

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

STATE	STATE PROJECT REFERENCE NO.	DATE	SHEET
N.C.	U-2928	1	27
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38989.1.1	NA	P.E.	
38989.1.1	NA	RW & UTIL.	
38927.37		CONSTR.	

CONTENTS

LINE	STATION	PLAN	PROFILE	XSECT
-WYE-	10+00.21 - 21+44.93	3	13	-
-MAIN-	10+00.00 - 308+59.81	3-12	14-24	-
-SAND CLAY-	10+00.00 - 22+41.80	3	25	-
-HULL-	10+00.00 - 34+00.00	6	26	-
-DOBBS FARM-	10+00.00 - 23+50.00	8	27	-

APPENDIX:
 BORING LOGS
 PHOTOGRAPH
 SOIL TEST RESULTS

RAILWAY SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. U-2928 F.A. PROJ. NA
 COUNTY LENOIR
 PROJECT DESCRIPTION GLOBAL TRANSPARK FREIGHT
TRANSPORTATION SYSTEM

INVENTORY

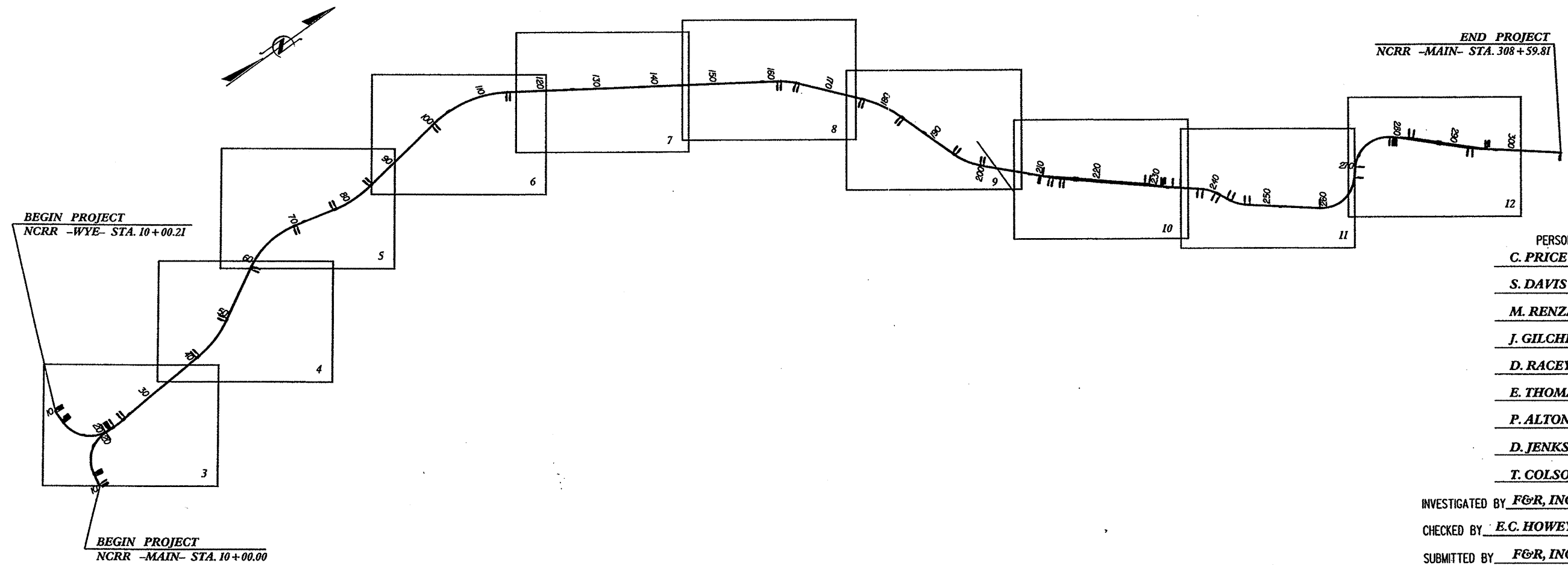
CAUTION NOTICE

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) 250-4089. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE 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 (ON-PLACE) TEST DATA CAN BE RELED 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 MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS 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.

CONTRACT: 38989.1.1 ID: U-2928



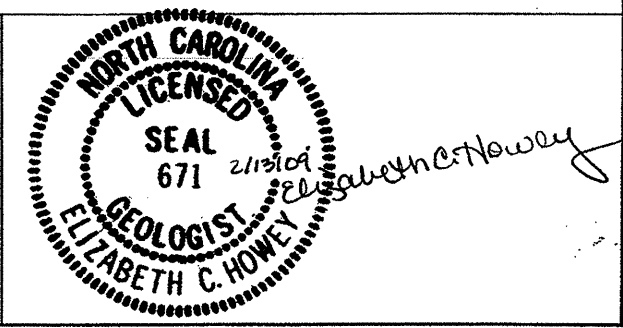
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D. JENKS
T. COLSON

INVESTIGATED BY F&R, INC.
 CHECKED BY E.C. HOWEY, P.G., P.E.
 SUBMITTED BY F&R, INC.
 DATE 109

PLAN SCALES:

PLAN VIEW:
0 100 200 FEET
PROFILE (HORIZONTAL):
0 50 100 FEET
PROFILE (VERTICAL):
0 10 20 FEET



DRAWN BY: D. RACEY

NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IS IT CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - 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.

EARTHWORK BALANCE SHEET

Volumes in Cubic Yards

PROJECT TIP # U-2928B

COUNTY Lenoir

DATE 12/3/2009

SHEET 1 OF 3 SHEETS

LINE	STATION	STATION	TOTAL EXCAV. (UNCL.)	ROCK EXCAV.	UNDERCUT EXCAV.	UNSUIT. EXCAV.	SUITABLE EXCAV.	TOTAL EMB.	ROCK EMB.	UNDERCUT EMB.	EARTH EMB.	EMBANK. 30%	BORROW	SUITABLE WASTE	UNSUIT. WASTE	TOTAL WASTE
NCRR	1017+95.87	1022+00.00	207				207	0			0	0	0	207		207
		SUBTOTAL	207				207	0			0	0	0	207		207
W.WYE	10+00.00	22+51.35	700				700	3,102			3,102	4,032	3,332	0		0
		SUBTOTAL	700				700	3,102			3,102	4,032	3,332	0		0
E. WYE	7+57.71	22+51.35	2,265				2,265	4,153			4,153	5,399	3,134	0		0
MAIN	22+51.35	38+00	42,305				42,305	5,698			5,698	7,408	0	34,897		34,897
-Y1-	11+50.00	13+20.00	70				70	0			0	0	0	70		70
-Y2-	11+30.00	21+30.00	14,955				14,955	3			3	4	0	14,951		14,951
		SUBTOTAL	59,595				59,595	9,855			9,855	12,811	3,134	49,918		49,918
MAIN	38+00	68+00	54,470				54,470	18,746			18,746	24,370	0	30,100		30,100
		SUBTOTAL	54,470				54,470	18,746			18,746	24,370	0	30,100		30,100
MAIN	68+00	98+00	2,142				2,142	13,045			13,045	16,959	14,817	0		0
-Y3-	12+20.00	31+50.00	3,707				3,707	6,112			6,112	7,946	4,239	0		0
		SUBTOTAL	5,849				5,849	19,157			19,157	24,905	19,056	0		0
MAIN	98+00	128+00	688				688	16,319			16,319	21,215	20,527	0		0
		SUBTOTAL	688				688	16,319			16,319	21,215	20,527	0		0
MAIN	128+00.00	153+65.00	1,154				1,154	18,024			18,024	23,431	22,277	0		0
		SUBTOTAL	1,154				1,154	18,024			18,024	23,431	22,277	0		0
MAIN	155+62.00	186+00	2,867				2,867	6,956			6,956	9,043	6,176	0		0
-Y4-	6+15.00	21+35.00	1,796				1,796	6,677			6,677	8,680	6,884	0		0
-Y5-	9+15.00	15+80.00	343				343	1,304			1,304	1,695	1,352	0		0
		SUBTOTAL	5,006				5,006	14,937			14,937	19,418	14,412	0		0

LINE	STATION	STATION	TOTAL EXCAV. (UNCL.)	ROCK EXCAV.	UNDERCUT EXCAV.	UNSUIT. EXCAV.	SUITABLE EXCAV.	TOTAL EMB.	ROCK EMB.	UNDERCUT EMB.	EARTH EMB.	EMBANK. 30%	BORROW	SUITABLE WASTE	UNSUIT. WASTE	TOTAL WASTE
-Y5DET-	10+00.00	17+42.29	0				0	1,418			1,418	1,843	1,843	0		0
		SUBTOTAL	0				0	1,418			1,418	1,843	1,843	0		0
MAIN	186+00	216+00	7,824				7,824	15,681			15,681	20,385	12,561	0		0
-Y6-	13+25.00	16+45.00	0				0	454			454	590	590	0		0
-Y7-	11+50.00	16+10.00	1,111				1,111	304			304	395	0	716		716
		SUBTOTAL	8,935				8,935	16,439			16,439	21,370	13,151	716		716
MAIN	216+00	246+00	22,811				22,811	5,201			5,201	6,762	0	16,049		16,049
-Y8-	12+00.00	15+70.00	40				40	133			133	173	133	0		0
-Y8A-	12+45.00	13+57.70	7				7	21			21	27	20	0		0
-Y9-	10+90.00	15+70.00	119				119	199			199	259	140	0		0
-Y9A-	10+00.00	10+64.22	0				0	38			38	50	50	0		0
		SUBTOTAL	22,977				22,977	5,592			5,592	7,271	343	16,049		16,049
MAIN	246+00	276+00	13,319				13,319	634			634	825	0	12,494		12,494
-Y10-	12+65.00	14+10.00	10				10	25			25	33	23	0		0
-Y11-	11+60.00	13+30.00	83				83	93			93	121	38	0		0
		SUBTOTAL	13,412				13,412	752			752	979	61	12,494		12,494
MAIN	276+00	296+60.68	30,114				30,114	5			5	7	0	30,107		30,107
-Y12-	11+10.00	12+25.00	0				0	0			0	0	0	0		0
		SUBTOTAL	30,114				30,114	5			5	7	0	30,107		30,107
-D1-	10+14.00	13+61.50	890				890	204			204	441	0	449		449
		SUBTOTAL	890				890	204			204	441	0	449		449
PROJECT SUBTOTAL			203,997	0	0	0	203,997	124,549	0	0	0	162,094	98,136	140,040	0	140,040
REMOVE -Y5- DETOUR			1,642				1,642							1,642		1,642
**EST. 5% LOSS DUE TO CLEARING & GRUBBING			-10,200				-10,200							-10,200		-10,200
WASTE TO REPLACE BORROW													-98,136	-98,136		-98,136
PROJECT TOTAL			195,439	0	0	0	195,439	124,549	0	0	0	162,094	0	33,346	0	33,346

LINE	STATION	STATION	TOTAL EXCAV. (UNCL.)	ROCK EXCAV.	UNDERCUT EXCAV.	UNSUIT. EXCAV.	SUITABLE EXCAV.	TOTAL EMB.	ROCK EMB.	UNDERCUT EMB.	EARTH EMB.	EMBANK. 30%	BORROW	SUITABLE WASTE	UNSUIT. WASTE	TOTAL WASTE
GRAND TOTAL			195,439											33,346	0	33,346
SAY			196,000											34,000	0	34,000

EST. DDE = 7,022 CY

EST. UNDERCUT = 10,000 CY PER GEOTECHNICAL RECOMMENDATION

EST. 20,000 CY OF SELECT GRANULAR MATERIAL PER GEOTECHNICAL RECOMMENDATION

EST. 44,000 CY BERM (STA. 140+00 TO STA. 151+00 RT). BERM TO BE CONSTRUCTED FROM SUITABLE AND UNSUITABLE WASTE MATERIAL, INCLUDING UNDERCUT MATERIAL AND A PORTION OF MATERIAL CONSIDERED TO BE A LOSS DUE TO CLEARING AND GRUBBING. SIZE AND DETAILS OF BERM SHALL BE ADJUSTED TO ACTUAL AMOUNT OF SUITABLE AND UNSUITABLE WASTE MATERIAL AS APPROVED BY THE ENGINEER.

* THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEER.

** ESTIMATE ONLY, QUANTITY TO BE PROVIDED BY GEOTECHNICAL ENGINEER.

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 TO BE THE 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 STANDARD PENETRATION TEST (AASHTO T298, ASTM D-1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLES: <i>VERY STIFF, GRN, SILTY CLAY, MOST WITH INTERBEDDED FINE SAND LENSES, HEAVY PLASTIC, A-7-6</i>	WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO POORLY GRADED) GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES. ANGULARITY OF GRAINS THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.	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. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. IN NON-COASTAL PLAIN MATERIAL, THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS: WEATHERED ROCK (WR) CRYSTALLINE ROCK (CR) NON-CRYSTALLINE ROCK (NCR) COASTAL PLAIN SEDIMENTARY ROCK (CP)	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, 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 DISLOGGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FMJ) - 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 (MOTJ) - 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 (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 RUN AND EXPRESSED AS A PERCENTAGE.
SOIL LEGEND AND AASHTO CLASSIFICATION	MINERALOGICAL COMPOSITION	WEATHERING	
GENERAL CLASS. GRANULAR MATERIALS (<= 35% PASSING #200) SILT-CLAY MATERIALS (> 35% PASSING #200) ORGANIC MATERIALS	MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.	FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE. VERY SLIGHT (V SLJ) 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 (SLJ) 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 "CLINK" SOUND WHEN STRUCK. <i>IF TESTED, WOULD YIELD SPT REFUSAL.</i> 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. <i>IF TESTED, YIELDS SPT N VALUES > 100 BPF.</i> VERY SEVERE (V SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR VESTIGES OF THE ORIGINAL ROCK FABRIC REMAIN. <i>IF TESTED, YIELDS SPT N VALUES < 100 BPF.</i> 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.	
COMPRESSIBILITY	PERCENTAGE OF MATERIAL	GROUND WATER	
SLIGHTLY COMPRESSIBLE MODERATELY COMPRESSIBLE HIGHLY COMPRESSIBLE	ORGANIC MATERIAL TRACE OF ORGANIC MATTER LITTLE ORGANIC MATTER MODERATELY ORGANIC HIGHLY ORGANIC	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	
TEXTURE OR GRAIN SIZE	MISCELLANEOUS SYMBOLS	ROCK HARDNESS	
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	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 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. HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 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 FINGER NAIL.	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 ENLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS 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 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SRECJ) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - 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.
PLASTICITY	ABBREVIATIONS	EQUIPMENT USED ON SUBJECT PROJECT	
NONPLASTIC LOW PLASTICITY MED. PLASTICITY HIGH PLASTICITY	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 SLJ. - SLIGHTLY TCR - TRICONE REFUSAL	DRILL UNITS: <input type="checkbox"/> MOBILE B- <input type="checkbox"/> BK-51 <input type="checkbox"/> CME-45C <input checked="" type="checkbox"/> CME-550 <input type="checkbox"/> PORTABLE HOIST	
COLOR	INDURATION	FRACTURE SPACING	
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.	FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF THE 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.	TERM SPACING VERY WIDE MORE THAN 18 FEET WIDE 3 TO 18 FEET MODERATELY CLOSE 1 TO 3 FEET CLOSE 0.5 TO 1 FEET VERY CLOSE LESS THAN 0.5 FEET	
		BEDDING	
		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	
		NOTES:	
		BENCH MARK: N/A ELEVATION: N/A FT.	



February 13, 2009

STATE PROJECT: 38989.1.1 (U-2928)
F.A. PROJECT: N/A
COUNTY: Lenoir

DESCRIPTION: Global Transpark Freight Transportation System

SUBJECT: Geotechnical Inventory

Project Description

NCRR proposes to construct a new rail line for access to the Global Transpark in Lenoir County. The project area lies east/northeast of the Town of Kinston, north of US 70. The project begins at the existing NCRR track between US 258 and Hillcrest Road and extends north to the Global Transpark, a distance of approximately 5.5 miles. The proposed alignment is on new location and generally crosses farm fields and wooded areas. Several streams and wetlands are located along the proposed alignment; bridges are proposed across some of these areas. The new track will have at grade crossings with a number of existing roads: Sand Clay Road, Hull Road, Dobbs Farm Road, Shackelford Road, Harvey Parkway, Rouse Road, Airport Road, and John Mewborne Road. Minor realignment is anticipated at some of the road crossings.

The geotechnical field investigation was performed in October and November, 2008. Borings were located at approximate 500 foot intervals along the alignment provided by the NCDOT Rail Division. Additional borings were advanced at the road crossings and stream areas; deeper borings were advanced near the ends of potential bridges at the stream/wetland crossings encountered from approximate -MAIN- Stations 52+00 to 58+00 and -MAIN- Stations 152+00 to 156+00. One deeper boring was advanced at Sand Clay Road to investigate a bridge option at that location. Additional borings were also advanced near -MAIN- Station 150+00 to investigate a possible landfill in the area; no foreign material was encountered in our borings.

No survey was available in the field so most of the borings were located by F&R personnel with the aid of a Trimble GeoXT GPS unit. Given the method of determination, the boring locations should only be considered approximate. At the completion of our borings, the NCDOT Location

and Surveys Unit provided ground surface elevations at all of the boring locations as well as northing and easting information at some of the roadway boring locations.

The borings were advanced with a CME 550 ATV-mounted drill machine utilizing either hollow stem augers or mud rotary drilling techniques for borehole stabilization. An automatic hammer was used to perform Standard Penetration Testing (SPT) at frequent intervals in general accordance with ASTM D-1586. Representative soil samples were selected for laboratory analysis consisting of gradation and Atterberg Limits to aid in soil classification. Three bulk samples were obtained in the proposed cut area near Sand Clay Road and subjected to Standard Proctor and California Bearing Ratio (CBR) testing; the results of that testing are included with this report. Two undisturbed Shelby tubes were obtained near the Hull Road crossing and submitted to the NCDOT Materials and Tests Unit for consolidation and triaxial testing.

The following alignments were investigated. A plan view of the boring locations, subsurface profiles, boring logs, and laboratory test results are included with this report.

<u>Line</u>	<u>Station (±)</u>
-WYE-	15+00 to 18+25
-MAIN-	14+00 to 300+00
-SAND CLAY-	13+00 to 19+50
-HULL-	12+00 to 33+00
-DOBBS FARM-	12+50 to 23+50

Areas of Special Geotechnical Interest

- 1) Very loose to loose sandy soils were encountered at the ground surface in all borings advanced along the project. These soils were encountered in at least the upper several feet of the borings.
- 2) Shallow groundwater was encountered throughout the entire project alignment. Listed below are approximate locations where groundwater was encountered within 6 feet of the proposed grade (top of rail on -MAIN- line) and within 6 feet of the existing ground surface along the roadways:

<u>Line</u>	<u>Station</u>
-MAIN-	32+00± to 51+00±
-MAIN-	160+00± to 187+00±



-MAIN-	206+00± to 220+00±
-MAIN-	234+00± to 244+00±
-MAIN-	262+00± to 304+00±
-SAND CLAY-	12+00± to 21+00±
-DOBBS FARM-	12+00± to 23+50±

- 3) A small pit was discovered near -MAIN- Station 177+88, 47 feet right (N: 570,858, E: 2,410,240), where fluorescent light bulbs have been dumped. This area is shown on the plan view and a picture is attached.

Physiography and Geology

This project is located within the Coastal Plain Physiographic Province. Elevations along the alignment range from a low of approximately EL 46 feet near the beginning of the project to a high of approximately EL 115 feet in the area south of Hull Road. From the beginning of the project to approximate -MAIN- Station 30+00, just south of Sand Clay Road, the alignment crosses the historic floodplain of the Neuse River, which is the lowest elevation along the project alignment. After the alignment ascends the upland terrace area, the ground surface is flat to gently sloping and generally ranges in elevation from approximately 70 feet in the floodplain areas to between 80 and 90 feet.

The project crosses several streams along the proposed alignment near the following -MAIN- Stations: 53+00±, 55+50±, 155+00± (Briary Run), and 192+00±. The elevations of the streams/floodplains are generally on the order of 70 feet. Most of the farm fields are surrounded by ditches that are frequently 4 to 5 feet deep; most of these ditches contained standing water at the time of our investigation.

The soils encountered on the project consist of Coastal Plain Deposits. This area is mapped as Cretaceous Age deposits of the Peedee Formation. Peedee deposits are described as greenish gray to olive black sand, clayey sand, and clay that are locally fossiliferous. The near surface soils encountered in our borings appear to consist of more recent Coastal Plain deposits while the deeper soils generally exhibit the described characteristics of the Peedee Formation.

Groundwater

Groundwater levels were recorded during our field investigation performed in October and November, 2008. Groundwater elevations range from a low of 43.8 feet at the beginning of the project in the historic floodplain of the Neuse River to a high of approximately 105 feet in the



area near Hull Road. Groundwater was generally encountered within 10 feet of the existing ground surface during our investigation and was frequently encountered within a few feet of the ground surface.

Soils

A thin veneer of surficial organic soil was generally encountered at our boring locations. The material encountered is generally granular and contains grass and roots. The measured thickness of this material was generally less than one foot with most of the measurements between 0.3 and 0.8 foot. Beneath the surficial organic soils, the soils encountered along the alignment generally consist of Coastal Plain deposits. The borings encountered minor areas of roadway embankment and artificial fill.

The majority of the Coastal Plain deposits encountered consist of very loose to medium dense fine to coarse sand and clayey sand (A-1-b, A-3, A-2-4, and A-2-6). A-2-4 is by far the most common soil type encountered on the project. The deeper borings encountered zones of dense to very dense sand. Layers of sandy clay and clay (A-6, A-7-5, A-7-6) were encountered, which generally include thin seams of fine sand. The consistency of the clay ranges from soft to very stiff. Some minor amounts of fine sandy or clayey silt (A-4) were also encountered along the project with consistencies ranging from very soft to medium stiff. Some of the recovered samples contained minor amounts of shell fragments. The more shallow samples recovered were generally brown, tan, and light gray, some with red-orange. The samples generally became dark gray or dark greenish gray with depth.

Roadway embankment was encountered in the upper few feet of our borings along Sand Clay Road. This material consists of tan-red, loose, silty fine sand with trace gravel.

A small area of artificial fill was encountered in boring B-50 located on the property of a manufacturing plant near Airport Road. The fill consists of orange and red, medium dense clayey, silty, fine to coarse sand.



Undisturbed Samples

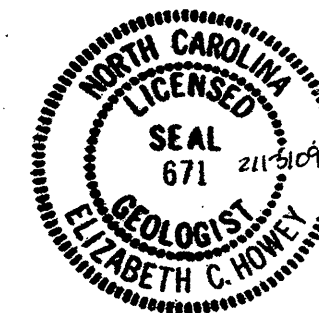
Undisturbed, thin wall Shelby tube samples were collected at the following location and submitted to the NCDOT Materials and Tests Unit for consolidation and triaxial testing. The test results are attached to this report.

<u>Sample No.</u>	<u>-MAIN- Station</u>	<u>Depth, feet</u>	<u>Test</u>
ST-1	96+36, 23' Rt.	17.0 – 19.0	Consolidation
ST-2	96+36, 23' Rt.	21.0 – 23.0	Triaxial CU

CBR Samples

Bulk samples were obtained in the proposed cut area at Sand Clay Road for Standard Proctor and CBR testing. A summary of the results is shown below: the test results are attached to this report.

<u>Sample No.</u>	<u>Soil Type</u>	<u>Maximum Dry Density</u>	<u>Optimum Moisture</u>	<u>CBR</u>
CBR-1	A-2-6(1)	115 pcf	15%	7.5
CBR-2	A-2-4(0)	122 pcf	11%	14.0
CBR-3	A-2-6(0)	118 pcf	13%	9.2

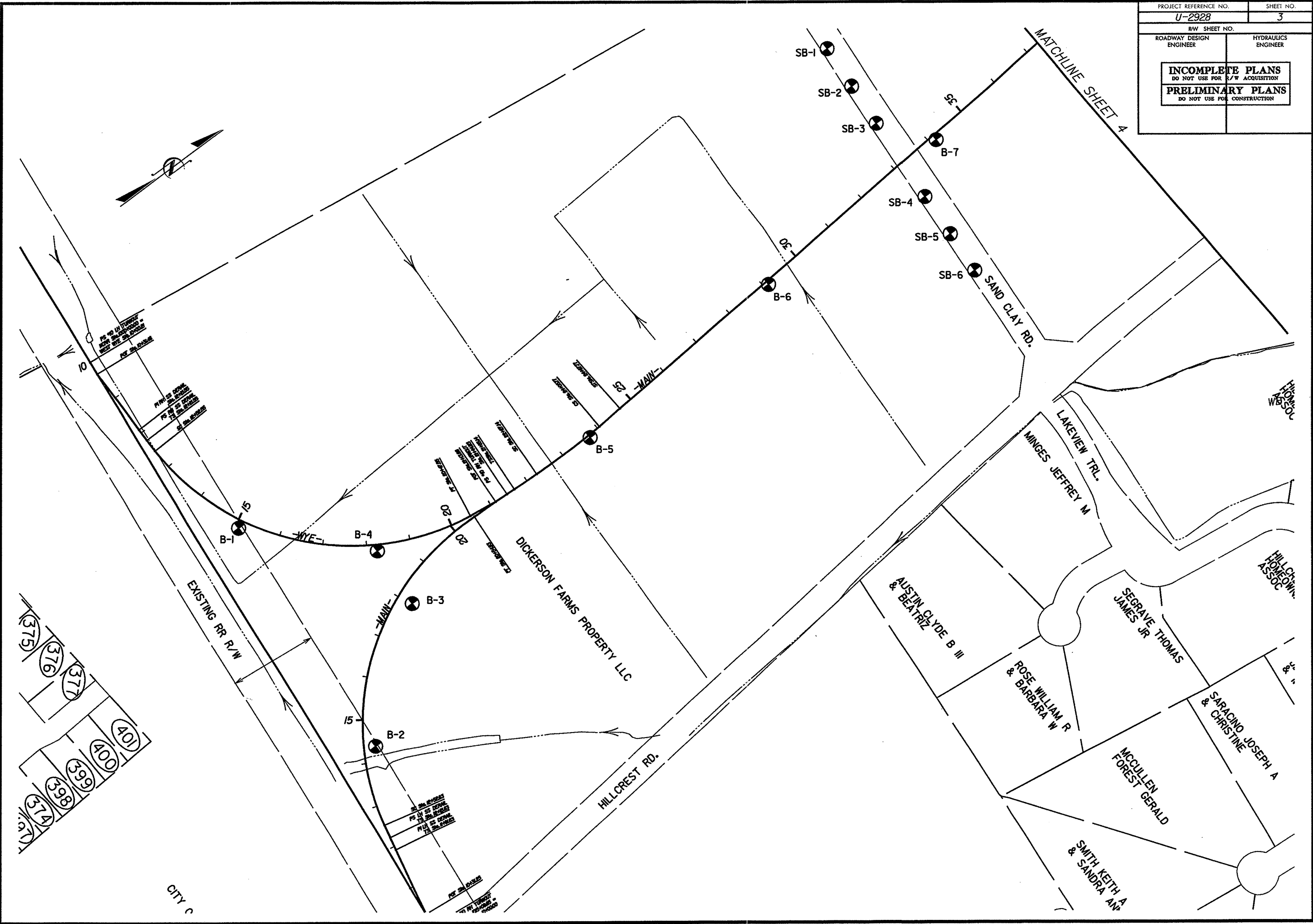


Respectfully Submitted,

Elizabeth C. Howey

Elizabeth C. Howey, P.G., P.E.
Project Engineer

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INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



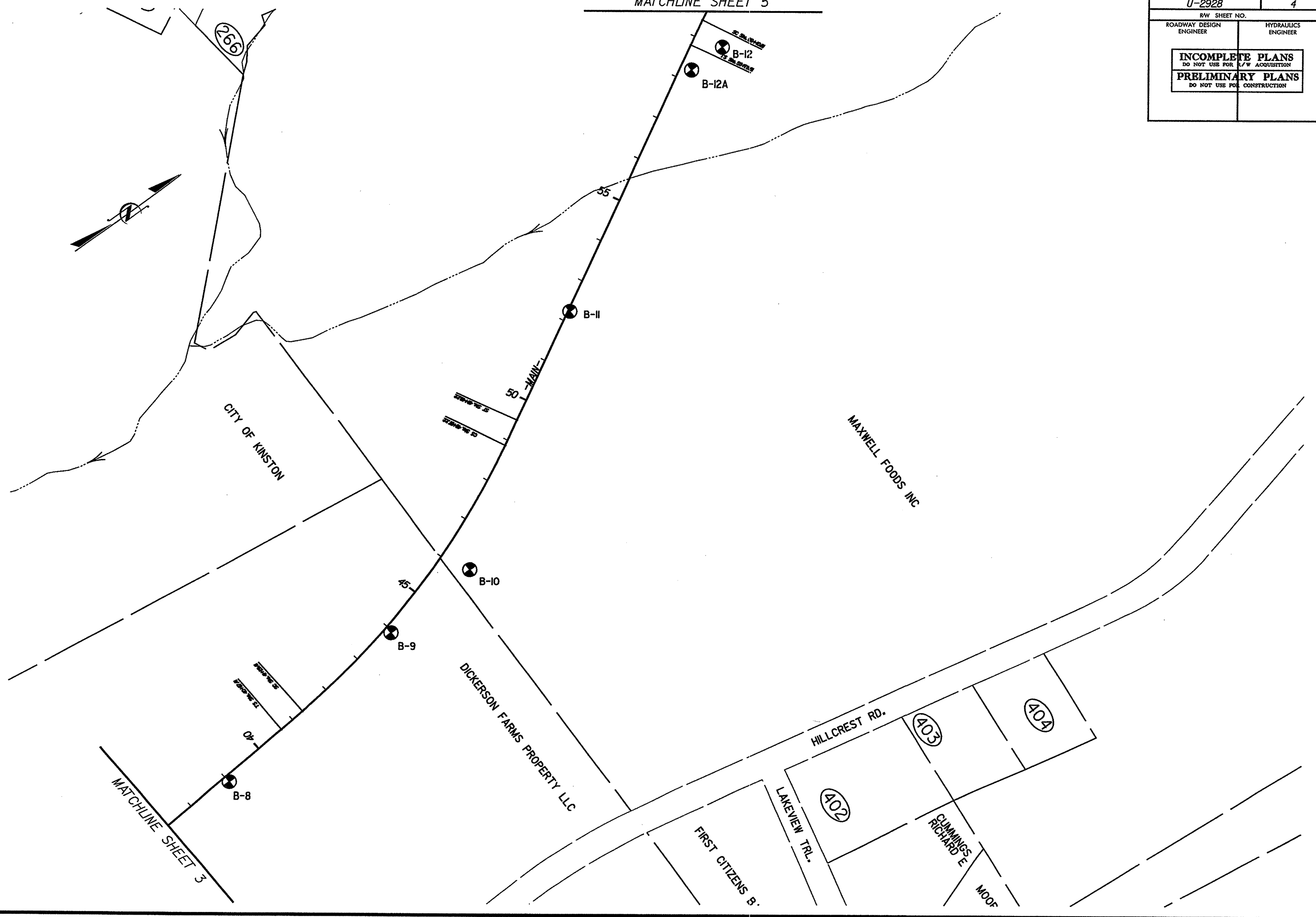
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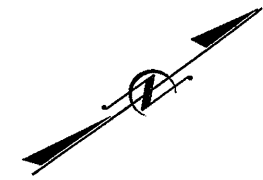
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INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



MATCHLINE SHEET 3



CITY OF KINSTON

MAXWELL FOODS INC

DICKERSON FARMS PROPERTY LLC

FIRST CITIZENS B.

HILLCREST RD.

LAKEVIEW TRL.

RICHARD E. MOOF

266

B-12
B-12A

B-11

B-10

B-9

B-8

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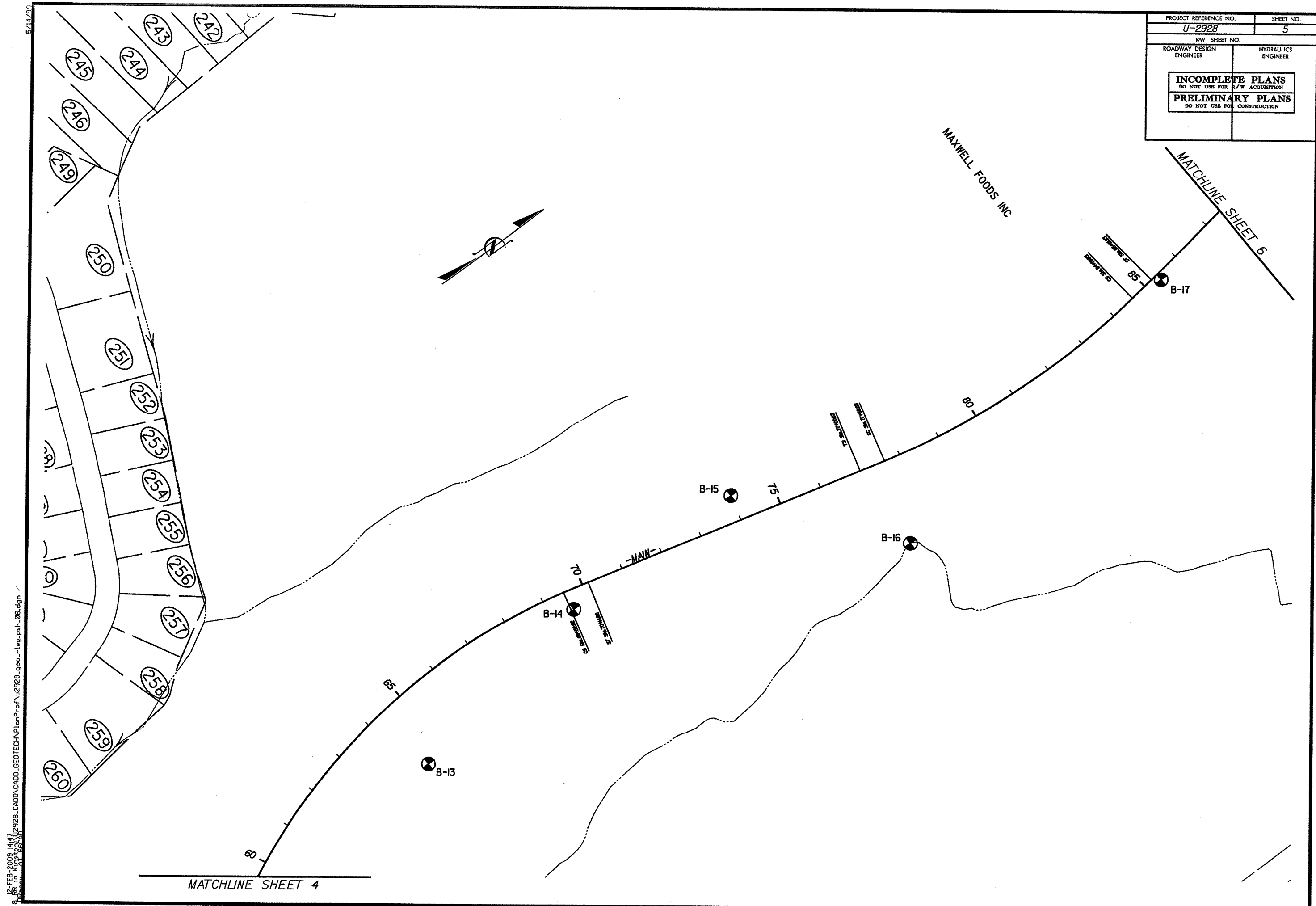
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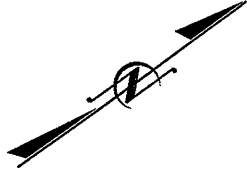
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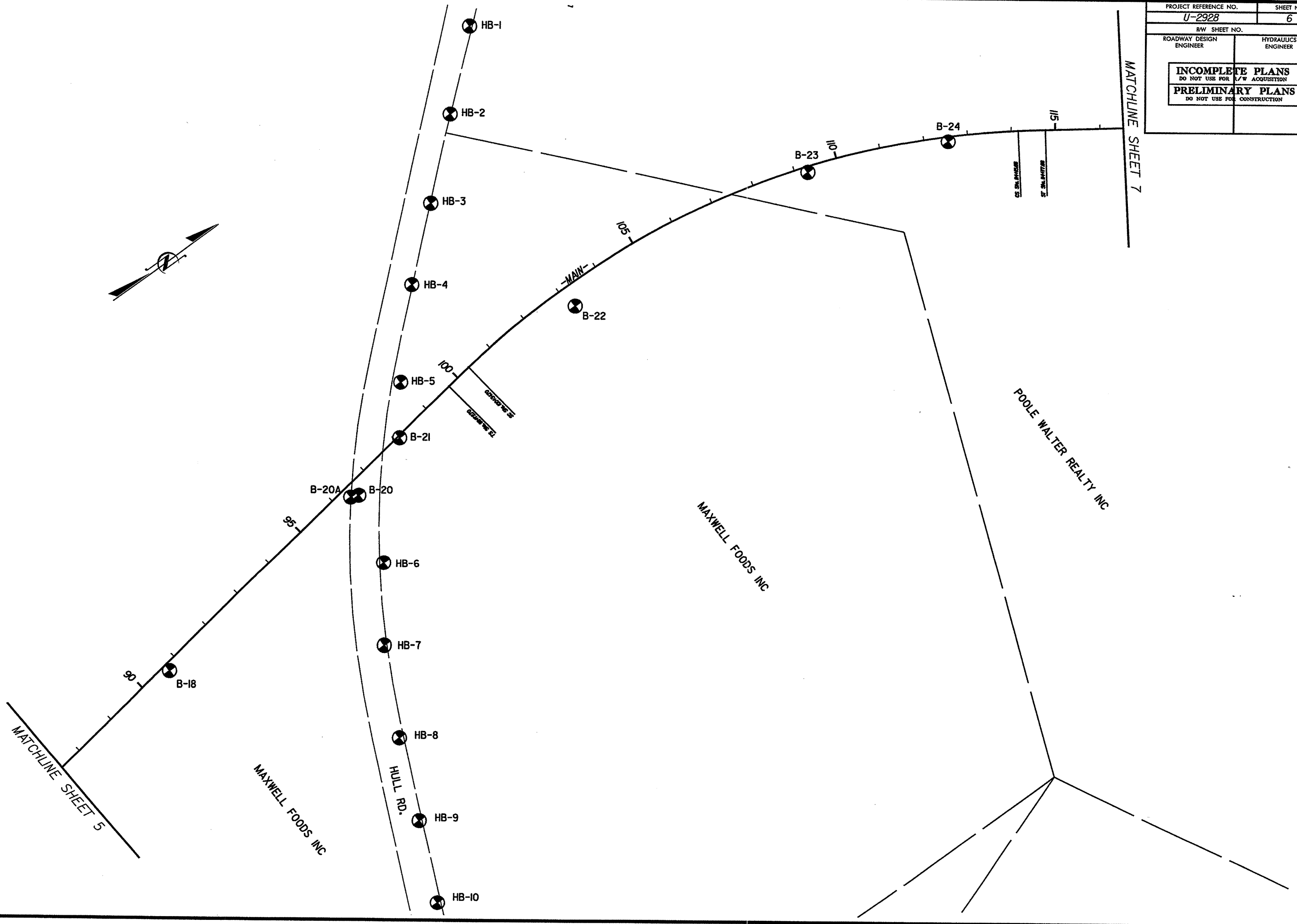
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MATCHLINE SHEET 7



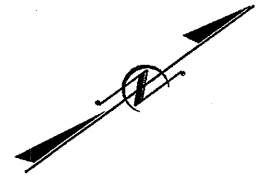
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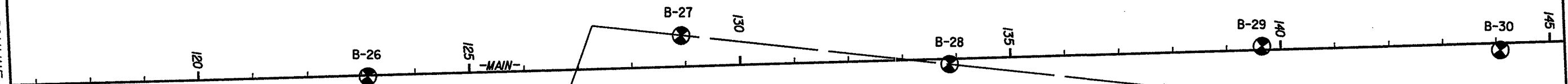
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POOLE WALTER REALTY INC



MATCHLINE SHEET 6

MATCHLINE SHEET 8

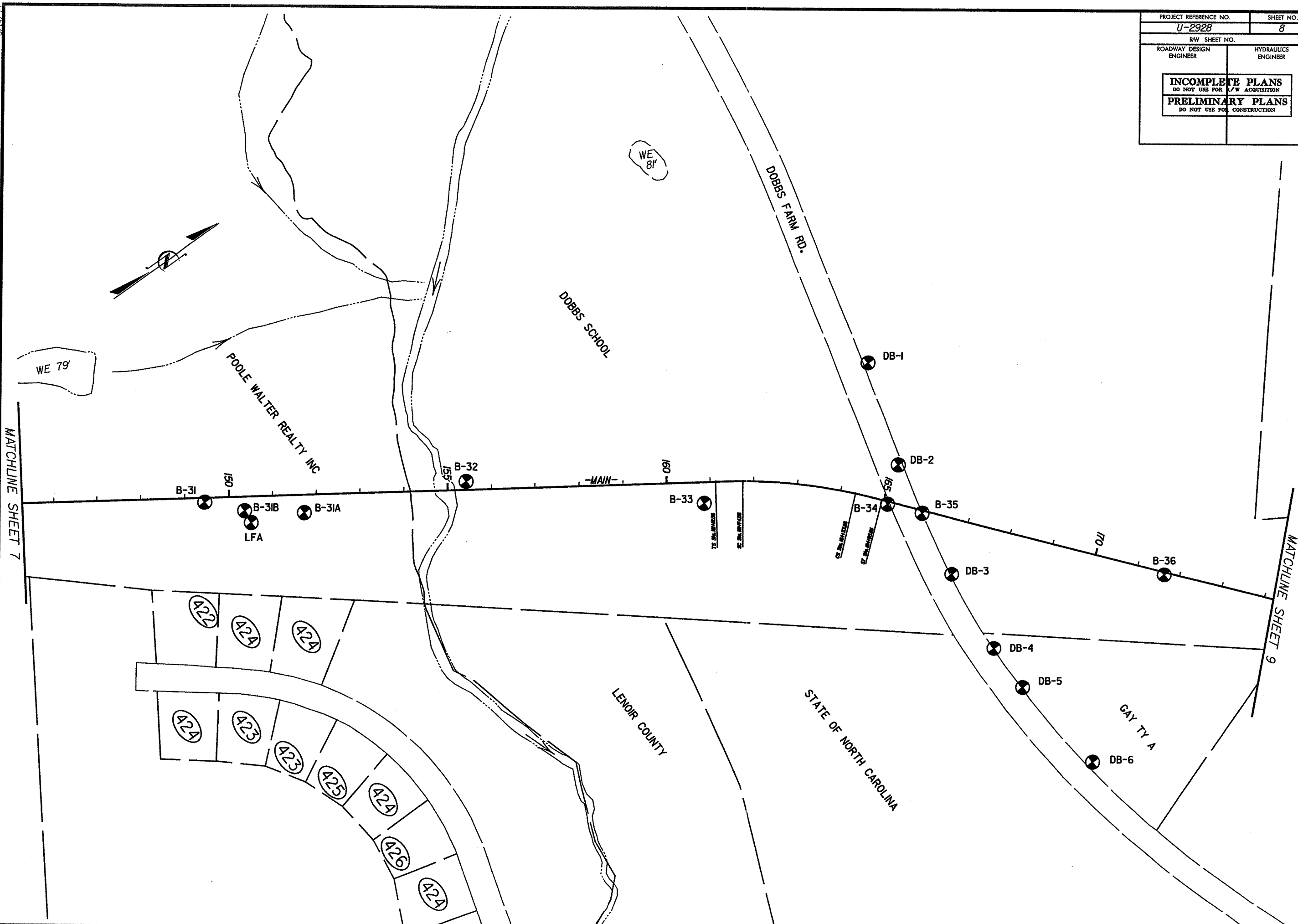


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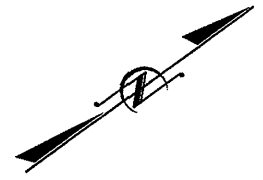
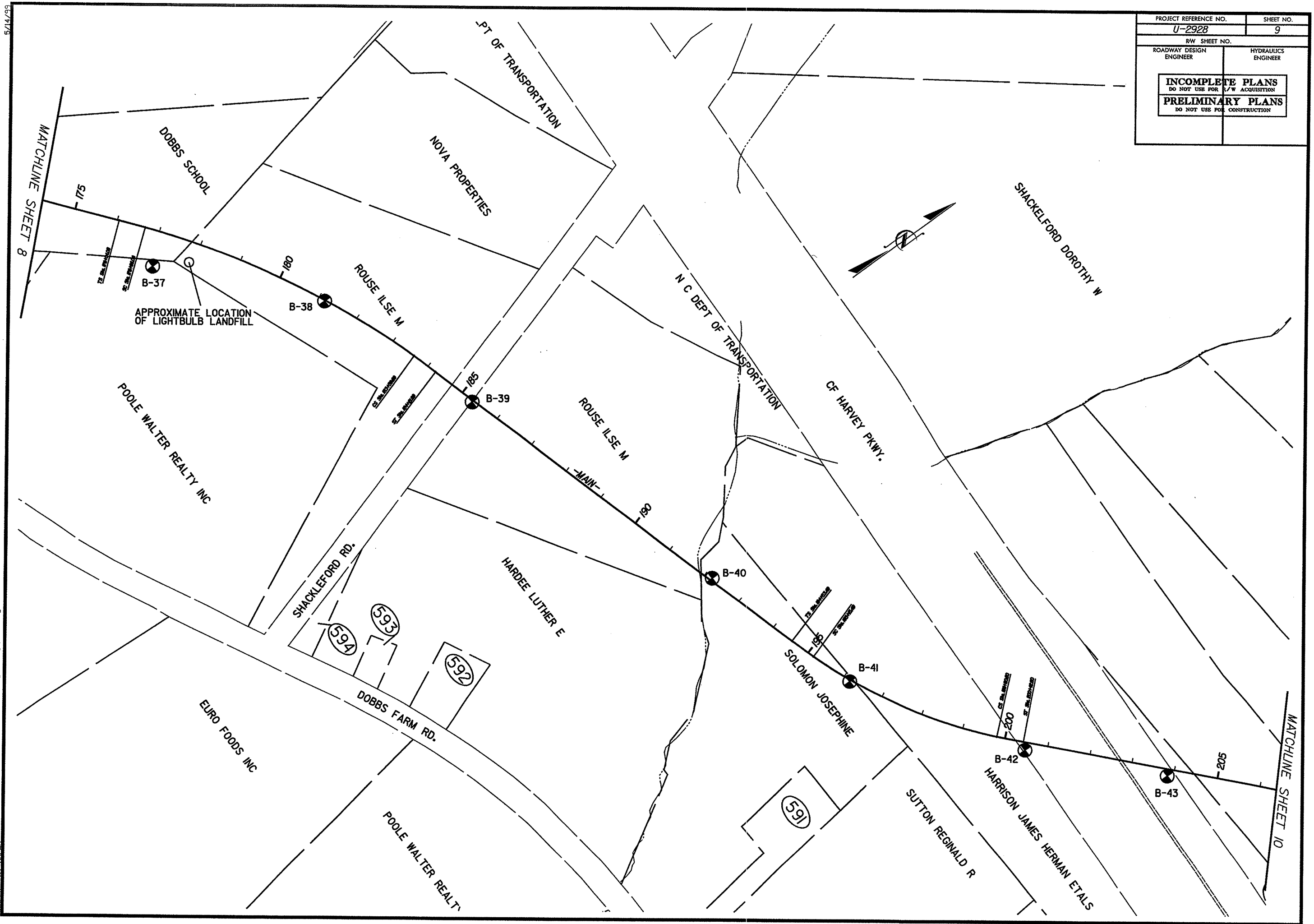
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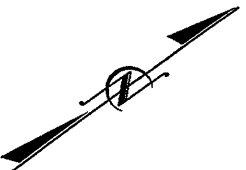
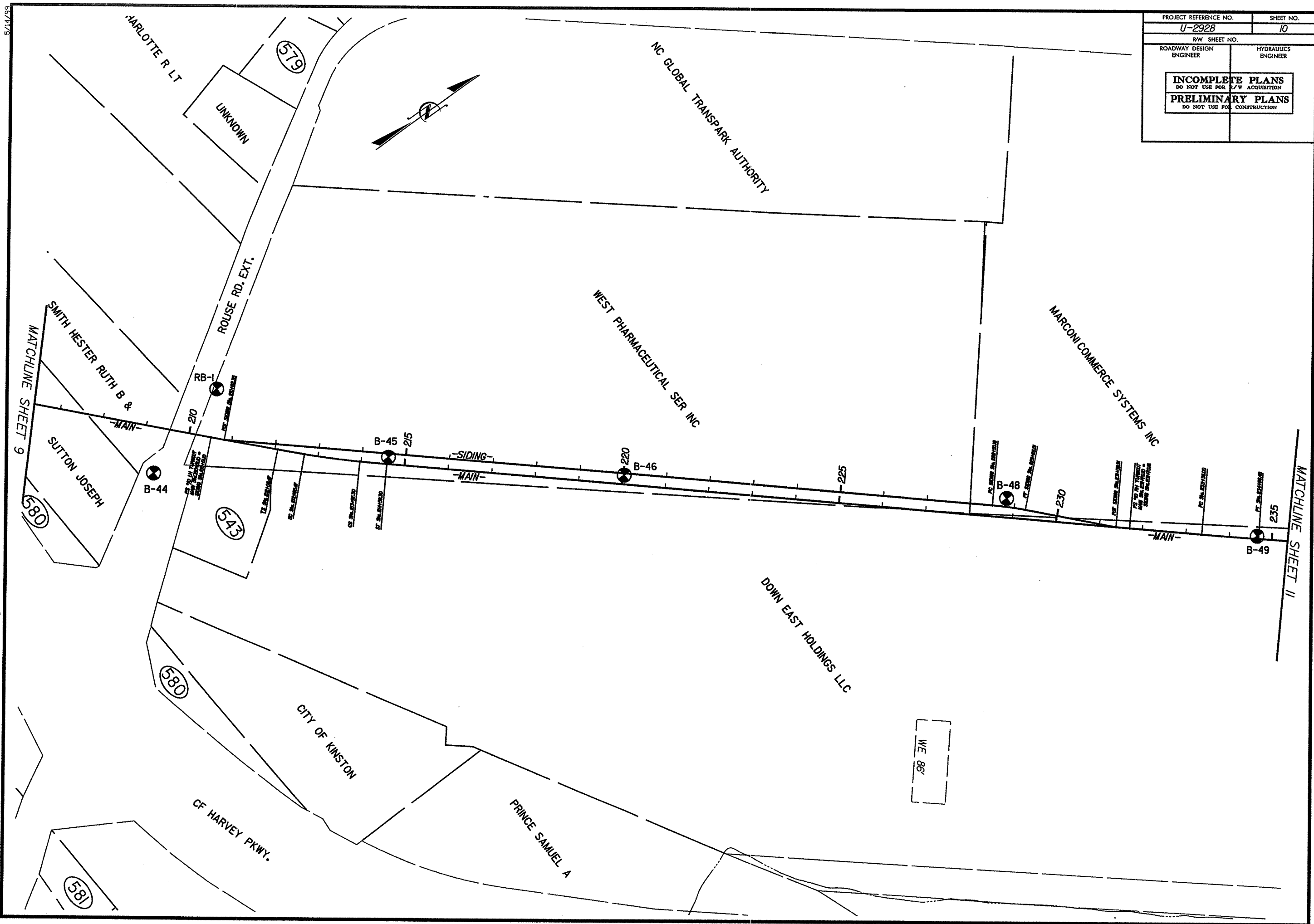
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PRELIMINARY PLANS	
DO NOT USE FOR CONSTRUCTION	



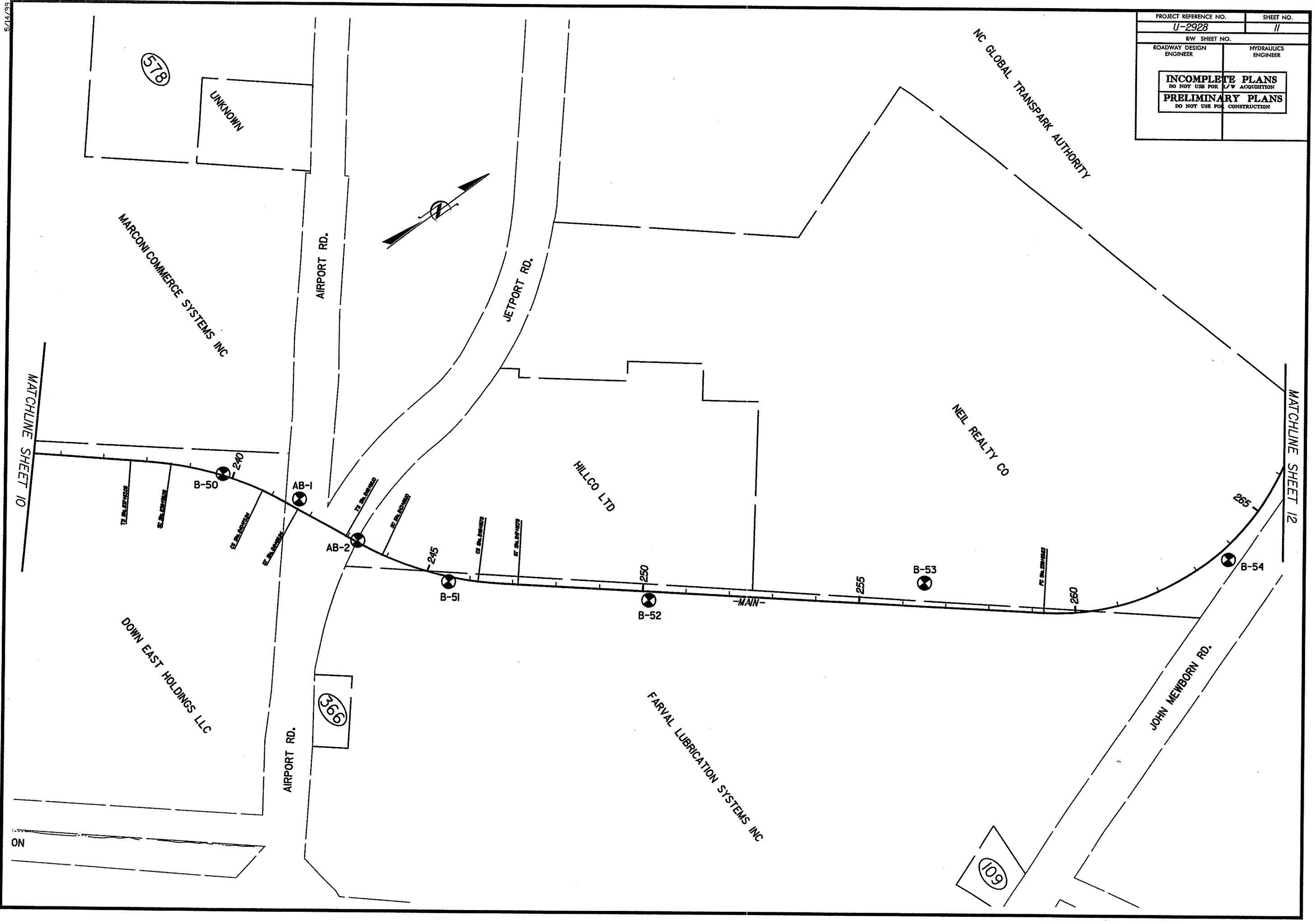
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MATCHLINE SHEET 11

WE 86'

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INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



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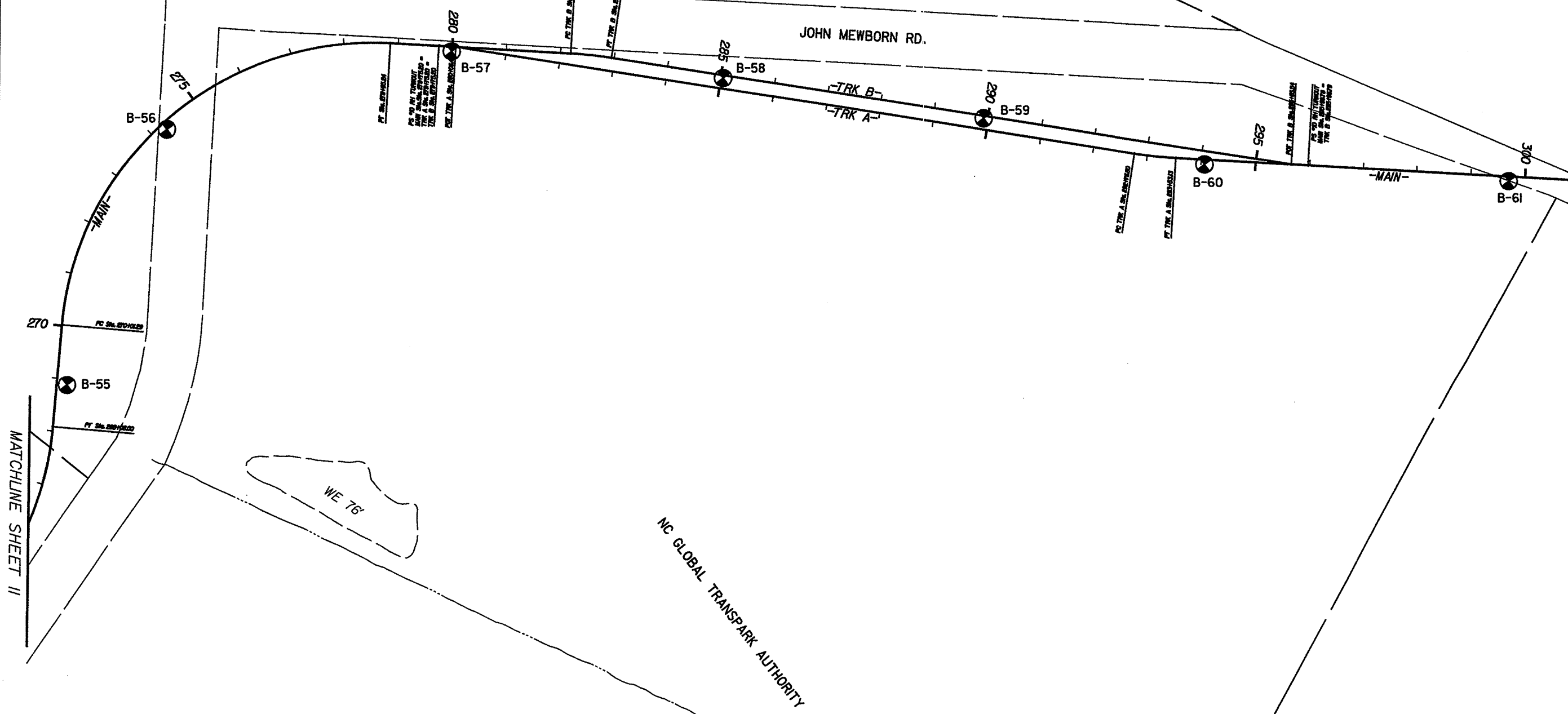
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PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NC GLOBAL TRANSPARK AUTHORITY

NC GLOBAL TRANSPARK AUTHORITY

WE 79

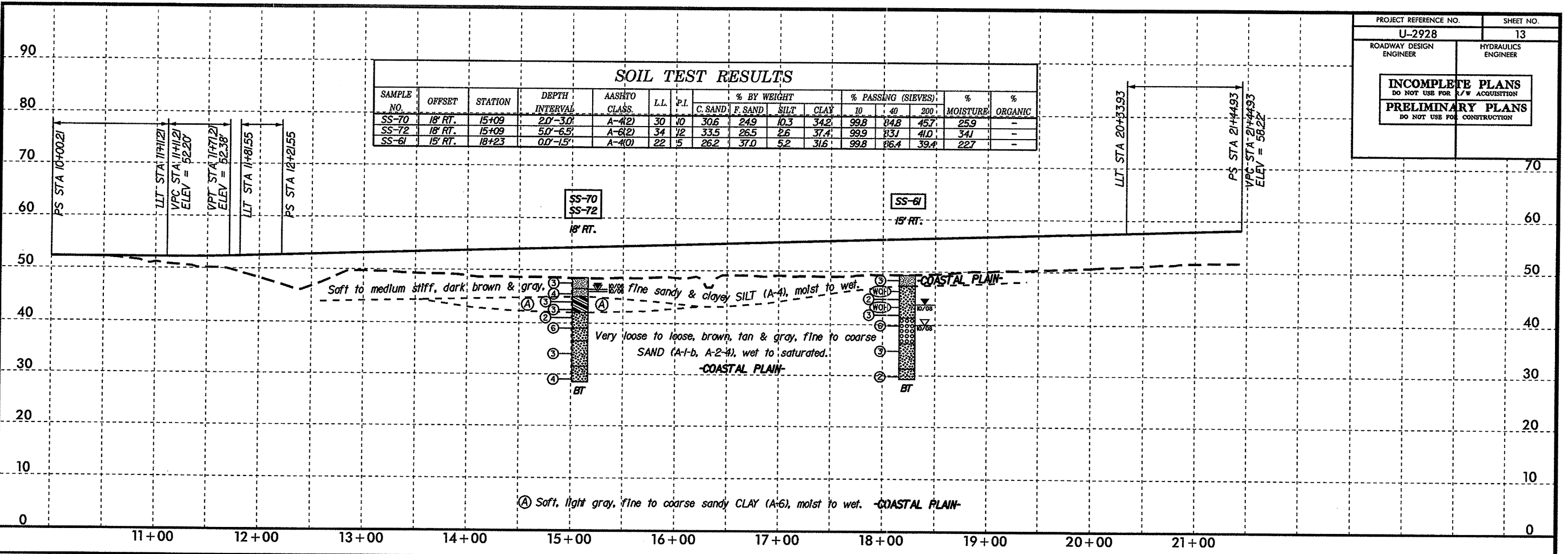
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SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-70	18' RT.	15+09	2'-3.0'	A-4(2)	30	10	30.6	24.9	10.3	34.2	99.8	84.8	45.7	25.9	-
SS-72	18' RT.	15+09	5.0'-6.5'	A-6(2)	34	12	33.5	26.5	2.6	37.4	99.9	83.1	41.0	34.1	-
SS-61	15' RT.	18+23	0.0'-1.5'	A-4(0)	22	5	26.2	37.0	5.2	31.6	99.8	86.4	39.4	22.7	-

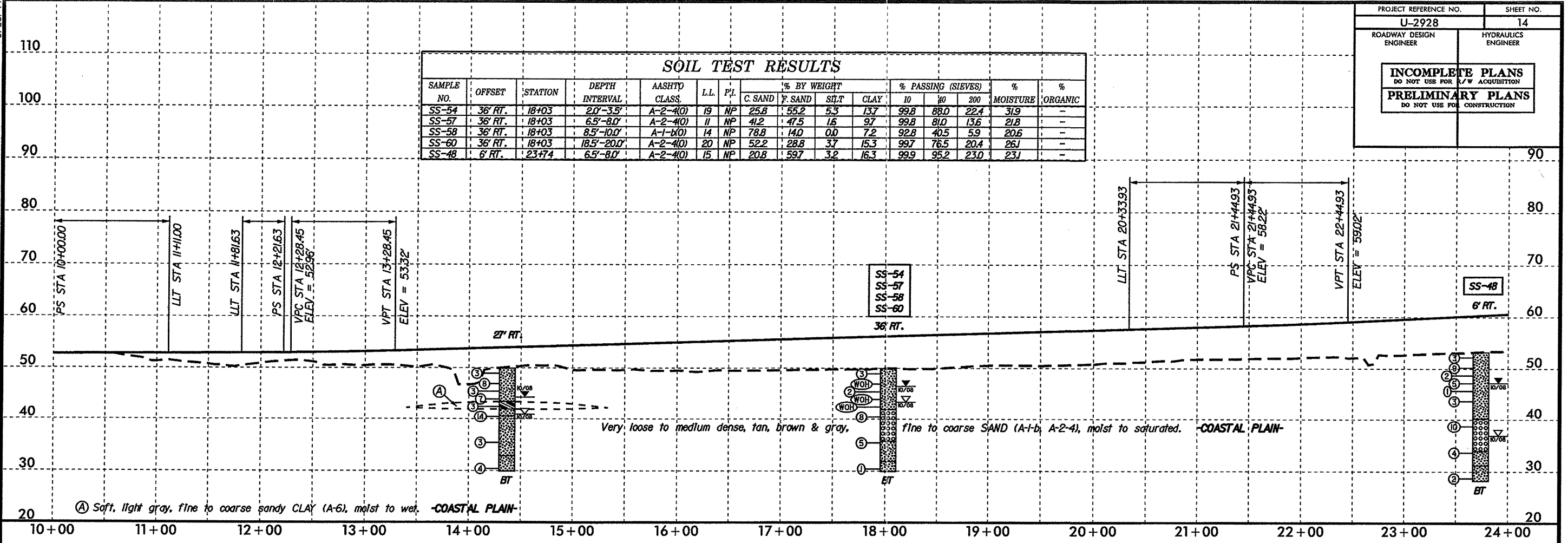


Ⓐ Soft, light gray, fine to coarse sandy CLAY (A-6), moist to wet. -COASTAL PLAIN-

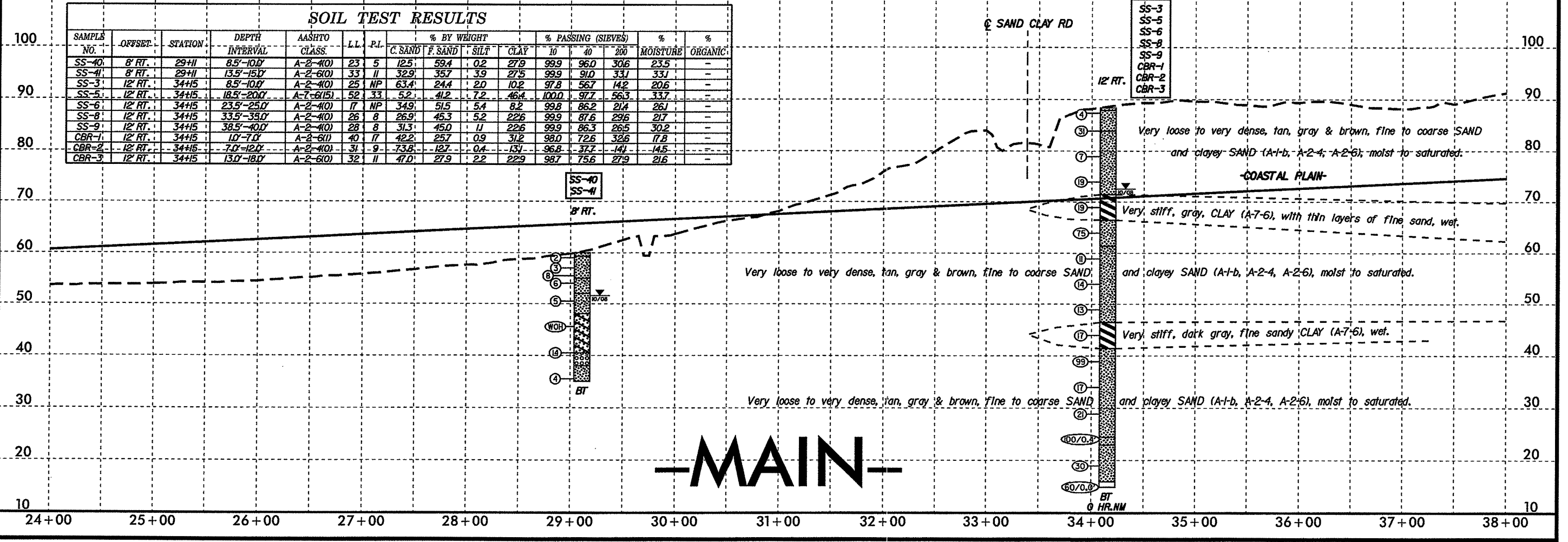
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SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	#0	200		
SS-54	36' RT.	18+03	20'-3.5'	A-2-4(0)	19	NP	25.8	55.2	5.5	13.7	99.8	88.0	22.4	31.9	-
SS-57	36' RT.	18+03	6.5'-8.0'	A-2-4(0)	11	NP	41.2	47.5	1.6	9.7	99.8	81.0	13.6	21.8	-
SS-58	36' RT.	18+03	8.5'-10.0'	A-1-6(0)	14	NP	78.8	14.0	0.0	7.2	92.8	40.5	5.9	20.6	-
SS-60	36' RT.	18+03	18.5'-20.0'	A-2-4(0)	20	NP	52.2	28.8	3.7	15.3	99.7	76.5	20.4	26.1	-
SS-48	6' RT.	23+74	6.5'-8.0'	A-2-4(0)	15	NP	20.8	59.7	3.2	16.3	99.9	95.2	23.0	23.1	-



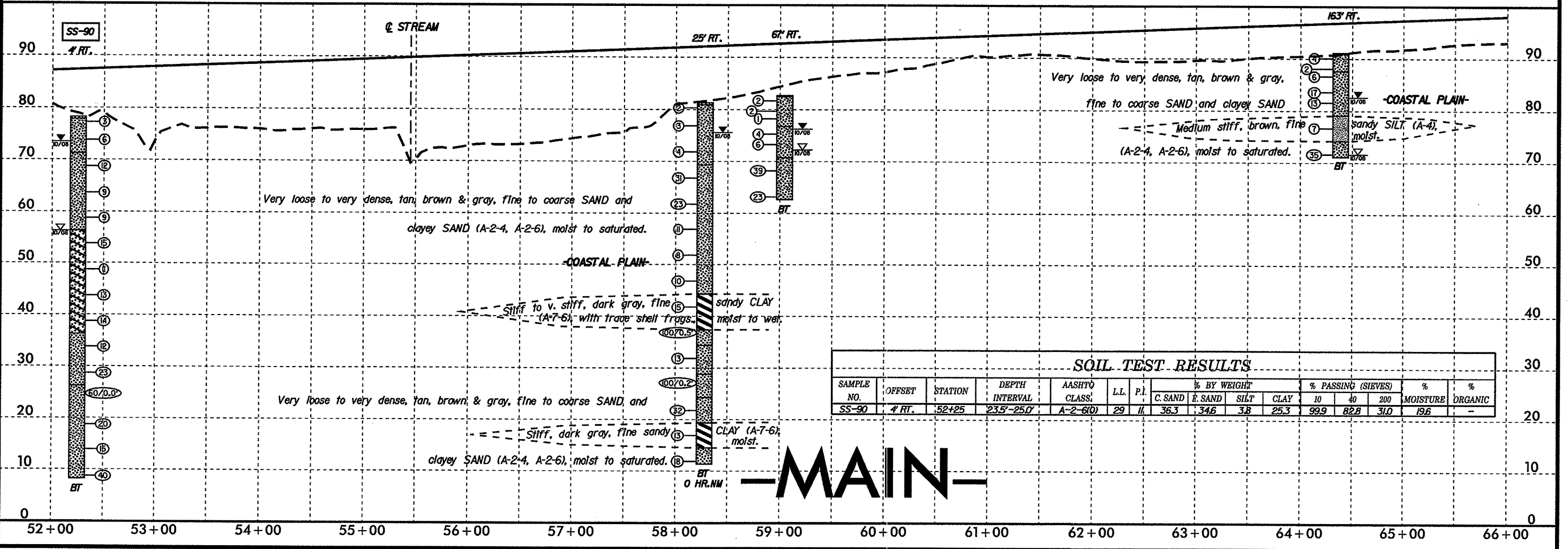
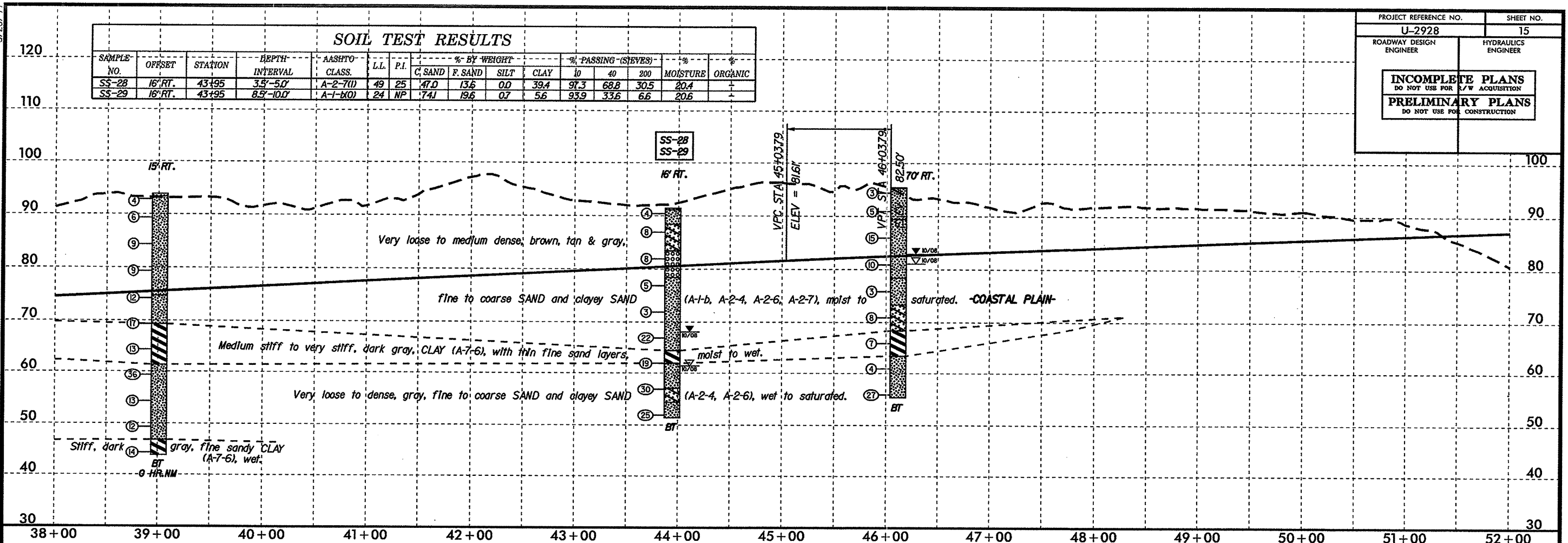
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-40	8' RT.	29+11	8.5'-10.0'	A-2-4(0)	23	5	12.5	59.4	0.2	27.9	99.9	96.0	30.6	23.5	-
SS-41	8' RT.	29+11	13.5'-15.0'	A-2-6(0)	33	11	32.9	35.7	3.9	27.5	99.9	91.0	33.1	33.1	-
SS-3	12' RT.	34+15	8.5'-10.0'	A-2-4(0)	25	NP	63.4	24.4	2.0	10.2	97.8	56.7	14.2	20.6	-
SS-5	12' RT.	34+15	18.5'-20.0'	A-2-6(15)	52	33	5.2	41.2	7.2	46.4	100.0	97.7	56.3	33.7	-
SS-6	12' RT.	34+15	23.5'-25.0'	A-2-4(0)	17	NP	34.9	51.5	5.4	8.2	99.8	86.2	21.4	26.1	-
SS-8	12' RT.	34+15	33.5'-35.0'	A-2-4(0)	26	8	26.9	45.3	5.2	22.6	99.9	87.6	29.6	21.7	-
SS-9	12' RT.	34+15	38.5'-40.0'	A-2-4(0)	28	8	31.3	45.0	1.1	22.6	99.9	86.3	26.5	30.2	-
CBR-1	12' RT.	34+15	1.0'-7.0'	A-2-6(0)	40	17	42.2	25.7	0.9	31.2	98.0	72.6	32.6	17.8	-
CBR-2	12' RT.	34+15	7.0'-12.0'	A-2-4(0)	31	9	73.8	12.7	0.4	13.1	96.8	37.7	14.1	14.5	-
CBR-3	12' RT.	34+15	13.0'-18.0'	A-2-6(0)	32	11	47.0	27.9	2.2	22.9	98.7	75.6	27.9	21.6	-



-MAIN-

5/28/99
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SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-28	16' RT.	43+95	3.5'-5.0'	A-2-7(1)	49	25	47.0	13.6	0.0	39.4	97.3	68.8	30.5	20.4	-
SS-29	16' RT.	43+95	8.5'-10.0'	A-1-6(0)	24	NP	74.1	19.6	0.7	5.6	93.9	33.6	6.6	20.6	-

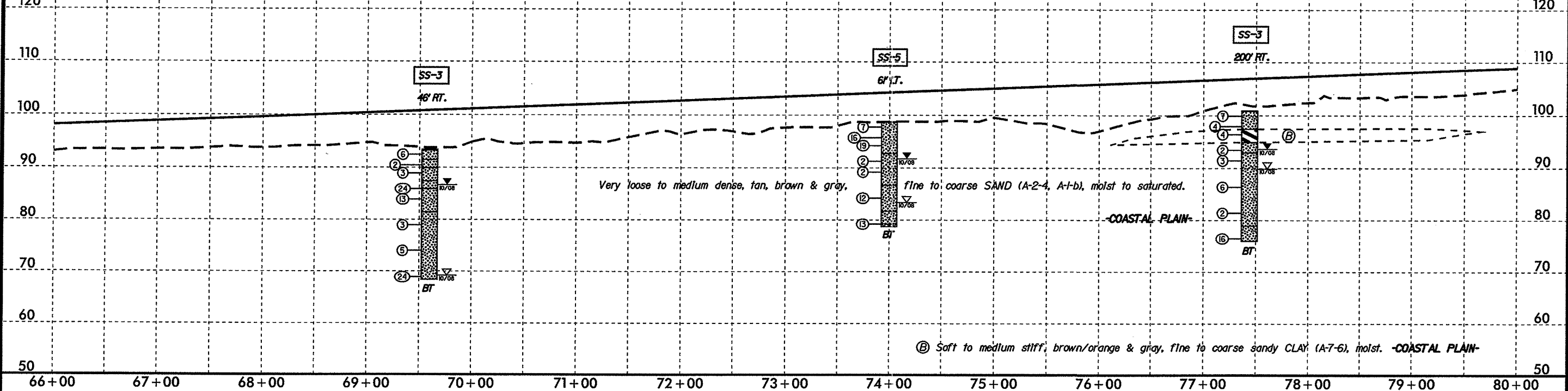


SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-90	4' RT.	52+25	23.5'-25.0'	A-2-6(0)	29	11	36.3	34.6	3.8	25.3	99.9	82.8	31.0	19.6	-

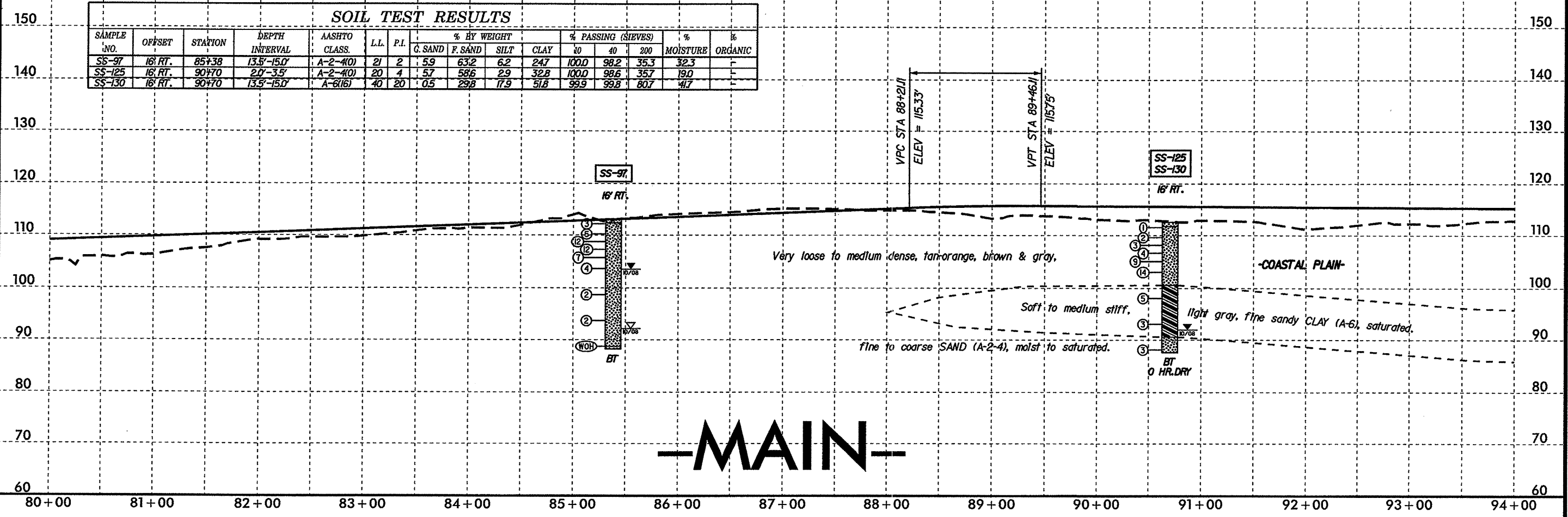
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SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-3	46' RT.	69+60	3.5'-5.0'	A-2-4(0)	19	3	20.2	50.2	6.1	23.5	99.8	89.7	32.1	16.0	-
SS-5	6' LT.	74+00	8.5'-10.0'	A-2-4(0)	18	NP	49.4	33.3	0.0	17.3	96.0	69.4	14.8	23.1	-
SS-3	200' RT.	77+44	3.5'-5.0'	A-7-6(N)	46	25	9.8	37.6	8.5	44.1	99.9	97.2	54.9	24.5	-



SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							G. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-97	16' RT.	85+38	13.5'-15.0'	A-2-4(0)	21	2	5.9	63.2	6.2	24.7	100.0	98.2	35.3	32.3	-
SS-125	16' RT.	90+70	2.0'-3.5'	A-2-4(0)	20	4	5.7	58.6	2.9	32.8	100.0	98.6	35.7	19.0	-
SS-130	16' RT.	90+70	13.5'-15.0'	A-6(16)	40	20	0.5	29.8	17.9	51.8	99.9	99.8	80.7	4.7	-

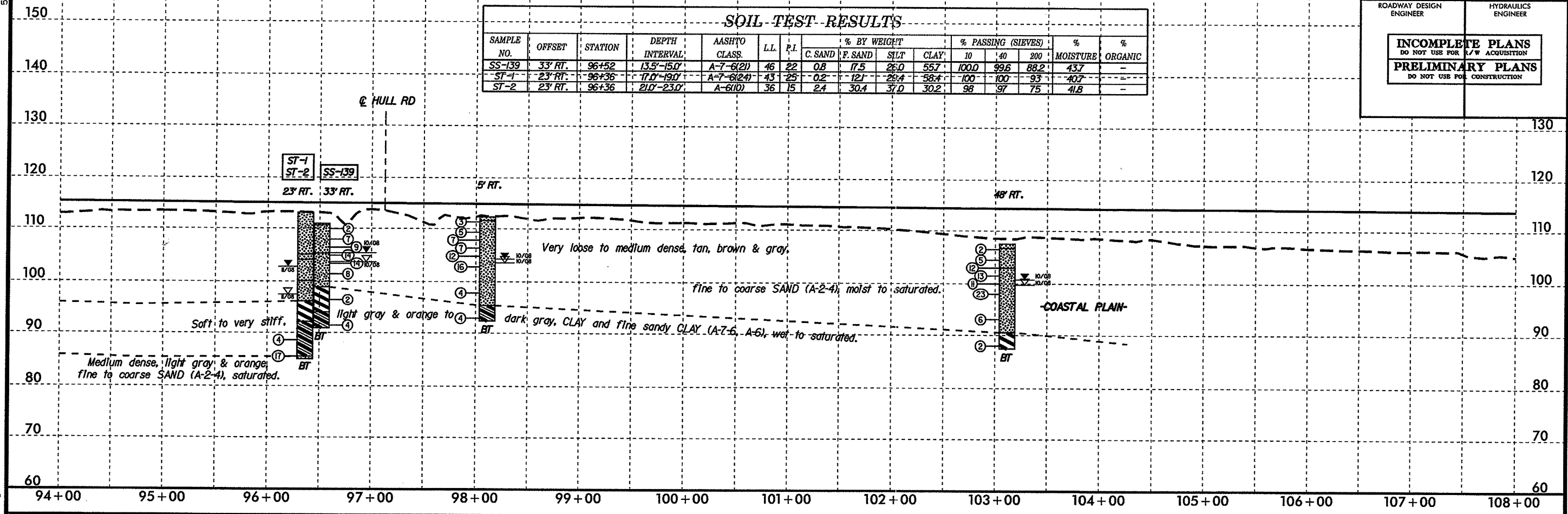


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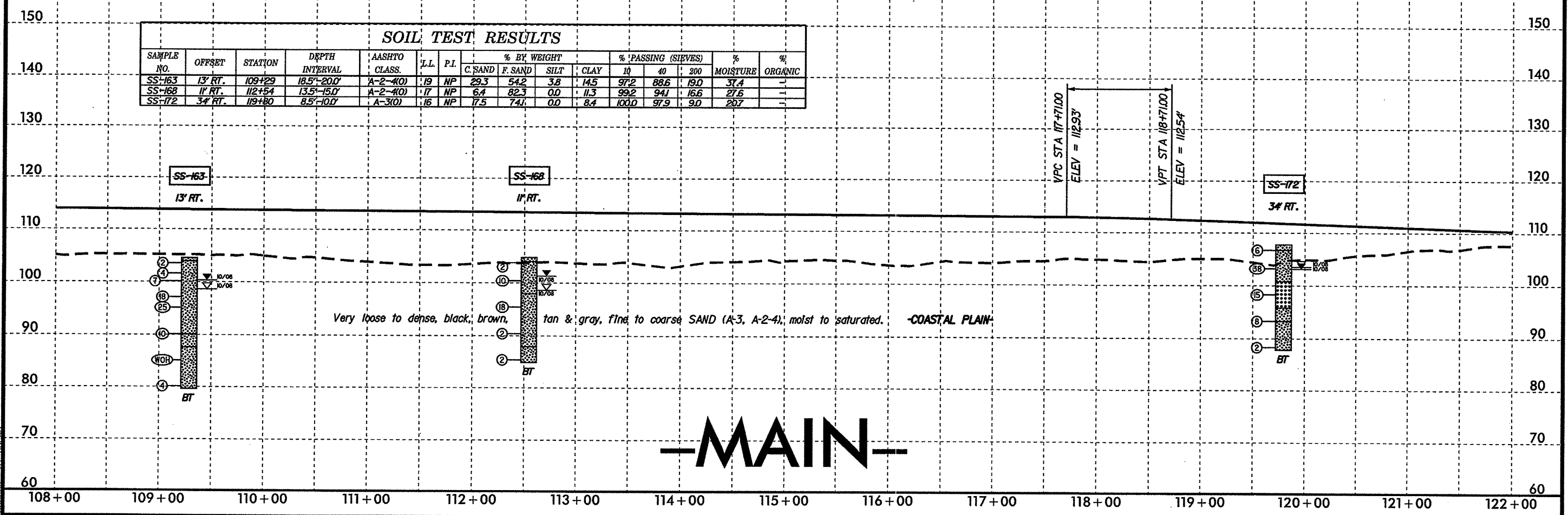
SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-139	33' RT.	96+52	13.5'-15.0'	A-7-6(2)	46	22	0.8	17.5	26.0	55.7	100.0	99.6	88.2	43.7	-
ST-1	23' RT.	96+36	17.0'-19.0'	A-7-6(2)	43	25	0.2	12.1	28.4	58.4	100	100	93	40.7	-
ST-2	23' RT.	96+36	21.0'-23.0'	A-6(0)	36	15	2.4	30.4	37.0	30.2	98	97	75	41.8	-

5/28/99



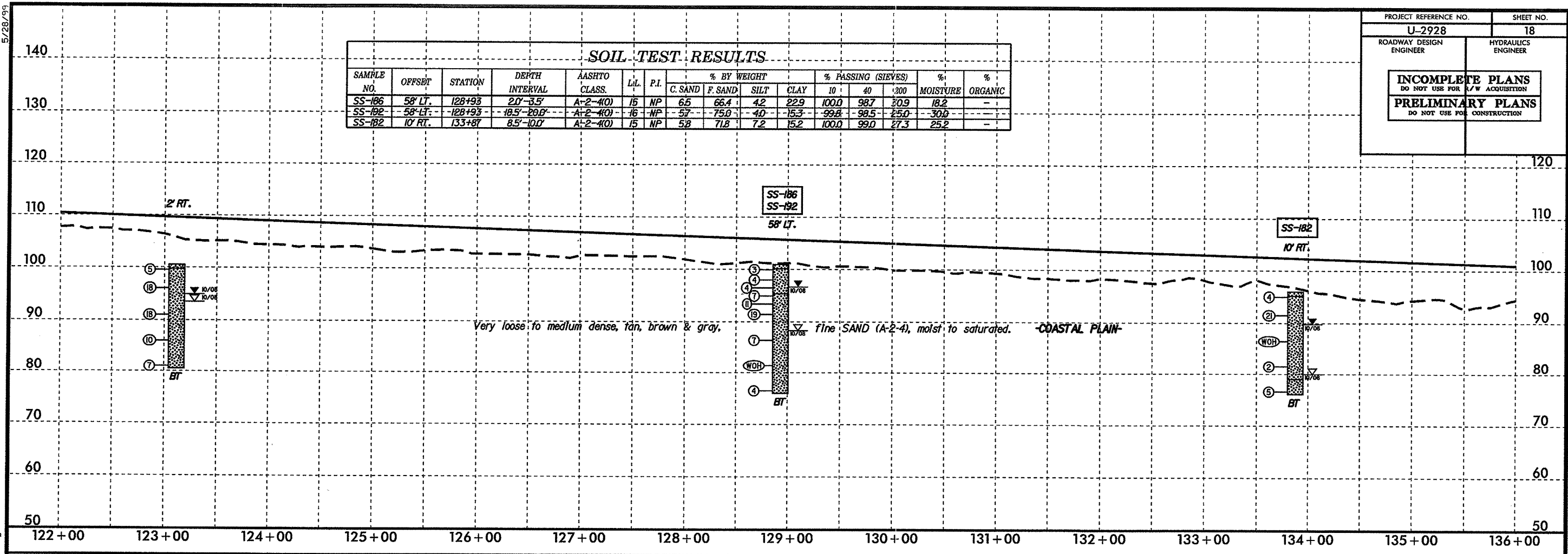
SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-163	13' RT.	109+29	18.5'-20.0'	A-2-4(0)	19	NP	29.3	54.2	3.8	14.5	97.2	88.6	19.0	37.4	-
SS-168	11' RT.	112+54	13.5'-15.0'	A-2-4(0)	17	NP	6.4	82.3	0.0	11.3	99.2	94.1	16.6	27.6	-
SS-172	34' RT.	119+80	8.5'-10.0'	A-3(0)	16	NP	17.5	74.1	0.0	8.4	100.0	97.9	9.0	20.7	-

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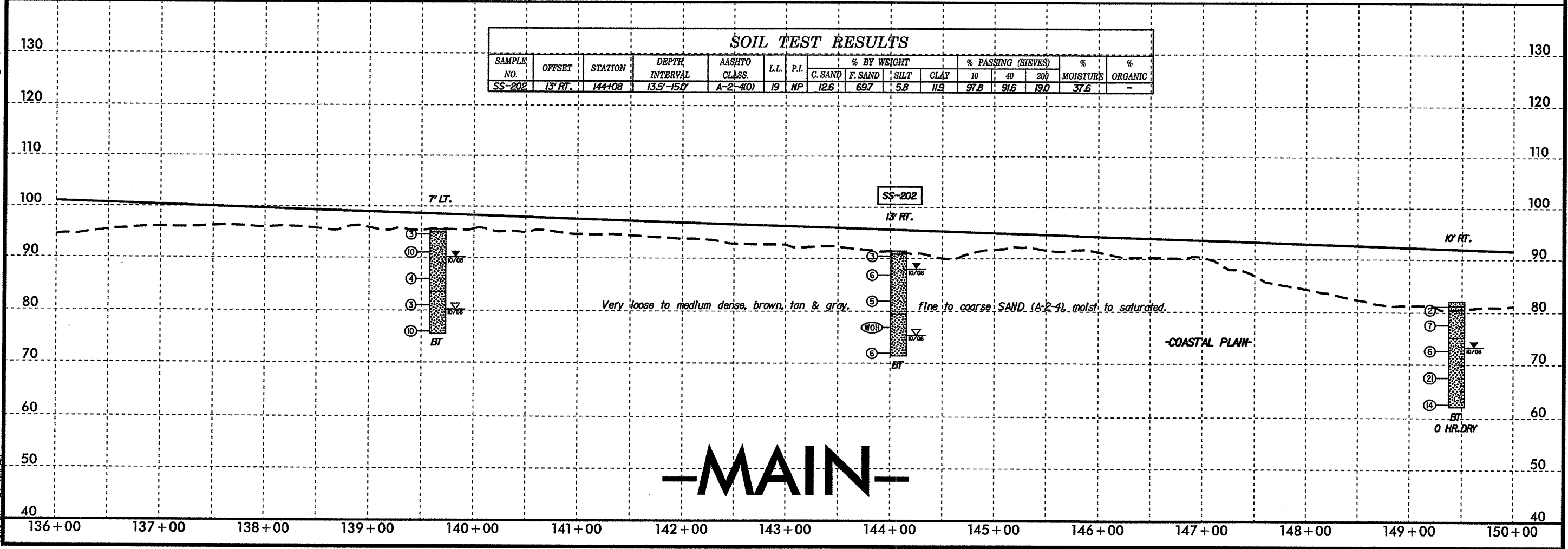


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SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-186	58' LT.	128+93	2.0'-3.5'	A-2-4(0)	15	NP	6.5	66.4	4.2	22.9	100.0	98.7	20.9	18.2	-
SS-182	58' LT.	128+93	18.5'-20.0'	A-2-4(0)	16	NP	5.7	75.0	4.0	15.3	99.8	98.5	25.0	30.0	-
SS-182	10' RT.	133+87	8.5'-10.0'	A-2-4(0)	15	NP	5.8	71.8	7.2	15.2	100.0	99.0	27.3	25.2	-

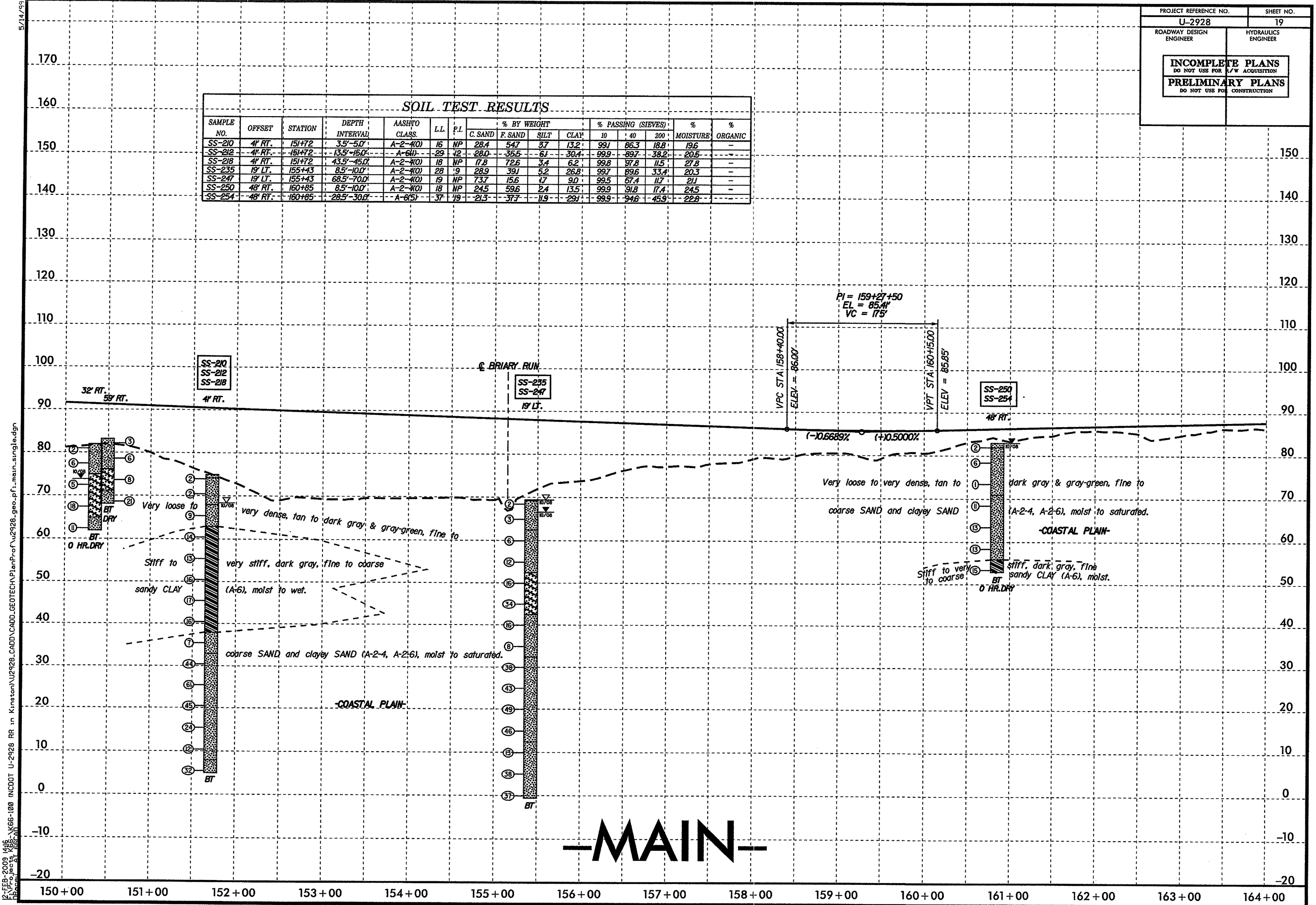


SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-202	13' RT.	144+08	13.5'-15.0'	A-2-4(0)	19	NP	12.6	69.7	5.8	11.9	97.8	91.6	19.0	37.6	-



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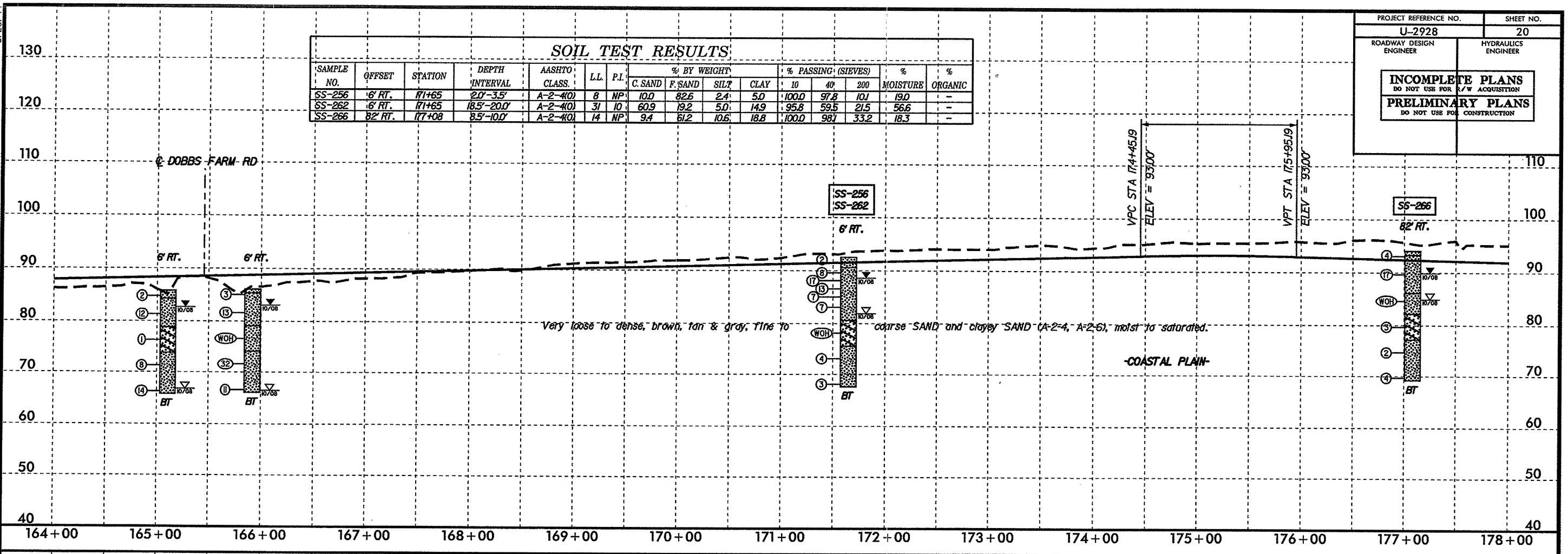
SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	LL	P.I.	% BY WEIGHT			% PASSING (SIEVES)			MOISTURE	% ORGANIC	
							C. SAND	F. SAND	CLAY	10	40	200			
SS-210	4' RT.	151+72	3.5'-5.0'	A-2-(40)	16	NP	28.4	54.7	3.7	13.2	99.1	86.3	18.8	19.6	-
SS-212	4' RT.	151+72	13.5'-15.0'	A-6(4)	29	12	28.0	35.5	6.1	30.4	99.9	89.7	38.2	20.5	-
SS-218	4' RT.	151+72	43.5'-45.0'	A-2-(40)	18	NP	17.8	72.6	3.4	6.2	99.8	97.8	11.5	27.8	-
SS-235	19' LT.	155+43	8.5'-10.0'	A-2-(40)	28	9	28.9	39.1	5.2	26.8	99.7	89.6	33.4	20.3	-
SS-247	19' LT.	155+43	68.5'-70.0'	A-2-(40)	19	NP	7.37	15.6	1.7	9.0	99.5	87.4	11.7	21.1	-
SS-250	48' RT.	160+85	8.5'-10.0'	A-2-(40)	18	NP	24.5	59.6	2.4	13.5	99.9	91.8	17.4	24.5	-
SS-254	48' RT.	160+85	28.5'-30.0'	A-6(5)	37	19	21.3	37.7	11.9	29.1	99.9	94.6	45.9	22.8	-



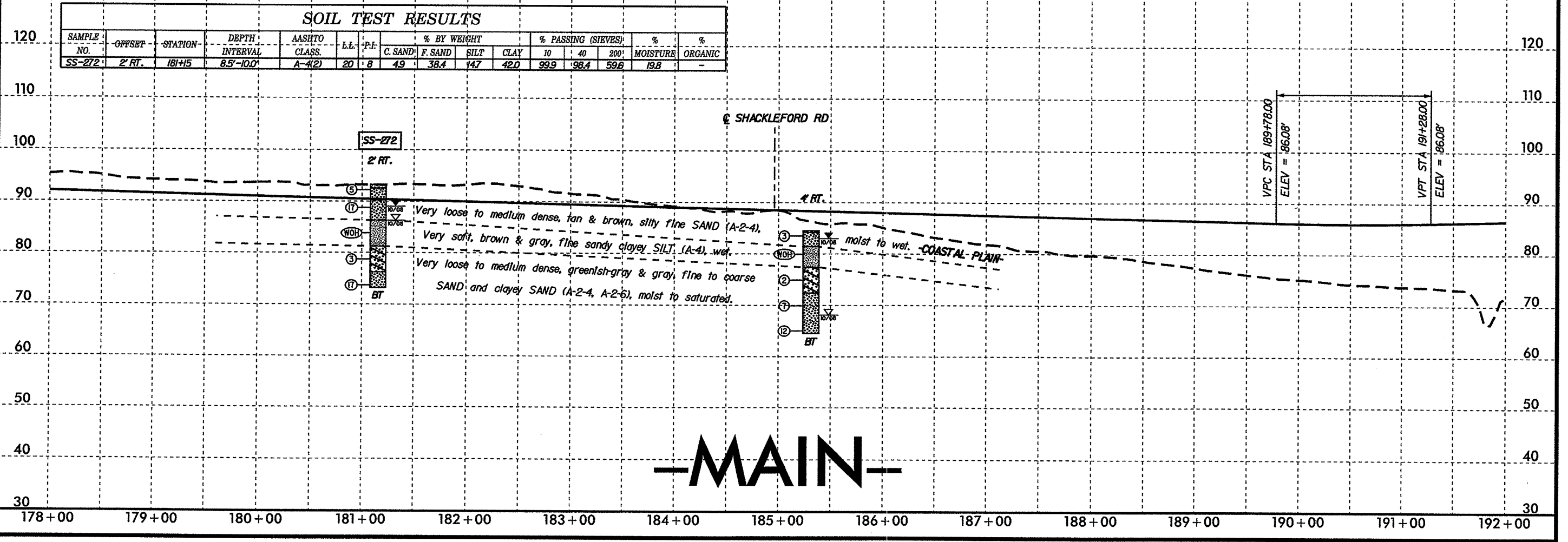
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SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-256	6' RT.	171+65	2.0'-3.5'	A-2-4(0)	8	NP	10.0	82.6	2.4	5.0	100.0	97.8	10.1	19.0	-
SS-262	6' RT.	171+65	18.5'-20.0'	A-2-4(0)	31	10	60.9	19.2	5.0	14.9	95.8	59.5	21.5	56.6	-
SS-266	82' RT.	177+08	8.5'-10.0'	A-2-4(0)	14	NP	9.4	61.2	10.6	18.8	100.0	98.1	33.2	18.3	-



SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-272	2' RT.	181+15	8.5'-10.0'	A-4(2)	20	8	4.9	38.4	4.7	42.0	99.9	98.4	59.8	19.8	-

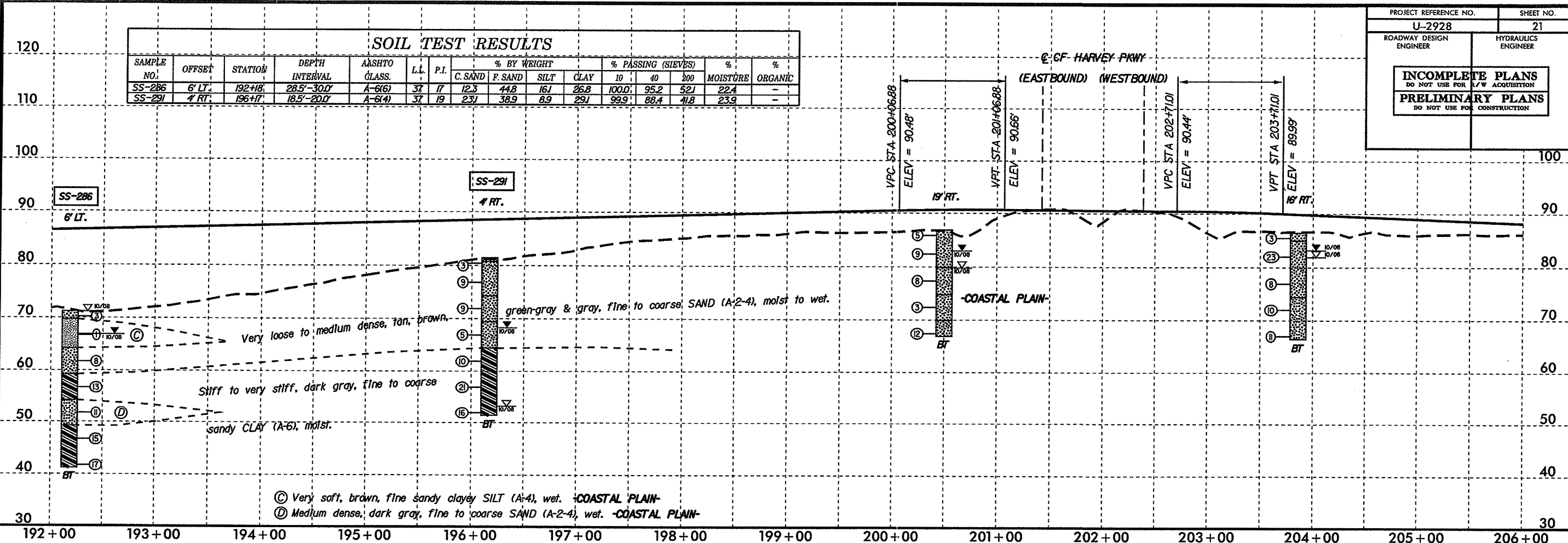


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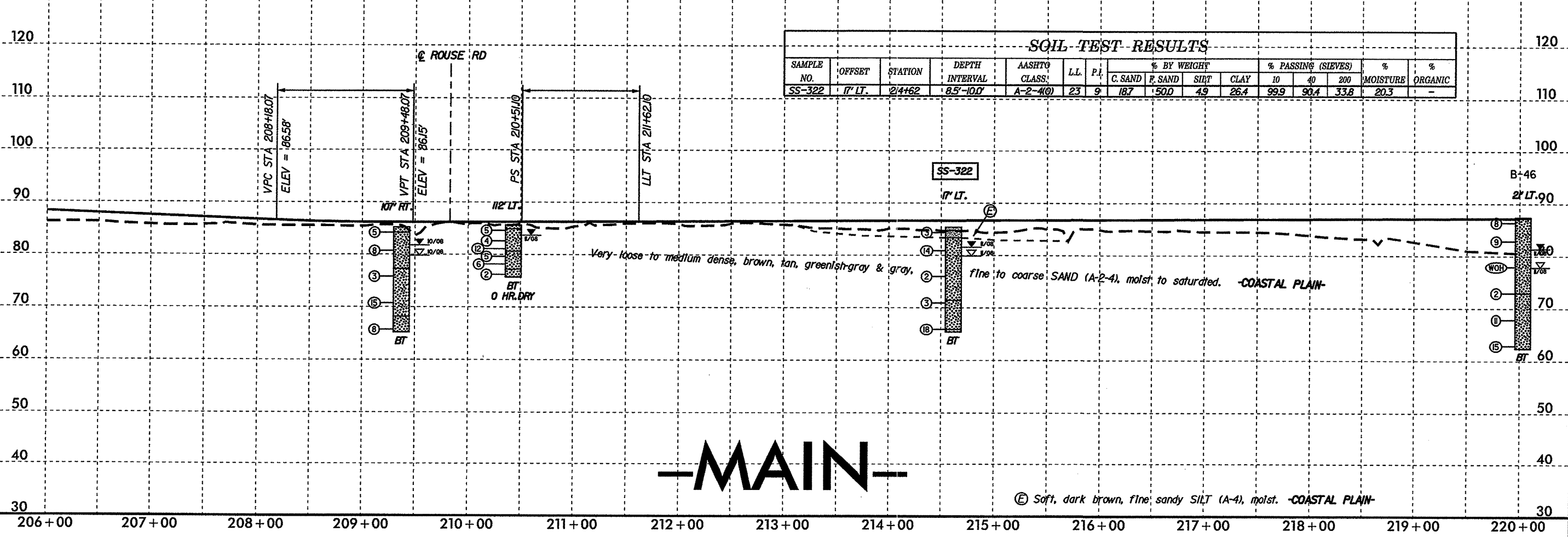
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SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-286	6' LT.	192+18	28.5'-30.0'	A-6(6)	37	17	12.3	44.8	16.1	26.8	100.0	95.2	52.1	22.4	-
SS-291	4' RT.	196+17	18.5'-20.0'	A-6(4)	37	19	23.1	38.9	8.9	29.1	99.9	88.4	41.8	23.9	-

5/28/99



SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-322	17' LT.	214+62	8.5'-10.0'	A-2-4(0)	23	9	18.7	50.0	4.9	26.4	99.9	90.4	33.8	20.3	-



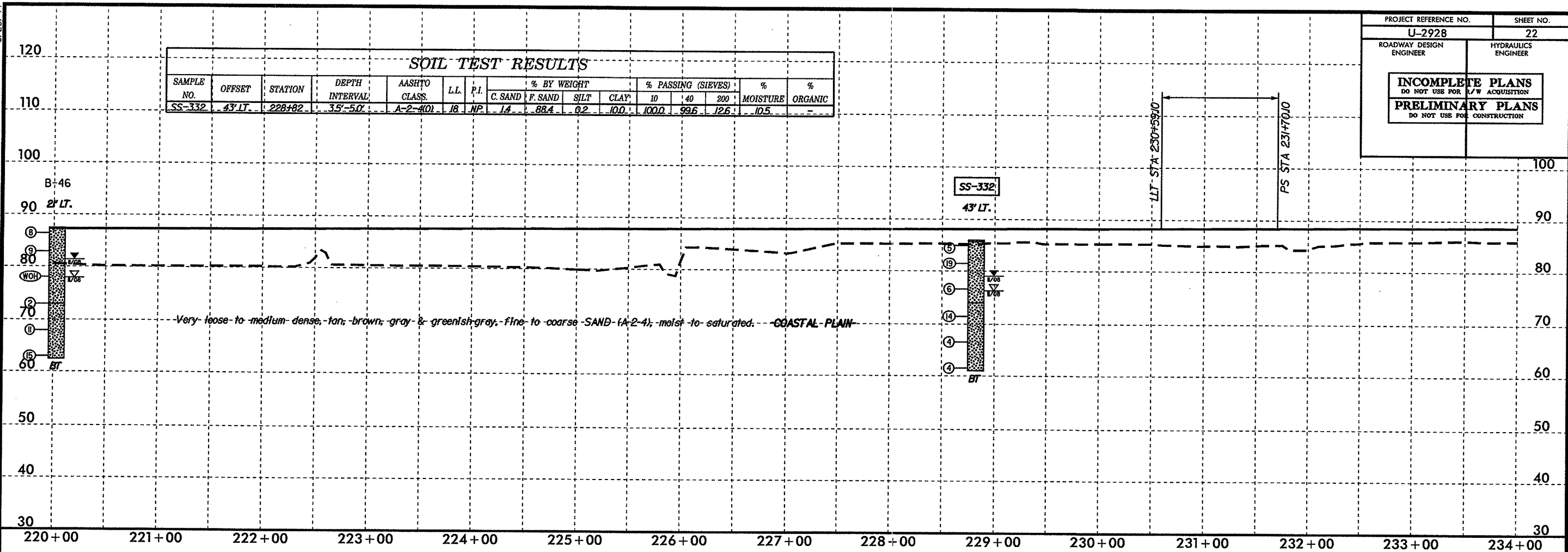
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 Plot: 1/28/99

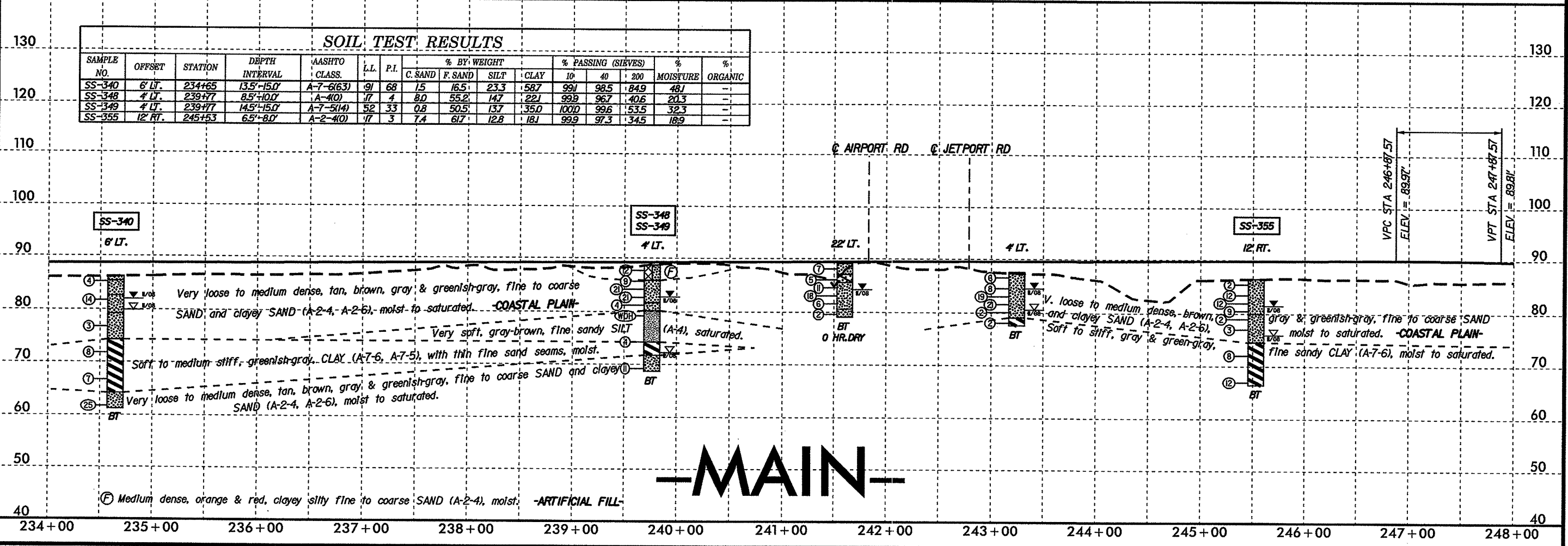
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-2928	22
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-332	43' LT.	228+82	35'-50'	A-2-4(0)	18	NP	14	88.4	0.2	10.0	100.0	99.6	12.6	10.5	-



SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-340	6' LT.	234+65	13.5'-15.0'	A-7-6(63)	91	68	15	16.5	23.3	1.587	991	98.5	84.9	48.1	-
SS-348	4' LT.	239+77	8.5'-10.0'	A-4(0)	17	4	8.0	55.2	14.7	221	999	96.7	40.6	21.3	-
SS-349	4' LT.	239+77	14.5'-15.0'	A-7-5(14)	52	33	0.8	50.5	13.7	35.0	1000	99.6	53.5	32.3	-
SS-355	12' RT.	245+53	6.5'-8.0'	A-2-4(0)	17	3	7.4	61.7	12.8	18.1	99.9	97.3	34.5	18.9	-



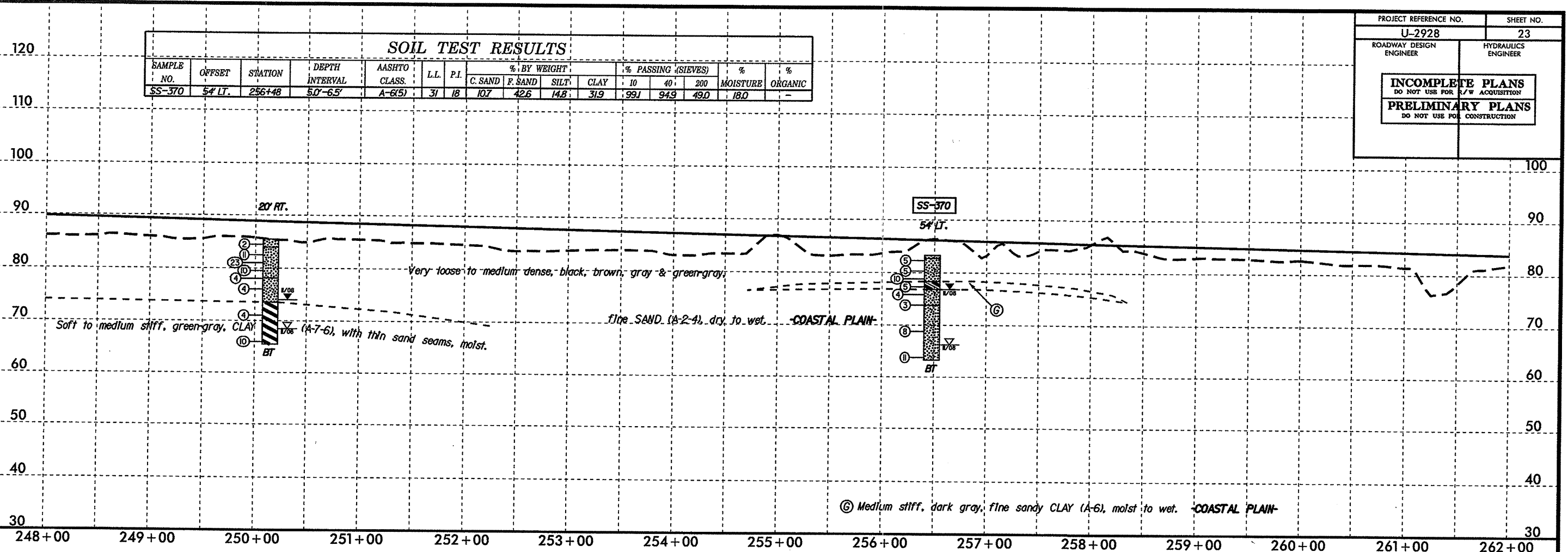
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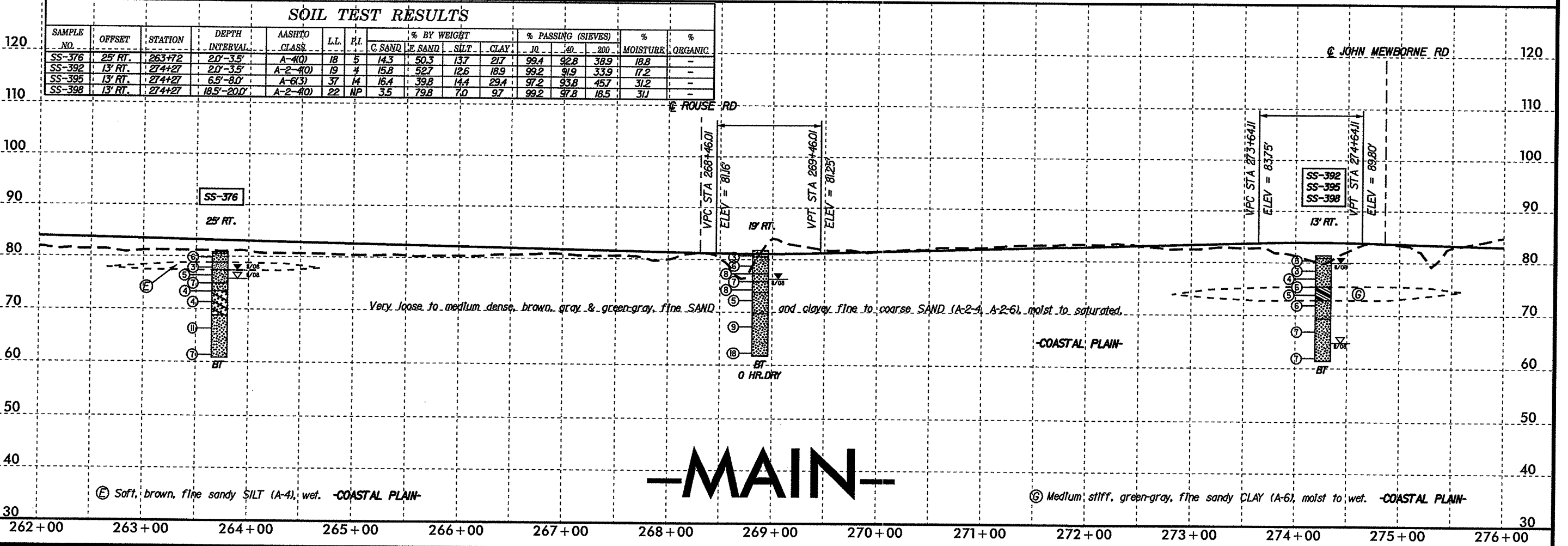
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PROJECT REFERENCE NO.	SHEET NO.
U-2928	23
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-370	54 LT.	256+48	5.0'-6.5'	A-6(5)	31	18	10.7	42.6	14.8	31.9	99.1	94.9	49.0	18.0	-



SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-376	25' RT.	263+72	2.0'-3.5'	A-4(0)	18	5	14.3	50.3	13.7	21.7	99.4	92.8	38.9	18.8	-
SS-392	13' RT.	274+27	2.0'-3.5'	A-2-4(0)	19	4	15.8	52.7	12.6	18.9	99.2	91.9	33.9	17.2	-
SS-395	13' RT.	274+27	6.5'-8.0'	A-6(3)	37	14	16.4	39.8	14.4	29.4	97.2	93.8	45.7	31.2	-
SS-398	13' RT.	274+27	18.5'-20.0'	A-2-4(0)	22	NP	3.5	79.8	7.0	9.7	99.2	97.8	18.5	31.1	-

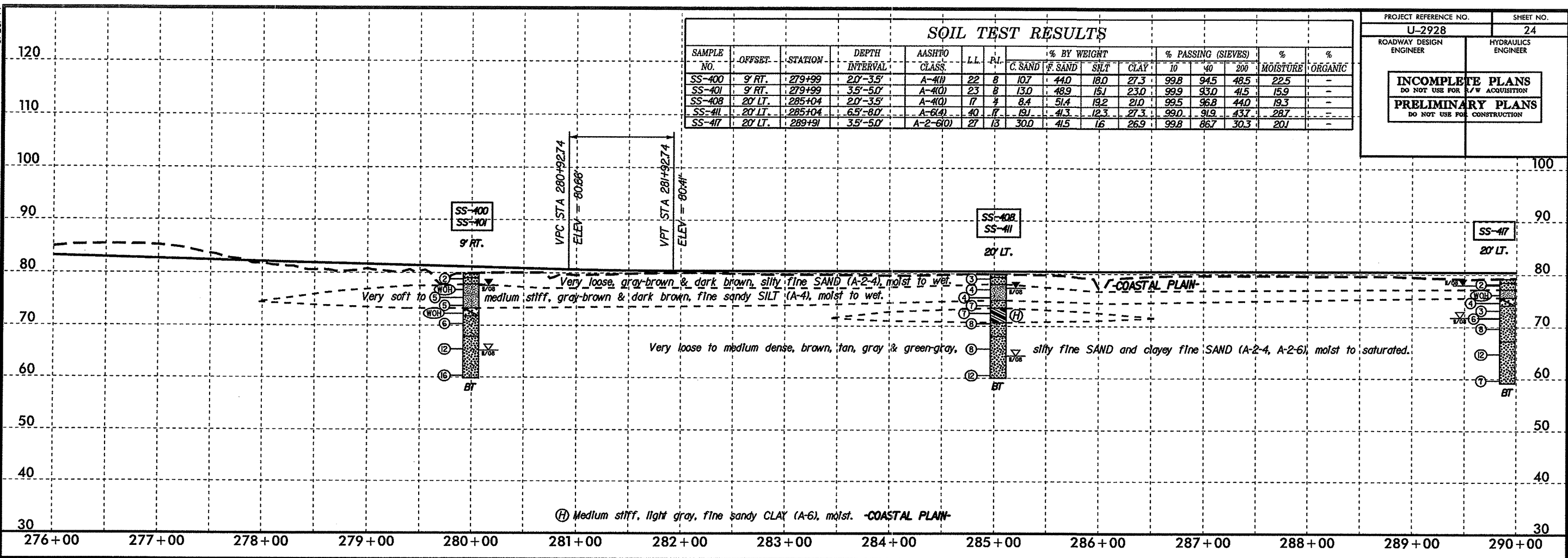


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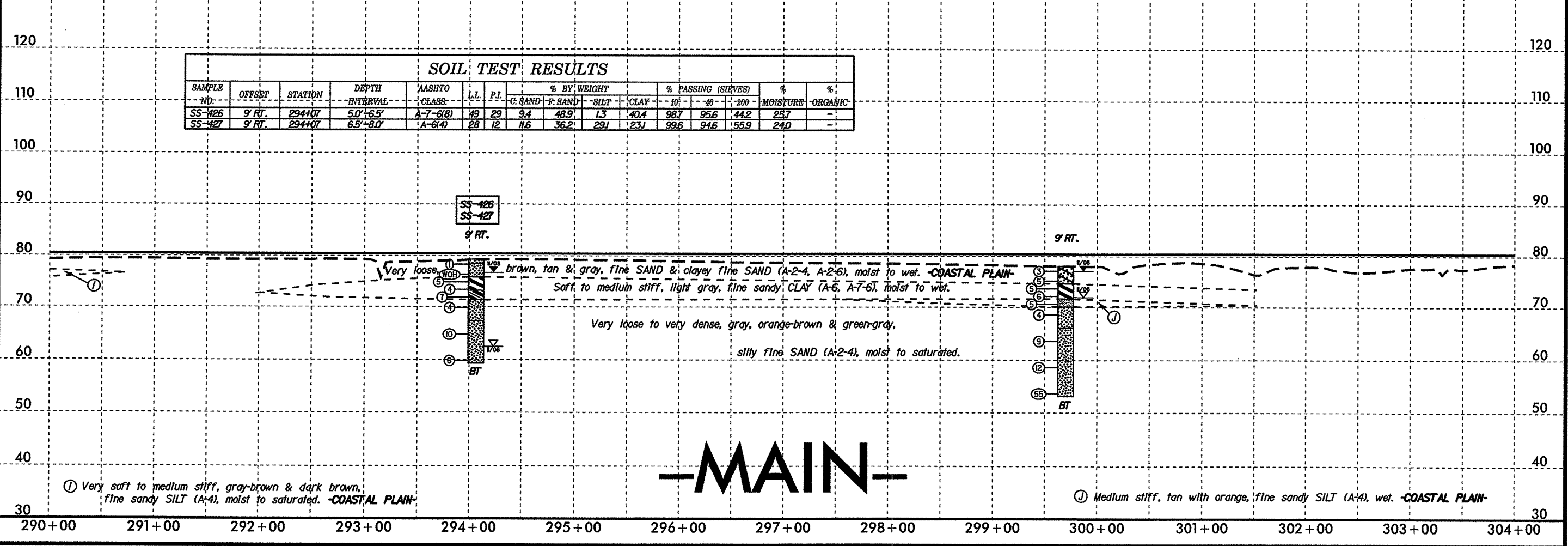
5/28/99

PROJECT REFERENCE NO. U-2928	SHEET NO. 24
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	L.L.	P.I.	% BY WEIGHT			% PASSING (SIEVES)			% MOISTURE	% ORGANIC	
							C. SAND	F. SAND	SILT	CLAY	10	40			200
SS-400	9' RT.	279+99	2.0'-3.5'	A-4(1)	22	8	107	44.0	18.0	27.3	99.8	94.5	48.5	22.5	-
SS-401	9' RT.	279+99	3.5'-5.0'	A-4(1)	23	8	13.0	48.9	15.1	23.0	99.9	95.0	41.5	15.9	-
SS-408	20' LT.	285+04	2.0'-3.5'	A-4(1)	17	4	8.4	51.4	19.2	21.0	99.5	96.8	44.0	19.3	-
SS-411	20' LT.	285+04	6.5'-8.0'	A-6(4)	40	17	19.1	41.3	12.3	27.3	99.0	91.9	43.7	28.7	-
SS-417	20' LT.	289+91	3.5'-5.0'	A-2-6(1)	27	13	30.0	41.5	16	26.9	99.8	86.7	30.3	20.1	-



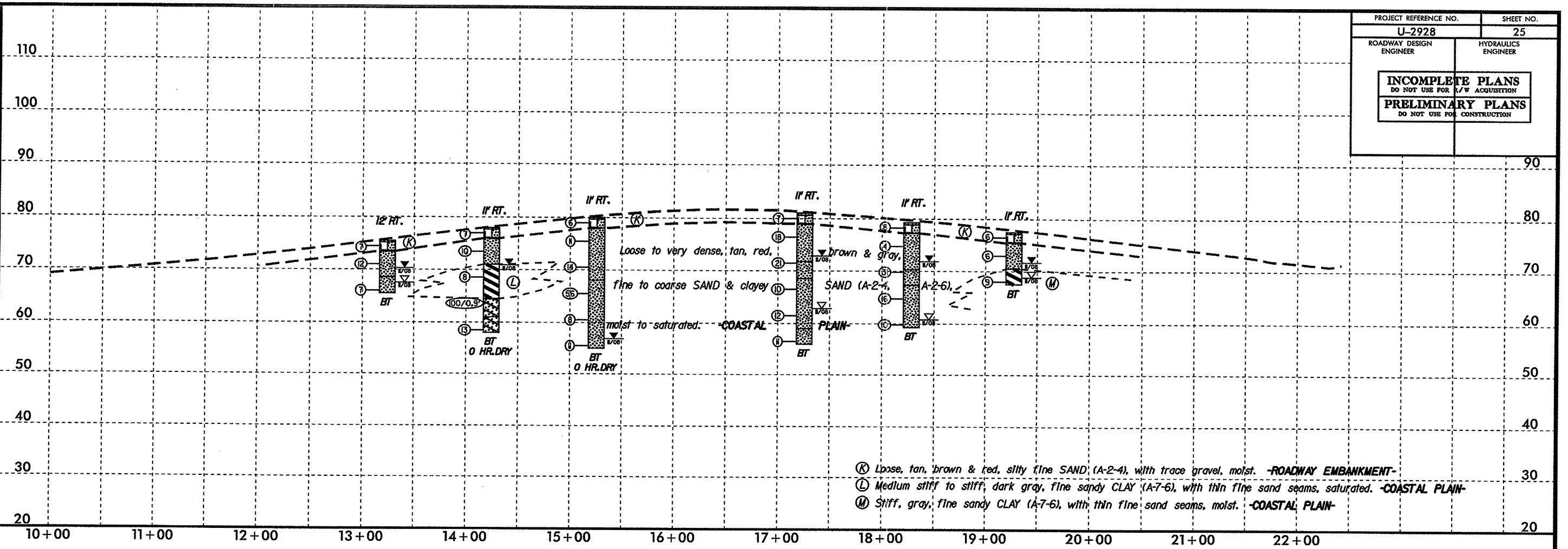
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-426	9' RT.	294+07	5.0'-6.5'	A-7-6(8)	49	29	9.4	48.9	1.3	40.4	98.7	95.6	44.2	25.7	-
SS-427	9' RT.	294+07	6.5'-8.0'	A-6(4)	28	12	11.6	36.2	29.1	23.1	99.6	94.6	55.9	24.0	-



-MAIN-

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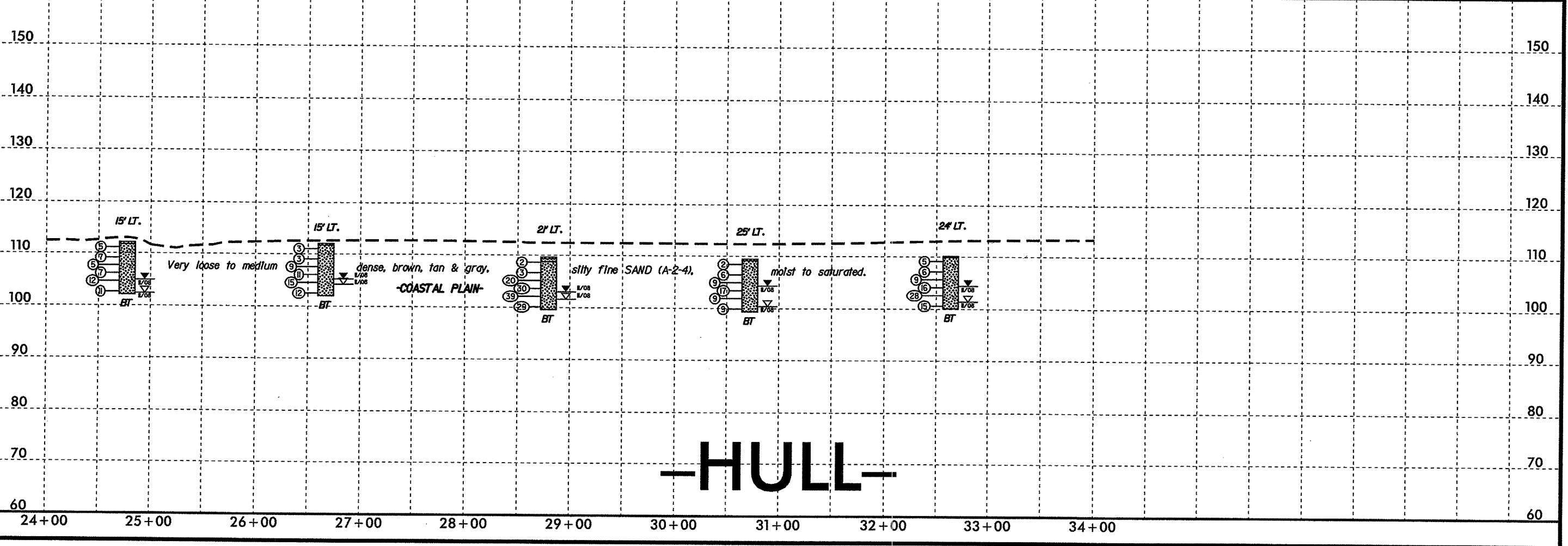
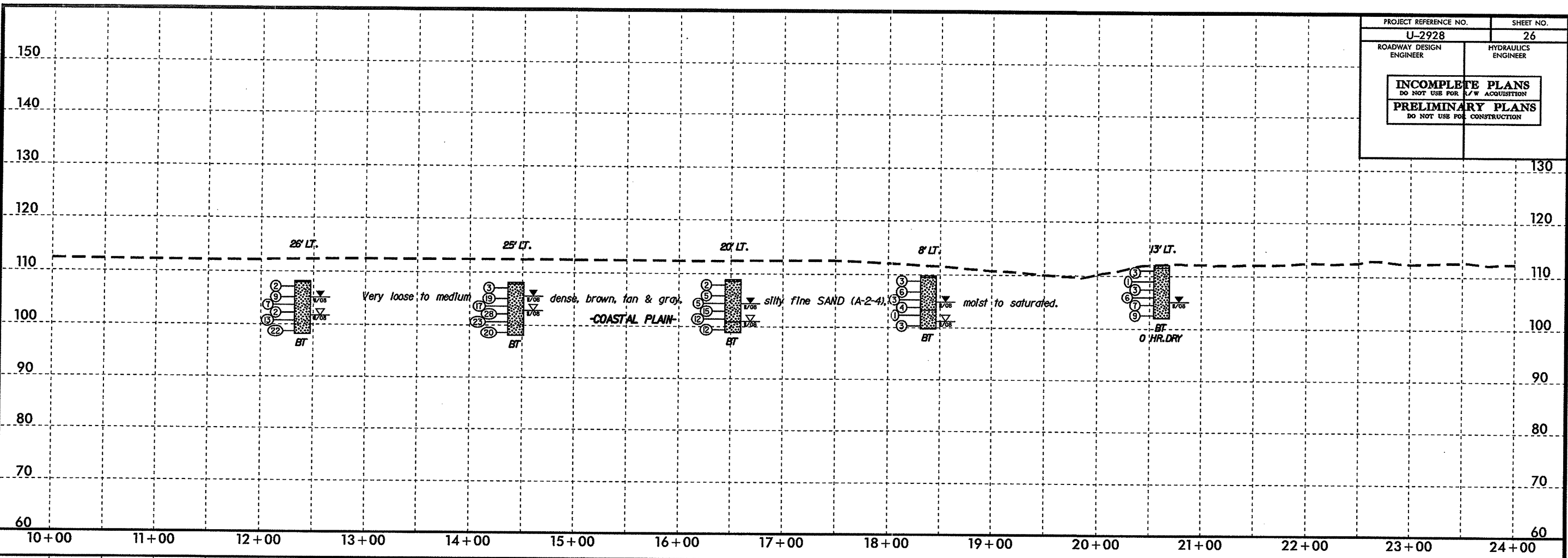
-SAND CLAY-

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PROJECT REFERENCE NO. U-2928	SHEET NO. 26
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

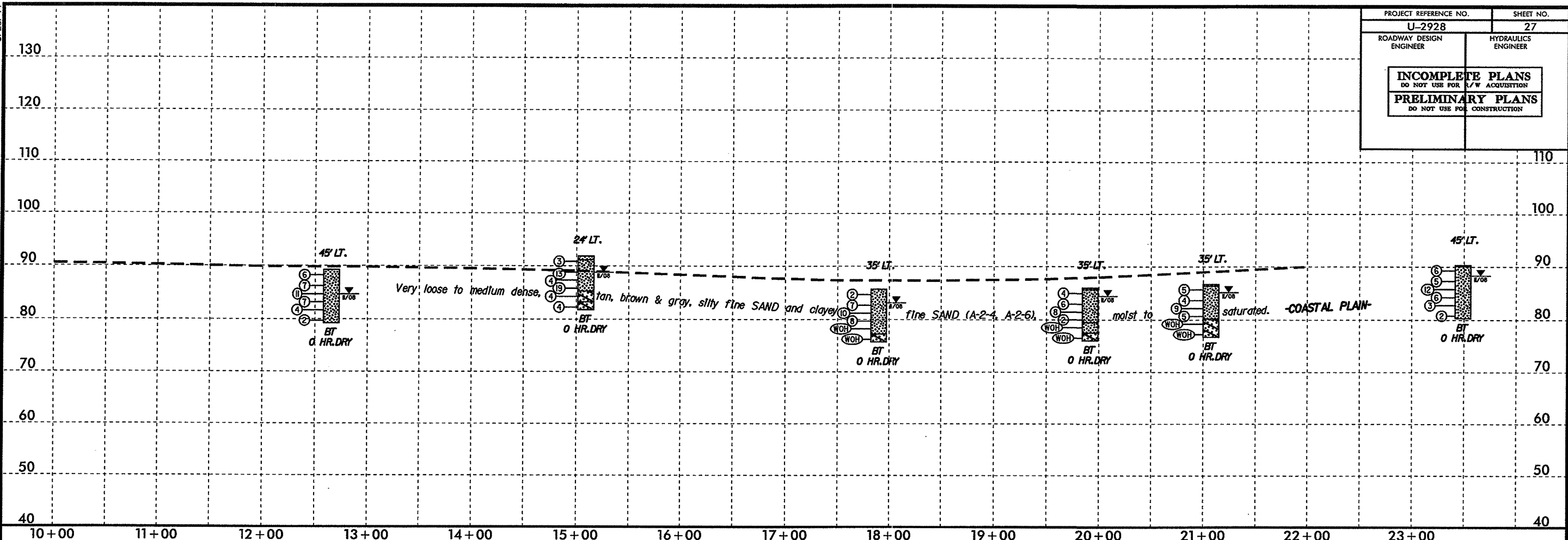
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PROJECT REFERENCE NO. U-2928	SHEET NO. 27
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-DOBBS FARM-

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PROJECT REFERENCE NO.	SHEET NO.
38989.I.I (U-2928)	-

APPENDIX

PROJECT NO. 38989.1.1			ID. U-2928			COUNTY Lenoir			GEOLOGIST D. Racey							
SITE DESCRIPTION Global Transpark Freight Transportation System								GROUND WTR (ft)								
BORING NO. B-1		STATION 15+09		OFFSET 18ft RT		ALIGNMENT -WYE-		0 HR. 2.5								
COLLAR ELEV. 48.5 ft		TOTAL DEPTH 20.0 ft		NORTHING 556,484		EASTING 2,406,489		24 HR. 2.1								
DRILL MACHINE CME 550			DRILL METHOD 2.25" ID HSA			HAMMER TYPE Automatic										
START DATE 10/17/08			COMP. DATE 10/17/08			SURFACE WATER DEPTH N/A			DEPTH TO ROCK 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						
50																
48.5	0.0	0.0													48.5	GROUND SURFACE
46.5	2.0	2.0	WOH	1	2										46.5	COASTAL PLAIN DEPOSITS
45.0	3.5	3.5		1	2										45.0	Soft, moist, dark brown, fine sandy SILT (A-4), with trace roots.
43.5	5.0	5.0	WOH	1	2										43.5	Soft to medium stiff, moist to wet, gray, clayey fine to coarse sandy SILT (A-4(2)).
42.0	6.5	6.5		1	1										42.0	Soft, moist to wet, light gray, fine to coarse sandy CLAY (A-6(2)).
40.0	8.5	8.5	WOH	1	1										40.0	Very loose, saturated, gray-brown, fine SAND (A-2-4), with little clay.
35.0	13.5	13.5		2	1										35.0	Loose, saturated, tan & gray, fine to coarse SAND (A-2-4).
30.0	18.5	18.5		2	2										30.0	Very loose, wet, dark gray, fine to coarse SAND (A-2-4), with some clay.
															28.5	Loose, saturated, dark green-gray, fine to coarse SAND (A-2-4), with some clay.
28.5															28.5	Boring Terminated at Elevation 28.5 ft in SAND
25																
20																
15																
10																
5																
0																
-5																
-10																
-15																
-20																
-25																
-30																
NOTES:																
1) Geologist indicates strata break in split spoon at a depth of 9.5'.																
2) Stabilized groundwater reading taken at 72 hours.																
S.O.S.=Surficial Organic Soils																

NCDOT BORE SINK 86-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1			ID. U-2928			COUNTY Lenoir			GEOLOGIST D. Racey							
SITE DESCRIPTION Global Transpark Freight Transportation System								GROUND WTR (ft)								
BORING NO. B-2		STATION 14+37		OFFSET 27ft RT		ALIGNMENT -MAIN-		0 HR. 9.0								
COLLAR ELEV. 49.9 ft		TOTAL DEPTH 20.0 ft		NORTHING 556,425		EASTING 2,407,080		24 HR. 5.6								
DRILL MACHINE CME 550			DRILL METHOD 2.25" ID HSA			HAMMER TYPE Automatic										
START DATE 10/17/08			COMP. DATE 10/17/08			SURFACE WATER DEPTH N/A			DEPTH TO ROCK 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						
50																
49.9	0.0	0.0													49.9	GROUND SURFACE
47.9	2.0	2.0													47.9	COASTAL PLAIN DEPOSITS
46.4	3.5	3.5													46.4	Very loose to loose, moist to wet, dark brown, light gray & brown, silty fine to coarse SAND (A-2-4), with little clay.
44.9	5.0	5.0	WOH	1	2										44.9	Soft to medium stiff, moist to wet, gray, clayey fine to coarse sandy SILT (A-4(2)).
43.4	6.5	6.5		2	3										43.4	Soft, moist to wet, light gray, fine to coarse sandy CLAY (A-6(2)).
41.4	8.5	8.5		1	2										41.4	Very loose, saturated, gray-brown, fine SAND (A-2-4), with little clay.
40.0															40.0	Loose, saturated, tan & gray, fine to coarse SAND (A-2-4).
36.4	13.5	13.5		3	1										36.4	Medium dense to very loose, wet to saturated, tan, brown & tan-gray, fine to coarse SAND (A-2-4).
30.0	18.5	18.5		1	2										30.0	Very loose, wet, dark gray, fine to coarse SAND (A-2-4), with some clay.
29.9															29.9	Boring Terminated at Elevation 29.9 ft in SAND
25																
20																
15																
10																
5																
0																
-5																
-10																
-15																
-20																
-25																
-30																
NOTES:																
1) Geologist indicates strata break in split spoon at a depth of 9.4'.																
2) Stabilized groundwater reading taken at 72 hours.																
S.O.S.=Surficial Organic Soils																

NCDOT BORE SINGLE 86-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-3	STATION 18+03	OFFSET 36ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 49.9 ft	TOTAL DEPTH 20.0 ft	NORTHING 556,692	EASTING 2,406,868
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/16/08	COMP. DATE 10/16/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
50	49.9	0.0	1	2	1									GROUND SURFACE	0.0
	47.9	2.0	WOH	WOH	WOH									COASTAL PLAIN DEPOSITS Very loose, moist to saturated, dark brown to brown, silty fine to coarse SAND (A-2-4(0)), with trace to little clay.	
45	46.4	3.5	WOH	1	1										
	44.9	5.0	WOH	WOH	WOH									Loose, saturated, tan to tan-gray, fine to coarse SAND (A-1-b(0)), with trace rounded gravel & trace clay.	
40	43.4	6.5	WOR	WOR	WOH										
	41.4	8.5	2	3	5									Loose, wet, dark gray, fine to coarse SAND (A-2-4), with some clay.	
35	36.4	13.5	2	2	3										
	31.4	18.5	1	0	1									Very loose, saturated, dark green-gray, fine to coarse SAND (A-2-4(0)), with little clay, trace silt. Boring Terminated at Elevation 29.9 ft in SAND	
30															

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 14.2'.
 S.O.S.=Surficial Organic Soils
 WOR=Weight of Rods

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-4	STATION 18+23	OFFSET 15ft RT	ALIGNMENT -WYE-
COLLAR ELEV. 49.3 ft	TOTAL DEPTH 20.0 ft	NORTHING 556,703	EASTING 2,406,723
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/16/08	COMP. DATE 10/16/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
50	49.3	0.0												GROUND SURFACE	0.0
	47.3	2.0	1	2	1									COASTAL PLAIN DEPOSITS Soft, wet, dark brown, clayey fine to coarse sandy SILT (A-4(0)), with trace roots. Very loose, wet to saturated, dark brown to brown, fine to coarse SAND (A-2-4).	
45	45.8	3.5	WOH	WOH	WOH										
	44.3	5.0	WOH	1	1									Loose, saturated, brown, fine to coarse SAND (A-1-b), with trace rounded gravel.	
40	42.8	6.5	WOH	WOH	WOH										
	40.8	8.5	1	2	4									Very loose, saturated, dark gray, fine to coarse SAND (A-2-4), with some clay.	
35	35.8	13.5	WOH	1	2										
	30.8	18.5	1	1	1									Very loose, saturated, dark green-gray, fine to coarse SAND (A-2-4), with little clay. Boring Terminated at Elevation 29.3 ft in SAND	
30															

NOTES:
 S.O.S.=Surficial Organic Soils

NCDOT BORE SIA 166-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE 166-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-5	STATION 23+74	OFFSET 6ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 53.2 ft	TOTAL DEPTH 25.0 ft	NORTHING 557,245	EASTING 2,406,814
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/16/08	COMP. DATE 10/16/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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								
55	53.2	0.0													53.2	GROUND SURFACE	0.0	
	51.2	2.0	WOH	1	2													
50	49.7	3.5		3	4	5												
	48.2	5.0	WOH	1	1													
	46.7	6.5		6	4	1												
45	44.7	8.5	WOH	WOH	1													
				1	2	1												
40	39.7	13.5		3	5	5												
	34.7	18.5		2	2	2												
30	29.7	23.5		1	1	1												
25																		
20																		
15																		
10																		
5																		
0																		
-5																		
-10																		
-15																		
-20																		
-25																		

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 19.2'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-6	STATION 29+11	OFFSET 8ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 60.0 ft	TOTAL DEPTH 25.0 ft	NORTHING 557,782	EASTING 2,406,783
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/14/08	COMP. DATE 10/14/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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								
60	60.0	0.0	WOH	1	1										60.0	GROUND SURFACE	0.0	
	58.0	2.0		2	2	1									59.3	SURFICIAL ORGANIC SOILS	0.7	
	56.5	3.5		2	3	5												
55	55.0	5.0		2	3	3												
	51.5	8.5		3	2	3												
50	46.5	13.5		1	WOH	WOH												
	41.5	18.5		3	6	8												
40	36.5	23.5		2	1	3												
35																		
30																		
25																		
20																		
15																		
10																		
5																		
0																		
-5																		
-10																		
-15																		
-20																		

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.7' & 19.5'.
 2) 0 hour groundwater not measured due to property owner.
 3) Stabilized groundwater reading taken at 48 hours.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SIN 66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE 66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey								
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)							
BORING NO. B-7		STATION 34+15		OFFSET 12ft RT		ALIGNMENT -MAIN-								
COLLAR ELEV. 88.4 ft		TOTAL DEPTH 73.5 ft		NORTHING 558,285		EASTING 2,406,755								
DRILL MACHINE CME 550		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
START DATE 10/13/08		COMP. DATE 10/13/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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				
90	88.4	0.0	1	2	2							M	GROUND SURFACE	0.0
85	84.9	3.5	6	12	19							M	SURFICIAL ORGANIC SOILS Moist, brown, silty fine SAND (A-2-4), with roots & trace coarse sand.	4.5
80	79.9	8.5	3	3	4							SS-3	COASTAL PLAIN DEPOSITS Loose to dense, moist, tan-red & tan, silty fine to coarse SAND (A-2-4), with some clay. Loose to medium dense, moist to wet, tan & red to white, tan & gray, fine to coarse SAND (A-2-4(0)), with little clay, trace silt & a thin light gray clay thread.	
75	74.9	13.5	4	8	11							W		
70	69.9	18.5	6	10	9							SS-5	Very stiff, wet, gray, highly plastic CLAY (A-7-6(15)), with thin fine sand seams.	17.0
65	64.9	23.5	12	24	51							SS-6	Very dense, saturated, dark gray, fine to coarse SAND (A-2-4(0)), with trace silt & clay.	22.0
60	59.9	28.5	3	4	7							Sat.	Medium dense, moist to saturated, dark gray, fine to coarse SAND (A-2-4(0)), with some clay, trace silt.	27.0
55	54.9	33.5	4	6	8							SS-8		
50	49.9	38.5	5	6	7							SS-9		
45	44.9	43.5	5	7	10							W	Very stiff, wet, dark gray, fine sandy CLAY (A-7-6).	42.0
40	39.9	48.5	9	78	21							M	Medium dense to very dense, moist to saturated, dark gray to gray, fine to coarse SAND (A-2-4), with some clay, trace shell fragments.	47.0
35	34.9	53.5	4	6	11							W		
30	29.9	58.5	6	7	14							Sat.		
25	24.9	63.5	8	100/0.4'								Sat.	Very dense, saturated, gray, fine SAND (A-2-4), with shell fragments & cemented shells.	64.0
20	19.9	68.5	7	11	19							Sat.	Medium dense to dense, saturated, gray, fine SAND (A-2-4), with little clay.	65.5
15	14.9	73.5											No sample recovered.	72.5
10													Boring Terminated at Elevation 14.9 ft	73.5

NCDOT BORE SILENCE K86-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey								
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)							
BORING NO. B-7		STATION 34+15		OFFSET 12ft RT		ALIGNMENT -MAIN-								
COLLAR ELEV. 88.4 ft		TOTAL DEPTH 73.5 ft		NORTHING 558,285		EASTING 2,406,755								
DRILL MACHINE CME 550		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
START DATE 10/13/08		COMP. DATE 10/13/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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				
10													Match Line	

- NOTES:
- 1) Geologist indicates strata break in split spoon at depths of 0.5' & 4.5'.
 - 2) Driller indicates softer drilling at a depth of 65.5'.
 - 3) Driller indicates harder drilling at a depth of 72.5'.
 - 4) 0 hour groundwater level not measured due to mud rotary drilling techniques.
 - 5) 24 hour groundwater level was measured in an offset auger boring.
 - 6) CBRs 1-3 taken in an offset auger boring.
- S.O.S.=Surficial Organic Soils

NCDOT BORE SINGLE K86-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-8	STATION 39+01	OFFSET 15ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 93.8 ft	TOTAL DEPTH 50.0 ft	NORTHING 558,770	EASTING 2,406,728
DRILL MACHINE CME 550	DRILL METHOD Mud Rotary	HAMMER TYPE Automatic	
START DATE 10/14/08	COMP. DATE 10/14/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
95	93.8	0.0												GROUND SURFACE	93.8
			1	2	2									SURFICIAL ORGANIC SOILS	
														Moist, brown, silty fine SAND (A-2-4), with grass & roots.	
90	90.3	3.5	2	2	4									COASTAL PLAIN DEPOSITS	
														Loose, moist to wet, tan-red, tan, white & tan-gray, silty fine to coarse SAND (A-2-4), with little clay.	
85	85.3	8.5	4	4	5										
80	80.3	13.5	2	3	6										
75	75.3	18.5	8	6	6										
70	70.3	23.5	4	5	12										
65	65.3	28.5	6	5	8										
60	60.3	33.5	10	15	21										
55	55.3	38.5	5	5	8										
50	50.3	43.5	4	5	7										
45	45.3	48.5	4	6	8										
40															
35															
30															
25															
20															
15															

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.5', 19.0' & 24.5'.
 2) Driller indicates harder drilling at a depth of 32.5'.
 3) 0 hour groundwater not measured due to mud rotary drilling techniques.
 4) Boring caved at a depth of 2.6'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-9	STATION 43+95	OFFSET 16ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 91.4 ft	TOTAL DEPTH 40.0 ft	NORTHING 559,262	EASTING 2,406,675
DRILL MACHINE CME 550	DRILL METHOD Mud Rotary	HAMMER TYPE Automatic	
START DATE 10/14/08	COMP. DATE 10/14/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
95	91.4	0.0												GROUND SURFACE	91.4
			1	1	3									SURFICIAL ORGANIC SOILS	
														Moist, tan-brown, silty fine SAND (A-2-4), with grass.	
90	87.9	3.5	2	4	4									COASTAL PLAIN DEPOSITS	
														Loose, moist, tan, silty fine SAND (A-2-4).	
85	82.9	8.5	2	5	3									Loose, moist, gray & tan-red mottled, highly clayey fine to coarse SAND (A-2-7(1)).	
80	77.9	13.5	2	2	3									Loose, wet, tan, fine to coarse SAND (A-1-b(0)).	
75	72.9	18.5	1	1	2										
70	67.9	23.5	8	10	12										
65	62.9	28.5	3	6	13										
60	57.9	33.5	2	11	19										
55	52.9	38.5	12	12	13										
50															
45															
40															
35															
30															
25															
20															
15															

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.3', 29.5' & 34.3'.
 2) Stabilized groundwater reading taken at 48 hours.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SIN K86-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K86-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST P. Alton									
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)								
BORING NO. B-10		STATION 46+11		OFFSET 70ft RT		ALIGNMENT -MAIN- 0 HR. 14.3									
COLLAR ELEV. 95.4 ft		TOTAL DEPTH 40.0 ft		NORTHING 559,490		EASTING 2,406,667 24 HR. 12.5									
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic											
START DATE 10/15/08		COMP. DATE 10/15/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
100															
95	95.4	0.0	WOH	1	2								M	GROUND SURFACE	0.0
														SURFICIAL ORGANIC SOILS	
														Moist, brown, silty fine SAND (A-2-4), with trace rootlets.	
90	91.9	3.5		1	2	3							M	COASTAL PLAIN DEPOSITS	
														Very loose to loose, moist, tan-brown, silty fine SAND (A-2-4).	
85	86.9	8.5		2	5	10							M	Loose to medium dense, moist, tan with light orange to brown/orange & gray, silty fine SAND (A-2-4), with some thin gray clay seams.	6.0
80	81.9	13.5		2	4	6							M		
75	76.9	18.5		1	1	2							W	Very loose, wet, dark gray, fine SAND (A-2-4), with some clay.	17.0
70	71.9	23.5		1	2	6							W	Loose, wet, dark gray, clayey fine to coarse SAND (A-2-6).	22.0
65	66.9	28.5		2	2	5							W	Medium stiff, wet, dark gray, silty CLAY (A-7-6), with thin fine sand seams.	27.0
60	61.9	33.5		1	1	3							Sat.	Loose to medium dense, saturated to wet, dark gray, silty fine to coarse SAND (A-2-4), with little clay.	32.0
55	56.9	38.5		13	9	18							W	Boring Terminated at Elevation 55.4 ft in SAND	40.0

NOTES:
1) Geologist indicates strata break in split spoon at a depth of 0.1'.
S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST P. Alton/D. Racey									
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)								
BORING NO. B-11		STATION 52+25		OFFSET 4ft RT		ALIGNMENT -MAIN- 0 HR. 22.0									
COLLAR ELEV. 78.2 ft		TOTAL DEPTH 70.0 ft		NORTHING 560,021		EASTING 2,406,337 24 HR. 4.8									
DRILL MACHINE CME 550		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
START DATE 10/17/08		COMP. DATE 10/21/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
80	78.2	0.0													
75	74.7	3.5													
70	69.7	8.5													
65	64.7	13.5													
60	59.7	18.5													
55	54.7	23.5													
50	49.7	28.5													
45	44.7	33.5													
40	39.7	38.5													
35	34.7	43.5													
30	29.7	48.5													
25	24.7	53.5													
20	19.7	58.5													
15	14.7	63.5													
10	9.7	68.5													
5															
0															

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SIN K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST P. Alton/D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-11	STATION 52+25	OFFSET 4ft RT	ALIGNMENT -MAIN- 0 HR. 22.0
COLLAR ELEV. 78.2 ft	TOTAL DEPTH 70.0 ft	NORTHING 560,021	EASTING 2,406,337 24 HR. 4.8
DRILL MACHINE CME 550	DRILL METHOD Mud Rotary	HAMMER TYPE Automatic	
START DATE 10/17/08	COMP. DATE 10/21/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
0															Match Line
															NOTES: 1) Geologist indicates strata break in split spoon at a depth of 0.4'. 2) Driller indicates harder drilling at a depth of 52.0' and zones of soft & hard drilling from 53.5' to 58.5'. S.O.S.=Surficial Organic Soils WOR=Weight of Rods

NCDOT BORE SINL K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST P. Alton
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-12	STATION 59+04	OFFSET 67ft RT	ALIGNMENT -MAIN- 0 HR. 10.5
COLLAR ELEV. 82.7 ft	TOTAL DEPTH 20.0 ft	NORTHING 560,649	EASTING 2,406,072 24 HR. 6.5
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/15/08	COMP. DATE 10/15/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
85															
82.7	82.7	0.0													GROUND SURFACE 82.7
80	80.7	2.0	WOH	1	1										SURFICIAL ORGANIC SOILS Moist, brown, silty fine SAND (A-2-4), with trace grass & roots.
	79.2	3.5	WOH	1	1										COASTAL PLAIN DEPOSITS Very loose, moist, brown, silty fine SAND (A-2-4).
	76.2	6.5	WOH	WOH	1										
75	74.2	8.5		1	2	2									Loose, wet, gray-brown, fine to coarse SAND (A-2-4), with some clay.
				3	2	4									
70	69.2	13.5		8	16	23									Medium dense to dense, saturated, dark gray, silty fine SAND (A-2-4), with trace mica.
65	64.2	18.5		7	9	14									
60															Boring Terminated at Elevation 62.7 ft in SAND
55															NOTES: 1) Geologist indicates strata break in split spoon at a depth of 0.2'. S.O.S.=Surficial Organic Soils

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-12A	STATION 58+28	OFFSET 25ft RT	ALIGNMENT -MAIN- 0 HR. N/A
COLLAR ELEV. 81.3 ft	TOTAL DEPTH 70.0 ft	NORTHING 560,562	EASTING 2,406,071 24 HR. 5.8
DRILL MACHINE CME 550	DRILL METHOD Mud Rotary	HAMMER TYPE Automatic	
START DATE 10/20/08	COMP. DATE 10/20/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
85															
81.3	81.3	0.0													
80	77.8	3.5	2	1	2										
75	72.8	8.5	2	2	2										
70	67.8	13.5	7	13	18										
65	62.8	18.5	9	11	12										
60	57.8	23.5	3	4	7										
55	52.8	28.5	3	3	5										
50	47.8	33.5	4	5	5										
45	42.8	38.5	5	6	9										
40	37.8	43.5	6	100/0.5'											
35	32.8	48.5	5	6	7										
30	27.8	53.5	16	100/0.2'											
25	22.8	58.5	8	12	20										
20	17.8	63.5	5	6	7										
15	12.8	68.5	6	8	10										
10															
5															

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-12A	STATION 58+28	OFFSET 25ft RT	ALIGNMENT -MAIN- 0 HR. N/A
COLLAR ELEV. 81.3 ft	TOTAL DEPTH 70.0 ft	NORTHING 560,562	EASTING 2,406,071 24 HR. 5.8
DRILL MACHINE CME 550	DRILL METHOD Mud Rotary	HAMMER TYPE Automatic	
START DATE 10/20/08	COMP. DATE 10/20/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
5															
0															
-5															
-10															
-15															
-20															
-25															
-30															
-35															
-40															
-45															
-50															
-55															
-60															
-65															
-70															
-75															

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.4', 9.6' & 44.0'.
 2) Driller indicates harder drilling at a depth of 52.5'.
 3) 0 hour groundwater not measured due to mud rotary drilling techniques.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SING. K66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SING. K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST P. Alton	
SITE DESCRIPTION Global Transpark Freight Transportation System				GROUND WTR (ft)
BORING NO. B-13	STATION 64+38	OFFSET 163ft RT	ALIGNMENT -MAIN-	0 HR. 19.5
COLLAR ELEV. 91.1 ft	TOTAL DEPTH 20.0 ft	NORTHING 561,144	EASTING 2,406,012	24 HR. 8.5
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic		
START DATE 10/15/08	COMP. DATE 10/15/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
95														
90	91.1	0.0											GROUND SURFACE	89.9
	89.1	2.0	1	2	2						M		SURFICIAL ORGANIC SOILS	
	87.6	3.5	1	1	1						M		Moist, dark brown, silty fine SAND (A-2-4), with trace rootlets.	3.5
85	84.6	6.5	3	3	3						M		COASTAL PLAIN DEPOSITS	
	82.6	8.5	2	5	12								Very loose to loose, moist, brown to yellow-brown, silty fine SAND (A-2-4).	
80			10	7	6								Loose to medium dense, moist to wet, brown/orange & gray mottled, fine to coarse SAND (A-2-4), with little clay.	
	77.6	13.5	2	3	4						W		Medium stiff, moist, brown, fine sandy SILT (A-4), with trace clay & mica.	12.0
75														
	72.6	18.5	10	13	22						W		Dense, wet, dark gray, fine SAND (A-2-4), with little clay.	17.0
70													Boring Terminated at Elevation 71.1 ft in SAND	20.0

NOTES:
1) Geologist indicates strata break in split spoon at a depth of 0.2'.
S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST P. Alton	
SITE DESCRIPTION Global Transpark Freight Transportation System				GROUND WTR (ft)
BORING NO. B-14	STATION 69+60	OFFSET 46ft RT	ALIGNMENT -MAIN-	0 HR. 24.2
COLLAR ELEV. 93.4 ft	TOTAL DEPTH 25.0 ft	NORTHING 561,630	EASTING 2,405,926	24 HR. 6.7
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic		
START DATE 10/15/08	COMP. DATE 10/15/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
95														
	93.4	0.0	1	2	4								GROUND SURFACE	89.9
	91.4	2.0	1	1	1						M		SURFICIAL ORGANIC SOILS	
90	89.9	3.5	1	1	1						M		Moist, dark gray, silty fine SAND (A-2-4), with trace rootlets.	2.0
	86.9	6.5											COASTAL PLAIN DEPOSITS	
	84.9	8.5	2	10	14						SS-3		Loose, moist, tan & brown, silty fine SAND (A-2-4).	3.5
85			9	10	3						W		Very loose, moist, brown, fine SAND (A-2-4) with little clay.	6.0
	79.9	13.5	1	1	2						W		Very loose, wet, gray, fine to coarse SAND (A-2-4(0)), with some clay.	7.5
80											W		Medium dense, wet, orange/brown, silty fine to coarse SAND (A-2-4).	12.0
	74.9	18.5	2	2	3						W		Medium dense, wet, light gray, silty fine to coarse SAND (A-2-4), with trace clay.	
75											W		Very loose to medium dense, wet, dark gray, silty fine SAND (A-2-4), with clay layers.	
	69.9	23.5	11	12	12						W			25.0
70													Boring Terminated at Elevation 68.4 ft in SAND	

NOTES:
1) Geologist indicates strata break in split spoon at depths of 0.2', 7.5' & 14.5'.
S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST P. Alton											
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)										
BORING NO. B-15		STATION 74+00		OFFSET 61ft LT		ALIGNMENT -MAIN-											
COLLAR ELEV. 98.7 ft		TOTAL DEPTH 20.0 ft		NORTHING 562,082		EASTING 2,405,935											
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic													
START DATE 10/15/08		COMP. DATE 10/15/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A											
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
100	98.7	0.0	1	3	4									98.7	GROUND SURFACE	0.0	
95	96.7	2.0	5	6	10									96.7	SURFICIAL ORGANIC SOILS		
	95.2	3.5	7	9	10									95.2	Moist, light brown, silty fine SAND (A-2-4), with roots.		
90	92.2	6.5	2	1	1									92.2	COASTAL PLAIN DEPOSITS		
	90.2	8.5	1	1	1									90.2	Loose to medium dense, moist, brown to brown/orange & gray mottled, fine to coarse SAND (A-2-4), with trace rootlets, little clay	6.0	
85			1	1	1										Very loose, saturated, tan & light orange, fine to coarse SAND (A-2-4(0)), with little clay.		
	85.2	13.5	5	5	7									85.2	Medium dense, saturated, light gray/tan, silty fine to coarse SAND (A-2-4).	12.0	
80			1	2	11										Very loose, wet, dark gray, fine to coarse SAND (A-2-4), with some clay.		
	80.2	18.5												80.2	Medium dense, saturated, light brown, fine to coarse SAND (A-1-b).	17.0	
75															Boring Terminated at Elevation 78.7 ft in SAND	19.5	
70																	20.0

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.1' & 19.5'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST P. Alton											
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)										
BORING NO. B-16		STATION 77+44		OFFSET 200ft RT		ALIGNMENT -MAIN-											
COLLAR ELEV. 100.9 ft		TOTAL DEPTH 25.0 ft		NORTHING 562,350		EASTING 2,406,275											
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic													
START DATE 10/15/08		COMP. DATE 10/15/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A											
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
105																	
100	100.9	0.0	2	4	3									100.9	GROUND SURFACE	0.0	
95	98.9	2.0	2	2	2									98.9	SURFICIAL ORGANIC SOILS		
	97.4	3.5	1	2	2									97.4	Moist, dark brown, silty fine SAND (A-2-4), with pine needles.	3.5	
90	94.4	6.5	1	1	1									94.4	COASTAL PLAIN DEPOSITS		
	92.4	8.5	1	1	2									92.4	Loose, moist, dark brown to yellow/brown, silty fine SAND (A-2-4), with trace organics, little clay.	6.0	
85			3	3	3										Soft to med. stiff, moist, brown/orange & gray mottled, f. to cse. sandy CLAY (A-7-6(11)).		
	87.4	13.5	1	1	2									87.4	Very loose, wet, light gray, fine to coarse SAND (A-2-4), with thin clay layers.	8.0	
80			1	1	1										Very loose to loose, saturated, light gray, brown/orange & orange, silty fine to coarse SAND (A-2-4), with cemented sand pieces.		
	82.4	18.5												82.4	Medium dense, saturated, light brown, fine to coarse SAND (A-1-b).	22.0	
75	77.4	23.5	2	6	10									77.4	Medium dense, wet, dark gray, fine to coarse SAND (A-2-4), with little clay.	25.0	
70															Boring Terminated at Elevation 75.9 ft in SAND		

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.1'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE S K66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-17	STATION 85+38	OFFSET 16ft RT	ALIGNMENT -MAIN- 0 HR. 21.0
COLLAR ELEV. 113.2 ft	TOTAL DEPTH 25.0 ft	NORTHING 563,190	EASTING 2,406,132 24 HR. 9.6
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/20/08	COMP. DATE 10/20/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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				
115	113.2	0.0	1	1	2								GROUND SURFACE	0.0
	111.2	2.0	1	2	3						M		SURFICIAL ORGANIC SOILS	0.8
	109.7	3.5	3	6	6						M		Moist, dark brown, silty fine SAND (A-2-4), with grass & roots.	
	108.2	5.0	6	6	6						M		COASTAL PLAIN DEPOSITS	
	106.7	6.5	5	4	3						M		Very loose to medium dense, moist to saturated, tan-orange, white & light gray, silty fine SAND (A-2-4(0)), with trace to some clay.	
	104.7	8.5	2	2	2									
	99.7	13.5	1	1	1						SS-97	32%		
	94.7	18.5	1	1	1						Sat.			
	89.7	23.5	WOH	WOH	WOH						Sat.			
													Very loose, saturated, dark gray, fine SAND (A-2-4), with little clay.	24.5
													Boring Terminated at Elevation 88.2 ft in SAND	25.0

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.8' & 24.5'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-18	STATION 90+70	OFFSET 16ft RT	ALIGNMENT -MAIN- 0 HR. Dry
COLLAR ELEV. 112.6 ft	TOTAL DEPTH 25.0 ft	NORTHING 563,717	EASTING 2,406,057 24 HR. 20.6
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/21/08	COMP. DATE 10/21/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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				
115	112.6	0.0	WOH	WOH	1								GROUND SURFACE	0.0
	110.6	2.0	WOH	WOH	2						M		SURFICIAL ORGANIC SOILS	0.8
	109.1	3.5	1	1	2						SS-125	19%	Moist, black/dark brown, silty fine SAND (A-2-4), with grass, leaves & roots.	
	107.6	5.0	1	2	2						M/W		COASTAL PLAIN DEPOSITS	
	106.1	6.5	2	4	5						W		Very loose to medium dense, moist to saturated, tan-orange, light gray, gray-brown & tan-gray, clayey & silty fine SAND (A-2-4(0)).	
	104.1	8.5	4	7	7						W			
	99.1	13.5	3	2	3						Sat.			
	94.1	18.5	2	1	2						SS-130	42%	Soft to medium stiff, saturated, light gray, fine sandy CLAY (A-6(16)), with little silt.	12.0
	89.1	23.5	1	2	1						Sat.		Very loose, saturated, dark gray, fine to coarse SAND (A-2-4), with little clay.	22.0
													Boring Terminated at Elevation 87.6 ft in SAND	25.0

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.8'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey									
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)								
BORING NO. B-20A		STATION 96+36		OFFSET 23ft RT		ALIGNMENT -MAIN-									
COLLAR ELEV. 113.1 ft		TOTAL DEPTH 28.0 ft		NORTHING 564,278		EASTING 2,405,986									
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic											
START DATE 11/21/08		COMP. DATE 11/21/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
115														113.1	0.0
110															
105														105.1	8.0
100														104.1	9.0
95														100.1	13.0
90	89.6	23.5												96.1	17.0
85	86.6	26.5	2	2	2									92.1	21.0
80														85.6	27.5
75														85.1	28.0
70															
65															
60															
55															
50															
45															
40															
35															

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 27.5'.
 Other Samples:
 ST-1 (17.0 - 19.0)
 ST-2 (21.0 - 23.0)

NCDOT BORE SIN \68-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey									
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)								
BORING NO. B-20		STATION 96+52		OFFSET 33ft RT		ALIGNMENT -MAIN-									
COLLAR ELEV. 110.9 ft		TOTAL DEPTH 20.0 ft		NORTHING 564,295		EASTING 2,405,993									
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic											
START DATE 10/22/08		COMP. DATE 10/22/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
115															
110	110.9	0.0												110.8	0.0
105	108.9	2.0	WCH	1	1										
100	107.4	3.5		4	3	4									
95	105.9	5.0		4	5	4									
90	104.4	6.5		4	6	8									
85	102.4	8.5		4	6	8									
80				2	4	4									
75	97.4	13.5		2	1	1									
70	92.4	18.5		2	2	2									
65															
60															
55															
50															
45															
40															
35															

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.3' & 5.6'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-21	STATION 98+11	OFFSET 5ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 112.3 ft	TOTAL DEPTH 20.0 ft	NORTHING 564,449	EASTING 2,405,943
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA	
START DATE 10/22/08		COMP. DATE 10/22/08	
SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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					
115															
	112.3	0.0													0.0
110	110.3	2.0	1	1	2										0.7
	108.8	3.5	2	3	2										
	107.3	5.0	3	3	4										
105	105.8	6.5	2	3	4										
	103.8	8.5	6	6	6										
			8	8	8										
100	98.8	13.5	4	2	2										
95	93.8	18.5	2	2	2										

92.3 Soft to medium stiff, saturated, dark gray, fine sandy CLAY (A-6).
 Boring Terminated at Elevation 92.3 ft in CLAY

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.7'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-22	STATION 103+12	OFFSET 48ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 107.5 ft	TOTAL DEPTH 20.0 ft	NORTHING 564,945	EASTING 2,405,941
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA	
START DATE 10/22/08		COMP. DATE 10/22/08	
SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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					
110															
	107.5	0.0													0.0
105	105.5	2.0	WOH	1	1										0.8
	104.0	3.5	3	2	3										
	102.5	5.0	3	5	7										
100	101.0	6.5	8	7	6										
	99.0	8.5	4	5	6										
			4	11	12										
95	94.0	13.5	3	3	3										
90	89.0	18.5	WOH	WOH	2										

87.5 Soft, saturated, light gray & orange mottled, CLAY (A-7-6), with trace fine sand.
 Boring Terminated at Elevation 87.5 ft in CLAY

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.8' & 4.5'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SIN K86-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K86-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey										
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)									
BORING NO. B-23		STATION 109+29		OFFSET 13ft RT		ALIGNMENT -MAIN-										
COLLAR ELEV. 104.6 ft		TOTAL DEPTH 25.0 ft		NORTHING 565,546		EASTING 2,406,018										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 10/22/08		COMP. DATE 10/22/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
105	104.6	0.0	1	0	2										104.6	0.0
	102.6	2.0													104.0	0.6
	101.1	3.5	3	2	2											
100			2	3	4											
	98.1	6.5														
	96.1	8.5	5	8	10											
95			8	11	14											
	91.1	13.5	3	5	5											
90																
	86.1	18.5	WOH	WOH	WOH											
85																
	81.1	23.5	3	3	1											
80																
75																
70																
65																
60																
55																
50																
45																
40																
35																
30																
25																

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey										
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)									
BORING NO. B-24		STATION 112+54		OFFSET 11ft RT		ALIGNMENT -MAIN-										
COLLAR ELEV. 104.9 ft		TOTAL DEPTH 20.0 ft		NORTHING 565,841		EASTING 2,406,151										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 10/22/08		COMP. DATE 10/22/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
105	104.9	0.0	1	1	1										104.9	0.0
	101.4	3.5	1	3	7										104.1	0.8
100																
	97.9															
	96.4	8.5	6	8	10											
95																
	91.4	13.5	2	1	1											
90																
	86.4	18.5	1	1	1											
85																
80																
75																
70																
65																
60																
55																
50																
45																
40																
35																
30																
25																

NCDOT BORE SIN K66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.6' & 14.5'.
 S.O.S.=Surficial Organic Soils

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.8'.
 S.O.S.=Surficial Organic Soils



PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey											
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)										
BORING NO. B-25	STATION 119+80	OFFSET 34ft RT	ALIGNMENT -MAIN-				0 HR. 4.2										
COLLAR ELEV. 107.8 ft	TOTAL DEPTH 20.0 ft	NORTHING 566,423	EASTING 2,406,580				24 HR. 4.6										
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic														
START DATE 10/23/08	COMP. DATE 10/23/08	SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A													
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
110																	
	107.8	0.0															
105												M		GROUND SURFACE 0.0			
	104.3	3.5	2	2	4									SURFICIAL ORGANIC SOILS 1.0			
			7	17	21									Moist, black, silty fine SAND (A-2-4), with grass & roots.			
100														COASTAL PLAIN DEPOSITS			
	99.3	8.5	9	11	4									Loose to dense, moist, light gray, tan orange & light gray-tan, silty fine SAND (A-2-4).			
												SS-172	21%	Medium dense, moist, brown, fine to coarse SAND (A-3(0)), with trace clay.			
95																	
	94.3	13.5	7	6	2							M/W		Loose, moist, gray-brown, silty fine SAND (A-2-4).	12.0		
														Very loose to loose, wet to saturated, tan, light gray & pink mottled, silty fine SAND (A-2-4).	14.5		
90																	
	89.3	18.5	WOH	1	1							Sat.					
85														Boring Terminated at Elevation 87.8 ft in SAND	20.0		

NOTES:

1) Geologist indicates strata break in split spoon at depths of 1.0' & 14.5'.

S.O.S.=Surficial Organic Soils



PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey										
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)									
BORING NO. B-26	STATION 123+12	OFFSET 2ft RT	ALIGNMENT -MAIN-				0 HR. 7.0									
COLLAR ELEV. 100.5 ft	TOTAL DEPTH 20.0 ft	NORTHING 566,713	EASTING 2,406,745				24 HR. 5.6									
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic													
START DATE 10/23/08	COMP. DATE 10/23/08	SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A												
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
105																
	100.5	0.0														
100												M		GROUND SURFACE 0.0		
	99.7	0.8												SURFICIAL ORGANIC SOILS 0.8		
														Moist, black-dark brown, silty fine SAND (A-2-4), with leaves & grass.		
95														COASTAL PLAIN DEPOSITS		
	97.0	3.5	2	2	3									Loose to medium dense, moist to saturated, light gray, tan-orange, light gray-tan & pink, silty fine SAND (A-2-4).		
90																
	92.0	8.5	5	8	10							Sat.				
85																
	87.0	13.5	8	9	9											
80																
	82.0	18.5	5	6	4											
75																
	80.5	20.0	3	3	4											
												W		Boring Terminated at Elevation 80.5 ft in SAND	20.0	

NOTES:

1) Geologist indicates strata break in split spoon at a depth of 0.8'.

S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-27	STATION 128+93	OFFSET 58ft LT	ALIGNMENT -MAIN-
COLLAR ELEV. 100.9 ft	TOTAL DEPTH 25.0 ft	NORTHING 567,222	EASTING 2,407,032
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/23/08	COMP. DATE 10/23/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
105															
100	100.9	0.0													100.9
	98.9	2.0	1	1	2										100.1
	97.4	3.5	2	2	2										
	95.9	5.0	2	2	2										
	94.4	6.5	WOH	3	4										
	92.4	8.5	5	6	5										
90			6	9	10										
	87.4	13.5	4	3	4										
85															
	82.4	18.5	WOH	WOH	WOH										
80															
	77.4	23.5	1	2	2										
75															
70															
65															
60															
55															
50															
45															
40															
35															
30															
25															

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.8' & 5.6'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-28	STATION 133+87	OFFSET 10ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 96.0 ft	TOTAL DEPTH 20.0 ft	NORTHING 567,587	EASTING 2,407,373
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/23/08	COMP. DATE 10/23/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
100															
95	96.0	0.0													96.0
	92.5	3.5	2	2	2										95.2
	90		6	10	11										
	87.5	8.5	WOH	WOH	WOH										
85															
	82.5	13.5	1	1	1										
80															
	77.5	18.5	WOH	2	3										
75															
70															
65															
60															
55															
50															
45															
40															
35															
30															
25															
20															

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.8'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SIN 66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE 66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-29	STATION 139+66	OFFSET 7ft LT	ALIGNMENT -MAIN- 0 HR. 15.3
COLLAR ELEV. 95.5 ft	TOTAL DEPTH 20.0 ft	NORTHING 568,068	EASTING 2,407,693 24 HR. 5.4
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/23/08	COMP. DATE 10/23/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
100															
95	95.5	0.0													95.5
			WOH	1	2										94.9
90	92.0	3.5		2	4	6									
85	87.0	8.5		5	3	1									
80	82.0	13.5		3	1	2									
75	77.0	18.5		3	4	6									
70															
65															
60															
55															
50															
45															
40															
35															
30															
25															
20															

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.6'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-30	STATION 144+08	OFFSET 13ft RT	ALIGNMENT -MAIN- 0 HR. 16.0
COLLAR ELEV. 91.4 ft	TOTAL DEPTH 20.0 ft	NORTHING 568,418	EASTING 2,407,965 24 HR. 3.4
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/23/08	COMP. DATE 10/23/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
95															
90	91.4	0.0													91.4
			WOH	1	2										90.8
85	87.9	3.5		5	3	3									
80	82.9	8.5		5	3	2									
75	77.9	13.5		WOH	WOH	WOH									
70	72.9	18.5		3	3	3									
65															
60															
55															
50															
45															
40															
35															
30															
25															
20															
15															

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.6'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SIN K66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-31	STATION 149+45	OFFSET 10ft RT	ALIGNMENT -MAIN- 0 HR. Dry
COLLAR ELEV. 82.1 ft	TOTAL DEPTH 20.0 ft	NORTHING 568,858	EASTING 2,408,272 24 HR. 8.8
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/23/08	COMP. DATE 10/23/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
85														GROUND SURFACE	0.0
82.1	82.1	0.0	1	1	1									SURFICIAL ORGANIC SOILS	0.9
80	78.6	3.5	3	3	4									COASTAL PLAIN DEPOSITS	
75	73.6	8.5	2	2	4									Very loose to loose, moist, brown to tan, gray & red, silty fine SAND (A-2-4), with trace rounded gravel.	7.0
70	68.6	13.5	8	9	12									Loose to medium dense, moist to wet, dark gray, silty fine to coarse SAND (A-2-4), with little clay.	
65	63.6	18.5	5	6	8										
60														Boring Terminated at Elevation 62.1 ft in SAND	20.0

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.9'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST E. Thomas
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-31B	STATION 150+35	OFFSET 32ft RT	ALIGNMENT -MAIN- 0 HR. Dry
COLLAR ELEV. 81.9 ft	TOTAL DEPTH 20.0 ft	NORTHING 568,919	EASTING 2,408,342 24 HR. 8.1
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/27/08	COMP. DATE 10/27/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
85														GROUND SURFACE	0.0
81.9	81.9	0.0												COASTAL PLAIN DEPOSITS	
80	78.4	3.5	3	3	3									Very loose to loose, moist, tan, fine to coarse SAND (A-2-4), with little clay, trace rounded gravel.	
75	73.4	8.5	3	2	3									Loose to medium dense, moist to wet, dark gray, clayey fine SAND (A-2-6).	7.0
70	68.4	13.5	7	9	9										
65	63.4	18.5	5	5	6									Medium dense, wet, dark gray, fine SAND (A-2-4).	17.0
60														Boring Terminated at Elevation 61.9 ft in SAND	20.0

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas										
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)									
BORING NO. LFA		STATION 150+49		OFFSET 59ft RT		ALIGNMENT -MAIN-										
COLLAR ELEV. 83.1 ft		TOTAL DEPTH 15.0 ft		NORTHING 568,915		EASTING 2,408,373										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 10/27/08		COMP. DATE 10/27/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
85	83.1	0.0												83.1	GROUND SURFACE	0.0
			WOH	1	2								M		COASTAL PLAIN DEPOSITS	
													M		Very loose to loose, moist, tan, fine to coarse SAND (A-2-4), with little clay.	
80	79.6	3.5		2	3								M			
													M/W		Loose, moist to wet, dark gray, clayey fine SAND (A-2-6).	7.0
75	74.6	8.5		4	4								W		Medium dense, wet, dark gray, fine to coarse SAND (A-2-4).	12.0
70	69.6	13.5		8	8								W		Boring Terminated at Elevation 68.1 ft in SAND	15.0

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey										
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)									
BORING NO. B-31A		STATION 151+72		OFFSET 41ft RT		ALIGNMENT -MAIN-										
COLLAR ELEV. 74.9 ft		TOTAL DEPTH 70.0 ft		NORTHING 569,026		EASTING 2,408,429										
DRILL MACHINE CME 550		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
START DATE 10/24/08		COMP. DATE 10/24/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
75	74.9	0.0	WOH	1	1									74.9	GROUND SURFACE	0.0
													M		SURFICIAL ORGANIC SOILS	0.8
													M		Moist, brown, silty fine SAND (A-2-4), with roots.	
70	71.4	3.5		1	1								SS-210	20%	COASTAL PLAIN DEPOSITS	7.0
													W		Very loose, moist to wet, tan, light gray & orange, fine to coarse SAND (A-2-4(0)), with little clay, trace silt.	
													W		Loose, wet, dark gray, fine to coarse SAND (A-2-4), with little clay.	7.0
65	66.4	8.5		3	4								W			12.0
													SS-212	21%	Stiff to very stiff, moist to wet, dark gray, highly fine to coarse sandy CLAY (A-6(1)), with trace silt, trace shell fragments.	
60	61.4	13.5		6	6								W			
													W			
55	56.4	18.5		5	5								W			
													M			
50	51.4	23.5		5	7								M			
													M			
45	46.4	28.5		6	7								M			
													M			
40	41.4	33.5		7	7								M			
													W/Sat			
35	36.4	38.5		5	4								W/Sat		Loose, wet to saturated, dark gray, fine to coarse SAND (A-2-4), with shell fragments, little clay.	37.0
													SS-218	28%	Medium dense to very dense, saturated, dark green & black, fine to coarse SAND (A-2-4(0)), with trace clay & silt.	42.0
30	31.4	43.5		11	14								Sat.			
													Sat.			
25	26.4	48.5		23	25								Sat.			
													Sat.			
20	21.4	53.5		15	18								Sat.			
													Sat.			
15	16.4	58.5		11	12								Sat.			
													Sat.			
10	11.4	63.5		5	5								Sat.			
													Sat.			
5	6.4	68.5		23	25								Sat.		Dense, saturated, green & gray, fine to coarse SAND (A-2-4), with cemented sand layers.	67.0
													Sat.		Boring Terminated at Elevation 4.9 ft in SAND	70.0

NOTES:
 S.O.S.=Surficial Organic Soils
 NM=Not Measured

NCDOT BORE SIN 66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas									
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)								
BORING NO. B-32		STATION 155+43		OFFSET 19ft LT		ALIGNMENT -MAIN-									
COLLAR ELEV. 69.4 ft		TOTAL DEPTH 70.0 ft		NORTHING 569,363		EASTING 2,408,594									
DRILL MACHINE CME 550		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
START DATE 10/28/08		COMP. DATE 10/28/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
70	69.4	0.0	WOH	1	1										69.4
GROUND SURFACE															
SURFICIAL ORGANIC SOILS															
COASTAL PLAIN DEPOSITS															
Very loose, wet, tan, silty fine SAND (A-2-4).															
65	65.9	3.5		2	2	1									62.4
60	60.9	8.5		1	1	5									52.4
Loose to medium dense, wet, dark gray, fine to coarse SAND (A-2-4(0)), with some clay, trace silt.															
55	55.9	13.5		4	5	7									42.4
Medium dense to dense, wet, dark gray, clayey fine SAND (A-2-6), with trace rounded gravel.															
50	50.9	18.5		4	7	9									32.4
Medium dense to loose, wet, dark gray, fine to coarse SAND (A-2-4), with some clay, trace shell fragments.															
45	45.9	23.5		6	11	23									12.4
Medium dense to dense, saturated, dark gray, fine to coarse SAND (A-2-4(0)), with trace clay & silt.															
40	40.9	28.5		5	7	9									0.6
Boring Terminated at Elevation -0.6 ft in SAND															
35	35.9	33.5		4	3	5									
30	30.9	38.5		8	14	24									
25	25.9	43.5		17	18	25									
20	20.9	48.5		17	24	25									
15	15.9	53.5		13	19	27									
10	10.9	58.5		6	5	8									
5	5.9	63.5		17	15	23									
0	0.9	68.5		6	15	22									

NCDOT BORE SIN. K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas									
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)								
BORING NO. B-33		STATION 160+85		OFFSET 48ft RT		ALIGNMENT -MAIN-									
COLLAR ELEV. 82.9 ft		TOTAL DEPTH 30.0 ft		NORTHING 569,767		EASTING 2,408,962									
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic											
START DATE 10/28/08		COMP. DATE 10/28/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
85	82.9	0.0	WOH	1	1										82.9
GROUND SURFACE															
SURFICIAL ORGANIC SOILS															
COASTAL PLAIN DEPOSITS															
Very loose to loose, moist to wet, brown, fine to coarse SAND (A-2-4(0)), with little clay, trace silt.															
80	79.4	3.5		3	3	3									81.9
75	74.4	8.5		1	1	0									70.9
Medium dense, moist to wet, dark gray, fine to coarse SAND (A-2-4), with some clay, trace shell fragments.															
70	69.4	13.5		3	5	6									55.9
Stiff to very stiff, moist, dark gray, highly fine to coarse sandy CLAY (A-6(5)), with little silt.															
65	64.4	18.5		5	6	7									52.9
Boring Terminated at Elevation 52.9 ft in CLAY															
60	59.4	23.5		4	6	7									
55	54.4	28.5		4	7	8									
50															
45															
40															
35															
30															
25															
20															
15															
10															
5															

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas										
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)									
BORING NO. B-34		STATION 165+11		OFFSET 6ft RT		ALIGNMENT -MAIN-										
COLLAR ELEV. 85.8 ft		TOTAL DEPTH 20.0 ft		NORTHING 570,100		EASTING 2,409,216										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 10/30/08		COMP. DATE 10/30/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
90																
85	85.8	0.0												85.8	GROUND SURFACE	0.0
			1	1	1								M	84.3	SURFICIAL ORGANIC SOILS Very loose, moist, brown, silty fine SAND (A-2-4), with small roots.	1.5
	82.3	3.5	5	6	6								M		COASTAL PLAIN DEPOSITS Medium dense, moist, tan, silty fine SAND (A-2-4).	
80														78.8	Very loose, wet, gray, clayey fine to coarse SAND (A-2-6).	7.0
	77.3	8.5	WOH	WOH	1								W			
75														73.8	Loose to medium dense, moist to wet, dark gray, fine to coarse SAND (A-2-4), with little clay, trace shell fragments.	12.0
	72.3	13.5	3	3	5								W			
70																
	67.3	18.5	6	6	8											
65														65.8	Boring Terminated at Elevation 65.8 ft in SAND	20.0

NCDOT BORE SIN 66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas										
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)									
BORING NO. B-35		STATION 165+92		OFFSET 6ft RT		ALIGNMENT -MAIN-										
COLLAR ELEV. 86.1 ft		TOTAL DEPTH 20.0 ft		NORTHING 570,150		EASTING 2,409,279										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 10/30/08		COMP. DATE 10/30/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
90																
85	86.1	0.0												86.1	GROUND SURFACE	0.0
			WOH	1	2								M	85.4	SURFICIAL ORGANIC SOILS COASTAL PLAIN DEPOSITS Very loose to medium dense, moist, brown to tan, silty fine SAND (A-2-4).	0.7
	82.6	3.5	3	6	7								M			
80														79.1	Very loose, wet, gray, fine to coarse SAND (A-2-4), with trace clay & silt.	7.0
	77.6	8.5	WOH	WOH	WOH								W			
75														74.1	Dense to medium dense, moist, dark gray, fine to coarse SAND (A-2-4), with some clay.	12.0
	72.6	13.5	9	14	18								M			
70																
	67.6	18.5	5	5	6											
65														66.1	Boring Terminated at Elevation 66.1 ft in SAND	20.0

NCDOT BORE SINGLE 66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST E. Thomas
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-36	STATION 171+65	OFFSET 6ft RT	ALIGNMENT -MAIN- 0 HR. 10.7
COLLAR ELEV. 92.6 ft	TOTAL DEPTH 25.0 ft	NORTHING 570,508	EASTING 2,409,727 24 HR. 4.0
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/28/08	COMP. DATE 10/28/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
95															
92.6	92.6	0.0												92.6	GROUND SURFACE
90.6	90.6	2.0	WOH	1	1									91.6	SURFICIAL ORGANIC SOILS Rootmat & leaves.
89.1	89.1	3.5		3	3	5								90.6	COASTAL PLAIN DEPOSITS Very loose, moist, tan-brown, silty fine SAND (A-2-4).
87.6	87.6	5.0		5	7	10									
86.1	86.1	6.5		2	3	4									
84.1	84.1	8.5		3	4	3									
80	79.1	13.5	WOH	WOH	WOH									80.6	Very loose, saturated, light greenish-gray, clayey fine to coarse SAND (A-2-6).
75	74.1	18.5		1	2	2								75.6	Very loose to loose, saturated, dark gray, fine to coarse SAND (A-2-4(0)), with little clay, trace silt.
70	69.1	23.5		1	1	2								67.6	Boring Terminated at Elevation 67.6 ft in SAND

NCDOT BORE SIN K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST E. Thomas
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-37	STATION 177+08	OFFSET 82ft RT	ALIGNMENT -MAIN- 0 HR. 9.2
COLLAR ELEV. 94.2 ft	TOTAL DEPTH 25.0 ft	NORTHING 570,785	EASTING 2,410,197 24 HR. 4.3
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/29/08	COMP. DATE 10/29/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
95															
94.2	94.2	0.0		1	1	3								94.2	GROUND SURFACE
90	90.7	3.5		4	8	9								93.4	SURFICIAL ORGANIC SOILS COASTAL PLAIN DEPOSITS Loose to medium dense, moist, tan-brown to tan, fine SAND (A-2-4).
85	85.7	8.5	WOH	WOH	WOH									86.2	Very loose, wet, tan-brown, fine SAND (A-2-4(0)), with little clay & silt, trace coarse sand.
80	80.7	13.5		1	2	1								82.2	Very loose, wet, light greenish-gray, clayey fine SAND (A-2-6).
75	75.7	18.5		2	1	1								77.2	Very loose to loose, saturated, dark gray, fine to coarse SAND (A-2-4), with little clay.
70	70.7	23.5		1	2	2								69.2	Boring Terminated at Elevation 69.2 ft in SAND

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas									
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)								
BORING NO. B-38		STATION 181+15		OFFSET 2ft RT		ALIGNMENT -MAIN-									
COLLAR ELEV. 93.2 ft		TOTAL DEPTH 20.0 ft		NORTHING 571,054		EASTING 2,410,500									
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic											
START DATE 10/29/08		COMP. DATE 10/29/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
95															
	93.2	0.0		2	3	2								93.2	0.0
														92.5	0.7
90	89.7	3.5												90.2	3.0
				4	7	10								86.2	7.0
85	84.7	8.5	WOH	WOH	WOH									81.2	12.0
														76.2	17.0
80	79.7	13.5	WOH	1	2									73.2	20.0
75	74.7	18.5	3	8	9										
70															
65															
60															
55															
50															
45															
40															
35															
30															
25															
20															
15															

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas									
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)								
BORING NO. B-39		STATION 185+31		OFFSET 4ft RT		ALIGNMENT -MAIN-									
COLLAR ELEV. 84.4 ft		TOTAL DEPTH 20.0 ft		NORTHING 571,186		EASTING 2,410,894									
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic											
START DATE 10/29/08		COMP. DATE 10/29/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
85	84.4	0.0													
				1	2	1								84.4	0.0
														81.4	3.0
80	80.9	3.5	WOH	WOH	WOH									77.4	7.0
														72.4	12.0
75	75.9	8.5	1	1	1										
70	70.9	13.5	2	3	4										
65	65.9	18.5	3	5	7										
60															
55															
50															
45															
40															
35															
30															
25															
20															
15															
10															
5															

K66-100.GPJ NC_DOT.GDT 2/13/09
NCDOT BORE S

K66-100.GPJ NC_DOT.GDT 2/13/09
NCDOT BORE SINGLE

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST E. Thomas
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-40	STATION 192+18	OFFSET 6ft LT	ALIGNMENT -MAIN- 0 HR. 0.0
COLLAR ELEV. 71.2 ft	TOTAL DEPTH 30.0 ft	NORTHING 571,385	EASTING 2,411,551 24 HR. 4.3
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/29/08	COMP. DATE 10/29/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
75															
71.2	71.2	0.0												71.2	GROUND SURFACE
70	67.7	3.5	1	1	2									69.7	SURFICIAL ORGANIC SOILS Very loose, moist, brown, silty fine SAND (A-2-4).
65	62.7	8.5	WOH	WOH	1									64.2	COASTAL PLAIN DEPOSITS Very soft, wet, fine sandy clayey SILT (A-4).
60	57.7	13.5	3	5	3									59.2	Loose, wet, dark gray, fine to coarse SAND (A-2-4), with trace rounded gravel, little clay.
55	52.7	18.5	4	5	8									54.2	Stiff, moist, dark gray, fine to coarse sandy CLAY (A-6).
50	47.7	23.5	4	5	6									49.2	Medium dense, moist, dark gray, fine to coarse SAND (A-2-4), with little clay.
45	42.7	28.5	5	5	10									41.2	Stiff to very stiff, moist, dark gray, fine sandy CLAY (A-6(6)), with little silt & coarse sand.

40															30.0	Boring Terminated at Elevation 41.2 ft in CLAY
35																
30																
25																
20																
15																
10																
5																
0																
-5																

NOTES:
 1) Stabilized groundwater reading taken at 48 hours.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST E. Thomas
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-41	STATION 196+17	OFFSET 4ft RT	ALIGNMENT -MAIN- 0 HR. 28.2
COLLAR ELEV. 81.4 ft	TOTAL DEPTH 30.0 ft	NORTHING 571,492	EASTING 2,411,936 24 HR. 13.1
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/29/08	COMP. DATE 10/29/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
85															
81.4	81.4	0.0												81.4	GROUND SURFACE
80	77.9	3.5	WOH	1	2									80.7	SURFICIAL ORGANIC SOILS Moist, brown, silty SAND (A-2-4), with small roots.
75	72.9	8.5	4	4	5									74.4	COASTAL PLAIN DEPOSITS Very loose to loose, moist, tan, silty fine SAND (A-2-4).
70	67.9	13.5	2	4	5									69.4	Loose, wet, tan, fine to coarse SAND (A-2-4).
65	62.9	18.5	2	2	3									64.4	Loose, saturated, green-gray, fine to coarse SAND (A-2-4), with little clay.
60	57.9	23.5	3	5	5									64.4	Stiff to very stiff, moist, dark gray, fine to coarse sandy CLAY (A-6(4)), with trace silt.
55	52.9	28.5	7	10	11									51.4	Boring Terminated at Elevation 51.4 ft in CLAY

50																
45																
40																
35																
30																
25																
20																
15																
10																
5																

SS-291 24%

NCDOT BORE SIN K66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas									
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)								
BORING NO. B-42		STATION 200+50		OFFSET 19ft RT		ALIGNMENT -MAIN-									
COLLAR ELEV. 86.9 ft		TOTAL DEPTH 20.0 ft		NORTHING 571,719		EASTING 2,412,306									
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic											
START DATE 10/30/08		COMP. DATE 10/30/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
90															
86.9	86.9	0.0	1	2	3									86.9	0.0
85															
83.4	83.4	3.5	1	3	6										
80															
78.4	78.4	8.5	4	4	4										
75															
73.4	73.4	13.5	WOH	1	2										
70															
68.4	68.4	18.5	3	4	8										
65															
60															
55															
50															
45															
40															
35															
30															
25															
20															
15															
10															

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas									
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)								
BORING NO. B-43		STATION 203+86		OFFSET 16ft RT		ALIGNMENT -MAIN-									
COLLAR ELEV. 86.5 ft		TOTAL DEPTH 20.0 ft		NORTHING 571,947		EASTING 2,412,553									
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic											
START DATE 10/30/08		COMP. DATE 10/30/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
90															
86.5	86.5	0.0													
85															
83.0	83.0	3.5	WOH	1	2										
80															
78.0	78.0	8.5													
75															
73.0	73.0	13.5													
70															
68.0	68.0	18.5													
65															
60															
55															
50															
45															
40															
35															
30															
25															
20															
15															
10															

NCDOT BORE SIN K66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas										
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)									
BORING NO. B-44		STATION 209+37		OFFSET 107ft RT		ALIGNMENT -MAIN-										
COLLAR ELEV. 85.2 ft		TOTAL DEPTH 20.0 ft		NORTHING 572,251		EASTING 2,413,022										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 10/30/08		COMP. DATE 10/30/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
90																
85	85.2	0.0													85.2	0.0
			1	2	3									M	84.2	1.0
80	81.7	3.5	1	3	5											
75	76.7	8.5	WOH		2	1								W	77.2	8.0
70	71.7	13.5	4	7	8									M		
65	66.7	18.5	4	4	4									W	68.2	17.0
															65.2	20.0
Boring Terminated at Elevation 65.2 ft in SAND																

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST B. Howey										
SITE DESCRIPTION Global Transpark Freight Transportation System							GROUND WTR (ft)									
BORING NO. B-45		STATION 214+62		OFFSET 17ft LT		ALIGNMENT -MAIN-										
COLLAR ELEV. 85.4 ft		TOTAL DEPTH 20.0 ft		NORTHING 572,704		EASTING 2,413,316										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 10/31/08		COMP. DATE 10/31/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
90																
85	85.4	0.0													85.4	0.0
			1	1	2									M	84.6	0.6
															83.4	2.0
80	81.9	3.5	4	7	7											
75	76.9	8.5	2	1	1									W	77.2	8.0
70	71.9	13.5	WOH		1	2								W	71.4	14.0
65	66.9	18.5	4	5	13									W	65.9	19.5
															65.4	20.0
Medium dense, wet, gray, fine to coarse SAND (A-2-4), with clay seams. Boring Terminated at Elevation 65.4 ft in SAND																
NOTES: 1) Geologist indicates strata break in split spoon at depths of 14.0' & 19.5'. S.O.S.=Surficial Organic Soils																

NCDOT BORE SI K66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST B. Howey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-46	STATION 220+03	OFFSET 21ft LT	ALIGNMENT -MAIN-
COLLAR ELEV. 87.4 ft	TOTAL DEPTH 25.0 ft	NORTHING 573,110	EASTING 2,413,675
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/31/08	COMP. DATE 10/31/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
90															
87.4	87.4	0.0													GROUND SURFACE
85	83.9	3.5	2	4	4										SURFICIAL ORGANIC SOILS Moist, tan, silty fine SAND (A-2-4). COASTAL PLAIN DEPOSITS Very loose to medium dense, moist to wet, tan to gray-brown, silty fine to coarse SAND (A-2-4), with some clay.
80	78.9	8.5	WOH	WOH	WOH										
75	73.9	13.5	WOH	WOH	2										
70	68.9	18.5	3	6	5										Very loose to medium dense, wet, greenish-gray, fine to coarse SAND (A-2-4), with clay seams.
65	63.9	23.5	5	7	8										
60															Boring Terminated at Elevation 62.4 ft in SAND
55															
50															
45															
40															
35															
30															
25															
20															
15															
10															

NOTES:
1) Geologist indicates strata break in split spoon at a depth of 14.5'.
S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST B. Howey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-48	STATION 228+82	OFFSET 43ft LT	ALIGNMENT -MAIN-
COLLAR ELEV. 86.0 ft	TOTAL DEPTH 25.0 ft	NORTHING 573,779	EASTING 2,414,245
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/31/08	COMP. DATE 10/31/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
90															
86.0	86.0	0.0													GROUND SURFACE
85	82.5	3.5	1	2	3										SURFICIAL ORGANIC SOILS Moist, brown, fine SAND (A-2-4). COASTAL PLAIN DEPOSITS Loose to medium dense, moist to wet, brown, tan & gray-brown, fine SAND (A-2-4(0)), with little clay, trace coarse sand.
80	77.5	8.5	6	9	10										
75	72.5	13.5	3	3	3										
70	67.5	18.5	7	8	6										Medium dense to loose, saturated, light gray to gray, fine to coarse SAND (A-2-4), with clay seams.
65	62.5	23.5	2	2	2										
60			2	1	3										Boring Terminated at Elevation 61.0 ft in SAND
55															
50															
45															
40															
35															
30															
25															
20															
15															
10															

NOTES:
S.O.S.=Surficial Organic Soils

NCDOT BORE SIN 666-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST B. Howey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-49	STATION 234+65	OFFSET 6ft LT	ALIGNMENT -MAIN- 0 HR. 6.3
COLLAR ELEV. 86.2 ft	TOTAL DEPTH 25.0 ft	NORTHING 574,188	EASTING 2,414,662 24 HR. 4.2
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 10/31/08	COMP. DATE 10/31/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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				
90													GROUND SURFACE	0.0
86.2	86.2	0.0											SURFICIAL ORGANIC SOILS	0.8
85			1	2	2							M	Moist, dark brown, silty fine SAND (A-2-4).	
82.7	82.7	3.5										M	COASTAL PLAIN DEPOSITS	3.6
80			4	7	7							M	Loose, moist, dark brown, silty fine SAND (A-2-4).	
79.2	79.2											W	Medium dense, moist, tan, silty fine SAND (A-2-4).	7.0
77.7	77.7	8.5	2	2	1							W	Very loose, wet, gray-brown, fine to coarse SAND (A-2-4), with clay seams.	
75												W		
72.7	72.7	13.5	2	3	5							SS-340	Medium stiff to stiff, moist, greenish-gray, CLAY (A-7-6(63)), with thin fine sand seams, some silt, trace mica.	12.0
70												M		
67.7	67.7	18.5	3	3	4							W	Medium dense, wet, gray, fine to coarse SAND (A-2-4), with some thin clay seams, trace mica.	22.0
65												W		
62.7	62.7	23.5	5	11	14								Boring Terminated at Elevation 61.2 ft in SAND	25.0
60														
55														
50														
45														
40														
35														
30														
25														
20														
15														
10														

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 3.6'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-50	STATION 239+77	OFFSET 4ft LT	ALIGNMENT -MAIN- 0 HR. 16.5
COLLAR ELEV. 88.7 ft	TOTAL DEPTH 20.0 ft	NORTHING 574,559	EASTING 2,415,014 24 HR. 5.9
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/03/08	COMP. DATE 11/03/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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				
90													GROUND SURFACE	0.0
88.7	88.7	0.0	5	5	7							M	ARTIFICIAL FILL	
86.7	86.7	2.0	2	3	6							M	Medium dense, moist, orange & red, clayey silty fine to coarse SAND (A-2-4).	2.8
85													COASTAL PLAIN DEPOSITS	
85.2	85.2	3.5	7	9	12								Loose to medium dense, moist to wet, dark brown & tan, silty fine SAND (A-2-4).	7.0
83.7	83.7	5.0	7	9	12									
82.2	82.2	6.5	6	2	2							Sat.	Loose, saturated, dark brown, silty fine SAND (A-2-4).	8.5
80												SS-348	Very soft, saturated, gray-brown, fine sandy SILT (A-4(0)), with some clay, trace coarse sand.	
80.2	80.2	8.5	WOH	WOH	WOH							20%		
75														
75.2	75.2	13.5	2	2	2							SS-349	Soft to medium stiff, moist, green & light gray, fine sandy CLAY (A-7-5(14)), with little silt.	14.5
70												W	Medium dense, wet, green-gray, silty fine SAND (A-2-4).	20.0
70.2	70.2	18.5	4	5	6								Boring Terminated at Elevation 68.7 ft in SAND	
65														
60														
55														
50														
45														
40														
35														
30														
25														
20														
15														
10														

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 2.8', 7.0' & 14.5'.

K66-100.GPJ NC_DOT.GDT 2/13/09

K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-51	STATION 245+53	OFFSET 12ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 86.5 ft	TOTAL DEPTH 20.0 ft	NORTHING 574,823	EASTING 2,415,527
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/04/08	COMP. DATE 11/04/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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				
90														
86.5	86.5	0.0											GROUND SURFACE	0.0
85	84.5	2.0	WOH	1	1							M	SURFICIAL ORGANIC SOILS	1.5
	83.0	3.5		5	5	7						M	Very loose, moist, black, silty fine SAND (A-2-4), with roots & pine needles.	
	81.5	5.0		5	6	6						M	COASTAL PLAIN DEPOSITS	
80	80.0	6.5		4	5	4						M/W	Medium dense to loose, moist to wet, tan-brown, brown & light gray, silty fine SAND (A-2-4).	6.5
	78.0	8.5		1	1	1						SS-355 19%	Very loose, wet, brown & light gray, fine SAND (A-2-4(0)), with little clay & silt, trace coarse sand.	
	73.0	13.5		2	1	2						W	Medium stiff to stiff, moist, green-gray, CLAY (A-7-6), with thin fine sand seams.	12.0
70	68.0	18.5		3	5	7						M		
65												M	Boring Terminated at Elevation 66.5 ft in CLAY	20.0

NOTES:
 S.O.S.=Surficial Organic Soils

NCDOT BORE SI K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-52	STATION 250+15	OFFSET 20ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 85.5 ft	TOTAL DEPTH 20.0 ft	NORTHING 575,167	EASTING 2,415,839
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/04/08	COMP. DATE 11/04/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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				
90														
85.5	85.5	0.0											GROUND SURFACE	0.0
85	83.5	2.0		1	1	1						M	SURFICIAL ORGANIC SOILS	1.5
	82.0	3.5		3	5	6						M	Very loose, moist, black, silty fine SAND (A-2-4), with roots & pine needles.	
	80.5	5.0		7	11	12						D	COASTAL PLAIN DEPOSITS	
80	79.0	6.5		5	5	5						D	Medium dense to loose, moist to dry, dark brown, tan, light gray & brown, silty fine SAND (A-2-4).	7.4
	77.0	8.5		3	2	2						M/W	Loose, moist to wet, dark gray, fine SAND (A-2-4), with little clay.	
	72.0	13.5		2	2	2						W	Soft to stiff, moist, green-gray, CLAY (A-7-6), with thin sand seams & trace mica.	12.0
70	67.0	18.5		1	2	2						M		
65				4	5	5						M	Boring Terminated at Elevation 65.5 ft in CLAY	20.0

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 7.4'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-53	STATION 256+48	OFFSET 54ft LT	ALIGNMENT -L-
COLLAR ELEV. 83.3 ft	TOTAL DEPTH 20.0 ft	NORTHING 575,699	EASTING 2,416,189
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/05/08	COMP. DATE 11/05/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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				
85	83.3	0.0											GROUND SURFACE	0.0
	81.3	2.0	WOH	2	3							M	SURFICIAL ORGANIC SOILS	0.6
	79.8	3.5		2	3							M	Moist, black, silty fine SAND (A-2-4), with grass & pine needles.	
80	78.3	5.0		2	5								COASTAL PLAIN DEPOSITS	5.0
	76.8	6.5		3	2							SS-370	Loose, moist, brown to gray-brown, silty fine SAND (A-2-4).	6.5
75	74.8	8.5		2	2							W	Medium stiff, moist to wet, dark gray, fine sandy CLAY (A-6(5)), with little silt & coarse sand.	9.5
				2	1							W	Very loose to loose, wet, brown-gray with orange, fine SAND (A-2-4), with little clay.	
70	69.8	13.5		3	4							M	Very loose to medium dense, wet to moist, light gray to green-gray, fine SAND (A-2-4), with thin clay seams.	
65	64.8	18.5		3	5							M		

Boring Terminated at Elevation 63.3 ft in SAND

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.6' & 9.5'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-54	STATION 263+72	OFFSET 25ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 80.8 ft	TOTAL DEPTH 20.0 ft	NORTHING 576,294	EASTING 2,416,568
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/05/08	COMP. DATE 11/05/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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				
85	80.8	0.0											GROUND SURFACE	0.0
	78.8	2.0		1	3							M	SURFICIAL ORGANIC SOILS	2.0
	77.3	3.5		2	1							SS-376	Moist, black, silty fine SAND (A-2-4), with grass & roots.	3.5
80	75.8	5.0		2	1							W	COASTAL PLAIN DEPOSITS	6.0
	74.3	6.5		2	2							W	Loose, moist, brown & orange, silty fine SAND (A-2-4).	7.4
75	72.3	8.5		2	2							W	Soft, wet, brown, fine sandy SILT (A-4(0)), with some clay, little silt & coarse sand.	12.0
				1	2							W	Loose, moist to wet, gray & brown to light gray, fine SAND (A-2-4), with little clay.	
70	67.3	13.5		3	6							Sat.	Loose, moist, gray, tan, orange & red, fine SAND (A-2-4), with some clay.	
65	62.3	18.5		4	3							Sat.	Very loose to loose, wet, green-gray, clayey fine to coarse SAND (A-2-6).	

Boring Terminated at Elevation 60.8 ft in SAND

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.3', 6.0' & 7.4'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SINL 36-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-55	STATION 268+89	OFFSET 19ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 81.7 ft	TOTAL DEPTH 20.0 ft	NORTHING 576,742	EASTING 2,416,306
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/05/08	COMP. DATE 11/05/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
85															
81.7	81.7	0.0											81.7	GROUND SURFACE	0.0
80	79.7	2.0	1	1	2							M	80.5	SURFICIAL ORGANIC SOILS Moist, dark brown, silty fine SAND (A-2-4), with grass & roots.	1.2
	78.2	3.5	3	3	3							M	77.2	COASTAL PLAIN DEPOSITS Very loose to loose, moist, red-orange & tan silty fine SAND (A-2-4).	4.5
75	76.7	5.0	2	4	4							M	75.7	Very loose to loose, moist, red-orange & tan silty fine SAND (A-2-4).	6.0
	75.2	6.5	3	3	4							M	73.7	Loose, moist, light gray-tan, silty fine SAND (A-2-4).	8.0
	73.2	8.5	3	2	3							M/W	69.7	Loose, moist, light gray, tan & red-orange, fine SAND (A-2-4), with some clay.	12.0
70															
	68.2	13.5	4	4	5							Sat.		Loose, moist to wet, green-gray with an orange vein, silty fine SAND (A-2-4), with thin clay seams.	
65														Loose to medium dense, saturated to moist, dark gray, silty fine SAND (A-2-4), with little clay.	
	63.2	18.5	4	6	12							M			

Boring Terminated at Elevation 61.7 ft in SAND

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 1.2', 4.5' & 6.0'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-56	STATION 274+27	OFFSET 13ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 81.4 ft	TOTAL DEPTH 20.0 ft	NORTHING 577,175	EASTING 2,416,035
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/05/08	COMP. DATE 11/05/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
85															
81.4	81.4	0.0											81.4	GROUND SURFACE	0.0
80	79.4	2.0											80.9	SURFICIAL ORGANIC SOILS Moist, black, silty fine SAND (A-2-4), with grass.	0.9
	77.9	3.5	1	1	2							SS-392	17%	COASTAL PLAIN DEPOSITS Very loose to loose, moist to wet, brown, light gray-brown & white, fine SAND (A-2-4(0)), with little clay, coarse sand & silt.	6.0
75	76.4	5.0	1	2	2							W		Med. stiff, moist to wet, green-gray, f. sdy. CLAY (A-6(3)), with little coarse sand & silt.	8.5
	74.9	6.5	2	3	3							SS-395	31%	Loose, saturated, green-gray, silty fine SAND (A-2-4).	12.0
	72.9	8.5	1	2	3							Sat.		Loose, saturated, dark gray, fine SAND (A-2-4(0)), with trace clay, silt & coarse sand.	
70															
	67.9	13.5	2	3	4							Sat.			
65															
	62.9	18.5	3	3	4							SS-398	31%		

Boring Terminated at Elevation 61.4 ft in SAND

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.5' & 6.0'.
 S.O.S.=Surficial Organic Soils

K66-100.GPJ NC_DOT.GDT 2/13/09

K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-57	STATION 279+99	OFFSET 9ft RT	ALIGNMENT -MAIN- 0 HR. 14.7
COLLAR ELEV. 79.8 ft	TOTAL DEPTH 20.0 ft	NORTHING 577,682	EASTING 2,416,235 24 HR. 2.2
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/05/08	COMP. DATE 11/05/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
80	79.8	0.0	1	1	1									79.8	0.0	GROUND SURFACE	
	77.8	2.0												79.0	0.8	SURFICIAL ORGANIC SOILS	
	76.3	3.5	WOH	WOH	WOH									77.8	2.0	Moist, black, silty fine SAND (A-2-4), with grass & roots.	
75	74.8	5.0	1	2	3									73.3	6.5	COASTAL PLAIN DEPOSITS	
	73.3	6.5	3	3	2									71.8	8.0	Very loose, moist, gray-brown, silty fine SAND (A-2-4), with trace roots.	
	71.3	8.5	WOH	WOH	WOH									71.8	8.0	Very soft to medium stiff, moist to wet, brown to light gray, fine sandy SILT (A-4(1.0)), with some clay, little coarse sand.	
70			3	3	3									67.8	12.0	Very loose, wet, gray to light greenish-gray, tan & orange-red, clayey fine SAND (A-2-6)	
	66.3	13.5	4	4	8											Loose, wet, dark green-gray, silty fine SAND (A-2-4), with thin clay seams.	
65																Medium dense, moist to wet, dark gray, silty fine SAND (A-2-4).	
	61.3	18.5	5	6	10												
60																	Boring Terminated at Elevation 59.8 ft in SAND

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.8'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SIN 86-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-58	STATION 285+04	OFFSET 20ft LT	ALIGNMENT -MAIN- 0 HR. 15.8
COLLAR ELEV. 80.0 ft	TOTAL DEPTH 20.0 ft	NORTHING 578,053	EASTING 2,416,578 24 HR. 2.7
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/06/08	COMP. DATE 11/06/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
80	80.0	0.0	1	1	2									80.0	0.0	GROUND SURFACE	
	78.0	2.0												79.3	0.7	SURFICIAL ORGANIC SOILS	
	76.5	3.5	2	2	2									78.0	2.0	Moist, dark brown, silty fine SAND (A-2-4), with roots.	
75	75.0	5.0	1	2	2									75.0	5.0	COASTAL PLAIN DEPOSITS	
	73.5	6.5	WOH	3	4									73.5	6.5	Very loose, moist, dark brown, silty fine SAND (A-2-4).	
	71.5	8.5	1	3	4									70.7	9.3	Soft to medium stiff, wet, dark brown with orange specks, fine sandy SILT (A-4(0)), with some clay, trace coarse sand.	
70			4	4	4									68.0	12.0	Loose, wet to saturated, dark gray to light gray, silty fine SAND (A-2-4).	
	66.5	13.5	3	4	4											Medium stiff, moist to wet, light gray with tan & red-orange, fine sandy CLAY (A-6(4)), with little coarse sand & silt.	
65																Loose, moist, tan & red-orange, silty fine SAND (A-2-4), with trace coarse sand.	
	61.5	18.5	4	4	8											Loose to medium dense, wet to saturated, dark gray, silty fine SAND (A-2-4).	
60																	Boring Terminated at Elevation 60.0 ft in SAND

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.7' & 9.3'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-59	STATION 289+91	OFFSET 20ft LT	ALIGNMENT -MAIN-
COLLAR ELEV. 79.2 ft	TOTAL DEPTH 20.0 ft	NORTHING 578,392	EASTING 2,416,928
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/06/08	COMP. DATE 11/06/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
80	79.2	0.0												GROUND SURFACE	0.0
	77.2	2.0	1	1	1									SURFICIAL ORGANIC SOILS	0.7
	75.7	3.5	WOH	WOH	WOH									Moist to wet, dark gray-brown, silty fine SAND (A-2-4), with roots.	2.0
75	74.2	5.0	2	2	2									COASTAL PLAIN DEPOSITS	3.5
	72.7	6.5	1	1	2									Very loose, moist to wet, dark gray-brown, silty fine SAND (A-2-4).	5.0
	70.7	8.5	2	3	3									Very soft, saturated, dark gray-brown, fine sandy SILT (A-4), with little clay.	
70			3	4	4									Loose, wet, light gray, clayey fine to coarse SAND (A-2-6(0)), with trace silt.	
	65.7	13.5	3	5	7									Very loose to loose, wet to saturated, light gray, dark gray-brown & tan, silty fine SAND (A-2-4).	12.0
65														Medium dense to loose, saturated, dark gray, silty fine SAND (A-2-4).	
60	60.7	18.5	3	3	4										20.0

Boring Terminated at Elevation 59.2 ft in SAND

NOTES:

- Geologist indicates strata break in split spoon at a depth of 0.7'.

S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-60	STATION 294+07	OFFSET 9ft RT	ALIGNMENT -MAIN-
COLLAR ELEV. 79.3 ft	TOTAL DEPTH 20.0 ft	NORTHING 578,666	EASTING 2,417,241
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/06/08	COMP. DATE 11/06/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
80	79.3	0.0												GROUND SURFACE	0.0
	77.3	2.0	1	0	1									SURFICIAL ORGANIC SOILS	0.8
	75.8	3.5	WOH	WOH	WOH									Moist, dark brown, silty fine SAND (A-2-4), with roots.	3.5
75	74.3	5.0	2	2	3									COASTAL PLAIN DEPOSITS	6.2
	72.8	6.5	1	2	2									Very loose, moist to saturated, gray & brown with orange specks, fine SAND (A-2-4), with some clay.	8.0
	70.8	8.5	1	3	4									Soft to medium stiff, moist, light gray with orange specks, fine sandy CLAY (A-7-6(8))	
70			2	2	2									Medium stiff, moist, light gray, fine sandy CLAY (A-6(4)).	12.0
	65.8	13.5	3	4	6									Loose, saturated, light gray, silty fine SAND (A-2-4).	
65														Loose to medium dense, moist to wet, dark gray, silty fine SAND (A-2-4).	
60	60.8	18.5	3	3	3										20.0

Boring Terminated at Elevation 59.3 ft in SAND

NOTES:

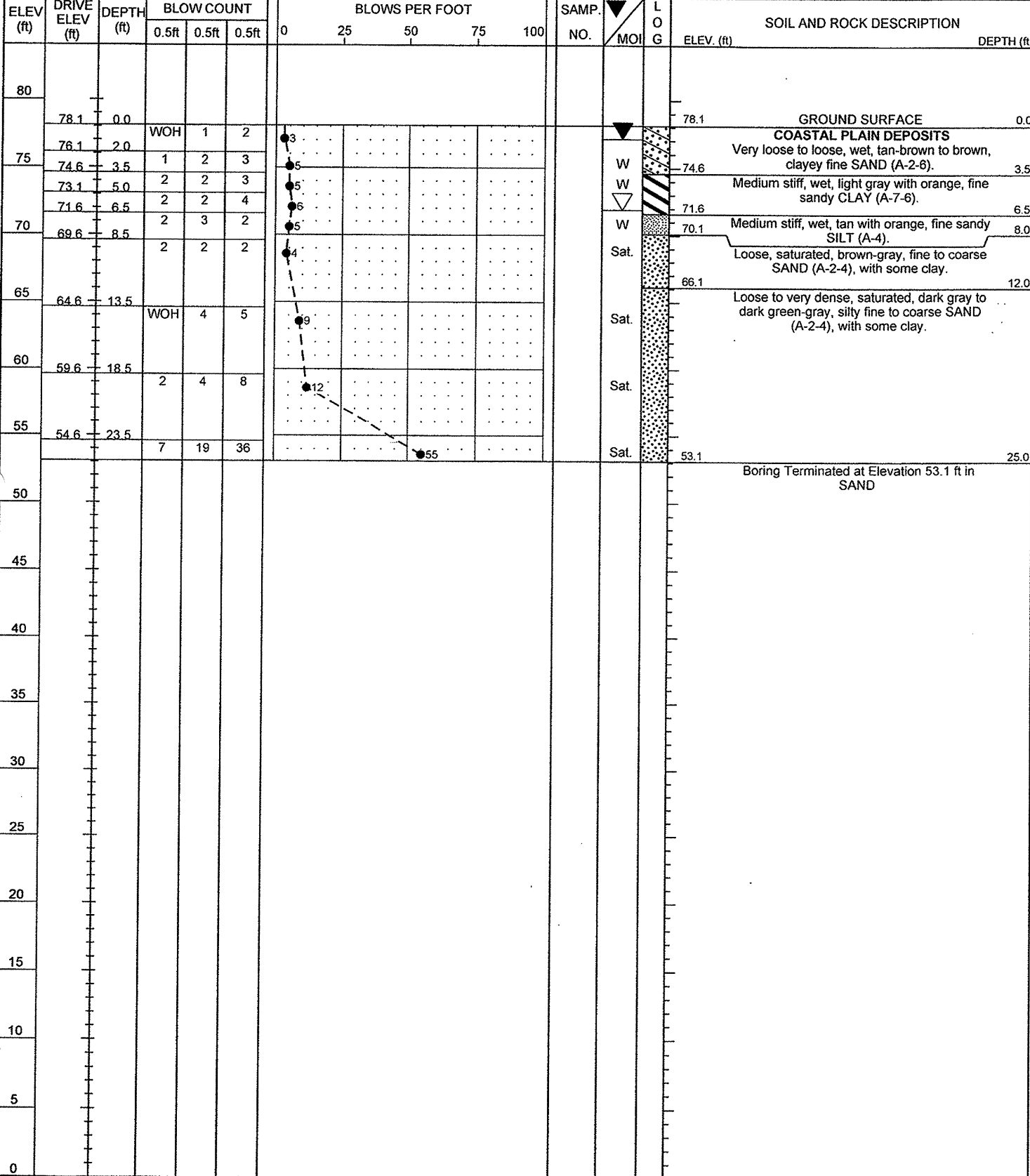
- Geologist indicates strata break in split spoon at depths of 0.8', 2.8' & 6.2'.

S.O.S.=Surficial Organic Soils

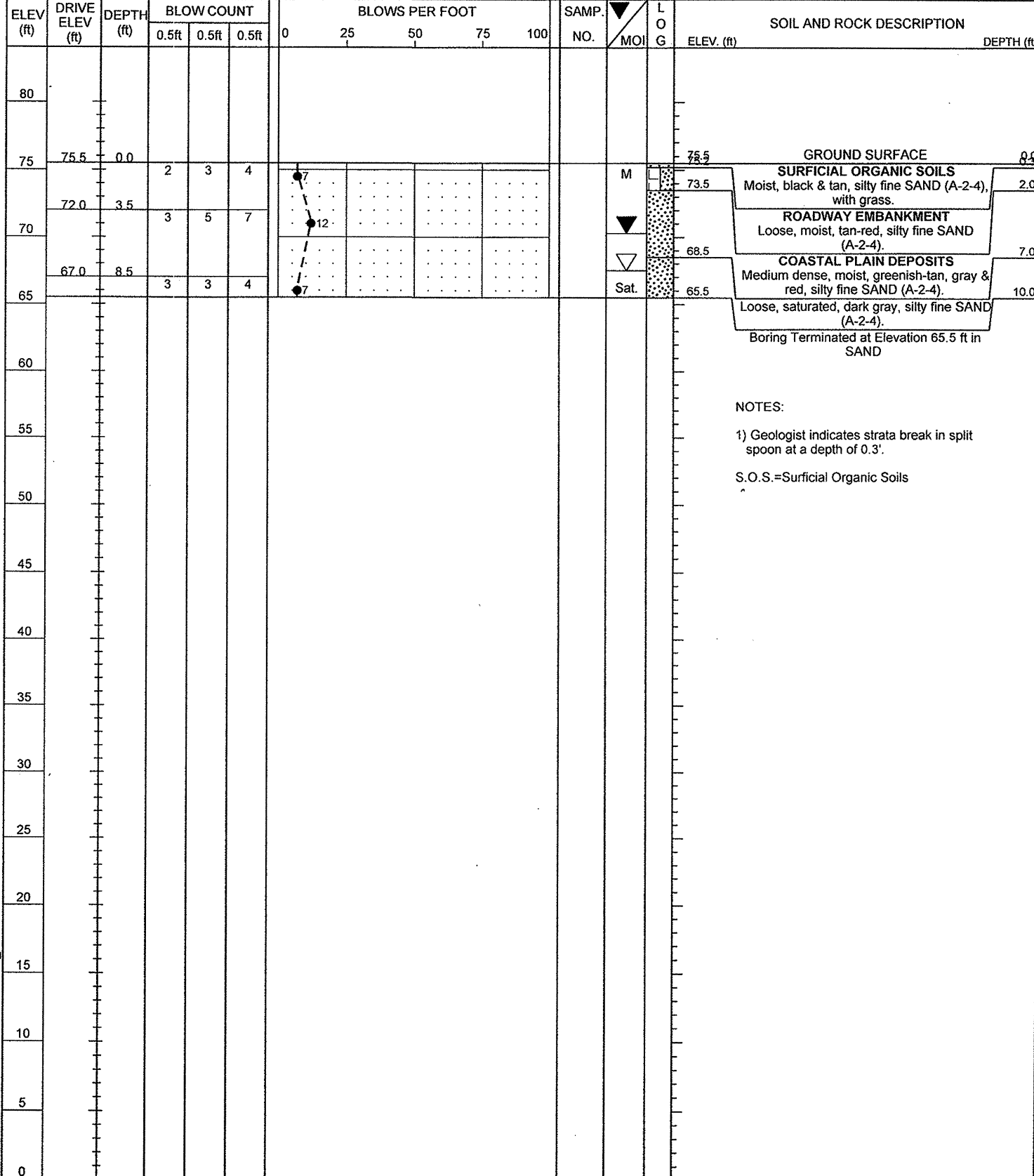
NCDOT BORE SIN 66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE 66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST E. Thomas
SITE DESCRIPTION Global Transpark Freight Transportation System			GROUND WTR (ft)
BORING NO. B-61	STATION 299+70	OFFSET 9ft RT	ALIGNMENT -MAIN- 0 HR. 6.2
COLLAR ELEV. 78.1 ft	TOTAL DEPTH 25.0 ft	NORTHING 579,096	EASTING 2,417,605 24 HR. 1.0
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/25/08	COMP. DATE 11/25/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A



PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System at Sand Clay Road			GROUND WTR (ft)
BORING NO. SB-1	STATION 13+24	OFFSET 12ft RT	ALIGNMENT -SANDCLAY- 0 HR. 8.0
COLLAR ELEV. 75.5 ft	TOTAL DEPTH 10.0 ft	NORTHING 558,212	EASTING 2,406,441 24 HR. 5.2
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/20/08	COMP. DATE 11/20/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A



NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.3'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System at Sand Clay Road			GROUND WTR (ft)
BORING NO. SB-2	STATION 14+24	OFFSET 11ft RT	ALIGNMENT -SANDCLAY-
COLLAR ELEV. 78.0 ft	TOTAL DEPTH 20.0 ft	NORTHING 558,206	EASTING 2,406,542
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/20/08	COMP. DATE 11/20/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
80	78.0	0.0												GROUND SURFACE	0.0
														SURFICIAL ORGANIC SOILS	0.3
														Moist, black & tan, silty fine SAND (A-2-4), with grass.	2.0
														ROADWAY EMBANKMENT	
														Loose, moist, tan-brown, silty fine to coarse SAND (A-2-4), with trace gravel.	7.0
														COASTAL PLAIN DEPOSITS	
														Loose to medium dense, wet, tan, gray & red, silty fine to coarse SAND (A-2-4).	
														Medium stiff to stiff, saturated, dark gray, fine sandy CLAY (A-7-6), with thin sand seams.	
														Very dense, saturated, dark gray, clayey fine SAND (A-2-6), with thin clay seams.	
														Medium dense, saturated, dark gray, clayey fine SAND (A-2-6), with thin clay seams, trace shell fragments.	
														Boring Terminated at Elevation 58.0 ft in SAND	

NOTES:

- 1) Geologist indicates strata break in split spoon at a depth of 0.3'.
- 2) Driller indicates softer drilling at a depth of 17.0'.

S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System at Sand Clay Road			GROUND WTR (ft)
BORING NO. SB-3	STATION 15+26	OFFSET 11ft RT	ALIGNMENT -SANDCLAY-
COLLAR ELEV. 80.0 ft	TOTAL DEPTH 25.0 ft	NORTHING 558,200	EASTING 2,406,643
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/19/08	COMP. DATE 11/19/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
80	80.0	0.0												GROUND SURFACE	0.0
														SURFICIAL ORGANIC SOILS	0.3
														Moist, black & tan, silty fine SAND (A-2-4), with grass.	2.0
														ROADWAY EMBANKMENT	
														Loose, moist, tan-brown with orange, silty fine to coarse SAND (A-2-4).	
														COASTAL PLAIN DEPOSITS	
														Medium dense, moist to wet, tan-brown, gray & dark red, silty fine to coarse SAND (A-2-4), with a layer of gray clay.	
														Loose to very dense, wet to saturated, dark gray, silty fine SAND (A-2-4), with little clay, trace shell fragments.	
														Boring Terminated at Elevation 55.0 ft in SAND	

NOTES:

- 1) Geologist indicates strata break in split spoon at a depth of 0.3'.

S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey										
SITE DESCRIPTION Global Transpark Freight Transportation System at Sand Clay Road							GROUND WTR (ft)									
BORING NO. SB-4		STATION 17+25		OFFSET 11ft RT		ALIGNMENT -SANDCLAY-										
COLLAR ELEV. 81.0 ft		TOTAL DEPTH 25.0 ft		NORTHING 558,187		EASTING 2,406,842										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 11/19/08		COMP. DATE 11/19/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
85																
81.0	81.0	0.0														
80			2	3	4											
77.5		3.5	9	9	9											
75																
72.5		8.5	13	11	10											
70																
67.5		13.5	2	5	5											
65																
62.5		18.5	6	4	8											
60																
57.5		23.5	5	5	6											
55																
50																
45																
40																
35																
30																
25																
20																
15																
10																
5																

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey										
SITE DESCRIPTION Global Transpark Freight Transportation System at Sand Clay Road							GROUND WTR (ft)									
BORING NO. SB-5		STATION 18+28		OFFSET 11ft RT		ALIGNMENT -SANDCLAY-										
COLLAR ELEV. 79.3 ft		TOTAL DEPTH 20.0 ft		NORTHING 558,181		EASTING 2,406,945										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 11/19/08		COMP. DATE 11/19/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
80																
79.3	79.3	0.0	2	3	5											
75			3	2	2											
75.8		3.5														
70			4	15	16											
70.8		8.5														
65			5	6	10											
65.8		13.5														
60			4	5	5											
60.8		18.5														
55																
50																
45																
40																
35																
30																
25																
20																
15																
10																
5																
0																

NCDOT BORE SINL 66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

NOTES:
1) Geologist indicates strata break in split spoon at depths of 0.4' & 9.2'.
2) Driller indicates softer drilling at a depth of 12.5'.
S.O.S.=Surficial Organic Soils

NOTES:
1) Geologist indicates strata break in split spoon at depths of 0.4' & 9.0'.
S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey										
SITE DESCRIPTION Global Transpark Freight Transportation System at Sand Clay Road							GROUND WTR (ft)									
BORING NO. SB-6		STATION 19+27		OFFSET 11ft RT		ALIGNMENT -SANDCLAY-										
COLLAR ELEV. 77.5 ft		TOTAL DEPTH 10.0 ft		NORTHING 558,175		EASTING 2,407,044										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 11/19/08		COMP. DATE 11/19/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
80	77.5	0.0														
			2	3	3										77.5	GROUND SURFACE
75	74.0	3.5													75.5	SURFICIAL ORGANIC SOILS Moist, black & tan, silty fine SAND (A-2-4), with grass.
			3	3	3										70.5	ROADWAY EMBANKMENT Loose, moist, tan-red, silty fine SAND (A-2-4).
70	69.0	8.5													67.5	COASTAL PLAIN DEPOSITS Loose, moist, tan-red & tan-gray, silty fine to coarse SAND (A-2-4).
			3	5	4										67.5	Stiff, moist, gray, fine sandy CLAY (A-7-6), interlayered with gray fine sand seams. Boring Terminated at Elevation 67.5 ft in CLAY
65																
60																
55																
50																
45																
40																
35																
30																
25																
20																
15																
10																
5																
0																

NCDOT BORE SIN 66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey										
SITE DESCRIPTION Global Transpark Freight Transportation System at Hull Road							GROUND WTR (ft)									
BORING NO. HB-1		STATION 12+40		OFFSET 26ft LT		ALIGNMENT -HULL-										
COLLAR ELEV. 108.2 ft		TOTAL DEPTH 10.0 ft		NORTHING 565,133		EASTING 2,405,291										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 11/21/08		COMP. DATE 11/21/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
110																
	108.2	0.0													108.2	GROUND SURFACE
	106.2	2.0				WOH	1	1								
105	104.7	3.5				3	4	5								
	103.2	5.0				4	5	2								
	101.7	6.5				2	1	1								
100	99.7	8.5				6	7	6								
						5	11	11								
95																
90																
85																
80																
75																
70																
65																
60																
55																
50																
45																
40																
35																
30																

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

NOTES:
1) Stabilized groundwater reading taken at 72 hours.
S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey										
SITE DESCRIPTION Global Transpark Freight Transportation System at Hull Road							GROUND WTR (ft)									
BORING NO. HB-2		STATION 14+44		OFFSET 25ft LT		ALIGNMENT -HULL-										
COLLAR ELEV. 108.1 ft		TOTAL DEPTH 10.0 ft		NORTHING 564,979		EASTING 2,405,424										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 11/21/08		COMP. DATE 11/21/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
110	108.1	0.0														
			WOH	1	2											
105	106.1	2.0														
	104.6	3.5														
	103.1	5.0														
	101.6	6.5														
100	99.6	8.5														
95																
90																
85																
80																
75																
70																
65																
60																
55																
50																
45																
40																
35																
30																

NCDOT BORE SIN 066-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST D. Racey										
SITE DESCRIPTION Global Transpark Freight Transportation System at Hull Road							GROUND WTR (ft)									
BORING NO. HB-3		STATION 16+52		OFFSET 20ft LT		ALIGNMENT -HULL-										
COLLAR ELEV. 108.9 ft		TOTAL DEPTH 10.0 ft		NORTHING 564,822		EASTING 2,405,561										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 11/20/08		COMP. DATE 11/20/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
110	108.9	0.0														
	106.9	2.0														
105	105.4	3.5														
	103.9	5.0														
	102.4	6.5														
100	100.4	8.5														
95																
90																
85																
80																
75																
70																
65																
60																
55																
50																
45																
40																
35																
30																

NCDOT BORE SINGLE 1666-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System at Hull Road			GROUND WTR (ft)
BORING NO. HB-4	STATION 18+39	OFFSET 8ft LT	ALIGNMENT -HULL-
COLLAR ELEV. 109.8 ft	TOTAL DEPTH 10.0 ft	NORTHING 564,679	EASTING 2,405,681
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/20/08	COMP. DATE 11/20/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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						
110	109.8	0.0	WOH	1	2										109.8	0.0
	107.8	2.0		3	3										109.5	0.3
	106.3	3.5		3	2											
105	104.8	5.0		2	2											
	103.3	6.5		2	0											
100	101.3	8.5		1	1											

Boring Terminated at Elevation 99.8 ft in SAND

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.3'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System at Hull Road			GROUND WTR (ft)
BORING NO. HB-5	STATION 20+62	OFFSET 13ft LT	ALIGNMENT -HULL-
COLLAR ELEV. 112.0 ft	TOTAL DEPTH 10.0 ft	NORTHING 564,526	EASTING 2,405,843
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/20/08	COMP. DATE 11/20/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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						
115																
	112.0	0.0		1	1											
110	110.0	2.0	WOH	1	0											
	108.5	3.5		1	1											
	107.0	5.0		2	3											
105	105.5	6.5		3	4											
	103.5	8.5		3	5											

Boring Terminated at Elevation 102.0 ft in SAND

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.5'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SIN_666-100.GPJ NC_DOT_GDT_2/13/09

NCDOT BORE SINGLE_K86-100.GPJ NC_DOT_GDT_2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System at Hull Road			GROUND WTR (ft)
BORING NO. HB-6	STATION 24+77	OFFSET 15ft LT	ALIGNMENT -HULL-
COLLAR ELEV. 112.1 ft	TOTAL DEPTH 10.0 ft	NORTHING 564,248	EASTING 2,406,151
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA	
START DATE 11/20/08		COMP. DATE 11/20/08	
SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
115																
112.1		0.0													112.1	0.0
110	110.1	2.0	2	2	3								M			
	108.6	3.5	4	3	4								M			
	107.1	5.0	4	2	3								M			
105	105.6	6.5	2	3	4								M/W			
	103.6	8.5	3	4	8											
			5	6	5											

Boring Terminated at Elevation 102.1 ft in SAND

NOTES:

- Geologist indicates strata break in split spoon at a depth of 0.4'.

S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System at Hull Road			GROUND WTR (ft)
BORING NO. HB-7	STATION 26+67	OFFSET 15ft LT	ALIGNMENT -HULL-
COLLAR ELEV. 112.0 ft	TOTAL DEPTH 10.0 ft	NORTHING 564,137	EASTING 2,406,302
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA	
START DATE 11/20/08		COMP. DATE 11/20/08	
SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
115																
112.0		0.0													112.9	0.0
110	110.0	2.0	1	2	1								M			
	108.5	3.5	2	1	2								M			
	107.0	5.0	2	5	4								M			
105	105.5	6.5	4	5	6											
	103.5	8.5	6	8	7											
			6	6	6									Sat.		

Boring Terminated at Elevation 102.0 ft in SAND

NOTES:

- Geologist indicates strata break in split spoon at a depth of 0.3'.

S.O.S.=Surficial Organic Soils

NCDOT BORE SIN 666-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System at Hull Road			GROUND WTR (ft)
BORING NO. HB-8	STATION 28+79	OFFSET 21ft LT	ALIGNMENT -HULL-
COLLAR ELEV. 109.6 ft	TOTAL DEPTH 10.0 ft	NORTHING 564,041	EASTING 2,406,488
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic
START DATE 11/20/08	COMP. DATE 11/20/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
110	109.6	0.0	WOH	1	1										GROUND SURFACE 0.0
	107.6	2.0													107.3
	106.1	3.5													108.7
105	104.6	5.0		5	9	11									
	103.1	6.5		6	13	17									
	101.1	8.5		13	20	19									
100				12	13	16									99.6

Boring Terminated at Elevation 99.6 ft in SAND

NOTES:
 1) Geologist indicates strata break in split spoon at depths of 0.3' & 0.9'.
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System at Hull Road			GROUND WTR (ft)
BORING NO. HB-9	STATION 30+72	OFFSET 25ft LT	ALIGNMENT -HULL-
COLLAR ELEV. 109.4 ft	TOTAL DEPTH 10.0 ft	NORTHING 563,964	EASTING 2,406,665
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic
START DATE 11/20/08	COMP. DATE 11/20/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
110	109.4	0.0	WOH	1	1										GROUND SURFACE 0.0
	107.4	2.0													0.3
	105.9	3.5		2	3	3									0.9
105	104.4	5.0		4	4	5									
	102.9	6.5		7	10	7									
	100.9	8.5		5	5	4									
100				2	4	5									99.4

Boring Terminated at Elevation 99.4 ft in SAND

NOTES:
 1) Geologist indicates strata break in split spoon at a depth of 0.3'.
 S.O.S.=Surficial Organic Soils

NCDOT BORE SIN. 66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE 66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST D. Racey
SITE DESCRIPTION Global Transpark Freight Transportation System at Hull Road			GROUND WTR (ft)
BORING NO. HB-10	STATION 32+64	OFFSET 24ft LT	ALIGNMENT -HULL- 0 HR. 8.7
COLLAR ELEV. 110.1 ft	TOTAL DEPTH 10.0 ft	NORTHING 563,884	EASTING 2,406,839 24 HR. 5.7
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/20/08	COMP. DATE 11/20/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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						
115																
110	110.1	0.0												GROUND SURFACE	0.0	
108.1	108.1	2.0	1	2	3	5					M			SURFICIAL ORGANIC SOILS Moist, black & tan, silty fine SAND (A-2-4), with grass & roots.		
106.6	106.6	3.5	3	3	3	6					M					
105.1	105.1	5.0	2	4	5	9					W				COASTAL PLAIN DEPOSITS Loose to medium dense, moist to saturated, tan-orange, light gray, white-tan & red, silty fine SAND (A-2-4).	
103.6	103.6	6.5	3	7	9	16					W					
101.6	101.6	8.5	7	13	15	28					W					
100			5	7	8	15					Sat.			Boring Terminated at Elevation 100.1 ft in SAND	10.0	
95																
90																
85																
80																
75																
70																
65																
60																
55																
50																
45																
40																
35																

NOTES:
1) Geologist indicates strata break in split spoon at a depth of 0.2'.
S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST E. Thomas
SITE DESCRIPTION Global Transpark Freight Transportation System at Dobbs Farm Road			GROUND WTR (ft)
BORING NO. DB-1	STATION 12+65	OFFSET 45ft LT	ALIGNMENT -DOBBSFARM- 0 HR. Dry
COLLAR ELEV. 89.2 ft	TOTAL DEPTH 10.0 ft	NORTHING 570,259	EASTING 2,408,931 24 HR. 4.5
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/24/08	COMP. DATE 11/24/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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					
90															
89.2	89.2	0.0												GROUND SURFACE	0.0
87.2	87.2	2.0	2	3	3	6								COASTAL PLAIN DEPOSITS Very loose to medium dense, moist to wet, tan-brown, orange-tan & white-tan, silty fine SAND (A-2-4), with little clay.	
85.7	85.7	3.5	3	3	4	7									
84.2	84.2	5.0	7	5	6	11									
82.7	82.7	6.5	2	3	4	4									
80.7	80.7	8.5	1	2	2	2									
80			1	1	1	2								Boring Terminated at Elevation 79.2 ft in SAND	10.0
75															
70															
65															
60															
55															
50															
45															
40															
35															
30															
25															
20															
15															
10															

NCDOT BORE SINL K66-100.GPJ NC_DOT.GDT 2/13/09

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas										
SITE DESCRIPTION Global Transpark Freight Transportation System at Dobbs Farm Road							GROUND WTR (ft)									
BORING NO. DB-4		STATION 19+91		OFFSET 35ft LT		ALIGNMENT -DOBBSFARM-										
COLLAR ELEV. 86.0 ft		TOTAL DEPTH 10.0 ft		NORTHING 570,094		EASTING 2,409,628										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 11/24/08		COMP. DATE 11/24/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
90																
85	86.0	0.0													86.0	GROUND SURFACE
	84.0	2.0	1	2	2											SURFICIAL ORGANIC SOILS
	82.5	3.5	2	2	4											COASTAL PLAIN DEPOSITS
	81.0	5.0	2	4	4											Loose, moist to wet, tan-brown, orange-tan & light gray, silty fine SAND (A-2-4).
80	79.5	6.5	2	1	1											Very loose, wet, gray, silty fine SAND (A-2-4), with organic matter, little clay.
	77.5	8.5	WOH	WOH	WOH											Very loose, wet, dark gray, clayey fine to coarse SAND (A-2-6), with cemented pieces.
75																Boring Terminated at Elevation 76.0 ft in SAND
70																NOTES:
65																S.O.S.=Surficial Organic Soils
60																
55																
50																
45																
40																
35																
30																
25																
20																
15																
10																

NCDOT BORE SIN 066-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas										
SITE DESCRIPTION Global Transpark Freight Transportation System at Dobbs Farm Road							GROUND WTR (ft)									
BORING NO. DB-5		STATION 21+07		OFFSET 35ft LT		ALIGNMENT -DOBBSFARM-										
COLLAR ELEV. 86.7 ft		TOTAL DEPTH 10.0 ft		NORTHING 570,092		EASTING 2,409,741										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 11/24/08		COMP. DATE 11/24/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
90																
85	86.7	0.0													86.7	GROUND SURFACE
	84.7	2.0	1	2	3											SURFICIAL ORGANIC SOILS
	83.2	3.5	1	2	2											COASTAL PLAIN DEPOSITS
	81.7	5.0	2	3	6											Loose, moist to wet, dark brown to tan, silty fine SAND (A-2-4).
80	80.2	6.5	4	3	2											Very loose, saturated, gray, clayey fine to coarse SAND (A-2-6).
	78.2	8.5	WOH	WOH	WOH											Boring Terminated at Elevation 76.7 ft in SAND
75																
70																NOTES:
65																S.O.S.=Surficial Organic Soils
60																
55																
50																
45																
40																
35																
30																
25																
20																
15																
10																

NCDOT BORE SINGLE K66-100.GPJ NC_DOT.GDT 2/13/09

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas										
SITE DESCRIPTION Global Transpark Freight Transportation System at Dobbs Farm Road							GROUND WTR (ft)									
BORING NO. DB-6		STATION 23+41		OFFSET 45ft LT		ALIGNMENT -DOBBSFARM-										
COLLAR ELEV. 90.3 ft		TOTAL DEPTH 10.0 ft		NORTHING 570,116		EASTING 2,409,974										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 11/24/08		COMP. DATE 11/24/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
95																
90	90.3	0.0														
	88.3	2.0	4	3	3											
	86.8	3.5	1	2	3											
85	85.3	5.0	5	5	7											
	83.8	6.5	3	3	3											
	81.8	8.5	2	2	1											
80			1	1	1											
75																
70																
65																
60																
55																
50																
45																
40																
35																
30																
25																
20																
15																

PROJECT NO. 38989.1.1		ID. U-2928		COUNTY Lenoir		GEOLOGIST E. Thomas										
SITE DESCRIPTION Global Transpark Freight Transportation System at Rouse Road							GROUND WTR (ft)									
BORING NO. RB-1		STATION 210+43		OFFSET 112ft LT		ALIGNMENT -MAIN-										
COLLAR ELEV. 85.6 ft		TOTAL DEPTH 10.0 ft		NORTHING 572,485		EASTING 2,412,952										
DRILL MACHINE CME 550		DRILL METHOD 2.25" ID HSA		HAMMER TYPE Automatic												
START DATE 11/25/08		COMP. DATE 11/25/08		SURFACE WATER DEPTH N/A		DEPTH TO ROCK 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						
90																
85	85.6	0.0														
	83.6	2.0	1	2	3											
	82.1	3.5	2	1	3											
80	80.6	5.0	5	5	7											
	79.1	6.5	2	2	3											
	77.1	8.5	2	3	3											
75			WOH	WOH	2											
70																
65																
60																
55																
50																
45																
40																
35																
30																
25																
20																
15																
10																

K66-100.GPJ NC_DOT.GDT 2/13/09 NCDOT BORE SII

K66-100.GPJ NC_DOT.GDT 2/13/09 NCDOT BORE SINGLE

NOTES:
 Station & offset interpolated due to boring location beyond alignment provided.

NOTES:
 S.O.S.=Surficial Organic Soils

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST E. Thomas
SITE DESCRIPTION Global Transpark Freight Transportation System at Airport Road			GROUND WTR (ft)
BORING NO. AB-1	STATION 241+60	OFFSET 22ft LT	ALIGNMENT -MAIN- 0 HR. Dry
COLLAR ELEV. 89.1 ft	TOTAL DEPTH 10.0 ft	NORTHING 574,665	EASTING 2,415,167 24 HR. 4.8
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/25/08	COMP. DATE 11/25/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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				
90	89.1	0.0											89.1 GROUND SURFACE 0.0	
	87.1	2.0	1	3	4						M	MO	COASTAL PLAIN DEPOSITS	
	85.6	3.5	2	2	3						W	MO	Loose, moist, orange-brown, silty fine SAND (A-2-4).	2.0
85	84.1	5.0	4	4	7						W	MO	Loose, wet, orange-brown, silty clayey fine SAND (A-2-6).	3.5
	82.6	6.5	5	8	10						W	MO	Medium dense to loose, wet, tan-brown & tan, silty fine SAND (A-2-4).	
80	80.6	8.5	7	4	2						W	MO		
			1	1	1						Sat.	MO	Very loose, saturated, gray, fine SAND (A-2-4), with little clay.	8.5
													Boring Terminated at Elevation 79.1 ft in SAND	10.0

PROJECT NO. 38989.1.1	ID. U-2928	COUNTY Lenoir	GEOLOGIST E. Thomas
SITE DESCRIPTION Global Transpark Freight Transportation System at Airport Road			GROUND WTR (ft)
BORING NO. AB-2	STATION 243+24	OFFSET 4ft LT	ALIGNMENT -MAIN- 0 HR. 7.0
COLLAR ELEV. 87.6 ft	TOTAL DEPTH 10.0 ft	NORTHING 574,715	EASTING 2,415,325 24 HR. 3.0
DRILL MACHINE CME 550	DRILL METHOD 2.25" ID HSA	HAMMER TYPE Automatic	
START DATE 11/25/08	COMP. DATE 11/25/08	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 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				
90	87.6	0.0											87.6 GROUND SURFACE 0.0	
	85.6	2.0	1	3	3						M	MO	SURFICIAL ORGANIC SOILS	
85	84.1	3.5	2	3	5						W	MO	COASTAL PLAIN DEPOSITS	
	82.6	5.0	7	7	12						W	MO	Very loose to medium dense, moist to saturated, dark brown to tan, silty fine SAND (A-2-4).	
	81.1	6.5	6	10	11						W	MO		
80	79.1	8.5	3	1	1						Sat.	MO	Soft, saturated, dark gray, fine sandy CLAY (A-7-6).	8.5
			WOH	WOH	2						Sat.	MO	Boring Terminated at Elevation 77.6 ft in CLAY	10.0

NOTES:
S.O.S.=Surficial Organic Soils



Photograph of fluorescent light bulbs dumped near Station 177+88, 47 feet right

North Carolina Department of Transportation
Division of Highways
Materials and Test Unit
Soils Laboratory

T.I.P. ID NO.: U-2928
DESCRIPTION: Global Transpark Freight Transportation System

REPORT ON SAMPLES OF: SOIL FOR QUALITY

PROJECT: 38989.1.1	COUNTY: <u>Lenoir</u>
DATE SAMPLED: <u>October 2008</u>	RECEIVED: <u>10/15/08-10/20/08</u>
SAMPLED FROM: <u>-WYE- and -MAIN-</u>	REPORTED: <u>10/24/08-11/6/08</u>
SUBMITTED BY: <u>E.C. Howey, L.G., P.E.</u>	BY: <u>D. Jenks</u>

TEST RESULTS

PROJ. SAMPLE NO.	SS-70	SS-72	SS-54	SS-57	SS-58	SS-60	SS-61	SS-48	SS-40	SS-41	SS-3	SS-5	SS-6	SS-8	SS-9	CBR-1	CBR-2
BORING NO.	B-1	B-1	B-3	B-3	B-3	B-3	B-4	B-5	B-6	B-6	B-7	B-7	B-7	B-7	B-7	B-7	B-7
Retained #4 Sieve %	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.3	0.2
Passing #10 Sieve %	99.8	99.9	99.8	99.8	92.8	99.7	99.8	99.9	99.9	99.9	97.8	100.0	99.8	99.9	99.9	98.0	96.8
Passing #40 Sieve %	84.8	83.1	88.0	81.0	40.5	76.5	86.4	95.2	96.0	91.0	56.7	97.7	86.2	87.6	86.3	72.6	37.7
Passing #200 Sieve %	45.7	41.0	22.4	13.6	5.9	20.4	39.4	23.0	30.6	33.1	14.2	56.3	21.4	29.6	26.5	32.6	14.1

MINUS #10 FRACTION

SOIL MORTAR - 100%																	
Coarse Sand Ret - #60 %	30.6	33.5	25.8	41.2	78.8	52.2	26.2	20.8	12.5	32.9	63.4	5.2	34.9	26.9	31.3	42.2	73.8
Fine Sand Ret - #270 %	24.9	26.5	55.2	47.5	14.0	28.8	37.0	59.7	59.4	35.7	24.4	41.2	51.5	45.3	45.0	25.7	12.7
Silt 0.053 - 0.010 mm %	10.3	2.6	5.3	1.6	0.0	3.7	5.2	3.2	0.2	3.9	2.0	7.2	5.4	5.2	1.1	0.9	0.4
Clay < 0.010 mm %	34.2	37.4	13.7	9.7	7.2	15.3	31.6	16.3	27.9	27.5	10.2	46.4	8.2	22.6	22.6	31.2	13.1
L.L.	30	34	19	11	14	20	22	15	23	33	25	52	17	26	28	40	31
P.L.	20	22	NP	NP	NP	NP	17	NP	18	22	NP	19	NP	18	20	23	22
P.I.	10	12	NP	NP	NP	NP	5	NP	5	11	NP	33	NP	8	8	17	9
AASHTO Classification	A-4(2)	A-6(2)	A-2-4(0)	A-2-4(0)	A-1-b(0)	A-2-4(0)	A-4(0)	A-2-4(0)	A-2-4(0)	A-2-6(0)	A-2-4(0)	A-7-6(15)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-6(1)	A-2-4(0)
Line	-WYE-	-WYE-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-WYE-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-
Station	15+09	15+09	18+03	18+03	18+03	18+03	18+23	23+74	29+11	29+11	34+15	34+15	34+15	34+15	34+15	34+15	34+15
Offset	18' RT.	18' RT.	36' RT.	36' RT.	36' RT.	36' RT.	15' RT.	6' RT.	8' RT.	8' RT.	12' RT.	12' RT.	12' RT.	12' RT.	12' RT.	12' RT.	12' RT.
Depth (ft)	2.0	5.0	2.0	6.5	8.5	18.5	0.0	6.5	8.5	13.5	8.5	18.5	23.5	33.5	38.5	1.0	7.0
to	3.0	6.5	3.5	8.0	10.0	20.0	1.5	8.0	10.0	15.0	10.0	20.0	25.0	35.0	40.0	7.0	12.0
Moisture Content (%)	25.9	34.1	31.9	21.8	20.6	26.1	22.7	23.1	23.5	33.1	20.6	33.7	26.1	21.7	30.2	17.8	14.5

NP=Not plastic

E.C. Howey, L.G., P.E.
Soils Engineer

North Carolina Department of Transportation
Division of Highways
Materials and Test Unit
Soils Laboratory

T.I.P. ID NO.: U-2928
DESCRIPTION: Global Transpark Freight Transportation System

REPORT ON SAMPLES OF: SOIL FOR QUALITY

PROJECT: 38989.1.1	COUNTY: <u>Lenoir</u>
DATE SAMPLED: <u>October 2008</u>	RECEIVED: <u>10/15/08-10/20/08</u>
SAMPLED FROM: <u>-MAIN-</u>	REPORTED: <u>10/24/08-11/10/08</u>
SUBMITTED BY: <u>E.C. Howey, L.G., P.E.</u>	BY: <u>D. Jenks</u>

TEST RESULTS

PROJ. SAMPLE NO.	CBR-3	SS-28	SS-29	SS-90	SS-3	SS-5	SS-3	SS-97	SS-125	SS-130	SS-139	SS-163	SS-168	SS-172	SS-186	SS-192	SS-182
BORING NO.	B-7	B-9	B-9	B-11	B-14	B-15	B-16	B-17	B-18	B-18	B-20	B-23	B-24	B-25	B-27	B-27	B-28
Retained #4 Sieve %	0.1	0.4	0.6	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Passing #10 Sieve %	98.7	97.3	93.9	99.9	99.8	96.0	99.9	100.0	100.0	99.9	100.0	97.2	99.2	100.0	100.0	99.8	100.0
Passing #40 Sieve %	75.6	68.8	33.6	82.8	89.7	69.4	97.2	98.2	98.6	99.8	99.6	88.6	94.1	97.9	98.7	98.5	99.0
Passing #200 Sieve %	27.9	30.5	6.6	31.0	32.1	14.8	54.9	35.3	35.7	80.7	88.2	19.0	16.6	9.0	30.9	25.0	27.3

MINUS #10 FRACTION

SOIL MORTAR - 100%																	
Coarse Sand Ret - #60 %	47.0	47.0	74.1	36.3	20.2	49.4	9.8	5.9	5.7	0.5	0.8	29.3	6.4	17.5	6.5	5.7	5.8
Fine Sand Ret - #270 %	27.9	13.6	19.6	34.6	50.2	33.3	37.6	63.2	58.6	29.8	17.5	54.2	82.3	74.1	66.4	75.0	71.8
Silt 0.053 - 0.010 mm %	2.2	0.0	0.7	3.8	6.1	0.0	8.5	6.2	2.9	17.9	26.0	3.8	0.0	0.0	4.2	4.0	7.2
Clay < 0.010 mm %	22.9	39.4	5.6	25.3	23.5	17.3	44.1	24.7	32.8	51.8	55.7	14.5	11.3	8.4	22.9	15.3	15.2
L.L.	32	49	24	29	19	18	46	21	20	40	46	19	17	16	15	16	15
P.L.	21	24	NP	18	16	NP	21	19	16	20	24	NP	NP	NP	NP	NP	NP
P.I.	11	25	NP	11	3	NP	25	2	4	20	22	NP	NP	NP	NP	NP	NP
AASHTO Classification	A-2-6(0)	A-2-7(1)	A-1-b(0)	A-2-6(0)	A-2-4(0)	A-2-4(0)	A-7-6(11)	A-2-4(0)	A-2-4(0)	A-6(16)	A-7-6(21)	A-2-4(0)	A-2-4(0)	A-3(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)
Line	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-
Station	34+15	43+95	43+95	52+25	69+60	74+00	77+44	85+38	90+70	90+70	96+52	109+29	112+54	119+80	128+93	128+93	133+87
Offset	12' RT.	16' RT.	16' RT.	4' RT.	46' RT.	61' LT.	200' RT.	16' RT.	16' RT.	16' RT.	33' RT.	13' RT.	11' RT.	34' RT.	58' LT.	58' LT.	10' RT.
Depth (ft)	13.0	3.5	8.5	23.5	3.5	8.5	3.5	13.5	2.0	13.5	13.5	18.5	13.5	8.5	2.0	18.5	8.5
to	18.0	5.0	10.0	25.0	5.0	10.0	5.0	15.0	3.5	15.0	15.0	20.0	15.0	10.0	3.5	20.0	10.0
Moisture Content (%)	21.6	20.4	20.6	19.6	16.0	23.1	24.5	32.3	19.0	41.7	43.7	37.4	27.6	20.7	18.2	30.0	25.2

NP=Not plastic

E.C. Howey, L.G., P.E.
Soils Engineer

North Carolina Department of Transportation
Division of Highways
Materials and Test Unit
Soils Laboratory

T.I.P. ID NO.: U-2928
DESCRIPTION: Global Transpark Freight Transportation System

REPORT ON SAMPLES OF: SOIL FOR QUALITY

PROJECT: 38989.1.1
DATE SAMPLED: October 2008
SAMPLED FROM: -MAIN-
SUBMITTED BY: E.C. Howey, L.G., P.E.

COUNTY: Lenoir
RECEIVED: 10/29/08-11/13/08
REPORTED: 11/24/08-12/4/08
BY: D. Jenks

TEST RESULTS

PROJ. SAMPLE NO.	SS-202	SS-210	SS-212	SS-218	SS-235	SS-247	SS-250	SS-254	SS-256	SS-262	SS-266	SS-272	SS-286	SS-291	SS-322	SS-332	SS-340
BORING NO.	B-30	B-31A	B-31A	B-31A	B-32	B-32	B-33	B-33	B-36	B-36	B-37	B-38	B-40	B-41	B-45	B-48	B-49
Retained #4 Sieve %	1.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Passing #10 Sieve %	97.8	99.1	99.9	99.8	99.7	99.5	99.9	99.9	100.0	95.8	100.0	99.9	100.0	99.9	99.9	100.0	99.1
Passing #40 Sieve %	91.6	86.3	89.7	97.8	89.6	57.4	91.8	94.6	97.8	59.5	98.1	98.4	95.2	88.4	90.4	99.6	98.5
Passing #200 Sieve %	19.0	18.8	38.2	11.5	33.4	11.7	17.4	45.9	10.1	21.5	33.2	59.6	52.1	41.8	33.8	12.6	84.9

MINUS #10 FRACTION

SOIL MORTAR - 100%																	
Coarse Sand Ret - #60 %	12.6	28.4	28.0	17.8	28.9	73.7	24.5	21.3	10.0	60.9	9.4	4.9	12.3	23.1	18.7	1.4	1.5
Fine Sand Ret - #270 %	69.7	54.7	35.5	72.6	39.1	15.6	59.6	37.7	82.6	19.2	61.2	38.4	44.8	38.9	50.0	88.4	16.5
Silt 0.053 - 0.010 mm %	5.8	3.7	6.1	3.4	5.2	1.7	2.4	11.9	2.4	5.0	10.6	14.7	16.1	8.9	4.9	0.2	23.3
Clay < 0.010 mm %	11.9	13.2	30.4	6.2	26.8	9.0	13.5	29.1	5.0	14.9	18.8	42.0	26.8	29.1	26.4	10.0	58.7
L.L.	19	16	29	18	28	19	18	37	8	31	14	20	37	37	23	18	91
P.L.	NP	NP	17	NP	19	NP	NP	18	NP	21	NP	12	20	18	14	NP	23
P.I.	NP	NP	12	NP	9	NP	NP	19	NP	10	NP	8	17	19	9	NP	68
AASHTO Classification	A-2-4(0)	A-2-4(0)	A-6(1)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-6(5)	A-2-4(0)	A-2-4(0)	A-2-4(0)	A-4(2)	A-6(6)	A-6(4)	A-2-4(0)	A-2-4(0)	A-7-6(63)
Line	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-
Station	144+08	151+72	151+72	151+72	155+43	155+43	160+85	160+85	171+65	171+65	177+08	181+15	192+18	196+17	214+62	228+82	234+65
Offset	13' RT.	41' RT.	41' RT.	41' RT.	19' LT.	19' LT.	48' RT.	48' RT.	6' RT.	6' RT.	82' RT.	2' RT.	6' LT.	4' RT.	17' LT.	43' LT.	6' LT.
Depth (ft)	13.5	3.5	13.5	43.5	8.5	68.5	8.5	28.5	2.0	18.5	8.5	8.5	28.5	18.5	8.5	3.5	13.5
to	15.0	5.0	15.0	45.0	10.0	70.0	10.0	30.0	3.5	20.0	10.0	10.0	30.0	20.0	10.0	5.0	15.0
Moisture Content (%)	37.6	19.6	20.5	27.8	20.3	21.1	24.5	22.8	19.0	56.6	18.3	19.8	22.4	23.9	20.3	10.5	48.1

NP=Not plastic

E.C. Howey, L.G., P.E.
Soils Engineer

North Carolina Department of Transportation
Division of Highways
Materials and Test Unit
Soils Laboratory

T.I.P. ID NO.: U-2928
DESCRIPTION: Global Transpark Freight Transportation System

REPORT ON SAMPLES OF: SOIL FOR QUALITY

PROJECT: 38989.1.1	COUNTY: Lenoir
DATE SAMPLED: November 2008	RECEIVED: 11/13/08
SAMPLED FROM: -MAIN-	REPORTED: 12/4/08
SUBMITTED BY: E.C. Howey, L.G., P.E.	BY: D. Jenks

TEST RESULTS

PROJ. SAMPLE NO.	SS-348	SS-349	SS-355	SS-370	SS-376	SS-392	SS-395	SS-398	SS-400	SS-401	SS-408	SS-411	SS-417	SS-426	SS-427		
BORING NO.	B-50	B-50	B-51	B-53	B-54	B-56	B-56	B-56	B-57	B-57	B-58	B-58	B-59	B-60	B-60		
Retained #4 Sieve %	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5		
Passing #10 Sieve %	99.9	100.0	99.9	99.1	99.4	99.2	97.2	99.2	99.8	99.9	99.5	99.0	99.8	98.7	99.6		
Passing #40 Sieve %	96.7	99.6	97.3	94.9	92.8	91.9	93.8	97.8	94.5	93.0	96.8	91.9	86.7	95.6	94.6		
Passing #200 Sieve %	40.6	53.5	34.5	49.0	38.9	33.9	45.7	18.5	48.5	41.5	44.0	43.7	30.3	44.2	55.9		

MINUS #10 FRACTION

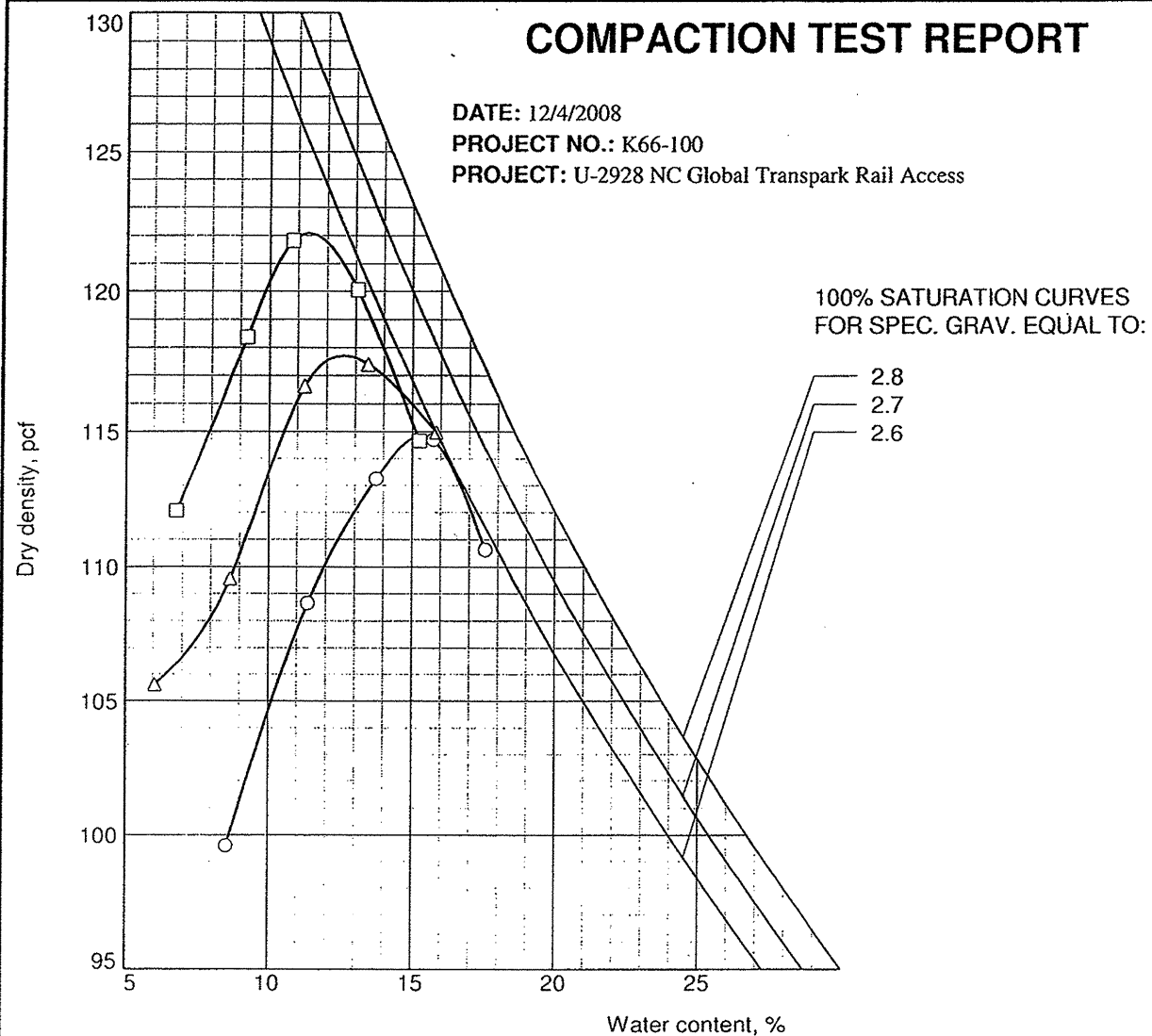
SOIL MORTAR - 100%																	
Coarse Sand Ret - #60 %	8.0	0.8	7.4	10.7	14.3	15.8	16.4	3.5	10.7	13.0	8.4	19.1	30.0	9.4	11.6		
Fine Sand Ret - #270 %	55.2	50.5	61.7	42.6	50.3	52.7	39.8	79.8	44.0	48.9	51.4	41.3	41.5	48.9	36.2		
Silt 0.053 - 0.010 mm %	14.7	13.7	12.8	14.8	13.7	12.6	14.4	7.0	18.0	15.1	19.2	12.3	1.6	1.3	29.1		
Clay < 0.010 mm %	22.1	35.0	18.1	31.9	21.7	18.9	29.4	9.7	27.3	23.0	21.0	27.3	26.9	40.4	23.1		
L.L.	17	52	17	31	18	19	37	22	22	23	17	40	27	49	28		
P.L.	13	19	14	13	13	15	23	NP	14	15	13	23	14	20	16		
P.I.	4	33	3	18	5	4	14	NP	8	8	4	17	13	29	12		
AASHTO Classification	A-4(0)	A-7-5(14)	A-2-4(0)	A-6(5)	A-4(0)	A-2-4(0)	A-6(3)	A-2-4(0)	A-4(1)	A-4(0)	A-4(0)	A-6(4)	A-2-6(0)	A-7-6(8)	A-6(4)		
Line	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-	-MAIN-		
Station	239+77	239+77	245+53	256+48	263+72	274+27	274+27	274+27	279+99	279+99	285+04	285+04	289+91	294+07	294+07		
Offset	4' LT.	4' LT.	12' RT.	54' LT.	25' RT.	13' RT.	13' RT.	13' RT.	9' RT.	9' RT.	20' LT.	20' LT.	20' LT.	9' RT.	9' RT.		
Depth (ft)	8.5	14.5	6.5	5.0	2.0	2.0	6.5	18.5	2.0	3.5	2.0	6.5	3.5	5.0	6.5		
to	10.0	15.0	8.0	6.5	3.5	3.5	8.0	20.0	3.5	5.0	3.5	8.0	5.0	6.5	8.0		
Moisture Content (%)	20.3	32.3	18.9	17.8	18.8	17.2	31.2	31.1	22.5	15.9	19.3	28.7	20.1	25.7	24.0		

NP=Not plastic

E.C. Howey, L.G., P.E.
Soils Engineer

COMPACTION TEST REPORT

DATE: 12/4/2008
 PROJECT NO.: K66-100
 PROJECT: U-2928 NC Global Transpark Rail Access



No.	LOCATION AND DESCRIPTION						TEST SPECIFICATION	
○ 01	Location: B-7 Depth: 1' - 7' Sample Number: CBR-1 Brown, Clayey fine to Coarse Sand.						AASHTO T 99-01 Method A Standard	
□ 02	Location: B-7 Depth: 7' - 12' Sample Number: CBR-2 Brown, fine to coarse sand with little clay						AASHTO T 99-01 Method A Standard	
△ 03	Location: B-7 Depth: 13' - 18' Sample Number: CBR-3 Dark Brown, Fine to coarse sand with some clay						AASHTO T 99-01 Method A Standard	
No.	AASHTO	LL	PI	NAT. MOIST.	OVERSIZE	% < No.200	MAX. DRY DEN.	OPT. MOIST.
○ 01	A-2-6(1)	40	17	17.8	%>#4=0.3	32.6 %	115	15 %
□ 02	A-2-4(0)	31	9	14.5	%>#4=0.2	14.1 %	122	11 %
△ 03	A-2-6(0)	32	11	21.6	%>#4=0.1	27.9 %	118	13 %

Figure

FROEHLING & ROBERTSON, INC.

Tested By: Steve Dever

Checked By: Dave Jenks

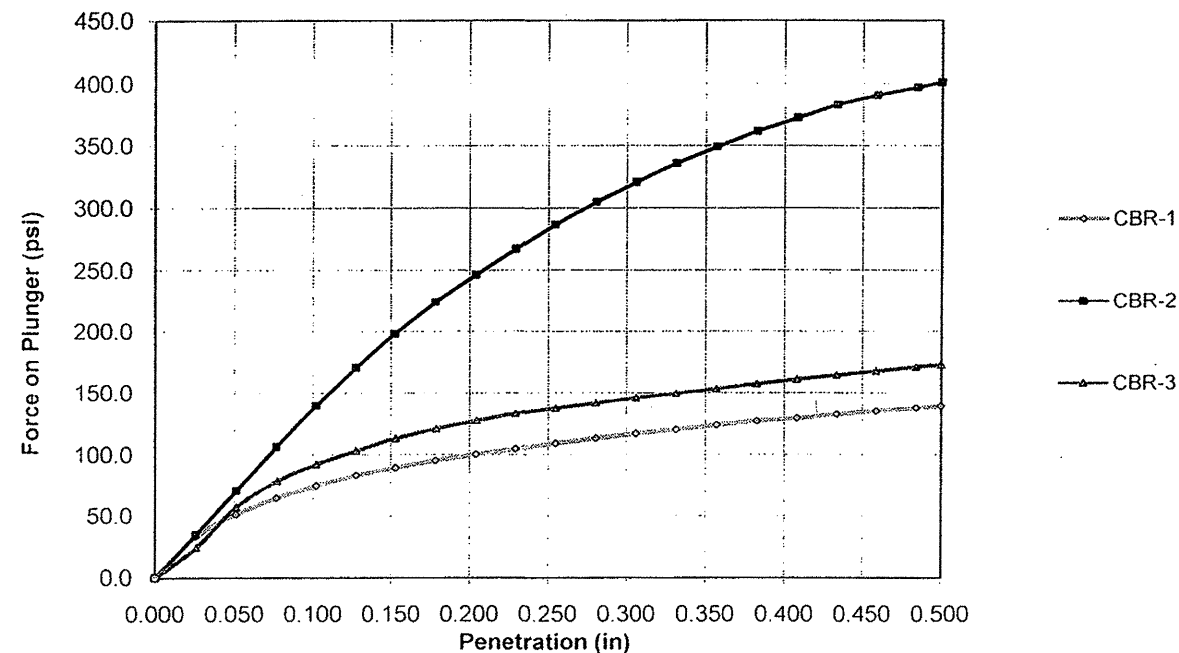
Froehling & Robertson, Inc.

California Bearing Ratio
 ASTM D 1883

Project Information

Project Name:	U-2928 NC Global Transpark Rail Access	Client:	NCDOT
F&R Project No.:	K66-100	Date Tested:	11/03/2008

Load Penetration Curve



CBR Results					
Soaked CBR Test Results					
Results	CBR-1	CBR-2	CBR-3	Average	
0.1 in Pen.	7.5	14.0	9.2	10.2	
0.2 in Pen.	6.7	16.4	8.5	10.5	
Rem. Moisture (%)	16.2	12.0	14.1	14.1	
Rem. Dens (pcf)	108.8	116.1	110.8	111.9	
Final Moisture (%)	17.7	13.2	16.6	15.8	
Surcharge (lbs)	10	10	10		
Sample Information					
Sample No.	Sample Description	% Swell	USCS Class	Maximum Dry Density (pcf)	Optimum Moisture (%)
CBR-1	A-2-6(1)	0.070		115.0	15.0
CBR-2	A-2-4(0)	0.110		122.0	11.0
CBR-3	A-2-6(0)	0.090		118.0	13.0

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAY
 MATERIALS & TESTS UNIT
 SOILS LABORATORY

T. I. P. No. U-2928

REPORT ON SAMPLES OF SOILS FOR QUALITY

Project 38989.1.1 County LENOIR Owner _____
 Date: Sampled 11/21/08 Received 12/30/08 Reported 1/2/2009
 Sampled from _____ By B D WORLEY
 Submitted by R L PRIVETTE T-5167 1995 Standard Specifications

752061 TO 752061
 1/8/09

TEST RESULTS

Proj. Sample No.	ST-1				
Lab. Sample No.	752061				
Retained #4 Sieve	%	-			
Passing #10 Sieve	%	100			
Passing #40 Sieve	%	100			
Passing #200 Sieve	%	93			

MINUS NO. 10 FRACTION

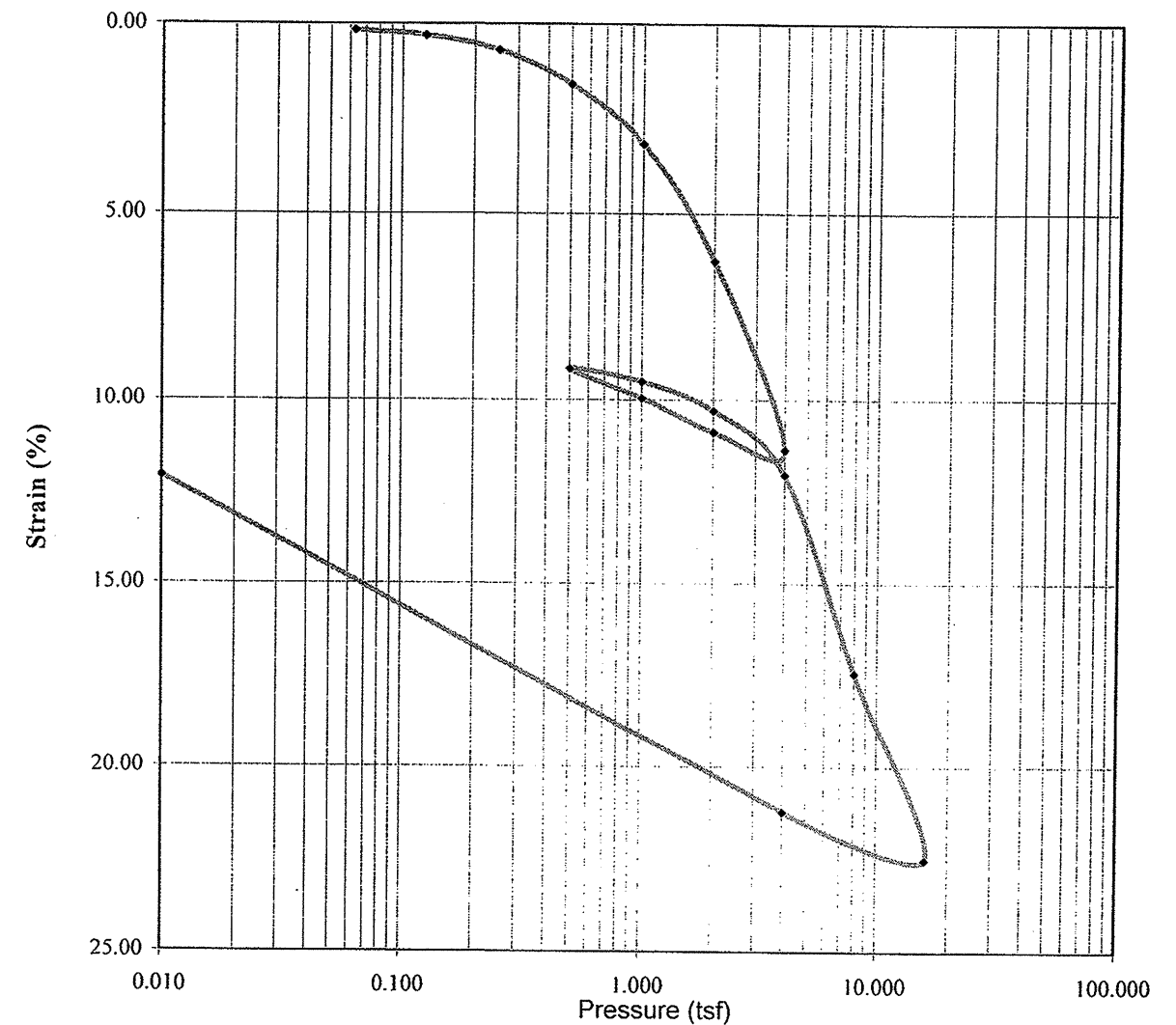
SOIL MORTAR - 100%					
Coarse Sand Ret - #60	%	0.2			
Fine Sand Ret - #270	%	12.1			
Silt 0.05 - 0.005 mm	%	29.4			
Clay < 0.005 mm	%	58.4			
Passing #40 Sieve	%	-			
Passing #200 Sieve	%	-			

L. L.	43				
P. I.	25				
AASHTO Classification	A-7-6(24)				
Station					
LOCATION	B-20A				
Depth (Ft)	17.00				
	to 19.00				

cc: R L PRIVETTE
 STEVE WIRTH
 Soils File

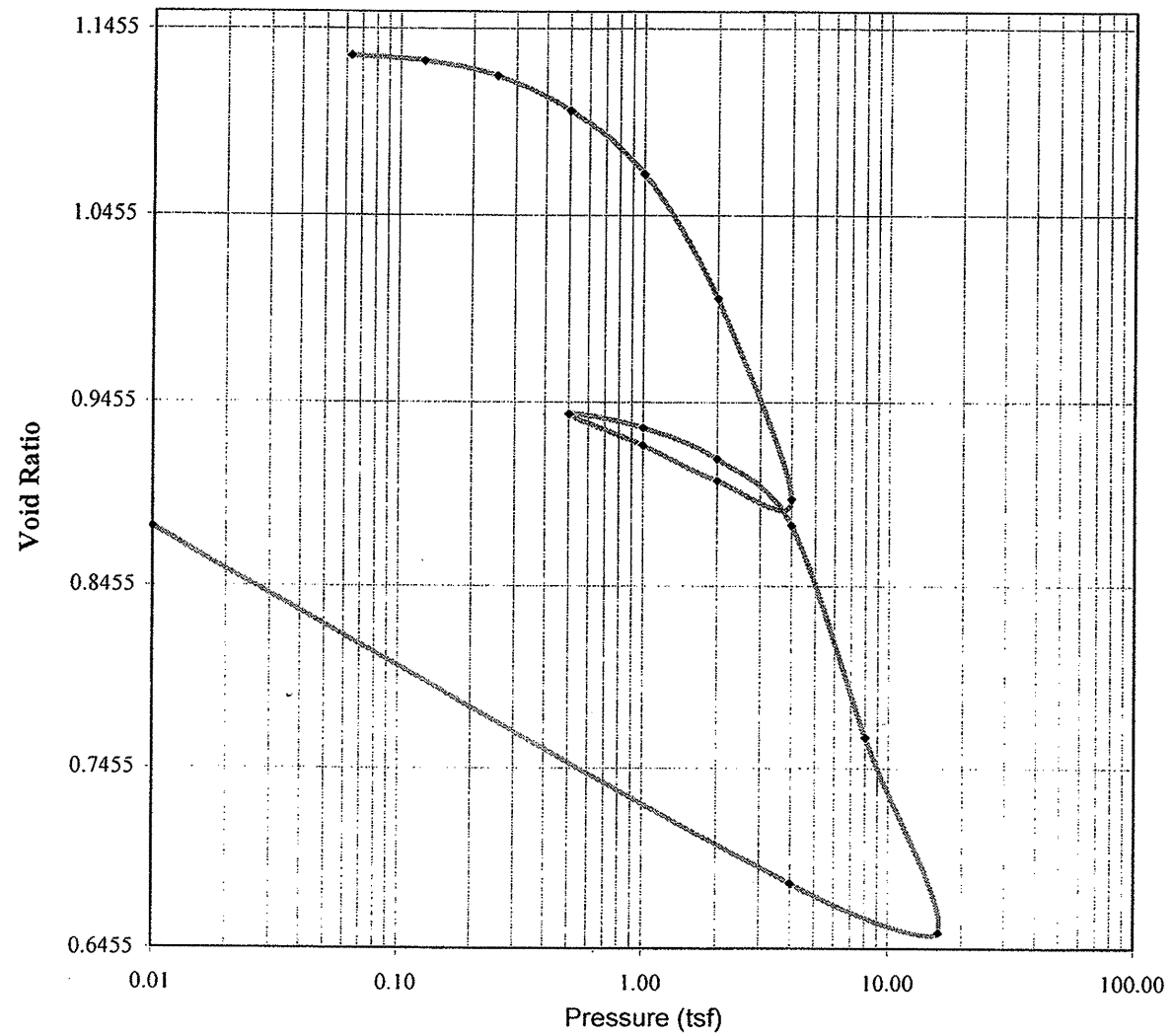
Soils Engineer

Consolidation Test
 Test Results

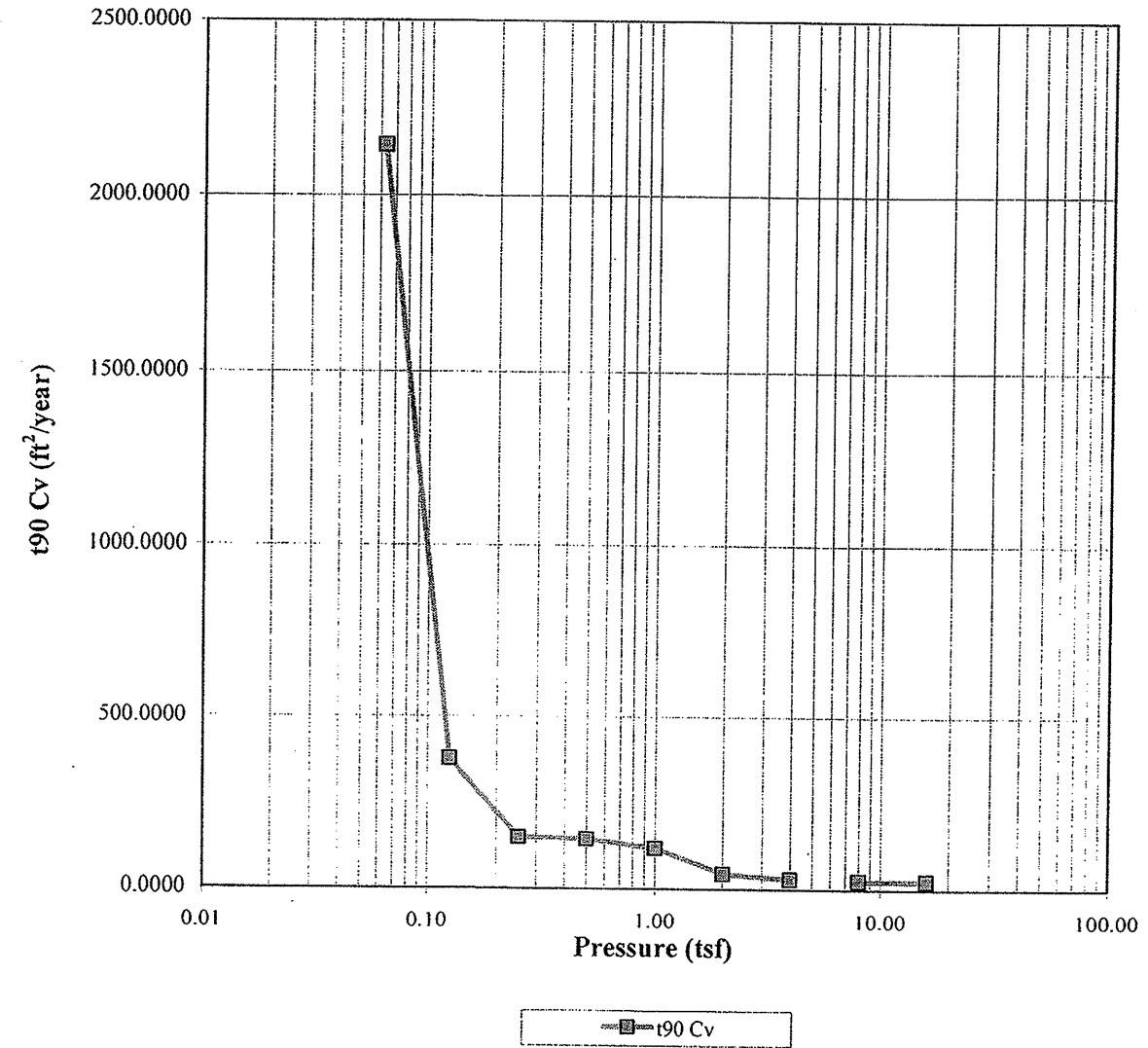


	Before	After	Liquid Limits:	0	Test Date:
Moisture (%):	40.73	33.21	Plastic Limits:	0	
Dry Density (pcf):	78.58	89.35	Plasticity Index (%):	0	
Saturation (%):	96.49	101.76			
Void Ratio:	1.1345	0.8773	Specific Gravity:	2.686	Measured
Soil Description:	Grey Clay				
Project Number:	38989.1.1	Depth:	17-19ft		
Sample Number:	ST-1 U-2928	Boring Number:			
Project:	Remarks: Solid Height 0.46991 inches Est.				
Client:	Blows/ft= 2-4ft				
Location:	Lenoir Co. Sta. B-20A				

**Consolidation Test
Test Results**



**Consolidation Test
Test Results**



	Before	After	Liquid Limits:	0	Test Date:
Moisture (%):	40.73	33.21	Plastic Limits:	0	
Dry Density (pcf):	78.58	89.35	Plasticity Index (%):	0	
Saturation (%):	96.49	101.76			
Void Ratio:	1.1345	0.8773	Specific Gravity:	2.686	Measured
Soil Description:	Grey Clay				
Project Number:	38989.1.1	Depth:	17-19ft		
Sample Number:	ST-1 U-2928	Boring Number:			
Project:	Remarks: Solid Height 0.46991 inches Est.				
Client:	Blows/ft= 2-4ft				
Location:	Lenoir Co. Sta. B-20A				

	Before	After	Liquid Limits:	0	Test Date:
Moisture (%):	40.73	33.21	Plastic Limits:	0	
Dry Density (pcf):	78.58	89.35	Plasticity Index (%):	0	
Saturation (%):	96.49	101.76			
Void Ratio:	1.1345	0.8773	Specific Gravity:	2.686	Measured
Soil Description:	Grey Clay				
Project Number:	38989.1.1	Depth:	17-19ft		
Sample Number:	ST-1 U-2928	Boring Number:			
Project:	Remarks: Solid Height 0.46991 inches Est.				
Client:	Blows/ft= 2-4ft				
Location:	Lenoir Co. Sta. B-20A				

**Consolidation Test Results
Summary**

Project: _____ Project Number: 38989.1.1
 Location: Lenoir Co. Sta. B-20A
 Job Number: T-5167
 Sample Number: ST-1 U-2928 Soil Description: Grey Clay
 Boring Number: _____ Remarks: Solid Height 0.46991 inches Est. Blows/ft= 2-4ft
 Depth: 17-19ft Test Number: _____
 Sample Type: Undisturbed Test Date: _____

Index	Load Sequence (tsf)	Cummulative Change in Height (in)	Specimen Height (in)	Height of Void (in)	Vertical Strain (%)	Void Ratio	190 Fitting Time (min)	150 Fitting Time (min)	190 Cv (ft ² /year)	150 Cv (ft ² /year)
0	0.000	0.0000	1.0000	0.5315	0.00	1.1345	0.000		0.000	
1	0.063	0.0016	0.9984	0.5299	0.16	1.1310	0.360		2142.572	
2	0.125	0.0030	0.9970	0.5285	0.30	1.1281	2.040		377.041	
3	0.250	0.0068	0.9932	0.5247	0.68	1.1199	5.150		148.216	
4	0.500	0.0156	0.9844	0.5159	1.56	1.1012	5.240		143.100	
5	1.000	0.0314	0.9686	0.5001	3.14	1.0674	6.250		116.155	
6	2.000	0.0625	0.9375	0.4690	6.25	1.0011	15.680		43.374	
7	4.000	0.1134	0.8866	0.4181	11.34	0.8924	20.980		28.992	
8	2.000	0.1087	0.8913	0.4228	10.87	0.9024	0.000		0.000	
9	1.000	0.0995	0.9005	0.4320	9.95	0.9221	0.000		0.000	
10	0.500	0.0915	0.9085	0.4400	9.15	0.9392	0.000		0.000	
11	1.000	0.0950	0.9050	0.4365	9.50	0.9317	0.000		0.000	
12	2.000	0.1030	0.8970	0.4285	10.30	0.9146	0.000		0.000	
13	4.000	0.1201	0.8799	0.4114	12.01	0.8781	0.000		0.000	
14	8.000	0.1743	0.8257	0.3572	17.43	0.7624	21.000		25.122	
15	16.000	0.2248	0.7752	0.3067	22.48	0.6546	19.180		24.244	
16	4.000	0.2119	0.7881	0.3196	21.19	0.6822	0.000		0.000	
17	0.010	0.1205	0.8795	0.4110	12.05	0.8773	0.000		0.000	

Tested By: _____

Checked By: _____

**Consolidation Test
Consolidation Specimen Information**

Project: _____ Project Number: 38989.1.1
 Location: Lenoir Co. Sta. B-20A
 Job Number: T-5167 Test Date: _____
 Sample Number: ST-1 U-2928 Soil Description: Grey Clay
 Boring Number: _____ Remarks: Solid Height 0.46991 inches Est. Blows/ft= 2-4ft
 Depth: 17-19ft
 Sample Type: Undisturbed

Test Number: _____
 Liquid Limit: 0.0000 Initial Void Ratio: 1.1345 Initial Height (in): 1.0000
 Plastic Limit: 0.0000 Plasticity Index (%): 0.0000 Initial Diameter (in): 2.5000
 Specific Gravity: 2.6860 Weight of Ring (g): 108.1100
 Measured

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	142.50	134.89
Dry Soil + Container (g)	101.26	101.26
Weight of Container (g)	0.00	0.00
Moisture Content (%)	40.73	33.21
Void Ratio	1.1345	0.8773
Saturation (%)	96.49	101.76
Dry Density (pcf)	78.58	89.35

Tested By: _____

Checked By: _____

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAY
 MATERIALS & TESTS UNIT
 SOILS LABORATORY

T. I. P. No. U-2928

REPORT ON SAMPLES OF SOILS FOR QUALITY

Project 38989.1.1 County LENOIR Owner _____
 Date: Sampled 11/21/08 Received 1/6/09 Reported 1/14/09
 Sampled from _____ By B D WORLEY
 Submitted by R L PRIVETTE T-5168 1995 Standard Specifications

752339 TO 752339
 1/21/09

TEST RESULTS

Proj. Sample No.	ST-2				
Lab. Sample No.	752339				
Retained #4 Sieve	%	-			
Passing #10 Sieve	%	98			
Passing #40 Sieve	%	97			
Passing #200 Sieve	%	75			

MINUS NO. 10 FRACTION

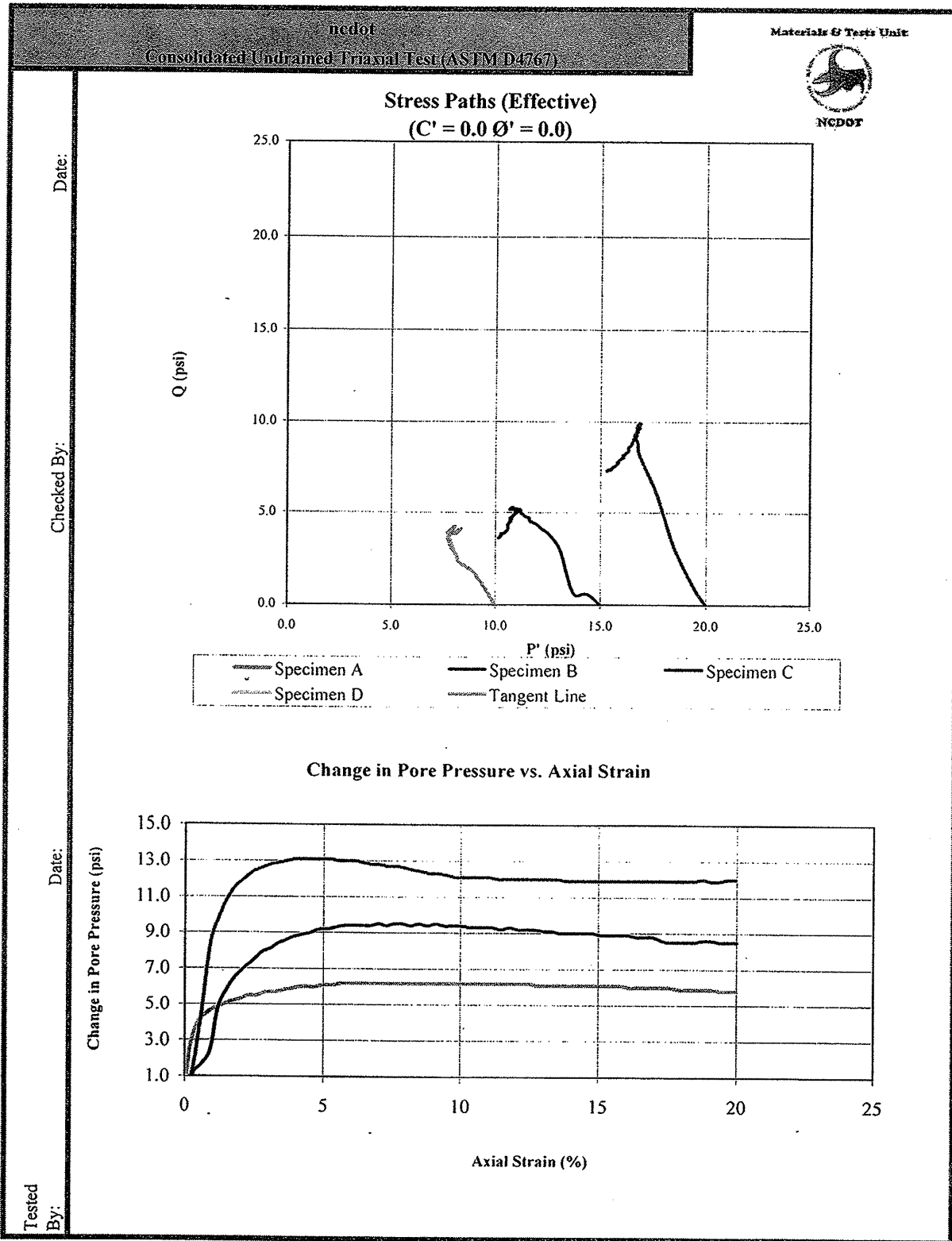
SOIL MORTAR - 100%					
Coarse Sand Ret - #60	%	2.4			
Fine Sand Ret - #270	%	30.4			
Silt 0.05 - 0.005 mm	%	37.0			
Clay < 0.005 mm	%	30.2			
Passing #40 Sieve	%	-			
Passing #200 Sieve	%	-			

L. L.	36				
P. I.	15				
AASHTO Classification	A-6(10)				
Station					
LOCATION	B-20A				
Hole No.					
Depth (Ft)	21.00				
	to 23.00				

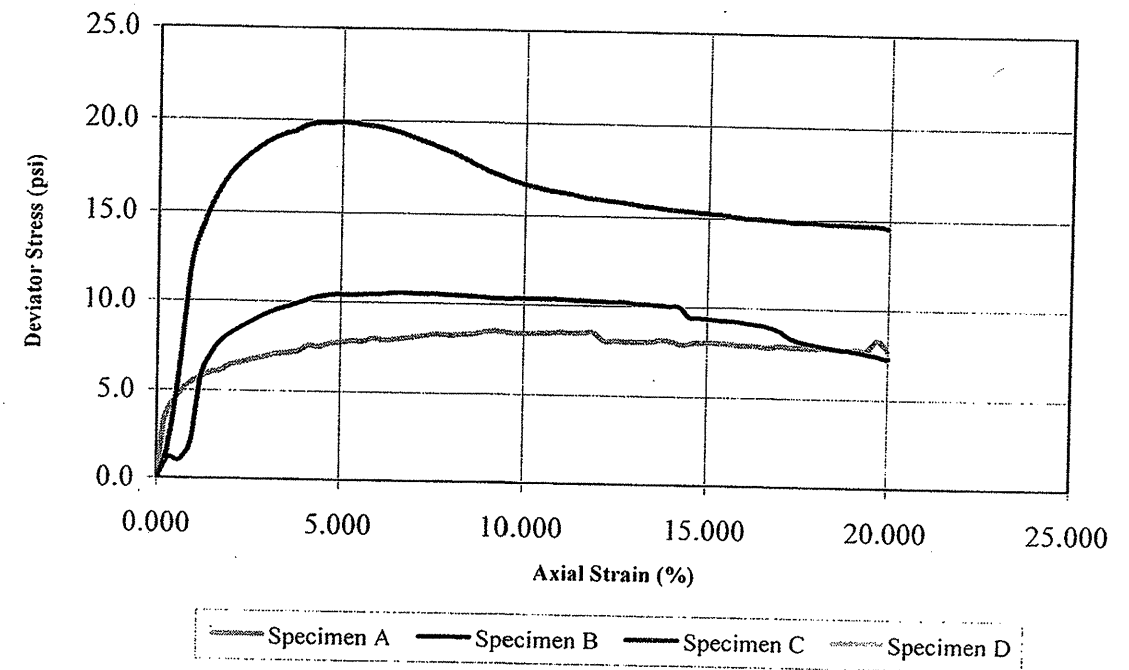
cc: R L PRIVETTE
 CHRIS CHEN
 GREG BODENHEIMER
 Soils File

Soils Engineer

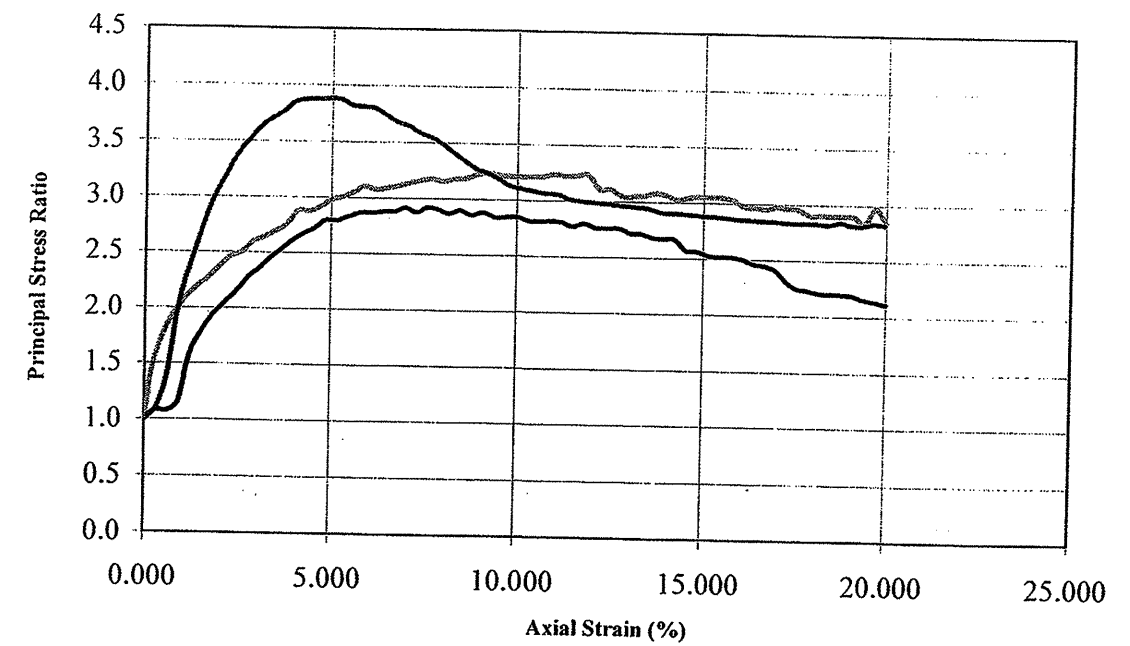
ncdot Consolidated Undrained Triaxial Test (ASTM D4767)		Materials & Tests Unit NCDOT																																																																																																						
Date:	Effective Stress at Maximum Deviator Stress Criterion																																																																																																							
Checked By:	Deviator Stress Vs. Axial Strain																																																																																																							
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Tested By:	<table border="1" style="width: 100%;"> <thead> <tr> <th rowspan="2">Maximum Deviator Stress Criterion</th> <th colspan="4">After Shear</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr><td>C (psi)</td><td>0.0</td><td>12.31</td><td>16.14</td><td>26.80</td></tr> <tr><td>C' (psi)</td><td>0.0</td><td>3.80</td><td>5.60</td><td>6.90</td></tr> <tr><td>Ø (deg)</td><td>0.0</td><td></td><td></td><td></td></tr> <tr><td>Ø' (deg)</td><td>0.0</td><td></td><td></td><td></td></tr> </tbody> </table>					Maximum Deviator Stress Criterion	After Shear				A	B	C	D	C (psi)	0.0	12.31	16.14	26.80	C' (psi)	0.0	3.80	5.60	6.90	Ø (deg)	0.0				Ø' (deg)	0.0																																																																									
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Project: <u>LENOIR COUNTY (Sta. B-20A)</u>		N/A	N/A	N/A	N/A																																																																																																			
Location: <u>38989.1.1 (U-2928)</u>																																																																																																								
Boring Number: <u>0</u>		Failure Photographs																																																																																																						
Sample Number: <u>ST-2</u>																																																																																																								
Depth: <u>21.0 - 23.0 feet</u>																																																																																																								
Sample Type: <u>Undisturbed</u>																																																																																																								
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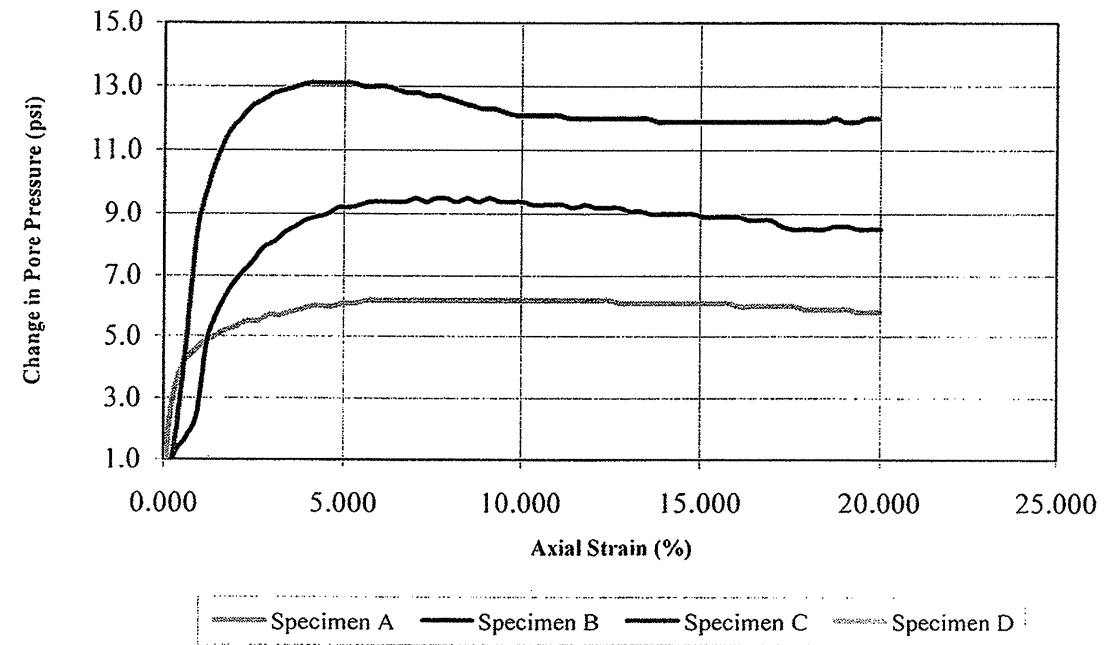
Deviator Stress vs. Axial Strain



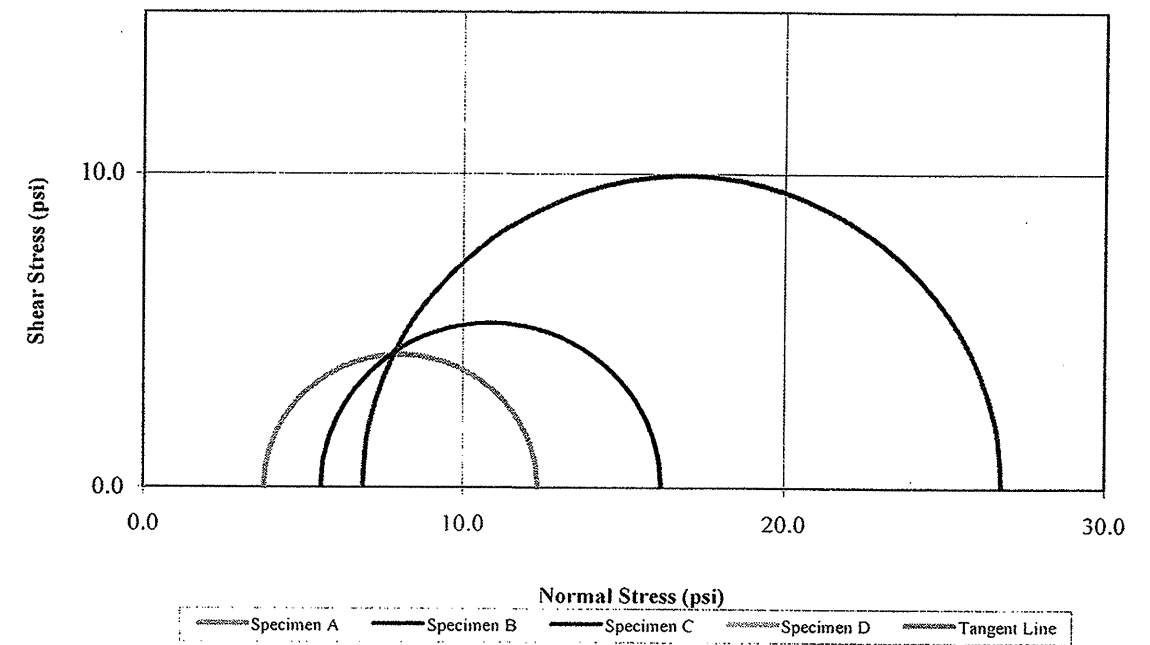
Principal Stress Ratio vs. Axial Strain



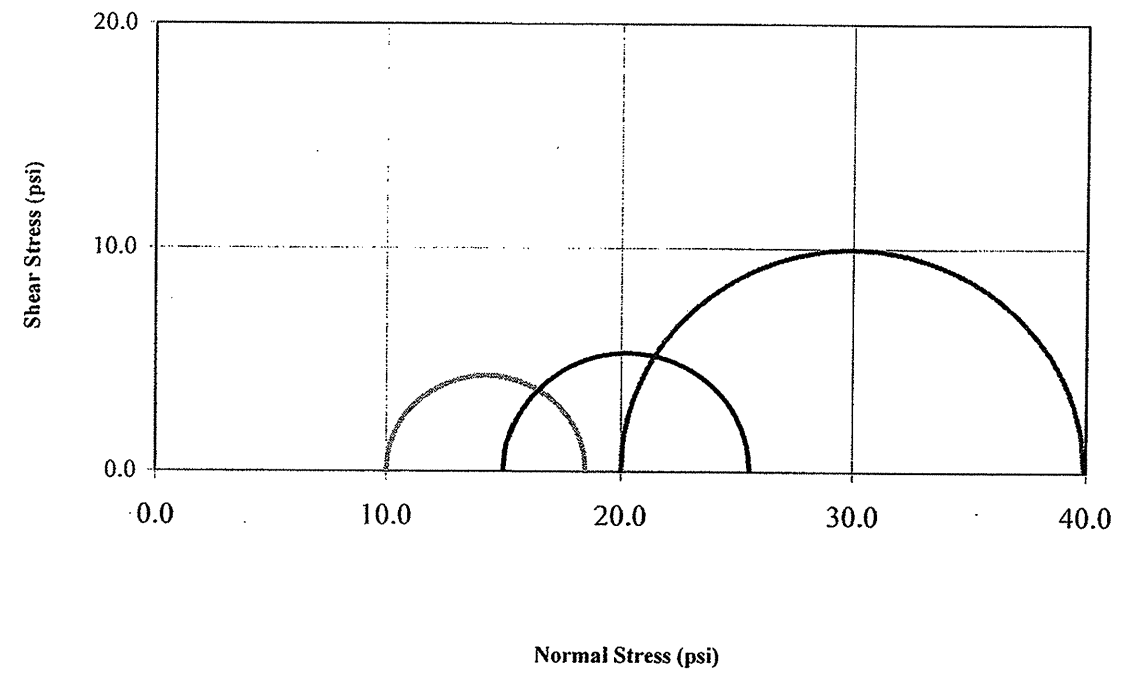
Change in Pore Pressure vs. Axial Strain



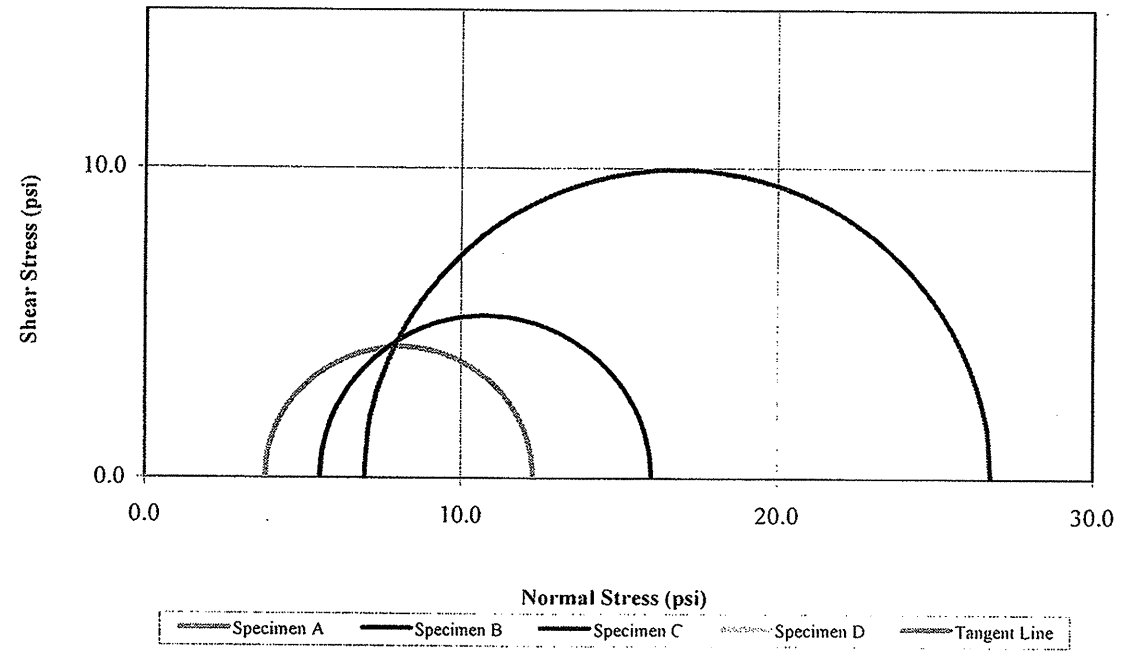
Mohr Stress Circles at Maximum Deviator Stress Criterion
Effective Stress
($C' = 0.0$ $\phi' = 0.0$)



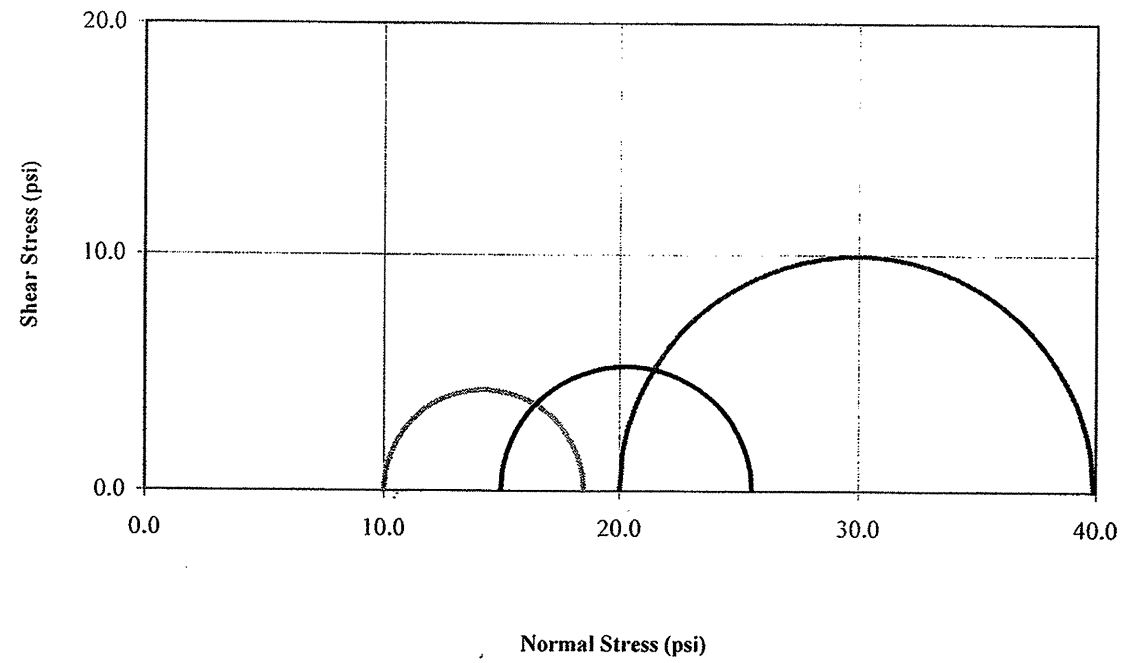
Total Stress
($C = 0.0$ $\phi = 0.0$)



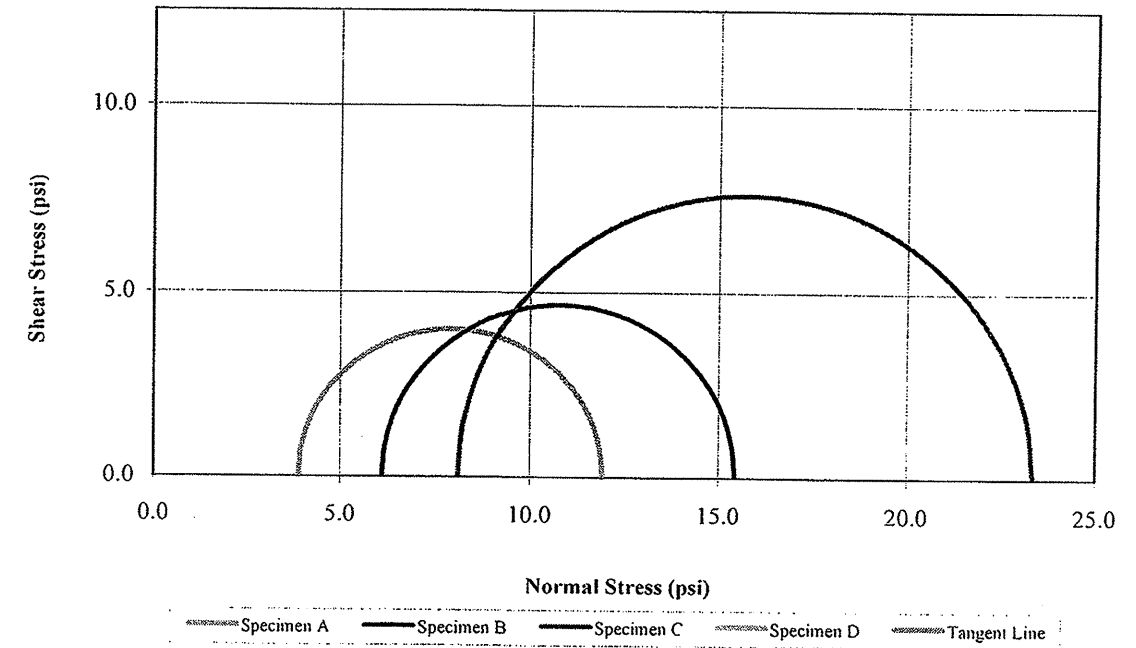
Mohr Stress Circles at Maximum Principal Stress Ratio Criterion
Effective Stress
 $(C' = 0.0 \ \phi' = 0.0)$



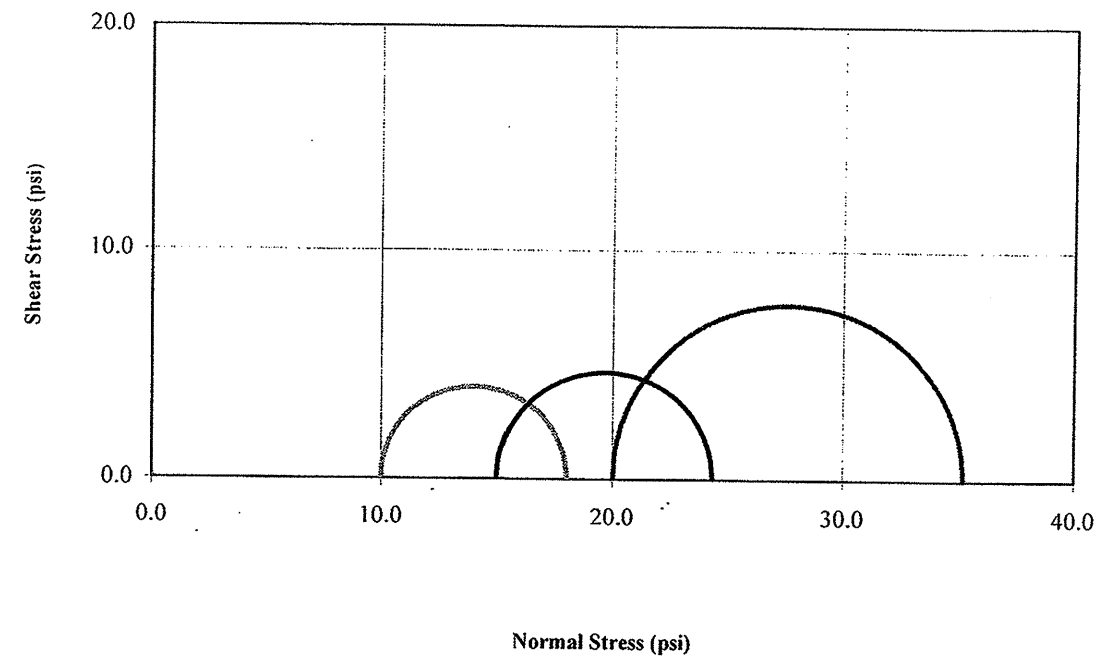
Total Stress
 $(C = 0.0 \ \phi = 0.0)$

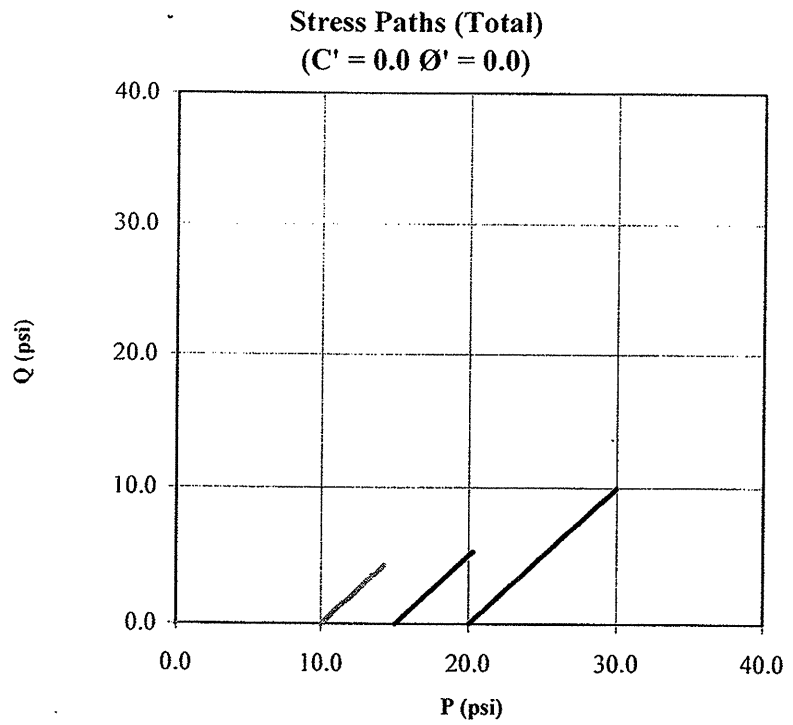
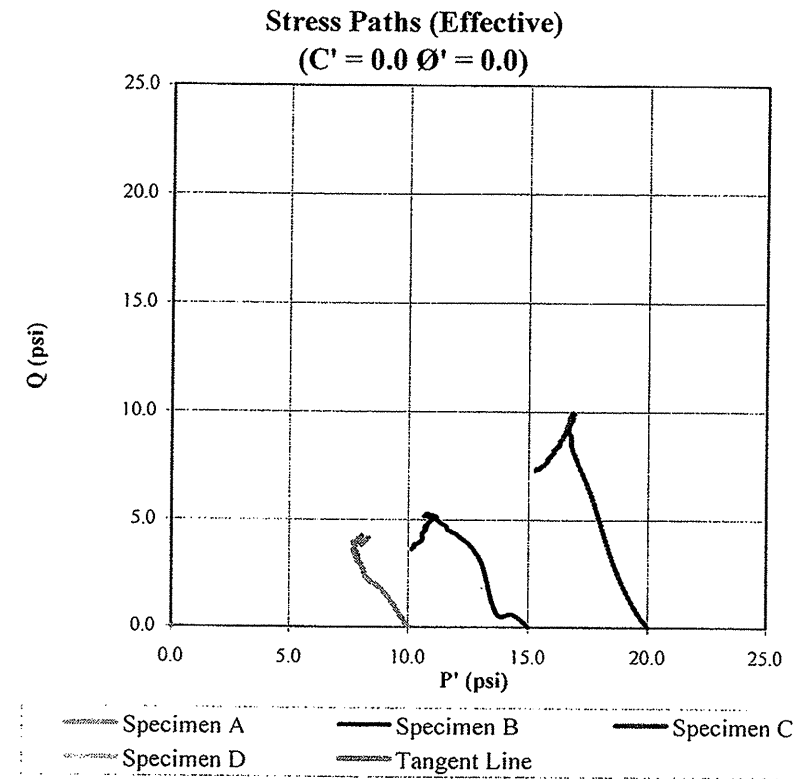


Mohr Stress Circles at 15% Axial Strain Criterion
Effective Stress
 $(C' = 0.0 \ \phi' = 0.0)$



Total Stress
 $(C = 0.0 \ \phi = 0.0)$





Specimen A Shear Data
CU Triaxial Test

File Location
T-5168.HSD

ncdot

Project Information

Project No. 38989.1.1 (U-2928) Sample Type: Undisturbed
 Project Name: Specific Gravity: 2.7279999
 Client: LL: 0.000
 Sample Location: LENOIR COUNTY (Sta. B-20A) PL: 0.000
 Sample Description:
 Remarks: Grey tan silty clay, and specimen very wet

Sample Data

Sample Parameters	Initial	After Consolidation	Final
Diameter (in)	2.858	2.748	
Height (in)	6.025	5.898	
Weight (grams)	1127.00		1029.00
Moisture (%)	45.61		32.95
Dry Density (pcf)	76.31	84.29	
Saturation (%)	101.02	100.00	
Void Ratio	1.226	1.020	

Test Data

Rate of Strain: 0.009
 Cell Pressure (psi): 100.000
 Effective Confining Stress (psi): 10.0
 Corrected Peak Deviator Stress (psi): 8.512 at reading number: 31

Specimen A		Specimen A															
Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in ²)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	A $\bar{\sigma}$	P (psi)	Q (psi)	P'
0	27.4	0.173	90.0	0.0	5.93	0.000	0.000	0.000	10.0	10.0	10.0	10.0	1.00	0.00	10.0	0.0	10.0
1	47.5	0.185	92.7	2.7	5.94	0.203	3.382	3.382	13.4	10.0	10.7	7.3	1.46	0.80	10.0	1.7	9.0
2	54.5	0.202	94.0	4.0	5.96	0.492	4.569	4.569	14.5	10.0	10.5	6.0	1.76	0.88	12.3	2.3	8.3
3	59.0	0.220	94.5	4.5	5.98	0.797	5.328	5.286	15.3	10.0	10.8	5.5	1.96	0.85	12.6	2.6	8.1
4	61.4	0.237	94.8	4.8	6.00	1.085	5.733	5.671	15.7	10.0	10.9	5.2	2.09	0.85	12.8	2.8	8.0
5	63.4	0.256	95.0	5.0	6.02	1.407	6.070	5.985	16.0	10.0	11.0	5.0	2.20	0.84	13.0	3.0	8.0
6	66.4	0.273	95.2	5.2	6.03	1.695	6.239	6.133	16.1	10.0	10.9	4.7	2.28	0.85	13.1	3.1	7.9
7	67.3	0.308	95.5	5.5	6.05	1.984	6.576	6.445	16.4	10.0	11.1	4.5	2.37	0.82	13.2	3.2	7.9
8	68.6	0.326	95.5	5.5	6.07	2.289	6.728	6.574	16.6	10.0	11.1	4.5	2.46	0.84	13.3	3.3	7.8
9	69.4	0.344	95.7	5.7	6.11	2.594	6.947	6.766	16.8	10.0	11.3	4.5	2.50	0.81	13.4	3.4	7.9
10	70.7	0.362	95.7	5.7	6.13	2.899	7.082	6.876	16.9	10.0	11.2	4.3	2.60	0.83	13.4	3.4	7.7
11	71.2	0.380	95.8	5.8	6.15	3.204	7.301	7.067	17.1	10.0	11.4	4.3	2.64	0.81	13.5	3.5	7.8
12	71.9	0.398	95.9	5.9	6.17	3.510	7.385	7.126	17.1	10.0	11.3	4.2	2.70	0.81	13.6	3.6	7.8
13	73.9	0.415	96.0	6.0	6.18	3.815	7.503	7.217	17.2	10.0	11.3	4.1	2.76	0.82	13.6	3.6	7.7
14	73.9	0.433	96.0	6.0	6.20	4.103	7.840	7.519	17.5	10.0	11.5	4.0	2.87	0.80	13.8	3.8	7.8
15	73.9	0.450	96.0	6.0	6.22	4.408	7.840	7.495	17.5	10.0	11.5	4.0	2.87	0.80	13.7	3.7	7.7
16	75.1	0.468	96.1	6.1	6.24	4.697	8.043	7.665	17.7	10.0	11.7	4.0	2.92	0.78	13.8	3.8	7.8
17	75.7	0.468	96.1	6.1	6.24	5.002	8.144	7.736	17.7	10.0	11.6	3.9	2.98	0.79	13.9	3.9	7.8
18	76.5	0.486	96.1	6.1	6.26	5.307	8.279	7.839	17.8	10.0	11.7	3.9	3.01	0.78	13.9	3.9	7.8

Specimen A

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in ²)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ ₁ (psi)	σ ₃ (psi)	σ ₁ (psi)	σ ₃ (psi)	σ' ₁ /σ' ₃	Abbr	P (psi)	Q (psi)	P'
19	76.5	0.504	96.2	6.2	6.28	5.612	8,279	7,814	17.8	10.0	11.6	3.8	3.06	0.79	13.9	3.9	7.7
20	77.8	0.521	96.2	6.2	6.30	5.900	8,498	7,996	18.0	10.0	11.8	3.8	3.10	0.78	14.0	4.0	7.8
21	77.3	0.539	96.2	6.2	6.32	6.205	8,414	7,891	17.9	10.0	11.7	3.8	3.08	0.79	13.9	3.9	7.7
22	77.9	0.558	96.2	6.2	6.35	6.328	8,515	7,959	18.0	10.0	11.8	3.8	3.09	0.78	14.0	4.0	7.8
23	78.5	0.575	96.2	6.2	6.36	6.816	8,616	8,029	18.0	10.0	11.8	3.8	3.11	0.77	14.0	4.0	7.8
24	79.3	0.593	96.2	6.2	6.39	7.121	8,751	8,128	18.1	10.0	11.9	3.8	3.14	0.76	14.1	4.1	7.9
25	80.0	0.610	96.2	6.2	6.41	7.409	8,869	8,212	18.2	10.0	12.0	3.8	3.16	0.76	14.1	4.1	7.9
26	80.6	0.628	96.2	6.2	6.43	7.714	8,970	8,278	18.3	10.0	12.1	3.8	3.18	0.75	14.1	4.1	7.9
27	80.3	0.646	96.2	6.2	6.45	8.020	8,919	8,204	18.2	10.0	12.0	3.8	3.16	0.76	14.1	4.1	7.9
28	80.9	0.663	96.2	6.2	6.47	8.308	9,021	8,271	18.3	10.0	12.1	3.8	3.18	0.75	14.1	4.1	7.9
29	81.3	0.682	96.2	6.2	6.49	8.630	9,088	8,304	18.3	10.0	12.1	3.8	3.19	0.75	14.2	4.2	8.0
30	82.4	0.699	96.2	6.2	6.51	8.918	9,274	8,446	18.4	10.0	12.2	3.8	3.22	0.73	14.2	4.2	8.0
31	83.0	0.716	96.2	6.2	6.53	9.207	9,375	8,512	18.5	10.0	12.3	3.8	3.24	0.73	14.3	4.3	8.1
32	82.7	0.734	96.2	6.2	6.55	9.512	9,324	8,437	18.4	10.0	12.2	3.8	3.22	0.73	14.2	4.2	8.0
33	82.7	0.751	96.2	6.2	6.58	9.800	9,324	8,410	18.4	10.0	12.2	3.8	3.21	0.74	14.2	4.2	8.0
34	82.8	0.769	96.2	6.2	6.60	10.105	9,341	8,397	18.4	10.0	12.2	3.8	3.21	0.74	14.2	4.2	8.0
35	83.1	0.787	96.2	6.2	6.62	10.410	9,392	8,414	18.4	10.0	12.2	3.8	3.21	0.74	14.2	4.2	8.0
36	83.4	0.805	96.2	6.2	6.64	10.715	9,442	8,430	18.4	10.0	12.2	3.8	3.22	0.74	14.2	4.2	8.0
37	84.1	0.822	96.2	6.2	6.66	11.004	9,560	8,508	18.5	10.0	12.3	3.8	3.24	0.73	14.3	4.3	8.1
38	83.8	0.840	96.2	6.2	6.69	11.309	9,510	8,434	18.4	10.0	12.2	3.8	3.22	0.74	14.2	4.2	8.0
39	84.2	0.858	96.2	6.2	6.71	11.614	9,577	8,465	18.5	10.0	12.3	3.8	3.23	0.73	14.2	4.2	8.0
40	84.6	0.875	96.2	6.2	6.73	11.902	9,644	8,497	18.5	10.0	12.3	3.8	3.24	0.73	14.2	4.2	8.0
41	84.5	0.893	96.2	6.2	6.76	12.208	9,628	8,026	18.0	10.0	11.8	3.8	3.11	0.77	14.0	4.0	7.8
42	84.8	0.910	96.2	6.2	6.78	12.496	9,678	8,032	18.0	10.0	11.8	3.8	3.11	0.77	14.0	4.0	7.8
43	84.8	0.929	96.1	6.1	6.80	12.818	9,678	8,032	18.0	10.0	11.8	3.8	3.11	0.77	14.0	4.0	7.8
44	85.1	0.946	96.1	6.1	6.83	13.106	9,729	7,996	18.0	10.0	11.9	3.9	3.05	0.76	14.0	4.0	7.9
45	85.6	0.964	96.1	6.1	6.85	13.411	9,813	8,028	18.0	10.0	11.9	3.9	3.05	0.76	14.0	4.0	7.9
46	86.5	0.981	96.1	6.1	6.87	13.700	9,965	8,121	18.1	10.0	12.0	3.9	3.06	0.76	14.0	4.0	7.9
47	86.3	0.999	96.1	6.1	6.90	14.005	9,931	8,051	18.1	10.0	12.0	3.9	3.06	0.76	14.0	4.0	7.9
48	85.5	1.016	96.1	6.1	6.92	14.293	9,796	7,897	17.9	10.0	11.8	3.9	3.02	0.77	13.9	3.9	7.8
49	86.4	1.034	96.1	6.1	6.94	14.598	9,948	7,986	18.0	10.0	11.9	3.9	3.05	0.76	14.0	4.0	7.9
50	86.9	1.052	96.1	6.1	6.97	14.903	10,032	8,016	18.0	10.0	11.9	3.9	3.06	0.76	14.0	4.0	7.9
51	87.2	1.069	96.1	6.1	6.99	15.192	10,083	8,020	18.0	10.0	11.9	3.9	3.06	0.76	14.0	4.0	7.9
52	87.3	1.087	96.1	6.1	7.02	15.497	10,100	7,993	18.0	10.0	11.9	3.9	3.05	0.76	14.0	4.0	7.9
53	87.1	1.105	96.1	6.1	7.04	15.802	10,066	7,923	17.9	10.0	11.8	3.9	3.03	0.77	14.0	4.0	7.9
54	87.2	1.122	96.0	6.0	7.07	16.090	10,083	7,898	17.9	10.0	11.9	4.0	2.97	0.76	13.9	3.9	7.9
55	87.3	1.141	96.0	6.0	7.10	16.412	10,100	7,869	17.9	10.0	11.9	4.0	2.97	0.76	13.9	3.9	7.9
56	87.2	1.158	96.0	6.0	7.12	16.701	10,083	7,816	17.8	10.0	11.8	4.0	2.95	0.77	13.9	3.9	7.9
57	88.1	1.176	96.0	6.0	7.15	17.006	10,235	7,900	17.9	10.0	11.9	4.0	2.98	0.76	14.0	4.0	8.0
58	88.0	1.193	96.0	6.0	7.17	17.294	10,218	7,847	17.8	10.0	11.8	4.0	2.96	0.76	13.9	3.9	7.9
59	88.1	1.211	96.0	6.0	7.20	17.599	10,235	7,819	17.8	10.0	11.8	4.0	2.95	0.77	13.9	3.9	7.9

CU Triaxial Test - Results

T-5168.HSD

Specimen A

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in ²)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ ₁ (psi)	σ ₃ (psi)	σ' ₁ (psi)	σ' ₃ (psi)	σ' ₁ /σ' ₃	Abbr	P (psi)	Q (psi)	P'
60	88.3	1.229	95.9	5.9	7.22	17.904	10,268	7,804	17.8	10.0	11.9	4.1	2.90	0.76	13.9	3.9	8.0
61	88.7	1.246	95.9	5.9	7.25	18.193	10,336	7,820	17.8	10.0	11.9	4.1	2.91	0.75	13.9	3.9	8.0
62	88.8	1.264	95.9	5.9	7.28	18.498	10,353	7,791	17.8	10.0	11.9	4.1	2.90	0.76	13.9	3.9	8.0
63	89.1	1.282	95.9	5.9	7.30	18.803	10,403	7,790	17.8	10.0	11.9	4.1	2.90	0.76	13.9	3.9	8.0
64	89.3	1.300	95.9	5.9	7.33	19.108	10,437	7,775	17.8	10.0	11.9	4.1	2.90	0.76	13.9	3.9	8.0
65	89.3	1.318	95.8	5.8	7.36	19.413	10,437	7,733	17.7	10.0	11.9	4.2	2.84	0.75	13.9	3.9	8.0
66	93.7	1.334	95.8	5.8	7.38	19.685	11,179	8,291	18.3	10.0	12.5	4.2	2.97	0.70	14.1	4.1	8.3
67	90.8	1.349	95.8	5.8	7.41	19.939	10,690	7,862	17.9	10.0	12.1	4.2	2.87	0.74	13.9	3.9	8.1
68	89.9	1.352	95.8	5.8	7.41	19.990	10,538	7,733	17.7	10.0	11.9	4.2	2.84	0.75	13.9	3.9	8.1

CU Triaxial Test - Results

T-5168.HSD

File Location
T-5168.HSD

Project Information

Project No. 38989.1.1 (U-2928) Sample Type: Undisturbed
Project Name: Specific Gravity: 2.7279999
Client: LL: 0.000
Sample Location: LENOIR COUNTY (Sta. B-20A) PL: 0.000
Sample Description:
Remarks: Gray tan silty clay with 40 degrees shear plane

Sample Data

Sample Parameters	Initial	After Consolidation	Final
Diameter (in)	2.849	2.768	
Height (in)	6.060	5.949	
Weight (grams)	1140.00		1113.00
Moisture (%)	41.79		38.43
Dry Density (pcf)	79.31	85.56	
Saturation (%)	99.37	100.00	
Void Ratio	1.142	0.990	

Test Data

Rate of Strain: 0.009
Cell Pressure (psi): 104.900

Effective Confining Stress (psi): 15.0
Corrected Peak Deviator Stress (psi): 10.544

at reading number: 22

Specimen B

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in ²)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ ₁ (psi)	σ ₃ (psi)	σ' ₁ (psi)	σ' ₃ (psi)	σ' ₁ /σ' ₃	Abbar	P (psi)	Q (psi)	P'
0	24.5	0.148	89.9	0.0	6.02	0.000	0.000	0.000	15.0	15.0	15.0	15.0	1.00	0.00	15.0	0.0	15.0
1	31.5	0.166	91.1	1.2	6.04	0.303	1.163	1.160	16.2	15.0	15.0	13.8	1.08	1.03	15.6	0.6	14.4
2	30.8	0.184	91.6	1.7	6.05	0.605	1.047	1.041	16.0	15.0	14.3	13.3	1.08	1.63	15.5	0.5	13.8
3	37.2	0.202	92.4	2.5	6.07	0.908	2.110	2.091	17.1	15.0	14.6	12.5	1.17	1.20	16.0	1.0	13.5
4	59.8	0.218	94.7	4.8	6.09	1.177	5.866	5.797	20.8	15.0	16.0	10.2	1.57	0.83	17.9	2.9	13.1
5	68.0	0.236	95.7	5.8	6.11	1.479	7.229	7.122	22.1	15.0	16.3	9.2	1.77	0.81	18.6	3.6	12.8
6	72.9	0.254	96.4	6.5	6.13	1.782	8.043	7.900	22.9	15.0	16.4	8.5	1.93	0.82	18.9	3.9	12.4
7	75.8	0.273	96.9	7.0	6.15	2.101	8.525	8.346	23.3	15.0	16.3	8.0	2.04	0.84	19.2	4.2	12.2
8	78.4	0.292	97.3	7.4	6.17	2.421	8.957	8.740	23.7	15.0	16.3	7.6	2.15	0.85	19.4	4.4	12.0
9	80.8	0.312	97.8	7.9	6.19	2.757	9.356	9.098	24.1	15.0	16.2	7.1	2.28	0.87	19.5	4.5	11.6
10	82.9	0.330	98.0	8.1	6.21	3.059	9.705	9.408	24.4	15.0	16.3	6.9	2.36	0.86	19.7	4.7	11.6
11	84.4	0.348	98.3	8.4	6.23	3.362	9.954	9.620	24.6	15.0	16.2	6.6	2.46	0.87	19.8	4.8	11.4
12	85.8	0.366	98.5	8.6	6.25	3.664	10.187	9.814	24.8	15.0	16.2	6.4	2.53	0.88	19.9	4.9	11.3
13	87.2	0.383	98.7	8.8	6.27	3.950	10.419	10.008	25.0	15.0	16.2	6.2	2.61	0.88	20.0	5.0	11.2
14	88.7	0.401	98.8	8.9	6.28	4.233	10.669	10.215	25.2	15.0	16.3	6.1	2.67	0.87	20.1	5.1	11.2
15	89.6	0.418	98.9	9.0	6.30	4.539	10.818	10.327	25.3	15.0	16.3	6.0	2.72	0.88	20.2	5.2	11.2
16	90.4	0.436	99.1	9.2	6.32	4.841	10.951	10.421	25.4	15.0	16.2	5.8	2.80	0.88	20.2	5.2	11.0
17	90.5	0.454	99.1	9.2	6.34	5.144	10.968	10.404	25.4	15.0	16.2	5.8	2.79	0.88	20.2	5.2	11.0
18	90.8	0.472	99.2	9.3	6.36	5.446	11.018	10.418	25.4	15.0	16.1	5.7	2.83	0.89	20.2	5.2	10.9

Specimen B

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in ²)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ ₁ (psi)	σ ₃ (psi)	σ' ₁ (psi)	σ' ₃ (psi)	σ' ₁ /σ' ₃	Abbar	P (psi)	Q (psi)	P'
19	91.2	0.491	99.3	9.4	6.39	5.766	11.084	10.445	25.4	15.0	16.0	5.6	2.87	0.90	20.2	5.2	10.8
20	91.5	0.510	99.3	9.4	6.41	6.085	11.134	10.457	25.5	15.0	16.1	5.6	2.87	0.90	20.2	5.2	10.8
21	92.2	0.528	99.3	9.4	6.43	6.388	11.250	10.532	25.5	15.0	16.1	5.6	2.88	0.89	20.3	5.3	10.9
22	92.5	0.546	99.3	9.4	6.45	6.690	11.300	10.544	25.5	15.0	16.1	5.6	2.88	0.89	20.3	5.3	10.9
23	92.6	0.565	99.4	9.5	6.47	7.010	11.317	10.524	25.5	15.0	16.0	5.5	2.91	0.90	20.3	5.3	10.8
24	92.6	0.582	99.3	9.4	6.49	7.295	11.317	10.491	25.5	15.0	16.1	5.6	2.87	0.90	20.2	5.2	10.8
25	93.1	0.599	99.4	9.5	6.51	7.581	11.400	10.536	25.5	15.0	16.0	5.5	2.92	0.90	20.3	5.3	10.8
26	93.0	0.617	99.4	9.5	6.53	7.884	11.383	10.486	25.5	15.0	16.0	5.5	2.91	0.91	20.2	5.2	10.7
27	93.0	0.634	99.3	9.4	6.55	8.169	11.383	10.453	25.5	15.0	16.1	5.6	2.87	0.90	20.2	5.2	10.8
28	93.1	0.652	99.4	9.5	6.57	8.472	11.400	10.434	25.4	15.0	15.9	5.5	2.90	0.91	20.2	5.2	10.8
29	93.0	0.670	99.3	9.4	6.60	8.775	11.400	10.400	25.4	15.0	16.0	5.6	2.86	0.90	20.2	5.2	10.8
30	93.0	0.689	99.4	9.5	6.62	9.094	11.383	10.348	25.3	15.0	15.8	5.5	2.88	0.92	20.2	5.2	10.7
31	93.0	0.708	99.3	9.4	6.64	9.413	11.383	10.312	25.3	15.0	15.9	5.5	2.84	0.91	20.2	5.2	10.8
32	93.5	0.726	99.3	9.4	6.67	9.716	11.466	10.352	25.4	15.0	16.0	5.6	2.85	0.91	20.2	5.2	10.8
33	93.7	0.744	99.3	9.4	6.69	10.018	11.500	10.348	25.3	15.0	15.9	5.6	2.85	0.91	20.2	5.2	10.8
34	93.9	0.762	99.2	9.3	6.71	10.321	11.533	10.343	25.3	15.0	16.0	5.7	2.81	0.90	20.2	5.2	10.9
35	94.1	0.780	99.2	9.3	6.73	10.624	11.566	10.337	25.3	15.0	16.0	5.7	2.81	0.90	20.2	5.2	10.9
36	94.4	0.796	99.2	9.3	6.75	10.893	11.616	10.351	25.4	15.0	16.1	5.7	2.82	0.90	20.2	5.2	10.9
37	94.4	0.813	99.1	9.2	6.77	11.178	11.616	10.317	25.3	15.0	16.0	5.7	2.81	0.90	20.2	5.2	10.9
38	94.4	0.831	99.1	9.2	6.80	11.481	11.616	10.282	25.3	15.0	16.1	5.8	2.77	0.89	20.1	5.1	10.9
39	94.5	0.850	99.2	9.3	6.82	11.800	11.633	10.260	25.3	15.0	16.0	5.7	2.80	0.91	20.1	5.1	10.9
40	94.5	0.868	99.1	9.2	6.85	12.103	11.633	10.225	25.2	15.0	16.0	5.8	2.76	0.90	20.1	5.1	10.9
41	94.6	0.887	99.1	9.2	6.87	12.422	11.649	10.202	25.2	15.0	16.0	5.8	2.76	0.90	20.1	5.1	10.9
42	94.9	0.906	99.1	9.2	6.90	12.742	11.699	10.208	25.2	15.0	16.0	5.9	2.72	0.90	20.1	5.1	11.0
43	94.6	0.924	99.0	9.1	6.92	13.044	11.649	10.130	25.1	15.0	16.0	5.9	2.72	0.90	20.1	5.1	11.0
44	94.7	0.941	99.0	9.1	6.94	13.350	11.666	10.111	25.1	15.0	16.0	5.9	2.71	0.90	20.1	5.1	11.0
45	94.7	0.959	98.9	9.0	6.97	13.653	11.666	10.075	25.1	15.0	16.1	6.0	2.68	0.89	20.0	5.0	11.0
46	94.6	0.976	98.9	9.0	6.99	13.918	11.649	10.028	25.0	15.0	16.0	6.0	2.67	0.90	20.0	5.0	11.0
47	94.7	0.994	98.9	9.0	7.02	14.221	11.666	10.007	25.0	15.0	16.0	6.0	2.67	0.90	20.0	5.0	11.0
48	94.5	1.011	98.9	9.0	7.04	14.507	11.633	9.442	24.4	15.0	15.4	6.0	2.57	0.95	19.7	4.7	10.7
49	94.5	1.029	98.9	9.0	7.06	14.809	11.633	9.396	24.4	15.0	15.4	6.0	2.57	0.96	19.7	4.7	10.7
50	94.4	1.047	98.8	8.9	7.09	15.112	11.616	9.336	24.3	15.0	15.4	6.1	2.52	0.95	19.7	4.7	10.8
51	94.3	1.065	98.8	8.9	7.11	15.414	11.599	9.277	24.3	15.0	15.4	6.1	2.52	0.96	19.6	4.6	10.7
52	94.5	1.084	98.8	8.9	7.14	15.734	11.633	9.257	24.3	15.0	15.4	6.1	2.52	0.96	19.6	4.6	10.7
53	94.2	1.103	98.8	8.9	7.17	16.053	11.583	9.167	24.3	15.0	15.3	6.1	2.50	0.97	19.6	4.6	10.7
54	93.8	1.121	98.7	8.8	7.19	16.356	11.516	9.065	24.1	15.0	15.3	6.2	2.46	0.97	19.5	4.5	10.7
55	93.5	1.138	98.7	8.8	7.22	16.641	11.466	8.981	24.0	15.0	15.2	6.2	2.45	0.98	19.5	4.5	10.7
56	92.2	1.157	98.7	8.8	7.25	16.961	11.250	8.754	23.8	15.0	15.0	6.2	2.41	1.01	19.4	4.4	10.6
57	89.8	1.175	98.5	8.6	7.27	17.263	10.852	8.379	23.4	15.0	14.8	6.4	2.31	1.03	19.2	4.2	10.6
58	88.4	1.191	98.4	8.5	7.30	17.532	10.619	8.149	23.1	15.0	14.6	6.5	2.25	1.04	19.1	4.1	10.6
59	88.0	1.208	98.4	8.5	7.32	17.818	10.552	8.054	23.1	15.0	14.6	6.5	2.24	1.06	19.0	4.0	10.5

Specimen B

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in ²)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abarr. (psi)	P (psi)	Q (psi)	P' (psi)
60	87.3	1.226	98.4	8.5	7.35	18.121	10.436	7.917	22.9	15.0	14.4	6.5	2.22	1.07	19.0	4.0	10.5
61	87.0	1.245	98.4	8.5	7.38	18.440	10.386	7.831	22.8	15.0	14.3	6.5	2.20	1.09	18.9	3.9	10.4
62	86.6	1.263	98.5	8.6	7.41	18.743	10.320	7.736	22.7	15.0	14.1	6.4	2.20	1.11	18.9	3.9	10.3
63	86.3	1.282	98.5	8.6	7.43	19.062	10.270	7.651	22.7	15.0	14.1	6.4	2.20	1.12	18.8	3.8	10.2
64	85.8	1.301	98.4	8.5	7.46	19.381	10.187	7.540	22.5	15.0	14.0	6.5	2.16	1.13	18.8	3.8	10.3
65	85.3	1.319	98.4	8.5	7.49	19.684	10.104	7.432	22.4	15.0	13.9	6.5	2.14	1.14	18.7	3.7	10.2
66	84.4	1.337	98.4	8.5	7.52	19.987	9.954	7.272	22.3	15.0	13.8	6.5	2.12	1.17	18.6	3.6	10.1
67	84.7	1.338	98.4	8.5	7.52	20.003	10.004	7.309	22.3	15.0	13.8	6.5	2.12	1.16	18.7	3.7	10.2

Specimen C Shear Data

File Location: [REDACTED] ncdot

Project Information

Project No. 38989.1.1 (U-2928)
 Project Name: Sample Type: Undisturbed
 Client: Specific Gravity: 2.7279999
 Sample Location: LENOIR COUNTY (Sta. B-20A) LL: 0.000
 Sample Description: PL: 0.000
 Remarks: Gray silty clay with two 35 degrees shear plane

Sample Parameters	Initial	After Consolidation	Final
Diameter (in)	2.842	2.781	
Height (in)	6.135	6.044	
Weight (grams)	1140.00		1128.00
Moisture (%)	41.79		40.30
Dry Density (pcf)	78.70	83.44	
Saturation (%)	97.95	100.00	
Void Ratio	1.158	1.041	

Test Data

Rate of Strain: 0.009
 Cell Pressure (psi): 109.600
 Effective Confining Stress (psi): 20.0
 Corrected Peak Deviator Stress (psi): 19.900 at reading number: 16

Specimen C

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in ²)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abarr. (psi)	P (psi)	Q (psi)	P' (psi)
0	31.1	0.125	89.6	0.0	6.07	0.000	0.000	0.000	20.0	20.0	20.0	20.0	1.00	0.00	20.0	0.0	20.0
1	42.4	0.143	91.1	1.5	6.09	0.298	1.861	1.835	21.9	20.0	20.4	18.5	1.10	0.81	20.9	0.9	19.4
2	69.0	0.161	94.2	4.6	6.11	0.596	6.241	6.203	26.2	20.0	21.6	15.4	1.40	0.74	23.1	3.1	18.5
3	105.2	0.180	98.0	8.4	6.13	0.910	12.201	12.090	32.1	20.0	23.7	11.6	2.04	0.69	26.0	6.0	17.6
4	118.9	0.199	99.5	9.9	6.15	1.224	14.457	14.280	34.3	20.0	24.4	10.1	2.41	0.69	27.1	7.1	17.2
5	127.9	0.217	100.5	10.9	6.17	1.522	15.939	15.696	35.7	20.0	24.8	9.1	2.72	0.69	27.8	7.8	16.9
6	134.7	0.235	101.2	11.6	6.19	1.820	17.059	16.748	36.7	20.0	25.1	8.4	2.99	0.69	28.4	8.4	16.8
7	139.9	0.254	101.6	12.0	6.21	2.134	17.915	17.532	37.5	20.0	25.5	8.0	3.19	0.68	28.8	8.8	16.8
8	143.9	0.273	102.0	12.4	6.23	2.449	18.573	18.119	38.1	20.0	25.7	7.6	3.38	0.68	29.1	9.1	16.7
9	147.3	0.292	102.2	12.6	6.25	2.763	19.133	18.605	38.6	20.0	26.0	7.4	3.51	0.68	29.3	9.3	16.7
10	150.0	0.311	102.4	12.8	6.27	3.077	19.578	18.975	39.0	20.0	26.2	7.2	3.64	0.67	29.5	9.5	16.7
11	152.1	0.330	102.5	12.9	6.29	3.392	19.924	19.248	39.2	20.0	26.3	7.1	3.71	0.67	29.6	9.6	16.7
12	153.5	0.348	102.6	13.0	6.31	3.690	20.154	19.411	39.4	20.0	26.4	7.0	3.77	0.67	29.7	9.7	16.7
13	155.8	0.367	102.7	13.1	6.33	4.004	20.333	19.711	39.7	20.0	26.6	6.9	3.86	0.66	29.9	9.9	16.8
14	157.1	0.385	102.7	13.1	6.35	4.302	20.747	19.854	39.9	20.0	26.8	6.9	3.88	0.66	29.9	9.9	16.8
15	157.6	0.404	102.7	13.1	6.37	4.616	20.829	19.868	39.9	20.0	26.8	6.9	3.88	0.66	29.9	9.9	16.8
16	158.2	0.422	102.7	13.1	6.39	4.914	20.928	19.900	39.9	20.0	26.8	6.9	3.88	0.66	29.9	9.9	16.8
17	158.5	0.441	102.7	13.1	6.41	5.228	20.978	19.881	39.9	20.0	26.8	6.9	3.88	0.66	29.9	9.9	16.8
18	158.4	0.460	102.6	13.0	6.43	5.543	20.961	19.799	39.8	20.0	26.8	7.0	3.83	0.66	29.9	9.9	16.9

Specimen C

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in ²)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P'
19	158.4	0.478	102.6	13.0	6.45	5.841	20.961	19.737	39.7	20.0	26.7	7.0	3.82	0.66	29.9	9.9	16.9
20	158.1	0.497	102.6	13.0	6.47	6.155	20.912	19.625	39.6	20.0	26.6	7.0	3.80	0.66	29.8	9.8	16.8
21	157.6	0.515	102.5	12.9	6.49	6.453	20.829	19.485	39.5	20.0	26.6	7.1	3.74	0.66	29.7	9.7	16.8
22	156.8	0.534	102.4	12.8	6.51	6.767	20.698	19.297	39.3	20.0	26.5	7.2	3.68	0.66	29.6	9.6	16.8
23	155.8	0.552	102.4	12.8	6.53	7.065	20.533	19.082	39.1	20.0	26.3	7.2	3.65	0.67	29.5	9.5	16.7
24	154.9	0.571	102.3	12.7	6.56	7.379	20.385	18.881	38.9	20.0	26.2	7.3	3.59	0.67	29.4	9.4	16.7
25	153.6	0.590	102.3	12.7	6.58	7.694	20.171	18.619	38.6	20.0	25.9	7.3	3.55	0.68	29.3	9.3	16.6
26	152.5	0.609	102.2	12.6	6.60	8.008	19.990	18.389	38.4	20.0	25.8	7.4	3.48	0.69	29.2	9.2	16.6
27	150.9	0.627	102.1	12.5	6.62	8.306	19.726	18.088	38.1	20.0	25.6	7.5	3.41	0.69	29.0	9.0	16.5
28	149.2	0.645	102.0	12.4	6.64	8.604	19.446	17.773	37.8	20.0	25.4	7.6	3.34	0.70	28.9	8.9	16.5
29	147.6	0.664	101.9	12.3	6.67	8.918	19.183	17.472	37.5	20.0	25.2	7.7	3.27	0.70	28.7	8.7	16.4
30	146.3	0.682	101.9	12.3	6.69	9.216	18.969	17.221	37.2	20.0	24.9	7.7	3.24	0.71	28.6	8.6	16.3
31	145.2	0.701	101.8	12.2	6.71	9.530	18.788	16.997	37.0	20.0	24.8	7.8	3.18	0.72	28.5	8.5	16.3
32	144.1	0.719	101.7	12.1	6.74	9.828	18.606	16.778	36.8	20.0	24.7	7.9	3.12	0.72	28.4	8.4	16.3
33	143.4	0.738	101.7	12.1	6.76	10.142	18.491	16.616	36.6	20.0	24.5	7.9	3.10	0.73	28.3	8.3	16.2
34	142.7	0.757	101.7	12.1	6.78	10.457	18.376	16.454	36.5	20.0	24.4	7.9	3.08	0.74	28.2	8.2	16.1
35	142.2	0.776	101.7	12.1	6.81	10.771	18.294	16.323	36.3	20.0	24.2	7.9	3.07	0.74	28.2	8.2	16.1
36	142.2	0.794	101.7	12.1	6.83	11.069	18.294	16.269	36.3	20.0	24.2	7.9	3.06	0.74	28.1	8.1	16.0
37	141.7	0.813	101.6	12.0	6.85	11.383	18.211	16.138	36.1	20.0	24.1	8.0	3.02	0.74	28.1	8.1	16.1
38	141.1	0.831	101.6	12.0	6.88	11.681	18.112	15.997	36.0	20.0	24.0	8.0	3.00	0.75	28.0	8.0	16.0
39	141.0	0.849	101.6	12.0	6.90	11.979	18.096	15.928	35.9	20.0	23.9	8.0	2.99	0.75	28.0	8.0	16.0
40	141.0	0.868	101.6	12.0	6.92	12.293	18.096	15.871	35.9	20.0	23.9	8.0	2.98	0.76	27.9	7.9	15.9
41	140.8	0.887	101.6	12.0	6.95	12.608	18.063	15.786	35.8	20.0	23.8	8.0	2.97	0.76	27.9	7.9	15.9
42	140.6	0.905	101.6	12.0	6.97	12.905	18.030	15.703	35.7	20.0	23.7	8.0	2.96	0.76	27.9	7.9	15.9
43	140.3	0.924	101.6	12.0	7.00	13.220	17.981	15.604	35.6	20.0	23.6	8.0	2.95	0.77	27.8	7.8	15.8
44	140.3	0.942	101.6	12.0	7.02	13.518	17.981	15.550	35.6	20.0	23.6	8.0	2.94	0.77	27.8	7.8	15.8
45	140.0	0.961	101.5	11.9	7.05	13.832	17.931	15.451	35.5	20.0	23.5	8.1	2.91	0.77	27.7	7.7	15.8
46	140.0	0.979	101.5	11.9	7.07	14.130	17.931	15.398	35.4	20.0	23.5	8.1	2.90	0.77	27.7	7.7	15.8
47	140.2	0.997	101.5	11.9	7.10	14.428	17.964	15.372	35.4	20.0	23.5	8.1	2.90	0.77	27.7	7.7	15.8
48	140.1	1.016	101.5	11.9	7.12	14.742	17.948	15.302	35.3	20.0	23.4	8.1	2.89	0.78	27.7	7.7	15.8
49	140.0	1.035	101.5	11.9	7.15	15.056	17.931	15.232	35.2	20.0	23.3	8.1	2.88	0.78	27.6	7.6	15.7
50	140.1	1.054	101.5	11.9	7.18	15.371	17.948	15.189	35.2	20.0	23.3	8.1	2.88	0.78	27.6	7.6	15.7
51	139.9	1.072	101.5	11.9	7.20	15.668	17.915	15.108	35.1	20.0	23.2	8.1	2.87	0.79	27.6	7.6	15.7
52	139.8	1.091	101.5	11.9	7.23	15.983	17.898	15.038	35.0	20.0	23.1	8.1	2.86	0.79	27.5	7.5	15.6
53	140.0	1.109	101.5	11.9	7.25	16.281	17.931	15.012	35.0	20.0	23.1	8.1	2.85	0.79	27.5	7.5	15.6
54	140.0	1.127	101.5	11.9	7.28	16.578	17.931	14.959	35.0	20.0	23.1	8.1	2.85	0.80	27.5	7.5	15.6
55	140.2	1.145	101.5	11.9	7.31	16.876	17.964	14.933	34.9	20.0	23.0	8.1	2.84	0.80	27.5	7.5	15.6
56	140.2	1.164	101.5	11.9	7.33	17.191	17.964	14.876	34.9	20.0	23.0	8.1	2.84	0.80	27.4	7.4	15.5
57	140.3	1.182	101.5	11.9	7.36	17.488	17.981	14.836	34.8	20.0	22.9	8.1	2.83	0.80	27.4	7.4	15.5
58	140.9	1.202	101.5	11.9	7.39	17.819	18.080	14.858	34.9	20.0	23.0	8.1	2.83	0.80	27.4	7.4	15.5
59	140.9	1.220	101.5	11.9	7.42	18.117	18.080	14.804	34.8	20.0	22.9	8.1	2.83	0.80	27.4	7.4	15.5

CU Triaxial Test - Results

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Specimen C

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in ²)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P'
60	140.9	1.238	101.5	11.9	7.44	18.415	18.080	14.750	34.8	20.0	22.9	8.1	2.82	0.81	27.4	7.4	15.5
61	141.4	1.257	101.6	12.0	7.47	18.729	18.162	14.760	34.8	20.0	22.8	8.0	2.85	0.81	27.4	7.4	15.4
62	141.5	1.275	101.5	11.9	7.50	19.027	18.178	14.720	34.7	20.0	22.8	8.1	2.82	0.81	27.4	7.4	15.5
63	141.8	1.294	101.5	11.9	7.53	19.341	18.228	14.702	34.7	20.0	22.8	8.1	2.82	0.81	27.4	7.4	15.5
64	142.2	1.312	101.6	12.0	7.56	19.639	18.294	14.701	34.7	20.0	22.7	8.0	2.84	0.82	27.4	7.4	15.4
65	141.7	1.331	101.6	12.0	7.59	19.934	18.211	14.577	34.6	20.0	22.6	8.0	2.82	0.82	27.3	7.3	15.3

CU Triaxial Test - Results

Page 17 of 17

T-5168.HSD

CONTRACT: 38989.1.1 ID: U-2928

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

RAILWAY
SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. U-2928 F.A. PROJ. NA
 COUNTY LENOIR
 PROJECT DESCRIPTION GLOBAL TRANSPARK FREIGHT
TRANSPORTATION SYSTEM-SHACKLEFORD RD.

INVENTORY-ADDENDUM

CONTENTS

LINE	STATION	PLAN	PROFILE	XSECT
-Y5-	9+15.00 - 15+80.00	3	3	-

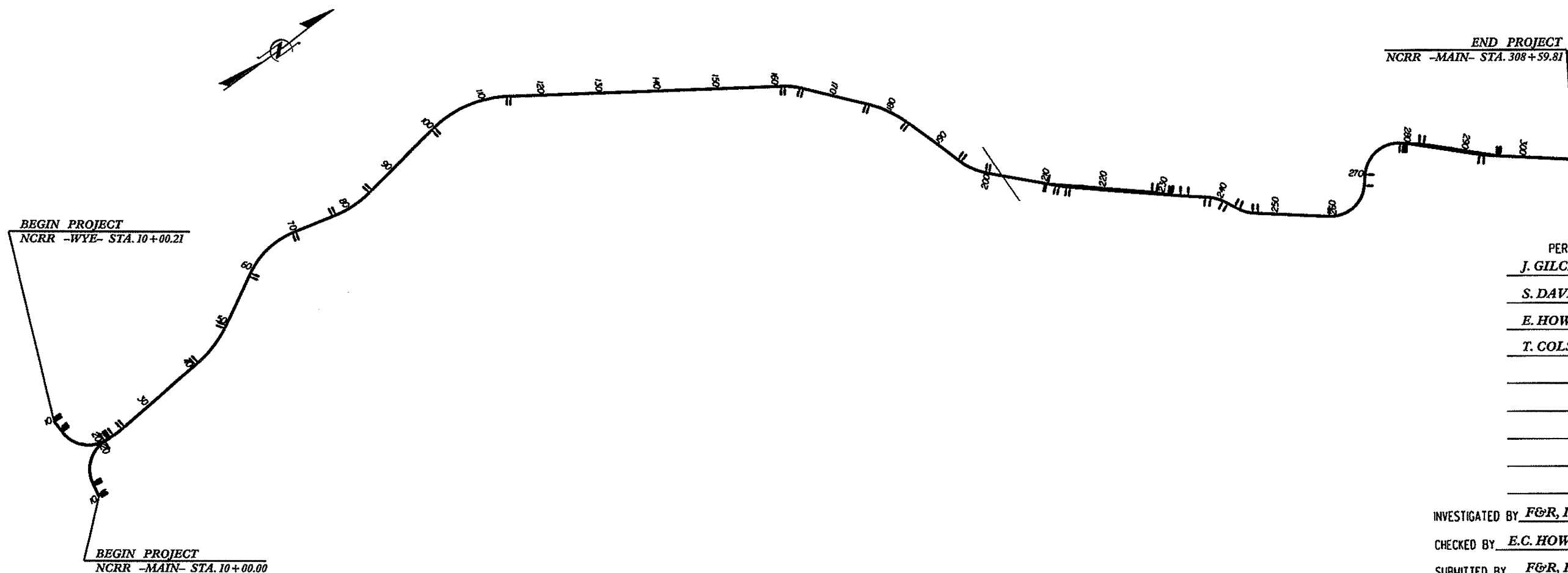
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2928	1	3
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38989.1.1	N/A	P.E.	
38989.1.1	N/A	RW & UTIL.	

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 BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT 1099 250-4088. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE 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 MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS 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.



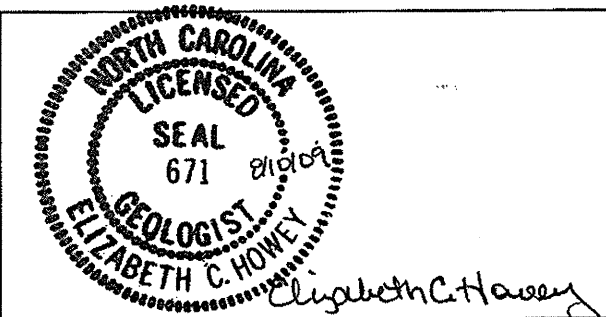
PERSONNEL

J. GILCHRIST
S. DAVIS
E. HOWEY, P.G., P.E.
T. COLSON

INVESTIGATED BY F&R, INC.
 CHECKED BY E.C. HOWEY, P.G., P.E.
 SUBMITTED BY F&R, INC.
 DATE 7/09

PLAN SCALES:

PLAN VIEW:
0 50 100 FEET
PROFILE (HORIZONTAL):
0 50 100 FEET
PROFILE (VERTICAL):
0 10 20 FEET



DRAWN BY: D. RACEY

NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N.C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IS IT CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - 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.

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

PROJECT REFERENCE NO. 38989.1.I (U-2928) SHEET NO. 2

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

Table with multiple columns: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, TERMS AND DEFINITIONS, SOIL LEGEND AND AASHTO CLASSIFICATION, MINERALOGICAL COMPOSITION, COMPRESSION, PERCENTAGE OF MATERIAL, GROUND WATER, MISCELLANEOUS SYMBOLS, ABBREVIATIONS, EQUIPMENT USED ON SUBJECT PROJECT, FRACTURE SPACING, BEDDING, INDURATION, COLOR.



FROEHLING & ROBERTSON, INC.

Engineering • Environmental • Geotechnical

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NC Engineering License # F-0266

July 21, 2009

STATE PROJECT: 38989.1.1 (U-2928)
F.A. PROJECT: N/A
COUNTY: Lenoir

DESCRIPTION: Global Transpark Freight Transportation System

SUBJECT: Geotechnical Inventory – Addendum
Supplemental Borings at Shackleford Road (-Y5-)

Project Description

NCRR proposes to construct a new rail line for access to the Global Transpark in Lenoir County. The project area lies east/northeast of the Town of Kinston, north of US 70. The project begins at the existing NCRR track between US 258 and Hillcrest Road and extends north to the Global Transpark, a distance of approximately 5.5 miles. The proposed alignment is on new location and generally crosses farm fields and wooded areas. The new track will have at grade crossings with a number of existing roads: Sand Clay Road, Hull Road, Dobbs Farm Road, Shackleford Road, Harvey Parkway, Rouse Road, Airport Road, Jetport Road, Rouse Road Extension, and John Mewborne Road. Minor realignment is anticipated at some of the road crossings.

This addendum includes two additional borings advanced along Shackleford Road (-Y5-) in July, 2009. The original geotechnical field investigation was performed in October and November, 2008. One boring (B-39) was advanced near Shackleford Road at that time and is included with this addendum. See the original inventory report dated February 13, 2009 for information concerning the remainder of the borings.

No survey was available in the field; the additional borings were located by F&R personnel with the aid of a GEO-XH GPS unit with an L1/L2 antenna and VRS. At the completion of drilling, the boring collar elevations were interpolated from the provided cross sections.

The borings were advanced with a CME 55 ATV-mounted drill machine utilizing hollow stem augers for borehole stabilization. An automatic hammer was used to perform Standard Penetration Testing (SPT) at frequent intervals in general accordance with ASTM D-1586.



Areas of Special Geotechnical Interest

- 1) Very loose to loose sandy soils were encountered at the ground surface in all borings advanced along Shackleford Road. These soils were encountered in at least the upper two feet of the borings and generally extended to the boring termination depths of 15 to 20 feet.
- 2) Shallow groundwater was encountered throughout the entire project alignment. Borings advanced along Shackleford Road encountered groundwater within 6 feet of the existing ground surface.

Physiography and Geology

This project is located within the Coastal Plain Physiographic Province. Elevations along Shackleford Road range from approximately 87 feet to 90 feet.

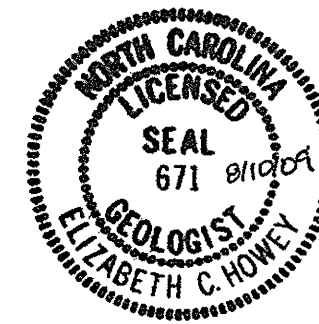
The soils encountered on the project consist of Coastal Plain Deposits. This area is mapped as Cretaceous-age deposits of the Peedee Formation. Peedee deposits are described as greenish gray to olive black sand, clayey sand, and clay that are locally fossiliferous. The near surface soils encountered in our borings along Shackleford Road appear to consist of more recent Coastal Plain deposits.

Groundwater

Groundwater levels were recorded at elevations of 81.7 to 84.8 along Shackleford Road. These elevations are within 6 feet of the existing ground surface.

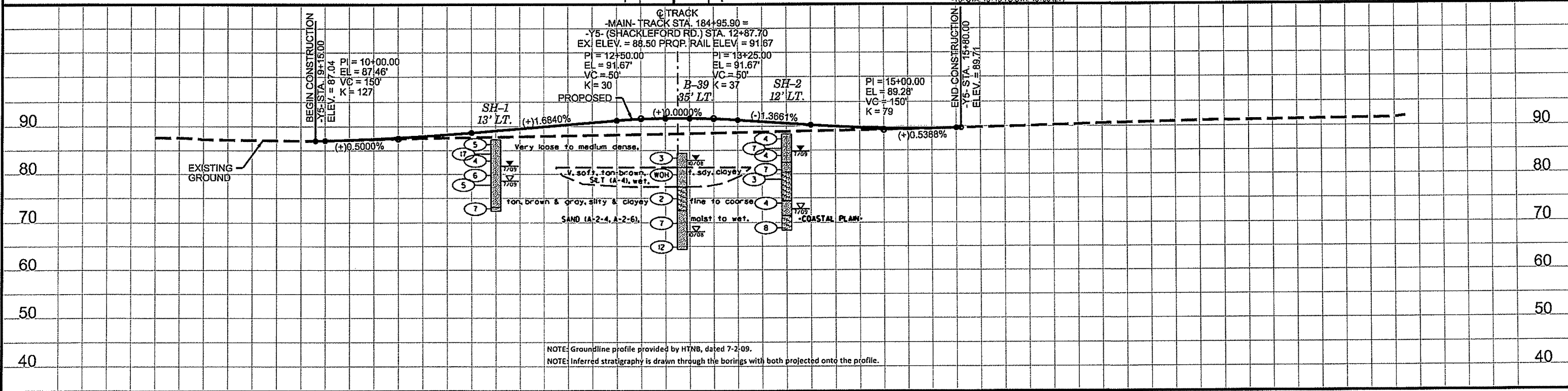
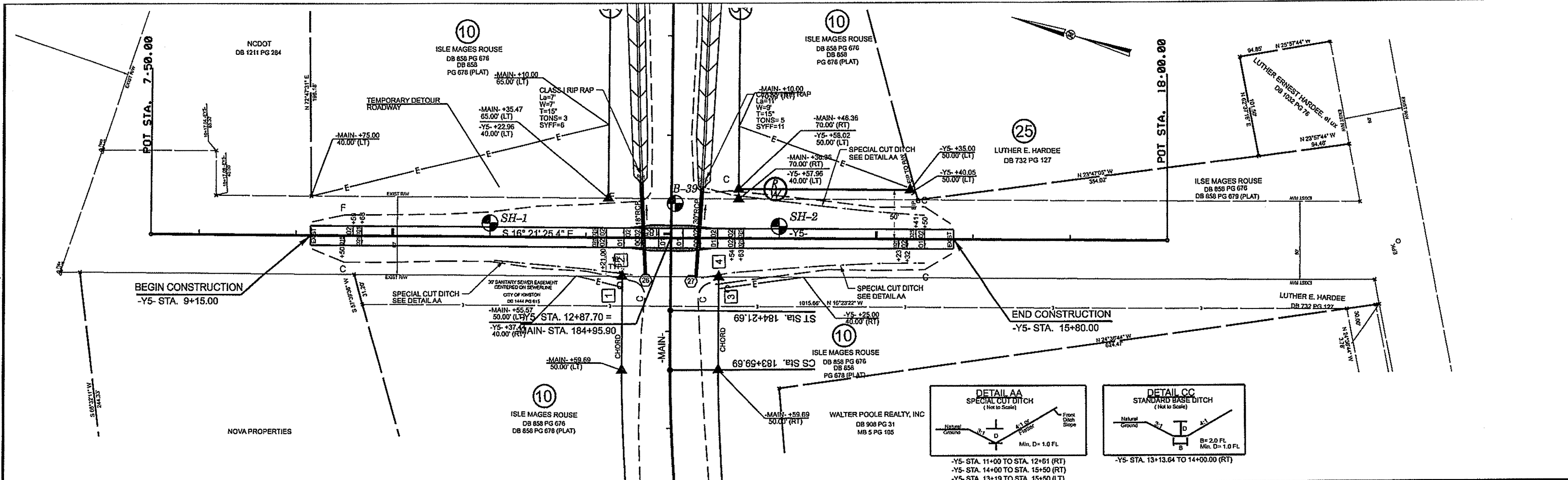
Soils

The borings along Shackleford Road encountered Coastal Plain deposits consisting of very loose to medium dense silty and/or clayey fine to coarse sand (A-2-4, A-2-6) and very soft fine sandy silt (A-4).



Respectfully Submitted,

Elizabeth C. Howey
Elizabeth C. Howey, L.G., P.E.
Project Engineer



8	9	10	11	12	13	14	15	16	17
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REV. NO	DATE	BY	APP. BY	DESCRIPTION

DESIGNED BY: CPV	RAIL ENGINEER
DRAWN BY: ABR	
CHECKED BY: JKK	
DATE: JULY 2, 2009	

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION

ENGINEERING AND SAFETY BRANCH
CAPITAL YARD
1341 MAIL SERVICE CENTER
RALEIGH, NC 27604

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

GTP Rail Access

**NCGTP RAIL ACCESS
PLAN & PROFILE**

-Y5- SR 1607 (SHACKLEFORD ROAD)
-Y5- Sta. 9+15 TO 15+80

KINSTON, NC

PROJECT NO: U-2928B
DRAWING NO: RD-10
SCALE: HORIZONTAL: 1"=100'
VERTICAL: 1"=20'
SHEET NO:

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION