

PROJECT: REFERENCE: 51358

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

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY WILKES
 PROJECT DESCRIPTION PEDESTRIAN BRIDGE OVER
US 421 AT NORTH WILKESBORO SPEEDWAY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	51358	1	

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

C. BRAKE, G.I.T.

A. STURCHIO

J. SALAS

INVESTIGATED BY F&R, Inc.

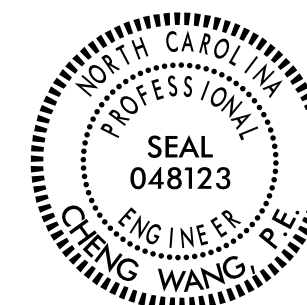
DRAWN BY T.T. WALKER

CHECKED BY P. ALTON, P.E.

SUBMITTED BY C. WANG, P.E.

DATE JULY 2024

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





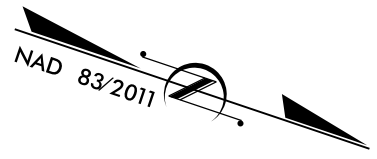
SIGNATURE

DATE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS**

SOIL DESCRIPTION										GRADATION										ROCK DESCRIPTION										TERMS AND DEFINITIONS																													
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										WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.										HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 60 BLOWS 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:  NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.  FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.  FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLITE, SLATE, SANDSTONE, ETC.  COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.										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 INTRODUCED 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 IN 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 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.																													
SOIL LEGEND AND AASHTO CLASSIFICATION										ANGULARITY OF GRAINS										WEATHERING																																							
GENERAL CLASS. GRANULAR MATERIALS (<= 35% PASSING #200) SILT-CLAY MATERIALS (> 35% PASSING #200) ORGANIC MATERIALS										THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.										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.										MINERALOGICAL COMPOSITION										PERCENTAGE OF MATERIAL										GROUND WATER									
MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.										SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL > 50										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										WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING STATIC WATER LEVEL AFTER 24 HOURS PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA SPRING OR SEEP																													
COMPACTNESS OR CONSISTENCY										MISCELLANEOUS SYMBOLS										ROCK HARDNESS																																							
PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE) RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)										ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION SOIL SYMBOL ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT INFERRED SOIL BOUNDARY INFERRED ROCK LINE ALLUVIAL SOIL BOUNDARY										DIP & DIP DIRECTION OF ROCK STRUCTURES SPT DPT DMT TEST BORING AUGER BORING CORE BORING MONITORING WELL PIEZOMETER INSTALLATION SLOPE INDICATOR INSTALLATION CONE PENETROMETER TEST SOUNDING ROD TEST BORING WITH CORE SPT N-VALUE										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 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 GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY SOFT CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL.																													
TEXTURE OR GRAIN SIZE										RECOMMENDATION SYMBOLS										ABBREVIATIONS																																							
U.S. STD. SIEVE SIZE OPENING (MM) 4 10 40 60 200 270 4.76 2.00 0.42 0.25 0.075 0.053										UNDERCUT UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL SHALLOW UNDERCUT UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK										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 HL - HIGHLY MED. - MEDIUM MICA - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC ORG. - ORGANIC PMT - PRESSUREMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY SL. - SILT, SILTY SLL. - SLIGHTLY TCR - TRICONE REFUSAL w - MOISTURE CONTENT V - VERY VST - VANE SHEAR TEST WEA. - WEATHERED % - UNIT WEIGHT % - DRY UNIT WEIGHT SAMPLE ABBREVIATIONS SS - BULK SS - SPLIT SPOON ST - SHELBY TUBE RS - ROCK RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING RATIO																																							
SOIL MOISTURE - CORRELATION OF TERMS										SOIL MOISTURE - CORRELATION OF TERMS										FRACTURE SPACING										BEDDING																													
SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION										DRILL UNITS: CME-45C CME-55 CME-550 VANE SHEAR TEST PORTABLE HOIST CME-75 ADVANCING TOOLS: CLAY BITS 6" CONTINUOUS FLIGHT AUGER 8" HOLLOW AUGERS HARD FACED FINGER BITS TUNG.-CARBIDE INSERTS CASING w/ ADVANCER TRICONE *STEEL TEETH TRICONE *TUNG.-CARB. CORE BIT HAMMER TYPE: AUTOMATIC MANUAL CORE SIZE: B H N HAND TOOLS: POST HOLE DIGGER HAND AUGER SOUNDING ROD VANE SHEAR TEST										TERM SPACING MORE THAN 10 FEET 3 TO 10 FEET 1 TO 3 FEET 0.15 TO 1 FOOT LESS THAN 0.16 FEET TERM THICKNESS 4 FEET 1.5 - 4 FEET 0.16 - 1.5 FEET 0.03 - 0.16 FEET 0.008 - 0.03 FEET < 0.008 FEET																																							
PLASTICITY										EQUIPMENT USED ON SUBJECT PROJECT										INDURATION																																							
NON PLASTIC SLIGHTLY PLASTIC MODERATELY PLASTIC HIGHLY PLASTIC PLASTICITY INDEX (PI) 0-5 6-15 16-25 26 OR MORE DRY STRENGTH VERY LOW SLIGHT MEDIUM HIGH										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.																																																	
COLOR										ELEVATION: N/A FEET										NOTES: BORING ELEVATIONS OBTAINED FROM 51358_Is.tin_240223.tin RECEIVED FROM GANNETT FLEMING 06.14.2024										DATE: 8-15-14																													
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.																																																											



NORTH WILKESBORO SPEEDWAY INC

BEGIN PROJECT 51358
 BEGIN CONSTRUCTION
 -L- STA. 10+45.00

BEGIN BRIDGE
 -L- STA. 11+64.56

END BRIDGE
 -L- STA. 13+60.40

END PROJECT 51358
 END CONSTRUCTION
 -L- STA. 14+46.99

EB1-A

EB2-A

EB1-B

EB2-B

BRIDGE WILKES #94

SR 3579
 FISHING CREEK RD

SR 3579
 FISHING CREEK RD

18" CMF

NORTH WILKESBORO SPEEDWAY INC

NORTH WILKESBORO SPEEDWAY INC

NORTH WILKESBORO SPEEDWAY INC

10

12

14

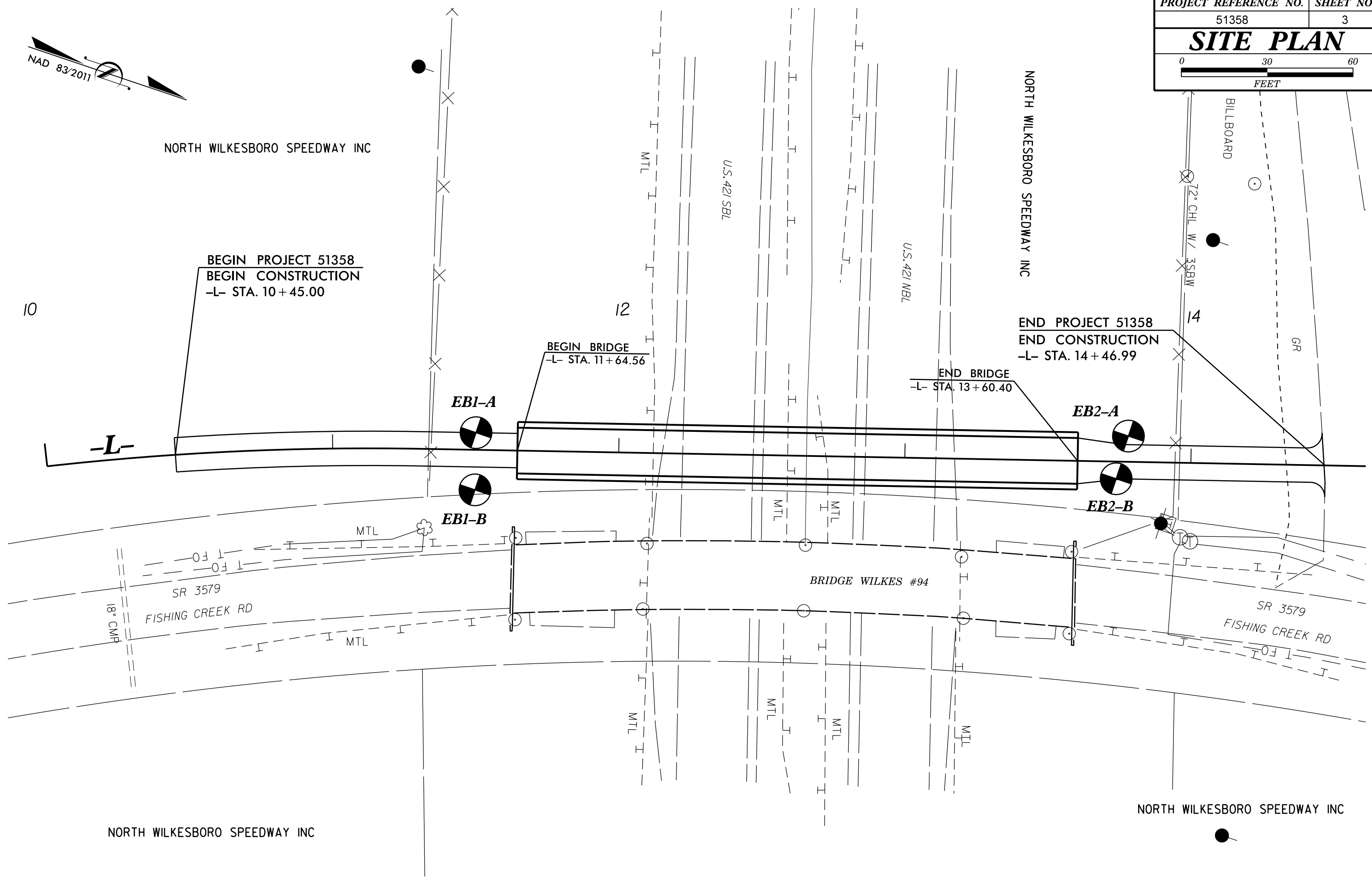
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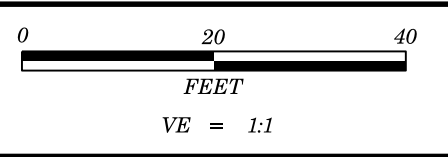
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BILLBOARD

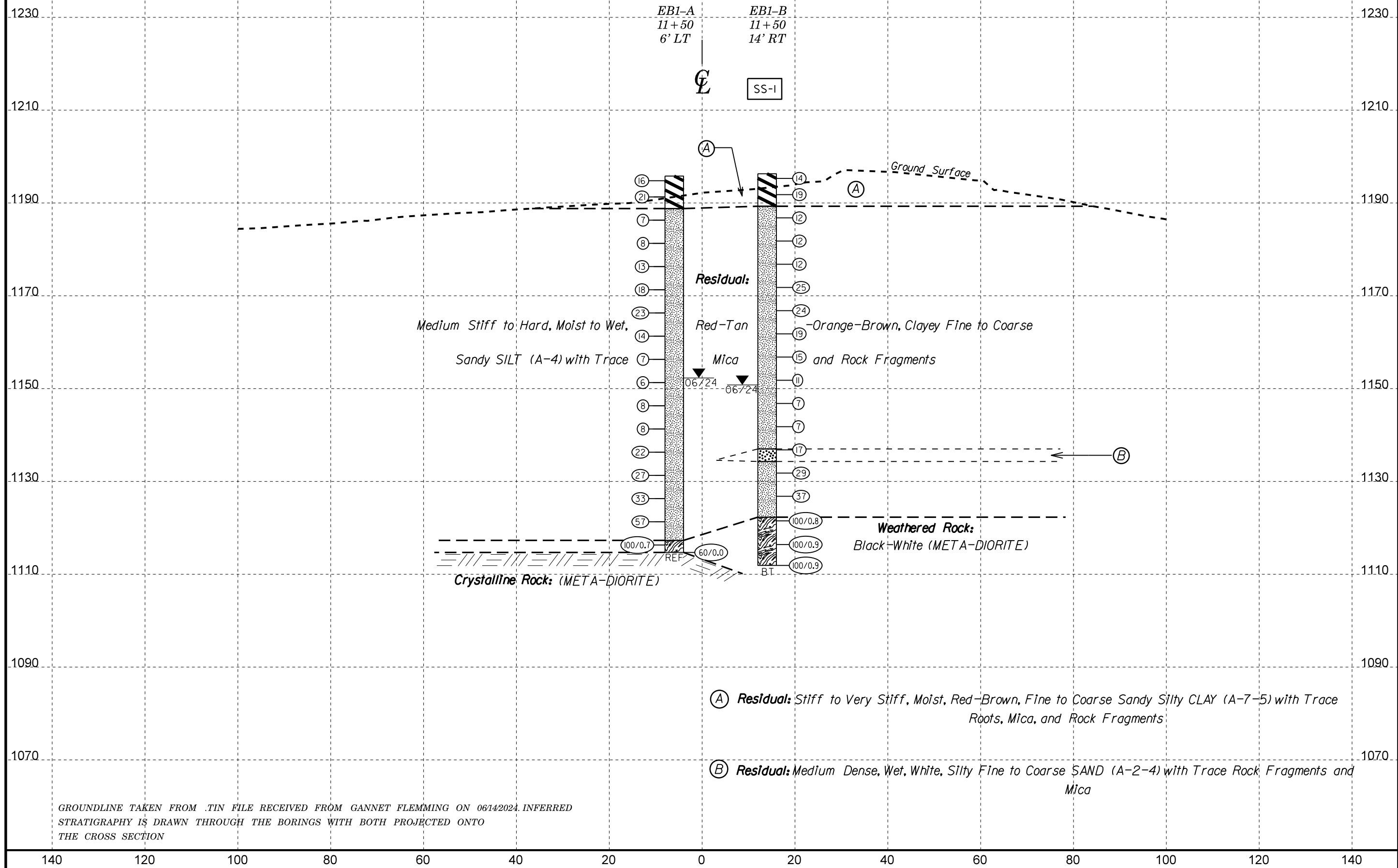
GR

72" CHL W/ 3SBW





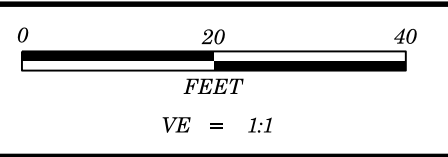
PROJECT REFERENCE NO.	SHEET NO.
51358	5
CROSS SECTION THROUGH END BENT 1	
AT -L- STA. 11+64.56	
SKEW=90°	



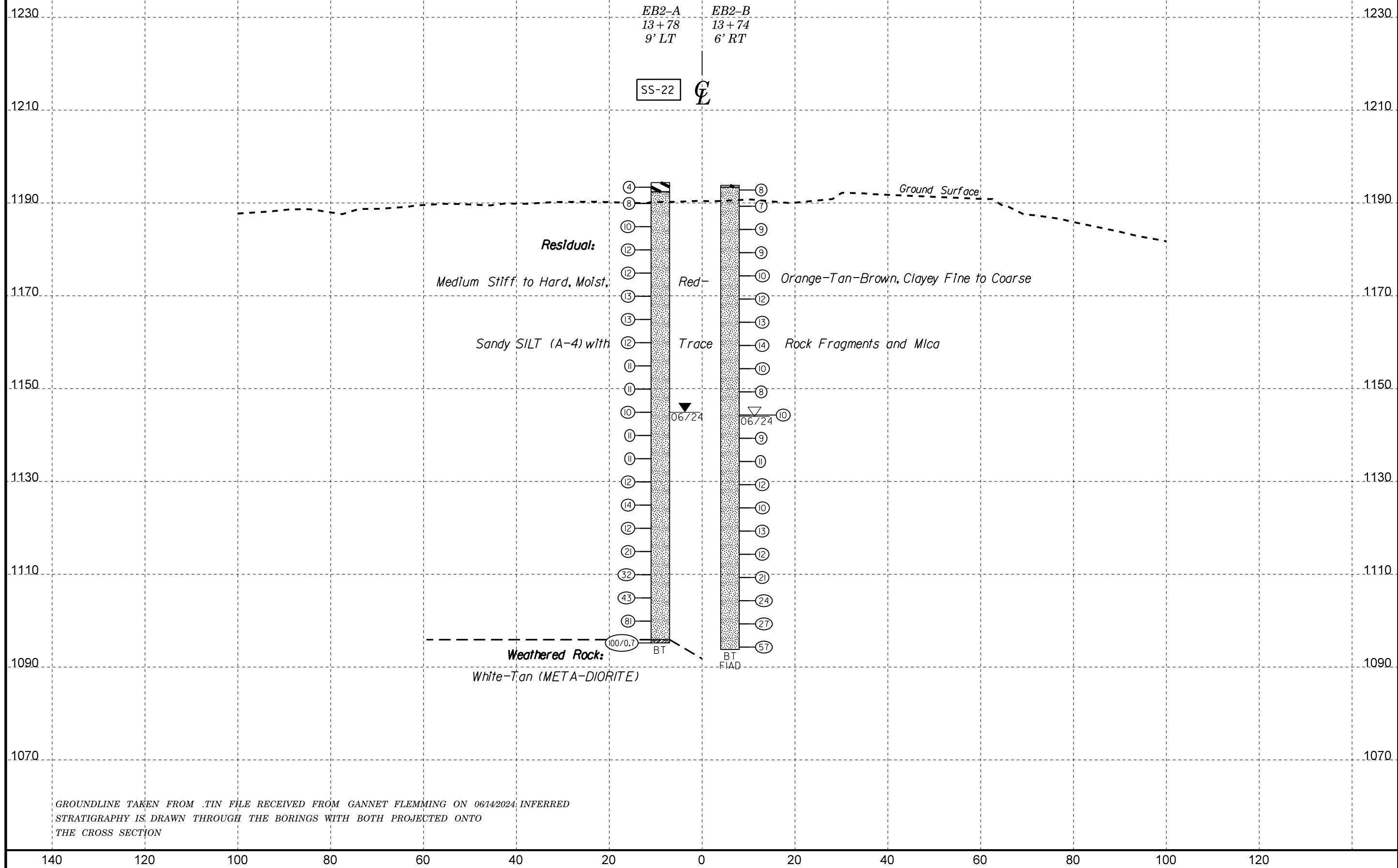
(A) **Residual:** Stiff to Very Stiff, Moist, Red-Brown, Fine to Coarse Sandy Silty CLAY (A-7-5) with Trace Roots, Mica, and Rock Fragments

(B) **Residual:** Medium Dense, Wet, White, Silty Fine to Coarse SAND (A-2-4) with Trace Rock Fragments and Mica

GROUNDLINE TAKEN FROM .TIN FILE RECEIVED FROM GANNET FLEMMING ON 06/14/2024. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION



PROJECT REFERENCE NO.	SHEET NO.
51358	6
CROSS SECTION THROUGH END BENT 2	
AT -L- STA. 13+60.46	
SKEW=90°	



GROUNDLINE TAKEN FROM .TIN FILE RECEIVED FROM GANNET FLEMMING ON 06/14/2024; INFERRED
STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO
THE CROSS SECTION

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 51358		TIP N/A		COUNTY WILKES		GEOLOGIST C. Brake									
SITE DESCRIPTION N. Wilkesboro Speedway Pedestrian Bridge							GROUND WTR (ft)								
BORING NO. EB1-A		STATION 11+50		OFFSET 6 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 1,195.8 ft		TOTAL DEPTH 81.1 ft		NORTHING 876,444		EASTING 1,388,778									
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 89% 07/27/2023				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER A. Sturchio		START DATE 06/19/24		COMP. DATE 06/19/24		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
1200															
1195	1,195.8	0.0	4	6	10									1,195.8	GROUND SURFACE
1190	1,192.3	3.5	5	9	12										RESIDUAL Red-Brown, Fine to Coarse Sandy Silty CLAY (A-7-5) with Trace Mica and Rock Frgaments
1185	1,187.3	8.5	3	3	4									1,188.8	Tan, Orange-Brown, and White, Fine to Coarse Sandy SILT (A-4) with Trace Mica and Rock Fragments
1180	1,182.3	13.5	2	3	5										
1175	1,177.3	18.5	4	5	8										
1170	1,172.3	23.5	6	7	11										
1165	1,167.3	28.5	5	9	14										
1160	1,162.3	33.5	5	6	8										
1155	1,157.3	38.5	2	2	5										
1150	1,152.3	43.5	2	2	4										
1145	1,147.3	48.5	2	2	6										
1140	1,142.3	53.5	2	3	5										
1135	1,137.3	58.5	5	8	14										
1130	1,132.3	63.5	3	9	18										
1125	1,127.3	68.5	11	11	22										
1120	1,122.3	73.5	10	17	40										

NCDOT BORE DOUBLE 66C-0082 BORE LOGS.GPJ NC_DOT.GDT 7/12/24

WBS 51358		TIP N/A		COUNTY WILKES		GEOLOGIST C. Brake									
SITE DESCRIPTION N. Wilkesboro Speedway Pedestrian Bridge							GROUND WTR (ft)								
BORING NO. EB1-A		STATION 11+50		OFFSET 6 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 1,195.8 ft		TOTAL DEPTH 81.1 ft		NORTHING 876,444		EASTING 1,388,778									
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 89% 07/27/2023				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER A. Sturchio		START DATE 06/19/24		COMP. DATE 06/19/24		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
1120															
1115	1,117.3	78.5	44	56	0.2									1,117.3	78.5
1115	1,114.7	81.1	60	0	0									1,114.7	81.1

Match Line

WEATHERED ROCK
Black-White (META-DIORITE)

Boring Terminated with Standard Penetration Test Refusal at Elevation 1,114.7 ft on Crystalline Rock (META-DIORITE)

Note:
1. Surficial Organic Soils: 0.0'-0.1'
2. Auger Refusal at 81.1'

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 51358		TIP N/A		COUNTY WILKES		GEOLOGIST C. Brake										
SITE DESCRIPTION N. Wilkesboro Speedway Pedestrian Bridge							GROUND WTR (ft)									
BORING NO. EB1-B		STATION 11+50		OFFSET 14 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 1,196.3 ft		TOTAL DEPTH 84.4 ft		NORTHING 876,450		EASTING 1,388,797										
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 89% 07/27/2023			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER A. Sturchio		START DATE 06/18/24		COMP. DATE 06/18/24		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
1200																
1195	1,196.3	0.0	4	5	9										1,196.3	GROUND SURFACE
1190	1,192.8	3.5	5	9	10											RESIDUAL Red-Brown, Fine to Coarse Sandy Silty CLAY (A-7-5) with Trace Mica, and Roots
1185	1,187.8	8.5	4	5	7										1,189.3	Red, White, and Orange-Brown, Clayey Fine to Coarse Sandy SILT (A-4) with Trace Mica
1180	1,182.8	13.5	4	5	7											
1175	1,177.8	18.5	3	5	7											
1170	1,172.8	23.5	5	11	14											
1165	1,167.8	28.5	8	11	13											
1160	1,162.8	33.5	6	8	11											
1155	1,157.8	38.5	5	7	8											
1150	1,152.8	43.5	3	5	6											
1145	1,147.8	48.5	1	2	5											
1140	1,142.8	53.5	2	2	5											
1135	1,137.8	58.5	4	6	11										1,137.0	White, Silty Fine to Coarse SAND (A-2-4) with Trace Rock Fragments and Mica
1130	1,132.8	63.5	6	14	15										1,134.3	Tan-White-Black, Fine to Coarse Sandy SILT (A-4) with Trace Rock Fragments and Mica
1125	1,127.8	68.5	8	16	21											
1120	1,122.8	73.5	16	28	72/0.3										1,122.3	WEATHERED ROCK Black-White (META-DIORITE)

NCDOT BORE DOUBLE 66C-0082 BORE LOGS.GPJ NC_DOT.GDT 7/12/24

WBS 51358		TIP N/A		COUNTY WILKES		GEOLOGIST C. Brake										
SITE DESCRIPTION N. Wilkesboro Speedway Pedestrian Bridge							GROUND WTR (ft)									
BORING NO. EB1-B		STATION 11+50		OFFSET 14 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 1,196.3 ft		TOTAL DEPTH 84.4 ft		NORTHING 876,450		EASTING 1,388,797										
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 89% 07/27/2023			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER A. Sturchio		START DATE 06/18/24		COMP. DATE 06/18/24		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
1120																
1115	1,117.8	78.5	16	22	78/0.4											Match Line
1110	1,112.8	83.5	53	47/0.4	100/0.9											WEATHERED ROCK Black-White (META-DIORITE) (continued)
															1,111.9	Boring Terminated at Elevation 1,111.9 ft in Weathered Rock (META-DIORITE)
																Note: Surficial Organic Soils: 0.0'-0.1'

GEOTECHNICAL BORING REPORT BORE LOG

WBS 51358	TIP N/A	COUNTY WILKES	GEOLOGIST C. Brake
SITE DESCRIPTION N. Wilkesboro Speedway Pedestrian Bridge			GROUND WTR (ft)
BORING NO. EB2-A	STATION 13+78	OFFSET 9 ft LT	ALIGNMENT -L-
COLLAR ELEV. 1,193.8 ft	TOTAL DEPTH 99.2 ft	NORTHING 876,661	EASTING 1,388,707
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 89% 07/27/2023		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER A. Sturchio	START DATE 06/19/24	COMP. DATE 06/19/24	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			
1195	1,193.8	0.0											1,193.8 GROUND SURFACE 0.0
1190	1,190.3	3.5	1	2	2	4					SS-22	29%	1,191.8 RESIDUAL Red-Brown, Fine to Coarse Sandy Silty CLAY (A-7-5) with Trace Mica
1185	1,185.3	8.5	3	3	5							M	Red-Brown and Orange-Brown-Tan, Clayey Fine to Coarse Sandy SILT (A-4) with Trace Rock Fragments and Mica
1180	1,180.3	13.5	3	5	5							M	
1175	1,175.3	18.5	4	5	7							M	
1170	1,170.3	23.5	3	5	7							M	
1165	1,165.3	28.5	4	5	8							M	
1160	1,160.3	33.5	4	5	8							M	
1155	1,155.3	38.5	2	5	7							M	
1150	1,150.3	43.5	3	4	7							M	
1145	1,145.3	48.5	2	4	7							M	
1140	1,140.3	53.5	2	4	6							M	
1135	1,135.3	58.5	2	4	7							M	
1130	1,130.3	63.5	2	4	7							M	
1125	1,125.3	68.5	3	4	8							M	
1120	1,120.3	73.5	3	4	8							M	
1115	1,115.3	78.5	3	5	9							M	

NCDOT BORE DOUBLE 66C-0082 BORE LOGS.GPJ NC_DOT.GDT 7/12/24

WBS 51358	TIP N/A	COUNTY WILKES	GEOLOGIST C. Brake
SITE DESCRIPTION N. Wilkesboro Speedway Pedestrian Bridge			GROUND WTR (ft)
BORING NO. EB2-A	STATION 13+78	OFFSET 9 ft LT	ALIGNMENT -L-
COLLAR ELEV. 1,193.8 ft	TOTAL DEPTH 99.2 ft	NORTHING 876,661	EASTING 1,388,707
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 89% 07/27/2023		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER A. Sturchio	START DATE 06/19/24	COMP. DATE 06/19/24	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			
1115			5	9	12								Match Line
1110	1,110.3	83.5	8	12	20							M	Red-Brown and Orange-Brown-Tan, Clayey Fine to Coarse Sandy SILT (A-4) with Trace Rock Fragments and Mica (continued)
1105	1,105.3	88.5	8	16	27							M	
1100	1,100.3	93.5	17	33	48							M	
1095	1,095.3	98.5	63	37	0.2							M	1,095.3 WEATHERED ROCK White-Tan (META-DIORITE) 98.5 Boring Terminated at Elevation 1,094.6 ft in Weathered Rock (META-DIORITE) Note: Surficial Organic Soils: 0.0'-1.0'

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 51358		TIP N/A		COUNTY WILKES		GEOLOGIST C. Brake								
SITE DESCRIPTION N. Wilkesboro Speedway Pedestrian Bridge						GROUND WTR (ft)								
BORING NO. EB2-B		STATION 13+74		OFFSET 6 ft RT		ALIGNMENT -L-								
0 HR. 49.8		TOTAL DEPTH 100.0 ft		NORTHING 876,661		EASTING 1,388,722								
COLLAR ELEV. 1,194.4 ft		TOTAL DEPTH 100.0 ft		NORTHING 876,661		EASTING 1,388,722								
24 HR. FIAD		DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 89% 07/27/2023		DRILL METHOD H.S. Augers		HAMMER TYPE Automatic								
DRILLER A. Sturchio		START DATE 06/20/24		COMP. DATE 06/20/24		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
1195	1,194.4	0.0	2	4	4								GROUND SURFACE RESIDUAL Red-Orange, Fine Sandy Silty CLAY (A-7-5) Red-White-Brown, Clayey Fine to Coarse Sandy SILT (A-4) with Trace Mica	0.0
1190	1,190.9	3.5	3	3	4							M		
1185	1,185.9	8.5	3	3	6							M		
1180	1,180.9	13.5	3	4	5							M		
1175	1,175.9	18.5	3	4	6							M		
1170	1,170.9	23.5	3	5	7							M		
1165	1,165.9	28.5	4	5	8							M		
1160	1,160.9	33.5	4	6	8							M		
1155	1,155.9	38.5	2	4	6							M		
1150	1,150.9	43.5	2	3	5							M		
1145	1,145.9	48.5	2	3	7							M		
1140	1,140.9	53.5	2	4	5							M		
1135	1,135.9	58.5	2	4	7							M		
1130	1,130.9	63.5	2	4	8							M		
1125	1,125.9	68.5	2	3	7							M		
1120	1,120.9	73.5	1	4	9							M		
1115	1,115.9	78.5	1	4	8							M		

NCDOT BORE DOUBLE 66C-0082 BORE LOGS.GPJ NC_DOT.GDT 7/12/24

WBS 51358		TIP N/A		COUNTY WILKES		GEOLOGIST C. Brake								
SITE DESCRIPTION N. Wilkesboro Speedway Pedestrian Bridge						GROUND WTR (ft)								
BORING NO. EB2-B		STATION 13+74		OFFSET 6 ft RT		ALIGNMENT -L-								
0 HR. 49.8		TOTAL DEPTH 100.0 ft		NORTHING 876,661		EASTING 1,388,722								
COLLAR ELEV. 1,194.4 ft		TOTAL DEPTH 100.0 ft		NORTHING 876,661		EASTING 1,388,722								
24 HR. FIAD		DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 89% 07/27/2023		DRILL METHOD H.S. Augers		HAMMER TYPE Automatic								
DRILLER A. Sturchio		START DATE 06/20/24		COMP. DATE 06/20/24		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
1115													Match Line	
1110	1,110.9	83.5	4	7	14							M	Red-White-Brown, Clayey Fine to Coarse Sandy SILT (A-4) with Trace Mica (continued)	
1105	1,105.9	88.5	3	8	16							M		
1100	1,100.9	93.5	6	10	17							M		
1095	1,095.9	98.5	8	23	34							M		
												M		
												M		
												M		
												M		Boring Terminated at Elevation 1,094.4 ft in Residual (SILT)
												M		Note: Surficial Organic Soils: 0.0'-0.1'



PROJECT REFERENCE NO.	SHEET NO.
51358	11

County: Wilkes

Description: N. Wilkesboro Speedway Pedestrian Bridge

SOIL TEST RESULTS

SAMPLE NO.	-L- STATION	LOCATION	OFFSET *	DEPTH INTERVAL (FT)	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
								C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1	11+50	EB1-B	14' RT	0.1-1.5	A-7-5 (26)	71	29	10.4	16.9	9.3	63.4	100.0	94.4	76.2	25.4	NT
SS-22	13+78	EB2-A	9' LT	0.1-1.5	A-7-5 (21)	66	24	12.0	18.6	11.5	57.9	100.0	94.7	73.1	29.0	NT

NP = Not Plastic
NT = Not Tested
ND = Not Determined

H. Sanchez
Lab Manager, Certification No. 101-04-0603

C.Wang, P.E.
Soils Engineer



North Wilkesboro Speedway Pedestrian Bridge SITE PHOTOGRAPHS



Photograph No. 1: View from south look at End Bent 1



Photograph No. 2: View from north looking at End Bent 2