CONTENTS

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REFERENCE

SHEET NO.	DESCRIPTION
I	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4-5	WALL ENVELOPES
6-9	BORING LOGS

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION **DIVISION OF HIGHWAYS** GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL SUBSURFACE INVESTIGATION

COUNTY _GUILFORD

PROJECT DESCRIPTION STRUCTURE NO. 1 ON SR2526 (SUMMIT AVE.) OVER GREENSBORO EASTERN LOOP I-86 BYPASS (-L-) SITE DESCRIPTION RETAINING WALLS AT END BENT NO. 1 AND NO. 2

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U–2525C	1	9

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 SOLI TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT 1999 107-6860. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

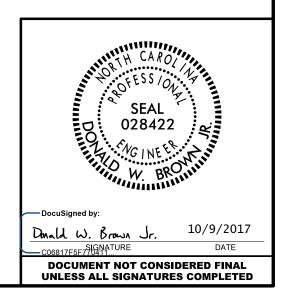
GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORNICS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU UN-FLACED TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE ONSERVED WATER LEVELS OR SOL MOISTURE CONDITIONS MOLATED IN THE SUBSURFACE RELIVESTIGATIONS AND REAS RECORDED AT THE TIME OF THE INVESTIGATION. THES WATER LEVELS OR SOL MOISTURE CONDITIONS MAY LARY CONSIDERABLY WITH THE ACCORDING TO CLIMATIC CONDITIONS NICLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OF 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 WARANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPHION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OF FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDENSION FOR OF AN THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES: I. 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. 2.

PERSONNEL

C. TANG, EI
CAROLINA DRILLING
J. ANDERSON
J. COLLINS
INVESTIGATED BY <u>C. TANG, EI</u>
DRAWN BY D. BROWN, PE
CHECKED BY
SUBMITTED BY D. BROWN, PE
DATE OCTOBER 2017



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

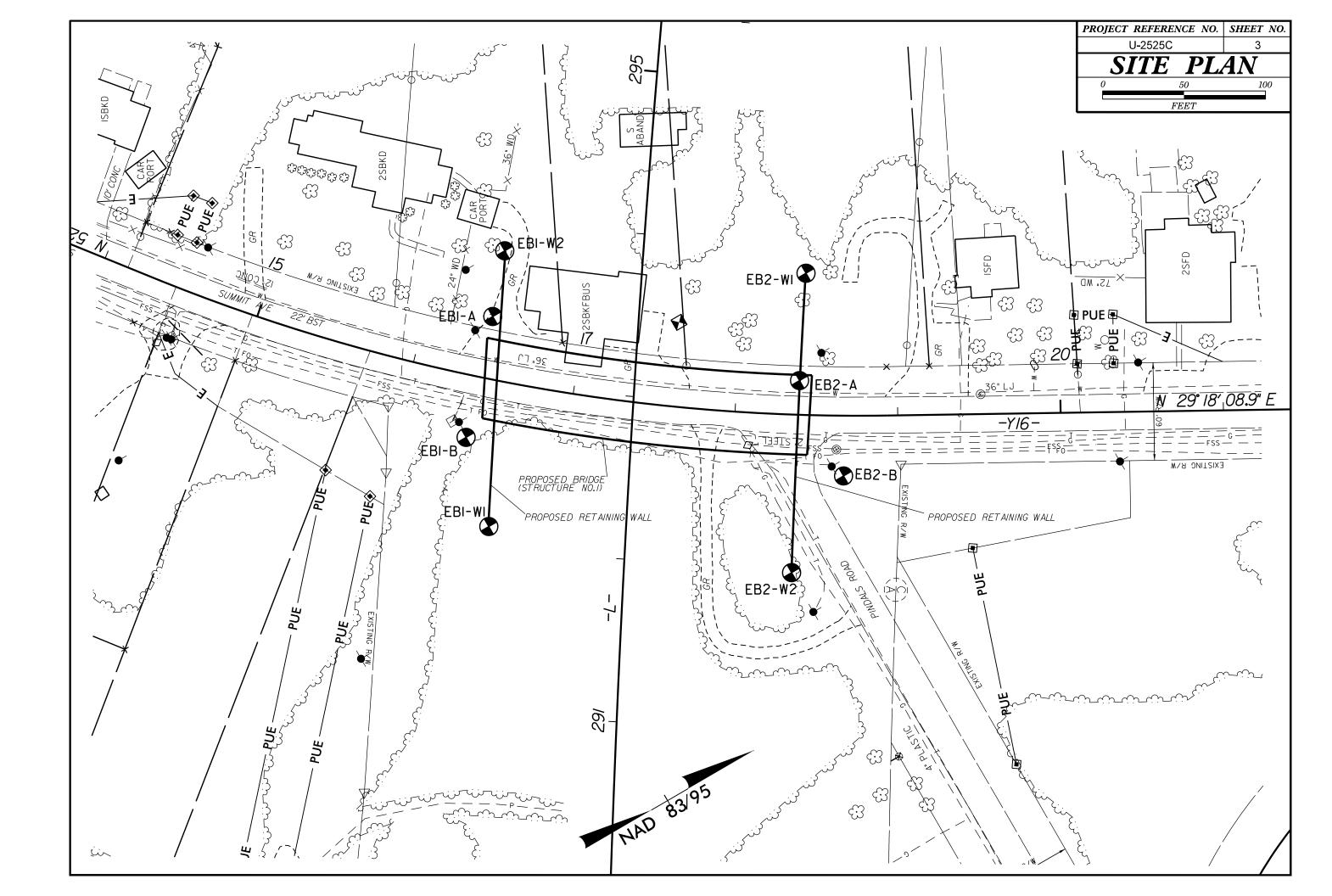
SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN	WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.	HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
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	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.	SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60	AQUIFER - A WATER BEARING FORMATION OR STRATA.
IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH	ANGULARITY OF GRAINS	BLOWS IN NON-COASTAL PLAIN MATERIAL, THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.	ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
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	THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS:	ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:	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.
SOIL LEGEND AND AASHTO CLASSIFICATION		ROCK (WR)	ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT
GENERAL GRANULAR MATERIALS SILT-CLAY MATERIALS ORGANIC MATERIALS CLASS. (≤ 35% PASSING *200) (> 35% PASSI	MINERALOGICAL COMPOSITION MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC.	CRYSTALLINE FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED, ROCK TYPE INCLUDES GRANITE,	WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.
GROUP A-1 A-3 A-2 A-4 A-5 A-6 A-7 A-1, A-2 A-4, A-5	ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.	ROCK ICR) GNEISS, GABBRO, SCHIST, ETC.	CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
CLASS. A-1-a A-1-b A-2-4 A-2-5 A-2-6 A-2-7 A-3 A-6, A-7		POCK (MCP)	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.
SYMBOL	SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50	COASTAL PLAIN COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD	OF SLOFE. CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED
2. PASSING 10 50 MX	HIGHLY COMPRESSIBLE LL > 50 PERCENTAGE OF MATERIAL	SEDIMENTARY ROCK SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.	BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
*40 30 MX 50 MX 51 MN SOILS SOULS SOULS FOR THE SOULS		WEATHERING	DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.
*200 15 MX 25 MX 10 MX 35 MX 35 MX 35 MX 35 MX 36 MN 36 MN 36 MN 36 MN	GRANULAR SILT - CLAY ORGANIC MATERIAL SOILS SOILS OTHER MATERIAL TRACE OF ORGANIC MATTER 2 - 3% 3 - 5% TRACE 1 - 10%	FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.	DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE
PASSING #40 SOTUS WITH	LITTLE ORGANIC MATTER 3 - 5% 5 - 12% LITTLE 10 - 20% MODERATELY ORGANIC 5 - 10% 12 - 20% SOME 20 - 35%	VERY SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN,	HORIZONTAL. DIP <u>DIRECTION (DIP AZIMUTH)</u> - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE
LL – – 40 MX 41 MN LITTLE OR PI 6 MX NP 10 MX 10 MX 11 MN 11 MN 10 MX 10 MX 11 MN 11 MN MODERATE HIGHLY	HIGHLY ORGANIC 5 - 10% 12 - 20% Some 20 - 55% HIGHLY ORGANIC > 10% > 20% HIGHLY 35% AND ABOVE	(V SLI.) CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.	LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
GROUP INDEX 0 0 0 4 MX 8 MX 12 MX 16 MX NO MX AMOUNTS OF SOULS	GROUND WATER	SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO	FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
USUAL TYPES STONE FRAGS. FINE SILTY OR CLAYEY SILTY CLAYEY MATTER	WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING	(SLI.) I INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.	FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
OF MAJOR GRAVEL AND SAND GRAVEL AND SAND SOILS SOILS	▼ STATIC WATER LEVEL AFTER <u>24</u> HOURS	MODERATE SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM
GEN. RATING EXCELLENT TO GOOD FAIR TO POOR FAIR TO POOR UNSUITABLE	∇PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA	(MOD,) 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	PARENT MATERIAL.
AS SUBGRADE PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ;PI OF A-7-6 SUBGROUP IS > LL - 30	- SPRING OR SEEP	WITH FRESH ROCK.	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
	MISCELLANEOUS SYMBOLS	MODERATELY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL SEVERE AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH	FIELD.
COMPACTNESS OR RANGE OF STANDARD RANGE OF UNCONFINED		(MOD.SEV.) AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. <u>IF TESTED, WOULD YIELD SPT REFUSAL</u>	JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
PRIMARY SOIL TYPE COMPACTNESS ON PENETRATION RESISTENCE COMPRESSIVE STRENGTH CONSISTENCY (N-VALUE) (TONS/FT ²)	ROADWAY EMBANKMENT (RE) 20/025 DIP & DIP DIRECTION WITH SOIL DESCRIPTION OF ROCK STRUCTURES	SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.
GENERALLY VERY LOOSE < 4 LOOSE 4 TO 10	SOIL SYMBOL	(SEV.) REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN.	LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
GRANULAR MEDIUM DENSE 10 TO 30 N/A		IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF	MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
(NON-COHESIVE) DENSE 30 TO 50 VERY DENSE > 50		VERY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE SEVERE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK	PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE
VERY SOFT < 2 < 0.25	INFERRED SOIL BOUNDARY CORE BORING • SOUNDING ROD	(V SEV.) 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	OF AN INTERVENING IMPERVIOUS STRATUM.
GENERALLY SOFT 2 TO 4 0.25 TO 0.5 SILT-CLAY MEDIUM STIFF 4 TO 8 0.5 TO 1.0	TEST BORING WELL TEST BORING WITH CORE	COMPLETE ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND	RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
MATERIAL STIFF 8 TO 15 1 TO 2 (COHESIVE) VERY STIFF 15 TO 30 2 TO 4	The core With core With core With core With core SPT N-VALUE	SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.	ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE
HARD > 30 > 4		ROCK HARDNESS	RUN AND EXPRESSED AS A PERCENTAGE. SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT
TEXTURE OR GRAIN SIZE	RECOMMENDATION SYMBOLS	VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES	ROCK.
U.S. STD. SIEVE SIZE 4 10 40 60 200 270 DPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053	UNDERCUT UNCLASSIFIED EXCAVATION - UNCLASSIFIED EXCAVATION - UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT, NOT TO BE	SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK. HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED	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
BOULDER COBBLE GRAVEL COARSE FINE SILT CLAY	SHALLOW UNCLASSIFIED EXCAVATION - USED IN THE TOP 3 FEET OF ACCEPTABLE DEGRADABLE ROCK EMBANKMENT OR BACKFILL	TO DETACH HAND SPECIMEN.	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
(BLDR.) (COB.) (GR.) (CSE. SD.) (F SD.) (SL.) (CL.)	ABBREVIATIONS	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED	$\underline{\text{SLICKENSIDE}}$ - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.
GRAIN MM 305 75 2.0 0.25 0.05 0.005	AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST	BY MODERATE BLOWS.	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
	BT - BORING TERMINATED MICA MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY γ - UNIT WEIGHT	MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE	WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL
SOIL MOISTURE - CORRELATION OF TERMS	CPT - CONE PENETRATION TEST NP - NON PLASTIC $\gamma_{\rm d}$ - DRY UNIT WEIGHT CSE COARSE ORG ORGANIC	POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS	TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY
(ATTERBERG LIMITS) DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION	DMT - DILATOMETER TEST PMT - PRESSUREMETER TEST <u>SAMPLE ABBREVIATIONS</u>	FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN	TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
- SATURATED - USUALLY LIQUID; VERY WET, USUALLY	e - VOID RATIO SD SAND, SANDY SS - SPLIT SPOON	PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH	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
(SAT.) FROM BELOW THE GROUND WATER TABLE	F - FINE SL SILT, SILTY ST - SHELBY TUBE FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK	SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL.	THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
PLASTIC RANGE - WET - (W) SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE	FRAC FRACTURED, FRACTURES TCR - TRICONE REFUSAL RT - RECOMPACTED TRIAXIAL FRAGS FRAGMENTS w - MOISTURE CONTENT CBR - CALIFORNIA BEARING	FRACTURE SPACING BEDDING	
	HIHIGHLY V-VERY RATIO	TERM SPACING TERM THICKNESS	BENCH MARK: BL-70 - N:872842, E:1780684
OM _ OPTIMUM MOISTURE - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE	EQUIPMENT USED ON SUBJECT PROJECT	VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 4 FEET WIDE 3 TO 10 FEET THICKLY BEDDED 1.5 - 4 FEET	ELEVATION: 860.80 FEET
SL _ SHRINKAGE LIMIT	DRILL UNITS: ADVANCING TOOLS: HAMMER TYPE: X CME-45C CLAY BITS X AUTOMATIC MANUAL	MODERATELY CLOSE 1 TO 3 FEET THINLY BEDDED 0.16 - 1.5 FEET CLOSE 0.16 TO 1 FOOT VERY THINLY BEDDED 0.03 - 0.16 FEET	NOTES:
- DRY - (D) REOUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE		VERY CLOSE LESS THAN 0.16 FEET THICKLY LAMINATED 0.008 - 0.03 FEET THINLY LAMINATED < 0.008 FEET	
PLASTICITY	CME-55 B* HOLLOW AUGERS CUHL SIZE: B* HOLLOW AUGERS		
PLASTICITY INDEX (PI) DRY STRENGTH	□ CME-550	FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.	
NON PLASTIC 0-5 VERY LOW	TUNG-CARBIDE INSERTS	FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS: GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.	
SLIGHTLY PLASTIC 6-15 SLIGHT MODERATELY PLASTIC 16-25 MEDIUM	VANE SHEAR TEST	CRAINE CAN BE SERARATED FROM CAMPLE WITH STEEL BRODE.	
HIGHLY PLASTIC 26 OR MORE HIGH		MODERATELY INDURATED BREAKS EASILY WHEN HIT WITH HAMMER.	
COLOR		INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE: DIFFICULT TO BREAK WITH HAMMER.	
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.		CHARP HAMMER RIGHS REGULTED TO REAK SAMPLE.	
	X HILTI CORE DRILL (PVMT)	EXTREMELY INDURATED SAMPLE BREAKS ACROSS GRAINS.	DATE: 8-15-14

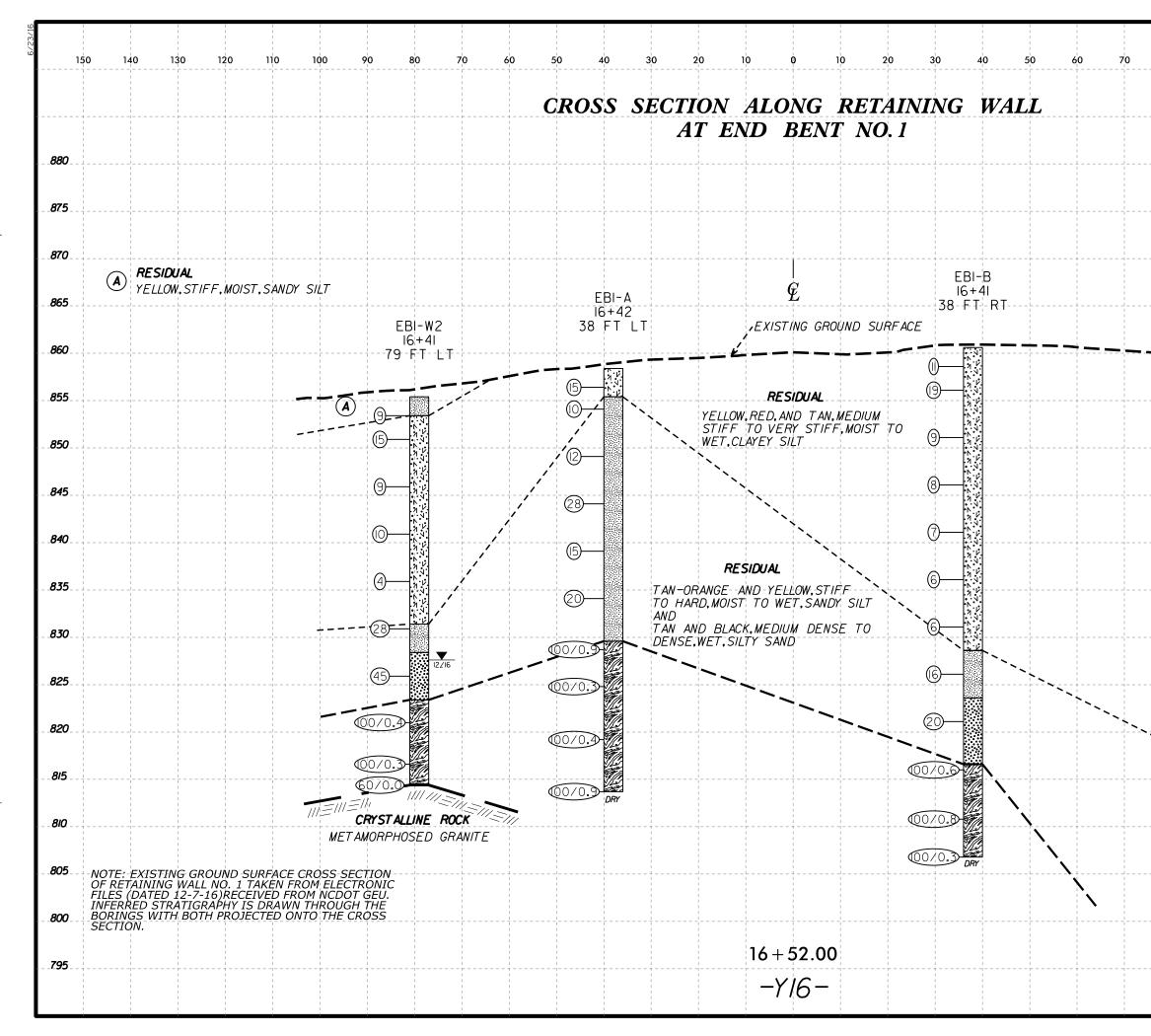
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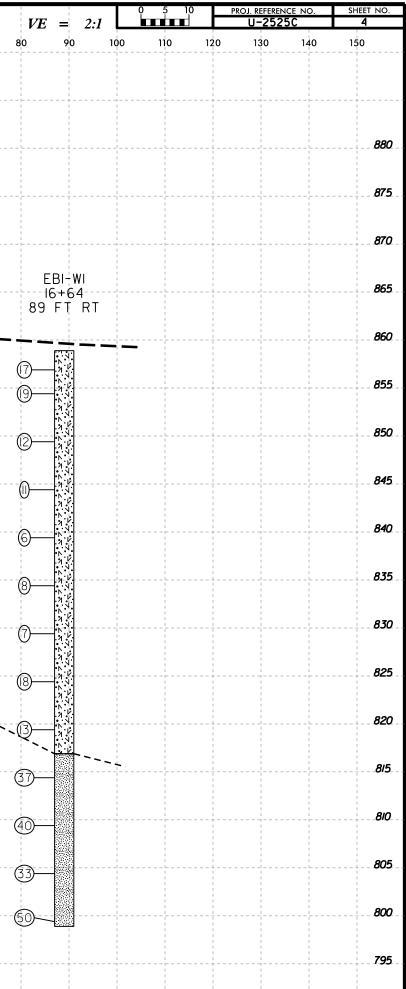
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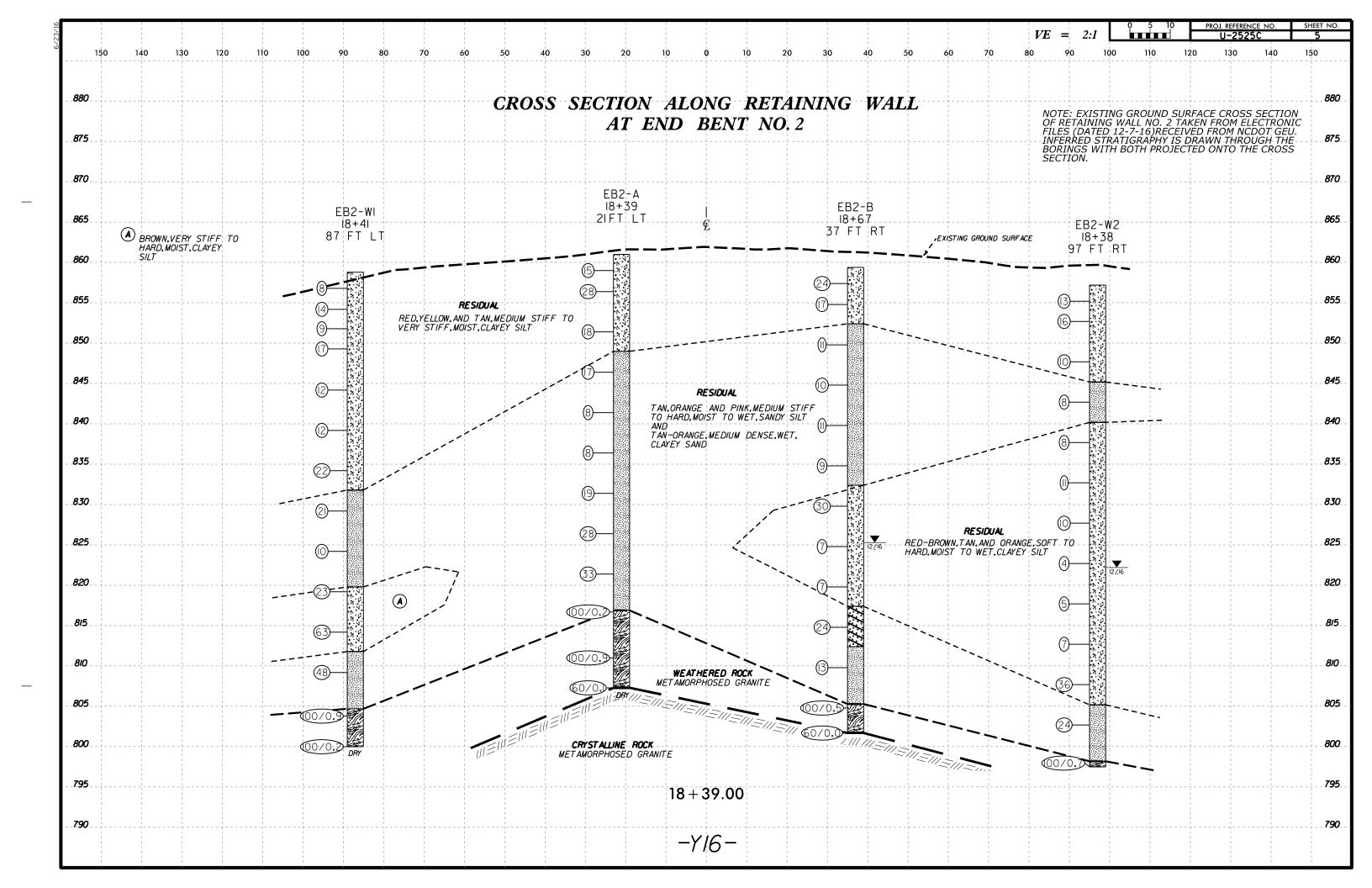
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DRILL I	RIG/HAM	MMER E	FF./DA1	re Br	RI8284 4	15 Track 89%	02/26/2016	•		DRILL	METHO	DD I	Mud Rotar	/ HAMN	IER TYPE Automatic	DRIL	L RIG/HA	MMER E	FF./DA	TE BI	RI8284 4	5 Track 899	6 02/26/2016	6	
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																	857.1	<u> </u>	3	7	12		 19		:
850	850.1	8.3	3	5	7	12	+ 	<u> </u>	<u> </u>		м		8 8			855		ŧ				· · /	+		-
	-							· · · ·									852.1	8.5							:
845	845.1	13.3	_	10	15	· · · · ·	· · · ·	· · · ·					- -			850		ŧ	2	4	5	. • 9			•
	-		7	13	15		28				M							ŧ							
						::: <i>'</i> /	1										847.1	13.5	2	3	5				:
840	840.1	18.3	4	7	8	· · • •15	+		····		м					845		ŧ							
	-					$\begin{vmatrix} \cdot \cdot \cdot \dot{\mathbf{J}} \\ \cdot \cdot \cdot \dot{\mathbf{J}} \end{vmatrix}$		· · · ·					8 8 9				842.1	18.5							•
835	835.1	23.3				· · · j.	· · · ·	· · · ·					<u> </u>			840		ŧ	2	3	4	• 7 · ·			•
	-		4	9	11	· · · • • 2	20				M		8- -					ŧ							•
	-							· · · ·									837.1	<u> </u>	2	2	4	• • • • •			•
830	830.1	28.3	17	46	54/0.4	H						4 77	829.6	WEATHERED R	28.8	835		ŧ					· · · · ·		-
	-									T				(Metamorphosed G			832.1	28.5							
825	825.1	33.3														830		£	2	3	3	4 6			•
			100/0.3						100/0.3	T								Ŧ							
	-																827.1	<u> </u>	3	6	10				•
820	820.1	38.3	52	100/0.4												825		Ŧ							+
	-									T							822.1	38.5				· · · · ·			
815	815.1	43.3											813.7			820		Ŧ	5	9	11		20 · · · ·		•
_			8	31	69/0.4				100/0.9	•			813.7	Boring Terminated at Eleva	44.7 ation 813 7 ft in	-		Ŧ							
	-	F											F	Weathered Rock (Metamor	phosed Granite)		817.1	43.5	21	48	52/0.1				÷Ļ
	-												E			815		Ŧ							-
	-												E				812.1	48.5							
	-												F			810		Ŧ	19	64	36/0.3				
	-	F											F					Ŧ							
		F									1		Г				807.1	T 53 5	100/0.3			• • • •			:

GUILFOR	RD			GEOLOG	ST C.T. Tan	g, El		
r Greensboi	ro Easte	ern Lo	op I-8	35 Bypass			GROUN	D WTR (ft)
OFFSET 3	8 ft RT			ALIGNME	NT -Y16-		0 HR.	N/A
NORTHING	872 8	18			1,780,677		24 HR.	Dry
	DRILL N		D M	ud Rotary	.,,		ER TYPE	Automatic
COMP. DAT		14/16		-	WATER DEP			/ latornatio
	SAMP.		L	JUNFACE			7	
75 100	NO.	моі	0		SOIL AND ROO	CK DESC	RIPTION	
	110.		G					
				_				
				-				
				- 860.6	GROUN	D SURFA	CE	0.0
			N N	_	RES	SIDUAL		
		M	N N N	- Reu	Tan and Orange Roots	on top 2.8	5' 5'	lace
		м	N V V	-				
			7 V V	-				
			л V Л V	-				
		M	N N V	-				
			N N V	-				
			N V V	-				
		M	r v	-				
			/ V N	-				
		м	N N	-				
			N N	-				
			ΝV	-				
· · · ·		w	л V Л V	-				
				_				
			л И И	_				
		w	N V	-				
			N N V	- 828.6				32.0
				-	Tan-Oran	ge, Sand	y Silt	
		W		-				
				- 823.6	Tan-Blac			<u> </u>
		w		-	I di I-Didu	K, Silly Se	anu	
				-				
				-				
100/0.6			5977	- 816.6	WEATHE	RED RO	СК	44.0
100/0.8				-	(Metamorpl			
				_				
100/0.8				-				
				-				
			10	806.8				53.8
100/0.3				- Bo - We	ring Terminated athered Rock (M	at Elevat letamorph	ion 806.8 f nosed Gra	it in nite)
				-		F		,
				-				
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									_		JRE																								
	3482					I P U-252					GUIL									Tang, E					3482						-25250			UNTY	
				Bent		Retaining	-		R2526			-			ooro l	_		-			G	ROUND	WTR (ft)					Bent			-	Vall on S	3R2526		
). EB1			_	TATION					OFFSE					_		MENT) HR.	Dry		ING NO						DN 16				OF
		EV. 85				OTAL DE					NORTH							ING 1	,780,73			HR.	FIAD		LAR EL							FH 41.0		<u> </u>	NC
DRILL	RIG/HA	MMER E	FF./DA	TE BF	818284	45 Track 89	9% 02/2	26/2016					DRILL			H.S. /	Augers			HA	MMER	TYPE /	Automatic	DRILL	RIG/HA	MMER E	FF./DA	TE BI	RI8284	45 Trac	:k 89%	02/26/201	16		
DRIL		I. Ander				TART DA	TE '	12/15/	16		COMP					_ <u> </u> {	SURF	ACE W	ATER	DEPTH	N/A			DRIL	LER J					TART	DATE	1 2/12	2/16	(CC
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	' 	OW COU 0.5ft		0	25 1	BLOWS	PER F 50		5	100	SAMP. NO.	17	L O DI G	EL	LEV. (ft)		dil and	ROCK D	ESCRI	PTION	DEPTH (ft)	ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)		OW CO	-	0	2	BLOW	S PER F 50		75
860	857.9	<u> </u>									1					- 85	58.9		GR	DUND SU		<u> </u>	0.0	860		+									
855	855.4	÷	4	5	12			· · · · · · ·			· · · ·	•		M	N			Y	ellow, R	ed and Ta		ey Silt		855	854.4										Ŧ
		+					P .19	· · · · · ·	· · · ·	· · ·	· · · · · · ·	•													851.9	t	3	4	5	: :	(⁹	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · ·	.
850	850.4	+ 8.5 + + +	3	5	7		· · ·	· · · ·		· · ·	· · · ·			м										850	-	-					<u>¶</u> 15 .]. .].	· · · ·	· · ·	· · · ·	-
845	845.4	+ + 13.5	5	5	6	· · · · · · · · · • · · ·	• •	· · · ·	· · ·	· · ·	· · · ·	•		м	7 7 7 7 7 7									845	846.9	8.5	4	4	5		/ · ·)9 · ·		· · ·	· · · ·	
840	840.4	+ - 18.5			4		 	· · · ·	· · · · ·	· · ·	· · · ·	•												840	841.9	13.5	2	5	5		1 10 ·	· · · · · · · · · · · · · · · · · · ·		· · · · · ·	-
		+	2	2	4		 	· · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · ·	· · · ·			M	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~										836.9	18.5	2	2	2		· · · ·	· · · · · ·		· · · ·	-
835	835.4	+ 23.5 + + +	3	3	5	•8	· · ·	· · · ·	· · ·	· · ·	· · · ·			м										835	831.9	23.5						· · · ·	· · ·	· · · ·	
830	830.4	+ - 28.5 -	2	2	5		· · ·	· · · ·	· · ·	· · ·	· · · ·			м	~ 7 ~ 7 ~ 7 ~ 7									830		- 23.5 - -	1	13	15		· · · · ·	• • • • • 28• •	· · ·	· · · ·	: -
825	825.4	- - - 33.5	4	7	11		· · ·	· · · · · · ·	· · · · ·	· · ·	· · · ·	•												825	826.9	28.5	13	21	24	$ \cdot $	· · · ·	· · · · ·	• • • • • • 45 •	· · · ·	-
	000 4	+ + + - 38.5				 <i>.</i> <i>.</i>	18 	· · · · · · · · · · · · · · · · · · ·		· · ·		•		M											821.9	33.5	70	100/0.4	1		· · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	<u>-</u>	<u></u> 	+
820		+	3	6	7		\ ·	· · · ·		· · ·	· · · ·	.		м			<u>16.9</u>						<u> </u>	820	816.9	38.5				.	 	· · · · · · · · · · · · · · · · · · ·		· · · ·	
815	815.4	+ 43.5 +	8	16	21				· ·	· · ·	· · · ·	• •		м					Ye	ellow, Sand	dy Silt			815	814.4	ł	100/0.3 60/0.0				· · ·				Ŀ
	810.4	- <u>48.5</u>	6	18	22			· [· [· · ·				м											-	- - -									
805	805.4	- - - 53.5					. .	·/··· ./ · · · ./ · · ·		· · ·	· · · · · · · · · · · · · · · · · · ·	.																							
	-	+ + +	7	12	21		· · ·	• 33 • • • •		· · ·				M											-	+ + +									
800	800.4	+ <u>58.5</u>	10	24	26		· ·	· · \	• 50 • 50					м		- 79	98.9	Boring	Termin	ated at Ele	evation	798.9 ft i	60.0 in		-	+ + +									
	-	+ + + + + + + + + + + +																		Sandy S	alt				-	+ + + + + + + + + + + + + + + + + + + +									
	-																								-	- - - - - -									

GUILFC)F	RD			GEOLOG	IST C.T. Tang	g, El		
mmit Ave.)	0	ver Gre	ensbo	oro E	astern Loop	I-85 Bypass		GROUN	D WTR (ft)
OFFSET	7	9 ft LT			ALIGNME	ENT -Y16-		0 HR.	35.4
NORTHIN	G	872,8	96		EASTING	1 ,780,589		24 HR.	27.8
		DRILL N	IETHO	DН	.S. Augers		HAMME	ER TYPE	Automatic
COMP. D	41	E 12/*	12/16		SURFAC	E WATER DEP	TH N//	Ą	
		SAMP.		L					
75 100		NO.	мог	O G		SOIL AND ROC	CK DESC	RIPTION	
•									
					-				
					-				
					- 855.4	GROUNE) SURFA	CE	0.0
			м		853.4	Yellow, Sandy Si	lt, with T		2.0
			м	N N V	-	Red and Yel	low, Clay	ey Silt	
+ • • • •	-			N N V	-				
				N N V	-				
			м	7 7 7	-				
				N N V	-				
· · · ·				/ V N V	-				
			м	N N	-				
				N N	-				
			w	N N N	-				
				7 V N	_				
				N V N	-				
			w	- V	- <u>831.4</u>		Sandy Silt		<u> 24.0</u>
			_		828.4				27.0
· · · ·						Tan, S	Silty Sand		
			W		-				
- <u></u>				Terra	823.4	WEATHE			<u>32.0</u>
	l				-	(Metamorph			
100/0.4	Ŧ				_				
					_				
. 100/0.3	t				-				
60/0.0	•			9772	814.4	Boring Termina	ated with	Standard	41.0
					- Pe	netration Test Ref	fusal at E ock (Meta	levation 8 amorphose	14.4 ed
					-		anite)		
					-				
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WBS	3482	1.1.1			T	P U-2	525C	;	(COUN	ITY	GUIL	FOR	RD				GEOLOG	IST C.T	. Tang, El	I			WBS	3482	1.1.1				ΓIP ι	J-2525	5C		COUN	ITY
SITE	DESCF	RIPTION	I Bri	dge No	. 1240) on SR	2526	(Sum	nmit A	Ave.) c	over	Green	sbor	ro Eas	tern L	-00	5 I-8	Bypass			G		WTR (ft)	SITE	DESC	RIPTIO	N Brid	dge N	o. 124	0 on \$	SR252	26 (Su	immit i	Ave.)	over
BOR	ING NO	. EB2	-A		S	TATION	1 8	+39			C	OFFSE	T 2	21 ft L1	Г			ALIGNME	NT -Y1	6-	0) HR.	N/A	BOR	ING NC). EB2	-В			STATI	ON	18+67			0
COL	LAR EL	EV. 86	61.0 ft		Т		DEPT	H 53	.7 ft		N	IORTH	IING	873	,012			EASTING	1,780,7	750	24	HR.	Dry	COL	LAR EL	. EV. 8	59.4 ft		-	ΓΟΤΑΙ	L DEP	PTH 5	57.7 ft		N
DRILL	RIG/HA	MMER E	FF./DA	ATE B	RI8284	45 Track	89% 0)2/26/20	016					DRILL	METH	IOD	Mu	Rotary		HAN	MMER	TYPE Au	utomatic	DRIL	L RIG/HA	MMER	EFF./DA	ATE E	3RI8284	4 45 Tra	ack 89%	% 02/26	/2016		
DRIL	LER J	. Ander	son		S	TART D	DATE	12/1	3/16		c	OMP.	DAT	FE 12	2/13/1	6		SURFAC		R DEPTH	N/A			DRIL	LER J	J. Ande	rson		!	STAR	T DAT	FE 12	2/14/16	3	С
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BL 0.5ft	OW CC 0.5ft	UNT 0.5ft	0	25		VS PE 50	R FOO	DT 75	5	100	SAMF NO.	1 7	01	L O G	ELEV. (ft)	SOIL AN	id rock de	ESCRIF		DEPTH (ft)	ELEV (ft)	DRIVE ELEV (ft)	DEPTI (ft)	' 	OW CO	OUNT t 0.5ft	t 0		BLC 25	OWS PI 5(PER FOO	OT 75
865		÷															-							860	858.4	- 1.0				<u> </u> -	<u> </u>	·] · ·]	<u></u>	
000		Ī														.,	Ē	361.0	GF	ROUND SUF		1	0.0	055	855.8	3.6	7	10			· · · ·	24	· · ·		· ·
860	860.0	<u> 1.0</u> 	2	7	8		15	· · ·			•				м	· · · ·		Ň	Yellow and	RESIDUA Red, Clayey Roots	y Silt, w	vith Trace		855	.	ŧ	4	7	10		. • 1	7		· · ·	
855	857.4	<u>+ 3.6</u> + +	5	9	19		· `` · ·	28	· · ·	· · · ·		· · · · · · ·	•		м	トッ ・ ・ ・ ・ ・ ・				NOOIS				850	850.8	- - 8.6 -	3	5	6		. / . / ./	· · ·	· · ·		• • •
050	852.4	+ <u>+ 8.6</u> +	3	7	11		· · / . / . • 18	· · · ·	· · ·	· · · · · · · · · · · · · · · · · · ·	•	· · · · · · · · · · · · · · · · · · ·	•		м	ト ン レ ン								0.45	845.8	+ + - - 13.6						·	· · ·	· · · · · · · · · · ·	· · ·
850	847.4	+ - 13.6	5	7	10		-+			· · · ·		· · · ·						<u>349.0</u>	an, Orang Tra	e and Black,	, Sandy	y Silt, with	12.0	845	-	+	3	4	6			· · · ·		· · · · ·	
845	-	- - -					•17 / /	· · · ·		· · · ·	•		•								0			840	840.8	- 18.6 	4	4	7] →11−			· · · ·	
840	842.4	<u>+ 18.6</u> + +	3	3	5	• 8	· · · ·	· · ·	· ·	· · · ·		· · ·	•		w									835	835.8	- - 23.6 -	3	4	5			· · ·	· · ·		
835	837.4	+ <u>+ 23.6</u> +	2	3	5		· · · · · · · · · · · · · · · · · · ·	· · · ·	· ·	· · · · · · · · · · · · · · · · · · ·	•	· · · · · · · ·	•		w									830	830.8	- - - 28.6	8	13	17				 		-
	832.4	- - <u>28.6</u> -	5	8	11		\ .\ • 19	· · ·	 	· · · · · ·	- - -	· · · · · · · ·	•		w										825.8	- - - - 33.6				.	· · · ·	• 30 • • •	, 	· · · · · · ·	
830	827.4	T - - 33.6					· \ \ \	· · · ·		· · · ·		· · ·												825		+ + + +	3	3	4			· · · ·		· · · · · · · ·	
825	_		9	11	17		· · ·	€28 <u></u>	· ·	· · · ·	•	· · · ·	•		W									820	820.8	<u>- 38.6</u> -	2	3	4		••••• •••••	· · ·	· · ·		· · ·
820	822.4	+ <u>38.6</u> + +	14	17	16				· ·	· · · ·		· · · · · · ·			w									815	815.8	+ - 43.6	5	8	16			24	· · · · ·		
815	817.4	+ <u>+ 43.6</u> +	62	100/0.	2		· · ·	· [· · · · · · · · · · · · · · · · · ·	· ·	· · · ·	·		•					<u> 316.9</u>		EATHERED	ROCK	<u> </u>	<u> </u>	810	810.8	+ + + 48.6	4	5	8			/	· · ·		- -
0.0	812.4	+ - - 48.6 +	24	40	60/0.4		· · ·	· · · ·		· · · ·		· · · · · · ·							(iviet	amorphosed	Giann	ile)				+ + +	-		0				· · · ·	· · · · · · · ·	· ·
810	807.4	+ + + 53.6						· · · ·		· · · ·		100/	·					807.4					53.6	805	805.8	+	39	100			· <u></u> · · · ·		· · · ·		
	<u>- 007.4</u> - - -		60/0.*									60/	₩0.1						(Meta) Boring T netration T	YSTALLINE amorphosed erminated w est Refusal lline Rock Granite)	d Granit with Sta at Elev Vetamo	ite) andard /ation 807.3	- <u>53.6</u> 53.7/ 3		801.7	<u>+ 57.7</u> 	60/0.0)			<u></u>	<u> </u>	<u>···</u>		<u>.</u>

GUILFOR	D			GEOLOGIST	C.T. Tang	I, El		
er Greensbor	o Easte	ern Loo	op I-8	5 Bypass			GROUN	D WTR (ft)
OFFSET 3	7 ft RT			ALIGNMENT	-Y16-		0 HR.	N/A
NORTHING	873,0	07		EASTING 1	,780,814		24 HR.	34.1
	DRILL N	IETHO	D Mu	ld Rotary		HAMME	R TYPE	Automatic
COMP. DAT	E 12/ ²	14/16		SURFACE W	ATER DEPT	TH N//	4	
	SAMP.		L					
75 100	NO.	мо	O G	S	OIL AND ROC	K DESC	RIPTION	
							~-	
				- 859.4		DUAL		0.0
		М	, ^µ		Red and Ta	n, Claye	y Silt	
		м		-				
				852.4				7.0
					-Pink and Tan	-Orange	, Sandy Si	lt
		М		-				
			Ŀ					
		М	-	_				
		IVI		-				
			F					
		М		-				
		М		-				
				832.4 Bod B	Brown, Tan and			27.0
		М	Ъ, v	with	Some Mica an	d Quartz	z Fragmen	its
		IVI	<u>к</u> л и	-				
		_	 					
			 	-				
			^ v -					
		W	^ v	-				
				817.4	Tan-Orange		<u></u>	<u> </u>
		w	~/~/	_	ran-Orange	, Clayey	Sanu	
		**		040.4				47.0
				812.4	Tan, Sa	andy Silt		<u> </u>
+		W	I	-				
			I and the second se					
				805.3				54.1
<u></u>					WEATHEI (Metamorph			
				801.7				57.7
60/0.0				 Penetra 	oring Terminat ation Test Refu	usal at E	levation 8	
				ft on	Crystalline Ro Gra	ck (Meta anite)	amorphose	ed
				-				
			F					
			F					
				-				
				-				

VBS 34821.								ORE																
					P U-2525			GUILF					LOGIST C.T. Tang, El	1	_	S 3482					P U-252		COUN	
SITE DESCRI	IPTION	End	Bent I	No. 2	Retaining \	Nall on SI	R2526 (S		,		oro E		Loop I-85 Bypass	GROUND WTR (f	-				Bent	No. 2	Retaining	g Wall on S	SR2526 (S	_
BORING NO.	EB2-	W1		S	TATION 1	8+41		OFFSET	87 ft LT	-		ALIC	SNMENT -Y16-	0 HR. Dr	BOF	ring no	. EB2-	-W2		S	TATION	18+38		OF
OLLAR ELE	V . 85	8.8 ft		Т	OTAL DEP	TH 58.8	ft	NORTHI	IG 873,	048		EAS	TING 1,780,695	24 HR. Dr	COL	LAR EL	EV. 85	57.2 ft		T	OTAL DE	PTH 59.7	7 ft	NC
RILL RIG/HAM	IMER E	FF./DAT	re br	18284	45 Track 89%	02/26/2016	6	_	DRILL	METHO	DD H	I.S. Auge	rs HAMN	IER TYPE Automatic	DRIL	L RIG/HA	MMER E	FF./DA	TE BF	RI8284	45 Track 89	9% 02/26/201	16	
DRILLER J	Anders				TART DAT	E 12/12/	16	COMP. D	ATE 12	/12/16	4	SUR	FACE WATER DEPTH N	/A	DRI	LLER J	Ander				TART DA	TE 12/12	2/16	CC
	DEPTH (ft)		W COL				PER FOO		SAMP	1.7			SOIL AND ROCK DES	CRIPTION	ELEV	, DRIVE ELEV	DEPTH (ft)	· – – – – – – – – – – – – – – – – – – –	W CO				S PER FOC	
(ft) (ft)	(11)	0.5ft	0.5ft	0.5ft	0	25	50	75 10	NO.	Имо	G	ELEV.	ft)	DEPTH	(ft)	(ft)	(11)	0.5ft	0.5ft	0.5ft		25	50	75
360	-											858.8	GROUND SURF	ACE	.0	_	ł							
857.8	- 1.0	1	4	4							N N	-	RESIDUAL				ŧ							
355 855.2	- 3.6									M		F	Brown and Red, Clayey Sil Some Mica		855	856.2	1.0	3	6	7				
852.8	- 6.0	3	6	8	• • • 14					м	N N V	E				853.7	3.5	4	8	8				
+	-	4	4	5	. • 9 · ·					м	л у N У	E					Ŧ				•	16		
350 850.3	8.5	5	8	9		7				м	1 V N V	E			850	848.7	8.5							-
	_				:::::						7 V N V					0-0.7	1	3	4	6	1			
345 845.2	13.6										/ V / V				845		Ł							
	-	4	6	6						M	N N N V	-				843.7	13.5	2	4	4				
‡	-										N V						ŧ					· · · · ·	· · · · ·	
340 840.2	18.6	3	6	6		+	<u> </u>			м	N N V	-			840	838.7	- 18.5				 			
	-				· · <u>`</u> `.						N N V	L L					-	2	3	5		· · · · ·		
335 835.2	23.6	3	8	14	· · · ',	_ · · · ·					N N V	-			835		ŧ							• •
1	-		0	14)22 				M	N N V	Ļ				833.7	23.5	3	4	7		· · · · ·		· ·
	- 28.6							· · · · · ·			7	<u>831.8</u> .		2			ŧ					· · · · ·	· · · · · · · ·	•
330 830.2	- 28.0	6	10	11	•	21				м		-			830	828.7	- 28.5				- -			
	-				<i>.</i> /. / .			· · · · · ·				- -					ŧ	3	5	5		· · · · ·	· · · · ·	
325 825.2	33.6	2	4	6		<u> </u>	· · · ·	· · · · ·	_	w		<u> </u>			825		ŧ.							· ·
	-			Ū	. • • 10 . . • • • •			· · · · · ·				ŀ				823.7	- 33.5	1	2	2		· · · · ·		
320 820.2	- 38.6				III IIX.			· · · · · · · · · ·							.0 820		ŧ					· · · · ·	· · · · ·	· · ·
		5	10	13	<u></u> .	23			11	м	× 1	<u>819.8</u> .	Brown, Clayey	<u>35</u> Silt	. <u>0 820</u>	818.7	- 38.5							
	-							· · · · · ·			7 V N	+					ŧ		2	3	● ⁵	· · · · ·	· · · · ·	
315 815.2	43.6	12	21	42				· · · · ·		м	N N N	+ 			815	813.7	+						· · · ·	• •
I I	-										N N N	811.8		47	0	813.7	+ 43.5 	2	3	4				
310 810.2	48.6						1						Tan, Sandy S	ilt	810		Ŧ							
Ŧ	-	9	19	29			● 48			W		E				808.7	48.5	8	15	21				
												E					Ī							
305 805.2	53.6	27	52	48/0.4		+	+				477	804.7	WEATHERED R	<u>оск</u>	.1 805	803.7	- 53.5					<u> </u>		
	-							100/0	Ĩ				(Metamorphosed G				1	6	10	14	1	: 4 24 : :		
300 800.2	58.6	100/0 0									H	800.0		58	.8 800		Ł					• • • •		
+	-	100/0.2						100/0.	2			F	Boring Terminated at Eleva Weathered Rock (Metamor	ation 800.0 ft in phosed Granite)		798.7	- 58.5	19	49	51/0.2		: L : L	· · · · ·	

GUILFORD		GEOLOGIST C.T. Tan	g, El
mmit Ave.) over Gre	ensboro E	astern Loop I-85 Bypass	GROUND WTR (ft)
OFFSET 97 ft RT		ALIGNMENT -Y16-	0 HR. 37.0
NORTHING 872,9	49	EASTING 1,780,849	24 HR. 35.0
DRILL	IETHOD H	.S. Augers	HAMMER TYPE Automatic
COMP. DATE 12/2		SURFACE WATER DEP	TH N/A
SAMP.			
75 100 NO.	MOI G	SOIL AND ROO	CK DESCRIPTION
		-	
			O SURFACE 0.0
	М		SIDUAL Clayey Silt
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	× ×	- 	12.0
· · · ·		Pink-Rec	d, Sandy Silt
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	M N		nge and Brown, Clayey
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+			/n, Sandy Silt 52.0
	w	-	
••••		-	
			59.0 59.7
100/0.7		T97.5 WEATHE	RED ROCK 59.7 hosed Granite)
		Boring Terminated	at Elevation 797.5 ft in
		- vveatnered Rock (M	etamorphosed Granite)
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