January 4, 2017

Addendum No. 2

Contract No.: DA00317

WBS Element: 17BP.1.R.69

Replacement of Bridge #6 on SR 1228 over Shingle Landing Creek in Currituck County

To Whom It May Concern:

Reference is made to the proposal and plans previously furnished for this project.

The following revision has been made to the proposal / plans:

DA00317 Plan Sheet #2 has been revised to clarify the pavement design. Please void existing DA00317 Plan Sheet #2 and replace with revised DA00317 Plan Sheet #2.

DA00317_Geotech has been updated to include Sheet 5 of 6, for boring location EB1-B. Please void existing DA00317_Geotech and replace with revised DA00317_Geotech.

If you choose the "Electronic Bid Preparation with Manual Delivery Method" or "Traditional Paper Bid Method," please acknowledge receipt of Addendum #2 in the space provided on the Addendum Acknowledgement Form.

If you choose the "Electronic Bid Preparation with Manual Delivery Method," place DA00317.002 in the same folder with DA00317.EBS, so that Expedite Bid will properly apply the addendum.

Sincerely,

DocuSigned by:

–99A5A272ED6A447... W. B. Hobbs, PE

W.B. B.

Division Project Manager

WBH/ces Attachment

cc: A. W. Roper, PE

C. S. Mebane, PE

J. S. Abel, Jr.

PAVEMENT SCHEDULE

	FINAL PAVE	PESIGN	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	Т	EARTH MATERIAL.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	U	EXISTING PAVEMENT.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN $5\frac{1}{2}$ " IN DEPTH.		

PROJECT REFERENCE NO. SHEET NO. 17BP.I.R.69 ROADWAY DESIGN ENGINEER PAVEMENT DESIGN ENGINEER 559 Jones Franklin Rd. Suite 16 Raleigh, N.C. 27606 License No. F–0377 Bus: 919 851 8077 ENGINEERING TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN

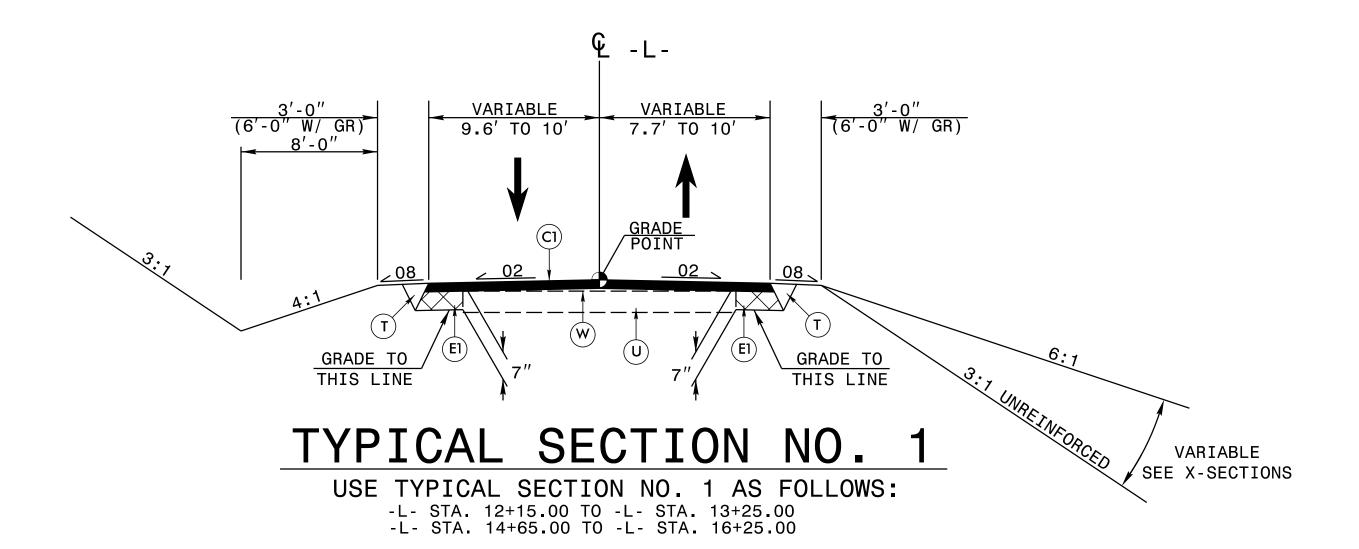
REVISED 1/4/2017

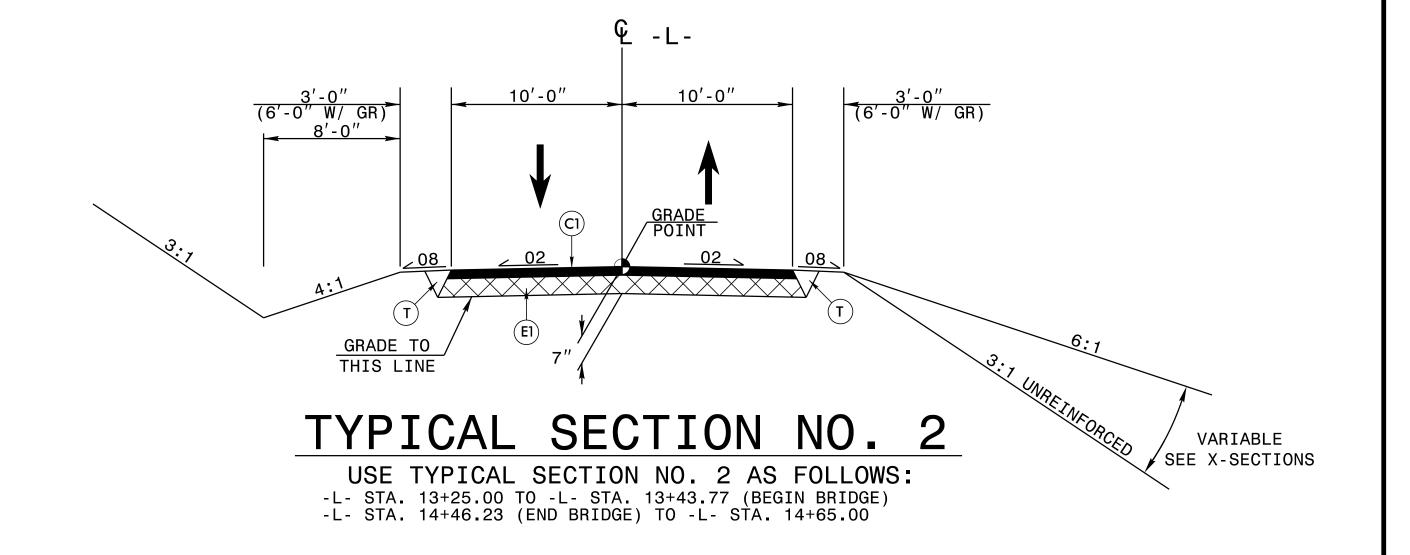
CNIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

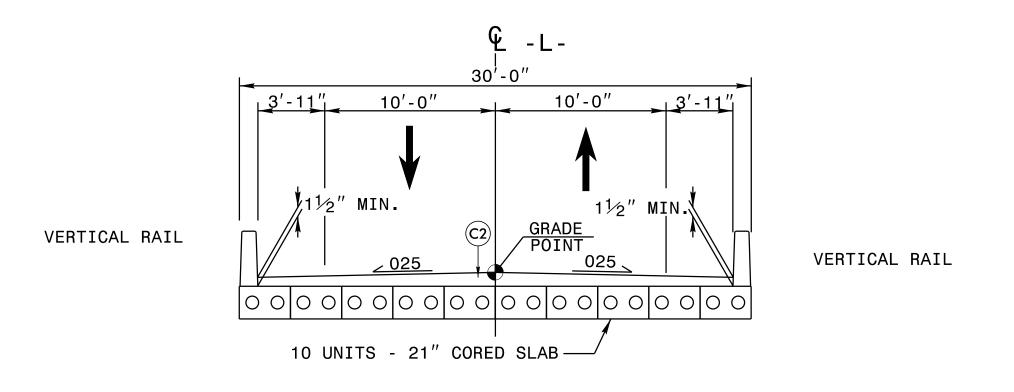
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

NOTE: INCIDENTAL MILLING ALONG EXISTING PAVEMENT AT THE FOLLOWING LOCATIONS

-L- STA. 12+15.00 TO -L- STA. 12+86.50 -L- STA. 15+71.25 TO -L- STA. 16+25.00

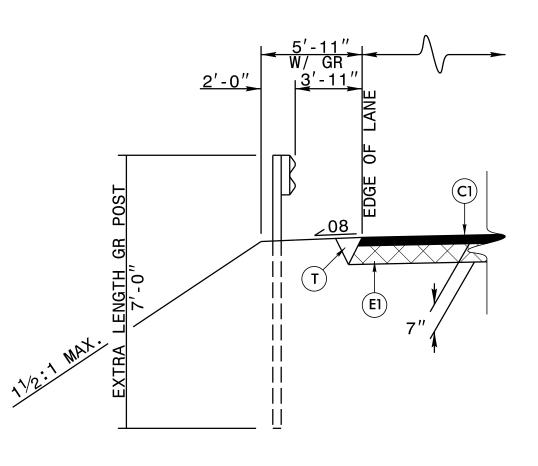






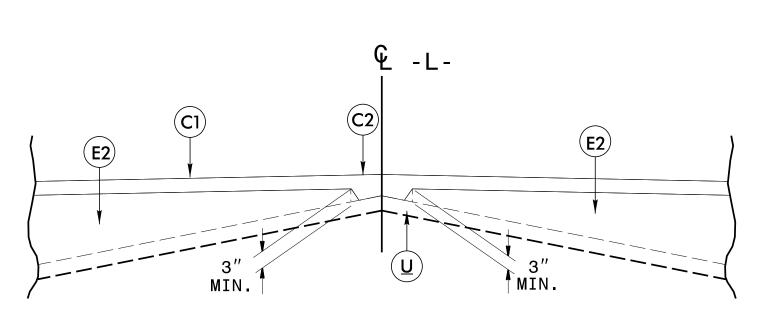
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 AS FOLLOWS: -L- STA. 13+43.77 TO -L- STA. 14+46.23



PARTIAL TYPICAL SECTION

USE IN CONJUNCTION W/ TYPICAL SECTION NO. 1 & 2 AS FOLLOWS:
-L- STA. 13+13.73 TO -L- STA. 13+47.50 LT.
-L- STA. 14+49.96 TO -L- STA. 14+99.96 LT.
-L- STA. 14+42.50 TO -L- STA. 14+92.50 RT.



Detail Showing Method of Wedging

CONTENTS

SHEET

I TITLE

DESCRIPTION

TITLE SHEET
LEGEND
SITE PLAN
PROFILE(S)
BORE LOGS

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

REVISED 1/4/2017

STRUCTURE SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. <u>17BP.1.R.69 (SF-260006)</u> F.A. PROJ. <u>N/A</u>
COUNTY <u>CURRITUCK</u>
PROJECT DESCRIPTION <u>BRIDGE NO.6 ON SR 1228 OVER MOYOCK</u>
RUN AT -L- STATION 13+90.7

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHEN IT IS BASED WERE MADE FIRST THE PURPOSE OF STUDY, PLANING, AND BESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS REDUIL BORNING BOOK, MORE CODES, AND SOLD TEST CATA WARLABLE MAY BE FIRST BEEN OR INSPECTED IN PALEIGH BY CONTACTING THE N. CLOSEARTMENT OF TRANSFORTATION, COLTECHNICAL ELICACEBING UNIT AT 1991 TOT-6850, IGTHER THE SUBSURFACE PLANS AND REPORTS, NOT THE FIELD BORNING LOOS, ROCK CORES, OR SOL TEST DATA ARE PART OF THE CONTRACT.

CENERAL SOC AND ROCK STRATA DESCRIPTIONS AND INDICATED BILINGARES ARE BASED ON A CETTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT RECESSARILY REFLECT THE ACTUAL SUBSURFACE COUNTRONS BETAEREN BARROS OR BETAERN SUBMEDS STRATA A THIN THE ADDRESS OF A LABORATORY SAMPLE DATA AND THE MISTOR WHITE MEST DATA CAN BE FELLED ON DOLLY TO THE DEGREE OF RELIABBLITH INFERENT IN THE STANDARD TEST METHOD. THE DESCRIPTION WHITE LEVELS OR SOL MISTURE CONDITIONS ALCOARD IN THE SUBSURFACE AVAISTMENTED AT THE TIME OF THE MISTORY AND A STREET MEST AND THE STANDARD TEST METHOD. WISTURE CONDITIONS AND AND CONDITIONS AND

THE PODDER OR CONTRACTOR IS CAUTIONED THAT CETALS SHOWN ON THE SUBSURFACE PLANS ARE DIFFERENT FOR BODING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PERFORMANT CALLY AND BY MAINT CASES THE FIRML DESIGN ESTAILS AND DROUMENTS FOR FRAIL DESIGN REPORTED ON THAT PRODUCT, THE DEPARTMENT DOES NOT NETRAIN OR OLDARATE THE SUFFICIENCY OF ACCURACY OF THE INVESTIGATION MADE, NOT THE BUTCHEST ATOMS MODE, OR OPINION OF THE CHARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BUDCH OR CITY AND ADDITIONS OF THE STATE INVESTIGATIONS AS HE DEEMS CLESSARY OF SLATES HAWEST AS TO CONDITIONS TO BE ENCOUNTEDED ON THIS FROMET. THE CONTRACTOR SHALL HAVE NO CLAMA FOR ADDITIONAL CONFENSATION OF FOR AN EXTENSION OF TIME FOR AN EXCESSION FOR SUBSTITUTE OF THE ACTION OF FOR AN EXTENSION OF TIME FOR AN EXCESSION FROM THE ACTION, CONCINCIONS ENCOUNTERED AT THE SITE DIFFERENCE FROM THE ACTION. CONCINCIONS ENCOUNTERED AT THE SITE DIFFERENCE FROM THE SUBSURFACE REFORMATION.

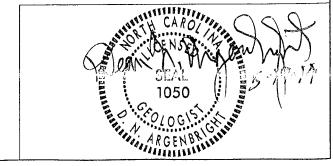
PERSONNEL

F&R PERSONNEL

INVESTIGATED BY D.N. ARGENBRIGHT

CHECKED BY D.N. ARGENBRIGHT

DATE MAY 2014



PROJECT: ITBE!

N. C.

900097

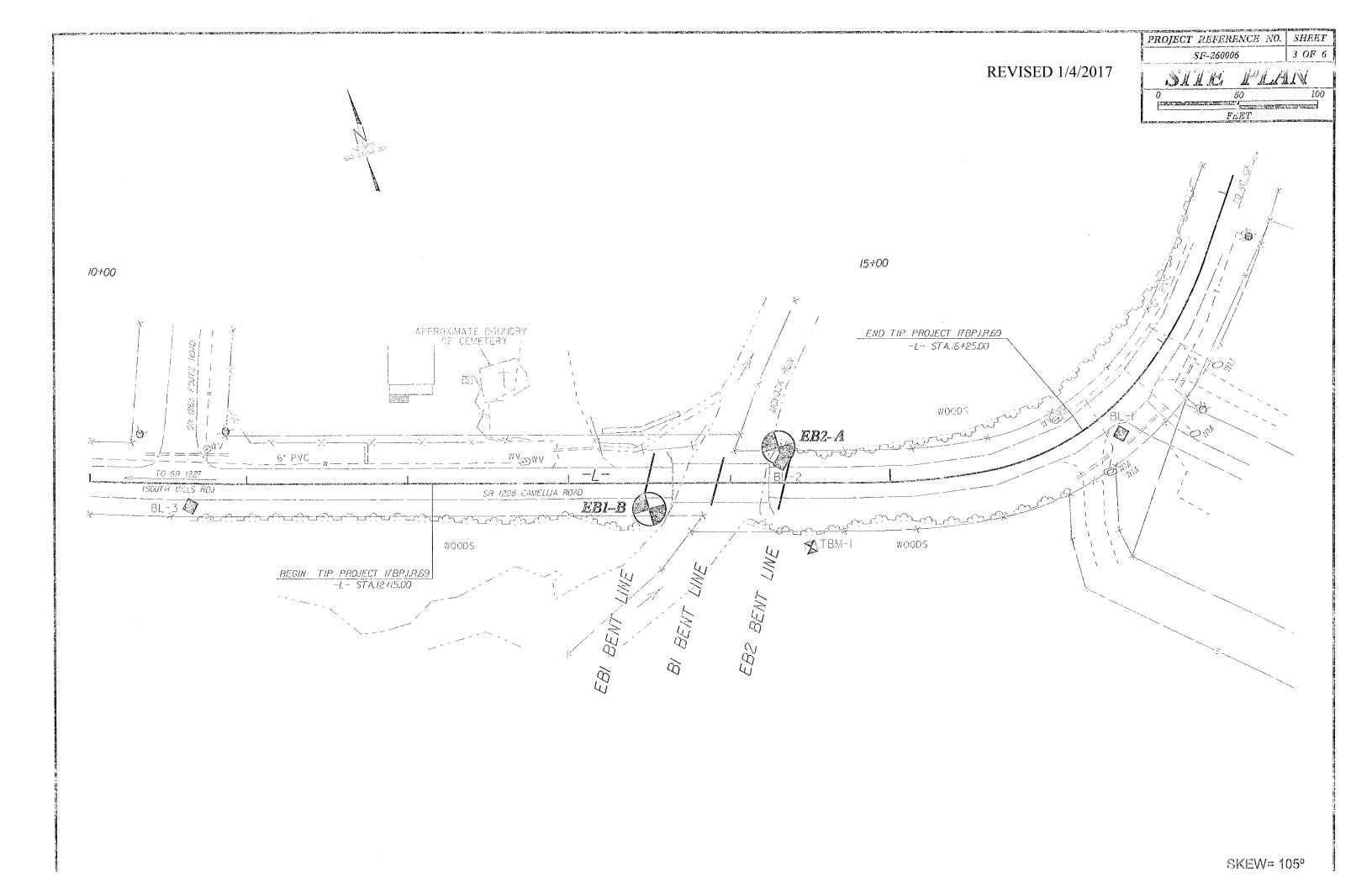
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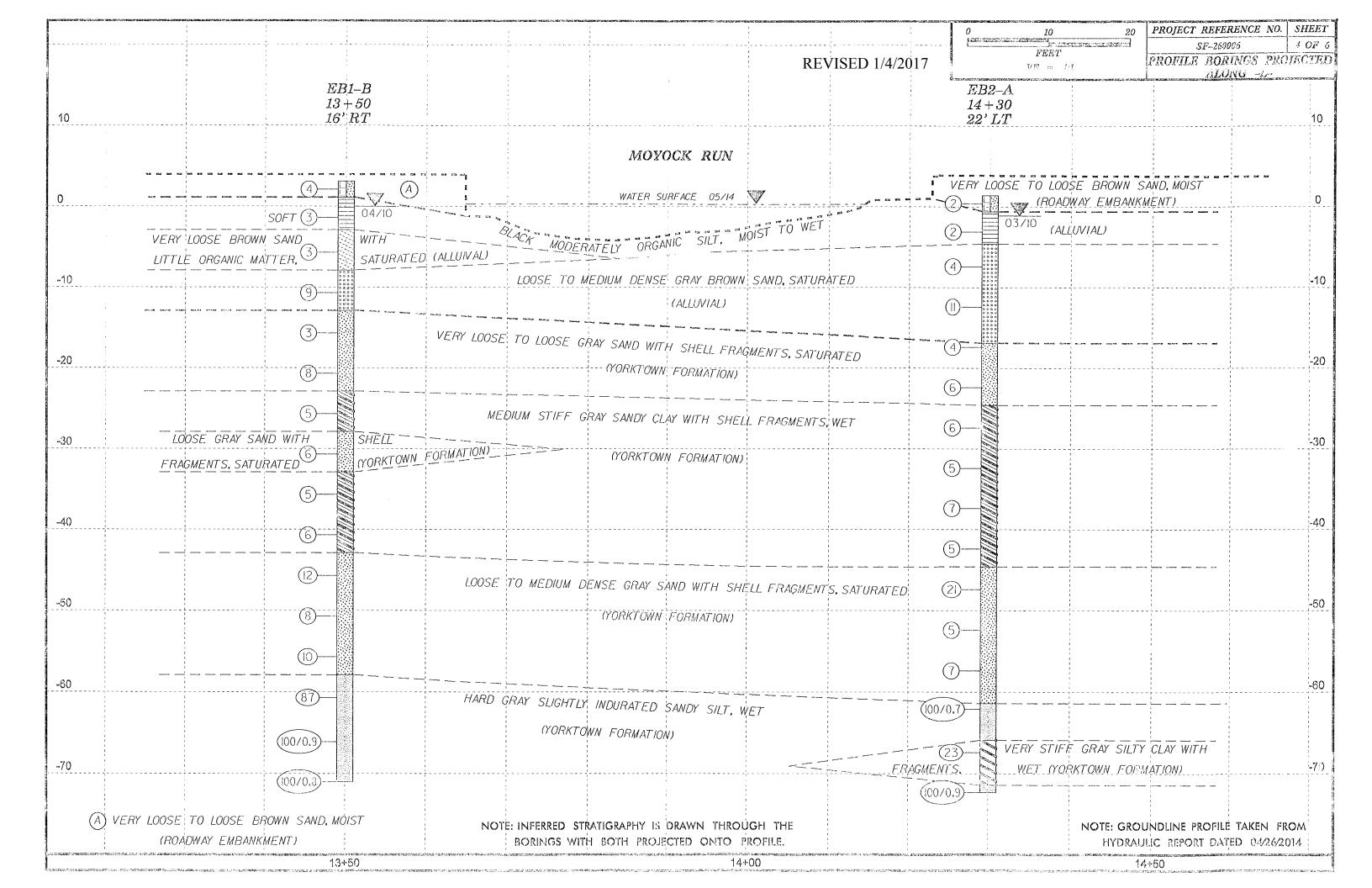
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

	SOIL AND ROCK LEGEND, TERM	15, SYMBOLS, AND ABBREVIATIONS	
SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS
SOIL IS CONSIDERED TO BE THE UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS	WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. SHEDRM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO	HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT IF TESTED, WOULD YIELD SPT REFUSAL, 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.
THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER, AND YIELD LESS THAN 128 BLOWS PER FOOT ACCORDING TO STANDARD PENETRATION TEST (AASHTO T285, ASTM 0-1586). SOIL	POORLY GRADEDI SAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES.	SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 68 BLOWS. IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE	AQUIFER - A WATER BEARING FORMATION OR STRATA.
CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH	ANGULARITY OF GRAINS	OF MEATHERED ROCK	ARENOCEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARBILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS.
AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE:	THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.	WEATHERED NON-COASTAL PLAIN MATERIAL THAT WOULD VIELD SPT N VALUES > 128	OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC.
VERT STUP, COMESCUT CLAY, MOST, WITH INTERSECTED FINE SAND LATERS, MOSKET PLASTIC, A-1-5		ROCK (WR) BLOWS PER FOOT IF TESTED.	ARTESIAN - GROUND WATER THAT IS UNCER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL
SOIL LEGEND AND AASHTO CLASSIFICATION GENERAL GRANULAR MATERIALS SILT-CLAY MATERIALS	MINERAL OGICAL COMPOSITION MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KADLIN, ETC. ARE USED IN DESCRIPTIONS	CRYSTALLINE BORY (FB) FINE TO COARSE GRAIN ISNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED, ROCK TYPE INCLUDES GRANITE,	AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.
GENERAL GRANULAR MATERIALS SILT-CLAY MATERIALS OPERANIC MATERIALS (> 35% PASSING *200) (> 35% PASSING *200) OPERANIC MATERIALS	WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.	GNEISS, GABBRO, SCHIST, ETC.	CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
GROUP A-1 A-3 A-2 A-4 A-5 A-6 A-7 A-1, A-2 A-4, A-5	COMPRESSIBILITY	NON-CRYSTALLINE FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YELLD SPT REFUSAL IF TESTED, ROCK TYPE	COLLUVIL 4 - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT SOTTOM
CLASS. A-1-a A-1-b A-2-4 A-2-5 A-2-6 A-2-7 A-7-6 A-3 A-6, A-7	SLIGHTLY COMPRESSIBLE LIQUID LIMIT LESS THAN 31 MODERATELY COMPRESSIBLE LIQUID LIMIT EQUAL TO 31-58	ROCK (NCR) SEDIMENTAL FLOW (AND WOLD FELD SHIP AFVISHED FOR THE STEEL ROCK TIFE COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD	OF SLOPE.
SYMBOL DOCOGOODS	HIGHLY COMPRESSIBLE LIDUID LIMIT GREATER THAN 50	SEDIMENTARY ROCK SPT REFUSAL, ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED	CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL CIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
% PASSING SILT-	PERCENTAGE OF MATERIAL	- (CP) - SHELL BEOS, ETC WEATHERING	DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT
" 10 52 MX " 40 33 MX S8 MX S1 MN GRANULAR CLAY PEAT SOILS SOILS SOILS	ORGANIC MATERIAL GRANULAR SILT - CLAY SOILS SOILS OTHER MATERIAL		ROCKS OR CUTS MASSIVE ROCK,
" 280 15 MX 25 MX 18 MX 35 MX 35 MX 35 MX 35 MX 36 MN 36 MN 36 MN 36 MN 36 MN	TRACE OF ORGANIC MATTER 2 - 3% 3 - 5% TRACE 1 - 10% LITTLE ORGANIC MATTER 3 - 5% 5 - 12% LITTLE 10 - 20%	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 HORIZONTAL.
LIGOID LINIT 48 MX 41 MN 48 MX 41 MN 48 MX 41 MN 48 MX 41 MN 50ILS WITH	MODERATELY ORGANIC 5 - 18% 12 - 28% SDME 20 - 35%	VERY SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN,	DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF
RASHIC NOEX 6 MX NP 13 MX 13 MX 13 MX 13 MX 13 MX 13 MX 11 MY LITTLE OR HIGHLY	HIGHLY ORGANIC >10% >20% HIGHLY 35% AND ABOVE	OV SLIJ CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY, ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.	THE LINE OF COP, MEASURED CLOCKWISE FROM NORTH.
AMOUNTS OF SOIL'S	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.
SUBSECTION OF THE SILTY OR CLAYEY SILTY CLAYEY ORGANIC	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.
MATERIALS SAND SAND GRAVEL HAND SHIRD SOILS SOILS	STATIC WATER LEVEL AFTER 24 HOURS	MODERATE SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLURATION AND WEATHERING EFFECTS. IN	FLOAT - ROCK FPAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM
GEN. RATING AS A EXCELLENT TO GOOD FAIR TO POOR FAIR TO POOR UNSUITABLE	PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA	(MOD.) GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLGRED, SOME SHOW CLAY, ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED	PARENT MATERIAL.
SUBSRADE	OMI SPRING OR SEEP	WITH FRESH ROCK.	FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
PI DF A-7-5 SUBGROUP IS ≤ LL - 30; PI DF A-7-6 SUBGROUP IS > LL - 30 CONSISTENCY OR DENSENESS	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 STRENSTH	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN
COMPASTANTES OF RANGE OF STANDARD RANGE OF UNCONFINED		(MOD, SEV.) AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK, ROCK GIVES 'CLUNK' SOUND WHEN STRUCK.	THE FIELD.
PRIMARY SOIL TYPE CONSISTENCY PENETRATION RESISTENCE COMPRESSIVE STRENGTH (N-VALUE) (TONS/FT ²)	ROADWAY EMBANKMENT (RE) OF DET DEST BORING TEST BORING W/ CORE	IF TESTED, WOULD YIELD SPT REFUSAL	JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
GENERALLY VERY LOOSE 4	SOIL SYMBOL AUGER BORING — SPT N-VALUE	SEVERE ALL ROCK EXCEPT GUARTZ DISCOLORED OR STAINED, ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL, IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLIMIZED TO SOME	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO
GRANII AR LUUSE 4 TO 10		EXTENT, SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. IF TESTED, YIELDS SPT N VALUES > 100 BPF	ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
MATERIAL DENSE 30 TO 50	ARTIFICIAL FILL (AF) OTHER CORE BORING RED SPT REFUSAL THAN ROADWAY EMBANKMENT	VERY SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED, ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT	MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS, MOTTLING IN
VEHY DENSE >58	INFERRED SDIL BOUNDARY MONITORING WELL	(V SEV.) THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK	SOILS USUALLY INDICATES POOR AFRATION AND LACK OF GOOD DRAINAGE.
VERY SOFT <2 <0.25 GENERALLY SOFT 2 TO 4 8.25 TO 0.50	. DIE70METED	REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR VESTIGES OF THE ORIGINAL ROCK FABRIC REMAIN. IF TESTED, YIELDS SPI N YALUES < 100 BPF	PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.
SILT-CLAY MEDIUM STIFF 4 TO 8 0.5 TO 1.0	INSTALLATION	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	SLOPE INDICATOR INSTALLATION	SCATTERED CONCENTRATIONS, OUARTZ MAY BE PRESENT AS DIKES OR STRINGERS, SAPROLITE IS	ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF
HARD >30 >4	25/225 DIP & DIP DIRECTION OF	ALSO AN EXAMPLE. ROCK HARDNESS	ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
TEXTURE OR GRAIN SIZE	ADDIX STRUCTURES CONE PENETROMETER TEST		SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE
U.S. STD. SIEVE SIZE 4 10 40 60 200 270	SOUNDING ROD	VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK, BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK,	PARENT ROCK.
OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.253	ABBREVIATIONS	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
BOULDER COBBLE SHAVEL COARSE FINE SILT CLAY	AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST	TO DETACH HAND SPECIMEN.	TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
(BLDR.) (COB.) (SR.) (SE.SO.) (F SD.) (SL.) (CL.)	BT - BORING TERMINATED MICA, - MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY 7 - UNIT WEIGHT	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	SLICHENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR
GRAIN MM 305 75 2.0 0.25 2.05 0.005	CL CLAY MOD MODERATELY 7 - UNIT WEIGHT CPT - CONE PENETRATION TEST NP - NON PLASTIC 7/4 - DRY UNIT WEIGHT	BY MODERATE BLOWS.	STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF
SIZE IN. 12 3	CSE COARSE ORG DRGANIC DMT - DILATOMETER TEST PMT - PRESSUREMETER TEST SAMPLE ABBREVIATIONS	MEDIUM CAN BE GROOVED OR COUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT, HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE	A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH
SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE FIELD MOISTURE COMPANY FOR THE AMOUNT OF TERMS	OPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BULK	POINT OF A GEOLOGIST'S PICK.	A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER, SPT REFUSAL IS PENETRATION EDUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
SOIL MOISTURE SCALE FIELD MOISTURE GUIDE FOR FIELD MOISTURE DESCRIPTION	6 - VOID RATIO SD SAND, SANDY SS - SPLIT SPOON F - FINE SL SILT, SILTY ST - SHELBY TUBE	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	STRATA CORE RECOVERY (SREC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH
- SATURATED - USUALLY LIQUID: VERY WET, USUALLY	FGSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK	PIECES CAN BE BROKEN BY FINGER PRESSURE.	OF STRATUM AND EXPRESSED AS A PERCENTAGE.
(SAT.) FROM BELOW THE GROUND WATER TABLE	FRAC FRACTURED, FRACTURES TOR - TRICONE REFUSAL RT - RECOMPACTED TRIAXIAL FRAGS, - FRAGMENTS W - MOISTURE CONTENT OBR - CALIFORNIA BEARING	CAN be charted with while can be explained header with fourt of fickly leces I fach	STRATA ROCK QUALITY DESIGNATION (5800) - 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
PLASTIC LIQUID CIMIT	HI HIGHLY V - VERY BATIO	SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE, CAN BE SCRATCHED READILY BY FINGERNAIL.	TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
RANGE SEMISOLITIES	EQUIPMENT USED ON SUBJECT PROJECT	FRACTURE SPACING BEDDING	TOPSOIL (15,) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
PL PLASTIC LIMIT	DRILL UNITS: ADVANCING TOOLS: HAMMER TYPE:	TERM SPACING IERM IHICKNESS	BENCH MARK: TBM-IRR SPIKE IN 36' CYPRESS 38.4' RT OF -L-
OM CPTIMUM MOISTURE - MOIST - (M) SOLID: AT OR NEAR OPTIMUM MOISTURE	MANUAL MANUAL	VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED > 4 FEET WIDE 3 TO 10 FEET THICKLY BEDDED 1.5 - 4 FEET	STATION 14+51,14
SL SHRINKAGE LIMIT	MOBILE B- CLAY BITS	MODERATELY CLOSE 1 TO 3 FEET HINNLY BEDDED 0.15 - 1.5 FEET NEW MEDICAL PROPERTY OF THE PROPERT	ELEVATION: 3.79' FT.
REQUIRES ADDITIONAL WATER TO	6° CONTINUOUS FLIGHT AUGER CORE SIZE:	VERY CLOSE U.SE TUAM ALE EEET THICKLY LAMINATED 0.008 - 0.03 FEET	NOTES:
ATTMEN OF EMON PROJECTIONS	B- HOLLOW AUGENS	THINLY LAMINATED (0.028 FEET INDURATION	
PLASTICITY	CME-45C HARD FACED FINGER BITS	FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF THE MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.	
PLASTICITY INDEX (PI) DRY STRENGTH	TUNG,-CARBIDE INSERTS	DEBOTES WITH STREET FORCE WIRESONS CONTROL	
NONPLASTIC 0-5 VERY LOW LOW PLASTICITY 6-15 SLIGHT	CASING W/ ADVANCER HAND TOOLS:	FRIABLE GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.	
MED. PLASTICITY 16-25 MEDIUM HIGH PLASTICITY 26 OR MORE HIGH	PORTABLE MOIST RICONE 2 15/3 STEEL FEETH POST HOLE DIGGER	MODERATELY INDUPATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE;	
	TRICONE TUNG, CARB. HAND AUSER	BREAKS EASILY WHEN HIT WITH HAMMER.	
COLOR	CORE BIT SOUNDING ROD	INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBET DIFFICULT TO BREAK WITH HAMMER.	
DESCRIPTIONS MAY INCLUSE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY),	VANE SHEAR TEST		
MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.		EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE) SAMPLE BREAKS ACROSS GRAINS,	





REVISED 1/4/2017

WBS 17BP.1.R.69 TIP SF-260006 COUNTY CURRITUCK GEOLOGIST Contract Geologist GROUND WTR (ft) SITE DESCRIPTION BRIDGE NO 6 ON -L- (SR 1228) OVER MOYOCK RUN OFFSET 16 ft RT ALIGNMENT -L-BORING NO. EB1-B STATION 13+50 0 HR. TOTAL DEPTH 74.1 ft NORTHING 1,021,037 **EASTING** 2,828.370 24 HR. COLLAR ELEV. 3.1 ft DRILL RIG/HAMMER EFF./DATE CME-550 DRILL METHOD Mud Rotary HAMMER TYPE Automatic DRILLER Contract Driller START DATE 04/01/10 COMP. DATE 04/01/10 SURFACE WATER DEPTH N/A ELEV DRIVE DEPTH BLOW COUNT SAMP. V BLOWS PER FOOT SOIL AND ROCK DESCRIPTION (ft) (ft) (ft) 0.5ft 0.5ft 0.5ft 25 50 75 100 NO. MOI G DEPTH (f GROUND SURFACE ROADWAY EMBANKMENT BROWN SAND, MOIST \bigvee ALLUVIAL _0.4___3.5_ BLACK MODERATELY ORGANIC SILT, MOIST TO WET TATLUVIAL BROWN SAND WITH LITTLE ORGANIC -4.7 _7_8_ MATTER, SAT. ALLUVIAL GRAY BROWN SAND, SAT. -10 -9.7 12.8 **6**9 COASTAL PLAIN GRAY SAND WITH SHELL FRAGMENTS, __14.7___17.8 2 (YORKTOWN FORMATION) -22.9 COASTAL PLAIN GRAY SANDY CLAY WITH SHELL FRAGMENTS, WET (YORKTOWN FORMATION) -25 COASTAL PLAIN
GRAY SAND WITH SHELL FRAGMENTS, -30 3 Ģ6. (YORKTOWN FORMATION) COASTAL PLAIN GRAY SANDY CLAY WITH SHELL -35 FRAGMENTS, WET **Ø**5. (YORKTOWN FORMATION) -40 -39.7 42.8 3 COASTAL PLAIN GRAY SAND WITH SHELL FRAGMENTS, -45 -44.7 47.8 €12. (YORKTOWN FORMATION) -49.7 7 52.8 -55 -54.7 57.8 -57.9 COASTAL PLAIN GRAY SLIGHTLY INDURATED SANDY -60 -59.7 62.8 24 39 48 SILT, WET (YORKTOWN FORMATION) -65 -64.7 67.8 40 50 50/0.4 100/0.9 -70 -69.7 72.8 35 60 40/0.3

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Boring Terminated at Elevation -71.0 ft in

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SHEET 5 OF 6

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SITE	DESCRIPT	TION BE	IDGE NO	6 ON -L	(SR 1228) OVI	ER MOYO	OCK RUN					(GROUND WT	R (ft)	SITE DESCR	RIPTION	BRID	DGE N	40 6 ON -L-	(SR 1228	3) OVER M	OYOCK RUN						GROUND WTR (f
BORING NO. EB2-A STATION 14+30 COLLAR ELEV. 1.4 ft TOTAL DEPTH 73.7 ft				OFFSET 22 ft RT			ALIGNMENT -L-			0 HR. N/A		BORING NO. EB2-A			STATION 14+30			OFFSET 22 ft RT			ALIGNMENT -L-			0 HR. N/A				
			TOTAL	TOTAL DEPTH 73.7 ft			NORTHING 1,021,023		EASTING 2,828,282		24	24 HR. 2.5	2.5	COLLAR EL	COLLAR ELEV. 1.4 ft			TOTAL	TOTAL DEPTH 73.7 ft			NORTHING 1,021,023			3 2,828,282		24 HR. 2.5	
DRILL	RIG/HAMM	ER EFF./D	ATE CME-	550				DRILL	METHOD	Mud Rotary		HAMMER	RTYPE Autom	atic	DRILL RIG/HA	MMER EI	FF./DAT	TE CN	ИЕ-550				DRILL	. METHOD	Mud Rotary		HAMM	R TYPE Automatic
DRIL	ER Con	tract Drille	:r	START DATE 03/31/10			COMP. DA	TE 03	E 03/31/10		ACE WATER DEP	TH N/A	N/A		DRILLER Contract Driller			START DATE 03/31/10			COMP. D	DATE 03	3/31/10	SURFAC	SURFACE WATER DEPTH N/A			
ELEV	DRIVE ELEV DE	PTH BL	OM COUN.		BLOWS	PER FOOT		SAMP.	L'		SOIL AND ROC	CK DESCR	IPTION		ELEV DRIVE	DEPTH	BLO'	w cou			OWS PER F		SAMF	L)	SOIL AND RO	OCK DESC	CRIPTION
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