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

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

REFERENCE: A-0009C

PROJECT: 32572

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CAUTION NOTICE

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

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2. BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

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PROJECT REFERENCE NO.	SHEET NO.
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE,
VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	A-1		A-3	A-2				A-4	A-5	A-6	A-7	A-1, A-2 A-3	A-4, A-5 A-6, A-7	
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5 A-7-6			
SYMBOL														
% PASSING #10	50 MX											GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
#40	30 MX	50 MX	51 MN											
#200	15 MX	25 MX	10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN			
MATERIAL PASSING #40 LL	—		—	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
PI	6 MX		NP	10 MX	10 MX	11 MN	11 MN	10 MX	10 MX	11 MN	11 MN			
GROUP INDEX	0		0	0		4 MX		8 MX	12 MX	16 MX	NO MX			
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS				
GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD							FAIR TO POOR				FAIR TO POOR	POOR	UNSUITABLE

PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTENCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH ($TONS/FT^2$)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	< 4 4 TO 10 10 TO 30 30 TO 50 > 50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD	< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30	< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4

TEXTURE OR GRAIN SIZE

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

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

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

SOIL MOISTURE - CORRELATION OF TERMS

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

PLASTICITY

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

COLOR

DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.

GRADATION

WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.
UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE.
GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.

ANGULARITY OF GRAINS

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

MINERALOGICAL COMPOSITION

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

COMPRESSIBILITY

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

PERCENTAGE OF MATERIAL

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

GROUND WATER

- WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
- STATIC WATER LEVEL AFTER 24 HOURS
- PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
- SPRING OR SEEP

MISCELLANEOUS SYMBOLS

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

RECOMMENDATION SYMBOLS

- UNDERCUT
- SHALLOW UNDERCUT
- UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE
- UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK
- UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL

ABBREVIATIONS

AR - AUGER REFUSAL
BT - BORING TERMINATED
CL. - CLAY
CPT - CONE PENETRATION TEST
CSE. - COARSE
DMT - DILATOMETER TEST
DPT - DYNAMIC PENETRATION TEST
e - VOID RATIO
F - FINE
FOSS. - FOSSILIFEROUS
FRAC. - FRACTURED, FRACTURES
FRAGS. - FRAGMENTS
HI. - HIGHLY
MED. - MEDIUM
MICA. - MICACEOUS
MOD. - MODERATELY
NP - NON PLASTIC
ORG. - ORGANIC
PMT - PRESSUREMETER TEST
SAP. - SAPROLITIC
SD. - SAND, SANDY
SL. - SILT, SILTY
SLI. - SLIGHTLY
TCR - TRICONE REFUSAL
w - MOISTURE CONTENT
V - VERY
VST - VANE SHEAR TEST
WEA. - WEATHERED
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

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

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] CME-45C
- [ ] CME-55
- [ ] CME-550X
- [ ] VANE SHEAR TEST
- [ ] PORTABLE HOIST
- [X] MOBILE B-29
- [ ] _____

ADVANCING TOOLS:
- [ ] CLAY BITS
- [ ] 6" CONTINUOUS FLIGHT AUGER
- [X] 4" SOLID STEM AUGERS
- [ ] HARD FACED FINGER BITS
- [ ] TUNG.-CARBIDE INSERTS
- [ ] CASING [ ] W/ ADVANCER
- [ ] TRICONE ____" STEEL TEETH
- [ ] TRICONE ____" TUNG.-CARB.
- [X] CORE BIT (4-INCH DIAMETER)
- [ ] _____

HAMMER TYPE:
- [ ] AUTOMATIC [ ] MANUAL

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

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

ROCK DESCRIPTION

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

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

WEATHERING

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

ROCK HARDNESS

VERY HARD	CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
HARD	CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.
MODERATELY HARD	CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.
MEDIUM HARD	CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
SOFT	CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.
VERY SOFT	CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL.

FRACTURE SPACING

TERM	SPACING
VERY WIDE	MORE THAN 10 FEET
WIDE	3 TO 10 FEET
MODERATELY CLOSE	1 TO 3 FEET
CLOSE	0.16 TO 1 FOOT
VERY CLOSE	LESS THAN 0.16 FEET

BEDDING

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

INDURATION

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

FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

TERMS AND DEFINITIONS

ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.

AQUIFER - A WATER BEARING FORMATION OR STRATA.

ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.

ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.

ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.

CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.

COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.

CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.

DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.

DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.

FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.

FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.

FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.

FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.

FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.

JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.

LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.

LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.

MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.

PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.

RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.

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

SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.

SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.

SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.

STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.

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

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

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

BENCH MARK: N/A

ELEVATION: FEET

NOTES:
ROADWAY DESIGN FILES DATED 01/25/22 PROVIDED BY NCDOT

- PAVEMENT CORE WITH DCP
- PAVEMENT CORE ONLY
- BULK SAMPLE

DATE: 8-15-14

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

ABBREVIATIONS

RT LN = Right Lane
LT LN = Left Lane
OSL = Outside Lane
ISL = Inside Lane
OSML = Outside Mid-Lane
ISML = Inside Mid-Lane
PS = Paved Shoulder
LTL = Left Turn Lane
RTL = Right Turn Lane
MID = Middle Lane
CTL = Center Turn Lane
ISWP = Inside Wheel Path
OSWP = Outside Wheel Path
PS = Paved Shoulder
FW = From White Line
FY = From Yellow Line
RT = Right
LT = Left
(I) = Inside
(O) = Outside
BOC = Back of Curb
C&G = Curb and Gutter
EOP = Edge of Pavement

CR = Crown
S = Super
C = Cut
F = Fill
DCP = Dynamic Cone Penetrometer
M = Moist
W = Wet
N/A = Not Observed
NSR = No Sample Recovered
S- = Soil Grab Sample
Ref- = Soil Reference Sample
SS- = Split Spoon Sample
RE = Roadway Embankment
F. = Fine
Cse. = Coarse
ABC = Aggregate Base Course
STBC = Soil Type Base Course
CSS = Cement Stabilized Soil
SG = Subgrade
Sa. = Sand/Sandy
Si. = Silt/Silty
Cl. = Clay/Clayey
WR = Weathered Rock

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	A-0009CA	3	68

STATE PROJ. NO.	F.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.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

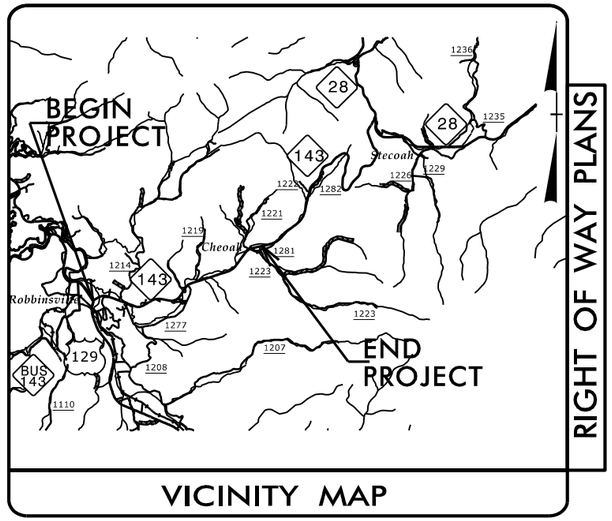
GRAHAM COUNTY

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

TIP PROJECT: A-0009CA

See Sheet 1A For Index of Sheets



VICINITY MAP

NAD 83/2011

PROPOSED SIGNAL

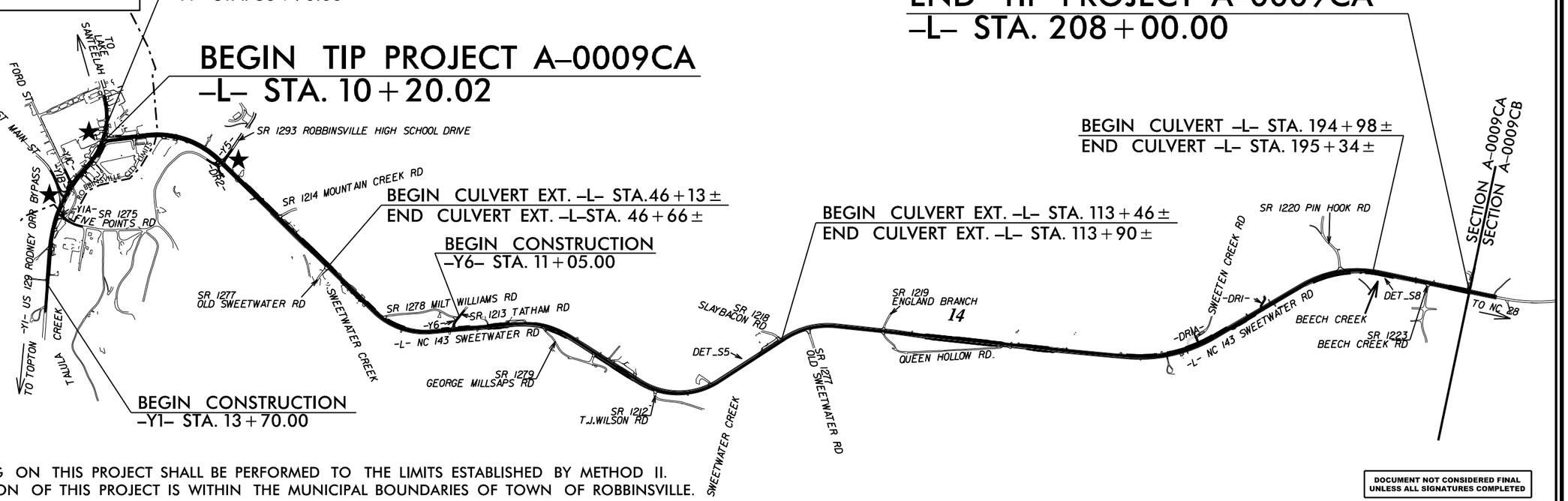
END CONSTRUCTION
-Y1- STA. 36+70.00

END TIP PROJECT A-0009CA
-L- STA. 208+00.00

BEGIN TIP PROJECT A-0009CA
-L- STA. 10+20.02

BEGIN CULVERT -L- STA. 194+98±
END CULVERT -L- STA. 195+34±

SECTION A-0009CA
SECTION A-0009CB



BEGIN CULVERT EXT. -L- STA.46+13±
END CULVERT EXT. -L-STA. 46+66±

BEGIN CONSTRUCTION
-Y6- STA. 11+05.00

BEGIN CULVERT EXT. -L- STA. 113+46±
END CULVERT EXT. -L- STA. 113+90±

BEGIN CONSTRUCTION
-Y1- STA. 13+70.00

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

CONTRACT:

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2019 = 6300
ADT 2045 = 8800
K = 11 %
D = 57.5%
T = 7 % *

V = 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 TRANSPORATION
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.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

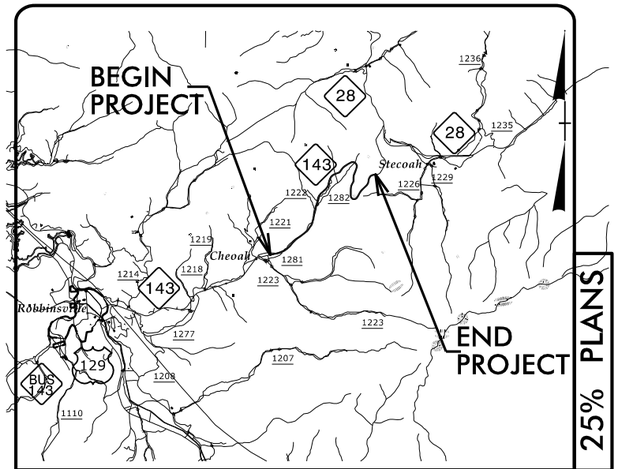
09/08/99
03-MAY-2022 15:47
C:\Users\mbrewer\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\CADD_GEOTECH\PlanProf\A-0009C_GEO_PDI_Rdy_tsh.dgn
$$$$USERNAME$$$$

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	A-0009CB	3A	68

STATE PROJ. NO.	F.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.

TIP PROJECT: A-0009CB

See Sheet 1A For Index of Sheets



25% PLANS

VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

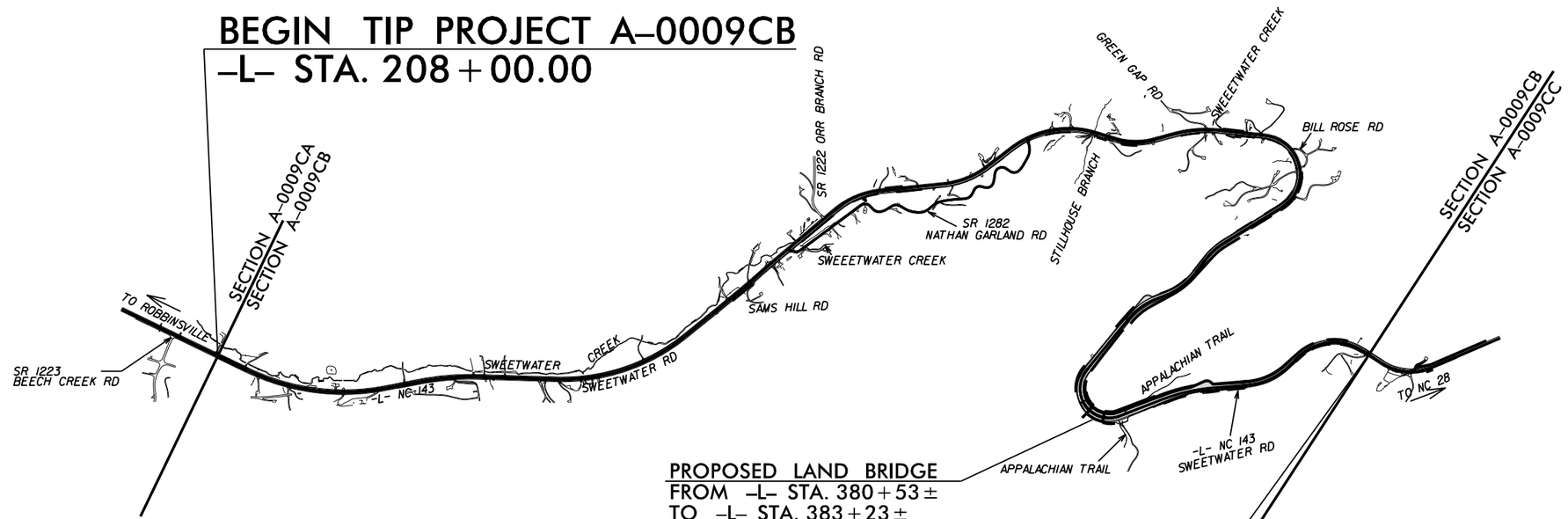
GRAHAM COUNTY

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

NAD 83/2011

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

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

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

PLANS PREPARED FOR:
NORTH CAROLINA DEPARTMENT OF TRANSPORATION
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.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

CONTRACT:

03-MAY-2022 15:47
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09/08/99

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	A-0009CC	3B	68

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
32572.1.15	APD-0074(178)	PE
32572.2.15	APD-0074(178)	ROW,UTIL.
32572.3.15	APD-0074(178)	CONST.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GRAHAM COUNTY

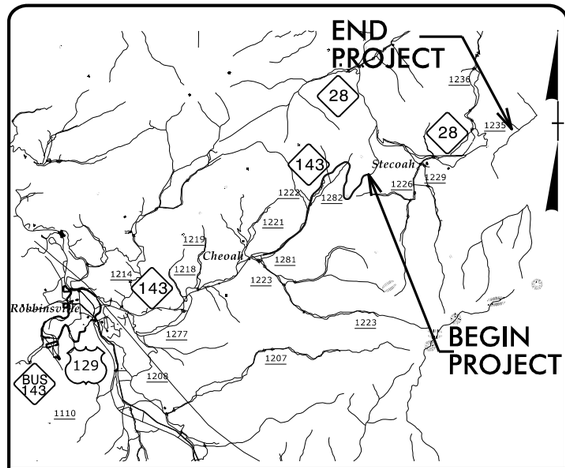
LOCATION: UPGRADE NC 143 FROM 0.5 MILES NORTH OF APPALACHIAN TRAIL TO NC 28
UPGRADE NC 28 FROM 0.2 MILES WEST OF NC 143 TO 0.3 MILES EAST OF SR 1235 (GUNTERS GAP RD)

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

TIP PROJECT: A-0009CC

CONTRACT:

See Sheet 1A For Index of Sheets



VICINITY MAP

25% PLANS

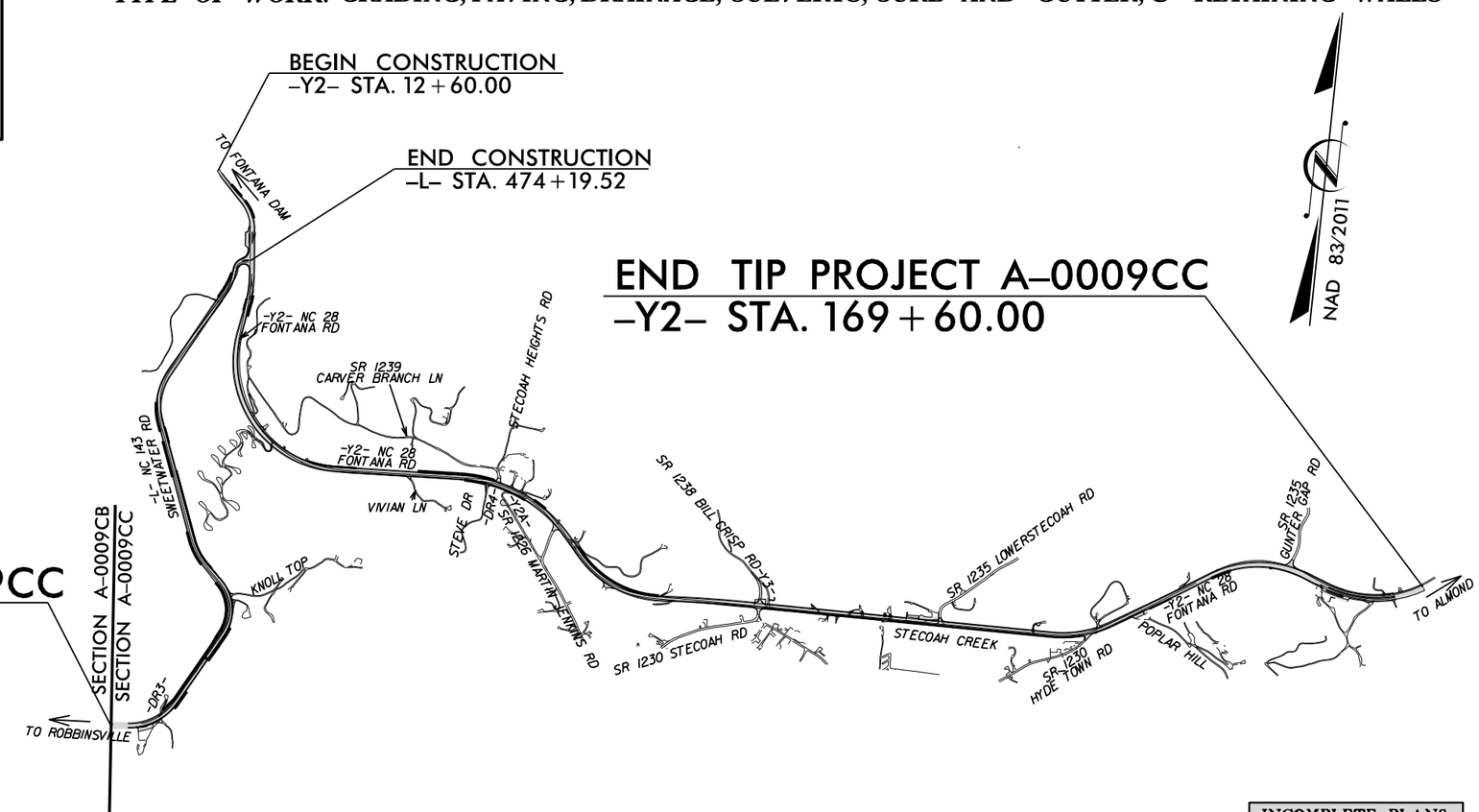
3R GUIDELINES WERE USED FROM
-L- 414+50 TO -L- STA 474+20
AND FROM -Y2- 12+60± TO 23+00±
TO MINIMIZE IMPACTS TO USFD PROPERTY
AND NATURAL RESOURCES.

BEGIN CONSTRUCTION
-Y2- STA. 12+60.00

END CONSTRUCTION
-L- STA. 474+19.52

END TIP PROJECT A-0009CC
-Y2- STA. 169+60.00

BEGIN TIP PROJECT A-0009CC
-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

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

-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

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

RIGHT OF WAY DATE:
SEPTEMBER 2021

LETTING DATE:
OCTOBER 18, 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.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

09/08/99
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PROJECT REFERENCE NO.	SHEET NO.
A-0009C	4

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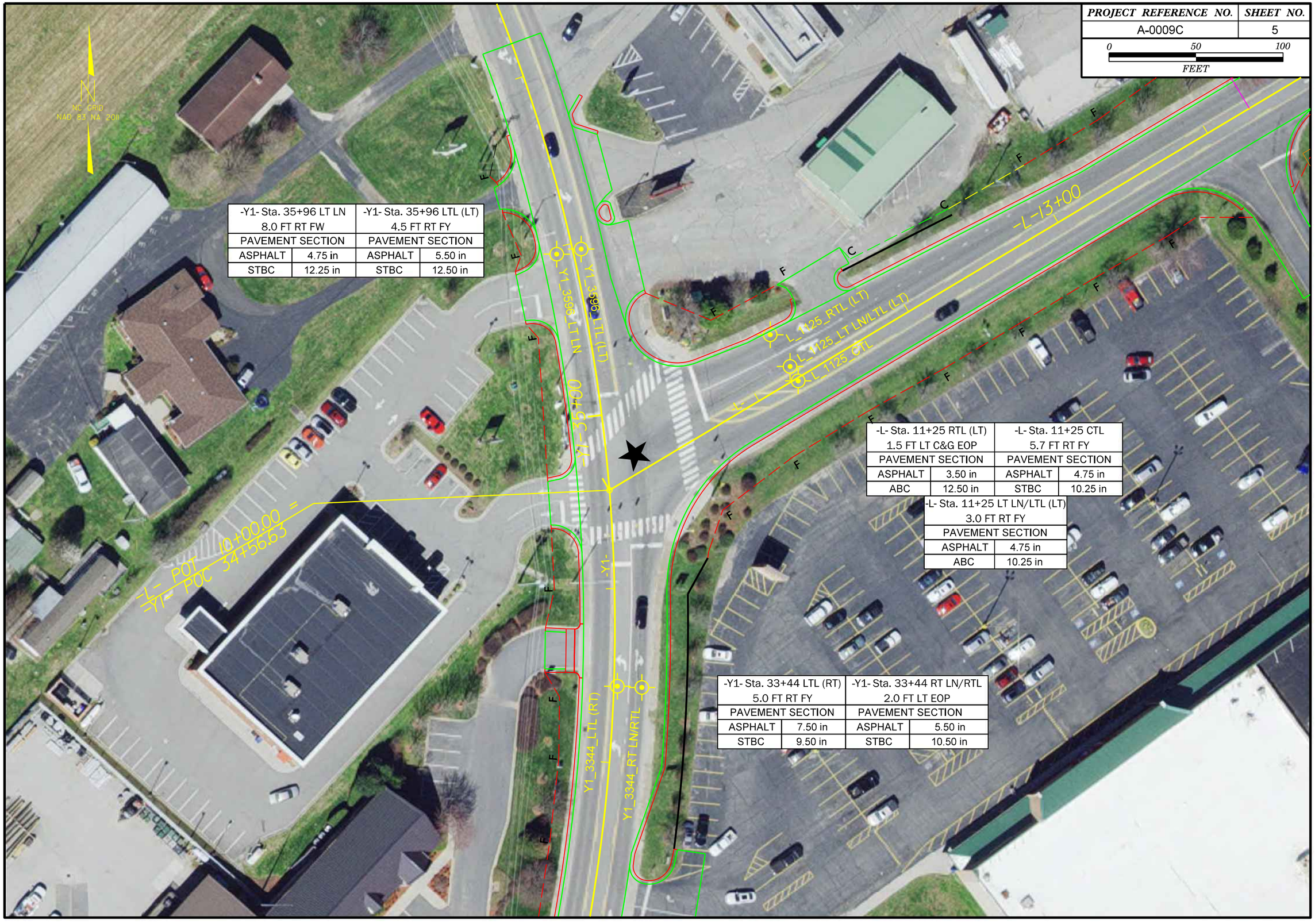
FEET

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	5

0 50 100
FEET



-Y1- Sta. 35+96 LT LN 8.0 FT RT FW		-Y1- Sta. 35+96 LTL (LT) 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

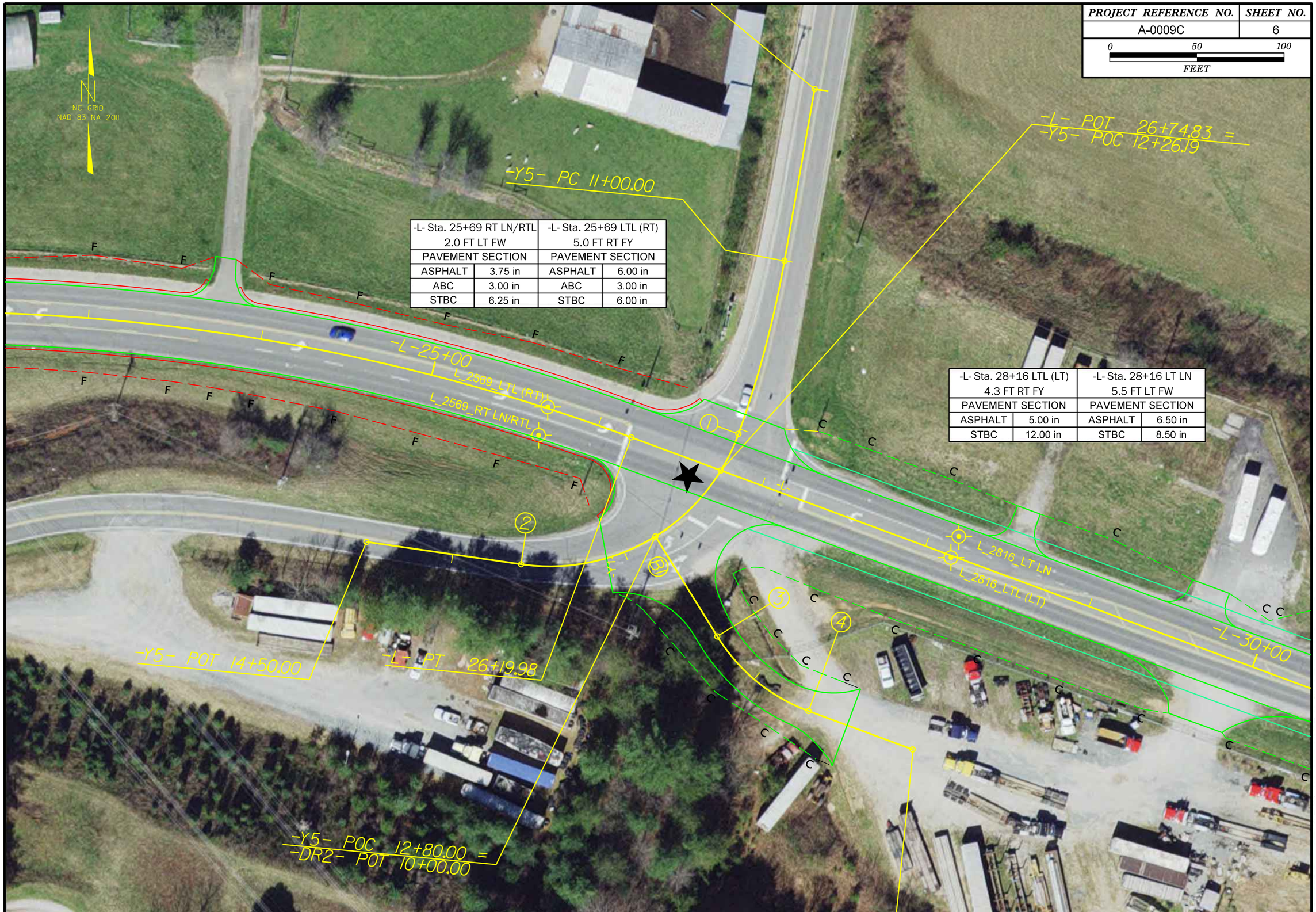
-L- Sta. 11+25 RTL (LT) 1.5 FT LT C&G EOP		-L- Sta. 11+25 CTL 5.7 FT RT FY	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	3.50 in	ASPHALT	4.75 in
ABC	12.50 in	STBC	10.25 in

-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) 5.0 FT RT FY		-Y1- Sta. 33+44 RT LN/RTL 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

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	6

0 50 100
FEET



-L- Sta. 25+69 RT LN/RTL 2.0 FT LT FW		-L- Sta. 25+69 LTL (RT) 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) 4.3 FT RT FY		-L- Sta. 28+16 LT LN 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

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	7

0 50 100
FEET

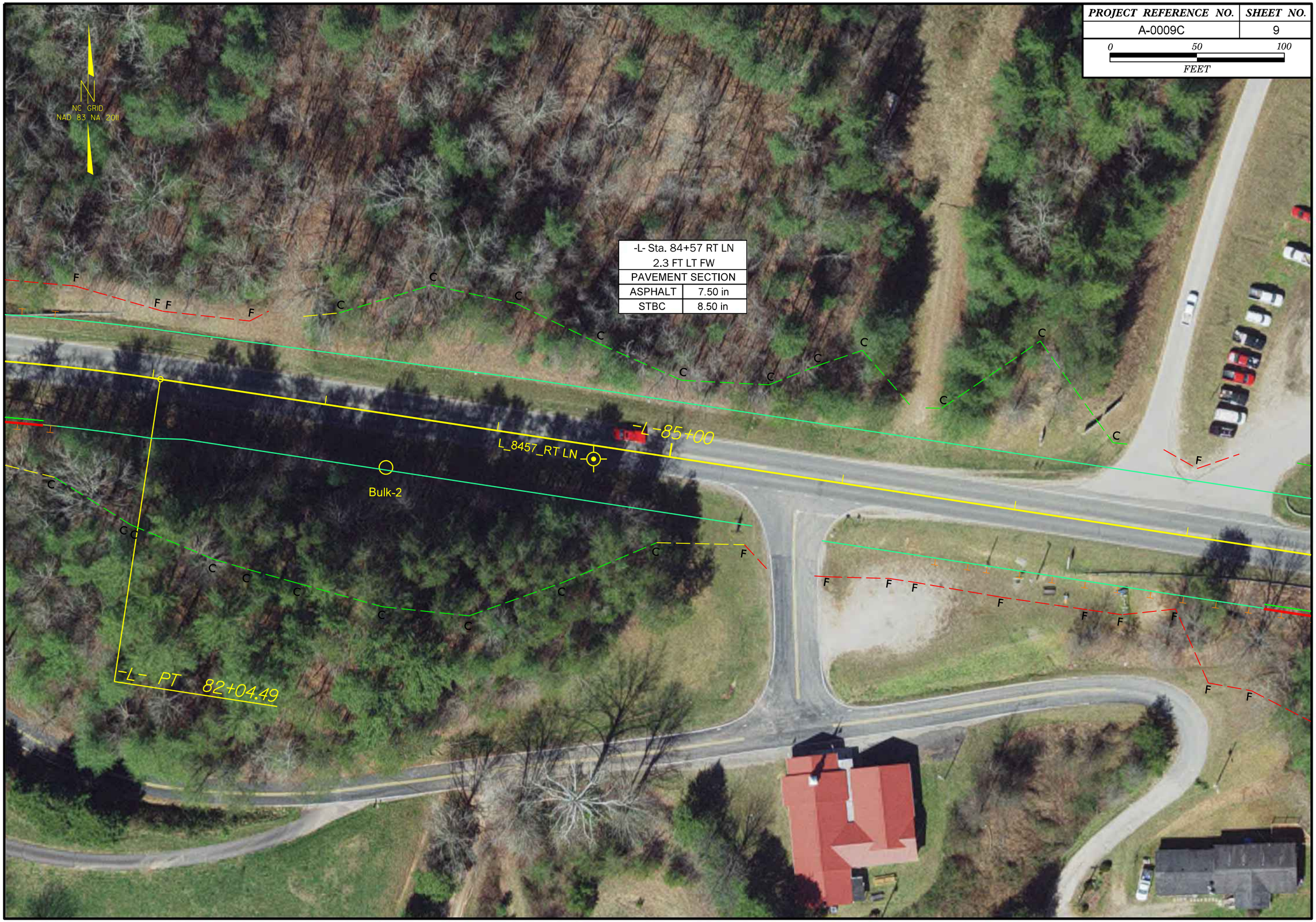
-L- Sta. 45+24 RT LN/RTL 2.0 FT LT FW		-L- Sta. 45+24 RT PS 0.2 FT RT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	8.00 in	ASPHALT	8.25 in
STBC	8.00 in	STBC	8.75 in

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	8

0 50 100
FEET

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	9

0 50 100
FEET



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

0 50 100
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

0 50 100
FEET

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

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	12

0 50 100
FEET

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	13

0 50 100
FEET

-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

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	15

0 50 100
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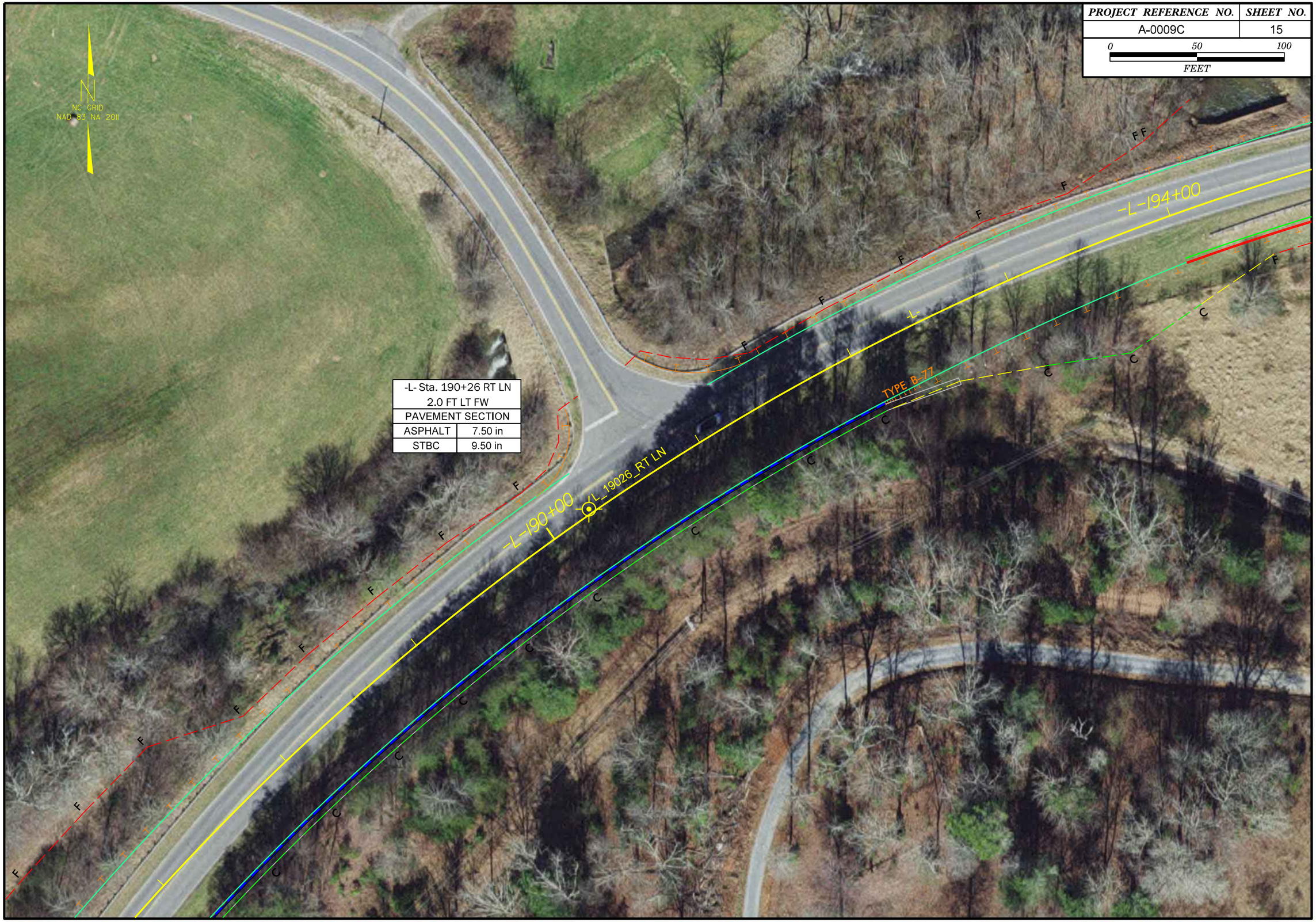


-L- Sta. 190+26 RT LN 2.0 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.50 in
STBC	9.50 in

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	16

0 50 100
FEET

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	17

0 50 100
FEET

-L- Sta. 225+17 RT LN 2.3 FT LT FW	
PAVEMENT SECTION	
ASPHALT	8.75 in
STBC	10.25 in

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	18

0 50 100
FEET

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

0 50 100
FEET

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

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	20

0 50 100
FEET

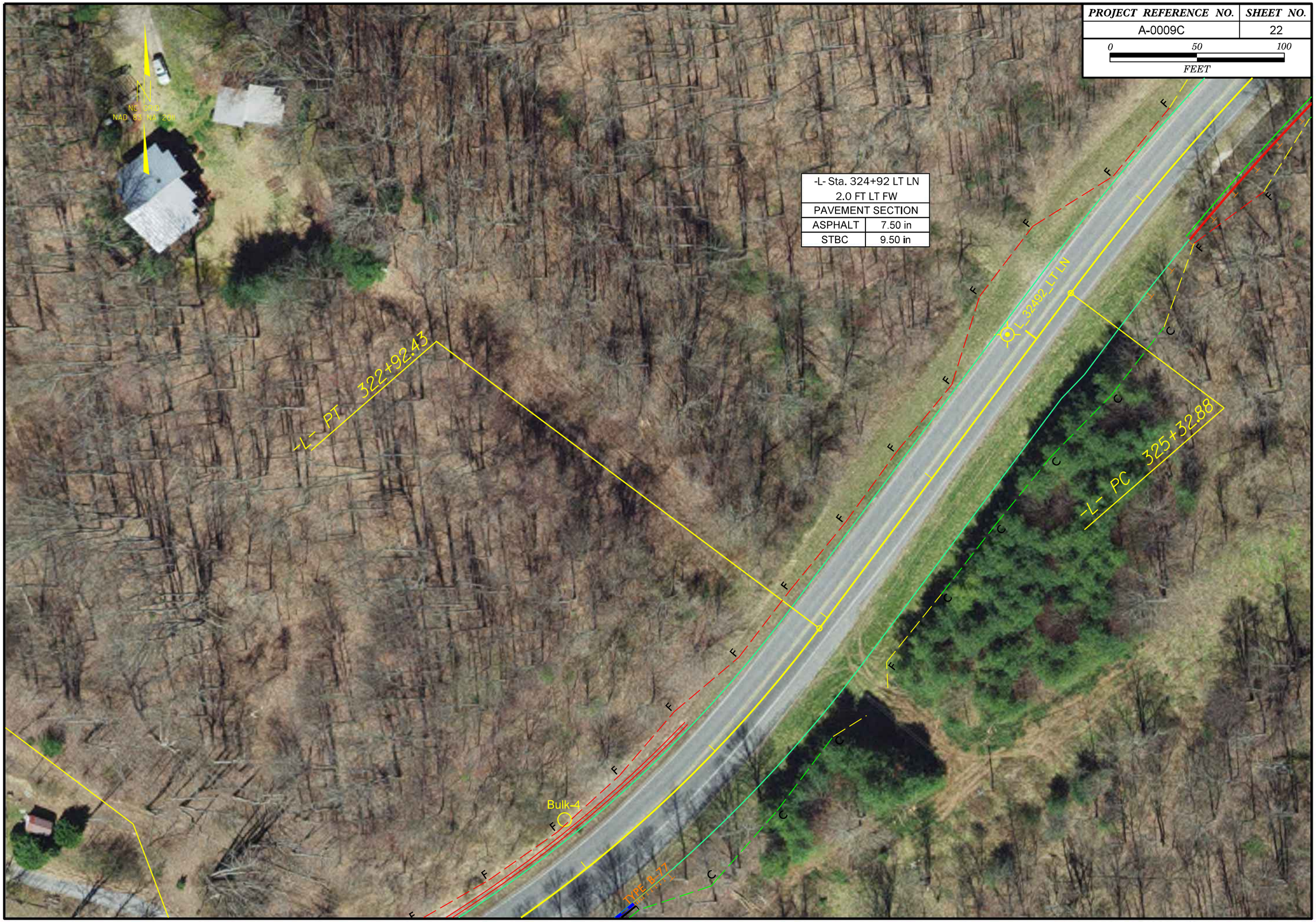
-L- Sta. 284+98 LT LN 1.8 FT LT FW	
PAVEMENT SECTION	
ASPHALT	7.25 in
STBC	9.75 in

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

0 50 100
FEET

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	22

0 50 100
FEET



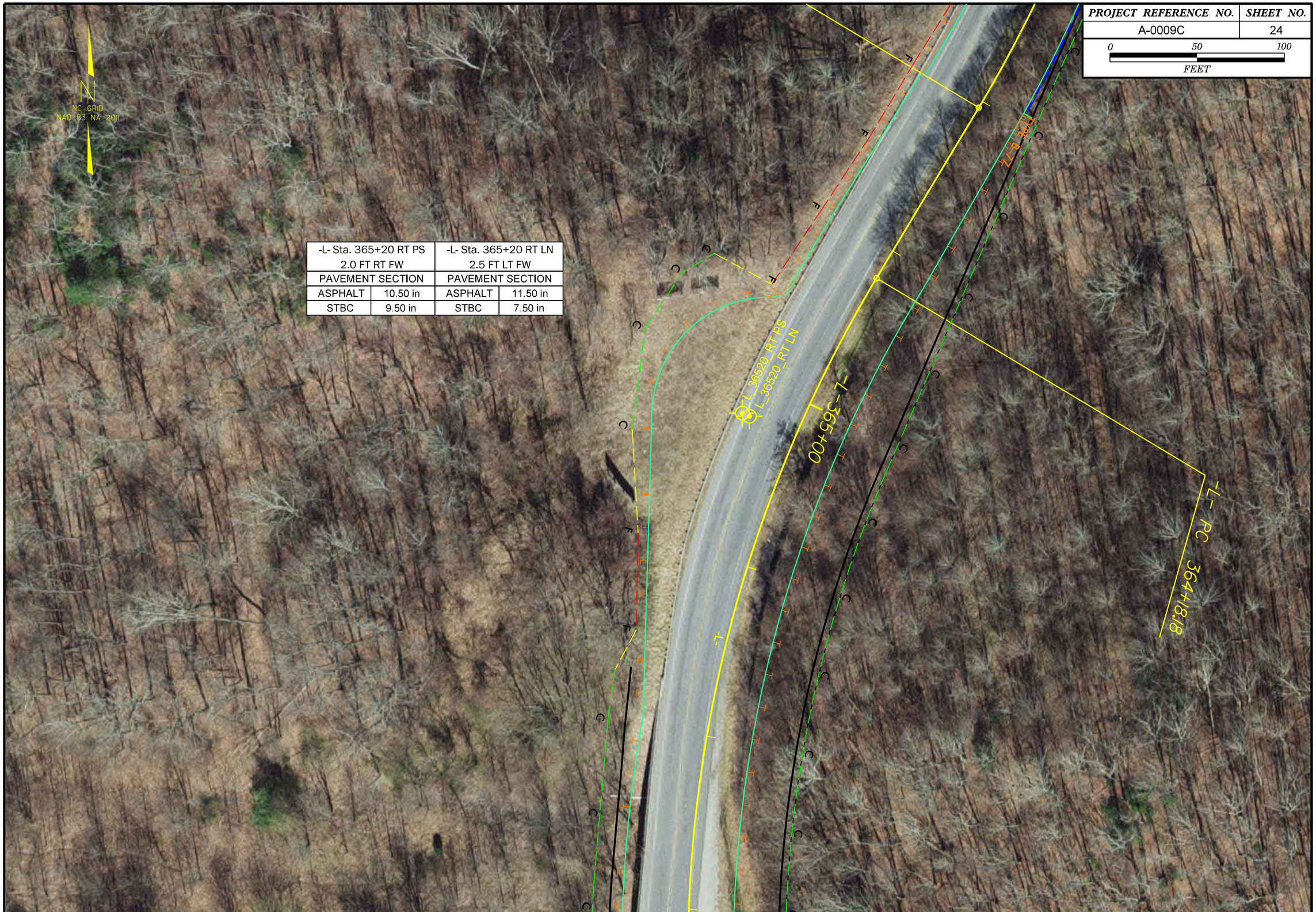
PROJECT REFERENCE NO.	SHEET NO.
A-0009C	23

0 50 100
FEET

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

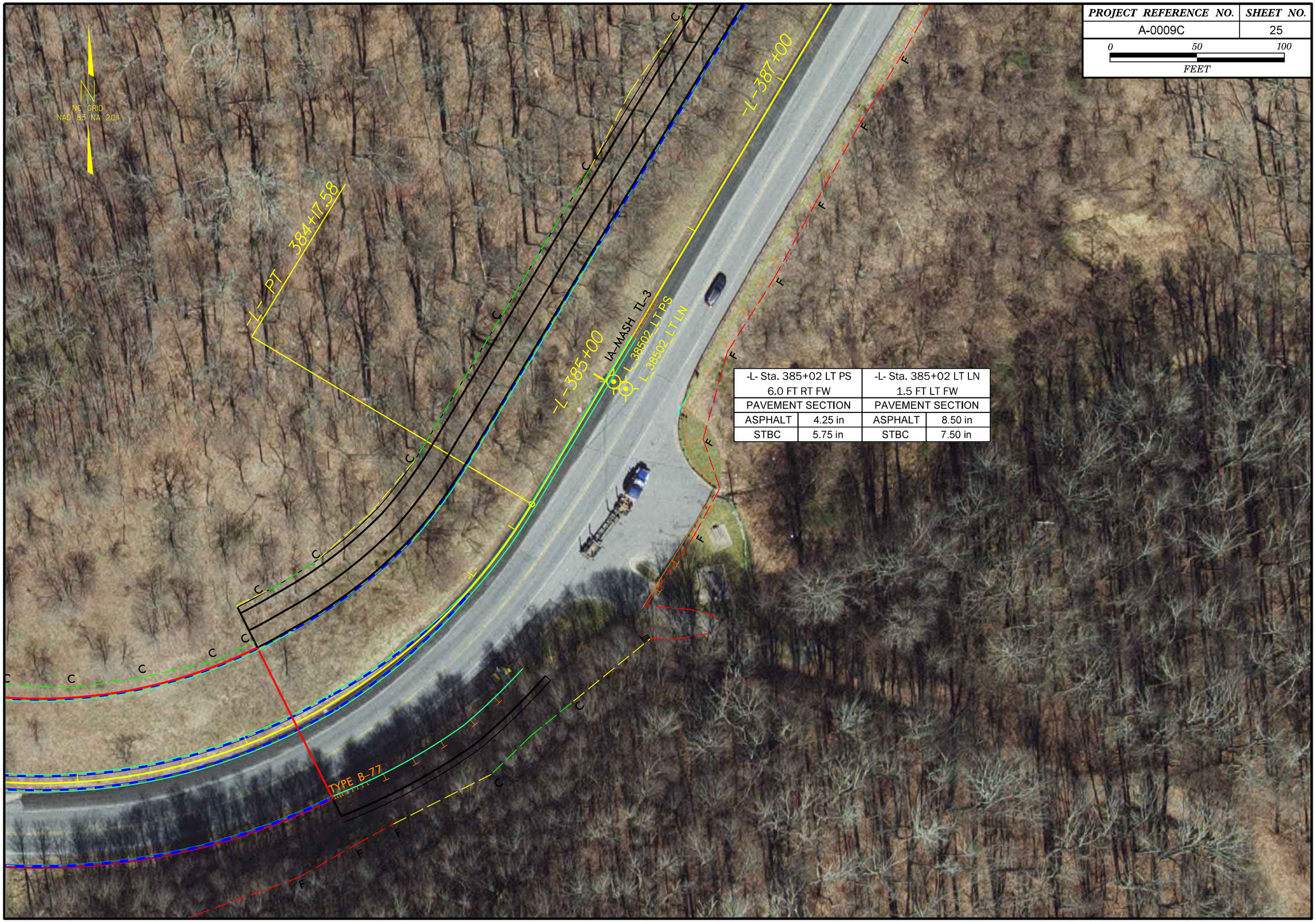
PROJECT REFERENCE NO.	SHEET NO.
A-0009C	24

0 50 100
FEET



PROJECT REFERENCE NO.	SHEET NO.
A-0009C	25

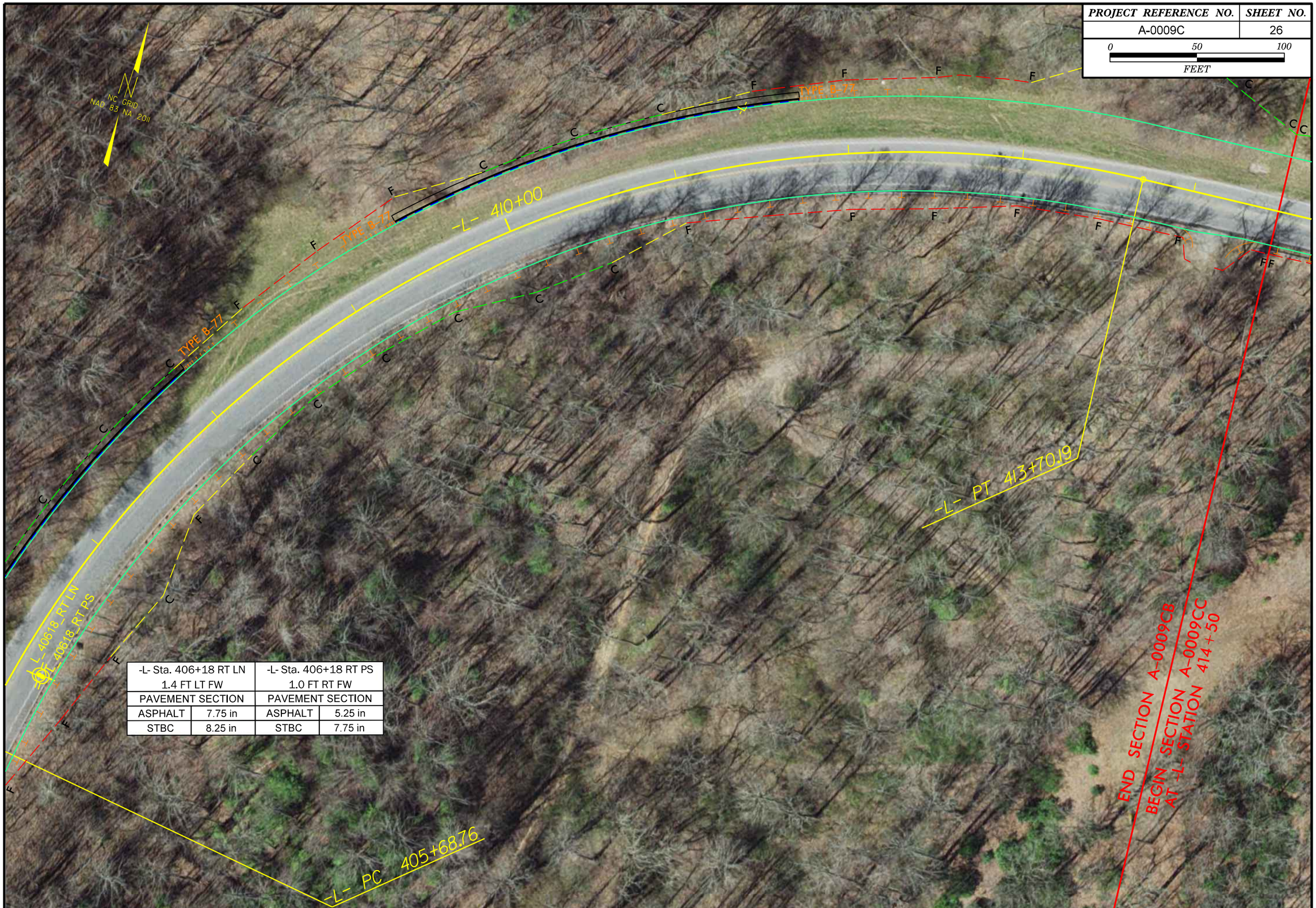
0 50 100
FEET



-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

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	26

0 50 100
FEET



-L- Sta. 406+18 RT LN 1.4 FT LT FW		-L- Sta. 406+18 RT PS 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

PROJECT REFERENCE NO.
A-0009C
SHEET NO.
27
0
50
100
FEET
N
NC GRID
NAD 83 NA 2011
-L- 422+00
-L- 425+00
-L- 425+03 LT LN
-DR3- POT 10+00.00
-L- PT 422+13.30
-L- Sta. 425+03 LT LN
1.5 FT LT FW
PAVEMENT SECTION
ASPHALT 10.00 in
STBC 10.00 in

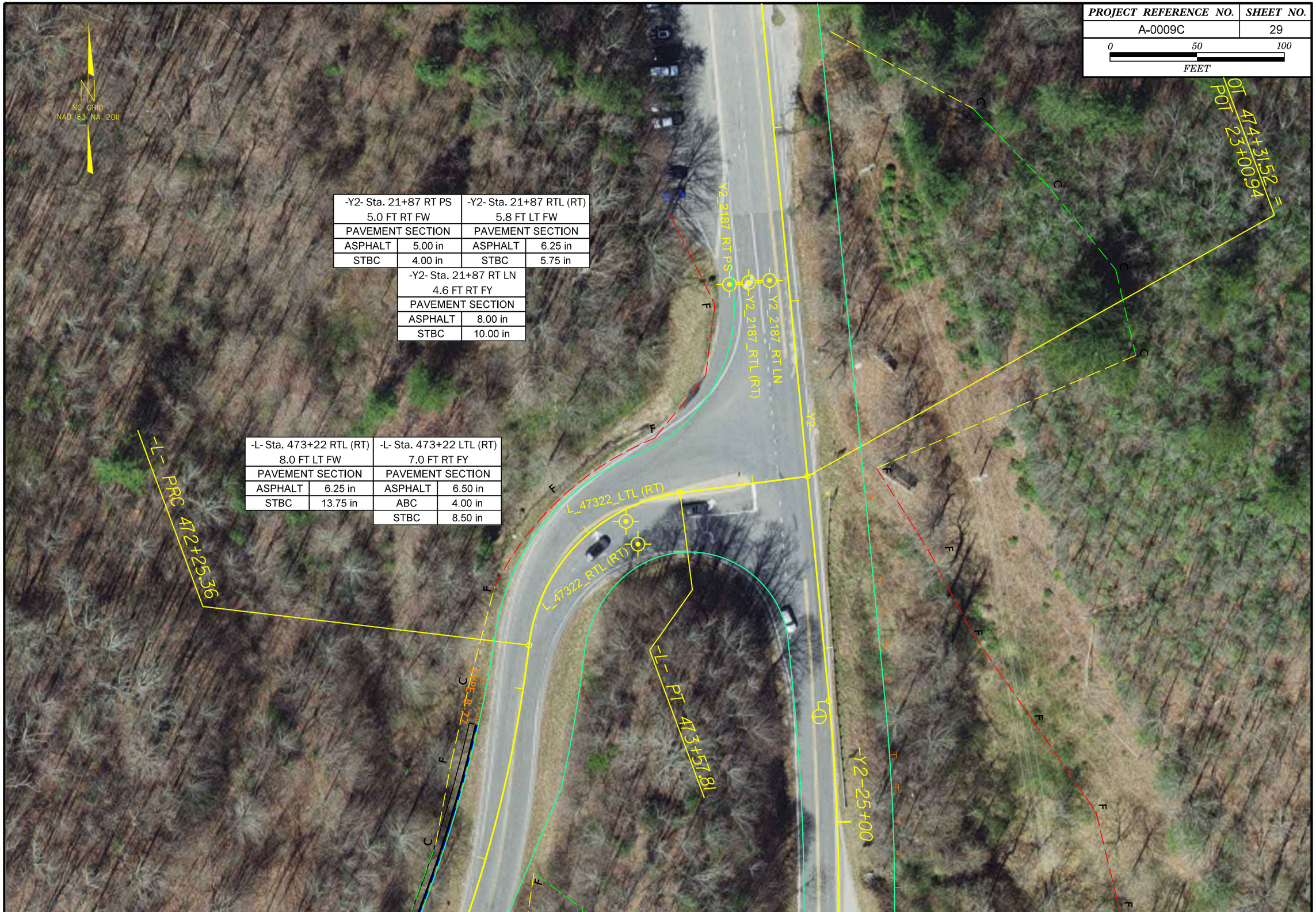
PROJECT REFERENCE NO.	SHEET NO.
A-0009C	28

0 50 100
FEET

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

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	29

0 50 100
FEET



PROJECT REFERENCE NO.	SHEET NO.
A-0009C	30

0 50 100
FEET

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	31

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FEET

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	32

0 50 100
FEET

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	33

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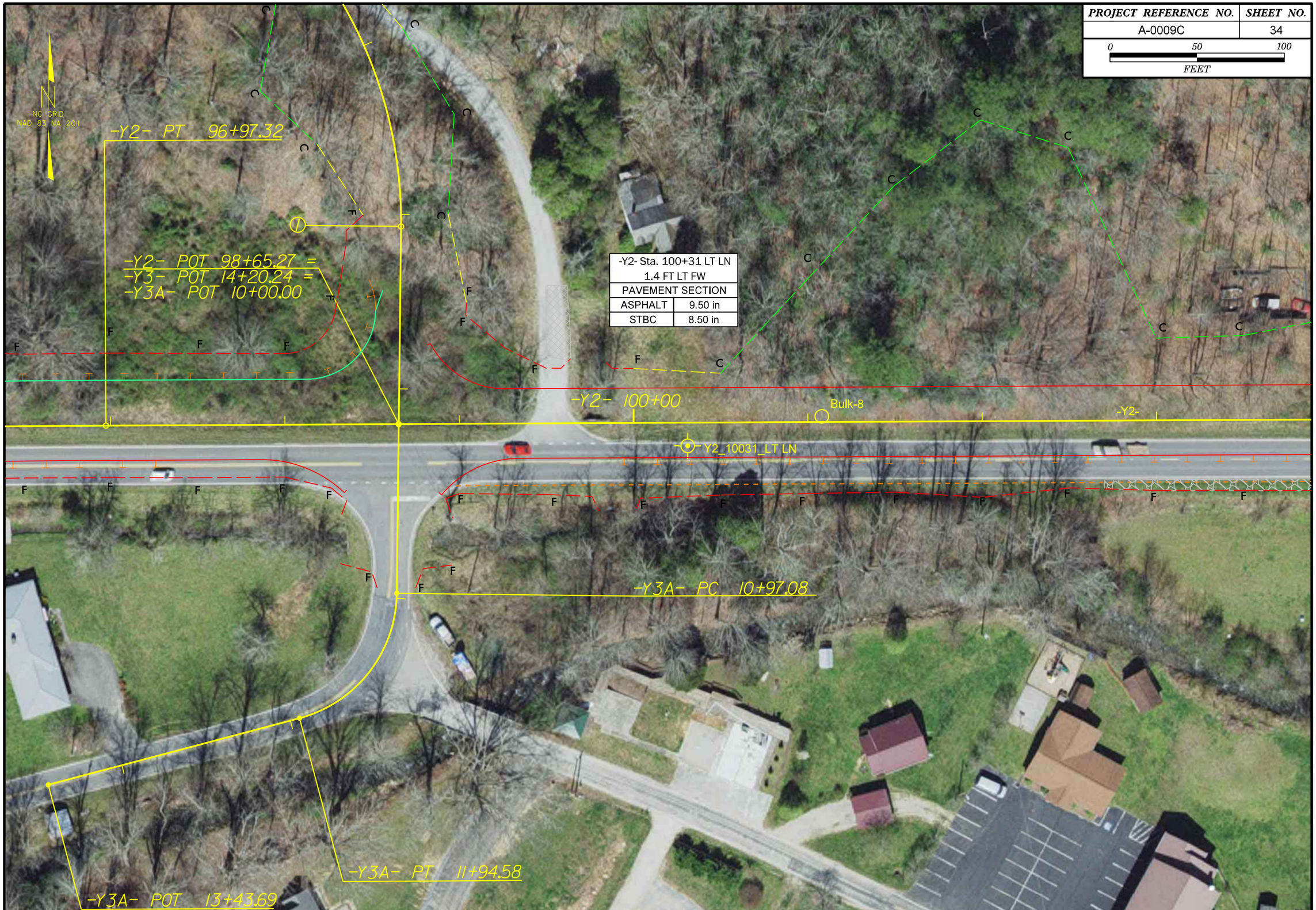
FEET

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

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	34

0 50 100
FEET



PROJECT REFERENCE NO.	SHEET NO.
A-0009C	35

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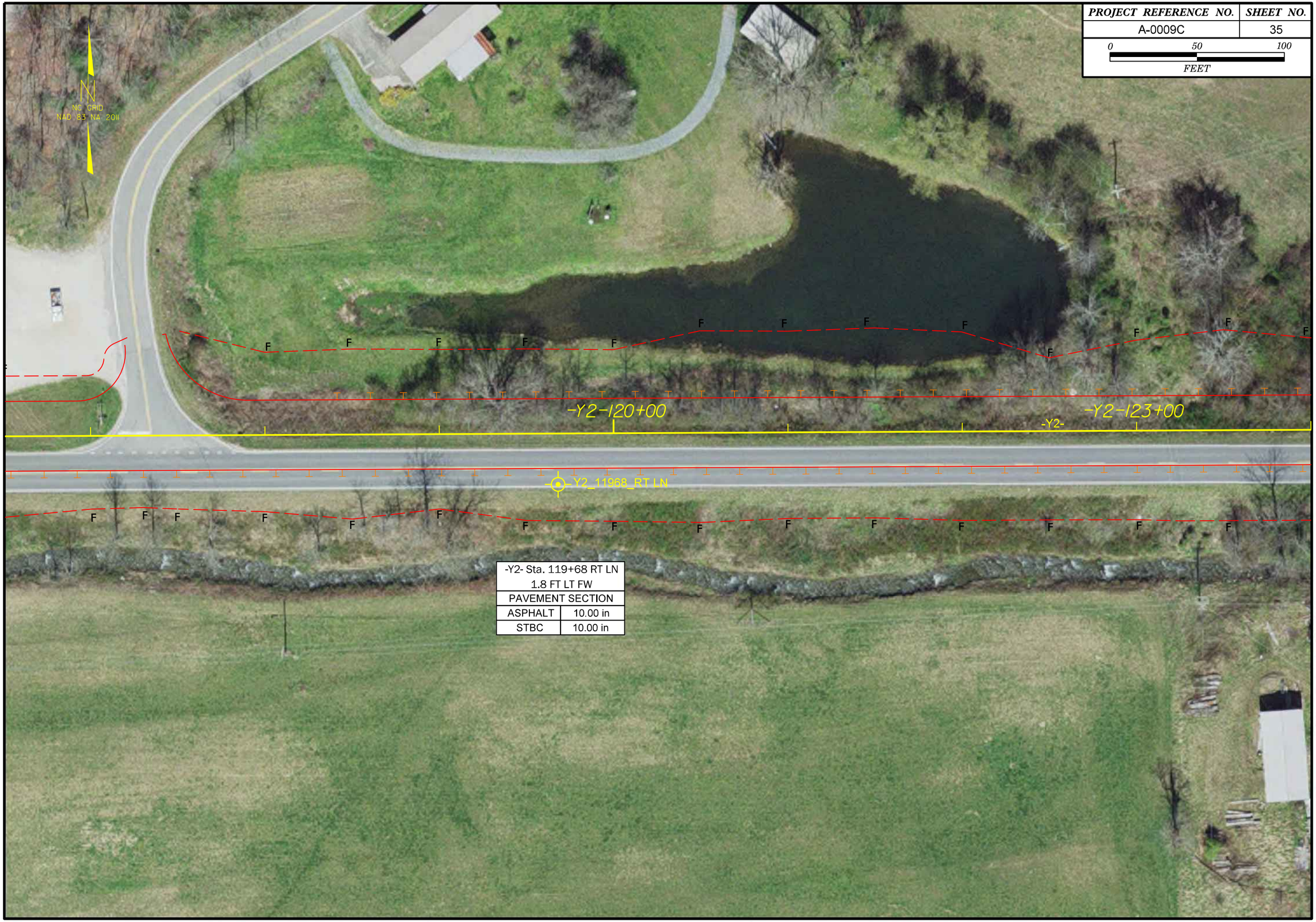

-Y2- Sta. 119+68 RT LN 1.8 FT LT FW	
PAVEMENT SECTION	
ASPHALT	10.00 in
STBC	10.00 in

PROJECT REFERENCE NO.	SHEET NO.
A-0009C	36

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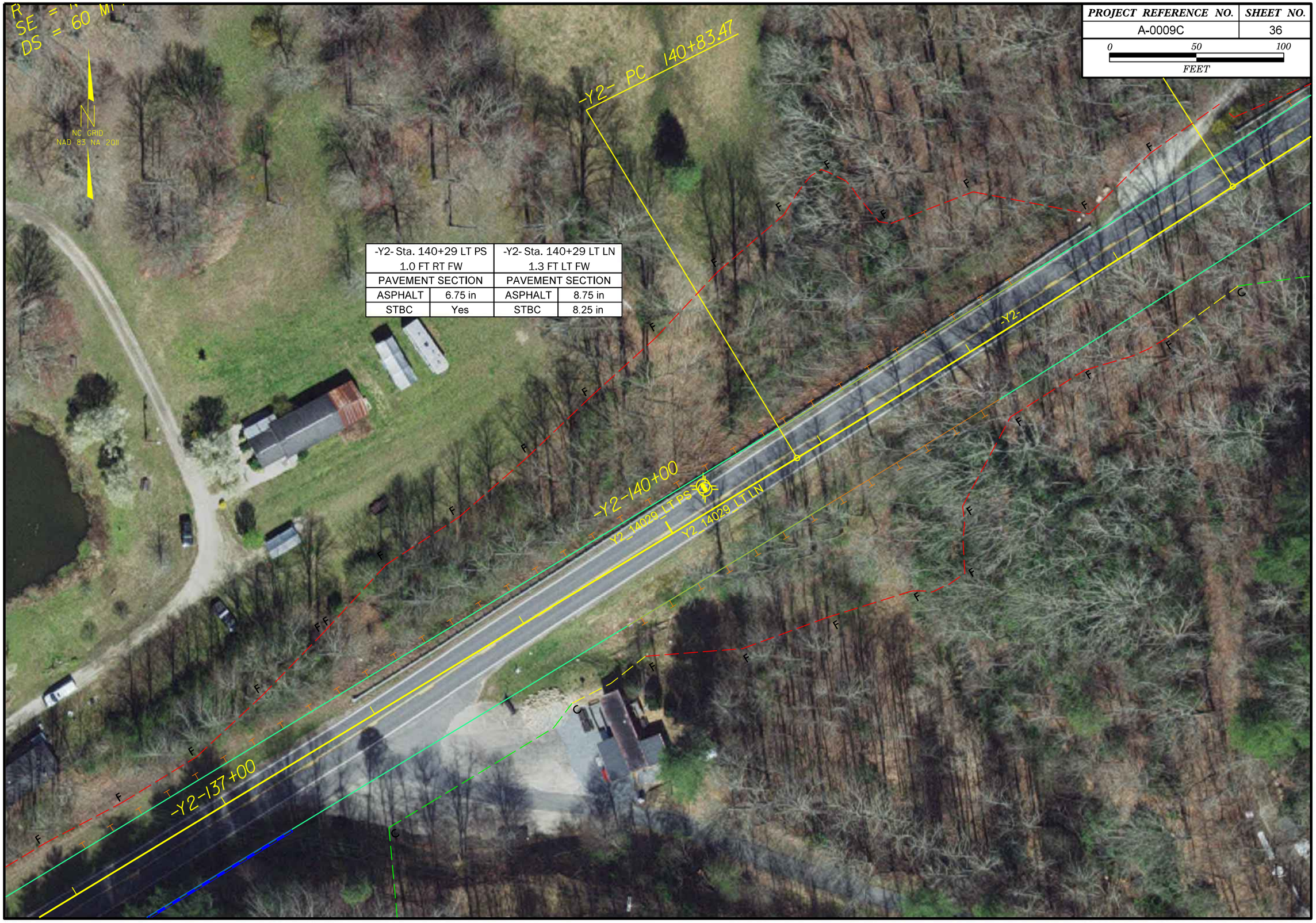
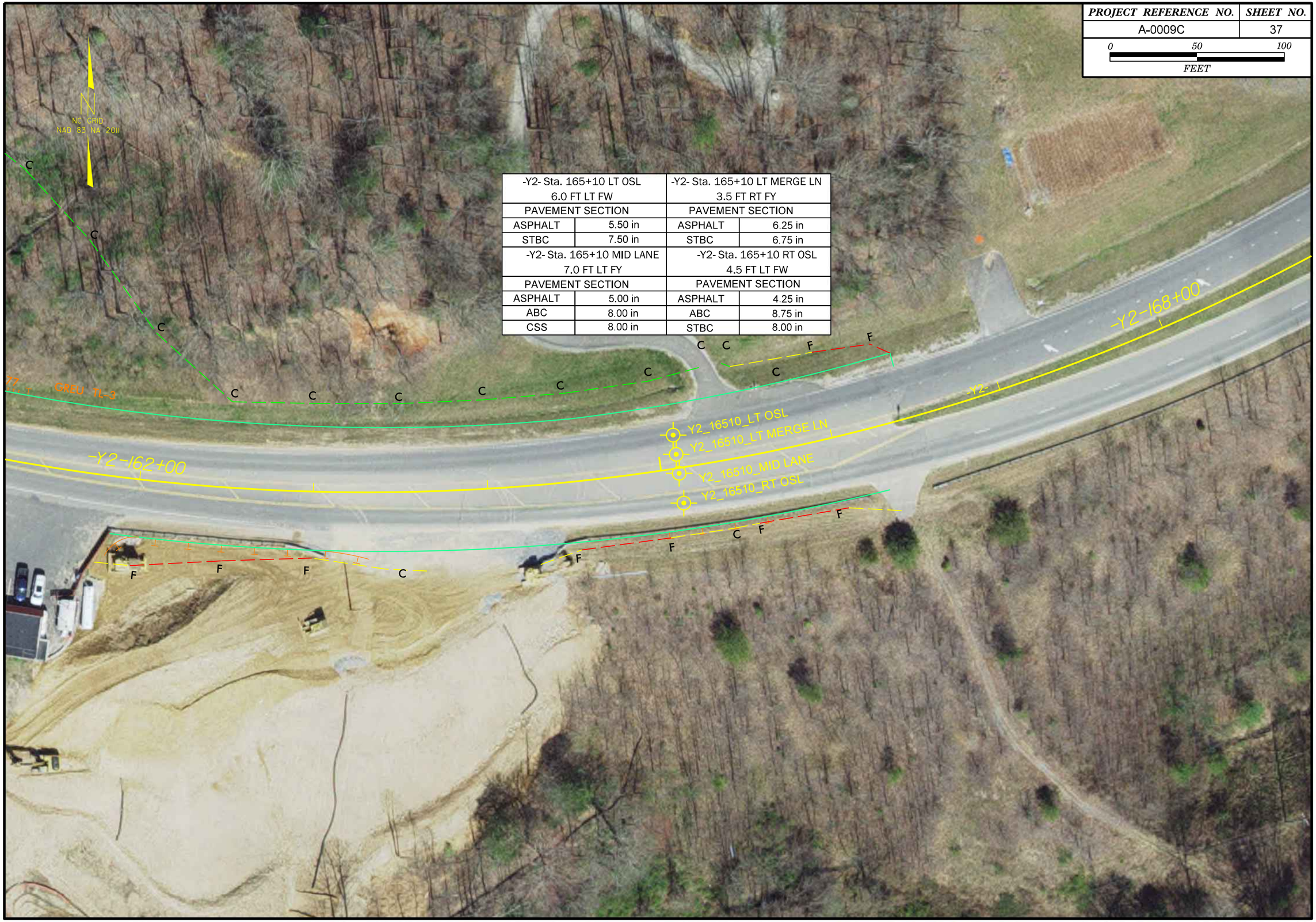


-Y2- Sta. 140+29 LT PS 1.0 FT RT FW		-Y2- Sta. 140+29 LT LN 1.3 FT LT FW	
PAVEMENT SECTION		PAVEMENT SECTION	
ASPHALT	6.75 in	ASPHALT	8.75 in
STBC	Yes	STBC	8.25 in

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

0 50 100
FEET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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 Ccncrete 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

CAROLINAS GEOTECHNICAL GROUP

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
-Y1- Sta. 27+06 LT LN/RTL (LT) 2.0 FT LT EOP	12/27/21 to 1/13/22

Type	Test Interval		Datum	Cut/Fill
DCP	Cumulative cm per blow		STBC	At Grade
0.60	42.30	94.50		
0.90	43.00	95.10		
1.60	43.60	95.70		
2.10	45.00	96.20		
2.50	45.70	96.80		
3.00	46.90	97.10		
3.40	47.60	97.40		
4.00	48.60	98.00		
4.20	49.90	98.50		
4.90	51.00	99.00		
5.10	52.00	99.40		
5.50	53.20	100.00		
6.40	54.50	100.20		
6.80	55.50	100.50		
7.20	56.40	100.70		
7.70	57.10	101.20		
8.00	57.80	101.50		
8.60	58.50	101.90		
9.30	59.40	102.40		
9.70	59.90	102.90		
10.50	60.40	103.50		
10.90	61.50	103.90		
11.20	61.70	104.00		
11.90	63.90	104.40		
12.50	64.90	104.70		
12.90	66.40	104.90		
14.20	67.60	105.10		
14.60	68.90	105.90		
15.10	69.90	106.80		
15.90	70.40	107.50		
16.10	71.40	107.70		
17.10	72.00			
17.50	72.50			
17.90	73.00			
18.40	74.00			
19.40	74.80			
20.10	75.10			
20.60	76.50			
21.40	77.10			
22.00	77.90			
22.90	78.40			
23.50	78.70			
24.40	79.30			
25.90	80.20			
26.70	81.20			
28.00	81.60			
29.10	82.20			
29.70	82.80			
31.00	83.40			
31.90	84.00			
32.90	84.40			
33.50	84.90			
34.20	85.10			
35.20	85.60			
35.50	86.50			
35.60	87.50			
35.90	88.20			
36.40	89.50			
36.80	90.60			
37.50	91.10			
38.00	91.90			
38.80	92.40			
39.90	92.80			
40.50	93.50			
41.40	94.00			

Test Location	Date Run
-Y1- Sta. 27+06 CTL/LTL 5.0 FT RT FY	12/27/21 to 1/13/22

Type	Test Interval			Datum	Cut/Fill
DCP	Cumulative cm per blow			STBC	At Grade
0.50	15.00	37.10	79.60		
0.90	15.30	37.60	80.60		
1.40	15.40	38.50	81.00		
1.50	15.50	39.20	81.40		
1.60	16.00	39.70	81.80		
1.70	16.40	40.50	82.00		
2.10	16.70	41.10	82.50		
2.40	16.80	41.90	82.90		
2.50	16.90	42.50	83.40		
2.60	17.00	43.20	83.60		
2.70	17.60	44.20	83.90		
2.80	17.70	44.60	84.20		
2.90	18.40	45.60	84.50		
3.00	18.50	46.90	85.20		
3.10	18.90	47.10	85.30		
3.30	19.10	48.20	85.60		
3.50	19.30	49.20	86.10		
3.70	19.50	50.00	86.50		
3.90	19.70	50.80	87.50		
4.10	19.90	51.20	88.10		
4.50	20.10	51.50	89.00		
4.90	20.30	52.10	89.30		
5.30	20.50	52.50	89.60		
5.70	20.70	52.90	90.40		
6.10	20.90	53.40	91.10		
6.23	21.16	53.60	91.60		
6.37	21.42	54.10	92.40		
6.50	21.68	54.90	92.60		
6.63	21.94	55.10	93.00		
6.77	22.20	55.90	93.50		
6.90	22.62	56.70	94.20		
7.06	23.04	57.60	94.50		
7.22	23.46	58.20	95.20		
7.38	23.88	58.80	95.50		
7.54	24.30	59.40	96.60		
7.70	24.58	59.70	96.90		
7.96	24.86	60.60	97.40		
8.22	25.14	61.50	97.50		
8.48	25.42	62.40	98.00		
8.74	25.70	62.60	98.40		
9.00	26.20	63.90	98.50		
9.18	26.70	64.90	99.00		
9.36	27.20	65.70	99.50		
9.54	27.70	66.60	100.10		
9.72	28.20	67.40	100.50		
9.90	28.34	68.40	101.10		
10.10	28.48	69.10	101.40		
10.30	28.62	69.70	102.00		
10.50	28.76	70.10	102.40		
10.70	28.90	71.30	103.00		
10.90	29.24	71.80	103.10		
11.08	29.58	72.20	104.00		
11.26	29.92	73.20	104.10		
11.44	30.26	74.00	104.60		
11.62	30.60	74.50			
11.80	31.00	74.90			
12.06	31.90	75.20			
12.32	32.20	75.60			
12.58	33.10	76.10			
12.84	33.20	76.50			
13.10	33.80	76.90			
13.48	34.40	77.40			
13.86	35.40	77.90			
14.24	35.50	78.40			
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
-Y1- Sta. 33+44 RT LN/RTL 2.0 FT LT EOP	12/27/21 to 1/13/22

Type	Test Interval		Datum	Cut/Fill
DCP	Cumulative cm per blow		STBC	At Grade
0.60	36.90	102.10		
1.40	37.60	102.50		
1.60	39.10	102.90		
1.70	39.60	103.00		
2.10	40.10	103.10		
2.50	41.60	103.40		
3.00	42.30	103.45		
3.10	43.10	103.50		
3.50	43.90	103.55		
3.90	44.60	103.60		
4.10	45.10	103.65		
4.40	46.40	103.70		
5.00	46.90	103.75		
5.20	47.60	103.80		
5.50	48.40	103.85		
5.60	48.90	103.90		
5.90	49.40	103.97		
6.10	49.80	104.04		
6.40	51.00	104.11		
7.20	51.80	104.17		
7.50	52.50	104.24		
7.80	53.90	104.31		
8.10	55.20	104.38		
8.90	55.90	104.45		
9.10	56.90	104.52		
9.60	57.90	104.58		
10.10	59.10	104.65		
10.40	60.10	104.72		
10.70	61.00	104.79		
11.20	62.10	104.86		
11.90	63.20	104.93		
12.40	64.40	104.99		
12.50	65.90	105.06		
13.10	66.90	105.13		
13.50	67.50	105.20		
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			

Test Location	Date Run
-Y1-33+44 Sta. LTL (RT) 5.0 FT RT FY	12/27/21 to 1/13/22

Type	Test Interval			Datum	Cut/Fill
DCP	Cumulative cm per blow			STBC	At Grade
0.40					
1.00					
1.60					
2.00					
2.30					
2.60					
3.00					
3.40					
4.00					
4.60					
5.00					
5.70					
6.10					
6.50					
7.30					
7.90					
8.40					
9.50					
10.00					
10.60					
11.00					
11.50					
11.90					
12.40					
13.40					
13.50					
13.60					
14.40					
15.00					
15.50					
15.60					
16.00					
16.30					
16.40					
DCP REF					
50/0.0*					

CAROLINAS GEOTECHNICAL GROUP

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

DCP								DCP							
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

DCP								DCP							
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				
6.00	49.58	69.90	121.00					4.72	35.50	68.10	112.30				
6.30	49.76	70.50	121.90					4.94	36.50	68.90	113.30				
6.70	49.94	71.00	122.60					5.16	37.50	69.40	114.00				
7.00	50.12	71.60						5.38	38.40	70.30	114.60				
7.80	50.30	72.50						5.60	39.40	70.40	115.40				
7.90	50.48	73.20						5.78	40.20	71.10	115.90				
8.40	50.66	73.50						5.96	40.50	71.40	116.60				
8.60	50.84	74.50						6.14	41.10	73.30	117.20				
9.10	51.02	74.73						6.32	41.50	74.40	118.30				
9.30	51.20	74.97						6.50	42.40	75.00	118.60				
9.70	51.36	75.20						6.72	42.60	75.60	119.70				
10.00	51.52	76.50						6.94	43.20	76.50	120.10				
10.40	51.68	77.70						7.16	43.30	76.70	121.20				
10.60	51.84	78.10						7.38	43.50	77.70					
11.30	52.00	79.40						7.60	44.40	78.00					
11.40	52.17	80.40						7.90	44.58	78.60					
11.60	52.33	85.10						8.20	44.76	79.10					
12.10	52.50	85.90						8.50	44.94	80.00					
12.40	52.67	86.10						8.80	45.12	80.60					
12.90	52.83	86.50						9.10	45.30	81.50					
13.50	53.00	87.50						9.40	45.82	82.10					
13.60	53.18	88.40						9.70	46.34	83.10					
14.40	53.37	89.10						10.00	46.86	83.60					
15.00	53.55	90.00						10.30	47.38	84.50					
16.00	53.73	90.60						10.60	47.90	85.40					
17.00	53.92	91.60						10.82	48.30	86.40					
18.00	54.10	92.50						11.03	49.50	87.20					
19.10	54.28	93.20						11.25	50.00	88.30					
21.20	54.47	94.40						11.47	50.30	89.00					
22.60	54.65	94.60						11.68	51.00	89.60					
24.10	54.83	95.40						11.90	51.80	90.90					
25.20	55.02	96.00						12.12	52.00	91.90					
26.30	55.20	96.40						12.34	52.80	92.90					
26.90	55.46	97.50						12.56	53.20	93.10					
27.60	55.72	98.00						12.78	53.60	94.10					
28.50	55.98	98.90						13.00	53.90	94.80					
29.50	56.24	99.50						13.36	54.20	95.30					
30.00	56.50	100.10						13.72	54.70	95.90					
31.00	56.90	101.20						14.08	54.90	96.50					
31.90	57.10	101.90						14.44	55.40	97.20					
32.70	57.40	102.50						14.80	56.00	97.60					
33.90	57.60	102.60						15.40	56.10	98.50					
35.00	58.10	103.20						15.80	56.40	99.00					
36.70	58.50	103.90						16.40	56.70	99.40					
38.50	58.90	104.50						17.00	57.10	99.90					
40.10	59.20	105.00						17.50	57.80	100.20					
41.50	59.60	105.50						18.00	58.00	100.90					
42.50	60.20	106.50						19.00	58.50	101.20					
43.30	60.50	107.00						19.40	58.90	101.70					
43.90	61.00	107.50						19.80	59.40	102.50					
44.70	61.50	108.10						20.40	59.60	103.00					
45.50	62.00	109.10						20.60	59.90	103.50					
46.00	62.50	109.50						21.20	60.20	104.10					
46.50	63.00	110.40						22.00	61.10	104.50					
46.90	63.50	111.00						22.50	61.70	104.90					
47.50	64.10	111.50						23.50	62.30	105.50					

CAROLINAS GEOTECHNICAL GROUP

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				

CAROLINAS GEOTECHNICAL GROUP

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"**			

CAROLINAS GEOTECHNICAL GROUP

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					
DCP	Cumulative cm per blow						STBC						20.0 ft. Cut					
0.60	23.50	101.00																
0.90	24.20	101.40																
1.10	25.10	102.00																
1.40	26.60	102.60																
1.70	28.00	103.50																
1.90	29.20	103.70																
2.30	30.40	104.60																
3.00	31.40	105.40																
3.20	32.70	106.00																
3.60	34.00	106.40																
3.90	35.40	107.20																
4.00	37.00	107.80																
4.20	38.00	108.30																
4.60	39.20	109.00																
4.70	40.80	109.50																
5.00	42.00	110.20																
5.20	43.50	110.60																
5.70	45.00	111.30																
6.50	46.00	111.60																
6.70	47.60	112.10																
7.20	48.60	112.50																
7.50	50.10	113.10																
7.60	51.10	113.60																
7.90	52.40	114.30																
8.40	53.40	115.20																
8.50	54.60	115.50																
8.60	55.60	116.00																
9.00	57.30	116.50																
9.10	58.50	116.90																
9.40	59.20	117.40																
9.50	60.40	118.00																
9.90	61.10	119.00																
10.10	62.40	119.50																
10.30	63.60	120.00																
10.50	65.00	120.60																
10.60	66.00	121.40																
10.70	67.20																	
10.90	68.50																	
11.40	69.80																	
11.60	71.00																	
12.00	72.00																	
12.20	73.20																	
12.40	74.20																	
13.00	75.50																	
13.40	76.90																	
13.50	77.50																	
13.90	78.50																	
14.10	79.60																	
14.50	80.60																	
14.90	82.00																	
15.00	83.40																	
15.50	85.10																	
16.10	86.00																	
16.30	87.60																	
16.60	89.90																	
17.00	90.20																	
17.60	91.40																	
18.00	92.50																	
18.60	93.90																	
19.20	95.50																	
19.60	96.50																	
20.30	97.50																	
21.00	98.60																	
21.90	99.50																	
22.40	100.10																	

Type	Test Interval						Datum						Cut/Fill					
DCP	Cumulative cm per blow						STBC						25.0 ft. Fill					
0.90	25.50	70.60																
1.40	27.00	70.70																
1.60	28.30	71.10																
2.00	29.50	71.20																
2.40	30.50	71.30																
2.60	31.00	72.00																
3.00	31.20	72.12																
3.10	32.50	72.24																
3.50	32.70	72.36																
3.60	33.00	72.48																
4.00	33.50	72.60																
4.30	34.00	72.76																
4.60	34.30	72.92																
4.90	35.00	73.08																
5.10	35.60	73.24																
5.40	35.70	73.40																
5.50	36.30	73.46																
5.90	36.90	73.51																
6.00	37.50	73.57																
6.20	38.50	73.62																
6.50	39.00	73.68																
6.60	39.90	73.73																
7.00	40.60	73.79																
7.40	41.50	73.84																
7.60	42.30	73.90																
7.90	43.30	74.01																
8.00	44.40	74.12																
8.30	45.50	74.23																
8.40	46.60	74.34																
8.50	47.50	74.45																
8.60	48.50	74.56																
8.90	50.00	74.67																
9.20	50.40	74.78																
9.60	51.00	74.89																
9.70	51.50	75.00																
10.00	52.20	75.07																
10.20	53.00	75.14																
10.50	54.00	75.21																
10.60	55.50	75.28																
10.90	56.30	75.35																
11.30	57.20	75.42																
11.60	58.00	75.49																
11.90	58.50	75.56																
12.00	59.30	75.63																
12.50	59.40	75.70																
12.90	60.00	75.73																
13.00	60.50	75.76																
13.40	60.60	75.79																
13.60	61.10	75.82																
14.00	61.50	75.85																
14.30	61.60	75.88																
14.60	62.30	75.91																
15.00	62.50	75.94																
15.50	63.00	75.97																
15.60	65.00	76.00																
16.00	65.10	DCP REF																
16.50	65.30	50/1.5"																
16.90	66.30																	
17.50	67.00																	
18.00	67.20																	
18.50	67.50																	
19.50	68.10																	
20.60	69.80																	
22.40	70.10																	
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					
DCP	Cumulative cm per blow						STBC						3.0 ft. Fill					
0.80	33.00	114.90																
1.50	34.10	116.30																
2.30	35.00	117.50																
2.70	36.00	118.70																
3.10	37.00																	
3.80	37.90																	
4.20	38.90																	
4.60	40.20																	
4.90	41.70																	
5.50	43.50																	
5.90	44.00																	
6.50	46.20																	
6.60	47.50																	
7.00	49.00																	
7.40	49.90																	
7.70	51.60																	
8.00	53.00																	
8.40	55.00																	
8.50	56.30																	
8.60	57.60																	
8.90	59.20																	
9.30	60.70																	
9.70	61.70																	
10.40	62.60																	
10.50	64.30																	
11.00	66.60																	
11.20	68.00																	
11.60	69.90																	
11.70	70.70																	
12.30	72.50																	
12.90	73.90																	
13.10	75.00																	
13.50	76.60																	
14.40	77.40																	
14.60	79.00																	
15.00	79.50																	
15.30	80.00																	
15.90	81.40																	
16.30	82.50																	
16.70	83.60																	
17.20	84.70																	
17.60	87.70																	
18.20	88.20																	
18.70	89.60																	
18.90	91.00																	
19.20	92.50																	
19.50	94.00																	
20.10	95.00																	
20.50	96.00																	
20.60	97.30																	
21.40	97.60																	
22.00	100.00																	
22.30	101.00																	
22.70	101.60																	
23.50	102.90																	
24.40	103.40																	
24.90	104.00																	
25.60	104.60																	
26.40	106.00																	
27.40	107.00																	
28.40	108.70																	
29.20	109.90																	
30.00	110.60																	
31.00	112.00																	
32.00	113.00																	

Type	Test Interval						Datum						Cut/Fill					
DCP	Cumulative cm per blow						STBC						5.0 ft. Fill					
1.00	DCP REF	54.60	96.10															
1.50	AUGER TO	55.10	96.40															
2.00	23.4 cm	55.50	96.70															
3.00	0.60	55.70	97.00															
3.50	1.50	56.20	97.30															
3.55	2.10	56.70	97.60															
3.60	2.70	58.50	97.90															
3.65	3.60	58.70	98.20															
3.70	4.10	59.50	98.50															
3.75	4.50	60.50	98.80															
3.80	4.60	62.10	99.10															
3.85	5.90	63.20	99.46															
3.90	6.70	64.30	99.82															
3.95	6.80	64.90	100.18															
4.00	7.70	65.30	100.54															
4.05	7.80	65.70	100.90															
4.10	8.20	66.10																
4.15	8.80	66.50																
4.20	9.90	66.90																
4.25	10.60	67.34																
4.30	12.50	67.78																
4.35	13.30	68.22																
4.40	14.20	68.66																
4.45	14.60	69.10																
4.50	15.60	69.66																
4.51	17.70	70.22																
4.52	18.80	70.78																
4.53	19.90	71.34																
4.54	20.70	71.90																
4.55	22.20	73.10																
4.56	22.70	74.10																
4.57	23.60	75.10																
4.58	24.20	76.10																
4.59	24.80	77.90																
4.60	25.60	79.10																
4.68	27.50	81.60																
4.76	28.10	82.60																
4.84	28.70	83.50																
4.92	30.70	84.20																
5.00	31.10	84.50																
5.08	32.00	85.20																
5.16	33.50	86.10																
5.24	35.10	86.70																
5.32	36.00	88.10																
5.40	37.10	89.11																
5.51	38.70	89.60																
5.62	39.50	90.10																
5.73	40.90	90.60																
5.84	42.10	91.10																
5.95	42.80	91.60																
6.06	43.80	92.10																
6.17	45.70	92.20																
6.28	46.70	92.30																
6.39	47.70	92.40																
6.50	48.20	92.50																
6.64	48.70	92.60																
6.78	49.10	93.00																
6.92	49.70	93.40																
7.06	51.20	93.80																
7.20	51.70	94.20																
7.34	52.60	94.60																
7.48	53.10	94.90																
7.62	53.50	95.20																
7.76	54.00	95.50																
7.90	54.50	95.80																

CAROLINAS GEOTECHNICAL GROUP

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			

CAROLINAS GEOTECHNICAL GROUP

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					

CAROLINAS GEOTECHNICAL GROUP

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				

CAROLINAS GEOTECHNICAL GROUP

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. 385+02 LT PS 6.0 FT RT FW	12/27/21 to 1/13/22	-L- Sta. 385+02 LT 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	40.0 ft. Cut	DCP	Cumulative cm per blow			STBC	40.0 ft. Cut
1.00	30.20	72.60	136.10			0.80	33.50	75.80			
1.40	30.80	73.40	137.90			1.20	34.00	75.90			
2.00	31.60	74.00	138.50			1.50	35.00	76.00			
2.40	31.70	74.50				1.90	36.00	76.10			
2.80	32.50	75.00				2.10	36.40	76.22			
3.20	32.80	75.60				2.50	36.90	76.34			
3.80	33.20	76.30				2.90	37.40	76.46			
4.10	33.40	76.70				3.00	38.00	76.58			
4.50	33.50	77.40				3.10	38.10	76.70			
5.20	34.00	77.90				3.20	39.10	76.82			
5.50	34.68	78.40				3.30	39.60	76.94			
6.50	35.36	79.00				3.50	40.00	77.06			
6.80	36.04	79.60				4.50	40.60	77.18			
7.20	36.72	80.10				5.90	40.70	77.30			
7.50	37.40	81.10				6.50	41.40	77.46			
7.80	38.60	81.70				6.80	42.30	77.62			
8.10	39.00	82.20				7.50	42.60	77.78			
8.40	39.70	82.70				8.50	43.20	77.93			
8.80	40.50	83.30				9.00	44.10	78.09			
9.20	41.20	83.90				10.10	44.60	78.25			
9.50	42.00	84.50				10.90	45.30	78.41			
10.00	42.70	85.20				11.50	45.90	78.57			
10.40	43.30	86.10				11.60	46.50	78.73			
11.40	43.80	87.90				12.10	46.90	78.88			
12.10	44.40	88.50				12.20	47.90	79.04			
12.50	44.80	89.20				12.60	48.50	79.20			
13.00	45.33	90.10				12.90	49.20	79.43			
13.60	45.87	91.00				13.10	50.00	79.66			
14.10	46.40	91.90				13.60	51.00	79.89			
14.70	46.87	92.20				13.70	52.00	80.12			
15.30	47.33	93.50				14.40	52.90	80.35			
15.80	47.80	94.70				14.90	53.60	80.58			
16.50	48.70	95.50				15.30	54.70	80.81			
17.00	49.40	96.60				15.60	55.60	81.04			
17.30	50.60	97.30				16.10	56.20	81.27			
17.70	51.30	98.30				17.50	57.00	81.50			
18.05	52.00	99.30				18.40	57.50	81.66			
18.40	52.80	100.40				19.20	58.10	81.83			
19.15	53.50	101.50				20.00	59.30	81.99			
19.90	54.30	102.60				20.90	60.30	82.15			
21.00	55.30	104.00				21.90	61.10	82.32			
21.30	56.50	105.30				22.40	62.00	82.48			
21.70	57.80	107.50				23.50	63.00	82.65			
22.20	58.80	108.10				24.00	64.40	82.81			
22.30	59.60	109.30				24.30	65.50	82.97			
22.70	60.50	110.20				24.90	66.60	83.14			
23.00	61.40	111.10				25.30	67.50	83.30			
23.50	62.20	111.60				25.60	68.10				
23.70	62.60	112.60				26.10	69.30				
24.40	63.30	113.40				26.50	70.20				
24.60	64.10	115.40				26.90	71.90				
24.90	64.60	115.60				27.10	72.30				
25.30	65.30	116.90				27.60	73.00				
25.70	66.00	118.10				28.00	73.60				
26.00	66.80	119.60				28.50	74.00				
26.30	67.30	121.20				28.70	74.50				
26.70	67.70	122.70				29.00	74.60				
27.30	68.60	124.20				29.50	75.00				
27.50	69.20	125.40				30.10	75.10				
27.70	69.80	126.70				30.40	75.20				
28.20	70.20	128.00				30.90	75.30				
28.40	70.80	129.40				31.40	75.40				
28.90	71.40	131.00				31.60	75.50				
29.30	71.70	132.60				32.50	75.60				
30.00	72.20	134.10				33.00	75.70				

CAROLINAS GEOTECHNICAL GROUP

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		

CAROLINAS GEOTECHNICAL GROUP

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							

CAROLINAS GEOTECHNICAL GROUP

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 PS 5.0 FT RT FW	12/27/21 to 1/13/22	-Y2- Sta. 40+61 RT LN 1.0 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	15.0 ft. Cut
1.00	40.90	81.10	127.40			0.60	21.40	69.10			
1.50	41.50	81.60	127.90			1.00	22.10	69.90			
2.50	43.00	82.00				1.60	23.00	70.40			
3.00	44.50	83.00				1.90	24.00	71.10			
3.10	46.50	83.50				2.20	25.20	71.70			
3.90	48.00	84.00				2.40	26.40	72.50			
4.10	49.00	84.50				2.90	27.60	73.30			
4.50	50.00	85.10				3.20	28.60	74.30			
5.00	50.60	85.60				3.50	29.60	74.60			
5.30	51.40	86.50				3.80	30.60	76.20			
5.60	53.50	87.70				4.20	31.40	76.80			
6.10	55.00	87.80				4.50	32.20	77.80			
7.10	56.90	88.50				4.80	33.20	78.80			
7.90	57.90	89.40				4.90	34.10	79.40			
8.00	58.90	90.40				5.00	35.00	79.90			
8.50	60.10	91.90				5.30	35.70	80.20			
9.50	60.20	92.90				5.50	36.40	80.40			
10.40	61.20	93.50				5.90	37.40	80.70			
10.90	62.40	94.00				6.30	38.70	81.10			
11.90	63.40	94.50				6.40	40.10	81.40			
12.80	64.40	95.00				6.60	41.10	81.50			
13.50	65.40	96.00				6.90	42.10	81.80			
14.50	66.10	97.30				7.30	43.60	82.00			
15.50	67.30	98.00				7.40	44.90	82.30			
16.00	67.90	99.00				7.60	46.40	82.60			
16.50	68.90	100.00				7.90	47.80	83.00			
16.90	69.60	101.00				8.20	49.00	83.20			
17.40	70.10	101.90				8.70	50.30	83.46			
18.00	70.50	102.90				9.20	51.30	83.72			
18.50	70.90	103.50				9.30	51.90	83.98			
18.80	71.60	104.50				9.80	52.40	84.24			
19.90	71.90	105.00				10.00	52.90	84.50			
20.50	72.60	105.90				10.10	53.60	85.10			
21.30	73.00	106.50				10.20	54.00	85.60			
22.00	73.10	107.50				10.40	54.70	86.10			
22.50	73.30	108.20				10.60	55.40	86.90			
23.50	73.50	109.00				10.80	56.30	87.20			
24.50	74.00	109.80				11.00	57.30	87.80			
24.60	74.20	110.50				11.20	58.50	88.90			
25.30	74.40	111.60				11.42	59.60	89.00			
25.90	74.60	112.50				11.64	60.80	90.10			
26.40	74.80	113.00				11.86	62.00	90.50			
26.60	75.00	113.90				12.08	63.30	91.70			
27.40	75.20	114.50				12.30	63.50	92.50			
27.90	75.40	115.00				12.50	63.80	93.20			
28.00	75.60	115.60				12.60	64.20	94.10			
28.90	75.80	116.50				12.90	64.40	95.30			
29.10	76.00	116.90				13.00	64.50	97.00			
29.90	76.25	117.50				13.30	64.90	98.10			
30.10	76.50	118.50				13.80	65.14	99.60			
30.90	76.75	118.60				14.00	65.38	99.80			
31.40	77.00	119.10				14.30	65.62	100.00			
31.90	77.25	119.50				14.50	65.86	100.20			
32.50	77.50	120.30				14.70	66.10	100.40			
33.00	77.75	120.90				15.60	66.32	100.60			
34.00	78.00	121.40				16.00	66.54				
35.00	78.25	122.00				16.20	66.76				
35.50	78.50	122.50				16.70	66.98				
35.60	78.82	123.10				17.40	67.20				
36.00	79.13	123.60				17.60	67.42				
37.00	79.45	124.30				18.00	67.64				
37.40	79.77	124.80				18.60	67.86				
37.50	80.08	125.10				19.30	68.08				
38.90	80.40	125.90				20.00	68.30				
39.60	80.60	126.10				20.70	68.90				

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					

CAROLINAS GEOTECHNICAL GROUP

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
-Y2- Sta. 100+31 LT LN 1.4 FT LT FW	12/27/21 to 1/13/22

Type	Test Interval						Datum		Cut/Fill
DCP	Cumulative cm per blow						STBC		5.0 ft. Fill
2.10	20.90	124.80							
2.50	21.30								
3.60	21.50								
4.20	22.20								
4.50	22.70								
4.80	23.50								
5.10	24.20								
5.50	25.20								
5.80	26.40								
6.00	27.60								
6.40	28.40								
6.60	29.80								
7.00	31.00								
7.30	31.90								
7.60	32.20								
8.10	33.30								
8.30	34.20								
8.40	34.90								
8.60	35.90								
8.80	36.40								
9.00	37.20								
9.20	38.40								
9.40	40.10								
9.60	42.00								
9.80	43.30								
10.00	44.60								
10.20	45.40								
10.42	46.20								
10.64	47.20								
10.86	48.20								
11.08	49.70								
11.30	50.80								
11.54	51.50								
11.78	52.70								
12.02	53.70								
12.26	54.90								
12.50	56.60								
12.68	58.10								
12.86	59.40								
13.04	61.30								
13.22	62.30								
13.40	63.70								
13.66	65.40								
13.92	67.30								
14.18	69.20								
14.44	71.30								
14.70	73.30								
15.04	75.30								
15.38	76.50								
15.72	78.20								
16.06	79.90								
16.40	81.70								
16.64	83.90								
16.88	85.70								
17.12	87.80								
17.36	89.40								
17.60	91.40								
17.94	94.60								
18.28	98.00								
18.62	101.20								
18.96	105.10								
19.30	109.60								
19.70	116.90								
20.10	117.40								
20.50	121.00								

Test Location	Date Run
-Y2- Sta. 119+68 RT LN 1.8 FT FT LW	12/27/21 to 1/13/22

Type	Test Interval						Datum		Cut/Fill
DCP	Cumulative cm per blow						STBC		15.0 ft. Fill
1.20	24.00	94.00							
1.80	24.80	95.60							
2.60	25.70	96.60							
3.30	26.30	98.90							
3.70	26.70	100.10							
4.10	27.40	101.50							
4.60	28.30	103.00							
4.80	29.80	104.60							
5.04	30.80	106.10							
5.28	32.10	107.20							
5.52	33.00	108.50							
5.76	34.00	109.40							
6.00	35.20	110.50							
6.30	36.40	111.30							
6.60	37.40	112.00							
6.90	37.80	113.40							
7.20	38.40	114.80							
7.50	39.00	116.10							
7.68	39.90	117.60							
7.86	40.80	119.10							
8.04	42.00	120.40							
8.22	43.00								
8.40	44.20								
8.52	45.70								
8.64	46.60								
8.76	48.90								
8.88	50.80								
9.00	52.90								
9.20	54.90								
9.40	56.60								
9.60	58.00								
9.80	59.20								
10.00	60.30								
10.20	61.50								
10.40	62.10								
10.60	62.70								
10.80	62.90								
11.00	63.30								
11.20	63.50								
11.40	63.90								
11.60	64.70								
11.80	64.90								
12.00	65.50								
12.26	66.20								
12.52	67.30								
12.78	68.70								
13.04	69.40								
13.30	69.80								
13.74	70.50								
14.18	71.70								
14.62	72.80								
15.06	73.70								
15.50	74.30								
15.90	74.80								
16.40	75.50								
16.80	76.40								
17.20	77.80								
17.90	79.50								
18.90	81.40								
19.70	83.00								
20.60	84.80								
21.90	86.80								
22.60	88.50								
23.00	89.40								
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
-Y2- Sta. 140+29 LT LN 1.3 FT LT FW	12/27/21 to 1/13/22

Type	Test Interval						Datum		Cut/Fill
DCP	Cumulative cm per blow						STBC		30.0 ft. Fill
1.00	16.30	41.90	74.70	104.80					
1.40	16.70	42.40	75.60	105.00					
1.80	17.20	42.80	76.00	105.40					
1.90	17.60	43.10	76.50	105.70					
2.00	18.00	43.90	77.00	106.40					
2.10	18.40	44.10	77.60	106.90					
2.20	18.80	44.50	78.20	107.50					
2.30	19.20	45.10	79.00	108.30					
2.40	20.00	45.40	79.20	108.80					
2.50	20.40	45.70	79.60	109.70					
2.60	20.70	46.10	79.70	110.50					
2.92	21.30	46.30	80.00	111.20					
3.24	21.60	46.60	80.20	112.20					
3.56	21.90	46.90	80.50	113.20					
3.88	22.20	47.10	81.00	114.00					
4.20	22.40	47.50	81.40	114.70					
4.46	22.70	47.90	81.50	115.10					
4.72	22.80	48.40	81.80	115.60					
4.98	23.20	48.90	82.10	116.00					
5.24	23.60	49.50	82.30	116.20					
5.50	23.90	50.00	82.50	116.50					
5.68	24.30	50.40	82.80	116.90					
5.86	24.50	50.90	83.00	117.30					
6.04	24.90	51.30	83.50	117.90					
6.22	25.10	51.70	84.00	118.30					
6.40	25.60	52.00	84.80	118.70					
6.64	26.00	52.50	85.30	119.00					
6.88	26.50	53.00	85.80	119.40					
7.12	26.70	53.40	86.00	119.70					
7.36	27.30	53.60	86.10	120.20					
7.60	27.50	54.10	86.60	120.70					
7.82	28.20	54.60	87.00	121.20					
8.04	28.80	54.80	87.60	121.90					
8.26	29.80	55.40	88.20	122.60					
8.48	30.80	55.56	88.90	123.50					
8.70	31.70	55.72	89.70	124.20					
8.92	32.50	55.88	90.60	125.20					
9.14	33.20	56.04	91.10						
9.36	33.80	56.20	91.90						
9.58	34.20	56.56	92.40						
9.80	34.60	56.92	92.90						
10.02	35.30	57.28	93.30						
10.24	35.60	57.64	93.90						
10.46	36.00	58.00	94.60						
10.68	36.40	58.44	95.30						
10.90	36.80	58.88	96.10						
11.12	37.40	59.32	96.70						
11.34	37.80	59.76	97.30						
11.56	38.30	60.20	98.00						
11.78	38.50	61.00	99.00						
12.00	38.80	61.90	99.50						
12.28	39.00	62.90	100.10						
12.56	39.10	63.70	100.80						
12.84	39.40	64.60	101.30						
13.12	39.50	65.60	101.60						
13.40	39.60	66.40	102.00						
13.64	40.00	67.70	102.20						
13.88	40.10	68.60	102.40						
14.12	40.40	69.70	102.70						
14.36	40.60	70.20	103.00						
14.60	40.70	70.70	103.40						
14.94	40.80	71.60	103.60						
15.28	40.90	72.30	103.80						
15.62	41.20	73.00	104.10						
15.96	41.50	73.70	104.40						

Test Location	Date Run
-Y2- Sta. 165+10 LT OSL 6.0 FT LT FW	12/27/21 to 1/13/22

Type	Test Interval						Datum		Cut/Fill
DCP	Cumulative cm per blow						STBC		At Grade
1.10	10.30	4.34	87.10						
1.40	10.35	4.40	88.00						
1.80	10.40	AUGER TO	89.20						
2.90	10.51	20.7cm	89.70						
3.10	10.62	1.10	92.20						
3.40	10.73	1.80	93.80						
3.50	10.84	2.20	95.90						
3.90	10.95	2.90	97.40						
4.20	11.06	3.70	98.20						
4.40	11.17	4.30							
4.60	11.28	4.90							
4.80	11.39	5.70							
5.10	11.50	6.40							
5.30	DCP REF	7.10							
5.50	AUGER 5.1	7.70							
5.70	TO 16.6 CM	8.50							
5.90	0.90	9.20							
6.10	1.00	10.10							
6.22	1.10	10.70							
6.34	1.20	11.60							
6.46	1.30	12.60							
6.58	1.40	12.90							
6.70	1.50	13.10							
6.82	1.60	13.60							
6.94	1.70	13.70							
7.06	1.80	14.30							
7.18	1.90	15.50							
7.30	1.99	17.40							
7.36	2.08	18.10							
7.42	2.17	19.00							
7.48	2.26	21.00							
7.54	2.35	22.30							
7.60	2.44	23.60							
7.66	2.53	24.70							
7.72	2.62	25.70							
7.78	2.71	26.90							
7.84	2.80	27.50							
7.90	2.86	28.80							
8.00	2.92	30.10							
8.10	2.98	31.30							
8.20	3.04	32.50							
8.30	3.10	34.50							
8.40	3.16	36.40							
8.50	3.22	37.80							
8.60	3.28	40.40							
8.70	3.34	42.90							
8.80	3.40	45.20							
8.90	3.44	47.00							
9.00	3.48	49.00							
9.10	3.52	50.30							
9.20	3.56	52.20							
9.30	3.60	53.80							
9.40	3.64	55.70							
9.50	3.68	57.20							
9.60	3.72	58.70							
9.70	3.76	60.60							
9.80	3.80	62.40							
9.90	3.86	64.60							
9.95	3.92	67.00							
10.00	3.98	69.50							
10.05	4.04	71.50							
10.10	4.10	74.70							
10.15	4.16	78.70							
10.20	4.22	81.90							
10.25	4.28	85.10							

CAROLINAS GEOTECHNICAL GROUP

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

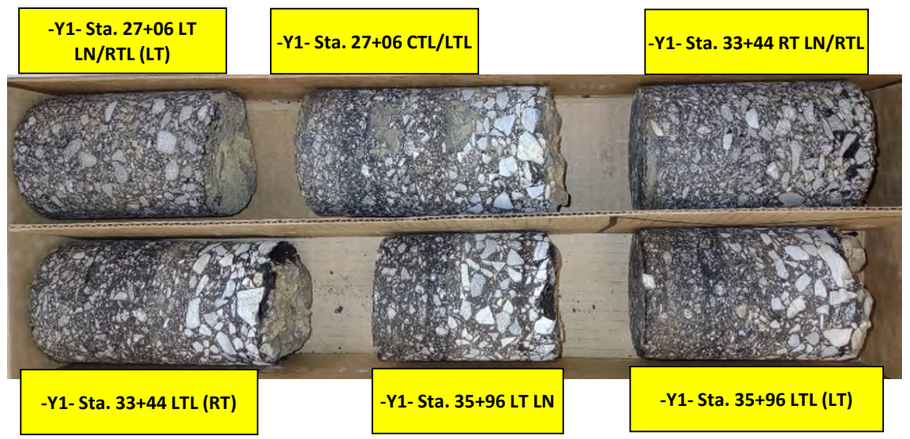
Test Location	Date Run	Test Location	Date Run
-Y2- Sta. 165+10 RT OSL 4.5 FT LT FW	12/27/21 to 1/13/22		

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		

CAROLINAS GEOTECHNICAL GROUP

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

Pavement Core Photographs



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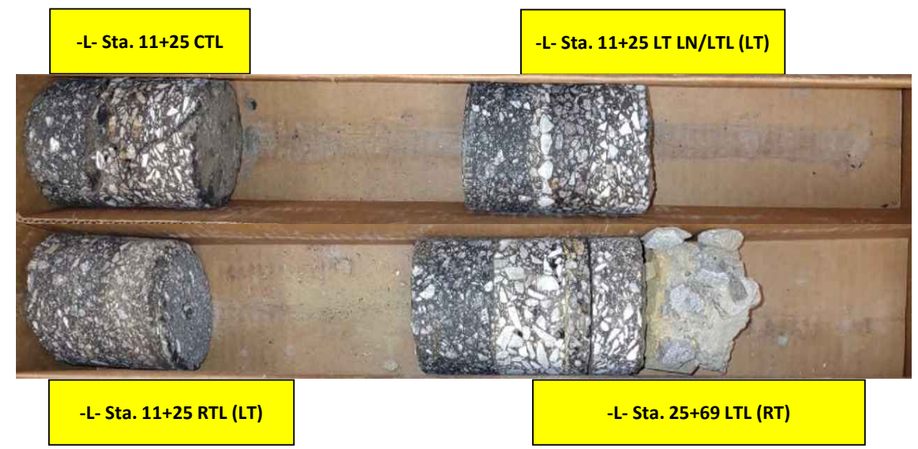

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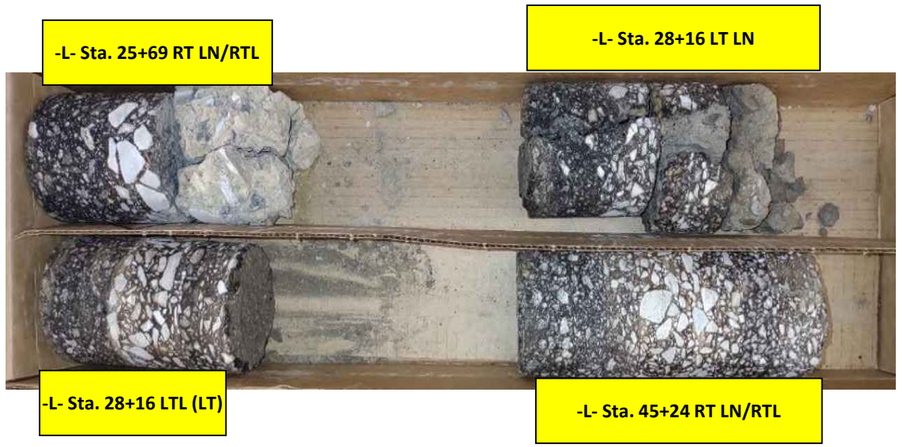

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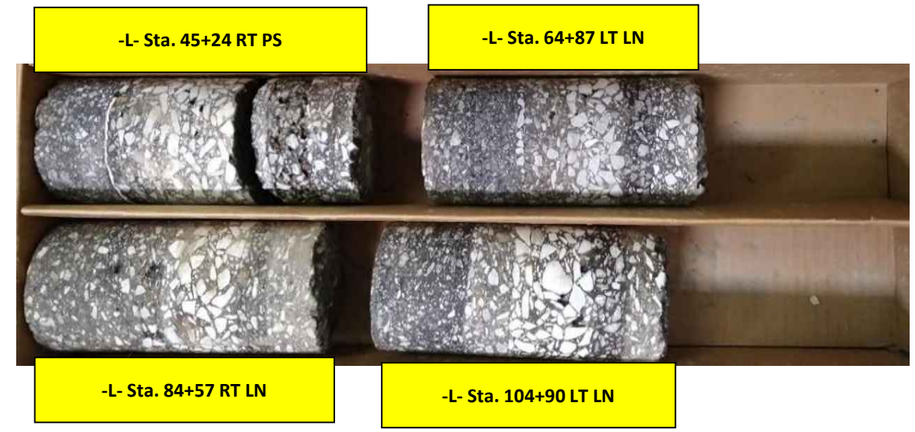

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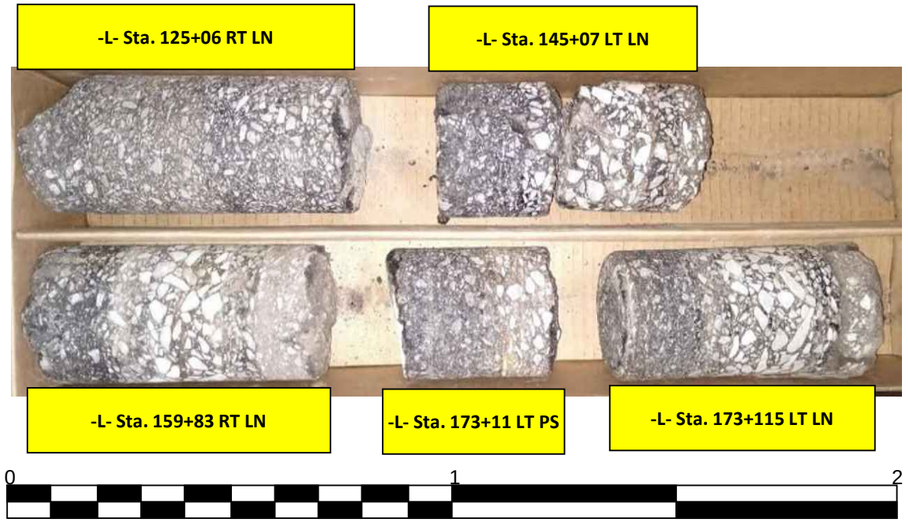
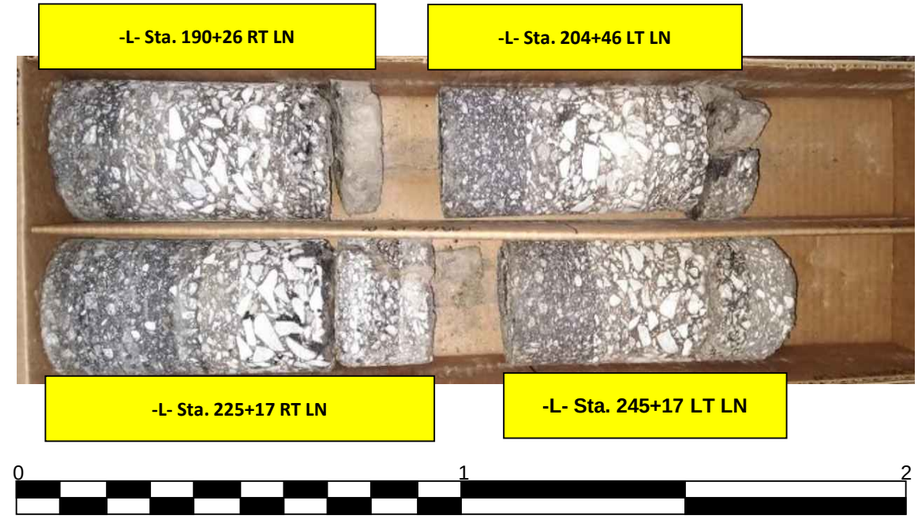
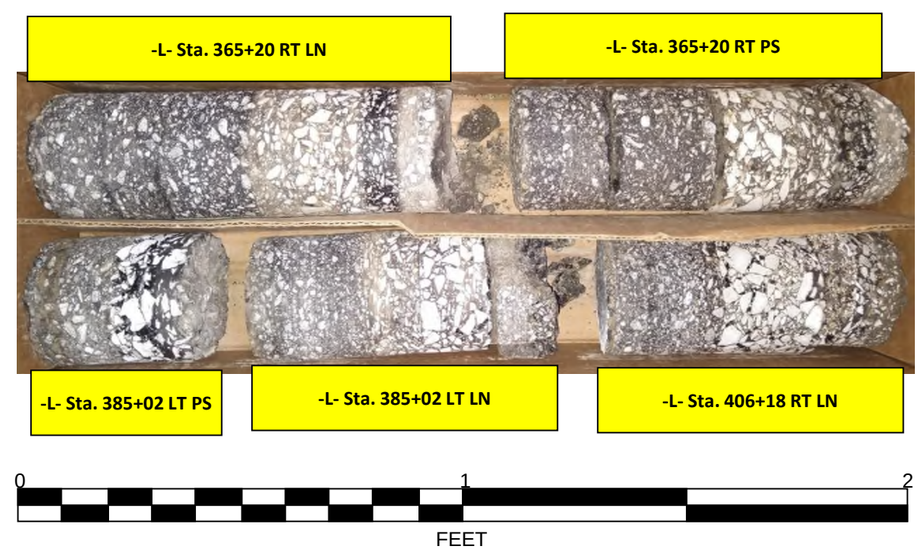
CAROLINAS GEOTECHNICAL GROUP

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

Pavement Core Photographs



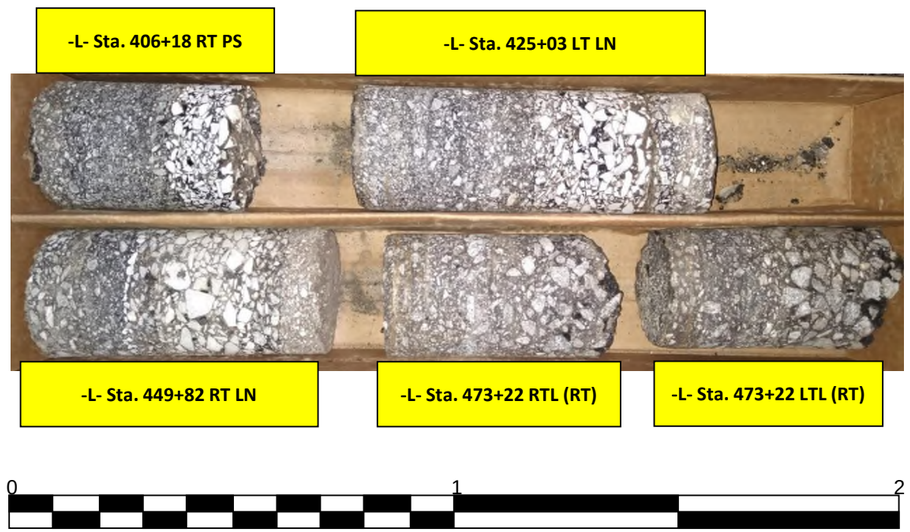


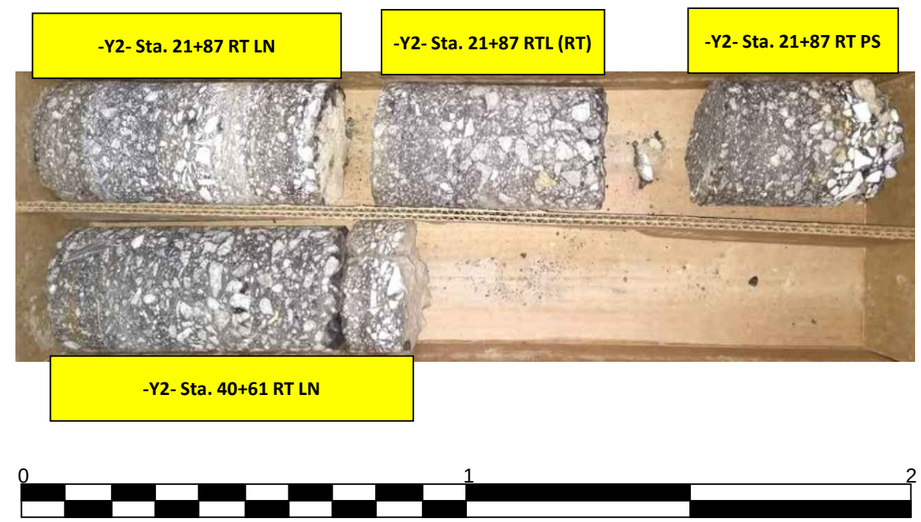


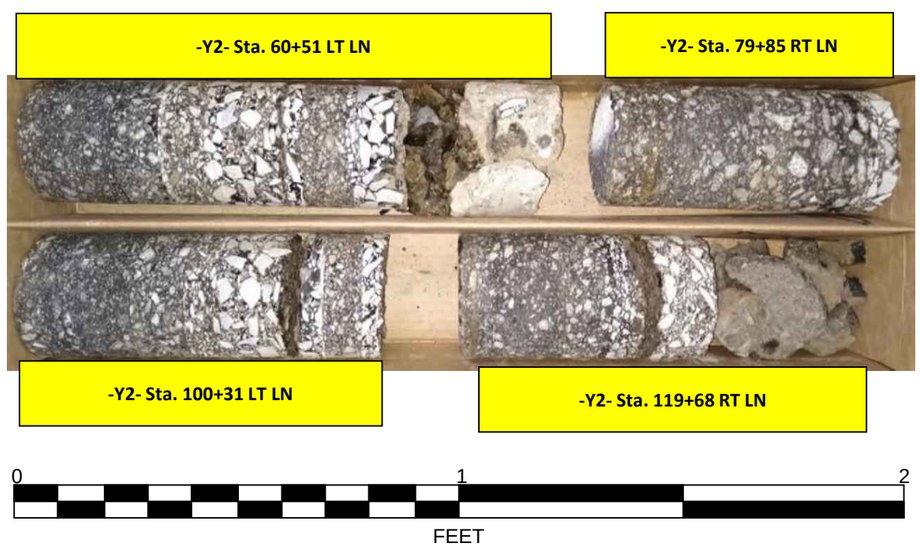
CAROLINAS GEOTECHNICAL GROUP

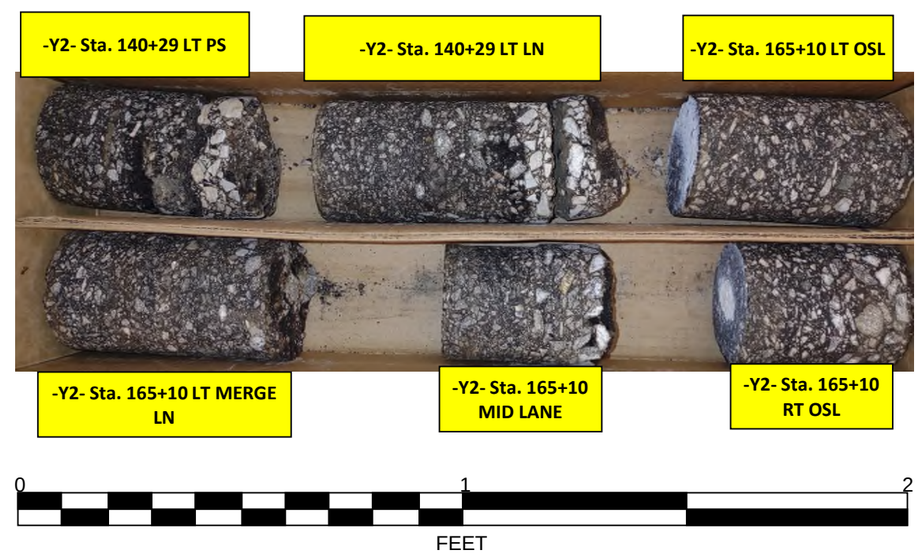
Widen US 129, NC 143, and NC 28 (Climbing/Passing Lane) from Robbinsville to Stecoah

Pavement Core Photographs









FALCON ENGINEERING

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

SAMPLE		DEPTH	AASHTO	ATTERBERG LIMITS		PERCENT BY WEIGHT				PERCENT PASSING SIEVE			MOISTURE	BULK DENSITY	ORGANICS
NO.	LOCATION	INTERVAL	CLASS.	LL	PI	C.SAND	F.SAND	SILT	CLAY	#10	#40	#200	(%)	(pcf)	(%)
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

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

SAMPLE		DEPTH	AASHTO	ATTERBERG LIMITS		PERCENT BY WEIGHT				PERCENT PASSING SIEVE			MOISTURE	BULK DENSITY	ORGANICS
NO.	LOCATION	INTERVAL	CLASS.	LL	PI	C.SAND	F.SAND	SILT	CLAY	#10	#40	#200	(%)	(pcf)	(%)
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

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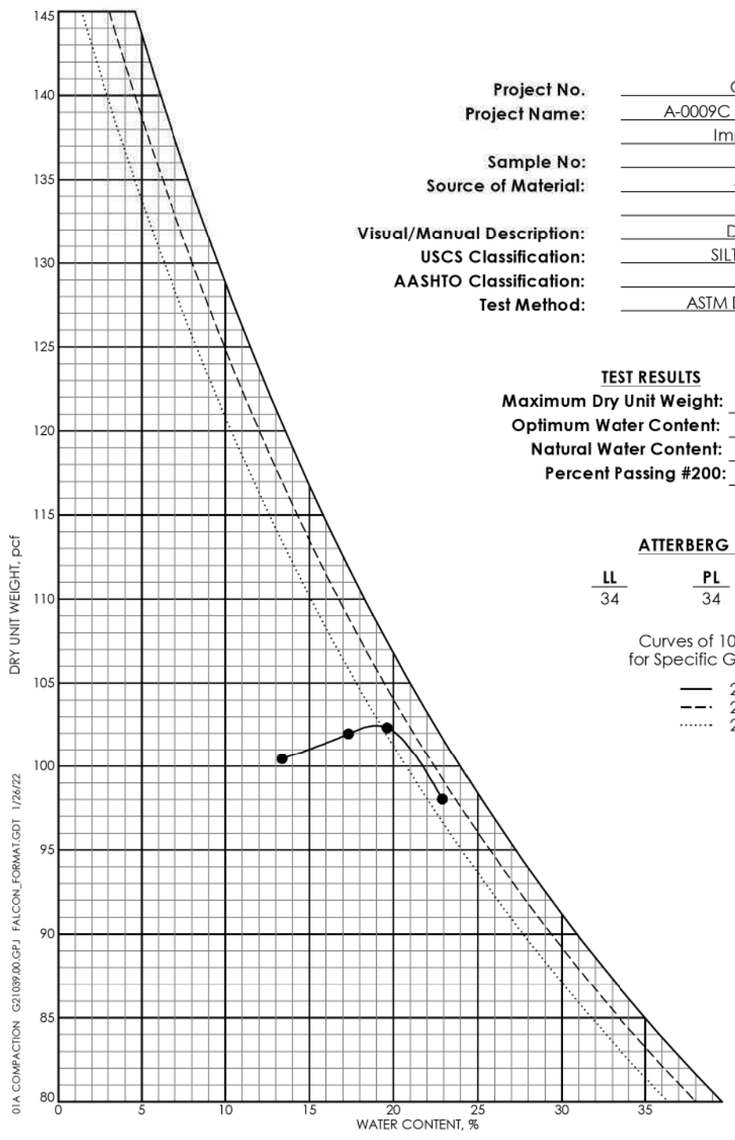
LABORATORY COMPACTION TEST RESULTS



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	PL	PI
34	34	NP

Curves of 100% Saturation for Specific Gravity Equal to:

— 2.6
– – 2.5
····· 2.4

01A COMPACTION G21039.00.GPJ FALCON_FORMAT.GDT 1/26/22

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

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

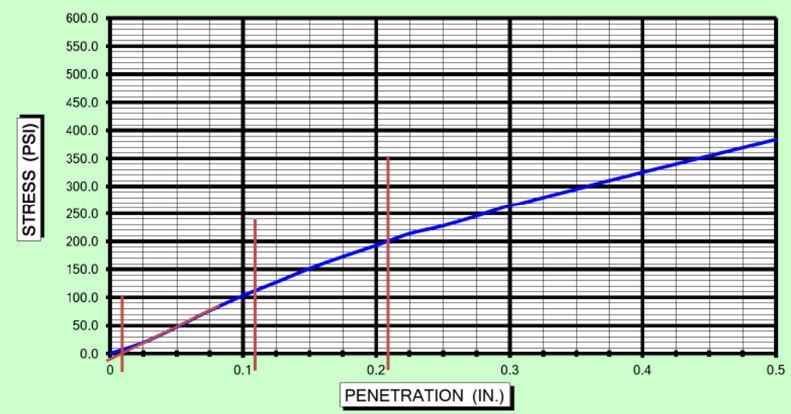
AASHTO T-193 / ASTM D-1883

PROJECT #: G21039.00	TEST PERFORMED BY: JG / CS	DATE: 1/21/2022
PROJECT NAME: CG2 A-0009C		
Boring #: Bulk-1	SAMPLE #: Bulk-1	DEPTH: 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%

	ACTUAL	CORRECTED
CBR VALUE AT .1"	10.3	11.3
CBR VALUE AT .2"	12.8	13.3

STRESS-PENETRATION CURVE



LIQUID LIMIT	34	PLASTIC LIMIT	NP	PLASTIC INDEX	NP

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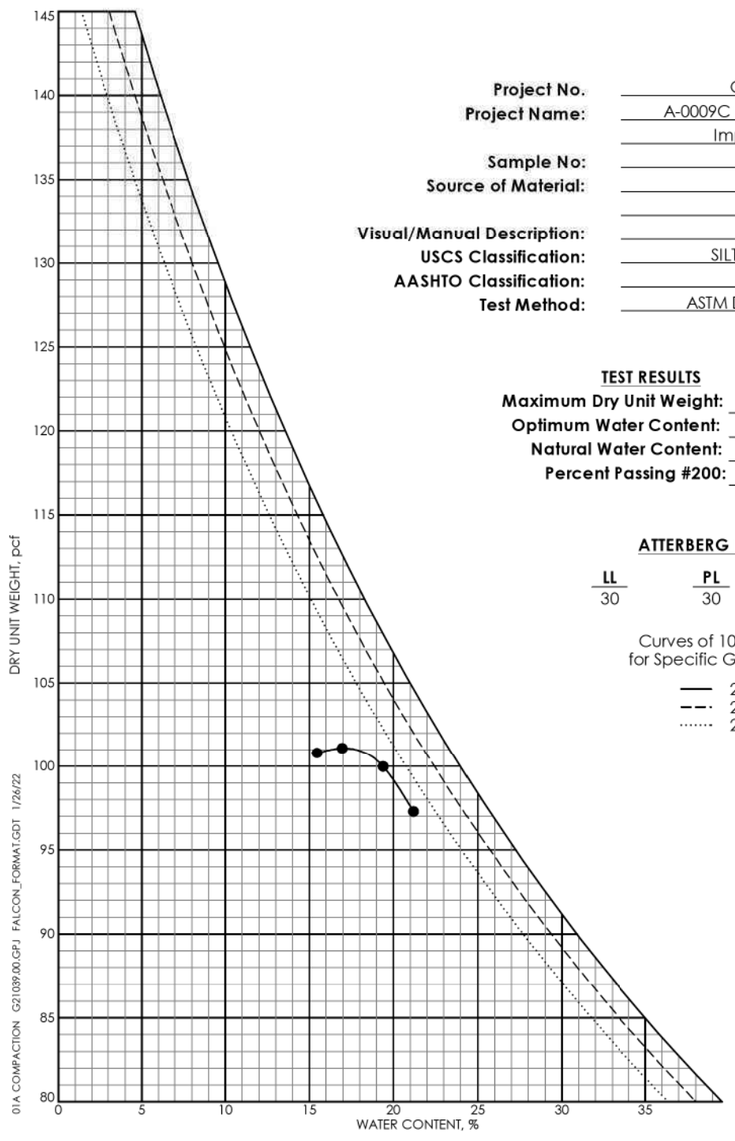
LABORATORY COMPACTION TEST RESULTS



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	PL	PI
30	30	NP

Curves of 100% Saturation for Specific Gravity Equal to:

— 2.6
– – 2.5
····· 2.4

01A COMPACTION G21039.00.GPJ FALCON_FORMAT.GDT 1/26/22

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

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

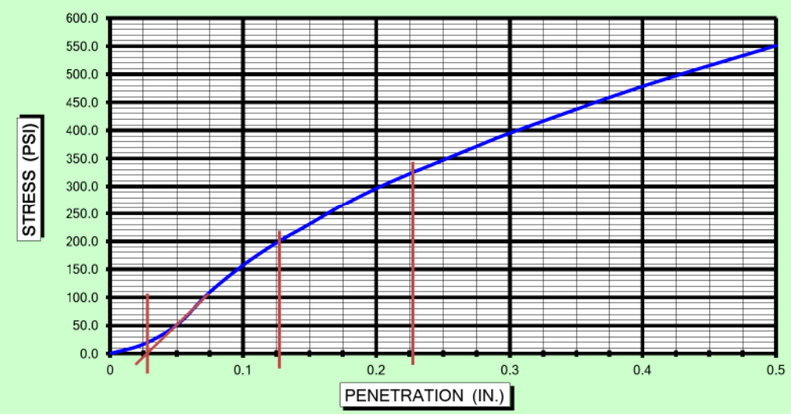
AASHTO T-193 / ASTM D-1883

PROJECT #: G21039.00	TEST PERFORMED BY: JG / CS	DATE: 1/21/2022
PROJECT NAME: CG2 A-0009C		
Boring #: Bulk-2	SAMPLE #: Bulk-2	DEPTH: 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%

	ACTUAL	CORRECTED
CBR VALUE AT .1"	15.7	20.0
CBR VALUE AT .2"	19.7	21.7

STRESS-PENETRATION CURVE



LIQUID LIMIT	30	PLASTIC LIMIT	NP	PLASTIC INDEX	NP

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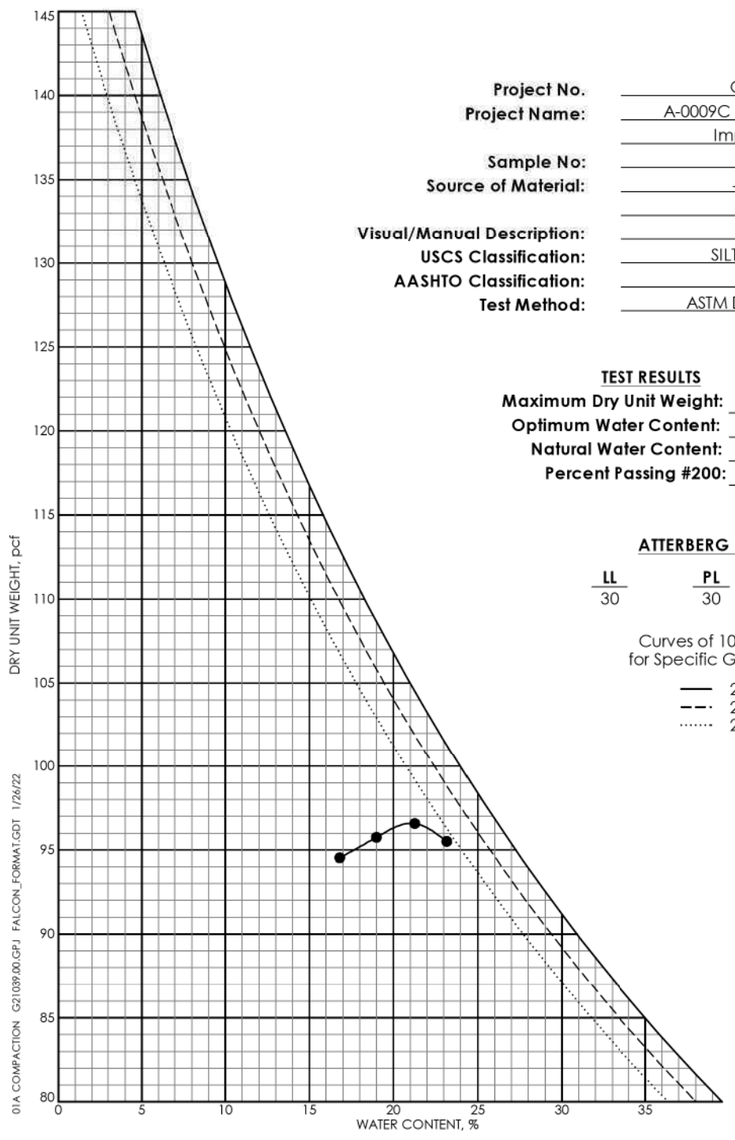
LABORATORY COMPACTION TEST RESULTS



01A COMPACTION G21039.00.GPJ FALCON_FORMAT.GDT 1/26/22

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	PL	PI
30	30	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

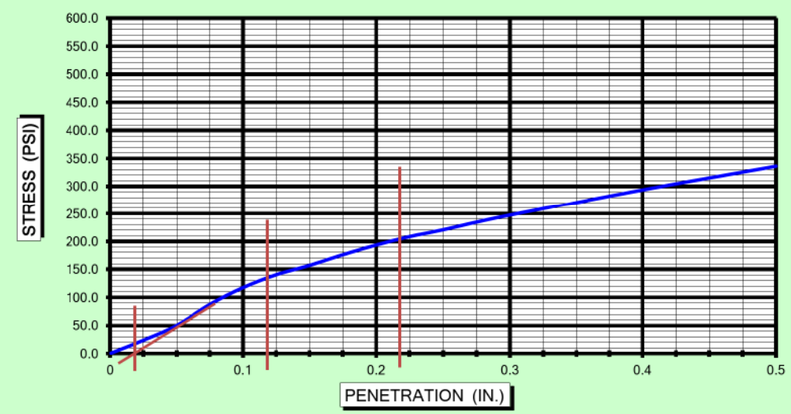
AASHTO T-193 / ASTM D-1883

PROJECT #: G21039.00	TEST PERFORMED BY: JG / CS	DATE: 1/21/2022
PROJECT NAME: CG2 A-0009C		
Boring #: Bulk-3	SAMPLE #: Bulk-3	DEPTH: 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%

	ACTUAL	CORRECTED
CBR VALUE AT .1"	11.7	13.5
CBR VALUE AT .2"	12.9	13.5

STRESS-PENETRATION CURVE



LIQUID LIMIT	30	PLASTIC LIMIT	NP	PLASTIC INDEX	NP

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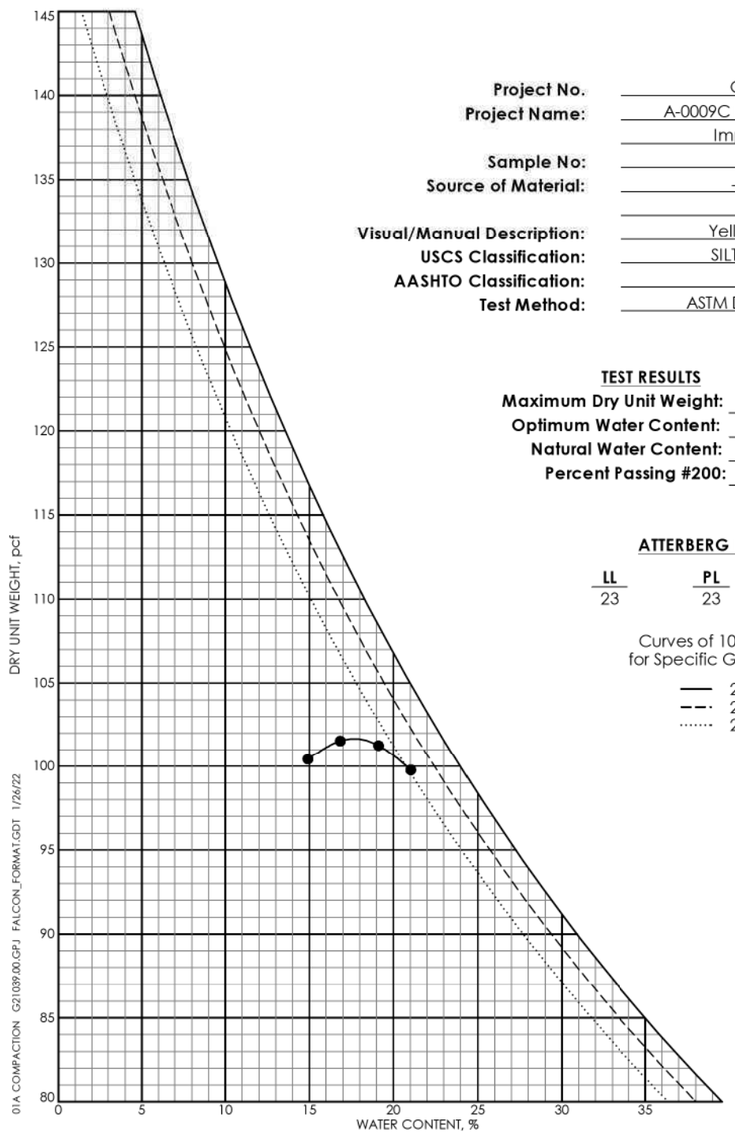
LABORATORY COMPACTION TEST RESULTS



01A COMPACTION G21039.00.GPJ FALCON_FORMAT.GDT 1/26/22

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	PL	PI
23	23	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

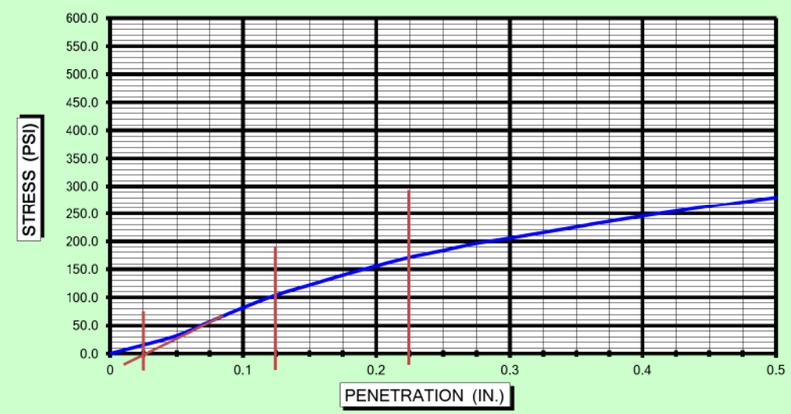
AASHTO T-193 / ASTM D-1883

PROJECT #: G21039.00	TEST PERFORMED BY: JG / CS	DATE: 1/21/2022
PROJECT NAME: CG2 A-0009C		
Boring #: Bulk-4	SAMPLE #: Bulk-4	DEPTH: 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%

	ACTUAL	CORRECTED
CBR VALUE AT .1"	8.2	10.4
CBR VALUE AT .2"	10.4	11.4

STRESS-PENETRATION CURVE



LIQUID LIMIT	23	PLASTIC LIMIT	NP	PLASTIC INDEX	NP

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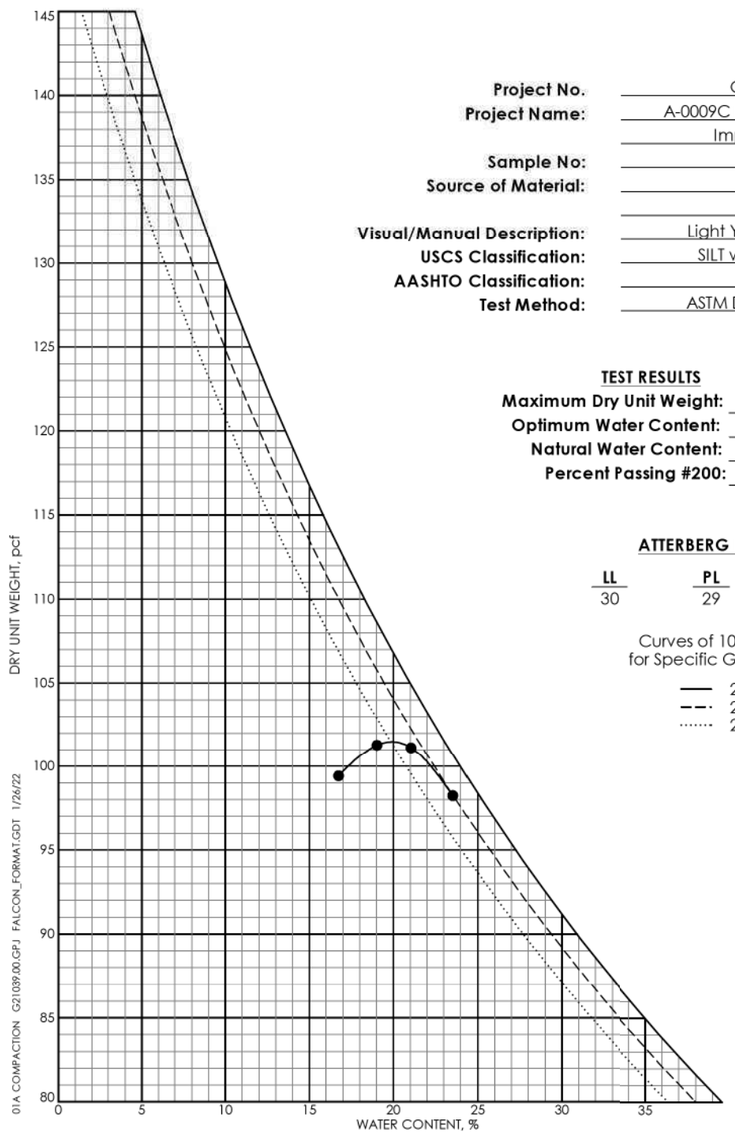
LABORATORY COMPACTION TEST RESULTS



01A COMPACTION G21039.00.GPJ FALCON_FORMAT.GDT 1/26/22

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	PL	PI
30	29	1

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

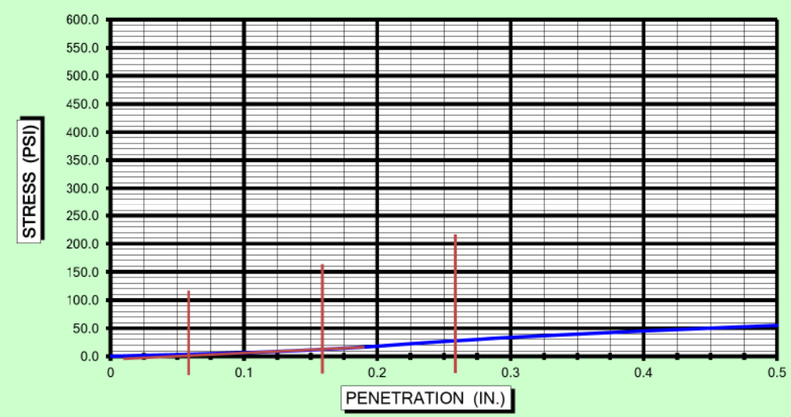
AASHTO T-193 / ASTM D-1883

PROJECT #: G21039.00	TEST PERFORMED BY: JG / CS	DATE: 1/21/2022
PROJECT NAME: CG2 A-0009C		
Boring #: Bulk-5	SAMPLE #: Bulk-5	DEPTH: 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%

	ACTUAL	CORRECTED
CBR VALUE AT .1"	0.6	1.2
CBR VALUE AT .2"	1.2	1.9

STRESS-PENETRATION CURVE



LIQUID LIMIT	30	PLASTIC LIMIT	29	PLASTIC INDEX	1

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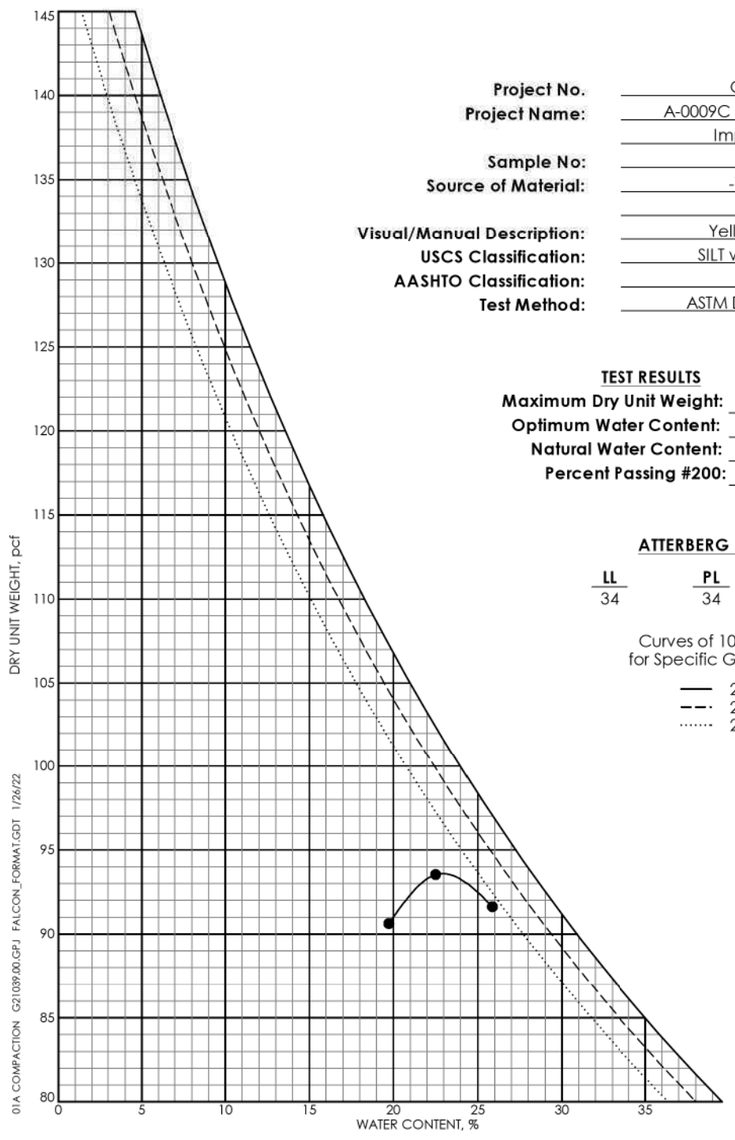
LABORATORY COMPACTION TEST RESULTS



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	PL	PI
34	34	NP

Curves of 100% Saturation for Specific Gravity Equal to:

— 2.6
– – 2.5
····· 2.4

01A COMPACTION G21039.00.GPJ FALCON_FORMAT.GDT 1/26/22

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

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

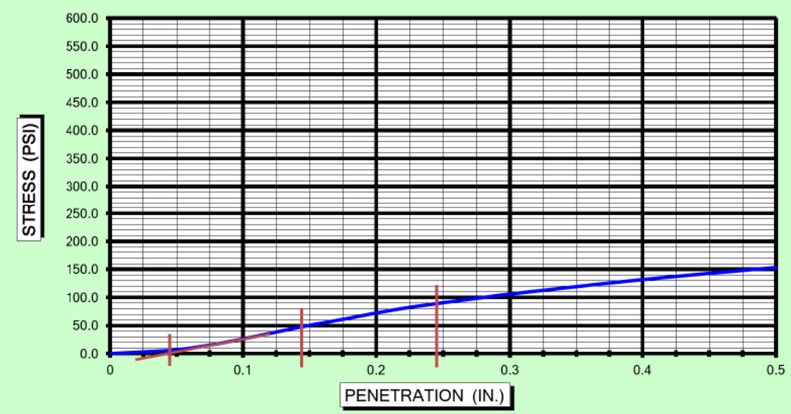
AASHTO T-193 / ASTM D-1883

PROJECT #: G21039.00	TEST PERFORMED BY: JG / CS	DATE: 1/21/2022
PROJECT NAME: CG2 A-0009C		
Boring #: Bulk-6	SAMPLE #: Bulk-6	DEPTH: 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%

	ACTUAL	CORRECTED
CBR VALUE AT .1"	2.6	4.8
CBR VALUE AT .2"	4.8	5.9

STRESS-PENETRATION CURVE



LIQUID LIMIT	34	PLASTIC LIMIT	NP	PLASTIC INDEX	NP

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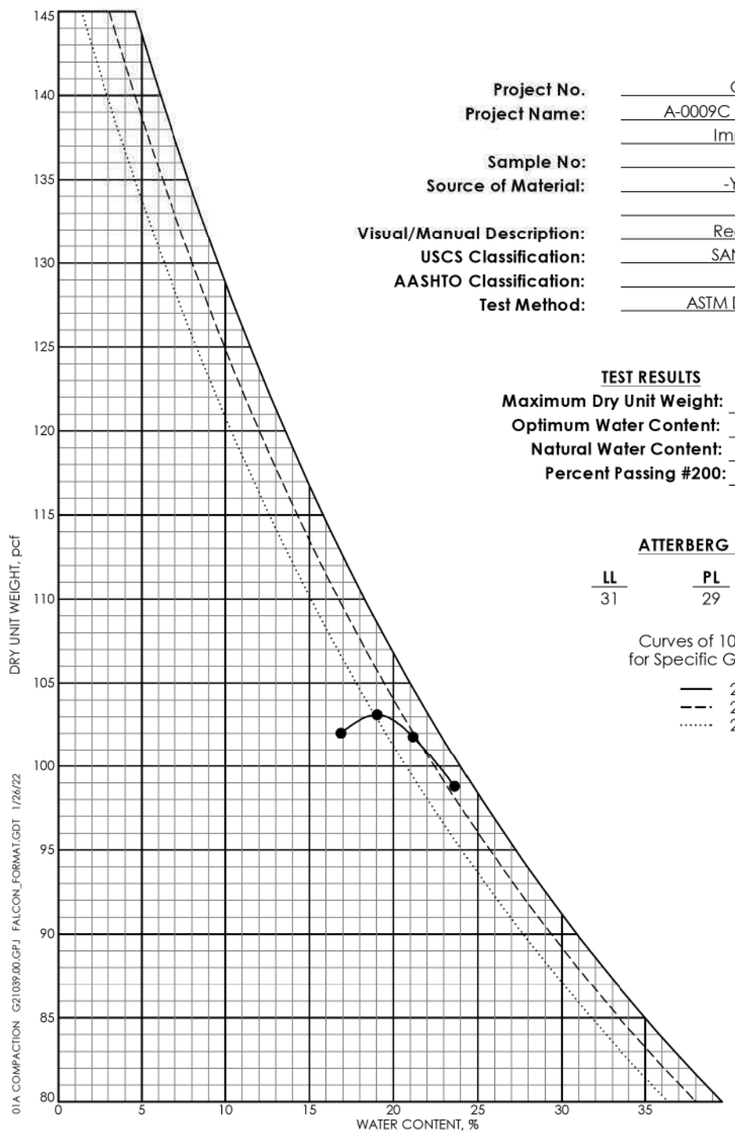
LABORATORY COMPACTION TEST RESULTS



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	PL	PI
31	29	2

Curves of 100% Saturation for Specific Gravity Equal to:

— 2.6
– – 2.5
····· 2.4

01A COMPACTION G21039.00.GPJ FALCON_FORMAT.GDT 1/26/22

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

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

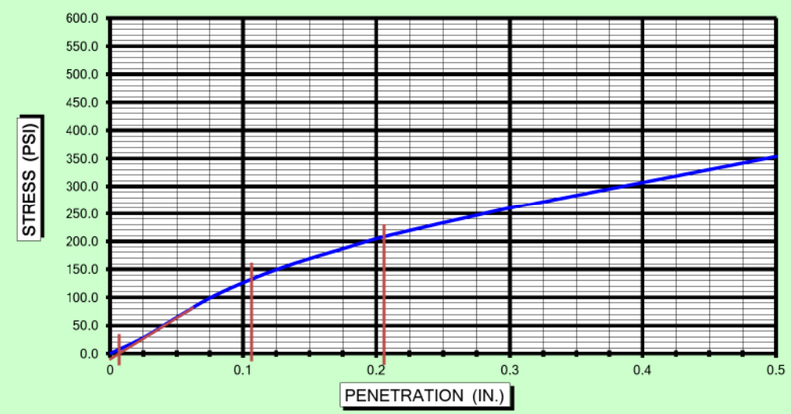
AASHTO T-193 / ASTM D-1883

PROJECT #: G21039.00	TEST PERFORMED BY: JG / CS	DATE: 1/21/2022
PROJECT NAME: CG2 A-0009C		
Boring #: Bulk-7	SAMPLE #: Bulk-7	DEPTH: 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%

	ACTUAL	CORRECTED
CBR VALUE AT .1"	12.6	13.2
CBR VALUE AT .2"	13.6	13.9

STRESS-PENETRATION CURVE



LIQUID LIMIT	31	PLASTIC LIMIT	29	PLASTIC INDEX	2

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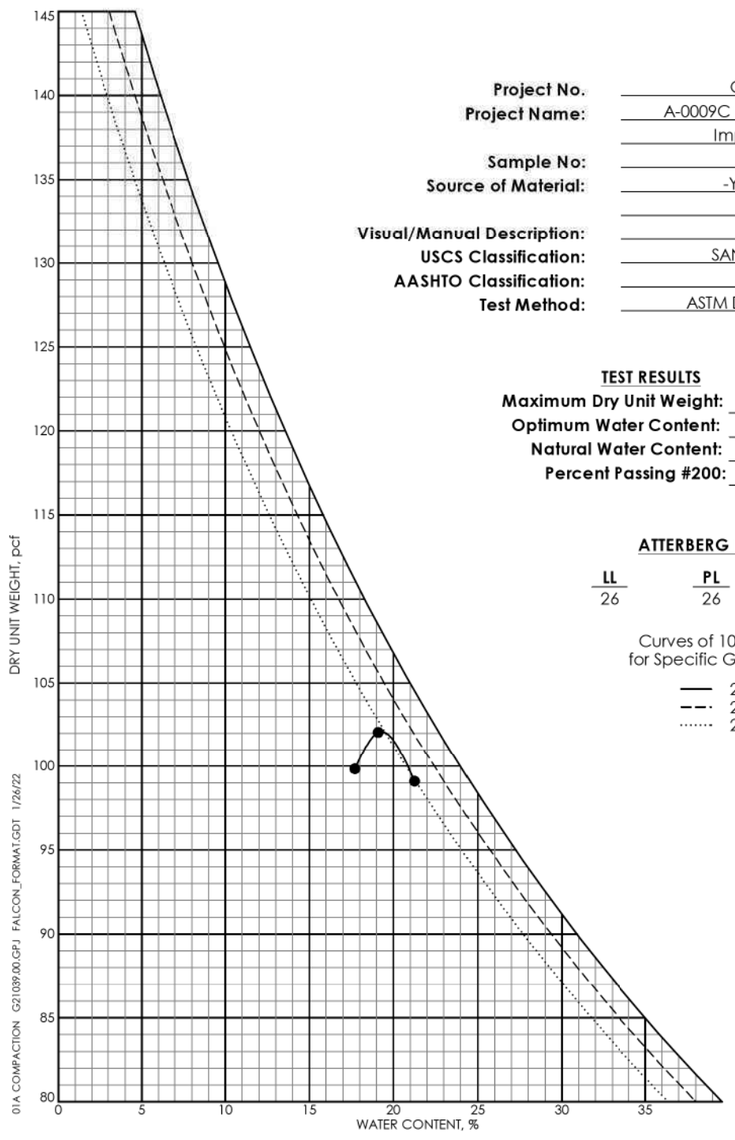
LABORATORY COMPACTION TEST RESULTS



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	PL	PI
26	26	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

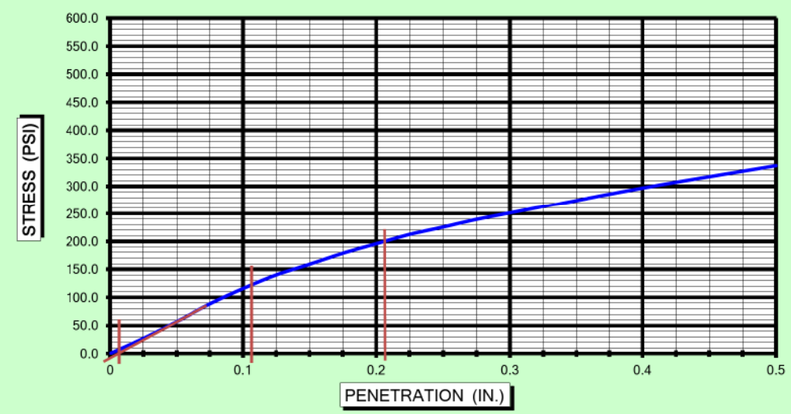
AASHTO T-193 / ASTM D-1883

PROJECT #: G21039.00	TEST PERFORMED BY: JG / CS	DATE: 1/21/2022
PROJECT NAME: CG2 A-0009C		
Boring #: Bulk-8	SAMPLE #: Bulk-8	DEPTH: 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%

	ACTUAL	CORRECTED
CBR VALUE AT .1"	11.6	12.3
CBR VALUE AT .2"	13.0	13.3

STRESS-PENETRATION CURVE



LIQUID LIMIT	26	PLASTIC LIMIT	NP	PLASTIC INDEX	NP