GAP RD)

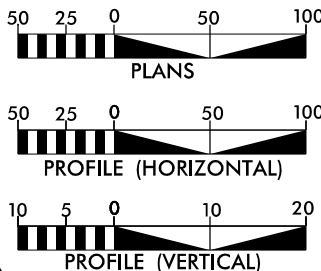
TYPE OF WORK: GRADING, PAVING, DRAINAGE, CULVERTS, CURB AND GUTTER, & RETAINING WALLS



DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVATURE AND HORIZONTAL SSD.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ____.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

GRAPHIC SCALES



-L- DESIGN DATA

ADT 2022 = 6590
ADT 2045 = 8800
K = 11 %
D = 57.5 %
T = 7 % *
V = 60 MPH
* TTST = 2% DUAL = 5%
FUNC CLASS =
RURAL ARTERIAL
REGIONAL TIER

-Y2- DESIGN DATA

ADT 2022 = 3800
ADT 2045 = 5200
K = 11 %
D = 67.5 %
T = 7 % *
V = 50 MPH
* TTST = 2% DUAL = 5%
FUNC CLASS =
RURAL ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP
PROJECT A-0009CC
-L- = 1.131 MILES
-Y2- = 2.973 MILES
TOTAL LENGTH TIP
PROJECT A-0009CC = 4.104 MILES

NCDOT CONTACT: WANDA H. AUSTIN, PE

PLANS PREPARED BY:
TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO. C-0275

RIGHT OF WAY DATE:
SEPTEMBER 2021

LETTING DATE:
OCTOBER 18, 2022

2018 STANDARD SPECIFICATIONS

PLANS PREPARED FOR:
NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION 14
252 Webster Rd
Sylvan, NC 28779

JIMMY L. TERRY, PE
PROJECT ENGINEER

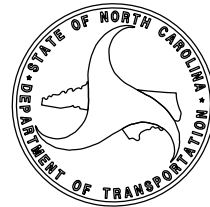
AUSTIN TURNER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN
ENGINEER

SIGNATURE: _____ P.E.





NC GRID
NAD 83 NA 2011

-Y1- Sta. 35+96 LT LN		-Y1- Sta. 35+96 LTL (LT)	
8.0 FT RT FW		4.5 FT RT FY	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	4.75 in	ASPHALT	5.50 in
STBC	12.25 in	STBC	12.50 in

-L- Sta. 11+25 RTL (LT)		-L- Sta. 11+25 CTL	
1.5 FT LT C&G EOP		5.7 FT RT FY	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	3.50 in	ASPHALT	4.75 in
ABC	12.50 in	STBC	10.25 in

-L- Sta. 11+25 LT LN/LTL (LT)	
3.0 FT RT FY	
PAVEMENT SECTION	
ASPHALT	4.75 in
ABC	10.25 in

-Y1- Sta. 33+44 LTL (RT)		-Y1- Sta. 33+44 RT LN/RTL	
5.0 FT RT FY		2.0 FT LT EOP	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	7.50 in	ASPHALT	5.50 in
STBC	9.50 in	STBC	10.50 in

NC GRID
NAD 83 NA 2011

-L- Sta. 25+69 RT LN/RTL		-L- Sta. 25+69 LTL (RT)	
2.0 FT LT FW		5.0 FT RT FY	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	3.75 in	ASPHALT	6.00 in
ABC	3.00 in	ABC	3.00 in
STBC	6.25 in	STBC	6.00 in

-L- Sta. 28+16 LTL (LT)		-L- Sta. 28+16 LT LN	
4.3 FT RT FY		5.5 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	5.00 in	ASPHALT	6.50 in
STBC	12.00 in	STBC	8.50 in

NC GRID
NAD 83 NA 2011

-L- Sta. 45+24 RT LN/RTL 2.0 FT LT FW		-L- Sta. 45+24 RT PS 0.2 FT RT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	8.00 in	ASPHALT	8.25 in
STBC	8.00 in	STBC	8.75 in



-L- PT 63+18.65

-L- Sta. 64+87 LT LN	
6.3 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.50 in
STBC	8.50 in

-L-65+00
L_6487_LT LN

-L- POT 66+11.28 =
-Y6-POT 13+03.70

Bulk-1





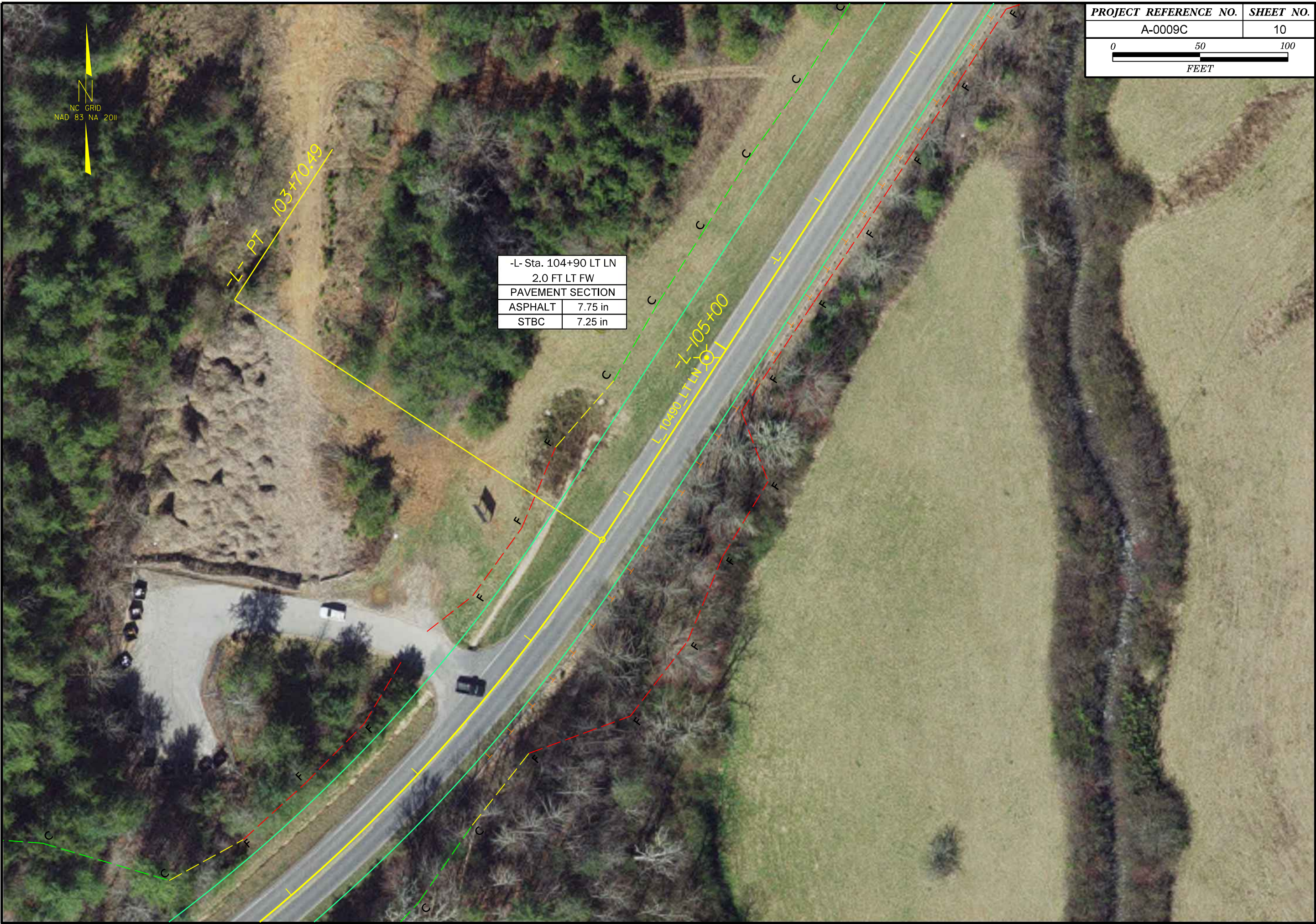
-L- Sta. 84+57 RT LN	
2.3 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.50 in
STBC	8.50 in





PROJECT REFERENCE NO.	SHEET NO.
A-0009C	10
050100 FEET	

-L- Sta. 104+90 LT LN	
2.0 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.75 in
STBC	7.25 in





PROJECT REFERENCE NO.	SHEET NO.
A-0009C	11
050100 FEET	

-L- Sta. 125+06 RT LN	
2.0 FT LT FW	
PAVEMENT SECTION	
ASPHALT	8.00 in
STBC	9.00 in

-L- PT 121+27.59

NC GRID
NAD 83 NA 2011

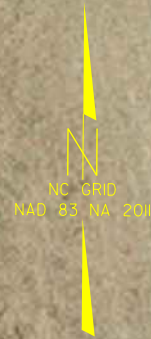
-L- Sta. 145+07 LT LN	
2.0 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.00 in
STBC	10.00 in

-L-145+00
L_14507_LT LN

-L-142+00



-L- Sta. 159+83 RT LN	
2.0 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.00 in
STBC	11.00 in



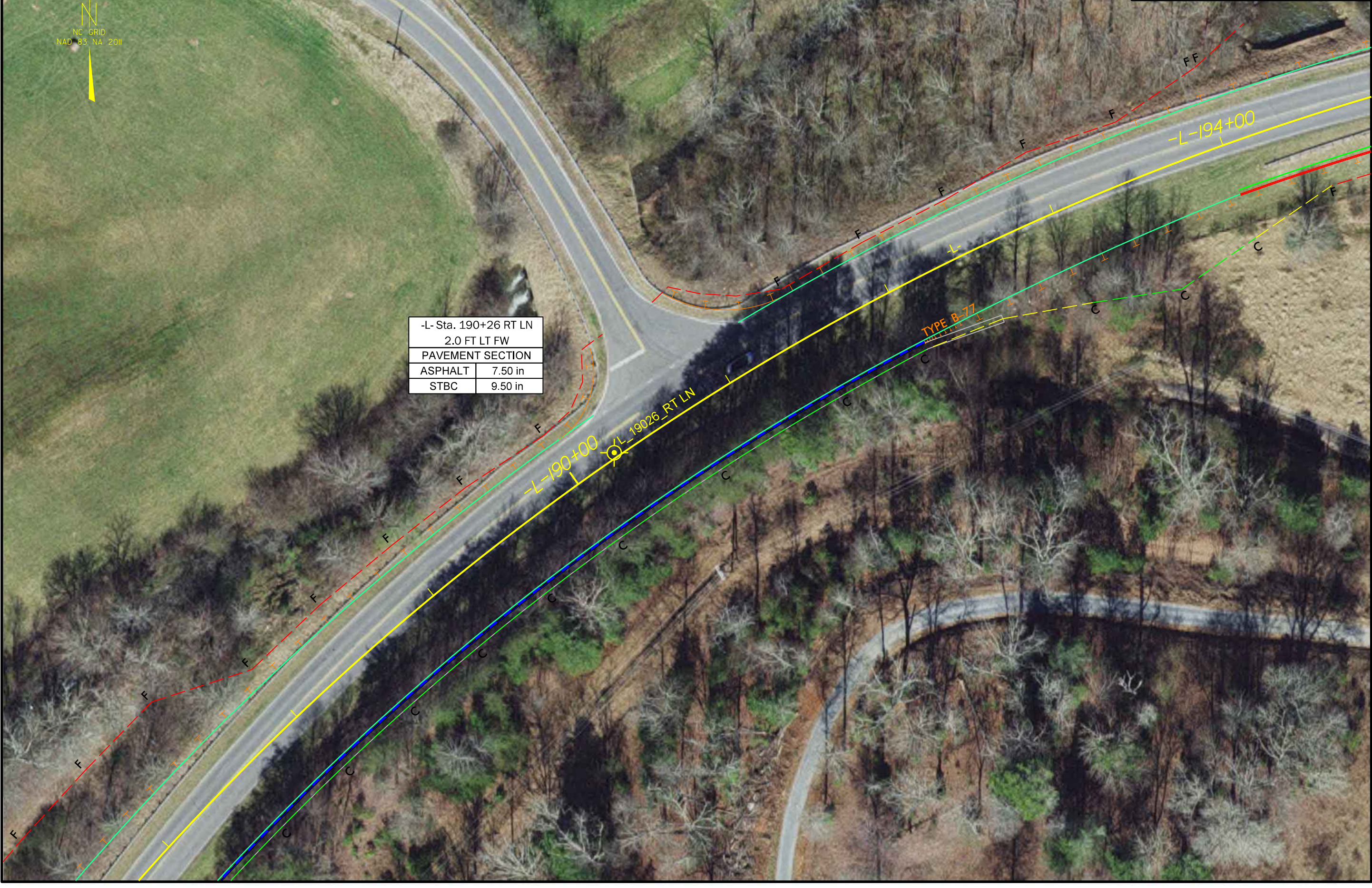
PROJECT REFERENCE NO.	SHEET NO.
A-0009C	14
0 50 100 FEET	

-L- Sta. 173+11 LT PS 1.7 FT RT FW		-L- Sta. 173+11 LT LN 2.3 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	4.50 in	ASPHALT	7.50 in
STBC	12.00 in	STBC	9.50 in





-L- Sta. 190+26 RT LN	
2.0 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.50 in
STBC	9.50 in



NC GRID
NAD 83 NA 2011

-L- Sta. 204+46 LT LN	
2.3 FT LT FW	
PAVEMENT SECTION	
ASPHALT	8.50 in
STBC	8.50 in

END SECTION A-0009C
END SECTION A-0009C
BEGIN SECTION A-0009C
AT
STATION 208+00





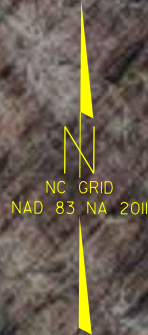
PROJECT REFERENCE NO.	SHEET NO.
A-0009C	17
0 50 100 FEET	



NC GRID
NAD 83 NA 2011

-L- Sta. 245+17 LT LN	
2.4 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.75 in
STBC	10.25 in





PROJECT REFERENCE NO.	SHEET NO.
A-0009C	19
050100 FEET	

-L- PC 266+64.11

-L- Sta. 264+94 RT LN	
1.5 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.50 in
STBC	9.50 in

-L- 265+00

-L- 268+00

7.47



-L- Sta. 284+98 LT LN	
1.8 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.25 in
STBC	9.75 in

-L- 285+00

L 284+98 LT LN

-L- PC 284+59.20



PROJECT REFERENCE NO.	SHEET NO.
A-0009C	21
050100 FEET	

-L- PT 302+92.61

-L- 305+00

-L- PC 306+20.9

-L- Sta. 304+62 RT PS	
2.4 FT RT FW	
PAVEMENT SECTION	
ASPHALT	7.75 in
STBC	10.25 in



NO. 0000
NAD 83 N. 200

-L- Sta. 324+92 LT LN	
2.0 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.50 in
STBC	9.50 in

-L- PT 322+92.43

-L- PC 325+32.88

Bulk-4

TYPE 4-77

NC GRID
NAD 83 NA 2011

Bulk-5

-L-340+00

-L- PC 335+70.20

TYPE B-11

-L- Sta. 344+21 RT LN	
2.2 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.25 in
STBC	9.75 in

L 34421 RT LN



-L- Sta. 365+20 RT PS 2.0 FT RT FW		-L- Sta. 365+20 RT LN 2.5 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	10.50 in	ASPHALT	11.50 in
STBC	9.50 in	STBC	7.50 in





-L- Sta. 385+02 LT PS 6.0 FT RT FW		-L- Sta. 385+02 LT LN 1.5 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	4.25 in	ASPHALT	8.50 in
STBC	5.75 in	STBC	7.50 in

NC GRID
NAD 83 NA 2011

-L- Sta. 406+18 RT LN		-L- Sta. 406+18 RT PS	
1.4 FT LT FW		1.0 FT RT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	7.75 in	ASPHALT	5.25 in
STBC	8.25 in	STBC	7.75 in

END SECTION A-0009CB
BEGIN SECTION A-0009CC
AT -L- STATION 414+50



PROJECT REFERENCE NO.	SHEET NO.
A-0009C	27
0 50 100 FEET	

-L- Sta. 425+03 LT LN	
1.5 FT LT FW	
PAVEMENT SECTION	
ASPHALT	10.00 in
STBC	10.00 in



TYPE B-77

-L-452+00

-L-450+00

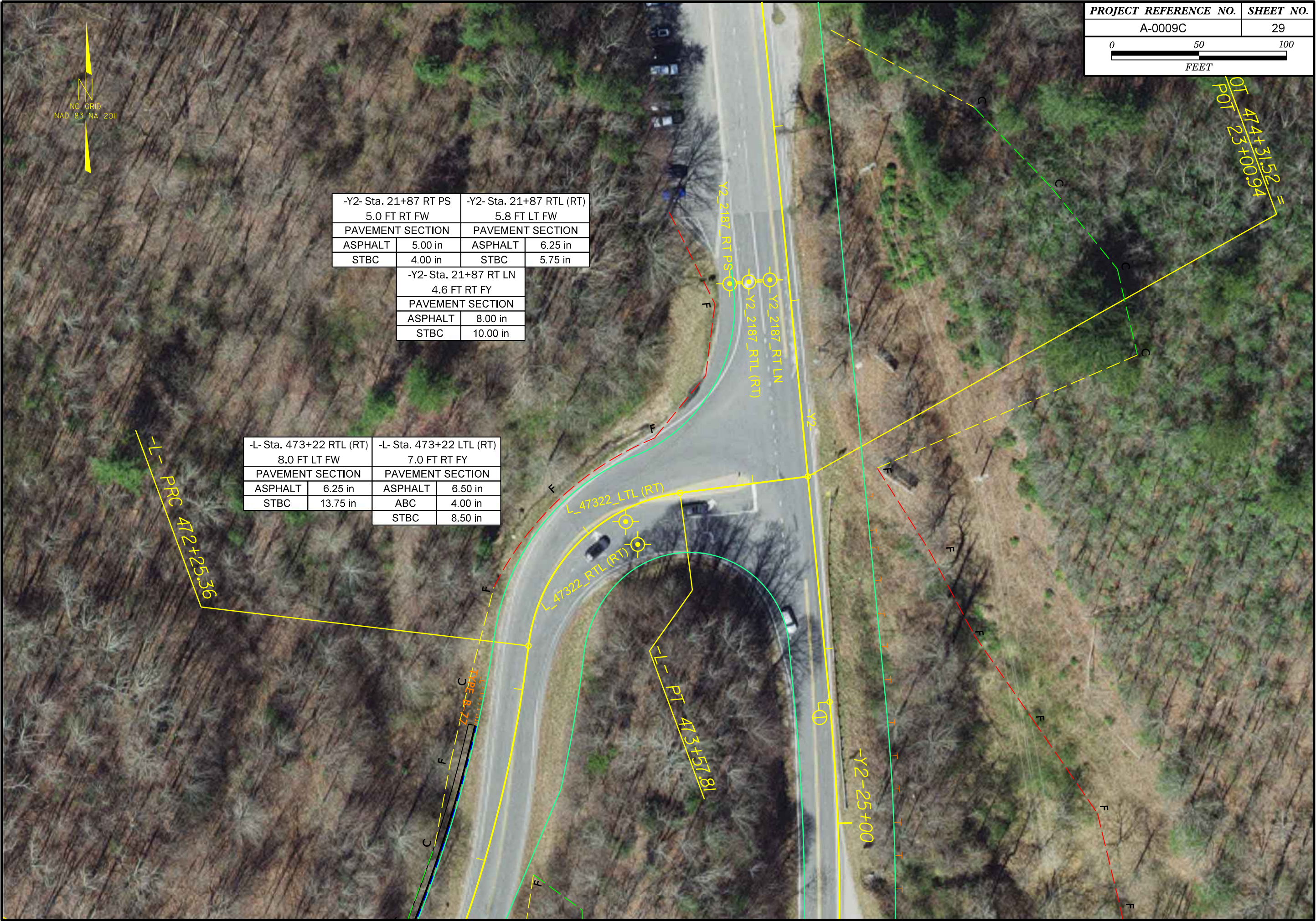
-L-44982-RT LN

-L- Sta. 449+82 RT LN	
1.5 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.75 in
STBC	10.00 in



-Y2- Sta. 21+87 RT PS		-Y2- Sta. 21+87 RTL (RT)	
5.0 FT RT FW		5.8 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	5.00 in	ASPHALT	6.25 in
STBC	4.00 in	STBC	5.75 in
-Y2- Sta. 21+87 RT LN			
4.6 FT RT FY			
PAVEMENT SECTION			
ASPHALT	8.00 in		
STBC	10.00 in		

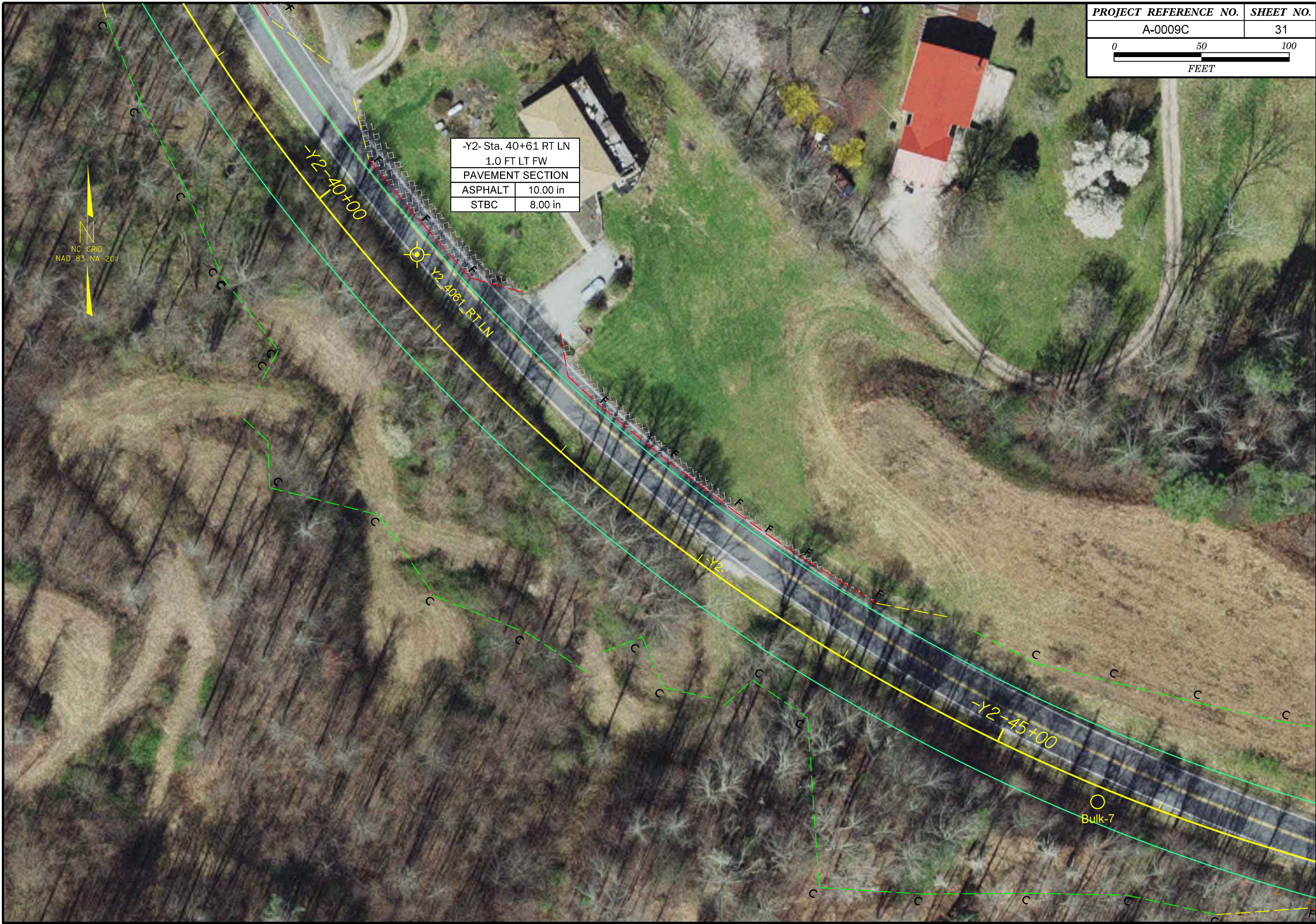
-L- Sta. 473+22 RTL (RT)		-L- Sta. 473+22 LTL (RT)	
8.0 FT LT FW		7.0 FT RT FY	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	6.25 in	ASPHALT	6.50 in
STBC	13.75 in	ABC	4.00 in
		STBC	8.50 in

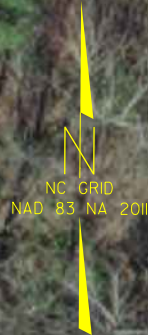






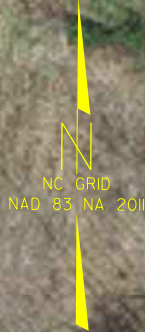
-Y2- Sta. 40+61 RT LN	
1.0 FT LT FW	
PAVEMENT SECTION	
ASPHALT	10.00 in
STBC	8.00 in



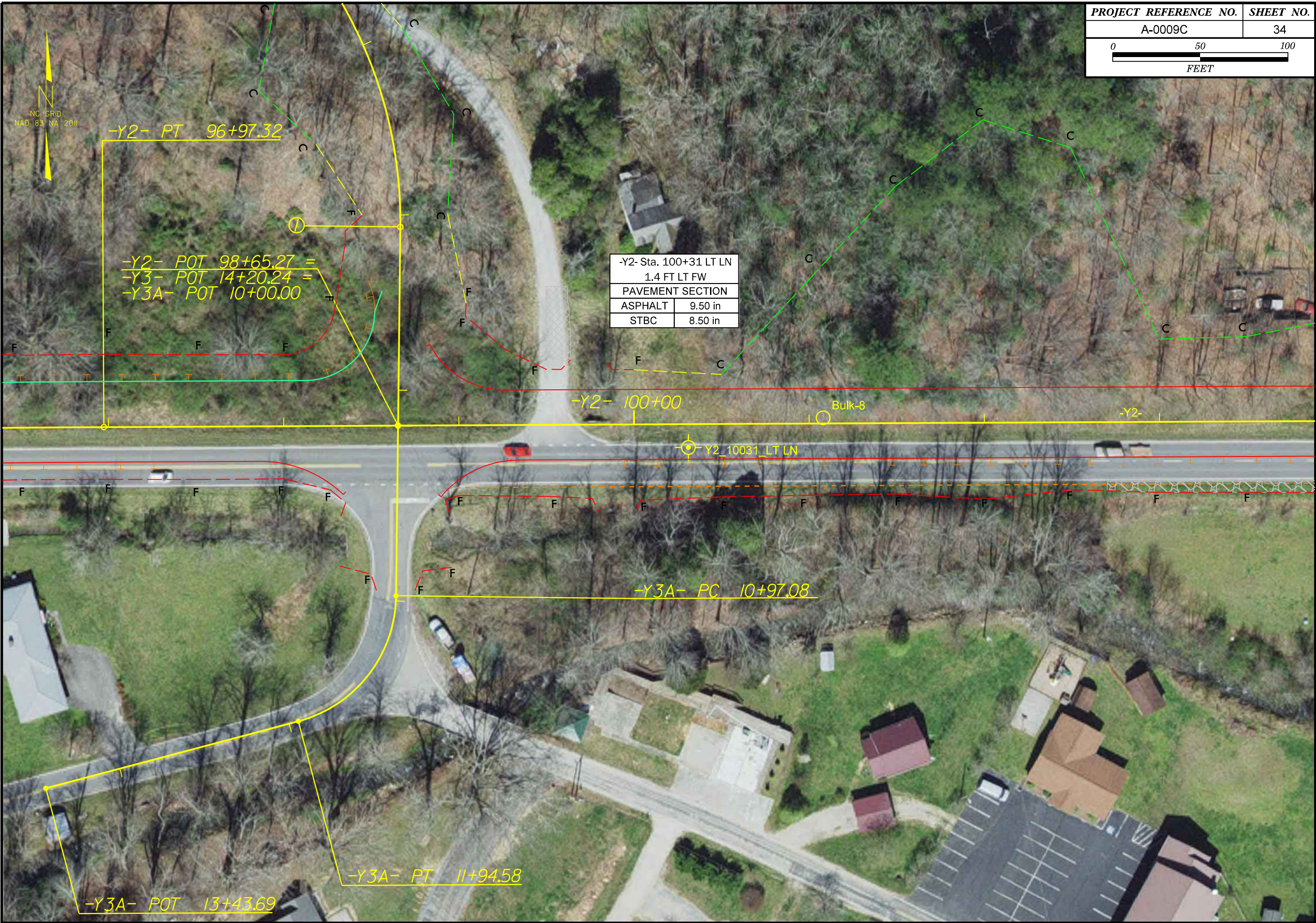


-Y2- Sta. 60+51 LT LN	
1.4 FT LT FW	
PAVEMENT SECTION	
ASPHALT	10.50 in
STBC	9.00 in





-Y2- Sta. 79+85 RT LN	
0.6 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.75 in
STBC	8.25 in



NC GRID
NAD 83 NA 2011

-Y2-120+00

-Y2-123+00

Y2_11968_RT LN

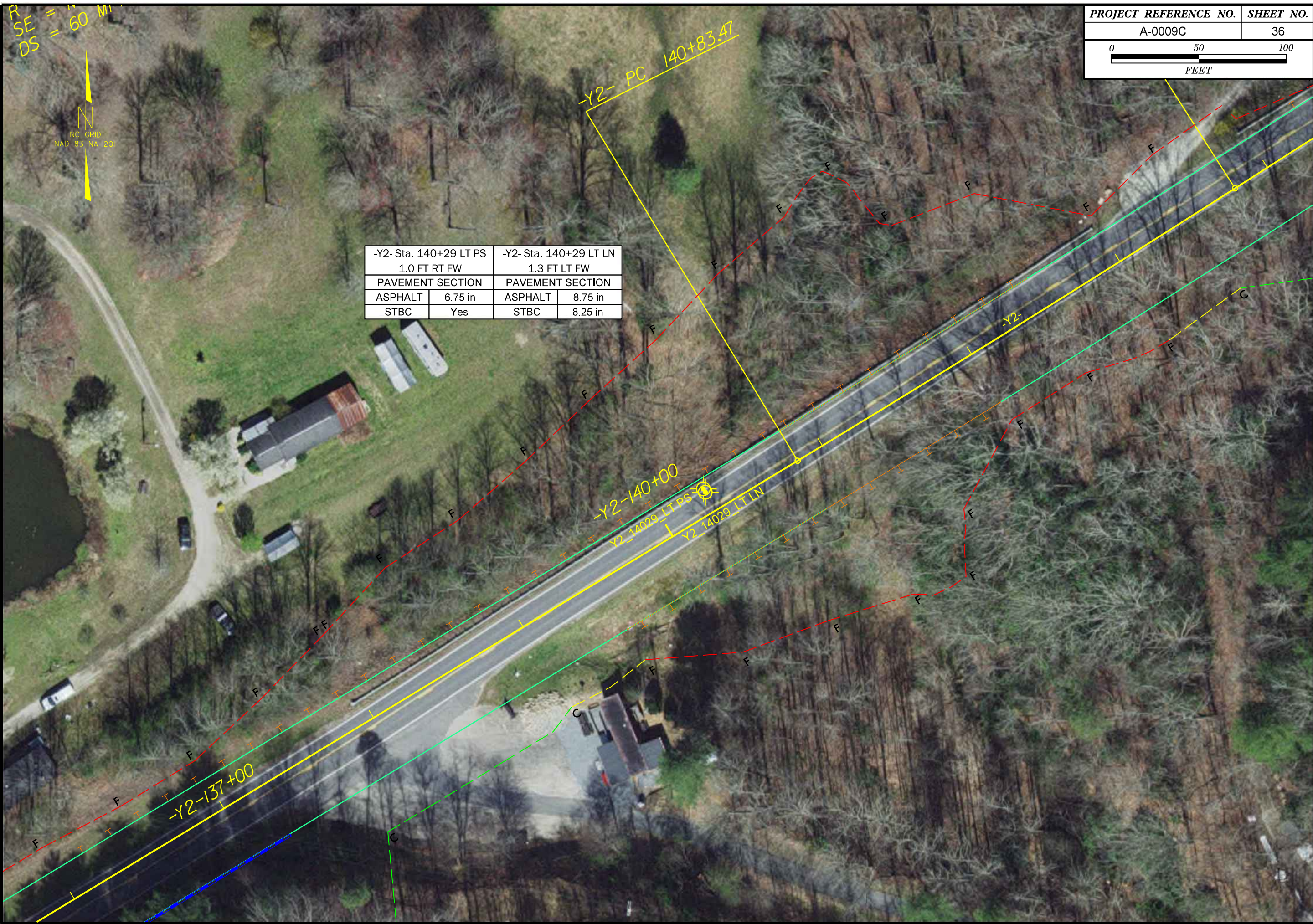
-Y2- Sta. 119+68 RT LN	
1.8 FT LT FW	
PAVEMENT SECTION	
ASPHALT	10.00 in
STBC	10.00 in

R
SE = 11
DS = 60 MI

N
NC GRID
NAD 83 NA 2011

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	36
0 50 100 FEET	

-Y2- Sta. 140+29 LT PS 1.0 FT RT FW		-Y2- Sta. 140+29 LT LN 1.3 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	6.75 in	ASPHALT	8.75 in
STBC	Yes	STBC	8.25 in

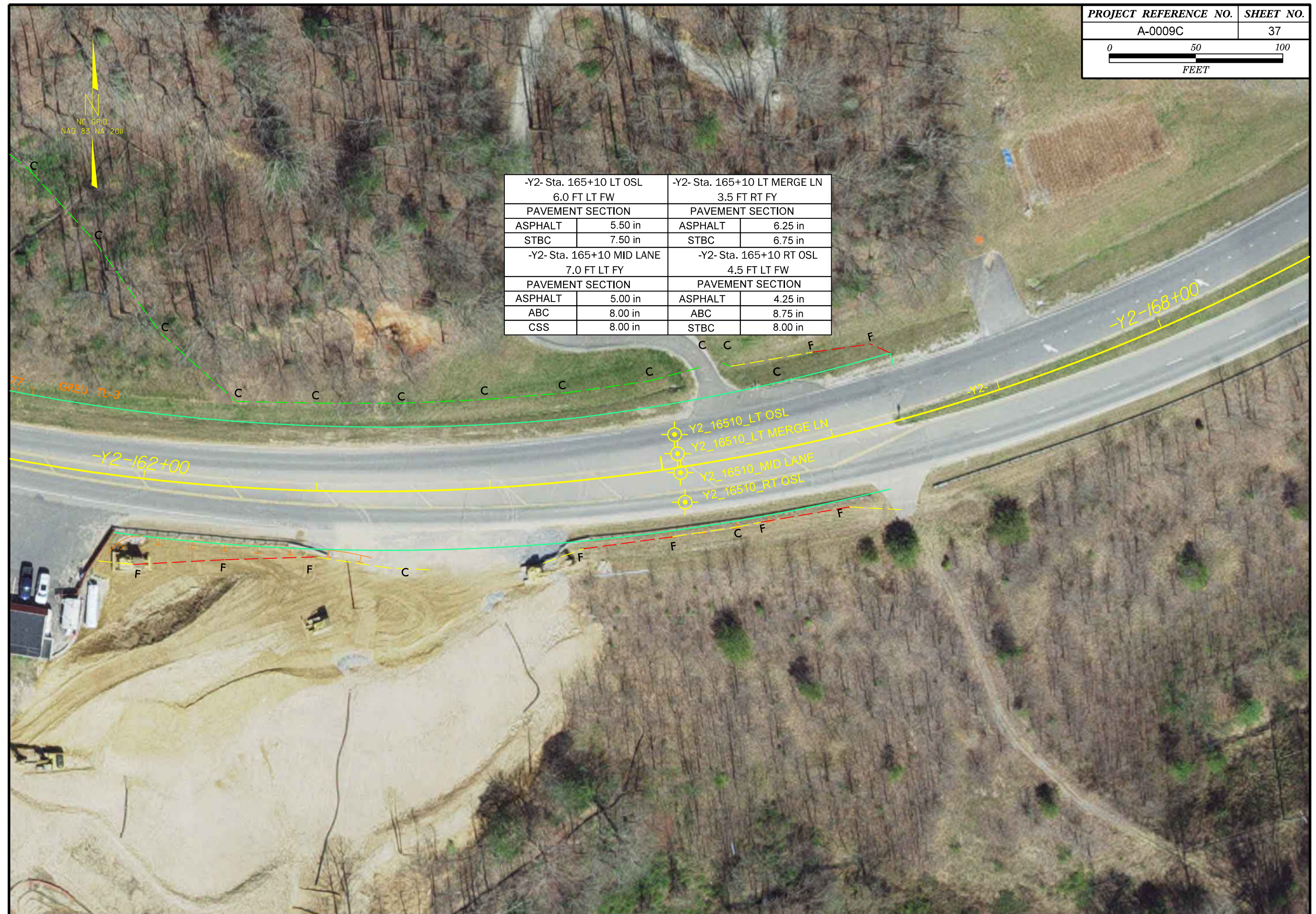


PROJECT REFERENCE NO.	SHEET NO.
A-0009C	37

0 50 100

FEET

-Y2- Sta. 165+10 LT OSL 6.0 FT LT FW		-Y2- Sta. 165+10 LT MERGE LN 3.5 FT RT FY	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	5.50 in	ASPHALT	6.25 in
STBC	7.50 in	STBC	6.75 in
-Y2- Sta. 165+10 MID LANE 7.0 FT LT FY		-Y2- Sta. 165+10 RT OSL 4.5 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	5.00 in	ASPHALT	4.25 in
ABC	8.00 in	ABC	8.75 in
CSS	8.00 in	STBC	8.00 in



PAVEMENT INVESTIGATION DATA SHEET

Project:	32572.1.FS10
TIP:	A-0009C

Route:	Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah
County:	Graham

Date Performed:	12/27/21, 12/28/21, 1/04/22, 1/13/22
Field Personnel:	M. Brewer, R. Kral, L. Ard

		Width (ft)		(ft)		Thickness (in)						Subgrade							GPS Coordinates	
Test Location	Cut/Fill (Est. of Amount) (ft)	Lane	Shoulder	Offset Distance (See Notes)	Crown "Cr" or Super "S"	Gross to Top of Soil	Asphalt	ABC	STBC	Chemical Stabilized Subgrade (CSS)	Pavement Layering	Description (Depth - ft)	Soil Sample Number	AASHTO Classification	Soil Moisture	Boring Depth (ft)	Asphalt Notes	Northing	Easting	
Y1_2706_LT LN/RTL (LT) -Y1- 27+06 LT LN/RTL (LT)	At Grade	11.0	Concrete Curb & Gutter	2.0 LT EOP	Cr.	14.00	6.00		8.00		Asphalt STBC SG	1.2-5.0: RE - Gray-Brown, Fine to Coarse Sandy SILT	Ref-59	A-4	M	5	Moderate Severity Fatigue Cracking (OSWP), High Severity Longitudinal and Transervse Cracking 0.5-inch rutting, 2-Inch Top-Down Crack in Core	606,771	567,949	
Y1_2706_CTL/LTL -Y1- 27+06 CTL/LTL	At Grade	11.0	-	5.0 RT FY	Cr.	14.00	6.75		7.25		Asphalt STBC SG	1.2-5.0: RE - Gray-Brown, Fine to Coarse Sandy SILT	Ref-59	A-4	M	5	Moderate Severity Fatigue Cracking (OSWP), 0.5-inch rutting	606,767	567,965	
Y1_3344_RT LN/RTL -Y1- 33+44 RT LN/RTL	At Grade	11.0	-	2.0 LT EOP	Cr.	16.00	5.50		10.50		Asphalt STBC SG	1.4-5.0: RE - Gray-Brown, Fine to Coarse Sandy SILT	Ref-59	A-4	M	5	Moderate Severity Fatigue Cracking (OSWP), 0.5-inch rutting	607,389	568,119	
Y1_3344_LTL (RT) -Y1- 33+44 LTL (RT)	At Grade	10.0	-	5.0 RT FY	Cr.	17.00	7.50		9.50		Asphalt STBC SG	1.4-5.0: RE - Gray-Brown, Fine to Coarse Sandy SILT	Ref-59	A-4	M	5	Moderate Severity Fatigue Cracking (OSWP), 0.5-inch rutting	607,389	568,105	
Y1_3596_LT LN -Y1- 35+96 LT LT LN	Fill 5.0	11.0	Concrete Curb & Gutter	8.0 RT FW	Cr.	17.00	4.75	12.25			Asphalt ABC SG	1.4-5.0: RE - Brown, Fine to Coarse Sandy SILT	S-59	A-4(0)	M	5	Low to Moderate Severity Transverse and Longitudinal Cracking	607,637	568,070	
Y1_3596_LTL (LT) -Y1- 35+96 LTL (LT)	Fill 5.0	11.0	-	4.5 RT FY	Cr.	18.00	5.50		12.50		Asphalt STBC SG	1.5-5.0 : RE - Brown, Fine to Coarse Sandy SILT	Ref-59	A-4	M	5	Low to Moderate Severity Transverse and Longitudinal Cracking	607,640	568,084	
L_1125_CTL -L- 11+25 CTL	Fill 5.0	12.0	-	5.7 RT FY	Cr.	15.00	4.75		10.25		Asphalt STBC SG	1.3-5.0: RE - Brown, Fine to Coarse Sandy SILT, trace gravel	S-8	A-4(0)	M	5	0.5-inch rutting (OSWP/ISWP), Low to Moderate Transverse and Block Cracking, Low Severity Longitudinal Cracking (ISWP), Full-Depth Top-Down Crack in Core	607,565	568,209	
L_1125_LT LN/LTL (LT) -L- 11+25 LT LN/LTL (LT)	Fill 5.0	12.5	-	3.0 RT FY	Cr.	15.00	4.75		10.25		Asphalt STBC SG	1.3-5.0: RE - Brown-Orange, Fine to Coarse Sandy SILT	Ref-8	A-4	M	5	0.5-inch rutting (OSWP/ISWP), Low to Moderate Transverse and Block Cracking, Low Severity Longitudinal Cracking (ISWP)	607,573	568,204	
L_1125_RTL (LT) -L- 11+25 RTL (LT)	Fill 5.0	12.5	Concrete Curb & Gutter	1.5 LT C&G EOP	Cr.	16.00	3.50	12.50			Asphalt ABC SG	1.3-5.0: RE - Red, Silty, Fine to Coarse Sandy CLAY	S-10	A-6(7)	M	5	0.5-inch rutting (OSWP/ISWP), Low to Moderate Transverse and Block Cracking, Low Severity Longitudinal Cracking (ISWP)	607,591	568,192	
L_2569_LTL (RT) -L- 25+69 LTL (RT)	At Grade	12.0	-	5.0 RT FY	Cr.	15.00	6.00	3.00	6.00		Asphalt ABC/STBC SG	1.3-5.0: RE - Brown, Fine to Coarse Sandy SILT, trace gravel	S-11	A-4(0)	M	5	Low to Moderate Severity Longitudinal, Transverse, and Fatigue Cracking (ISWP/OSWP)	607,913	569,551	
L_2569_RT LN/RTL -L- 25+69 RT LN/RTL	At Grade	11.0	1.0 PS	2.0 LT FW	Cr.	13.00	3.75	3.00	6.25		Asphalt ABC/STBC SG	1.1-5.0: RE - Red-Orange, Silty, Fine to Coarse Sandy CLAY	Ref-13	A-6	M	5	High Severity Longitudinal, Transverse, and Fatigue Cracking (OSWP), 0.5 to 1.0-inch rutting	607,897	569,545	
L_2816_LT LN -L- 28+16 LT LN	At Grade	11.5	1.5 PS	5.5 LT FW	Cr.	15.00	6.50		8.50		Asphalt STBC SG	1.3-5.0: RE - Red, Silty, Fine to Coarse Sandy CLAY	S-13	A-6(6)	M	5	High Severity Longitudinal and Fatigue Cracking (OSWP/ISWP), High Severity Transverse Cracking, Raveling, Very High Distress Area, Full-Depth Bottom-Up Crack in Core	607,839	569,787	
L_2816_LTL (LT) -L- 28+16 LTL (LT)	At Grade	11.0	-	4.3 RT FY	Cr.	17.00	5.00		12.00		Asphalt STBC SG	1.4-5.0: RE - Gray-Brown-Orange, Silty, Fine to Coarse Sandy CLAY	Ref-13	A-6	M	5	Moderate to High Severity Longitudinal Cracking (ISWP/OSWP), Low Severity Transverse Cracking, Moderate Severity Fatigue Cracking	607,827	569,782	
L_4524_RT LN/RTL -L- 45+24 RT LN/RTL	Fill 10.0	11.0	1.0 PS	2.0 LT FW	Cr.	16.00	8.00		8.00		Asphalt STBC SG	1.3-5.0: RE - Brown, Fine to Coarse Sandy SILT	S-15	A-4(0)	M	5	Low to Moderate Severity Longitudinal and Transverse Cracking (ISWP)	607,231	571,383	
L_4524_RT PS -L- 45+24 RT PS	Fill 10.0	11.0	1.0 PS	0.2 RT FW	Cr.	17.00	8.25		8.75		Asphalt STBC SG	1.4-5.0: RE - Brown, Fine to Coarse Sandy SILT	Ref-15	A-4	M	5	Low to Moderate Severity Longitudinal and Transverse Cracking (ISWP)	607,229	571,382	

Notes:

Offset Distance: Left and Right Relative to the Direction of Travel

Prepared by: CTW
Reviewed by: REK

PAVEMENT INVESTIGATION DATA SHEET

Project:	32572.1.FS10
TIP:	A-0009C

Route:	Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah
County:	Graham

Date Performed:	12/27/21, 12/28/21, 1/04/22, 1/13/22
Field Personnel:	M. Brewer, R. Kral, L. Ard

		Width (ft)		(ft)		Thickness (in)						Subgrade							GPS Coordinates	
Test Location	Cut/Fill (Est. of Amount) (ft)	Lane	Shoulder	Offset Distance (See Notes)	Crown "Cr" or Super "S"	Gross to Top of Soil	Asphalt	ABC	STBC	Chemical Stabilized Subgrade (CSS)	Pavement Layering	Description (Depth - ft)	Soil Sample Number	AASHTO Classification	Soil Moisture	Boring Depth (ft)	Asphalt Notes	Northing	Easting	
L_6487_LT LN -L- 64+87 LT LN	Fill 20.0	11.5	0.5 PS	6.3 LT FW	Cr.	16.00	7.50		8.50		Asphalt STBC SG	1.3-5.0: RE - Brown-Gray, Fine to Coarse Sandy SILT, trace gravel	S-17	A-4(0)	M	5	Low Severity Transverse and Longitudinal Cracking (ISWP)	607,057	573,237	
L_8457_RT LN -L- 84+57 RT LN	Cut 20.0	12.0	0.5 PS	2.3 LT FW	Cr.	16.00	7.50		8.50		Asphalt STBC SG	1.3-5.0: RES - Brown-Red, Fine to Coarse Sandy SILT	Ref-21	A-4	M	5	Low to Moderate Transverse and Longitudinal Cracking (OSWP/ISWP), Edge Cracking at Shoulder	607,600	575,059	
L_10490_LT LN -L- 104+90 LT LN	Fill 25.0	11.0	0.3 PS	2.0 LT FW	Cr.	15.00	7.75		7.25		Asphalt STBC SG	1.3-5.0: RE - Brown-Gray, Fine to Coarse Sandy SILT	S-19	A-4(0)	M	5	Moderate to High Severity Longitudinal Cracking (ISWP/OSWP), Moderate Severity Transverse and Fatigue Cracking	608,015	576,874	
L_12506_RT LN -L- 125+06 RT LN	Fill 3.0	12.0	0.5 PS	2.0 LT FW	Cr.	17.00	8.00		9.00		Asphalt STBC SG	1.4-3.0: RE - Red, Clayey, Fine to Coarse Sandy SILT 3.0-5.0: RES - Brown, Fine to Coarse Sandy SILT	S-20 Ref-21	A-4(3) A-4	M M	5	Low Severity Longitudinal (OSWP/ISWP), Low to Moderate Transverse Cracking	609,321	578,301	
L_14507_LT LN -L- 145+07 LT LN	Fill 5.0	11.0	1.0 PS	2.0 LT FW	Cr.	17.00	7.00		10.00		Asphalt STBC SG	1.4-5.0: RE - Brown, Fine to Coarse Sandy SILT	S-21	A-4(0)	M	5	Moderate to High Severity Longitudinal (ISWP), Low to Moderate Transverse Cracking, Low Severity Longitudinal Cracking (OSWP)	609,956	580,198	
L_15983_RT LN -L- 159+83 RT LN	Fill 7.0	12.0	0.5 PS	2.0 LT FW	Cr.	18.00	7.00		11.00		Asphalt STBC SG	1.5-5.0: RE - Brown, Fine to Coarse Sandy SILT, trace gravel	Ref-21	A-4	M	5	Moderate to High Severity Longitudinal (ISWP), Low to Moderate Transverse Cracking, Low Severity Longitudinal Cracking (OSWP), 1-Inch Top-Down Crack in Core	610,395	581,608	
L_17311_LT PS -L- 173+11 LT PS	Fill 20.0	11.5	7.0 PS Concrete Gutter	1.7 RT FW	Cr.	16.50	4.50		12.00		Asphalt STBC SG	1.4-5.0: RE, Brown-Tan-Orange, Fine to Coarse Sandy SILT	Ref-25	A-4	M	5	No Observed Distress	611,226	582,615	
L_17311_LT LN -L- 173+11 LT LN	Fill 20.0	11.5	7.0 PS Concrete Gutter	2.3 LT FW	Cr.	17.00	7.50		9.50		Asphalt STBC SG	1.4-5.0: RE - Tan-Orange, Fine to Coarse Sandy SILT	S-25	A-4(0)	M	5	Moderate to High Severity Longitudinal Cracking (ISWP/OSWP), Moderate Severity Transverse Cracking, patch observed	611,224	582,618	
L_19026_RT LN -L- 190+26 RT LN	Cut 20.0	12.0	0.5 PS	2.0 LT FW	Cr.	17.00	7.50		9.50		Asphalt STBC SG	1.4-5.0: RES - Brown, Fine to Coarse Sandy SILT	S-26	A-4(0)	M	5	Moderate Severity Longitudinal Cracking (OSWP), Low Severity Tranverse Cracking	612,560	583,683	
L_20446_LT LN -L- 204+46 LT LN	Fill 7.0	10.5	1.0 PS	2.3 LT FW	Cr.	17.00	8.50		8.50		Asphalt STBC SG	1.4-3.0: RE - Brown, Fine to Coarse Sandy SILT 3.0: RE - Boulder Fill, Auger Refusal	S-27	A-4(0)	M	3 AR	High Severity Longitudinal Cracking (ISWP/OSWP), Moderate Severity Block and Transverse Cracking, 1-Inch Top-Down Crack In Core	612,972	585,033	
L_22517_RT LN -L- 225+17 RT LN	At Grade	10.5	1.0 PS	2.3 LT FW	Cr.	19.00	8.75		10.25		Asphalt STBC SG	1.6-5.0: RES - Tan, Fine to Coarse Sandy SILT	Ref-31	A-4	M	5	Moderate Severity Longitudinal Cracking (ISWP/OSWP), Moderate Severity Transverse Cracking Cracking Patched, 1.25-Inch Bottom-Up Crack In Core	613,726	586,930	
L_24517_LT LN -L- 245+17 LT LN	Fill 4.0	11.0	1.0 PS	2.4 LT FW	Cr.	18.00	7.75		10.25		Asphalt STBC SG	1.5-4.0: RE - Tan-Brown, Fine to Coarse Sandy SILT 4.0-5.0: RES - Tan, Fine to Coarse Sandy SILT	S-29 Ref-31	A-4(0) A-4	M M	5	Moderate Severity Longitudinal Cracking (ISWP/OSWP), Moderate Severity Transverse Cracking, Cracking Sealed	615,076	588,395	
L_26494_RT LN -L- 264+94 RT LN	Fill 6.0	11.5	1.0 PS	1.5 LT FW	Cr.	17.00	7.50		9.50		Asphalt STBC SG	1.4-5.0: RE - Tan-Gray-Orange, Fine to Coarse Sandy SILT	Ref-29	A-4	M	5	Low (OSWP) to Moderate (ISWP) Severity Longitudinal Cracking, Low Severity Transverse Cracking	616,677	589,445	
L_28498_LT LN -L- 284+98 LT LN	Cut 30.0	11.5	0.5 PS	1.8 LT FW	Cr.	17.00	7.25		9.75		Asphalt STBC SG	1.4-5.0: RES - Tan-Orange, Fine to Coarse Sandy SILT	S-31	A-4(0)	M	5	High Severity Longitudinal Cracking (OSWP), Low Severity Longitudinal Cracking (ISWP) Low Severity Transverse Cracking	618,635	589,871	
L_30462_RT PS -L- 304+62 RT PS	Fill 4.0	12.0	5.5 PS Concrete Curb	2.4 RT FW	Cr.	18.00	7.75		10.25		Asphalt STBC SG	1.5-4.0: RE - Tan-Brown, Fine to Coarse Sandy SILT 4.0-5.0: RES - Tan-Orange, Fine to Coarse Sandy SILT	Ref-29 Ref-31	A-4 A-4	M M	5	Moderate Severity Longitudinal Cracking (ISWP/OSWP), Moderate Severity Transverse Cracking, patched	620,213	590,974	

Notes:

Offset Distance: Left and Right Relative to the Direction of Travel

Prepared by:

CTW

Reviewed by:

REK

PAVEMENT INVESTIGATION DATA SHEET

Project:	32572.1.FS10
TIP:	A-0009C

Route:	Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah
County:	Graham

Date Performed:	12/27/21, 12/28/21, 1/04/22, 1/13/22
Field Personnel:	M. Brewer, R. Kral, L. Ard

		Width (ft)		(ft)		Thickness (in)						Subgrade							GPS Coordinates	
Test Location	Cut/Fill (Est. of Amount) (ft)	Lane	Shoulder	Offset Distance (See Notes)	Crown "Cr" or Super "S"	Gross to Top of Soil	Asphalt	ABC	STBC	Chemical Stabilized Subgrade (CSS)	Pavement Layering	Description (Depth - ft)	Soil Sample Number	AASHTO Classification	Soil Moisture	Boring Depth (ft)	Asphalt Notes	Northing	Easting	
L_32492_LT LN -L- 324+92 LT LN	Fill 6.0	11.5	1.0 PS	2.0 LT FW	Cr.	17.00	7.50		9.50		Asphalt STBC SG	1.4-5.0: RE - Tan-Gray-Orange, Fine to Coarse Sandy SILT	S-33	A-4(0)	M	5	Moderate Severity Longitudinal Cracking (ISWP/OSWP), Low Severity Transverse Cracking	621,605	592,299	
L_34421_RT LN -L- 344+21 RT LN	Fill 10.0	12.5	3.5 PS	2.2 LT FW	S	17.00	7.25		9.75		Asphalt STBC SG	1.4-3.5: RE - Brown, Fine to Coarse Sandy SILT 3.5: RE - Boulder Fill, Auger Refusal	Ref-33	A-4	M	3.5 AR	High Severity Fatigue Cracking (ISWP), 1.25-inch Bottom-Up Crack in Core	621,944	593,778	
L_36520_RT LN -L- 365+20 RT LN	Cut 10.0	11.5	4.5 PS	2.5 LT FW	S	19.00	11.50		7.50		Asphalt STBC SG	1.6-5.0: RES - Tan, Fine Sandy SILT	S-35	A-4(2)	M	5	Moderate to High Severity Fatigue Cracking (ISWP/OSWP), Moderate Severity Longitudinal Cracking	619,967	593,243	
L_36520_RT PS -L- 365+20 RT PS	Cut 10.0	11.5	4.5 PS	2.0 RT FW	S	20.00	10.50		9.50		Asphalt STBC SG	1.7-5.0: RES - Tan, Fine Sandy SILT	Ref-35	A-4	M	5	Moderate to High Severity Fatigue Cracking (ISWP/OSWP), Moderate Severity Longitudinal Cracking	619,969	593,239	
L_38502_LT PS -L- 385+02 LT PS	Cut 40.0	-	10.5 PS	6.0 RT FW	Cr.	10.00	4.25		5.75		Asphalt STBC SG	0.8-5.0: RES - Tan, Fine to Coarse Sandy SILT, trace gravel	Ref-38	A-4	M	5	Moderate Severity Block Cracking, Low Severity Longitudinal Cracking	618,825	593,850	
L_38502_LT LN -L- 385+02 LT LN	Cut 40.0	12.0	-	1.5 LT FW	Cr.	16.00	8.50		7.50		Asphalt STBC SG	1.3-4.0: RES - Brown, Fine to Coarse Sandy SILT, trace gravel 4.0-5.0:WR - (Meta-Sandstone)	S-38	A-4(0) WR	M	5	Moderate to High Severity Fatigue Cracking (OSWP/ISWP), Moderate Severity Transverse Cracking	618,821	593,857	
L_40618_RT LN -L- 406+18 RT LN	Fill 20.0	12.5	4.5 PS Concrete Curb	1.4 LT FW	S	16.00	7.75		8.25		Asphalt STBC SG	1.3-5.0: RE - Brown, Fine to Coarse Sandy SILT, trave gravel	Ref-40	A-4	M	5	High Severity Edge Cracking (OSWP), Low Severity Longitudinal Cracking (ISWP) Moderate to High Severity Longitudinal Cracking (OSWP), Low Severity Transverse Cracking	620,549	594,998	
L_40618_RT PS -L- 406+18 RT PS	Fill 20.0	12.5	4.5 PS Concrete Curb	1.0 RT FW	S	13.00	5.25		7.75		Asphalt STBC SG	1.1-5.0: RE - Brown, Fine to Coarse Sandy SILT, trace gravel	S-40	A-4(0)	M	5	High Severity Edge Cracking (OSWP), Low Severity Longitudinal Cracking (ISWP) Moderate to High Severity Longitudinal Cracking (OSWP), Low Severity Transverse Cracking	620,548	595,000	
L_42503_LT LN -L- 425+03 LT LN	Cut 60.0	11.5	1.0 PS	1.5 LT FW	Cr.	20.00	10.00		10.00		Asphalt STBC SG	1.7-3.0: RES - Brown, Fine to Coarse Sandy SILT 3.0-5.0: WR - (Meta-Sandstone)	S-41 NSR	A-4(0) WR	M	5	No Observed Distress, Recent Overlay (Landslide)	621,607	596,368	
L_44982_RT LN -L- 449+82 RT LN	Cut 30.0	12.0	1.0 PS	1.5 LT FW	Cr.	17.75	7.75		10.00		Asphalt STBC SG	1.5-5.0: RES - Brown, Fine to Coarse Sandy SILT	Ref-41	A-4	M	5	High Severity Fatigue Cracking (OSWP), Moderate Severity Edge Cracking, Low Severity Longitudinal Cracking (ISWP)	623,791	595,946	
L_47322_RTL (RT) -L- 473+22 RTL(RT)	Cut 20.0	14.0	-	7.0 RT FY	S	20.00	6.25		13.75		Asphalt STBC SG	1.7-5.0: RES - Tan, Fine to Coarse Sandy SILT, trace gravel	S-43	A-4(0)	M	5	Low to Moderate Severity Transverse and Longitudinal Cracking (ISWP)	625,922	596,429	
L_47322_LTL (RT) -L- 473+22 LTL(RT)	Cut 20.0	15.5	1.0 PS	8.0 LT FW	S	19.00	6.50	4.00	8.50		Asphalt ABC/STBC SG	1.6-5.0: RES - Tan, Fine to Coarse Sandy SILT	Ref-43	A-4	M	5	Moderate Severity Transverse and Longitudinal Cracking (ISWP)	625,908	596,434	
Y2_2187_RT LN -Y2- 21+87 RT LN	Fill 4.0	11.0	-	4.6 RT FY	Cr.	18.00	8.00		10.00		Asphalt STBC SG	1.5-4.0 : RE - Tan, Fine to Coarse Sandy SILT 4.0-5.0: RES - Tan, Fine to Coarse Sandy SILT	Ref-46 Ref-47	A-4 A-4	M M	5	No Observed Distress (RTLN), Low Severity Longitudinal Cracking (ISWP/OSWP/LTLN)	626,059	596,509	
Y2_2187_RTL (RT) -Y2- 21+87 RTL(RT)	Fill 3.0	12.0	-	5.8 LT FW	Cr.	12.00	6.25		5.75		Asphalt STBC SG	1.0-3.0: RE - Tan, Fine to Coarse Sandy SILT 3.0-5.0: RES - Tan, Fine to Coarse Sandy SILT	S-46 Ref-47	A-4(0) A-4	M M	5	Low Severity Longitudinal Cracking (ISWP)	626,058	596,497	
Y2_2187_RT PS -Y2- 21+87 RT PS	Cut 20.0	-	11.5 PS	5.0 RT FW	Cr.	9.00	5.00		4.00		Asphalt STBC SG	0.8-5.0: RES - Tan, Fine to Coarse Sandy SILT	S-47	A-4(1)	M	5	Moderate Severity Edge Cracking at RT LN/PS, Low Severity Tranverse Cracking	626,057	596,486	

Notes:

Offset Distance: Left and Right Relative to the Direction of Travel

Prepared by:

CTW

Reviewed by:

REK

PAVEMENT INVESTIGATION DATA SHEET

Project:	32572.1.FS10
TIP:	A-0009C

Route:	Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah
County:	Graham

Date Performed:	12/27/21, 12/28/21, 1/04/22, 1/13/22
Field Personnel:	M. Brewer, R. Kral, L. Ard

		Width (ft)		(ft)		Thickness (in)						Subgrade							GPS Coordinates	
Test Location	Cut/Fill (Est. of Amount) (ft)	Lane	Shoulder	Offset Distance (See Notes)	Crown "Cr" or Super "S"	Gross to Top of Soil	Asphalt	ABC	STBC	Chemical Stabilized Subgrade (CSS)	Pavement Layering	Description (Depth - ft)	Soil Sample Number	AASHTO Classification	Soil Moisture	Boring Depth (ft)	Asphalt Notes	Northing	Easting	
Y2_4061_RT LN -Y2- 40+61 RT LN	Cut 15.0	10.5	1.0 PS	1.0 LT FW		18.00	10.00		8.00		Asphalt STBC SG	1.5-5.0: RES - Tan, Fine to Coarse Sandy SILT	S-48	A-4(1)	M	5	No Observed Distress, 1.0-inch Bottom-Up Crack in Core	624,278	596,760	
Y2_6051_LT LN -Y2- 60+51 LT LN	Fill 30.0	11.0	1.0 PS	1.4 LT FW	Cr.	19.50	10.50		9.00		Asphalt Concrete STBC/SG	1.6-5.0: RE - Brown-Tan-Red, Fine to Coarse Sandy SILT, trace gravel	Ref-50	A-4	M	5	No Observed Distress	623,931	598,626	
Y2_7985_RT LN -Y2- 79+85 RT LN	Fill 15.0	10.5	0.5 PS	0.6 LT FW	S	16.00	7.75		8.25		Asphalt STBC SG	1.3-5.0: RE - Brown-Tan, Fine to Coarse Sandy SILT	S-50	A-4(0)	M	5	No Observed Distress	623,173	600,284	
Y2_10031_LT LN -Y2- 100+31 IT LN	Fill 5.0	10.0	0.5 PS	1.4 LT FW	Cr.	18.00	9.50		8.50		Asphalt STBC SG	1.5-5.0: RE - Red-Brown, Fine to Coarse Sandy SILT	S-51	A-4(0)	M	5	Low Severity Longitudinal Cracking (ISWP)	622,944	602,278	
Y2_11968_RT LN -Y2- 119+68 RT LN	Fill 15.0	11.0	1.0 PS	1.8 LT FW	Cr.	20.00	10.00		10.00		Asphalt STBC SG	1.7-5.0: RE - Tan-Brown, Fine to Coarse Sandy SILT, trace gravel	Ref-50	A-4	M	5	Low Severity Longitudinal Cracking (OSWP), Low Severity Transverse Cracking	622,940	604,216	
Y2_14029_LT PS -Y2- 140+29 LT PS	Fill 30.0	10.0	2.0 PS	1.0 RT FW	Cr.	6.75	6.75		Yes		Asphalt STBC SG	Utility Present, Auger not performed	-	-	-	-	No Observed Distress	623,423	606,163	
Y2_14029_LT LN -Y2- 140+29 LT LN	Fill 30.0	10.0	2.0 PS	1.3 LT FW	Cr.	17.00	8.75		8.25		Asphalt STBC SG	1.4-5.0: RE - Tan-Brown, Fine to Coarse Sandy SILT	S-54	A-4(0)	M	5	No Observed Distress	623,421	606,164	
Y2_16510_LT OSL -Y2- 165+10 LT OSL	At Grade	11.5	1.5 PS	6.0 LT FW	S	13.00	5.50		7.50		Asphalt STBC SG	1.1-5.0: RES - Brown-Tan, Fine to Coarse Sandy SILT, trace gravel	S-55	A-4(0)	M	5	Moderate Severity Longitudinal Cracking (ISWP)	623,721	608,482	
Y2_16510_LT MERGE LN -Y2- 165+10 LT MERGE LN	Fill 5.0	9.0	-	3.5 RT FY	S	13.00	6.25		6.75		Asphalt STBC SG	1.1-5.0: RE - Red-Brown, Fine to Coarse Sandy SILT, trace gravel	Ref-57	A-4	M	5	No Observed Distress	623,710	608,484	
Y2_16510_MID LANE -Y2- 165+10 MID LANE	Fill 10.0	17.5	-	7.0 LT FY	S	21.00	5.00	8.00		8.00	Asphalt ABC CSS/SG	1.8-5.0: RE - Red, Fine to Coarse Sandy SILT, trace gravel	S-57	A-4(0)	M	5	No Observed Distress	623,699	608,485	
Y2_16510_RT OSL -Y2- 165+10 RT OSL	Fill 10.0	12.0	1.0 PS	4.5 LT FW	S	21.00	4.25	8.75		8.00	Asphalt ABC CSS/SG	1.8-5.0: RE - Red, Fine to Coarse Sandy SILT, trace gravel	Ref-57	A-4	M	5	Low Severity Longitudinal Cracking (OSWP)	623,682	608,488	

Notes:

Offset Distance: Left and Right Relative to the Direction of Travel

Prepared by:

CTW

Reviewed by:

REK

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET								WBS NO.	PROJECT TIP I.D.	ROUTE							
								32573.1.FS10	A-0009C	Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah							
								COUNTY	FIELD PROFESSIONAL	FIELD CREW							
								Graham	M. Brewer	L. Ard/R. Kral							
Test Location								Date Run	Test Location						Date Run		
-Y1- Sta. 27+06 LT LN/RTL (LT) 2.0 FT LT EOP								12/27/21 to 1/13/22	-Y1- Sta. 27+06 CTL/LTL 5.0 FT RT FY						12/27/21 to 1/13/22		
Type	Test Interval			Datum				Cut/Fill	Type	Test Interval			Datum				Cut/Fill
DCP	Cumulative cm per blow			STBC				At Grade	DCP	Cumulative cm per blow			STBC				At Grade
0.60	42.30	94.50							0.50	15.00	37.10	79.60					
0.90	43.00	95.10							0.90	15.30	37.60	80.60					
1.60	43.60	95.70							1.40	15.40	38.50	81.00					
2.10	45.00	96.20							1.50	15.50	39.20	81.40					
2.50	45.70	96.80							1.60	16.00	39.70	81.80					
3.00	46.90	97.10							1.70	16.40	40.50	82.00					
3.40	47.60	97.40							2.10	16.70	41.10	82.50					
4.00	48.60	98.00							2.40	16.80	41.90	82.90					
4.20	49.90	98.50							2.50	16.90	42.50	83.40					
4.90	51.00	99.00							2.60	17.00	43.20	83.60					
5.10	52.00	99.40							2.70	17.60	44.20	83.90					
5.50	53.20	100.00							2.80	17.70	44.60	84.20					
6.40	54.50	100.20							2.90	18.40	45.60	84.50					
6.80	55.50	100.50							3.00	18.50	46.90	85.20					
7.20	56.40	100.70							3.10	18.90	47.10	85.30					
7.70	57.10	101.20							3.30	19.10	48.20	85.60					
8.00	57.80	101.50							3.50	19.30	49.20	86.10					
8.60	58.50	101.90							3.70	19.50	50.00	86.50					
9.30	59.40	102.40							3.90	19.70	50.80	87.50					
9.70	59.90	102.90							4.10	19.90	51.20	88.10					
10.50	60.40	103.50							4.50	20.10	51.50	89.00					
10.90	61.50	103.90							4.90	20.30	52.10	89.30					
11.20	61.70	104.00							5.30	20.50	52.50	89.60					
11.90	63.90	104.40							5.70	20.70	52.90	90.40					
12.50	64.90	104.70							6.10	20.90	53.40	91.10					
12.90	66.40	104.90							6.23	21.16	53.60	91.60					
14.20	67.60	105.10							6.37	21.42	54.10	92.40					
14.60	68.90	105.90							6.50	21.68	54.90	92.60					
15.10	69.90	106.80							6.63	21.94	55.10	93.00					
15.90	70.40	107.50							6.77	22.20	55.90	93.50					
16.10	71.40	107.70							6.90	22.62	56.70	94.20					
17.10	72.00								7.06	23.04	57.60	94.50					
17.50	72.50								7.22	23.46	58.20	95.20					
17.90	73.00								7.38	23.88	58.80	95.50					
18.40	74.00								7.54	24.30	59.40	96.60					
19.40	74.80								7.70	24.58	59.70	96.90					
20.10	75.10								7.96	24.86	60.60	97.40					
20.60	76.50								8.22	25.14	61.50	97.50					
21.40	77.10								8.48	25.42	62.40	98.00					
22.00	77.90								8.74	25.70	62.60	98.40					
22.90	78.40								9.00	26.20	63.90	98.50					
23.50	78.70								9.18	26.70	64.90	99.00					
24.40	79.30								9.36	27.20	65.70	99.50					
25.90	80.20								9.54	27.70	66.60	100.10					
26.70	81.20								9.72	28.20	67.40	100.50					
28.00	81.60								9.90	28.34	68.40	101.10					
29.10	82.20								10.10	28.48	69.10	101.40					
29.70	82.80								10.30	28.62	69.70	102.00					
31.00	83.40								10.50	28.76	70.10	102.40					
31.90	84.00								10.70	28.90	71.30	103.00					
32.90	84.40								10.90	29.24	71.80	103.10					
33.50	84.90								11.08	29.58	72.20	104.00					
34.20	85.10								11.26	29.92	73.20	104.10					
35.20	85.60								11.44	30.26	74.00	104.60					
35.50	86.50								11.62	30.60	74.50						
35.60	87.50								11.80	31.00	74.90						
35.90	88.20								12.06	31.90	75.20						
36.40	89.50								12.32	32.20	75.60						
36.80	90.60								12.58	33.10	76.10						
37.50	91.10								12.84	33.20	76.50						
38.00	91.90								13.10	33.80	76.90						
38.80	92.40								13.48	34.40	77.40						
39.90	92.80								13.86	35.40	77.90						
40.50	93.50								14.24	35.50	78.40						
41.40	94.00								14.62	36.10	78.90						

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET								WBS NO.		PROJECT TIP I.D.				ROUTE			
								32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
								COUNTY		FIELD PROFESSIONAL				FIELD CREW			
								Graham		M. Brewer				L. Ard/R. Kral			
Test Location								Date Run		Test Location						Date Run	
-Y1- Sta. 33+44 RT LN/RTL 2.0 FT LT EOP								12/27/21 to 1/13/22		-Y1-33+44 Sta. LTL (RT) 5.0 FT RT FY						12/27/21 to 1/13/22	
Type	Test Interval			Datum			Cut/Fill		Type	Test Interval			Datum			Cut/Fill	
DCP	Cumulative cm per blow			STBC			At Grade		DCP	Cumulative cm per blow			STBC			At Grade	
0.60	36.90	102.10							0.40								
1.40	37.60	102.50							1.00								
1.60	39.10	102.90							1.60								
1.70	39.60	103.00							2.00								
2.10	40.10	103.10							2.30								
2.50	41.60	103.40							2.60								
3.00	42.30	103.45							3.00								
3.10	43.10	103.50							3.40								
3.50	43.90	103.55							4.00								
3.90	44.60	103.60							4.60								
4.10	45.10	103.65							5.00								
4.40	46.40	103.70							5.70								
5.00	46.90	103.75							6.10								
5.20	47.60	103.80							6.50								
5.50	48.40	103.85							7.30								
5.60	48.90	103.90							7.90								
5.90	49.40	103.97							8.40								
6.10	49.80	104.04							9.50								
6.40	51.00	104.11							10.00								
7.20	51.80	104.17							10.60								
7.50	52.50	104.24							11.00								
7.80	53.90	104.31							11.50								
8.10	55.20	104.38							11.90								
8.90	55.90	104.45							12.40								
9.10	56.90	104.52							13.40								
9.60	57.90	104.58							13.50								
10.10	59.10	104.65							13.60								
10.40	60.10	104.72							14.40								
10.70	61.00	104.79							15.00								
11.20	62.10	104.86							15.50								
11.90	63.20	104.93							15.60								
12.40	64.40	104.99							16.00								
12.50	65.90	105.06							16.30								
13.10	66.90	105.13							16.40								
13.50	67.50	105.20							DCP REF 50/0.0*								
14.10	68.90	105.25															
15.40	69.90	105.31															
15.60	70.70	105.36															
16.40	72.10	105.41															
17.10	73.00	105.46															
18.10	74.30	105.52															
19.10	75.90	105.57															
19.50	77.10	105.62															
20.60	78.40	105.67															
21.10	79.60	105.73															
21.90	80.90	105.78															
22.90	82.10	105.83															
23.50	83.10	105.88															
24.50	83.90	105.94															
25.10	85.20	105.99															
25.80	86.20	106.04															
26.90	87.20	106.09															
27.60	88.70	106.15															
28.40	89.90	106.20															
29.40	91.20																
30.10	92.10																
30.90	92.70																
31.40	93.20																
32.40	95.50																
32.60	96.50																
32.90	97.90																
33.40	99.20																
33.90	100.50																
35.40	101.20																
36.10	101.90																

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location				Date Run			
-Y1- Sta. 35+96 LT LN 8.0 FT RT FW						12/27/21 to 1/13/22		-Y1- Sta. 35+96 LTL (LT) 4.5 FT RT FY				12/27/21 to 1/13/22			
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			ABC		5.0 ft. Fill		DCP	Cumulative cm per blow			STBC		5.0 ft. Fill	
0.50	19.82	45.30	86.18	123.20				1.00	18.70	32.60	61.20	79.80	116.50		
0.90	20.10	45.50	86.42	123.80				1.50	18.80	33.10	61.60	79.90	117.50		
1.40	20.38	45.60	86.66	124.50				1.90	19.00	33.60	61.90	80.00	118.60		
1.60	20.66	46.40	86.90	125.00				2.10	19.30	33.70	62.30	80.50	119.40		
1.70	20.94	46.50	87.54	125.10				2.50	19.40	34.10	62.40	81.00	119.50		
2.40	21.22	46.90	88.18	126.00				2.90	19.60	34.50	63.20	81.50	120.30		
2.50	21.50	47.50	88.82	126.30				3.30	19.90	34.80	63.30	82.00	120.60		
2.90	21.72	47.90	89.46	127.00				3.60	20.10	35.10	64.40	82.30	121.50		
3.40	21.94	48.10	90.10	127.10				4.00	20.40	35.60	64.90	82.50	121.90		
3.50	22.16	48.50	90.38	127.90				4.50	20.50	36.30	65.30	82.90	122.30		
3.60	22.38	49.00	90.66	128.90				4.90	20.60	36.50	65.70	83.40	123.20		
3.90	22.60	49.50	90.94	129.10				5.10	20.67	37.20	66.00	83.50	124.40		
4.10	22.78	49.80	91.22	129.60				5.60	20.73	37.60	66.30	84.10	125.40		
4.50	22.96	50.10	91.50	130.10				5.90	20.80	38.10	66.60	84.60	126.30		
5.60	23.14	50.40	92.00	130.70				6.20	20.87	38.30	66.70	85.00	127.50		
6.40	23.32	51.10	92.30	130.80				6.40	20.93	38.70	66.80	85.30	128.30		
7.00	23.50	51.40	92.60	131.10				6.56	21.00	39.50	67.00	85.90	128.90		
7.50	23.68	51.90	93.40	131.50				6.72	21.12	39.60	67.10	86.20	129.50		
8.10	23.86	52.50	93.90					6.88	21.24	39.70	67.30	86.90	130.20		
9.00	24.04	52.90	94.50					7.04	21.36	40.00	67.50	87.50	130.90		
10.10	24.22	53.90	95.60					7.20	21.48	40.30	67.65	87.80			
10.40	24.40	54.50	96.50					7.40	21.60	40.80	67.80	88.10			
10.70	24.82	55.00	97.90					7.60	22.10	41.10	67.95	88.40			
11.00	25.24	55.90	98.00					7.80	22.36	41.50	68.10	88.70			
11.10	25.66	56.10	99.50					8.00	22.62	41.90	68.25	89.00			
11.50	26.08	57.00	100.10					8.20	22.88	42.30	68.40	89.40			
11.60	26.50	57.50	101.00					8.46	23.14	42.40	68.64	89.90			
11.90	26.90	58.00	101.10					8.72	23.40	42.90	68.88	90.50			
12.10	27.10	58.50	102.00					8.98	23.55	43.60	69.12	91.00			
12.40	27.50	58.90	102.50					9.24	23.70	44.20	69.36	91.50			
12.60	28.00	59.00	103.60					9.50	23.85	44.90	69.60	91.90			
12.90	28.50	59.50	103.70					9.78	24.00	45.50	69.77	92.40			
13.10	28.90	60.00	104.50					10.06	24.15	45.70	69.94	93.00			
13.50	29.30	61.00	104.60					10.34	24.30	46.30	70.11	93.90			
13.70	29.70	62.10	105.90					10.62	24.36	46.60	70.28	94.20			
13.90	30.10	63.40	106.40					10.90	24.42	46.70	70.45	94.70			
14.00	30.60	63.50	107.20					11.20	24.48	47.20	70.62	95.10			
14.10	31.00	64.00	107.80					11.50	24.54	47.60	70.79	95.60			
14.30	31.40	64.50	107.90					11.80	24.60	48.00	70.96	95.90			
14.40	31.90	65.50	108.90					12.10	24.75	48.40	71.13	96.80			
14.60	32.50	66.70	109.10					12.40	24.90	48.90	71.30	97.40			
14.90	33.40	67.80	109.90					12.70	25.05	49.60	71.60	97.90			
15.04	34.40	68.80	110.50					13.00	25.20	50.10	71.90	98.30			
15.18	34.50	69.20	111.00					13.30	25.35	50.60	72.20	98.90			
15.32	35.40	69.90	111.30					13.60	25.50	51.20	72.50	99.50			
15.46	35.90	70.50	111.60					13.90	25.92	51.90	72.80	100.10			
15.60	36.40	71.40	112.00					14.22	26.34	52.30	73.10	100.90			
15.86	36.90	72.50	112.70					14.54	26.76	52.90	73.40	101.50			
16.12	37.50	73.10	113.00					14.86	27.18	53.40	73.70	102.30			
16.38	38.10	74.00	114.00					15.18	27.60	53.60	74.00	102.90			
16.64	38.40	75.00	114.60					15.50	27.73	54.10	74.30	103.50			
16.90	38.60	75.60	115.30					15.80	27.87	54.30	74.90	104.30			
17.10	39.40	76.30	115.70					16.10	28.00	54.80	75.50	105.10			
17.30	39.70	77.10	116.50					16.30	28.13	54.90	75.70	106.00			
17.50	40.10	78.00	117.10					16.70	28.27	55.60	76.10	106.80			
17.70	40.50	79.00	117.50					17.30	28.40	56.20	76.20	107.80			
17.90	41.50	80.00	118.00					17.50	28.78	57.00	76.50	108.40			
18.06	41.60	81.20	118.60					17.60	29.16	57.50	76.60	109.50			
18.22	42.50	82.20	119.40					17.90	29.54	58.00	77.00	110.50			
18.38	42.90	83.20	119.60					18.00	29.92	58.40	77.10	111.40			
18.54	43.50	84.20	120.20					18.12	30.30	59.20	77.50	112.40			
18.70	43.60	84.90	120.40					18.24	30.76	59.60	77.90	113.40			
18.98	44.00	85.20	121.60					18.36	31.22	59.90	78.50	114.30			
19.26	44.50	85.70	122.40					18.48	31.68	60.60	78.60	115.00			
19.54	44.70	85.94	122.90					18.60	32.14	60.70	79.30	115.50			

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location				Date Run			
-L- Sta. 11+25 CTL 5.7 FT RT FY						12/27/21 to 1/13/22		-L- Sta. 11+25 LT LN/LTL (LT) 3.0 FT RT FY				12/27/21 to 1/13/22			
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC		5.0 ft. Fill		DCP	Cumulative cm per blow			STBC		5.0 ft. Fill	
1.50	47.90	64.50	112.90					1.20	24.10	62.50	106.50				
2.10	48.40	65.00	113.10					2.00	24.80	63.00	107.00				
2.50	48.50	65.80	114.60					3.00	25.90	63.40	108.00				
3.10	48.90	66.40	115.70					3.40	27.40	64.20	108.50				
3.60	49.00	67.20	116.50					3.62	28.90	64.80	109.20				
4.00	49.10	67.60	117.40					3.84	30.50	65.50	110.00				
4.50	49.20	68.20	118.10					4.06	31.90	66.10	110.50				
5.10	49.30	68.70	119.00					4.28	33.10	67.00	111.20				
5.60	49.40	69.40	120.00					4.50	34.50	67.50	111.50				

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.	PROJECT TIP I.D.				ROUTE			
						32573.1.FS10	A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY	FIELD PROFESSIONAL				FIELD CREW			
						Graham	M. Brewer				L. Ard/R. Kral			
Test Location						Date Run	Test Location				Date Run			
-L- Sta. 11+25 RTL (LT) 1.5 FT LT C&G EOP						12/27/21 to 1/13/22	-L- Sta. 25+69 LTL (RT) 5.0 FT RT FY				12/27/21 to 1/13/22			
Type	Test Interval			Datum		Cut/Fill	Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			ABC		5.0 ft. Fill	DCP	Cumulative cm per blow			ABC/STBC		At Grade	
1.90	13.30	50.60	104.40				0.50	49.60	69.10					
3.00	13.35	51.40	106.00				1.00	50.50	69.18					
4.20	13.40	52.60	108.00				1.40	51.00	69.27					
4.30	13.45	53.60	108.40				1.60	51.50	69.35					
4.70	13.50	54.60	109.60				2.00	52.50	69.43					
5.30	13.55	55.60					2.50	53.00	69.52					
5.40	13.60	57.00					2.90	54.00	69.60					
5.60	13.64	57.70					3.30	54.30	69.70					
5.90	13.68	58.40					3.50	54.80	69.80					
6.30	13.72	59.50					3.90	55.10	69.90					
6.50	13.76	61.00					4.10	55.50	70.00					
6.70	13.80	62.50					4.50	56.00	70.10					
7.00	13.84	63.40					5.10	56.50	70.14					
7.10	13.88	64.20					5.60	56.90	70.18					
7.50	13.92	65.10					5.90	57.80	70.22					
7.60	13.96	66.10					6.50	58.20	70.26					
7.90	14.00	67.10					7.10	58.60	70.30					
8.00	DCP REF	68.20					7.90	59.40	70.35					
8.30	AUGER 7.9	68.50					8.90	59.50	70.40					
8.40	to 21.9 cm	70.60					9.50	60.50	70.45					
8.50	0.60	72.00					10.90	60.90	70.50					
8.60	1.20	73.20					12.50	61.00	70.55					
8.70	1.50	74.40					13.90	61.20	70.60					
9.10	1.70	75.60					15.40	61.50	70.65					
9.20	1.90	76.20					16.50	61.60	70.70					
9.50	2.00	77.20					17.30	62.10	70.75					
9.60	2.30	77.70					18.30	62.20	70.80					
9.70	2.70	78.20					19.30	62.30	70.85					
9.80	3.60	78.50					20.40	62.60	70.90					
9.90	4.60	78.70					21.40	62.90	70.95					
10.00	5.50	79.10					22.40	63.40	71.00					
10.10	6.20	79.50					23.50	63.50	71.05					
10.20	7.10	79.80					24.60	63.90	71.10					
10.30	8.10	80.00					25.40	64.00	71.15					
10.40	8.20	80.20					26.10	64.10	71.20					
10.50	8.40	80.60					26.80	64.20	71.25					
10.60	8.70	80.80					27.37	64.30	71.30					
10.70	9.00	81.10					27.93	64.40	71.32					
10.80	9.30	81.60					28.50	64.52	71.34					
10.90	9.60	82.00					29.00	64.64	71.36					
11.00	9.90	82.60					30.10	64.76	71.38					
11.10	10.50	83.10					31.50	64.88	71.40					
11.20	10.60	83.50					32.38	65.00	71.42					
11.30	11.10	83.70					33.25	65.17	71.44					
11.40	11.40	84.10					34.13	65.33	71.46					
11.50	12.00	84.60					35.00	65.50	71.48					
11.68	12.70	85.60					36.00	65.67	71.50					
11.86	13.90	85.70					37.50	65.83	DCP REF					
12.04	15.50	87.00					38.00	66.00	50/1.2"					
12.22	17.00	87.20					38.30	66.17						
12.40	19.10	88.40					39.00	66.33						
12.44	21.50	89.40					39.50	66.50						
12.48	23.10	90.20					40.60	66.67						
12.52	26.40	91.10					41.50	66.83						
12.56	29.30	92.00					42.20	67.00						
12.60	31.70	93.10					43.30	67.17						
12.68	34.40	94.10					44.00	67.33						
12.77	37.00	95.40					44.50	67.50						
12.85	39.30	96.40					45.10	67.67						
12.93	42.10	97.40					46.00	67.83						
13.02	44.40	98.20					46.50	68.00						
13.10	46.30	99.20					47.00	68.22						
13.15	48.20	100.20					47.50	68.44						
13.20	49.10	101.70					48.50	68.66						
13.25	50.00	103.10					49.50	68.88						

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location				Date Run			
-L- Sta. 25+69 RT LN/RTL 2.0 FT LT FW						12/27/21 to 1/13/22		-L- Sta. 28+16 LT LN 5.5 FT LT FW				12/27/21 to 1/13/22			
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			ABC/STBC		At Grade		DCP	Cumulative cm per blow			STBC		At Grade	
0.80	52.60	100.50						0.90	29.90	95.40					
1.20	53.70	101.30						1.20	30.60	96.50					
1.80	54.50	101.50						1.70	31.10	97.50					
2.10	56.10	101.90						2.10	31.90	98.20					
2.40	57.10	102.50						3.00	32.60	99.30					
2.60	58.60	103.00						3.30	33.50	100.20					
3.00	60.00	103.50						4.00	34.10	101.00					
3.40	61.00	104.00						4.50	35.20	101.20					
3.60	62.20	104.30						4.70	36.00	102.50					
3.90	63.40	104.90						5.00	37.10	103.50					
4.30	64.60	105.30						5.30	38.60	104.40					
4.70	65.60	105.50						5.50	39.90	105.20					
5.00	66.50	106.10						5.90	40.10	106.30					
5.50	67.40	106.50						6.10	41.50	107.00					
5.60	68.10	107.00						6.40	42.60	107.60					
6.00	68.40	107.50						6.60	43.40	108.40					
6.90	69.60	107.90						7.00	44.20	109.50					
7.00	70.40	108.40						7.10	44.50	110.20					
7.30	71.40	109.00						7.50	45.40	111.20					
7.50	72.40	109.30						7.80	46.40	112.00					
7.90	73.50	110.00						7.90	47.60	112.60					
8.10	73.70	110.40						8.10	48.50	113.00					
8.60	74.60	110.90						8.40	49.50	114.40					
8.90	74.80	111.10						8.60	50.90	115.40					
9.30	75.50	111.50						8.90	52.10	115.90					
9.90	76.60	112.00						9.30	53.20	116.00					
10.30	77.10	112.30						9.80	54.30	117.50					
10.40	77.80	112.80						10.00	55.00	118.50					
10.60	78.60	113.40						10.40	56.00	119.00					
11.00	79.50	113.60						10.80	57.20	119.50					
11.50	80.50	114.10						11.10	58.40	120.30					
11.90	80.60	114.50						11.50	59.50	121.30					
12.30	81.10	114.90						12.00	60.40	122.00					
12.50	81.80	115.30						12.40	61.40	122.50					
13.00	82.50	115.90						12.80	62.30	123.20					
13.30	83.00	116.00						13.00	62.90	123.90					
13.90	83.40	116.50						13.10	63.90	124.70					
14.10	83.90	117.50						13.80	64.90	125.50					
14.40	84.90	117.90						13.90	65.10	126.00					
14.80	85.60	118.10						14.80	66.50	127.00					
15.00	86.60							15.00	67.70	127.50					
15.40	87.10							15.50	68.90	128.20					
15.90	87.60							15.90	69.90	128.80					
16.50	88.60							16.00	70.10	129.50					
17.10	89.10							16.60	71.20	130.40					
17.50	89.80							16.90	72.40	131.10					
18.50	90.10							17.50	73.50						
19.40	90.90							18.50	74.60						
20.10	91.40							19.10	75.90						
21.30	92.10							19.50	76.40						
22.90	92.50							20.10	77.90						
24.00	93.10							20.50	79.50						
25.50	93.80							21.50	80.90						
27.80	94.30							22.00	82.30						
30.40	95.00							22.50	83.40						
33.40	95.50							23.10	84.90						
34.50	96.20							23.50	85.10						
36.40	97.00							24.50	86.50						
37.90	97.50							25.00	87.40						
40.40	97.90							25.60	88.60						
42.40	98.30							26.40	89.90						
45.50	98.90							27.00	90.90						
47.00	99.10							27.60	92.00						
49.00	99.50							28.40	93.10						
50.50	100.10							29.30	94.40						

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.	PROJECT TIP I.D.				ROUTE			
						32573.1.FS10	A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY	FIELD PROFESSIONAL				FIELD CREW			
						Graham	M. Brewer				L. Ard/R. Kral			
Test Location						Date Run	Test Location						Date Run	
-L- Sta. 28+16 LTL (LT) 4.3 FT RT FY						12/27/21 to 1/13/22	-L- Sta. 45+24 RT LN/RTL 2.0 FT LT FW						12/27/21 to 1/13/22	
Type	Test Interval			Datum		Cut/Fill	Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC		At Grade	DCP	Cumulative cm per blow			STBC		10.0 ft. Fill	
0.50	22.60	66.10	116.40				0.80	11.64	23.90	44.50	75.60	111.70		
0.60	22.90	66.90	116.90				1.50	11.76	24.20	44.90	76.40	112.10		
1.00	23.10	68.30	117.40				1.90	11.88	24.60	45.00	77.00	112.30		
1.40	23.20	69.30	118.00				2.20	12.00	25.20	45.30	77.50	113.00		
1.80	23.40	70.10	118.50				2.28	12.18	25.50	45.50	77.90	113.10		
2.10	23.60	71.90	118.60				2.36	12.36	25.60	45.90	78.50	113.60		
2.40	24.00	73.20	119.10				2.44	12.54	26.20	46.30	79.90	114.00		
2.60	24.10	74.40	119.80				2.52	12.72	26.60	47.40	80.20	115.00		
3.00	24.50	75.60	120.70				2.60	12.90	27.20	48.20	80.50	116.10		
3.40	24.60	76.70	121.50				2.78	13.04	27.60	48.60	80.90	116.90		
3.50	24.70	77.90	121.60				2.96	13.18	28.30	48.90	81.30	117.30		
3.60	25.00	78.90	122.40				3.14	13.32	29.00	49.50	81.90	117.60		
4.10	25.20	79.90	122.60				3.32	13.46	29.30	50.00	82.10	118.50		
4.20	25.60	80.70	123.10				3.50	13.60	30.00	50.50	82.60	118.70		
4.60	26.00	81.50	124.00				3.78	13.68	31.00	50.90	82.70	119.40		
4.70	26.40	82.50	124.30				4.06	13.76	31.60	51.50	83.10	119.60		
5.00	26.70	83.60	124.80				4.34	13.84	32.10	52.00	83.50	120.60		
5.10	27.00	84.50	125.80				4.62	13.92	32.60	52.50	83.90	121.10		
5.40	27.40	85.40	126.30				4.90	14.00	33.40	53.00	84.20	122.00		
5.60	27.60	86.10	126.40				5.00	14.20	34.10	53.60	84.50	122.40		
5.70	28.10	86.90	127.00				5.10	14.40	35.00	53.70	85.00	122.50		
6.00	28.50	87.70	127.60				5.20	14.60	35.80	54.20	85.40			
6.10	29.00	88.50	127.90				5.30	14.80	36.10	54.80	85.90			
6.20	29.40	89.10	128.50				5.40	15.00	36.60	55.00	86.40			
6.40	30.00	90.40	128.90				5.60	15.06	37.20	55.60	86.90			
6.60	30.50	91.10	129.10				5.80	15.12	37.30	56.20	87.30			
6.70	31.10	92.10	129.80				6.00	15.18	37.80	56.30	88.00			
6.80	31.20	92.60	130.00				6.20	15.24	38.50	56.90	88.50			
6.90	31.90	93.50	130.60				6.40	15.30	38.60	57.40	88.60			
7.10	32.30	94.10					6.60	15.36	38.90	57.60	89.00			
7.20	33.00	95.10					6.80	15.42	39.00	58.10	89.50			
7.50	34.20	95.70					7.00	15.48	39.60	58.50	89.90			
7.60	35.00	96.10					7.20	15.54	40.20	59.00	90.00			
7.70	36.20	97.00					7.40	15.60	40.70	59.60	90.10			
7.80	37.80	97.50					7.46	15.62	41.00	60.00	90.60			
8.40	39.20	98.10					7.52	15.64	41.30	60.10	91.10			
8.60	40.90	98.80					7.58	15.66	41.50	61.00	91.60			
8.90	41.90	99.70					7.64	15.68	41.57	61.30	92.50			
9.50	43.00	100.50					7.70	15.70	41.64	61.60	93.30			
9.90	43.80	101.00					7.86	16.00	41.70	62.30	94.00			
10.40	44.00	101.50					8.02	16.10	41.77	62.70	95.30			
11.00	44.80	101.70					8.18	16.40	41.84	63.00	95.90			
11.50	45.60	102.30					8.34	16.60	41.91	63.60	96.40			
12.00	46.30	102.90					8.50	16.90	41.98	64.10	96.50			
12.50	47.30	103.50					8.60	17.00	42.04	64.50	97.40			
13.50	48.40	104.10					8.70	17.50	42.11	65.00	97.60			
14.20	49.50	104.70					8.80	17.60	42.18	65.30	98.50			
14.90	50.60	105.10					8.90	18.20	42.25	66.10	99.40			
15.20	51.70	105.70					9.00	18.40	42.32	66.60	100.10			
15.50	52.80	106.50					9.14	18.60	42.38	67.20	100.60			
16.50	54.00	107.00					9.28	18.90	42.45	67.60	100.80			
16.70	55.00	107.50					9.42	19.40	42.52	68.10	101.10			
17.00	56.00	108.00					9.56	19.50	42.59	69.00	101.60			
17.10	57.50	108.90					9.70	19.70	42.66	69.10	102.30			
17.80	58.60	109.90					9.86	20.00	42.72	69.90	103.00			
17.90	60.00	110.50					10.02	20.10	42.79	70.10	103.90			
18.30	60.30	110.90					10.18	20.50	42.86	70.80	104.60			
18.60	61.50	111.50					10.34	20.60	42.93	71.30	105.40			
19.00	62.20	112.00					10.50	21.20	43.00	71.90	106.20			
19.50	62.40	112.50					10.68	21.50	43.06	72.60	106.60			
20.10	62.60	113.40					10.86	22.00	43.13	73.50	107.10			
20.60	63.20	113.80					11.04	22.50	43.20	74.00	107.60			
21.10	63.90	114.90					11.22	22.70	43.30	74.50	108.30			
21.50	64.50	115.40					11.40	23.00	44.10	75.00	109.50			
22.50	65.10	115.90					11.52	23.40	44.20	75.50	110.60			

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location						Date Run	
-L- Sta. 45+24 RT PS 0.2 FT RT FW						12/27/21 to 1/13/22		-L- Sta. 64+87 LT LN 6.3 FT LT FW						12/27/21 to 1/13/22	
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC		10.0 ft. Fill		DCP	Cumulative cm per blow			STBC		20.0 ft. Fill	
0.90	31.70	72.90	120.00					0.10	15.10	50.31					
1.30	32.00	73.30	121.20					0.40	15.60	50.34					
1.60	32.60	74.20						0.60	16.90	50.36					
2.00	33.60	74.50						1.00	17.00	50.38					
2.50	34.90	75.00						1.30	17.10	50.41					
2.90	35.10	75.50						1.90	18.50	50.43					
3.10	36.10	76.00						2.00	18.60	50.46					
3.40	37.50	76.50						2.30	19.00	50.48					
3.90	38.70	76.90						2.50	19.40	50.50					
4.40	40.70	77.30						2.60	19.50	50.53					
4.90	41.20	77.70						2.90	19.90	50.55					
5.20	41.90	77.90						3.30	20.50	50.58					
5.60	42.30	78.20						4.00	21.00	50.60					
5.90	42.90	78.50						4.30	21.50	50.62					
6.30	43.20	78.60						4.50	22.00	50.63					
6.70	43.60	79.00						4.90	22.60	50.65					
7.00	44.20	80.00						5.00	23.20	50.66					
7.40	44.50	80.60						5.40	24.20	50.68					
7.60	44.60	81.00						5.60	24.70	50.70					
8.00	45.40	81.70						5.90	25.40	50.71					
8.20	46.00	82.30						6.00	25.90	50.73					
8.40	46.40	82.60						6.10	26.00	50.74					
9.00	47.00	83.10						6.20	26.50	50.76					
9.60	47.40	83.70						6.30	27.00	50.78					
10.30	47.90	84.40						6.50	27.30	50.79					
10.60	48.40	85.00						6.60	28.00	50.81					
11.30	48.90	85.50						6.80	29.70	50.82					
11.60	49.40	86.10						6.90	30.50	50.84					
12.50	49.60	86.90						7.20	31.20	50.86					
13.00	50.00	87.70						7.34	32.00	50.87					
13.60	50.50	88.60						7.48	33.00	50.89					
14.30	51.00	89.20						7.62	33.50	50.90					
15.00	51.50	90.20						7.76	34.40	50.92					
15.30	52.00	90.80						7.90	35.60	50.94					
15.90	52.60	91.40						8.02	36.20	50.95					
16.00	53.00	92.10						8.14	37.30	50.97					
16.60	53.50	93.00						8.26	38.20	50.98					
17.60	54.00	93.60						8.38	38.50	51.00					
18.20	54.60	94.90						8.50	39.80	51.02					
18.60	55.00	95.90						8.70	41.00	51.03					
19.10	56.00	96.90						8.90	41.50	51.05					
19.60	56.10	97.90						9.10	42.60	51.06					
20.20	56.90	98.10						9.30	43.50	51.08					
20.60	57.50	99.30						9.50	44.60	51.10					
21.10	57.90	100.50						9.72	45.70	51.11					
21.50	58.60	101.50						9.94	46.60	51.13					
22.00	59.20	103.20						10.16	47.30	51.14					
22.50	59.50	104.13						10.38	48.00	51.16					
23.00	60.20	105.07						10.60	48.50	51.18					
24.20	61.00	106.00						10.80	49.10	51.19					
25.20	62.00	106.90						11.00	49.70	51.21					
26.00	63.10	107.60						11.20	49.80	51.22					
26.90	63.60	108.30						11.40	50.00	51.24					
27.60	64.50	109.00						11.60	50.02	51.26					
28.20	65.20	109.10						11.88	50.05	51.27					
28.50	65.90	109.40						12.16	50.07	51.29					
29.00	66.50	110.10						12.44	50.10	51.30					
29.40	67.60	111.10						12.72	50.12	51.32					
29.60	68.30	111.70						13.00	50.14	51.34					
30.00	69.20	112.90						13.10	50.17	51.35					
30.50	70.00	114.00						13.40	50.19	51.37					
31.00	70.80	115.00						13.50	50.22	51.38					
31.10	71.20	116.50						13.70	50.24	51.40					
31.50	71.60	117.70						14.40	50.26	DCP REF					
31.60	72.40	118.70						14.90	50.29	50/0.3*					

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location				Date Run			
-L- Sta. 84+57 RT LN 2.3 FT LT FW						12/27/21 to 1/13/22		-L- Sta. 104+90 LT LN 2.0 FT LT FW				12/27/21 to 1/13/22			
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC		20.0 ft. Cut		DCP	Cumulative cm per blow			STBC		25.0 ft. Fill	
0.60	23.50	101.00						0.90	25.50	70.60					
0.90	24.20	101.40						1.40	27.00	70.70					
1.10	25.10	102.00						1.60	28.30	71.10					
1.40	26.60	102.60						2.00	29.50	71.20					
1.70	28.00	103.50						2.40	30.50	71.30					
1.90	29.20	103.70						2.60	31.00	72.00					
2.30	30.40	104.60						3.00	31.20	72.12					
3.00	31.40	105.40						3.10	32.50	72.24					
3.20	32.70	106.00						3.50	32.70	72.36					
3.60	34.00	106.40						3.60	33.00	72.48					
3.90	35.40	107.20						4.00	33.50	72.60					
4.00	37.00	107.80						4.30	34.00	72.76					
4.20	38.00	108.30						4.60	34.30	72.92					
4.60	39.20	109.00						4.90	35.00	73.08					
4.70	40.80	109.50						5.10	35.60	73.24					
5.00	42.00	110.20						5.40	35.70	73.40					
5.20	43.50	110.60						5.50	36.30	73.46					
5.70	45.00	111.30						5.90	36.90	73.51					
6.50	46.00	111.60						6.00	37.50	73.57					
6.70	47.60	112.10						6.20	38.50	73.62					
7.20	48.60	112.50						6.50	39.00	73.68					
7.50	50.10	113.10						6.60	39.90	73.73					
7.60	51.10	113.60						7.00	40.60	73.79					
7.90	52.40	114.30						7.40	41.50	73.84					
8.40	53.40	115.20						7.60	42.30	73.90					
8.50	54.60	115.50						7.90	43.30	74.01					
8.60	55.60	116.00						8.00	44.40	74.12					
9.00	57.30	116.50						8.30	45.50	74.23					
9.10	58.50	116.90						8.40	46.60	74.34					
9.40	59.20	117.40						8.50	47.50	74.45					
9.50	60.40	118.00						8.60	48.50	74.56					
9.90	61.10	119.00						8.90	50.00	74.67					
10.10	62.40	119.50						9.20	50.40	74.78					
10.30	63.60	120.00						9.60	51.00	74.89					
10.50	65.00	120.60						9.70	51.50	75.00					
10.60	66.00	121.40						10.00	52.20	75.07					
10.70	67.20							10.20	53.00	75.14					
10.90	68.50							10.50	54.00	75.21					
11.40	69.80							10.60	55.50	75.28					
11.60	71.00							10.90	56.30	75.35					
12.00	72.00							11.30	57.20	75.42					
12.20	73.20							11.60	58.00	75.49					
12.40	74.20							11.90	58.50	75.56					
13.00	75.50							12.00	59.30	75.63					
13.40	76.90							12.50	59.40	75.70					
13.50	77.50							12.90	60.00	75.73					
13.90	78.50							13.00	60.50	75.76					
14.10	79.60							13.40	60.60	75.79					
14.50	80.60							13.60	61.10	75.82					
14.90	82.00							14.00	61.50	75.85					
15.00	83.40							14.30	61.60	75.88					
15.50	85.10							14.60	62.30	75.91					
16.10	86.00							15.00	62.50	75.94					
16.30	87.60							15.50	63.00	75.97					
16.60	89.90							15.60	65.00	76.00					
17.00	90.20							16.00	65.10	DCP REF					
17.60	91.40							16.50	65.30	50/1.5"					
18.00	92.50							16.90	66.30						
18.60	93.90							17.50	67.00						
19.20	95.50							18.00	67.20						
19.60	96.50							18.50	67.50						
20.30	97.50							19.50	68.10						
21.00	98.60							20.60	69.80						
21.90	99.50							22.40	70.10						
22.40	100.10							24.00	70.20						

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET								WBS NO.		PROJECT TIP I.D.				ROUTE			
								32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
								COUNTY		FIELD PROFESSIONAL				FIELD CREW			
								Graham		M. Brewer				L. Ard/R. Kral			
Test Location								Date Run		Test Location				Date Run			
-L- Sta. 125+06 RT LN 2.0 FT LT FW								12/27/21 to 1/13/22		-L- Sta. 145+07 LT LN 2.0 FT LT FW				12/27/21 to 1/13/22			
Type	Test Interval			Datum			Cut/Fill		Type	Test Interval			Datum		Cut/Fill		
DCP	Cumulative cm per blow			STBC			3.0 ft. Fill		DCP	Cumulative cm per blow			STBC		5.0 ft. Fill		
0.80	33.00	114.90							1.00	DCP REF	54.60	96.10					
1.50	34.10	116.30							1.50	AUGER TO	55.10	96.40					
2.30	35.00	117.50							2.00	23.4 cm	55.50	96.70					
2.70	36.00	118.70							3.00	0.60	55.70	97.00					
3.10	37.00								3.50	1.50	56.20	97.30					
3.80	37.90								3.55	2.10	56.70	97.60					
4.20	38.90								3.60	2.70	58.50	97.90					
4.60	40.20								3.65	3.60	58.70	98.20					
4.90	41.70								3.70	4.10	59.50	98.50					
5.50	43.50								3.75	4.50	60.50	98.80					
5.90	44.00								3.80	4.60	62.10	99.10					
6.50	46.20								3.85	5.90	63.20	99.46					
6.60	47.50								3.90	6.70	64.30	99.82					
7.00	49.00								3.95	6.80	64.90	100.18					
7.40	49.90								4.00	7.70	65.30	100.54					
7.70	51.60								4.05	7.80	65.70	100.90					
8.00	53.00								4.10	8.20	66.10						
8.40	55.00								4.15	8.80	66.50						
8.50	56.30								4.20	9.90	66.90						
8.60	57.60								4.25	10.60	67.34						
8.90	59.20								4.30	12.50	67.78						
9.30	60.70								4.35	13.30	68.22						
9.70	61.70								4.40	14.20	68.66						
10.40	62.60								4.45	14.60	69.10						
10.50	64.30								4.50	15.60	69.66						
11.00	66.60								4.51	17.70	70.22						
11.20	68.00								4.52	18.80	70.78						
11.60	69.90								4.53	19.90	71.34						
11.70	70.70								4.54	20.70	71.90						
12.30	72.50								4.55	22.20	73.10						
12.90	73.90								4.56	22.70	74.10						
13.10	75.00								4.57	23.60	75.10						
13.50	76.60								4.58	24.20	76.10						
14.40	77.40								4.59	24.80	77.90						
14.60	79.00								4.60	25.60	79.10						
15.00	79.50								4.68	27.50	81.60						
15.30	80.00								4.76	28.10	82.60						
15.90	81.40								4.84	28.70	83.50						
16.30	82.50								4.92	30.70	84.20						
16.70	83.60								5.00	31.10	84.50						
17.20	84.70								5.08	32.00	85.20						
17.60	87.70								5.16	33.50	86.10						
18.20	88.20								5.24	35.10	86.70						
18.70	89.60								5.32	36.00	88.10						
18.90	91.00								5.40	37.10	89.11						
19.20	92.50								5.51	38.70	89.60						
19.50	94.00								5.62	39.50	90.10						
20.10	95.00								5.73	40.90	90.60						
20.50	96.00								5.84	42.10	91.10						
20.60	97.30								5.95	42.80	91.60						
21.40	97.60								6.06	43.80	92.10						
22.00	100.00								6.17	45.70	92.20						
22.30	101.00								6.28	46.70	92.30						
22.70	101.60								6.39	47.70	92.40						
23.50	102.90								6.50	48.20	92.50						
24.40	103.40								6.64	48.70	92.60						
24.90	104.00								6.78	49.10	93.00						
25.60	104.60								6.92	49.70	93.40						
26.40	106.00								7.06	51.20	93.80						
27.40	107.00								7.20	51.70	94.20						
28.40	108.70								7.34	52.60	94.60						
29.20	109.90								7.48	53.10	94.90						
30.00	110.60								7.62	53.50	95.20						
31.00	112.00								7.76	54.00	95.50						
32.00	113.00								7.90	54.50	95.80						

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location				Date Run			
-L- Sta. 159+83 RT LN 2.0 FT LT FW						12/27/21 to 1/13/22		-L- Sta. 173+11 LT PS 1.7 FT RT FW				12/27/21 to 1/13/22			
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC		7.0 ft. Fill		DCP	Cumulative cm per blow			STBC		20.0 ft. Fill	
1.20	18.10	70.20						0.10	62.40	109.10					
2.00	18.50	71.50						0.80	63.70	110.00					
2.50	18.90	72.90						1.90	64.70	110.50					
3.00	19.00	73.50						2.50	65.50	110.90					
3.30	19.50	74.10						3.20	66.10	111.20					
3.50	19.90	75.10						4.00	66.70	111.50					
3.90	20.50	76.60						4.50	67.60	111.80					
4.10	20.90	78.20						5.00	68.40	112.10					
4.50	21.10	80.10						5.70	69.10	112.60					
4.60	21.30	81.40						6.30	69.60	113.20					
4.86	21.60	83.60						6.90	70.00	113.70					
5.12	21.70	86.10						7.10	71.70	114.30					
5.38	22.00	88.40						7.70	72.00	114.60					
5.64	22.30	90.10						8.20	72.60	115.10					
5.90	22.90	91.10						8.70	73.30	115.50					
6.02	23.50	93.00						9.30	73.90	115.90					
6.14	23.80	94.30						9.90	74.60	116.40					
6.26	24.50	95.40						10.10	75.10	116.90					
6.38	25.50	96.60						10.60	75.60	117.50					
6.50	27.50	97.90						11.10	76.60	118.00					
6.66	28.00	99.10						11.60	77.10	118.70					
6.82	28.60	100.40						12.10	78.00	119.20					
6.98	29.00	101.20						12.70	79.00	119.60					
7.14	30.00	101.50						13.10	79.90	120.20					
7.30	31.00	102.50						13.50	80.90	120.60					
7.54	31.50	104.00						14.70	81.70	121.20					
7.78	32.50	104.50						15.40	82.20	121.90					
8.02	33.00	105.90						16.00	83.10	122.50					
8.26	33.20	107.00						16.50	83.40	123.30					
8.50	33.90	108.30						17.40	83.60	123.90					
8.70	34.10	109.50						17.90	84.10	124.90					
8.90	35.00	111.00						18.60	85.00	125.80					
9.10	36.00	112.00						19.10	85.40	126.40					
9.30	37.00	113.00						19.70	85.70	127.30					
9.50	38.00	114.50						20.50	86.30	128.30					
9.70	39.90	115.50						21.40	86.80	129.00					
9.90	41.50	116.90						22.10	87.40						
10.10	43.50	118.10						23.00	87.70						
10.30	45.70	119.30						24.10	88.20						
10.50	48.00	120.50						25.20	88.80						
10.72	49.30	121.60						26.10	89.50						
10.94	50.60	123.50						26.70	90.10						
11.16	51.60	124.50						27.70	90.50						
11.38	52.90	125.60						28.40	91.00						
11.60	54.20	127.00						29.40	91.90						
11.86	55.00	128.90						31.60	92.40						
12.12	56.00	130.40						33.00	92.90						
12.38	57.00							35.00	93.60						
12.64	58.50							37.10	94.30						
12.90	59.30							38.60	95.00						
13.14	60.10							39.90	95.90						
13.38	60.90							41.60	96.80						
13.62	61.90							43.10	97.50						
13.86	62.40							44.50	98.40						
14.10	63.50							45.90	99.30						
14.50	64.00							47.40	100.30						
14.90	64.50							48.70	101.20						
15.10	65.00							50.30	102.10						
15.50	65.40							51.20	102.80						
15.90	65.90							52.90	103.90						
16.10	66.30							54.70	104.70						
16.50	67.90							56.20	105.50						
17.00	68.10							57.90	106.30						
17.30	69.50							59.30	107.90						
17.90	70.10							60.80	109.00						

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location						Date Run	
-L- Sta. 173+11 LT LN 2.3 FT LT FW						12/27/21 to 1/13/22		-L- Sta. 190+26 RT LN 2.0 FT LT FW						12/27/21 to 1/13/22	
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC		20.0 ft. Fill		DCP	Cumulative cm per blow			STBC		20.0 ft. Cut	
1.10	18.60	72.40	98.60	127.20				2.50	29.50	75.19	102.40				
1.50	19.00	72.60	99.00	127.60				3.60	30.00	75.30	102.70				
1.70	19.50	72.80	99.50	127.90				4.60	30.80	75.58	103.00				
2.00	19.80	72.90	99.90	128.40				4.90	31.40	75.86	103.10				
2.20	20.20	73.40	100.50	129.00				5.20	31.80	76.14	103.30				
2.60	20.60	73.70	101.20					5.60	32.50	76.42	103.40				
2.80	21.10	74.20	102.00					6.20	33.00	76.70	103.47				
3.10	21.50	74.30	102.40					6.70	33.50	76.98	103.54				
3.50	22.10	74.50	103.10					7.00	34.50	77.26	103.61				
3.80	22.40	75.30	103.60					7.20	35.30	77.54	103.68				
4.20	23.10	75.70	104.40					7.60	36.20	77.82	103.75				
4.50	23.70	76.20	105.10					8.10	37.20	78.10	103.82				
4.64	24.40	76.60	105.30					8.50	38.20	78.80	103.89				
4.78	25.40	77.30	105.80					8.68	39.20	79.40	103.96				
4.92	26.00	77.70	106.30					8.86	40.50	80.10	104.03				
5.06	26.60	78.30	106.80					9.04	41.60	80.90	104.10				
5.20	27.30	78.80	107.00					9.22	43.00	81.40	104.23				
5.30	27.80	79.20	107.70					9.40	44.20	81.90	104.36				
5.56	28.70	79.90	108.10					9.66	44.90	82.20	104.49				
5.82	29.70	80.20	108.60					9.92	46.40	82.60	104.62				
6.08	30.60	80.90	109.00					10.18	48.10	83.20	104.75				
6.34	31.90	81.30	109.40					10.44	50.30	84.00	104.88				
6.60	32.70	82.00	109.80					10.70	51.90	84.20	105.01				
6.84	33.30	82.50	110.10					10.98	54.00	85.00	105.14				
7.08	34.10	82.80	110.30					11.26	56.00	85.60	105.27				
7.32	35.10	83.40	110.80					11.54	57.50	86.00	105.40				
7.56	36.30	83.90	111.30					11.82	59.20	86.60	105.45				
7.80	37.80	84.60	111.80					12.10	60.90	87.00	105.50				
8.04	39.10	84.90	112.40					12.32	62.60	87.40	105.55				
8.28	40.10	85.50	112.70					12.54	64.10	87.90	105.60				
8.52	41.30	86.00	112.90					12.76	65.80	88.30	105.65				
8.76	42.50	86.40	113.20					12.98	66.90	88.60	105.70				
9.00	44.00	86.90	113.70					13.20	68.30	89.00	105.75				
9.18	45.50	87.10	114.00					13.50	69.30	89.40	105.80				
9.36	46.40	87.60	114.40					13.80	69.90	89.60	105.85				
9.54	47.60	88.00	114.60					14.10	70.70	89.70	105.90				
9.72	48.90	88.60	114.70					14.40	71.00	89.90	105.97				
9.90	49.90	88.90	114.90					14.70	71.13	90.10	106.04				
10.12	51.20	89.00	115.10					15.06	71.26	90.50	106.11				
10.34	52.30	89.30	115.40					15.42	71.39	91.10	106.18				
10.56	53.60	89.60	115.70					15.78	71.52	91.70	106.25				
10.78	54.80	89.90	116.10					16.14	71.65	92.50	106.32				
11.00	56.20	90.30	116.70					16.50	71.78	93.10	106.39				
11.30	58.00	90.60	117.20					16.90	71.91	93.70	106.46				
11.60	59.10	91.00	117.80					17.30	72.04	94.30	106.53				
11.90	60.30	91.40	118.20					17.70	72.17	94.80	106.60				
12.20	61.60	91.80	118.70					18.10	72.30	95.20					
12.50	63.00	92.20	119.10					18.50	72.49	95.60					
12.80	64.60	92.50	119.60					19.10	72.68	96.30					
13.10	65.00	92.90	120.20					19.70	72.87	96.80					
13.40	65.60	93.12	120.80					20.10	73.06	97.00					
13.70	65.80	93.34	121.00					20.50	73.25	97.50					
14.00	66.30	93.56	121.40					21.20	73.44	98.00					
14.36	66.90	93.78	121.90					22.00	73.63	98.50					
14.72	67.60	94.00	122.20					22.40	73.82	98.80					
15.08	68.20	94.28	122.90					23.00	74.01	99.40					
15.44	68.80	94.56	123.10					23.70	74.20	99.60					
15.80	69.40	94.84	123.80					24.30	74.31	100.10					
16.00	69.90	95.12	124.10					24.90	74.42	100.50					
16.30	70.40	95.40	124.40					25.50	74.53	100.70					
16.90	70.90	95.70	125.00					26.20	74.64	101.10					
17.10	71.40	96.10	125.30					26.70	74.75	101.60					
17.70	71.60	96.70	125.80					27.30	74.86	101.80					
18.00	71.90	97.40	126.20					28.10	74.97	101.90					
18.20	72.00	97.90	126.70					28.90	75.08	102.00					

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location				Date Run			
-L- Sta. 204+46 LT LN 2.3 FT LT FW						12/27/21 to 1/13/22		-L- Sta. 225+17 RT LN 2.3 FT LT FW				12/27/21 to 1/13/22			
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC		7.0 ft. Fill		DCP	Cumulative cm per blow			STBC		At Grade	
1.00	15.78	55.10						1.60	0.80	37.10	60.60	95.80			
2.30	16.00	56.00						1.80	1.00	37.50	60.90	96.00			
3.20	16.32	56.40						2.30	1.40	37.90	61.20	96.30			
3.80	16.64	56.70						2.60	1.60	38.50	61.40	96.50			
4.20	16.96	57.10						2.80	2.00	38.90	61.60	96.60			
4.60	17.28	57.60						3.20	2.40	39.30	61.80	96.90			
5.00	17.60	58.20						3.50	2.80	39.60	62.00	97.30			
5.10	18.00	58.70						3.60	3.40	39.80	62.60	97.70			
5.20	18.40	59.00						3.70	3.60	40.10	63.20	97.90			
5.30	19.30	59.30						4.00	3.80	40.50	63.50	98.20			
5.60	19.60	59.70						4.20	4.10	40.70	63.80	98.70			
5.90	19.90	60.00						4.34	4.80	40.80	64.30	99.20			
6.10	20.30	60.10						4.48	5.10	41.00	64.50	99.60			
6.50	20.70	60.20						4.62	5.40	41.40	65.00	100.00			
6.70	21.40	61.40						4.76	5.80	41.70	65.60	100.40			
6.90	21.90	DCP REF						4.90	6.10	42.00	66.00	100.70			
7.10	22.50	50/0.0*						5.00	6.30	42.20	66.30	101.30			
7.20	23.00							5.10	6.60	42.40	66.70	101.60			
7.30	23.70							5.20	7.00	42.70	67.10	101.90			
7.40	24.00							5.30	7.30	42.90	67.50	102.40			
7.50	24.70							5.40	8.20	43.10	67.70	102.80			
7.60	25.30							5.54	8.30	43.30	67.90	103.30			
7.72	26.00							5.68	8.90	43.70	68.00	103.40			
7.84	26.50							5.82	9.50	44.30	68.40	103.50			
7.96	27.20							5.96	10.30	44.70	68.60	103.60			
8.08	27.80							6.10	11.10	44.90	69.00	103.70			
8.20	28.30							6.16	11.90	45.30	69.20	103.80			
8.40	28.80							6.22	13.00	46.00	69.40	103.83			
8.60	29.10							6.28	13.70	46.40	70.10	103.86			
8.80	29.80							6.34	14.60	47.00	70.50	103.89			
9.00	29.90							6.40	15.50	47.50	71.00	103.92			
9.20	30.10							6.44	16.70	48.10	71.30	103.95			
9.38	30.60							6.48	17.50	48.70	71.60	103.98			
9.56	31.10							6.52	18.60	48.80	72.20	104.01			
9.74	31.50							6.56	19.60	49.00	72.80	104.04			
9.92	32.10							6.60	20.70	49.30	73.00	104.07			
10.10	32.60							6.64	22.60	49.60	73.90	104.10			
10.28	33.10							6.68	23.40	50.00	74.40				
10.46	33.60							6.72	25.00	50.20	74.70				
10.64	34.10							6.76	26.40	50.40	75.40				
10.82	34.80							6.80	27.90	50.70	76.10				
11.00	35.20							6.82	29.40	50.90	76.70				
11.16	35.80							6.84	31.00	51.10	77.30				
11.32	36.50							6.86	32.20	51.70	77.90				
11.48	37.50							6.88	32.40	52.20	78.50				
11.64	38.30							6.90	32.60	52.70	79.50				
11.80	39.10							6.92	32.90	52.90	80.20				
11.96	40.80							6.94	33.10	53.50	81.10				
12.12	41.50							6.96	33.30	54.00	82.20				
12.28	42.40							6.98	33.40	54.40	83.20				
12.44	43.10							7.00	33.50	54.90	84.40				
12.60	44.10							7.05	33.72	55.40	85.40				
12.82	45.00							7.10	33.94	56.10	86.60				
13.04	45.80							7.15	34.16	56.30	87.60				
13.26	46.60							7.20	34.38	57.00	88.80				
13.48	47.50							7.25	34.60	57.10	89.80				
13.70	48.80							7.30	34.94	57.30	90.80				
13.94	49.50							7.35	35.28	57.50	92.20				
14.18	50.10							7.40	35.62	58.00	92.90				
14.42	50.80							7.45	35.96	58.50	93.40				
14.66	51.20							7.50	36.30	58.90	93.70				
14.90	51.80							DCP REF	36.46	59.60	94.10				
15.12	52.80							AUGER 13.1	36.62	59.90	94.50				
15.34	53.30							TO 20.6 cm	36.78	60.30	95.10				
15.56	54.00							0.60	36.94	60.50	95.60				

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET							WBS NO.		PROJECT TIP I.D.				ROUTE				
							32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah				
							COUNTY		FIELD PROFESSIONAL				FIELD CREW				
							Graham		M. Brewer				L. Ard/R. Kral				
Test Location							Date Run		Test Location						Date Run		
-L- Sta. 245+17 LT LN 2.4 FT LT FW							12/27/21 to 1/13/22		-L- Sta. 264+94 RT LN 1.5 FT LT FW						12/27/21 to 1/13/22		
Type	Test Interval			Datum			Cut/Fill		Type	Test Interval			Datum			Cut/Fill	
DCP	Cumulative cm per blow			STBC			4.0 ft. Fill		DCP	Cumulative cm per blow			STBC			6.0 ft. Fill	
0.80	21.50	53.10	93.50						0.60	52.20							
1.20	22.10	53.40	94.80						1.00	53.00							
1.80	23.20	53.60	96.00						1.20	53.50							
2.20	24.20	54.00	97.20						1.40	54.50							
2.40	24.90	54.40	98.30						1.90	55.50							
2.70	25.90	54.60	99.90						2.10	56.50							
2.80	27.30	55.00	101.30						2.60	57.20							
3.10	28.30	55.30	102.70						2.90	57.80							
3.50	28.90	55.60	103.90						3.10	58.60							
3.70	29.20	55.90	104.80						3.40	59.00							
3.90	29.70	56.30	105.80						3.50	60.10							
4.00	30.00	56.90	106.80						4.50	61.10							
4.26	30.40	57.20	107.60						5.30	62.00							
4.52	31.00	57.70	108.50						5.90	63.00							
4.78	31.24	58.10	109.50						6.40	63.50							
5.04	31.48	58.70	110.60						6.90	64.10							
5.30	31.72	59.10	111.30						7.90	64.70							
5.58	31.96	59.80	112.40						8.60	64.90							
5.86	32.20	60.60	113.30						9.40	66.90							
6.14	32.48	61.30	114.00						10.10	67.50							
6.42	32.76	62.10	115.00						10.50	68.00							
6.70	33.04	63.00	116.00						11.40	68.90							
7.04	33.32	63.50	116.80						12.10	69.70							
7.38	33.60	64.70	117.40						13.10	70.60							
7.72	34.50	65.30	118.20						14.00	71.60							
8.06	35.00	66.10	118.90						15.10	72.60							
8.40	35.70	66.90	119.60						16.50	73.28							
8.56	36.50	67.40	120.40						17.00	73.96							
8.72	37.00	68.00	121.30						17.90	74.64							
8.88	37.60	68.60	122.50						19.90	75.32							
9.04	38.30	69.00	123.90						20.50	76.00							
9.20	38.90	69.60	125.20						22.50	78.00							
9.40	39.70	70.00	126.40						24.50	79.00							
9.60	40.10	70.70	127.30						26.50	80.90							
9.80	40.60	71.60	127.90						28.60	81.10							
10.00	41.00	72.20							29.10	83.00							
10.20	41.20	72.60							29.90	84.80							
10.40	42.00	73.10							30.10	86.00							
10.60	42.30	73.60							31.10	88.10							
10.80	42.60	74.20							31.60	90.10							
11.00	43.00	74.70							32.50	92.10							
11.20	43.40	75.40							33.30	94.50							
11.45	43.70	75.90							33.60	97.00							
11.70	44.30	76.80							34.10	99.40							
11.95	44.70	77.50							34.60	102.30							
12.20	45.10	78.30							35.50	105.00							
12.45	45.60	78.80							36.40	108.00							
12.70	46.10	79.50							36.90	111.60							
13.08	46.30	80.20							37.80	114.00							
13.46	46.70	80.90							38.50	117.40							
13.84	47.20	81.50							39.50	120.40							
14.22	47.30	82.10							40.50	121.90							
14.60	47.50	82.70							41.50	124.30							
15.00	48.00	83.40							42.90	125.60							
15.60	48.50	84.00							43.00								
16.00	48.80	84.60							43.10								
16.50	49.30	85.40							45.10								
16.90	49.80	86.30							46.10								
17.50	50.40	87.10							47.10								
18.10	50.80	87.70							48.10								
19.00	51.20	88.80							49.20								
19.10	51.50	89.60							49.50								
19.50	51.90	90.20							50.10								
20.20	52.40	91.40							50.70								
20.90	52.80	92.40							51.50								

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location				Date Run			
-L- Sta. 284+98 LT LN 1.8 FT LT FW						12/27/21 to 1/13/22		-L- Sta. 304+62 RT PS 2.4 FT RT FW				12/27/21 to 1/13/22			
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC		30.0 ft. Cut		DCP	Cumulative cm per blow			STBC		40 ft. Fill	
0.90	15.58	59.00	109.90					1.90	46.60	67.90	98.60	128.20			
1.40	15.92	59.60	110.90					2.70	46.70	68.30	99.10	128.60			
1.80	16.26	60.10	112.40					3.70	46.88	68.70	99.50	128.90			
2.00	16.60	61.50	112.80					5.00	47.06	69.20	100.00	129.30			
2.30	17.24	62.40	115.50					6.00	47.24	69.40	100.20	129.80			
2.90	17.88	63.60	116.80					7.10	47.42	69.60	100.50	130.30			
3.10	18.52	64.70	118.40					8.10	47.60	69.80	100.80	130.60			
3.30	19.16	65.50	119.50					9.30	47.78	70.00	101.20	131.00			
3.40	19.80	66.90	121.50					10.10	47.96	70.60	101.50	131.50			
3.50	20.10	67.90	123.50					11.50	48.14	71.00	101.90	132.00			
3.60	20.40	69.90	125.50					12.90	48.32	71.60	102.20	132.50			
3.90	20.90	70.90	127.10					14.10	48.50	72.00	102.80	132.80			
4.50	21.50	72.10						15.10	48.74	72.40	103.20	133.50			
4.60	22.30	73.20						16.10	48.98	73.30	103.60				
4.70	22.90	73.90						16.80	49.22	74.00	104.30				
4.80	23.00	74.90						17.70	49.46	74.50	104.80				
4.90	23.50	75.50						18.70	49.70	74.70	105.50				
5.00	24.00	76.40						19.60	49.90	75.20	105.90				
5.08	24.50	77.40						20.20	50.10	75.80	106.50				
5.16	25.40	77.60						20.90	50.30	76.20	107.00				
5.24	26.30	78.10						21.60	50.50	76.70	107.40				
5.32	27.10	78.90						22.50	50.70	77.00	107.90				
5.40	28.40	79.20						23.30	51.00	77.50	108.30				
5.62	28.70	80.60						23.90	51.30	78.00	108.70				
5.84	29.50	80.90						24.60	51.60	78.50	109.20				
6.06	29.60	81.10						25.50	51.90	79.00	109.60				
6.28	30.90	81.40						26.30	52.20	79.30	110.10				
6.50	31.90	81.90						27.30	52.60	79.60	110.50				
6.62	32.60	82.10						27.80	53.10	80.20	111.50				
6.73	33.50	82.30						28.70	53.50	80.90	112.10				
6.85	34.40	82.50						29.50	54.00	82.00	112.60				
6.97	34.60	83.00						30.20	54.40	82.50	113.00				
7.08	35.90	83.70						31.10	54.60	82.70	113.50				
7.20	36.10	84.00						32.70	55.10	83.20	113.90				
7.32	36.50	84.10						33.40	55.30	83.60	114.30				
7.44	36.90	84.60						33.90	55.70	84.10	114.70				
7.56	37.50	85.00						34.40	56.10	84.50	115.10				
7.68	38.40	85.60						35.10	56.40	85.00	116.10				
7.80	39.20	86.10						35.60	56.70	85.50	117.00				
8.12	39.30	86.60						36.70	57.00	85.70	117.80				
8.44	39.80	86.90						37.40	57.30	86.10	118.50				
8.76	40.40	87.50						38.40	57.90	86.70	119.20				
9.08	40.80	88.10						39.00	58.10	87.20	119.50				
9.40	41.50	88.60						39.50	58.50	87.60	120.00				
9.56	42.50	89.30						40.70	59.00	88.10	120.50				
9.72	43.50	90.00						40.90	59.30	88.60	120.80				
9.88	44.00	90.70						42.00	59.90	89.00	121.20				
10.04	44.60	91.50						42.60	60.30	89.40	121.70				
10.20	45.50	92.50						43.10	60.70	89.80	122.10				
10.32	46.00	93.50						43.20	61.10	90.10	122.50				
10.44	47.50	94.40						43.40	61.70	90.50	123.00				
10.56	48.20	95.30						43.90	62.10	91.00	123.20				
10.68	49.20	96.20						44.00	62.50	91.50	123.50				
10.80	49.90	96.90						44.10	63.00	92.00	123.70				
11.16	50.40	98.00						44.50	63.40	92.40	124.00				
11.52	51.50	99.00						44.80	63.60	92.90	124.50				
11.88	51.90	100.30						44.90	64.00	93.30	124.70				
12.24	52.90	101.00						45.00	64.20	93.90	125.10				
12.60	53.50	101.70						45.20	64.50	94.20	125.40				
13.06	54.00	103.00						45.40	65.00	94.70	125.80				
13.52	54.90	104.40						45.50	65.30	95.70	126.20				
13.98	55.50	105.20						45.70	66.00	96.60	126.60				
14.44	56.30	106.50						45.90	66.50	97.30	126.90				
14.90	57.20	107.50						46.20	67.00	97.60	127.30				
15.24	58.10	108.90						46.30	67.50	98.20	127.70				

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.						ROUTE					
						32573.1.FS10		A-0009C						Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah					
						COUNTY		FIELD PROFESSIONAL						FIELD CREW					
						Graham		M. Brewer						L. Ard/R. Kral					
Test Location						Date Run		Test Location						Date Run					
-L- Sta. 324+92 LT LN 2.0 FT LT FW						12/27/21 to 1/13/22		-L- Sta. 344+21 RT LN 2.2 LT FW						12/27/21 to 1/13/22					
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill					
DCP	Cumulative cm per blow			STBC		6.0 ft. Fill		DCP	Cumulative cm per blow			STBC		10.0 ft. Fill					
1.00	14.58	47.40	87.00	114.32				0.50	14.30	37.14									
1.50	14.82	48.00	87.30	114.96				1.10	14.70	37.17									
1.90	15.06	48.40	88.00	115.60				1.50	15.00	37.21									
2.30	15.30	49.20	88.50	116.10				2.10	15.90	37.25									
2.50	15.58	49.60	89.00	117.00				2.30	16.00	37.28									
2.70	15.86	50.20	89.60	117.40				2.50	16.20	37.32									
2.90	16.14	50.90	90.20	118.30				2.72	16.80	37.35									
3.10	16.42	51.60	90.70	118.80				2.94	17.20	37.39									
3.30	16.70	52.20	91.40	119.40				3.16	18.00	37.43									
3.54	16.92	52.90	91.80	120.00				3.38	18.40	37.46									
3.78	17.14	54.30	92.10	120.50				3.60	19.00	37.50									
4.02	17.36	54.70	92.60	121.00				3.76	19.60	DCP REF									
4.26	17.58	56.30	92.90	121.50				3.92	20.30	50/3.0'									
4.50	17.80	57.20	93.20	122.30				4.08	21.40										
4.60	18.28	58.00	93.60	122.40				4.24	22.40										
4.70	18.76	59.10	94.00	122.50				4.40	23.70										
4.80	19.24	60.30	94.30					4.54	25.10										
4.90	19.72	61.10	94.40					4.68	26.30										
5.00	20.20	61.80	94.86					4.82	27.00										
5.20	20.70	62.40	95.32					4.96	27.60										
5.40	21.20	62.80	95.78					5.10	28.50										
5.60	21.70	63.40	96.24					5.22	28.70										
5.80	22.30	63.90	96.70					5.34	28.80										
6.00	23.20	64.60	97.02					5.46	29.00										
6.14	23.90	65.10	97.34					5.58	29.40										
6.28	24.30	65.60	97.66					5.70	29.60										
6.42	25.00	66.30	97.98					5.88	29.90										
6.56	25.33	66.80	98.30					6.06	30.20										
6.70	25.67	67.60	98.64					6.24	30.40										
6.92	26.00	68.40	98.98					6.42	30.50										
7.14	27.20	69.00	99.32					6.60	30.66										
7.36	28.10	69.60	99.66					6.88	30.82										
7.58	28.60	70.40	100.00					7.16	30.98										
7.80	29.20	71.00	100.26					7.44	31.14										
7.94	29.90	71.50	100.52					7.72	31.30										
8.08	30.60	71.80	100.78					8.00	32.00										
8.22	31.30	72.80	101.04					8.22	32.20										
8.36	32.00	73.70	101.30					8.44	32.80										
8.50	32.60	73.80	101.52					8.66	33.10										
8.72	33.50	74.30	101.74					8.88	33.50										
8.94	34.40	75.20	101.96					9.10	33.70										
9.16	34.70	75.90	102.18					9.32	34.20										
9.38	35.50	76.60	102.40					9.54	34.30										
9.60	36.00	77.00	102.82					9.76	34.50										
9.80	36.40	77.10	103.24					9.98	34.60										
10.00	36.80	78.00	103.66					10.20	34.80										
10.20	37.40	78.50	104.08					10.30	34.92										
10.40	37.90	79.00	104.50					10.40	35.04										
10.60	38.50	79.50	104.96					10.50	35.16										
10.78	39.70	79.80	105.42					10.60	35.28										
10.96	40.10	80.20	105.88					10.70	35.40										
11.14	40.50	80.50	106.34					10.94	35.46										
11.32	40.70	80.80	106.80					11.18	35.52										
11.50	41.50	81.20	107.32					11.42	35.58										
11.74	41.70	81.60	107.84					11.66	35.64										
11.98	42.00	82.00	108.36					11.90	35.70										
12.22	42.30	82.70	108.88					12.12	35.76										
12.46	42.90	83.30	109.40					12.34	35.82										
12.70	43.60	84.10	110.00					12.56	35.88										
12.98	44.10	84.30	110.60					12.78	35.94										
13.26	44.60	84.50	111.20					13.00	36.00										
13.54	45.10	85.10	111.80					13.26	36.40										
13.82	45.70	85.50	112.40					13.52	36.60										
14.10	46.50	86.00	113.04					13.78	36.70										
14.34	46.70	86.60	113.68					14.04	37.10										

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET							WBS NO.		PROJECT TIP I.D.				ROUTE			
							32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
							COUNTY		FIELD PROFESSIONAL				FIELD CREW			
							Graham		M. Brewer				L. Ard/R. Kral			
Test Location							Date Run		Test Location				Date Run			
-L- Sta. 365+20 RT LN 2.5 FT LT FW							12/27/21 to 1/13/22		-L- Sta. 365+20 RT PS 2.0 FT RT FW				12/27/21 to 1/13/22			
Type	Test Interval			Datum			Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC			10.0 ft. Cut		DCP	Cumulative cm per blow			STBC		10.0 ft. Cut	
0.60	29.90	74.00	103.60						0.30	26.60	67.50	88.70				
1.00	30.50	74.10	104.20						0.60	27.10	68.00	89.10				
1.20	31.50	75.00	104.80						1.00	27.50	68.40	89.50				
1.30	32.60	75.30	105.10						1.50	28.10	68.80	89.80				
1.50	33.60	75.60	105.50						1.70	28.70	68.90	90.10				
1.60	34.70	76.10	106.10						2.10	29.60	69.10	91.00				
1.90	35.90	76.50	106.40						2.50	30.60	69.20	91.10				
2.10	36.60	76.90	107.00						2.80	31.60	69.40	91.70				
2.30	37.90	77.30	107.50						3.00	32.10	69.90	92.20				
2.50	38.90	77.50	108.10						3.40	33.10	70.10	92.40				
2.60	39.90	78.00	108.40						3.60	34.30	70.40	92.80				
2.70	40.50	78.50	109.00						3.70	35.60	70.90	93.30				
3.00	41.50	78.90	109.60						4.00	36.60	71.00	94.00				
3.10	42.30	79.20	110.00						4.40	37.70	71.40	94.40				
3.40	44.00	79.50	110.40						4.60	38.30	71.70	94.90				
3.60	44.30	80.00	111.10						5.10	39.50	72.10	95.30				
4.00	45.90	80.30	111.90						5.30	40.40	72.20	95.80				
4.30	46.50	80.90	112.50						5.80	41.00	72.60	96.20				
4.60	47.30	81.00	113.00						6.10	41.30	72.90	96.60				
5.00	48.20	81.50	113.50						6.30	42.00	73.10	97.00				
5.10	49.20	82.10	113.60						6.60	42.80	73.40	97.30				
5.30	50.00	82.30							7.00	43.50	73.60	98.90				
5.60	51.00	82.90							7.50	44.30	73.70	99.20				
5.90	51.90	83.30							8.00	44.50	73.80	99.90				
6.10	52.40	83.60							8.40	45.10	74.10	100.10				
6.20	53.30	84.00							8.90	45.90	74.20	100.70				
6.30	54.20	84.40							9.00	46.50	74.60	101.30				
7.00	55.00	85.90							9.60	47.20	74.80	101.50				
7.60	56.10	86.30							10.00	47.80	75.20	101.90				
8.20	56.80	86.40							10.40	48.60	75.60	102.50				
8.60	57.50	87.10							10.70	49.50	76.00	103.00				
9.00	58.00	87.50							11.00	50.10	76.40	103.30				
9.30	58.50	87.60							11.20	51.10	76.60	103.90				
9.60	59.30	87.90							11.60	52.00	76.90	104.10				
9.70	59.50	88.60							12.10	52.80	77.20	104.60				
10.20	59.60	89.30							12.70	53.40	77.40	105.00				
10.60	60.10	89.80							12.80	54.00	77.70	105.50				
11.00	60.30	90.30							13.70	54.80	78.20	105.60				
11.30	60.60	90.90							14.30	55.80	78.40	106.20				
11.60	60.90	91.10							14.70	56.30	78.90	106.60				
12.00	61.30	91.50							15.10	56.90	79.20	107.60				
12.50	61.60	92.00							15.70	57.40	79.70	107.80				
13.00	61.70	92.60							16.30	57.80	80.00	108.50				
13.10	62.00	93.00							16.60	58.30	80.20	109.20				
13.60	63.00	93.40							17.10	58.90	80.50	109.70				
14.40	63.50	94.30							17.70	59.30	81.00	110.00				
14.70	63.90	94.90							18.40	59.50	81.20	110.60				
15.50	64.00	95.30							18.80	60.20	81.70	111.20				
15.90	64.50	96.00							19.40	61.00	81.90	111.60				
16.40	64.90	96.50							20.00	61.40	82.70	112.60				
17.00	65.10	97.10							20.60	61.70	83.20	113.20				
17.40	66.60	97.50							21.40	62.40	83.40	113.60				
18.10	67.30	98.10							21.90	62.70	83.90	114.30				
18.60	68.00	98.50							22.00	62.90	84.50	114.70				
19.90	68.30	98.80							22.40	63.20	85.10	115.30				
20.40	68.90	99.50							22.60	63.70	85.70	115.80				
21.10	69.30	99.90							23.05	64.20	85.90	116.90				
22.40	70.00	100.20							23.50	64.40	86.00	117.70				
23.60	70.60	100.60							23.95	64.70	86.40					
24.90	70.90	101.40							24.40	65.20	86.60					
25.00	71.50	101.90							24.90	65.70	87.10					
26.40	72.10	102.40							25.20	65.90	87.70					
27.60	72.60	102.60							25.40	66.10	87.80					
28.90	73.00	103.00							25.70	66.60	88.10					
29.00	73.50	103.50							26.00	67.20	88.30					

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location				Date Run			
-L- Sta. 406+18 RT LN 1.4 FT LT FW						12/27/21 to 1/13/22		-L- Sta. 406+18 RT PS 1.0 FT RT FW				12/27/21 to 1/13/22			
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC		20.0 ft. Fill		DCP	Cumulative cm per blow			STBC		20.0 ft. Fill	
0.50	18.10	55.48						0.70	35.40	65.90	105.00				
0.60	18.90	55.55						1.70	35.80	66.50	106.30				
0.90	19.60	55.62						2.20	36.10	67.10	107.00				
1.20	20.40	55.69						3.10	36.40	67.90	108.10				
1.70	21.00	55.76						3.80	36.70	68.30	108.90				
2.00	21.90	55.83						4.80	37.20	69.00	109.40				
2.50	22.30	55.90						5.80	37.60	69.60	110.10				
2.80	23.40	55.94						6.70	38.10	70.50	110.70				
3.10	24.60	55.98						7.50	38.60	70.90	111.50				
3.40	25.60	56.02						7.70	39.00	71.80	112.20				
3.60	26.30	56.06						8.50	39.20	72.20	113.00				
3.90	27.20	56.10						9.30	40.10	73.60	114.00				
4.10	28.00	56.14						9.70	40.70	73.90	114.80				
4.20	28.60	56.18						10.10	41.20	74.40	115.50				
4.42	29.30	56.22						10.60	41.90	74.80	116.10				
4.64	29.90	56.26						10.90	42.50	75.40	116.90				
4.86	30.10	56.30						11.30	43.00	75.80	117.80				
5.08	30.90	56.33						11.90	43.50	76.40	118.50				
5.30	31.30	56.36						12.80	43.90	76.90	119.00				
5.60	32.00	56.39						13.20	44.00	77.50	119.60				
5.90	32.60	56.42						13.30	44.50	78.20	120.20				
6.10	33.50	56.45						13.50	44.70	78.90	120.60				
6.20	34.10	56.48						13.90	45.10	79.50	120.90				
6.50	35.00	56.51						14.40	45.50	80.30	121.40				
6.70	35.60	56.54						14.70	45.80	80.70	122.00				
7.00	36.30	56.57						15.50	46.00	81.60	122.50				
7.20	37.00	56.60						16.00	46.30	83.00	122.90				
7.50	37.60	56.63						16.30	46.60	83.30	123.50				
7.70	38.20	56.66						16.60	46.80	83.90	124.00				
8.20	39.40	56.69						17.10	47.10	84.70	124.80				
8.30	39.90	56.72						17.60	47.50	85.20	125.40				
8.50	40.40	56.75						18.60	48.00	85.70	126.10				
8.80	41.00	56.78						18.70	48.50	86.00	126.80				
9.20	41.80	56.81						20.20	49.10	86.50	127.10				
9.40	42.30	56.84						21.70	49.50	86.70	127.70				
9.60	43.10	56.87						22.60	50.00	87.30	128.30				
9.80	43.40	56.90						23.30	50.50	88.00	128.90				
9.90	43.70	56.93						24.70	50.70	88.70	129.80				
10.10	44.40	56.96						25.40	51.00	89.50	130.30				
10.40	45.00	56.99						26.00	51.70	90.30	131.00				
10.50	45.50	57.02						26.30	52.10	91.00	131.30				
10.70	46.10	57.05						26.70	52.40	91.20	132.10				
10.90	46.70	57.08						27.00	52.50	91.70	132.60				
11.10	47.30	57.11						27.40	52.70	92.60	133.20				
11.30	47.90	57.14						27.80	53.10	92.70					
11.50	48.60	57.17						28.00	53.50	92.90					
11.80	49.20	57.20						28.10	54.10	93.40					
12.10	49.90	DCP REF						28.50	55.00	94.10					
12.20	50.30	50/0.8"						28.70	55.60	94.70					
12.60	50.60							28.90	56.00	94.90					
12.90	50.90							29.40	56.40	95.10					
13.30	51.40							29.60	57.00	95.50					
13.50	51.70							30.00	57.20	96.10					
13.60	52.00							30.40	58.00	96.70					
14.00	52.30							31.00	58.60	97.30					
14.20	52.60							31.60	59.60	97.90					
14.50	53.00							32.20	60.00	98.50					
14.70	53.20							32.50	60.10	99.20					
15.10	53.60							32.80	60.80	100.10					
15.20	54.10							33.40	61.40	100.60					
15.50	54.80							33.60	62.00	101.03					
16.10	55.20							33.80	62.90	102.30					
16.50	55.27							34.40	63.40	103.10					
17.10	55.34							34.80	64.10	103.50					
17.60	55.41							35.20	65.40	104.10					

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location						Date Run	
-L- Sta. 425+03 LT LN 1.5 FT LT FW						12/27/21 to 1/13/22		-L- Sta. 449+82 RT LN 1.5 FT LT FW						12/27/21 to 1/13/22	
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC		60.0 ft. Cut		DCP	Cumulative cm per blow			STBC		30.0 ft. Cut	
0.60	49.30	71.34	91.72	111.30				1.70	33.10	56.00	81.30	106.40			
1.10	50.20	71.52	92.00	111.50				2.80	33.70	56.20	82.30	106.50			
1.60	51.10	71.70	92.60	111.70				3.10	34.10	56.70	83.00	106.60			
1.80	51.90	71.88	93.40	111.90				3.60	34.70	56.90	83.60	106.74			
2.20	53.20	72.06	93.90	112.06				4.00	35.20	57.40	84.30	106.88			
2.70	53.70	72.24	94.20	112.22				4.20	35.60	57.70	85.10	107.02			
2.90	54.50	72.42	94.70	112.38				4.50	36.20	57.90	85.80	107.16			
3.10	55.20	72.60	95.00	112.54				4.70	36.70	58.10	86.40	107.30			
3.40	56.20	72.86	95.40	112.70				4.90	36.80	58.40	86.90	107.44			
3.70	56.40	73.12	96.20	112.90				5.10	37.60	58.60	87.70	107.58			
3.80	56.90	73.38	96.70	113.10				5.30	37.90	58.90	88.30	107.72			
3.90	57.20	73.64	97.30	113.30				5.50	38.00	59.20	89.00	107.86			
4.50	57.90	73.90	98.10	113.50				5.60	38.50	59.90	89.70	108.00			
5.20	58.00	74.04	98.60	113.70				5.80	39.10	60.40	90.30	108.22			
5.90	58.10	74.18	99.00	113.96				6.00	39.60	60.60	91.00	108.44			
6.50	58.40	74.32	99.50	114.22				6.20	40.00	60.80	91.70	108.66			
7.60	58.80	74.46	99.90	114.48				6.40	40.50	61.30	92.10	108.88			
8.30	59.40	74.60	100.30	114.74				6.50	40.70	61.60	92.70	109.10			
9.20	59.50	74.82	100.80	115.00				6.80	41.30	61.80	93.10	109.24			
10.10	59.80	75.04	100.96					7.10	41.60	62.10	93.70	109.38			
10.90	60.20	75.26	101.12					7.30	42.00	62.60	94.10	109.52			
12.00	60.30	75.48	101.28					8.10	42.40	62.80	94.30	109.66			
12.70	60.80	75.70	101.44					8.50	42.70	63.00	94.70	109.80			
14.30	60.90	75.90	101.60					9.40	42.80	63.50	95.40	109.88			
15.00	61.30	76.10	101.80					9.80	43.00	63.70	95.70	109.96			
15.60	61.40	76.30	102.00					9.90	43.40	64.10	96.00	110.04			
16.20	61.80	76.50	102.20					10.20	43.70	64.40	96.30	110.12			
17.40	62.00	76.70	102.40					10.60	44.10	64.70	96.50	110.20			
18.40	62.20	76.94	102.60					10.70	44.20	65.20	97.00	110.28			
19.40	62.40	77.18	102.82					10.80	44.50	65.50	97.40	110.36			
20.60	62.80	77.42	103.04					11.00	44.80	65.80	97.60	110.44			
21.90	63.00	77.66	103.26					11.30	45.00	66.10	98.10	110.52			
23.10	63.20	77.90	103.48					11.60	45.30	66.60	98.30	110.60			
24.40	63.30	78.22	103.70					11.80	45.90	67.00	98.70	110.68			
26.40	63.60	78.54	103.90					12.10	46.40	67.30	99.10	110.76			
27.70	64.00	78.86	104.10					12.30	46.50	67.60	99.60	110.84			
29.30	64.40	79.18	104.50					12.40	46.80	67.90	100.00	110.92			
30.20	64.60	79.50	104.80					12.70	47.30	68.00	100.30	111.00			
31.10	64.88	79.82	105.30					13.00	47.60	68.20	100.50	111.03			
31.60	65.16	80.14	105.50					13.60	48.00	68.50	100.70	111.06			
31.80	65.44	80.46	105.80					13.80	48.60	68.90	101.10	111.09			
32.70	65.72	80.78	106.00					14.10	49.00	69.10	101.30	111.12			
33.90	66.00	81.10	106.40					14.60	49.20	69.50	101.50	111.15			
34.20	66.26	81.44	106.50					15.10	49.70	69.80	101.70	111.18			
34.60	66.52	81.78	106.90					15.70	50.00	70.20	102.00	111.21			
35.40	66.78	82.12	107.10					16.10	50.40	70.50	102.40	111.24			
36.10	67.04	82.46	107.30					16.30	50.60	70.80	102.70	111.27			
36.70	67.30	82.80	107.40					17.00	51.10	71.10	102.80	111.30			
37.30	67.48	83.38	107.60					17.70	51.30	71.40	102.90	DCP REF			
37.90	67.66	83.96	107.80					18.30	51.90	71.80	103.10	50/2.0"			
38.60	67.84	84.54	108.00					18.90	52.00	72.10	103.50				
39.20	68.02	85.12	108.30					19.90	52.40	72.40	103.80				
39.90	68.20	85.50	108.40					21.00	52.50	72.80	103.90				
40.50	68.50	85.70	108.70					22.40	52.70	73.40	104.10				
41.20	68.80	86.00	108.90					24.10	53.00	73.60	104.60				
41.80	69.10	86.50	109.10					25.20	53.40	74.10	104.70				
42.40	69.40	87.50	109.30					26.40	53.60	74.70	104.90				
43.10	69.70	88.00	109.50					27.40	53.80	75.20	105.20				
43.90	69.92	88.60	109.70					28.20	54.10	75.70	105.40				
44.50	70.14	89.20	109.90					29.20	54.40	76.50	105.60				
45.40	70.36	90.10	110.20					30.30	54.60	77.10	105.80				
46.00	70.58	90.60	110.40					30.90	54.90	77.70	105.90				
46.70	70.80	90.88	110.60					31.50	55.40	78.70	106.10				
47.70	70.98	91.16	110.90					32.10	55.50	79.50	106.20				
48.50	71.16	91.44	111.10					32.60	55.90	80.30	106.30				

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET					WBS NO.		PROJECT TIP I.D.				ROUTE			
					32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
					COUNTY		FIELD PROFESSIONAL				FIELD CREW			
					Graham		M. Brewer				L. Ard/R. Kral			
Test Location					Date Run		Test Location				Date Run			
-L- Sta. 473+22 RTL (RT) 8.0 FT LT FW					12/27/21 to 1/13/22		-L- Sta. 473+22 LTL (RT) 7.0 FT RT FY				12/27/21 to 1/13/22			
Type	Test Interval			Datum	Cut/Fill		Type	Test Interval			Datum	Cut/Fill		
DCP	Cumulative cm per blow			STBC	20.0 ft. Cut		DCP	Cumulative cm per blow			ABC/STBC	20.0 ft. Cut		
1.70	10.60	36.00	73.34	102.50			0.90	44.90	88.90					
2.00	10.70	37.00	73.72	103.20			1.90	45.00	89.10					
2.50	10.80	38.10	74.10				2.80	45.08	90.90					
2.90	10.90	39.30	74.44				3.50	45.17	92.50					
3.00	11.00	43.60	74.78				4.30	45.25	94.00					
3.20	11.10	46.80	75.12				4.50	45.33	95.50					
3.60	11.20	49.90	75.46				4.90	45.42	96.70					
3.90	DCP REF	51.20	75.80				5.10	45.50	97.90					
4.10	AUGER 8.0	52.00	76.20				5.20	45.64	98.90					
4.70	to 19.2 CM	52.60	76.60				5.50	45.78	99.50					
5.00	0.10	53.30	77.00				6.70	45.92	100.50					
5.10	0.70	54.20	77.40				7.90	46.06	100.90					
5.30	1.10	55.00	77.80				8.60	46.20	101.50					
5.50	1.20	55.80	78.16				9.90	46.50	101.90					
5.60	1.90	56.40	78.52				10.40	47.50	102.50					
5.80	2.30	57.00	78.88				11.50	48.70	103.50					
6.00	2.40	57.80	79.24				12.10	49.50	104.10					
6.14	2.70	58.30	79.60				13.50	50.50	104.90					
6.28	2.90	59.00	80.02				14.50	51.10	105.50					
6.42	3.30	59.50	80.44				15.40	52.00	106.40					
6.56	3.50	59.80	80.86				16.40	53.00	107.40					
6.70	3.70	60.40	81.28				17.50	53.20	108.10					
6.77	4.10	60.60	81.70				18.60	53.40	109.40					
6.84	4.40	60.90	82.10				19.90	53.60	110.90					
6.91	4.60	61.50	82.50				22.00	53.80	111.90					
6.98	4.80	61.70	82.90				22.50	54.00	112.90					
7.05	5.10	61.80	83.30				22.90	54.24	114.50					
7.12	5.30	62.10	83.70				23.40	54.48	115.90					
7.19	5.60	62.40	84.14				23.90	54.72	117.50					
7.26	5.80	62.60	84.58				24.40	54.96	119.10					
7.33	6.00	62.90	85.02				25.50	55.20	120.90					
7.40	6.30	63.20	85.46				25.90	55.94	122.40					
7.47	6.60	63.60	85.90				26.90	56.68	123.90					
7.54	7.00	64.00	86.40				27.50	57.42	124.90					
7.61	7.50	64.20	86.90				28.40	58.16	125.90					
7.68	7.80	64.30	87.40				28.90	58.90	127.00					
7.75	8.20	64.60	87.90				29.40	59.04						
7.82	8.70	65.00	88.40				30.90	59.18						
7.89	9.10	65.40	88.88				31.50	59.32						
7.96	9.50	65.80	89.36				32.90	59.46						
8.03	10.30	66.20	89.84				34.40	59.60						
8.10	10.90	66.60	90.32				35.50	60.13						
8.19	11.50	67.00	90.80				36.90	60.67						
8.28	12.20	67.26	91.16				37.40	61.20						
8.37	12.70	67.52	91.52				38.50	62.30						
8.46	13.20	67.78	91.88				38.90	63.30						
8.55	13.70	68.04	92.24				39.50	64.50						
8.64	14.40	68.30	92.60				40.10	65.60						
8.73	14.80	68.54	93.04				41.10	66.70						
8.82	14.90	68.78	93.48				41.60	67.90						
8.91	15.60	69.02	93.92				42.00	69.10						
9.00	16.50	69.26	94.36				42.30	70.40						
9.12	17.40	69.50	94.80				42.44	71.90						
9.24	18.00	69.70	97.50				42.58	73.40						
9.36	18.70	69.90	98.40				42.72	74.90						
9.48	19.70	70.10	98.80				42.86	75.90						
9.60	21.20	70.30	99.30				43.00	76.10						
9.72	23.90	70.50	99.60				43.30	77.30						
9.84	25.60	70.84	100.20				43.60	78.30						
9.96	27.60	71.18	100.80				43.90	80.00						
10.08	28.30	71.52	101.00				44.20	81.40						
10.20	29.60	71.86	101.50				44.50	82.60						
10.30	31.00	72.20	101.90				44.60	84.00						
10.40	32.70	72.58	102.10				44.70	85.90						
10.50	34.10	72.96	102.30				44.80	87.90						

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET					WBS NO.		PROJECT TIP I.D.				ROUTE			
					32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
					COUNTY		FIELD PROFESSIONAL				FIELD CREW			
					Graham		M. Brewer				L. Ard/R. Kral			
Test Location					Date Run		Test Location						Date Run	
-Y2- Sta. 21+87 RT LN 4.6 FT RT FY					12/27/21 to 1/13/22		-Y2- Sta. 21+87 RTL (RT) 5.8 FT LT FW						12/27/21 to 1/13/22	
Type	Test Interval			Datum	Cut/Fill		Type	Test Interval			Datum	Cut/Fill		
DCP	Cumulative cm per blow			STBC	4.0 ft. Fill		DCP	Cumulative cm per blow			STBC	3.0 ft. Fill		
0.90	13.20	44.10	96.78	127.20			1.20	59.50						
1.20	13.60	45.00	96.90	127.60			2.00	61.50						
1.60	13.90	46.10	97.02	128.50			2.40	64.40						
2.00	14.10	47.10	97.14	129.50			3.90	66.50						
2.40	14.50	48.10	97.26	130.00			4.50	68.50						
2.90	14.60	49.20	97.38				5.40	70.50						
3.10	15.10	50.20	97.50				6.00	72.30						
3.40	15.40	51.90	97.65				6.50	74.60						
3.50	15.80	52.90	97.80				7.30	75.60						
3.90	16.00	54.10	97.95				8.00	76.70						
4.00	16.10	55.30	98.10				8.90	77.40						
4.10	17.00	56.10	98.25				10.10	77.60						
4.20	17.50	57.00	98.40				10.50	78.50						
4.50	17.80	58.10	98.55				11.90	79.50						
4.70	18.10	59.30	98.70				12.60	80.90						
4.90	18.50	60.90	98.85				13.40	82.60						
5.10	18.90	62.50	99.00				14.10	84.40						
5.30	19.10	64.10	99.25				15.20	85.90						
5.50	19.50	65.50	99.50				16.50	87.60						
5.60	20.00	66.50	99.75				17.40	89.10						
5.70	20.10	67.50	100.00				18.30	92.60						
5.80	20.90	68.50	100.10				19.00	92.70						
5.90	21.00	69.00	100.60				20.00	93.60						
6.00	21.50	70.00	101.00				21.00	94.30						
6.02	21.90	71.00	101.50				22.30	95.90						
6.04	22.30	71.50	101.90				23.20	96.70						
6.06	22.50	72.20	102.10				24.40	97.50						
6.08	22.90	73.30	102.50				26.00	98.50						
6.10	23.10	74.00	103.50				26.50	99.90						
6.22	23.50	74.80	104.00				28.20	100.00						
6.34	23.90	75.00	104.60				29.60	101.20						
6.46	24.40	76.60	104.90				31.00	102.00						
6.58	24.60	78.00	105.60				32.50	103.00						
6.70	25.00	79.00	106.10				34.20	104.40						
6.82	25.50	80.00	106.50				35.50	105.50						
6.93	26.50	81.00	107.50				36.00	106.70						
7.05	26.90	82.20	108.40				36.20	108.00						
7.17	27.00	83.20	108.60				36.90	109.30						
7.28	27.40	84.20	109.50				37.10	110.70						
7.40	27.90	85.40	109.60				37.30	111.50						
7.58	28.30	86.40	110.10				37.50	111.90						
7.77	28.50	87.50	110.60				37.70	112.90						
7.95	29.40	88.30	111.50				37.90	114.40						
8.13	29.90	89.20	112.50				38.24	115.90						
8.32	30.10	90.60	112.90				38.58	116.50						
8.50	30.40	91.00	113.40				38.92	117.90						
9.00	30.50	92.60	113.90				39.26	119.50						
9.10	30.90	93.60	114.50				39.60	120.50						
9.20	31.40	94.20	114.60				40.08	121.90						
9.30	31.90	95.20	115.10				40.56	123.00						
9.40	32.60	95.30	115.90				41.04	124.10						
9.60	33.00	95.50	116.40				41.52	125.20						
10.10	33.50	95.58	117.50				42.00	126.00						
10.20	34.00	95.66	118.50				42.90							
10.30	34.60	95.74	119.10				44.00							
10.50	35.10	95.82	119.90				45.50							
10.90	35.90	95.90	120.50				46.70							
11.10	36.50	95.98	121.50				47.90							
11.50	37.90	96.06	122.00				48.90							
11.90	38.20	96.14	122.50				49.90							
12.30	38.50	96.22	123.00				50.90							
12.50	39.20	96.30	124.00				52.10							
12.60	40.20	96.42	124.50				53.90							
12.90	42.10	96.54	125.50				56.00							
13.10	43.50	96.66	126.50				57.90							

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET							WBS NO.		PROJECT TIP I.D.				ROUTE			
							32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
							COUNTY		FIELD PROFESSIONAL				FIELD CREW			
							Graham		M. Brewer				L. Ard/R. Kral			
Test Location							Date Run		Test Location						Date Run	
-Y2- Sta. 60+51 LT LN 1.4 FT LT FW							12/27/21 to 1/13/22		-Y2- Sta. 79+85 RT LN 0.6 FT LT FW						12/27/21 to 1/13/22	
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill		
DCP	Cumulative cm per blow			STBC		30.0 ft. Fill		DCP	Cumulative cm per blow			STBC		15.0 ft. Fill		
1.20	79.30	96.90						1.70	33.00							
2.10	79.90	97.30						1.80	34.20							
2.80	80.50	97.70						2.50	35.20							
3.80	80.90	98.20						2.90	36.90							
4.40	81.20	98.50						3.30	38.60							
5.30	81.80	99.00						4.00	41.00							
5.80	82.30	99.40						4.70	42.20							
6.50	82.40	99.50						4.90	43.80							
7.10	82.90	99.70						5.20	44.80							
7.80	83.30	100.20						5.40	45.50							
8.20	83.60	100.50						5.80	46.30							
8.90	84.00	101.00						6.10	47.50							
9.20	84.50	101.10						6.40	48.70							
9.30	84.90	101.28						6.70	50.40							
9.90	85.20	101.46						7.10	52.70							
10.00	85.60	101.64						7.50	55.00							
10.40	85.90	101.82						7.70	57.60							
10.80	86.30	102.00						8.20	60.70							
11.20	86.50	102.50						8.60	62.70							
11.90	87.20	102.60						9.00	64.70							
12.60	87.80	103.20						9.40	67.00							
13.00	88.10	103.60						9.80	69.60							
13.60	88.40	103.80						10.10	71.80							
14.40	88.70	104.40						10.50	73.80							
15.00	89.20	105.30						10.90	75.60							
15.60	89.40	106.10						11.40	78.00							
16.10	89.80	106.40						11.70	80.40							
17.20	90.00	106.80						12.00	82.70							
18.10	90.20	107.20						12.30	85.10							
18.60	90.70	108.00						12.60	86.60							
19.90	90.80	108.50						13.20	87.70							
22.90	90.94	109.60						13.50	89.10							
26.40	91.08	110.40						14.10	90.00							
30.00	91.22	110.90						14.40	93.80							
32.00	91.36							14.80	96.80							
34.40	91.50							15.10	99.10							
37.10	91.64							15.60	102.30							
40.60	91.78							16.10	104.60							
44.60	91.92							16.60	106.20							
47.80	92.06							17.10	107.90							
50.80	92.20							17.40	109.50							
52.70	92.36							17.90	110.60							
54.20	92.52							18.40	112.00							
56.60	92.68							19.00	113.30							
58.60	92.84							19.70	114.90							
60.90	93.00							20.10	116.60							
62.70	93.28							20.30	118.80							
64.60	93.56							20.60	120.60							
66.20	93.84							21.00	122.60							
67.50	94.12							21.80	123.90							
68.40	94.40							22.00	124.60							
69.50	94.78							22.60	125.70							
70.30	95.16							23.00	126.10							
71.00	95.54							23.30	127.00							
72.00	95.92							23.60	127.60							
72.70	96.30							24.10	128.20							
73.10	96.36							24.50	128.80							
74.20	96.42							25.10	129.40							
75.00	96.48							25.50	130.40							
75.80	96.54							26.20	131.50							
76.50	96.60							27.20								
77.40	96.66							28.60								
78.20	96.72							29.70								
78.70	96.78							30.90								
79.00	96.84							32.20								

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET								WBS NO.		PROJECT TIP I.D.				ROUTE			
								32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
								COUNTY		FIELD PROFESSIONAL				FIELD CREW			
								Graham		M. Brewer				L. Ard/R. Kral			
Test Location								Date Run		Test Location						Date Run	
-Y2- Sta. 100+31 LT LN 1.4 FT LT FW								12/27/21 to 1/13/22		-Y2- Sta. 119+68 RT LN 1.8 FT LT FW						12/27/21 to 1/13/22	
Type	Test Interval			Datum				Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC				5.0 ft. Fill		DCP	Cumulative cm per blow			STBC		15.0 ft. Fill	
2.10	20.90	124.80								1.20	24.00	94.00					
2.50	21.30									1.80	24.80	95.60					
3.60	21.50									2.60	25.70	96.60					
4.20	22.20									3.30	26.30	98.90					
4.50	22.70									3.70	26.70	100.10					
4.80	23.50									4.10	27.40	101.50					
5.10	24.20									4.60	28.30	103.00					
5.50	25.20									4.80	29.80	104.60					
5.80	26.40									5.04	30.80	106.10					
6.00	27.60									5.28	32.10	107.20					
6.40	28.40									5.52	33.00	108.50					
6.60	29.80									5.76	34.00	109.40					
7.00	31.00									6.00	35.20	110.50					
7.30	31.90									6.30	36.40	111.30					
7.60	32.20									6.60	37.40	112.00					
8.10	33.30									6.90	37.80	113.40					
8.30	34.20									7.20	38.40	114.80					
8.40	34.90									7.50	39.00	116.10					
8.60	35.90									7.68	39.90	117.60					
8.80	36.40									7.86	40.80	119.10					
9.00	37.20									8.04	42.00	120.40					
9.20	38.40									8.22	43.00						
9.40	40.10									8.40	44.20						
9.60	42.00									8.52	45.70						
9.80	43.30									8.64	46.60						
10.00	44.60									8.76	48.90						
10.20	45.40									8.88	50.80						
10.42	46.20									9.00	52.90						
10.64	47.20									9.20	54.90						
10.86	48.20									9.40	56.60						
11.08	49.70									9.60	58.00						
11.30	50.80									9.80	59.20						
11.54	51.50									10.00	60.30						
11.78	52.70									10.20	61.50						
12.02	53.70									10.40	62.10						
12.26	54.90									10.60	62.70						
12.50	56.60									10.80	62.90						
12.68	58.10									11.00	63.30						
12.86	59.40									11.20	63.50						
13.04	61.30									11.40	63.90						
13.22	62.30									11.60	64.70						
13.40	63.70									11.80	64.90						
13.66	65.40									12.00	65.50						
13.92	67.30									12.26	66.20						
14.18	69.20									12.52	67.30						
14.44	71.30									12.78	68.70						
14.70	73.30									13.04	69.40						
15.04	75.30									13.30	69.80						
15.38	76.50									13.74	70.50						
15.72	78.20									14.18	71.70						
16.06	79.90									14.62	72.80						
16.40	81.70									15.06	73.70						
16.64	83.90									15.50	74.30						
16.88	85.70									15.90	74.80						
17.12	87.80									16.40	75.50						
17.36	89.40									16.80	76.40						
17.60	91.40									17.20	77.80						
17.94	94.60									17.90	79.50						
18.28	98.00									18.90	81.40						
18.62	101.20									19.70	83.00						
18.96	105.10									20.60	84.80						
19.30	109.60									21.90	86.80						
19.70	116.90									22.60	88.50						
20.10	117.40									23.00	89.40						
20.50	121.00									23.50	91.90						

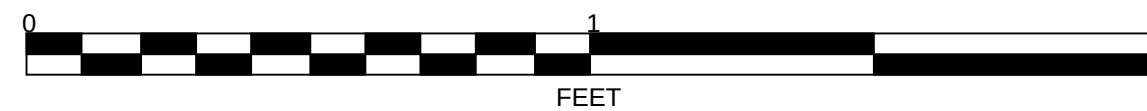
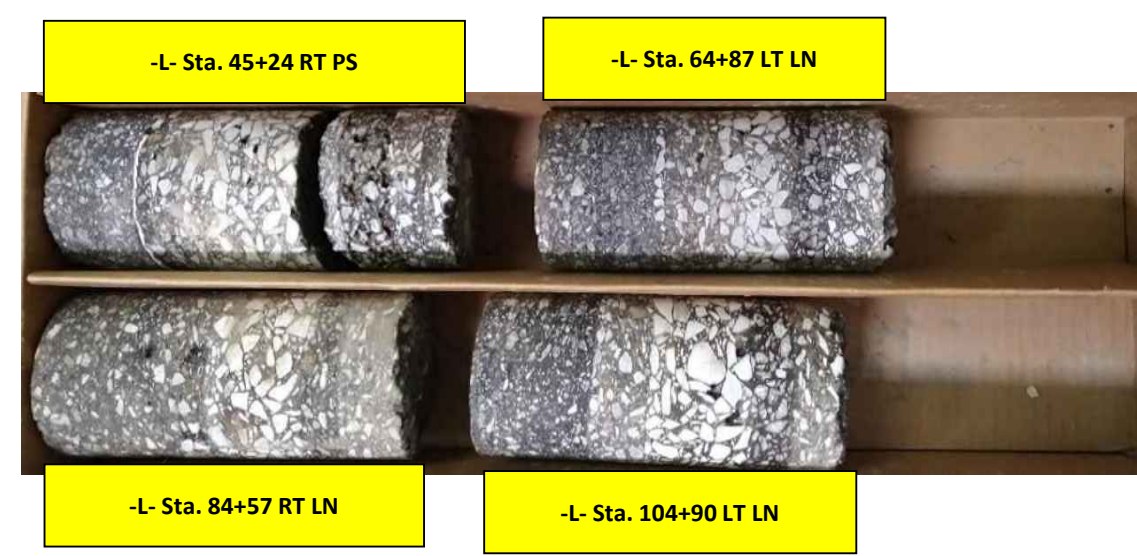
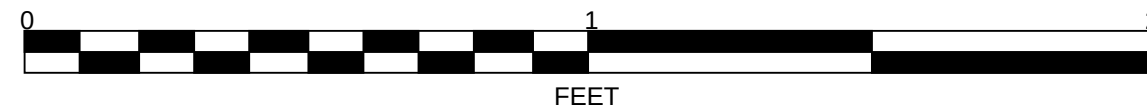
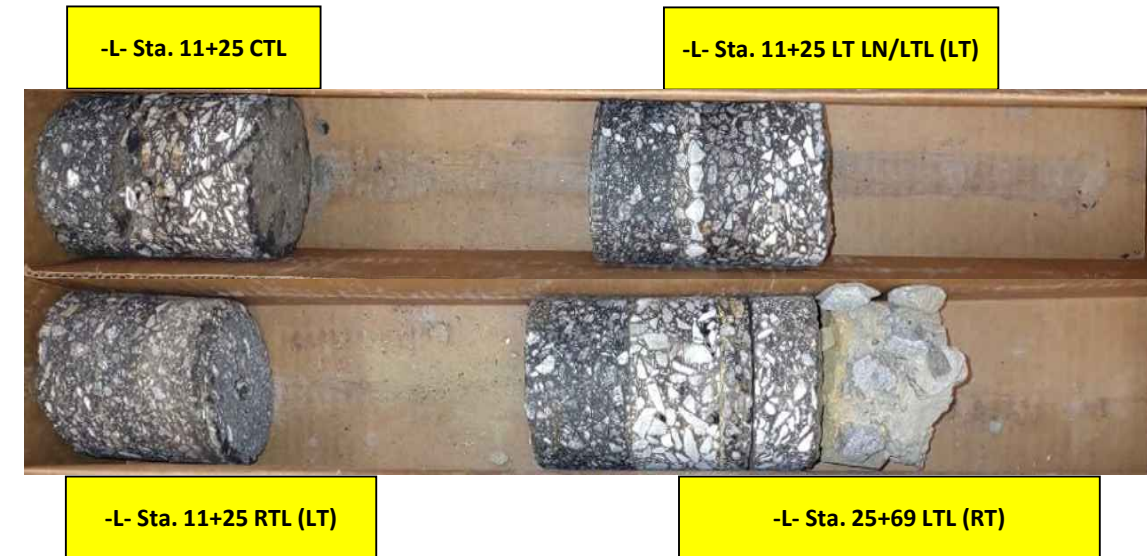
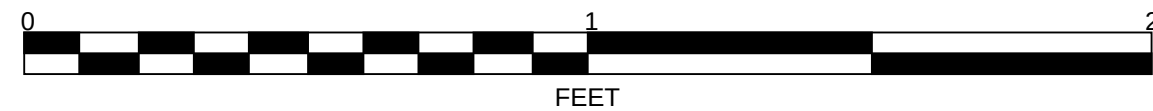
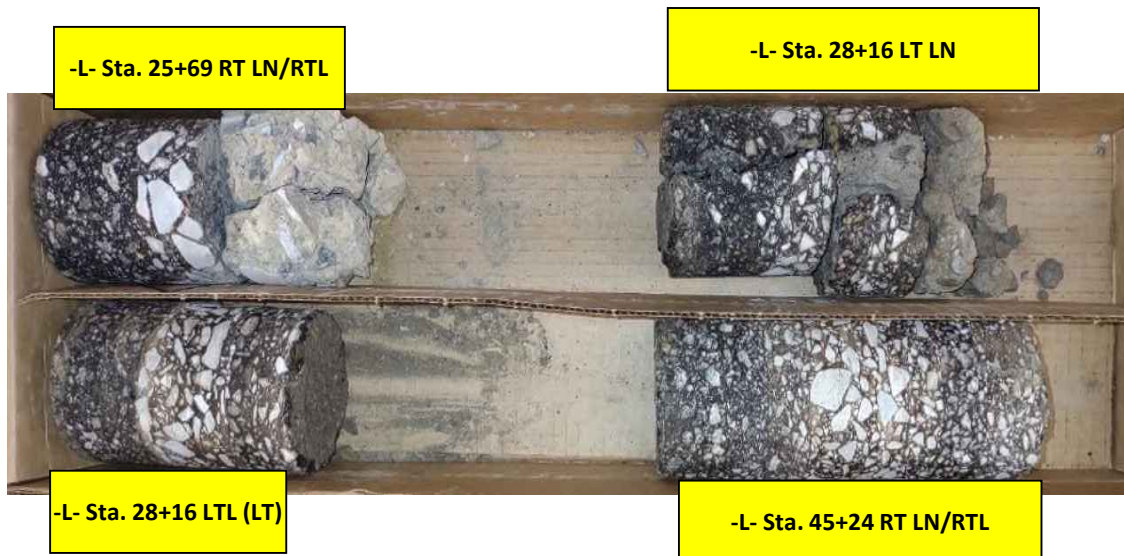
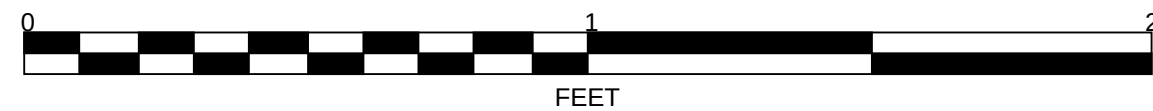
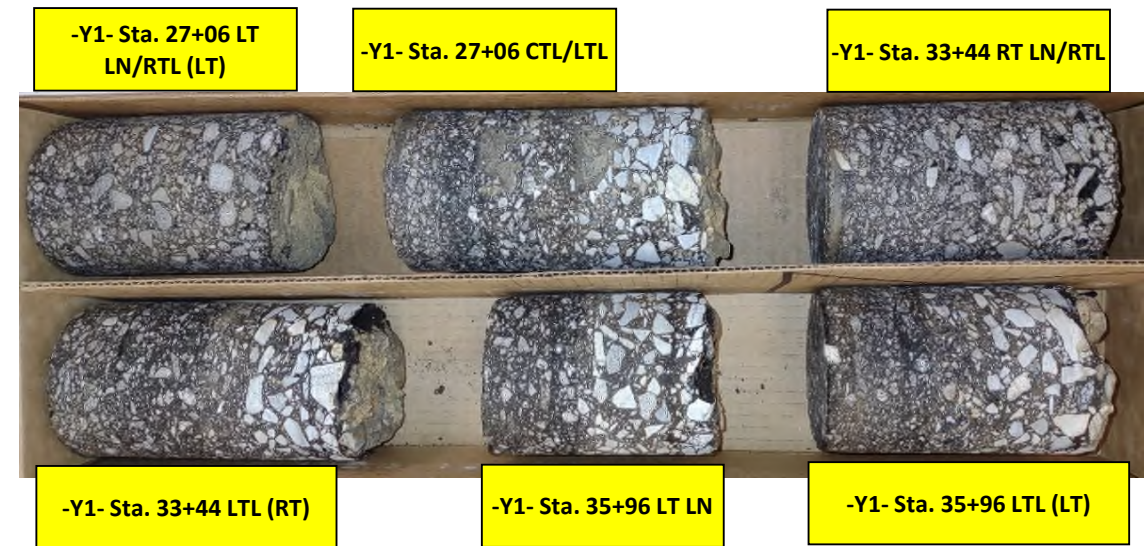
DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.		PROJECT TIP I.D.				ROUTE			
						32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY		FIELD PROFESSIONAL				FIELD CREW			
						Graham		M. Brewer				L. Ard/R. Kral			
Test Location						Date Run		Test Location						Date Run	
-Y2- Sta. 140+29 LT LN 1.3 FT LT FW						12/27/21 to 1/13/22		-Y2- Sta. 165+10 LT OSL 6.0 FT LT FW						12/27/21 to 1/13/22	
Type	Test Interval			Datum		Cut/Fill		Type	Test Interval			Datum		Cut/Fill	
DCP	Cumulative cm per blow			STBC		30.0 ft. Fill		DCP	Cumulative cm per blow			STBC		At Grade	
1.00	16.30	41.90	74.70	104.80				1.10	10.30	4.34	87.10				
1.40	16.70	42.40	75.60	105.00				1.40	10.35	4.40	88.00				
1.80	17.20	42.80	76.00	105.40				1.80	10.40	AUGER TO	89.20				
1.90	17.60	43.10	76.50	105.70				2.90	10.51	20.7cm	89.70				
2.00	18.00	43.90	77.00	106.40				3.10	10.62	1.10	92.20				
2.10	18.40	44.10	77.60	106.90				3.40	10.73	1.80	93.80				
2.20	18.80	44.50	78.20	107.50				3.50	10.84	2.20	95.90				
2.30	19.20	45.10	79.00	108.30				3.90	10.95	2.90	97.40				
2.40	20.00	45.40	79.20	108.80				4.20	11.06	3.70	98.20				
2.50	20.40	45.70	79.60	109.70				4.40	11.17	4.30					
2.60	20.70	46.10	79.70	110.50				4.60	11.28	4.90					
2.92	21.30	46.30	80.00	111.20				4.80	11.39	5.70					
3.24	21.60	46.60	80.20	112.20				5.10	11.50	6.40					
3.56	21.90	46.90	80.50	113.20				5.30	DCP REF	7.10					
3.88	22.20	47.10	81.00	114.00				5.50	AUGER 5.1	7.70					
4.20	22.40	47.50	81.40	114.70				5.70	TO 16.6 CM	8.50					
4.46	22.70	47.90	81.50	115.10				5.90	0.90	9.20					
4.72	22.80	48.40	81.80	115.60				6.10	1.00	10.10					
4.98	23.20	48.90	82.10	116.00				6.22	1.10	10.70					
5.24	23.60	49.50	82.30	116.20				6.34	1.20	11.60					
5.50	23.90	50.00	82.50	116.50				6.46	1.30	12.60					
5.68	24.30	50.40	82.80	116.90				6.58	1.40	12.90					
5.86	24.50	50.90	83.00	117.30				6.70	1.50	13.10					
6.04	24.90	51.30	83.50	117.90				6.82	1.60	13.60					
6.22	25.10	51.70	84.00	118.30				6.94	1.70	13.70					
6.40	25.60	52.00	84.80	118.70				7.06	1.80	14.30					
6.64	26.00	52.50	85.30	119.00				7.18	1.90	15.50					
6.88	26.50	53.00	85.80	119.40				7.30	1.99	17.40					
7.12	26.70	53.40	86.00	119.70				7.36	2.08	18.10					
7.36	27.30	53.60	86.10	120.20				7.42	2.17	19.00					
7.60	27.50	54.10	86.60	120.70				7.48	2.26	21.00					
7.82	28.20	54.60	87.00	121.20				7.54	2.35	22.30					
8.04	28.80	54.80	87.60	121.90				7.60	2.44	23.60					
8.26	29.80	55.40	88.20	122.60				7.66	2.53	24.70					
8.48	30.80	55.56	88.90	123.50				7.72	2.62	25.70					
8.70	31.70	55.72	89.70	124.20				7.78	2.71	26.90					
8.92	32.50	55.88	90.60	125.20				7.84	2.80	27.50					
9.14	33.20	56.04	91.10					7.90	2.86	28.80					
9.36	33.80	56.20	91.90					8.00	2.92	30.10					
9.58	34.20	56.56	92.40					8.10	2.98	31.30					
9.80	34.60	56.92	92.90					8.20	3.04	32.50					
10.02	35.30	57.28	93.30					8.30	3.10	34.50					
10.24	35.60	57.64	93.90					8.40	3.16	36.40					
10.46	36.00	58.00	94.60					8.50	3.22	37.80					
10.68	36.40	58.44	95.30					8.60	3.28	40.40					
10.90	36.80	58.88	96.10					8.70	3.34	42.90					
11.12	37.40	59.32	96.70					8.80	3.40	45.20					
11.34	37.80	59.76	97.30					8.90	3.44	47.00					
11.56	38.30	60.20	98.00					9.00	3.48	49.00					
11.78	38.50	61.00	99.00					9.10	3.52	50.30					
12.00	38.80	61.90	99.50					9.20	3.56	52.20					
12.28	39.00	62.90	100.10					9.30	3.60	53.80					
12.56	39.10	63.70	100.80					9.40	3.64	55.70					
12.84	39.40	64.60	101.30					9.50	3.68	57.20					
13.12	39.50	65.60	101.60					9.60	3.72	58.70					
13.40	39.60	66.40	102.00					9.70	3.76	60.60					
13.64	40.00	67.70	102.20					9.80	3.80	62.40					
13.88	40.10	68.60	102.40					9.90	3.86	64.60					
14.12	40.40	69.70	102.70					9.95	3.92	67.00					
14.36	40.60	70.20	103.00					10.00	3.98	69.50					
14.60	40.70	70.70	103.40					10.05	4.04	71.50					
14.94	40.80	71.60	103.60					10.10	4.10	74.70					
15.28	40.90	72.30	103.80					10.15	4.16	78.70					
15.62	41.20	73.00	104.10					10.20	4.22	81.90					
15.96	41.50	73.70	104.40					10.25	4.28	85.10					

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET						WBS NO.	PROJECT TIP I.D.				ROUTE			
						32573.1.FS10	A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
						COUNTY	FIELD PROFESSIONAL				FIELD CREW			
						Graham	M. Brewer				L. Ard/R. Kral			
Test Location						Date Run	Test Location				Date Run			
-Y2- Sta. 165+10 LT MERGE LN 3.5 FT RT FY						12/27/21 to 1/13/22	-Y2- Sta. 165+10 MID LANE 7.0 FT LT FY				12/27/21 to 1/13/22			
Type	Test Interval		Datum			Cut/Fill	Type	Test Interval		Datum			Cut/Fill	
DCP	Cumulative cm per blow		STBC			5.0 ft. Fill	DCP	Cumulative cm per blow		ABC			10.0 ft. Fill	
2.20	44.50						0.90	2.06						
2.42	45.70						1.50	2.18						
2.64	47.30						2.00	2.30						
2.86	49.00						2.18	2.37						
3.08	50.20						2.36	2.44						
3.30	50.70						2.54	2.51						
3.60	51.60						2.72	2.58						
3.90	52.60						2.90	2.65						
4.20	54.00						3.08	2.72						
4.50	55.80						3.26	2.79						
4.80	57.30						3.44	2.86						
4.98	58.70						3.62	2.93						
5.16	60.80						3.80	3.00						
5.34	62.70						3.98	3.05						
5.52	64.40						4.16	3.10						
5.70	66.20						4.34	3.15						
5.96	68.00						4.52	3.20						
6.22	69.70						4.70	3.25						
6.48	72.40						4.85	3.30						
6.74	74.80						5.00	3.35						
7.00	77.40						5.15	3.40						
7.30	80.00						5.30	3.45						
7.60	82.30						5.45	3.50						
7.90	84.70						5.60	3.58						
8.20	86.80						5.75	3.66						
8.50	88.90						5.90	3.74						
8.70	90.60						6.05	3.82						
8.90	91.90						6.20	3.90						
9.10	93.00						6.38	3.98						
9.30	94.40						6.56	4.06						
9.50	96.20						6.74	4.14						
9.96	97.80						6.92	4.22						
10.42	99.50						7.10	4.30						
10.88	100.70						7.28	DCP REF						
11.34	100.90						7.46	50/0.0"						
11.80	103.70						7.64							
12.20	106.30						7.82							
12.50	108.70						8.00							
13.20	110.00						8.17							
13.60	112.50						8.34							
14.20	114.20						8.51							
14.90	116.10						8.68							
15.40	118.00						8.85							
16.10	119.50						9.02							
16.80	120.50						9.19							
17.50	122.30						9.36							
18.00	123.60						9.53							
18.90	124.90						9.70							
19.90	126.30						9.81							
20.90	127.70						9.92							
21.50							10.03							
22.70							10.14							
23.70							10.25							
24.20							10.36							
25.50							10.47							
26.50							10.58							
27.70							10.69							
28.90							10.80							
30.00							DCP REF							
31.50							AUGER 12.6							
33.40							TO 23.4 CM							
35.60							1.00							
38.50							1.70							
41.40							1.82							
42.90							1.94							

DUAL MASS DYNAMIC CONE PENETROMETER DATA SHEET					WBS NO.		PROJECT TIP I.D.				ROUTE			
					32573.1.FS10		A-0009C				Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah			
					COUNTY		FIELD PROFESSIONAL				FIELD CREW			
					Graham		M. Brewer				L. Ard/R. Kral			
Test Location					Date Run		Test Location						Date Run	
-Y2- Sta. 165+10 RT OSL 4.5 FT LT FW					12/27/21 to 1/13/22									
Type	Test Interval			Datum	Cut/Fill									
DCP	Cumulative cm per blow			ABC	10.0 ft. Fill									
1.50	12.50	18.04	27.06	74.30										
2.20	12.60	18.16	27.24	77.10										
2.50	12.70	18.28	27.42	80.00										
2.80	12.80	18.40	27.60	82.80										
3.40	12.96	18.56	27.74	86.10										
3.80	13.12	18.72	27.88	89.70										
4.20	13.28	18.88	28.02	90.70										
4.40	13.44	19.04	28.16	92.40										
4.50	13.60	19.20	28.30	95.20										
5.00	13.68	19.34	28.44	96.60										
5.10	13.76	19.48	28.58	97.50										
5.30	13.84	19.62	28.72	98.10										
5.50	13.92	19.76	28.86	98.90										
5.60	14.00	19.90	29.00	99.60										
5.70	14.12	20.04	29.18	100.30										
5.80	14.24	20.18	29.36	100.80										
6.30	14.36	20.32	29.54	101.30										
6.40	14.48	20.46	29.72	102.00										
6.50	14.60	20.60	29.90	102.60										
6.60	14.66	20.70	30.12	103.20										
6.70	14.72	20.80	30.34	103.90										
6.80	14.78	20.90	30.56	104.50										
6.90	14.84	21.00	30.78	105.20										
7.00	14.90	21.10	31.00	106.00										
7.18	15.02	21.22	31.30	106.70										
7.36	15.14	21.34	31.60	107.30										
7.54	15.26	21.46	31.90	108.00										
7.72	15.38	21.58	32.20	108.40										
7.90	15.50	21.70	32.50	108.60										
8.04	15.60	21.84	32.52	109.60										
8.18	15.70	21.98	32.54	110.10										
8.32	15.80	22.12	32.56	110.90										
8.46	15.90	22.26	32.58	111.80										
8.60	16.00	22.40	32.60	112.60										
8.72	16.04	22.58	32.70	113.30										
8.84	16.08	22.76	32.80	114.00										
8.96	16.12	22.94	32.90	115.10										
9.08	16.16	23.12	33.00	116.10										
9.20	16.20	23.30	33.10	117.40										
9.28	16.28	23.42	33.24	118.70										
9.36	16.36	23.54	33.38	120.00										
9.44	16.44	23.66	33.52	121.20										
9.52	16.52	23.78	33.66	122.60										
9.60	16.60	23.90	33.80	124.10										
9.74	16.68	24.06	34.10	125.40										
9.88	16.76	24.22	34.30	127.00										
10.02	16.84	24.38	34.50	128.50										
10.16	16.92	24.54	35.50	129.80										
10.30	17.00	24.70	36.20											
10.40	17.04	24.86	37.00											
10.50	17.08	25.02	38.80											
10.60	17.12	25.18	40.90											
10.70	17.16	25.34	42.20											
10.80	17.20	25.50	44.00											
10.98	17.26	25.62	45.80											
11.16	17.32	25.74	47.40											
11.34	17.38	25.86	49.90											
11.52	17.44	25.98	52.00											
11.70	17.50	26.10	54.00											
11.82	17.56	26.22	56.50											
11.94	17.62	26.34	58.50											
12.06	17.68	26.46	61.50											
12.18	17.74	26.58	64.90											
12.30	17.80	26.70	67.90											
12.40	17.92	26.88	70.60											

Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah

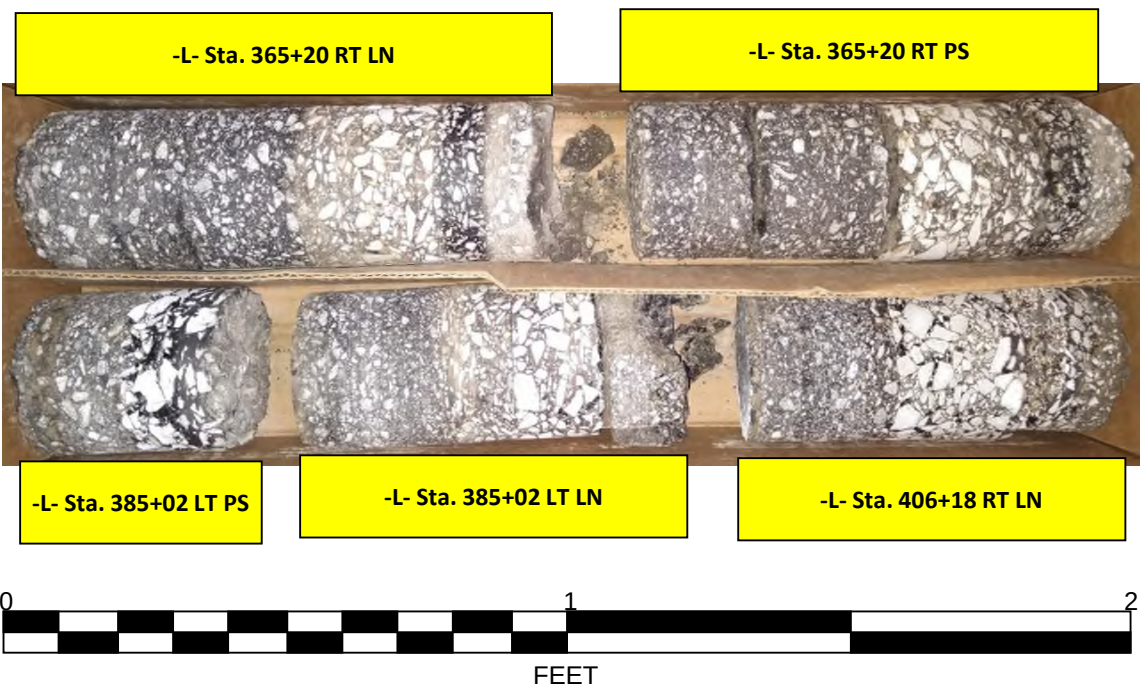
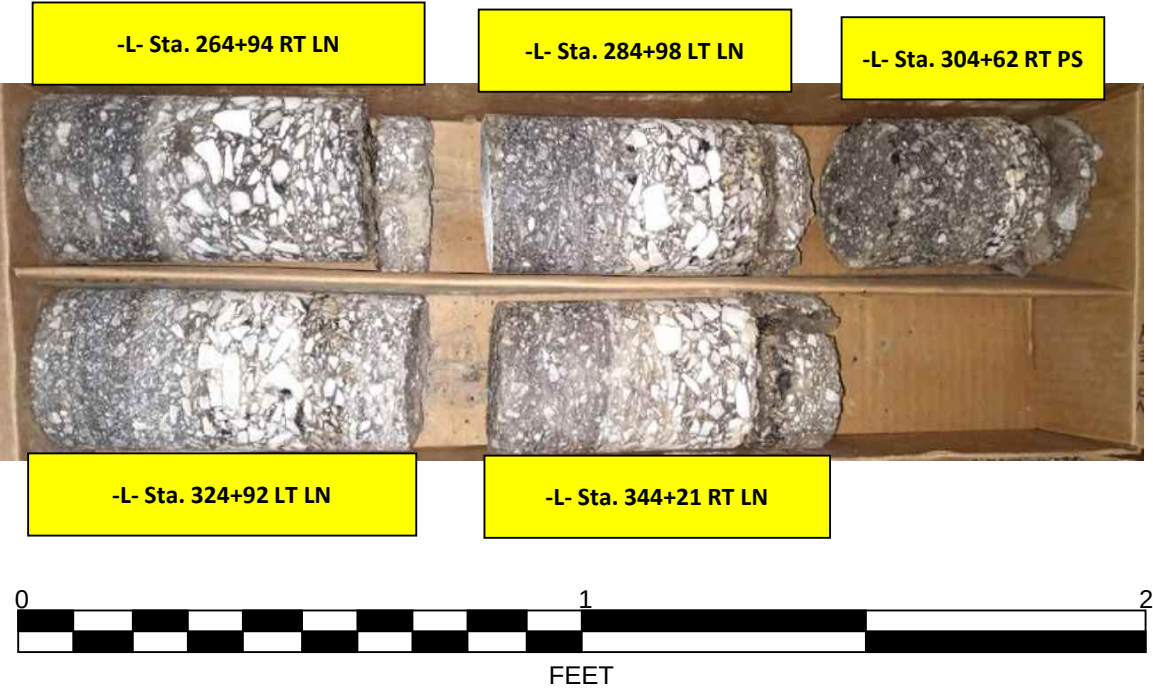
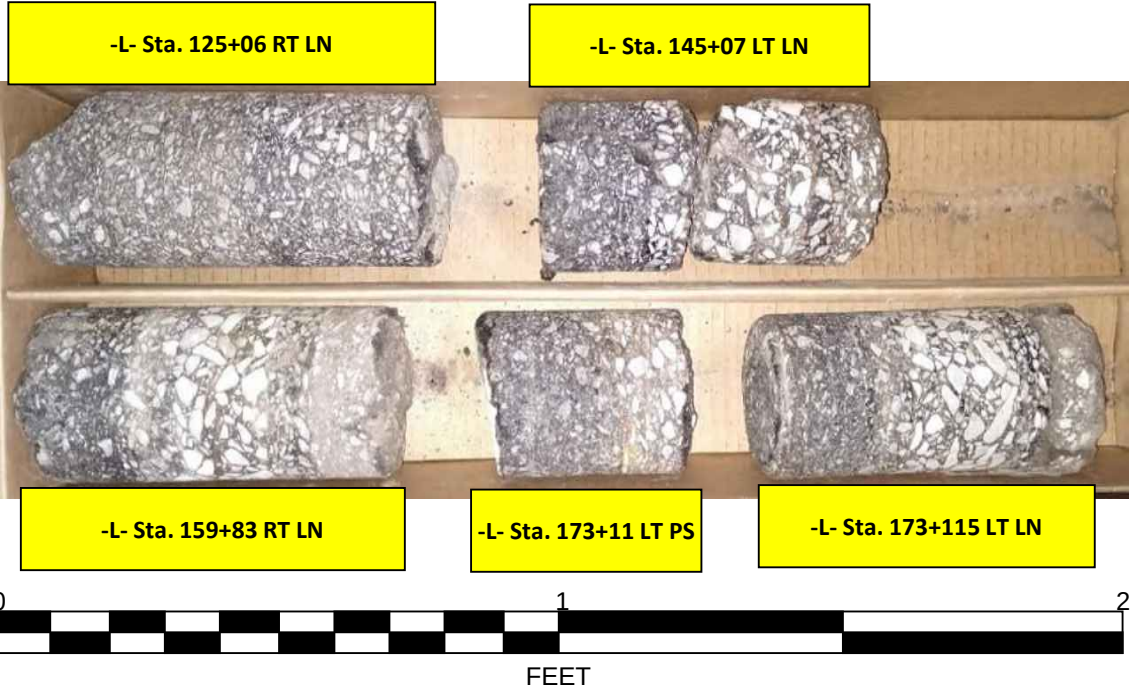
Pavement Core Photographs





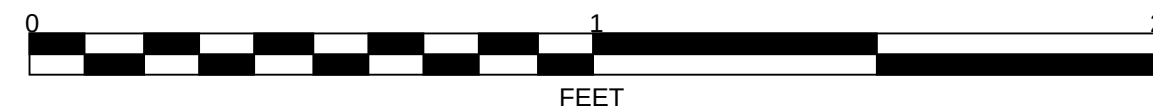
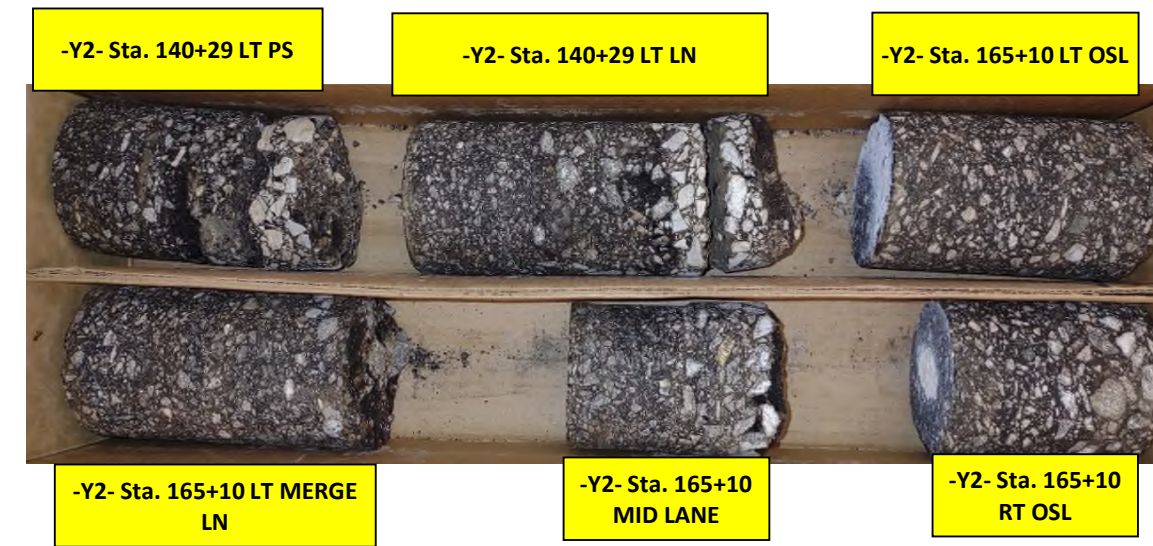
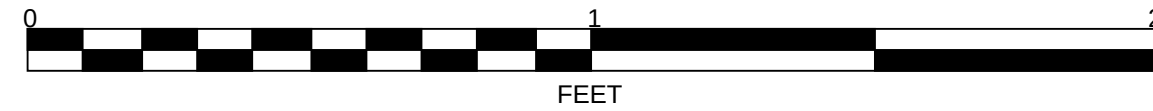
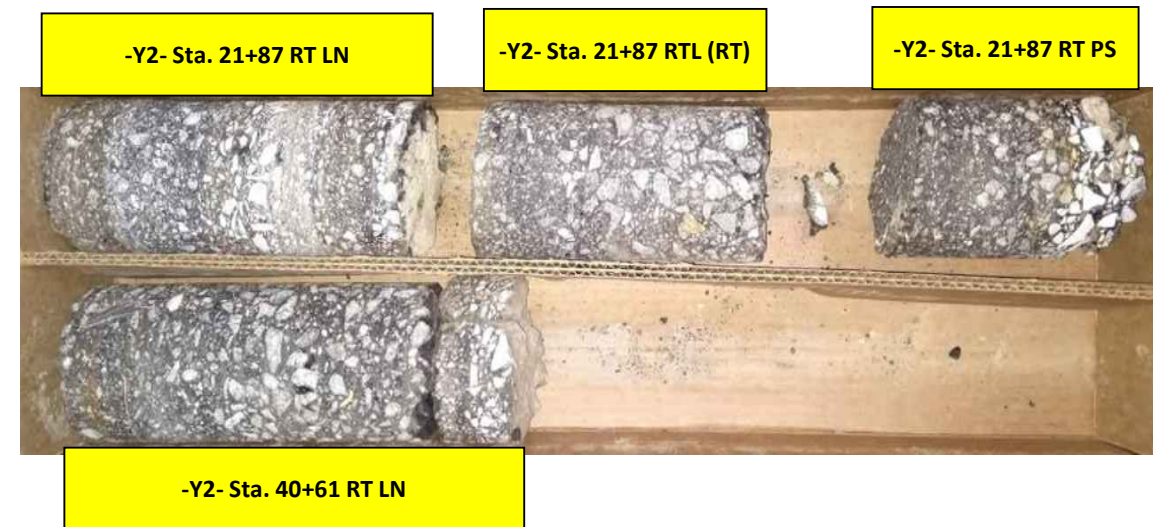
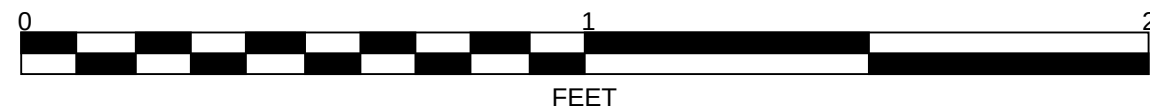
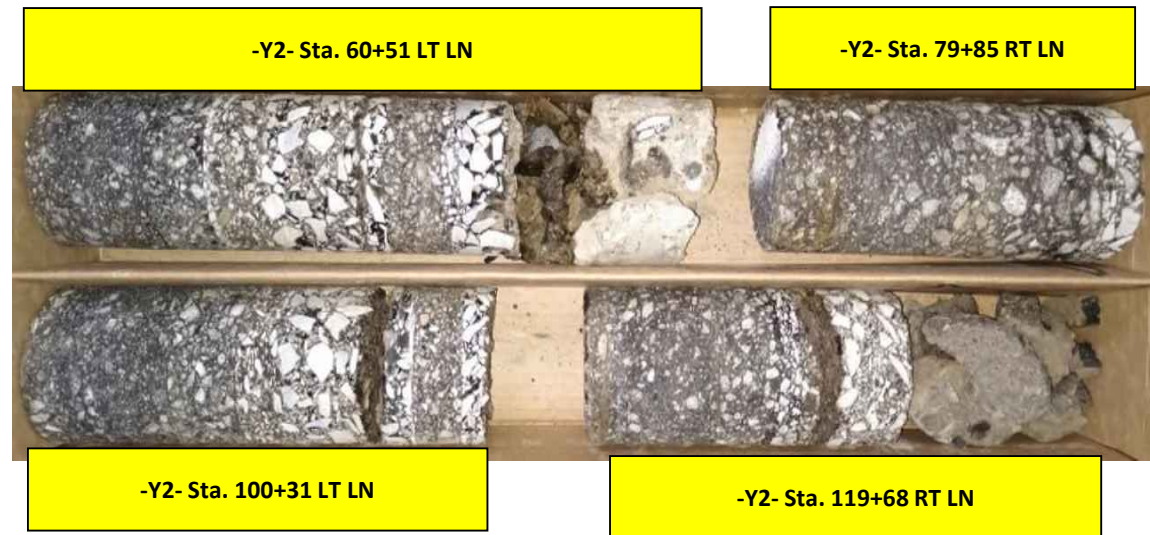
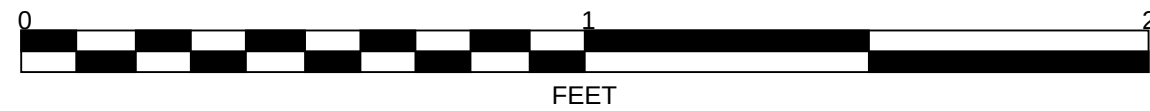
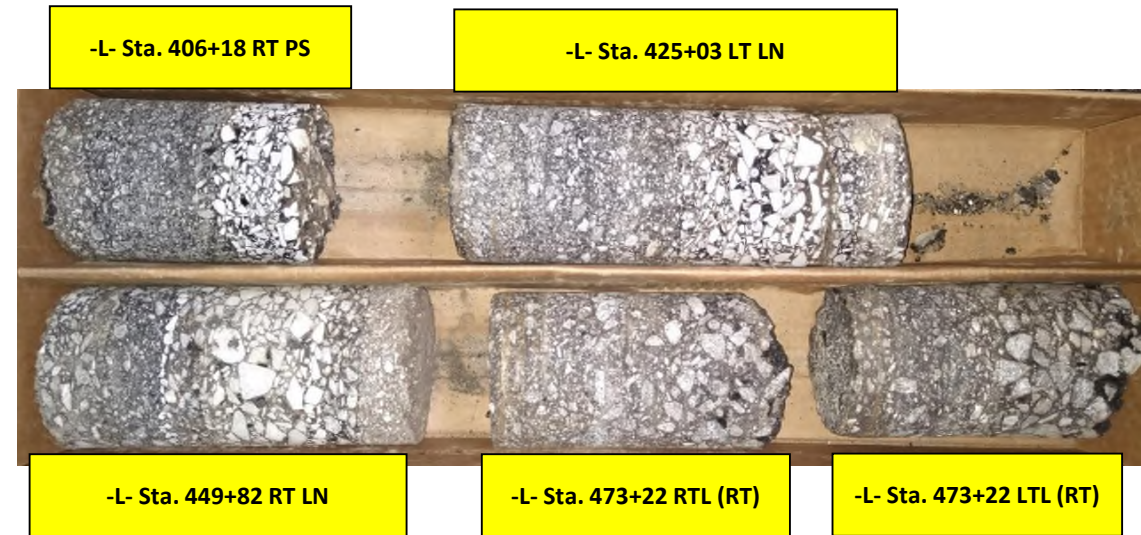
Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah

Pavement Core Photographs



Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah

Pavement Core Photographs





LABORATORY TEST RESULTS

Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah

Greenville, NC

NCDOT Project: A-0009C

Falcon Engineering Project No: G21039.00

NO.	SAMPLE LOCATION	DEPTH INTERVAL	AASHTO CLASS.	ATTERBERG LIMITS		PERCENT BY WEIGHT				PERCENT PASSING SIEVE			MOISTURE (%)	BULK DENSITY (pcf)	ORGANICS (%)
				LL	PI	C.SAND	F.SAND	SILT	CLAY	#10	#40	#200			
Bulk-1	-L-62+07	1.0-3.0	A-4(0)	34	0	21	47	16	16	100	89	43	28	102.5	N/A
Bulk-2	-L-83+40	1.0-3.0	A-4(0)	30	0	13	56	25	6	100	94	47	18	101.1	N/A
Bulk-3	-L-154+52	1.0-3.0	A-4(0)	30	0	13	57	26	4	100	93	45	20	96.6	N/A
Bulk-4	-L-321+08	1.0-3.0	A-4(0)	23	0	29	39	24	8	100	87	42	18	101.7	N/A
Bulk-5	-L-336+69	15.0-20.0	A-4(0)	30	1	15	22	46	17	99	87	71	19	101.5	N/A
Bulk-6	-Y2-29+49	1.0-3.0	A-4(1)	34	0	7	36	46	11	100	96	73	11	93.6	N/A
Bulk-7	-Y2-46+66	1.0-3.0	A-4(0)	31	2	19	33	25	23	100	89	56	30	103.1	N/A
Bulk-8	-Y2-101+08	1.0-3.0	A-4(0)	26	0	24	30	36	10	100	85	55	20	102.1	N/A
S-08	-L-11+25	1.3-5.0	A-4(0)	21	0	23	43	20	14	98	86	41	13	N/A	N/A
S-10	-L-11+25	1.3-5.0	A-6(7)	35	15	12	30	18	40	96	91	62	23	N/A	N/A
S-11	-L-25+69	1.3-5.0	A-4(0)	27	7	24	28	24	24	74	62	40	11	N/A	N/A
S-13	-L-28+16	1.3-5.0	A-6(6)	34	11	11	28	23	38	97	92	65	19	N/A	N/A
S-15	-L-45+24	1.3-5.0	A-4(0)	26	0	9	42	34	15	99	95	62	16	N/A	N/A
S-17	-L-64+87	1.3-5.0	A-4(0)	29	1	6	26	49	19	96	92	76	16	N/A	N/A
S-19	-L-104+90	1.3-5.0	A-4(0)	25	1	17	37	31	15	86	77	49	13	N/A	N/A
S-20	-L-125+06	1.4-3.0	A-4(3)	30	7	12	25	32	31	98	90	69	19	N/A	N/A
S-21	-L-145+07	1.4-5.0	A-4(0)	26	0	16	33	30	21	92	83	56	16	N/A	N/A
S-25	-L-173+11	1.4-5.0	A-4(0)	32	0	13	29	39	19	91	83	62	17	N/A	N/A
S-26	-L-190+26	1.4-5.0	A-4(0)	27	0	15	31	36	18	86	77	55	16	N/A	N/A
S-27	-L-204+46	1.4-3.0	A-4(0)	30	1	10	31	40	19	100	94	69	19	N/A	N/A
S-29	-L-245+17	1.5-4.0	A-4(0)	27	1	16	25	39	20	86	77	58	15	N/A	N/A
S-31	-L-284+98	1.4-5.0	A-4(0)	24	1	9	43	29	19	99	95	58	14	N/A	N/A
S-33	-L-324+92	1.4-5.0	A-4(0)	22	1	22	36	26	16	97	85	48	11	N/A	N/A
S-35	-L-365+20	1.6-5.0	A-4(2)	33	1	1	26	55	18	100	100	87	14	N/A	N/A
S-38	-L-385+02	1.3-4.0	A-4(0)	28	0	14	29	40	17	70	63	48	14	N/A	N/A
S-40	-L-406+18	1.1-5.0	A-4(0)	25	0	17	23	43	17	80	71	55	13	N/A	N/A
S-41	-L-425+03	1.7-3.0	A-4(0)	22	0	17	31	35	17	100	89	61	11	N/A	N/A
S-43	-L-473+22	1.7-5.0	A-4(0)	28	1	11	30	42	17	96	89	69	16	N/A	N/A
S-46	-Y2-21+87	1.0-3.0	A-4(0)	29	0	12	24	43	21	92	84	69	16	N/A	N/A
S-47	-Y2-21+87	0.8-5.0	A-4(1)	34	1	9	27	46	18	93	87	70	23	N/A	N/A

Reviewed By

Certification: 105-0803

Falcon Engineering, Inc. 1210 Trinity Road, Suite 110, Cary, NC 27513



LABORATORY TEST RESULTS

Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah
Greenville, NC

NCDOT Project: A-0009C

Falcon Engineering Project No: G21039.00

NO.	SAMPLE LOCATION	DEPTH INTERVAL	AASHTO CLASS.	ATTERBERG LIMITS		PERCENT BY WEIGHT				PERCENT PASSING SIEVE			MOISTURE (%)	BULK DENSITY (pcf)	ORGANICS (%)
				LL	PI	C.SAND	F.SAND	SILT	CLAY	#10	#40	#200			
S-48	-Y2-40+61	1.5-5.0	A-4(1)	32	1	9	24	44	23	93	87	72	17	N/A	N/A
S-50	-Y2-79+85	1.3-5.0	A-4(0)	31	0	11	22	48	19	95	87	74	18	N/A	N/A
S-51	-Y2-100+31	1.5-5.0	A-4(0)	28	0	14	26	43	17	100	91	70	18	N/A	N/A
S-54	-Y2-140+29	1.4-5.0	A-4(0)	26	0	15	23	47	15	85	76	60	18	N/A	N/A
S-55	-Y2-165+10	1.1-5.0	A-4(0)	26	0	18	25	41	16	83	73	54	15	N/A	N/A
S-57	-Y2-165+10	1.8-5.0	A-4(0)	31	0	17	27	32	24	99	88	63	17	N/A	N/A
S-59	-Y1-35+96	1.4-4.0	A-4(0)	25	0	19	46	21	14	96	86	44	11	N/A	N/A

Reviewed By

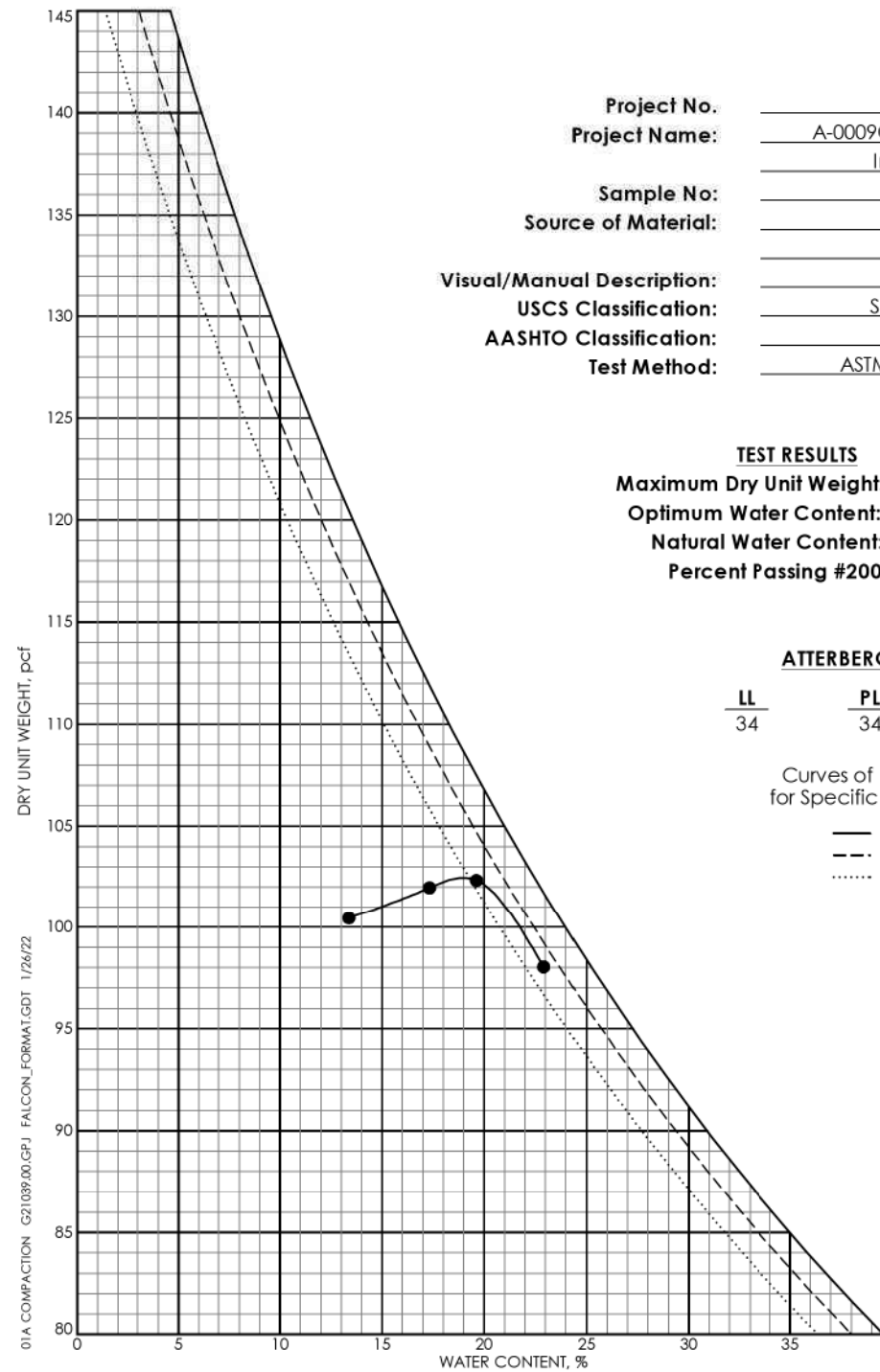
Certification: 105-0803

Falcon Engineering, Inc. 1210 Trinity Road, Suite 110, Cary, NC 27513



LABORATORY COMPACTION TEST RESULTS

PAGE 1 OF 8



Project No: G21039.00

Project Name: A-0009C Proposed Corridor Improvements

Sample No: Bulk-1

Source of Material: -L-62+07

Visual/Manual Description: Dark Brown

USCS Classification: SILTY SAND(SM)

AASHTO Classification: A-4

Test Method: ASTM D698 Method A

TEST RESULTS

Maximum Dry Unit Weight: 102.5 PCF

Optimum Water Content: 19.0 %

Natural Water Content: 27.6 %

Percent Passing #200: 43.5 %

ATTERBERG LIMITS

LL 34 PL 34 PI NP

Curves of 100% Saturation for Specific Gravity Equal to:

2.6

2.5

2.4

FALCON ENGINEERING

1210 TRINITY RD., SUITE 110, Cary, NC 27513

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T-193 / ASTM D-1883

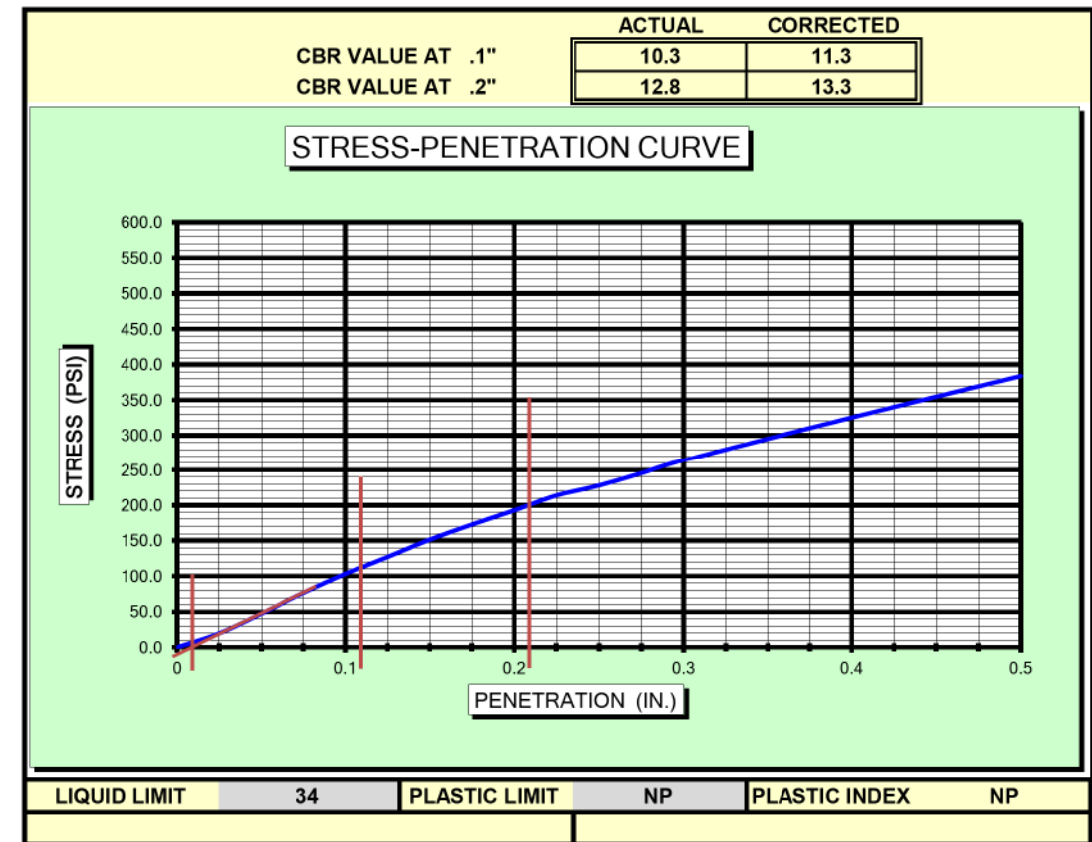
PROJECT #: G21039.00TEST PERFORMED BY: JG / CSDATE: 1/21/2022

PROJECT NAME: CG2 A-0009C

Boring #: Bulk-1SAMPLE #: Bulk-1DEPTH: 1.0-3.0

SOIL DESCRIPTION: Silty Sand (SM) | A-4

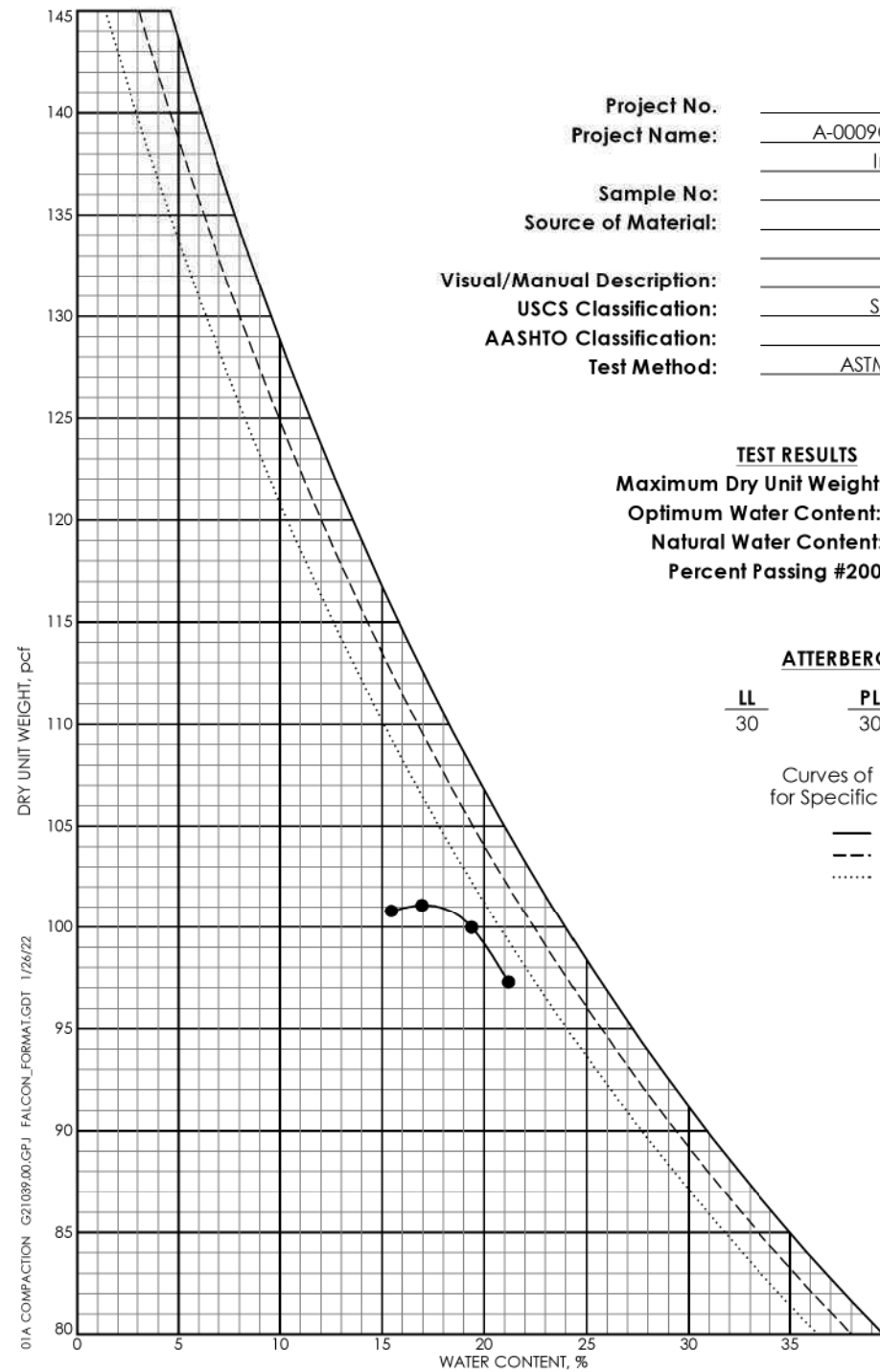
COMPACTION METHOD	ASTM D1883	SOAK	96 HRS.
MAXIMUM DRY DENSITY	102.5 PCF	STRAIN RATE	.05 IN / MIN.
OPTIMUM MOISTURE CONTENT	19.0%	LOAD CELL	6000
TEST DATA		SURCHARGE WEIGHT	10 lb.
DRY DENSITY	100.7 PCF	SURCHARGE PER SQUARE FOOT	51 lbs/sq.ft.
MOISTURE CONTENT	19.1%	FINAL MOISTURE CONTENT	22.5%
PERCENT COMPACTION	98.3%	SWELL	0.15%





LABORATORY COMPACTION TEST RESULTS

PAGE 2 OF 8



Project No:

G21039.00

Project Name:

A-0009C Proposed Corridor Improvements

Sample No:

Bulk-2

Source of Material:

-L-83+40

Visual/Manual Description:

Brown

USCS Classification:

SILTY SAND(SM)

AASHTO Classification:

A-4

Test Method:

ASTM D698 Method A

TEST RESULTS

Maximum Dry Unit Weight:

101.1 PCF

Optimum Water Content:

17.1 %

Natural Water Content:

17.7 %

Percent Passing #200:

46.6 %

ATTERBERG LIMITS

LL

30

PL

30

PI

NP

Curves of 100% Saturation for Specific Gravity Equal to:

—

2.6

- - -

2.5

.....

2.4

FALCON ENGINEERING

1210 TRINITY RD., SUITE 110, Cary, NC 27513

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T-193 / ASTM D-1883

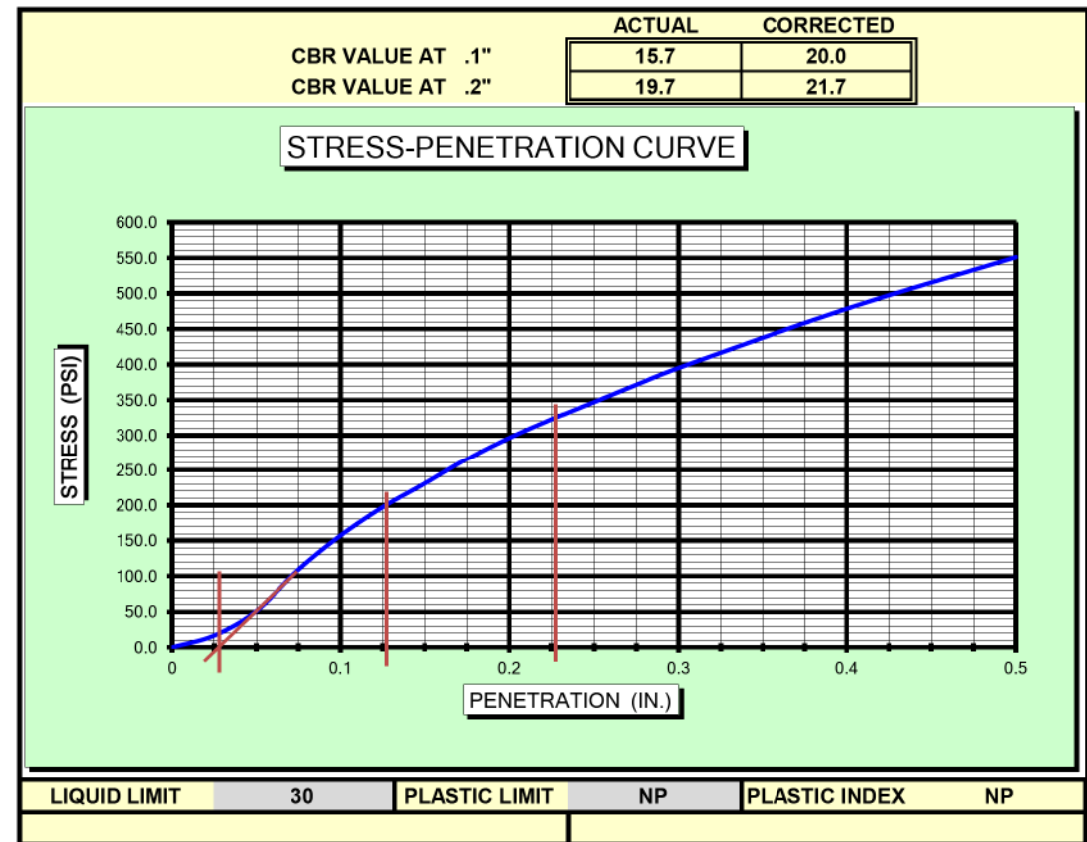
PROJECT #: G21039.00TEST PERFORMED BY: JG / CSDATE: 1/21/2022

PROJECT NAME: CG2 A-0009C

Boring #: Bulk-2SAMPLE #: Bulk-2DEPTH: 1.0-3.0

SOIL DESCRIPTION: Silty Sand (SM) | A-4

COMPACTION METHOD	ASTM D1883	SOAK	96 HRS.
MAXIMUM DRY DENSITY	101.1 PCF	STRAIN RATE	.05 IN / MIN.
OPTIMUM MOISTURE CONTENT	17.1%	LOAD CELL	6000
TEST DATA		SURCHARGE WEIGHT	10 lb.
DRY DENSITY	99.4 PCF	SURCHARGE PER SQUARE FOOT	51 lbs/sq.ft.
MOISTURE CONTENT	17.0%	FINAL MOISTURE CONTENT	24.0%
PERCENT COMPACTION	98.4%	SWELL	0.09%



STRESS-PENETRATION CURVE

LIQUID LIMIT

30

PLASTIC LIMIT

NP

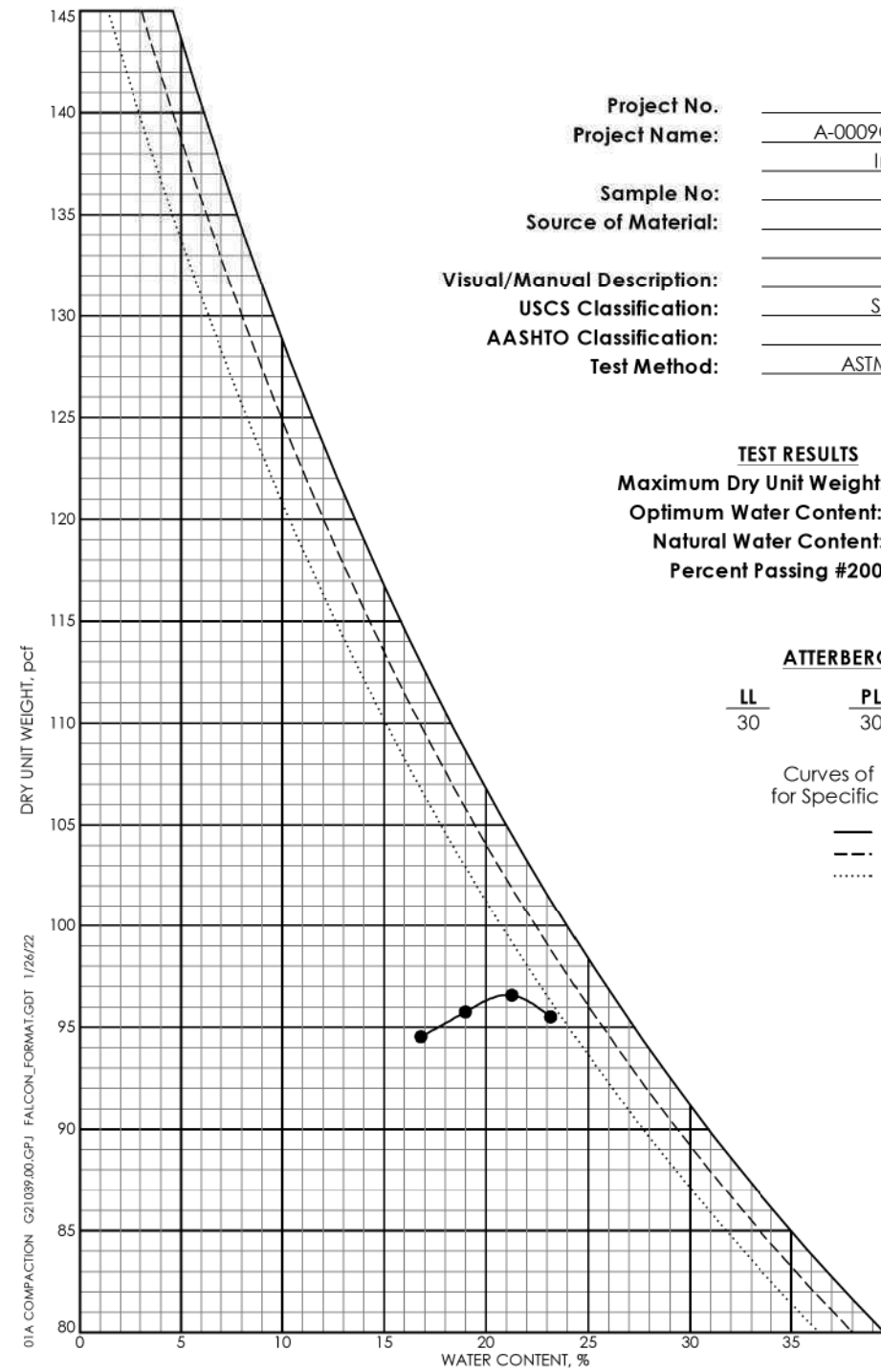
PLASTIC INDEX

NP



LABORATORY COMPACTION TEST RESULTS

PAGE 3 OF 8



Project No: G21039.00
Project Name: A-0009C Proposed Corridor Improvements
Sample No: Bulk-3
Source of Material: -L-154+52
Visual/Manual Description: Brown
USCS Classification: SILTY SAND(SM)
AASHTO Classification: A-4
Test Method: ASTM D698 Method A

TEST RESULTS
Maximum Dry Unit Weight: 96.6 PCF
Optimum Water Content: 21.0 %
Natural Water Content: 19.9 %
Percent Passing #200: 45.0 %

ATTERBERG LIMITS
LL 30 PL 30 PI NP
Curves of 100% Saturation for Specific Gravity Equal to:
— 2.6
- - - 2.5
..... 2.4

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T-193 / ASTM D-1883

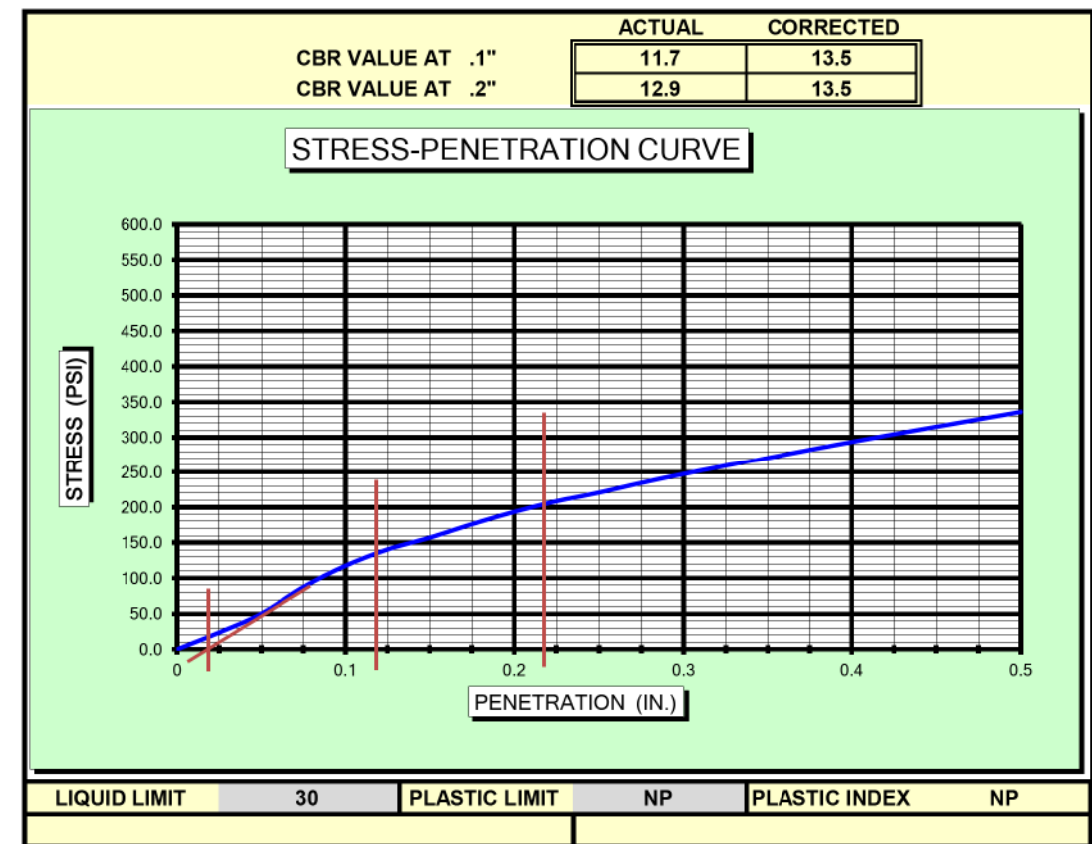
PROJECT #: G21039.00TEST PERFORMED BY: JG / CSDATE: 1/21/2022

PROJECT NAME: CG2 A-0009C

Boring #: Bulk-3SAMPLE #: Bulk-3DEPTH: 1.0-3.0

SOIL DESCRIPTION: Silty Sand (SM) | A-4

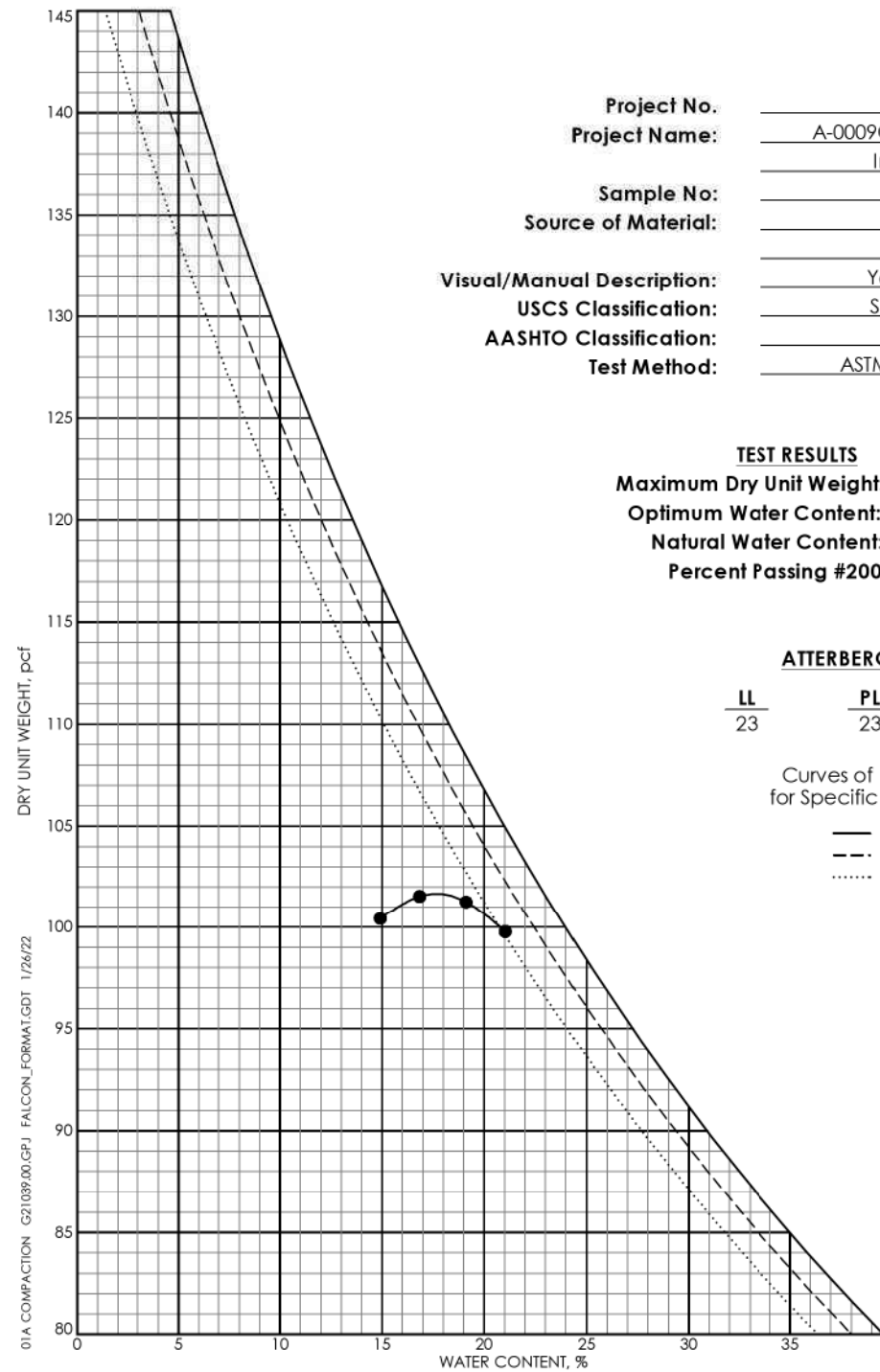
COMPACTION METHOD		ASTM D1883	SOAK	96 HRS.
MAXIMUM DRY DENSITY		96.6 PCF	STRAIN RATE	.05 IN / MIN.
OPTIMUM MOISTURE CONTENT		21.0%	LOAD CELL	6000
TEST DATA			SURCHARGE WEIGHT	10 lb.
DRY DENSITY		94.8 PCF	SURCHARGE PER SQUARE FOOT	51 lbs/sq.ft.
MOISTURE CONTENT		21.1%	FINAL MOISTURE CONTENT	27.4%
PERCENT COMPACTION		98.2%	SWELL	0.28%





LABORATORY COMPACTION TEST RESULTS

PAGE 4 OF 8



Project No:

G21039.00

Project Name:

A-0009C Proposed Corridor Improvements

Sample No:

Bulk-4

Source of Material:

-L-321+08

Visual/Manual Description:

Yellowish Brown

USCS Classification:

SILTY SAND(SM)

AASHTO Classification:

A-4

Test Method:

ASTM D698 Method A

TEST RESULTS

Maximum Dry Unit Weight: 101.7 PCF

Optimum Water Content: 17.7 %

Natural Water Content: 18.1 %

Percent Passing #200: 42.3 %

ATTERBERG LIMITS

LL 23, PL 23, PI NP

Curves of 100% Saturation for Specific Gravity Equal to: 2.4, 2.5, 2.6

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T-193 / ASTM D-1883

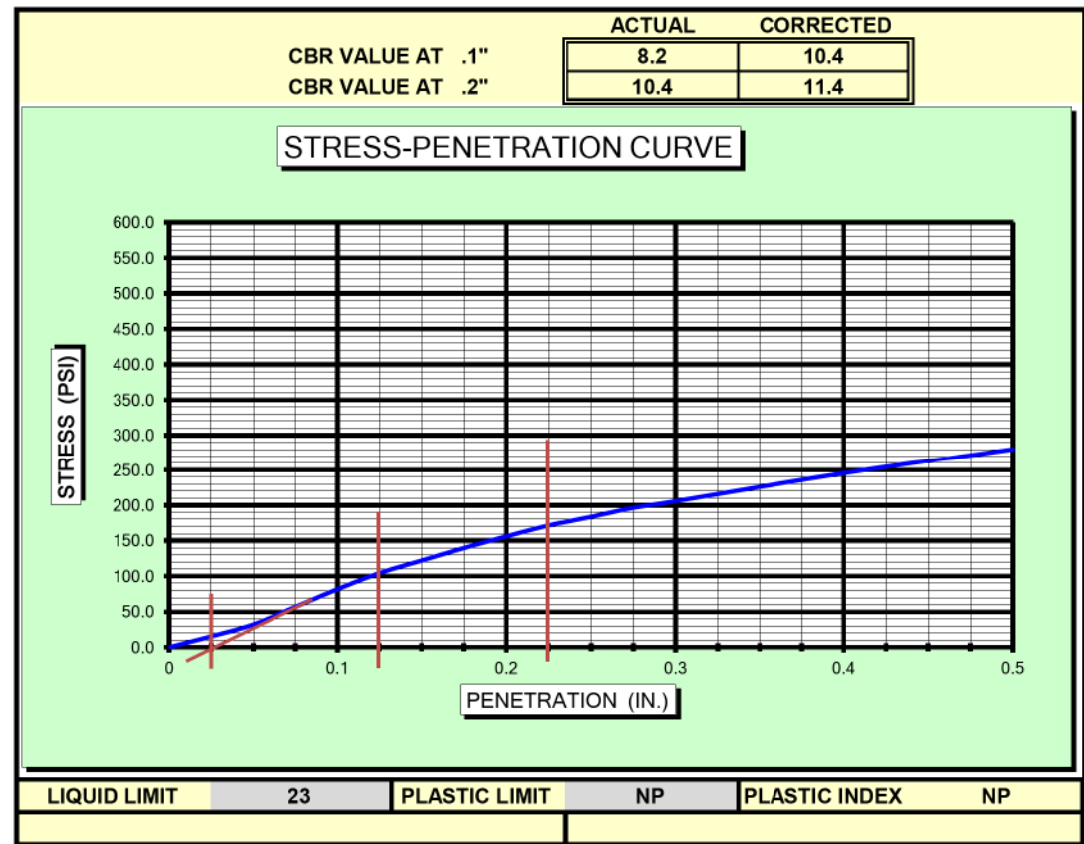
PROJECT #: G21039.00TEST PERFORMED BY: JG / CSDATE: 1/21/2022

PROJECT NAME: CG2 A-0009C

Boring #: Bulk-4SAMPLE #: Bulk-4DEPTH: 1.0-3.0

SOIL DESCRIPTION: Silty Sand (SM) | A-4

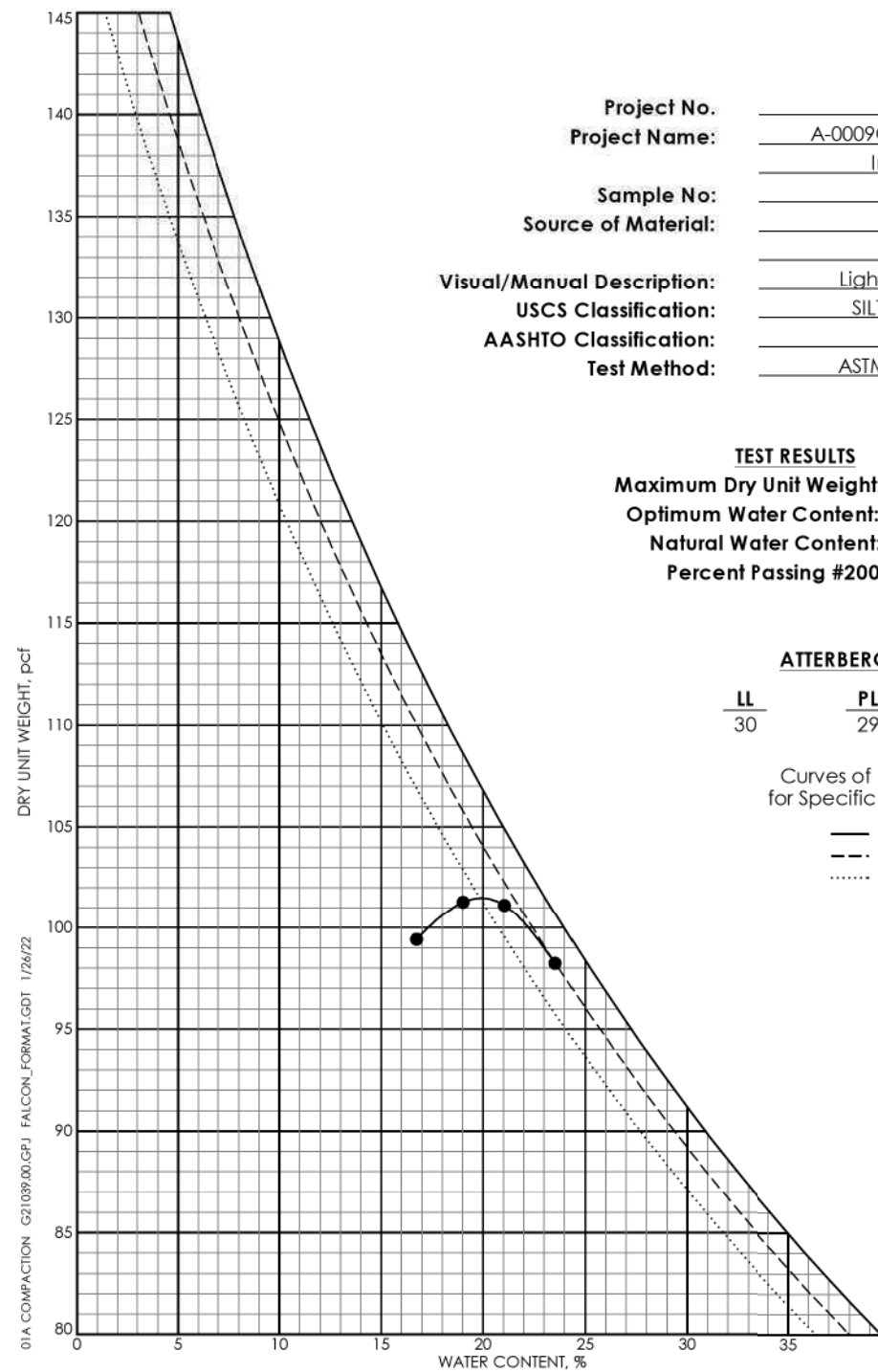
COMPACTION METHOD	ASTM D1883	SOAK	96 HRS.
MAXIMUM DRY DENSITY	101.7 PCF	STRAIN RATE	.05 IN / MIN.
OPTIMUM MOISTURE CONTENT	17.7%	LOAD CELL	6000
TEST DATA		SURCHARGE WEIGHT	10 lb.
DRY DENSITY	99.9 PCF	SURCHARGE PER SQUARE FOOT	51 lbs/sq.ft.
MOISTURE CONTENT	17.7%	FINAL MOISTURE CONTENT	26.7%
PERCENT COMPACTION	98.2%	SWELL	0.93%





LABORATORY COMPACTION TEST RESULTS

PAGE 5 OF 8



Project No: G21039.00

Project Name: A-0009C Proposed Corridor Improvements

Sample No: Bulk-5

Source of Material: -L-336+69

Visual/Manual Description: Light Yellowish Brown

USCS Classification: SILT with SAND (ML)

AASHTO Classification: A-4

Test Method: ASTM D698 Method A

TEST RESULTS

Maximum Dry Unit Weight: 101.5 PCF

Optimum Water Content: 19.9 %

Natural Water Content: 18.8 %

Percent Passing #200: 71.4 %

ATTERBERG LIMITS

LL 30, PL 29, PI 1

Curves of 100% Saturation for Specific Gravity Equal to:

2.6 (solid line), 2.5 (dashed line), 2.4 (dotted line)

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T-193 / ASTM D-1883

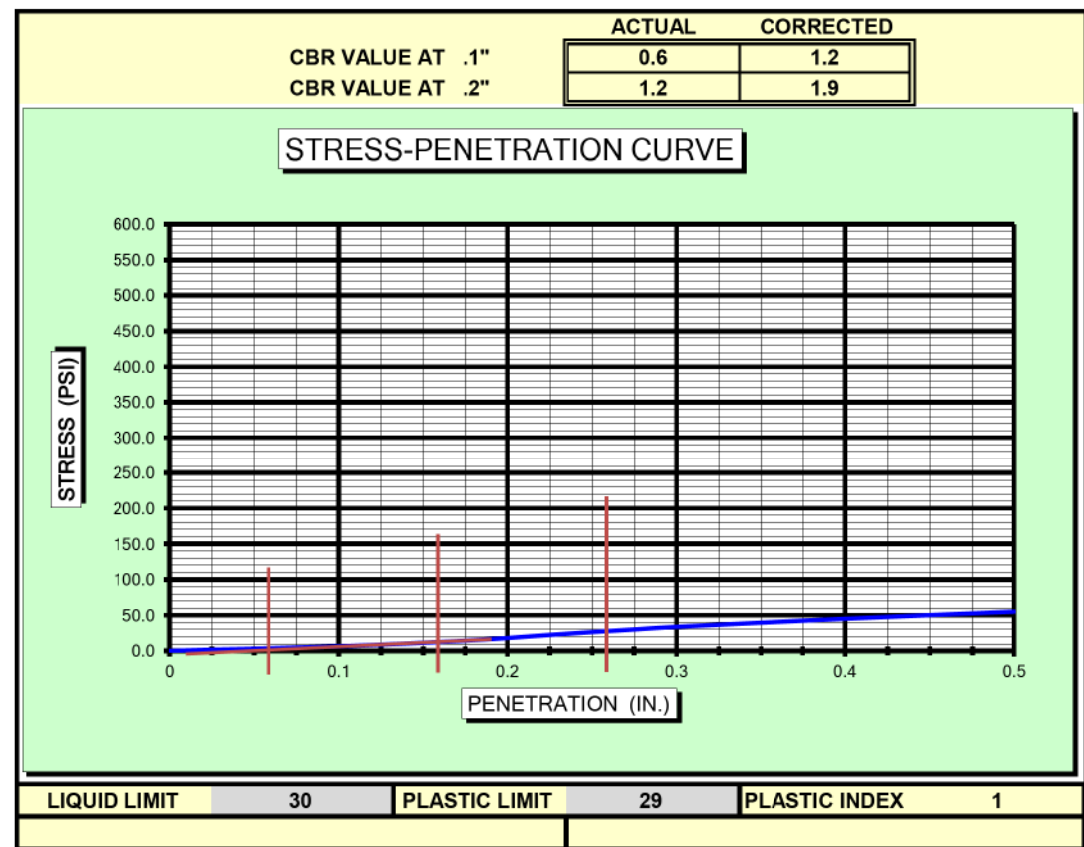
PROJECT #: G21039.00TEST PERFORMED BY: JG / CSDATE: 1/21/2022

PROJECT NAME: CG2 A-0009C

Boring #: Bulk-5SAMPLE #: Bulk-5DEPTH: 15.0-20.0

SOIL DESCRIPTION: Silt with Sand (ML) | A-4

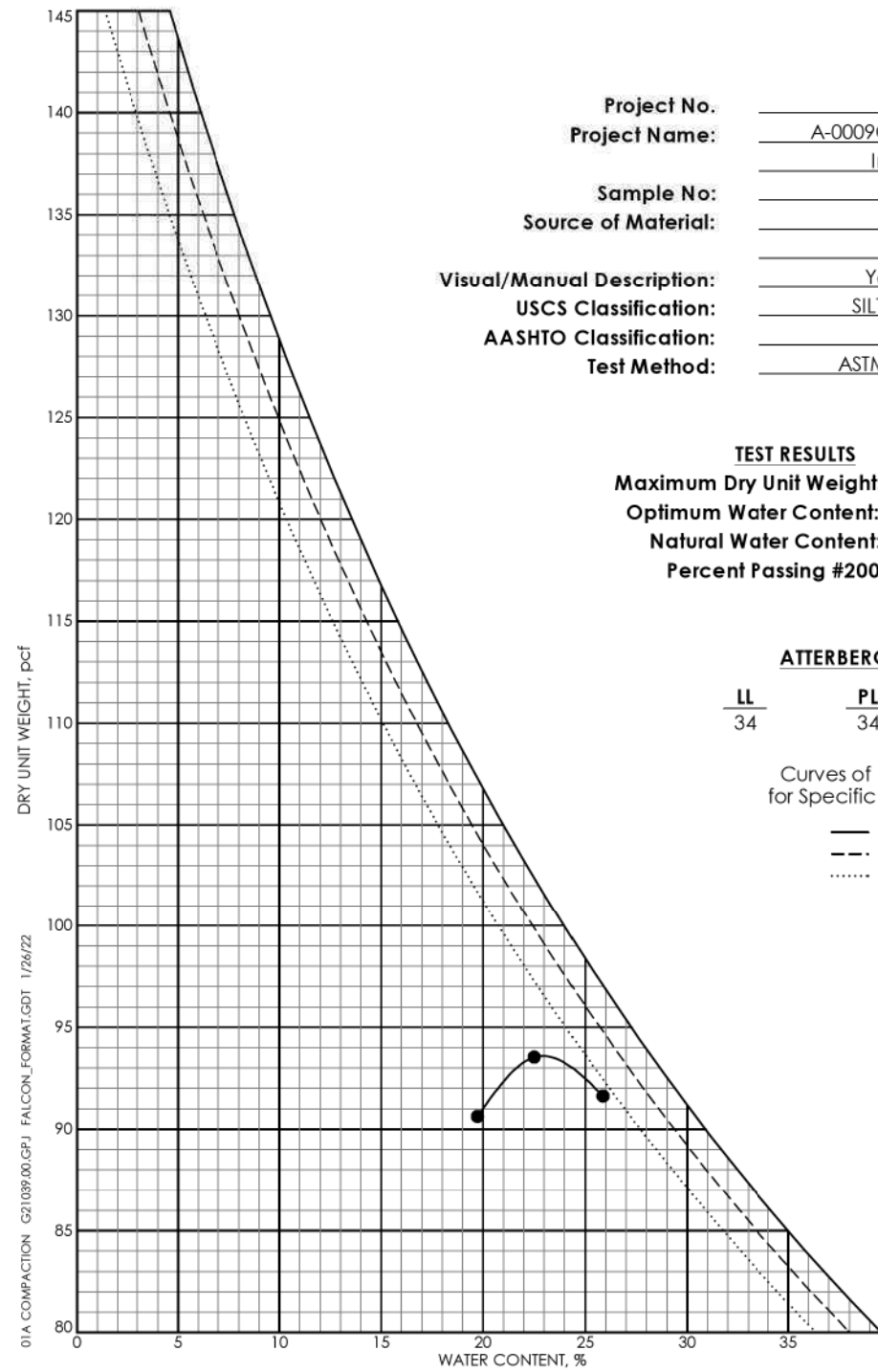
COMPACTION METHOD	ASTM D1883	SOAK	96 HRS.
MAXIMUM DRY DENSITY	101.5 PCF	STRAIN RATE	.05 IN / MIN.
OPTIMUM MOISTURE CONTENT	19.9%	LOAD CELL	6000
TEST DATA		SURCHARGE WEIGHT	10 lb.
DRY DENSITY	99.6 PCF	SURCHARGE PER SQUARE FOOT	51 lbs/sq.ft.
MOISTURE CONTENT	19.9%	FINAL MOISTURE CONTENT	32.6%
PERCENT COMPACTION	98.1%	SWELL	4.04%





LABORATORY COMPACTION TEST RESULTS

PAGE 6 OF 8



Project No: G21039.00
Project Name: A-0009C Proposed Corridor Improvements
Sample No: Bulk-6
Source of Material: -Y2-29+49
Visual/Manual Description: Yellowish Brown
USCS Classification: SILT with SAND (ML)
AASHTO Classification: A-4
Test Method: ASTM D698 Method A

TEST RESULTS
Maximum Dry Unit Weight: 93.6 PCF
Optimum Water Content: 22.9 %
Natural Water Content: 10.9 %
Percent Passing #200: 73.4 %

ATTERBERG LIMITS
LL 34 PL 34 PI NP
Curves of 100% Saturation for Specific Gravity Equal to:
2.6
2.5
2.4

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T-193 / ASTM D-1883

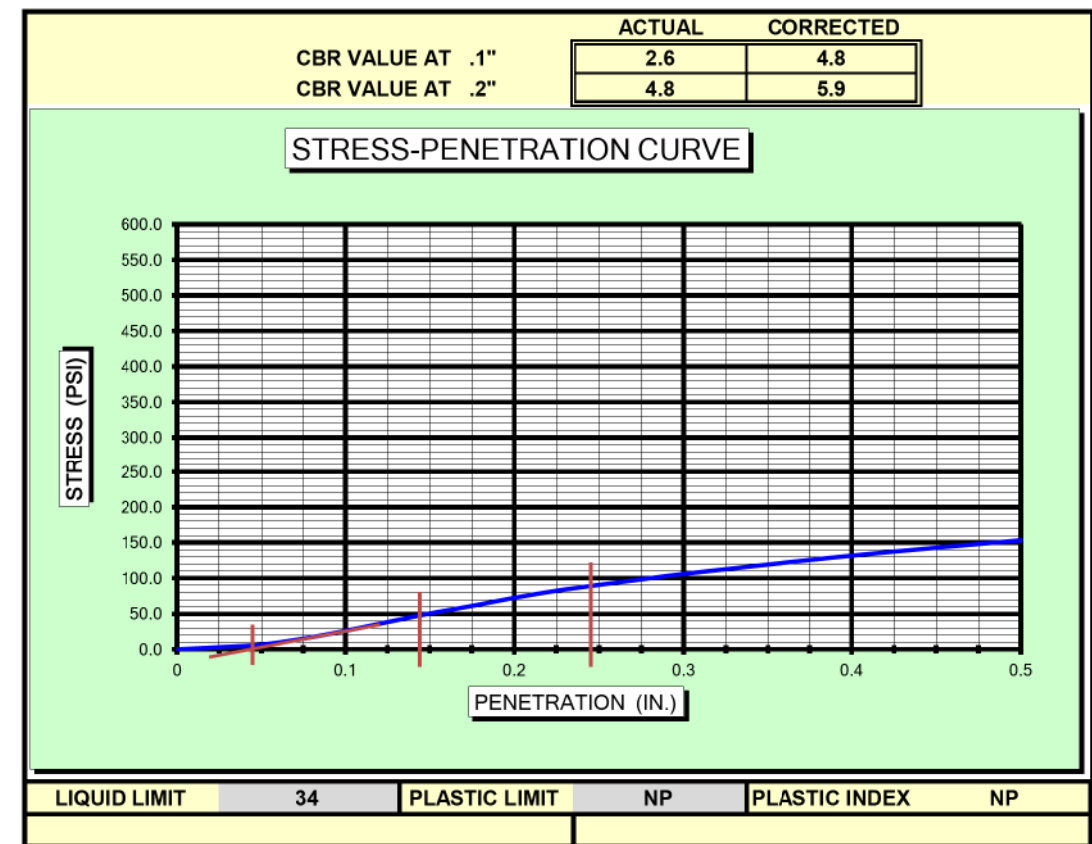
PROJECT #: G21039.00TEST PERFORMED BY: JG / CSDATE: 1/21/2022

PROJECT NAME: CG2 A-0009C

Boring #: Bulk-6SAMPLE #: Bulk-6DEPTH: 1.0-3.0

SOIL DESCRIPTION: Silt with Sand (ML) | A-4

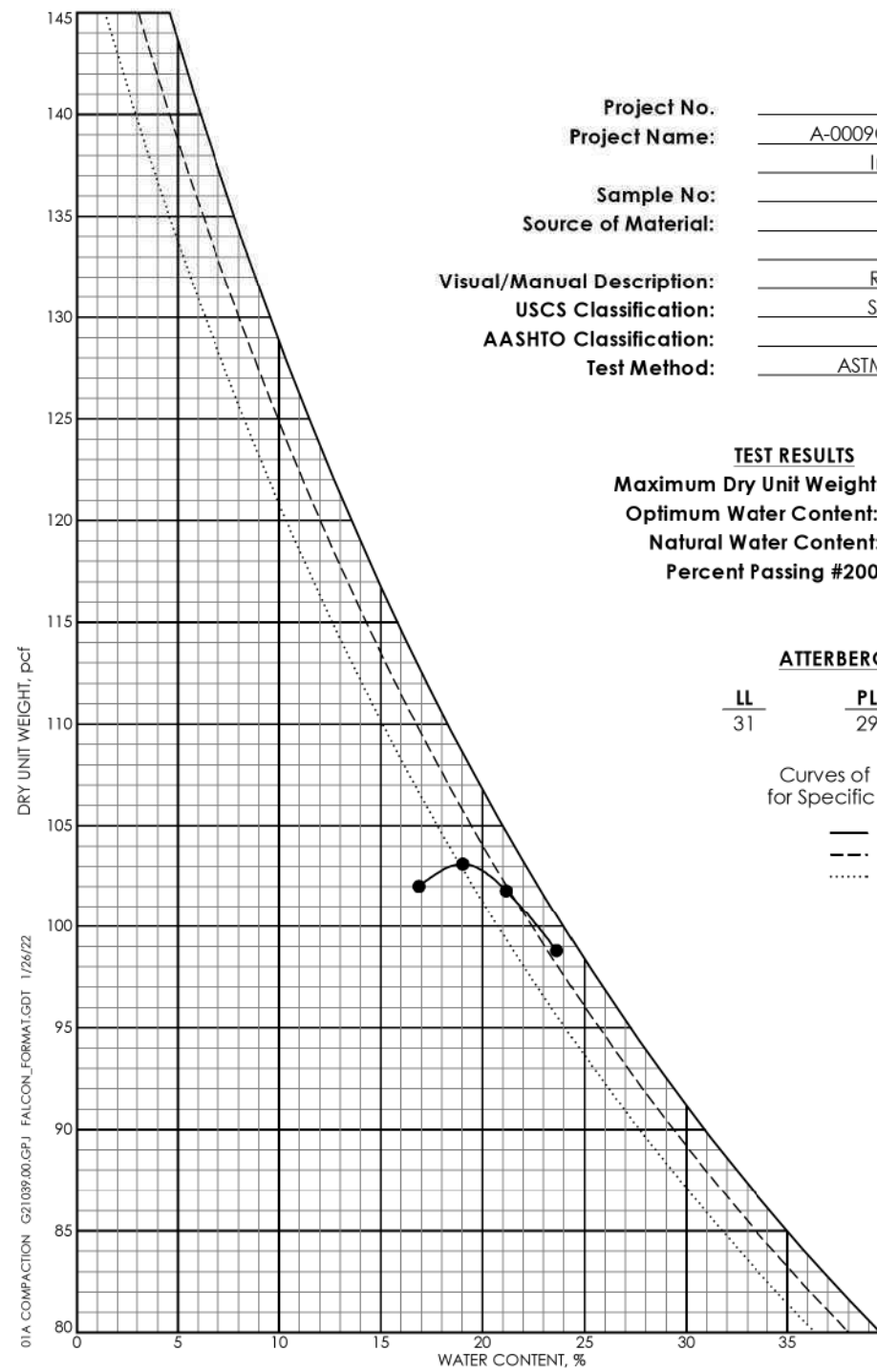
COMPACTION METHOD		ASTM D1883	SOAK	96 HRS.
MAXIMUM DRY DENSITY		93.6 PCF	STRAIN RATE	.05 IN / MIN.
OPTIMUM MOISTURE CONTENT		22.9%	LOAD CELL	6000
TEST DATA			SURCHARGE WEIGHT	10 lb.
DRY DENSITY		91.7 PCF	SURCHARGE PER SQUARE FOOT	51 lbs/sq.ft.
MOISTURE CONTENT		22.9%	FINAL MOISTURE CONTENT	35.6%
PERCENT COMPACTION		98.0%	SWELL	2.26%





LABORATORY COMPACTION TEST RESULTS

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Project No: G21039.00

Project Name: A-0009C Proposed Corridor Improvements

Sample No: Bulk-7

Source of Material: -Y2-46+66

Visual/Manual Description: Reddish Brown

USCS Classification: SANDY SILT (ML)

AASHTO Classification: A-4

Test Method: ASTM D698 Method A

TEST RESULTS

Maximum Dry Unit Weight: 103.1 PCF

Optimum Water Content: 19.0 %

Natural Water Content: 30.4 %

Percent Passing #200: 56.1 %

ATTERBERG LIMITS

LL 31, PL 29, PI 2

Curves of 100% Saturation for Specific Gravity Equal to:

2.6 (solid line), 2.5 (dashed line), 2.4 (dotted line)

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T-193 / ASTM D-1883

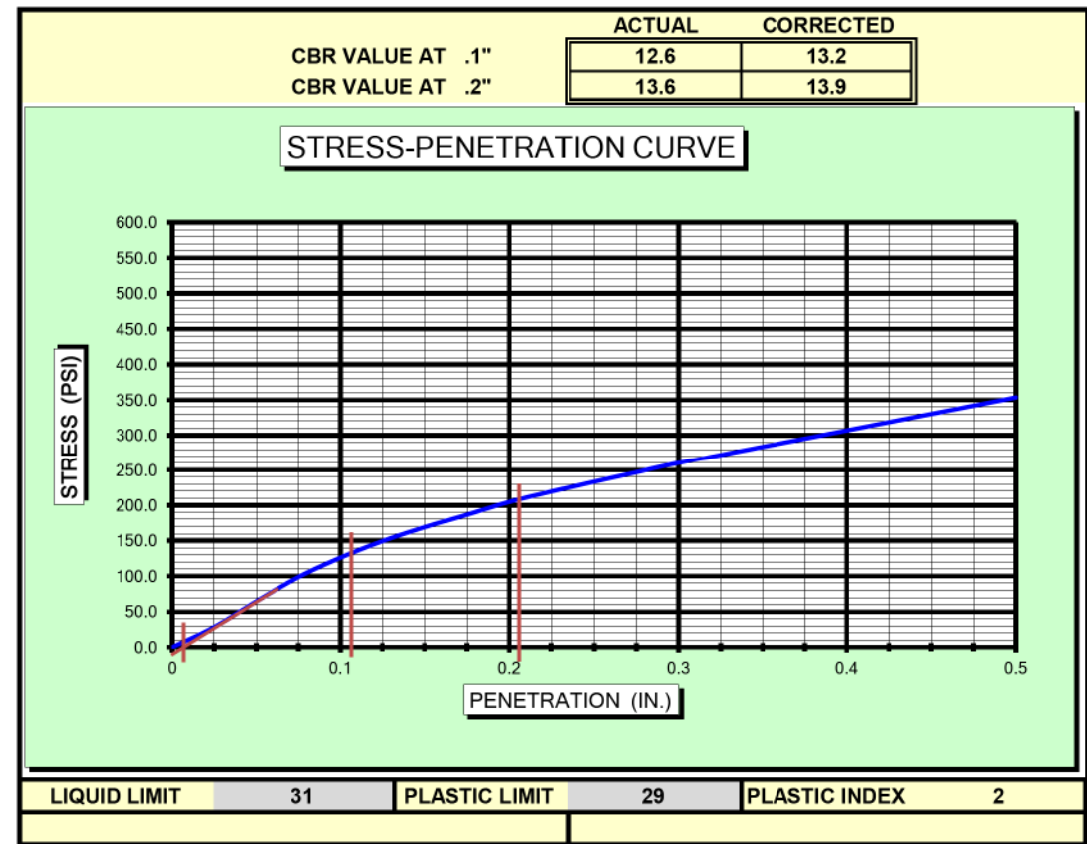
PROJECT #: G21039.00TEST PERFORMED BY: JG / CSDATE: 1/21/2022

PROJECT NAME: CG2 A-0009C

Boring #: Bulk-7SAMPLE #: Bulk-7DEPTH: 1.0-3.0

SOIL DESCRIPTION: Sandy Silt (ML) | A-4

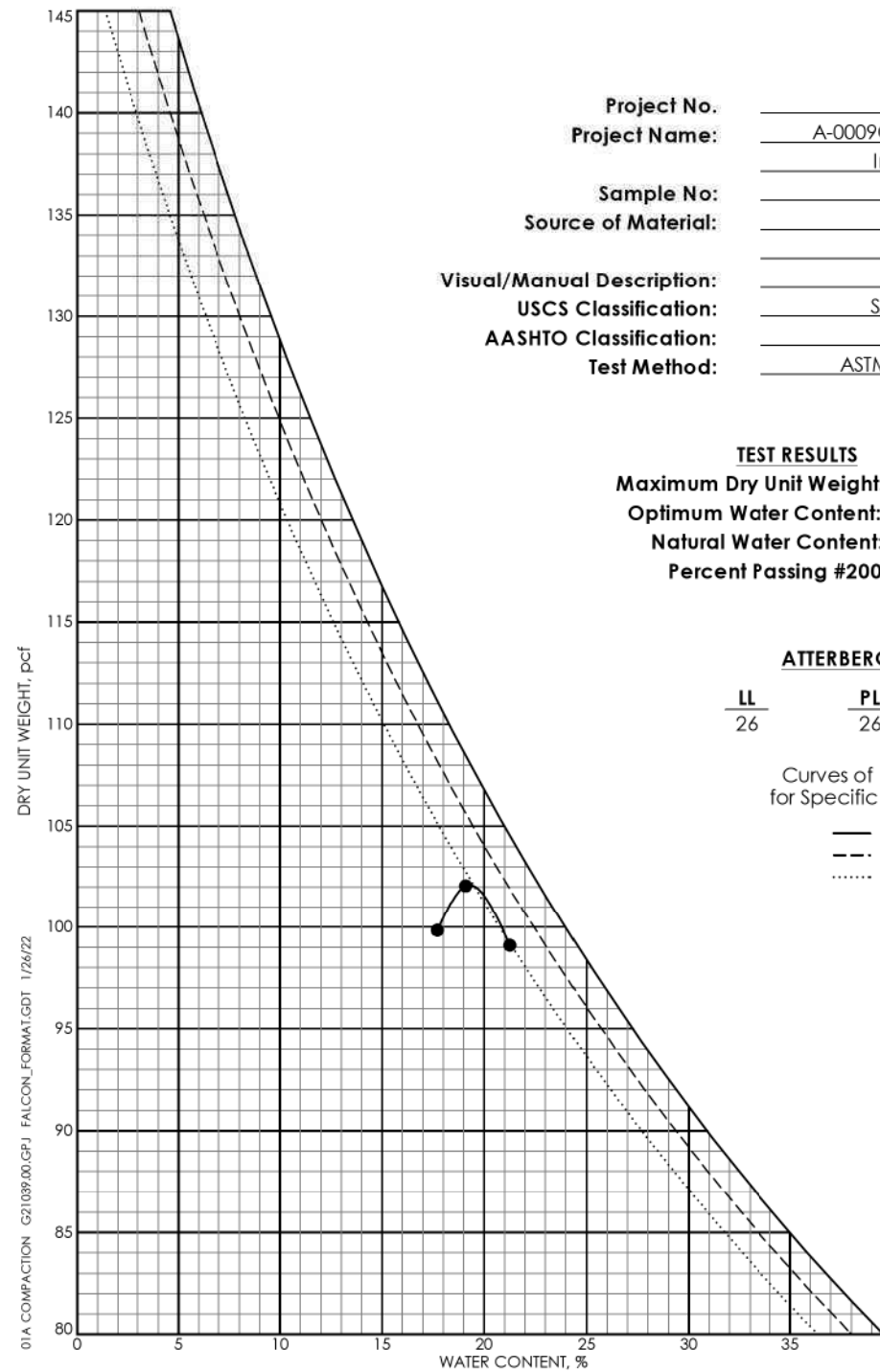
COMPACTION METHOD	ASTM D1883	SOAK	96 HRS.
MAXIMUM DRY DENSITY	103.1 PCF	STRAIN RATE	.05 IN / MIN.
OPTIMUM MOISTURE CONTENT	19.0%	LOAD CELL	6000
TEST DATA		SURCHARGE WEIGHT	10 lb.
DRY DENSITY	101.5 PCF	SURCHARGE PER SQUARE FOOT	51 lbs/sq.ft.
MOISTURE CONTENT	19.0%	FINAL MOISTURE CONTENT	26.7%
PERCENT COMPACTION	98.5%	SWELL	0.69%





LABORATORY COMPACTION TEST RESULTS

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Project No: G21039.00
Project Name: A-0009C Proposed Corridor Improvements
Sample No: Bulk-8
Source of Material: -Y2-101+08
Visual/Manual Description: Brown
USCS Classification: SANDY SILT (ML)
AASHTO Classification: A-4
Test Method: ASTM D698 Method A

TEST RESULTS
Maximum Dry Unit Weight: 102.1 PCF
Optimum Water Content: 19.3 %
Natural Water Content: 19.6 %
Percent Passing #200: 54.9 %

ATTERBERG LIMITS
LL 26 PL 26 PI NP
Curves of 100% Saturation for Specific Gravity Equal to:
— 2.6
- - - 2.5
..... 2.4

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CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T-193 / ASTM D-1883

PROJECT #: G21039.00TEST PERFORMED BY: JG / CSDATE: 1/21/2022

PROJECT NAME: CG2 A-0009C

Boring #: Bulk-8SAMPLE #: Bulk-8DEPTH: 1.0-3.0

SOIL DESCRIPTION: Sandy Silt (ML) | A-4

COMPACTION METHOD	ASTM D1883	SOAK	96 HRS.
MAXIMUM DRY DENSITY	102.1 PCF	STRAIN RATE	.05 IN / MIN.
OPTIMUM MOISTURE CONTENT	19.3%	LOAD CELL	6000
TEST DATA		SURCHARGE WEIGHT	10 lb.
DRY DENSITY	100.0 PCF	SURCHARGE PER SQUARE FOOT	51 lbs/sq.ft.
MOISTURE CONTENT	19.5%	FINAL MOISTURE CONTENT	25.7%
PERCENT COMPACTION	97.9%	SWELL	0.54%

