REFERENCE: U-3422

PROJECT: 39001

SEE SHEET 3 FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

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LINE	STATION	PLAN
-L-	25+30 TO 201+10.73	4-17
-Y1-	17+57.10 TO 24+15	7
-Y2-	11+61.34 TO 14+52.73	7
-Y3-	20+40 TO 40+90.80	11, 18
-Y4-	10+35 TO 15+99.97	11
-Y5-	10+00 TO 32+50	12, 19

CROSS SECTIONS

LINE	STATION	SHEETS
-L-	31+00 TO 201+00	20-46
-Y3-	26+00 TO 38+00	47, 48
-Y5-	12+00 TO 26+00	49, 50

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

ROADWAY SUBSURFACE INVESTIGATION

COUNTY *CUMBERLAND*

PROJECT DESCRIPTION *SR 1003 (CAMDEN ROAD) FROM FUTURE I-295 (FAYETTEVILLE OUTER LOOP) TO NC 59 (HOPE MILLS ROAD)*

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3422	1	50

CAUTION NOTICE

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

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

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

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

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R.E. SMITH

INVESTIGATED BY *N.O. MOORE*

DRAWN BY *N.O. MOORE*

CHECKED BY *N.T. ROBERSON*

SUBMITTED BY *N.T. ROBERSON*

DATE *NOVEMBER 2020*

NORTH CAROLINA LICENSED SEAL 2627 GEOLOGIST NICHOLAS O'NEIL MOORE

DocuSigned by:
Nick Moore 12/8/2020
8636AEA78511411...
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
U-3422	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

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

VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

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

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

CONSISTENCY OR DENSENESS

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

TEXTURE OR GRAIN SIZE

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

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

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

SOIL MOISTURE - CORRELATION OF TERMS

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

PLASTICITY

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

COLOR

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

GRADATION

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

ANGULARITY OF GRAINS

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

MINERALOGICAL COMPOSITION

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

COMPRESSIBILITY

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

PERCENTAGE OF MATERIAL

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

GROUND WATER

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

MISCELLANEOUS SYMBOLS

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

RECOMMENDATION SYMBOLS

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

ABBREVIATIONS

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

SAMPLE ABBREVIATIONS

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

EQUIPMENT USED ON SUBJECT PROJECT

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

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

HAMMER TYPE:
- [ ] AUTOMATIC [ ] MANUAL

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

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

ROCK DESCRIPTION

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

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

WEATHERING

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

ROCK HARDNESS

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

FRACTURE SPACING

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

BEDDING

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

INDURATION

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

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

TERMS AND DEFINITIONS

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

AQUIFER - A WATER BEARING FORMATION OR STRATA.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BENCH MARK: _____

ELEVATION: _____ FEET

NOTES:

ROADWAY BORING ELEVATION WERE TAKEN FROM TIN FILE U3422_is_tin.tin DATED 4/2/2020

DATE: 8-15-14

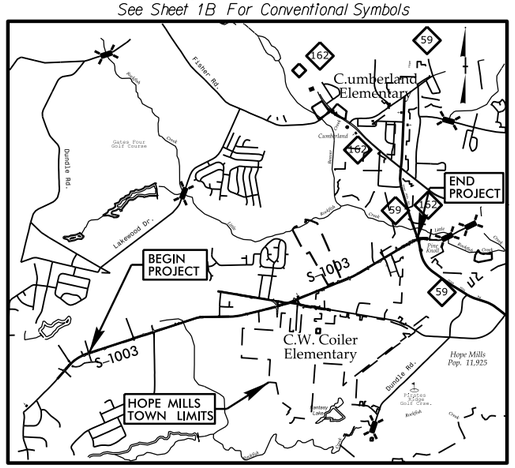
09/08/99

TIP PROJECT: U-3422

CONTRACT:

PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$
USER: $USER$ DATE: $DATE$ TIME: $TIME$
FILE: $PWVARVAULTPATHDESC$

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



VICINITY MAP
(NOT TO SCALE)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

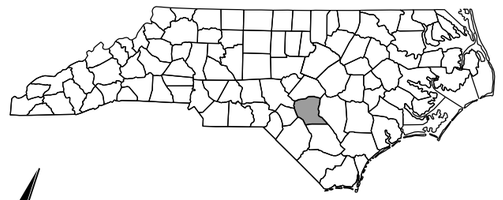
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3422	3	50

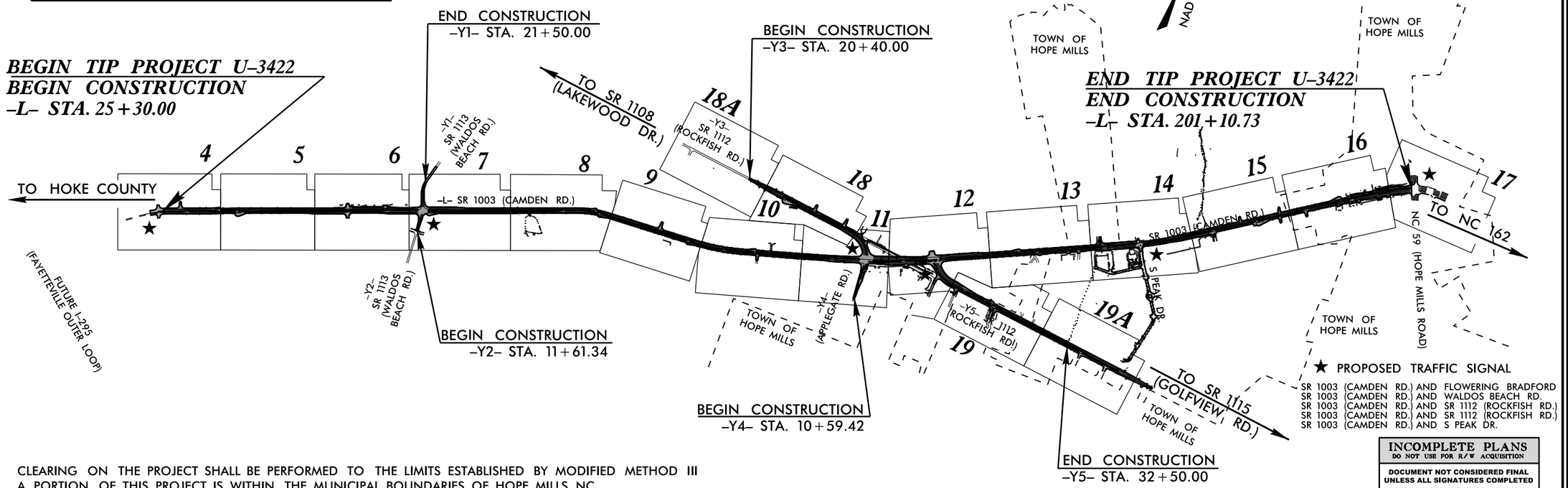
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
39001.1.1	STP-1003 (131)	P.E.
39001.2.1		ROW
39001.2.2		UTILITIES
39001.3.1		CONSTRUCTION

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

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND SIGNALS

25% PLANS



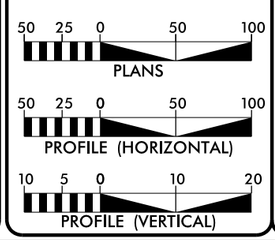


★ PROPOSED TRAFFIC SIGNAL
SR 1003 (CAMDEN RD.) AND FLOWERING BRADFORD
SR 1003 (CAMDEN RD.) AND WALDOS BEACH RD.
SR 1003 (CAMDEN RD.) AND SR 1112 (ROCKFISH RD.)
SR 1003 (CAMDEN RD.) AND SR 1112 (ROCKFISH RD.)
SR 1003 (CAMDEN RD.) AND S PEAK DR.

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

CLEARING ON THE PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY MODIFIED METHOD III
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF HOPE MILLS, NC

GRAPHIC SCALES



DESIGN DATA

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

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-3422 = 3.330 MILES
LENGTH STRUCTURE TIP PROJECT U-3422 = 0.000 MILES
TOTAL LENGTH TIP PROJECT U-3422 = 3.330 MILES

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

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MARCH 29, 2019

LETTING DATE:
MARCH 2021

PHILLIP E. ROGERS, PE
PROJECT ENGINEER

DAVID CHEEK, PE
PROJECT DESIGN ENGINEER

SEAN MATUSZEWSKI
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

November 6, 2020

STATE PROJECT: 39001.1.1 (U-3422)
FEDERAL PROJECT: STP-1003
COUNTY: CUMBERLAND

DESCRIPTION: SR 1003 (Camden Road) from future I-295 (Fayetteville Outer Loop) to NC 59 (Hope Mills Road)

SUBJECT: Geotechnical Report – Inventory

The Geotechnical Engineering Unit has completed a subsurface investigation for this project and presents the following inventory.

Project Description

This project consists of widening SR 1003 (Camden Road) from future I-295 (Fayetteville Outer Loop) to NC 59 (Hope Mills Road).

A geotechnical investigation was conducted during March of 2020. One hundred and five hand auger borings were performed by the Geotechnical Engineering Unit. Representative soil samples were collected for visual classification in the field and selected samples were submitted for laboratory analysis by the Materials and Tests Unit.

The following alignments, totaling 3.298 miles, were investigated. Subsurface plans and cross sections of these alignments are included in this report.

Line	Stations
-L-	31+00 to 201+00
-Y3-	26+00 to 40+00
-Y5-	11+50 to 26+80

Physiography and Geology

The project is located outside the city limits of the town of Hope Mills, and within the Coastal Plain physiographic province of North Carolina. Tertiary-aged sands and gravels of terrace deposits overlay tertiary clay. The topography is relatively flat. The widening project consists of a mixture of woods, agriculture land, businesses and residences.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
1589 MAIL SERVICE CENTER
RALEIGH NC 27699-1589

Telephone: 919-707-6850
Fax: 919-250-4237
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC

Soils Properties

Soils encountered during this investigation are roadway embankment, artificial fill, and undivided coastal plain.

Roadway Embankment soils are present throughout the entire project. These soils primarily consist of brown, tan, and orange, moist, loose, silty sand (A-2-4).

Artificial soils are only present at the end of the project associated with embankment fill. These soils are characterized by brown, moist, very loose, silty sand (A-2-4).

Undivided Coastal Plain soils are present throughout the southern half of the project. These soils are characterized by tan, orange, and gray, mottled, moist, very loose to loose, silty sand (A-2-4). A minor amount of light gray, tan, red, and orange, mottled, moist, soft to medium stiff, sandy clay (A-6) and silty (A-7-5; A-7-6) are also present.

Groundwater

Groundwater measurements were taken in March of 2020 during average rainfall conditions. Groundwater was present in some borings and ranged from 1.2 to 4.4 feet from the ground surface.

Areas of Special Geotechnical Interests

1. The following sections were found to contain alluvial soils:

Line	Stations
-L-	77+00 to 80+00

2. The following sections were found to contain artificial fill:

Line	Stations
-L-	57+00 to 59+00
-L-	169+00 to 170+00
-L-	190+00 to 192+00

3. The following sections were found to contain high ground water (6 feet below grade or higher):

Line	Stations
-L-	38+00 to 44+00
-L-	52+00 to 84+00

PROJECT REFERENCE NO.	SHEET NO.
U-3422	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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N.C.B.E.L.S. License Number: F-0116

NAD 83/2011

BEGIN TIP PROJECT U-3422
BEGIN CONSTRUCTION
-L- STA. 25+30.00

-Y13E- POT Sta. 12+20.75
END CONSTRUCTION
-Y13E- POT Sta. 12+00.00

-Y13F- POT Sta. 12+31.64
END CONSTRUCTION
-Y13F- POT Sta. 11+50.00

-Y13F- POT Sta. 10+00.00=
-Y13- POT Sta. 69+61.21

-L- PRC Sta. 34+99.76

-L- PC Sta. 31+83.44

-L- ST Sta. 29+13.20

N 20° 28' 28.4" W

N 17° 54' 18.9" W

N 17° 56' 38.8" W

N 77° 51' 15.8" E

N 84° 24' 43.8" E

N 52° 06' 21.1" E

N 77° 15' 16.9" E

BEGIN C/A FENCE
-Y13- STA. 66+12.00

END C/A FENCE
-Y13- STA. 68+80.00

-Y13- ST Sta. 69+29.60

-Y13E- POT Sta. 10+00.00=
-Y13- POC Sta. 66+56.27

-Y13- OSS Sta. 266+67.20

-Y13G- POT Sta. 14+53.02=
-Y13- POT Sta. 69+61.26

-Y13CUL_2- PT Sta. 14+87.27
-Y13CUL_2- PC Sta. 14+94.14
-Y13CUL_2- PT Sta. 16+19.46

BEGIN CONSTRUCTION
-Y13G- POT Sta. 10+08.14

-Y13G- POT Sta. 10+00.00=
-Y13CUL_2- POT 21+34.83

-Y13CUL_2- POT Sta. 24+69.91

-Y13CUL_2- PC Sta. 12+18.89

-Y13CUL_2-

-L-

65+00
70+00
75+00
20+00

MATCHLINE SHEET 5 -L- STA. 35+00.00

UNDIVIDED COASTAL PLAIN

ROADWAY EMBANKMENT

CAMDEN ROAD (SR 1003) 23'

FLOWERING BRADFORD WAY 28' BST

CALLERY KNOLL COURT 18' BST

CHAMPS COURT 18' BST

LATERAL 4' BASE DITCH
1714 CY DDE
(TO BE CONSTRUCTED BY OTHERS)

LATERAL 4' BASE DITCH
W/212 TONS CL I RIP RAP
538 SY GEOTEXTILE 490 CY DDE
(TO BE CONSTRUCTED BY OTHERS)

LATERAL V DITCH
1229 CY DDE
(TO BE CONSTRUCTED BY OTHERS)

SPECIAL CUT DITCH
(TO BE CONSTRUCTED BY OTHERS)

FSS THROUGH 6' WOOD FENCE TO RESIDENTIAL BACKYARD AT THIS LOCATION

PROP. 47" WW FENCE

TWC CATV CABLE GOES BEHIND 6' WOOD RESIDENTIAL FENCE AT THIS LOCATION

RECORDS OF CALLING AND USE OF SPARE 4" INNERDUCT AT THIS LOCATION

★ PROPOSED SIGNAL
SEE SHEET 20 FOR -L- PROFILE

REVISIONS

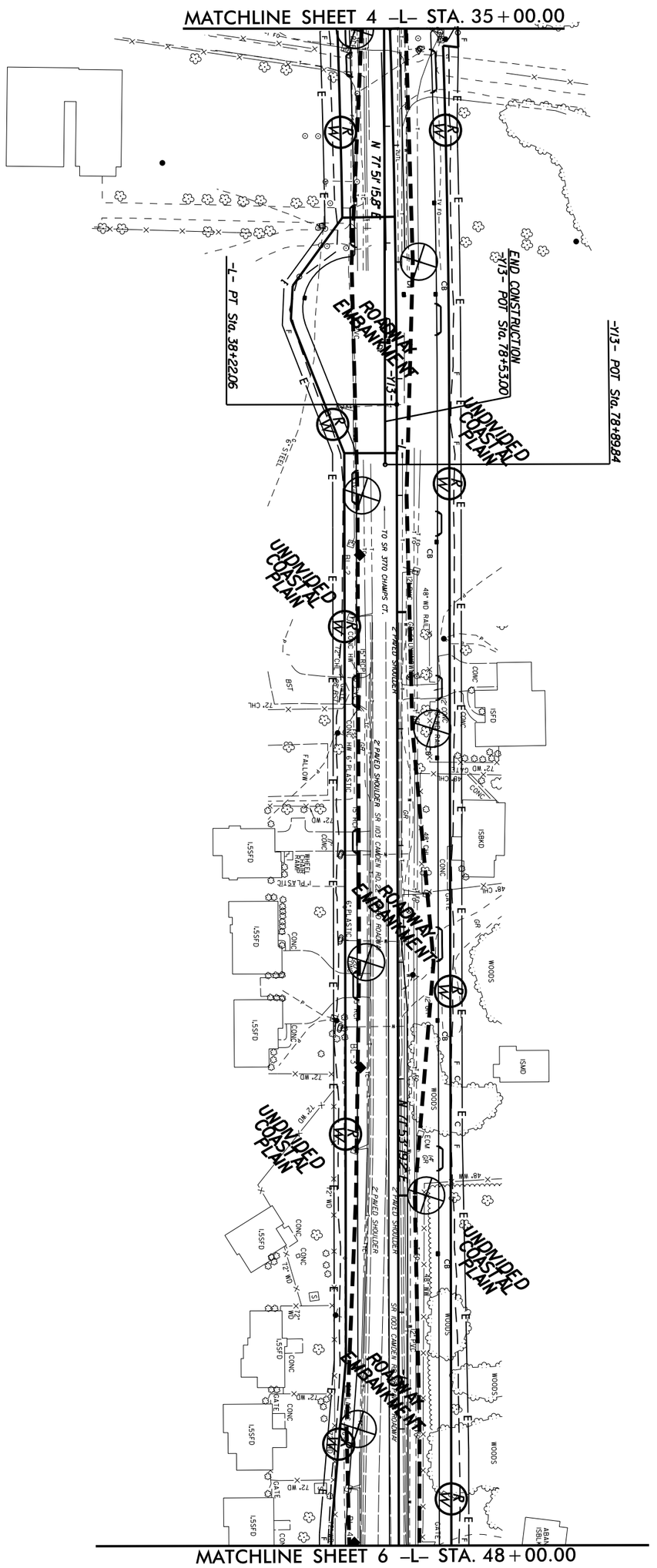
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USER: $USER$
FILE: $PWVARVAULTPATHDESC$
PENTABLE: $PENTBLS$
DATE: $DATE$
TIME: $TIME$

PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$

USER: $USER$ DATE: $DATE$ TIME: $TIME$

FILE: $PWVARVAULTPATHDESC$

REVISIONS



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HDR

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N.C.B.E.L.S. License Number: F-0116

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

ROADWAY DESIGN ENGINEER

R/W SHEET NO.

HYDRAULICS ENGINEER

PROJECT REFERENCE NO. U-3422

SHEET NO. 5

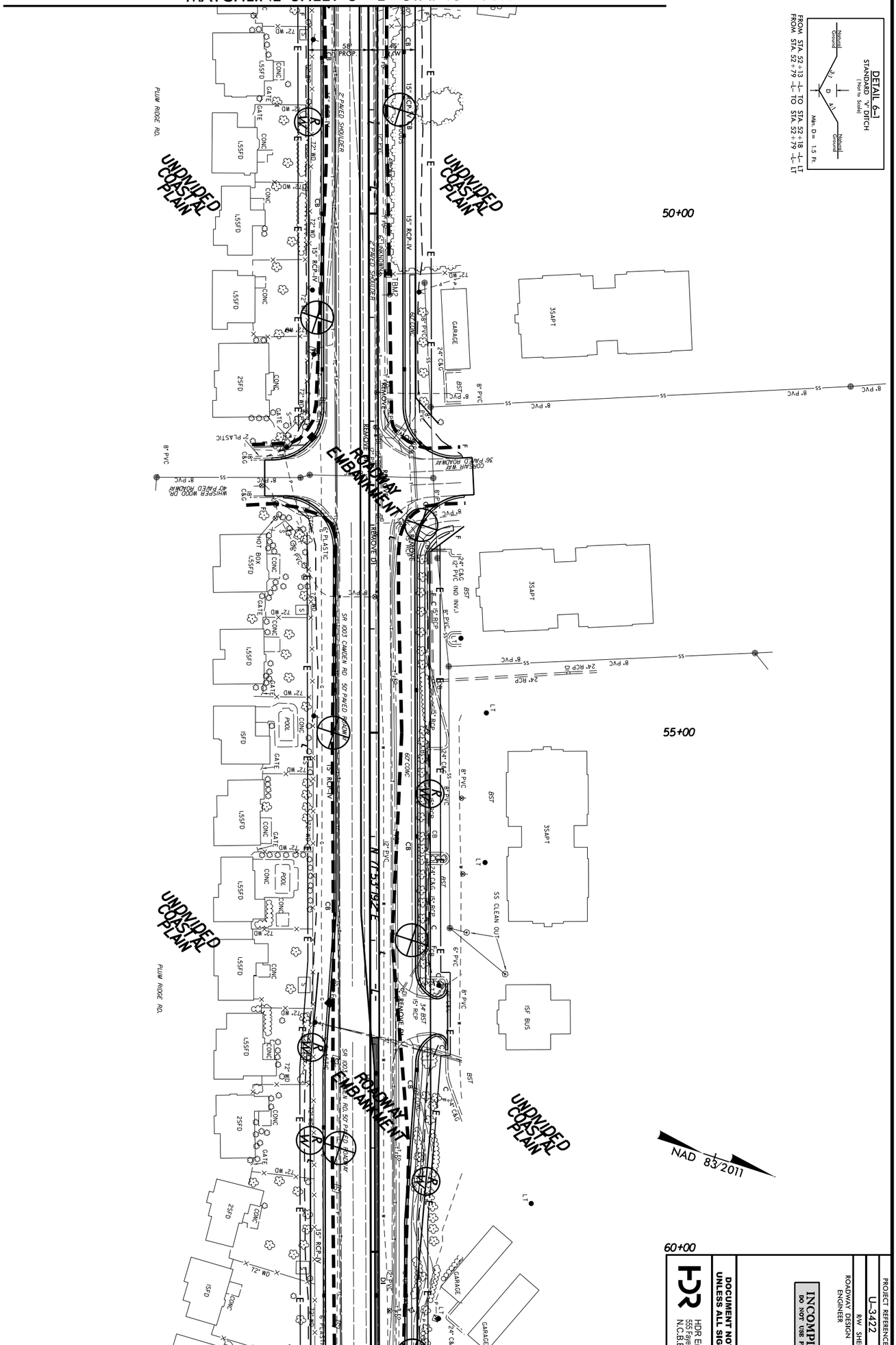
PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$

USER: $USER$ DATE: $DATE$ TIME: $TIME$

FILE: $PWVARVAULTPATHDESC$

REVISIONS

MATCHLINE SHEET 5 –L– STA. 48+00.00



MATCHLINE SHEET 7 –L– STA. 61+00.00

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N.C.B.E.L.S. License Number: F-0116

INCOMPLETE PLANS
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ROADWAY DESIGN ENGINEER

R/W SHEET NO.

HYDRAULICS ENGINEER

PROJECT REFERENCE NO. U-3422

SHEET NO. 6

PROJECT REFERENCE NO.	SHEET NO.
U-3422	7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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NAD 83/2011

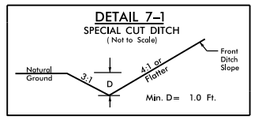
MATCHLINE SHEET 6 –L– STA. 61+00.00

MATCHLINE SHEET 8 –L– STA. 75+00.00

SEE INSET A –Y1– STA. 22+50.00

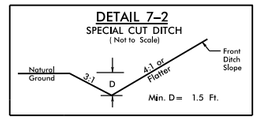
–Y1–
PI Sta 20+95.03
Δ = 35° 06' 26.8" (RT)
D = 17° 54' 17.8"
L = 196.08'
T = 101.23'
R = 320.00'
e = 6%
Lr = 114'

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



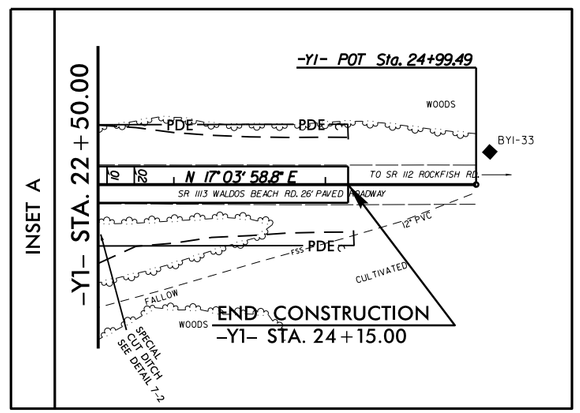
FROM STA. 11+90 –Y2– TO STA. 12+50 –Y2– LT
FROM STA. 18+20 –Y1– TO STA. 21+87 –Y1– RT
FROM STA. 18+25 –Y1– TO STA. 21+62 –Y1– LT

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



FROM STA. 21+62 –Y1– TO STA. 24+15 –Y1– LT
FROM STA. 21+87 –Y1– TO STA. 24+15 –Y1– RT

INSET A
–Y1– STA. 22+50.00



SPECIAL CUT DITCH SEE DETAIL 7–2
TIE EXISTING 8" DIP TO PROPOSED DITCH
SPECIAL CUT DITCH SEE DETAIL 7–1
20+00 (–Y1–)
RETAIN
BRICK STRUCTURE
RIP RAP
48" CML
18" RCP-III
RETENTION POND
CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO–TEXTILE
SR 1113 WALDOS BEACH RD. 26' PAVED ROADWAY
30" RCP REMOVE
CLASS 'B' RIP RAP EST. 8 TONS 21 SY GEO–TEXTILE
–Y1– PT Sta. 21+89.88
–Y1– PC Sta. 19+93.80
–Y1– POT Sta. 17+57.10=
–L– POT Sta. 62+89.76
UNDIVIDED COASTAL PLAIN
ROADWAY EMBANKMENT
N 17° 20' 8" W 457.22'
N 71° 53' 19.2" E
SR 1003 CAMDEN RD 41' PAVED ROADWAY
SR 1003 CAMDEN RD 26' PAVED ROADWAY
2' PAVED SHOULDER
NEWGATE STREET
–Y2– POT Sta. 14+52.73=
–L– POT Sta. 62+82.43
N 6° 23' 57.5" W
–Y2– PT Sta. 14+05.97
–Y2– PC Sta. 12+18.89
N 1° 02' 23.7" W
BEGIN CONSTRUCTION
–Y2– STA. 11+61.34
–Y2– POT Sta. 10+00.00
65+00
70+00
75+00

2017 ADT
2040 ADT
(ADT IN 100's)

SR 1113 WALDOS BEACH RD.
36/40
181/215 19/21 3/3 179/213
SR 1003 CAMDEN RD 4/4
18/20 SR 1003 CAMDEN RD
36/40
SR 1113 WALDOS BEACH RD

WALDOS BEACH RD
PI Sta 13+12.49
Δ = 5° 21' 33.8" (LT)
D = 2° 51' 53.2"
L = 187.08'
T = 93.61'
R = 2,000.00'
e = NC

★ PROPOSED SIGNAL

REVISIONS

PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$
USER: $USER$ DATE: $DATE$ TIME: $TIME$
FILE: $PWVARVAULTPATHDESC$

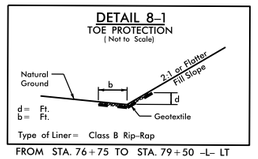
PROJECT REFERENCE NO.	SHEET NO.
U-3422	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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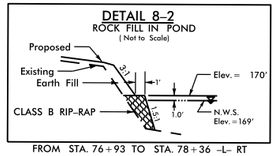
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N.C.B.E.L.S. License Number: F-0116

DETAIL 8-1
TOE PROTECTION
(Not to Scale)



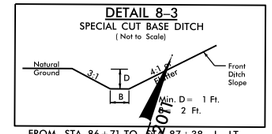
d = Ft.
b = Ft.
Type of Liner = Class B Rip-Rap
FROM STA. 76+75 TO STA. 79+50 -L- LT

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



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

DETAIL 8-3
SPECIAL CUT BASE DITCH
(Not to Scale)



FROM STA. 86+71 TO STA. 87+38 -L- LT
FROM STA. 87+38 TO STA. 80+58 -L- LT

NAD 83 NOTE

75+00 80+00 85+00

MATCHLINE SHEET 7 -L- STA. 75+00.00

MATCHLINE SHEET 9 -L- STA. 89+00.00

STREAM S1
WLB
POND B
INV.=170.92'
INV.=169.29'
UNDIVIDED COASTAL PLAIN
ALLUVIAL
ROADWAY EMBANKMENT
STREAM SG
SR 1003 CAMDEN RD 22' PAVED ROADWAY
2' PAVED SHOULDER
18" RCP-IV
48" RCP-III
30" RCP INV.=163.53'
N 17°53'19.2" E
WOODS
CULTIVATED
2' BASE SPECIAL CUT DITCH SEE DETAIL 8-3
24" RCP-IV
42" RCP-III
POND
ROCK FILL IN POND SEE DETAIL 8-2
POND C
NOTE: TIE/ANCHOR EXISTING BULKHEAD TO THE ROCK FILL
WD RETAINING WALL
WD PIER
WD STEPS
WD DECK
OUTFALL STRUCTURE TOP=169.86'
TOP OF VERTICAL 8" PVC PIPE
30" HDPE INV.=163.14'
PANEL BOX
2SFD
ISBKD
-L- PC Sta. 84+01.81
-L- PT Sta. 88+58.22

-L-
PI Sta 86+31.79
Δ = 17° 26' 00.9" (RT)
D = 3° 49' 11.0"
L = 456.41'
T = 229.98'
R = 1,500.00'
e = 4%
Lr = 168.00'

TOP OF BERM=174.50'
FOREBAY WEIR ELEVATION=172.84'
BOTTOM OF BASIN=169.54'
JB w/MH
30" RCP-III

REVISIONS

PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$
USER: $USER$ DATE: $DATE$ TIME: $TIME$
FILE: $PWVARVAULTPATHDESC$

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

INCOMPLETE PLANS
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N.C.B.E.L.S. License Number: F-0116

NAD 83/2011

90+00 95+00 100+00

MATCHLINE SHEET 8 –L– STA. 89+00.00

MATCHLINE SHEET 10 –L– STA. 102+00.00

–L– PC Sta. 101+00.28

ISBKD
MTL CANOPY
UNDIVIDED COASTAL PLAIN
72" WD
18" WD RAIL
18" RCP-IV
48" WW
48" WD
24" RCP-IV
30" RCP-IV
24" RCP-IV
60" WW
12" PVC
48" VINYL
N 89°19'20"E
2' PAVED SHOULDER
SR 1003 CAMDEN RD 22' PAVED ROADWAY
SR 1003 CAMDEN RD 32' PAVED ROADWAY
42" RCP-III
CULVERT
CULTIVATED
WOODS
CONSTRUCT CURB TO ALLOW POSITIVE DRAINAGE TO CB (STRUCTURE 0909).
ISBKD BUS
60" BK WALL
MTL CHURCH
8" PLASTIC
BST
GR
2SFD
ROADWAY EMBANKMENT

SEE SHEET 22 FOR –L– PROFILE

REVISIONS

PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$
USER: $USER$ DATE: $DATE$ TIME: $TIME$
FILE: $PWVARVAULTPATHDESC$

PROJECT REFERENCE NO.	SHEET NO.
U-3422	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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N.C.B.E.L.S. License Number: F-0116

MATCHLINE SHEET 9
-L- STA. 102+00.00

105+00

110+00

NAD 83/2011

-L- PT Sta. 107+76.57

-L- PC Sta. 114+82.88

N. 76° 24' 21.9" E

ROADWAY EMBANKMENT

UNDIVIDED COASTAL PLAIN

MATCHLINE SHEET 11 -L- STA. 116+00.00

-L-
PI Sta 104+39.87
Δ = 12° 54' 58.2" (LT)
D = 1° 54' 35.5"
L = 676.29'
T = 339.58'
R = 3,000.00'
e = 3%
Lr = 126.00'

REVISIONS

PLOT DRIVER: $PLTDRV$$ PENTABLE: $PENTBL$$
USER: $USER$ DATE: $DATE$ TIME: $TIME$
FILE: $PWVARVAULTPATHDESC$

PROJECT REFERENCE NO.	SHEET NO.
U-3422	11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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N.C.B.E.L.S. License Number: F-0116

NAD 83/2011

2017 ADT
2040 ADT
(ADT IN 100's)

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

APPLEGATE RD

MATCHLINE SHEET 18 –Y3– STA. 36+50.00

MATCHLINE SHEET 10 –L– STA. 116+00.00

MATCHLINE SHEET 12 –L– STA. 128+00.00

120+00

125+00

40+00 (–Y3–)

15+00 (–Y4–)

SR 1003 CAMDEN RD 22' PAVED ROADWAY

SR 1003 CAMDEN RD 49' PAVED ROADWAY

2' PAVED SHOULDER

8" PLASTIC

UNDIVIDED COASTAL PLAIN

ROADWAY EMBANKMENT

N 14°42'02.5" E

S 80°54'34.2" E

N 0°13'28.2" W

BEGIN CONSTRUCTION
–Y4– STA. 10+35.00

ISBK CHURCH

ISBKD

ISFD

BK BUS

WOODS

CONC

BST

RETAIN DI

–L–
PI Sta 117+80.55
Δ = 1° 42' 19.4" (LT)
D = 0° 17' 11.3"
L = 595.29'
T = 297.67'
R = 20,000.00'
e = NC

–Y3–
PI Sta 38+74.91
Δ = 65° 14' 24.1" (RT)
D = 15° 16' 43.9"
L = 427.00'
T = 240.01'
R = 375.00'

–Y4–
PI Sta 10+57.11
Δ = 8° 42' 33.0" (LT)
D = 7° 38' 22.0"
L = 114.00'
T = 57.11'
R = 750.00'

–DI–
PI Sta 10+91.24
Δ = 53° 45' 56.2" (RT)
D = 143° 14' 22.0"
L = 37.54'
T = 20.28'
R = 40.00'

REVISIONS

PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$
USER: $USER$ DATE: $DATE$ TIME: $TIME$
FILE: $PWVARVAULTPATHDESC$

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

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

NAD 83/2011

REVISIONS

PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$
USER: $USER$ DATE: $DATE$ TIME: $TIME$
FILE: $PWVARVAULTPATHDESC$

2017 ADT
2040 ADT
(ADT IN 100's)

SR 1112 ROCKFISH RD: 125/176
SR 1003 CAMDEN RD: 201/238 — 4/4 — 74/83 — 295/343
SR 1003 CAMDEN RD: 21/24 — 45/50
SR 1112 ROCKFISH RD: 113/163

-L- PT Sta. 132+67.97

-Y5- POT Sta. 10+00.00 =
-L- POT Sta. 134+13.81

130+00 135+00 140+00

MATCHLINE SHEET 11 -L- STA. 128+00.00

MATCHLINE SHEET 13 -L- STA. 142+00.00

SHEET 19 -Y5- MATCHLINE STA. 14+50.00

UNDIVIDED COASTAL PLAIN

ROADWAY EMBANKMENT

-L-
PI Sta 129+65.94
Δ = 6° 55' 50.0" (LT)
D = 1° 08' 45.3"
L = 604.81'
T = 302.77'
R = 5,000.00'
e = RC
Lr = 84.00'

-Y5-
PI Sta 13+04.39
Δ = 38° 16' 15.9" (LT)
D = 14° 19' 26.2"
L = 267.18'
T = 138.79'
R = 400.00'

-D2-
PI Sta 11+26.66
Δ = 32° 24' 19.6" (RT)
D = 22° 50' 00.0"
L = 141.92'
T = 72.91'
R = 250.93'

-Y5- PC Sta. 11+65.60
-Y5- POT Sta. 12+39.47 =
-D2- POT Sta. 12+00.00
-Y5- PT Sta. 14+32.78
-D2- POT Sta. 12+00.00
N 37° 04' 17.5" E
-D2- PT Sta. 11+95.67
-D2- POT Sta. 10+00.00
N 4° 39' 57.5" E
-D2- PC Sta. 10+53.74
N 67° 46' 12.5" E
-L-

ISBK BUS
ISBK CHURCH
PUMP HOUSE
ISFD
FOUNDATION
MTL BUS CANWash
CAR WASH BASIN MH
UNDER GROUND TANKS
VINYL CANOPY
MTL CANOPY
GATE
WOODS
PASTURE
GRADE TO DRAIN
RETAIN DI
RETAIN JB
RETAIN JC-RPC
SR 1003 CAMDEN RD 24' PAVED ROADWAY
2' PAVED SHOULDER
24' C&G
30' RCP-IV
36" RCP-III
54" RCP-IV
24" CUT POLES W/CABLE
6" UNKNOWN
16" UNKNOWN
8" PLASTIC
48" BK WALL
60" WD
72" WD
48" WD
60" CHL
48" CHL
TBM6
I,SSFD

PROJECT REFERENCE NO.	SHEET NO.
U-3422	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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NAD 83/2011

145+00

150+00

155+00

MATCHLINE SHEET 12 –L– STA. 142+00.00

MATCHLINE SHEET 14 –L– STA. 156+00.00

N 67° 46' 12.5" E

SR 1003 CAMDEN RD 24' PAVED ROADWAY

SR 1003 CAMDEN RD. 37' PAVED ROADWAY

2' PAVED SHOULDER

ROADWAY EMBANKMENT

UNDIVIDED COASTAL PLAIN

WOODS

ISFD

ISBKD

HTR

ISF BUS

MTL CAN

PATIO

GATE

DK

CONC

HOUSE/WELL

MARTY DR. 22' PAVED ROADWAY

WALTERBORD DR. 22' PAVED ROADWAY

BROWN RD

ALMOND RD. 28' PAVED ROADWAY

WHEEL CHAIR RAMP

RETENTION POND

RIP RAP

INV.=169.44'

INV.OUT=169.68'

7-GAS PUMPS&ISLANDS

MTL CANOPY

HOT BOXES

UNDER GROUND TANKS

GREASE TRAPS

CAB. VAC. ISLAND

ISM BUS CARWASH

I,5SBKD

BM 1

PLOT DRIVER: $PLTDRV$$
USER: $USER$
FILE: $PWVARVAULTPATHDESC$

PENTABLE: $PENTBL$$
TIME: $TIME$

DATE: $DATE$

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-3422	14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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MATCHLINE SHEET 13 -L- STA. 156+00.00

MATCHLINE SHEET 15 -L- STA. 170+00.00

160+00

165+00

170+00

NAD 83/2011

-L- PC Sta. 162+65.19

-L- PT Sta 167+09.54

N 61° 46' 12.5" E

N 59° 17' 01.1" E

ROADWAY EMBANKMENT

UNDIVIDED COASTAL PLAIN

2 PAVED SHOULDER

SR 1003 CAMDEN RD 36' PAVED ROADWAY

SR 1003 JACK MAY RD 22' GR

TOP OF BERM=162.40'
FOREBAY WEIR ELEVATION=158.43'
BOTTOM OF BASIN=155.13'

POND 4 RETENTION POND

PLAY GROUND

SHELTER

ISBK BUS

GENERATORS

(NO ACCESS)

WATER FALL

2-GREASE TRAPS

-L-
PI Sta 164+87.77
Δ = 8° 29' 11.3" (LT)
D = 1° 54' 35.5"
L = 444.35'
T = 222.58'
R = 3,000.00'
e = 3%
Lr = 126.00'

★ PROPOSED SIGNAL

REVISIONS		

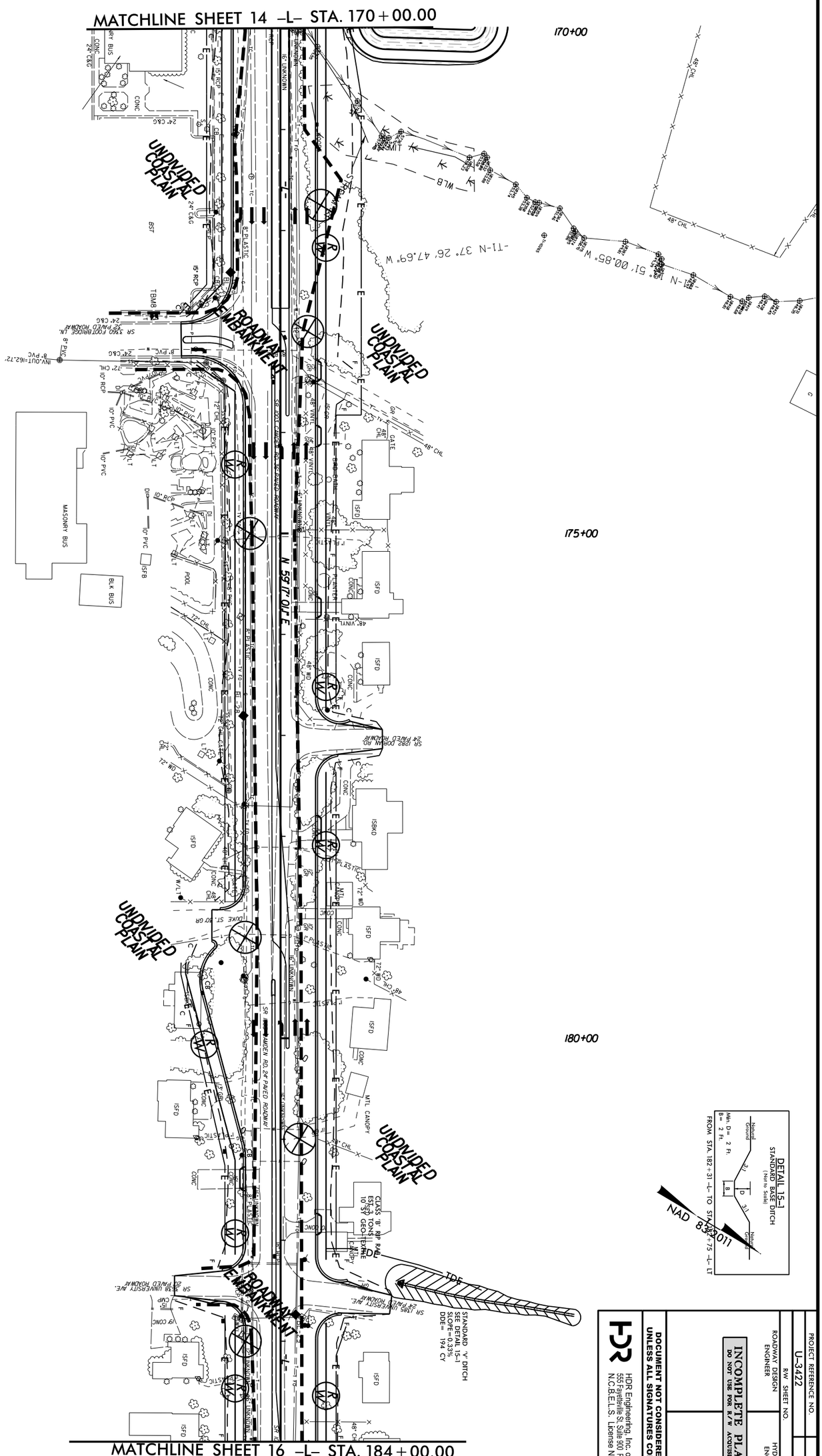
PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$
USER: $USER$ DATE: $DATE$ TIME: $TIME$
FILE: $PWVARVAULTPATHDESC$

PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$

USER: $USER$ DATE: $DATE$ TIME: $TIME$

FILE: $PWVARVAULTPATHDESC$

REVISIONS



PROJECT REFERENCE NO.	SHEET NO.
U-3422	16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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NAD 83/2011

185+00

190+00

195+00

MATCHLINE SHEET 15 -L- STA. 184+00.00

MATCHLINE SHEET 17 -L- STA. 198+00.00

-L- PC Sta. 197+16.22

-L-
PI Sta 199+14.18
Δ = 12° 33' 07.6" (RT)
D = 3° 10' 59.2"
L = 394.34'
T = 197.96'
R = 1,800.00'
e = 3%
Lr = 126.00'

REVISIONS

PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$
USER: $USER$ DATE: $DATE$ TIME: $TIME$
FILE: $PWVARVAULTPATHDESC$

PROJECT REFERENCE NO.	SHEET NO.
U-3422	17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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NAD 83/2011

STREAM SA
(LITTLE ROCKFISH CREEK)

STREAM SAA

STREAM SB

JS MIT

WLB

205+00

200+00

-L- POT Sta. 209+19.99

S 84°37' 26.8" E

-L- PT Sta. 205+21.41

END CONSTRUCTION
-L- STA. 201+10.73

-L- PCC Sta. 201+10.56

MATCHLINE SHEET 16 -L- STA. 198+00.00

ISBK BUS

UNDIVIDED COASTAL PLAIN

ROADWAY EMBANKMENT

SR 1003 CAMDEN ROAD PAVED ROADWAY

TO NC 59 HOPE MILLS RD.

STREAM SC

U3422-4

STREAM SE

STREAM SD

STREAM SE UPPER

STREAM SC

-L-
PI Sta 203+18.92
Δ = 23° 32' 24.5" (RT)
D = 5° 43' 46.5"
L = 410.85'
T = 208.37'
R = 1,000.00'
e = EXISTING
Lr = NA

REVISIONS

PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$
USER: $USER$ DATE: $DATE$ TIME: $TIME$
FILE: $PWVARVAULTPATHDESC$

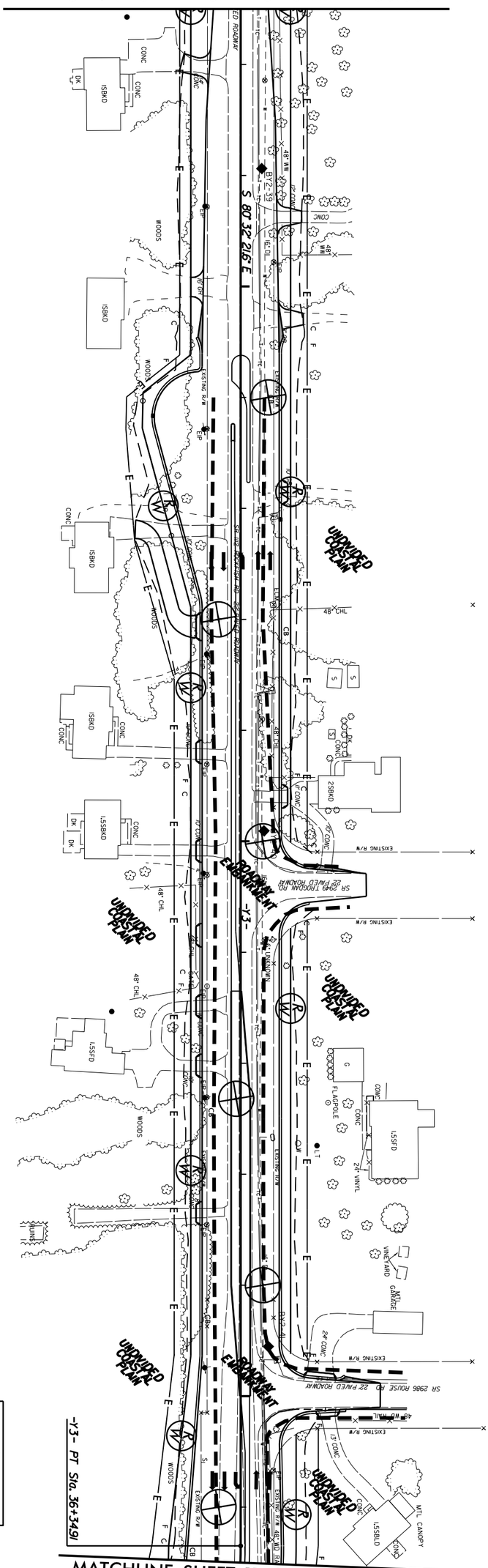
PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$

USER: $USER$ DATE: $DATE$ TIME: $TIME$

FILE: $PWVARVAULTPATHDESC$

REVISIONS

MATCHLINE SHEET 18A –Y3– STA. 22 + 50.00



-Y3-
Pi Sta 38+749
Δ = 65° 14' 24" (RT)
D = 15° 16' 43.9"
L = 427.00'
T = 240.01'
R = 375.00'

MATCHLINE SHEET 11 –Y3– STA. 36 + 50.00

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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ROADWAY DESIGN ENGINEER

R/W SHEET NO.

HYDRAULICS ENGINEER

PROJECT REFERENCE NO. U-3422

SHEET NO. 18

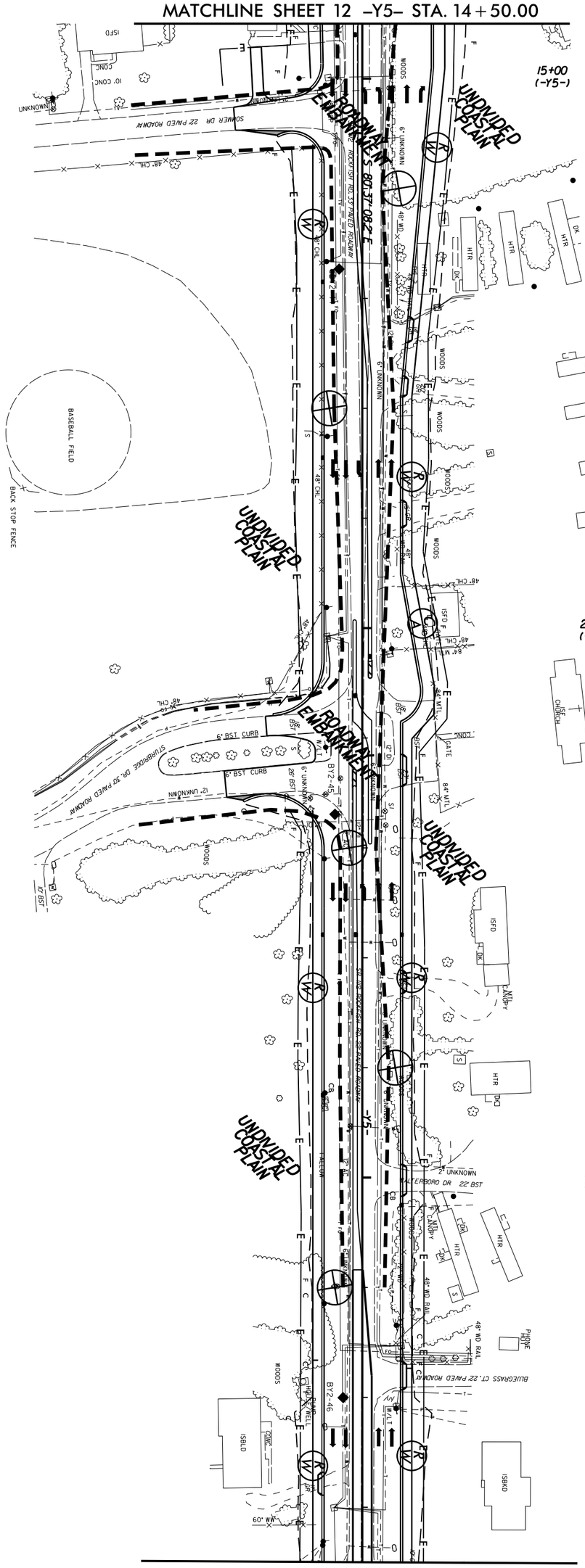
PLOT DRIVER: $PLTDRVS$ PENTABLE: $PENTBLS$

USER: $USER$ DATE: $DATE$ TIME: $TIME$

FILE: $PWVARVAULTPATHDESC$

REVISIONS

MATCHLINE SHEET 12 –Y5– STA. 14+50.00



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

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INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
U-3422	19

R/W SHEET NO.

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	20

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

205 200 195 190 185 180 175 170 165

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

35+00.00

32+91

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

33+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

31+00.00

—L—

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$$$$USERNAME$$$$

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	21

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

195 190 185 180 175 170 165

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE GRAVEL

03/20

41+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND RED, MOIST, LOOSE, SILTY SAND

03/20

39+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

03/20

UNDIVIDED COASTAL PLAIN, BROWN AND TAN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

37+00.00

—L—

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6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	22

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

195 190 185 180 175 170

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN, ORANGE, AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

49 + 00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN, ORANGE, AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

47 + 00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN, ORANGE, AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

45 + 00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN, ORANGE, AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

03/20

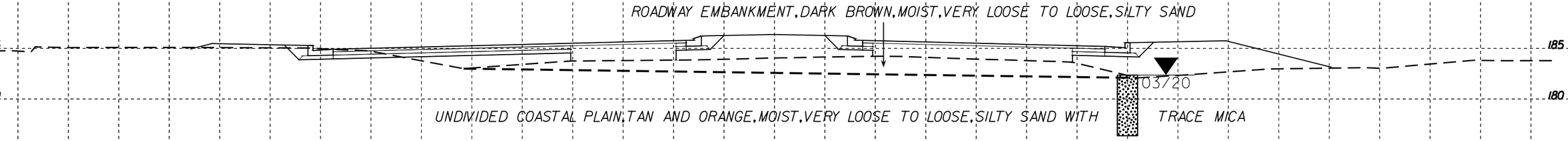
43 + 00.00

—L—

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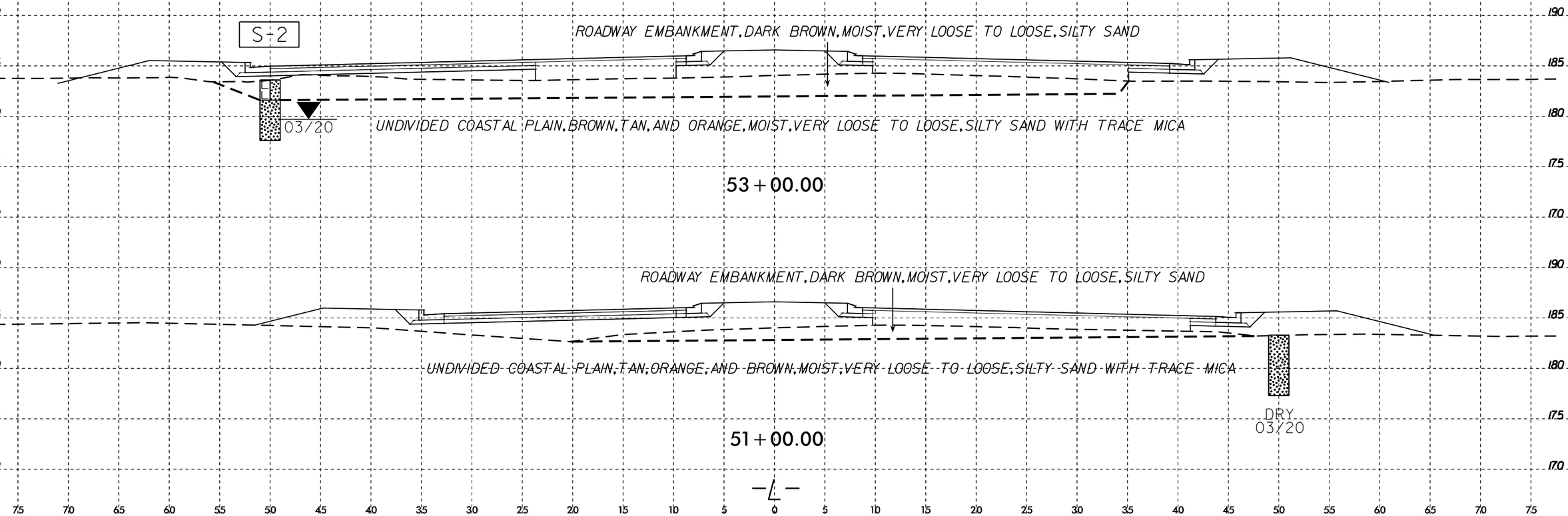
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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	23



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
S-2	50' LT	53+00	2.0-2.5	A-2-4(0)	22	3	13.9	59.9	8.1	18.1	99	93	28	-	-



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6/23/16

0 2,5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	24

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

03/20

62+00.00

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

ARTIFICIAL FILL,BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

DRY
03/20

61+00.00

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND GRAY,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

03/20

59+00.00

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

DRY
03/20

57+00.00

-L-

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6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	25

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

190 185 180 175 170 195 190 185 180 175 190 185 180 175

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

WHITE, MOIST, VERY LOOSE TO LOOSE, FINE SAND

03/20

71+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN, ORANGE, AND BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

03/20

69+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN, ORANGE, AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

03/20

67+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, LIGHT GRAY AND BROWN, MOIST, VERY LOOSE TO LOOSE, FINE SAND

03/20

65+00.00

—L—

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	26

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

190 185 180 175 170 165

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST, VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,ORANGE AND RED,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

LIGHT GRAY AND ORANGE,MOTTLED,MOIST,SOFT TO MEDIUM STIFF,SANDY CLAY WITH TRACE MICA

74+00.00

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST, VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,ORANGE AND RED,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

LIGHT GRAY AND ORANGE,MOTTLED,MOIST,SOFT TO MEDIUM STIFF,SANDY CLAY WITH TRACE MICA

73+50.00

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA AND GRAVEL

03/20

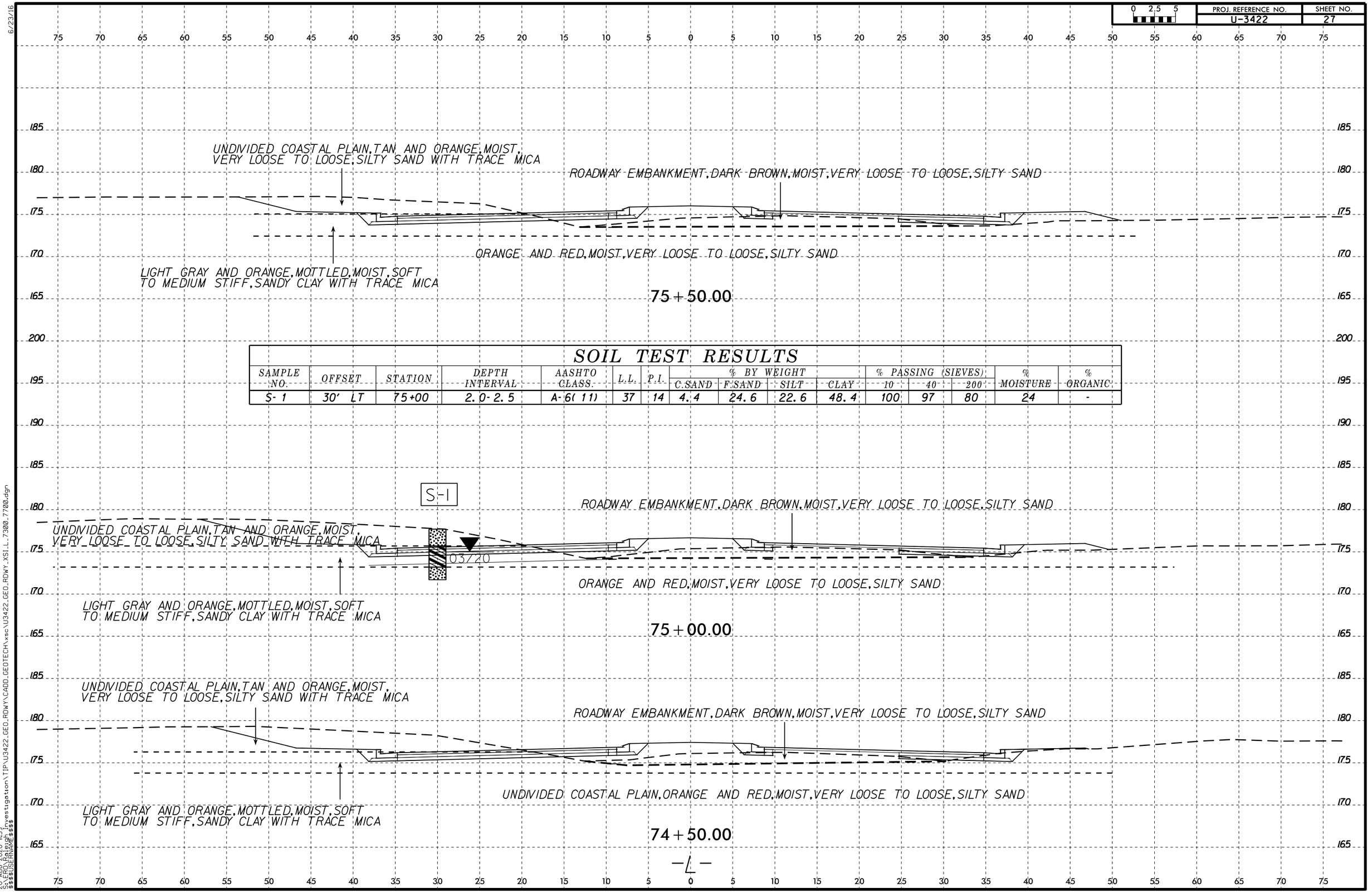
73+00.00

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
U-3422	27



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		
S-1	30' LT	75+00	2.0-2.5	A-6(11)	37	14	4.4	24.6	22.6	48.4	100	97	80	24	-

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	28

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

185 180 175 170 165

ALLUVIAL, DARK GRAY TO BLACK, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE WOOD FRAGMENTS

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

03/20

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA AND GRAVEL

77+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA AND GRAVEL

76+50.00

195 190 185 180 175 170 165

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

ORANGE AND RED, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

LIGHT GRAY AND ORANGE, MOTTLED, MOIST, SOFT TO MEDIUM STIFF, SANDY CLAY WITH TRACE MICA

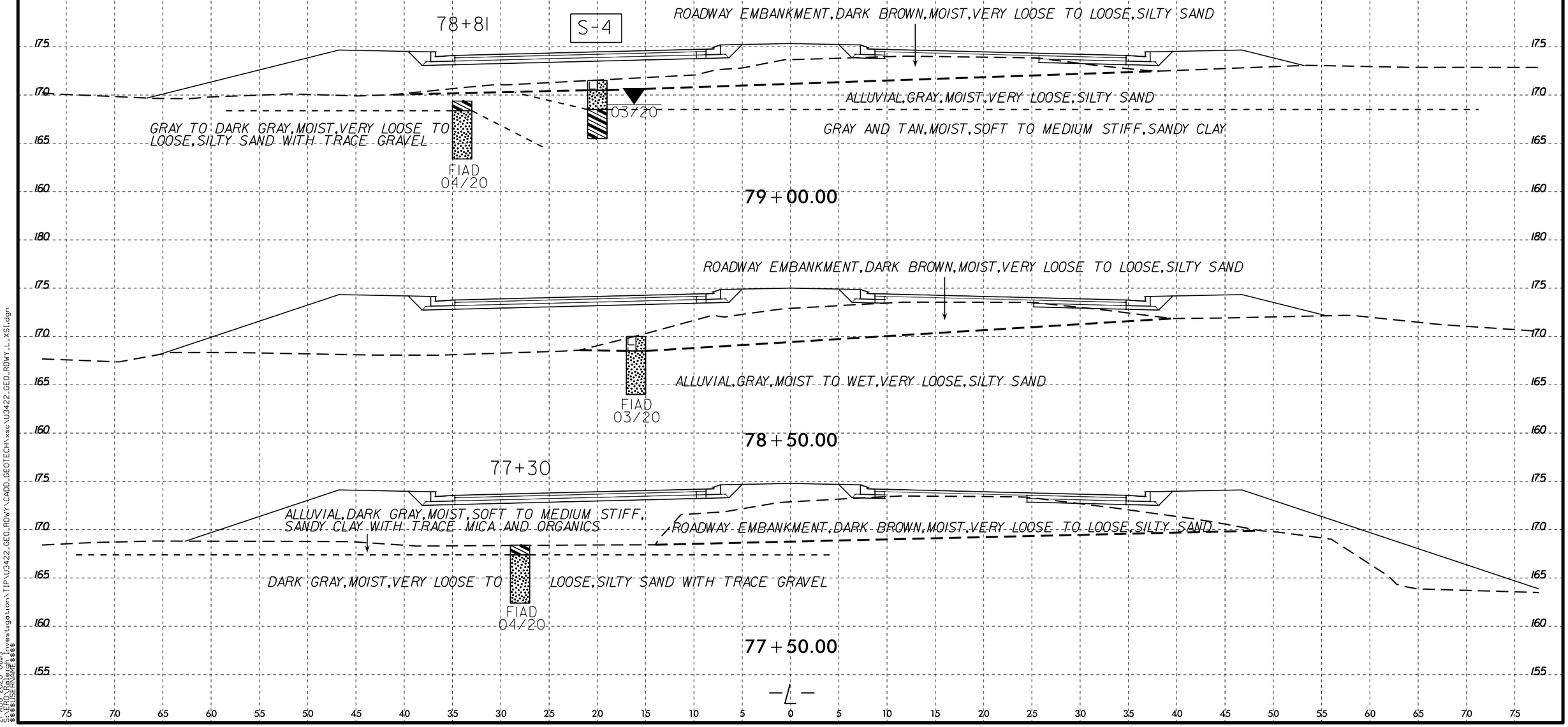
76+00.00

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-4	20' LT	79+00	3.0-3.5	A-6(7)	40	20	35.7	12.3	17.7	34.3	95	69	51	23	-



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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	30

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

190 185 180 175 170 165

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, LOOSE, SILTY SAND

TAN, WHITE, AND RED, MOIST, MEDIUM STIFF, SANDY CLAY

FIAD
03/20

82 + 00.00

190 185 180 175 170 165

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

03/20

UNDIVIDED COASAL PLAIN, TAN AND BROWN, MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND WITH TRACE GRAVEL

81 + 00.00

185 180 175 170 165

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

ALLUVIAL, GRAY, MOIST, LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN, MOIST, LOOSE, SILTY SAND

FIAD
03/20

79 + 50.00

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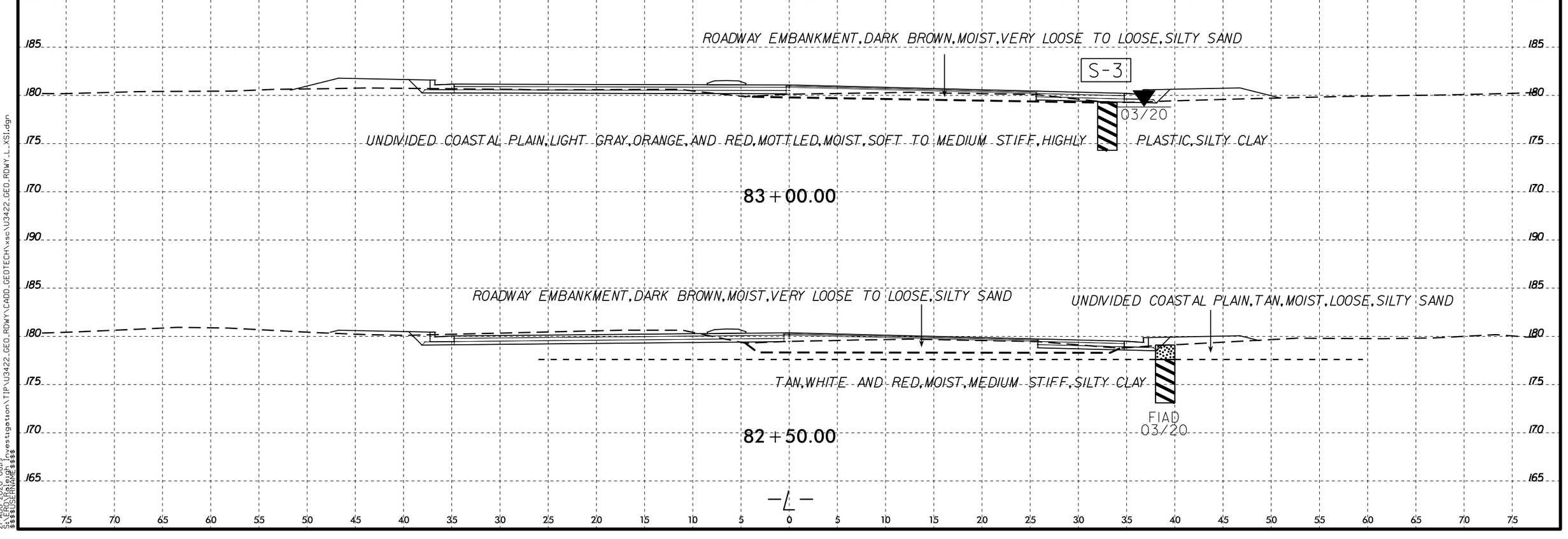
160

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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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		
S-3	33' RT	83+00	1.0-1.5	A-7-6(14)	6	19	11.9	19.6	26.2	42.3	97	89	73	32	-



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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	32

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

190
185
180
205
200
195
190

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA AND GRAVEL

84+50.00

185
180
175
170
190
185

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, LOOSE TO MEDIUM DENSE, CLAYEY SAND

TAN, WHITE, AND RED, MOIST, MEDIUM STIFF, SANDY CLAY

84+00.00

180
175
170
190
185

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, LOOSE TO MEDIUM DENSE, CLAYEY SAND

TAN, WHITE, AND RED, MOIST, MEDIUM STIFF, SANDY CLAY

FIAD
03/20

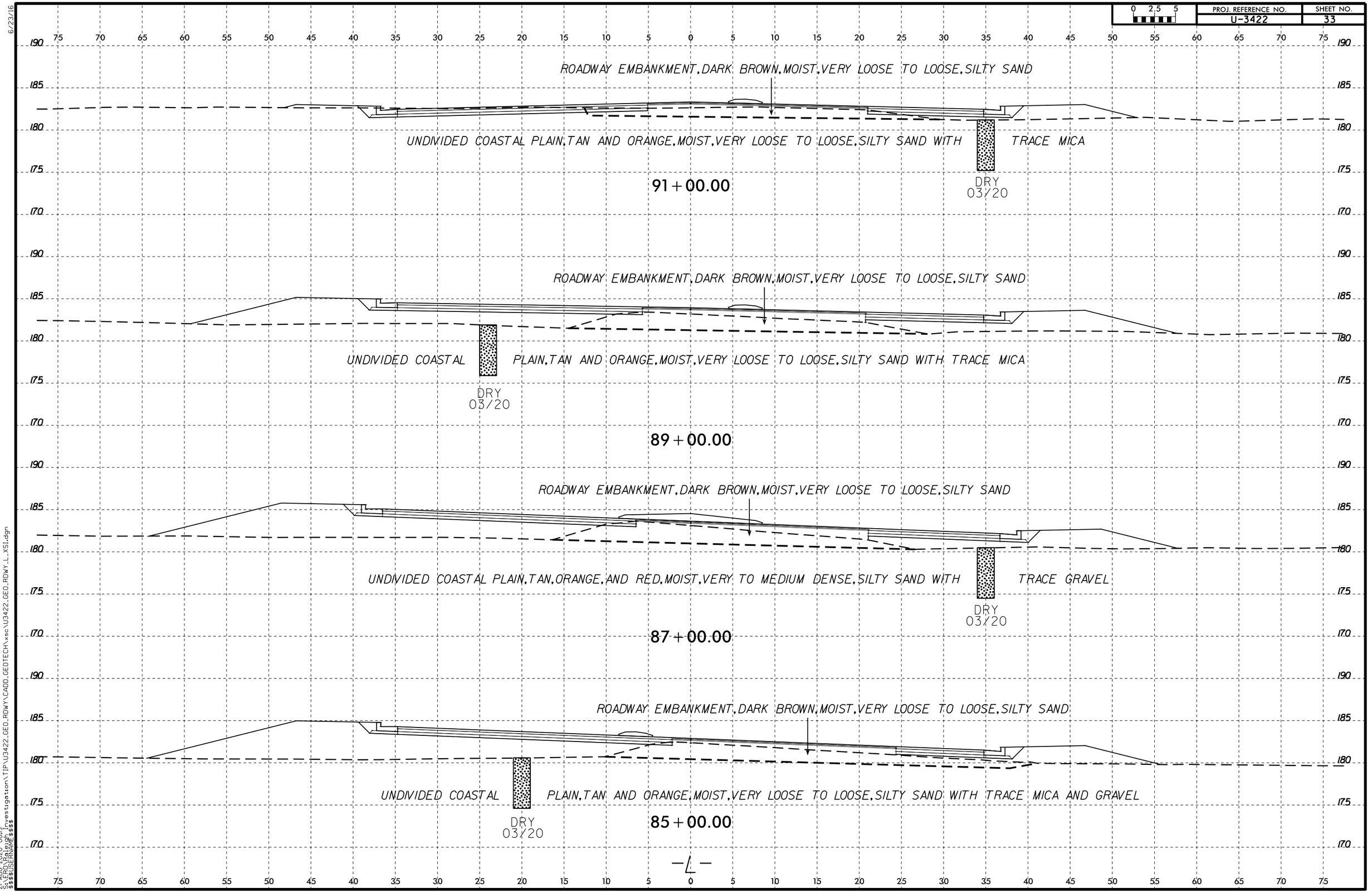
83+50.00

180
175
170

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	33



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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	34

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

190 185 180 175 170

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN, ORANGE, AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

99+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

97+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

95+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

93+00.00

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	35

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

190 185 180 175 195

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

107+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

105+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

103+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

101+00.00

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	36

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

190 185 180 175 195

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

115+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

113+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

111+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

109+00.00

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	37

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

190 185 180 175 195

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

123+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

121+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

119+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

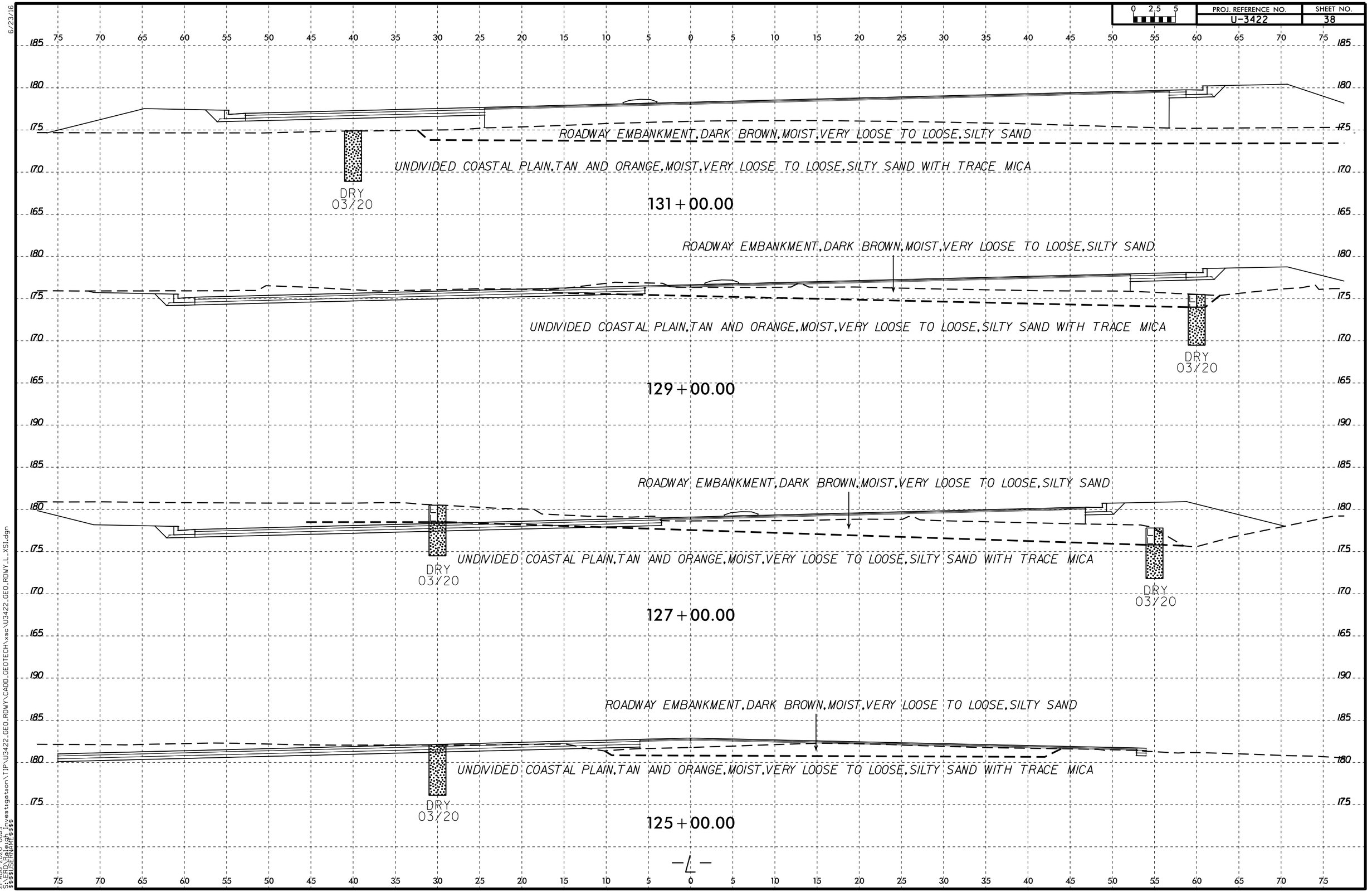
117+00.00

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	38



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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	39

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

180 175 170 165 160

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

141+00.00

180 175 170 165 160

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

139+00.00

180 175 170 165 160

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

137+00.00

180 175 170 165 160

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

135+00.00

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190 185 180 175 170

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	40

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

180 175 170 165 160

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

DRY
03/20

149+00.00

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

DRY
03/20

147+00.00

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

DRY
03/20

145+00.00

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

DRY
03/20

143+00.00

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	41

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

180 175 170 165 160

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

159+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

155+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

153+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

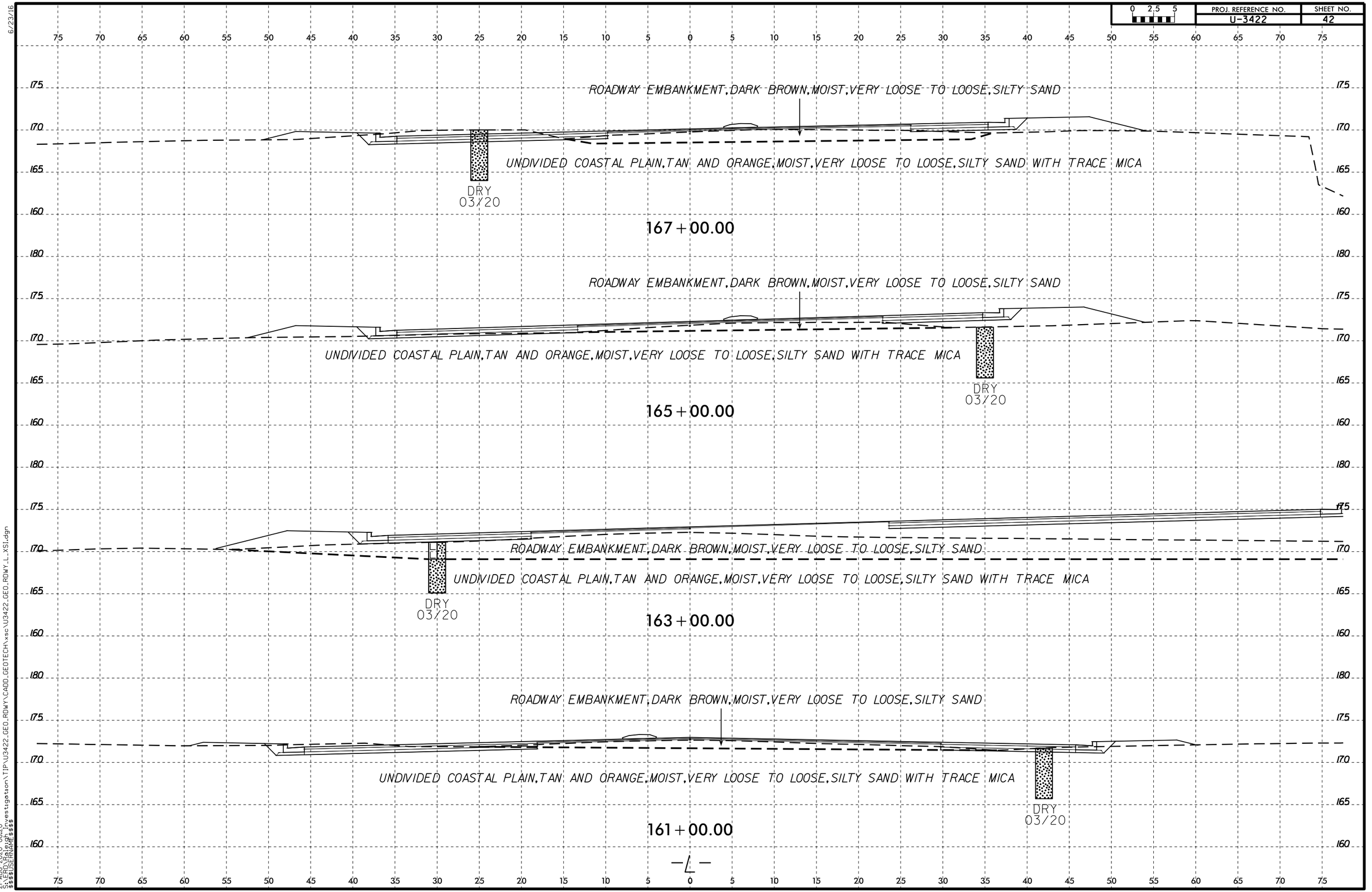
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151+00.00

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	42



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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	43

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

175 170 165 160 180 175 170 165 160 200 170 165 160 155 175 170 165 160 155

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

175+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

ORANGE, MOIST, LOOSE, FINE SAND WITH TRACE MICA

173+00.00

171+75

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

171+50.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

ARTIFICIAL FILL, BROWN, MOIST
VERY LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

169+00.00

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	44

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

175 170 165 160 180

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

DRY
03/20

185+00.00

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

DRY
03/20

183+00.00

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

DRY
03/20

181+00.00

ROADWAY EMBANKMENT,DARK BROWN,MOIST,VERY LOOSE TO LOOSE,SILTY SAND

UNDIVIDED COASTAL PLAIN,TAN AND ORANGE,MOIST,VERY LOOSE TO LOOSE,SILTY SAND WITH TRACE MICA

DRY
03/20

179+00.00

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	45

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

180 175 170 165 160

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

193+00.00

191+25

ARTIFICIAL FILL, BROWN, MOIST, VERY LOOSE, SILTY SAND

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

191+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

189+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

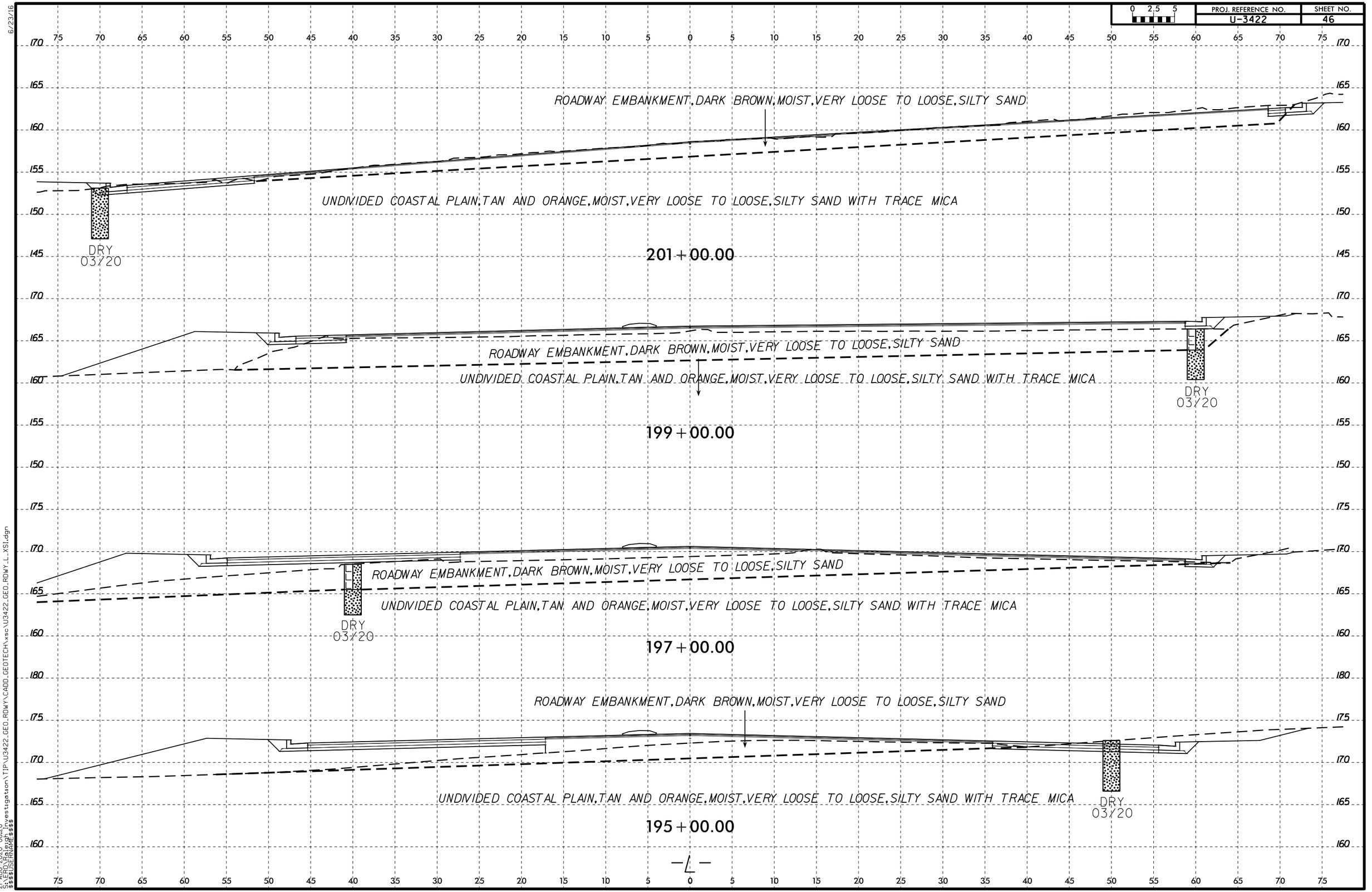
187+00.00

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	47

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

200 195 190 185 180 175 195 190 185 180 175 170

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03Y20

30+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03Y20

28+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03Y20

26+00.00

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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	48

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

190 185 180 175 170

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, DRY TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

03/20

38+00.00

190 185 180 175 170

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

36+00.00

190 185 180 175 170

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

34+00.00

195 190 185 180 175 170

32+32

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

03/20

UNDIVIDED COASTAL PLAIN, TAN AND ORANGE, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

32+50.00

-Y3-

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	49

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

03/20

18+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

16+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

03/20

13+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

12+00.00

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6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-3422	50

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

185 180 175 170 165 160

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

26+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

24+00.00

ROADWAY EMBANKMENT, DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND

UNDIVIDED COASTAL PLAIN, TAN AND LIGHT GRAY, MOIST, VERY LOOSE TO LOOSE, SILTY SAND WITH TRACE MICA

DRY
03/20

22+00.00

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