STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3422	1	28

REFERENCE: U-3422

PROJECT: 39001

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

STRUCTURE SUBSURFACE INVESTIGATION

COUNTY CUMBERLAND

PROJECT DESCRIPTION CAMDEN ROAD WIDENING FROM FUTURE FAYETTEVILLE OUTER LOOP TO NC 59

SITE DESCRIPTION 8 BORING LOCATIONS FOR TEMPORARY SHORING

CONTENTS

CAUTION NOTICE

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

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

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

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

PERSONNEL

J. ROSE

CATLIN INC.

INVESTIGATED BY J. HOLLAND

DRAWN BY J. HOLLAND

CHECKED BY J. CRENSHAW

SUBMITTED BY SCHNABEL ENG.

DATE MARCH 2023

Schnabel ENGINEERING

NORTH CAROLINA LICENSED SEAL 2818 GEOLOGIST JASON A. HOLLAND

DocuSigned by: Jason Holland 03/28/2023

DF15142DDC83484... SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
U-3422	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

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

SOIL LEGEND AND AASHTO CLASSIFICATION

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

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

CONSISTENCY OR DENSENESS

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

TEXTURE OR GRAIN SIZE

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

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

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

SOIL MOISTURE - CORRELATION OF TERMS

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

PLASTICITY

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

COLOR

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

GRADATION

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

ANGULARITY OF GRAINS

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

MINERALOGICAL COMPOSITION

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

COMPRESSIBILITY

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

PERCENTAGE OF MATERIAL

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

GROUND WATER

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

MISCELLANEOUS SYMBOLS

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

RECOMMENDATION SYMBOLS

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

ABBREVIATIONS

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

SAMPLE ABBREVIATIONS

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

EQUIPMENT USED ON SUBJECT PROJECT

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

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

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

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

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

ROCK DESCRIPTION

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

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

WEATHERING

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

ROCK HARDNESS

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

FRACTURE SPACING

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

BEDDING

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

INDURATION

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

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

TERMS AND DEFINITIONS

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

AQUIFER - A WATER BEARING FORMATION OR STRATA.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BENCH MARK: BM-10, NORTHING: 445680I EASTING: 1998989

ELEVATION: 172.02 FEET

NOTES:

BORING AND COLLAR ELEVATIONS OBTAINED WITH CONVENTIONAL SURVEY EQUIPMENT - SURVEY DATED 02/21/23

UCP - UNDIVIDED COASTAL PLAIN

FIAD - FILLED IMMEDIATELY AFTER DRILLING

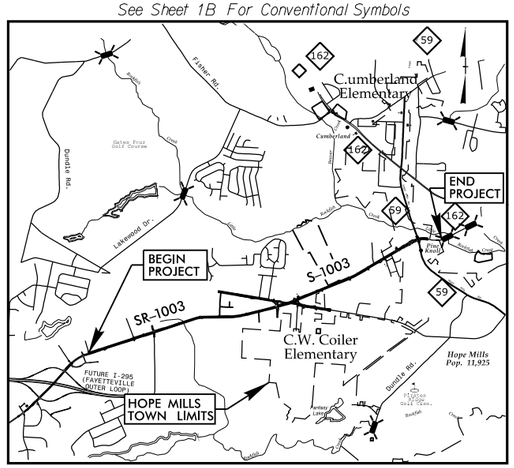
- PAVEMENT / ABC STONE

DATE: 8-15-14

TIP PROJECT: U-3422

CONTRACT:

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols



VICINITY MAP
(NOT TO SCALE)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

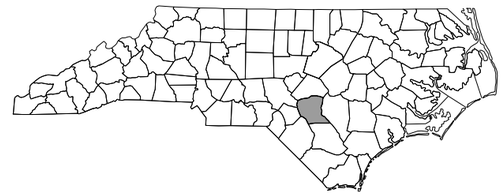
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3422	3	28

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
39001.1.1	STP-1003 (131)	P.E.
39001.2.1	STP-1003 (179)	ROW
39001.2.2	STP-1003 (179)	UTILITIES
39001.3.1	STP-1003 (179)	CONSTRUCTION

LOCATION: SR 1003 (Camden Road) from Future I-295 (Fayetteville Outer Loop) To NC 59 (Hope Mills Road)

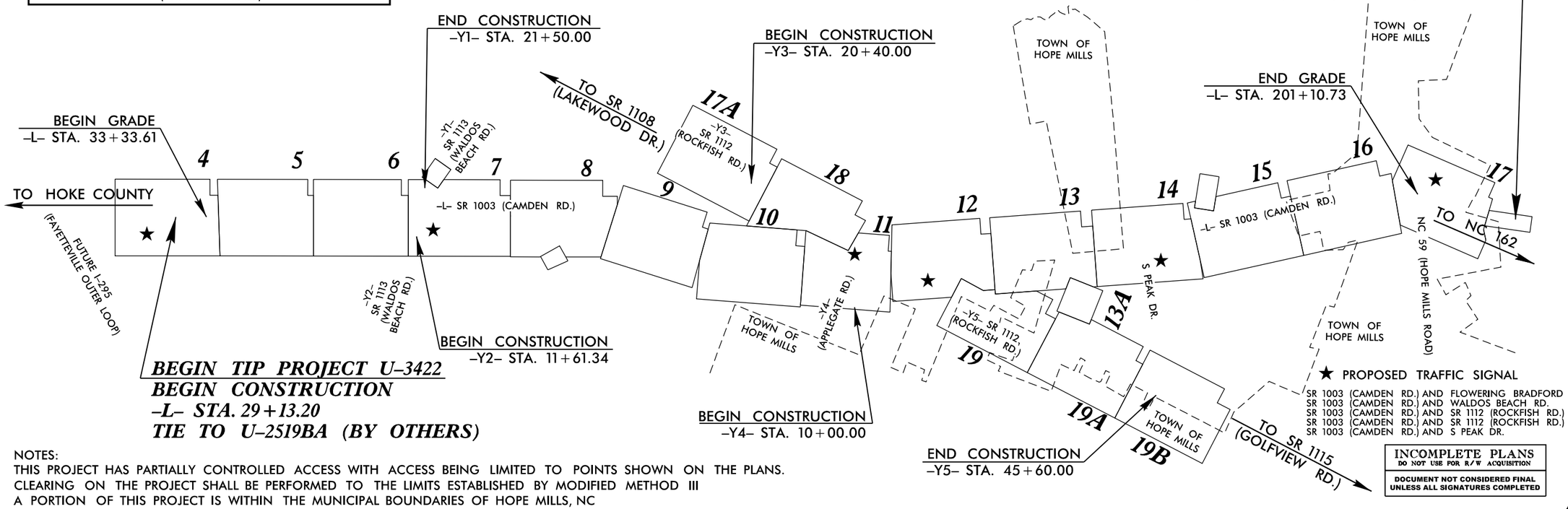
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND SIGNALS

75% / ROW PLANS



NAD 83/NA 2011

END TIP PROJECT U-3422
END CONSTRUCTION
(APPROX 1405' E. OF END GRADE)
BEGIN EXISTING BRIDGE



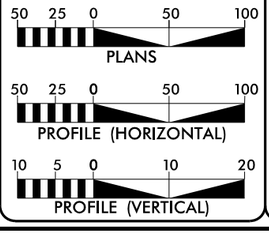
BEGIN TIP PROJECT U-3422
BEGIN CONSTRUCTION
–L– STA. 29+13.20
TIE TO U-2519BA (BY OTHERS)

★ PROPOSED TRAFFIC SIGNAL
SR 1003 (CAMDEN RD.) AND FLOWERING BRADFORD
SR 1003 (CAMDEN RD.) AND WALDOS BEACH RD.
SR 1003 (CAMDEN RD.) AND SR 1112 (ROCKFISH RD.)
SR 1003 (CAMDEN RD.) AND SR 1112 (ROCKFISH RD.)
SR 1003 (CAMDEN RD.) AND S PEAK DR.

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

NOTES:
THIS PROJECT HAS PARTIALLY CONTROLLED ACCESS WITH ACCESS BEING LIMITED TO POINTS SHOWN ON THE PLANS.
CLEARING ON THE PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY MODIFIED METHOD III
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF HOPE MILLS, NC

GRAPHIC SCALES



DESIGN DATA

ADT 2017 = 26,100
ADT 2040 = 38,500
K = 9 %
D = 60 %
T = 4 % *
V = 50 MPH
(* TTST 1% + DUAL 3%)
FUNC CLASS = MINOR ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-3422 = 3.514 MILES
LENGTH STRUCTURE TIP PROJECT U-3422 = 0.000 MILES
TOTAL LENGTH TIP PROJECT U-3422 = 3.514 MILES

Prepared by the Office of:
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 30, 2021

LETTING DATE:
OCTOBER 17, 2023

PHILLIP E. ROGERS, PE
PROJECT ENGINEER

ALEXANDER D. SNIDER, PE
PROJECT DESIGN ENGINEER

SEAN MATUSZEWSKI, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

REVISIONS

3/25/2022: PROJECT WIDE EASEMENT REVISIONS
8/1/2022: ROW/EASEMENT REVISIONS ON PSHS 11, 12, 14-17, 17A, 18, 19A
8/1/2022: ROW/EASEMENT REVISIONS ON PSHS 10, 12, 13, & 16; OWNER NAME CHANGES ON PSHS 10, 12, 13, 15, 16, 19
8/1/2022: PARCEL 92-64 ROW REVISED & TCE REVISED; PARCEL 94 PUE REVISED
9/20/2022: PARCEL 92-64 ROW REVISED & TCE REVISED; PARCEL 94 PUE REVISED
10/27/2022: PARCEL 2C EASEMENTS REMOVED; PARCELS 64-67 & 71-73 CAROWEASEMENTS REVISED
11/21/2022: PSH 15: PDE REVISED ON PARCELS 169 & 177; PARCELS 189, 190, 192, 193, & 194
1/5/2023: PSH 7; PARCELS 42, 42A, AND 42B CHANGED TO PARCEL 41
1/31/2023: PARCEL 41 ROW REVISED, PUE REVISED, TCE REVISED; PARCEL 113 ROW REVISED, DUE REVISED, TCE REVISED

PROJECT REFERENCE NO.	SHEET NO.
U-3422	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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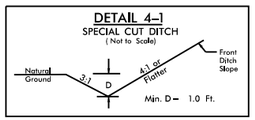
DETAIL 4-1
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 29+92 -L- TO STA. 31+75 -L- LT

NAD 83/2011

-L- PRC Sta. 34+99.76

-L- PC Sta. 31+83.44

-L- ST Sta. 29+13.20

-L- CS Sta. 26+63.20

MATCHLINE SHEET 5 -L- STA. 35+00.00

30+00

35+00

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USER: jholand
FILE: \

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TIME: 11:50:57 AM

PROJECT REFERENCE NO.	SHEET NO.
U-3422	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

MATCHLINE SHEET 4 -L- STA. 35+00.00

MATCHLINE SHEET 6 -L- STA. 48+00.00

35+00 40+00 45+00

-L- PT Sta. 38+22.06

PLOT DRIVER: NCDOT_pdf_color_eng.100.plt
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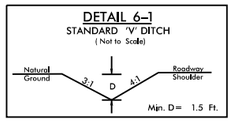
PROJECT REFERENCE NO.	SHEET NO.
U-3422	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DETAIL 6-1
STANDARD 'V' DITCH
(Not to Scale)



FROM STA. 52+13 -L- TO STA. 52+18 -L- LT
FROM STA. 52+79 -L- TO STA. 52+79 -L- LT

NAD 83/2011

50+00

55+00

60+00

MATCHLINE SHEET 5 -L- STA. 48+00.00

MATCHLINE SHEET 7 -L- STA. 61+00.00

STANDARD 'V' DITCH
SEE DETAIL 6-1
SLOPE=0.32%
DDE=26.7 CY

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

STANDARD 'V' DITCH
SEE DETAIL 6-1
SLOPE=0.27%
DDE=12.3 CY

CLASS 'B' RIP RAP
EST. 3 TONS
10 SY GEO-TEXTILE

RETAIN

RETAIN CB

REMOVE

REMOVE CB

REMOVE DI

FLOWABLE FILL

GRADE to DRAIN

18" RCP-IV

15" RCP-IV

KINGS QUARTERS SOUTHEAST, LLC
DB 9948 PG 610
PB 100 PG 165

KATY WELSH DAVIS
DB 2085 PG 141

DAVID E. HEATH, ET UX
DB 8201 PG 311
PB 115 PG 90

MATHEW J. TERRY, ET UX
DB 10014 PG 866
PB 115 PG 90

TAT WING CHAN, ET UX
DB 8161 PG 404
PB 115 PG 90

BARON A. HARRISON, ET UX
DB 7608 PG 564
PB 115 PG 90

DEVIN ALEXANDER CHURBE, ET UX
DB 9772 PG 588
PB 115 PG 90

JOHN T. CORLEY, ET UX
DB 7888 PG 214
PB 115 PG 90

JOHN T. NOVAC, ET UX
DB 7659 PG 40
PB 115 PG 90

SAMUEL D. HUTCHINSON, ET AL
DB 7518 PG 206
PB 115 PG 90

CHAD ALLEN COLE, ET UX
DB 8095 PG 598
PB 115 PG 90

STEVEN E. SWANN, ET UX
DB 9752 PG 720
PB 115 PG 90

KEVIN McKELLER, ET UX
DB 7814 PG 119
PB 115 PG 90

JAMES E. ADKINS, JR, ET UX
DB 7903 PG 749
PB 115 PG 90

CHAUNCEY L. DOUGHTY, JR.
DB 7939 PG 27
PB 115 PG 90

ANTHONY A. TREZZA, ET UX
DB 7318 PG 744
PB 115 PG 90

SCOTT A. WILLIAMS, ET UX
DB 8966 PG 815
PB 115 PG 90

SR 1003 CAMDEN RD 50' PAVED ROADWAY

PLUM RIDGE RD.

WHISPER WOOD DR

2' PAVED SHOULDER

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FILE: \

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PROJECT REFERENCE NO.	SHEET NO.
U-3422	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

DETAIL 7-1
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 11+90 -Y2- TO STA. 13+00 -Y2- LT
FROM STA. 12+00 -Y2- TO STA. 14+00 -Y2- RT
FROM STA. 19+30 -Y1- TO STA. 21+62 -Y1- LT

DETAIL 7-2
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 21+62 -Y1- TO STA. 24+15 -Y1- LT
FROM STA. 19+00-Y1- TO STA. 24+15 -Y1- RT

PLOT DRIVER: NCDOT_pdf_color_eng.100.plt
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PROJECT REFERENCE NO.	SHEET NO.
U-3422	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DETAIL 8-1
TOE PROTECTION
(Not to Scale)

Type of Liner= Class B Rip-Rap

FROM STA. 76+75 TO STA. 79+50 -L- LT

DETAIL 8-2
ROCK FILL IN POND
(Not to Scale)

FROM STA. 76+93 TO STA. 78+36 -L- RT

DETAIL 8-3
STANDARD 6' BASE DITCH
(Not to Scale)

FROM STA. 80+80 TO STA. 84+57 -L- RT

DETAIL 8-4
STANDARD 6' BASE DITCH
(Not to Scale)

Type of Liner= Class I Rip-Rap

FROM STA. 80+37 TO STA. 80+80 -L- RT

NAD 83/2011

MATCHLINE SHEET 7 -L- STA. 75+00.00

MATCHLINE SHEET 9 -L- STA. 89+00.00

75+00

80+00

85+00

-L- PC Sta. 84+01.81

-L- PT Sta. 88+58.22

PELICAN PROPERTY HOLDINGS, LLC
DB 3675 PG 134
DB 8973 PG 322

ALPHONSE TURNER, ET UX
DB 5945 PG 298

BARBARA M. JOHNSON
DB 2638 PG 59

BARBARA M. JOHNSON
DB 3762 PG 93

BARBARA M. JOHNSON
DB 2856 PG 539
DB 10121 PG 543

CLARENCE W. BARNEY, ET UX
DB 4980 PG 488
PB 74 PG 63

JULIA BRIGMAN
DB 1980 PG 184
PB 124 PG 184

FELIX MANYWEATHER II
DB 9738 PG 166
PB 124 PG 184

JOHN S. JOHNSON
DB 2858 PG 121

BARBARA M. JOHNSON
DB 10121 PG 543
DB 2856 PG 539

STREAM SG

POND B

POND C

WETLAND WD

SR 1003 CAMP ROAD 22' PAVED ROADWAY

8" VCP Clay Pipe

RETAIN

HW

WLB

ROCK FILL IN POND
EST. 220 TONS
80 SY GEOTEXTILE
SEE DETAIL 8-2

NOTE: TIE/ANCHOR EXISTING BULKHEAD TO THE ROCK FILL.

STANDARD 6' BASE DITCH
SEE DETAIL 8-3
SLOPE=0.51%
LENGTH = 670'
DDE=7,000 CY

CLASS 'I' RIP RAP
EST. 20 TONS
39 SY GEO-TEXTILE

TOE PROTECTION SEE DETAIL 8-1

-L- +63.00 45.00' LT & 66.00' LT

-L- +01.00 77.00' LT

-L- +60.00 45.00' LT & 55.00' LT & 63.00' LT

-L- +25.00 74.00' LT

-L- +06.00 71.00' LT

-L- +93.00 56.00' LT

-L- +95.00 85.00' LT

-L- +90.00 90.00' LT

-L- +69.00 45.00' LT & 54.00' LT & 77.00' LT

-L- +25.00 95.00' RT

-L- +40.00 45.00' RT & 67.00' RT

-L- +95.00 100.00' RT

-L- +81.00 65.00' RT

-L- +37.00 45.00' RT

-L- +02.00 62.00' RT & 68.00' RT

-L- +83.00 62.00' RT & 69.00' RT

-L- +04.00 58.00' RT & 65.00' RT

-L- +39.00 45.00' RT

-L- +15.00 45.00' RT

-L- +20.00 45.00' RT

-L- +05.00 45.00' RT

-L- +97.00 45.00' RT & 66.00' RT

-L- +18.00 75.00' RT

-L- +58.00 75.00' RT

-L- +20.00 52.95' RT

-L- +52.00 60.00' RT & 66.00' RT

-L- +73.00 61.00' RT & 67.00' RT

-L- +59.00 407.00' RT

-L- +20.00 522.00' RT

-L- +92.00 510.00' RT

INSET B

-L- +95.00 553.00' RT

-L- +30.00 627.00' RT

STANDARD BASE DITCH W/CLASS I RIP RAP TRANSITION BASE FROM 6' TO 12' SEE DETAIL 8-4 SLOPE=0.51% LENGTH=50' RIP RAP=120 TONS GEOTEXTILE=120 SY DDE=100 CY

MATCHLINE

MATCHLINE SEE INSET B

18" RCP-IV
24" RCP-IV
30" RCP-IV
36" RCP-IV
42" RCP-IV
48" RCP-IV
15" RCP-IV

CB
DI
PUE
PDE
DUE

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PROJECT REFERENCE NO.	SHEET NO.
U-3422	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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NAD 83/2011

90+00 95+00 100+00

-L- STA. 89+00.00

-L- STA. 102+00.00

-L- PC Sta. 101+00.28

MATCHLINE SHEET 8 -L-

MATCHLINE SHEET 10 -L-

GRADE CURB TO ALLOW POSITIVE DRAINAGE TO CB (STRUCTURE 0909).

REMOVE

BARBARA M. JOHNSON DB 723 PG 139 (80)

BARBARA M. JOHNSON DB 2856 PG 539 DB 10121 PG 543 (71)

DONNA C. HICKS DB 8063 PG 751 PB 41 PG 49 (81)

CLIFTON E. McCLAIN, ET UX DB 2923 PG 715 PB 41 PG 49 (82)

BARBARA M. JOHNSON DB 2856 PG 539 DB 10121 PG 543 (83)

BARBARA A. WARD DB 4664 PG 369 PB 41 PG 49 (84)

LONNIE D. CHAVIS, ET UX DB 7004 PG 610 PB 41 PG 49 (85)

RICHARD L. MIRAGLIOTTA, ET UX DB 9658 PG 184 PB 41 PG 49 (86)

BARBARA M. JOHNSON DB 10121 PG 543 DB 2856 PG 539 (67)

STACIR, CAGLE, ET VIR DB 9721 PG 324 PB 135 PG 2 (73)

JOHN E. HOUK, ET UX DB 9690 PG 665 PB 135 PG 2 (74)

ALBERT McCALL III, ET UX DB 4680 PG 828 PB 95 PG 32 (75)

ALBERT McCALL JR., ET UX DB 2495 PG 21 PB 95 PG 32 (76)

CROSSROADS UNITED METHODIST CHURCH OF FAYETTEVILLE, INC DB 8982 PG 302 (77)

RUBY J. MASON, ET VIR DB 2809 PG 29 (78)

PAMELA LUCKIE DB 9992 PG 211 (79)

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
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PENTABLE: NCDOT_Plan Sheets_BRDG.tbl
DATE: 3/1/2023
TIME: 12:23:56 PM

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USER: jholland DATE: 3/2/2023 TIME: 9:54:12 AM
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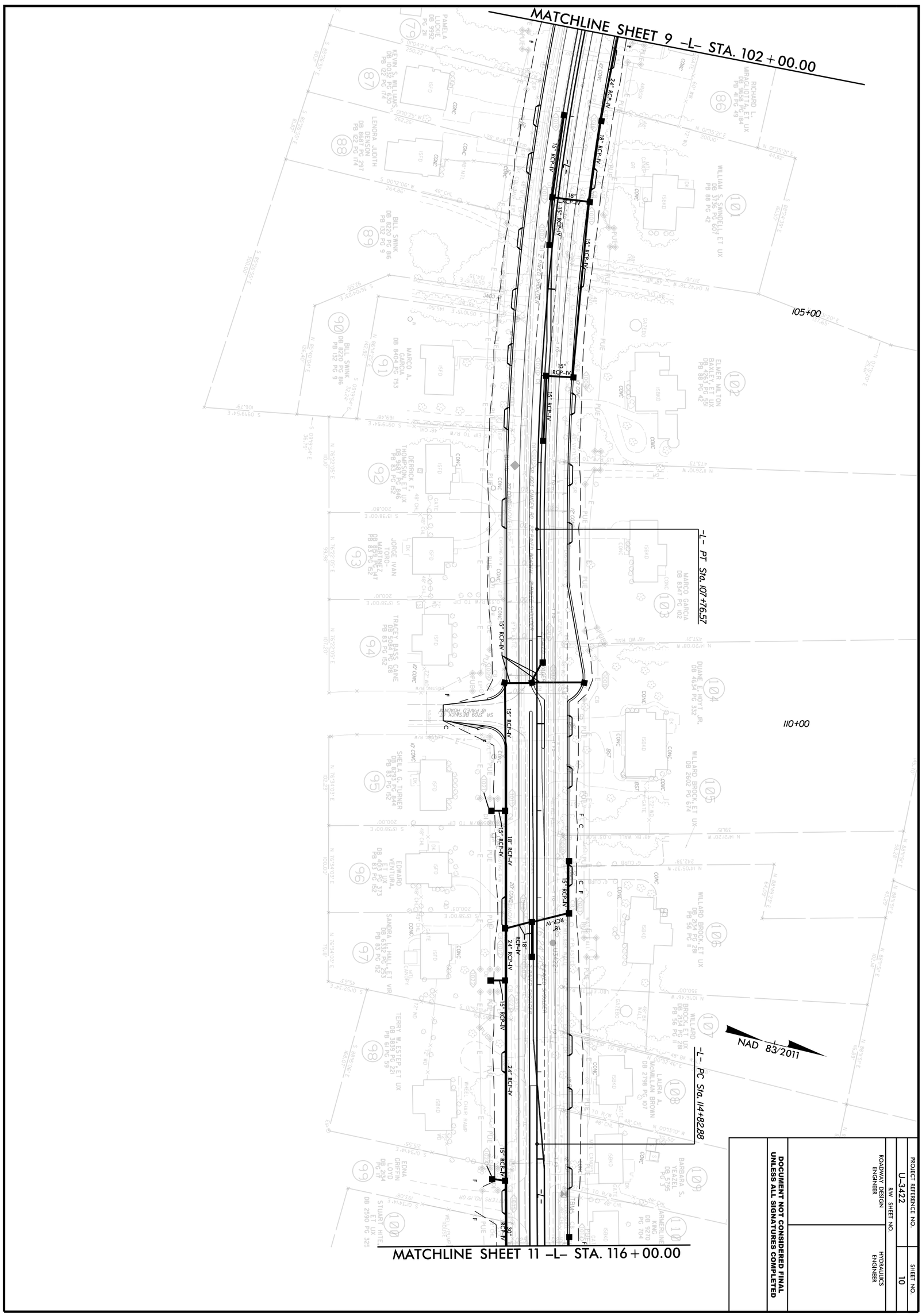

PROJECT REFERENCE NO. U-3422
SHEET NO. 10
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
U-3422	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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2017 ADT
2040 ADT
(ADT IN 100's)

187 / 223 — SR 1003 CAMDEN RD — 6 / 7
201 / 238 — SR 1003 CAMDEN RD — 20 / 22 / 26 / 29
APPLEGATE RD

NAD 83/2011

MATCHLINE SHEET 18 -Y3- STA. 36+50.00

MATCHLINE SHEET 10 -L- STA. 116+00.00

MATCHLINE SHEET 12 -L- STA. 128+00.00

-L- PT Sta. 120+78.18

-Y3- PC Sta. 40+61.90

-Y3- POT Sta. 38+65.97 =
-D1- POT Sta. 10+00.00

-D1- PC Sta. 10+70.98

-D1- PT Sta. 11+12.27

-D1- POT Sta. 13+50.00

40+00 (-Y3-)

-L- PC Sta. 126+63.17

15+00 (-Y4-)

-Y4- POT Sta. 15+99.97 =
-L- POT Sta. 124+93.10

-Y3- POT Sta. 40+90.80 =
-L- POT Sta. 124+93.14

-Y4- PT Sta. 11+14.00

-Y4- PC Sta. 10+00.00

BEGIN CONSTRUCTION
-Y4- STA. 10+35.00

120+00

125+00

GRADE to DRAIN

TB JB w/MH

-L- +48.00 EX. R/W

-Y4- +12.00 51.30' RT

-Y4- +45.00 64.00' RT

-Y4- +00.00 54.00' LT & EX. R/W

-Y4- +30.00 25.00' RT & EX. R/W

-Y4- +19.00 63.66' RT

-Y4- +54.00 48.30' LT

ARMERLINE KING DB 9270 PG 704 — 110

STARLETH WOODLE DB 2628 PG 441 — 114

AGNES K. LOWDER TRUSTEE DB 5593 PG 492 — 115

THOMAS L. WILLIAMS DB 8749 PG 543 — 116

HUNNICUTT CORPORATION DB 9518 PG 348 DB 4916 PG 171 — 117

LAJOS GOCZAN DB 6515 PG 189 — 118

FADHL ALHOBISHI DB 9890 PG 899 — 119

STONEY POINT BAPTIST CHURCH, INC. DB 8983 PG 476 — 120

STUART HITE, ET UX DB 2590 PG 325 — 100

BONNIE C. MANGUM DB 4564 PG 59 PB 92 PG 187 — 111

NEW LIFE BAPTIST CHURCH OF FAYETTEVILLE TRUSTEES DB 7211 PG 398 DB 9523 PG 11 PB 92 PG 187 — 112

CAM ROCKS LLC DB 7800 PG 183 DB 9513 PG 790 PB 123 PG 29 — 113

MARION R. STARLING, ET UX DB 9275 PG 649 PB 39 PG 72 — 123

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PROJECT REFERENCE NO.	SHEET NO.
U-3422	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

MATCHLINE SHEET 11 -L- STA. 128+00.00

MATCHLINE SHEET 13 -L- STA. 142+00.00

MATCHLINE SHEET 19 -Y5- STA. 14+50.00

-Y5- POT Sta. 10+00.00 =
-L- POT Sta. 134+13.79

-L- PT Sta. 132+67.97

-Y5- PC Sta. 11+65.60

-Y5- POT Sta. 12+39.47 =
-D2- POT Sta.12+00.00

-Y5- PT Sta. 14+32.78

-D2- POT Sta. 12+00.00

-D2- PT Sta. 11+95.67

-D2- POT Sta. 10+00.00

-D2- PC Sta. 10+53.74

LATERAL 'V' DITCH
SEE DETAIL 12-1
SLOPE=2.00%
DDE=64.4 CY

LATERAL 'V' DITCH
SEE DETAIL 12-1
SLOPE=0.54%
DDE=28.5 CY

LATERAL 'V' DITCH
SEE DETAIL 12-1
SLOPE=0.56%
DDE=41.2 CY

SPECIAL CUT DITCH
SEE DETAIL 12-2

GRADE to DRAIN

15" RCP-IV

18" RCP-IV

24" RCP-IV

30" RCP-IV

42" RCP-IV

48" RCP-IV

54" RCP-IV

SR 1003 CAMDEN RD 54' PAVED ROADWAY

2' PAVED SHOULDER

8' PLASTIC

DOROTHY R. ENNIS
DB 9518 PG 320
DB 2008 PG 555

DOROTHY R. ENNIS
DB 9518 PG 320
DB 2369 PG 211

DOROTHY R. ENNIS
DB 2359 PG 569
DB 9518 PG 320

CONGREGATIONAL CHRISTIAN CHURCH IN AMERICAN SAMOA
DB 8451 PG 52

SHARON ANN EDWARDS
DB 6777 PG 77

MARY J. FLOWERS
DB 8285 PG 892
PB 88 PG 128

CAM ROCKS, LLC
DB 7800 PG 183
DB 9513 PG 790
PB 123 PG 29

McCAULEY & McDONALD INVESTMENTS, INC.
DB 2173 PG 629
DB 9567 PG 21

CHARLES E. KOONCE, ET AL
DB 489 PG 270
DB 9542 PG 65

SABRINA HAYWORTH, ET VIR
DB 8940 PG 160
PB 25 PG 74

LOIS LONG LEWIS
DB 8664 PG 621
PB 25 PG 74

BELINDA YOWELL
DB 4552 PG 194
PB 25 PG 74

ALEXANDER MOORE, JR. ET UX
DB 8824 PG 747
PB 22 PG 71

TBM6

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PROJECT REFERENCE NO.	SHEET NO.
U-3422	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

MATCHLINE SHEET 12 –L– STA. 142+00.00

MATCHLINE SHEET 14 –L– STA. 156+00.00

MATCHLINE BB SHEET 13A

TOWN LIMIT OF HOPE MILLS

TOWN LIMIT OF HOPE MILLS

145+00

150+00

155+00

MELISSA HAM, ET VIR DB 8809 PG 691 PB 88 PG 128 (146)

PETER J. NUNNERY, ET UX DB 5534 PG 439 PB 104 PG 195 (147)

KENNETH R. BUHRMAN, ET UX DB 5351PG 141 PB 104 PG 195 (148)

KENNETH R. BUHRMAN, ET UX DB 5351PG 141 PB 104 PG 195 (149)

KEITH STOUGH, ET UX DB 6584 PG 546 (150)

JOANN M. SEAGO DB 7316 PG 380 (151)

RICKY OWEN SHOENBERGER DB 10085 PG 54 (152)

DANIEL C. BROWN DB 2727 PG 53 (153)

MICHAEL F. SHOENBERGER, ET UX DB 3922 PG 790 (154)

BARBARA SHOENBERGER, ET VIR DB 2817 PG 701 (155)

GEORGE DAVID HYDE, ET UX DB 9308 PG 863 (156)

ANNESSA C. GERMOND, ET VIR DB 9824 PG 532 PB 97 PG 69 (157)

JAE KUN CHOE DB 6426 PG 830 PB 97 PG 69 (159)

MARK WILLIAM MAYO, ET UX DB 8206 PG 294 PB 97 PG 69 (158)

LUISE P. SIMMONS DB 1034 PG 365 PB 25 PG 74 (135)

KATHRYN LORRAINE LENGKEEK DB 3383 PG 200 PB 25 PG 74 (136)

LES A. MUNSON DB 5918 PG 146 PB 25 PG 74 (137)

EDITH K. LINDE DB 2514 PG 807 PB 25 PG 74 (138)

JAMES E. EMANUEL DB 4680 PG 440 (139)

ELLIS E. EHLE, JR. DB 7823 PG 852 PB 7 PG 78 (140)

TRACEY LAURELES, ET VIR DB 9310 PG 104 PB 65 PG 56 (141)

AOC INVESTMENTS, LLC DB 7943 PG 189 PB 65 PG 56 (142)

DOGWOOD PARTNERS OF FAYETTEVILLE, LLC DB 8720 PG 81 PB 129 PG 75 (144)

LANDSTONE, LLC DB 8720 PG 847 PB 129 PG 75 (145)

CHAE S. DILLON, ET VIR DB 4542 PG 635 PB 119 PG 192 (143)

SR 1003 CAMDEN RD. 37' PAVED ROADWAY

MARTY CIR. 22' PAVED ROADWAY

WATERBORO DR. 22' PAVED ROADWAY

ALMOND RD. 28' PAVED ROADWAY

15" RCP-IV

54" RCP-IV

48" RCP-IV

PDE

PUE

JB w/MH

+L- +55.00 286.00' RT

+L- +78.00 290.00' RT

+L- +97.00 319.00' RT

+L- +85.00 316.00' RT

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
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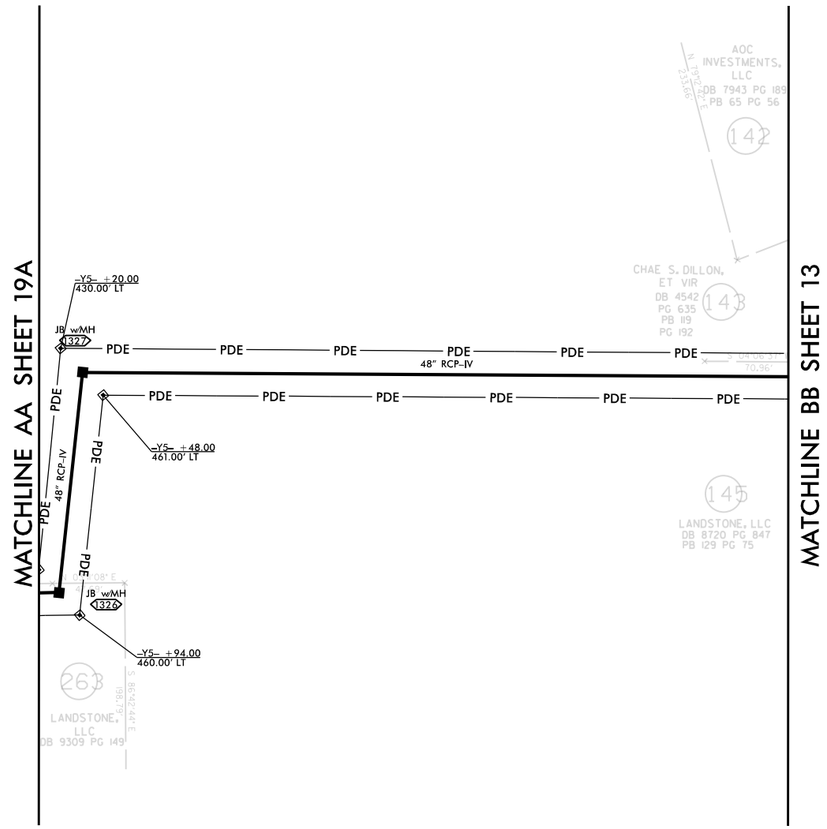
DATE: 3/2/2023
TIME: 9:25:03 AM

PROJECT REFERENCE NO.	SHEET NO.
U-3422	13A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011



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TIME: 12:28:42 PM

PROJECT REFERENCE NO.	SHEET NO.
U-3422	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

← TOWN LIMIT OF HOPE MILLS

160+00

165+00

170+00

-L- PC Sta. 162+65.19

-L- PT Sta. 167+09.54

MATCHLINE SHEET 13 -L- STA. 156+00.00

MATCHLINE SHEET 15 -L- STA. 170+00.00

SR 1003 CAMDEN RD.

48' PAVED ROADWAY

2' PAVED SHOULDER

SR 1300 SOUTH PEAK RD.

36' PAVED ROADWAY

JAE KUN CHOE
DB 6426 PG 830
PB 97 PG 69

JOHN S. CARRO
DB 7605 PG 757
PB 97 PG 69

WICHAI LEECHAROEN, ET UX
DB 9669 PG 524
PB 97 PG 69

AUTRIE L. PERRY, ET UX
DB 5758 PG 500
PB 97 PG 69

ANGELA TYNDALL
DB 9105 PG 292
PB 7 PG 78

DANIEL N. NORTON, ET UX
DB 2594 PG 169
PB 7 PG 78

CHARLES T. GARDNER, ET UX
DB 6499 PG 317
PB 7 PG 78

HBM, LLC
DB 9892 PG 13
PB 125 PG 194

LANDFALL PARTNERS, LLC
DB 9588 PG 283
PB 125 PG 194

CAPITOL BANK-ACCOUNTING DEPT.
DB 8344 PG 558
PB 125 PG 194

LANDSTONE, LLC
DB 8720 PG 847
PB 129 PG 75

LANDSTONE, LLC
DB 8064 PG 809
PB 124 PG 175

LANDSTONE, LLC
DB 8064 PG 809
PB 124 PG 175

EL TIO INVESTMENTS, LLC
DB 8689 PG 571
PB 129 PG 161

POND A
RETENTION POND

15" RCP-IV

60" RCP-IV

42" RCP

18" RCP

COLLAR AND EXTEND

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FILE: \

DATE: 3/1/2023

PENTABLE: NCDOT_Plan Sheets_BRDG.tbl
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PROJECT REFERENCE NO.	SHEET NO.
U-3422	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

MATCHLINE SEE INSET C

MATCHLINE SHEET 14 -L- STA. 170+00.00

MATCHLINE SHEET 16 -L- STA. 184+00.00

TOWN LIMIT OF HOPE MILLS

170+00 | 175+00 | 180+00

JANICE C TERRY (190)

DWIGHT DAVIS (189)

CHARLES T. GARDNER, ET UX (169) DB 6499 PG 317 PB 7 PG 78

HELEN E. HOLDER, ET VIR (177) DB 8470 PG 156 PB 7 PG 78

DAVID C. SASSER, ET UX (179) DB 912 PG 591 PB 24 PG 71

JANICE I. GEIGEL (180) DB 7185 PG 395 PB 24 PG 71

LELAND J. MOREL, ET UX (181) DB 6273 PG 126 PB 24 PG 71

ARTHUR J. LASELLE, JR. ET UX (182) DB 5679 PG 474 PB 28 PG 21

JULIAN R. WALTERS (183) DB 5459 PG 900 PB 28 PG 21

JULIAN R. WALTERS (184) DB 5459 PG 900 PB 28 PG 21

LOURDES BELTRE (186)

MARY ELIZABETH SILVA (185) DB 4262 PG 511 PB 28 PG 21

WATUS N. PARKER (188) DB 2296 PG 517 PB 17 PG 2

CONTRERAS ELIAS FRANCOS (187) DB 9106 PG 891 PB 11 PG 2

EMMA L. BOSTIC DB 9607 PG 633 PB 24 PG 71

LANDSTONE, LLC (163) DB 8064 PG 809 PB 124 PG 175

EL TIO INVESTMENTS, LLC DB 8689 PG 571 PB 129 PG 161

MILLSTONE PARTNERS, LLC DB 8319 PG 629 PB 125 PG 194

AUBREY L. PRINCE, JR. ET UX (171) DB 3529 PG 74 PB 17 PG 4

DAVID F. FERRUZZI (172) DB 4479 PG 643 PB 17 PG 4

KACEY PARK SHUPE (173) DB 5325 PG 868 PB 17 PG 4

LANDSTONE, LLC (174) DB 8858 PG 618 PB 17 PG 4

KAREN SIMMONS (175) DB 8679 PG 220 PB 17 PG 4

JANET K. WILLIAMS (176) DB 8679 PG 218 PB 17 PG 4

STANDARD 6' BASE DITCH
SEE DETAIL 15-2
SLOPE=0.52%
LENGTH=320'
DDE=2120 CY

STANDARD 6' BASE DITCH
W/CLASS I RIP RAP
SEE DETAIL 15-1
SLOPE=1.67%
LENGTH=180'
RIP RAP=360 TONS
GEOTEXTILE=360 SY
DDE=1600 CY

STANDARD 2' BASE DITCH
SEE DETAIL 15-3
SLOPE=0.61%
DDE= 220 CY

-L- +25.00 287.00' LT
-L- +45.00 303.00' LT
-L- +88.00 206.00' LT
-L- +32.00 45.00' LT & 54.00' LT & 74.00' LT
-L- +37.00 45.00' LT & 54.00' LT & 79.00' LT

66" RCP-IV
18" RCP-IV
24" RCP-IV
30" RCP-IV
24" CSP
15" RCP
10" PVC
10" RCP
8" PVC

SR 1003 CAMDEN RD. 24' PAVED ROADWAY
SR 1001 UNIVERSITY AVE. 24' PAVED ROADWAY

WETLAND
STREAM
POOL
MASONRY BUS.
BLK BUS.
TBM8

INSET C

MATCHLINE

JANICE C TERRY (190)
JANICE C TERRY (191)
JANICE C TERRY (192)
MARTA C. BULLARD (193)

-L- +09.00 604.00' LT
-L- +14.00 510.00' LT
-L- +45.00 828.00' LT
-L- +85.00 607.00' LT
-L- +00.00 795.00' LT
-L- +97.00 451.00' LT

STANDARD 6' BASE DITCH
SEE DETAIL 15-2
SLOPE=0.51%
LENGTH=293'
DDE=1000 CY

HELEN E. HOLDER, ET VIR (177) DB 8470 PG 156 PB 7 PG 78

B&T LAND DEVELOPMENT LLC (194)

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PENTABLE: NCDOT_Plan Sheets.BRDG.tbl
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TIME: 9:21:26 AM

PROJECT REFERENCE NO.	SHEET NO.
U-3422	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TOWN LIMIT OF HOPE MILLS

185+00

190+00

195+00

NAD 83/2011

-L- STA. 184+00.00

MATCHLINE SHEET 15 -L- STA. 184+00.00

-L- STA. 198+00.00

MATCHLINE SHEET 17 -L- STA. 198+00.00

-L- PC Sta. 197+16.22

TOWN LIMIT OF HOPE MILLS

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PENTABLE: NCDOT_Plan Sheets_BRDG.tbl
DATE: 3/1/2023
TIME: 12:37:45 PM

PROJECT REFERENCE NO.	SHEET NO.
U-3422	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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ADDITIONAL SURVEY TO BE PROVIDED

NAD 83/2011

← TOWN LIMIT OF HOPE MILLS

205+00

200+00

-L- POT Sta. 209+19.99

MATCHLINE SEE INSET D

MATCHLINE SHEET 16 -L- STA. 198+00.00

-L- PT Sta. 205+21.41

-L- PCC Sta. 201+10.56

217 FIVE RIDDLES III, INC. DB 7472 PG 212 PB 106 PG 117

219 W HOPE MILLS REALTY LIMITED PARTMENTS DB 6020 PG 214 PB 71 PG 7

218 McDONALDS REAL ESTATE CO. DB 2791 PG 210 DB 9879 PG 89

208 LANDPOINTE, LLC DB 5890 PG 735 PB 60 PG 91

24" RCP-IV

18" RCP-IV

15" RCP-IV

INSET D

MATCHLINE

← TOWN LIMIT OF HOPE MILLS

END TIP PROJECT U-3422
END CONSTRUCTION
(APPROX 1405' E. OF END GRADE)
BEGIN EXISTING BRIDGE

PLOT DRIVER: NCDOT_pdf_color_eng_100.pit
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DATE: 3/1/2023
TIME: 12:41:15 PM

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt PENTABLE: NCDOT_Plan Sheets_BRDG.tbl
USER: jholland DATE: 3/1/2023 TIME: 12:43:12 PM
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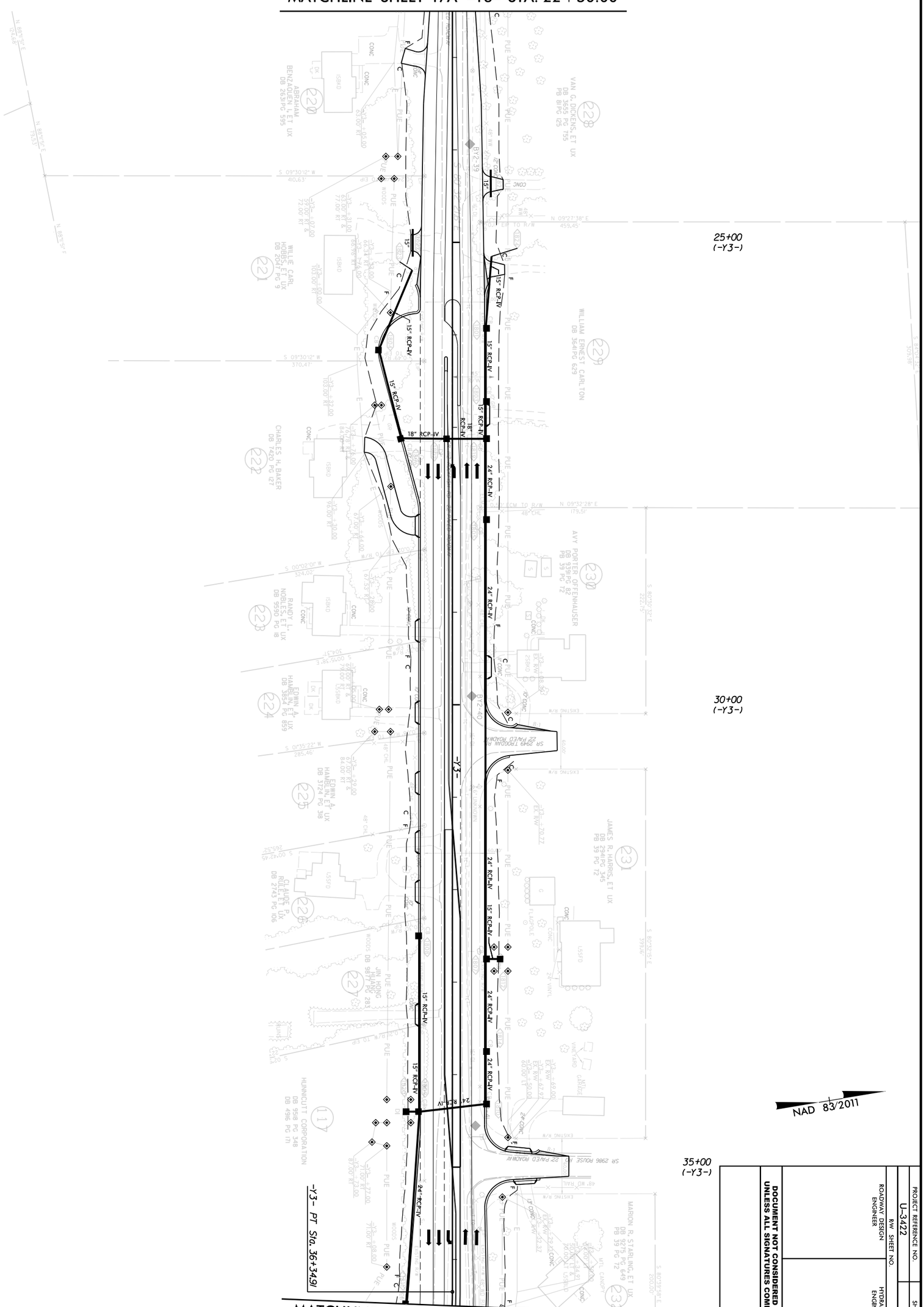
PROJECT REFERENCE NO. U-3422
SHEET NO. 17A
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
USER: jholland
FILE: \

PENTABLE: NCDOT_Plan Sheets_BRDG.tbl
DATE: 3/1/2023
TIME: 12:48:03 PM

MATCHLINE SHEET 17A –Y3– STA. 22+50.00



MATCHLINE SHEET 11 –Y3– STA. 36+50.00

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN ENGINEER
KW

HYDRAULICS ENGINEER

PROJECT REFERENCE NO.
U-3422

SHEET NO.
18

SHEET NO.

PROJECT REFERENCE NO.	SHEET NO.
U-3422	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

← TOWN LIMIT OF HOPE MILLS

MATCHLINE SHEET 12 -Y5- STA. 14+50.00

MATCHLINE SHEET 19A -Y5- STA. 28+50.00

15+00 (-Y5-)

20+00 (-Y5-)

25+00 (-Y5-)

-Y5-

GRADE TO DRAIN

18" RCP-IV

24" RCP-IV

PDES-F

SOWER DR. 22' PAVED ROADWAY

STURBRIDGE DR. 30' PAVED ROADWAY

BASEBALL FIELD

BACK STOP FENCE

123 CHARLES E. KOONCE, ET AL DB 489 PG 270 DB 9542 PG 65

242 CHARLES E. KOONCE, ET AL DB 2252 PG 337 PB 25 PG 74

243 NIXON TAVAREZ, ET UX DB 7229 PG 332

244 CHRISTIAN TABERNACLE OUTREACH MINISTRY DB 9965 PG 390

245 DANNY FRANK TERRY, ET UX DB 7969 PG 611

246 ELLIS E. EHLE, JR. DB 7823 PG 852 PB 7 PG 78

247 ROBERT D. HIGHSMITH DB 3174 PG 204 PB 72 PG 154

DAVID J. LENIHAN DB 9945 PG 443 PB 72 PG 154

248 DOUGLAS L. HORNE, ET AL DB 7344 PG 521 PB 72 PG 154

249 DOUGLAS LEONARD HORNE, ET UX DB 9650 PG 6 PB 72 PG 154

236 ROXIE VENDETTI DB 5632 PG 549 PB 22 PG 71

237 CUMBERLAND COUNTY BOARD OF EDUCATION DB 2710 PG 366 PB 22 PG 71

238 THOMAS W. FAUCETTE DB 7808 PG 114 PB 98 PG 200

239 THOMAS W. FAUCETTE DB 7808 PG 114 PB 99 PG 114

240 CALEB McKINNIE, ET UX DB 5900 PG 327 PB 99 PG 114

241 VICTORY BAPTIST CHURCH, INC. DB 6497 PG 311 PB 98 PG 200 PB 72 PG 76

CHURCH OF GOD, TRUSTEES DB 3451 PG 542 PB 7 PG 78

← TOWN LIMIT OF HOPE MILLS

TOWN LIMIT OF HOPE MILLS →

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PENTABLE: NCDOT_Plan Sheets_BRDG.tbl
DATE: 3/2/2023
TIME: 9:28:56 AM

PROJECT REFERENCE NO.	SHEET NO.
U-3422	19A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

MATCHLINE AA SHEET 13A

MATCHLINE SHEET 19 -Y5- STA. 28+50.00

MATCHLINE SHEET 19B -Y5- STA. 42+00.00

30+00 (-Y5-)

35+00 (-Y5-)

40+00 (-Y5-)

TOWN LIMIT OF HOPE MILLS

PLOT DRIVER: NCDOT.pdf-color_eng.100.plt
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PENTABLE: NCDOT_Plan Sheets_BRDG.tbl
DATE: 3/2/2023
TIME: 9:32:46 AM

PROJECT REFERENCE NO.	SHEET NO.
U-3422	19B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

MATCHLINE SHEET 19A -Y5- STA. 42+00.00

45+00 (-Y5-)

POT Sta. 48+00.00

END CONSTRUCTION -Y5- STA. 45+60.00

TOWN LIMIT OF HOPE MILLS

CHARLES LEIGHTON JACOBS, ET UX DB 7253 PG 576

CAROL KANE SMITH DB 8154 PG 48

CAROL SMITH DB 10071 PG 307

BM1 ELEV. 175.33' -BL- STA. 10+37.47 36.93' LEFT BENCHTIE SET IN 24" OAK

MT. NEBO CHURCH OF GOD DB 6391 PG 466 PB 31 PG 60

MT. NEBO CHURCH OF GOD DB 3828 PG 483 PB 31 PG 60

RICHARD ELLIS DB 2160 PG 595

HILDEGARD HARRIER DB 2201 PG 159 PB 31 PG 60

BILLY G. GASKINS SR. DB 4725 PG 533 PB 31 PG 60

DOVIE MAE HALL DB 8526 PG 167 PB 31 PG 60

KIRK P. ECKERT DB 7298 PG 404

JOHNSON W. HAYES DORIS C. HAYES DB 7357 PG 321 PB 109 PG 159

JOHNSON W. HAYES DORIS C. HAYES DB 7104 PG 825 PB 109 PG 159

BM2 ELEV. 176.14' -BL- STA. 23+69.33 9.55' LEFT BENCHTIE SET IN 24" PINE

SR 1112 ROCKFISH ROAD 22' PAVED ROADWAY

DWAYNE P. MAXWELL DB 4511 PG 813 PB 90 PG 63

DWAYNE P. MAXWELL DB 4511 PG 806 PB 90 PG 63

DWAYNE P. MAXWELL DB 4511 PG 820 PB 90 PG 63

LANNY MORRISON LINDA MORRISON DB 8358 PG 234

CICERO MAXWELL REALTY COMPANY, INC. DB 4165 PG 482 PB 90 PG 63

LIGHTHOUSE BAPTIST CHURCH DB 6330 PG 836 DB 72 PG 43

THOMAS TAYLOR JUDY TAYLOR DB 5266 PG 895 PB 87 PG 106

CHRISTOPHER BERRY TEIZEL E. BERRY DB 7450 PG 228 PB 87 PG 106

KELLY G. SYKES KARIN M SYKES DB 4381 PG 572 PB 87 PG 106

JULIO C. VARON LUZ V. MANRIQUE DB 9342 PG 569 PB 87 PG 106

MELODY CLARK DB 4709 PG 148 PB 87 PG 106

SANDRA TOBIN DB 9984 PG 202 PB 87 PG 106

PHIL WILLINGHAM MILDRED WILLINGHAM DB 4365 PG 255 PB 87 PG 106

JOY C. SANCHEZ DON D. SANCHEZ DB 7819 PG 3 PB 87 PG 106

JEFFREY LASSITER SHARON LASSITER DB 5395 PG 643 PB 87 PG 106

MAGNOLIA DRIVE 22' PAVED ROADWAY

CLOVIS COURT 22' PAVED ROADWAY

CHAUCER DRIVE 22' PAVED ROADWAY

TO PARKTON

TO PARKTON

NO PARKTON

PLOT DRIVER: NCDOT_pdf_color_eng.100.plt
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DATE: 3/1/2023
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GEOTECHNICAL BORING REPORT
BORE LOG

WBS 39001.1.1	**TIP** U-3422	**COUNTY** CUMBERLAND	**GEOLOGIST** J. Rose	
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring				**GROUND WTR (ft)**
BORING NO. L_7745	**STATION** 77+45	**OFFSET** 5 ft LT	**ALIGNMENT** -L-	**0 HR.** 5.8
COLLAR ELEV. 173.5 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 445,716	**EASTING** 1,998,969	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER Edmondson, J. M.	**START DATE** 02/21/23	**COMP. DATE** 02/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
175											
	172.5	1.0								173.5 GROUND SURFACE	0.0
			5	6	8	14		M		172.8 **ROADWAY EMBANKMENT** ASPHALT 0.7'	0.7
170	170.0	3.5								170.5 Gray, orange, and tan, fine SAND (A-3), with some silt	3.0
			2	2	3	5	SS-19	18%		**ALLUVIAL**	
										167.0 Brown and tan, silty SAND (A-2-4(0))	6.5
165	165.0	8.5								Dark Brown, silty SAND (A-2-4), with little organics, contains wood fragments	
			2	4	8	12	SS-20	Sat.		163.5	10.0
										Boring Terminated at Elevation 163.5 ft in silty SAND (A-2-4)	

WBS 39001.1.1	**TIP** U-3422	**COUNTY** CUMBERLAND	**GEOLOGIST** J. Rose	
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring				**GROUND WTR (ft)**
BORING NO. L_12359	**STATION** 123+59	**OFFSET** 6 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 184.7 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 446,483	**EASTING** 2,003,487	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER Edmondson, J. M.	**START DATE** 02/21/23	**COMP. DATE** 02/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
185										
	183.7	1.0								184.7 GROUND SURFACE 0.0
			8	4	3	7		M		183.9 **ROADWAY EMBANKMENT** ASPHALT 0.8' 0.8
180	181.2	3.5								181.7 Gray, tan, and orange, fine SAND (A-3) 3.0
			WOH	WOH	WOH	0		M		**UNDIVIDED COASTAL PLAIN**
										Tan, fine SAND (A-3), with trace silt, with trace clay
										178.2 Tan, clayey SAND (A-2-6(0)) 6.5
175	176.2	8.5								
			5	7	9	16	SS-17	15%		174.7 10.0
										Boring Terminated at Elevation 174.7 ft in clayey SAND (A-2-6(0))

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 39001.1.1	**TIP** U-3422	**COUNTY** CUMBERLAND	**GEOLOGIST** J. Rose
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring			**GROUND WTR (ft)**
BORING NO. L_13907	**STATION** 139+22	**OFFSET** 9 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 173.3 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 447,008	**EASTING** 2,004,956	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic
DRILLER Edmondson, J. M.	**START DATE** 02/21/23	**COMP. DATE** 02/21/23	**SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
175										
	172.3	1.0								173.3 GROUND SURFACE 0.0
			10	11	12	23		M		172.5 **ROADWAY EMBANKMENT** 0.8
170	169.8	3.5								171.3 ASPHALT 0.8' 2.0
			2	1	3	4		M		Tan and Gray, fine SAND (A-3)
										UNDIVIDED COASTAL PLAIN
165	164.8	8.5								Tan, orange, and Gray, fine SAND (A-3(0)), with trace silt and clay
			3	4	7	11	SS-14	4%		163.3 10.0
										Boring Terminated at Elevation 163.3 ft in fine SAND (A-3(0))

WBS 39001.1.1	**TIP** U-3422	**COUNTY** CUMBERLAND	**GEOLOGIST** J. Rose
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring			**GROUND WTR (ft)**
BORING NO. L_15545	**STATION** 155+45	**OFFSET** 8 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 173.3 ft	**TOTAL DEPTH** 20.0 ft	**NORTHING** 447,621	**EASTING** 2,006,459	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic
DRILLER Edmondson, J. M.	**START DATE** 02/21/23	**COMP. DATE** 02/21/23	**SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
175										
	172.3	1.0								173.3 GROUND SURFACE 0.0
			12	10	4	14				172.6 **ROADWAY EMBANKMENT** 0.7
170	169.8	3.5					SS-07	5%		170.3 ASPHALT 0.7' 3.0
			3	2	2	4		M		Light brown and gray, silty SAND (A-2-4(0)), with trace silt
										UNDIVIDED COASTAL PLAIN
165	164.8	8.5								Orange and brown, silty SAND (A-2-4)
			6	9	10	19		M		
160	159.8	13.5								160.3 13.0
			6	10	10	20		Sat.		Light gray, fine SAND (A-3)
155	154.8	18.5								
			5	5	5	10		Sat.		153.3 20.0
										Boring Terminated at Elevation 153.3 ft in fine SAND (A-3)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 39001.1.1	**TIP** U-3422	**COUNTY** CUMBERLAND	**GEOLOGIST** J. Rose	
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring				**GROUND WTR (ft)**
BORING NO. L_17079	**STATION** 170+79	**OFFSET** 6 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 167.0 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 448,277	**EASTING** 2,007,840	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER Edmondson, J. M.	**START DATE** 02/21/23	**COMP. DATE** 02/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION / ELEV. (ft) / DEPTH (ft)
170										
										167.0 GROUND SURFACE 0.0
	166.0	1.0								166.3 **ROADWAY EMBANKMENT** 0.7
165			5	6	5	11		M		ASPHALT 0.7'
	163.5	3.5								164.0 Brown, fine SAND (A-3), with trace silt 3.0
			2	2	1	3		M		**UNDIVIDED COASTAL PLAIN**
160										Light Brown, silty SAND (A-2-4(0))
	158.5	8.5								
			3	5	6	11	SS-06	22%		157.0 10.0
										Boring Terminated at Elevation 157.0 ft in silty SAND (A-2-4(0))

WBS 39001.1.1	**TIP** U-3422	**COUNTY** CUMBERLAND	**GEOLOGIST** J. Rose	
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring				**GROUND WTR (ft)**
BORING NO. L_18219	**STATION** 182+13	**OFFSET** 6 ft LT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 169.8 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 448,857	**EASTING** 2,008,815	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER Edmondson, J. M.	**START DATE** 02/21/23	**COMP. DATE** 02/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
170										
	168.8	1.0								169.8 GROUND SURFACE 0.0
			15	14	14	28	SS-01	M		169.0 **ROADWAY EMBANKMENT** 0.8
	166.3	3.5								ASPHALT 0.8'
165			3	2	3	5		M		166.8 Brown, silty SAND (A-2-4(0)), with trace silt 3.0
										UNDIVIDED COASTAL PLAIN
	161.3	8.5								Brown, fine SAND (A-3), with trace silt
160			9	8	8	16		M		
										159.8 10.0
										Boring Terminated at Elevation 159.8 ft in fine SAND (A-3)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 39001.1.1	**TIP** U-3422	**COUNTY** CUMBERLAND	**GEOLOGIST** J. Rose	
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring				**GROUND WTR (ft)**
BORING NO. Y5_1559	**STATION** 15+59	**OFFSET** 12 ft LT	**ALIGNMENT** -Y5-	**0 HR.** Dry
COLLAR ELEV. 172.7 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 446,551	**EASTING** 2,004,958	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER Edmondson, J. M.	**START DATE** 02/21/23	**COMP. DATE** 02/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
175											
										172.7 GROUND SURFACE	0.0
	171.7	1.0								171.8 **ROADWAY EMBANKMENT** ASPHALT 0.9'	0.9
170	169.2	3.5	7	8	8	16	SS-24	5%		169.7 Gray and white, fine SAND (A-3(0))	3.0
			3	3	4	7		M		**UNDIVIDED COASTAL PLAIN** White and tan, fine SAND (A-3), with trace clay	
165	164.2	8.5	5	6	8	14		M		162.7 Boring Terminated at Elevation 162.7 ft in fine SAND (A-3)	10.0

WBS 39001.1.1	**TIP** U-3422	**COUNTY** CUMBERLAND	**GEOLOGIST** J. Rose	
SITE DESCRIPTION 18 Boring Locations for Temporary Shoring				**GROUND WTR (ft)**
BORING NO. Y5_3290	**STATION** 32+90	**OFFSET** 9 ft LT	**ALIGNMENT** -Y5-	**0 HR.** Dry
COLLAR ELEV. 175.9 ft	**TOTAL DEPTH** 10.0 ft	**NORTHING** 446,265	**EASTING** 2,006,665	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CAT4425 CME-55 88% 03/03/2022		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER Edmondson, J. M.	**START DATE** 02/21/23	**COMP. DATE** 02/21/23	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
180										
										175.9 GROUND SURFACE 0.0
175	174.9	1.0								175.1 **ROADWAY EMBANKMENT** ASPHALT 0.8' 0.8
			13	14	10	24		M		172.9 Gray and tan, fine SAND (A-3) 3.0
	172.4	3.5	2	1	2	3	SS-22	6%		**UNDIVIDED COASTAL PLAIN** Tan, silty SAND (A-2-4(0)), with little clay
170	167.4	8.5	5	6	5	11		M		165.9 Boring Terminated at Elevation 165.9 ft in silty SAND (A-2-4(0)) 10.0

CAMDEN ROAD WIDENING FROM FUTURE FAYETTEVILLE OUTER LOOP TO NC 59 (U-3422)

-L- SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-19	77+45	5' LT	3.5-5.0	A-2-4(0)	NP	NP	54.8	28.7	8.9	7.6	95.2	57	18	18	-
SS-20	77+45	5' LT	8.5-10.0	-	-	-	-	-	-	-	-	-	-	-	3.8
SS-17	123+59	6' LT	8.5-10.0	A-2-6(0)	33	14	65.6	14.8	2.9	16.7	97.9	59	20	15	-
SS-14	139+22	9' LT	8.5-10.0	A-3(0)	NP	NP	71.1	21.2	1.8	5.8	97.3	50	8	4	-
SS-07	155+45	8' LT	1.0-2.5	A-2-4(0)	NP	NP	46.2	41.2	6.6	6.0	99.9	74	14	5	-
SS-06	170+79	6' LT	8.5-10.0	A-2-4(0)	NP	NP	4.9	80.5	1.6	13.0	100	98	15	22	-
SS-01	182+13	6' LT	1.0-2.5	A-2-4(0)	NP	NP	39.1	51.4	4.5	5.0	99.7	81	11	5	-

-Y5- SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-24	15+59	12' LT	1.0-2.5	A-3(0)	NP	NP	27.2	65.0	2.8	5.0	100	88	9	5	-
SS-22	32+90	9' LT	3.5-5.0	A-2-4(0)	NP	NP	46.3	42.5	2.2	9.0	99.8	76	12	6	-