

REFERENCE: R-5021

PROJECT: 41582

SEE SHEET 3 FOR PLAN SHEET LAYOUT
AT TIME OF INVESTIGATION

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CROSS SECTIONS

LINE	STATION	SHEET(S)
-L-	54+00 to 56+50	69-70
-L-	61+00 to 66+00	71-76
-L-	69+00 to 77+00	77-82
-L-	82+00 to 85+00	83-85
-L-	115+00 to 124+50	86-94
-L-	127+00	95
-L-	129+50	96
-L-	130+50 to 146+00	97-110
-L-	155+00 to 205+00	111-145
-L-	211+50 to 214+00	146-147
-L-	221+00 to 229+00	148-154
-L-	238+00	155
-L-	245+00 to 249+50	156-159
-L-	251+50 to 299+00	160-192
-L-	300+50 to 311+50	193-200
-L-	313+00 to 317+50	201-205
-L-	360+50 to 363+50	206-208
-L-	370+50 to 372+50	209-210
-L-	375+00 to 375+50	211
-L-	388+50	212
-L-	392+00	213
-L-	410+00 to 413+00	214-216
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-YA-	11+00 to 15+00	228-230
-YB-	12+50 to 22+00	231-235
-YC-	10+50 to 11+25	236
-YD-	10+50 to 11+50	237
-YF-	10+75 to 12+50	238-239

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

ROADWAY
SUBSURFACE INVESTIGATION

COUNTY Brunswick

PROJECT DESCRIPTION NC 211 from West of NC 906
(Midway Road) to East of NC 87

INVENTORY

CROSS SECTIONS

LINE	STATION	SHEET(S)
-Y10-	11+00 to 11+75	240
-Y14A-	60+50 to 66+50	241-245
-Y14F-	10+25 to 11+00	246
-Y15-	10+75 to 11+50	247
-Y17-	10+25 to 13+25	248-249
-Y22-	14+00 to 18+00	250-253
-DRW01-	10+25 to 11+25	254

APPENDIX I

CPT LOGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5021	1	254

CAUTION NOTICE

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PERSONNEL

CATLIN Personnel

MAD Personnel

INVESTIGATED BY JL Stone PG

DRAWN BY JL Stone PG

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SUBMITTED BY JL Stone PG

DATE January 2018



DocuSigned by:

2/23/2018

SIGNATURE

DATE

SIGNATURE

DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

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-4, A-5		
SYMBOL	A-1-a	A-1-b	A-2-4		A-2-5		A-2-6		A-2-7		A-4		A-5		A-6		A-7		
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX	51 MN	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT	
MATERIAL PASSING #40 LL PI	— 6 MX		— NP		40 MX 10 MX	41 MN 10 MX	40 MX 10 MX	41 MN 11 MN	40 MX 10 MX	41 MN 11 MN	40 MX 10 MX	41 MN 11 MN	40 MX 10 MX	41 MN 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 RESISTANCE (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 OPENING (MM)	4	10	40	60	200	270
	4.75	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	305 IN.	75 IN.	2.0	0.25	0.05	0.005

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
LL PLASTIC RANGE (PI) PL	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
OM SL SHRINKAGE LIMIT	- 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
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE
MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME
HIGHLY ORGANIC	> 10%	> 20%	HIGHLY

GROUND WATER

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

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

DIP & DIP DIRECTION OF ROCK STRUCTURES

TEST BORING

AUGER BORING

CORE BORING

MONITORING WELL

PIEZOMETER INSTALLATION

SLOPE INDICATOR INSTALLATION

CONE PENETROMETER TEST

SOUNDING ROD

TEST BORING WITH CORE

SPT N-VALUE

RECOMMENDATION SYMBOLS

UNDERCUT

SHALLOW UNDERCUT

UNCLASSIFIED EXCAVATION - ACCEPTABLE 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
HL - 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
% - UNIT WEIGHT
%g - 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-458
☐ CME-55
☐ CME-550
☐ VANE SHEAR TEST
☐ PORTABLE HOIST
☒ CME-550
☒ CPT RIG

ADVANCING TOOLS:
☐ CLAY BITS
☐ 6" CONTINUOUS FLIGHT AUGER
☐ 8" HOLLOW AUGERS
☐ HARD FACED FINGER BITS
☐ TUNG-CARBIDE INSERTS
☒ CASING ☐ W/ ADVANCER
☒ TRICONE 2 15/16" STEEL TEETH
☐ TRICONE " TUNG-CARB.
☐ CORE BIT
☐

HAMMER TYPE:
☒ AUTOMATIC ☐ MANUAL
CORE SIZE:
☐ -B ☐ -H ☐ -N
HAND TOOLS:
☐ POST HOLE DIGGER
☒ HAND AUGER
☐ SOUNDING ROD
☒ VANE SHEAR TEST
☐

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)

CRYSTALLINE ROCK (CR)

NON-CRYSTALLINE ROCK (NCR)

COASTAL PLAIN SEDIMENTARY ROCK (CP)

NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.

FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.

FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.

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 SL.)
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 (SL.)
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 PIECES 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 DISLOOGED 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 (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.
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 (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.

BENCH MARK:

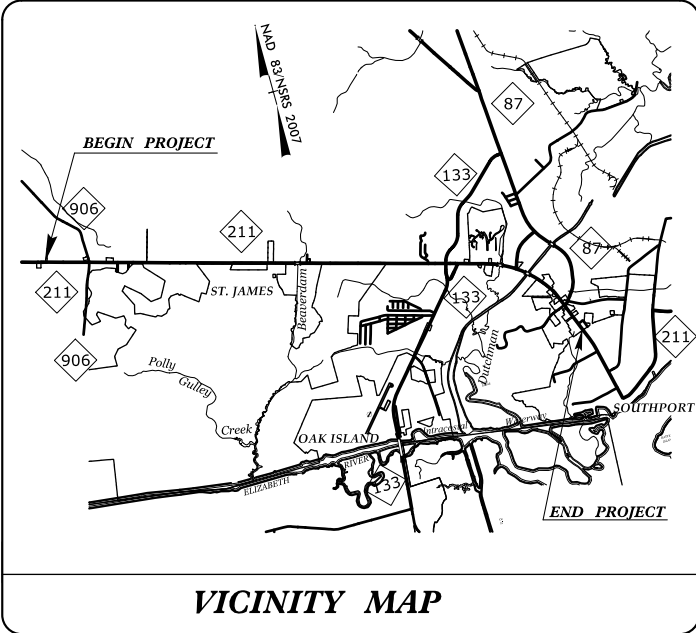
ELEVATION: FEET

NOTES:
U.C.P. = UNDIVIDED COASTAL PLAIN

DATE: 8-15-14

09/08/99

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheet 1C-1 thru 1C-10 For Survey Control Sheets



25% LONG BEACH SUBMITTAL

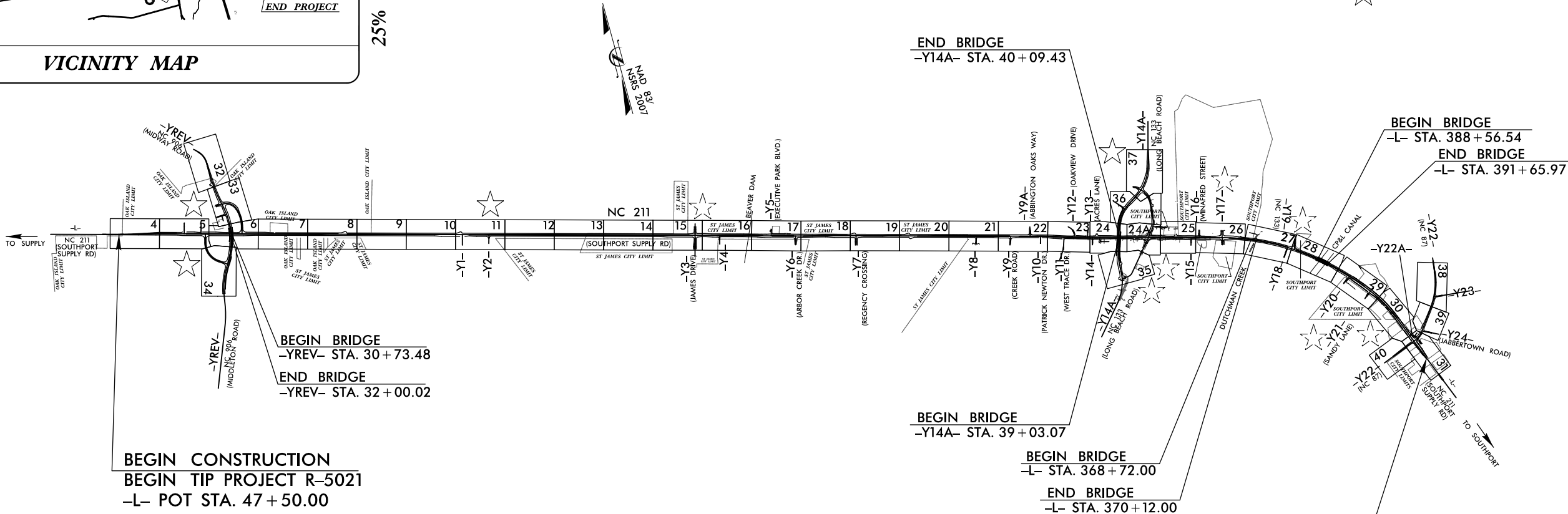
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS BRUNSWICK COUNTY

LOCATION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD)
TO EAST OF NC 87

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, CULVERTS & SIGNALS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5021	3	254
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
41582.1.1	STP-0211(21)	PE	
41582.2.2	STP-0211(21)	UTILITIES	
41582.2.3	STP-0211(21)	R/W	

- ★ EXISTING TRAFFIC SIGNAL
★ PROPOSED TRAFFIC SIGNAL



NOTES:

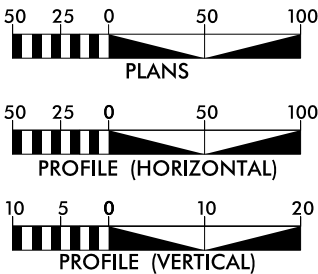
1. This is a partial controlled-access project with access being limited to points as shown on the plans.
2. A portion of this project is within the municipal boundaries of Oak Island, St. James, and Southport.
3. Clearing on this project shall be performed to the limits established by Method III.

END CONSTRUCTION
END TIP PROJECT R-5021
-L- POT STA. 430 + 97.32

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

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2018 = 28,000
ADT 2038 = 44,000
K = 8 %
D = 55 %
T = 6 % *
V = 40-60 MPH
* (TTST 2% + DUAL 4%)
FUNC CLASS =
RURAL MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY T.I.P. PROJECT R-5021 = 7.178 MILES
LENGTH OF STRUCTURES T.I.P. PROJECT R-5021 = 0.085 MILES
TOTAL LENGTH OF T.I.P. PROJECT R-5021 = 7.263 MILES

ALL LENGTH BASED ON -L- CENTERLINE

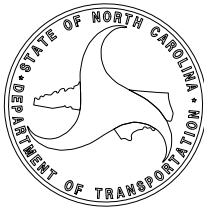
Prepared in the Office of:
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Raleigh NC, 27609

2018 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE:
JANUARY 28, 2016
LETTING DATE:
JUNE 19, 2018

DAVID W. BASS, PE
PROJECT ENGINEER
DOUG WHEATLEY, PE
PROJECT DESIGN ENGINEER
DAVID LEONARD, PE
NCDOT ROADWAY PROJECT ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.
ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.



21-JUL-2017 16:41
\\Roadway\Proj\15021_rdy_tsh.dgn
HNTB

December 22, 2017

WBS PROJECT: 41582.1.1
TIP NUMBER: R-5021
PROJECT ID: 23587
COUNTY: BRUNSWICK

DESCRIPTION: NC 211 from west of NC 906 (Midway Rd.) to east of NC 87

SUBJECT: Geotechnical Inventory Report

PROJECT DESCRIPTION

The proposed project is located in the southeastern portion of Brunswick County, near Southport, and involves the widening of existing NC 211 from SR 500 (Midway Road) to NC 87.

A geotechnical investigation was conducted by CATLIN Engineers and Scientists (CATLIN) from September 2014 through August 2016. Approximately 316 borings including Standard Penetration Test (SPT) borings, Cone Penetration Test (CPT) borings, Direct Push (DP) borings, hand augers, and soil probes were advanced during the investigation. All SPT, CPT, and DP borings were advanced under the direct supervision of a North Carolina Licensed Well Contractor. Drilling rigs used to advance the SPT borings included a Central Mine Equipment (CME) 550 drilling rig and a CME45B drilling rig mounted on a tracked carrier. Both machines were equipped with an automatic hammer. A track mounted Hogentogler CPT system equipped with a 1.44 inch diameter Vertek Type 1 piezocone was used for CPT advancement and a track mounted Geoprobe was utilized for DP boring advancement. Standard penetration testing was conducted in general accordance with American Society for Testing and Materials (ASTM) D-1586-84, "Penetration Test and Split Barrel Sampling of Soils" or American Association of State Highway and Transportation Officials (AASHTO) Standard Method T206-81. Borings were advanced an average of every 200 linear feet along each alignment.

Representative soil samples were collected for visual classification in the field and selected samples were submitted for laboratory analysis by CATLIN Geotechnical Laboratory located in Wilmington, North Carolina. Samples were prepared and analyzed in accordance with one or more of the following AASHTO Standards as modified by NCDOT:

- T 87-86 (Dry Preparation of Disturbed Soil)
- T 88-93 (Particle Size Analysis)
- T 89-94 (Liquid Limit)
- T 90-94 (Plastic Limit)
- T 265-93 (Soil Moisture Content)
- T 267 (Organic Content)

Proposed drilling locations as well as drilled locations were determined in the field by CATLIN personnel using a survey grade Global Positioning System (GPS) capable of vertical and horizontal accuracy of less than 0.01 feet or a mapping grade GPS capable of horizontal accuracies of less than three feet. All horizontal locations were recorded to the nearest foot and are presented in the North Carolina State Plane (NCSP), North American Datum 1983 (NAD 83) system. Vertical control was measured to the nearest 0.1 foot and referenced to the National Geodetic Vertical Datum 1988. All measurements were recorded and reported in United States Survey Feet.

The following alignments were investigated. Plan sheets, subsurface profiles, and selected cross sections of the alignments are included in this report.

<u>Line</u>	<u>Station (+/-)</u>		
-L-	47+50	to	430+97
-YREV-	10+70	to	48+00
-YA-	10+39	to	21+76
-YB-	12+17	to	23+61
-YC-	10+25	to	11+66
-YD-	10+25	to	12+67
-YE-	10+75	to	12+50
-YF-	10+75	to	12+50
-Y1-	10+51	to	11+01
-Y2-	10+51	to	11+01
-Y3-	11+65	to	17+15
-Y4-	10+51	to	11+25
-Y5-	10+50	to	11+36
-Y6-	10+51	to	11+40
-Y7-	10+51	to	11+75
-Y8-	10+39	to	11+80
-Y9-	10+51	to	12+00
-Y9A-	10+50	to	12+25
-Y10-	10+39	to	11+80
-Y11-	10+51	to	13+25
-Y12-	11+55	to	13+26
-Y13-	10+80	to	11+71
-Y14-	10+37	to	11+50
-Y14A-	27+20	to	66+50
-Y14B-	10+36	to	12+32
-Y14D-	10+59	to	24+42
-Y14E-	9+75	to	11+50
-Y14F-	10+20	to	12+00

<u>Line</u>	<u>Station (+/-)</u>		
-Y14G-	10+31	to	13+48
-Y15-	10+50	to	11+50
-Y16-	11+00	to	11+75
-Y17-	10+25	to	13+25
-Y18-	10+39	to	11+50
-Y19-	11+25	to	12+53
-Y20-	10+51	to	11+60
-Y21-	10+25	to	12+40
-Y22-	14+00	to	42+50
-Y22A-	10+24	to	12+01
-Y23-	10+24	to	12+25
-Y24-	10+29	to	12+81
-DRW01-	10+12	to	11+40

<u>Line</u>	<u>Station (±)</u>
-Y6-	10+51 to 11+40
-Y7-	10+51 to 11+75
-Y8-	10+39 to 11+80
-Y9-	10+51 to 12+00
-Y9A-	10+50 to 12+25
-Y10-	10+39 to 11+80
-Y11-	10+51 to 12+00
-Y12-	11+55 to 13+26
-Y13-	10+80 to 11+71
-Y14-	10+37 to 11+50
-Y14A-	29+50 to 66+50
-Y14B-	10+36 to 12+32
-Y14D-	10+59 to 24+42
-Y14E-	9+75 to 11+50
-Y14F-	10+20 to 12+00
-Y14G-	10+31 to 13+48
-Y15-	10+50 to 11+50
-Y19-	11+25 to 12+53
-Y20-	10+51 to 11+60
-Y21-	10+25 to 12+40
-Y22-	14+00 to 42+50
-Y23-	10+24 to 12+25
-Y24-	10+29 to 12+81
-DRW01-	10+12 to 11+40

AREAS OF SPECIAL GEOTECHNICAL INTEREST

- 1) GROUNDWATER: As the project is located roughly adjacent to the Intracoastal Waterway in an area with relatively low topography, seasonal high groundwater, or the potential for groundwater related construction problems do exist. It should be noted that a large portion of this investigation was conducted immediately following a period of substantially increased rainfall.

Areas exhibiting high groundwater conditions:

<u>Line</u>	<u>Station (±)</u>
-L-	47+50 to 134+50
-L-	145+00 to 353+50
-L-	366+00 to 381+00
-L-	393+00 to 430+97
-YREV-	10+70 to 48+00
-YA-	10+39 to 21+76
-YB-	12+17 to 23+61
-YC-	10+25 to 11+66
-YD-	10+25 to 12+67
-YE-	10+75 to 12+50
-YF-	10+75 to 12+50
-Y1-	10+51 to 11+01
-Y2-	10+51 to 11+01
-Y3-	11+65 to 17+15
-Y4-	10+51 to 11+25

Standing water with depths of up to three feet was noted along the following section during the 2014 field investigation:

<u>Line</u>	<u>Station (±)</u>
-L-	115+70 to 122+75

The standing water appears to be either an ephemeral pond or the result of surficial drainage onto the low lying, poorly draining organic soils. Note that later field investigations in 2015 through 2017 showed no standing water in this area.

Ponds were noted within the proposed construction limits at the following locations:

<u>Line</u>	<u>Station (±)</u>
-L-	211+65 to 214+00

<u>Line</u>	<u>Station (±)</u>
-L-	374+80 to 375+76

The ponds appear manmade and are used for storm water management.

- 2) COHESIVE SOILS: Cohesive soils which have the potential to cause embankment/subgrade and or slope stability problems during construction were encountered along the following sections:

<u>Line</u>	<u>Station (±)</u>
-L-	48+05 to 56+42
-L-	57+76 to 74+91
-L-	75+27 to 84+40
-L-	86+47 to 89+85
-L-	131+35 to 135+84
-L-	225+08 to 225+72
-L-	360+05 to 363+32
-L-	369+08 to 373+20
-L-	384+46 to 388+90
-L-	401+05 to 412+91
-YREV-	10+70 to 14+59
-YREV-	16+12 to 44+29
-YA-	10+39 to 21+76
-YB-	12+17 to 23+61
-YC-	10+25 to 11+66
-YD-	10+25 to 12+67
-YE-	10+75 to 12+50
-YF-	10+75 to 12+50
-Y14A-	40+93 to 44+06
-Y14A-	49+26 to 50+33
-Y14E-	10+42 to 11+77
-Y15-	10+52 to 11+50
-Y17-	10+25 to 13+25
-Y21-	10+25 to 12+40
-Y22-	14+00 to 18+50
-Y22A-	10+24 to 12+01
-DRW01-	10+12 to 11+40

- 3) ORGANIC SOILS: The following sections contain organic soils that have the potential to cause embankment/subgrade and or slope stability problems:

<u>Line</u>	<u>Station (±)</u>
-L-	61+54 to 65+87
-L-	82+40 to 84+86
-L-	114+70 to 123+14
-L-	131+08 to 145+01
-L-	155+17 to 204+97
-L-	221+65 to 228+71
-L-	245+17 to 249+41
-L-	251+60 to 298+91
-L-	300+56 to 311+43
-L-	313+02 to 317+36
-L-	365+60 to 372+40
-YREV-	40+34 to 48+50
-Y7-	10+00 to 11+75
-Y8-	10+00 to 11+80
-Y9A-	11+68 to 12+64
-Y10-	10+00 to 11+80
-Y11-	10+00 to 12+12
-Y14A-	27+20 to 66+50
-Y14D-	12+30 to 24+88
-Y14E-	9+75 to 11+92
-Y14F-	10+20 to 12+46
-Y14G-	10+00 to 13+39

- 4) WATER WELLS: No water wells were identified within the proposed construction limits. Potable water is supplied to residences in the vicinity by a public water supply.

Water supply wells may be present along the project corridors that were not detected.

PHYSIOGRAPHY AND GEOLOGY

The project is located within the extreme southeast portion of the North Carolina Coastal Plain physiographic province. The land surface is predominantly flat with a gradual decrease

in land surface elevation to the south. The majority of relief along the project is created by numerous drainage ditches that intersect the project corridor. A relatively large portion of the project will cross designated wetlands. Review of aerial photographs revealed that the area within and surrounding the project is populated with many Carolina Bays of various sizes. Geology beneath the alignments was relatively consistent across the project. The project is underlain by Undivided Coastal Plain (U.C.P.) material to an approximate depth of 30 feet where sediments belonging to the Waccamaw Formation were typically encountered.

Land use in the area is primarily commercial and residential. The land surface in the project vicinity is dominated by flat to gently rolling terrain typical of coastal environments with land surface elevations ranging from approximately four feet along the drainage features to approximately 54 feet on the top of embankments associated with Middleton Boulevard (-YREV-). No discernible flood plain was noted in the area. The project is primarily drained by drainage ditches and creeks which drain to the Intracoastal Waterway.

GROUNDWATER

Groundwater data was collected from open boreholes, where possible, during the field investigation(s) conducted during September 2014, September 2015 and October through November of 2017.

Measured groundwater elevations (24-hour measurements) obtained from borings advanced to less than 30 feet deep (within the UCP strata) ranged from elevation 2.4 feet to 50.7 feet with an average elevation of 35.0 feet. Depth to groundwater measurements ranged from 0 feet (excluding area with standing water) to 11 feet (below existing land surface), with an average depth to water of 3.5 feet.

SOIL PROPERTIES

Soils encountered at the project site include roadway embankment, artificial fill, UCP sediments, and those belonging to the Wacammaw Formation.

Roadway Embankment soils were identified beneath and adjacent to existing roadways and consists of very loose to medium dense, sand and silty sand (A-3 and A-2-4) with varying amounts of gravel. Embankment thicknesses ranged from less than 1± foot to approximately 11± feet.

Artificial fill consisting of loose to medium dense sand and silty sand with shell material was encountered adjacent to roadway embankments in areas used for residential and commercial development. These soils averaged approximately 2± feet in thickness.

Undivided coastal plain material primarily comprised of 1± to16± feet of very loose to very dense, sand, silty sand, and clayey sand, (A-3, A-2-4, A-2-6), with 1± to 6± feet of very soft to medium stiff, clay and clayey to sandy silt (A-7-6, A-6, and A-4). Moisture samples collected within these cohesive soils show moisture contents ranging from 20%-50%.

A significant portion of this project area contains surficial and shallow organic soils. These soils consist of 1± to 12± of very soft/ very loose to very dense sand to sandy clayey silt and muck. Laboratory analysis of samples collected within these units show organic contents ranging from 3% to 83%.

Sediments belonging to the Waccamaw Formation were encountered in several deep foundation borings completed near proposed structures along the project corridor. This formation is comprised of 24± to 44± feet of loose to dense calcareous sand and clayey sand (A-2-6, A-2-4, A-3) with shell fragments, 17± to 27± feet of very soft to hard calcareous sandy/silty clay, and clayey silt (A-4, A-6, A-7-6), with thin (<5±') layers of hard coastal plain sedimentary rock.

Undisturbed Samples

Undisturbed thin wall Shelby tube samples were collected at the following locations and submitted for testing.

<u>Sample No.</u>	<u>Station</u>	<u>Depth'</u>	<u>Test</u>
ST-1	-YA- STA. 13+05, CL	5.0 - 7.0	Consolidation, Tri UU
ST-2	-YREV- 33+21, 6' LT	10.0 – 12.0	Consolidation, Tri UU
ST-3	-YREV- 33+21, 6' LT	15.0 – 17.0	Consolidation, Tri UU
ST-4	-YREV- 28+55, CL	5.0 – 7.0	Consolidation, Tri UU
ST-5	-YREV- 28+55, CL	10.0 – 12.0	Consolidation, Tri UU

Culvert at -I- Sta. 64+15±

Natural ground elevations range from 37'± at the bottom of the ditch to 46'± along the adjacent NC 211 embankment. Borings completed in the vicinity show approximately 3'± of loose to medium dense sandy roadway embankment (A-3), underlain by 5'± to 9'± of very soft to soft organic sandy silt (A-4), organic content within these soils range from 4% to 6%. This organic layer is underlain by 11'± of very loose to medium dense silty clayey sand (A-2-4,A-3) and 12'± of very soft to soft silty, sandy clay and sandy silt (A-7-6, A-4). Moisture content of these soils was found to be 41%. Loose to medium dense formational sands (A-3) belonging to the Waccamaw Formation were encountered at this location at elevations

ranging from 18'± to 21'± feet above sea level. During this investigation groundwater was measured at elevations ranging from 36'± to 39'±.

Culvert at -L- Sta. 83+76±

Natural ground elevations range from 41'± at the bottom of the ditch to 46'± along the adjacent NC 211 embankment. Borings completed in the vicinity show approximately 3'± to 4'± of loose to medium dense sandy roadway embankment (A-3), underlain by 3'± to 12'± of very loose to medium dense silty clayey sand (A-2-4, A-3) and 2'± to 8'± of soft to medium stiff silty, sandy clay and sandy silt (A-7-6, A-4). Medium dense formational sands (A-2-4, A-3) belonging to the Waccamaw Formation were encountered at this location at an elevation of 23'± feet above sea level. During this investigation groundwater was measured at an elevation of 41'±.

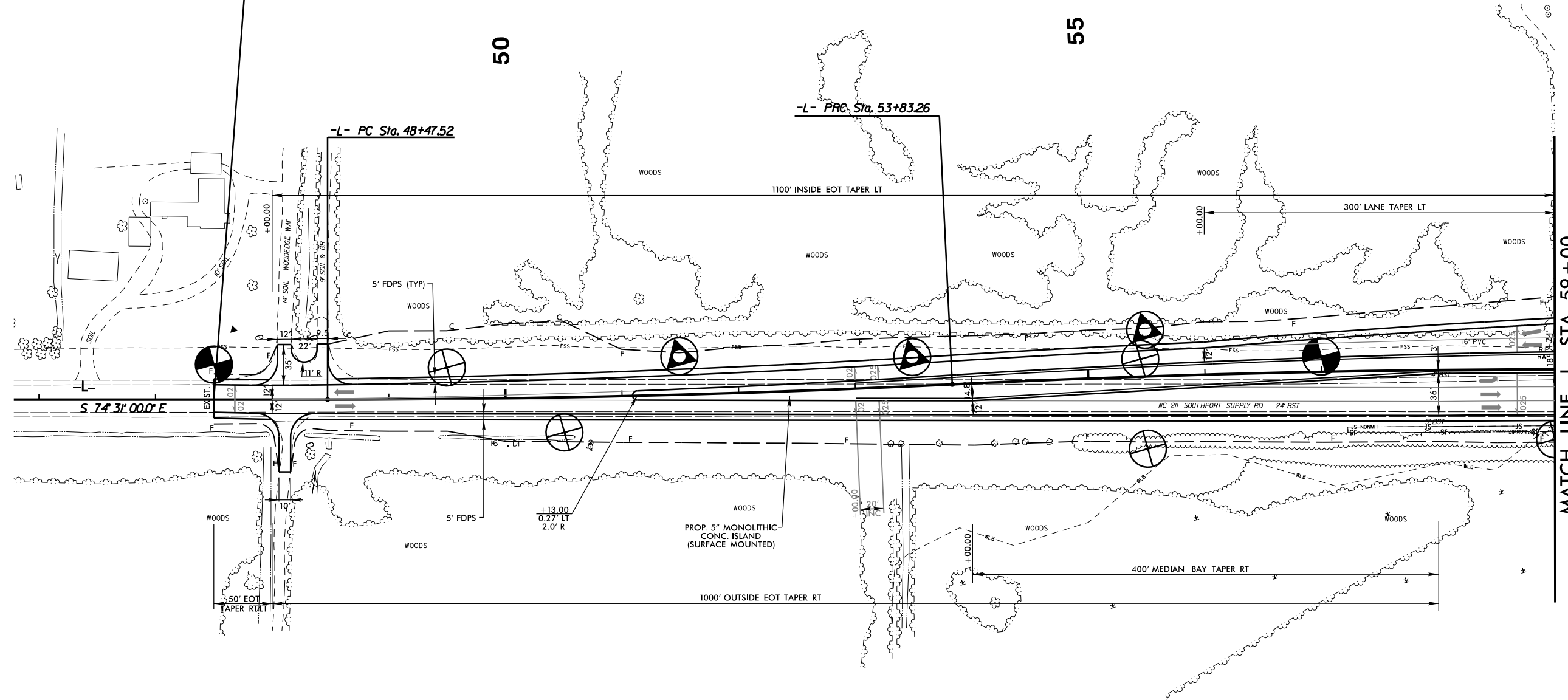
Culvert at -L- Sta. 226+01±

Natural ground elevations range from 27'± at the bottom of the ditch to 39'± along the adjacent NC 211 embankment. Borings completed in the vicinity show approximately 8'± to 10'± of loose to medium dense sandy roadway embankment (A-3), underlain by 4'± to 12'± of very loose to medium dense organic sands (A-2-4, A-3), organic content within these soils range from 1% to 7%. This organic layer is underlain by 10'± to 19'± of loose to medium dense silty clayey sand (A-2-4, A-3, and A-2-6). Medium dense formational sands (A-3) belonging to the Waccamaw Formation were encountered at this location at an elevation of 4'± to 8'± above sea level. During this investigation groundwater was measured at elevations ranging from 28'± to 31'±.

Culvert at -L- Sta. 316+72±

Natural ground elevations range from 17'± at the bottom of the ditch to 27'± along the adjacent NC 211 embankment. Borings completed in the vicinity show approximately 8'± of loose to medium dense sandy roadway embankment (A-3), underlain by 3'± to 4'± of very soft muck and 4'± to 6'± of very loose organic sand, organic content within these soils range from 3% to 19%. This organic layer is underlain by 4'± to 12'± of medium dense to dense silty clayey sand (A-2-4, A-3) and 1'± to 4'± of medium stiff silty sandy clay with moderate organic content. (A-7-6, A-6) Moisture content of these soils was found to be 73% and an organic sample showed 7% organics. Loose formational sands (A-3, A-2-4) belonging to the Waccamaw Formation were encountered at this location at elevations ranging from near sea level to just below sea level. During this investigation groundwater was measured at an elevation of 23'±.

NAD 83/NSRS 2001



7 50 00 18 12 59
MATCH LINE -L- STA 59+00
SEE SHEET 5

1. ALL DRIVEWAY RADII ARE 20' UNLESS NOTED ON PLANS.
2. PAVED TURNOUTS FOR SHOULDER SECTION SHOULD EXTEND 50' UNLESS NOTED ON PLANS.

FOR -L- PROFILE, SEE SHEET 41
FOR DRAINAGE DETAILS, SEE SHEETS 2D-1 THRU 2D-3

REVISIONS

Right-of-way Revision 02-13-2017 - Added Access Breaks on Parcel 1, DMW

C:\Users\stone\OneDrive - catlinusa\RS021_GEO_RDWY_REV\CADD_GEOTECH\Site&Sub\R-5021_GEO_PSH4.dgn

REVISIONS

MATCH LINE -L- STA 59+00

MATCH LINE -L- STA 73+00

Technical drawing of a bridge section showing a cross-section of a bridge deck. The drawing includes the following dimensions and labels:

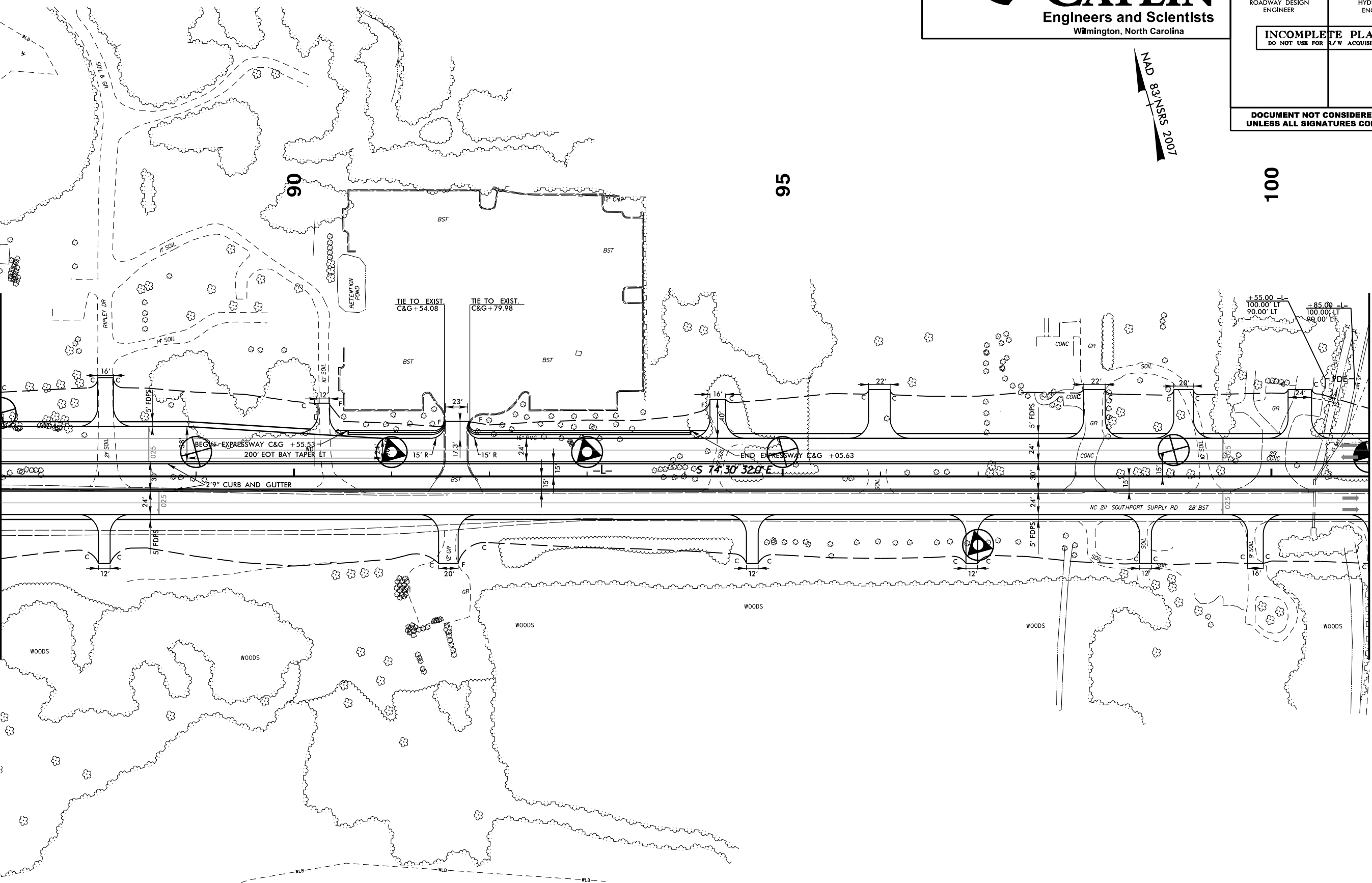
- Overall width: 4' F.P.S.
- Top flange width: 13' 7 1/2"
- Web width: 17' 7 1/2"
- Bottom flange width: 17' 5"
- Label: MATCH LINE -YA- STA 14+00
- Label: SEE SHEET 34

REVISIONS

09-07-2016 -- Added TCE On Parcel 17 Around House ABH
02-13-2017 -- Revised RW & PUE On Parcel 10, 11 & 12, Revised Driveway Width On Parcel 14. DMW
03-10-2017 -- Revised RW Number for Parcel 8 to 8A. DMW
05-16-2017 -- Updated Survey Split RW Number for Parcel 14 into Parcels 14 & 14A. DMW
07-18-2017 -- Added Access Break to Parcel 14 Since it was Previously Divided into 14 & 14A. DMW

20-DEC-2017 10:07
C:\Users\stone\OneDrive - catlinusa\Documents - catlinusa\R5021.GEO
5/14/2017

MATCH LINE -L- STA 87 + 00.00
SEE SHEET 6



- NOTE:
1. ALL DRIVEWAY RADII ARE 20' UNLESS NOTED ON PLANS.
 2. PAVED TURNOUTS FOR SHOULDER SECTION SHOULD EXTEND 50' UNLESS NOTED ON PLANS.



CATLIN

Engineers and Scientists
Wilmington, North Carolina

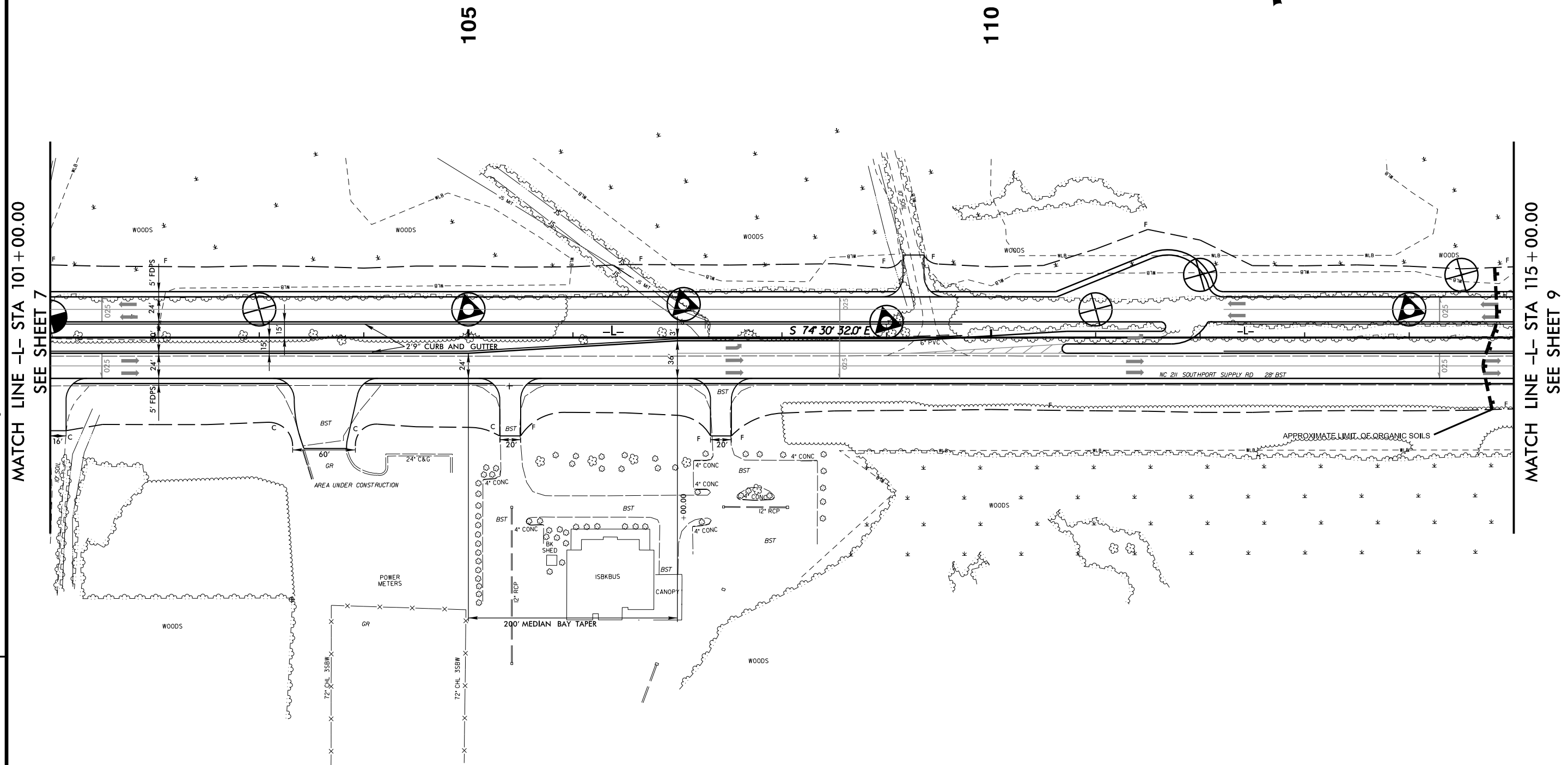
NAD 83 NSRS 2007

PROJECT REFERENCE NO.		SHEET NO.	
R-5021		7	
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			

FOR -L- PROFILE, SEE SHEET 42
FOR DRAINAGE DETAILS, SEE SHEETS 2D-1 THRU 2D-3

MATCH LINE -L- STA 101 + 00.00
SEE SHEET 8

NAD 83/NSRS 2001



NOTE:

1. ALL DRIVEWAY RADII ARE 20' UNLESS NOTED ON PLANS.
2. PAVED TURNOUTS FOR SHOULDER SECTION SHOULD EXTEND 50' UNLESS NOTED ON PLANS.

FOR -L- PROFILE, SEE SHEET 43
FOR U-TURN BULB DETAIL, SEE SHEET 2B-1
FOR DRAINAGE DETAILS, SEE SHEETS 2D-1 THRU 2D-3

RW REVISION: REVISED DRIVEWAYS AND DRAINAGE ON PARCELS 19A & 21 01/17/2017 DMW

20-DEC-2017 10:07
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stone AT STONE-PC

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catlinusa



PROJECT REFERENCE NO.		SHEET NO.	
R-5021		9	
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			

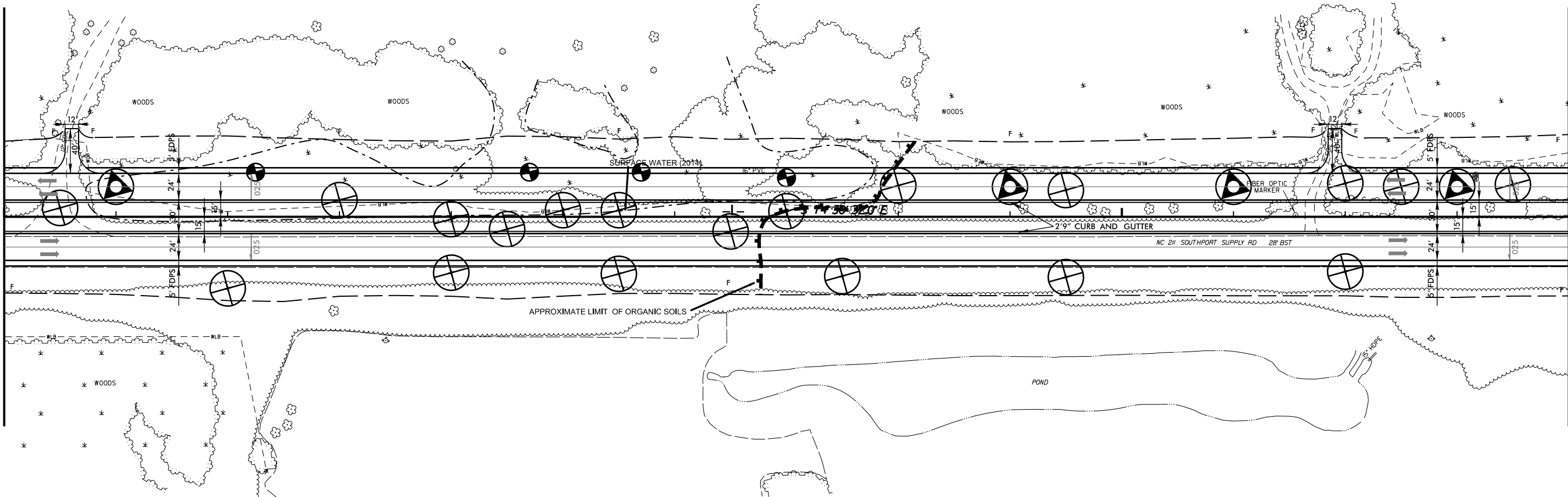


115

120

125

MATCH LINE -L- STA 115 + 00.00
SEE SHEET 8



MATCH LINE -L- STA 129 + 00.00
SEE SHEET 10

- NOTE:
1. ALL DRIVEWAY RADII ARE 20' UNLESS NOTED ON PLANS.
 2. PAVED TURNOUTS FOR SHOULDER SECTION SHOULD EXTEND 50' UNLESS NOTED ON PLANS.

FOR -L- PROFILE, SEE SHEET 43
FOR DRAINAGE DETAILS, SEE SHEETS 2D-1 THRU 2D-3

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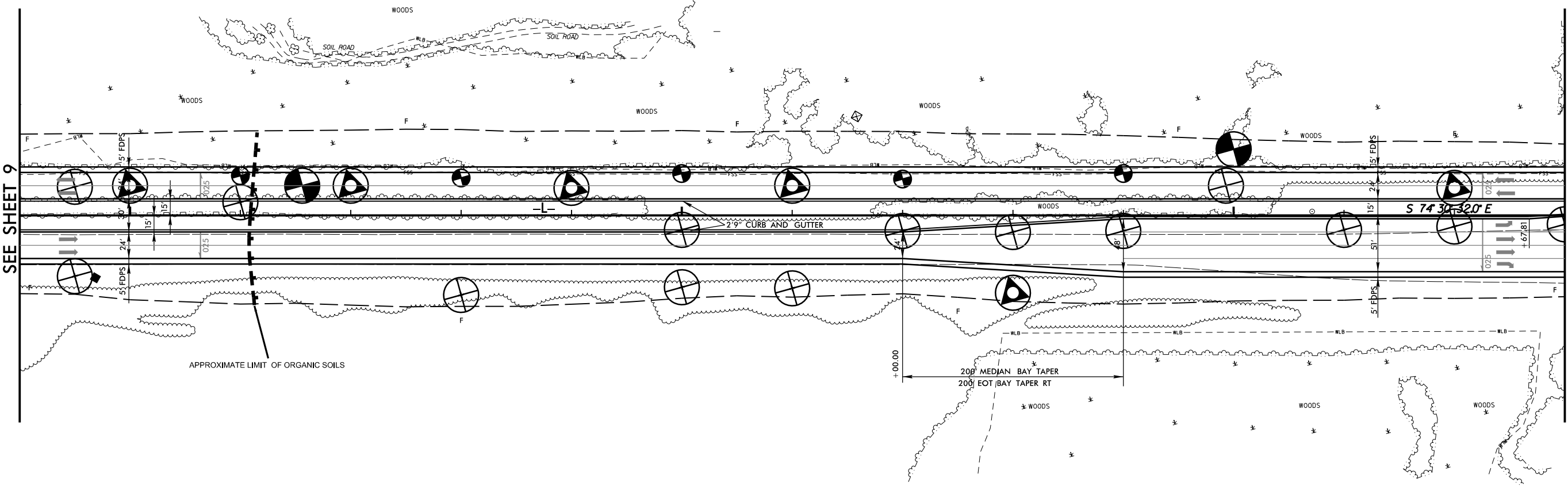


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PROJECT REFERENCE NO.		SHEET NO.	
R-5021		10	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

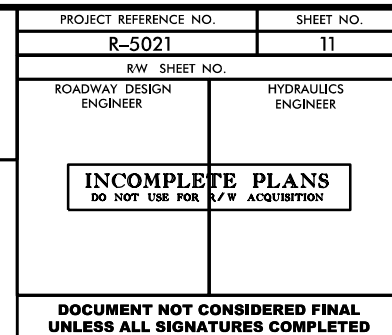
NAD 83/NSRS 2007

MATCH LINE -L- STA 129 + 00.00

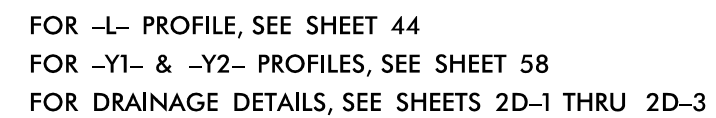


MATCH LINE -L- STA 143 + 00.00

SEE SHEET 11



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



REVISIONS

Right-of-way Revision 10-12-2016 - Revised right-of-way on parcel 29. Revised PUE on parcel 29. ABH
Right-of-way Revision 12-19-2016 - Revised Access Breaks on parcel 29. DMW

20-DEC-2017 10:08
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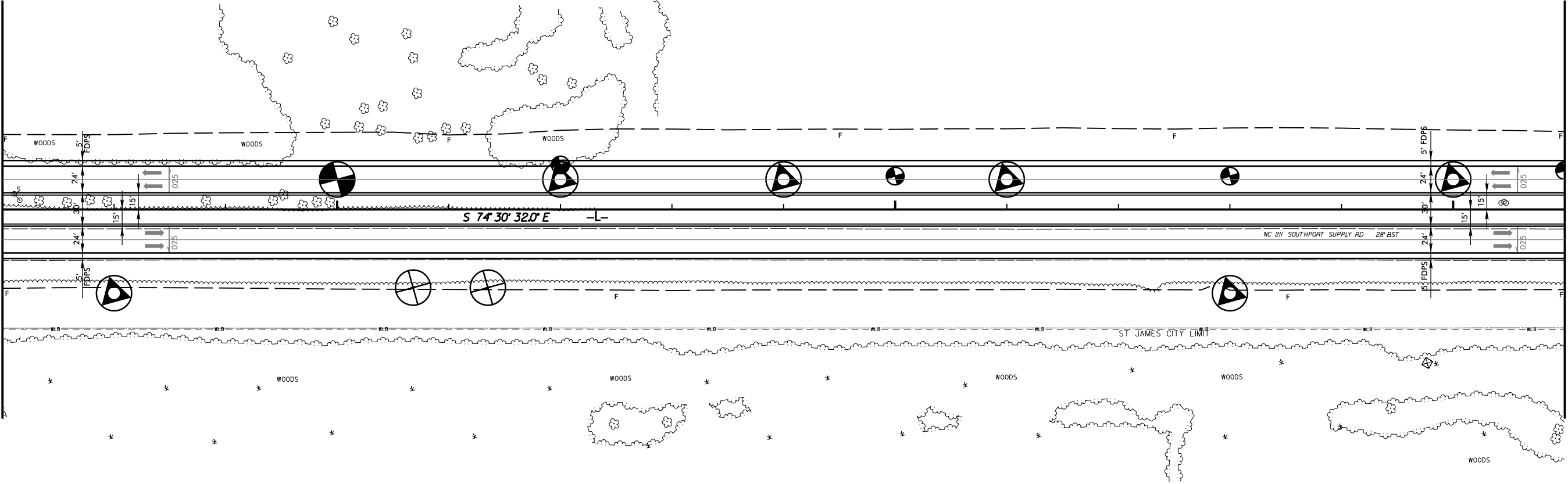


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PROJECT REFERENCE NO.		SHEET NO.
R-5021		12
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

NAD 83/NSRS 2007

MATCH LINE -L- STA 157 + 00.00
SEE SHEET 11



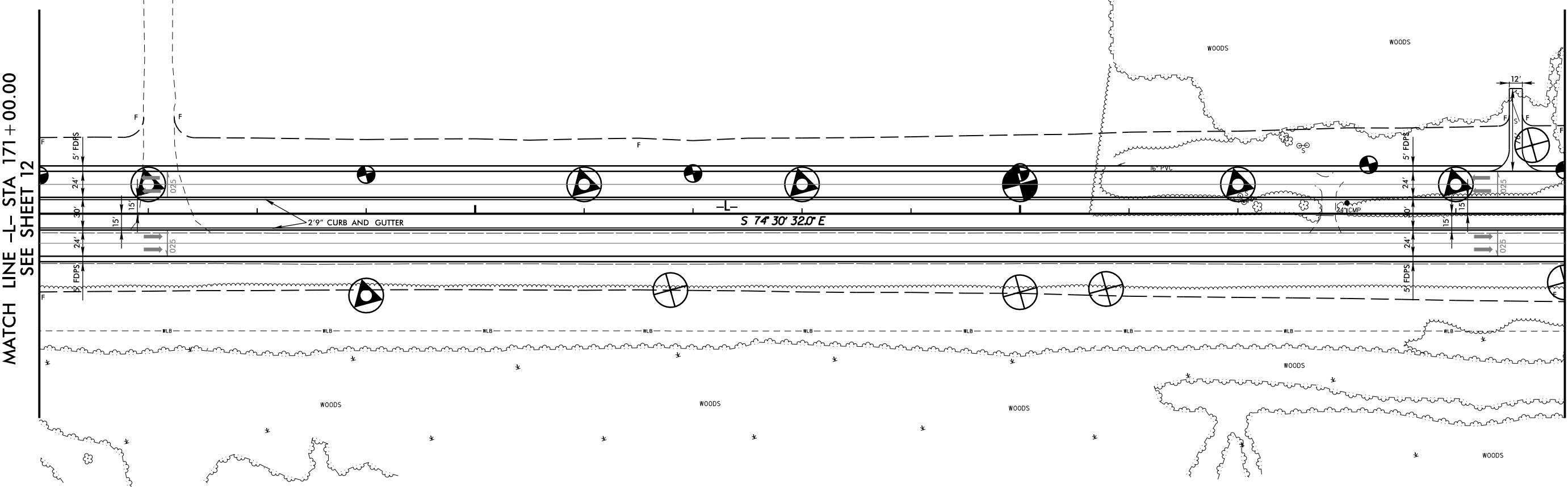
MATCH LINE -L- STA 171 + 00.00
SEE SHEET 13

NAD 83/NSRS 2007

175

180

185



MATCH LINE -L- STA 171+00.00
SEE SHEET 12

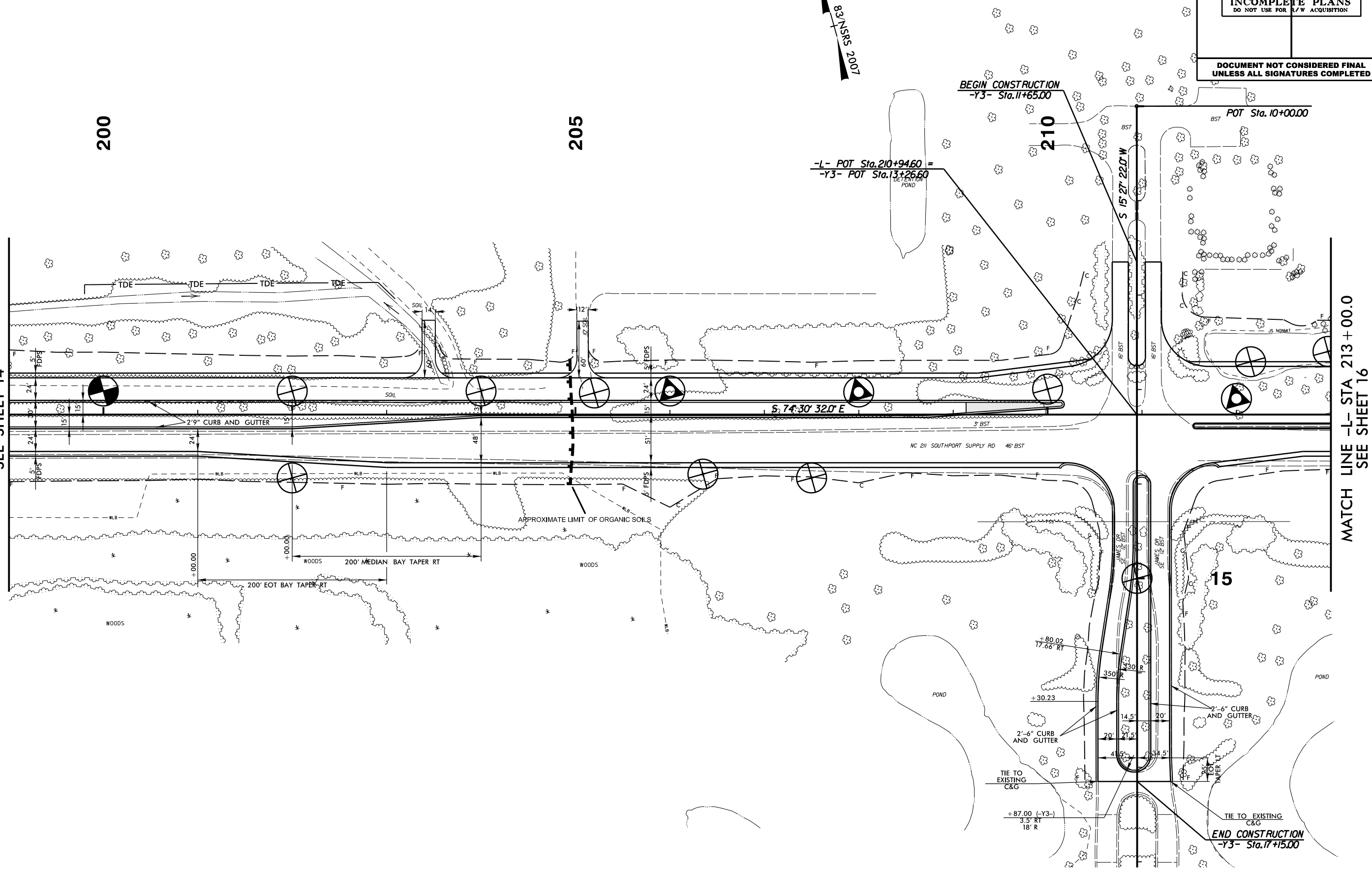
MATCH LINE -L- STA 185+00.00
SEE SHEET 14

Right-of-way Revision 10-12-2016 - Revised right-of-way on parcels 29.31 & 32, ABH
 Right-of-way Revision 12-19-2016 - Revised Access Breaks on parcel 29, DMW
 Right-of-way Revision 02-13-2017 - Revised Access Break on parcel 31, DMW
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lstone\ALISTONE-PC

REVISIONS

**MATCH LINE -L- STA 199+00.00
SEE SHEET 14**



REVISIONS

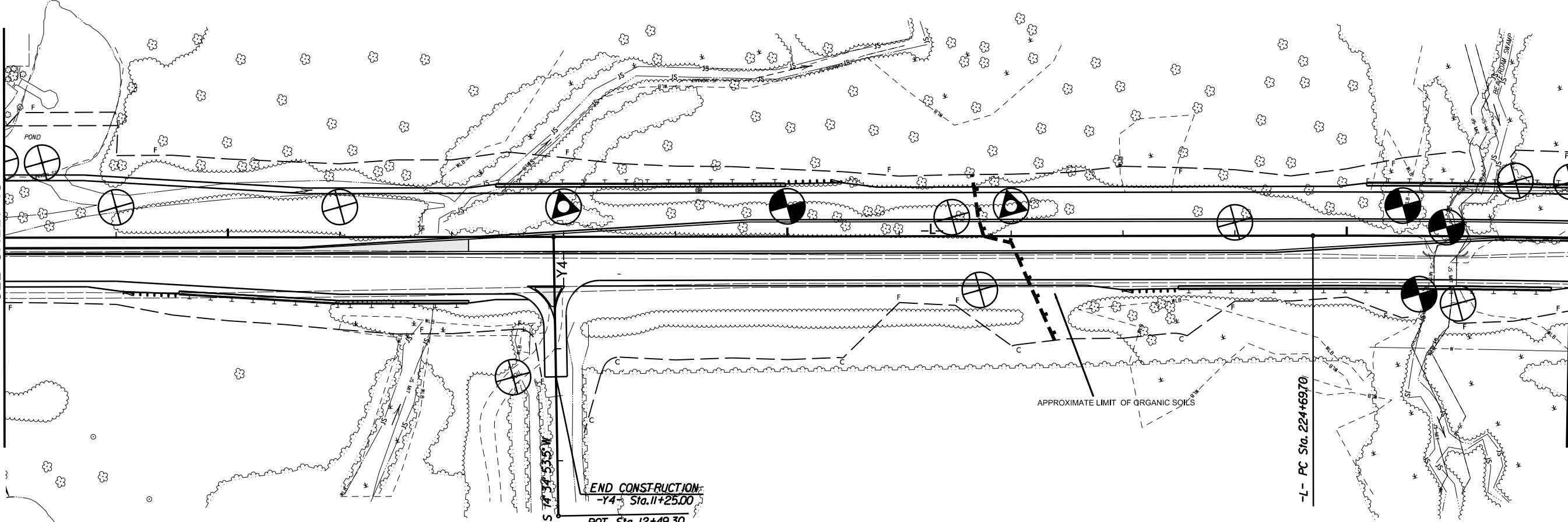
Right-of-way Revision 03-10-2017 - Parcel 30A Added To Plans with New Survey File, DMW

20-DEC-2017 10:08
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5/14/99

MATCH LINE -L- STA 213 + 00.00

SEE SHEET 15



MATCH LINE -L- STA 227 + 00.00

SEE SHEET 17



NAD 83 NSRS 2007

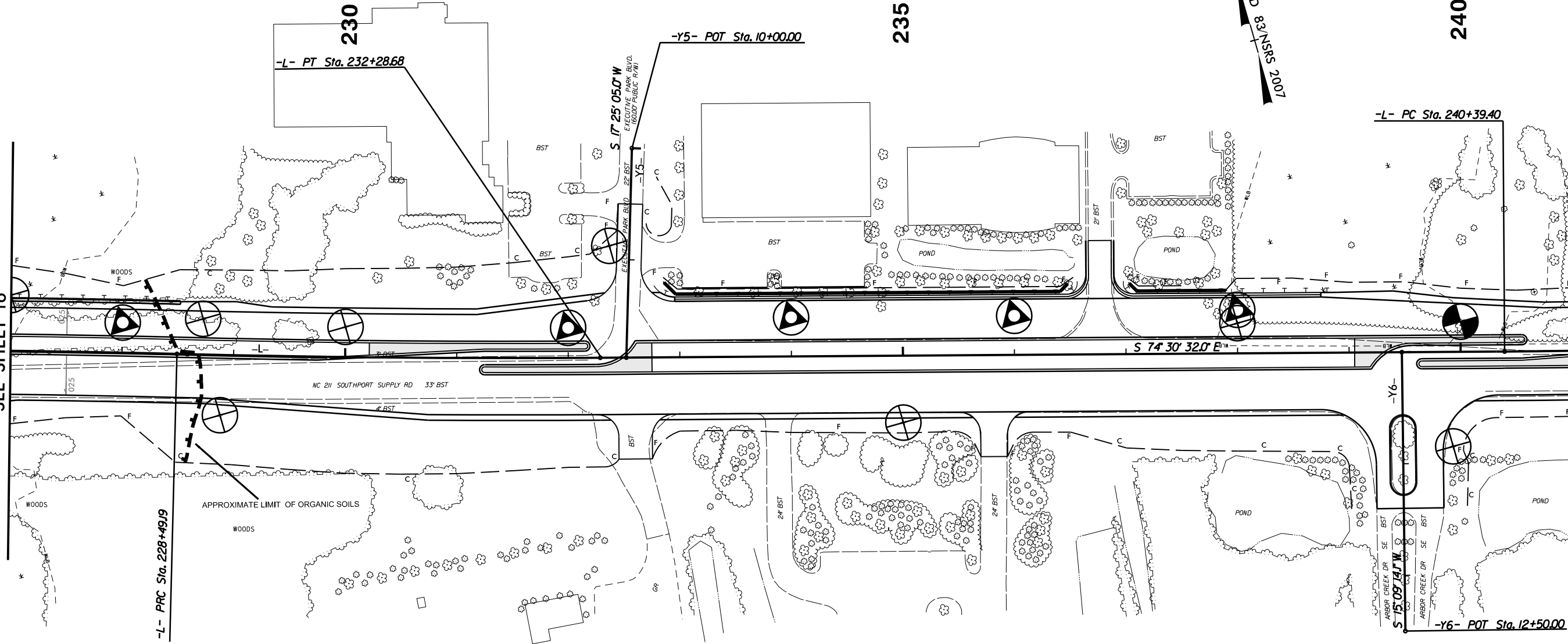
PROJECT REFERENCE NO.		SHEET NO.
R-5021		16
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

REVISIONS
Right-of-way Revision 07-14-2017 - Changed PUE on Parcel 43 to Encompass Relocated Water Line.DMW

20-DEC-2017 10:08
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5/14/99

MATCH LINE -L- STA 227 + 00.00
SEE SHEET 16



MATCH LINE -L- STA 241 + 00.00
SEE SHEET 18



PROJECT REFERENCE NO.		SHEET NO.	
R-5021		17	
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			

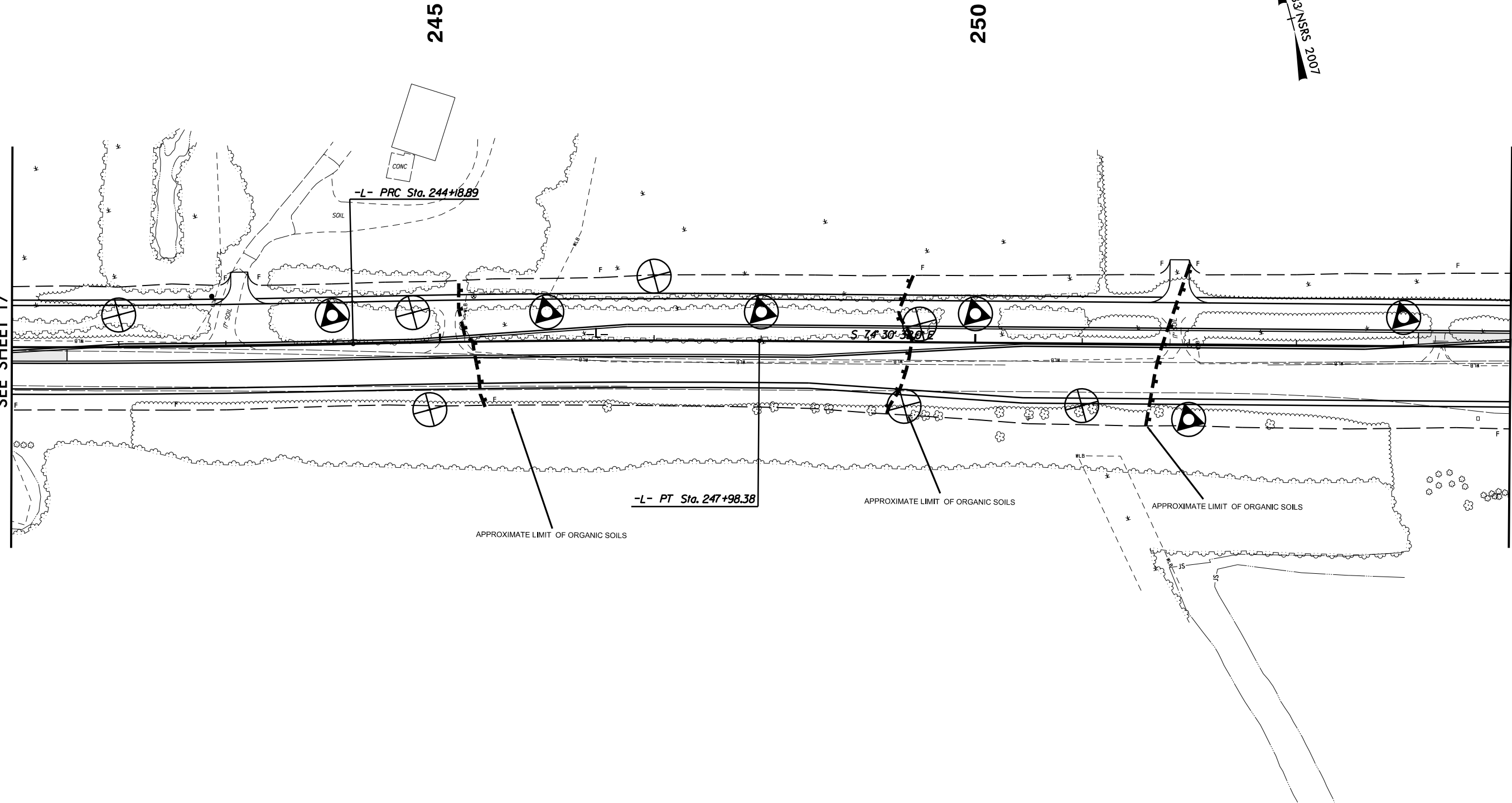
REVISIONS

Right-of-way Revision 12-08-2016 - Revised Parcel 41 to Parcel 41A, DMW

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MATCH LINE -L- STA 241 + 00.00
SEE SHEET 17



NOTE:

1. ALL DRIVEWAY RADII ARE 20' UNLESS NOTED ON PLANS.
2. PAVED TURNOUTS FOR SHOULDER SECTION SHOULD EXTEND 50' UNLESS NOTED ON PLANS.

FOR -L- PROFILE, SEE SHEET 48
FOR DETAIL FOR DIRECTIONAL CROSS OVER, SEE SHEET 2B-2
FOR DRAINAGE DETAILS, SEE SHEETS 2D-1 THRU 2D-3



PROJECT REFERENCE NO.	SHEET NO.
R-5021	18
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	

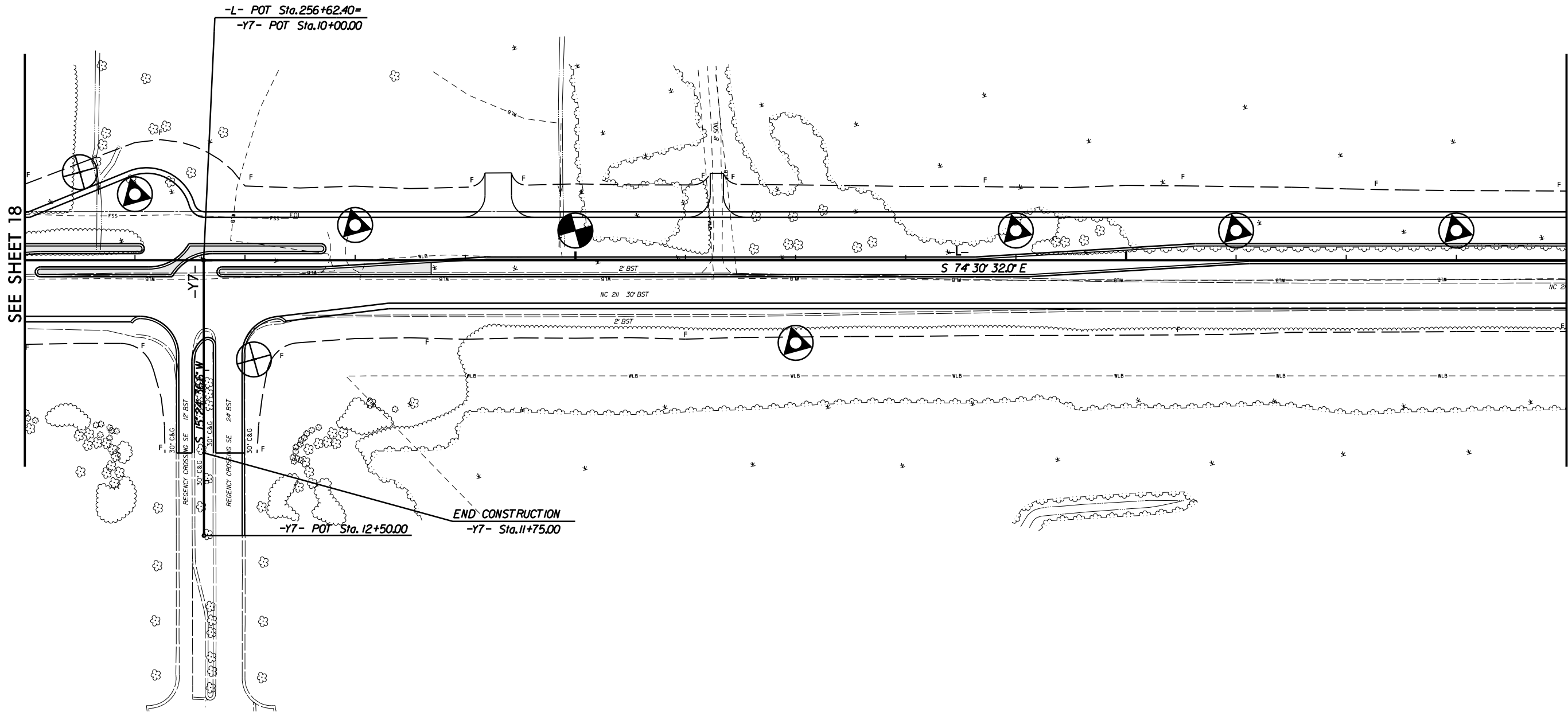
REVISIONS

Right-of-way Revision 12-08-2016 - Revised Parcel 41 to Parcel 41A.DMW
Right-of-way Revision 03-10-2017 - Revised Driveway Width on Parcel 51.DMW

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5/14/99

MATCH LINE -L- STA 255 + 00.00
SEE SHEET 18



NOTE:

1. ALL DRIVEWAY RADII ARE 20' UNLESS NOTED ON PLANS.
2. PAVED TURNOUTS FOR SHOULDER SECTION SHOULD EXTEND 50' UNLESS NOTED ON PLANS.

FOR -L- PROFILE, SEE SHEET 48
FOR -Y7- PROFILE, SEE SHEET 58
FOR INTERSECTION DETAIL AND DIRECTIONAL CROSS OVER, SEE SHEET 2B-2
FOR DRAINAGE DETAILS, SEE SHEETS 2D-1 THRU 2D-3



PROJECT REFERENCE NO.	SHEET NO.
R-5021	19
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	



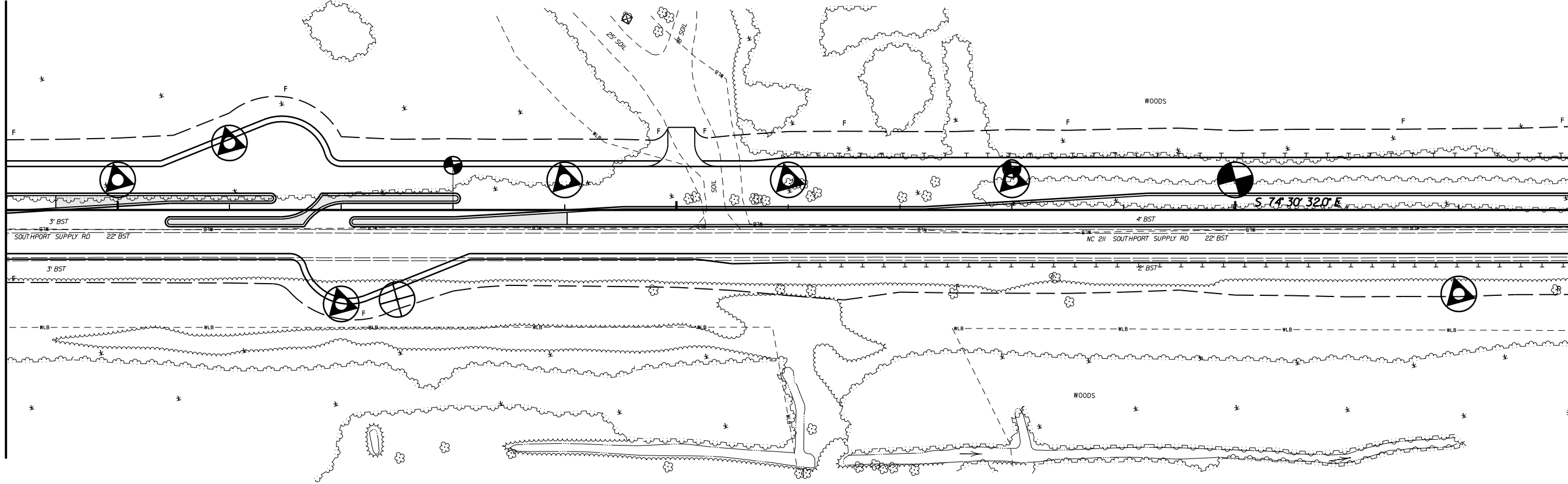
REVISIONS

Right-of-way Revision 12-08-2016 - Revised Parcel 41 to Parcel 41A.

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5/14/99

MATCH LINE -L- STA 269 + 00.00
SEE SHEET 19



MATCH LINE -L- STA 283 + 00.00
SEE SHEET 21



PROJECT REFERENCE NO.		SHEET NO.
R-5021		20
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		

NAD 83 NSRS 2007

REVISIONS

Right-of-way Revision 12-08-2016 - Revised Parcel 41 to Parcel 41A.DMW
Right-of-way Revision 02-13-2017 - Revised Access Break On Parcel 53.Revised Access Break And Added A Driveway For Parcels 56 & 56A.Revised Slope States To Stay Off Headstones
And Added Note To "DO NOT DISTURB HEADSTONES" Parcel 57.DMW
Right-of-way Revision 03-10-2017 - Revised Construction Easement on Parcel 59 around drainage ditch.DMW

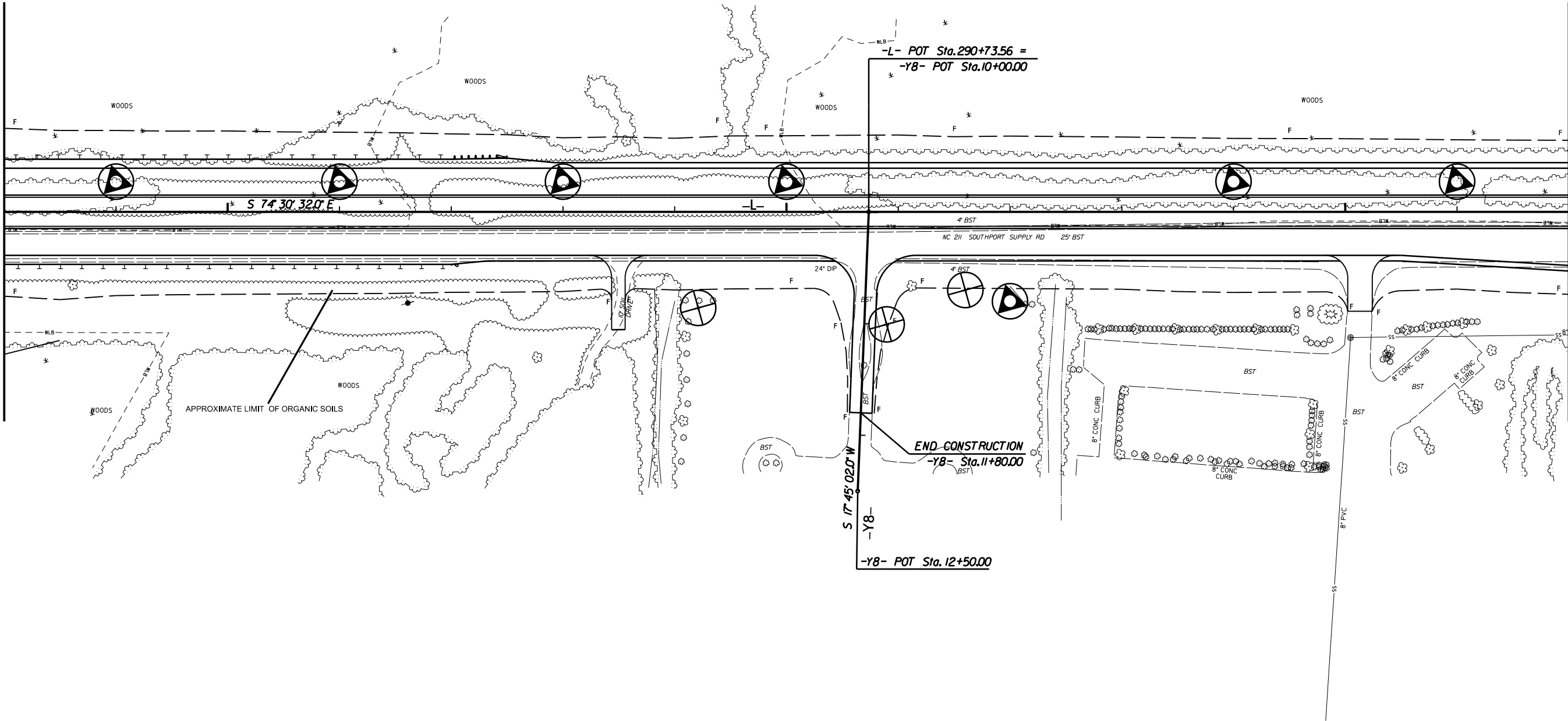
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PROJECT REFERENCE NO.		SHEET NO.	
R-5021		21	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

MATCH LINE -L- STA 283 + 00.00
SEE SHEET 20



MATCH LINE -L- STA 297 + 00.00
SEE SHEET 22

NAD 83/NSRS 2007

REVISIONS

Right-of-way Revision 02-13-2017 - Added Access Break on Parcel 53 (Sta 300+50) & 64 (Sta 309+25), DMW
Right-of-way Revision 03-10-2017 - Added Construction Easement on Parcel 64 for New ALN -Y9A- Tie In, DMW
Right-of-way Revision 06-16-2017 - Parcel 53 & 64, Revised ROW Around Ditch and Added PUE, DMW

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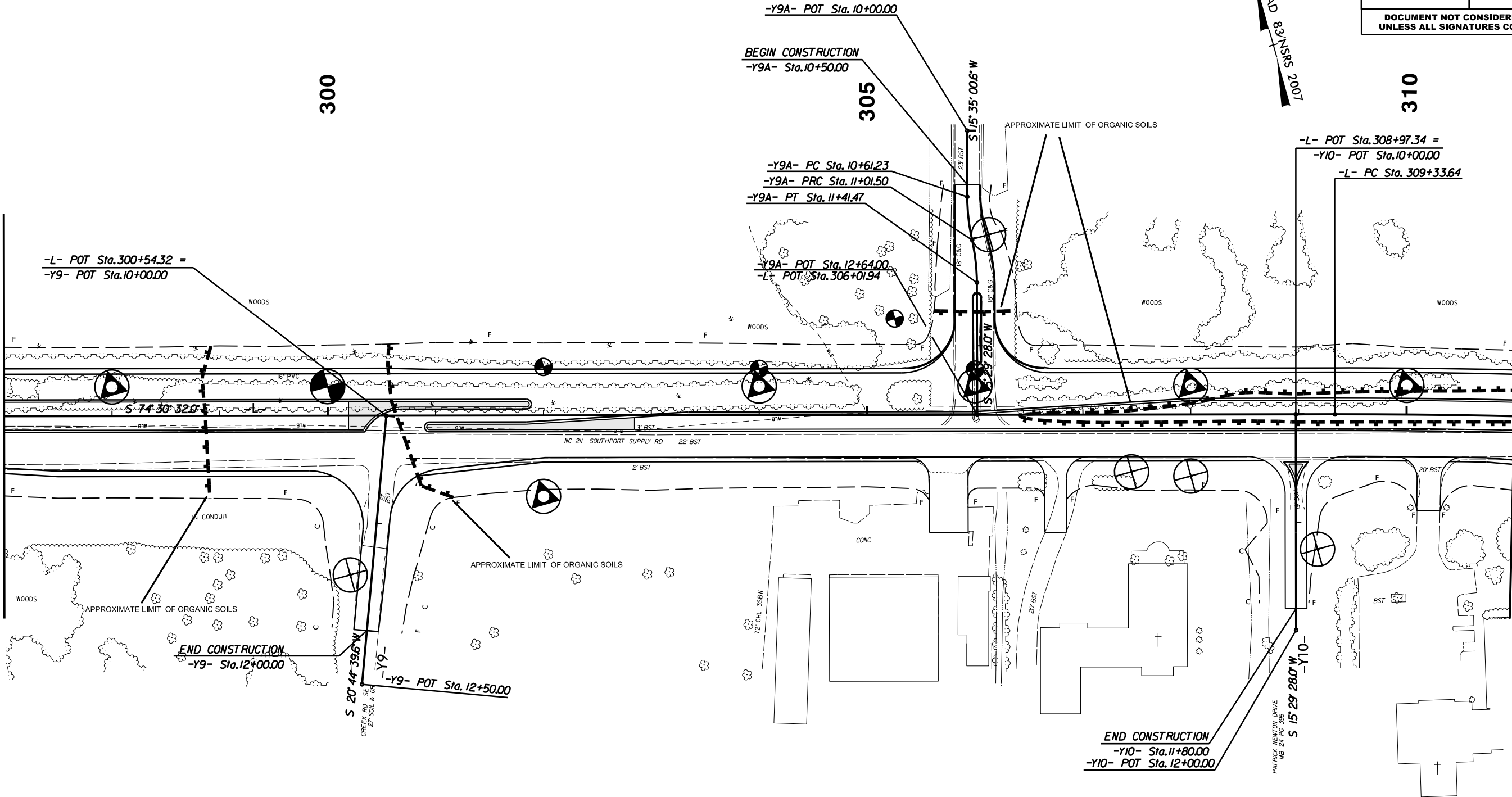
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PROJECT REFERENCE NO.		SHEET NO.	
R-5021		22	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

MATCH LINE -L- STA 297 + 00.00
SEE SHEET 21



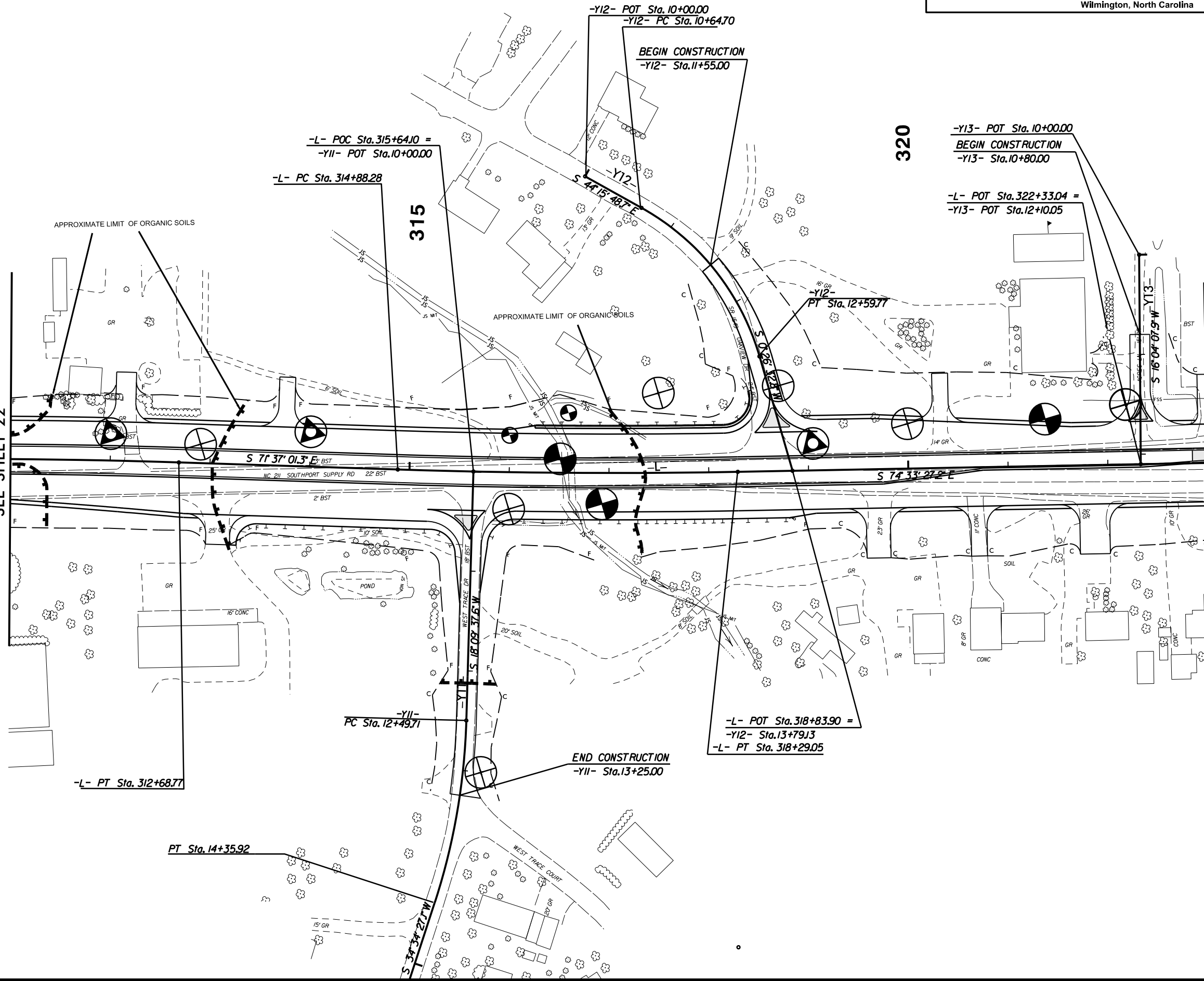
MATCH LINE -L- STA 311 + 00.00
SEE SHEET 23

MATCH LINE -L- STA 311+00.00
SEE SHEET 22

MATCH LINE -L- STA 323 + 00.00
SEE SHEET 24

RAW REVISION	08-25-16:	1. REVISED PUE ON PARCEL 70. MID
RAW REVISION	04-03-17:	2. REVISED PARCEL NUMBER 64 TO 64A. DMW
RAW REVISION	06-16-17:	3. PARCEL 64 & 64A, REVISED ROW AROUND
RAW, REV, LAND DEPT	06-16-17:	RECEIVED 6/16/17 10:53 AM P55017, GDOT, P1233dan

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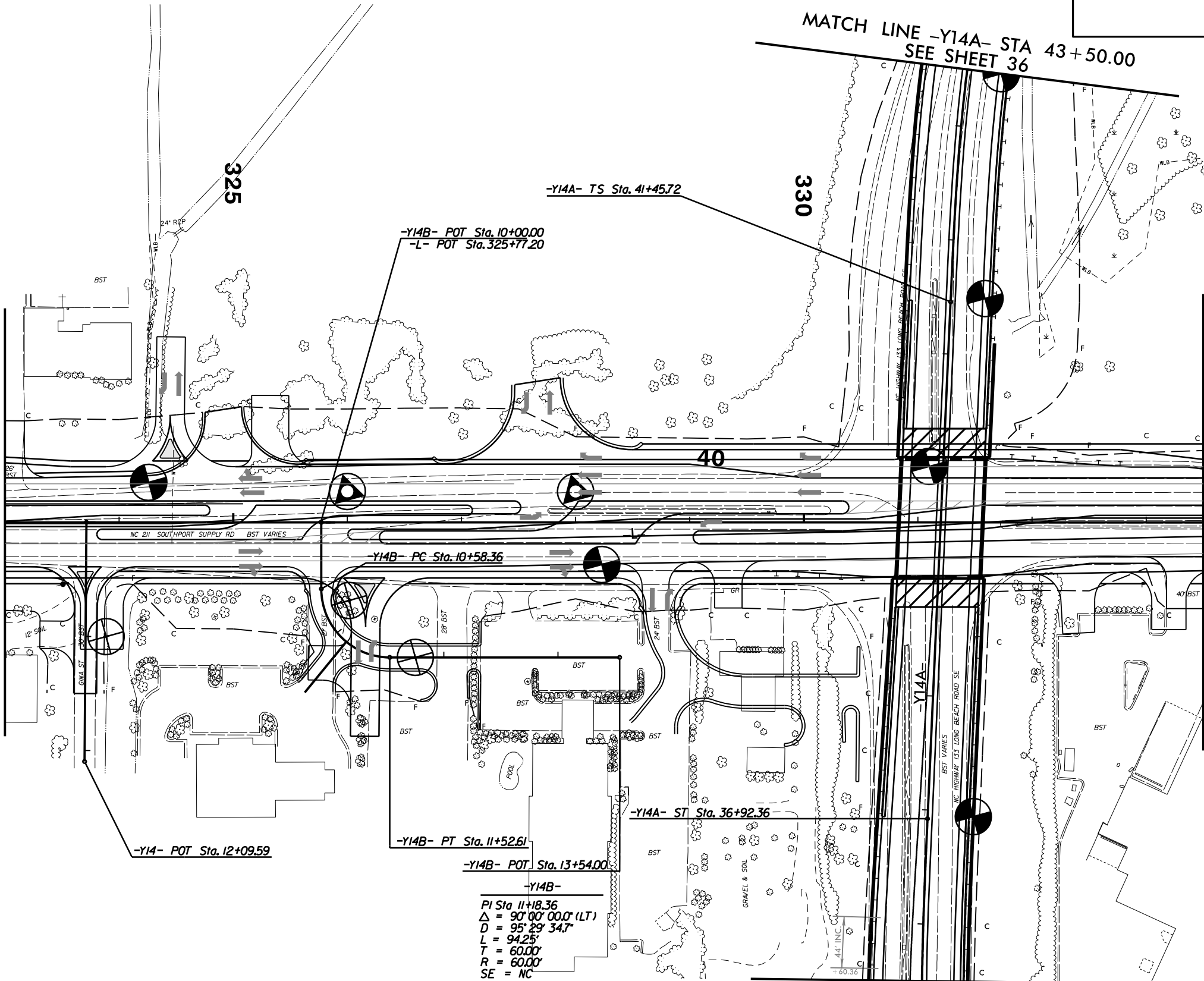
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PROJECT REFERENCE NO.	SHEET NO.
R-5021	24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/NSRS 2007

MATCH LINE -L- STA 323 + 00.00
SEE SHEET 23



MATCH LINE -Y14A- STA 35 + 50.00
SEE SHEET 35

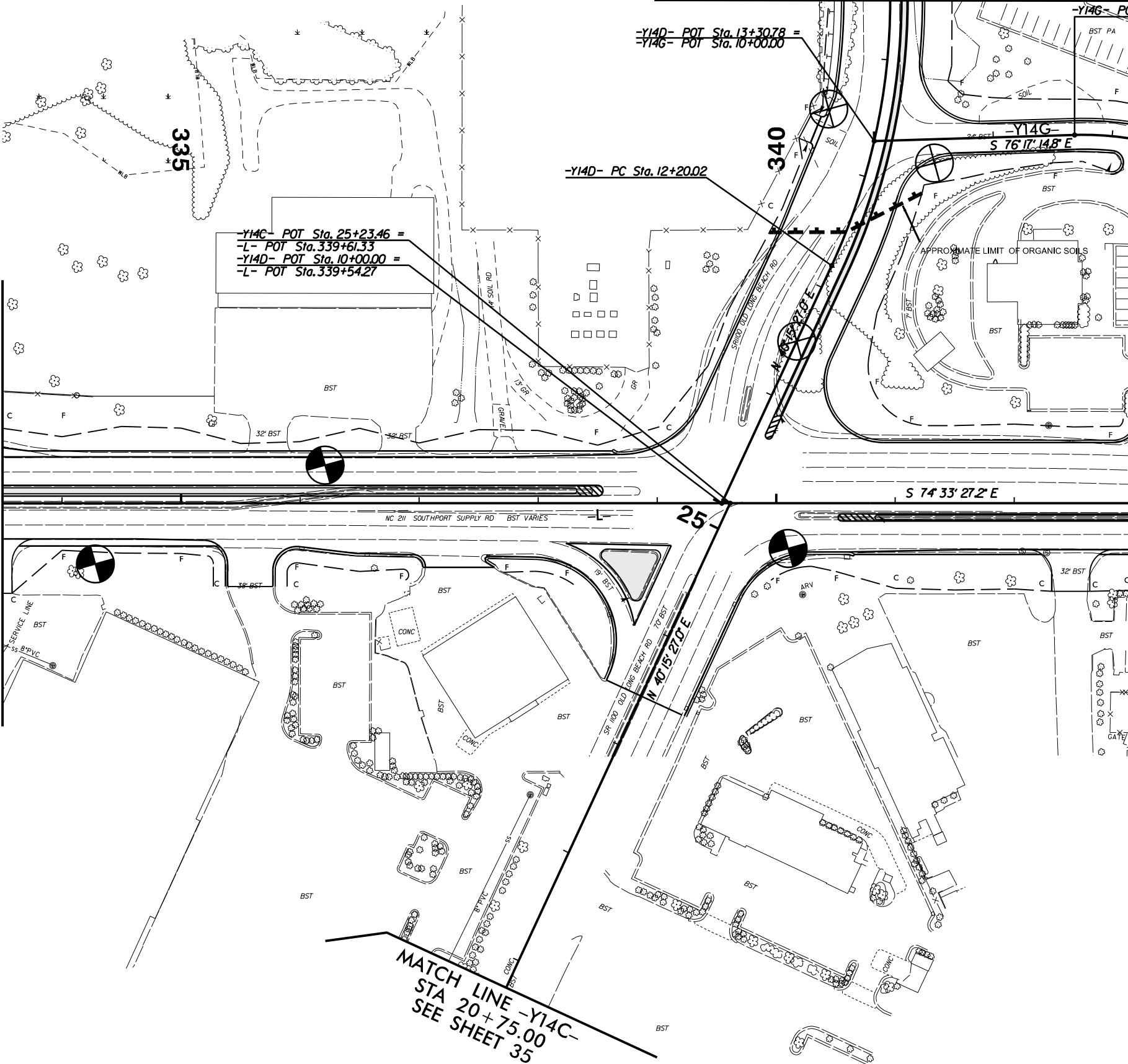
MATCH LINE -L- STA 333 + 50.00
SEE SHEET 24A

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PROJECT REFERENCE NO.	SHEET NO.
R-5021	24A
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	

MATCH LINE -L- STA 333 + 50.00
SEE SHEET 24



MATCH LINE -L- STA 343 + 00.00
SEE SHEET 25

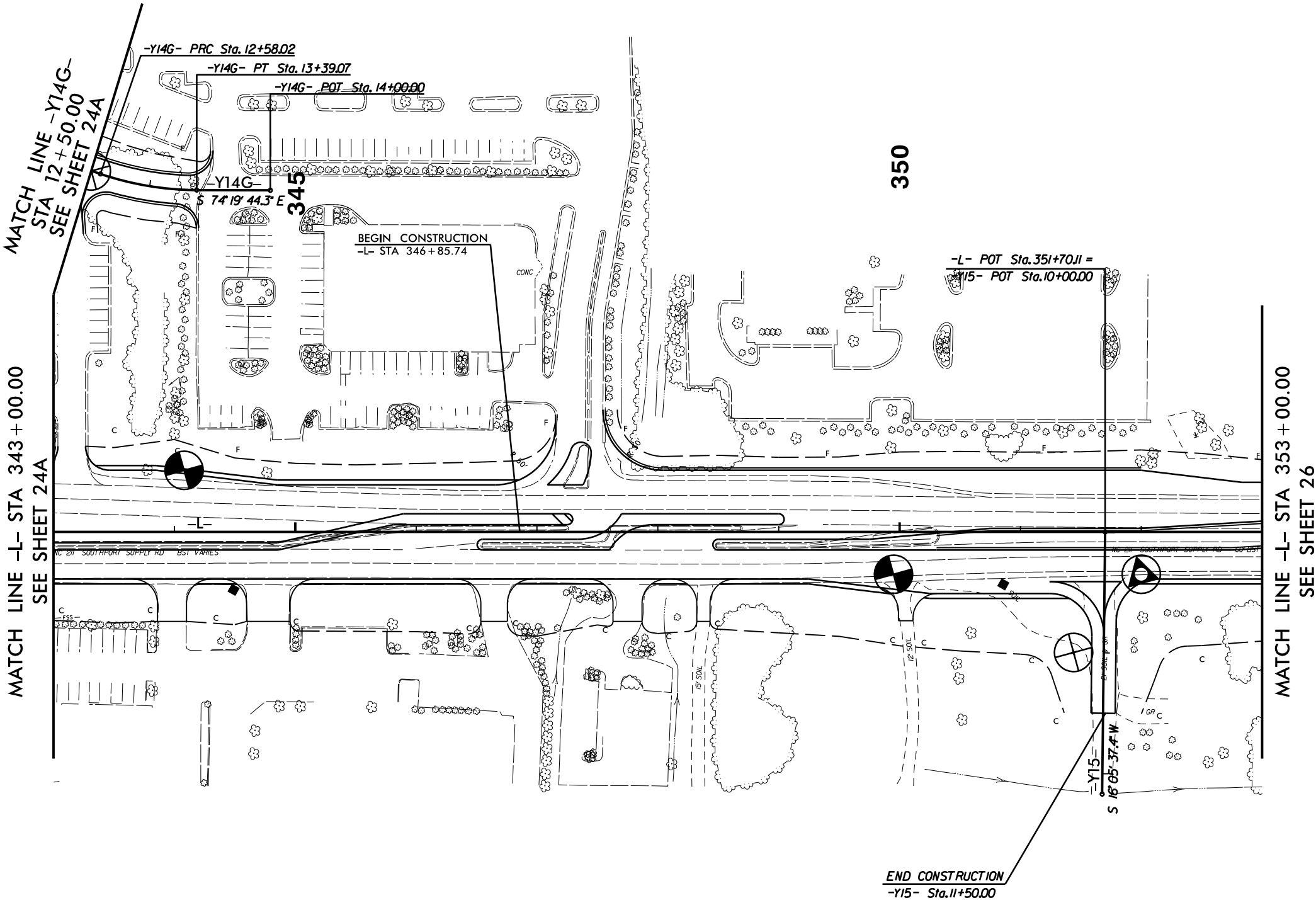
MATCH LINE -Y14G-
STA 12 + 50.00
SEE SHEET 25

NAD 83/NSRS 2007



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PROJECT REFERENCE NO.	SHEET NO.
R-5021	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
ROW HAS NOT BEEN REVISED TO INCLUDE NEW DRAINAGE REVISIONS	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

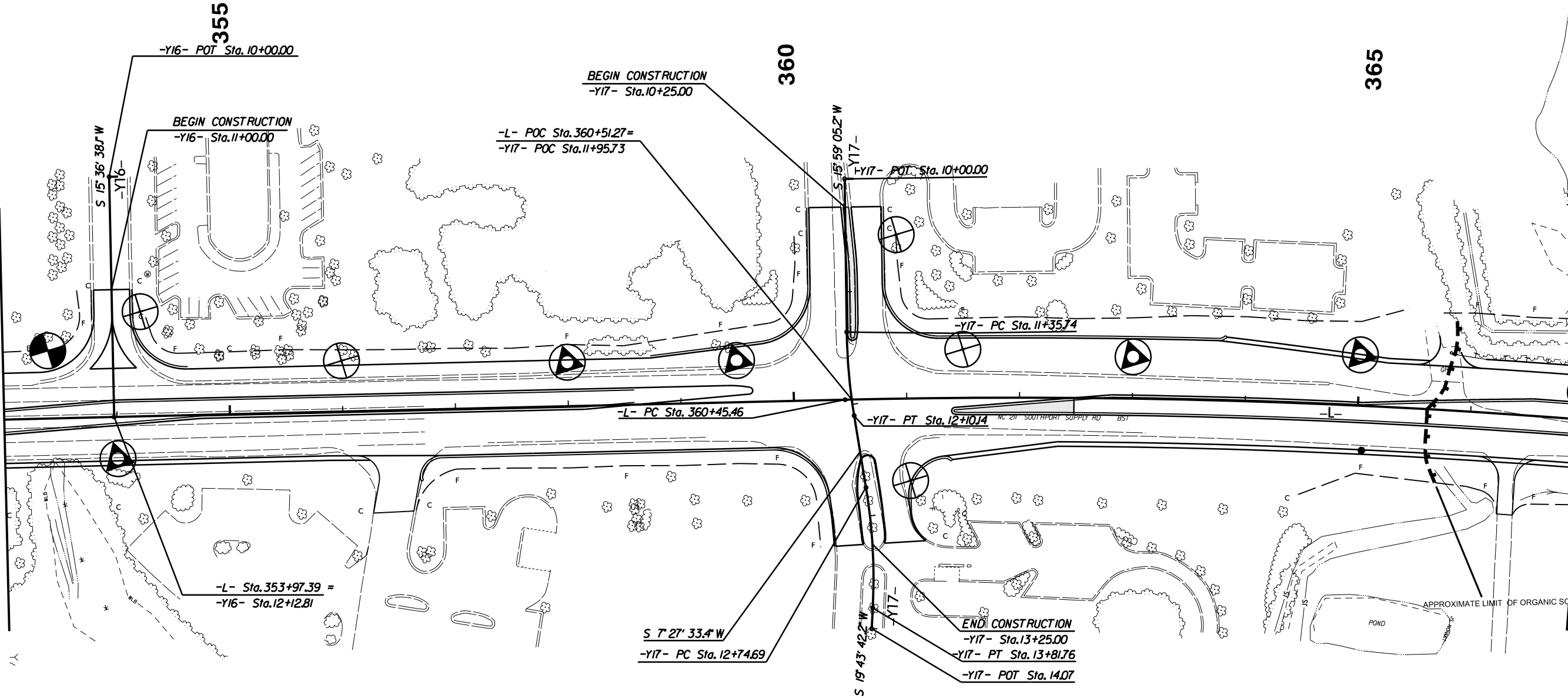


NAD 83/NSRS 2007

REVISIONS
R/W REVISION: 1. REVISED PUE'S ON PARCELS 88, 91, 95, 96, 96A AND 97. (07-19-16) MJD
R/W REVISION: 2. REVISED PUE'S ON PARCELS 91 AND 95. (08-25-16) MJD
R/W REVISION: 3. REVISED R/W AND PUE ON PARCELS 88 & 91. (11-09-16) DMW
R/W REVISION: 4. REVISED R/W ON PARCEL 90. (02-23-17) DMW
R/W REVISION: 5. REVISED PUE ON PARCEL 88 TO STAY OFF PARKING LOT. (06-20-17) DMW

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MATCH LINE -L- STA 353 + 00.00
SEE SHEET 25



MATCH LINE -L- STA 367 + 00.00
SEE SHEET 27



PROJECT REFERENCE NO.		SHEET NO.
R-5021		26
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		



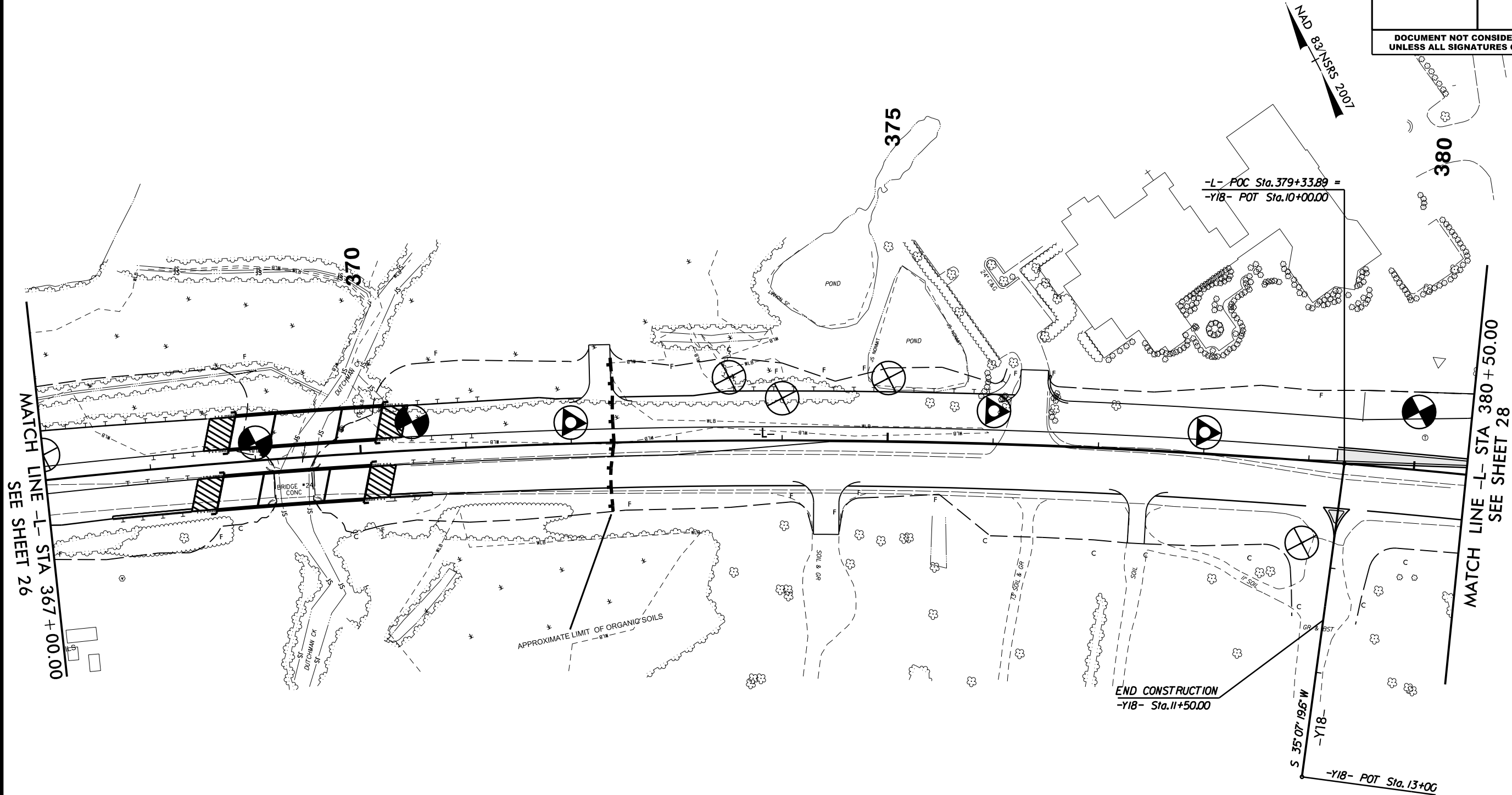
REVISIONS
RW REVISION: 1. ADDED DRIVEWAY ACCESS TO PARCEL 98. (07/13/16) MJD
2. REVISED PUE'S ON PARCELS 97, 98 AND 101. 07/19/16 (MJD)

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PROJECT REFERENCE NO.	SHEET NO.
R-5021	27
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	

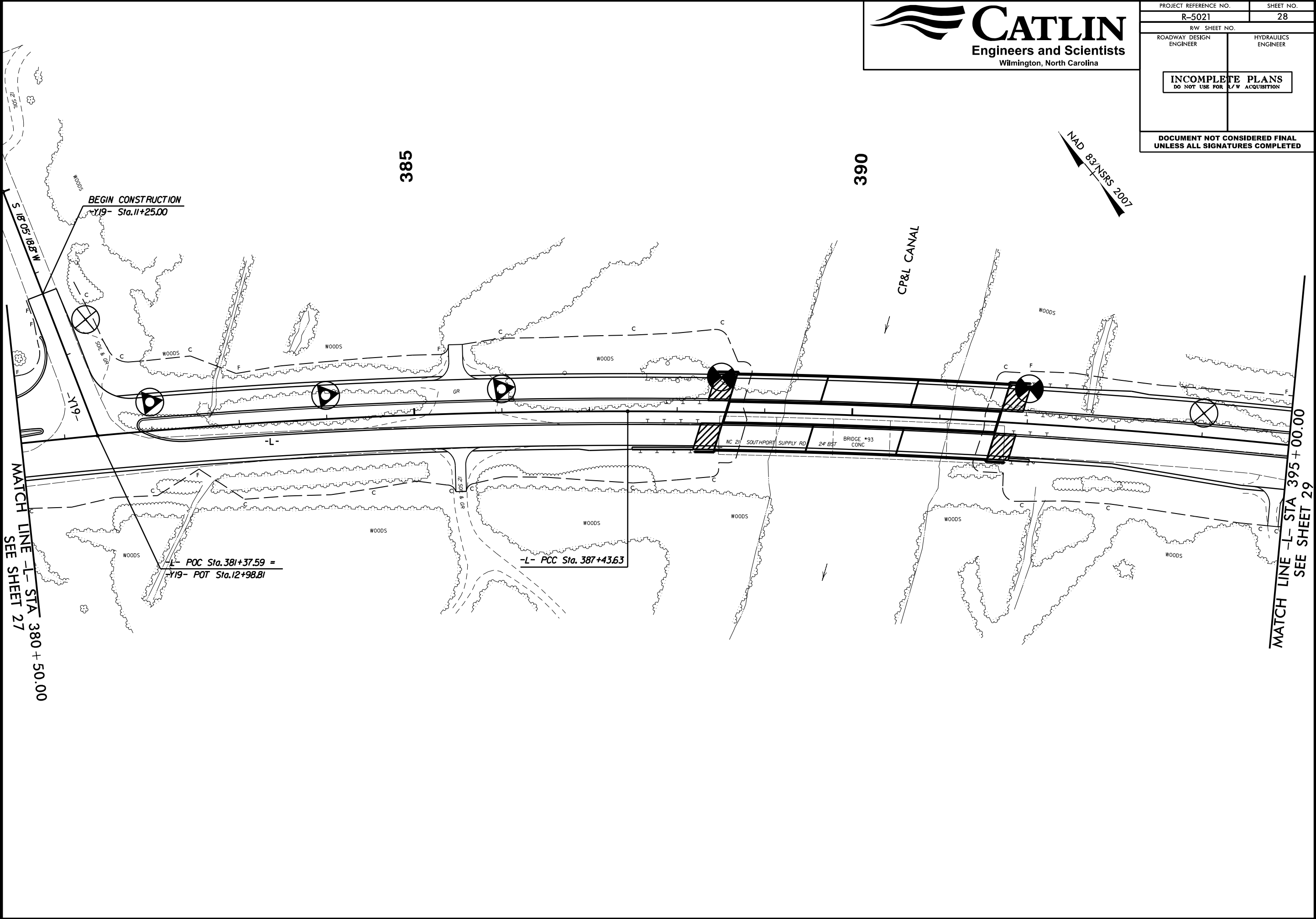


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REVISIONS

RW REVISION: 1. REVISED PUE'S ON PARCELS 101, 102 AND 103. 07/19/16 (MJD)

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PROJECT REFERENCE NO.		SHEET NO.	
R-5021		28	
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			

NAD 83/NSRS 2007

405

-L- PCC Sta. 406+87.50

~~-Y2I- (POT Sta. 13+95.85)~~

MATCH LINE -L- STA 409 + 00.00
SEE SHEET 30

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RW REVISION: 1. ADDED PUE'S ON PARCELS 112, 114, 117, 118, 121 AND 122. 07/19/16 (MJD)
RW REVISION: 2. REVISED DRIVEWAY ON PARCEL 112. (09/07/16) DMW

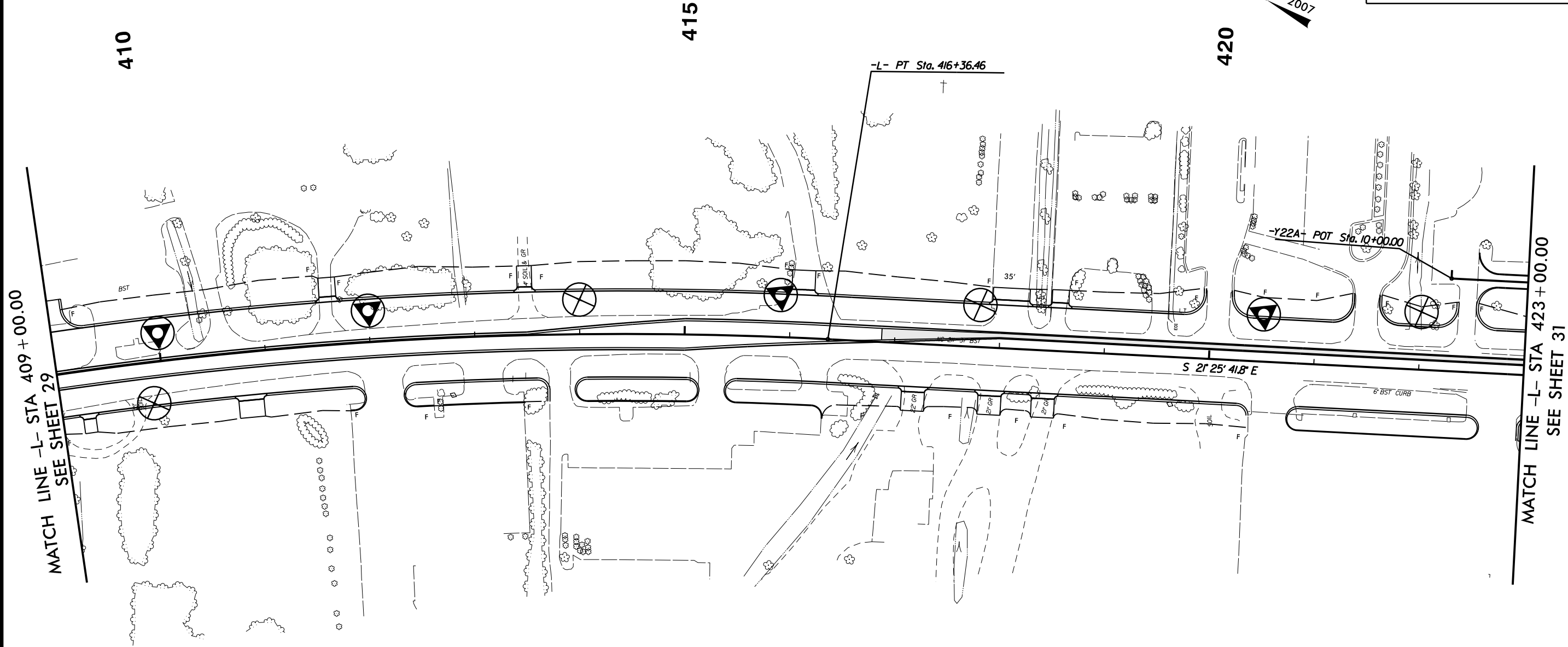
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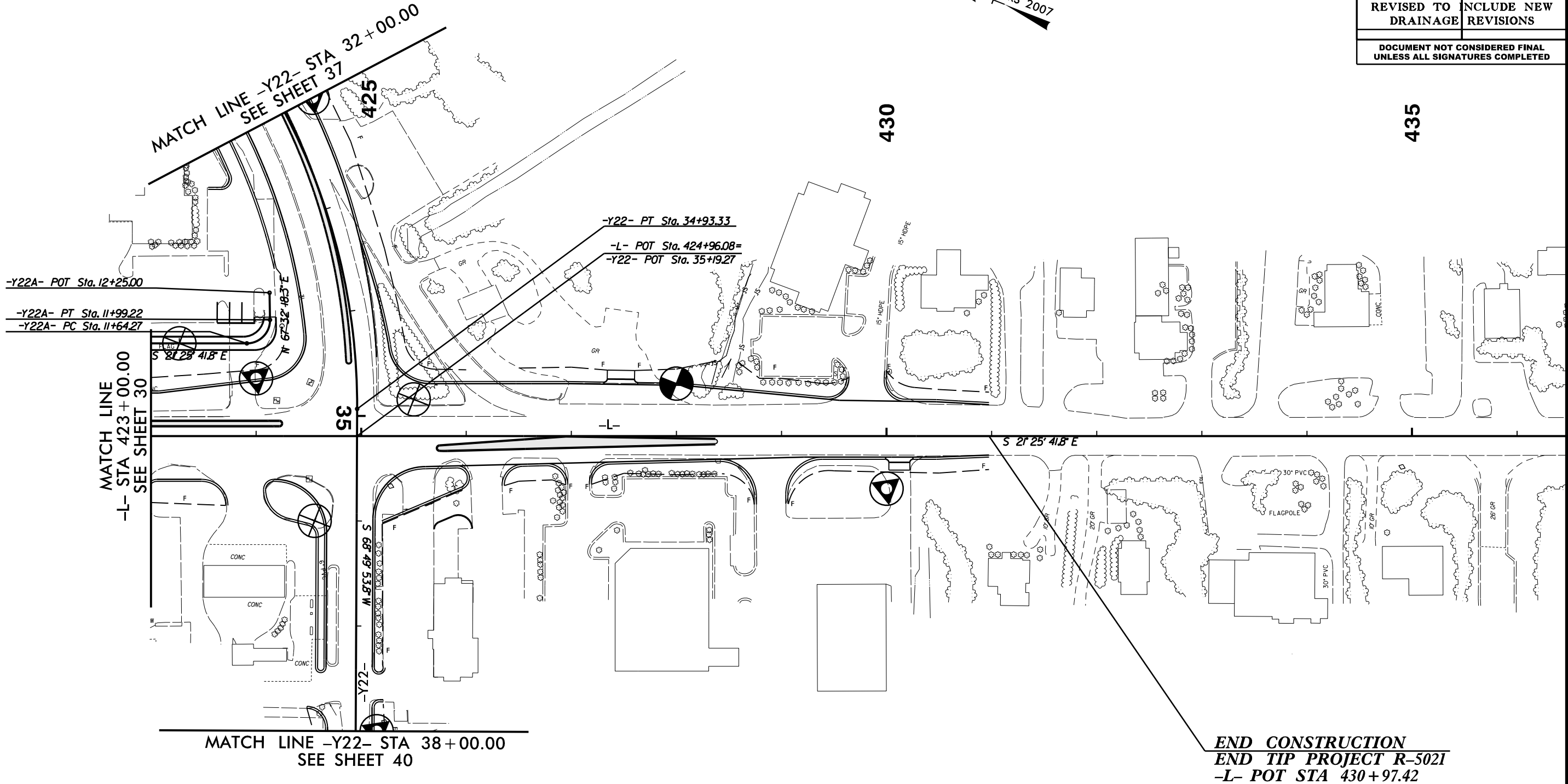
PROJECT REFERENCE NO.	SHEET NO.
R-5021	30
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
ROW HAS NOT BEEN REVISED TO INCLUDE NEW DRAINAGE REVISIONS	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



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R-5021



PROJECT REFERENCE NO.	SHEET NO.
R-5021	31
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
ROW HAS NOT BEEN REVISED TO INCLUDE NEW DRAINAGE REVISIONS	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



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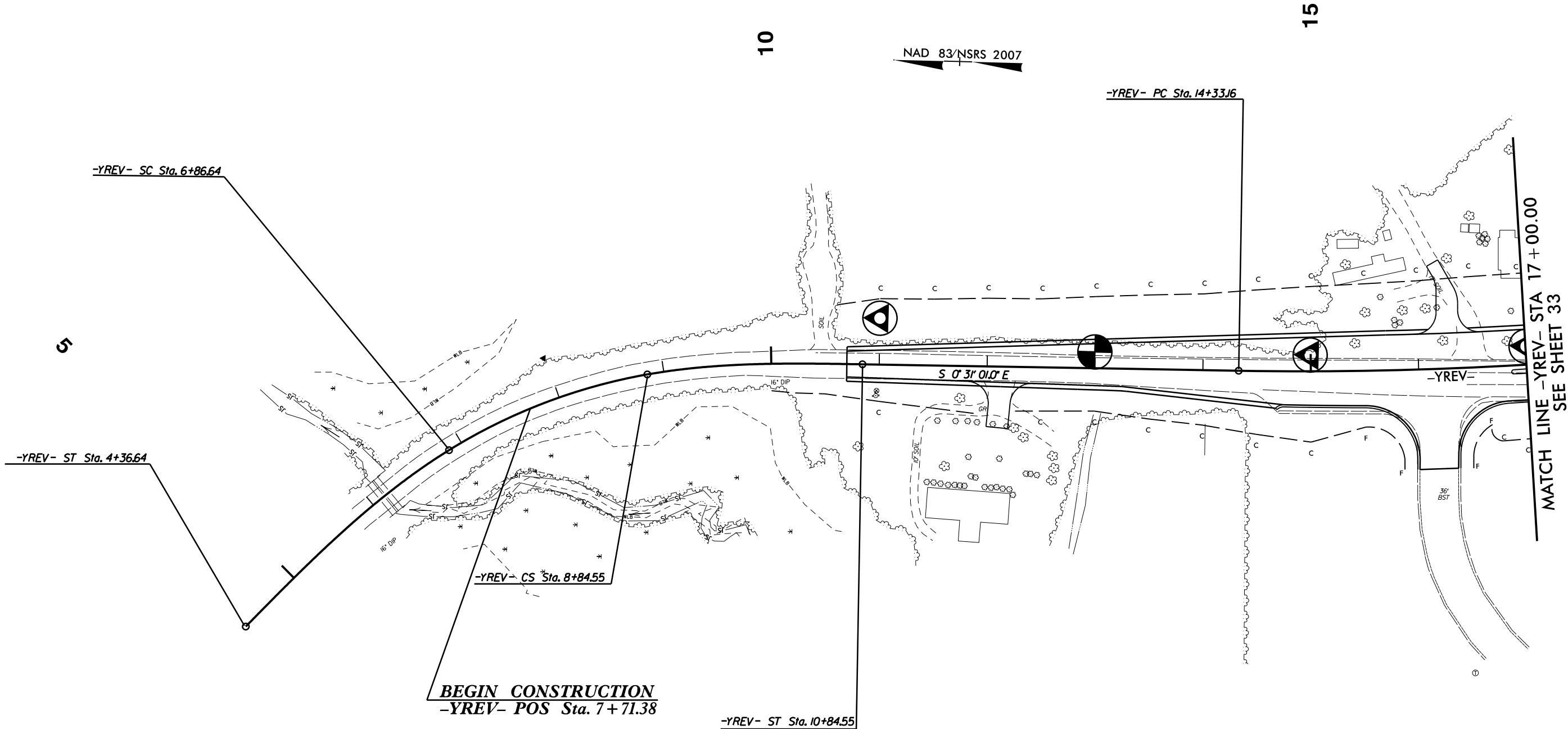
REVISIONS

RW REVISION: ADDED CONTROL OF ACCESS BREAK ON PARCEL 141. JULY 26, 2016.



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PROJECT REFERENCE NO.	SHEET NO.
R-5021	32
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	

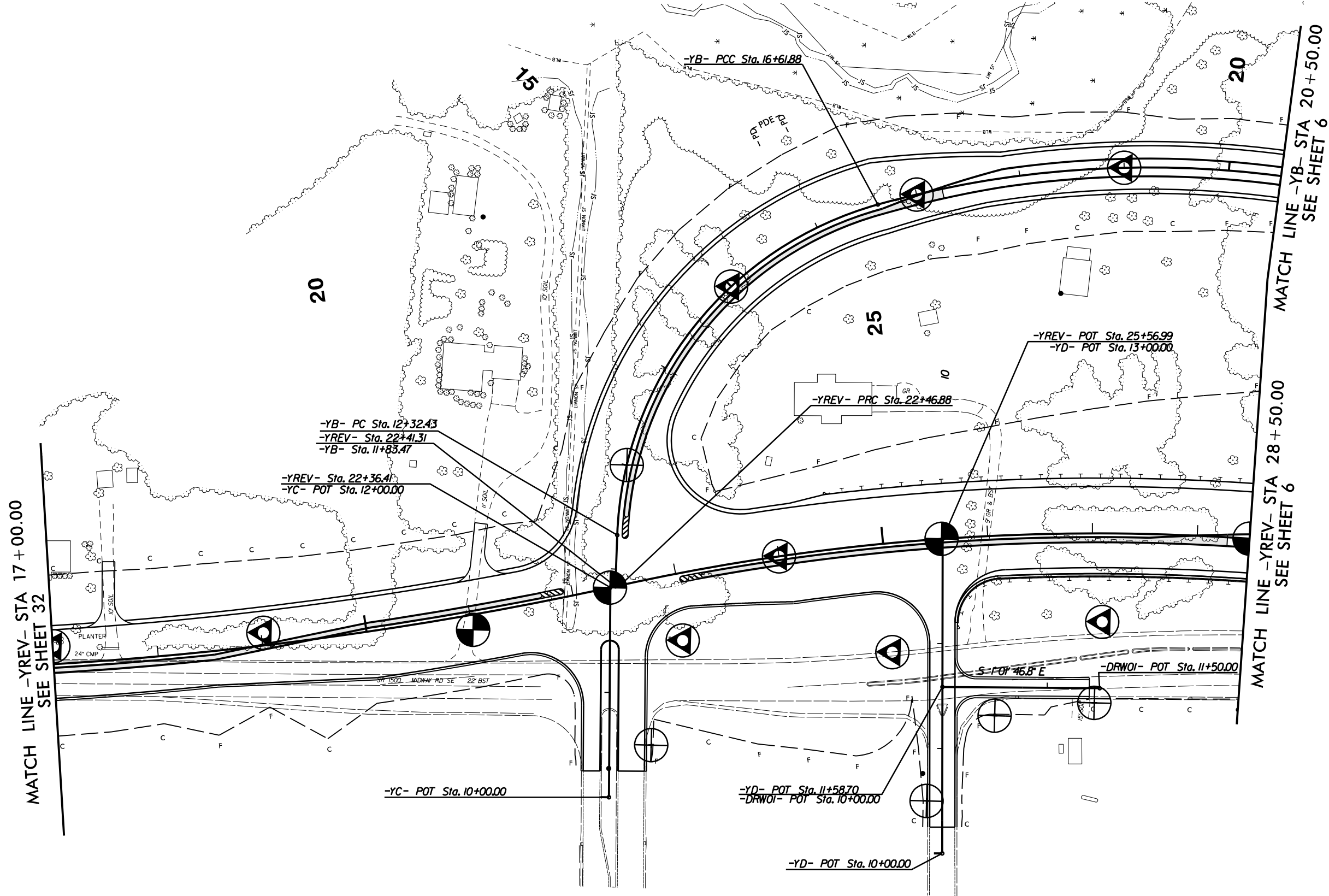


FINISH UPDATING BEFORE REPRINTING

REVISIONS
07-31-2017 - Parcel 3 was Subdivided, Revised ROW & Easements on Parcel 3, Revised ROW, Removed Access Break & Added PUE on Parcel 5, Revised PUE on Parcel 6 DMW

20-DEC-2017 10:08
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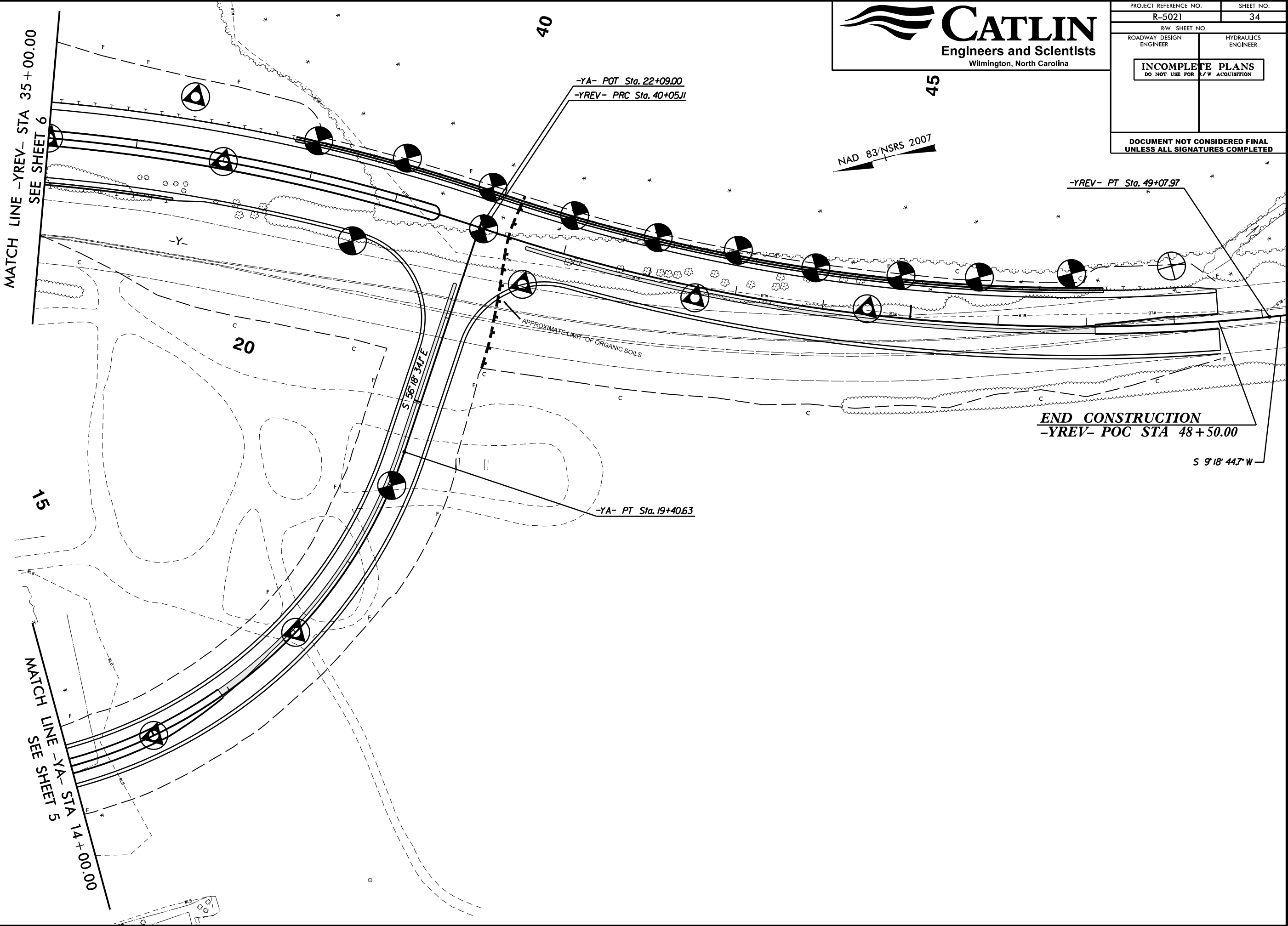
CATLIN
Engineers and Scientists
Wilmington, North Carolina

PROJECT REFERENCE NO.	SHEET NO.
R-5021	33
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	

NAD 83/NSRS 2007

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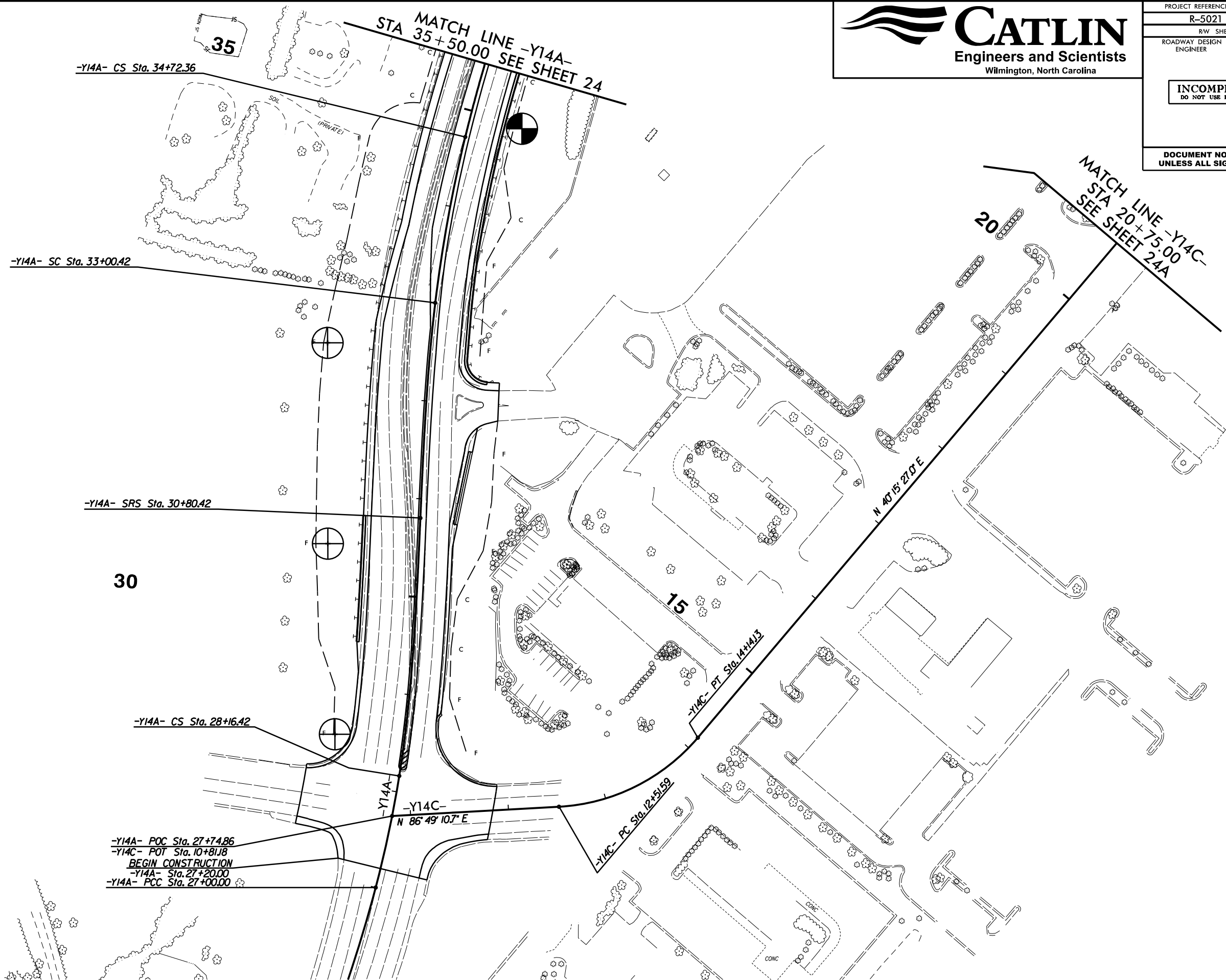


CATLIN

Engineers and Scientists
Wilmington, North Carolina

PROJECT REFERENCE NO.	SHEET NO.
R-5021	35
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	

NAD 83/NSRS 2007



NOTE:

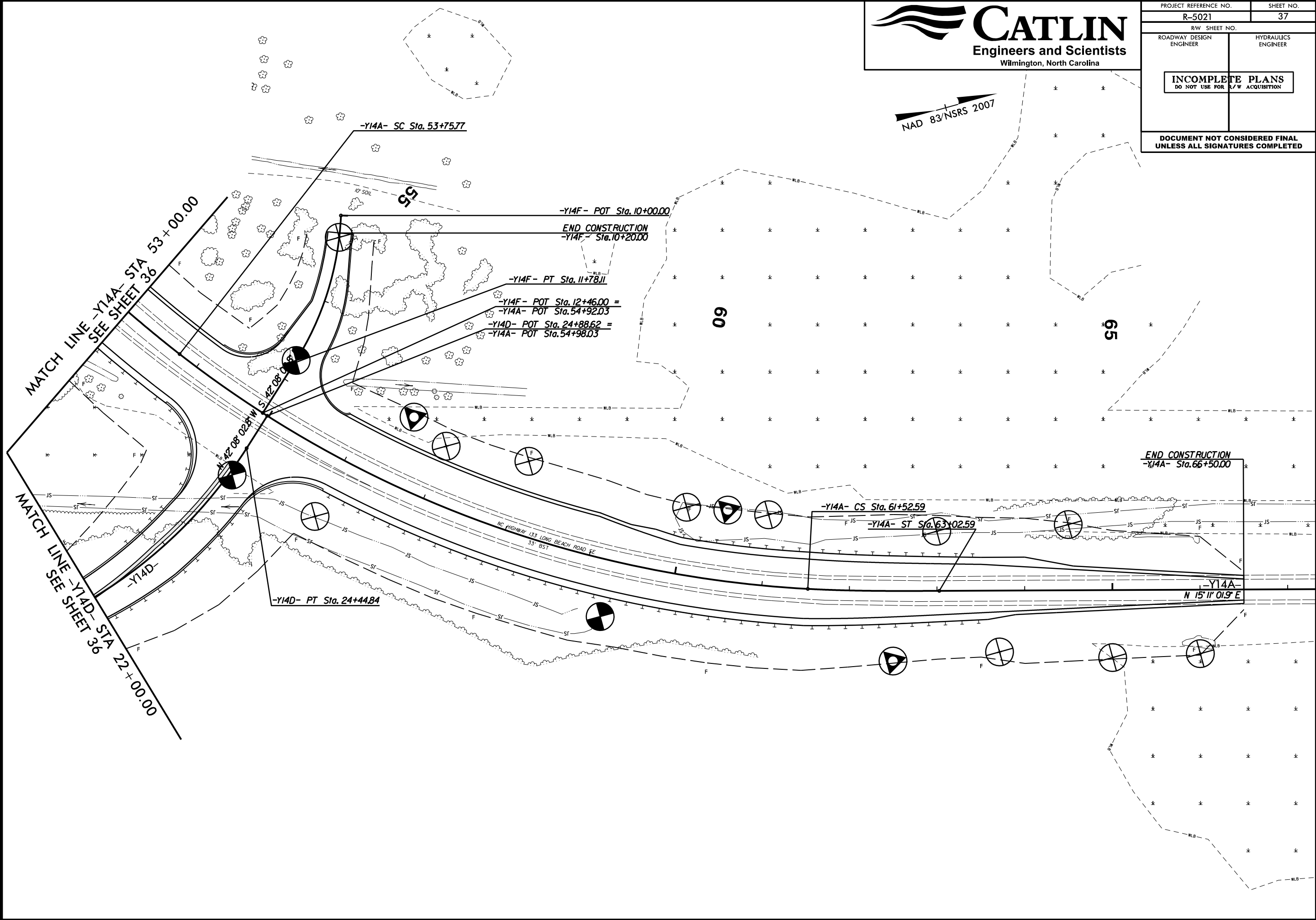


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catlinusa



PROJECT REFERENCE NO.	SHEET NO.
R-5021	37
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	



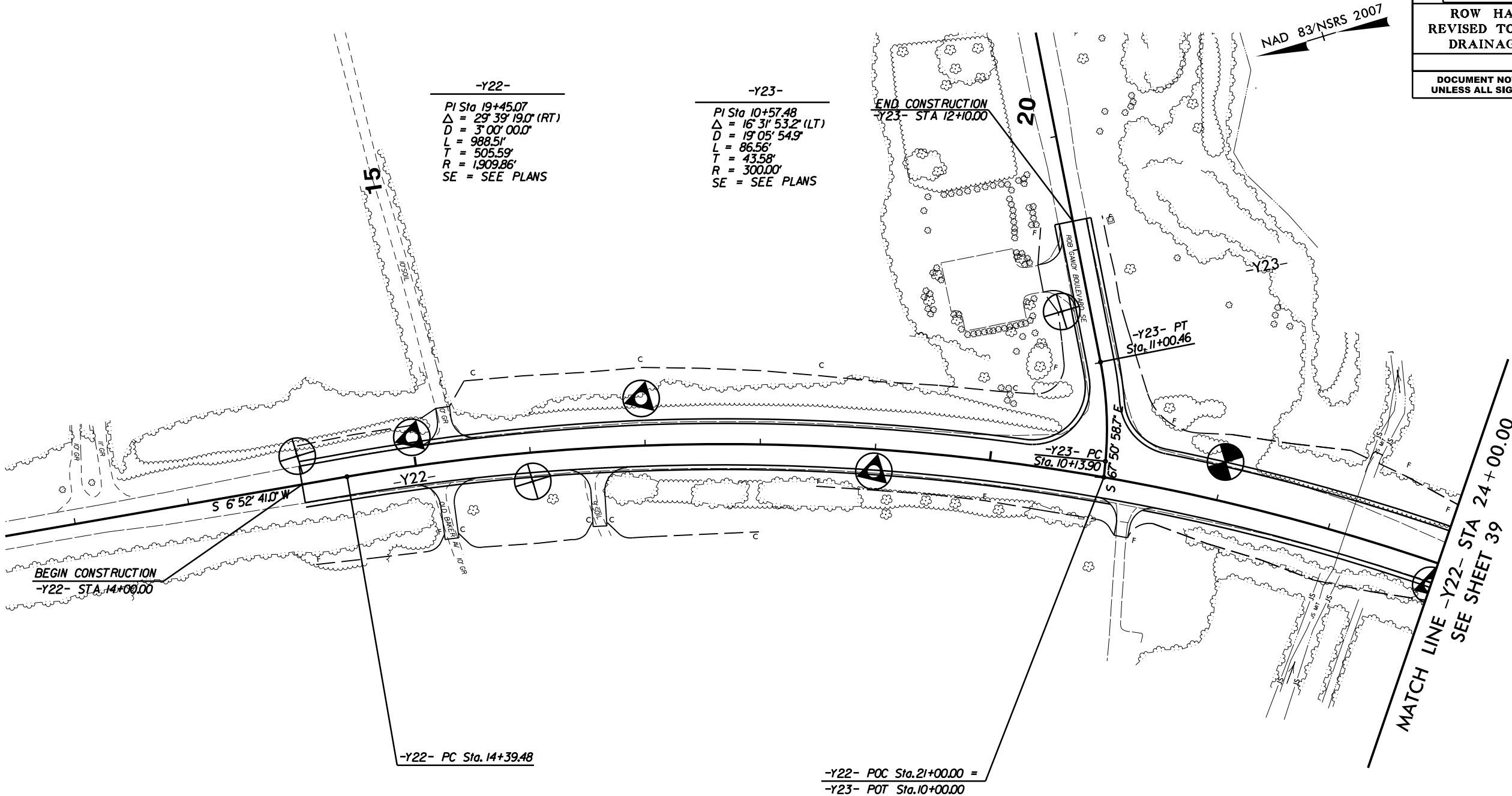
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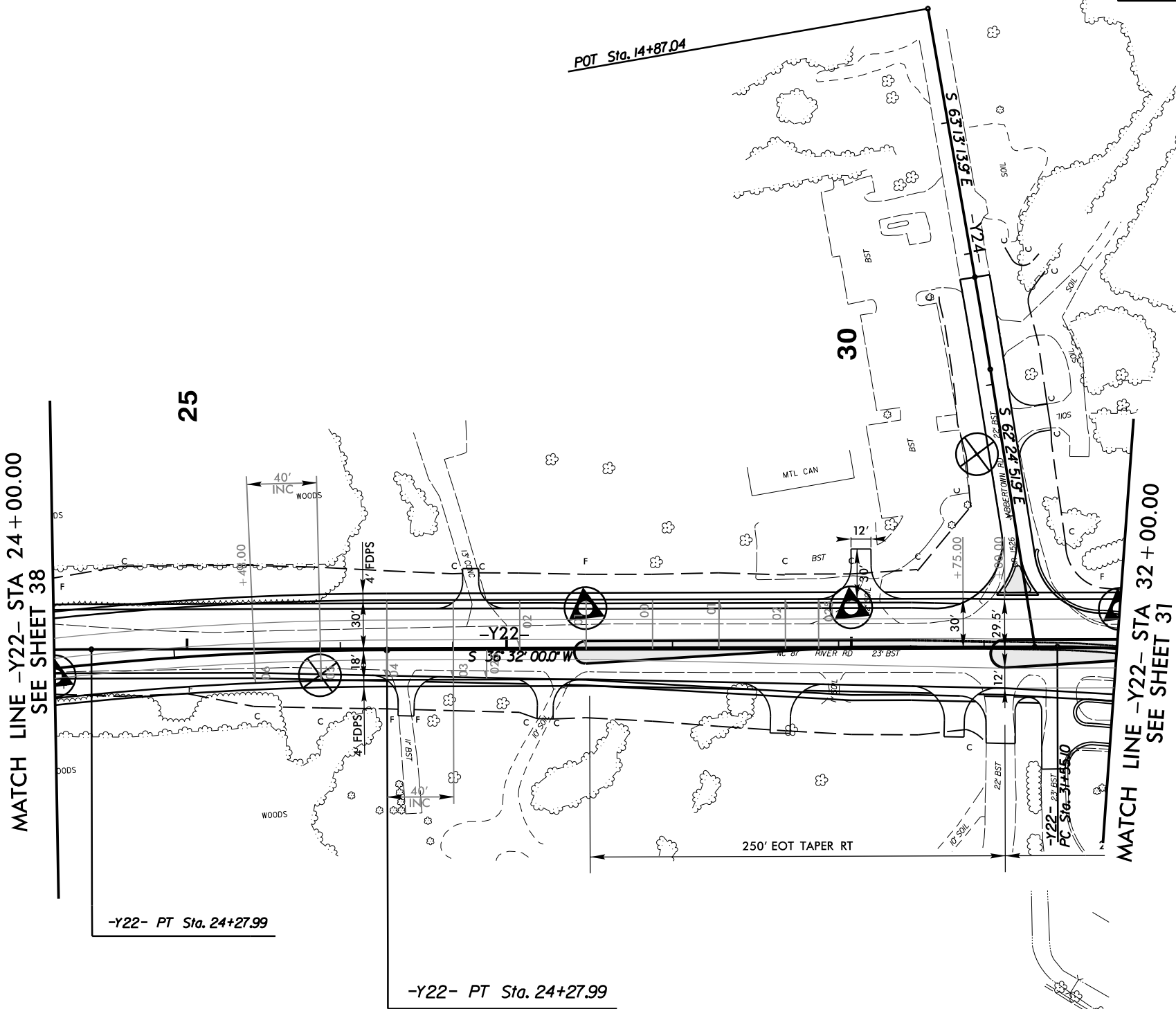
RW REVISION: 1. REVISED PARCEL NO. 148 TO 148A (11/09/2016) DMW



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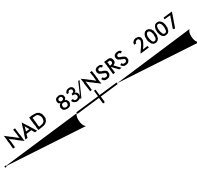
PROJECT REFERENCE NO.	SHEET NO.
R-5021	38
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
ROW HAS NOT BEEN REVISED TO INCLUDE NEW DRAINAGE REVISIONS	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	





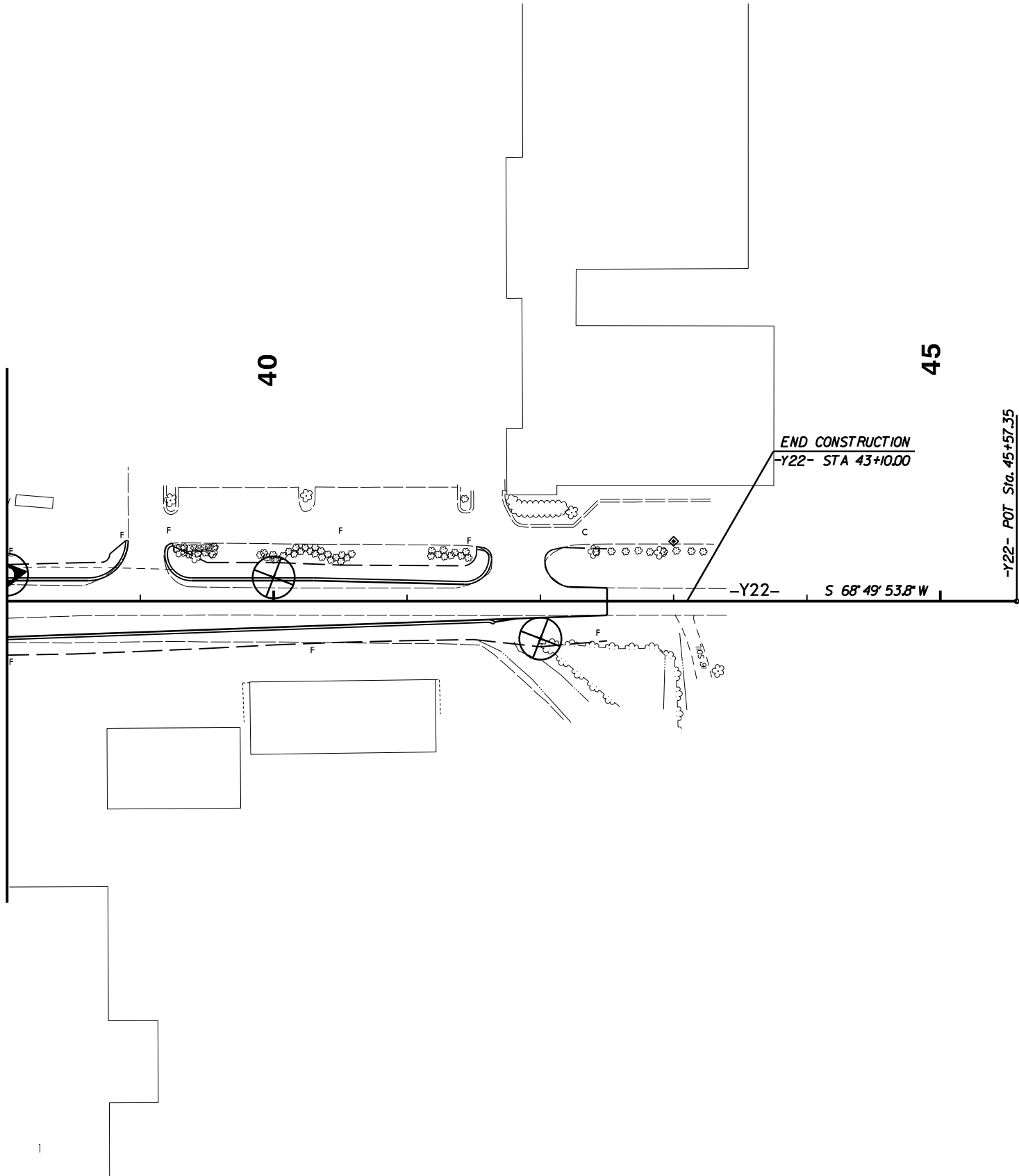


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PROJECT REFERENCE NO.		SHEET NO.	
R-5021		39	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
ROW HAS REVISED TO DRAINAGE		NOT BEEN INCLUDE NEW REVISIONS	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

MATCH LINE -Y22- STA 38+00.00
SEE SHEET 31





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Wilmington, North Carolina

PROJECT REFERENCE NO.		SHEET NO.	
R-5021		40	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
ROW HAS NOT BEEN REVISED TO INCLUDE NEW DRAINAGE REVISIONS			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

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PROJECT REFERENCE NO.
R-5021

SHEET NO.
43

ROADWAY DESIGN
ENGINEER

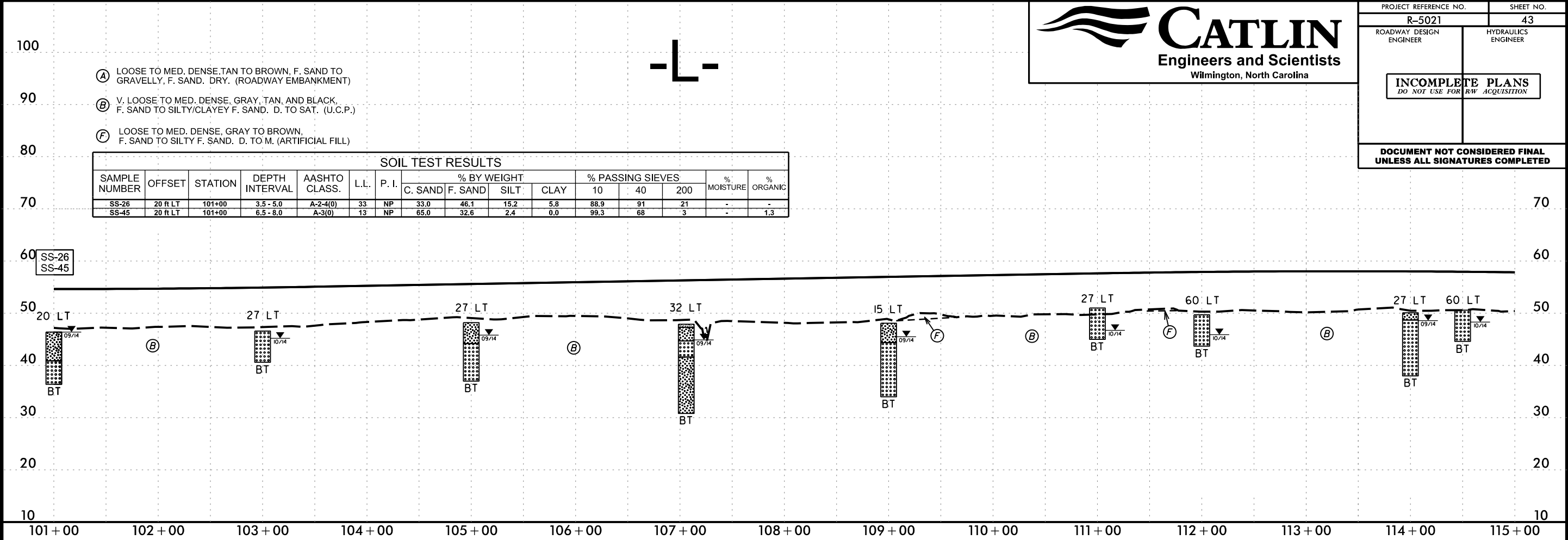
HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR ROW ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY, F. SAND. DRY. (ROADWAY EMBANKMENT)
- (B) V. LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)
- (F) LOOSE TO MED. DENSE, GRAY TO BROWN, F. SAND TO SILTY F. SAND. D. TO M. (ARTIFICIAL FILL)

SAMPLE NUMBER	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-26	20 ft LT	101+00	3.5 - 5.0	A-2-4(0)	33	NP	33.0	46.1	15.2	5.8	88.9	91	21	-	-
SS-45	20 ft LT	101+00	6.5 - 8.0	A-3(0)	13	NP	65.0	32.6	2.4	0.0	99.3	68	3	-	1.3



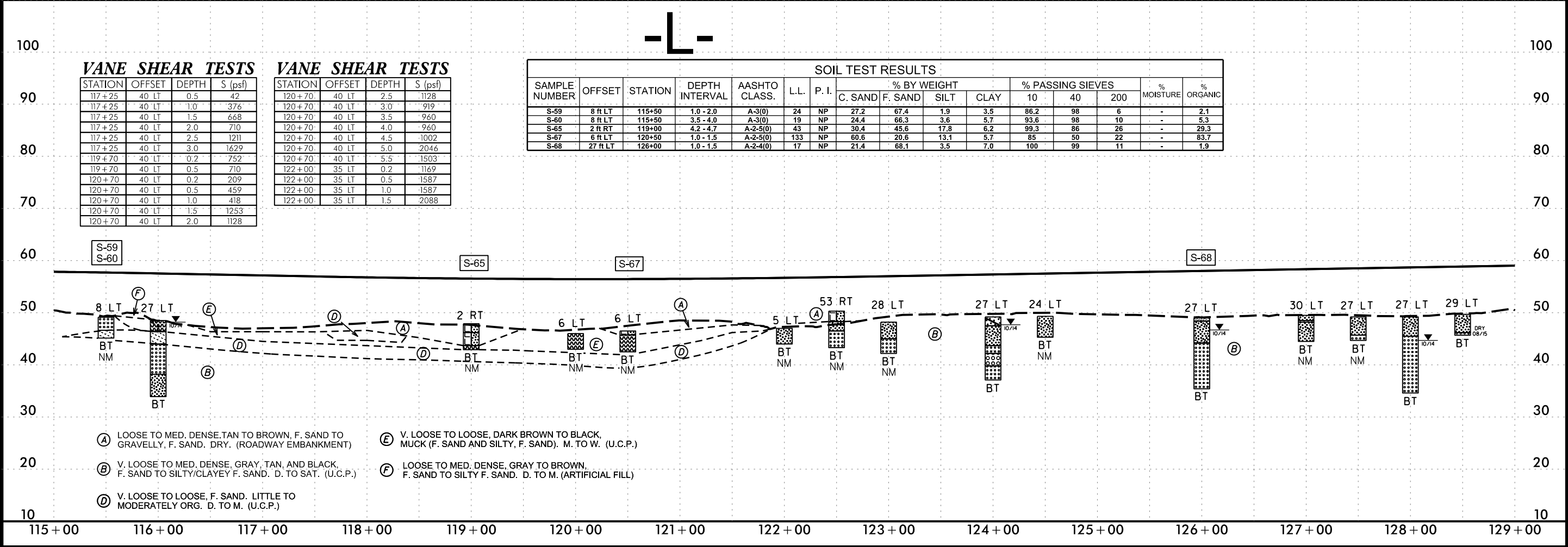
VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
117+25	40 LT	0.5	42
117+25	40 LT	1.0	376
117+25	40 LT	1.5	668
117+25	40 LT	2.0	710
117+25	40 LT	2.5	1211
117+25	40 LT	3.0	1629
119+70	40 LT	0.2	752
119+70	40 LT	0.5	710
120+70	40 LT	0.2	209
120+70	40 LT	0.5	459
120+70	40 LT	1.0	418
120+70	40 LT	1.5	1253
120+70	40 LT	2.0	1128

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
120+70	40 LT	2.5	1128
120+70	40 LT	3.0	919
120+70	40 LT	3.5	960
120+70	40 LT	4.0	960
120+70	40 LT	4.5	1002
120+70	40 LT	5.0	2046
120+70	40 LT	5.5	1503
122+00	35 LT	0.2	1169
122+00	35 LT	0.5	1587
122+00	35 LT	1.0	1587
122+00	35 LT	1.5	2088

SAMPLE NUMBER	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-59	8 ft LT	115+50	1.0 - 2.0	A-3(0)	24	NP	27.2	67.4	1.9	3.5	86.2	98	6	-	2.1
S-60	8 ft LT	115+50	3.5 - 4.0	A-3(0)	19	NP	24.4	66.3	3.6	5.7	93.6	98	10	-	5.3
S-65	2 ft RT	119+00	4.2 - 4.7	A-2-5(0)	43	NP	30.4	45.6	17.8	6.2	99.3	86	26	-	29.3
S-67	6 ft LT	120+50	1.0 - 1.5	A-2-5(0)	133	NP	60.6	20.6	13.1	5.7	85	50	22	-	63.7
S-68	27 ft LT	126+00	1.0 - 1.5	A-2-4(0)	17	NP	21.4	68.1	3.5	7.0	100	99	11	-	1.9



- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY, F. SAND. DRY. (ROADWAY EMBANKMENT)
- (B) V. LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)
- (D) V. LOOSE TO LOOSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)
- (E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND AND SILTY, F. SAND). M. TO W. (U.C.P.)
- (F) LOOSE TO MED. DENSE, GRAY TO BROWN, F. SAND TO SILTY F. SAND. D. TO M. (ARTIFICIAL FILL)

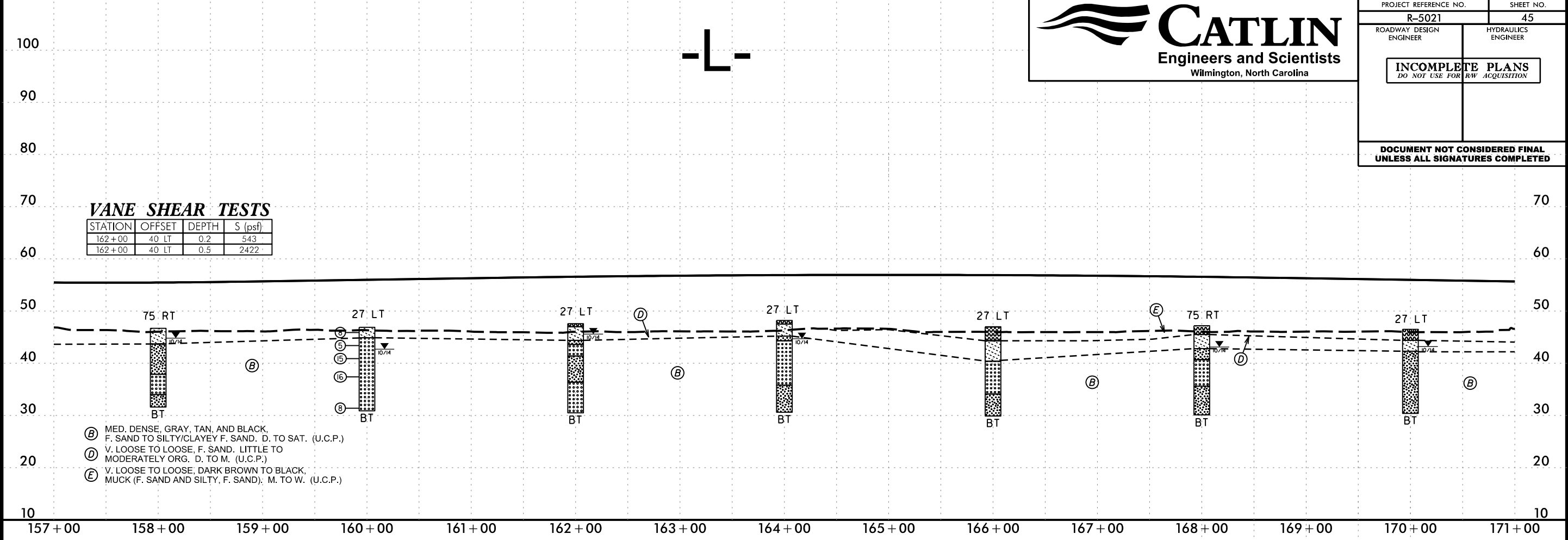
5/28/99



PROJECT REFERENCE NO.		SHEET NO.	
R-5021		45	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR RW ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
162+00	40 LT	0.2	543
162+00	40 LT	0.5	2422

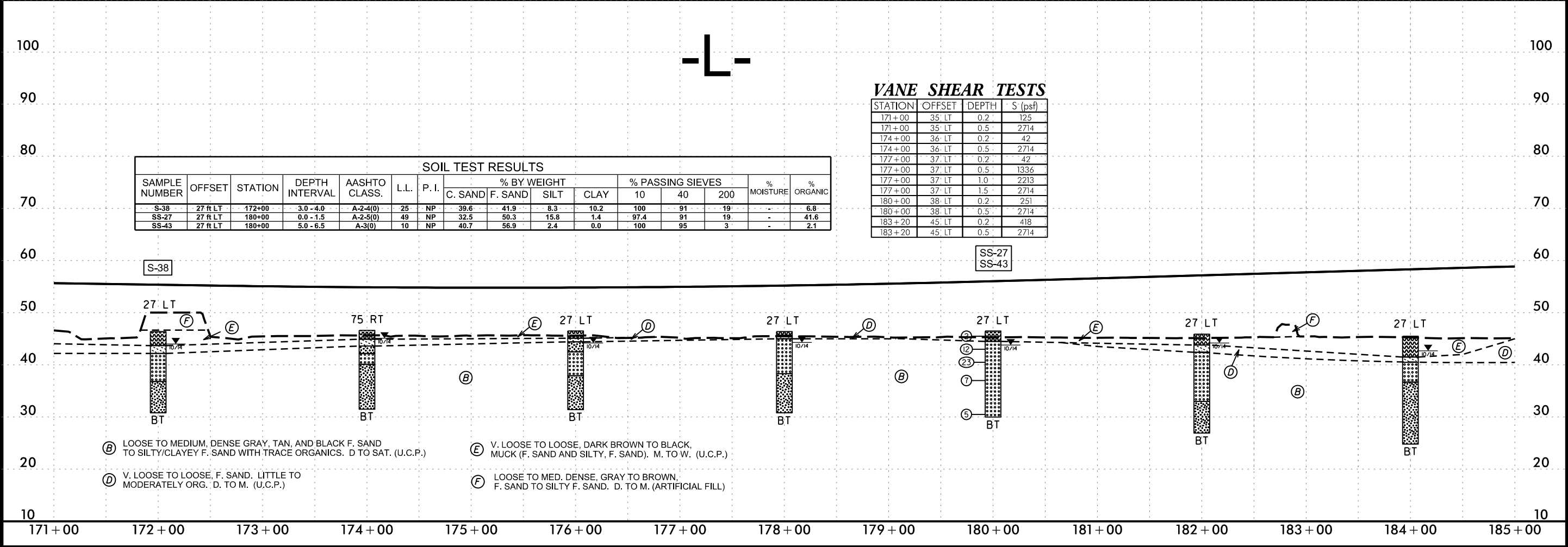


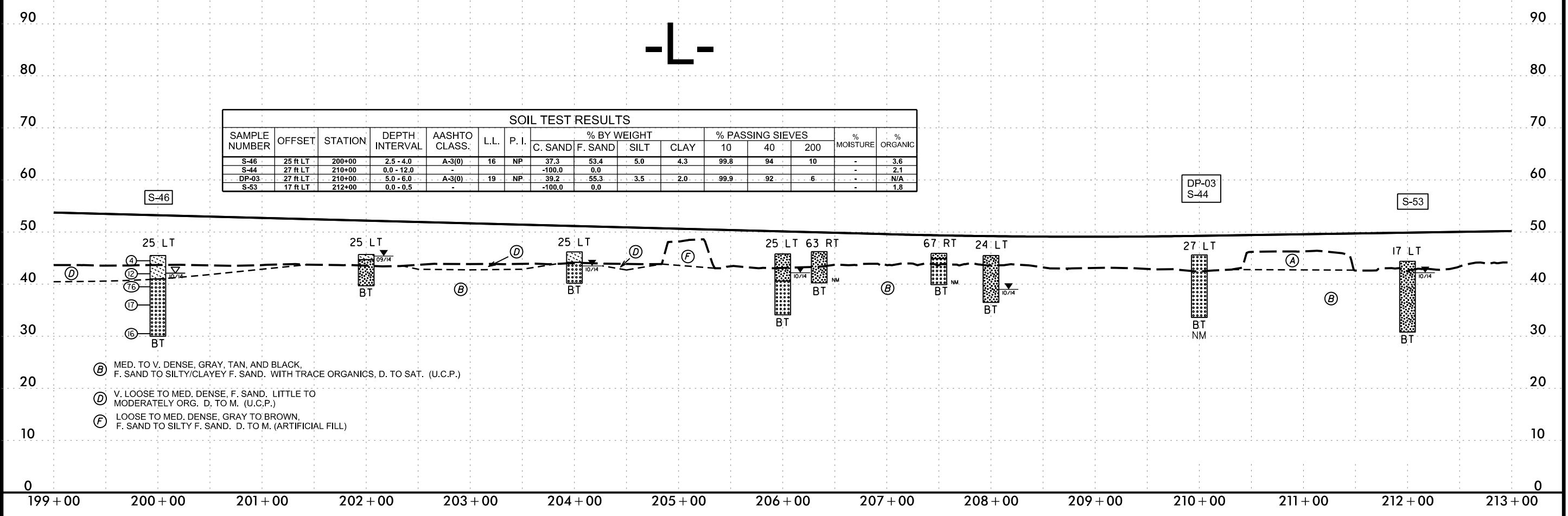
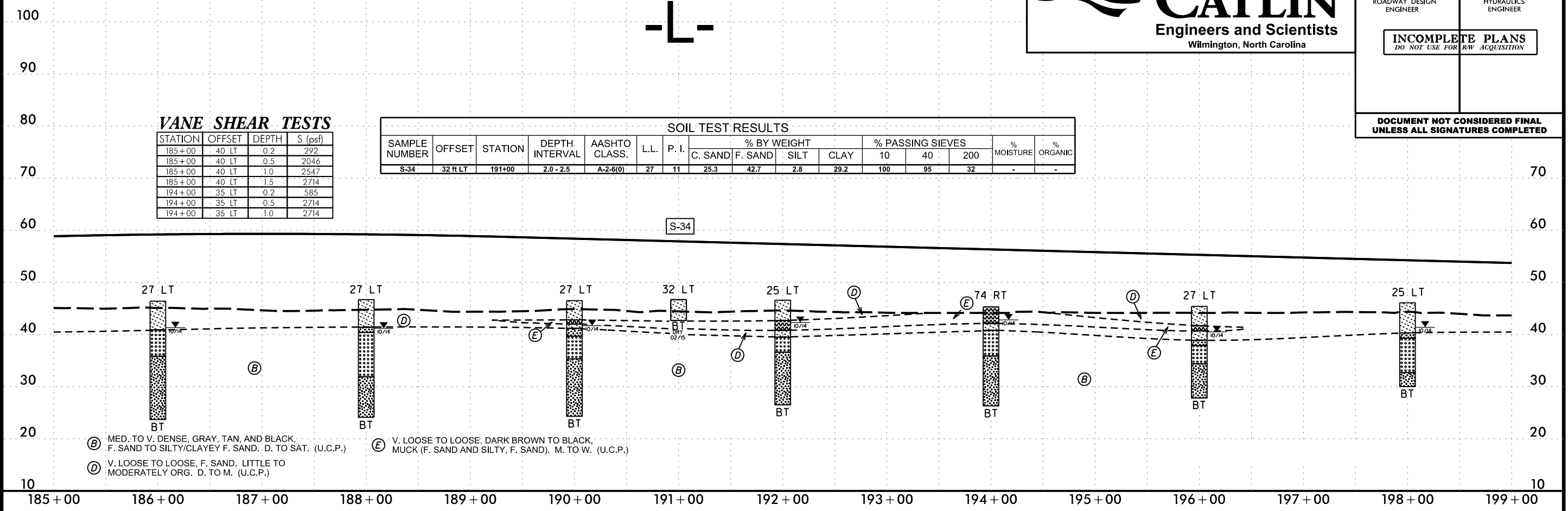
VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
171+00	35 LT	0.2	125
171+00	35 LT	0.5	2714
174+00	36 LT	0.2	42
174+00	36 LT	0.5	2714
177+00	37 LT	0.2	42
177+00	37 LT	0.5	1336
177+00	37 LT	1.0	2213
177+00	37 LT	1.5	2714
180+00	38 LT	0.2	251
180+00	38 LT	0.5	2714
183+20	45 LT	0.2	418
183+20	45 LT	0.5	2714

SOIL TEST RESULTS

SAMPLE NUMBER	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-38	27 ft LT	172+00	3.0 - 4.0	A-2-4(0)	25	NP	39.6	41.9	8.3	10.2	100	91	19	-	6.8
SS-27	27 ft LT	180+00	0.0 - 1.5	A-2-5(0)	49	NP	32.5	50.3	15.8	1.4	97.4	91	19	-	41.6
SS-43	27 ft LT	180+00	5.0 - 6.5	A-3(0)	10	NP	40.7	56.9	2.4	0.0	100	95	3	-	2.1





5/28/99



PROJECT REFERENCE NO.
R-5021

SHEET NO.
47

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS

DO NOT USE FOR RW ACQUISITION

DOCUMENT NOT CONSIDERED FINAL

UNLESS ALL SIGNATURES COMPLETED

SOIL TEST RESULTS															
SAMPLE NUMBER	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-47	27 ft LT	214+00	0.0 - 6.0	A-2-4(0)	13	NP	47.0	42.7	5.0	5.3	99.3	85	11	-	1.8
S-15	12 ft LT	224+00	2.5 - 4.0	A-3(0)	28	NP	34.7	59.6	2.7	3.0	98.1	85	6	-	7.6
SS-04	27 ft LT	225+50	0.0 - 1.5	-	-	-	27.5	67.7	1.0	3.8	94.9	97	6	-	-
SS-05	27 ft LT	225+50	6.5 - 8.0	A-2-4(0)	19	NP	16.8	77.2	1.3	4.7	87.8	93	13	-	-
SS-06	27 ft LT	225+50	11.0 - 12.5	A-4(0)	23	NP	3.9	69.3	10.4	16.4	99.7	98	42	-	-
SS-55	8 ft LT	225+89	2.5 - 4.0	A-3(0)	17	NP	45.1	50.2	2.2	2.5	99.9	91	5	-	0.7
SS-56	8 ft LT	225+89	8.0 - 9.5	-	-	-	-	-	-	-	-	-	-	-	3.9
S-26	50 ft LT	227+00	0.0 - 3.0	A-3(0)	28	NP	36.7	57.0	4.9	1.4	99.2	85	7	-	9.4

- (A) LOOSE TO MED. DENSE. TAN TO BROWN, F. SAND TO GRAVELLY, F. SAND. DRY. (ROADWAY EMBANKMENT)
- (B) V. LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND WITH TRACE ORGANICS. D. TO SAT. (U.C.P.)
- (D) V. LOOSE TO MED. DENSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)
- (C) SOFT TO MED. STIFF. BROWN TO GRAY, SANDY SILT, WET. (U.C.P.)

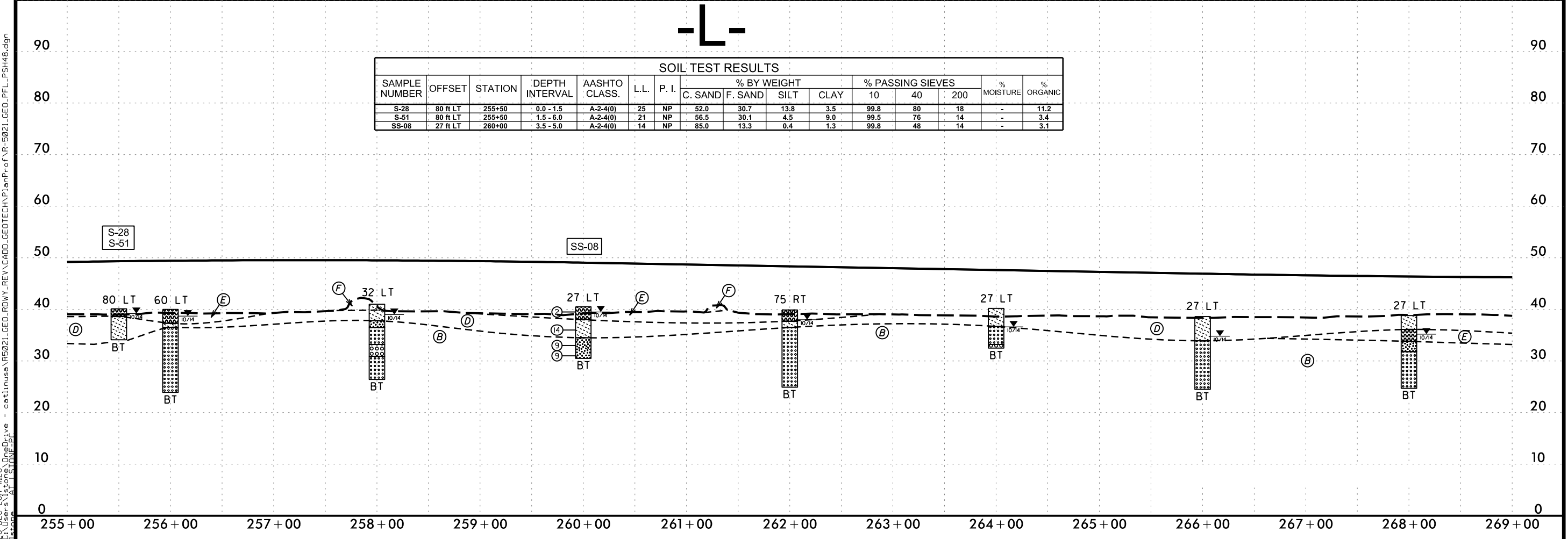
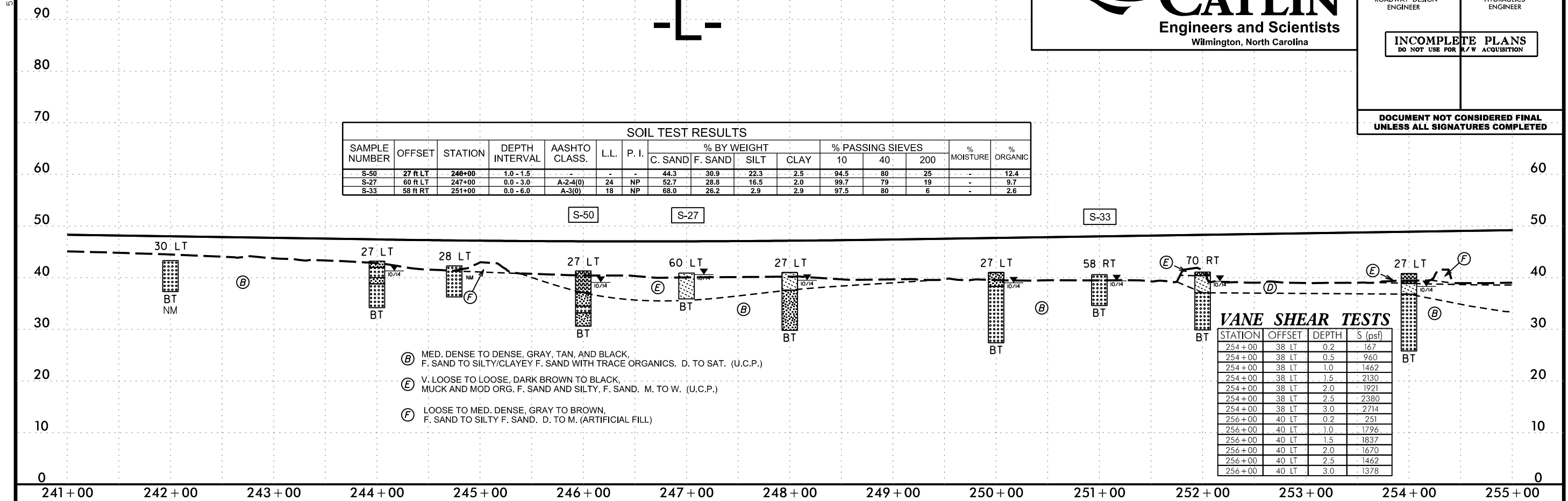
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DENSE, GRAY, TAN, SILTY/CLAYEY F. SAND.

MED. DENSE TO DENSE, GRAY, CSE. SAND SAT. (WACCAW FM.)

SOIL TEST RESULTS															
SAMPLE NUMBER	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-26	50 ft LT	227+00	0.0 - 3.0	A-3(0)	28	NP	36.7	57.0	4.9	1.4	99.2	85	7	-	9.4
S-48	27 ft LT	230+00	0.0 - 6.0	A-3(0)	17	NP	38.0	58.0	1.7	2.3	99.9	90	4	-	1.1
DP-05	27 ft LT	230+00	6.0 - 7.0	A-3(0)	16	NP	51.2	43.3	0.5	5.0	99.8	84	6	-	-
SS-07	27 ft LT	240+00	3.5 - 5.0	A-3(0)	16	NP	46.9	48.1	1.7	3.3	99.7	82	5	-	-

- (A) LOOSE TO MED. DENSE. TAN TO BROWN, F. SAND TO GRAVELLY, F. SAND. DRY. (ROADWAY EMBANKMENT)
- (B) MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND WITH TRACE ORGANICS. D. TO SAT. (U.C.P.)
- (D) V. LOOSE TO MED. DENSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)



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PROJECT REFERENCE NO.		SHEET NO.	
R-5021		49	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR RW ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

VANE SHEAR TESTS

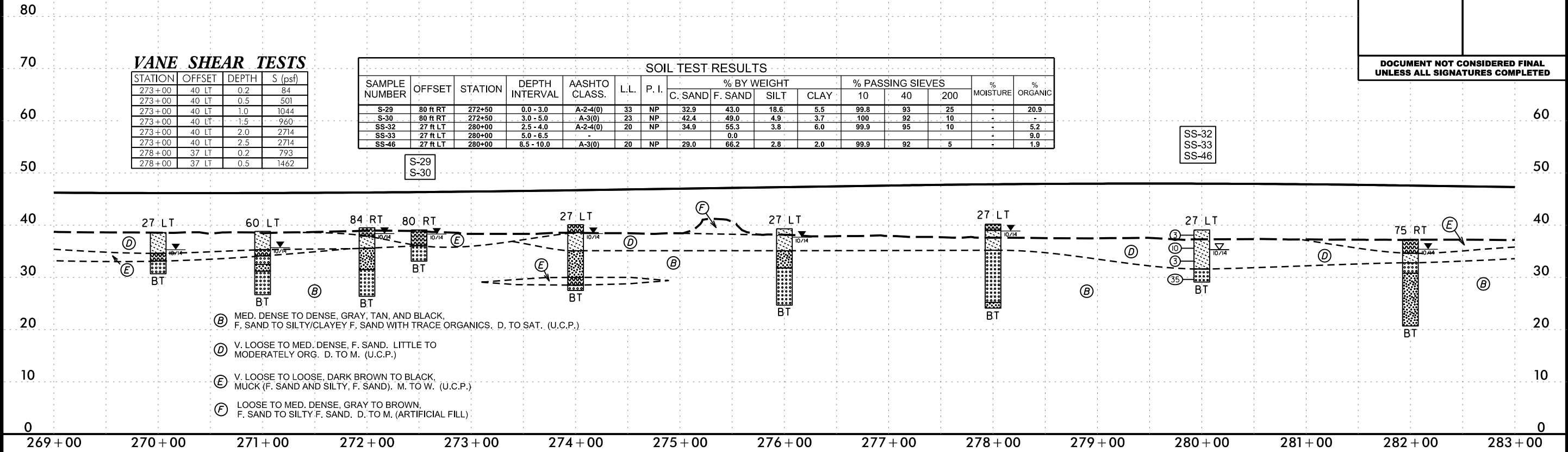
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273+00	40 LT	0.2	84
273+00	40 LT	0.5	501
273+00	40 LT	1.0	1044
273+00	40 LT	1.5	960
273+00	40 LT	2.0	2714
273+00	40 LT	2.5	2714
278+00	37 LT	0.2	793
278+00	37 LT	0.5	1462

SOIL TEST RESULTS

SAMPLE NUMBER	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-29	80 ft RT	272+50	0.0 - 3.0	A-2-4(0)	33	NP	32.9	43.0	18.6	5.5	99.8	93	25	-	20.9
S-30	80 ft RT	272+50	3.0 - 5.0	A-3(0)	23	NP	42.4	49.0	4.9	3.7	100	92	10	-	-
SS-32	27 ft LT	280+00	2.5 - 4.0	A-2-4(0)	20	NP	34.9	55.3	3.8	6.0	99.9	95	10	-	5.2
SS-33	27 ft LT	280+00	5.0 - 6.5	-	-	-	-	0.0	-	-	-	-	-	-	9.0
SS-46	27 ft LT	280+00	8.5 - 10.0	A-3(0)	20	NP	29.0	66.2	2.8	2.0	99.9	92	5	-	1.9

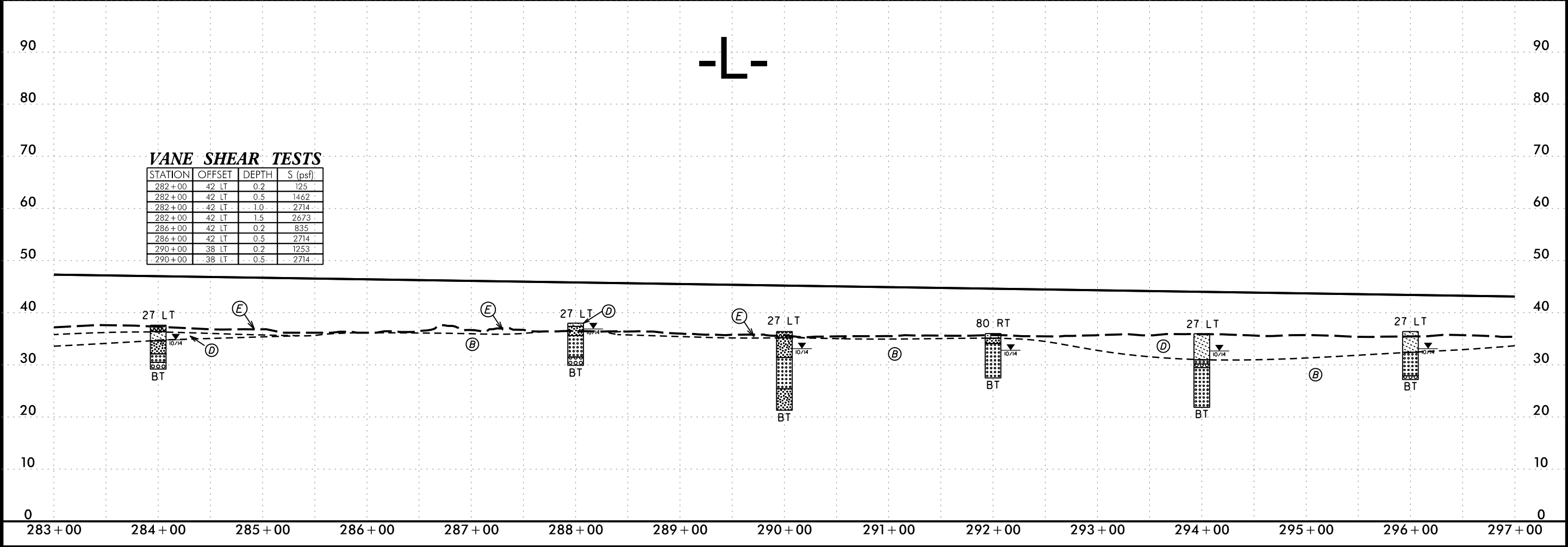
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S-30

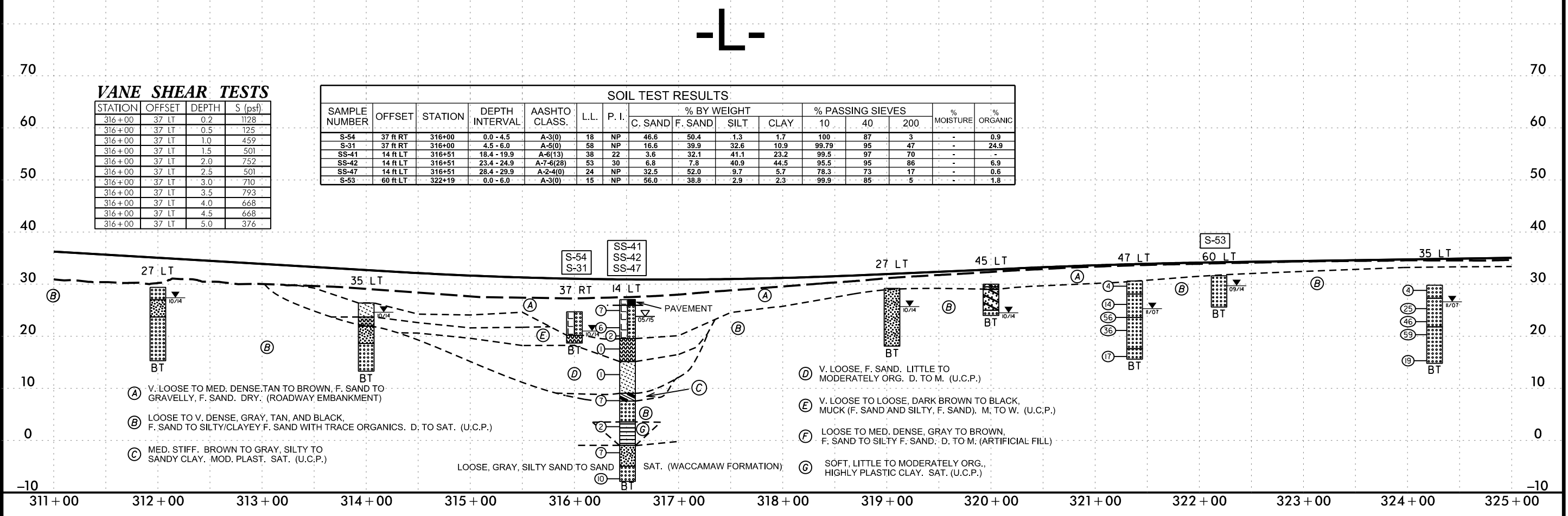
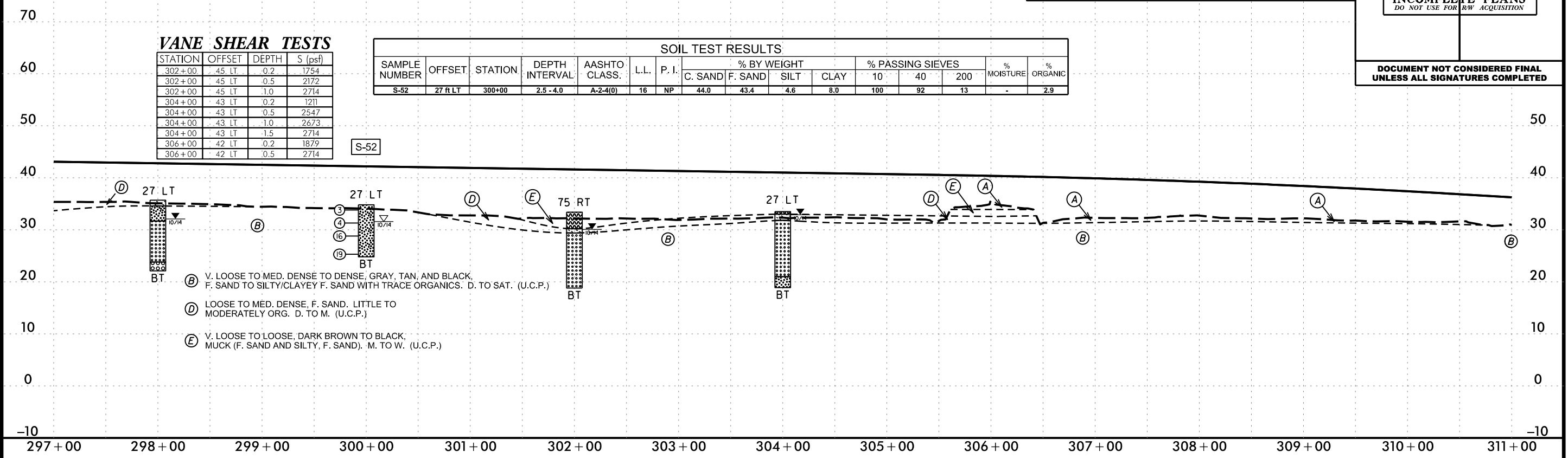
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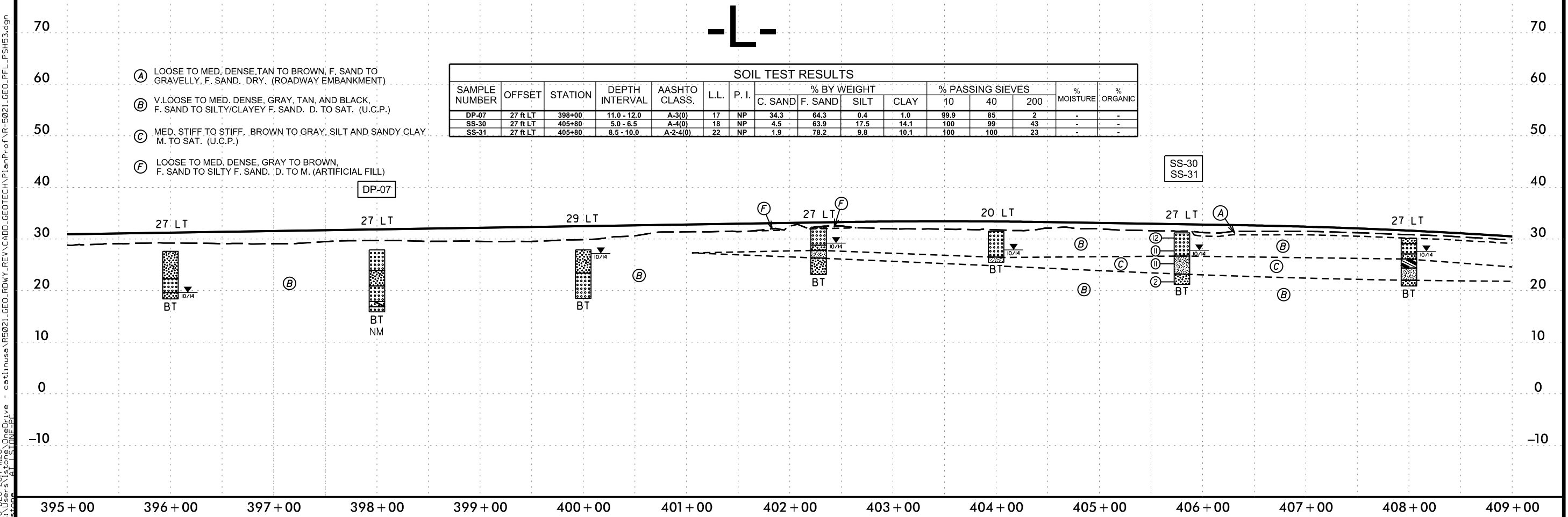
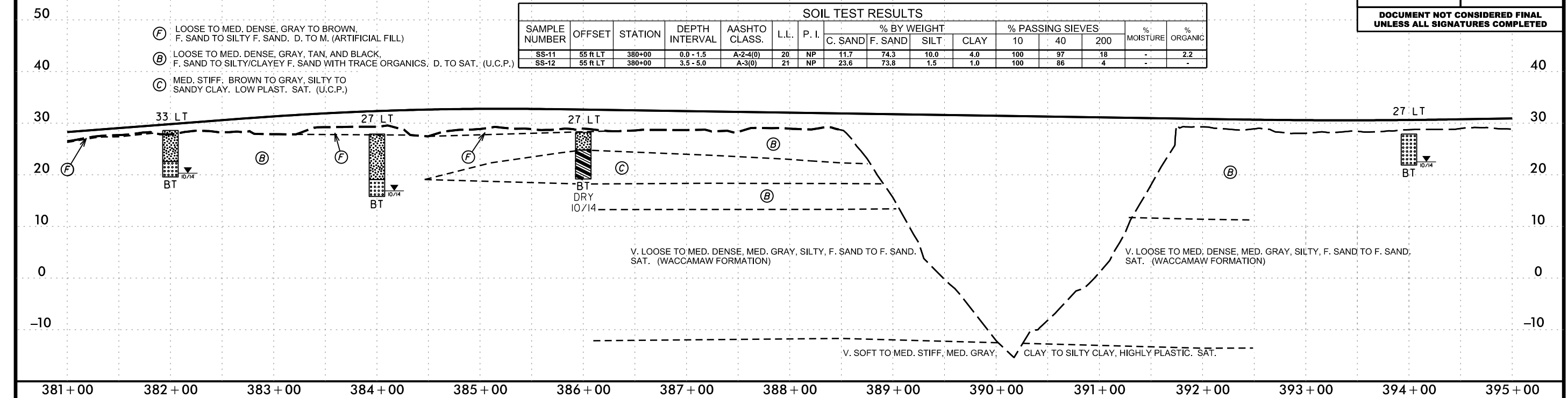


VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
282+00	42 LT	0.2	125
282+00	42 LT	0.5	1462
282+00	42 LT	1.0	2714
282+00	42 LT	1.5	2673
286+00	42 LT	0.2	835
286+00	42 LT	0.5	2714
290+00	38 LT	0.2	1253
290+00	38 LT	0.5	2714





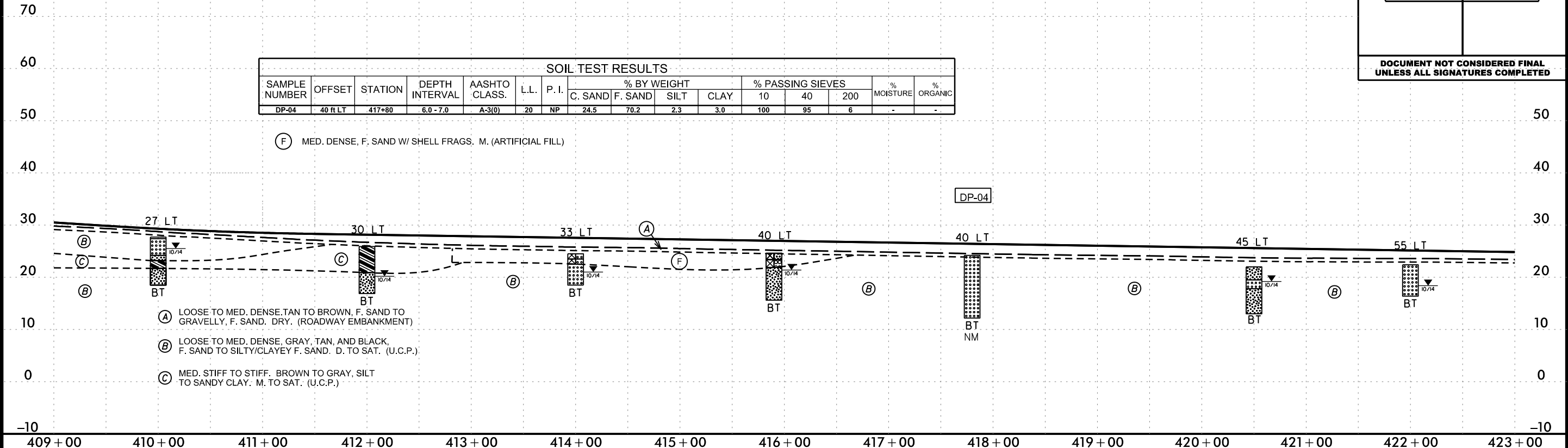


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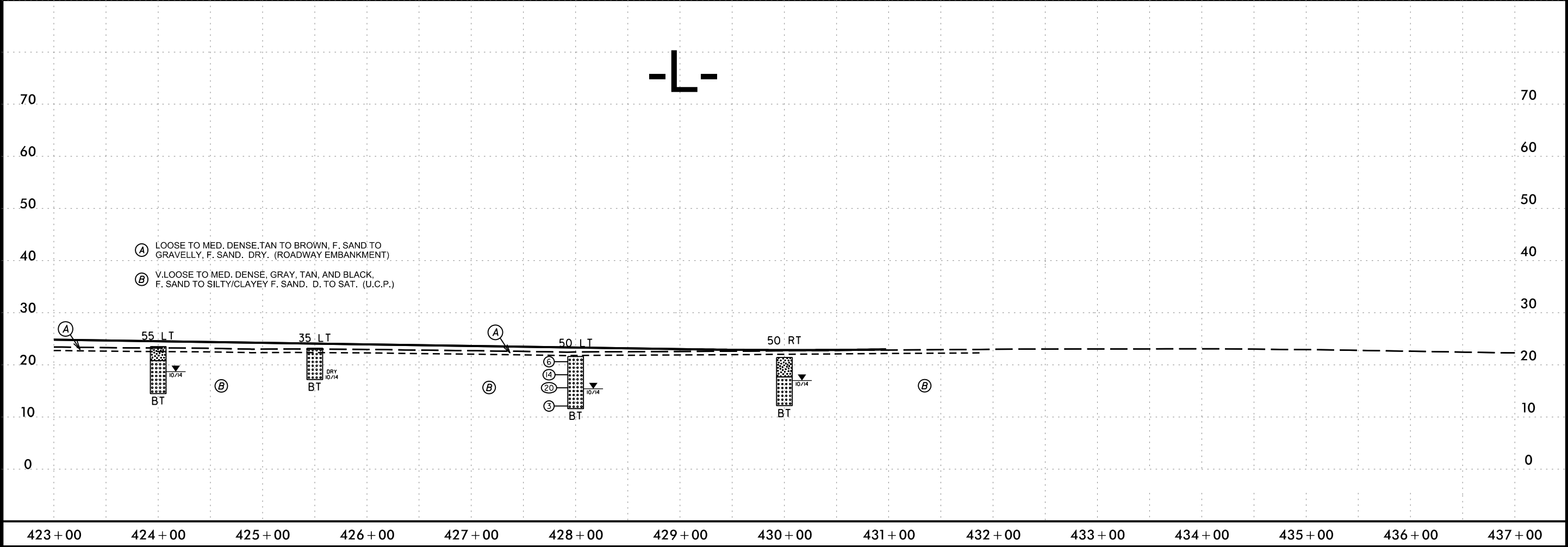


PROJECT REFERENCE NO.		SHEET NO.	
R-5021		54	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR RW ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

SAMPLE NUMBER	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		
DP-04	40 ft LT	417+80	6.0 - 7.0	A-3(0)	.20	NP	24.5	70.2	2.3	3.0	100	95	6	-	-



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jstone



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PROJECT REFERENCE NO.
R-5021

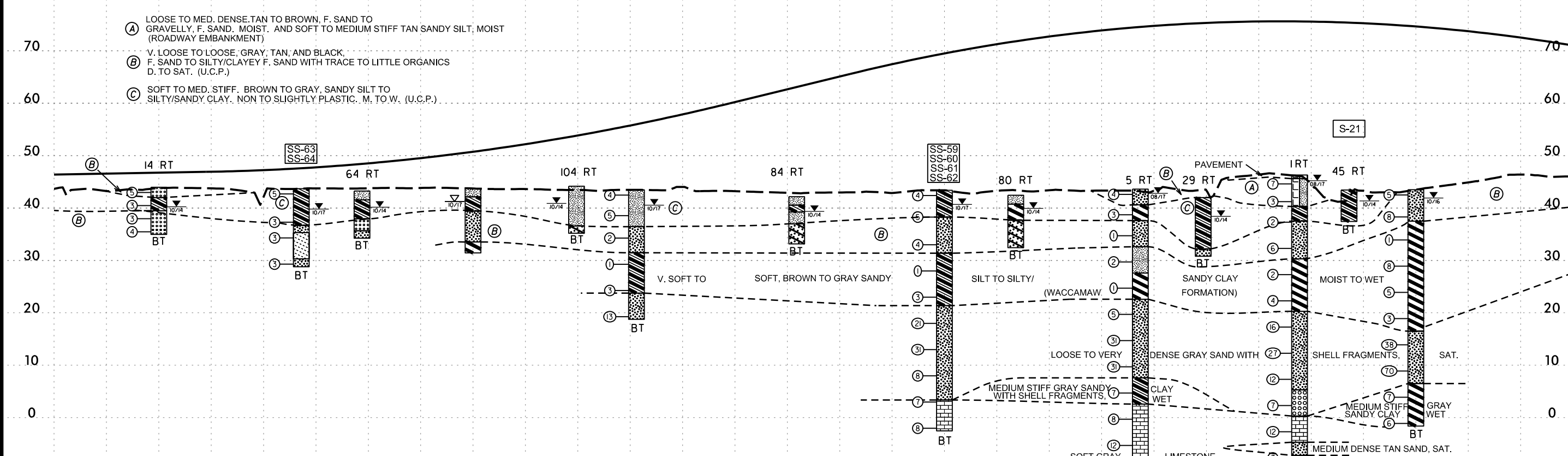
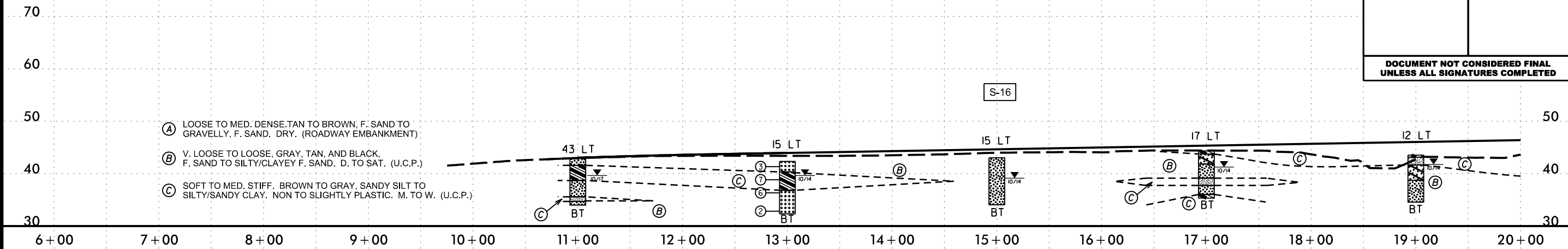
SHEET NO.
55

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

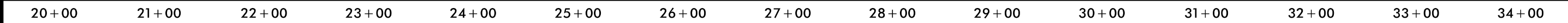
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



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- 16	15LT	15+00	0.0 - 6.0	A-2-4(0)	17	NP	19.8	50.5	19.6	10.1	100	95	33	-	-
SS-63	CL	22+36	5.4 - 6.9	A-6(2)	24	13	21.8	38.9	19	20.3	100	96	41	25	-
SS-64	CL	22+36	8.4 - 9.9	A-2-4(0)	24	NP	20.1	69.9	4.7	5.3	100	94	10	-	3.9
SS-59	CL	28+50	4.1 - 5.1	A-6(10)	37	26	18.9	27.4	18.8	34.8	100	93	54	20	-
SS-60	CL	28+50	5.1 - 5.6	A-2-4(0)	17	NP	17.6	59.1	7.1	16.2	100	97	23	-	-
SS-61	CL	28+50	14.4 - 15.9	A-6(8)	31	14	11.6	16.4	54.2	17.9	100	90	72	46	-
SS-62	CL	28+50	24.4 - 25.9	A-2-4(0)	19	NP	36.1	51.2	6.7	6	99.8	87	13	-	-
S-21	45 RT	32+36	0.0 - 6.0	A-6(3)	24	11	8.8	39.5	27.1	24.5	100	98	54	-	-

- YREV -

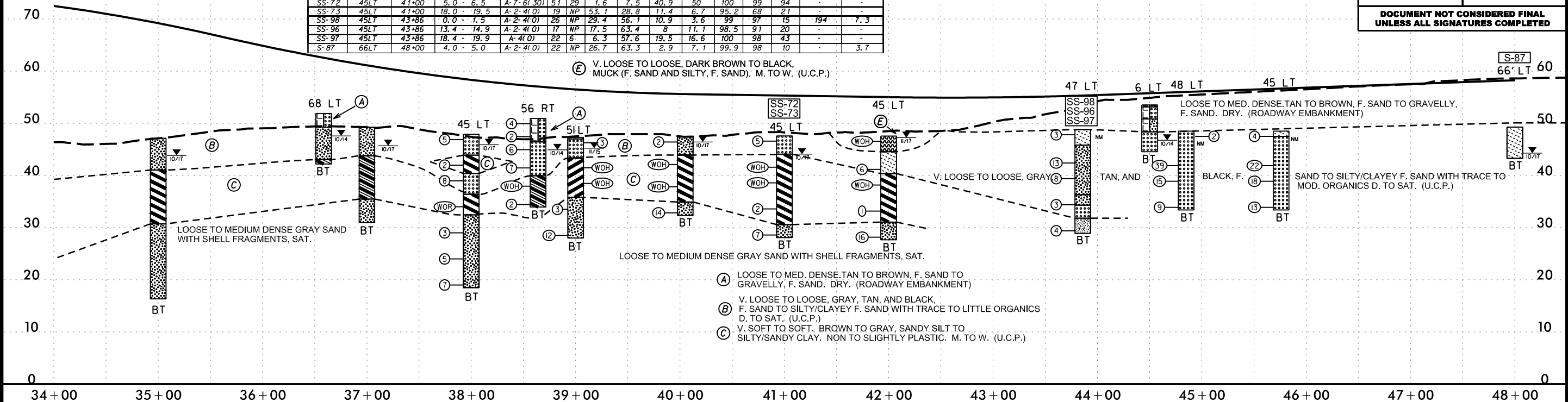


5/28/99

- YREV -

SOIL TEST RESULTS													
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)		
							C.SAND	F.SAND	SILT	CLAY	10	40	200
SS-72	45LT	41+00	5.0 - 6.5	A-7-6(30)	51	29	1.6	7.5	40.9	50	100	99	94
SS-73	45LT	41+00	18.0 - 19.5	A-2-4(0)	19	NP	53.1	28.8	11.4	6.7	95.2	68	21
SS-98	45LT	43+86	0.0 - 1.5	A-2-4(0)	26	NP	29.4	56.1	10.9	3.6	99	97	15
SS-96	45LT	43+86	13.4 - 14.9	A-2-4(0)	17	NP	17.5	63.4	8	11.1	98.5	91	20
SS-97	45LT	43+86	18.4 - 19.9	A-4(0)	22	6	6.3	57.6	19.5	16.6	100	98	43
S-87	66LT	48+00	4.0 - 5.0	A-2-4(0)	22	NP	26.7	63.3	2.9	7.1	99.9	98	10

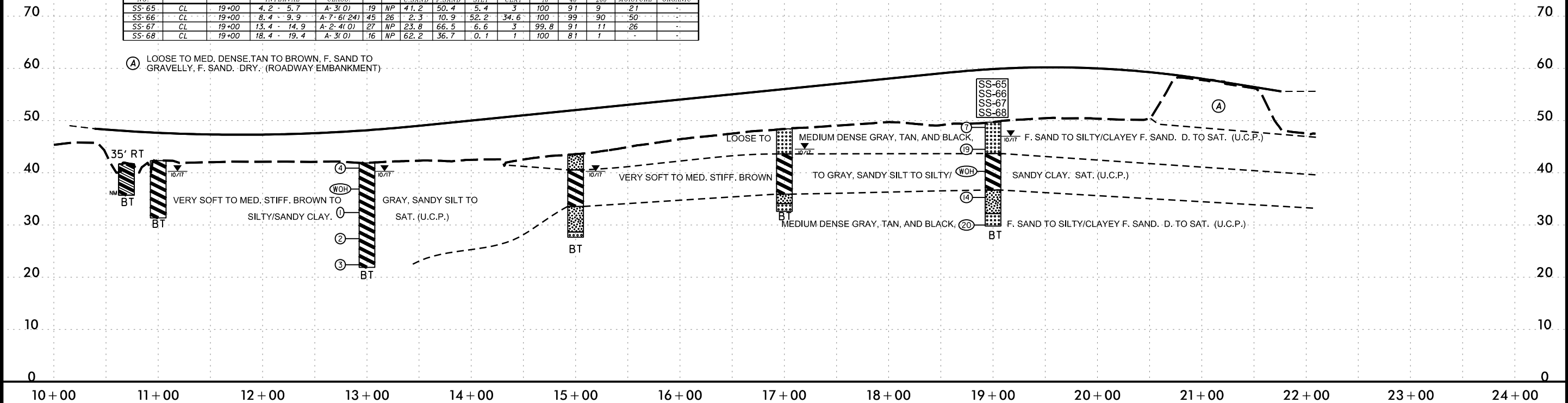
(E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND AND SILTY, F. SAND). M. TO W. (U.C.P.)



- YA -

SOIL TEST RESULTS													
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)		
							C.SAND	F.SAND	SILT	CLAY	10	40	200
SS-65	CL	19+00	4.2 - 5.7	A-3(0)	19	NP	41.2	50.4	5.4	3	100	91	9
SS-66	CL	19+00	8.4 - 9.9	A-7-6(24)	45	26	2.3	10.9	52.2	34.6	100	99	90
SS-67	CL	19+00	13.4 - 14.9	A-2-4(0)	27	NP	23.8	66.5	6.6	3	99.8	91	11
SS-68	CL	19+00	18.4 - 19.4	A-3(0)	16	NP	62.2	36.7	0.1	1	100	81	1

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY, F. SAND. DRY. (ROADWAY EMBANKMENT)



5/28/99



PROJECT REFERENCE NO.
R-5021

SHEET NO.
57

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

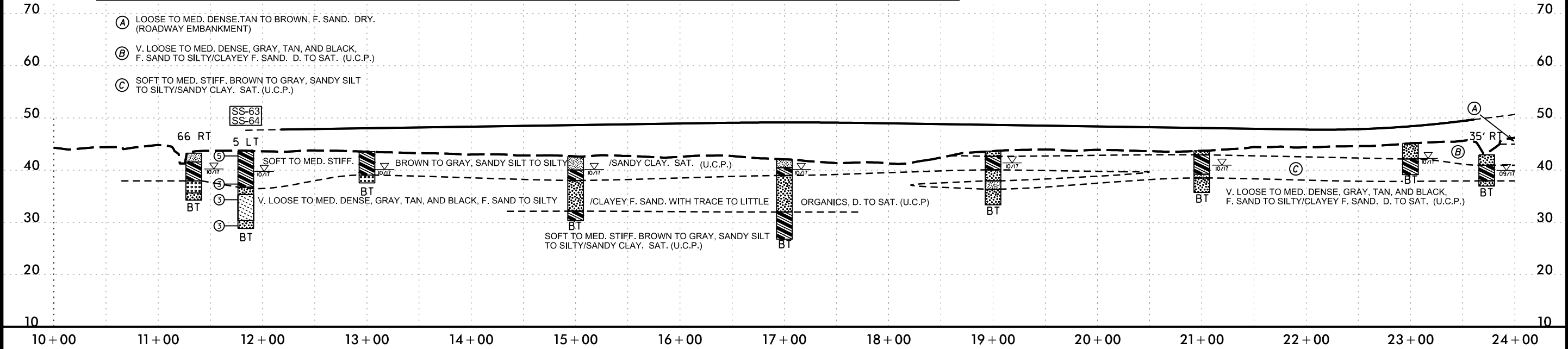
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

- YB -

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-63	5LT	11+82	5.4 - 6.9	A-6(2)	24	13	21.8	38.9	19	20.3	100	96	41	25	-
SS-64	5LT	11+82	8.4 - 9.9	A-2-4(0)	24	NP	20.1	69.9	4.7	5.3	100	94	10	-	3.9

- (A) LOOSE TO MED. DENSE. TAN TO BROWN, F. SAND. DRY. (ROADWAY EMBANKMENT)
- (B) V. LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)
- (C) SOFT TO MED. STIFF. BROWN TO GRAY, SANDY SILT TO SILTY/SANDY CLAY. SAT. (U.C.P.)



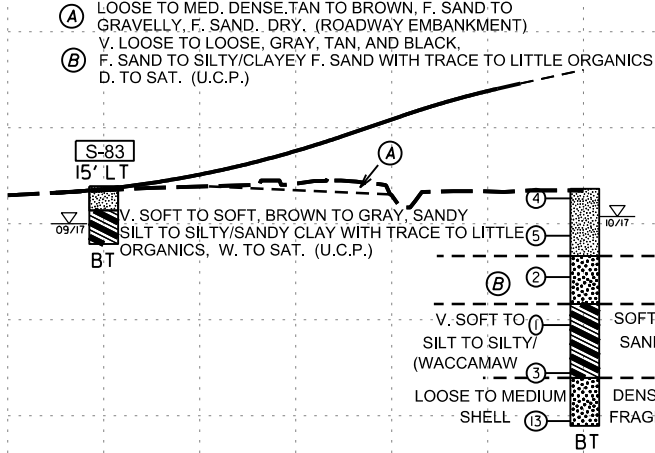
- YC -

- YD -

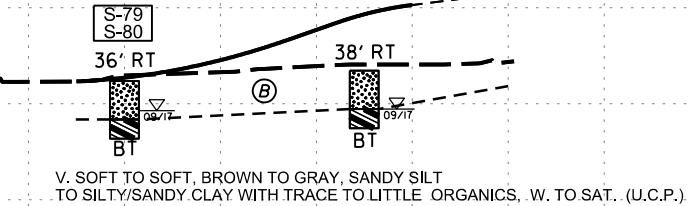
- YE -

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-83	15L7	10+50	1.5 - 2.5	A-4(0)	19	8	17.5	44	18.2	20.3	99.9	96	40	18	-

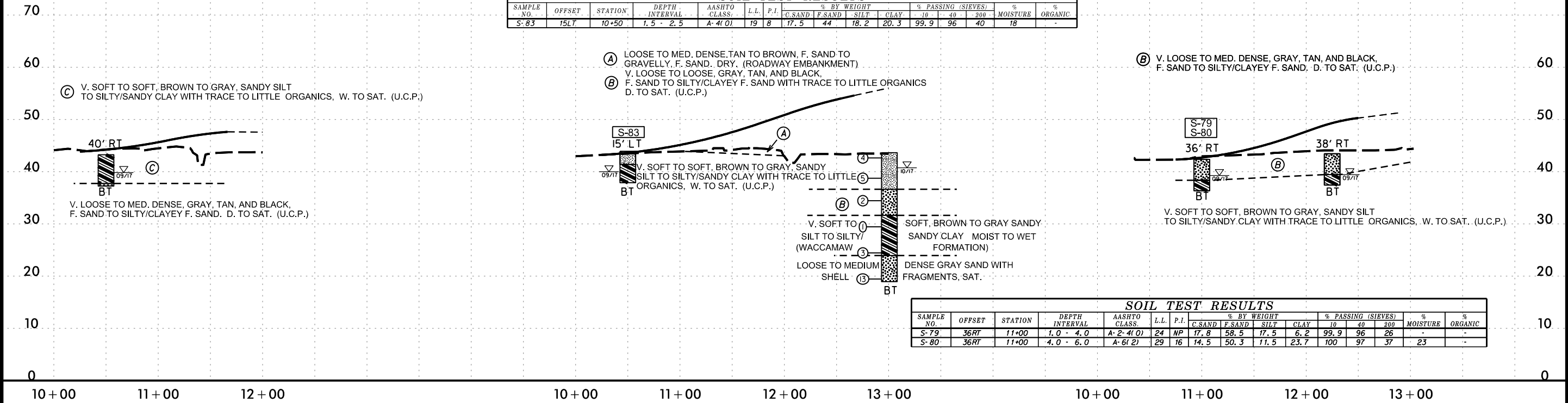
- (A) LOOSE TO MED. DENSE. TAN TO BROWN, F. SAND TO GRAVELLY, F. SAND. DRY. (ROADWAY EMBANKMENT)
- (B) V. LOOSE TO LOOSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND WITH TRACE TO LITTLE ORGANICS D. TO SAT. (U.C.P.)
- (C) V. SOFT TO SOFT, BROWN TO GRAY, SANDY SILT TO SILTY/SANDY CLAY WITH TRACE TO LITTLE ORGANICS, W. TO SAT. (U.C.P.)



- (A) LOOSE TO MED. DENSE. TAN TO BROWN, F. SAND TO GRAVELLY, F. SAND. DRY. (ROADWAY EMBANKMENT)
- (B) V. LOOSE TO LOOSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND WITH TRACE TO LITTLE ORGANICS D. TO SAT. (U.C.P.)
- (C) V. SOFT TO SOFT, BROWN TO GRAY, SANDY SILT TO SILTY/SANDY CLAY WITH TRACE TO LITTLE ORGANICS, W. TO SAT. (U.C.P.)



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-79	36RT	11+00	1.0 - 4.0	A-2-4(0)	24	NP	17.8	58.5	17.5	6.2	99.9	96	26	-	-
S-80	36RT	11+00	4.0 - 6.0	A-6(2)	29	16	14.5	50.3	11.5	23.7	100	97	37	23	-



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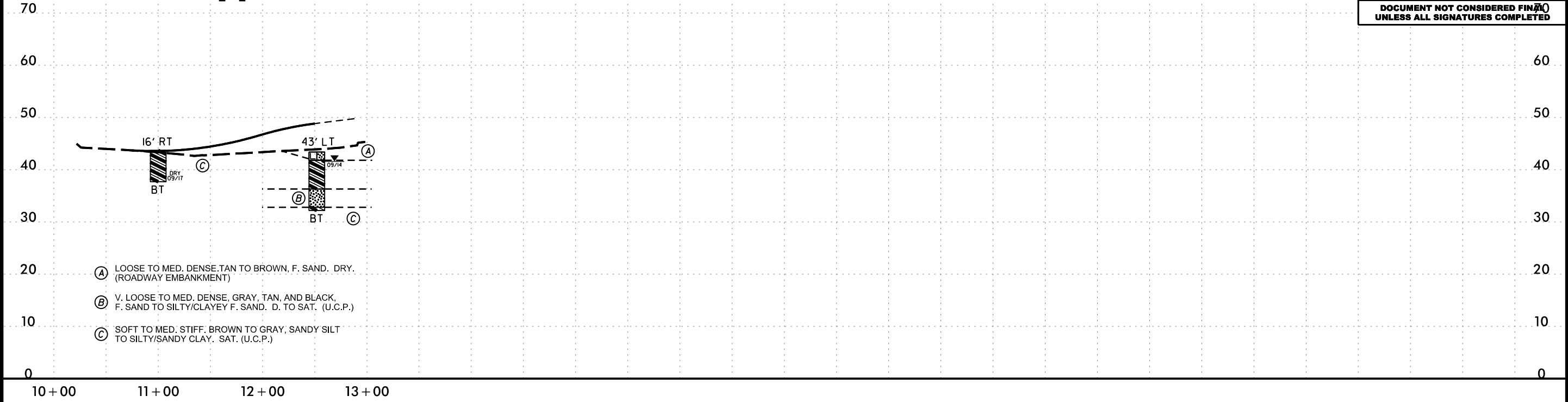
5/28/99



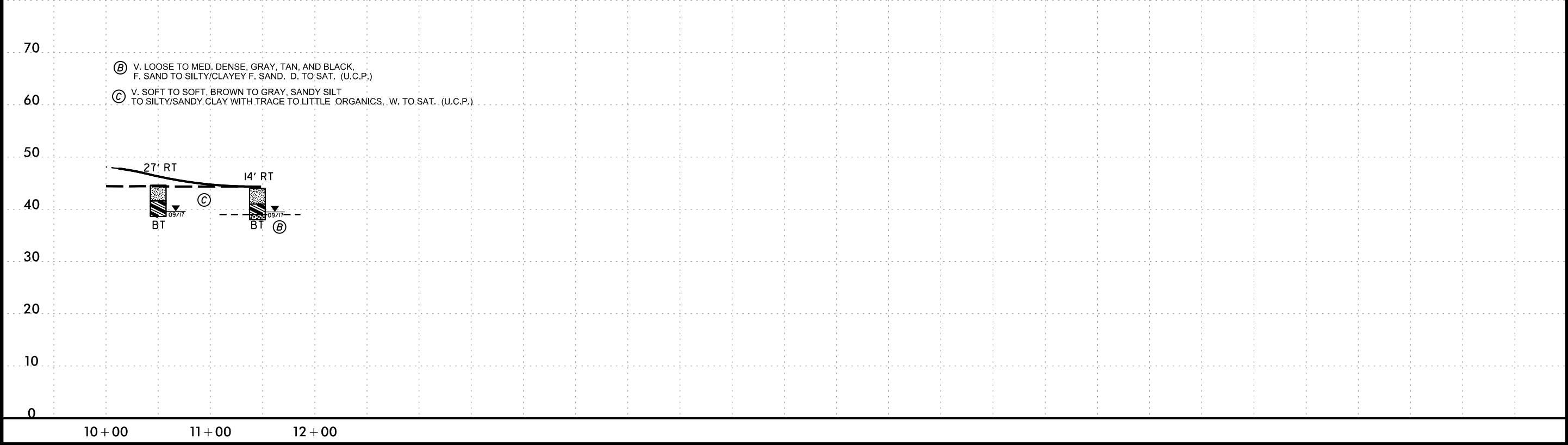
CATLIN
Engineers and Scientists
Wilmington, North Carolina

PROJECT REFERENCE NO.		SHEET NO.	
R-5021		58	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

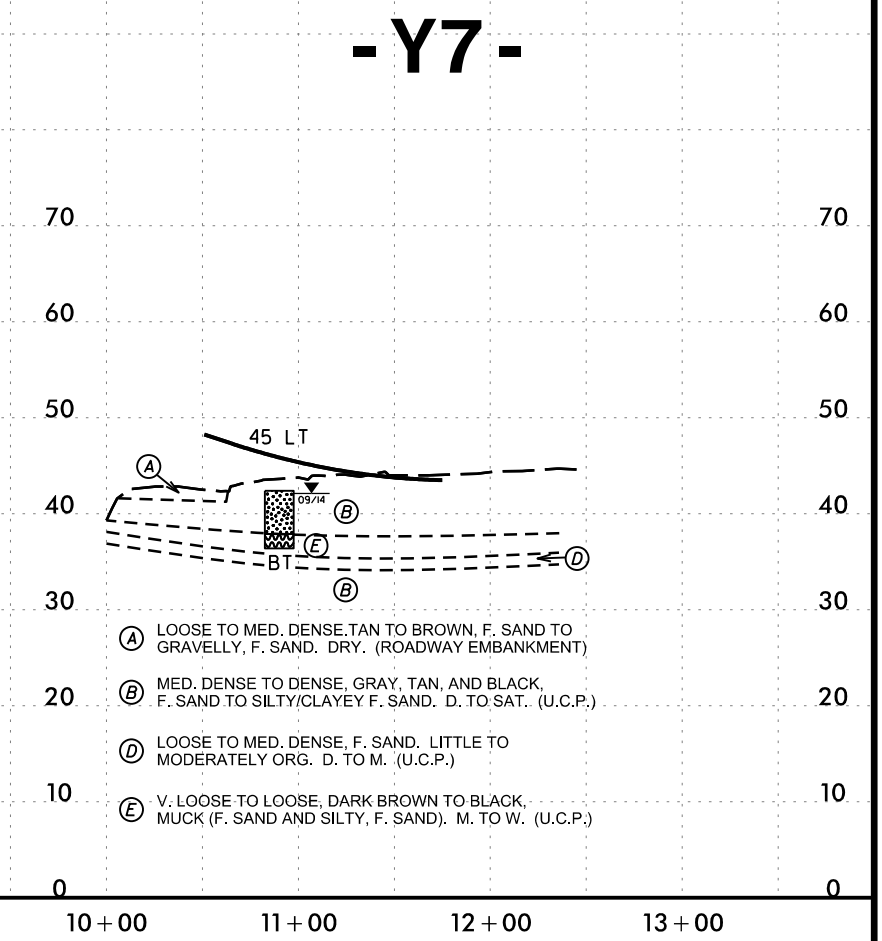
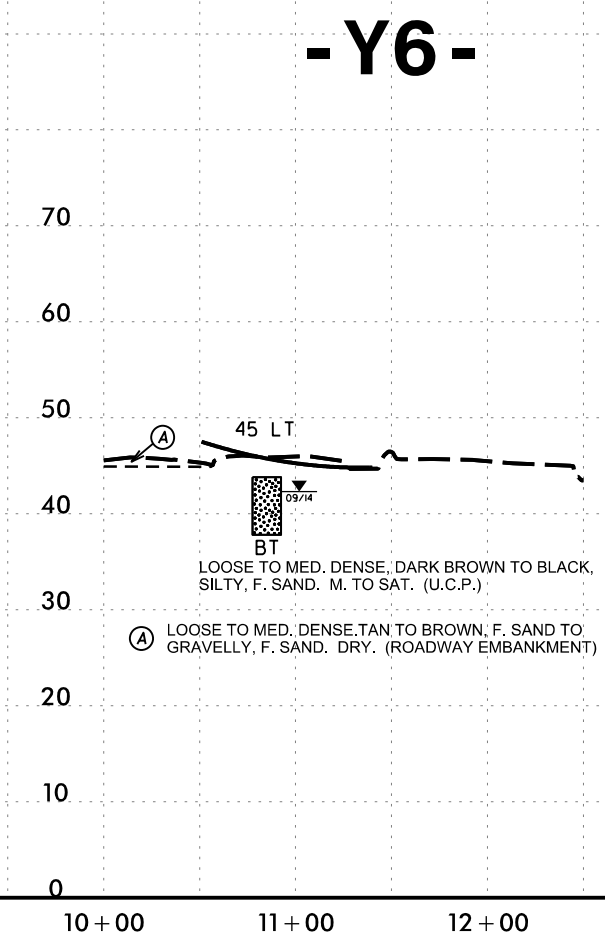
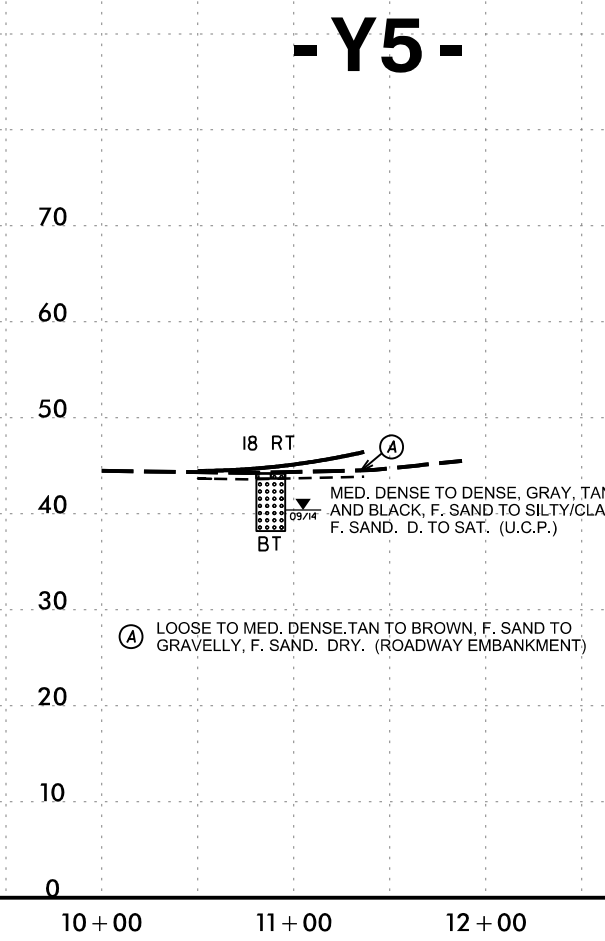
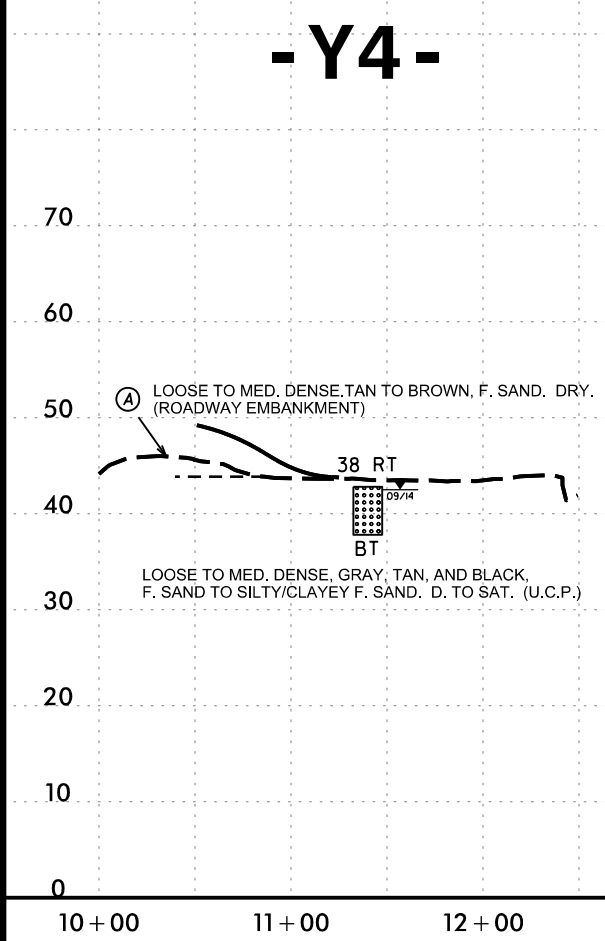
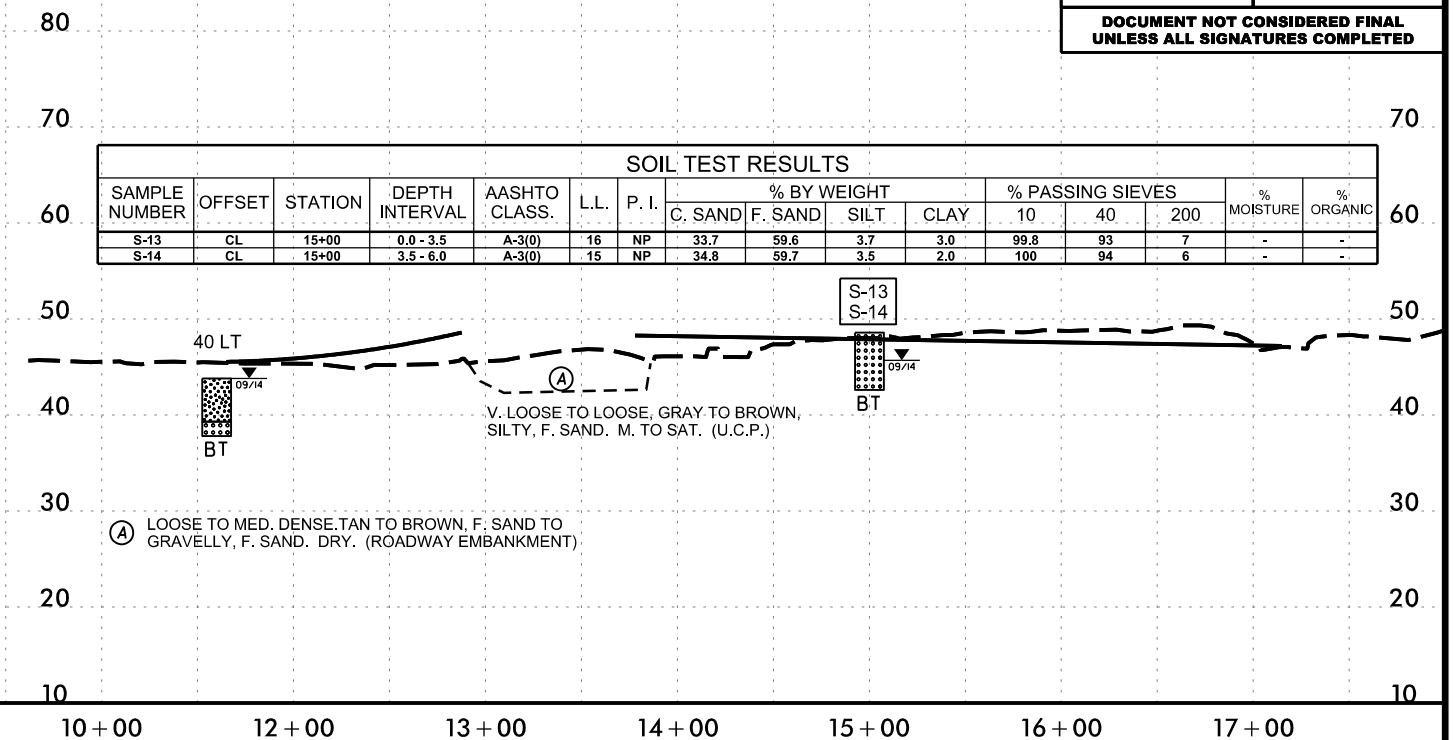
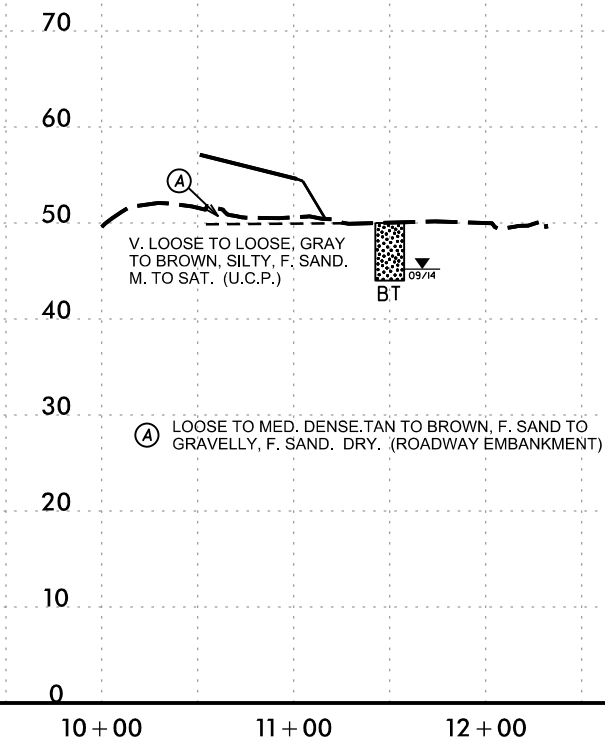
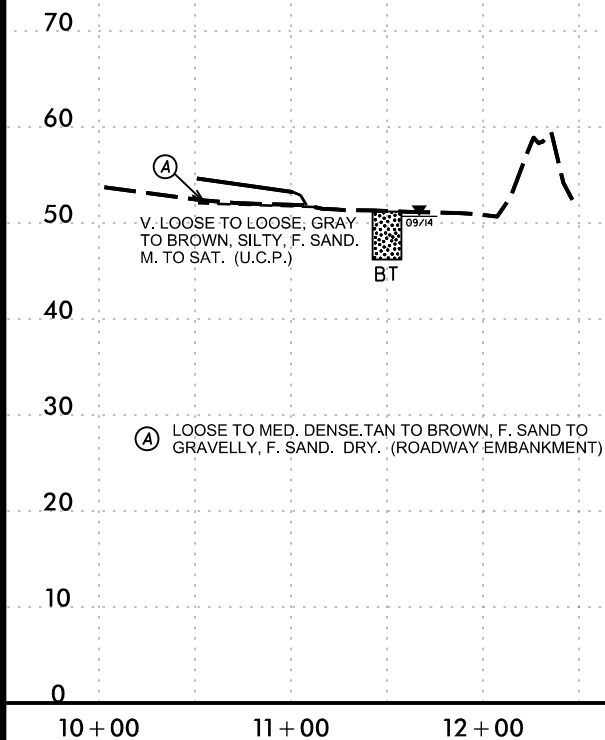
- YF -



- DRW01 -



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-Y8-

-Y9-

-Y9A-



PROJECT REFERENCE NO.
R-5021

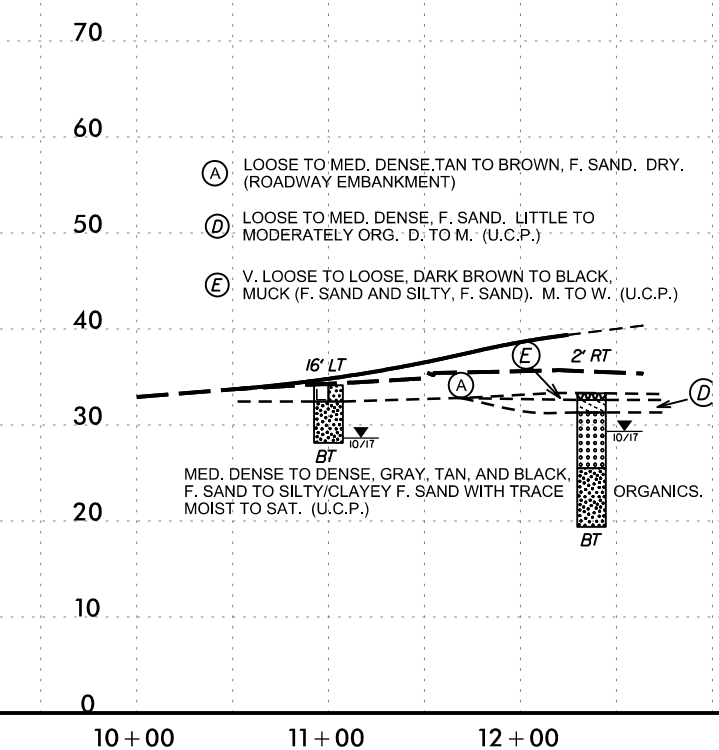
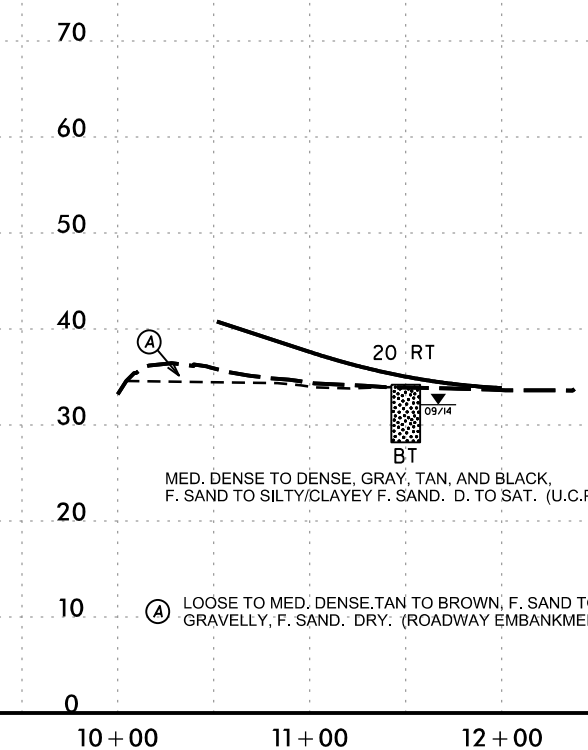
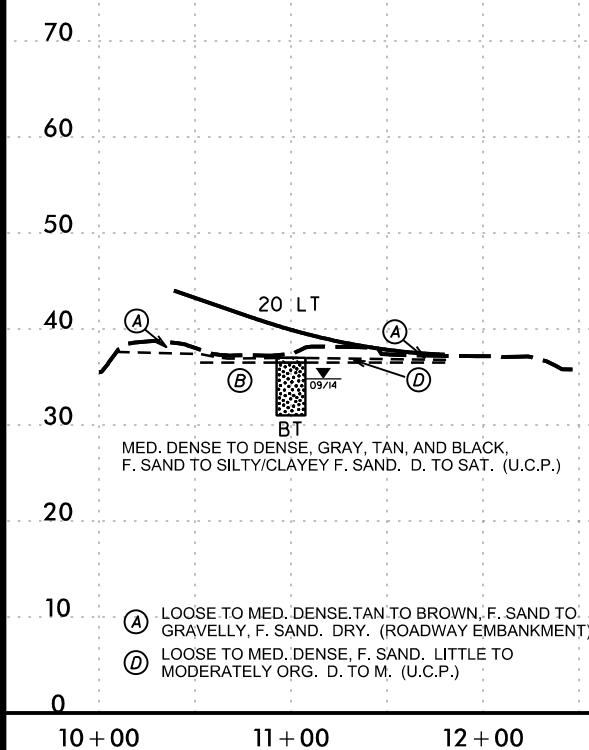
SHEET NO.
60

ROADWAY DESIGN ENGINEER

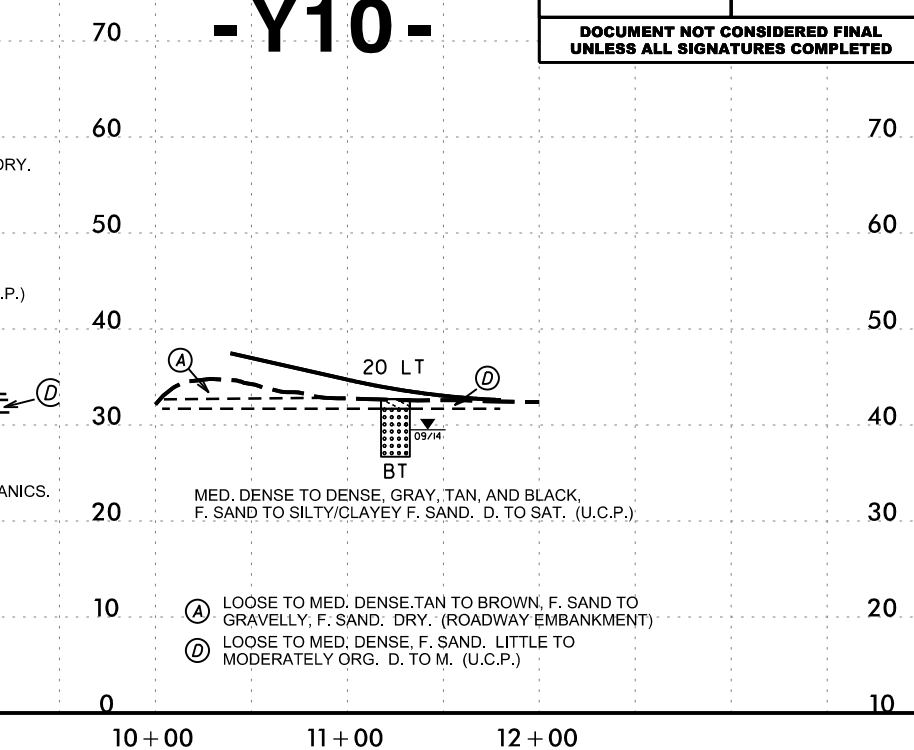
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
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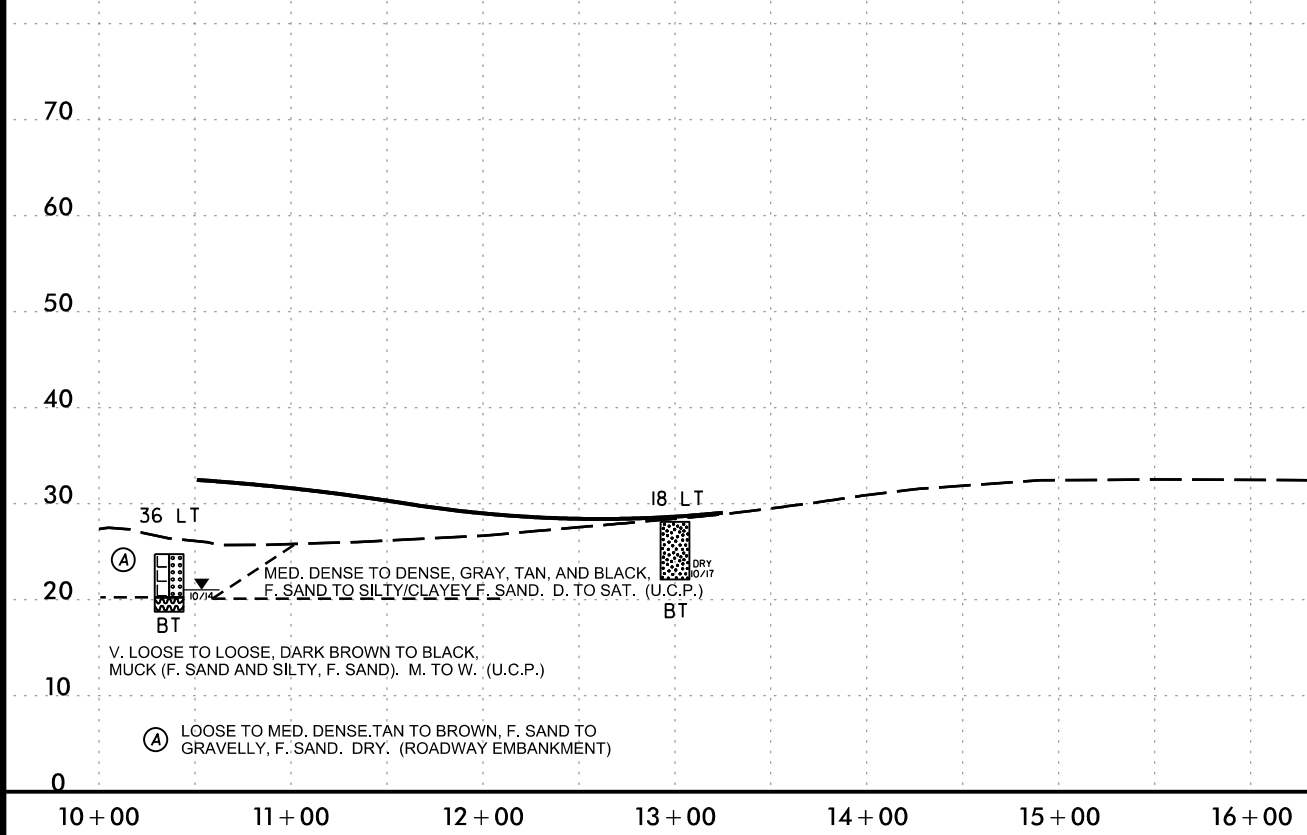


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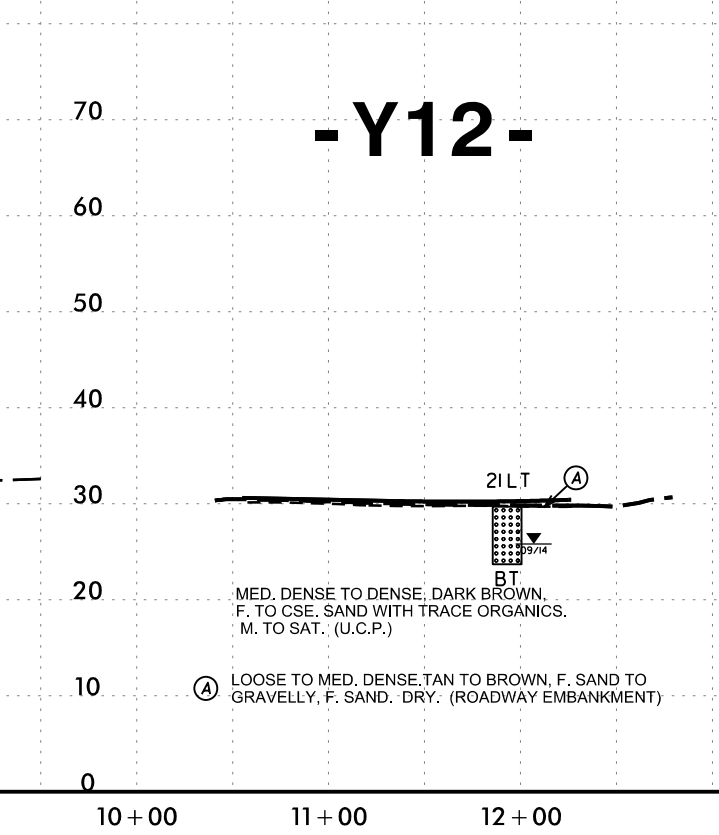


-Y11-

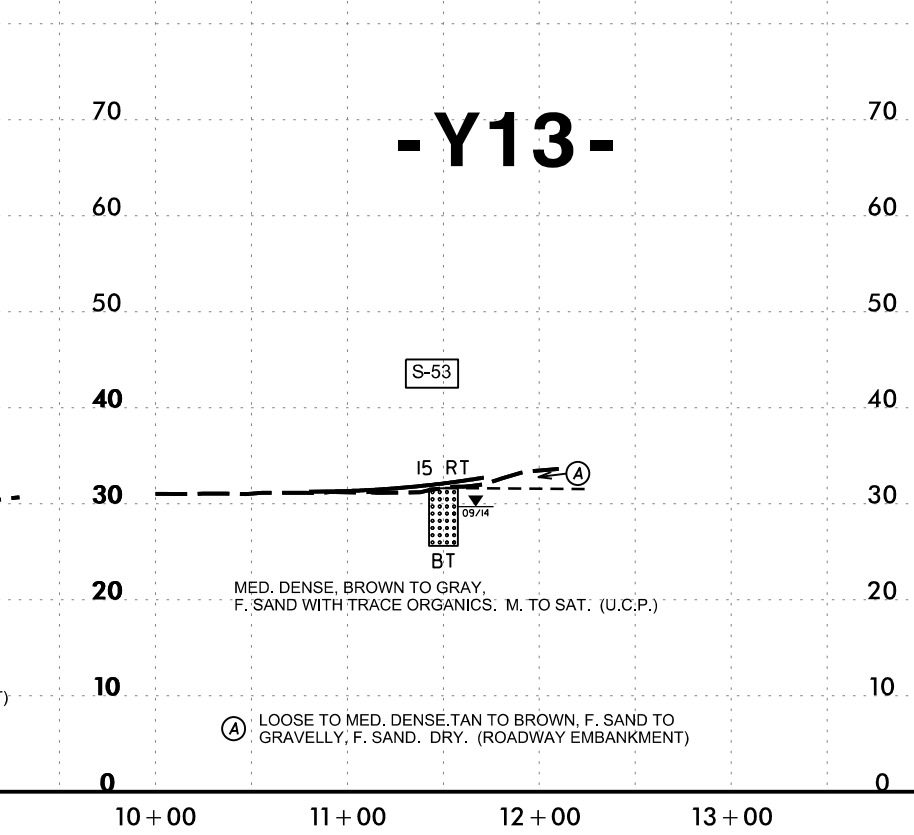
SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-53	15 ft RT	11+50	0.0 - 6.0	A-3(0)	15	NP	56.0	38.8	2.9	2.3	99.9	85	5	-	1.8



-Y12-



-Y13-



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5/28/99

-Y14-



PROJECT REFERENCE NO.
R-5021

SHEET NO.
61

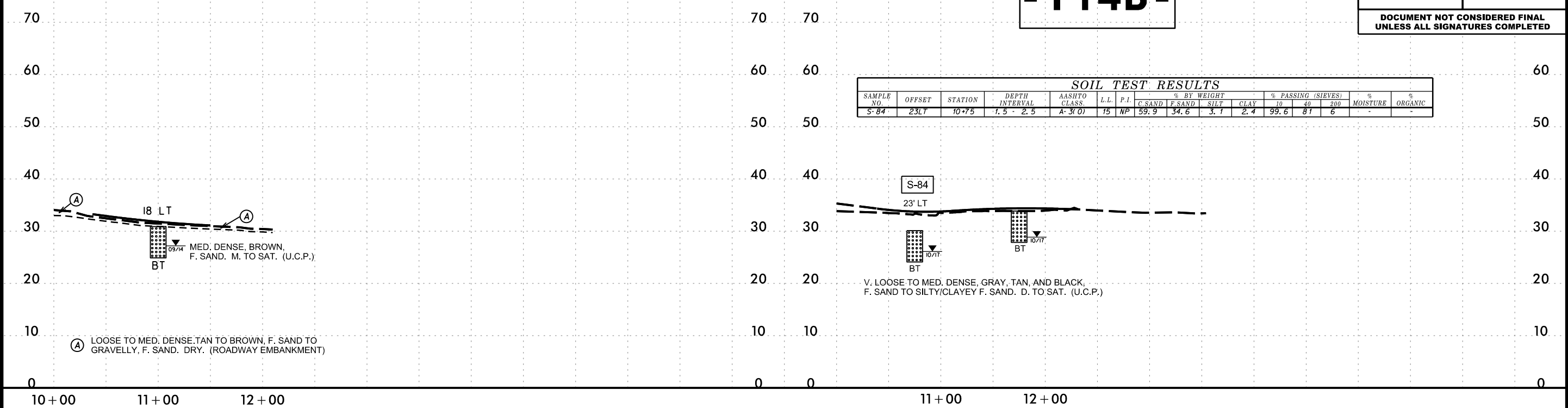
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ENGINEER

HYDRAULICS
ENGINEER

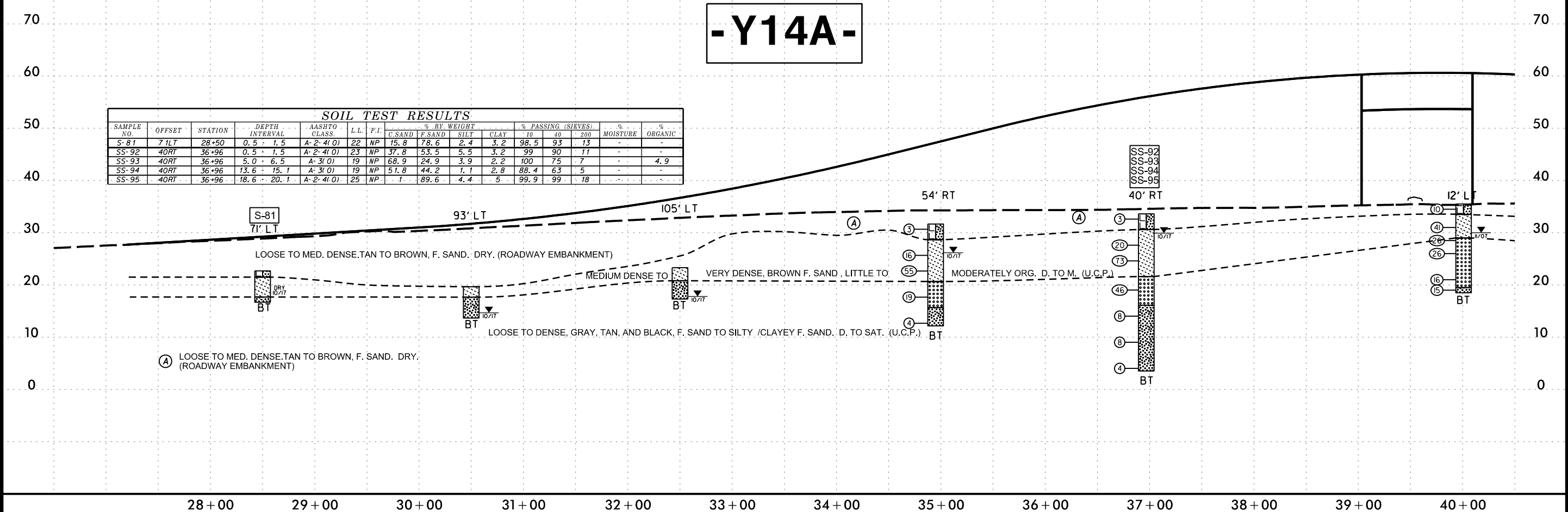
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-Y14B-



-Y14A-



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jstone jstone

5/28/99

-Y14A-



PROJECT REFERENCE NO.
R-5021

SHEET NO.
62

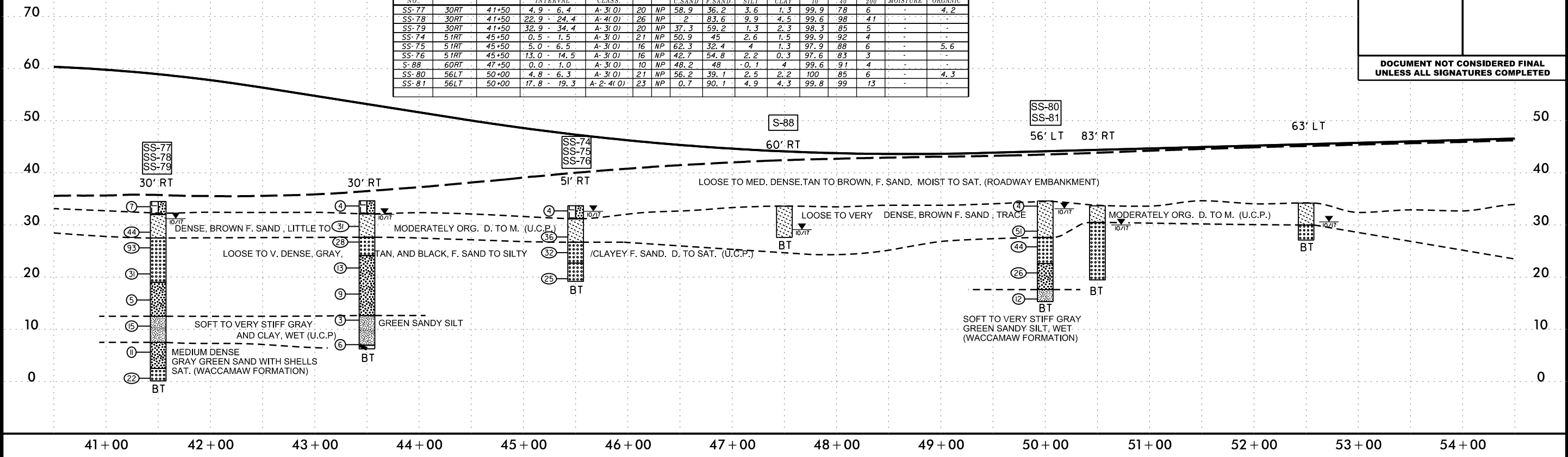
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

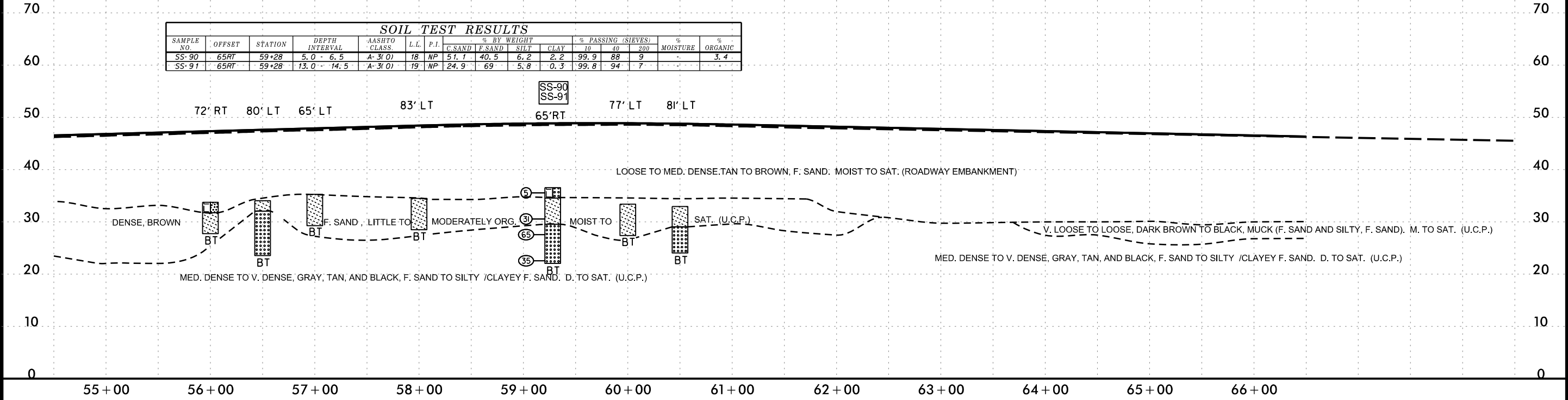
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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-77	30RT	41+50	4.9 - 6.4	A-3(0)	20	NP	58.9	36.2	3.6	1.3	99.9	78	6	-	4.2
SS-78	30RT	41+50	22.9 - 24.4	A-4(0)	26	NP	2	83.6	9.9	4.5	99.6	98	41	-	-
SS-79	30RT	41+50	32.9 - 34.4	A-3(0)	20	NP	37.3	59.2	1.3	2.3	98.3	85	5	-	-
SS-74	51RT	45+50	0.5 - 1.5	A-3(0)	21	NP	50.9	45	2.6	1.5	99.9	92	4	-	-
SS-75	51RT	45+50	5.0 - 6.5	A-3(0)	16	NP	62.3	32.4	4	1.3	97.9	88	6	-	5.6
SS-76	51RT	45+50	13.0 - 14.5	A-3(0)	16	NP	42.7	54.8	2.2	0.3	97.6	83	3	-	-
S-88	60RT	47+50	0.0 - 1.0	A-3(0)	10	NP	48.2	48	-0.1	4	99.6	91	4	-	-
SS-80	56LT	50+00	4.8 - 6.3	A-3(0)	21	NP	56.2	39.1	2.5	2.2	100	85	6	-	4.3
SS-81	56LT	50+00	17.8 - 19.3	A-2-4(0)	23	NP	0.7	90.1	4.9	4.3	99.8	99	13	-	-



-Y14A-

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-90	65RT	59+28	5.0 - 6.5	A-3(0)	18	NP	51.1	40.5	6.2	2.2	99.9	88	9	-	3.4
SS-91	65RT	59+28	13.0 - 14.5	A-3(0)	19	NP	24.9	69	5.8	0.3	99.8	94	7	-	-



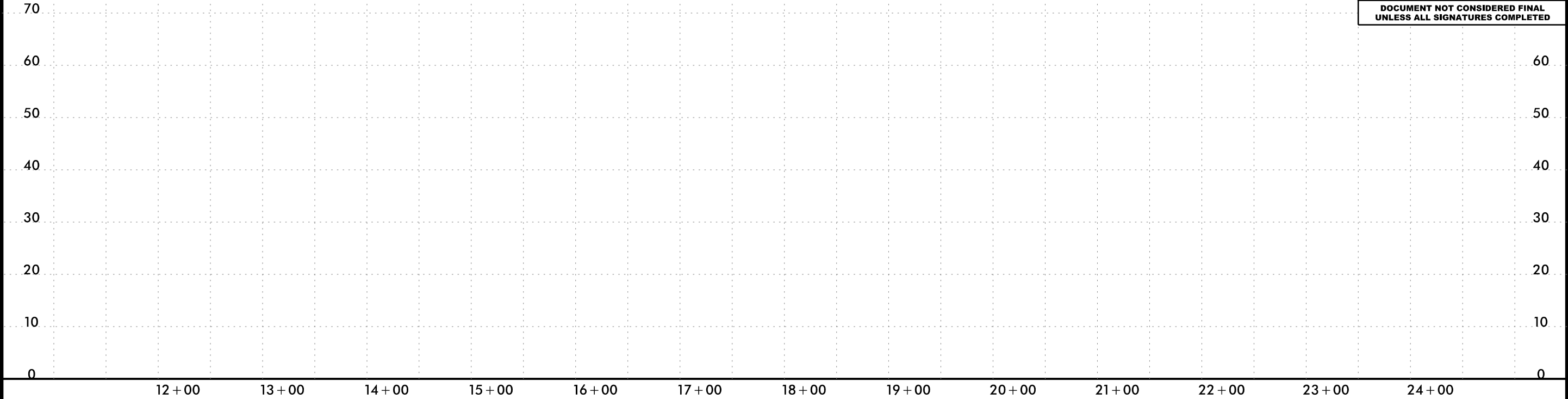
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CATLIN
Engineers and Scientists
Wilmington, North Carolina

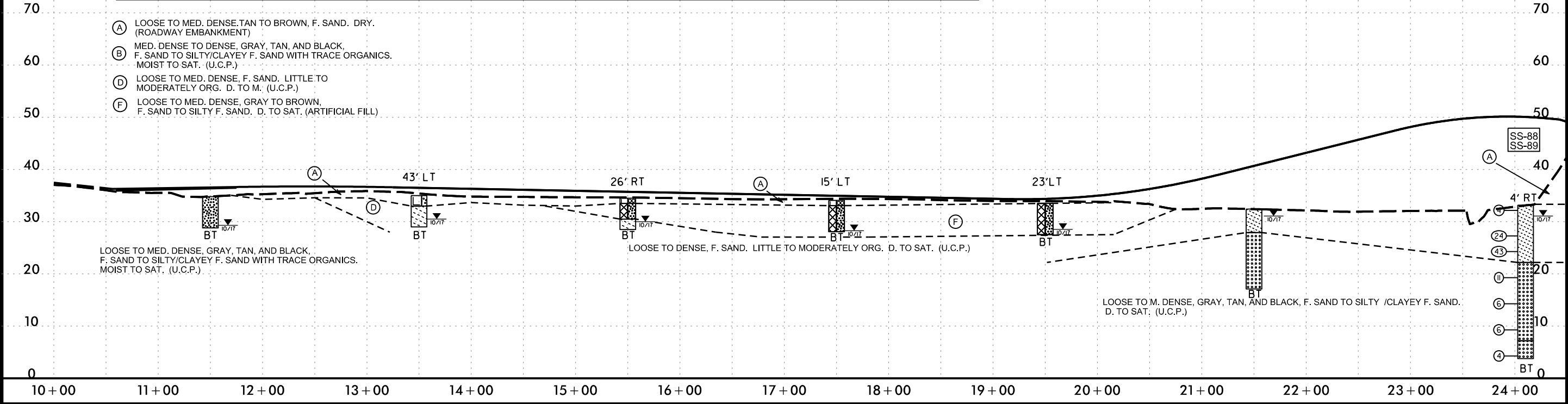
PROJECT REFERENCE NO.	SHEET NO.
R-5021	63
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-Y14D-

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- 88	CL	24+10	4.9 - 6.4	A-3(0)	22	NP	65.1	30.8	2.8	1.3	99.9	79	5	-	4.2
SS- 89	CL	24+10	12.9 - 14.4	A-3(0)	22	NP	5.7	91.3	2.6	0.5	97.4	97	4	-	-

- (A) LOOSE TO MED. DENSE. TAN TO BROWN, F. SAND. DRY. (ROADWAY EMBANKMENT)
- (B) MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND WITH TRACE ORGANICS. MOIST TO SAT. (U.C.P.)
- (D) LOOSE TO MED. DENSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)
- (F) LOOSE TO MED. DENSE, GRAY TO BROWN, F. SAND TO SILTY F. SAND. D. TO SAT. (ARTIFICIAL FILL)



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jstone

5/28/99

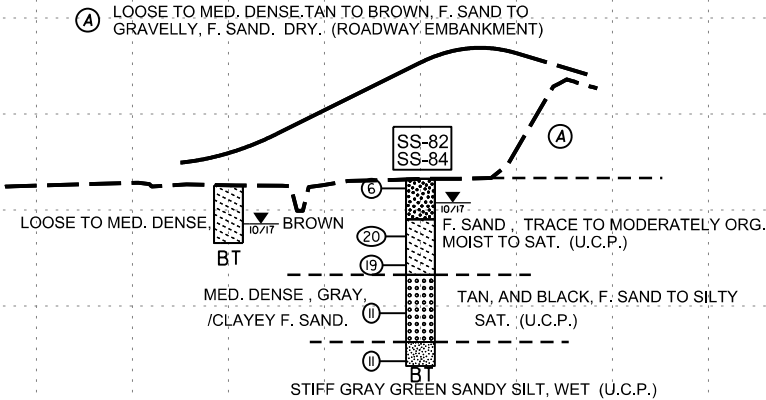
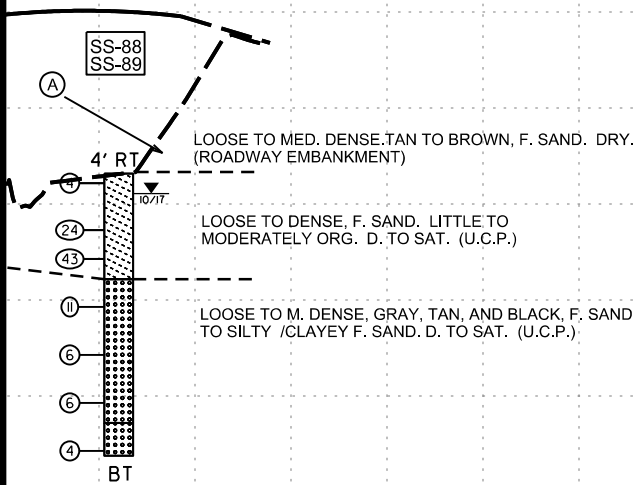


PROJECT REFERENCE NO.		SHEET NO.	
R-5021		64	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

-Y14D-

-Y14E-

SOIL TEST RESULTS														
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE
							C.SAND	F.SAND	SILT	CLAY	10	40	200	
SS-82	CL	11+00	0.0 - 1.5	A-2-4(0)	17	NP	43.4	40.3	10	6.3	100	94	17	-
SS-84	CL	11+00	13.0 - 14.5	A-3(0)	17	NP	53.1	44.6	1.2	1.1	98.3	73	3	-



24 + 00

8 + 00

9 + 00

10 + 00

11 + 00

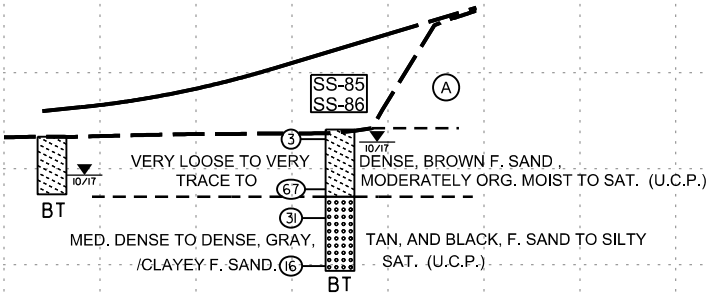
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-Y14F-

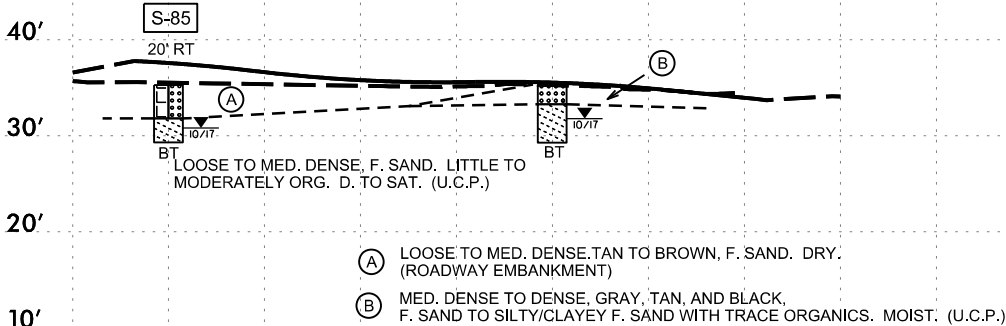
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SOIL TEST RESULTS														
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE
							C.SAND	F.SAND	SILT	CLAY	10	40	200	
SS-85	CL	11+75	0.0 - 1.5	A-2-4(0)	18	NP	47.2	42.7	4.8	5.3	99.9	92	11	-
SS-86	CL	11+75	5.2 - 6.7	A-2-4(0)	14	NP	54.8	34.2	9.5	1.5	99.9	88	12	-

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. MOIST TO SAT. (ROADWAY EMBANKMENT)



SOIL TEST RESULTS														
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE
							C.SAND	F.SAND	SILT	CLAY	10	40	200	
S-85	20' RT	10+50	4.0 - 5.0	A-3(0)	21	NP	39.8	56.5	0.7	3	100	95	4	-



10 + 00

11 + 00

12 + 00

10 + 00

11 + 00

12 + 00

13 + 00

5/28/99



PROJECT REFERENCE NO.
R-5021

SHEET NO.
64

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

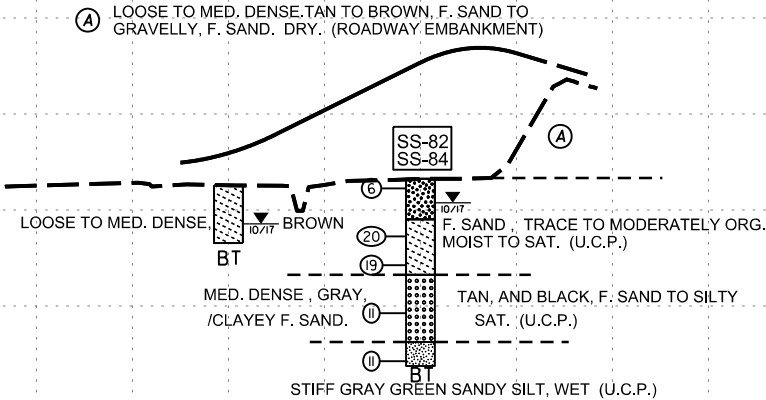
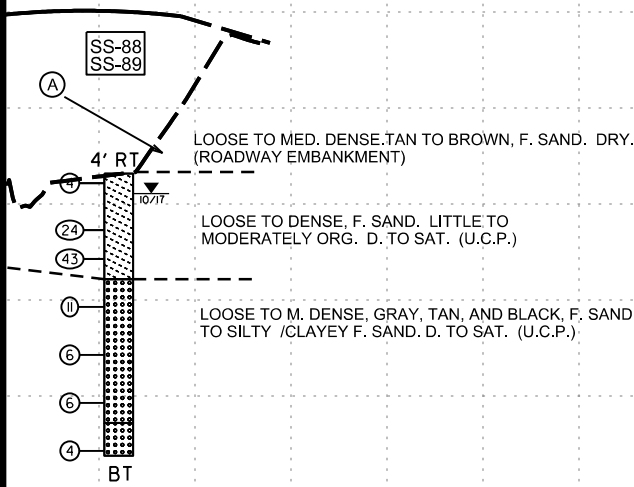
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-Y14D-

-Y14E-

SOIL TEST RESULTS														
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE
							C.SAND	F.SAND	SILT	CLAY	10	40	200	
SS-82	CL	11+00	0.0 - 1.5	A-2-4(0)	17	NP	43.4	40.3	10	6.3	100	94	17	-
SS-84	CL	11+00	13.0 - 14.5	A-3(0)	17	NP	53.1	44.6	1.2	1.1	98.3	73	3	-



24 + 00

8 + 00

9 + 00

10 + 00

11 + 00

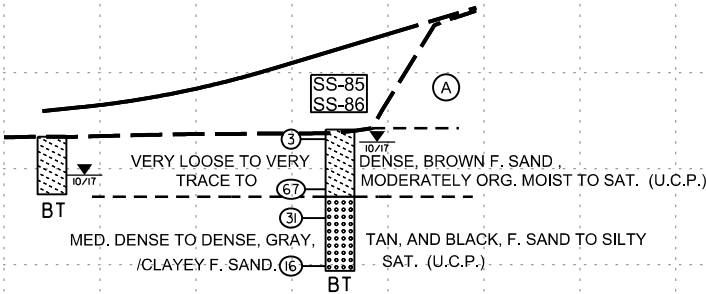
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-Y14F-

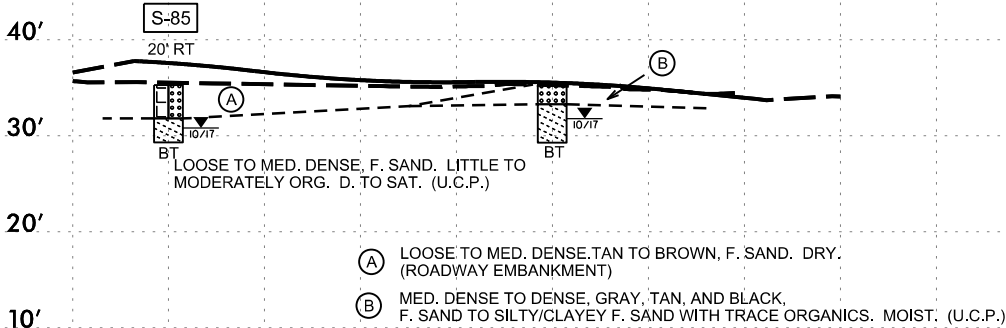
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SOIL TEST RESULTS														
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE
							C.SAND	F.SAND	SILT	CLAY	10	40	200	
SS-85	CL	11+75	0.0 - 1.5	A-2-4(0)	18	NP	47.2	42.7	4.8	5.3	99.9	92	11	-
SS-86	CL	11+75	5.2 - 6.7	A-2-4(0)	14	NP	54.8	34.2	9.5	1.5	99.9	88	12	-

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. MOIST TO SAT. (ROADWAY EMBANKMENT)



SOIL TEST RESULTS														
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE
							C.SAND	F.SAND	SILT	CLAY	10	40	200	
S-85	20' RT	10+50	4.0 - 5.0	A-3(0)	21	NP	39.8	56.5	0.7	3	100	95	4	-



10 + 00

11 + 00

12 + 00

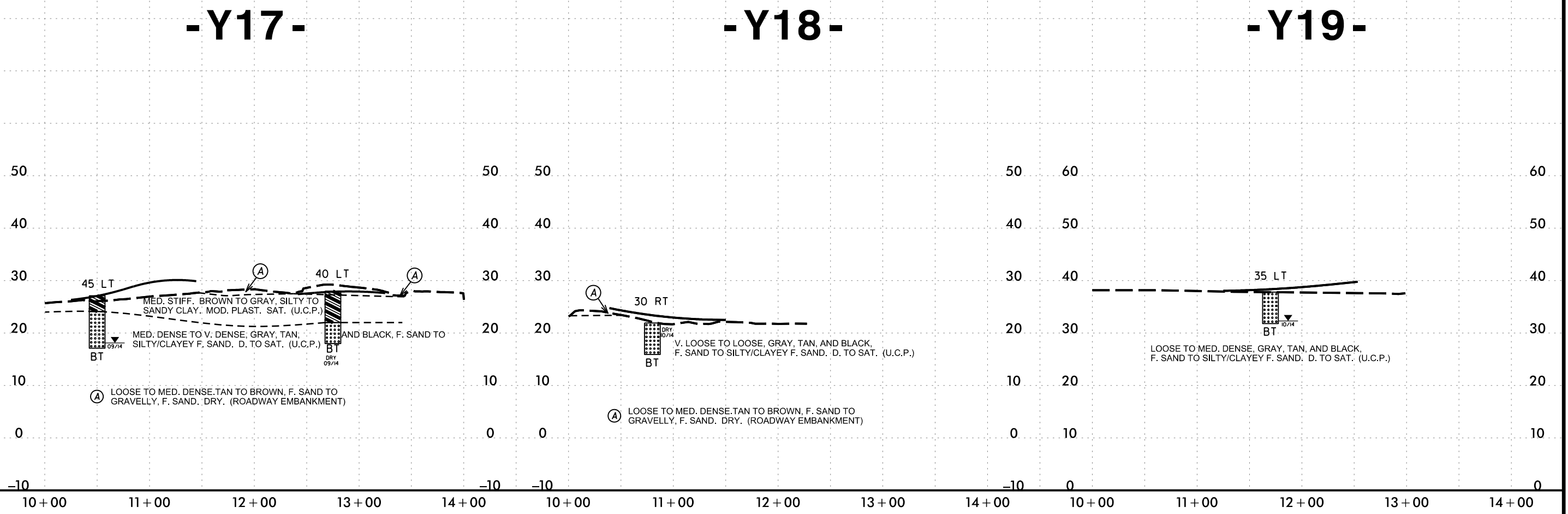
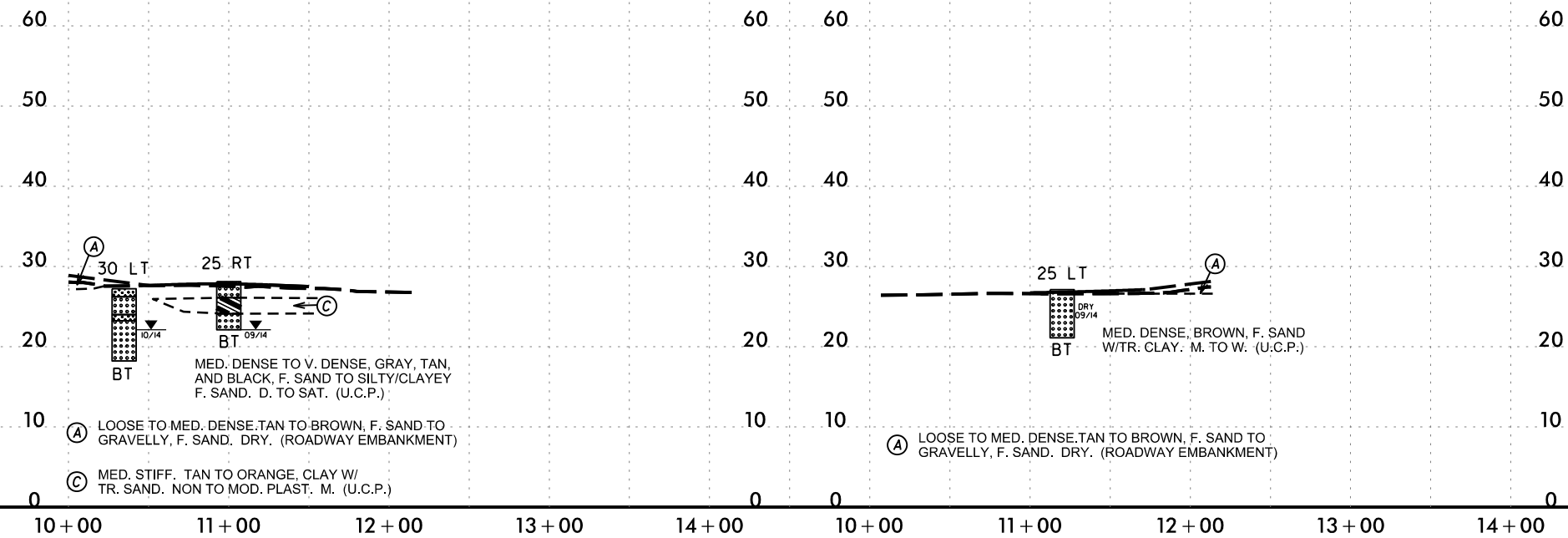
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5/28/99

- Y20 -



CATLIN
Engineers and Scientists
Wilmington, North Carolina

- Y21 -

PROJECT REFERENCE NO.
R-5021

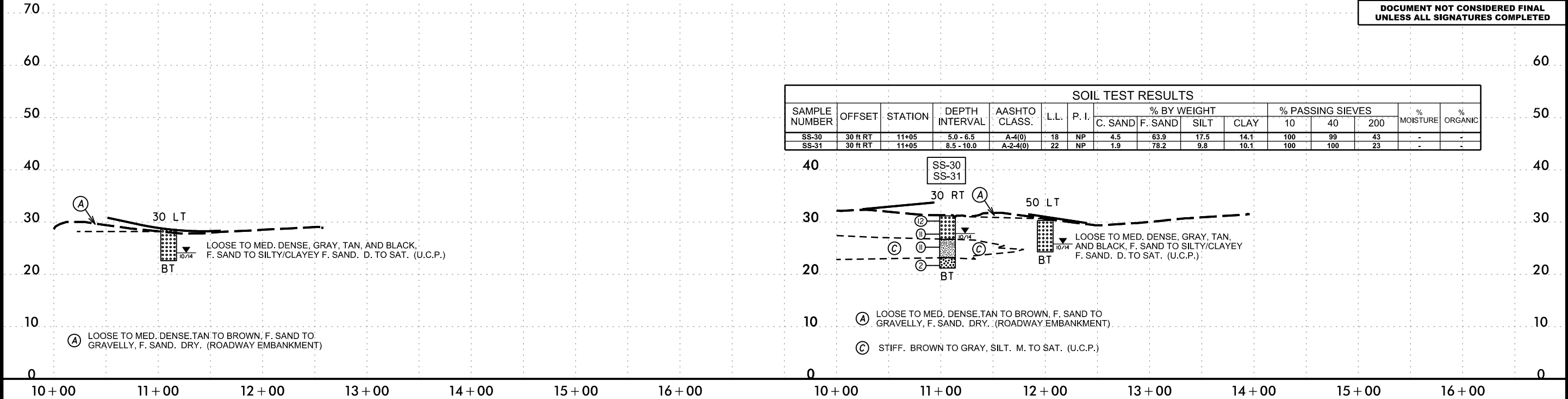
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ROADWAY DESIGN
ENGINEER

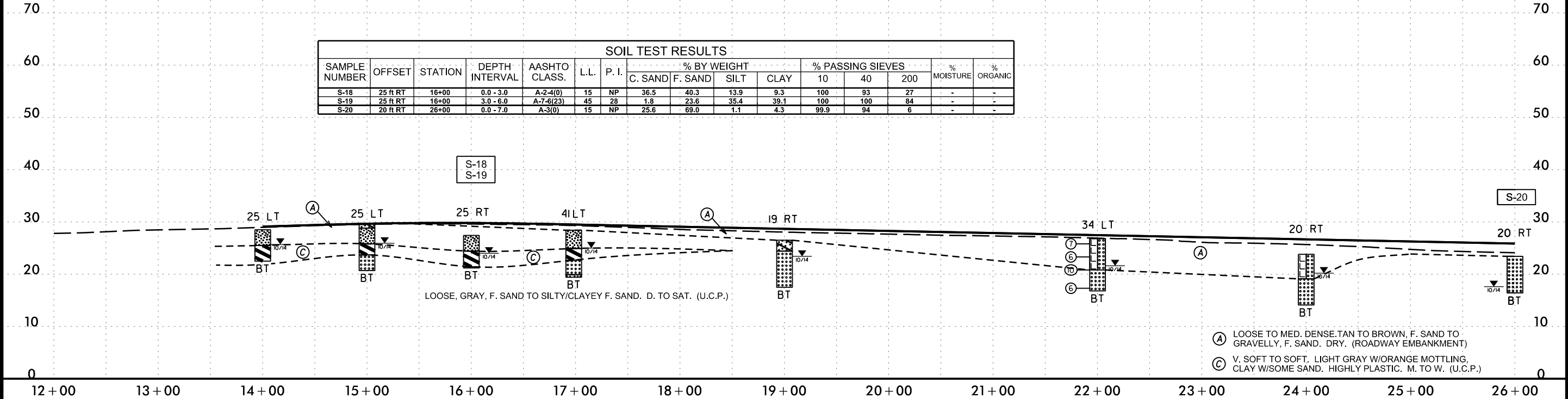
HYDRAULICS
ENGINEER

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- Y22 -



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5/28/99

- Y20 -



CATLIN
Engineers and Scientists
Wilmington, North Carolina

- Y21 -

PROJECT REFERENCE NO.
R-5021

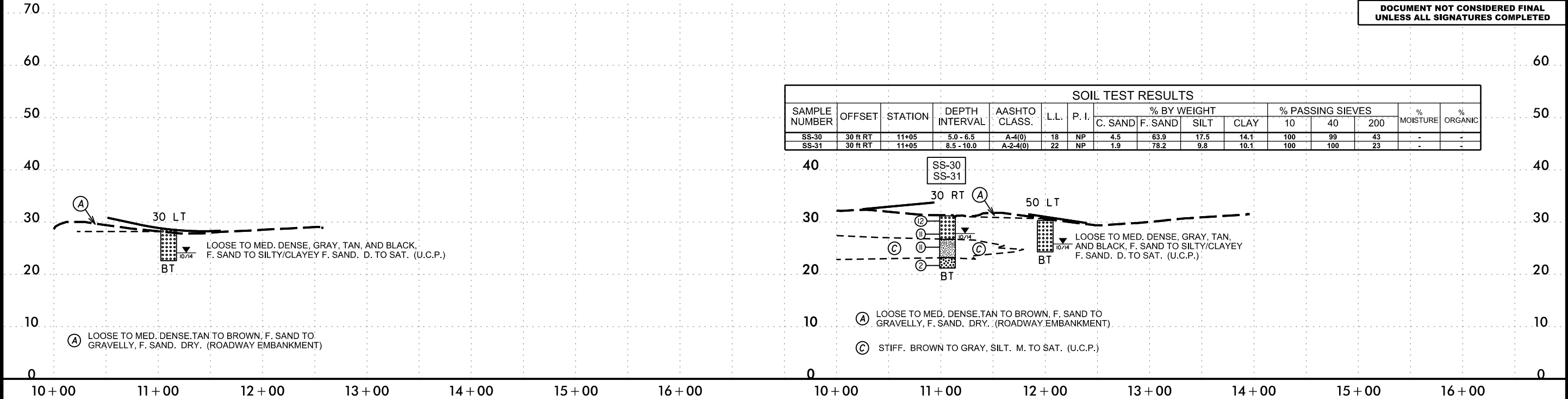
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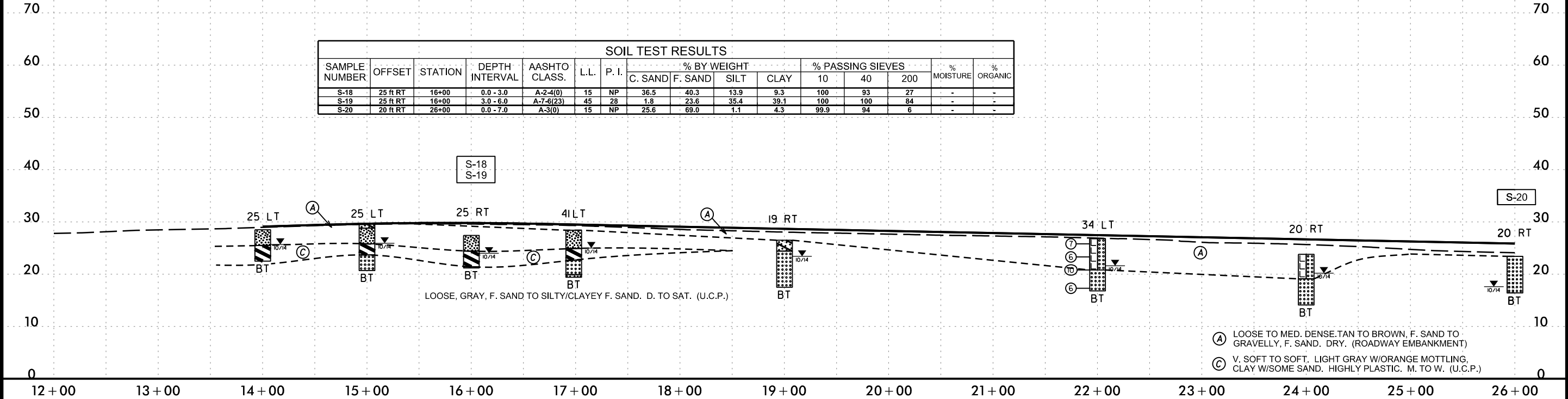
HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



- Y22 -



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5/28/99



CATLIN
Engineers and Scientists
Wilmington, North Carolina

PROJECT REFERENCE NO.
R-5021

SHEET NO.
67

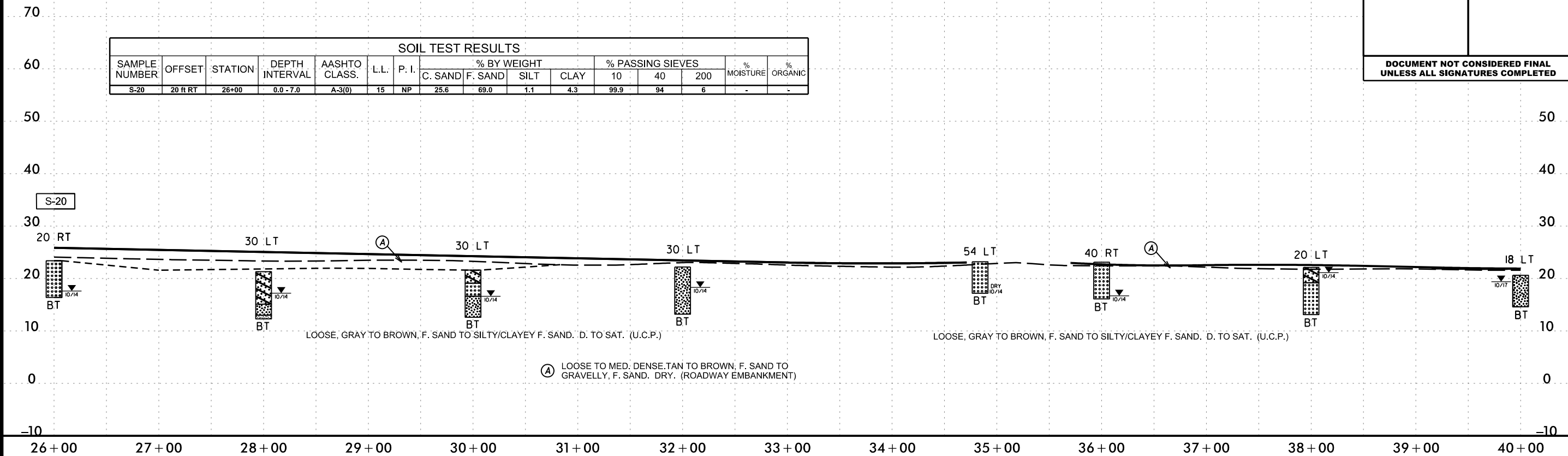
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SOIL TEST RESULTS															
SAMPLE NUMBER	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-20	20 ft RT	26+00	0.0 - 7.0	A-3(0)	15	NP	25.6	69.0	1.1	4.3	99.9	94	6	-	-

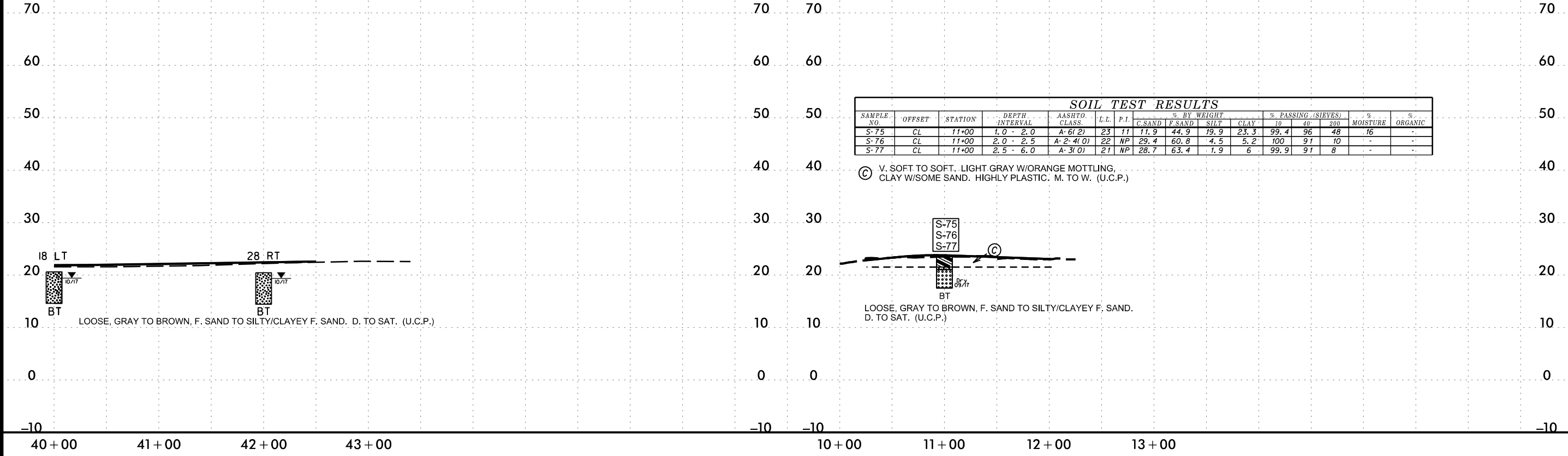


- Y22 -

- Y22A -

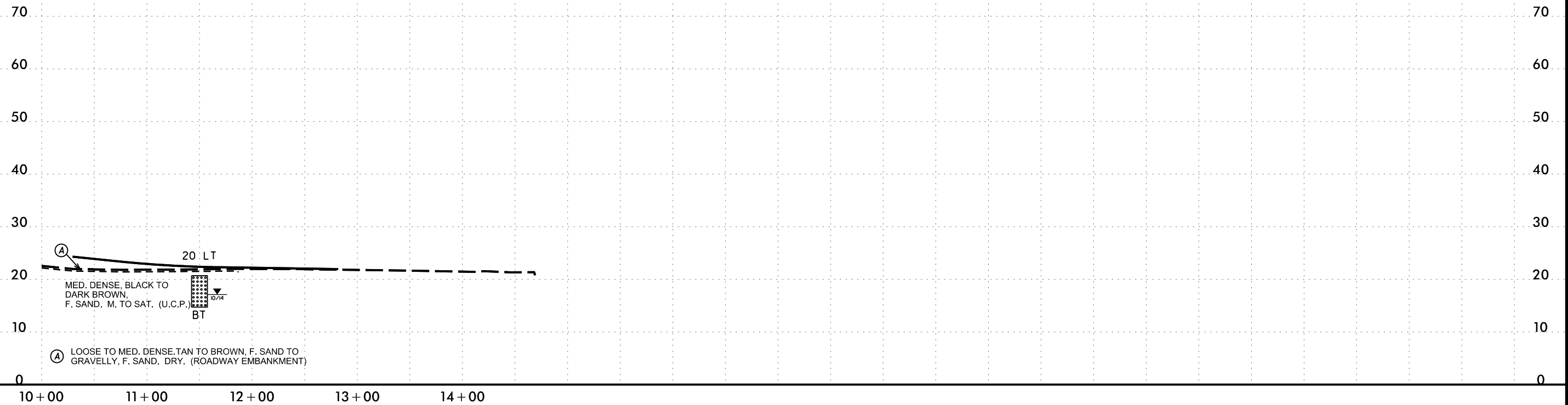
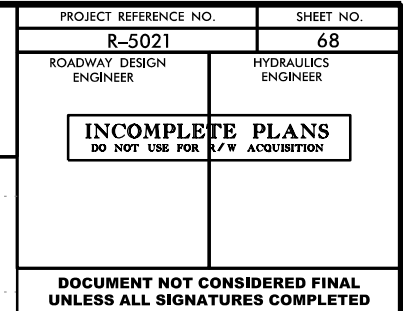
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SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-75	CL	11+00	1.0 - 2.0	A-6(2)	23	11	11.9	44.9	19.9	23.3	99.4	96	48	16	-
S-76	CL	11+00	2.0 - 2.5	A-2-4(0)	22	NP	29.4	60.8	4.5	5.2	100	91	10	-	-
S-77	CL	11+00	2.5 - 6.0	A-3(0)	21	NP	28.7	63.4	1.9	6	99.9	91	8	-	-

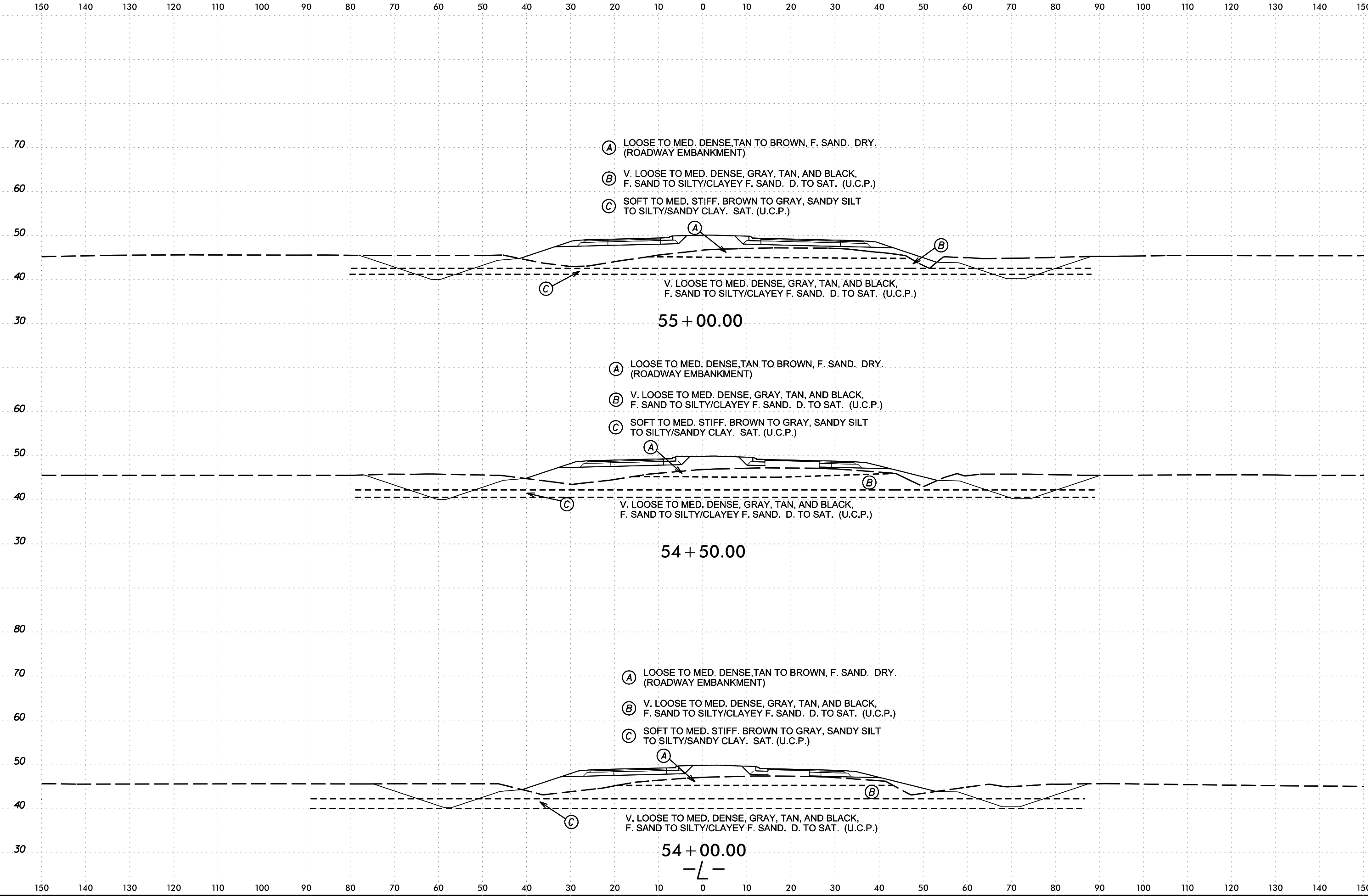
© V. SOFT TO SOFT. LIGHT GRAY W/ORANGE MOTTLING, CLAY W/SOME SAND. HIGHLY PLASTIC. M. TO W. (U.C.P.)

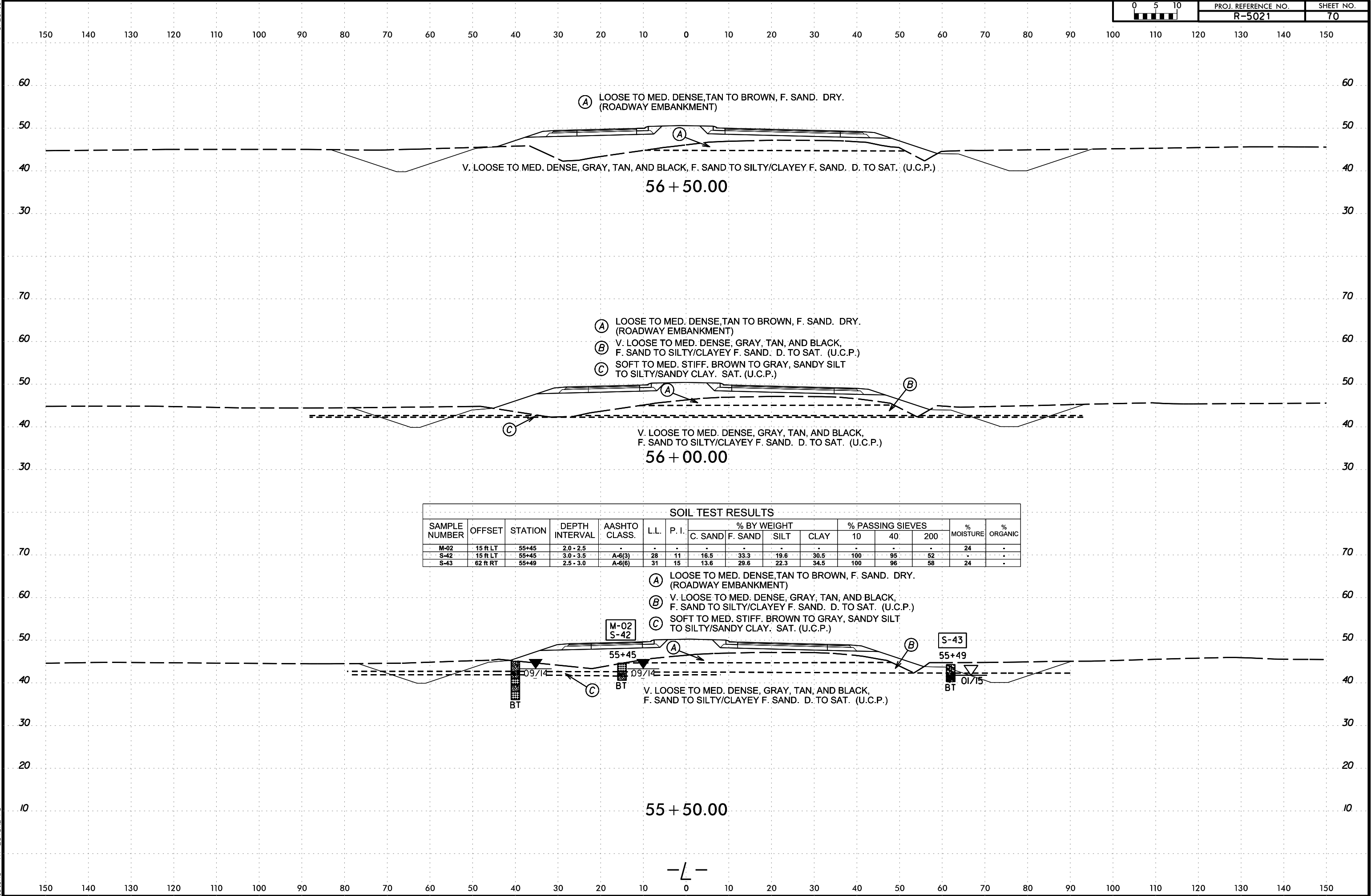


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- Y24 -







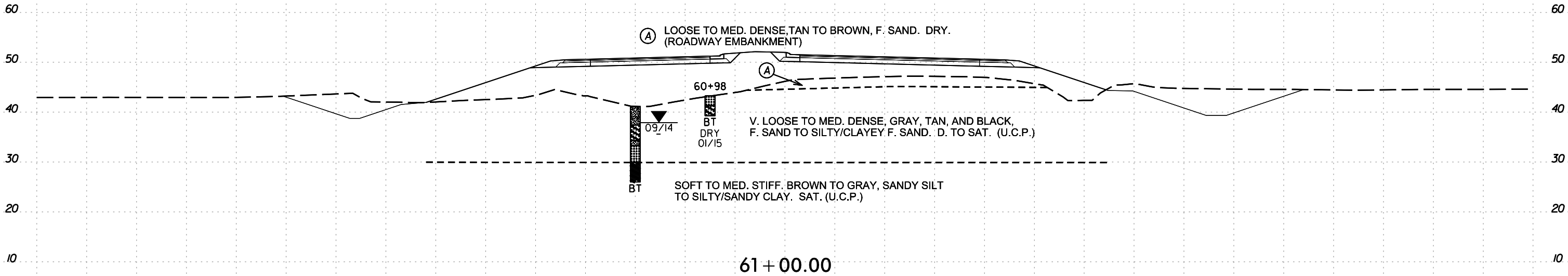
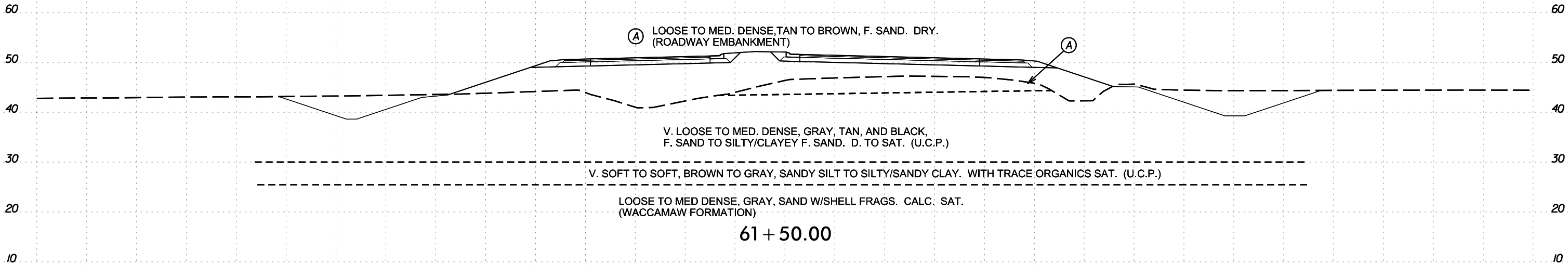
6/23/16



PROJ. REFERENCE NO.
R-5021

SHEET NO.
71

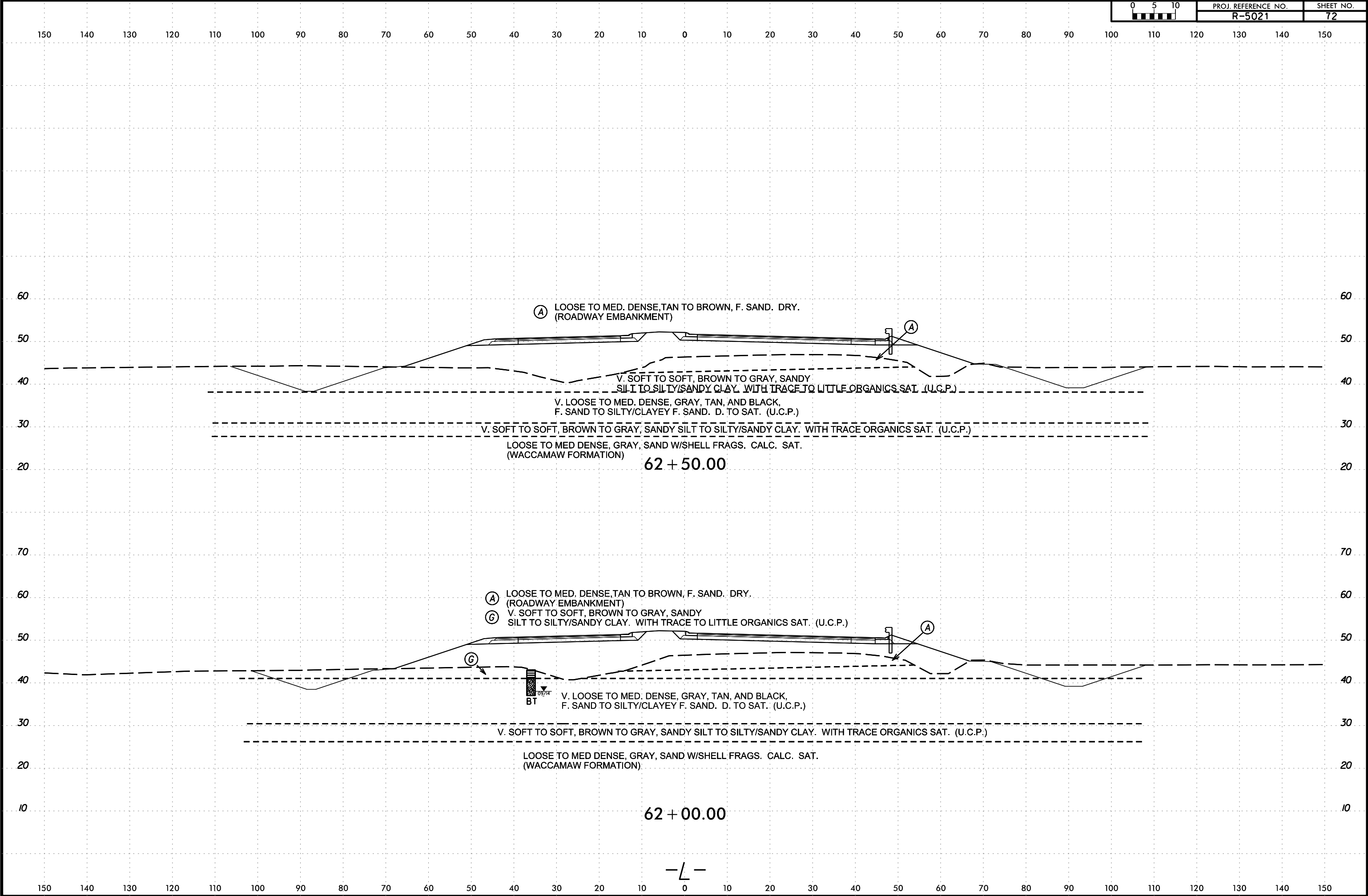
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6/23/16

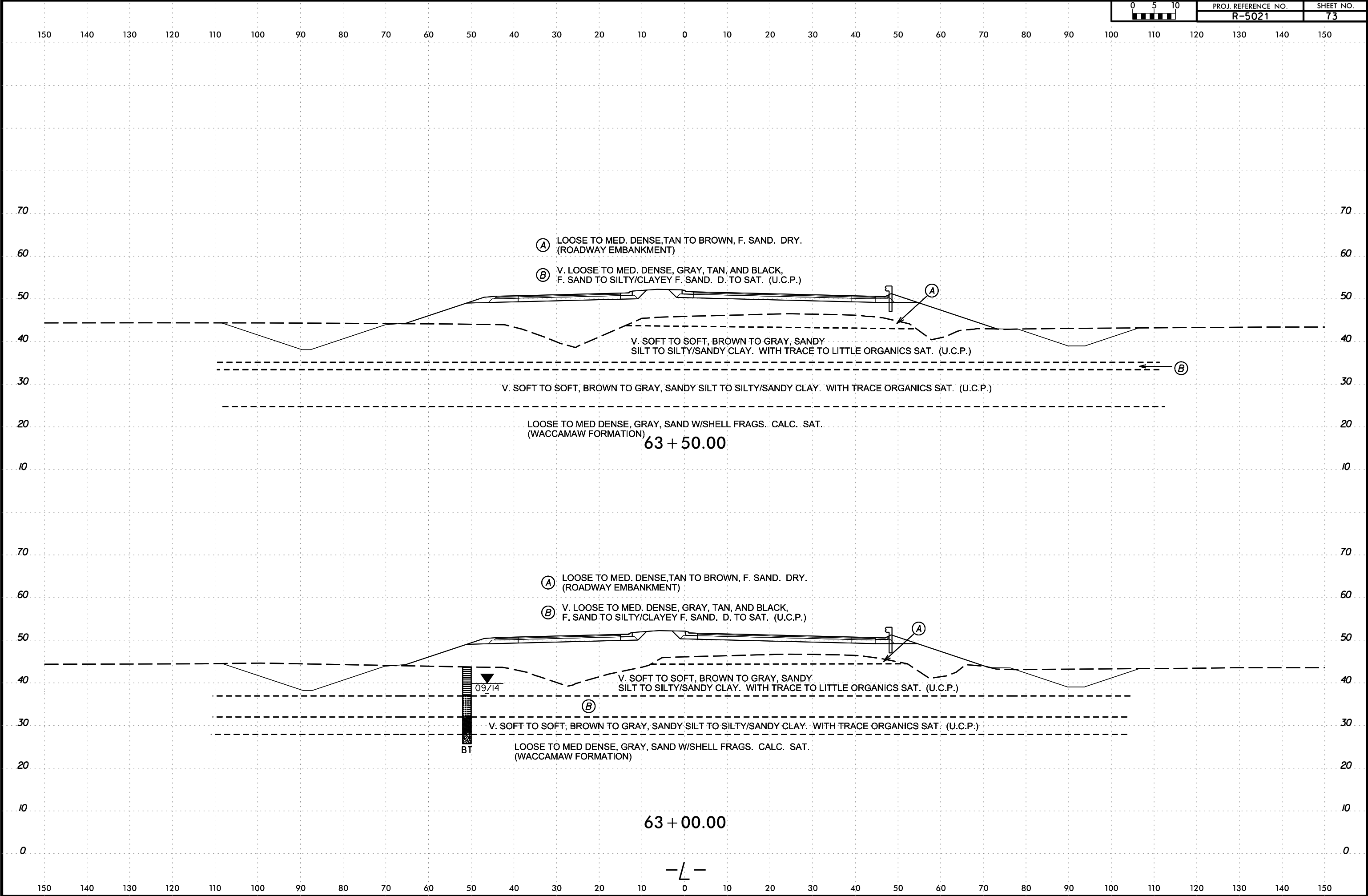
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LSTONE-PC

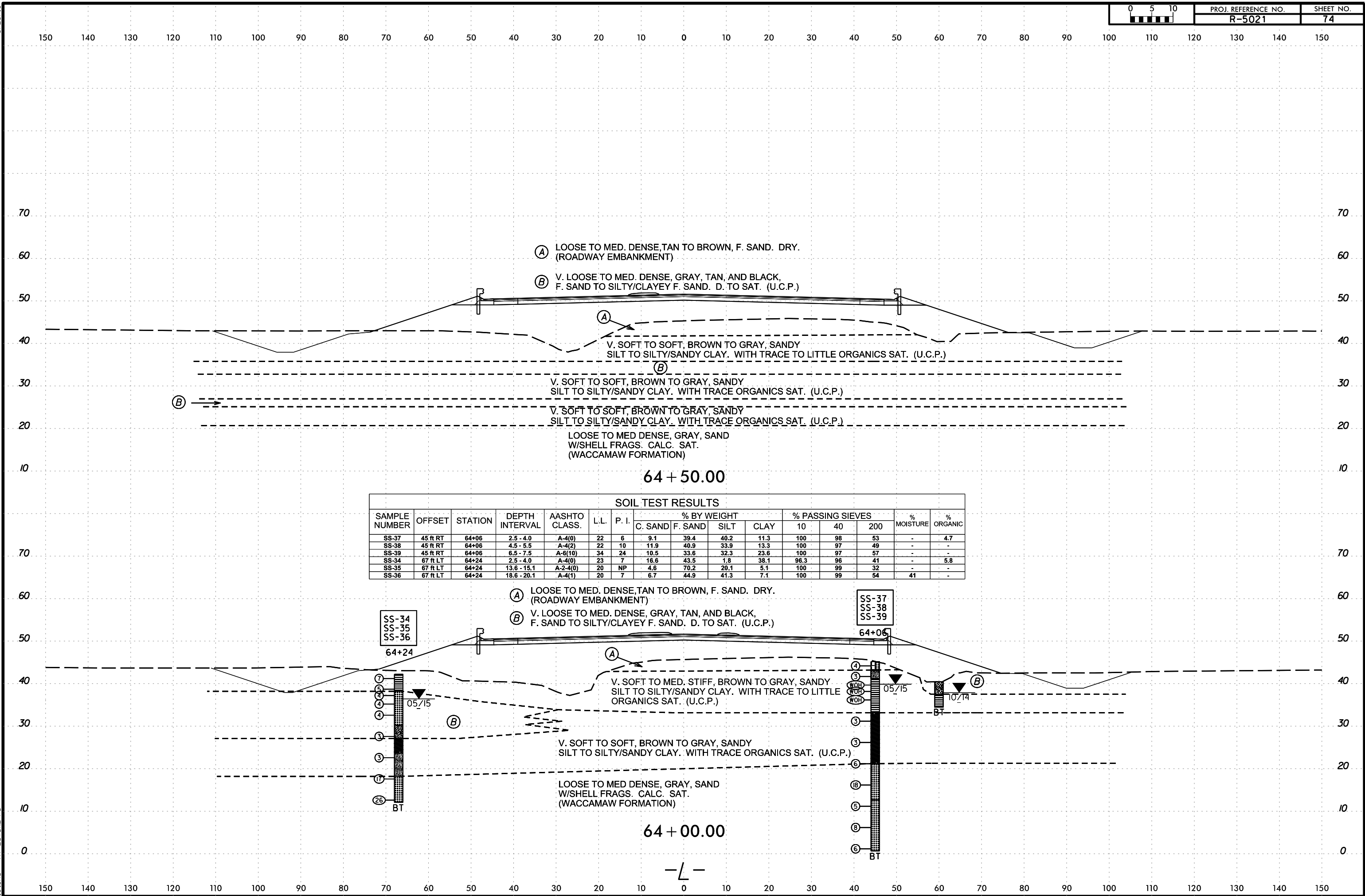


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	R-5021	73





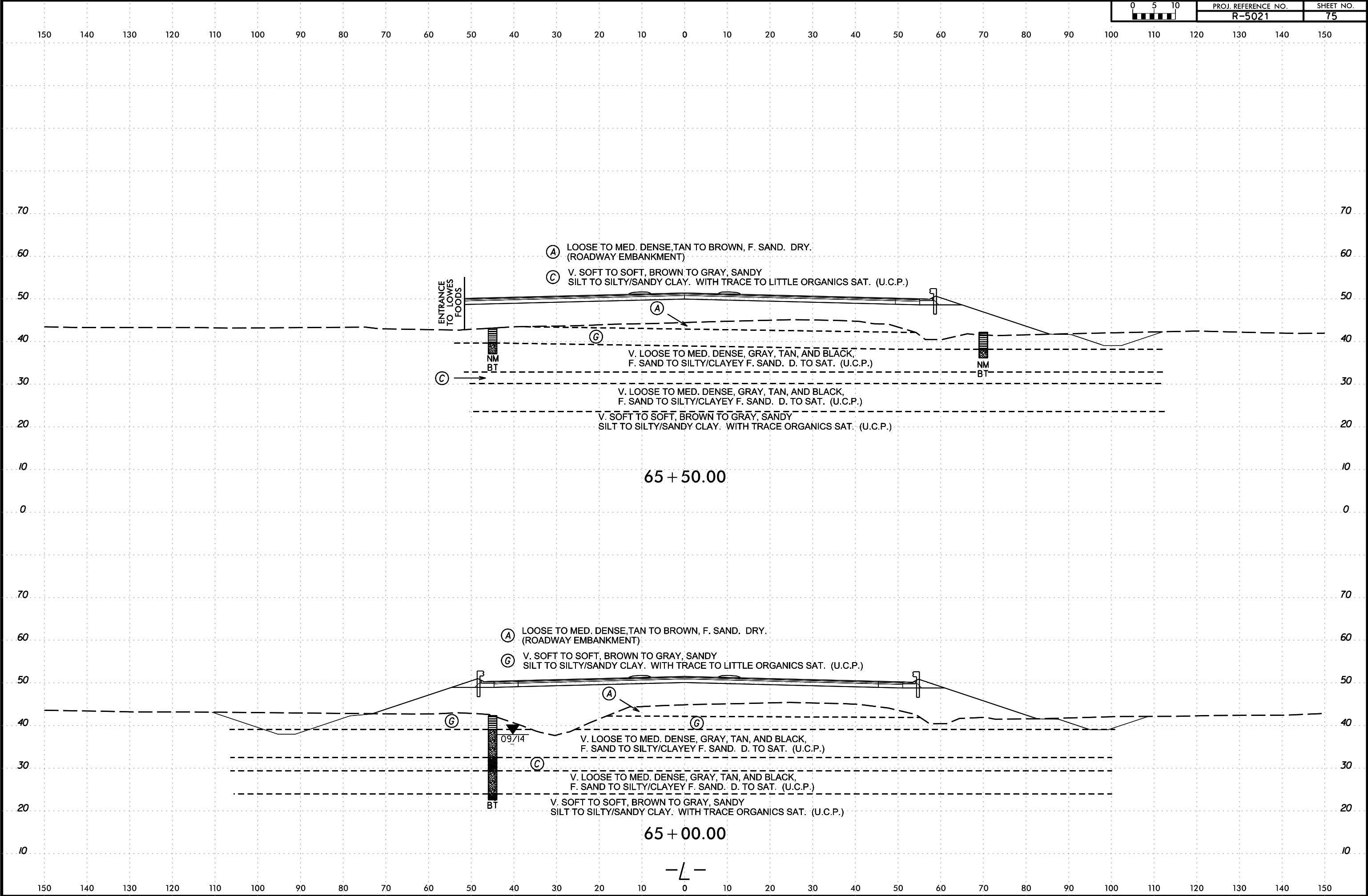
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PROJ. REFERENCE NO.
R-5021

SHEET NO.
75



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ENTRANCE
TO LOWES
|
FOODS

Ⓐ LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY.
(ROADWAY EMBANKMENT)

Ⓐ

V. LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

V. SOFT TO SOFT, BROWN TO GRAY, SANDY SILT TO SILTY/SANDY CLAY. WITH TRACE ORGANICS SAT. (U.C.P.)

V. LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

V. SOFT TO SOFT, BROWN TO GRAY, SANDY SILT TO SILTY/SANDY CLAY. WITH TRACE ORGANICS SAT. (U.C.P.)

66 + 00.00

— L —

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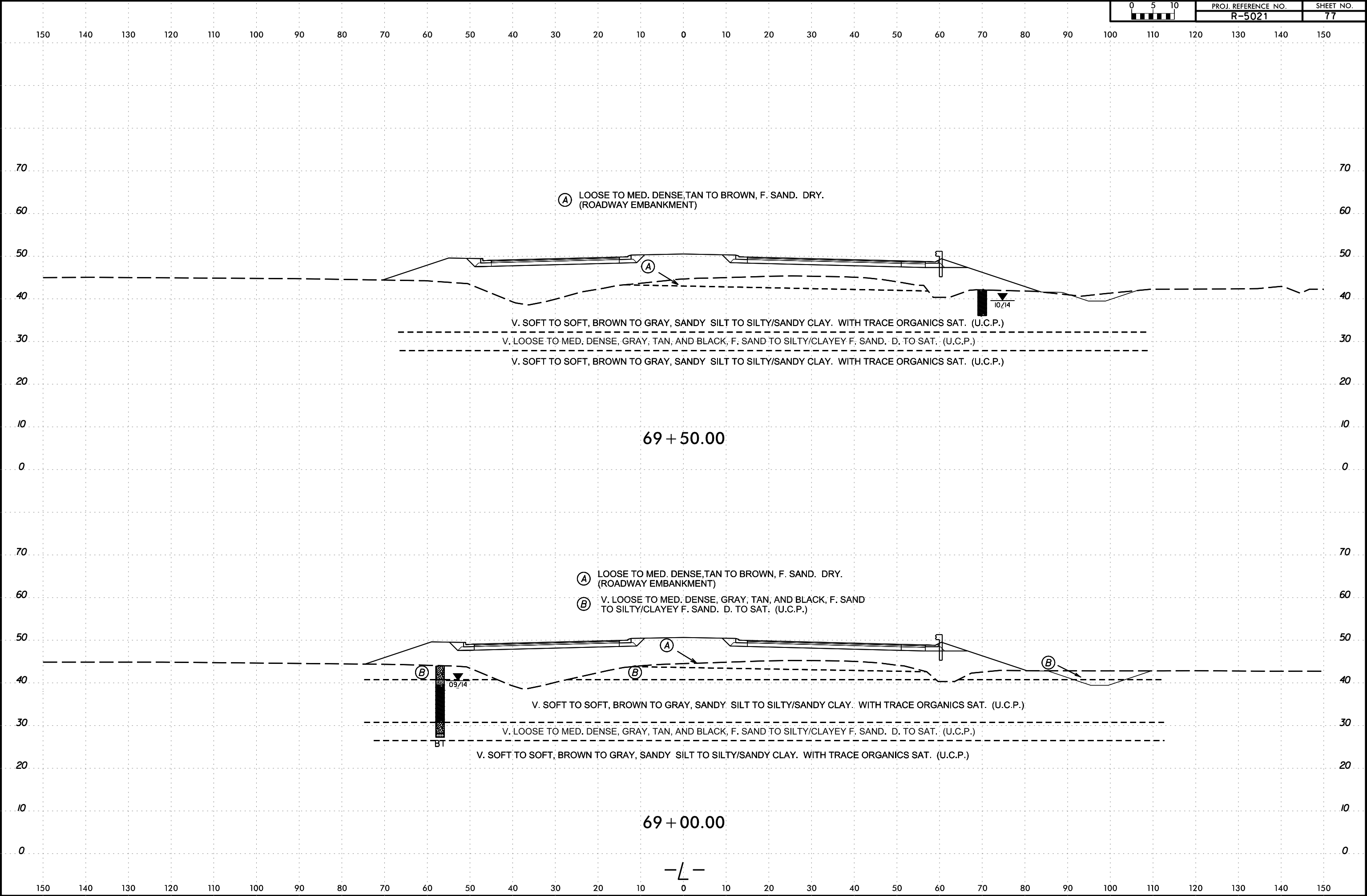
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6/23/16

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	R-5021	77



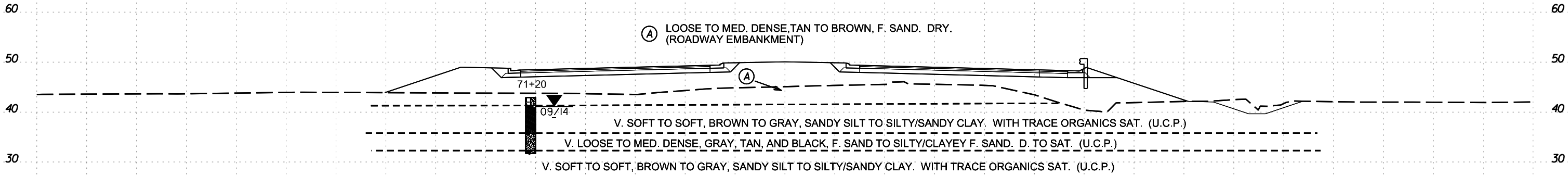
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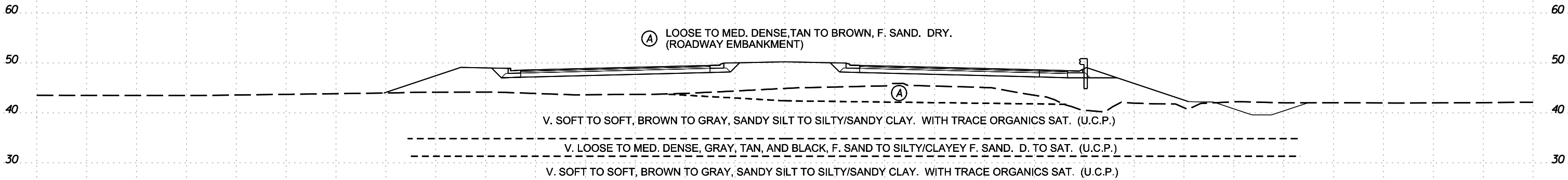
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SHEET NO.
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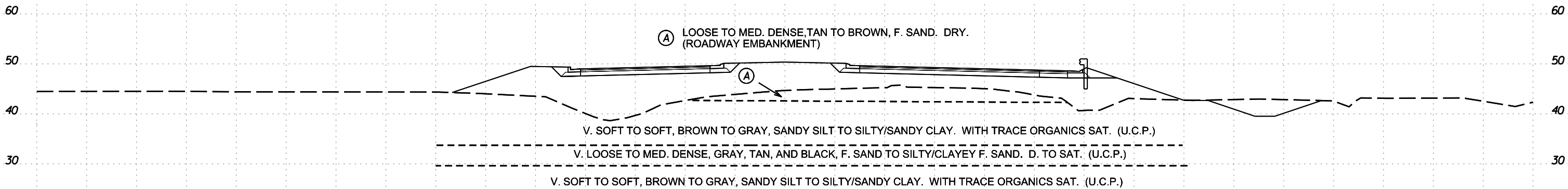
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71 + 00.00



70 + 50.00



70 + 00.00

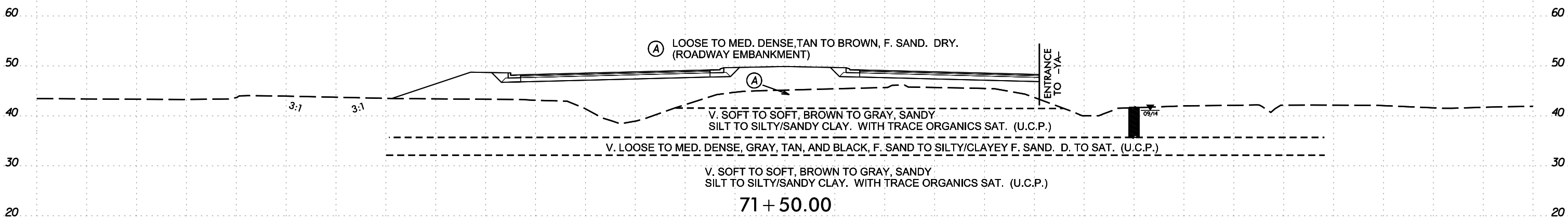
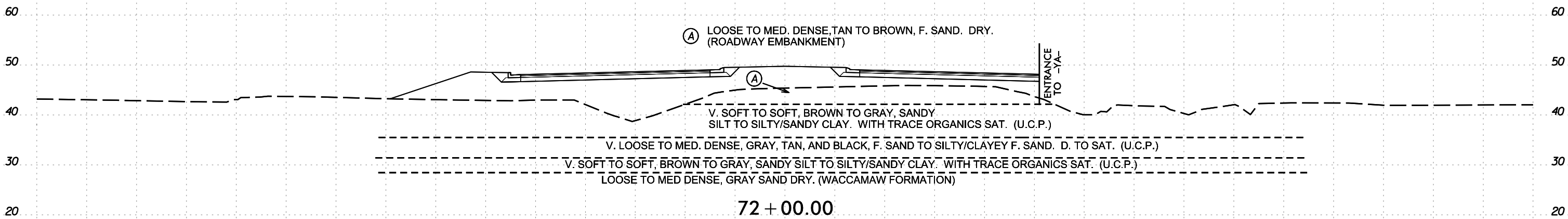
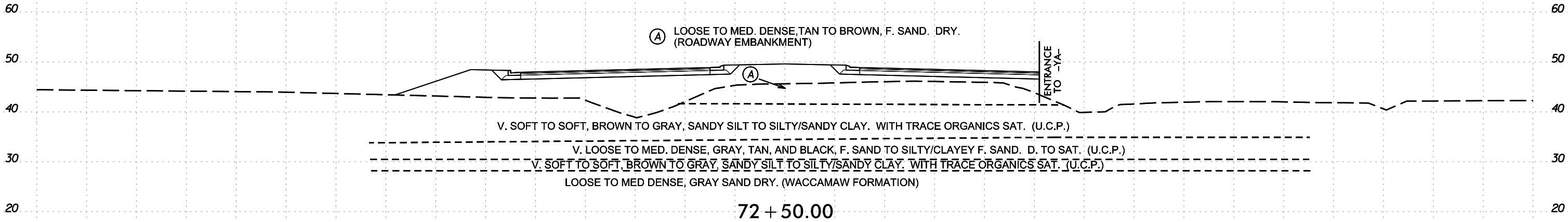
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1stone AT LSTONE-PC

6/23/16

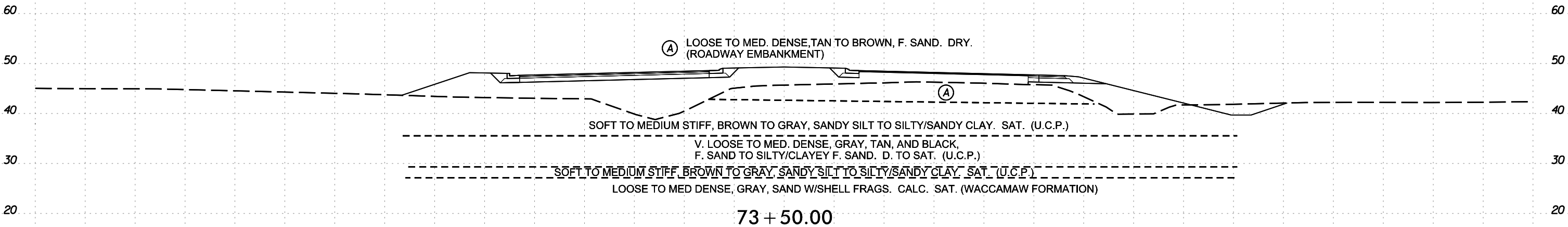
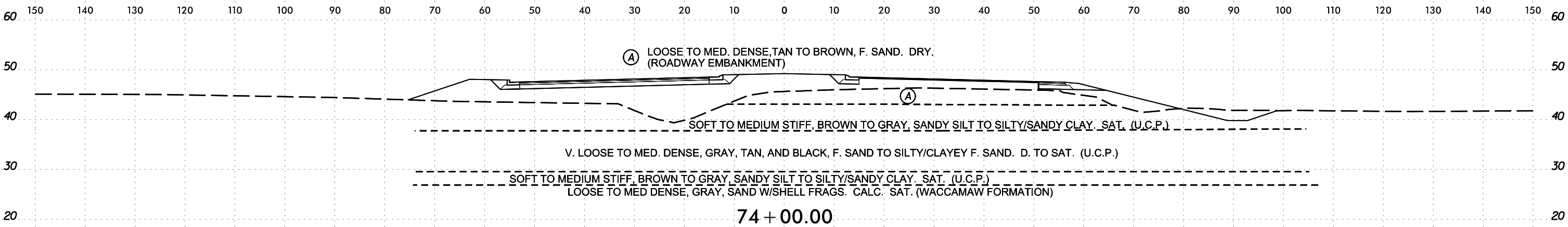
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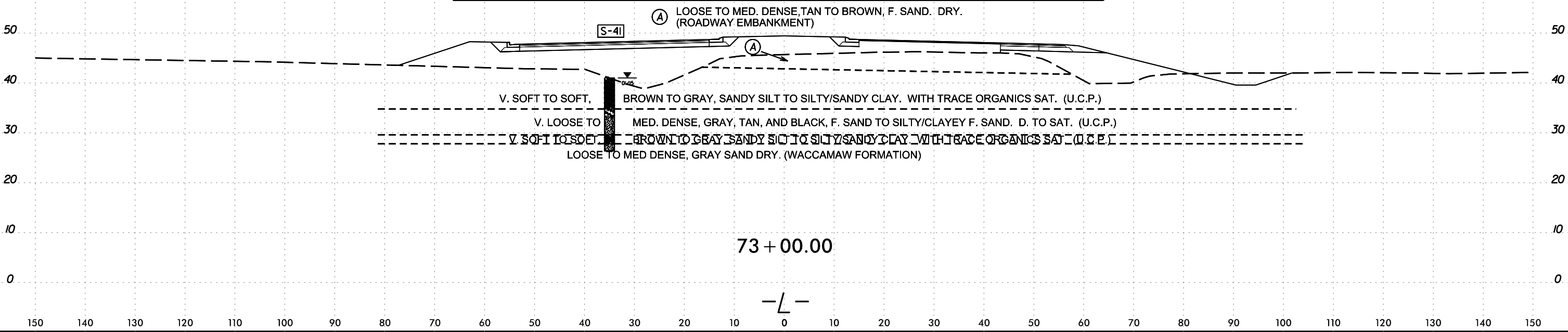
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6/23/16

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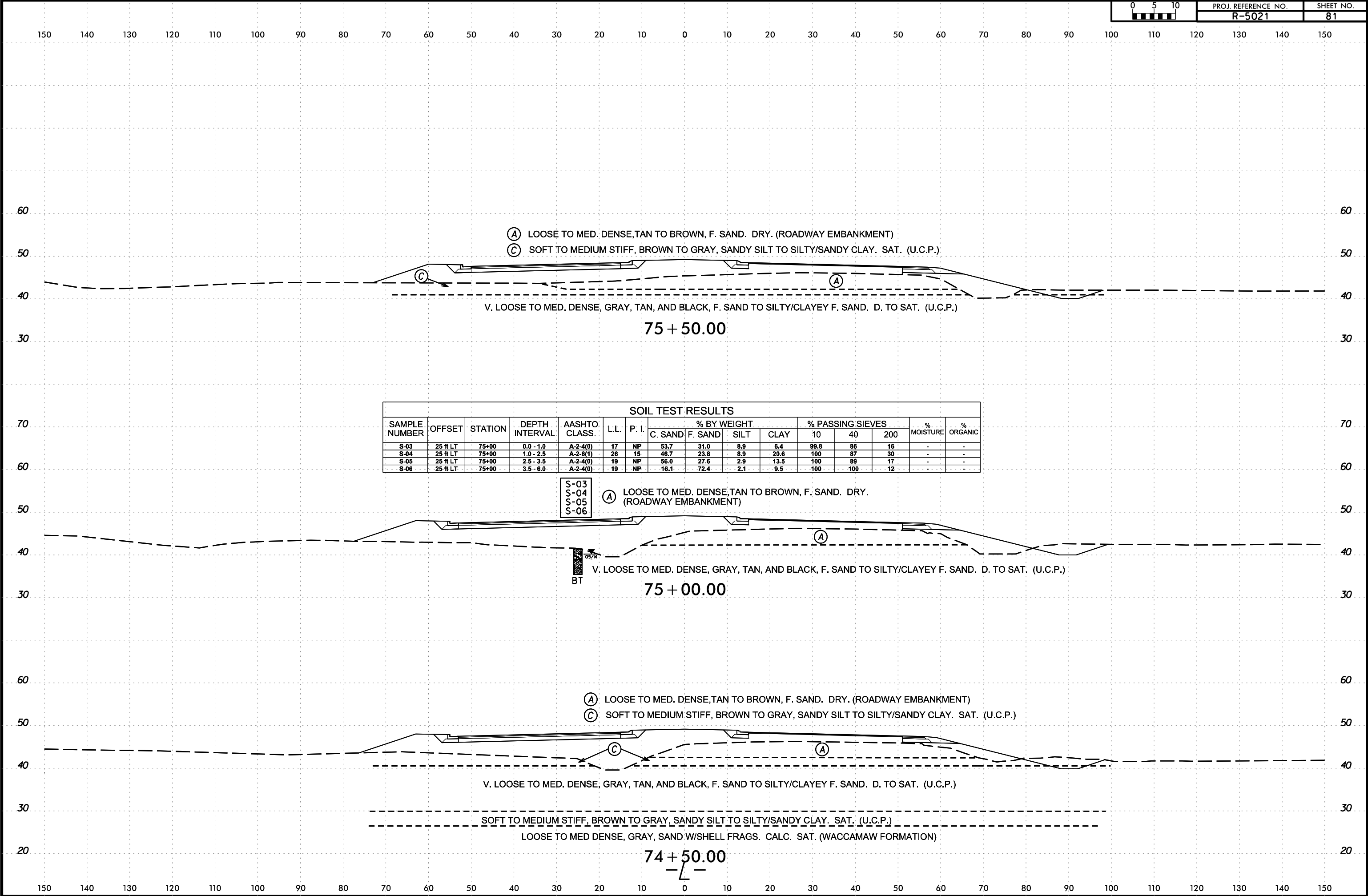


SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-41	35 ft LT	73+00	0.0 - 1.0	A-6(8)	34	20	7.4	37.4	24.9	30.3	100	100	57	-	-



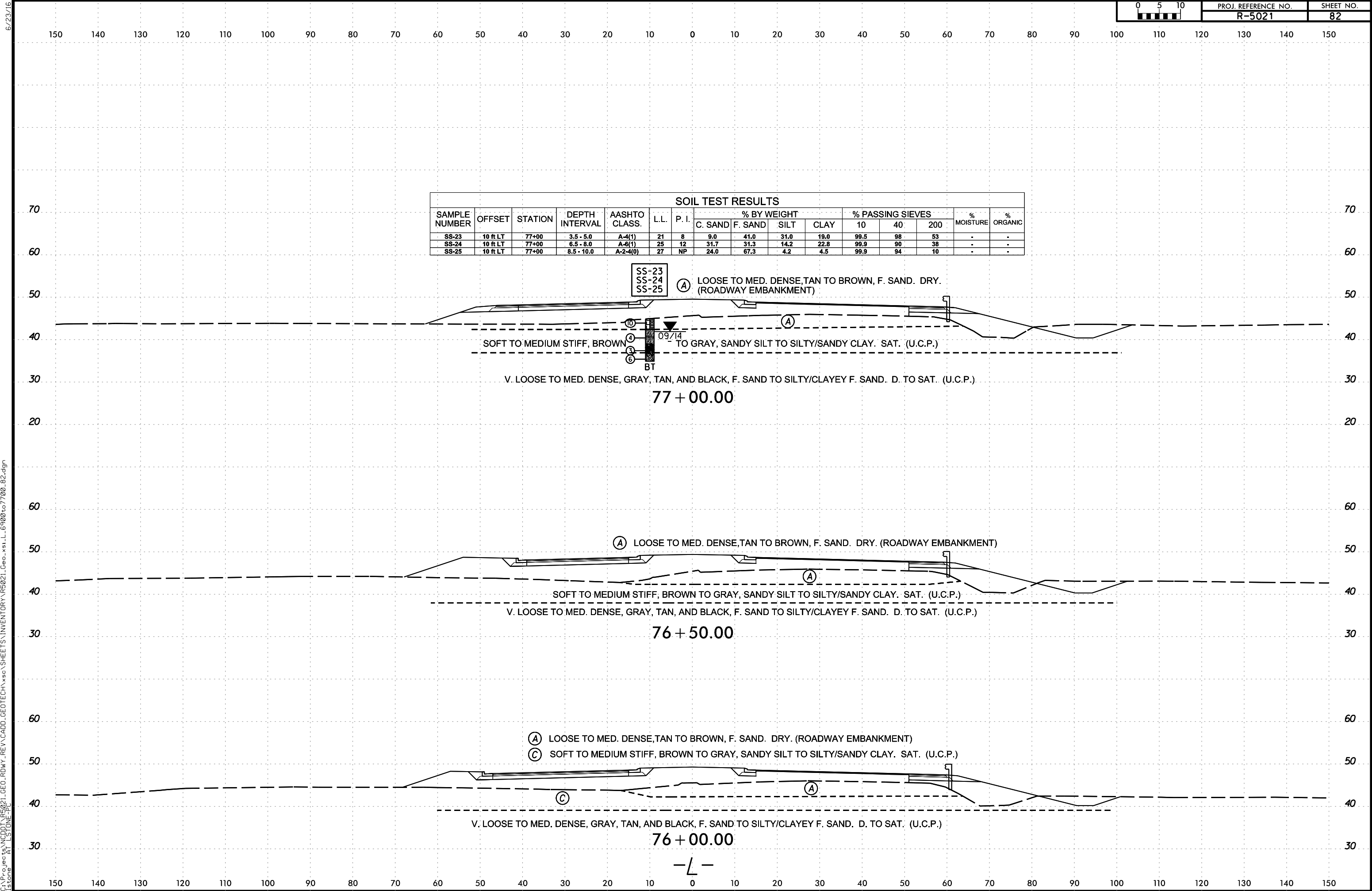
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1stone AT LSTONE-PC



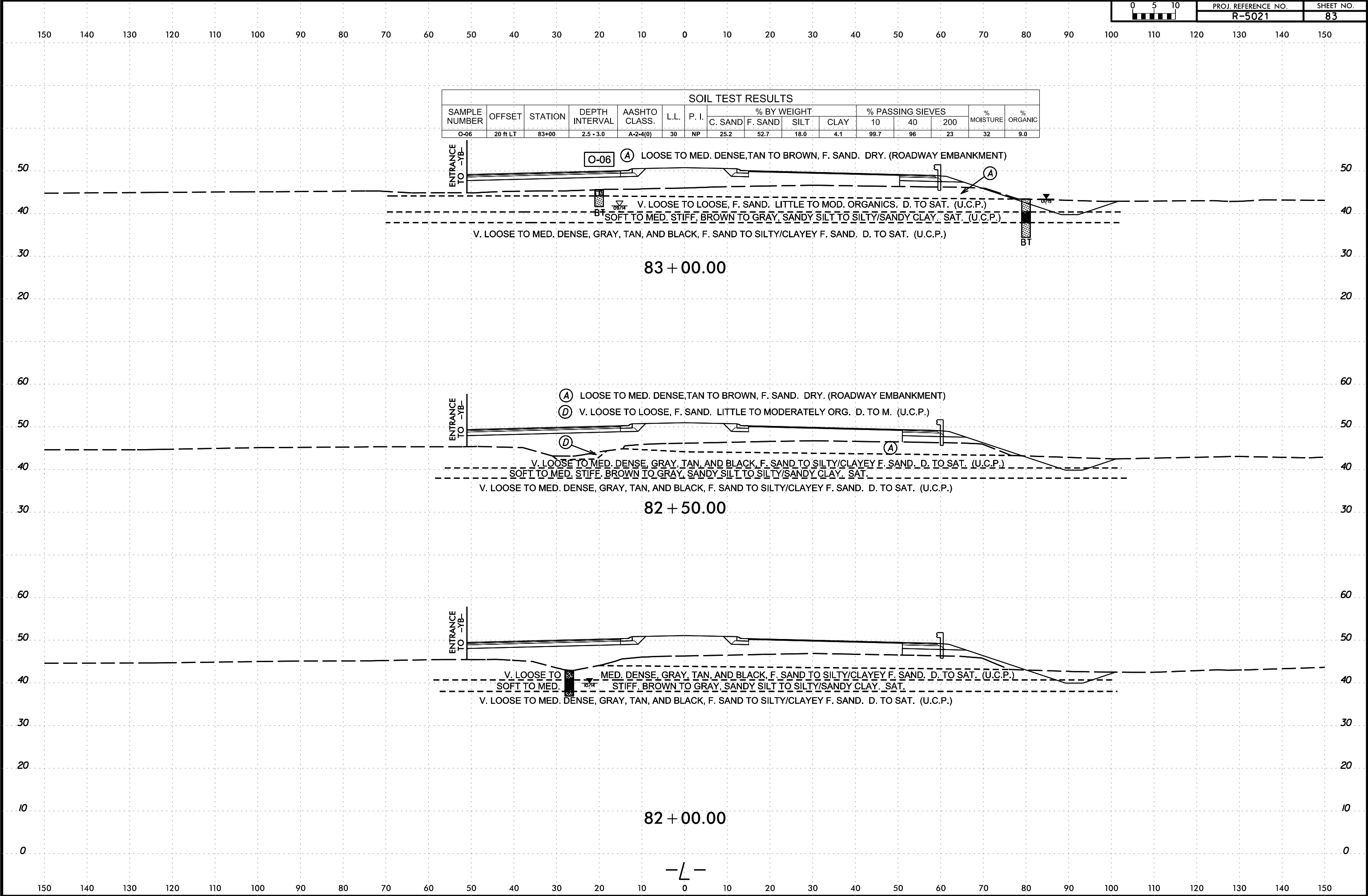
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LSTONE-PC



6/23/16

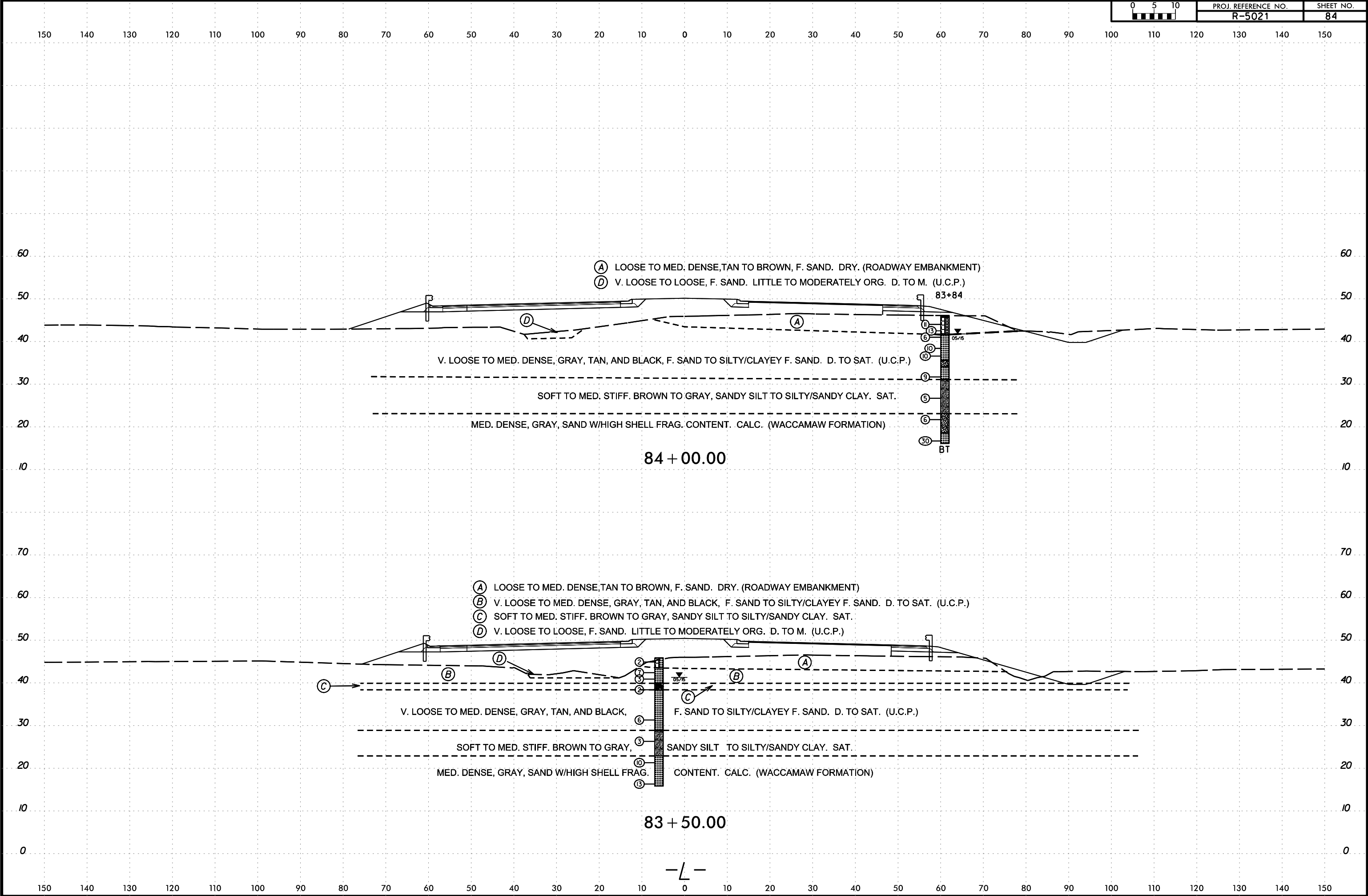
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1 stone AT LSTONE-PC



6/23/16

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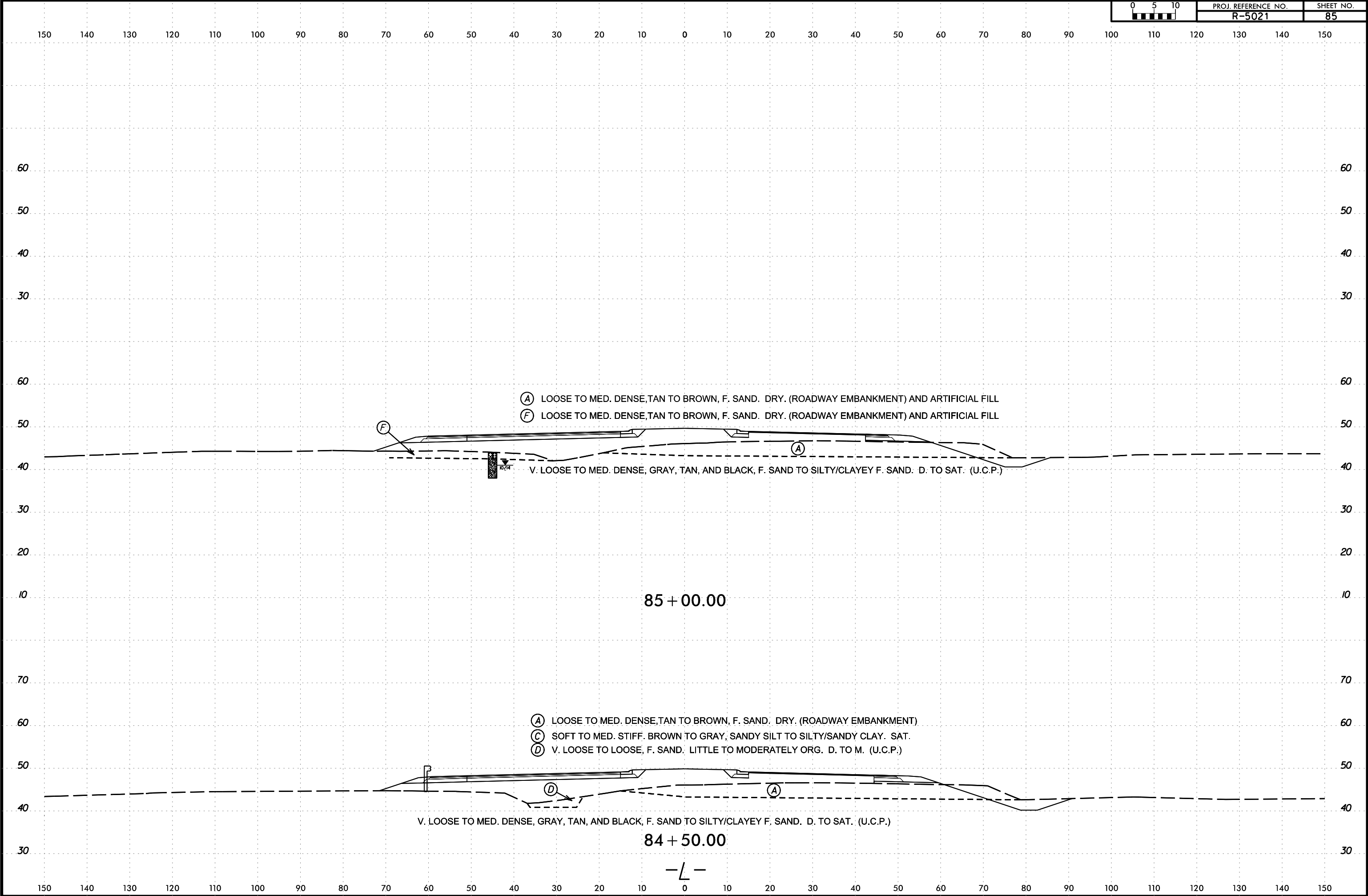
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	R-5021	84



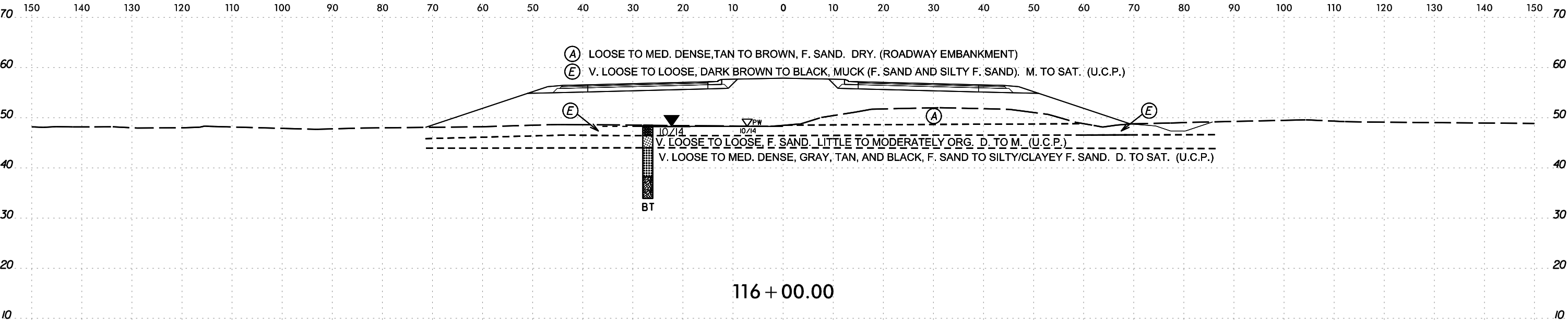
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LSTONE-PC

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5021	85

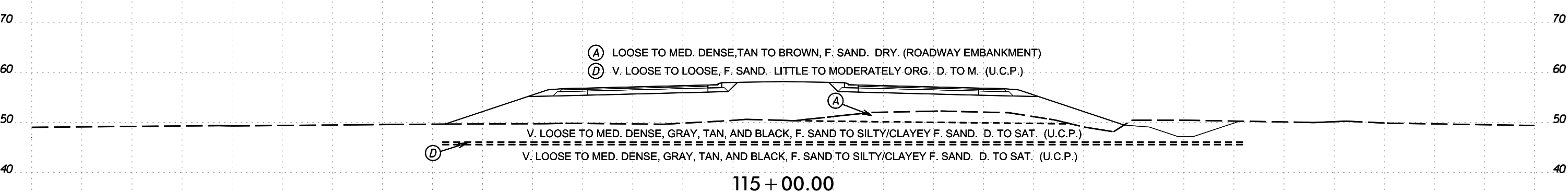
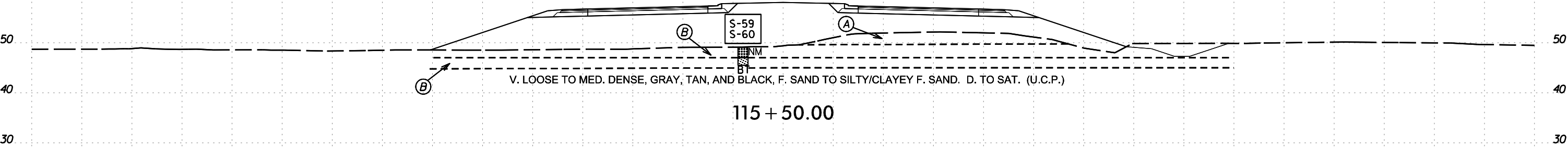


6/23/16



SOIL TEST RESULTS															
SAMPLE NUMBER	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-59	8 ft LT	115+50	1.0 - 2.0	A-3(0)	24	NP	27.2	67.4	1.9	3.5	86.2	98	6	-	2.1
S-60	8 ft LT	115+50	3.5 - 4.0	A-3(0)	19	NP	24.4	66.3	3.6	5.7	93.6	98	10	-	5.3

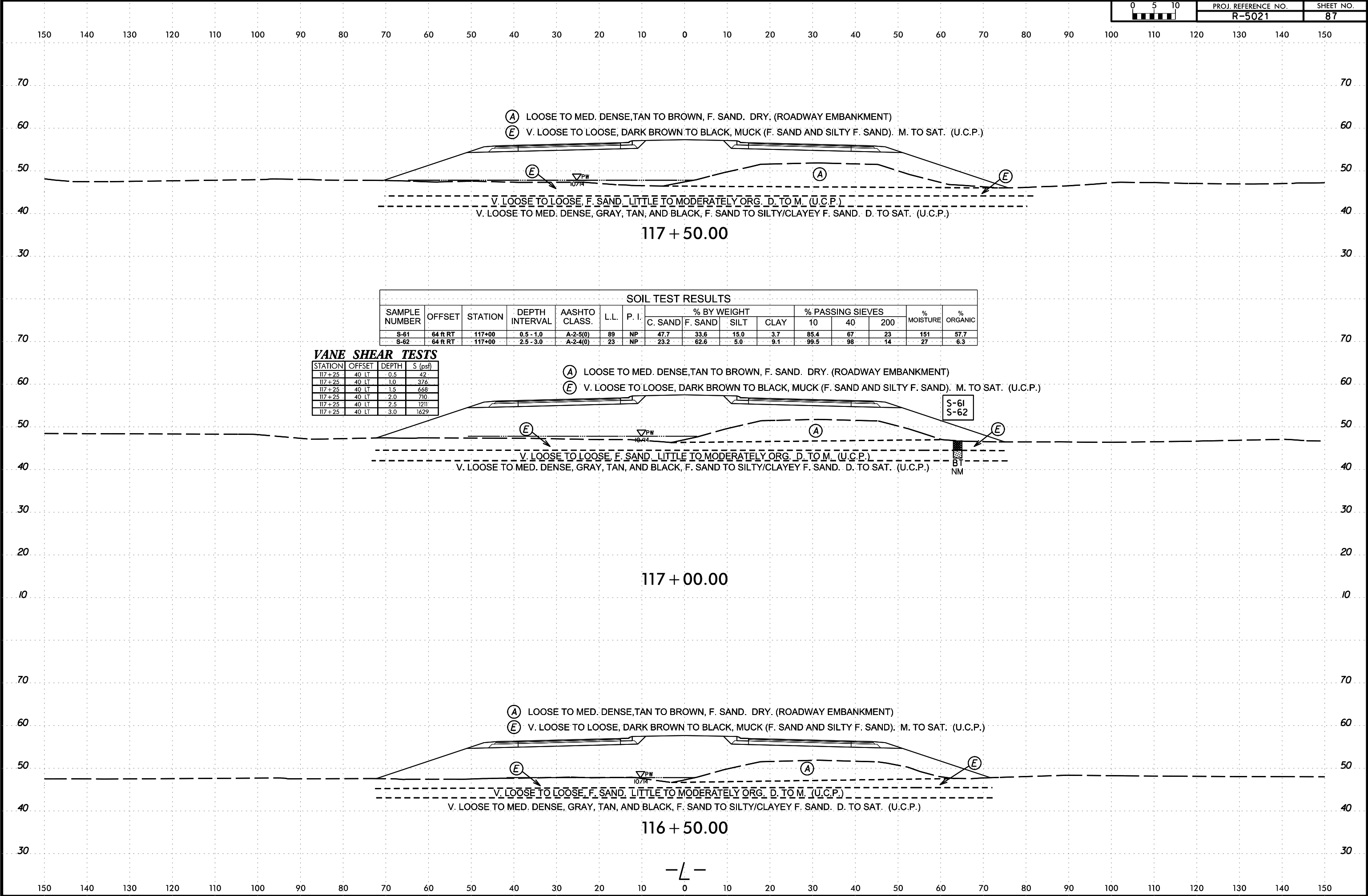
- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY. (ROADWAY EMBANKMENT)
(B) V. LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)
(D) V. LOOSE TO LOOSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)



-L-

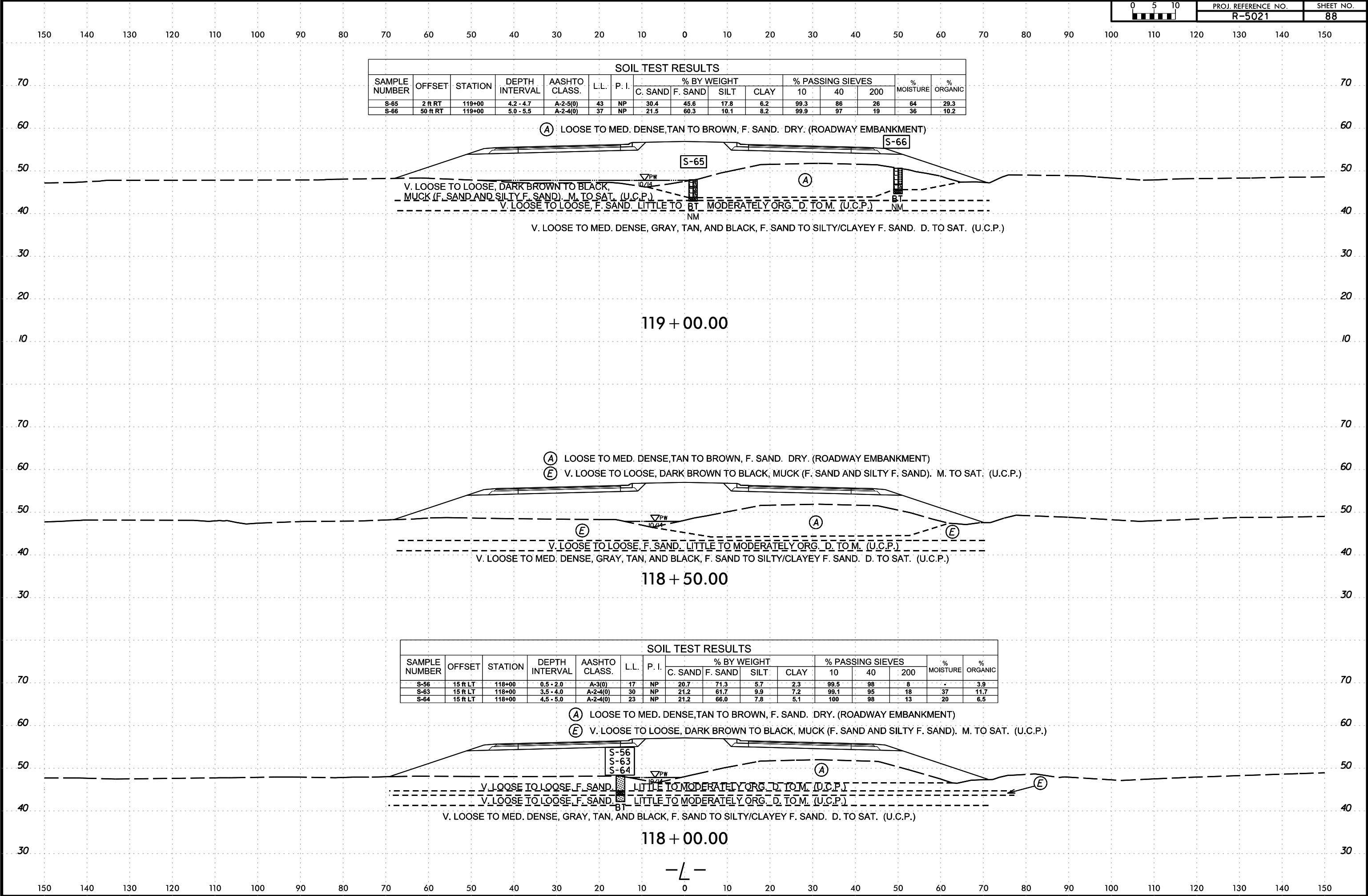
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LSTONE-PC



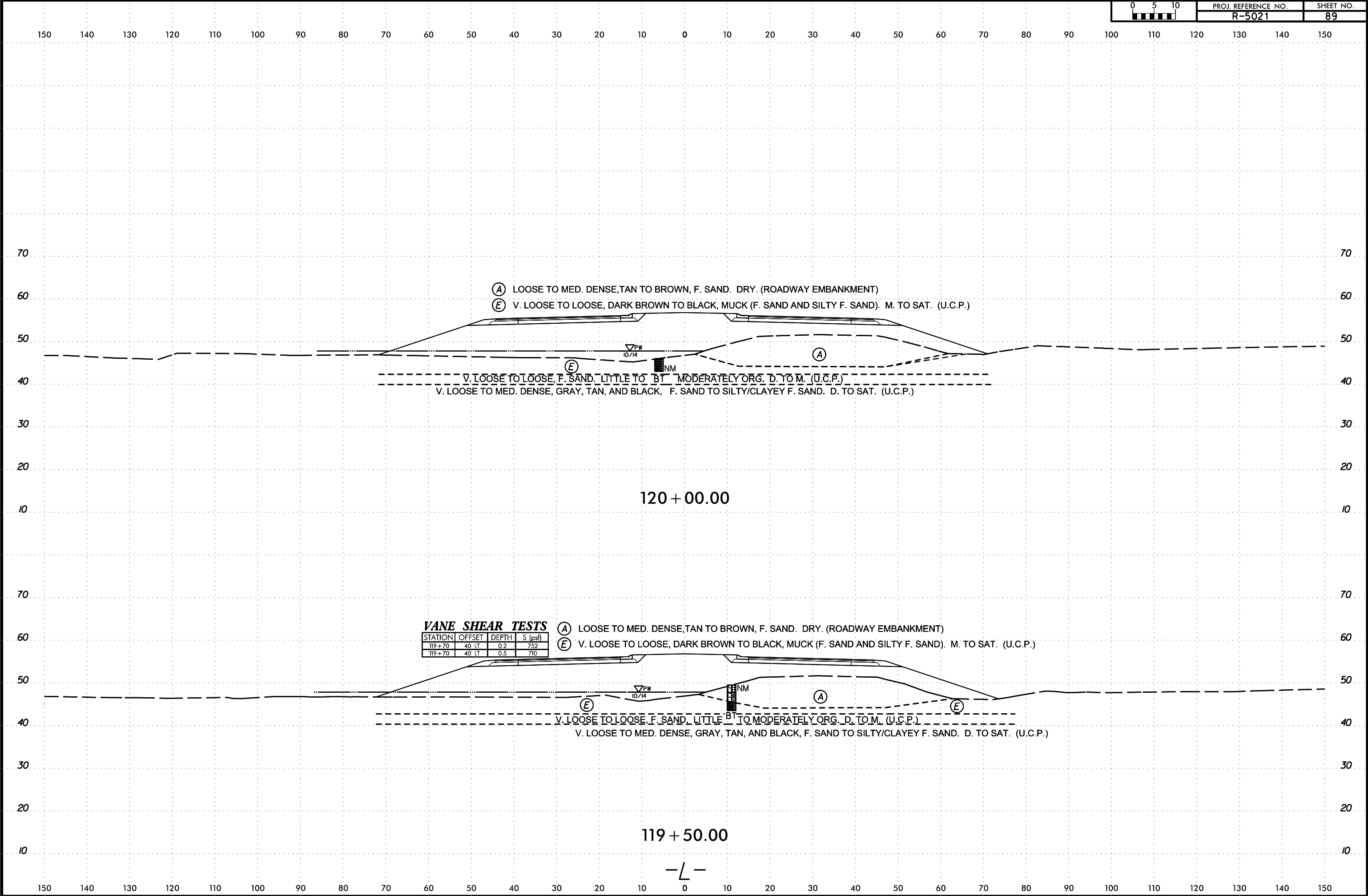
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1stone AT LISTONE-PC

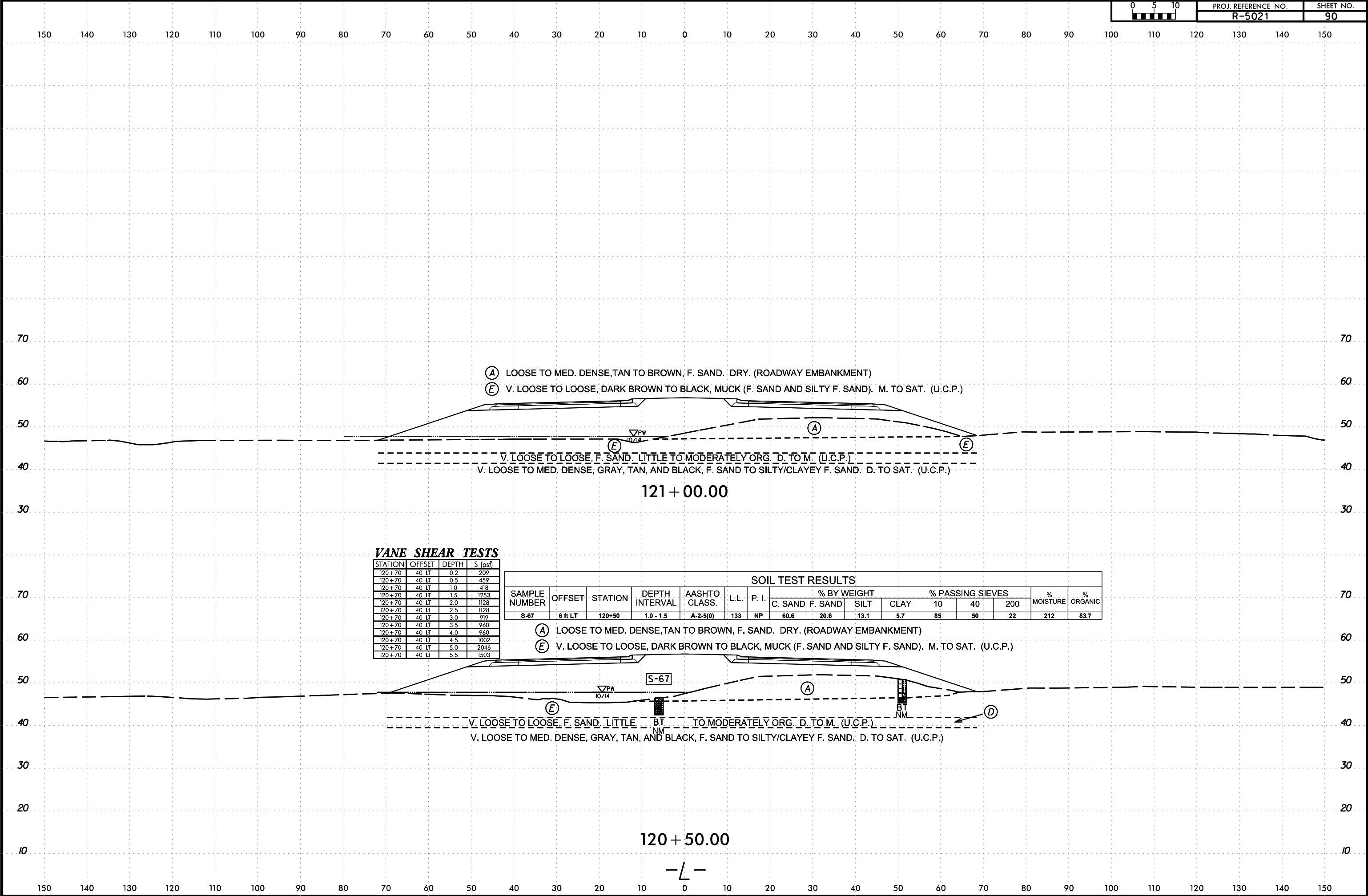


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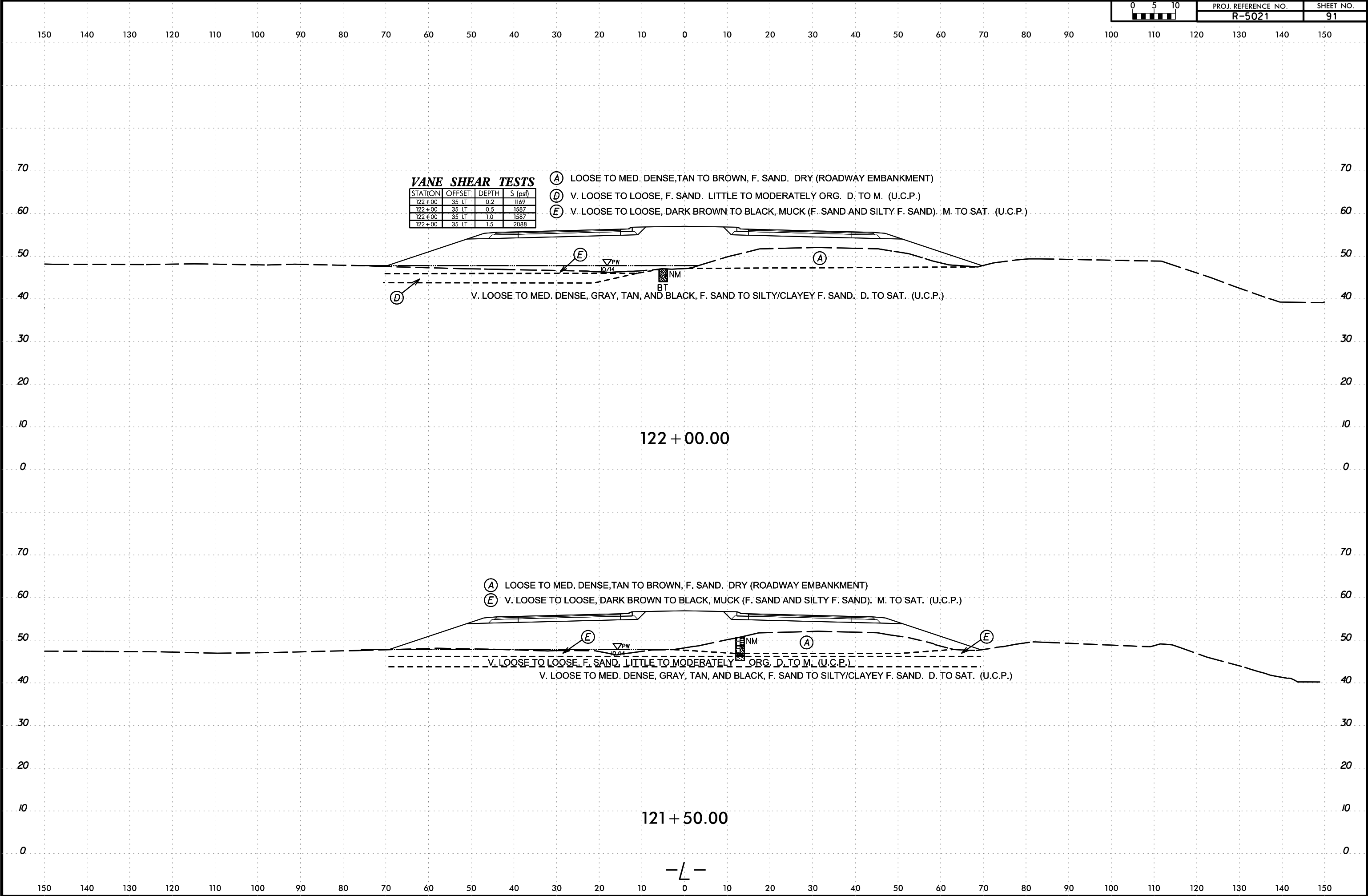


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STONE-PC



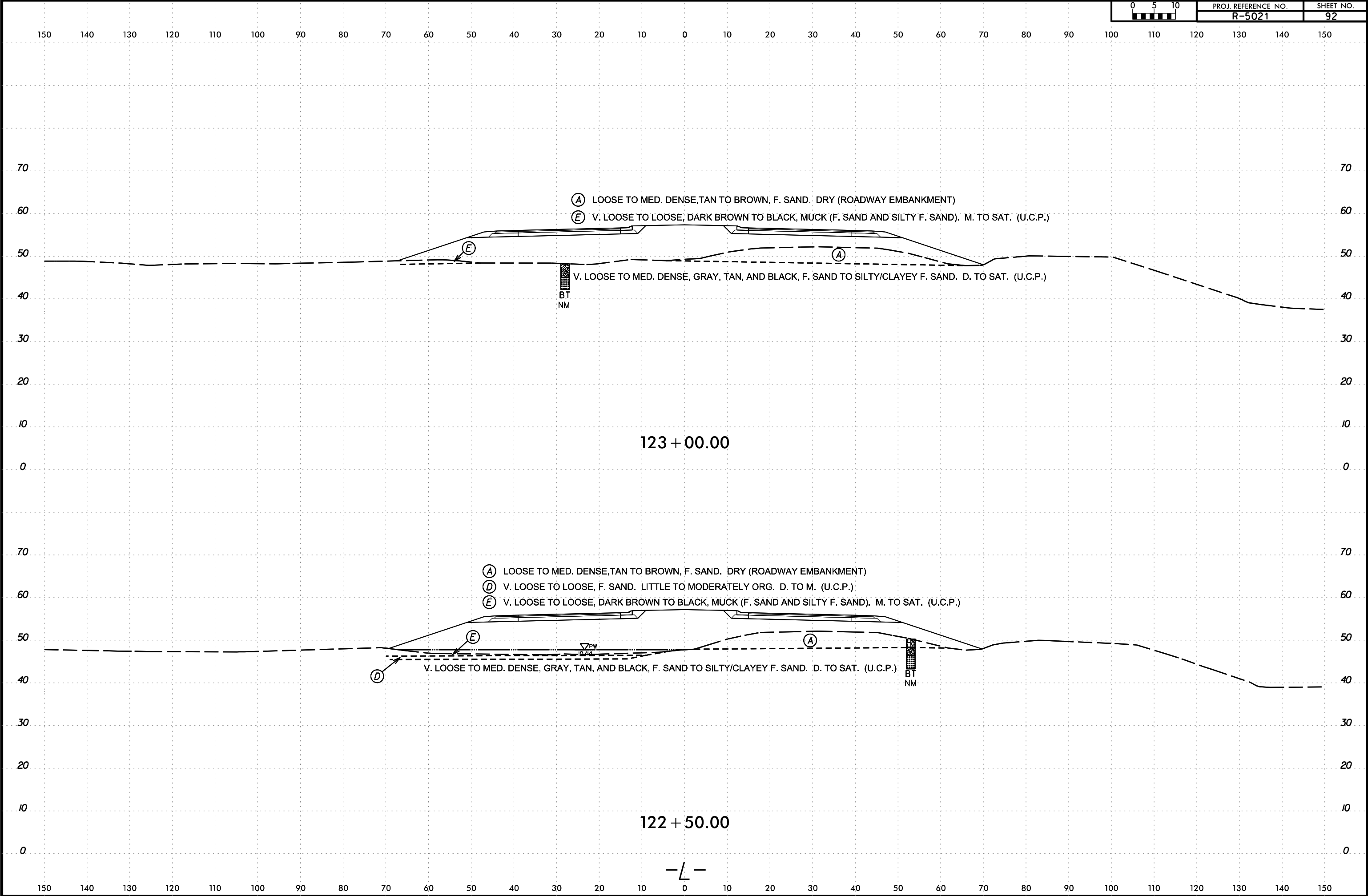
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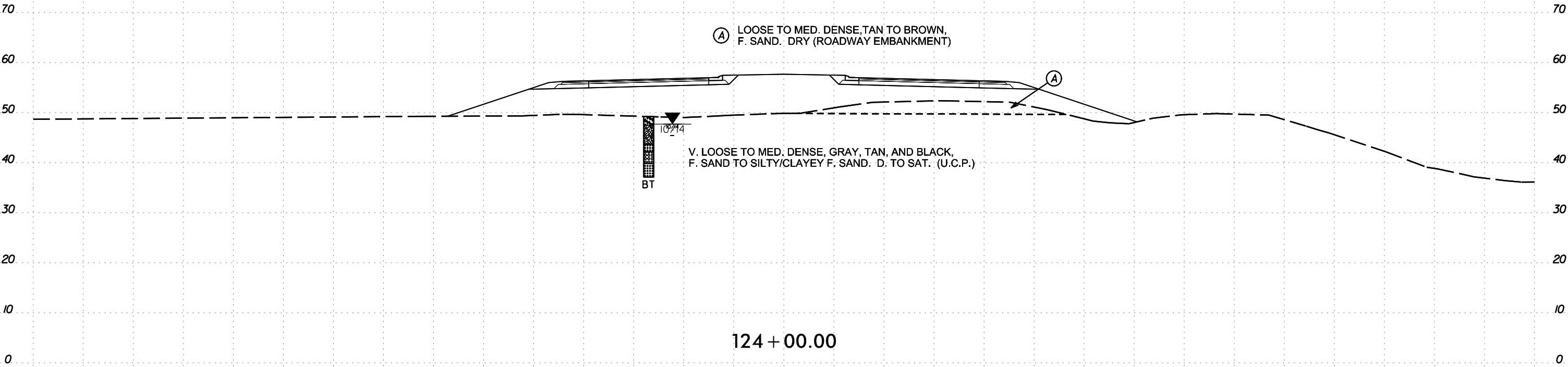
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LSTONE-PC

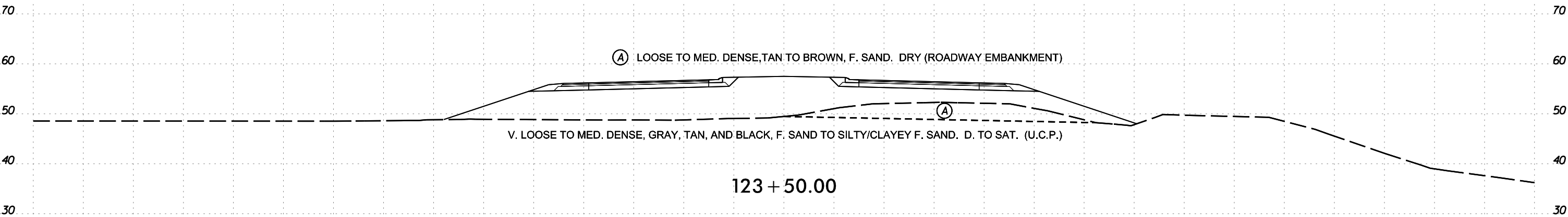


6/23/16

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124 + 00.00



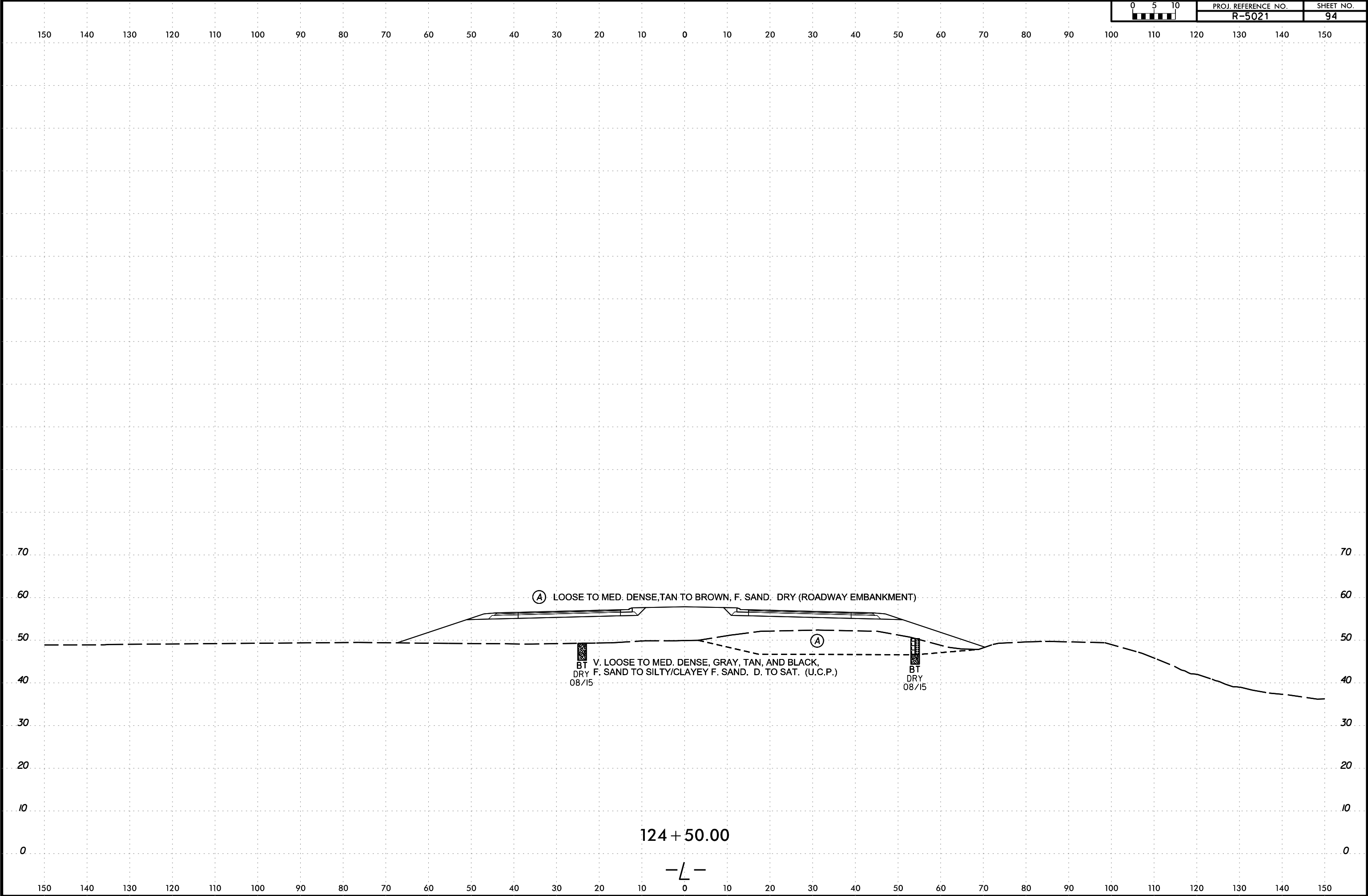
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6/23/16

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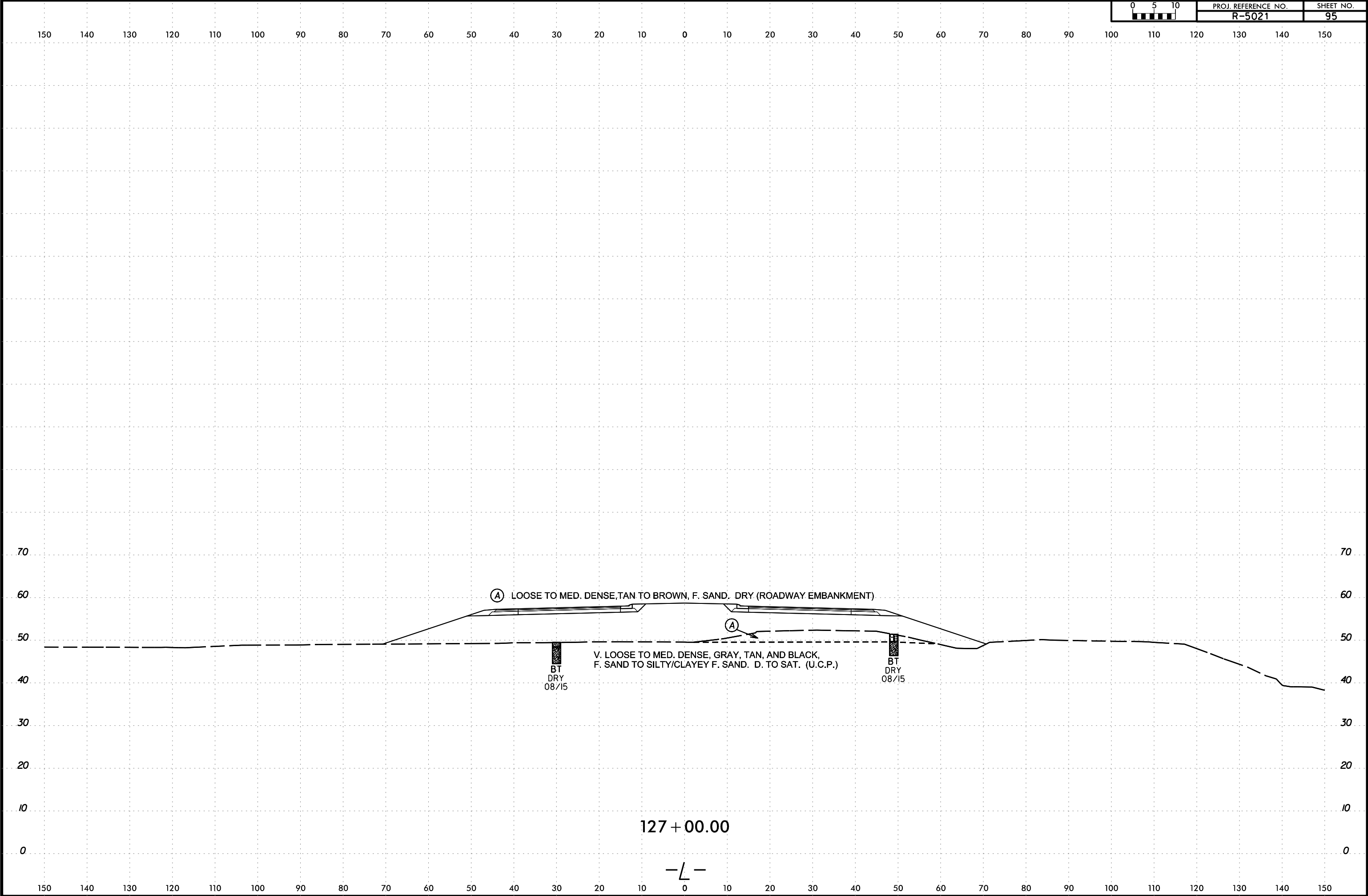
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	R-5021	94



6/23/16

21-DEC-2017 13:16
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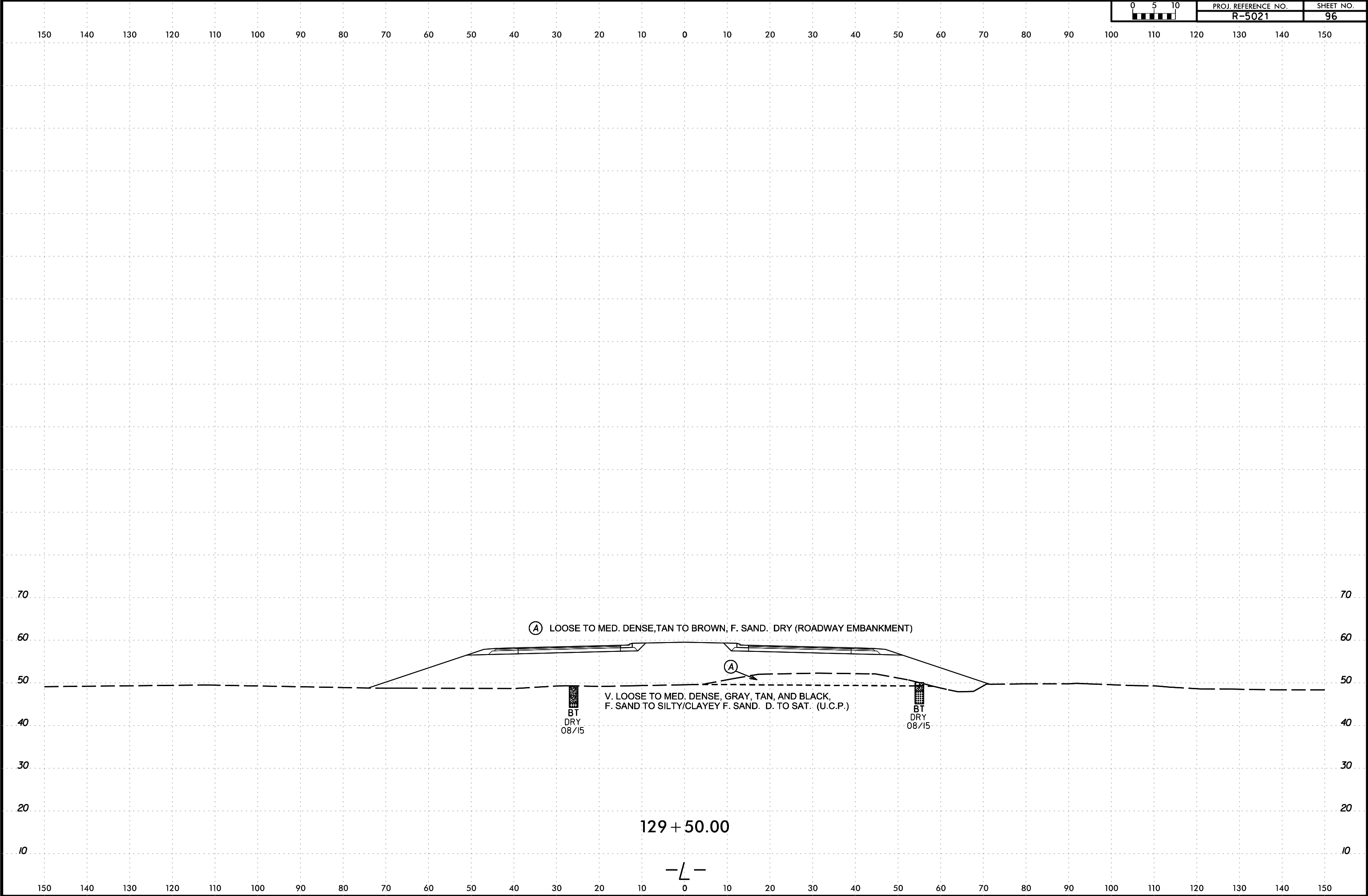
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6/23/16

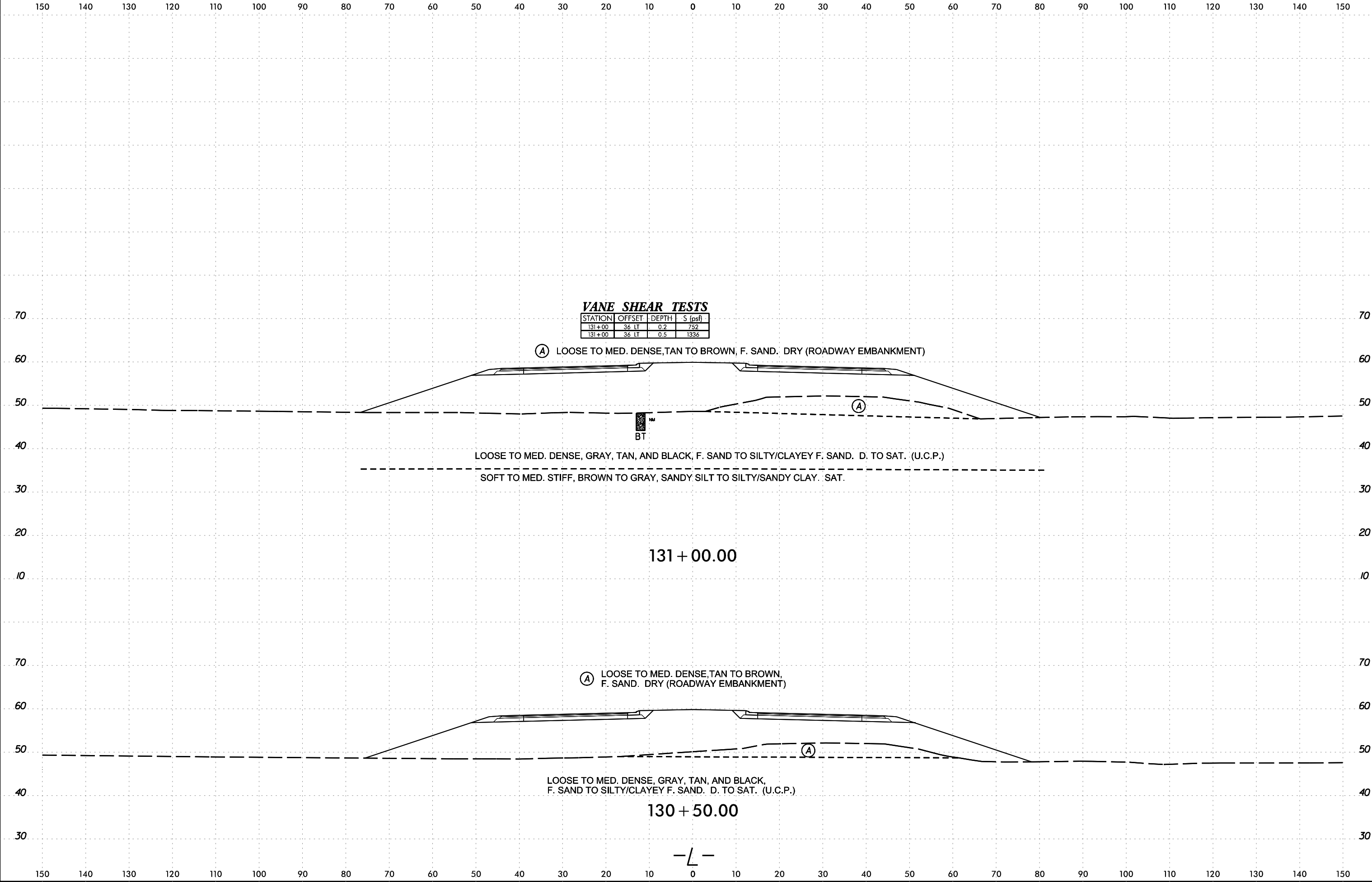
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5021	96



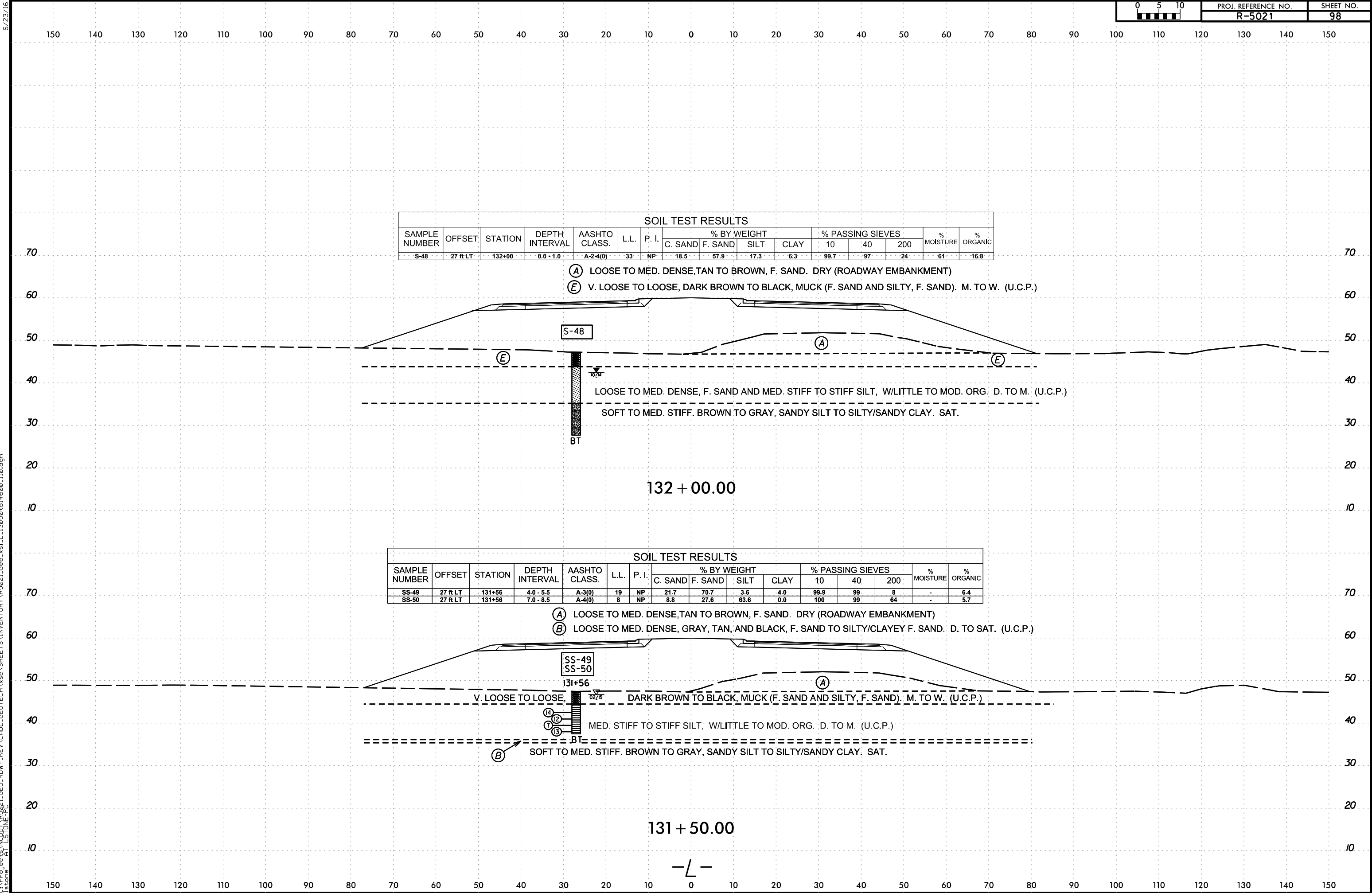
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LSTONE-PC

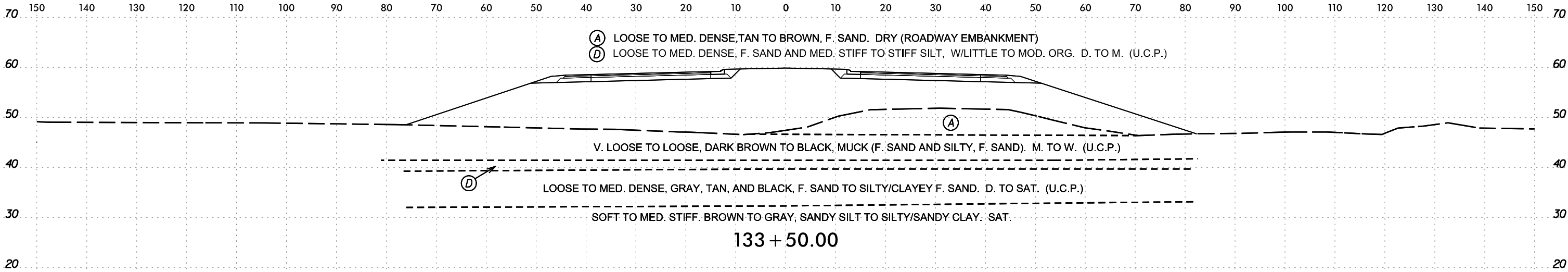


6/23/16

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1 stone AT LSTONE-PC



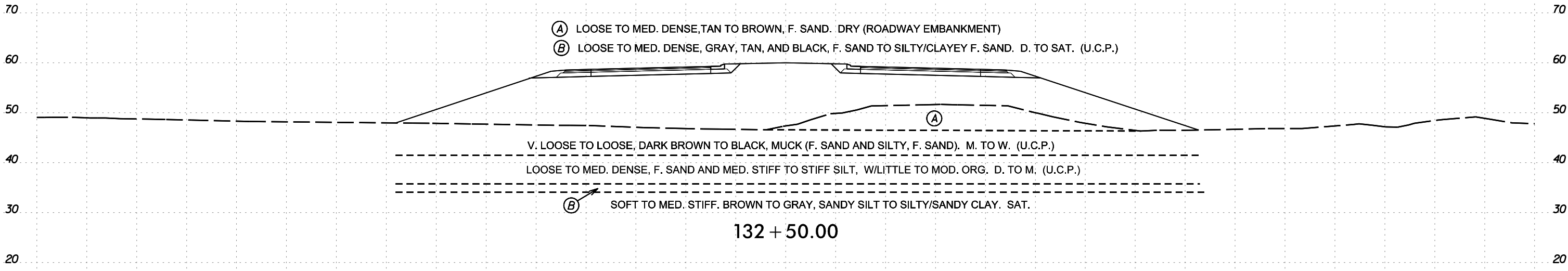
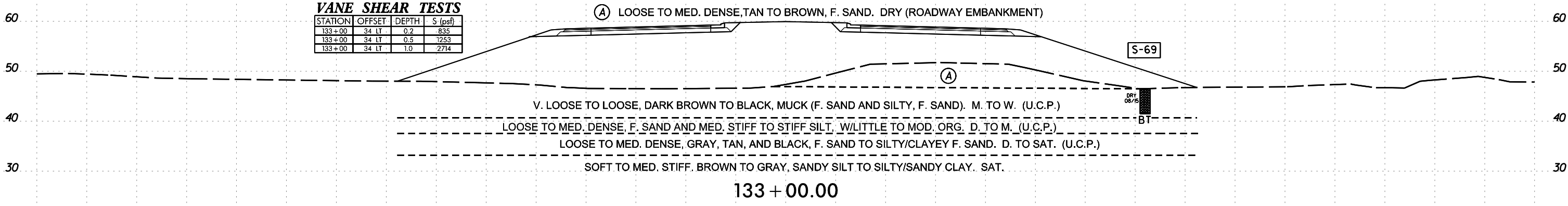
6/23/16



SOIL TEST RESULTS															
SAMPLE NUMBER	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-69	72 ft RT	133+00	4.2 - 4.7	A-2-4(0)	32	NP	19.9	62.5	9.2	8.4	99.9	96	18	30	12.0

VANE SHEAR TESTS

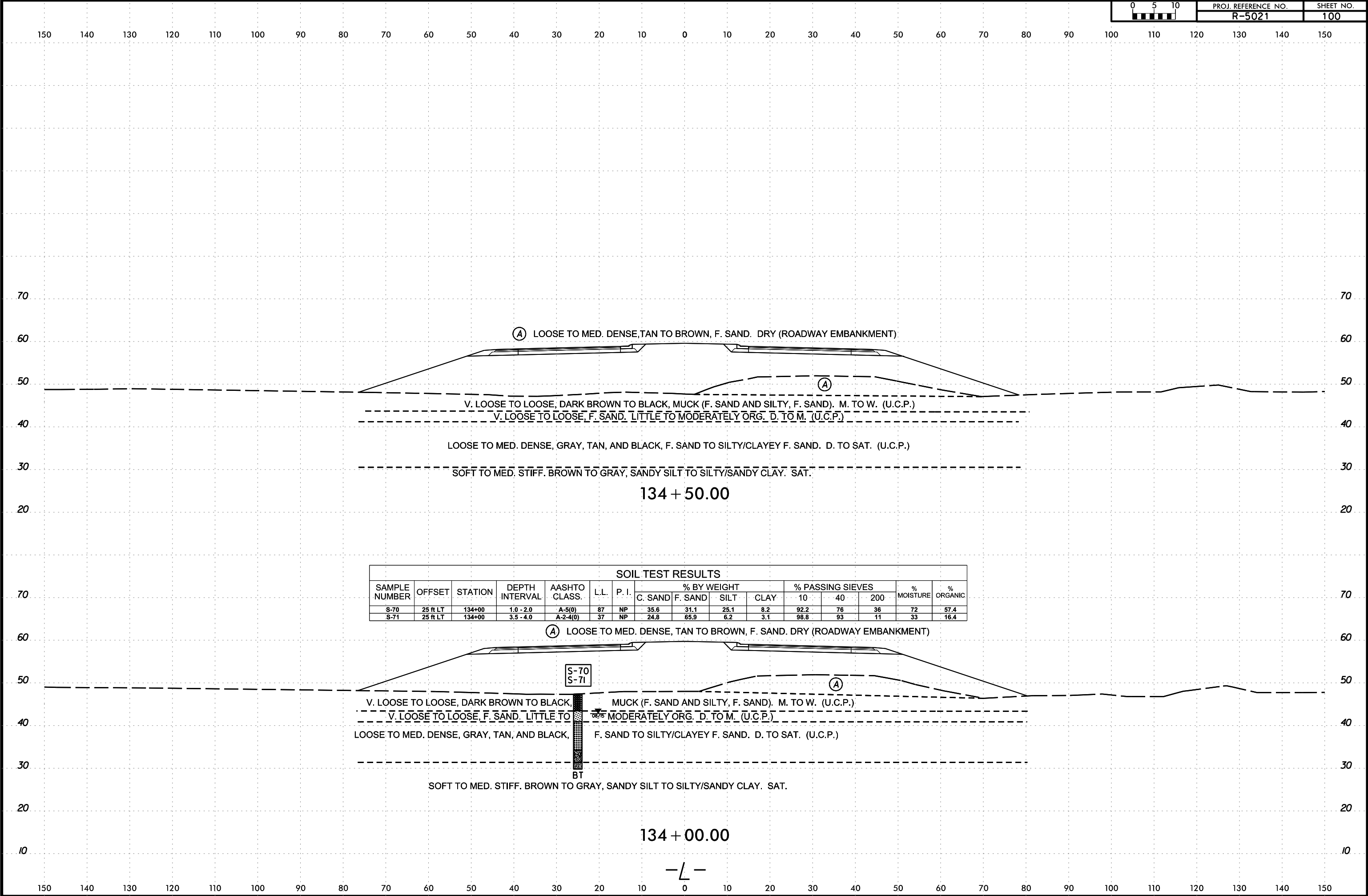
STATION	OFFSET	DEPTH	S (psf)
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133+00	34 LT	0.5	1253
133+00	34 LT	1.0	2714



-L-

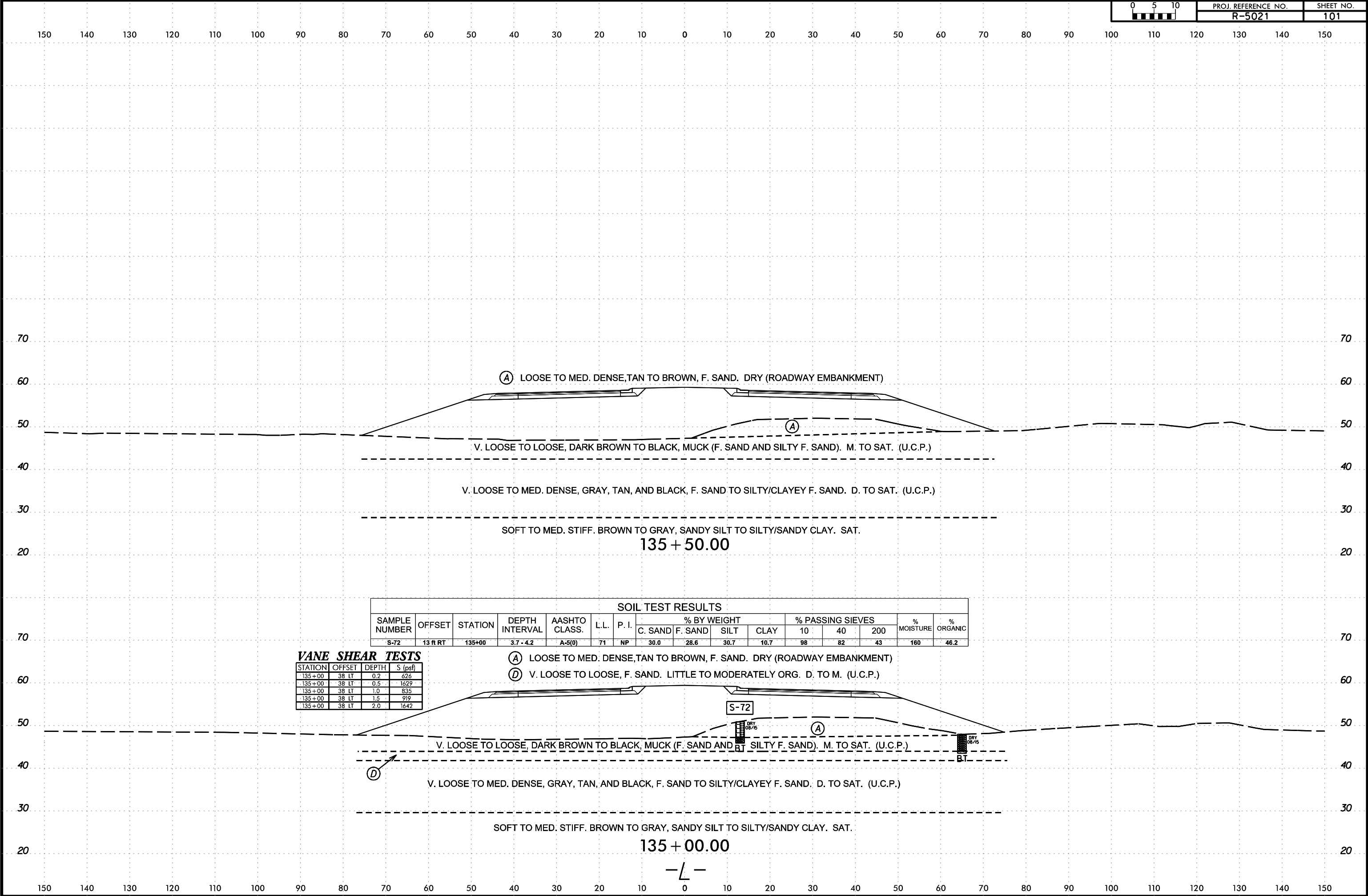
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LSTONE-PC



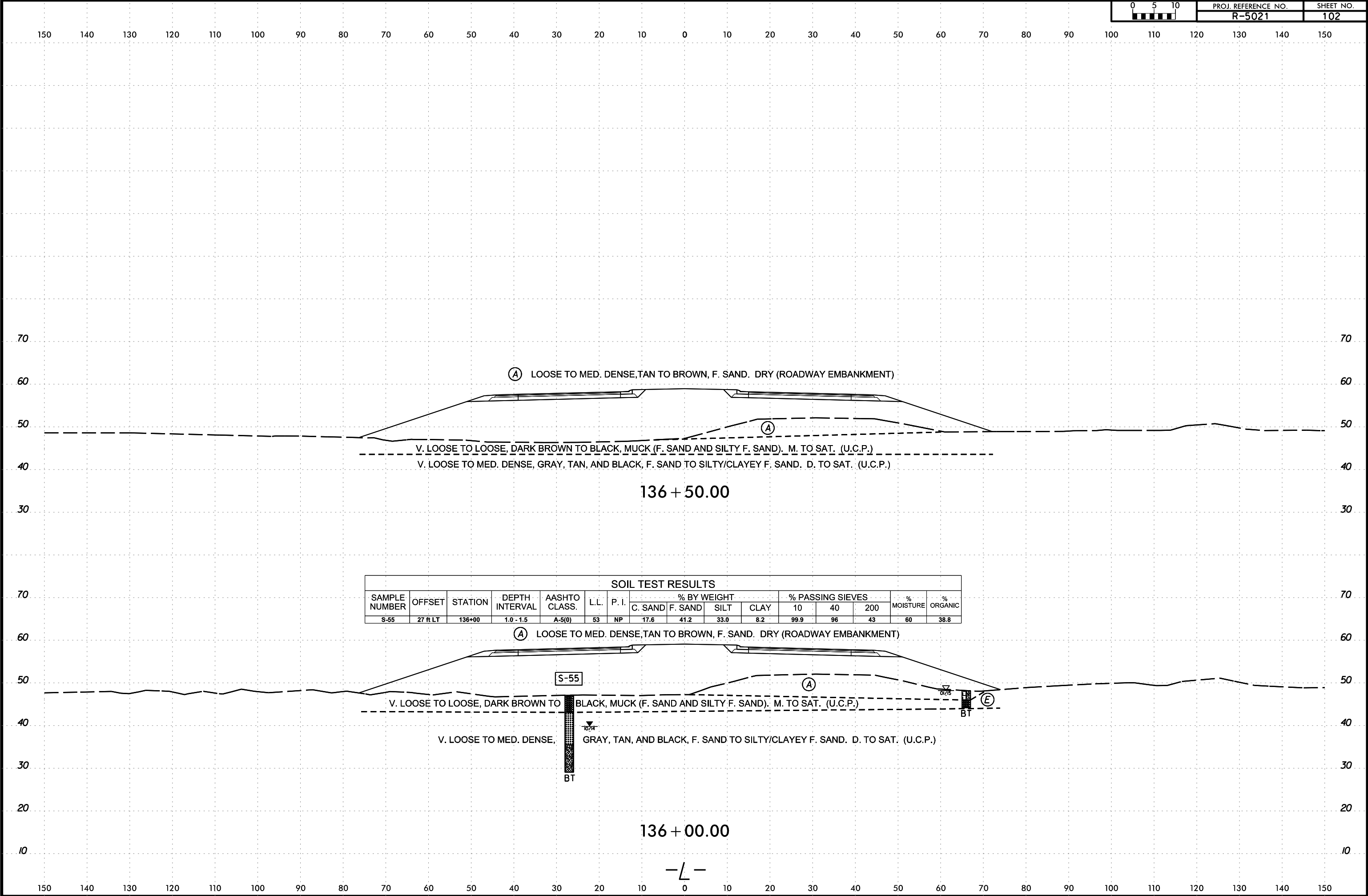
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1stone AT LSTONE-PC



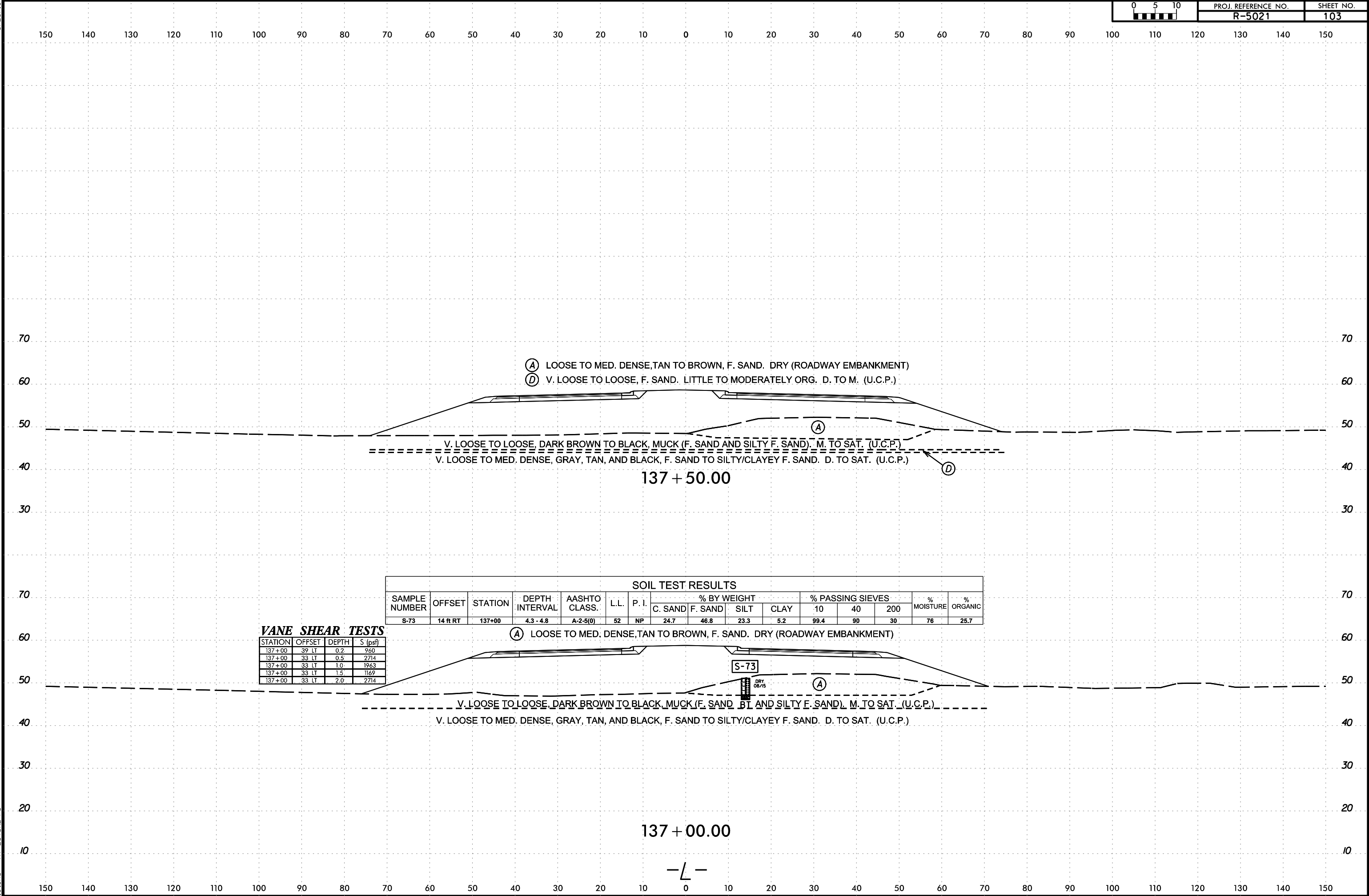
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1stone



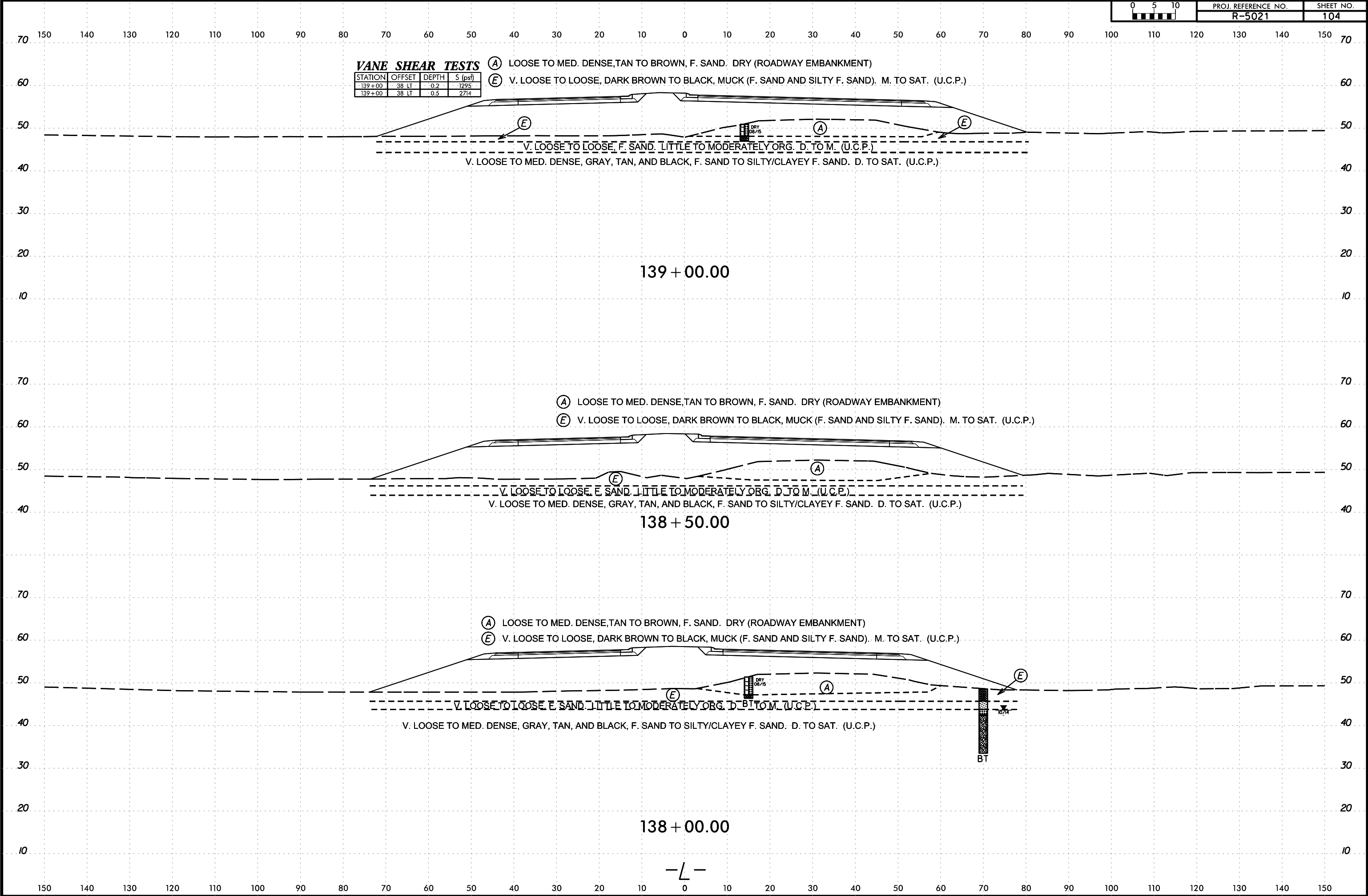
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1 stone AT LSTONE-PC



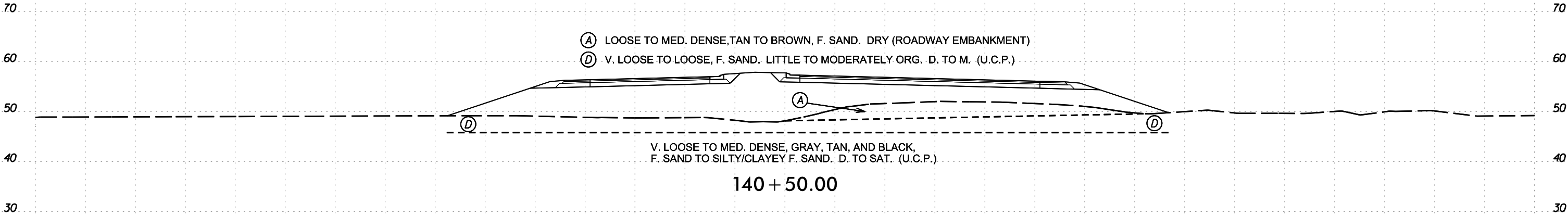
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LSTONE-PC

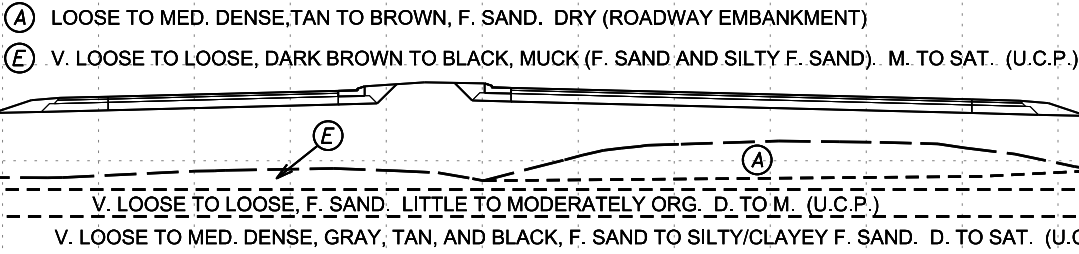
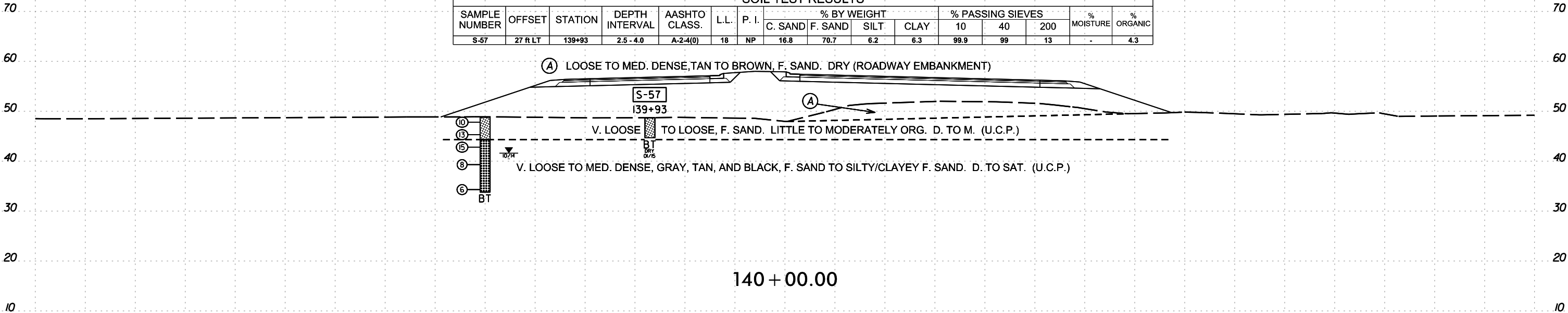


6/23/16

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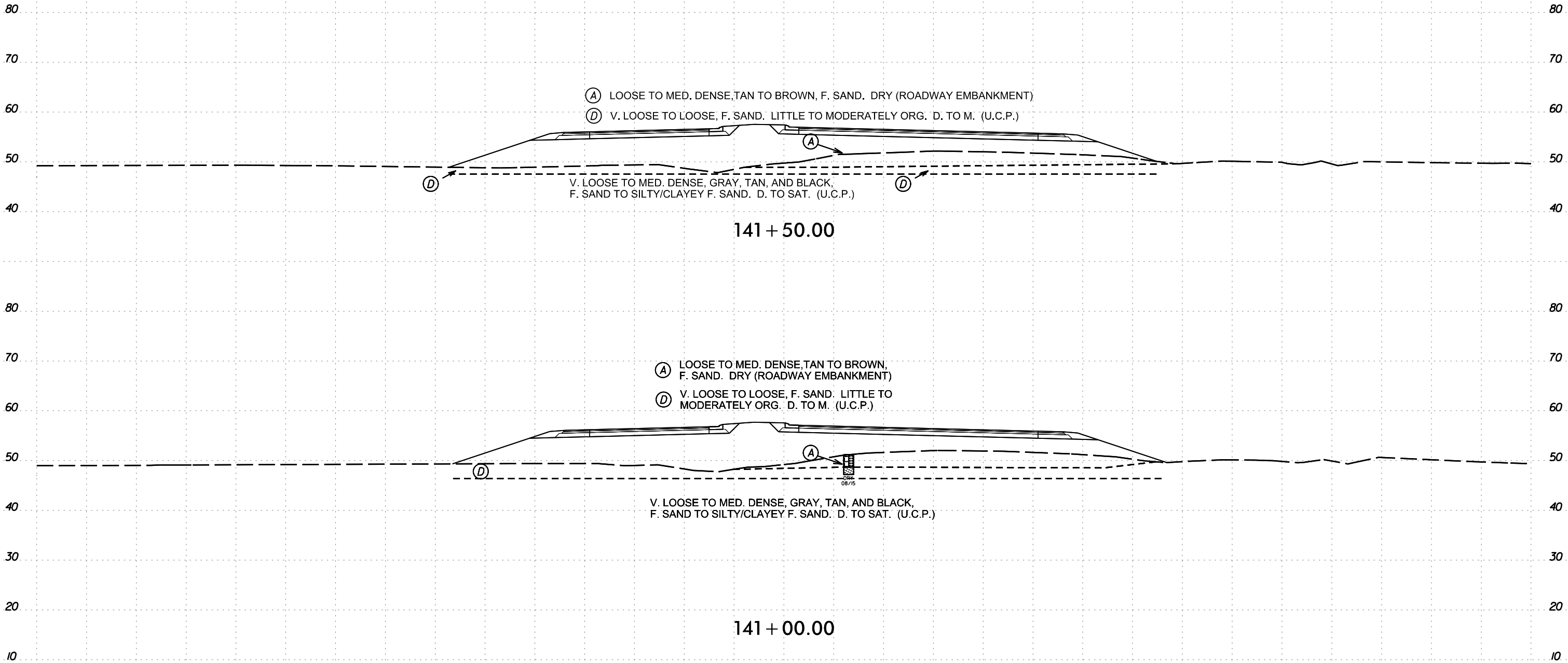
SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-57	27 R LT	139+93	2.5 - 4.0	A-2-4(0)	18	NP	16.8	70.7	6.2	6.3	99.9	99	13	-	4.3



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6/23/16

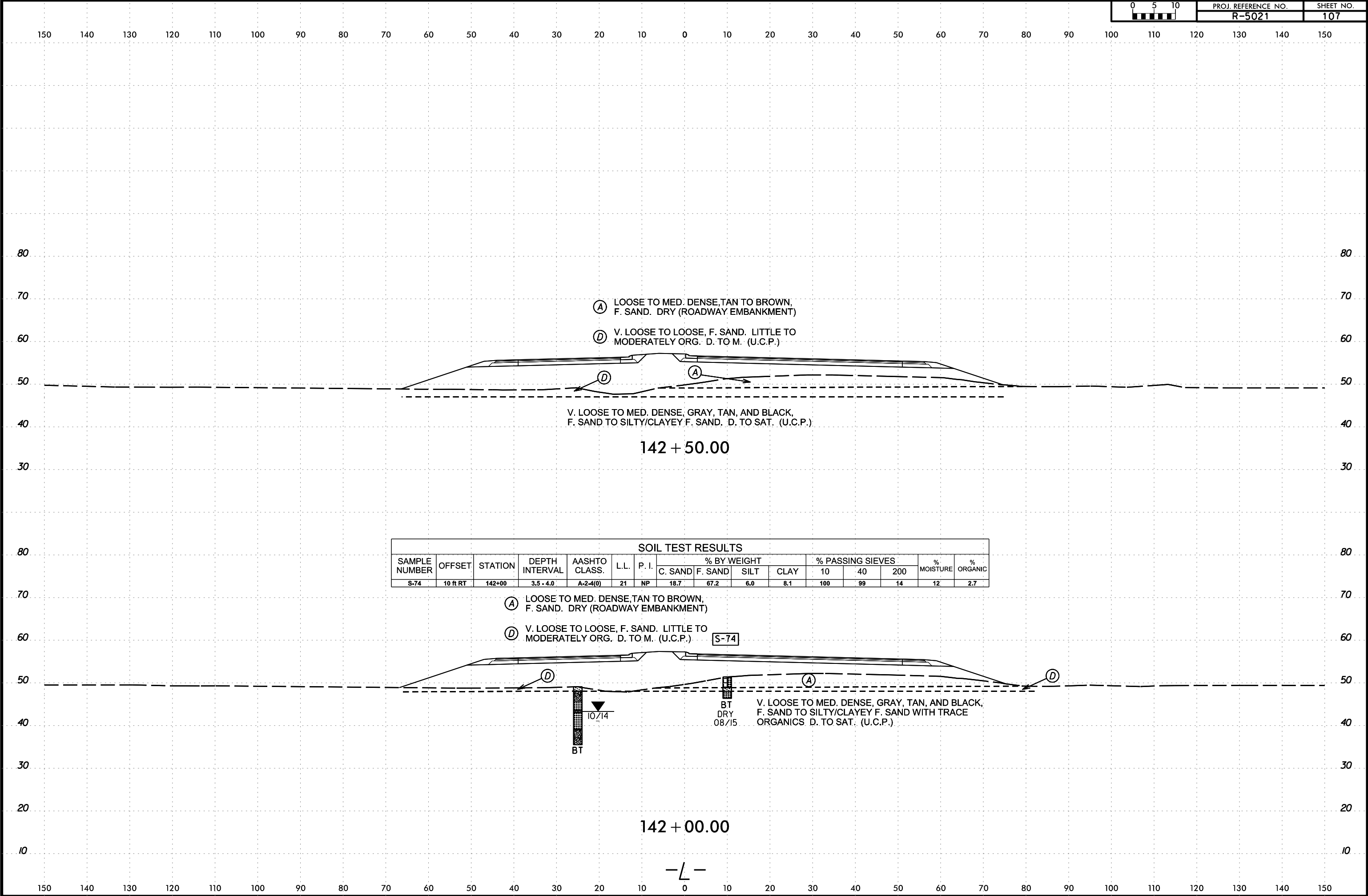
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6/23/16

21-DEC-2017 13:17
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LSTONE-PC



6/23/16



PROJ. REFERENCE NO.	SHEET NO.
R-5021	108

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
144+00	50 LT	0.2	459
144+00	50 LT	0.5	960
144+00	50 LT	1.0	1002
144+00	50 LT	1.5	2714

SOIL TEST RESULTS															
SAMPLE NUMBER	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-52	60 ft LT	144+00	1.0 - 1.3	-	-	-	-	-	-	-	-	-	-	13	10.3

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY (ROADWAY EMBANKMENT)

(E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND AND SILTY F. SAND). M. TO SAT. (U.C.P.)

S-52

V. LOOSE TO LOOSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

BT
DRY
08/15
V. LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

144 + 00.00

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY (ROADWAY EMBANKMENT)

V. LOOSE TO LOOSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

V. LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

143 + 50.00

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY (ROADWAY EMBANKMENT)

(D) V. LOOSE TO LOOSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

BT

DRY

08/15

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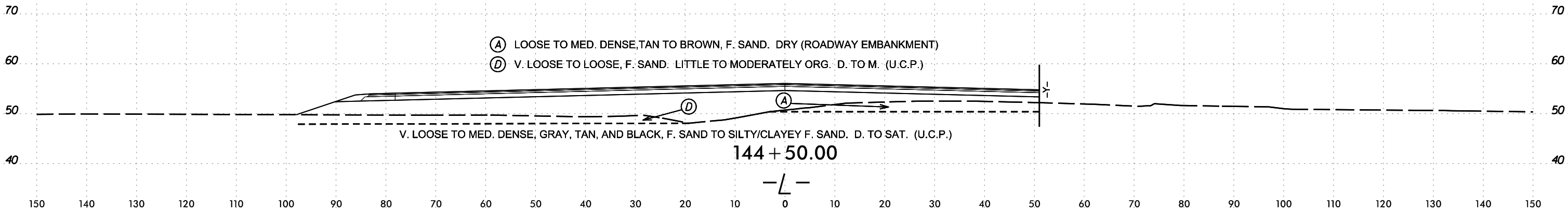
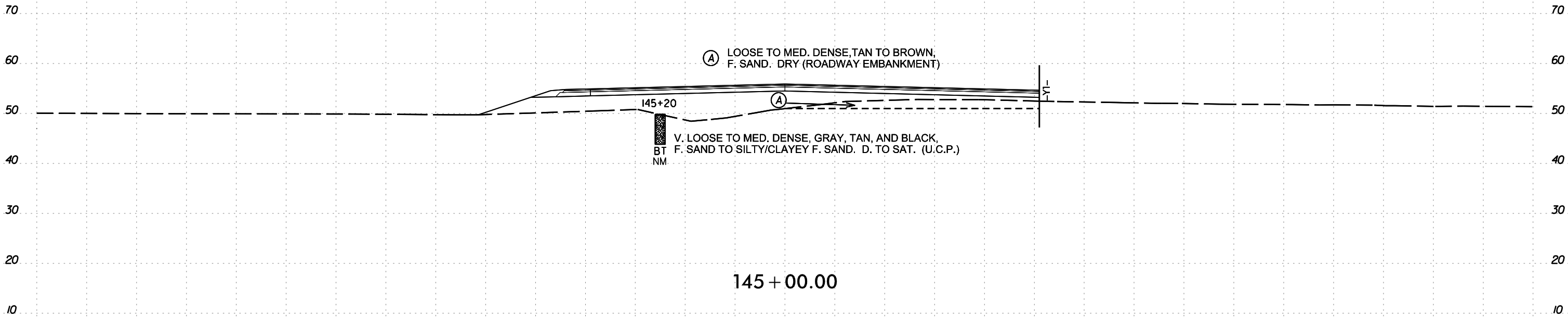
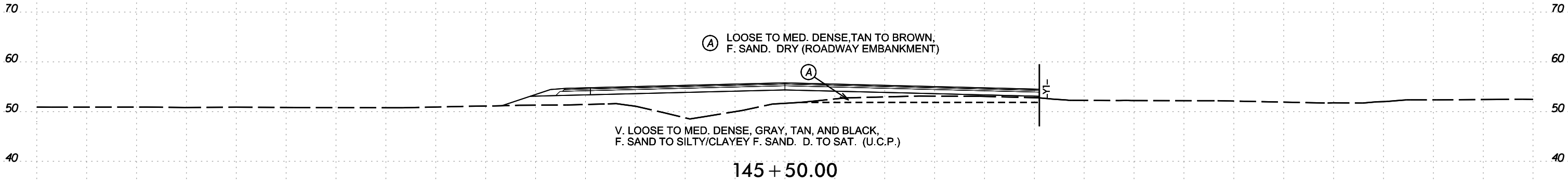
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6/23/16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



6/23/16

21-DEC-2017 13:17
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LSTONE-PC

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

70

60

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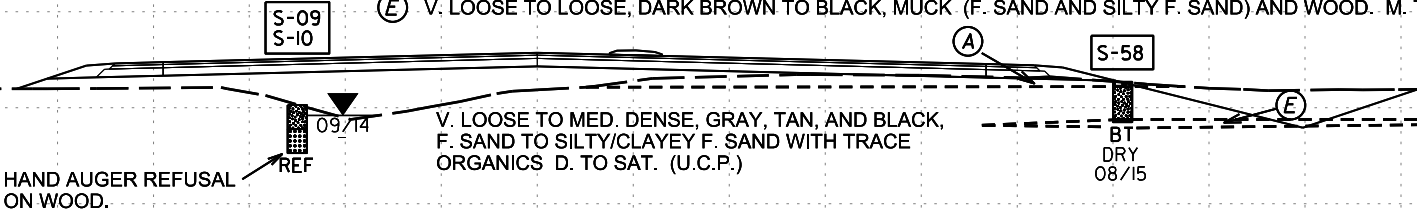
30

20

10

SOIL TEST RESULTS															
SAMPLE NUMBER	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-09	25 ft LT	146+00	0.0 - 2.5	A-2-4(0)	14	NP	35.0	53.7	4.9	6.4	100	97	11	17	-
S-10	25 ft LT	146+00	2.5 - 4.0	A-3(0)	21	NP	27.9	69.0	1.7	1.4	99.5	97	3	30	-
S-58	61 ft RT	146+00	0.0 - 2.5	-	-	-	-	-	-	-	-	-	-	-	2.4

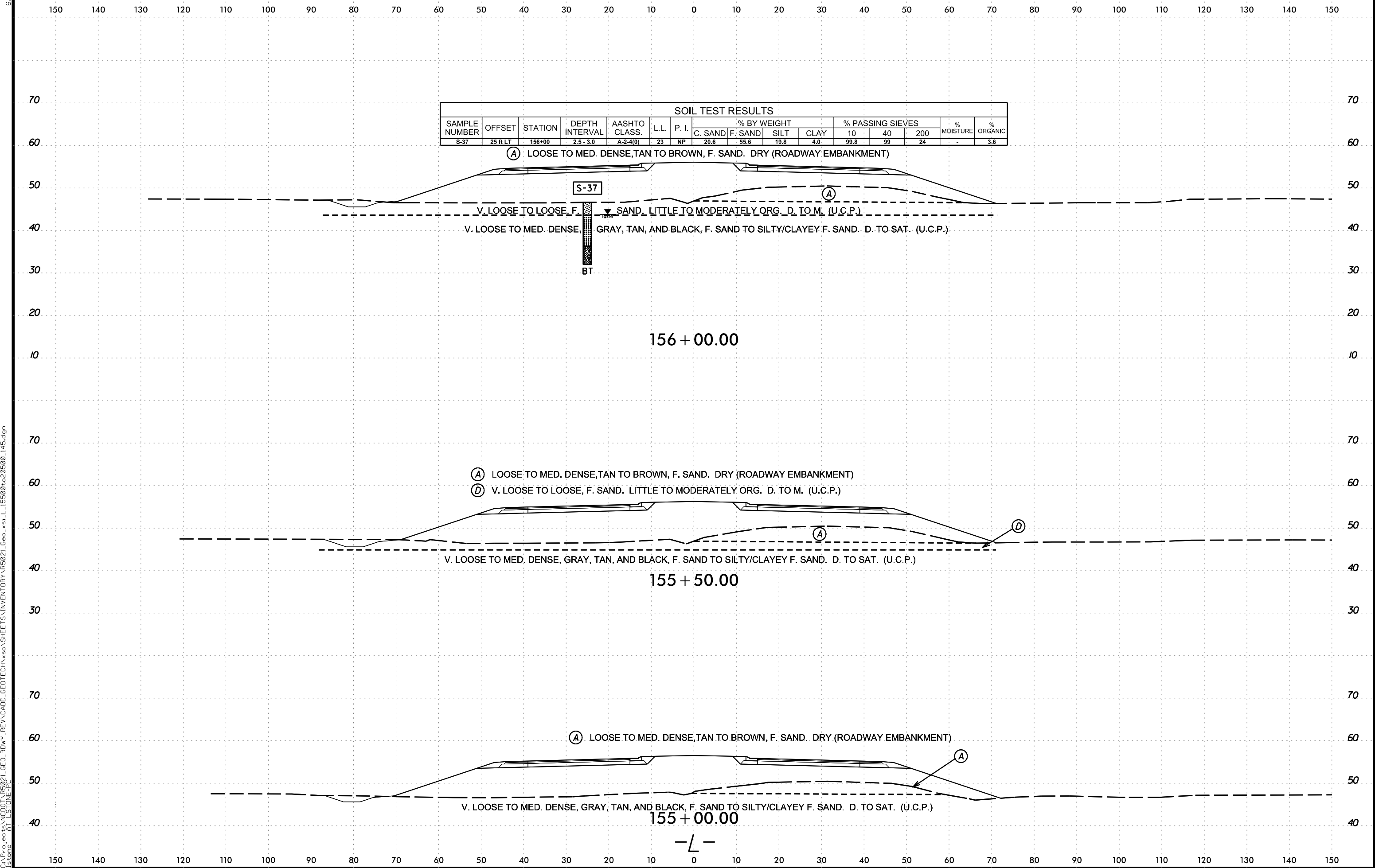
- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY (ROADWAY EMBANKMENT)
- (E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND AND SILTY F. SAND) AND WOOD. M. TO SAT. (U.C.P.)



146 + 00.00

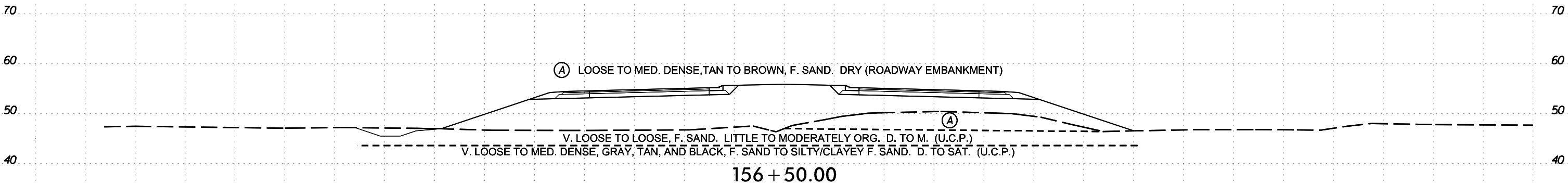
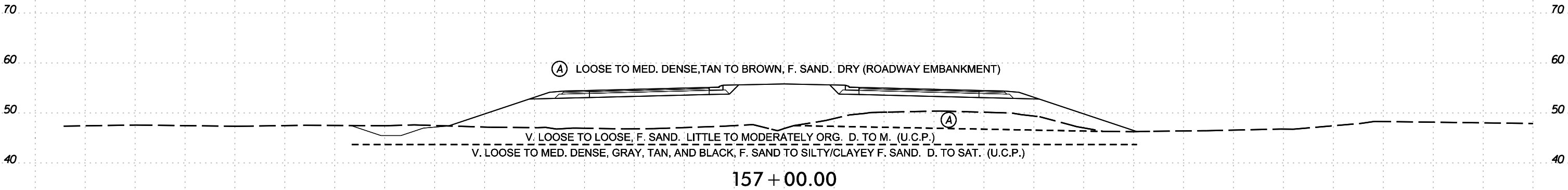
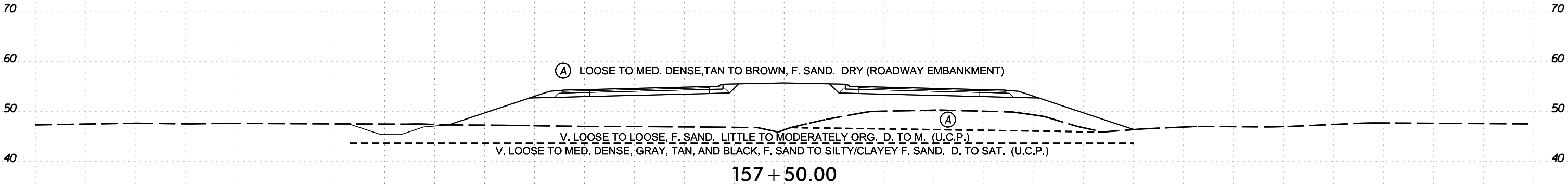
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6/23/16



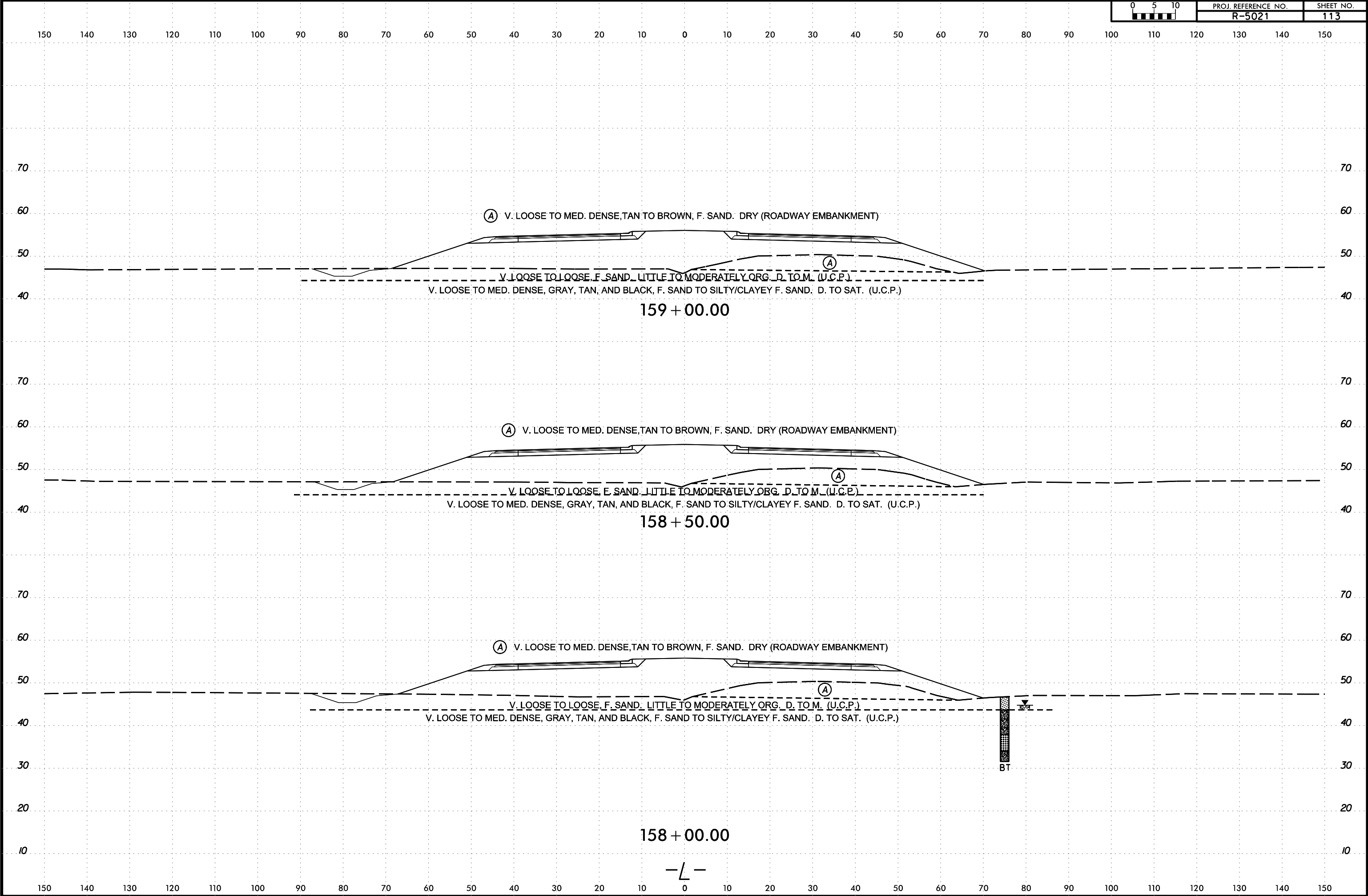
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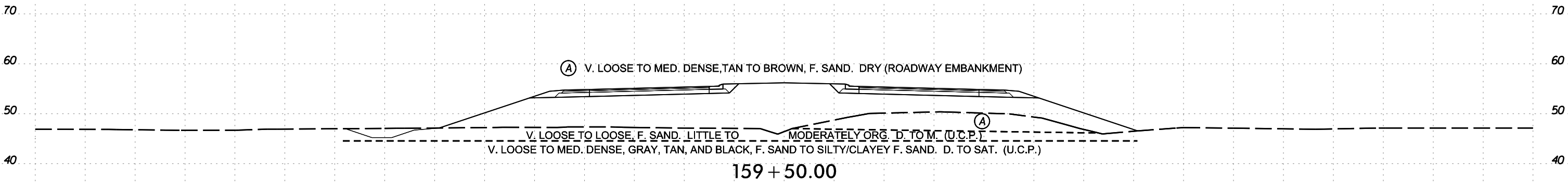
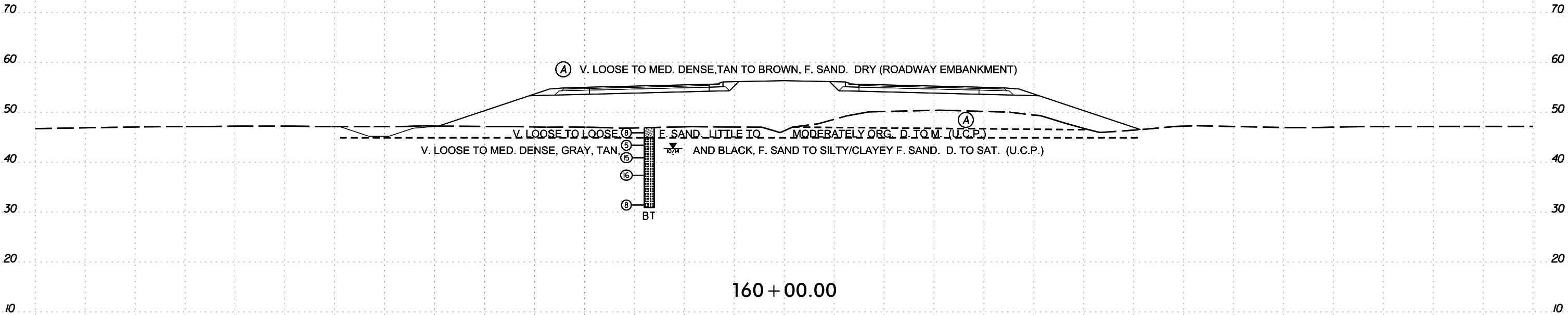
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6/23/16



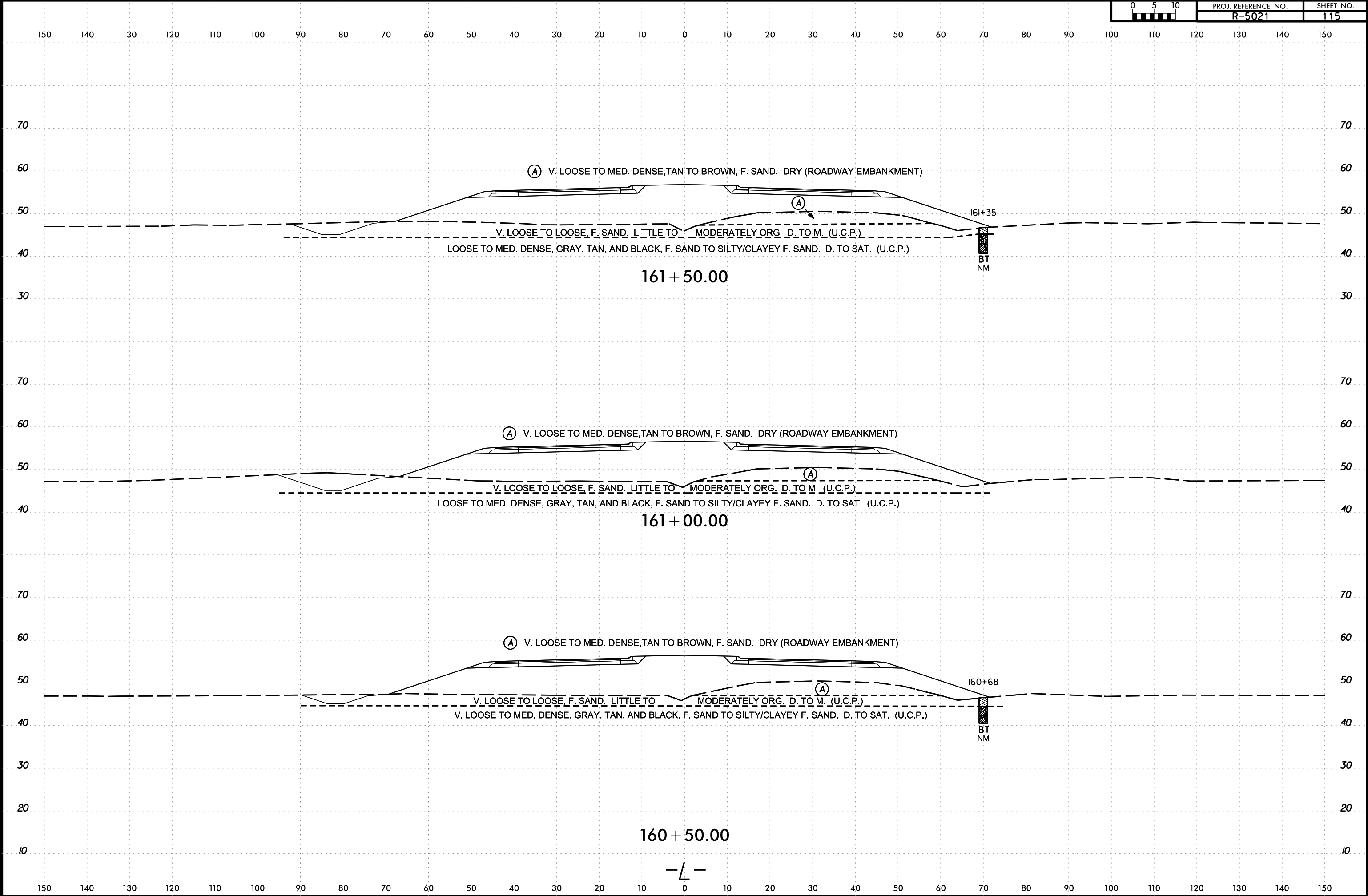
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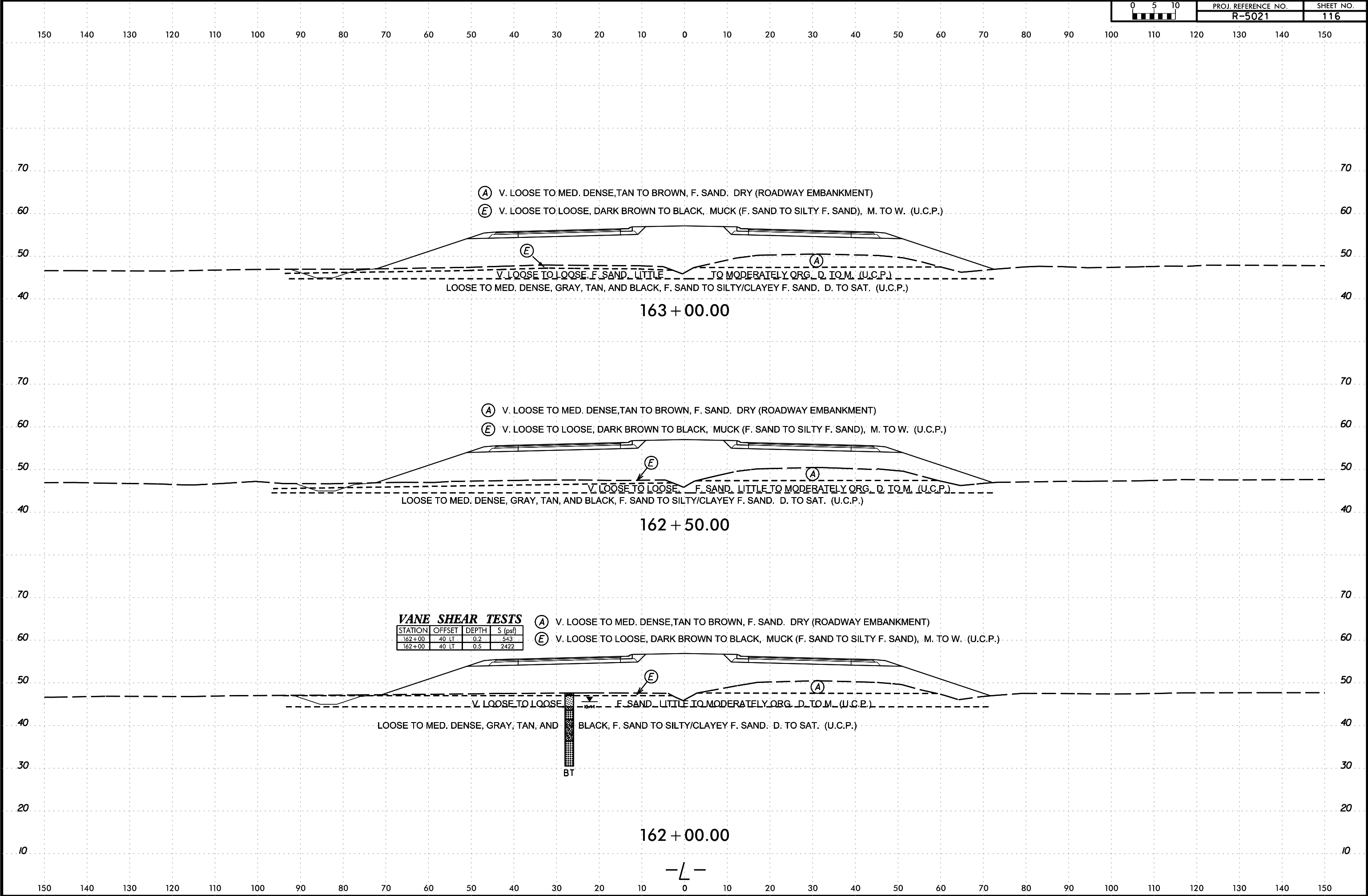
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6/23/16



6/23/16

21-DEC-2017 13:17
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LSTONE-PC



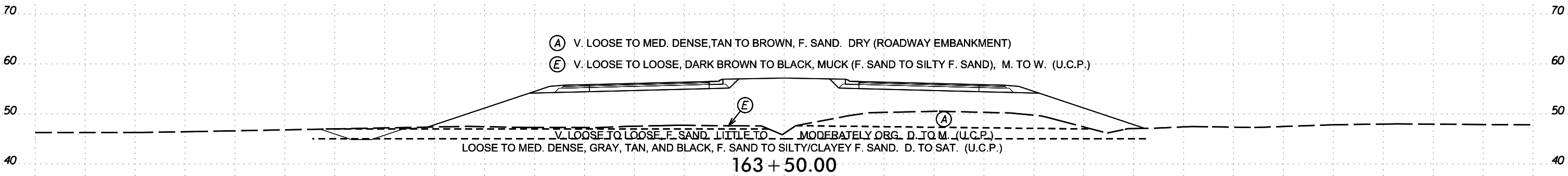
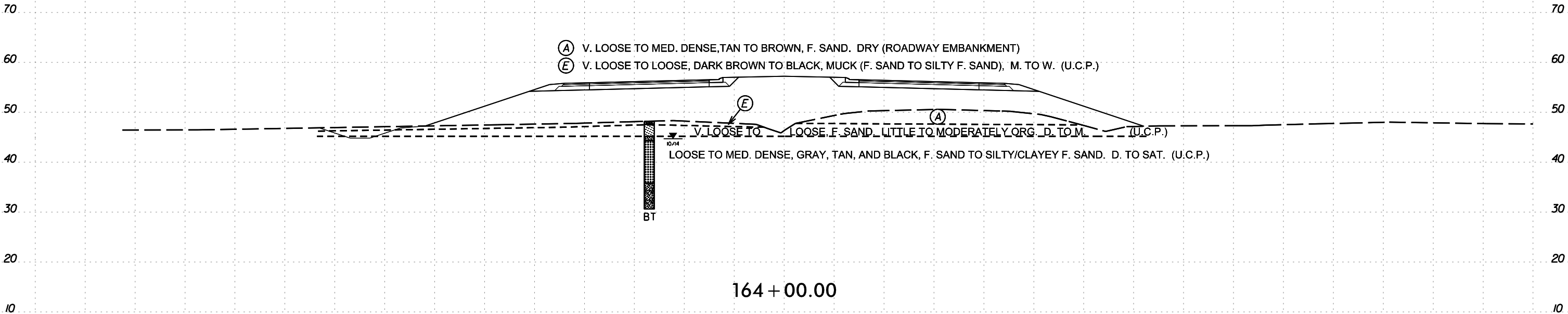
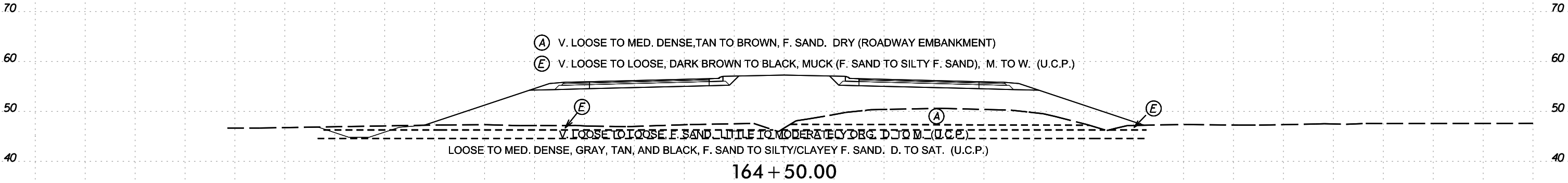
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PROJ. REFERENCE NO.
R-5021

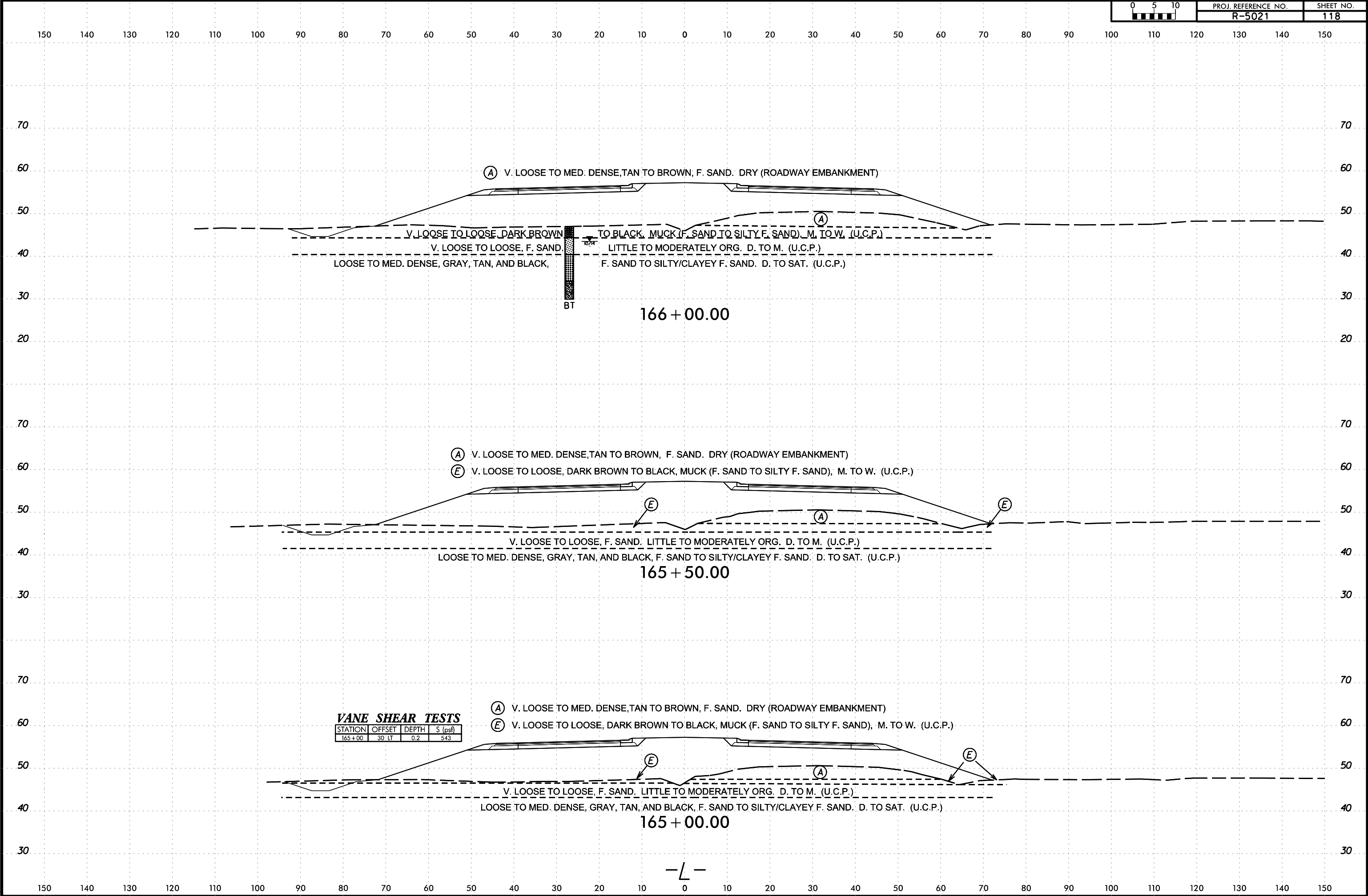
SHEET NO.
117

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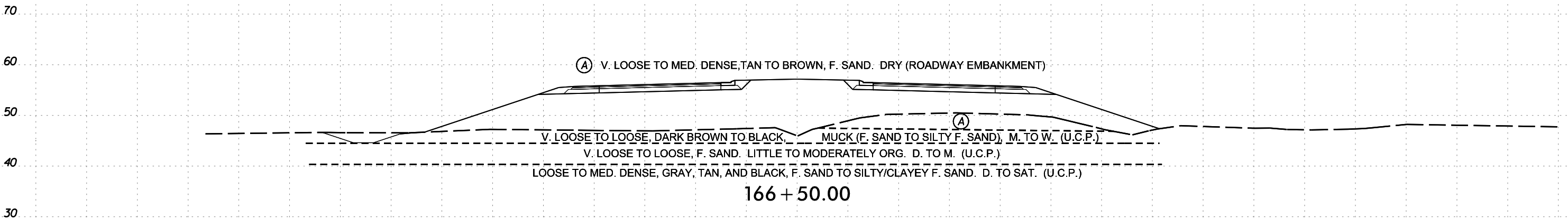
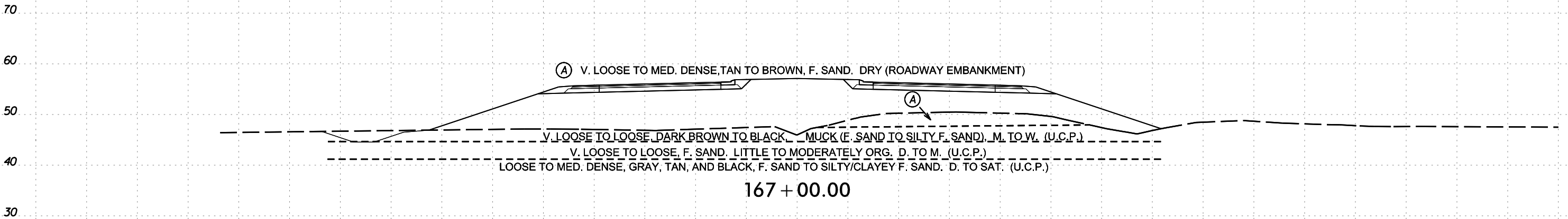
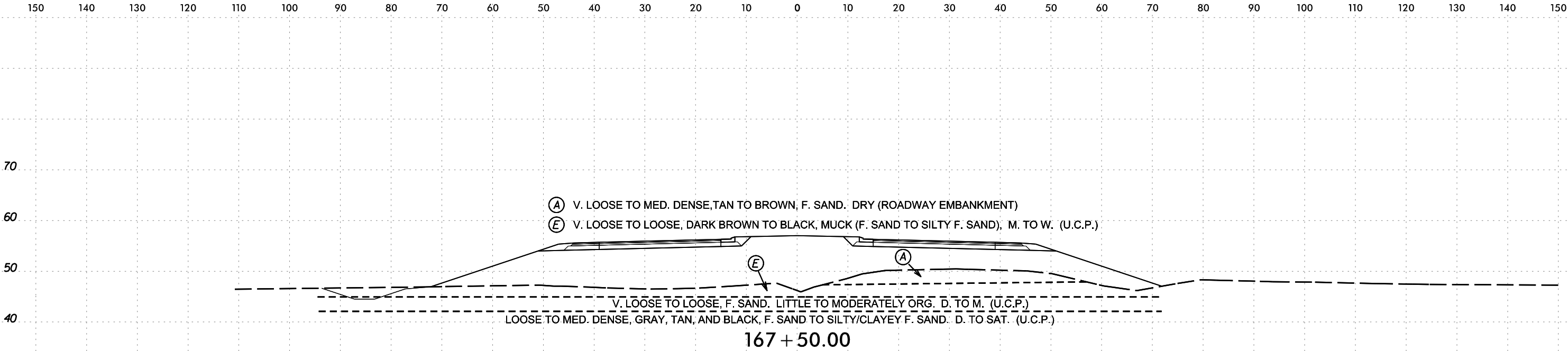


-L-

6/23/16



6/23/16



-L-

6/23/16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

70 70

60 60

50 50

40 40

30 30

- A

V. LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY (ROADWAY EMBANKMENT)
- E

V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

V. LOOSE TO LOOSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)
LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

169 + 00.00

70 70

60 60

50 50

40 40

30 30

- A

V. LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY (ROADWAY EMBANKMENT)
- E

V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

V. LOOSE TO LOOSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)
LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

168 + 50.00

70 70

60 60

50 50

40 40

30 30

20 20

10 10

VANE SHEAR TESTS			
STATION	OFFSET	DEPTH	S (psf)
168 + 00	30 LT	0.2	418
168 + 00	30 LT	0.5	2589

- A

V. LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY (ROADWAY EMBANKMENT)
- E

V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

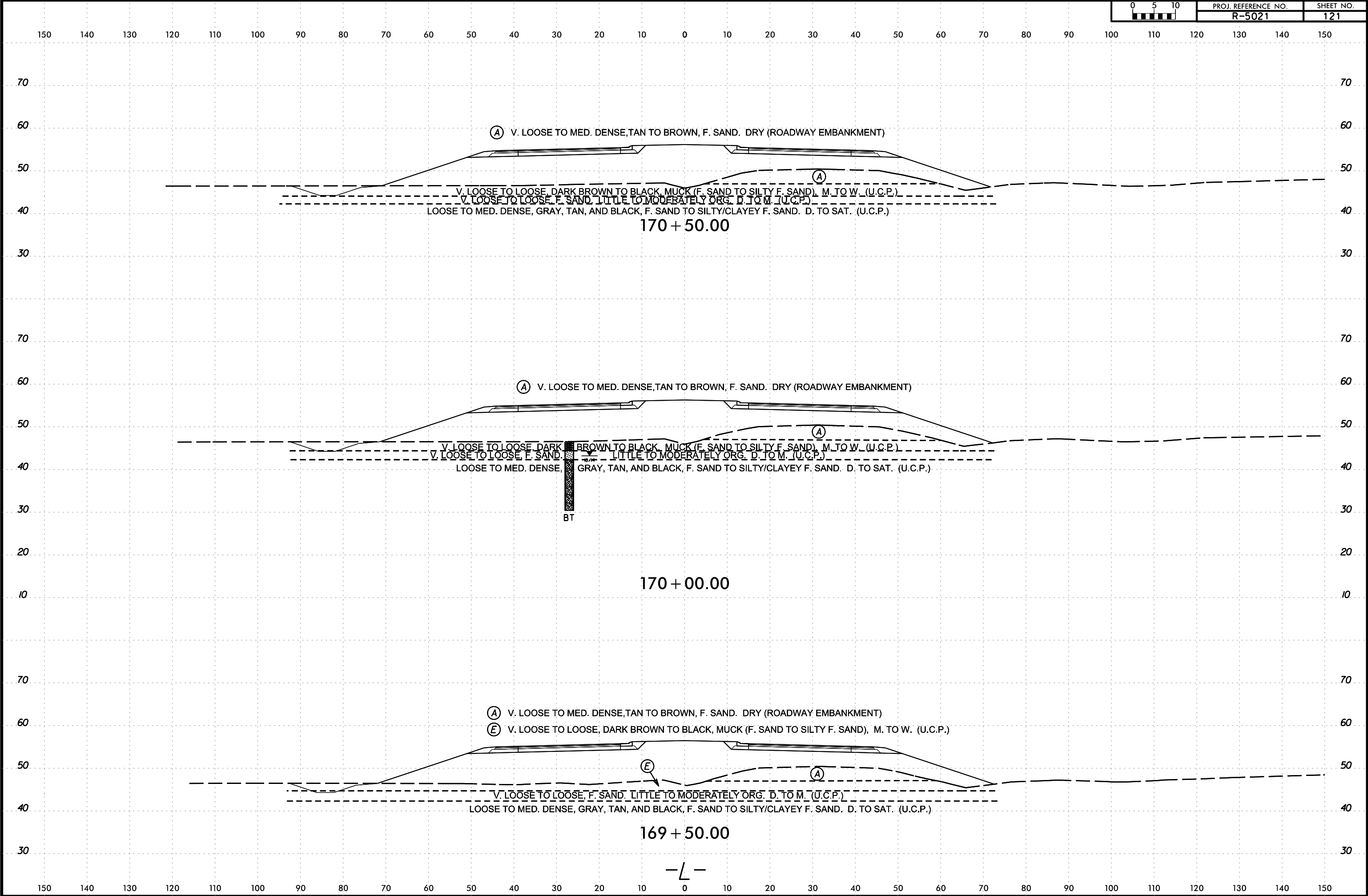
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LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

168 + 00.00

-L-

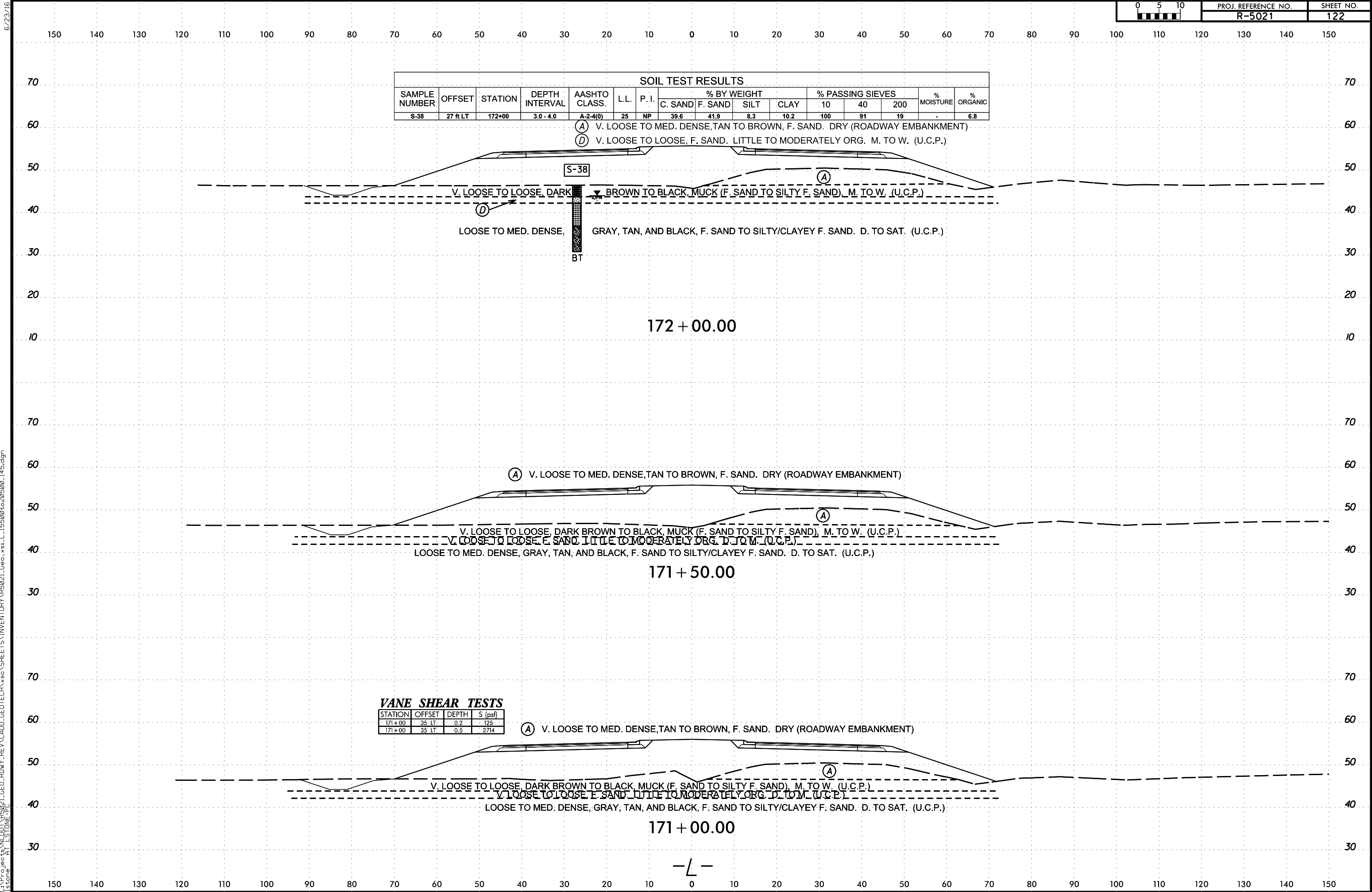
BT

6/23/16



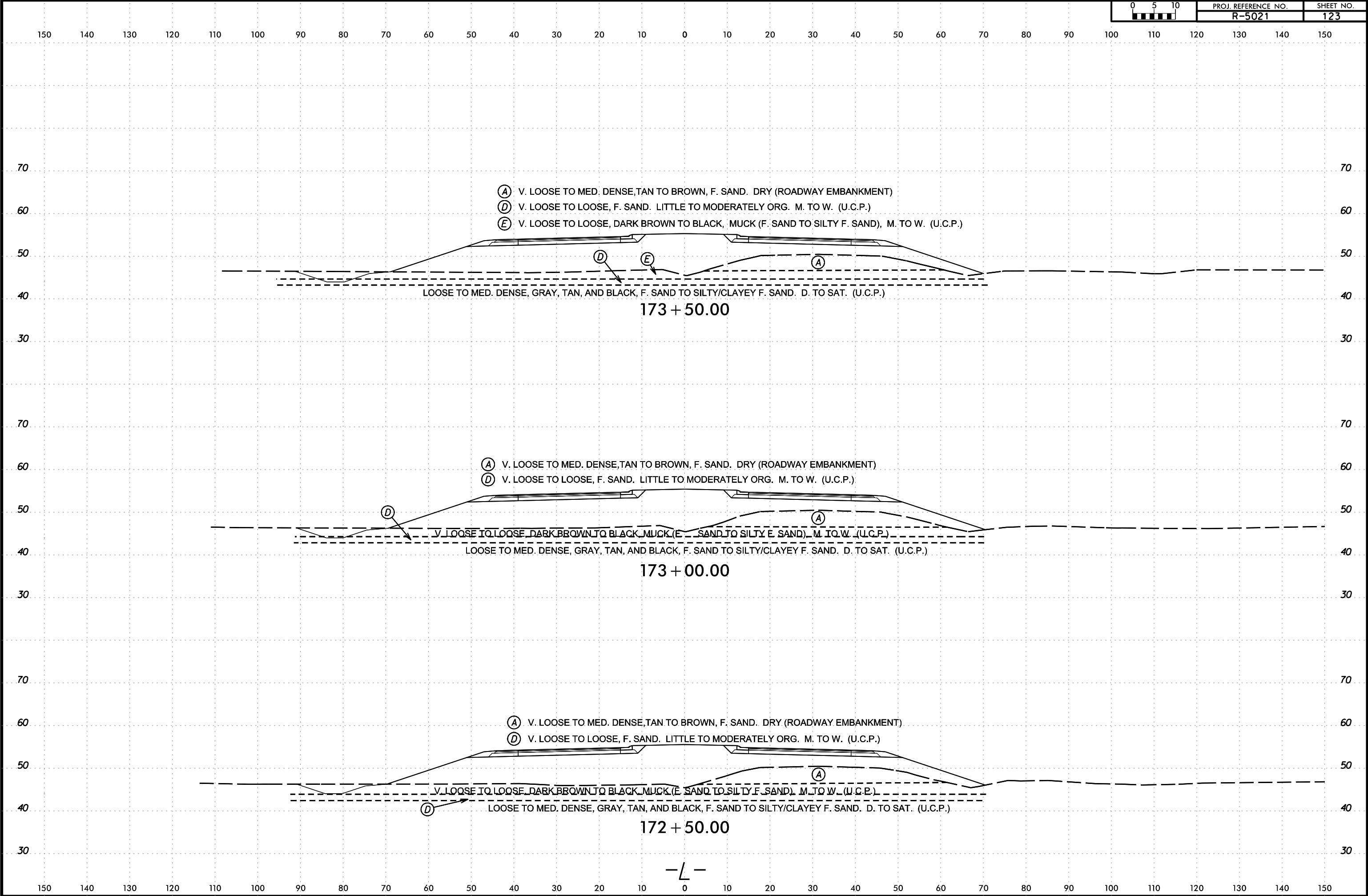
6/23/16

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LSTONE-PC



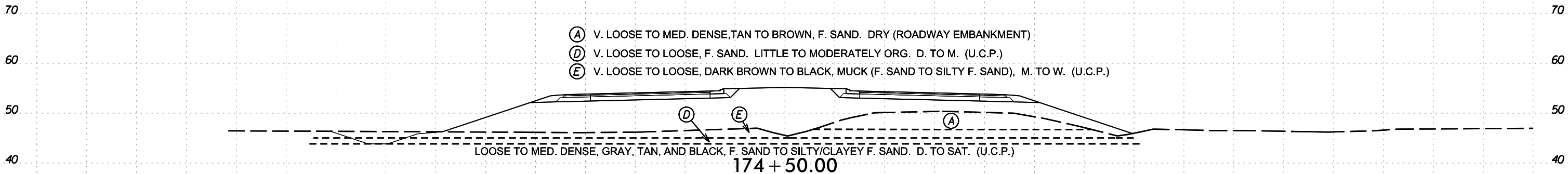
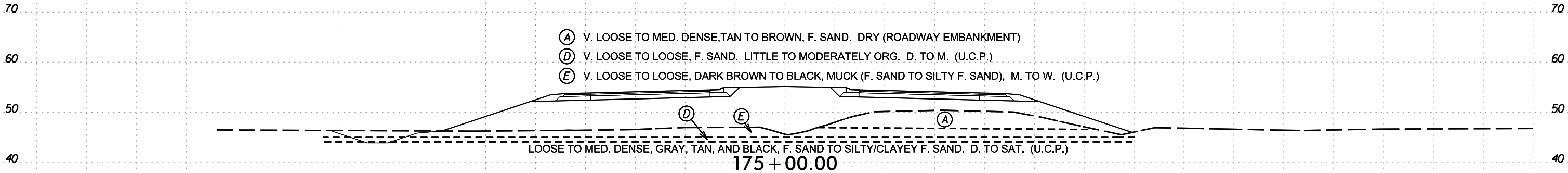
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LSTONE-FC



6/23/16

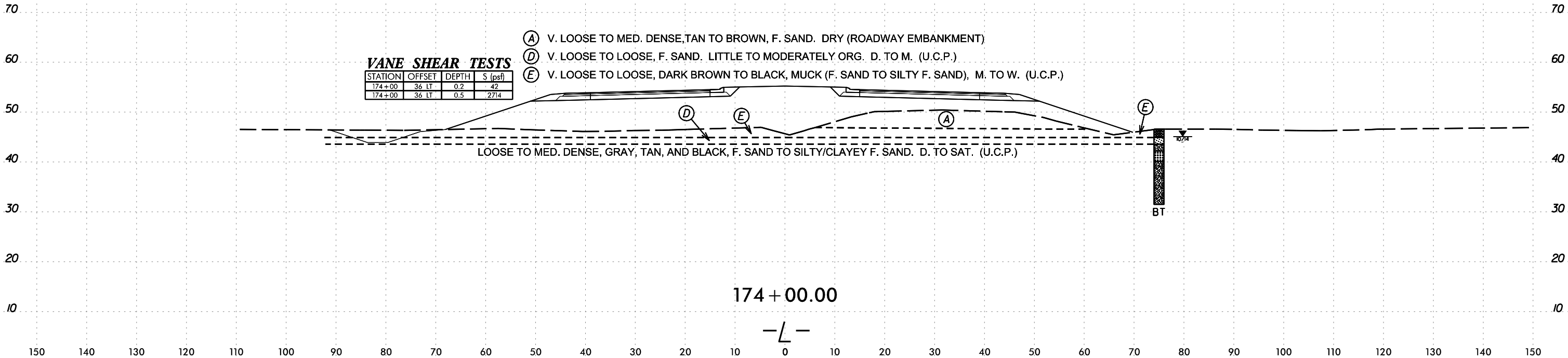
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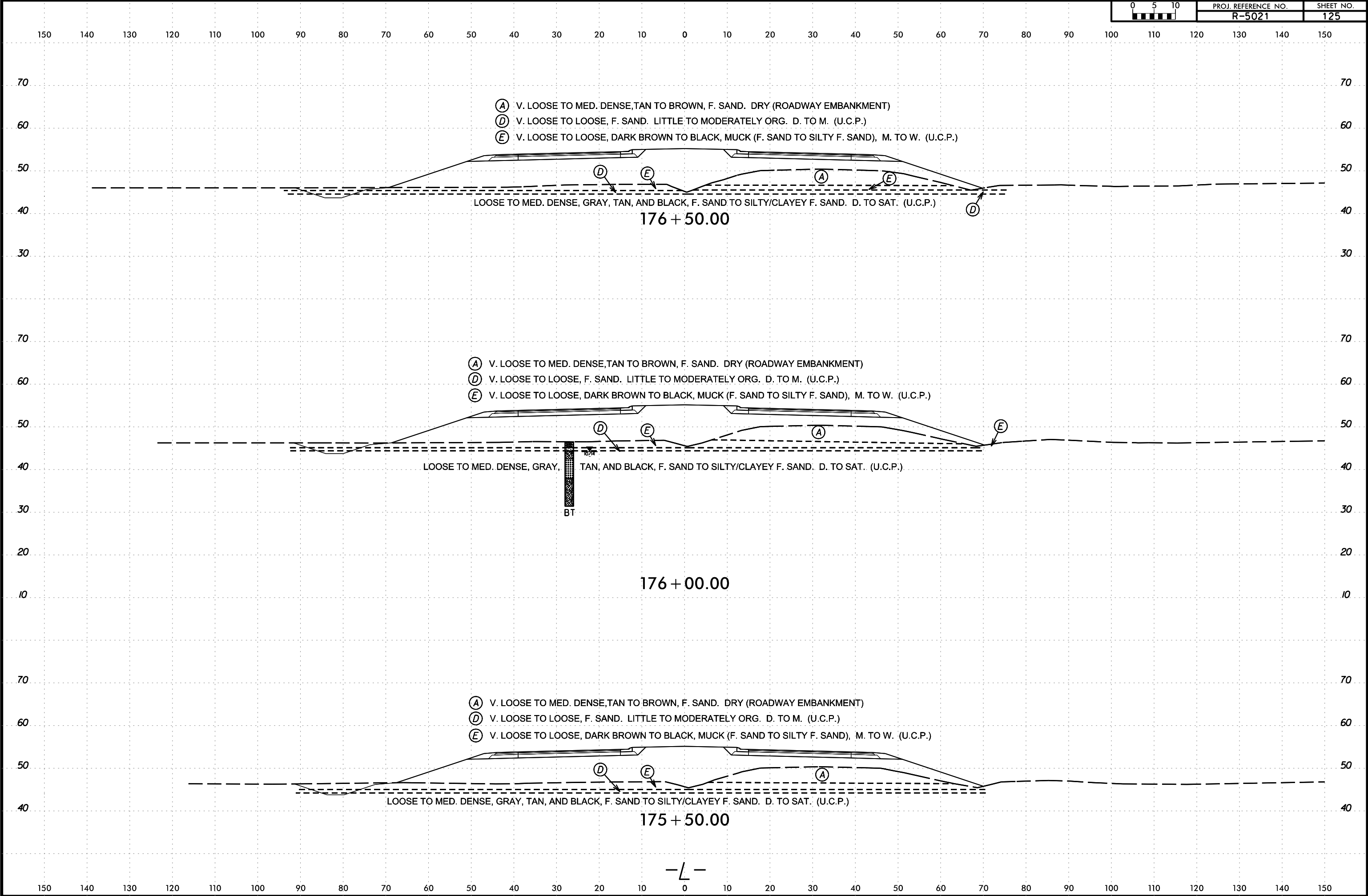
VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
174+00	36 LT	0.2	42
174+00	36 LT	0.5	2714

- (A) V. LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY (ROADWAY EMBANKMENT)
(D) V. LOOSE TO LOOSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)
(E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

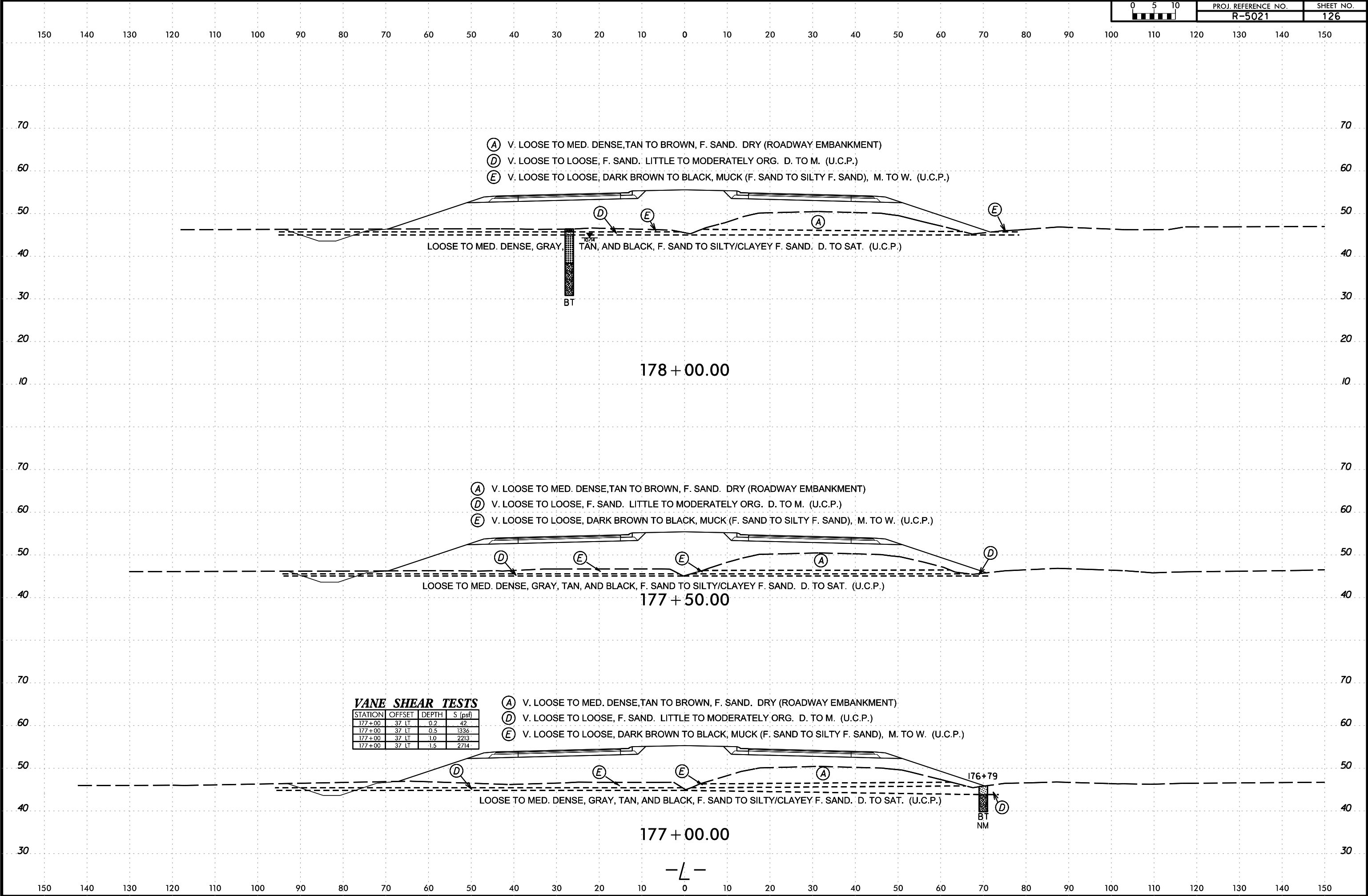


6/23/16



6/23/16

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LSTONE-PC



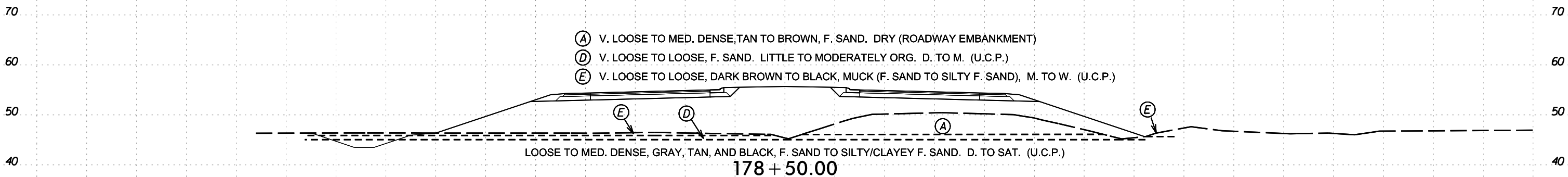
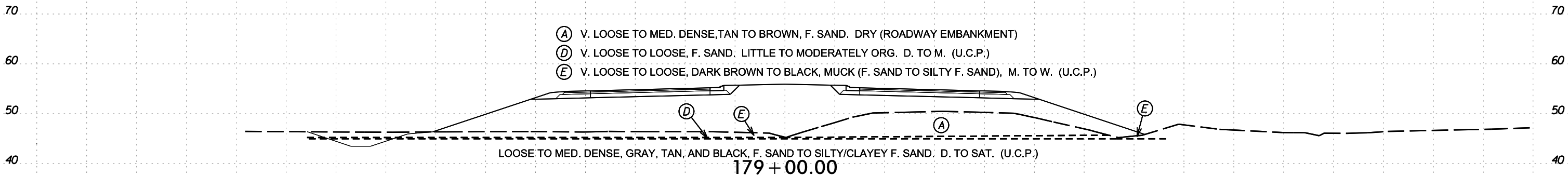
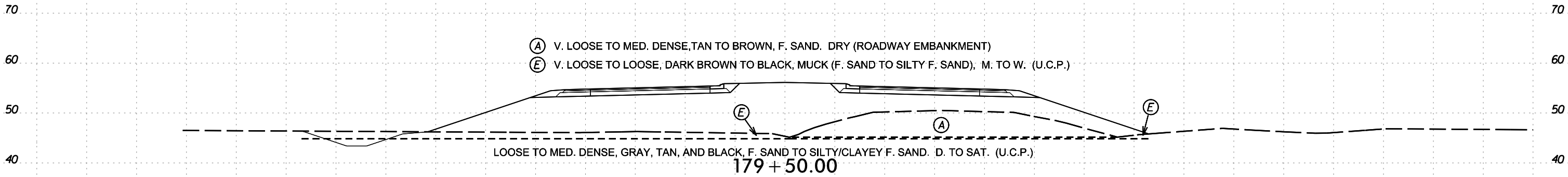
6/23/16



PROJ. REFERENCE NO.
R-5021

SHEET NO.
127

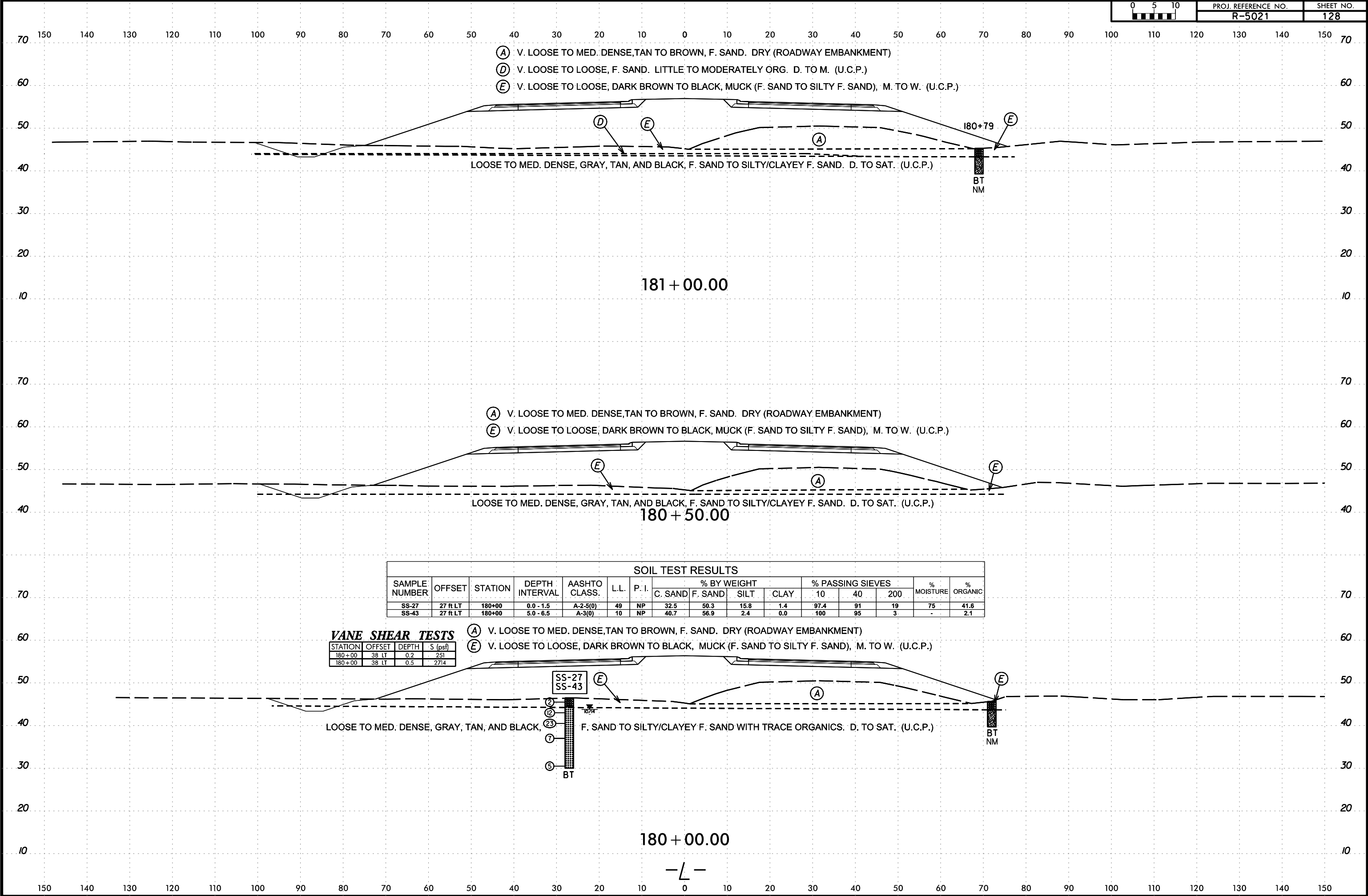
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-L-

6/23/16

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1stone AT LSTONE-PC

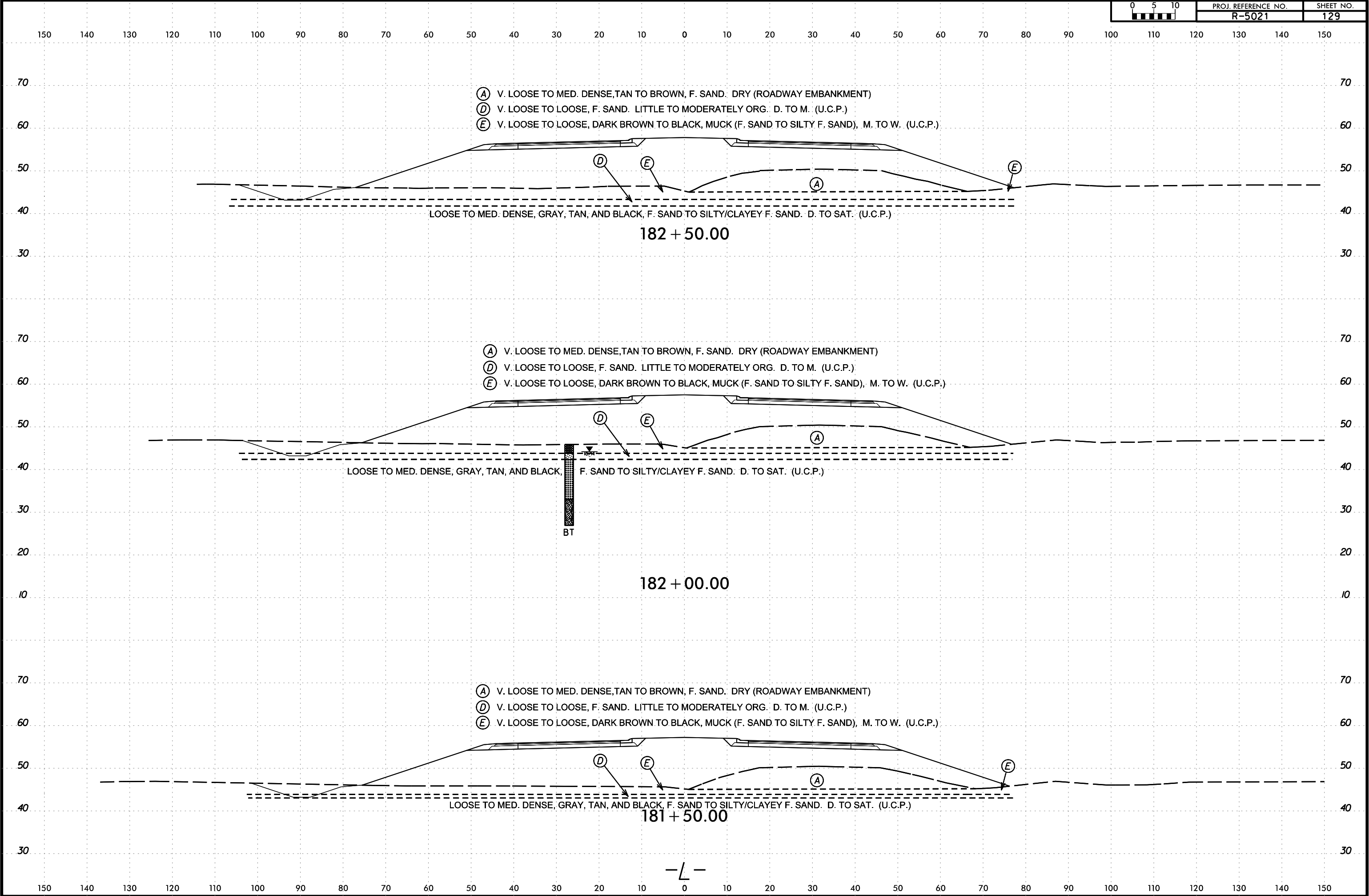


6/23/16



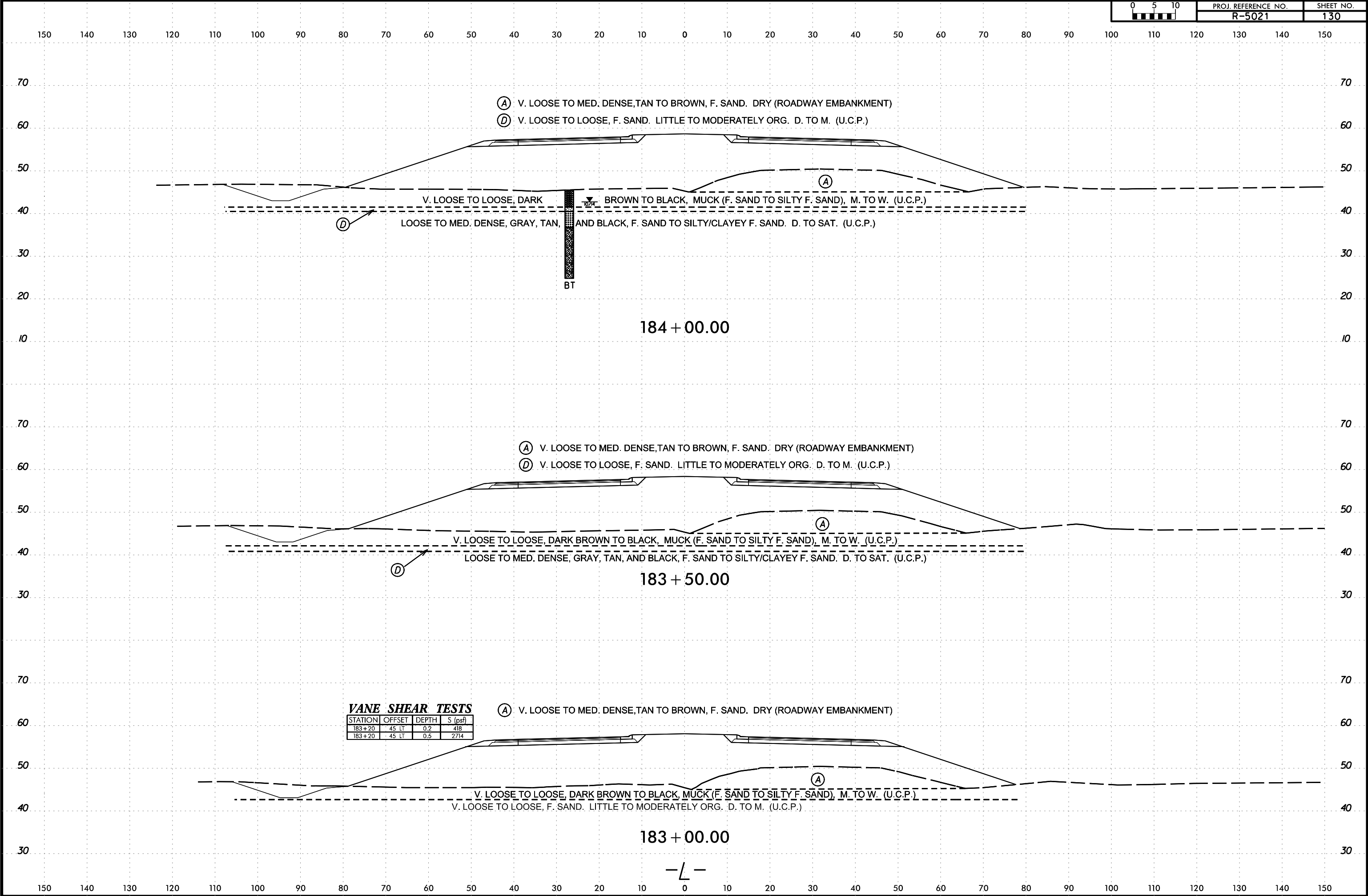
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R-5021

SHEET NO.
129



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1stone AT LSTONE-PC

6/23/16



6/23/16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

80

70

60

50

40

30

20

10

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S _v (psf)
185+00	40 LT	0.2	292
185+00	40 LT	0.5	2046
185+00	40 LT	1.0	2547
185+00	40 LT	1.5	2714

(A) V. LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY (ROADWAY EMBANKMENT)

(E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

(E)

(A)

V. LOOSE TO LOOSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

BT
NM

185 + 00.00

70

60

50

40

30

(A) V. LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND. DRY (ROADWAY EMBANKMENT)

184+70

BT
NM

V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

V. LOOSE TO LOOSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

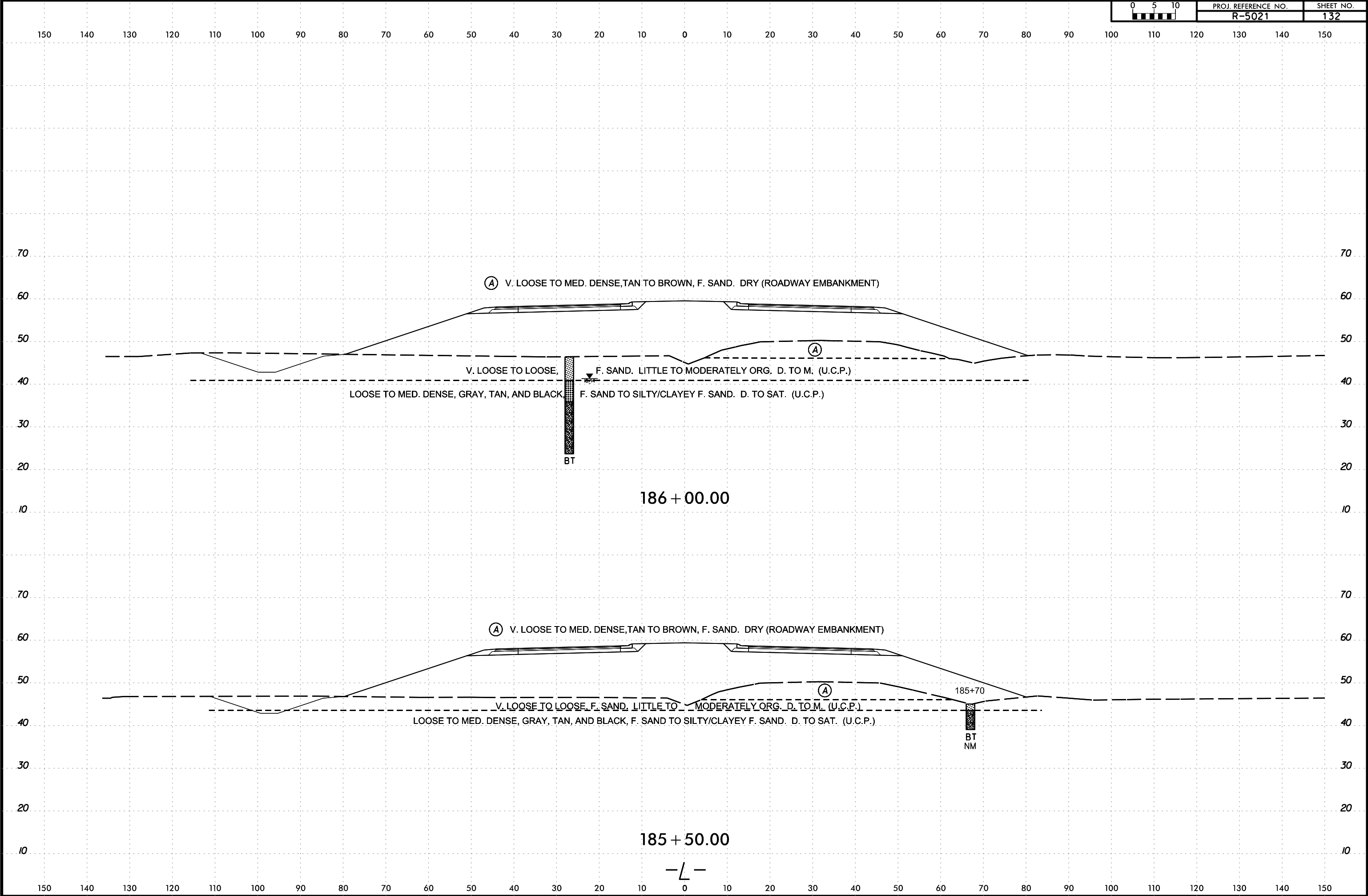
184 + 50.00

—L—

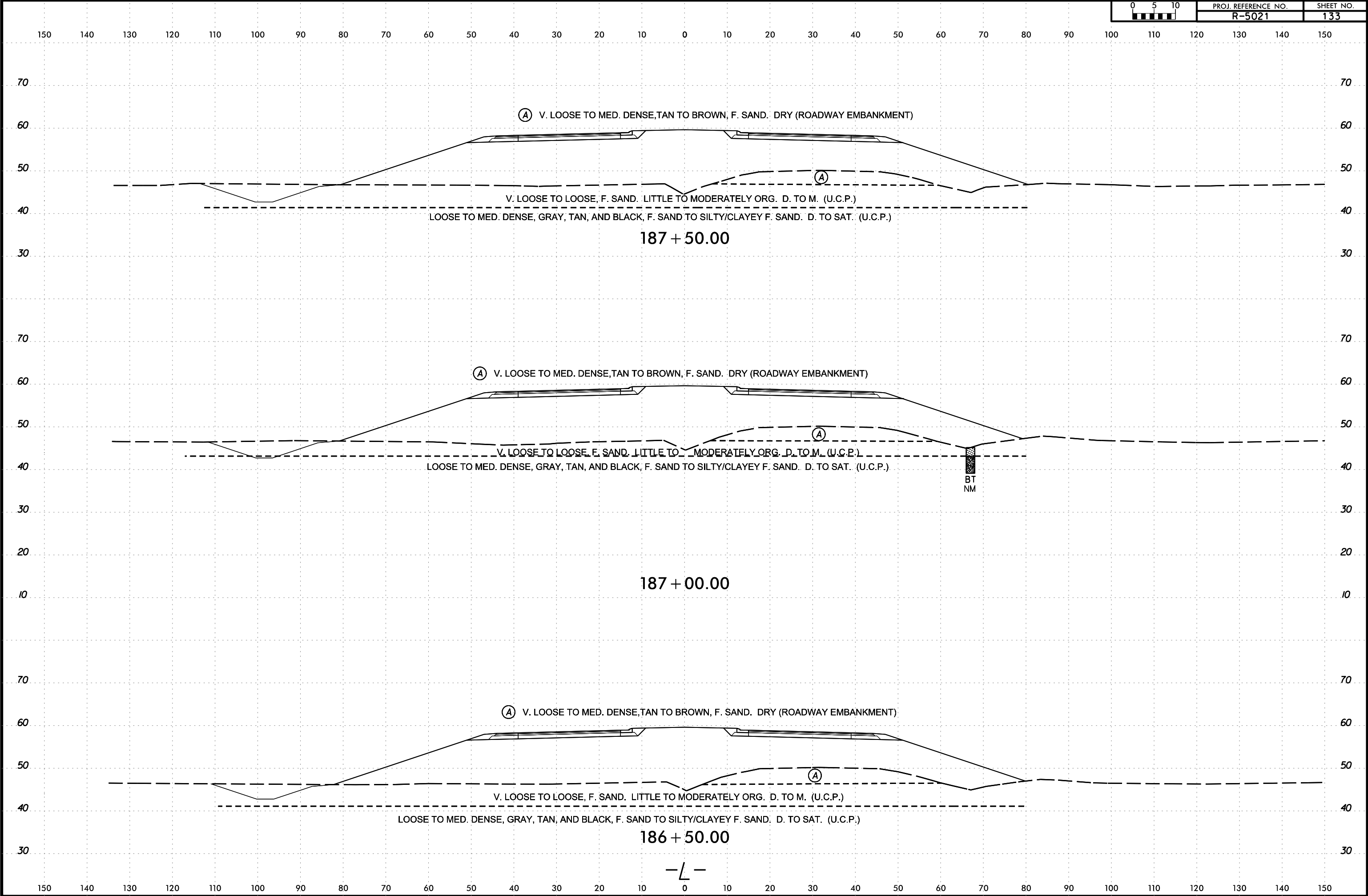
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LSTONE-PC



6/23/16

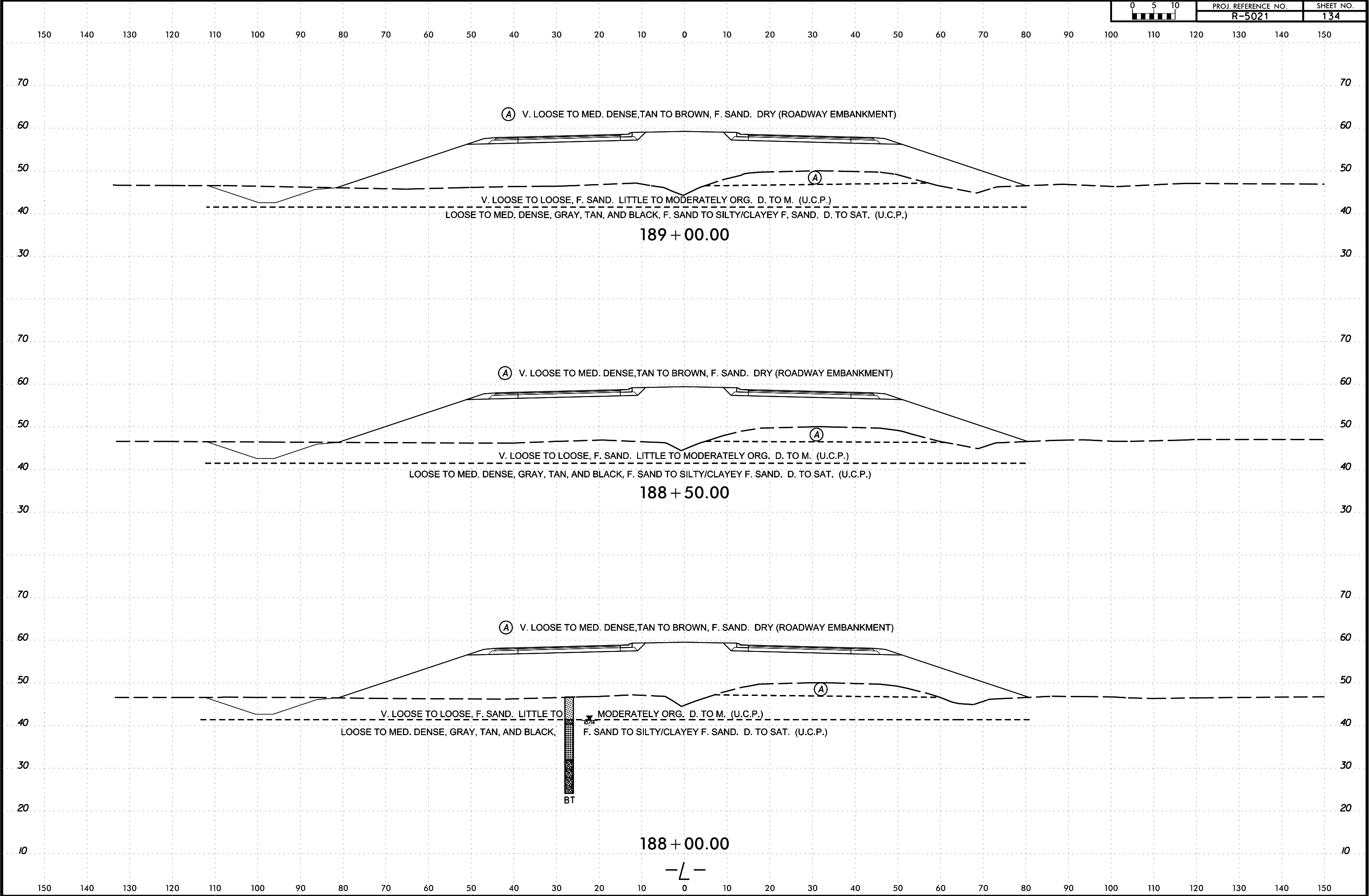


6/23/16



PROJ. REFERENCE NO.
R-5021

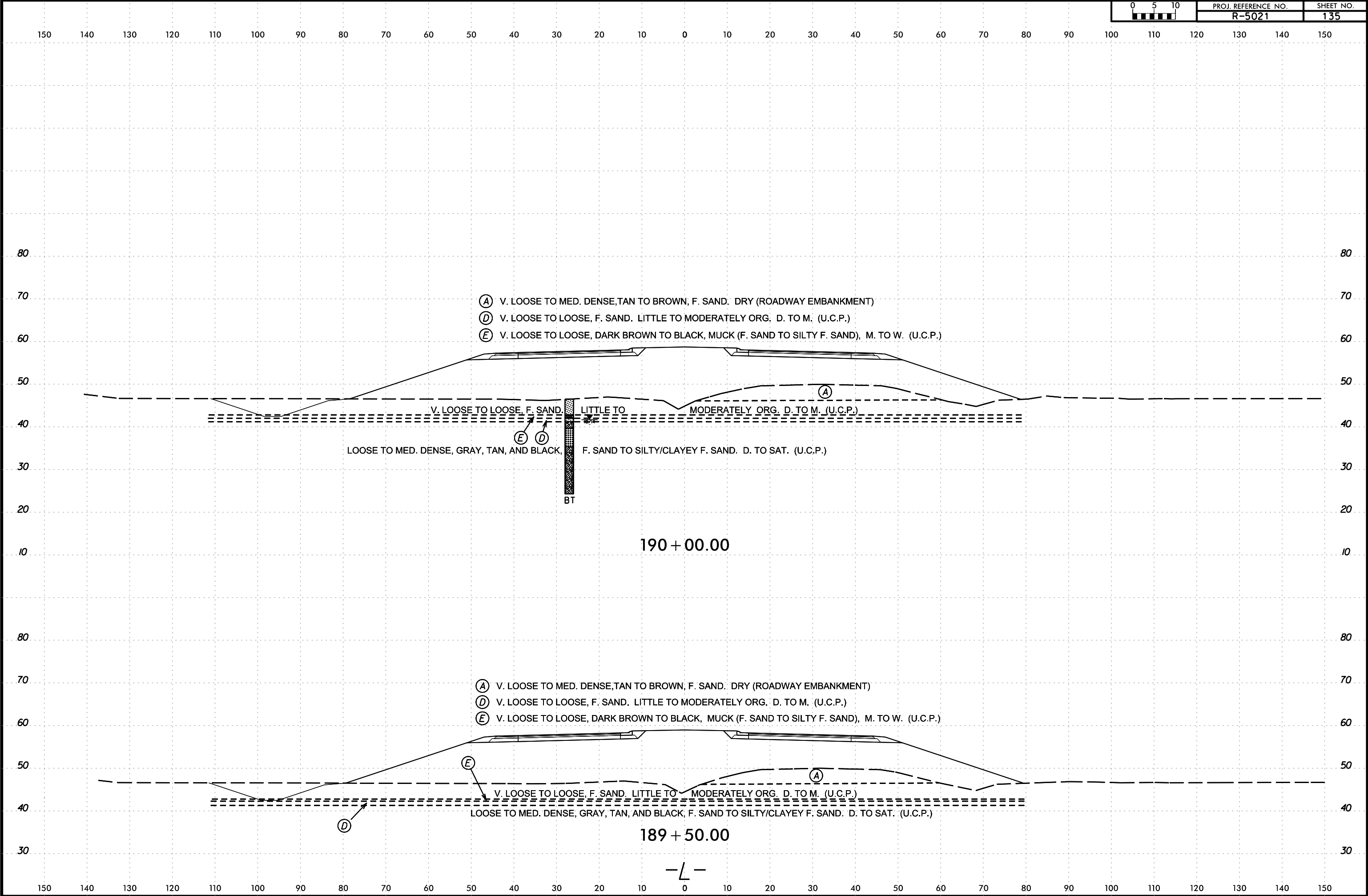
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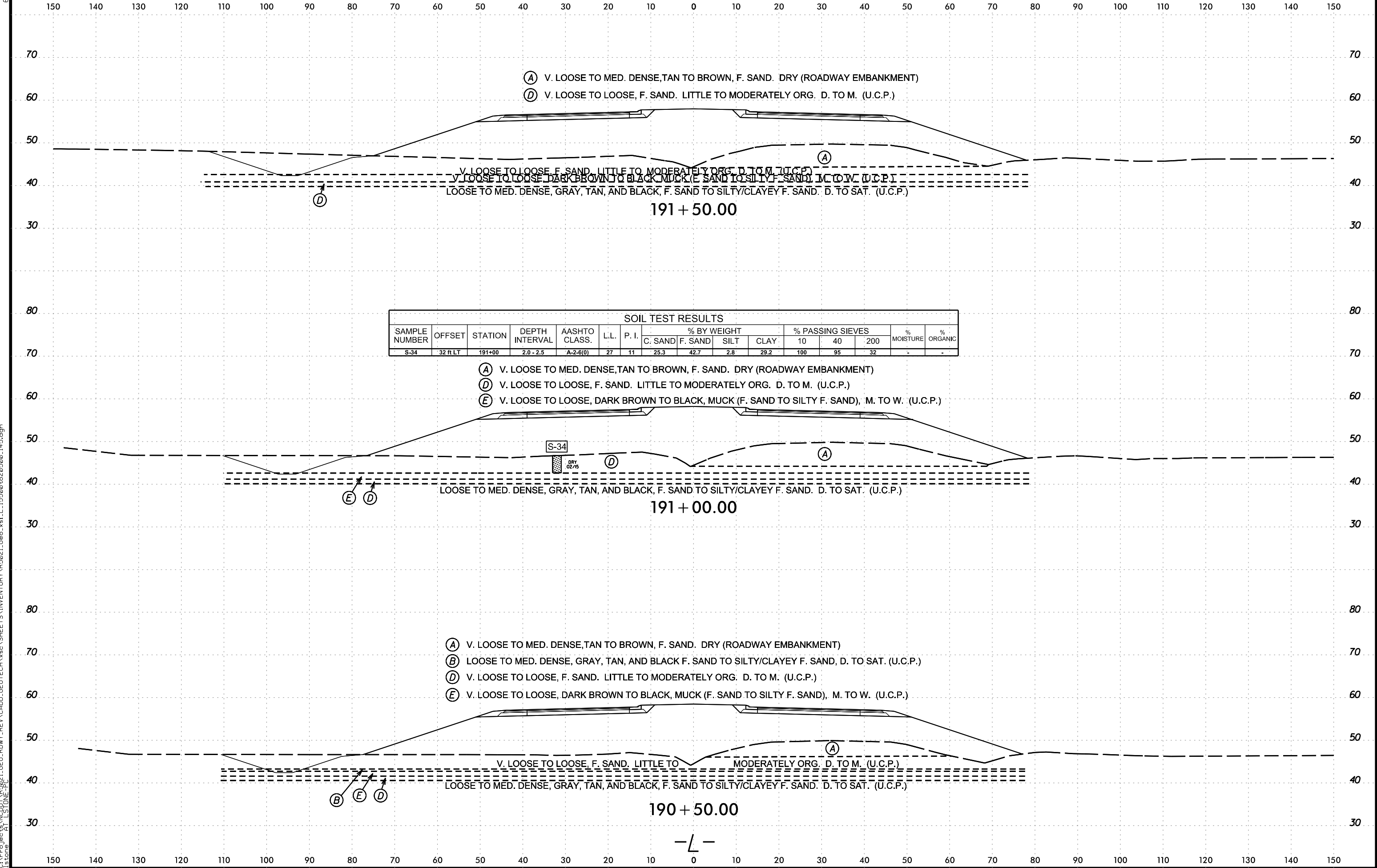
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LSTONE-PC

6/23/16

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LSTONE-FC

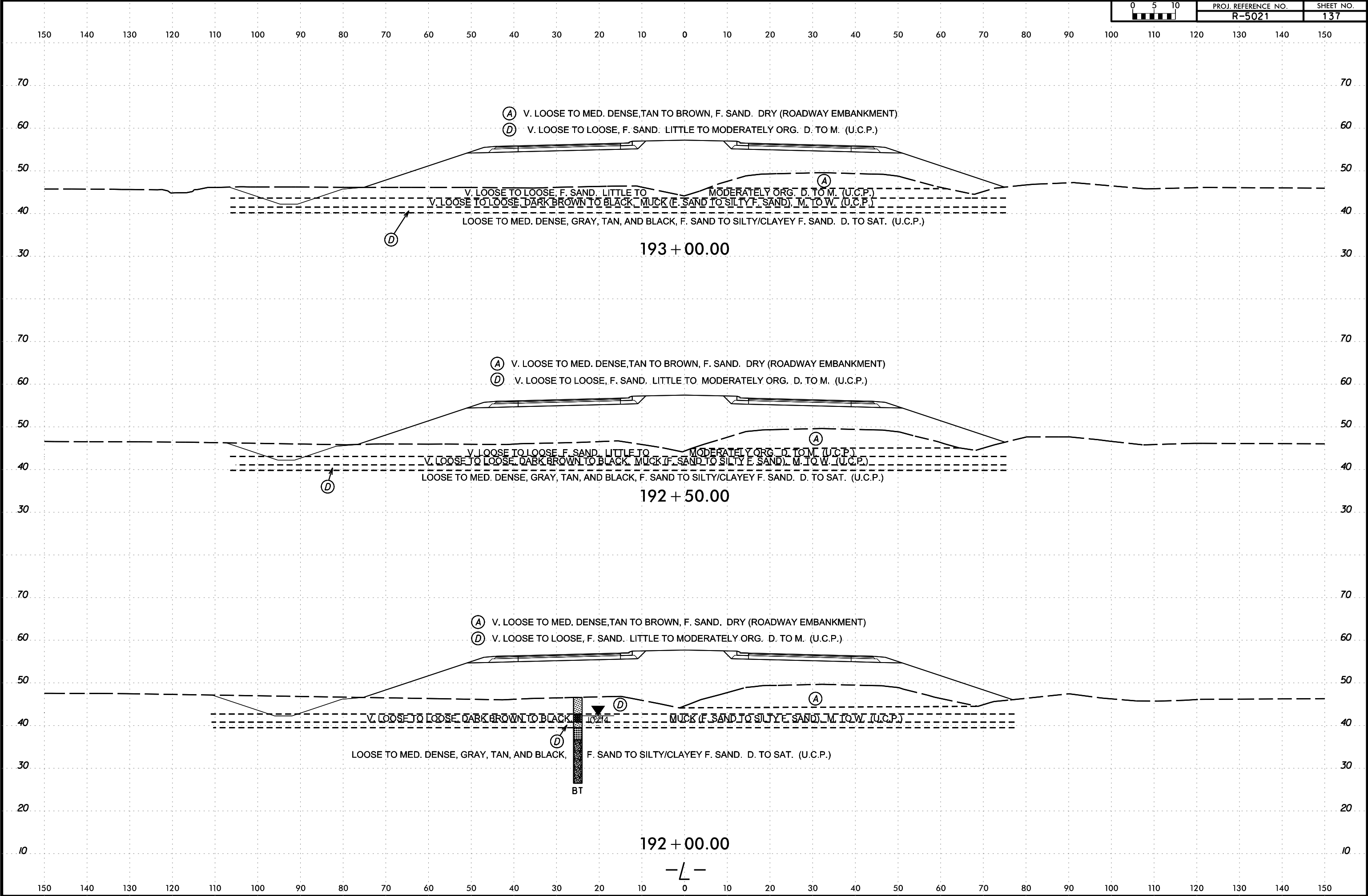


6/23/16



6/23/16

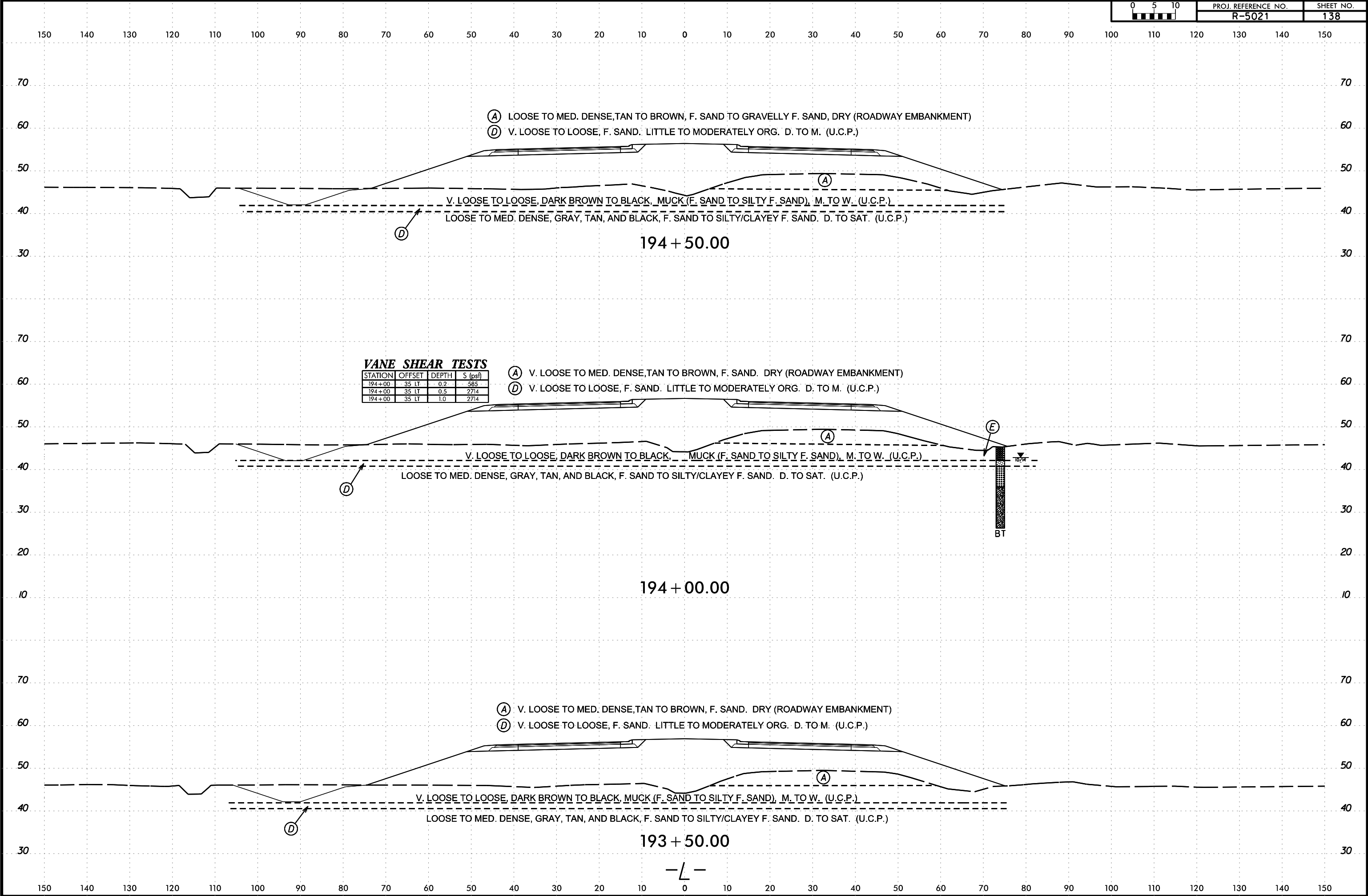
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LSTONE-PC



6/23/16



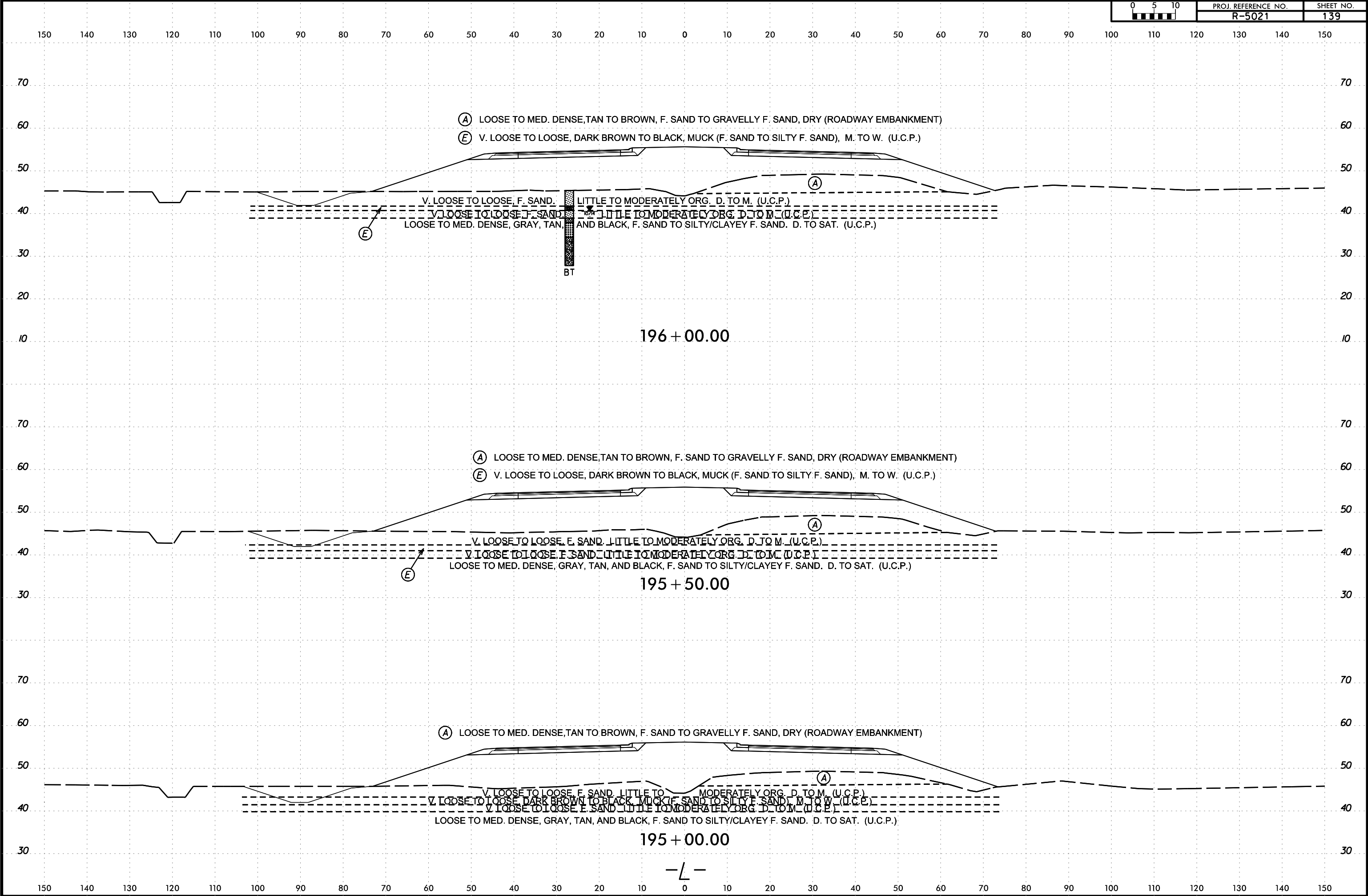
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R-5021	138



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1stone AT LISTONE-PC

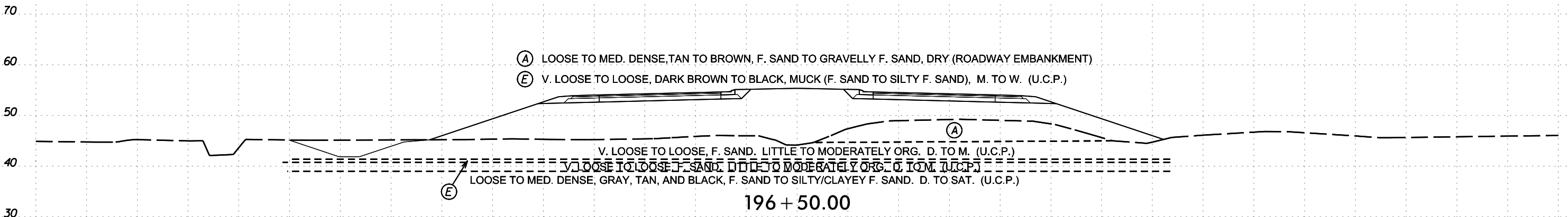
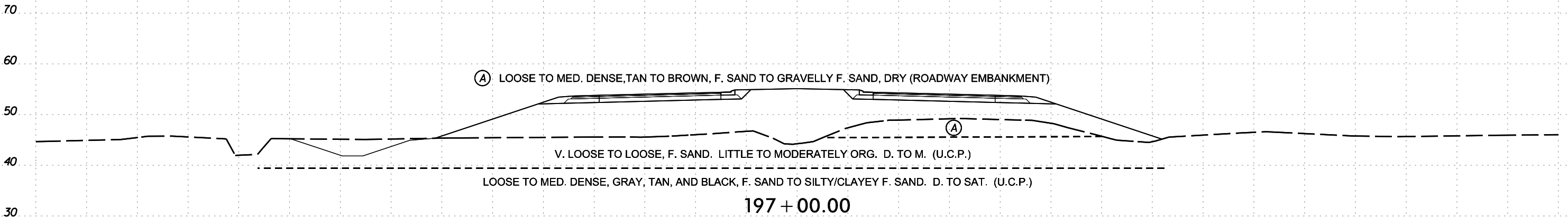
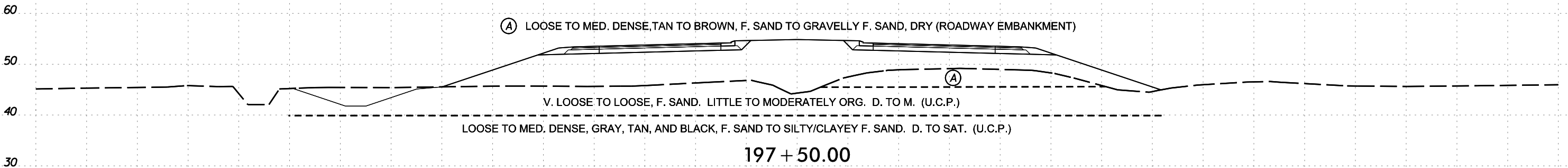
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1stone



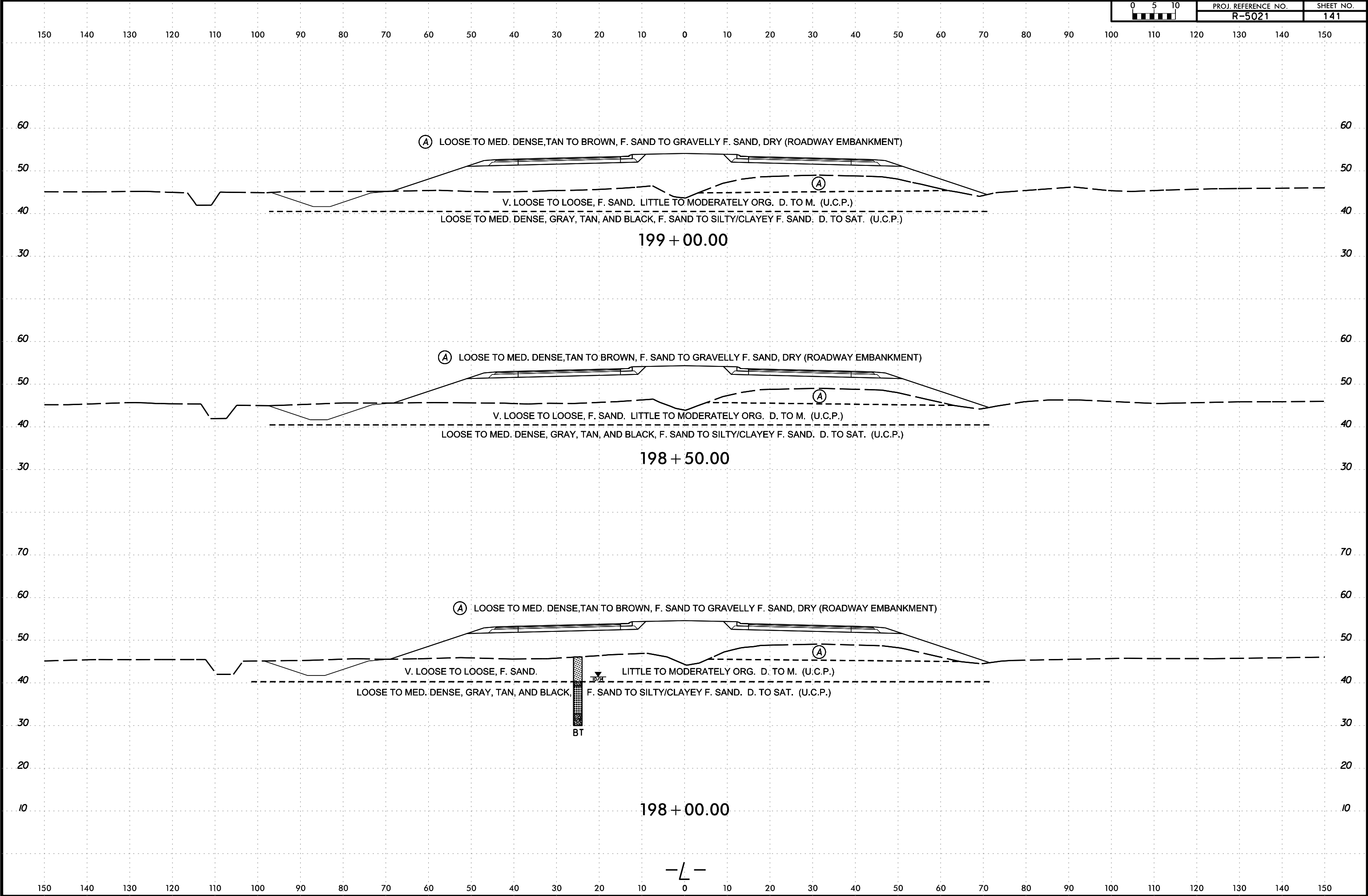
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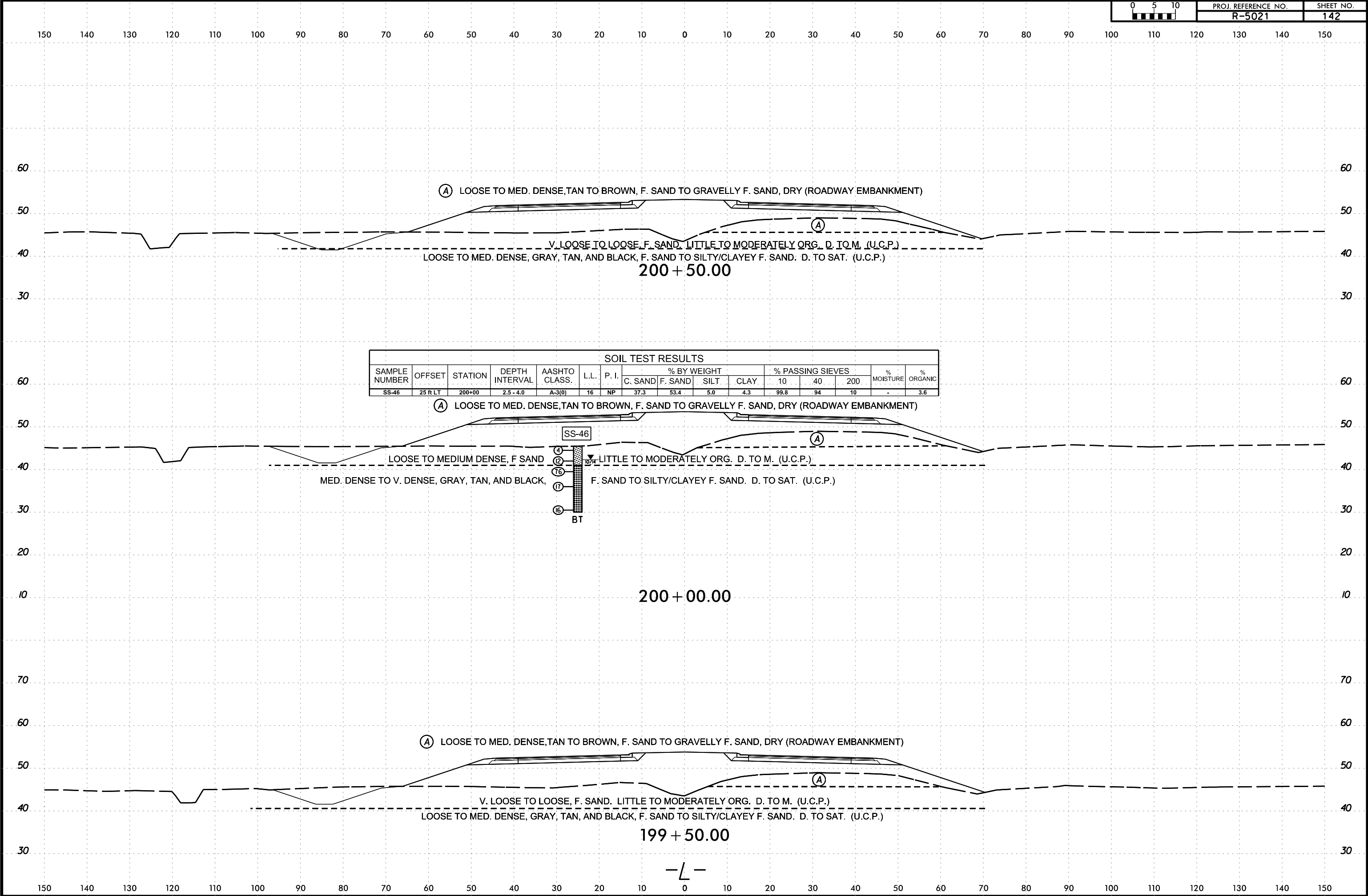


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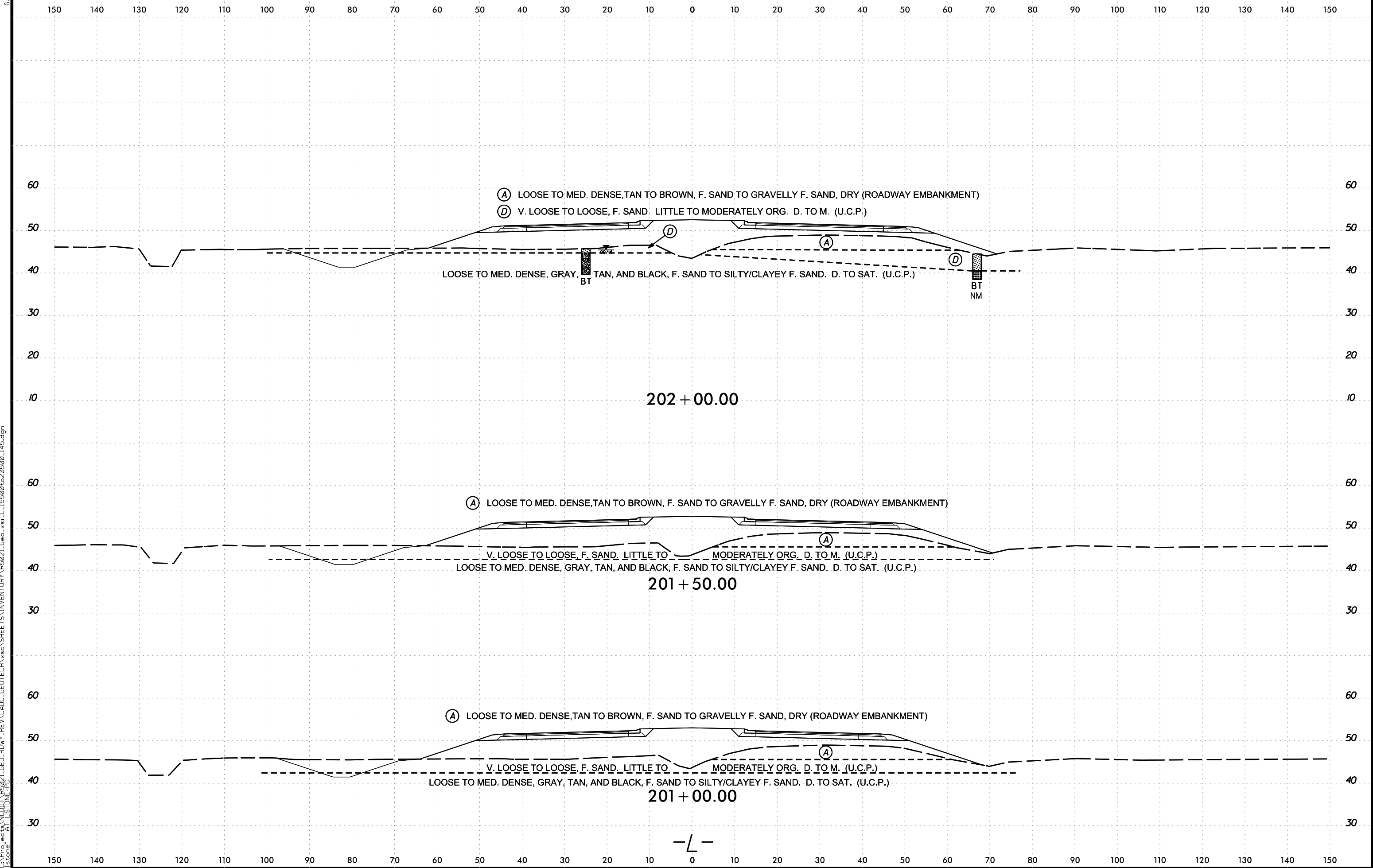
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6/23/16

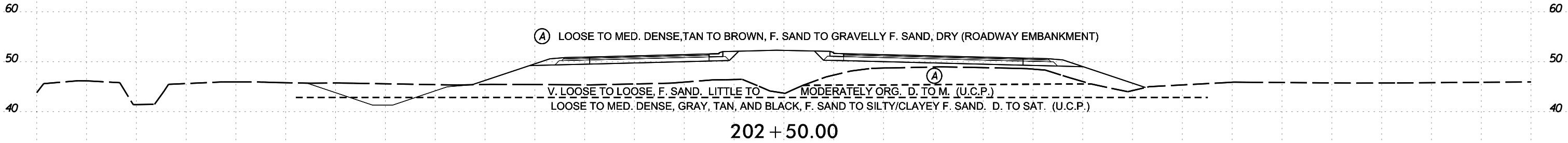
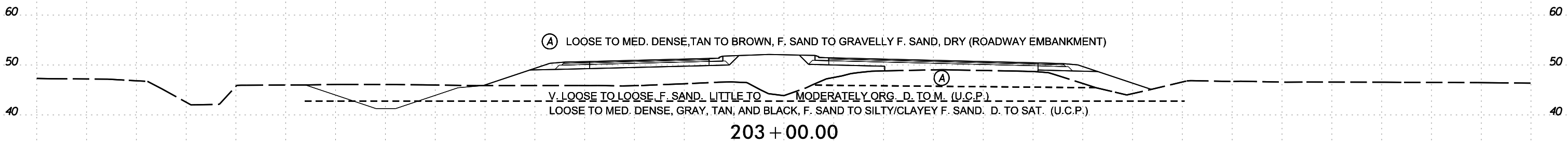
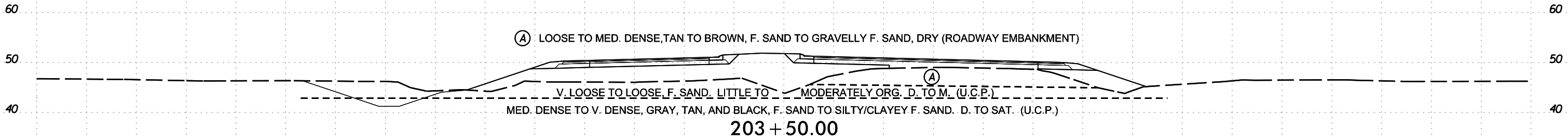


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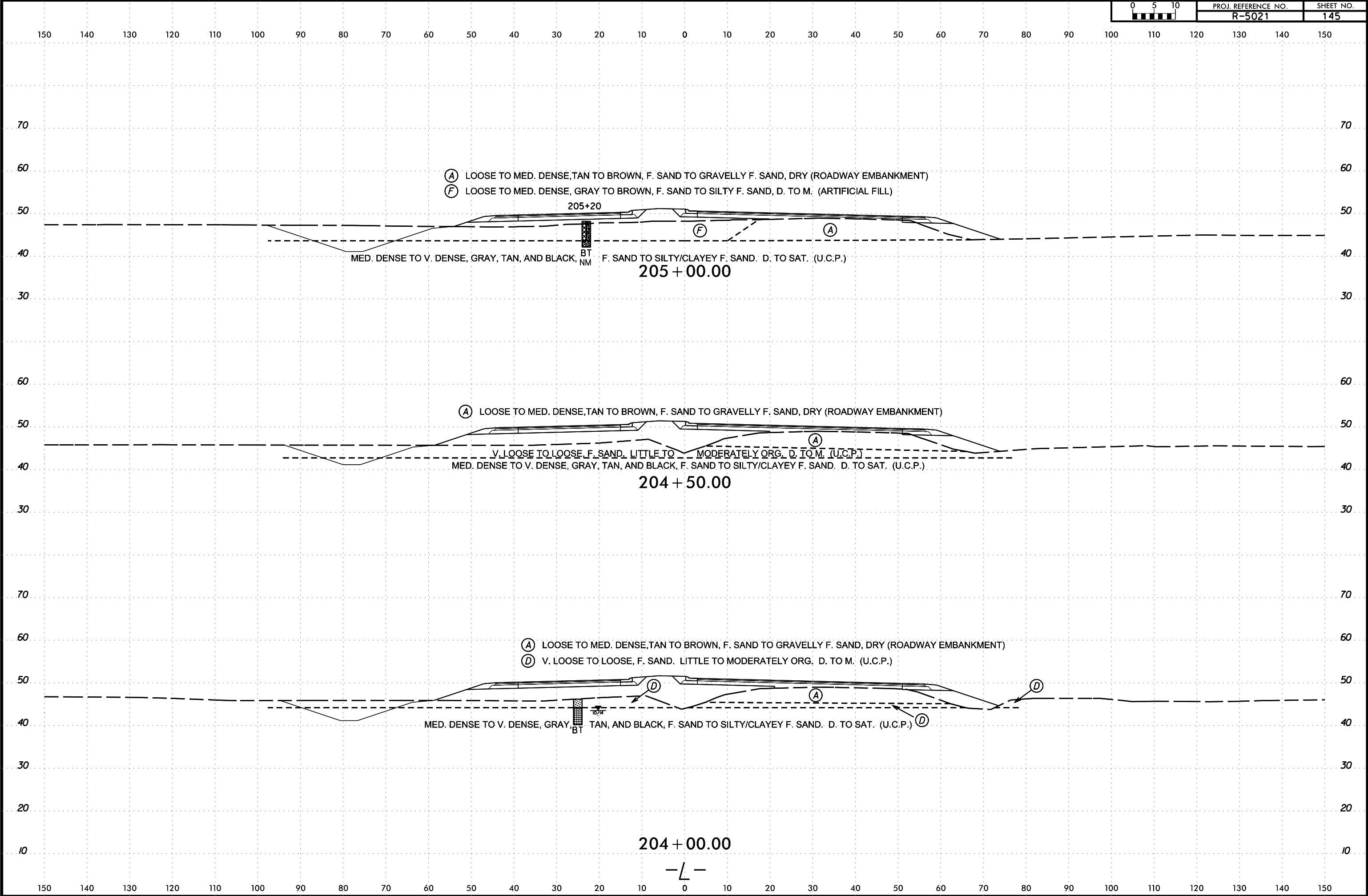
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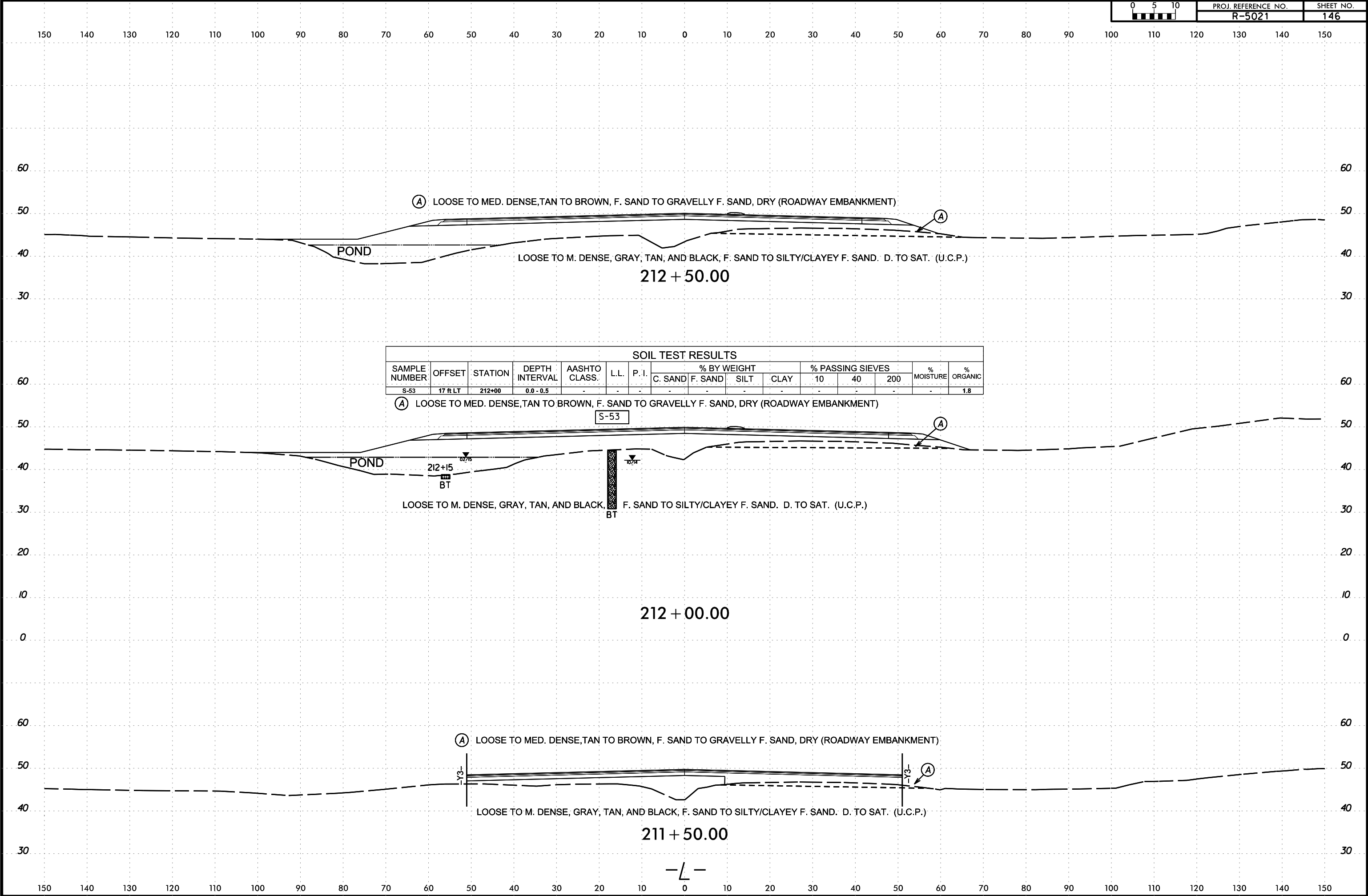
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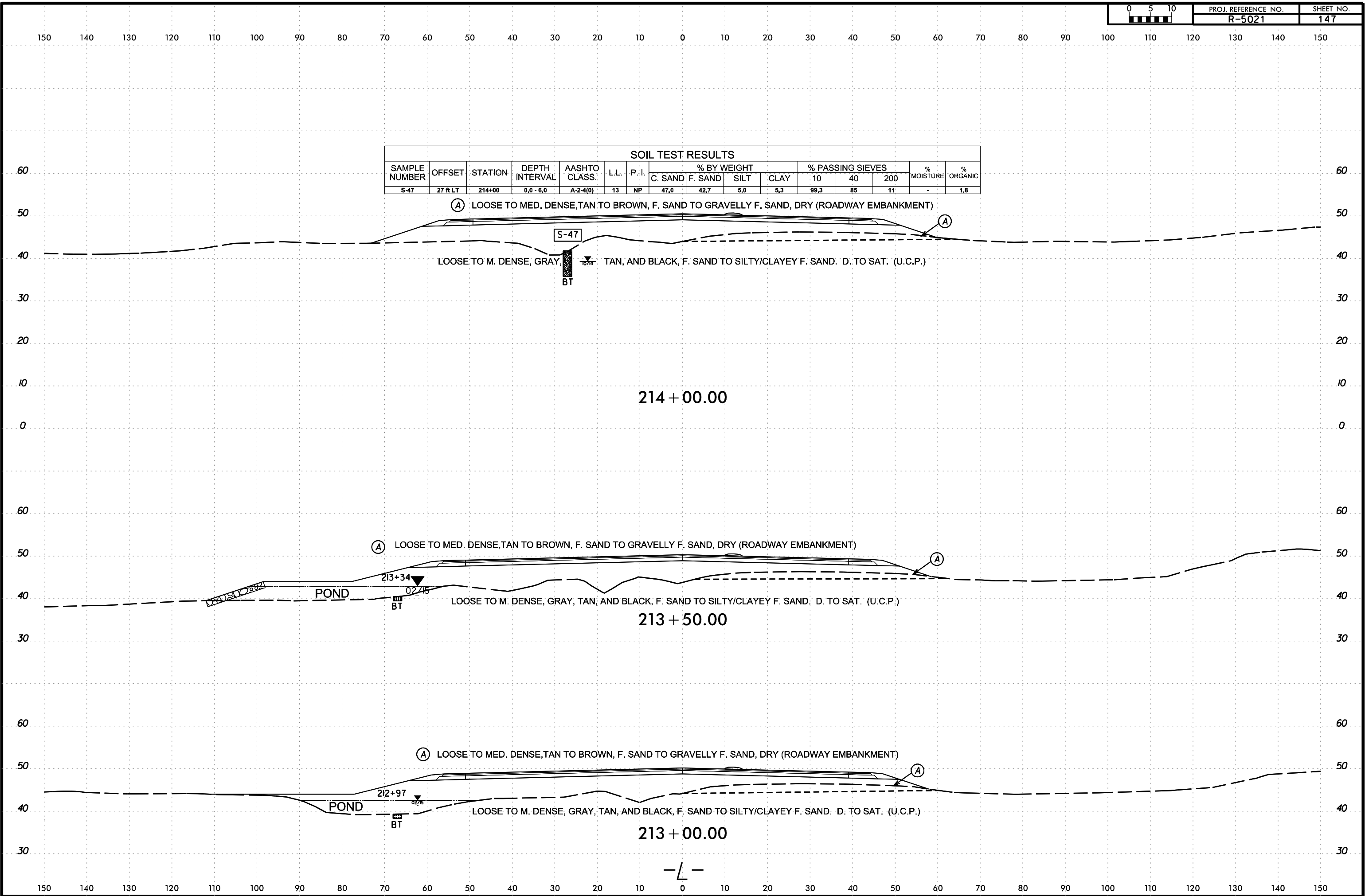
6/23/16



6/23/16

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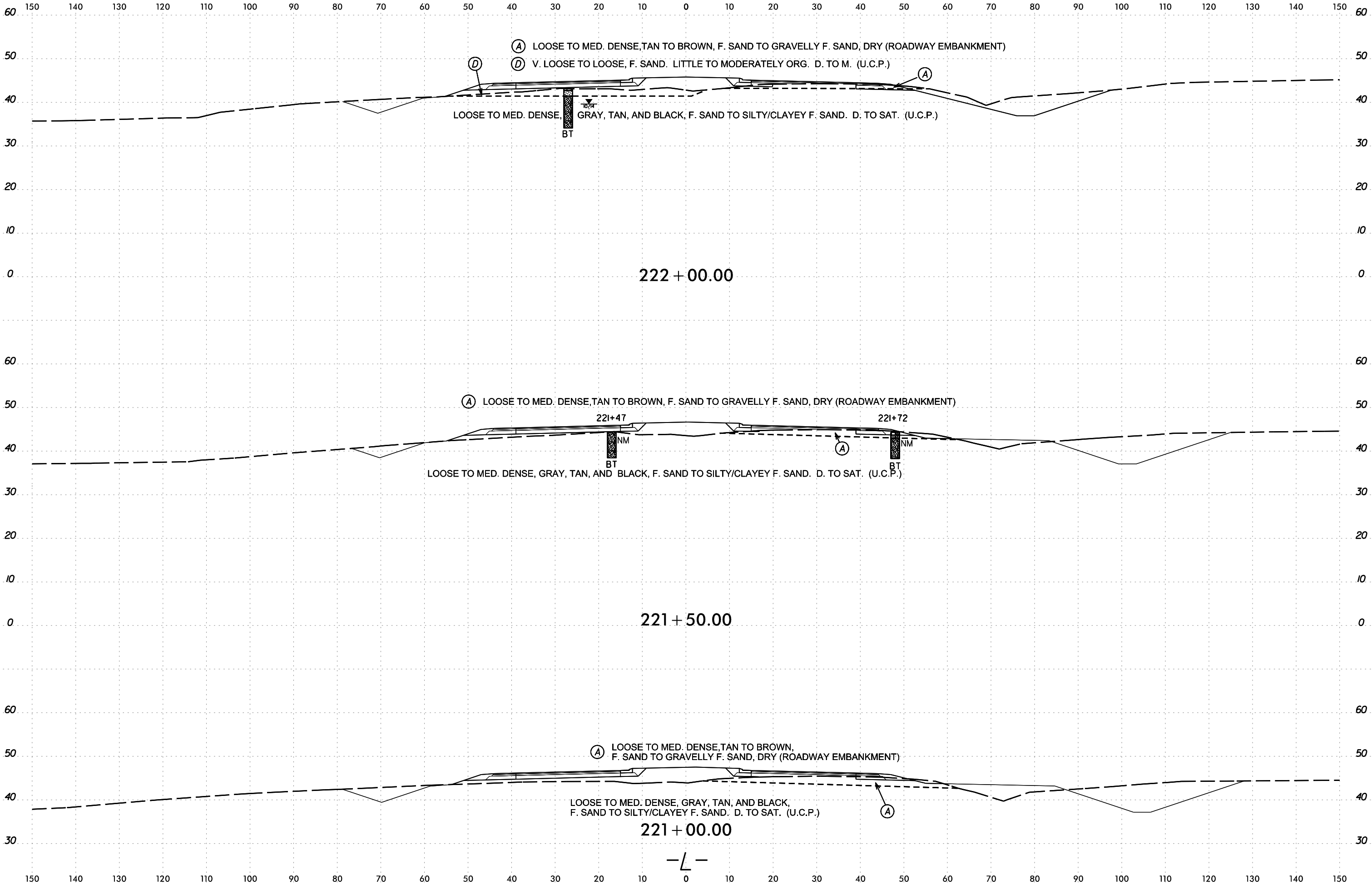


6/23/16



PROJ. REFERENCE NO.
R-5021

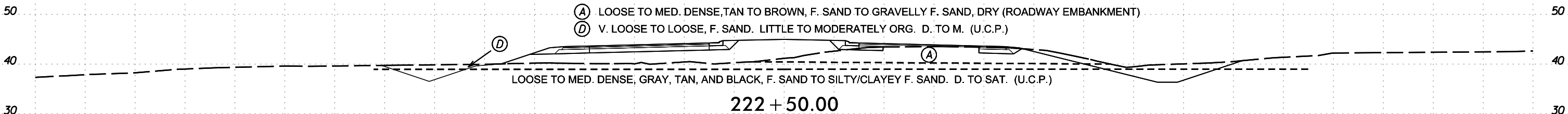
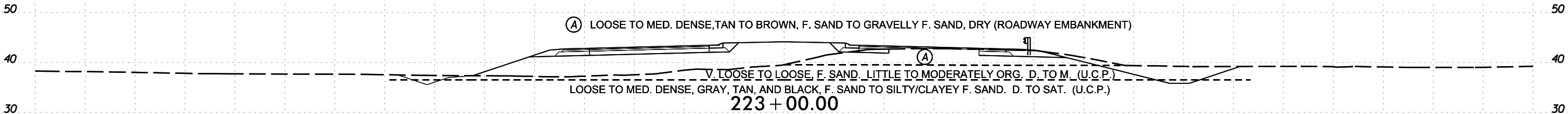
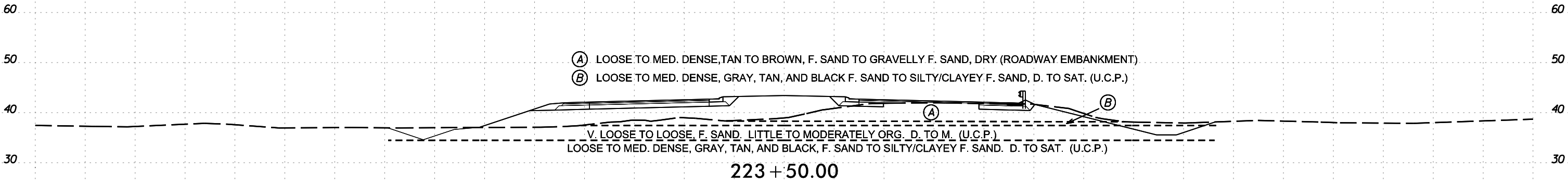
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Lstone AT LStone PC

6/23/16

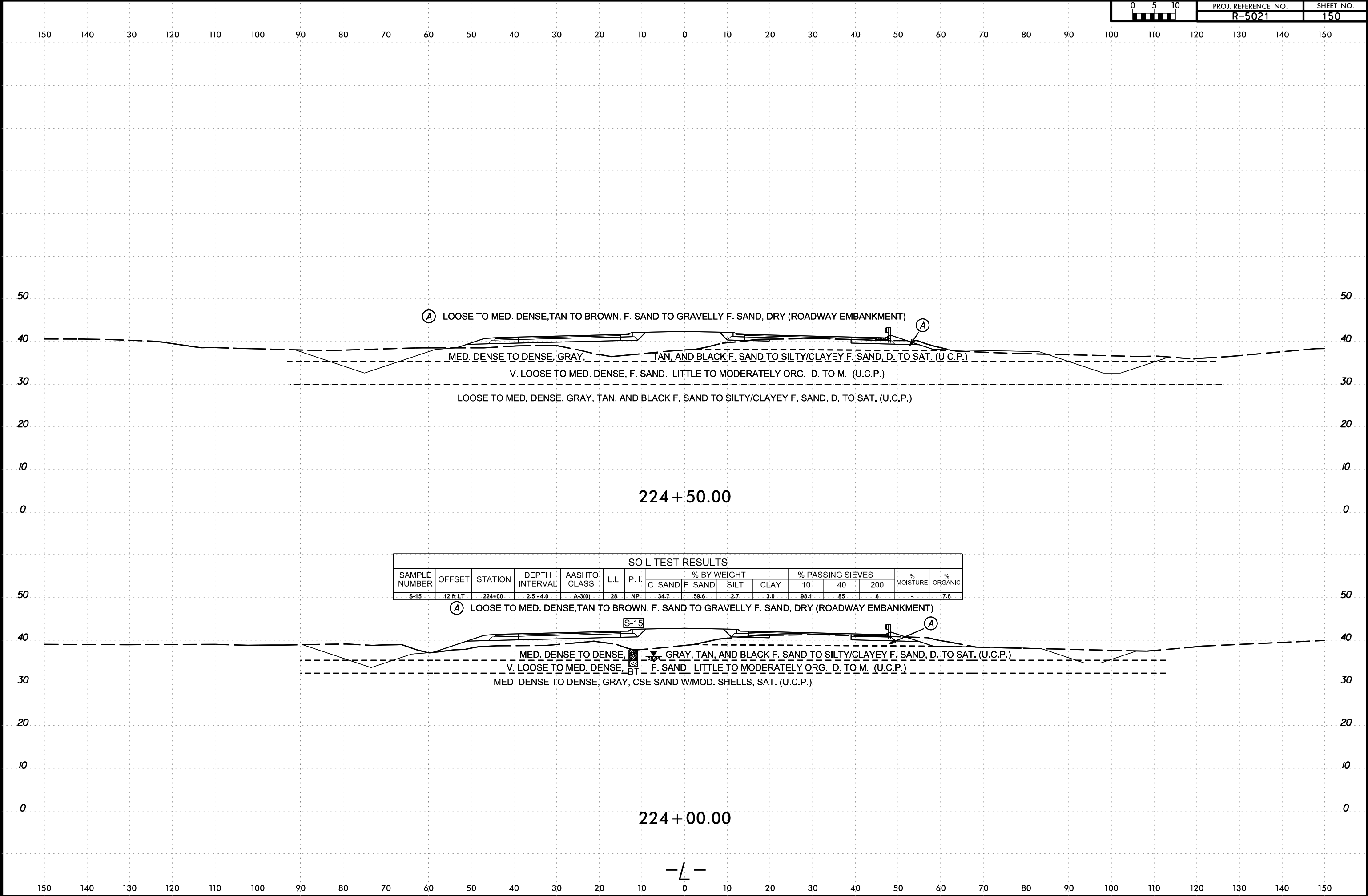
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-L-

6/23/16

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STONE AT LSTONE-PC



6/23/16



PROJ. REFERENCE NO.	SHEET NO.
R-5021	151

SOIL TEST RESULTS															
SAMPLE NUMBER	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-04	27 ft LT	225+50	0.0 - 1.5	()	-	-	27.5	67.7	1.0	3.8	94.9	97	6	-	-
SS-05	27 ft LT	225+50	6.5 - 8.0	A-2-4(0)	19	NP	16.8	77.2	1.3	4.7	87.8	93	13	25	-
SS-06	27 ft LT	225+50	11.0 - 12.5	A-4(0)	23	NP	3.9	69.3	10.4	16.4	99.7	98	42	50	-
SS-54	52 ft RT	225+65	6.4 - 7.9	-	-	-	-	-	-	-	-	-	-	-	7.2
SS-57	52 ft RT	225+65	13.1 - 14.6	-	-	-	-	-	-	-	-	-	-	-	1.7

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)

(D) V. LOOSE TO MED. DENSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

SOFT TO MED. STIFF BROWN TO GRAY SANDY SILT, WET (U.C.P.) (U.C.P.)

V. LOOSE TO LOOSE, GRAY, TAN, AND BLACK F. SAND TO SILTY/CLAYEY F. SAND, D. TO SAT. (U.C.P.)

DENSE, GRAY, CSE SAND W/MOD. SHELLS, SAT. (WACCAMAW FORMATION)

225 + 50.00

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)

(B) MED. DENSE TO DENSE, GRAY, TAN, AND BLACK F. SAND TO SILTY/CLAYEY F. SAND, D. TO SAT. (U.C.P.)

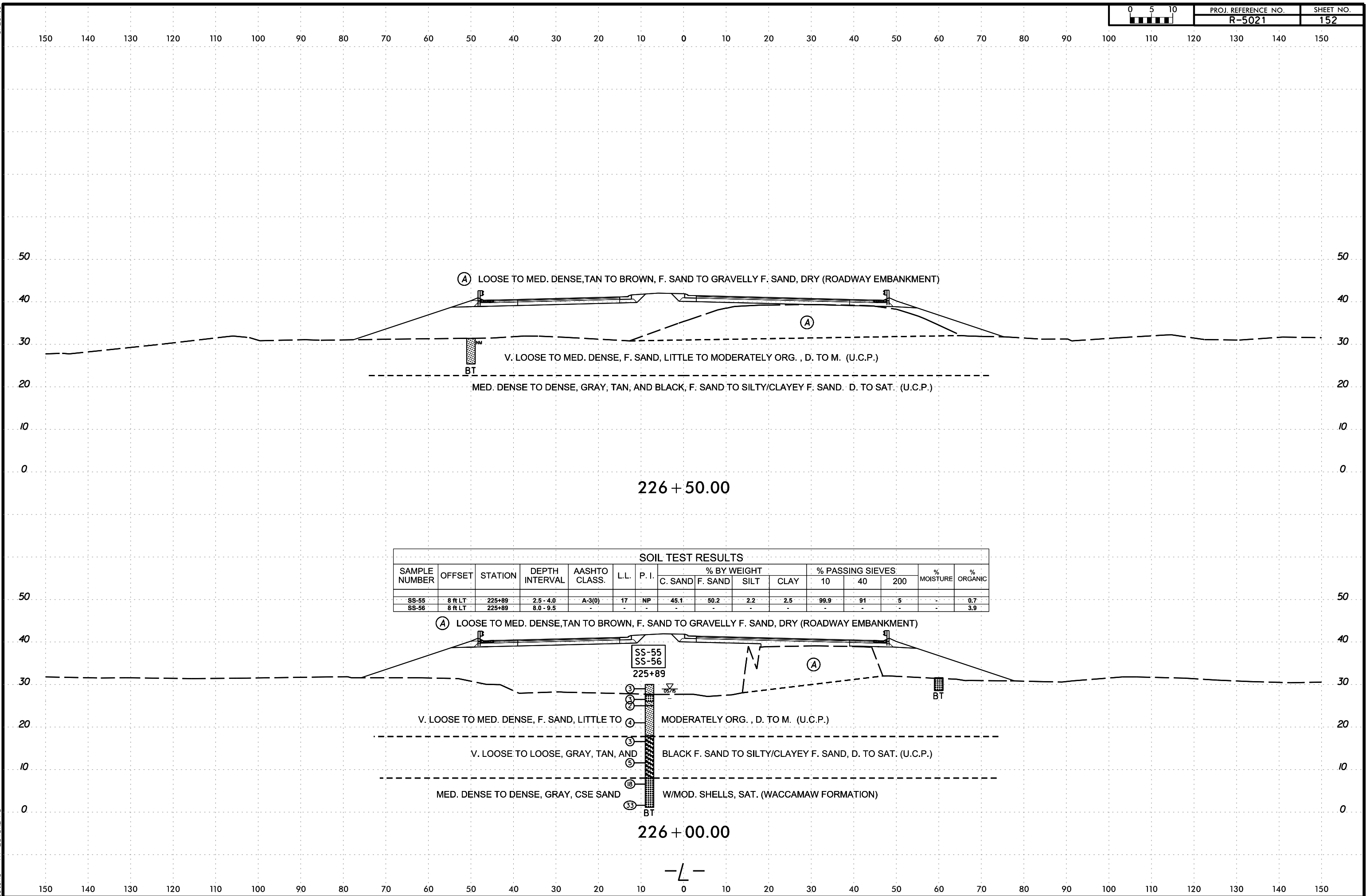
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LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK F. SAND TO SILTY/CLAYEY F. SAND, D. TO SAT. (U.C.P.)

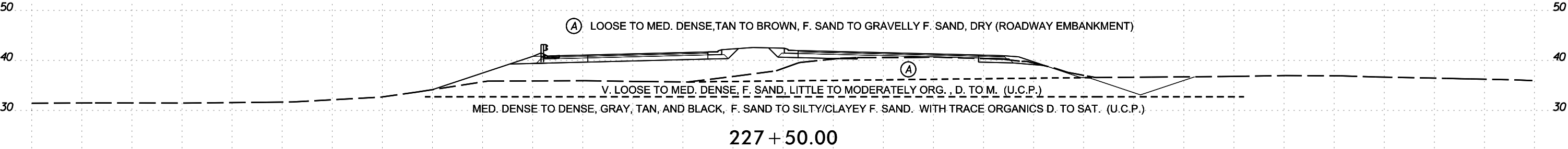
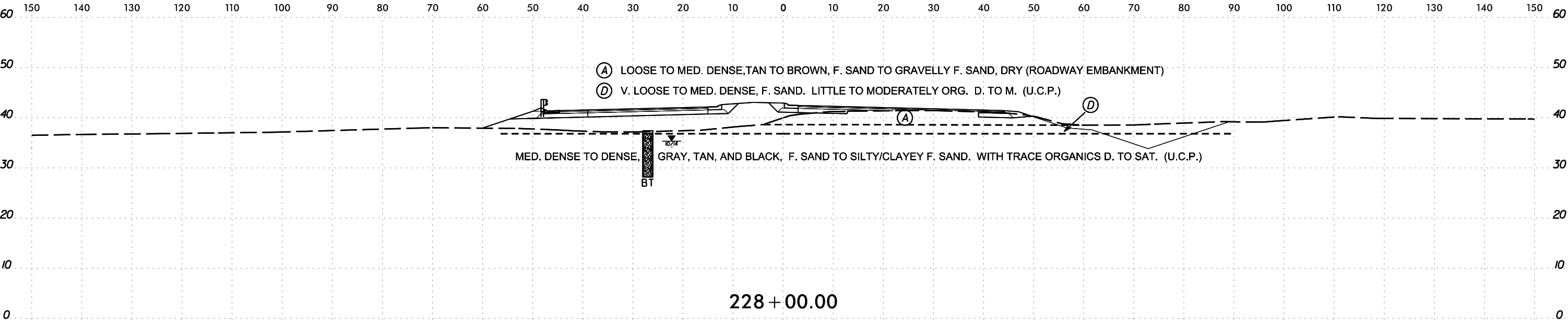
225 + 00.00

-L-

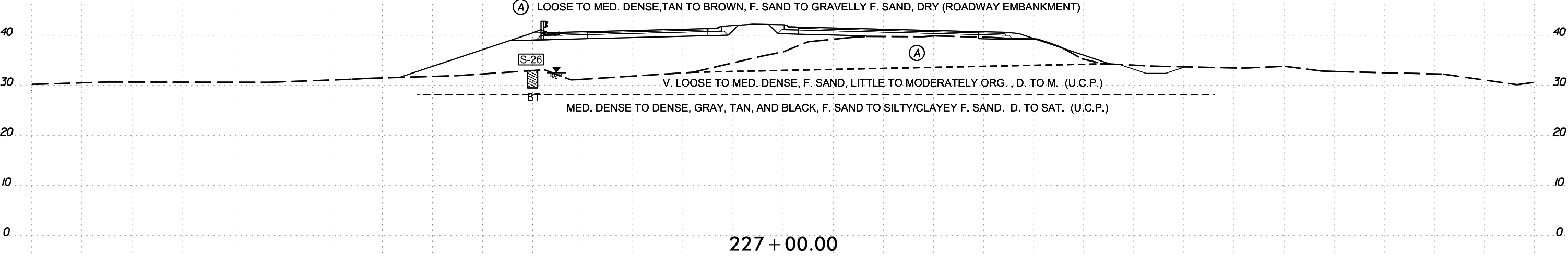
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1:stone AT LSTONE-PC



6/23/16



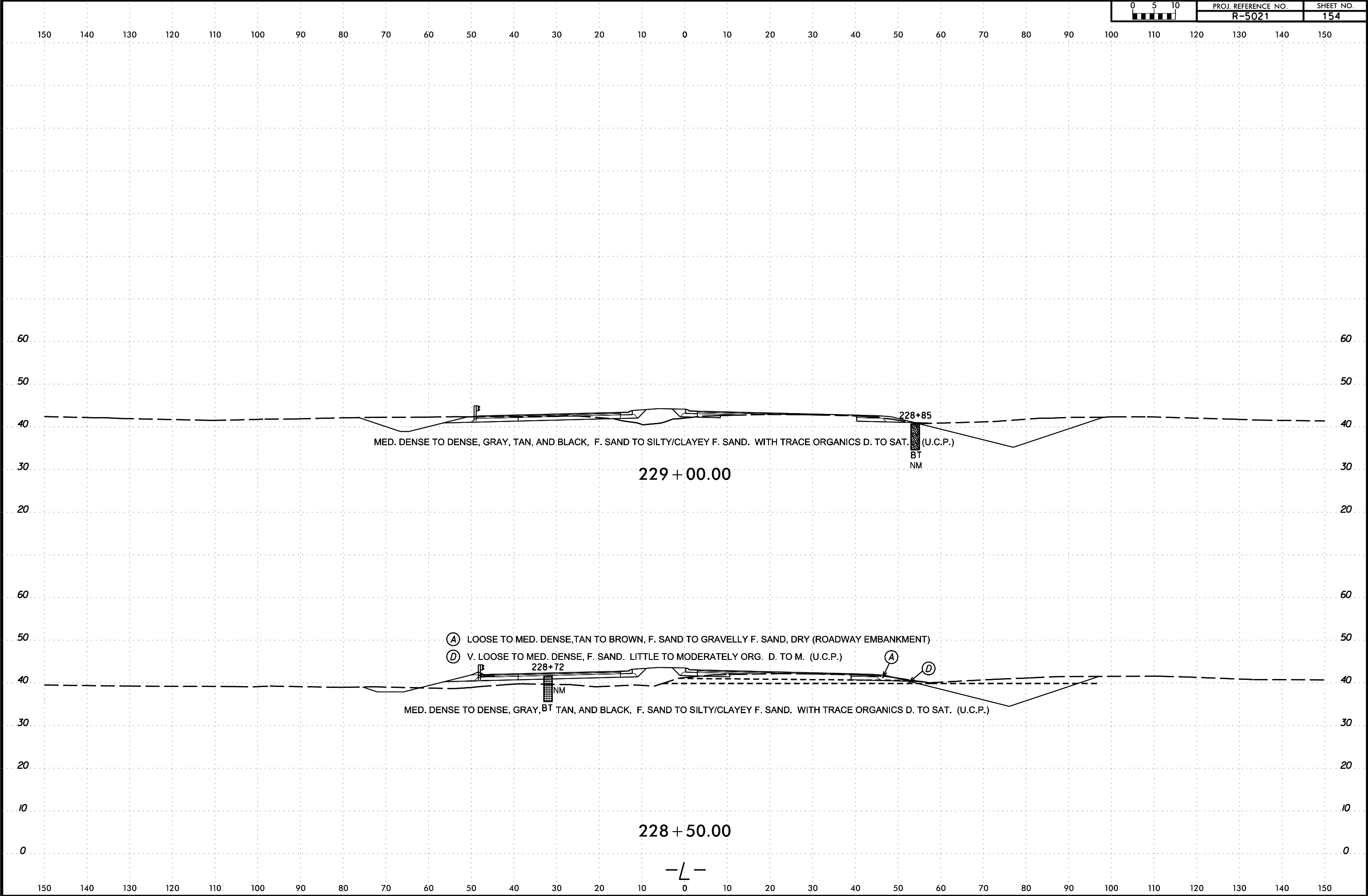
SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-26	50 ft LT	227+00	0.0 - 3.0	A-3(0)	28	NP	36.7	57.0	4.9	1.4	99.2	85	7	-	9.4



-L-

6/23/16

21-DEC-2017 13:17
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LSTONE-PC



6/23/16

21-DEC-2017 13:17
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LSTONE-PC

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

60

50

40

30

20

10

0

SOIL TEST RESULTS															
SAMPLE NUMBER	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-49	27 ft LT	238+00	0.0 - 5.0	A-3(0)	15	NP	54.1	40.0	3.6	2.3	99.7	80	6	-	1.2

S-49

BT

102/14

BT

092/14

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

238 + 00.00

-L-

60

50

40

30

20

10

0

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

60

50

40

30

20

60

50

40

30

20

SOIL TEST RESULTS															
SAMPLE NUMBER	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-50	27 ft LT	246+00	1.0 - 1.5	()	-	-	44.3	30.9	22.3	2.5	94.5	80	25	-	12.4

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)

S-50

V. LOOSE TO MED. DENSE, F. SAND. LITTLE TO MODERATELY ORG. AND MUCK. D. TO M. (U.C.P.)
MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

BT

246 + 00.00

60

50

40

30

60

50

40

30

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)

(D) V. LOOSE TO MED. DENSE, F. SAND. LITTLE TO MODERATELY ORG. AND MUCK. D. TO M. (U.C.P.)

(D)

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

245 + 50.00

60

50

40

30

20

60

50

40

30

20

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)

(F) LOOSE TO MED. DENSE, GRAY TO BROWN, F. SAND TO SILTY F. SAND. D. TO M. (ARTIFICIAL FILL)

(F)

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

244+90

BT

NM

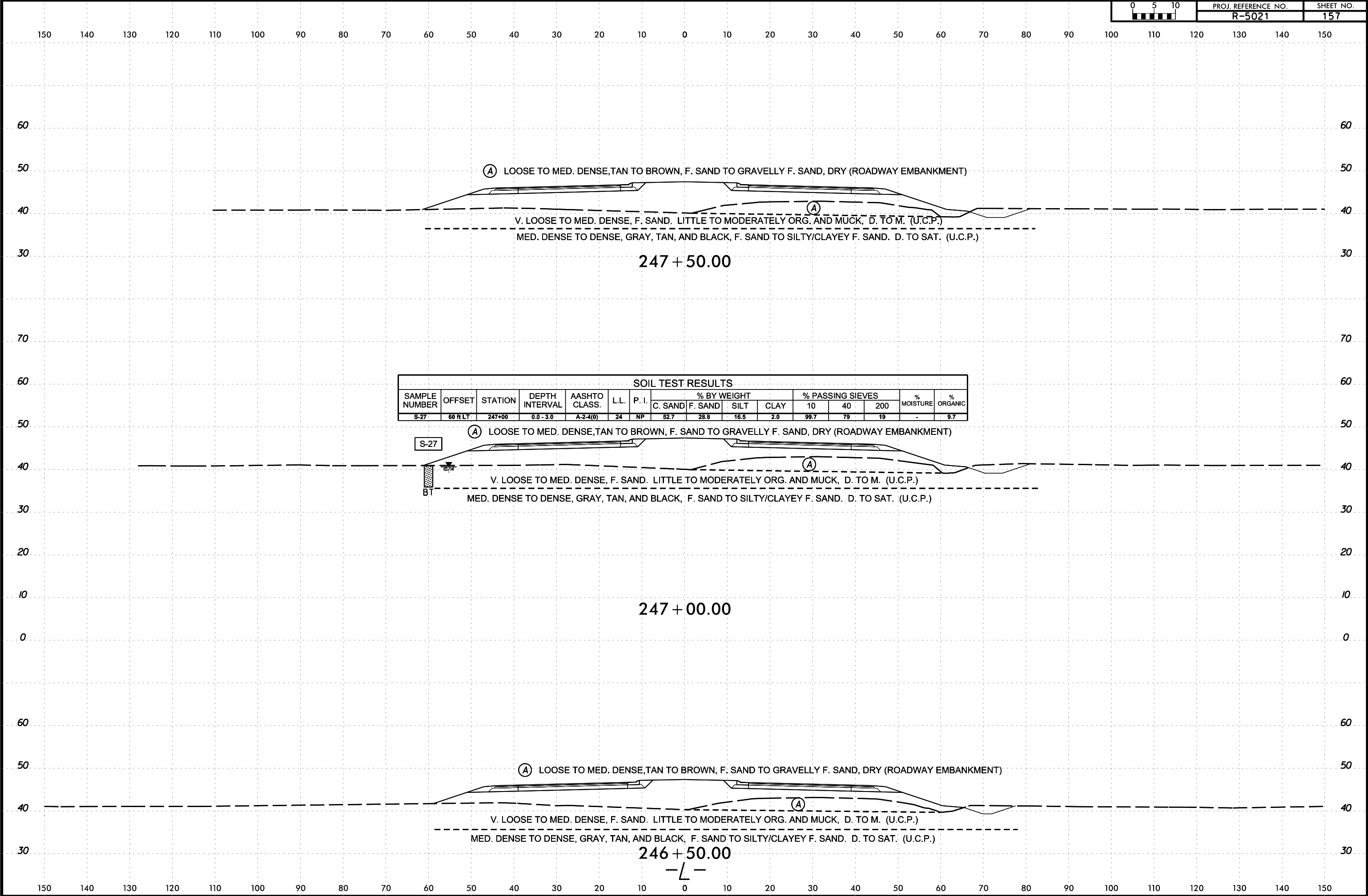
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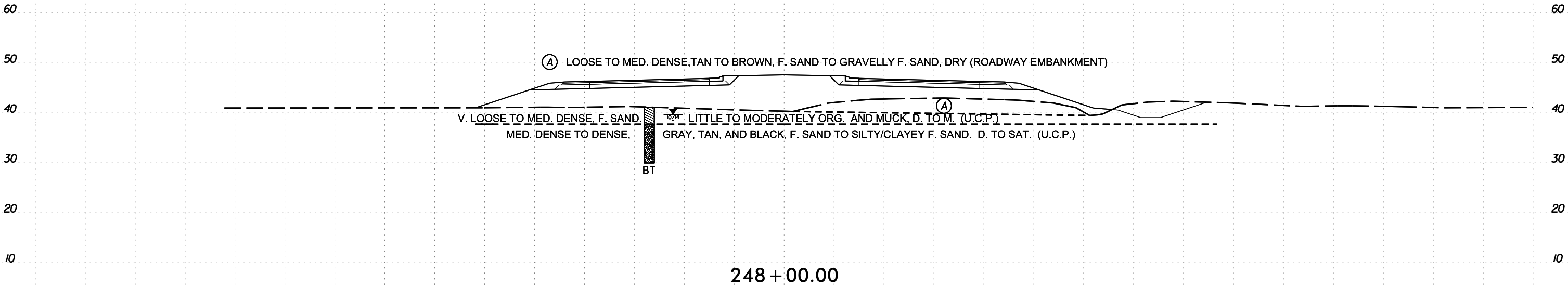
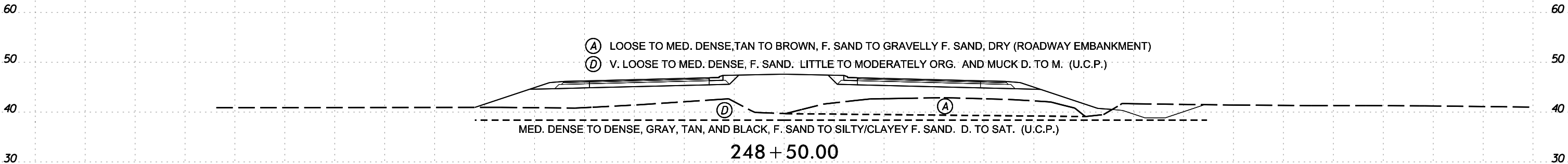
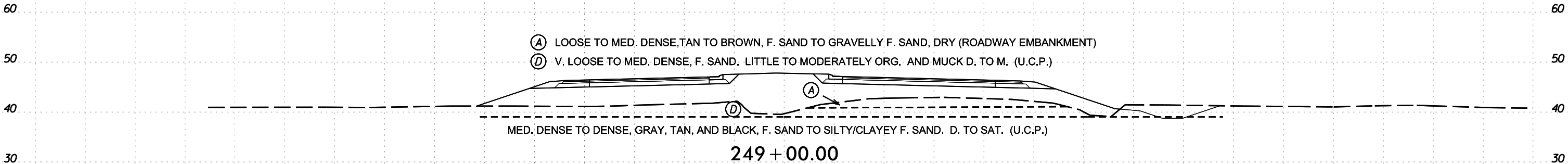
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LSTONE-PC



6/23/16

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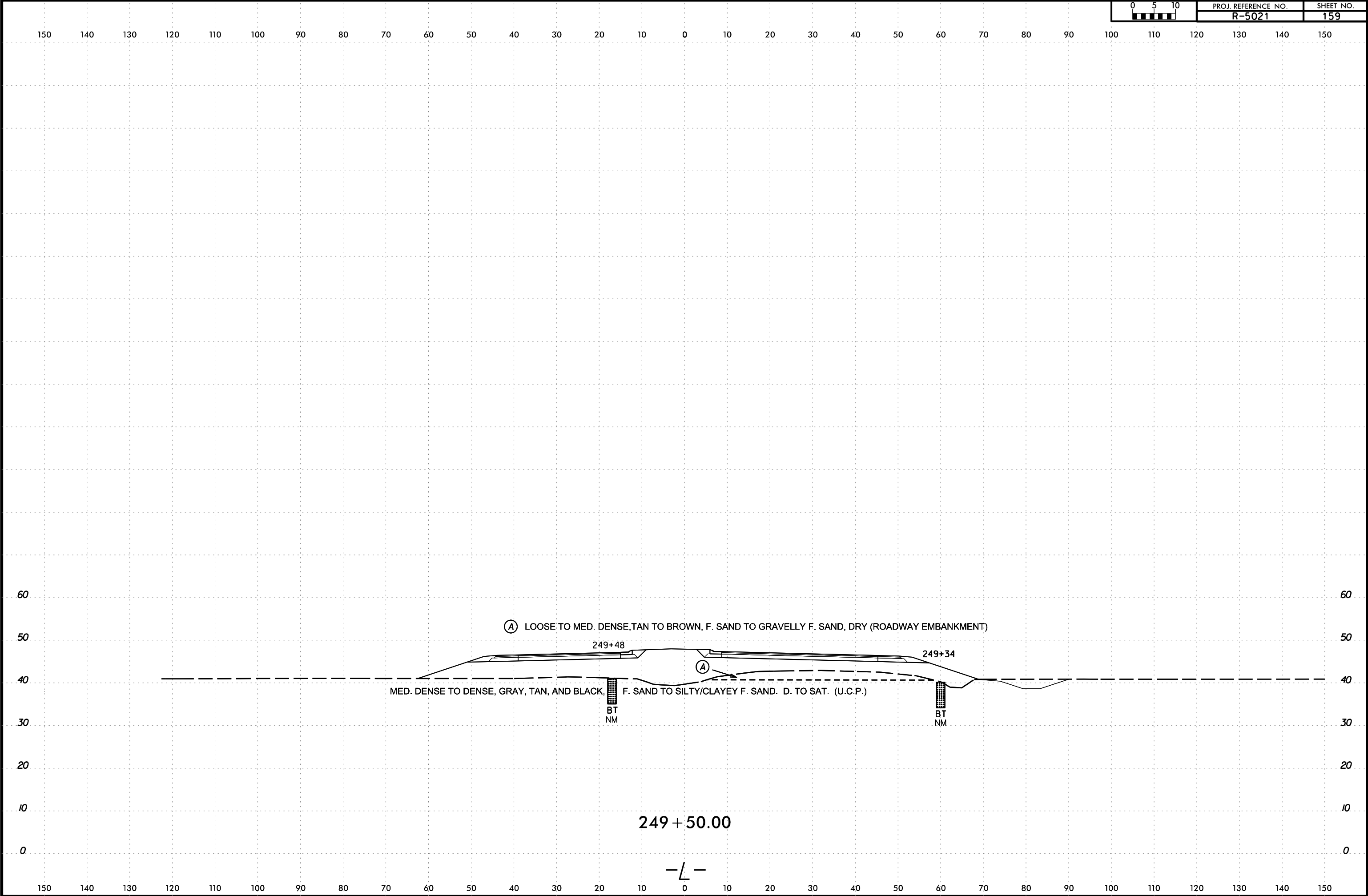


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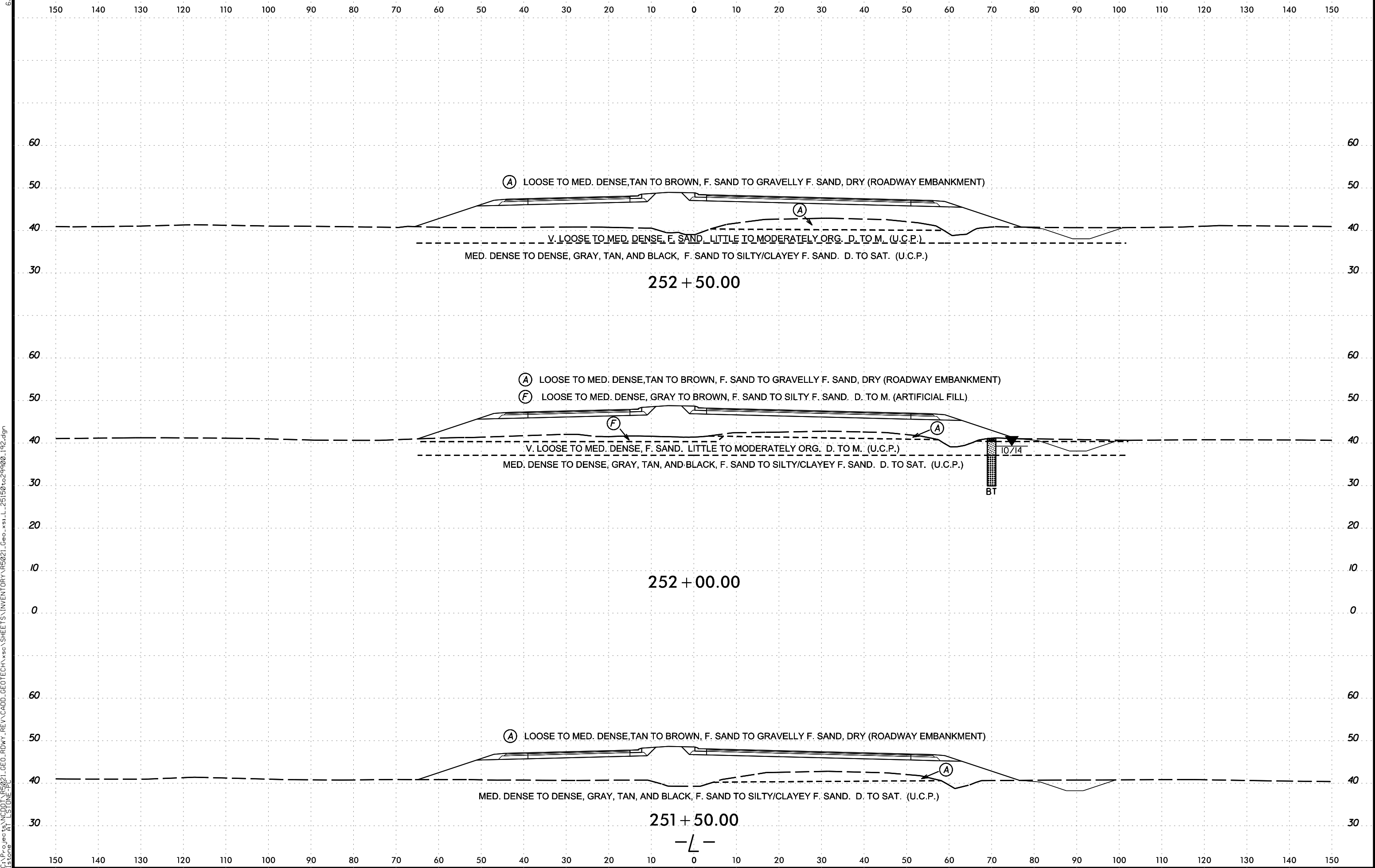
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LSTONE-PC

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5021	159



6/23/16



6/23/16

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
254+00	38 LT	0.2	167
254+00	38 LT	0.5	960
254+00	38 LT	1.0	1462
254+00	38 LT	1.5	2130
254+00	38 LT	2.0	1921
254+00	38 LT	2.5	2380
254+00	38 LT	3.0	2714

- A

LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
- E

V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

V. LOOSE TO MED. DENSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)
MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

BT

254 + 00.00

- A

LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)

V. LOOSE TO MED. DENSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)
MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

253 + 50.00

- A

LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
- D

V. LOOSE TO MED. DENSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

V. LOOSE TO MED. DENSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)
MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

253 + 00.00

-L-

6/23/16



PROJ. REFERENCE NO.	SHEET NO.
R-5021	162

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SOIL TEST RESULTS															
SAMPLE NUMBER	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-28	80 ft LT	255+50	0.0 - 1.5	A-2-4(0)	25	NP	52.0	30.7	13.8	3.5	99.8	80	18	29	11.2
S-51	80 ft LT	255+50	1.5 - 6.0	A-2-4(0)	21	NP	56.5	30.1	4.5	9.0	99.5	76	14	-	3.4

- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
(E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

S-28
S-51

BT

V. LOOSE TO MED. DENSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

255 + 50.00

- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
(E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

V. LOOSE TO MED. DENSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

255 + 00.00

- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
(E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

V. LOOSE TO MED. DENSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

254 + 50.00

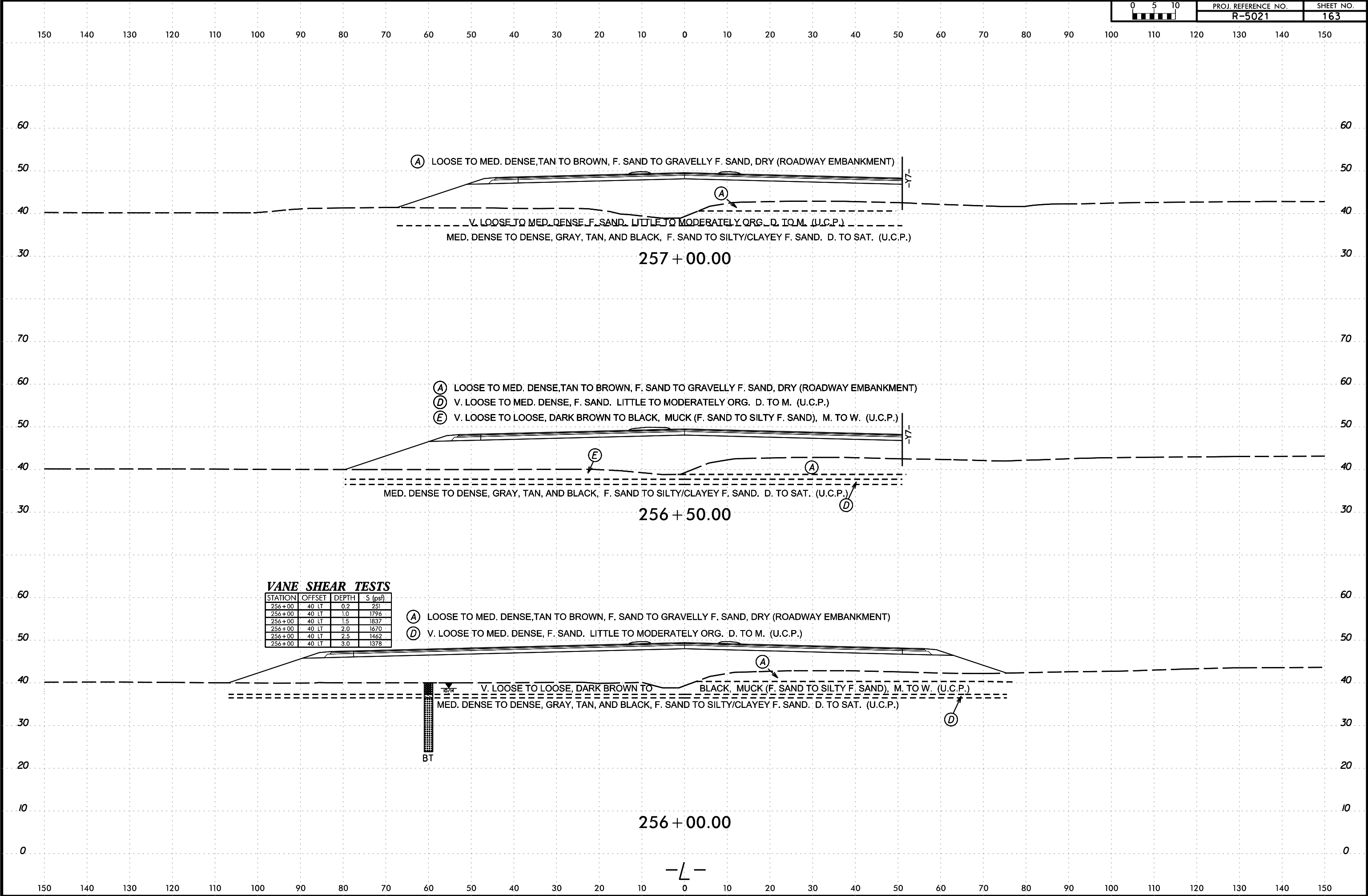
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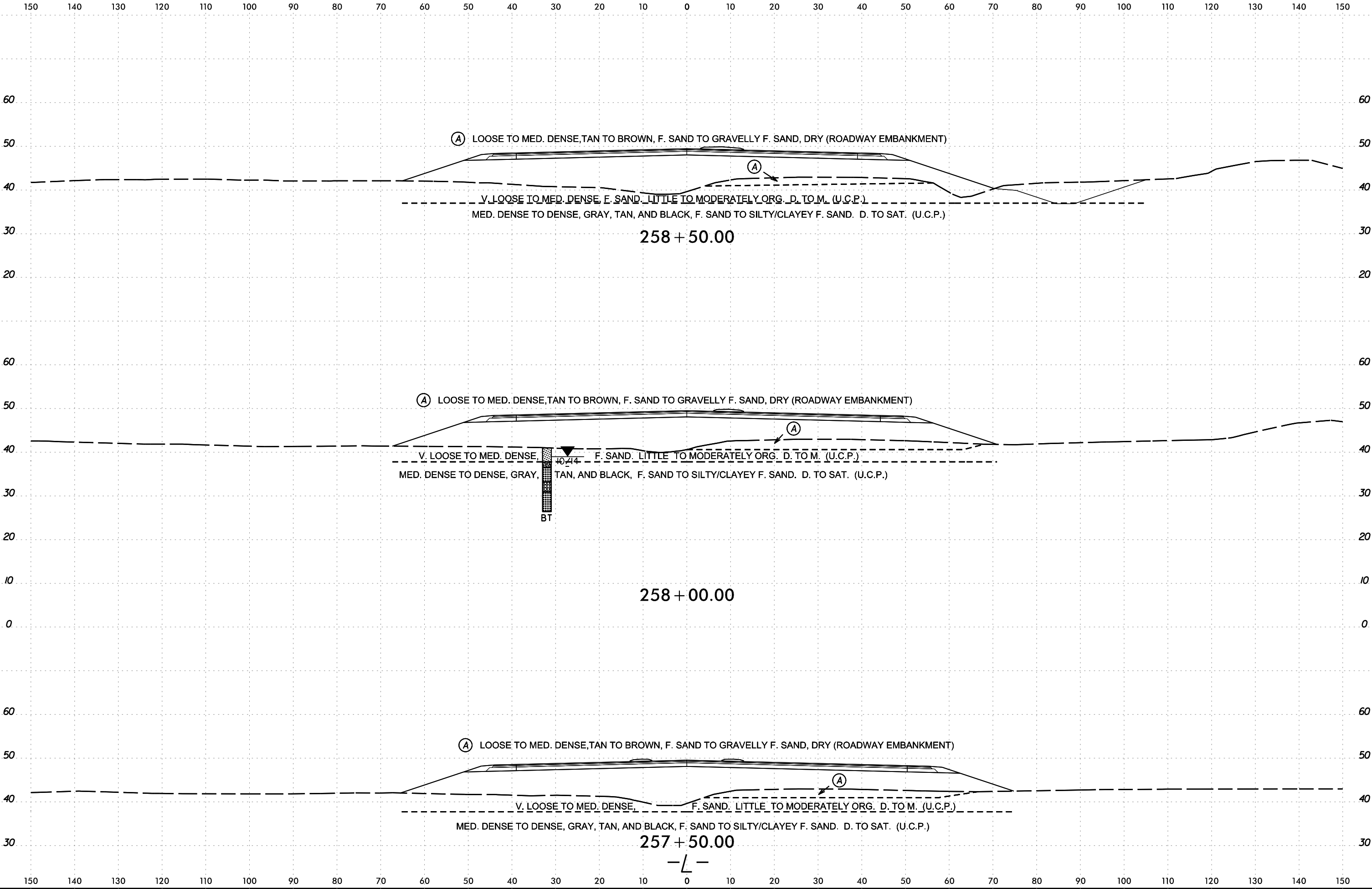
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1stone AT LSTONE-PC

6/23/16

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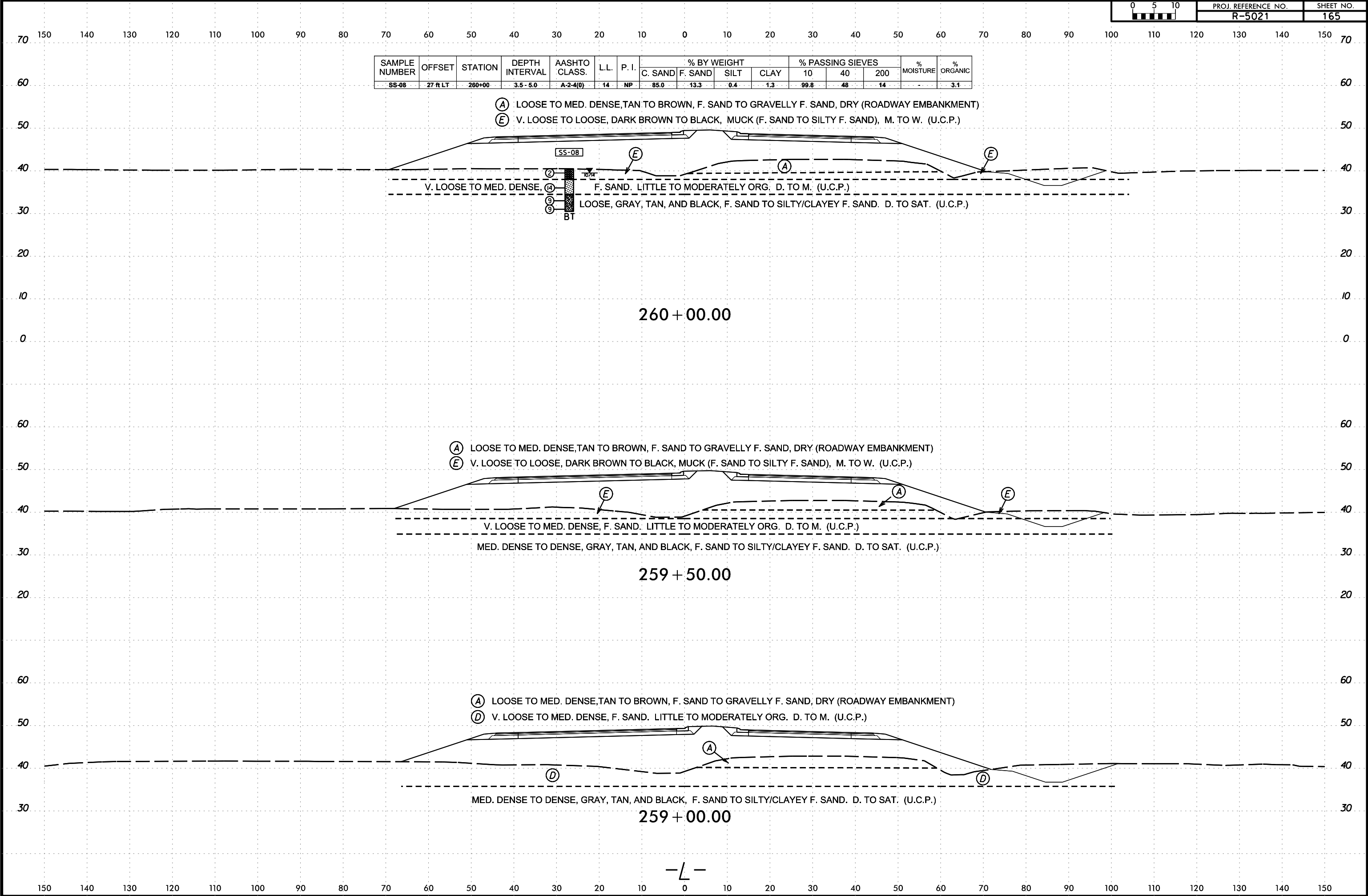


6/23/16



6/23/16

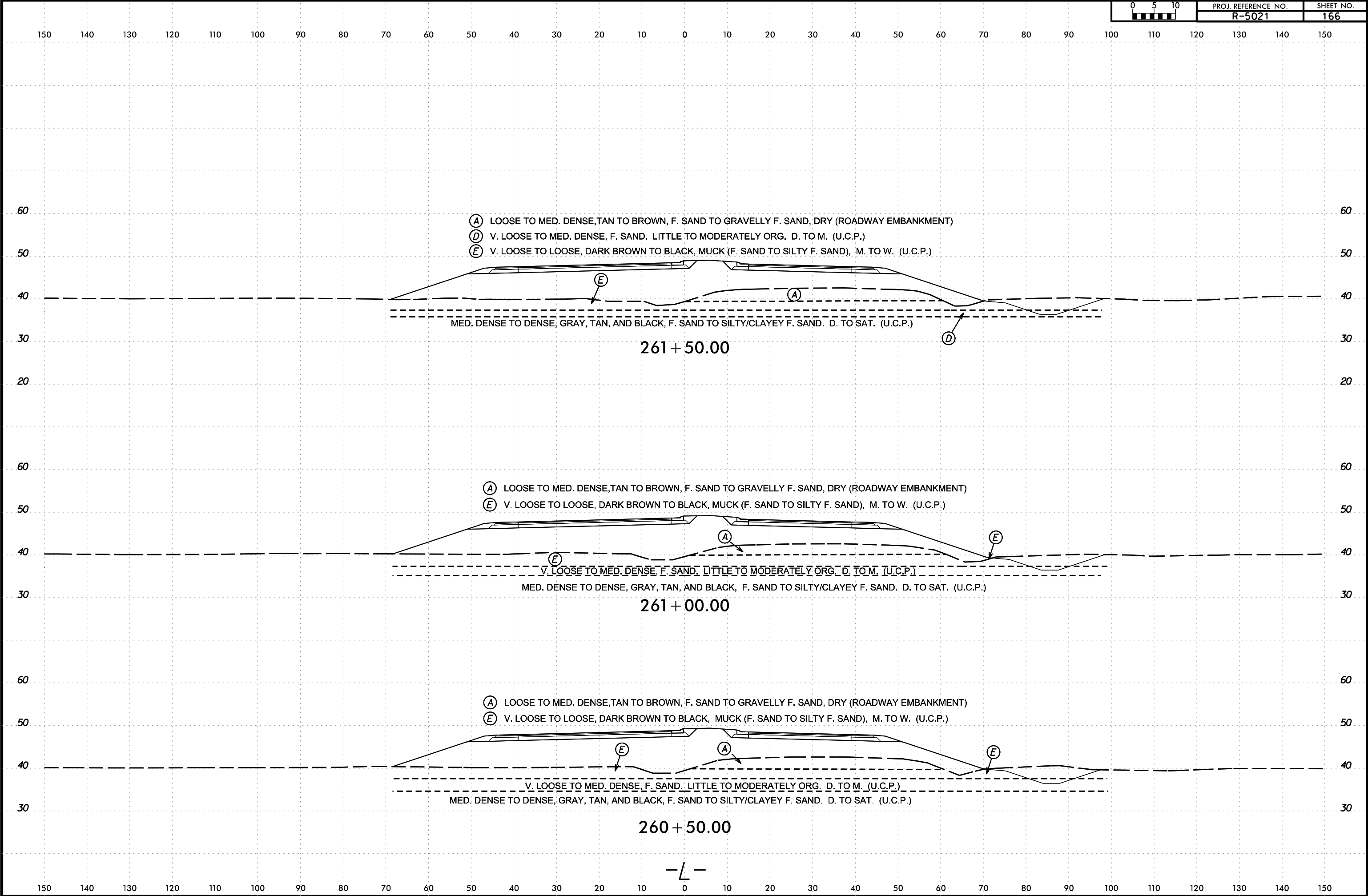
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6/23/16

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	R-5021	166

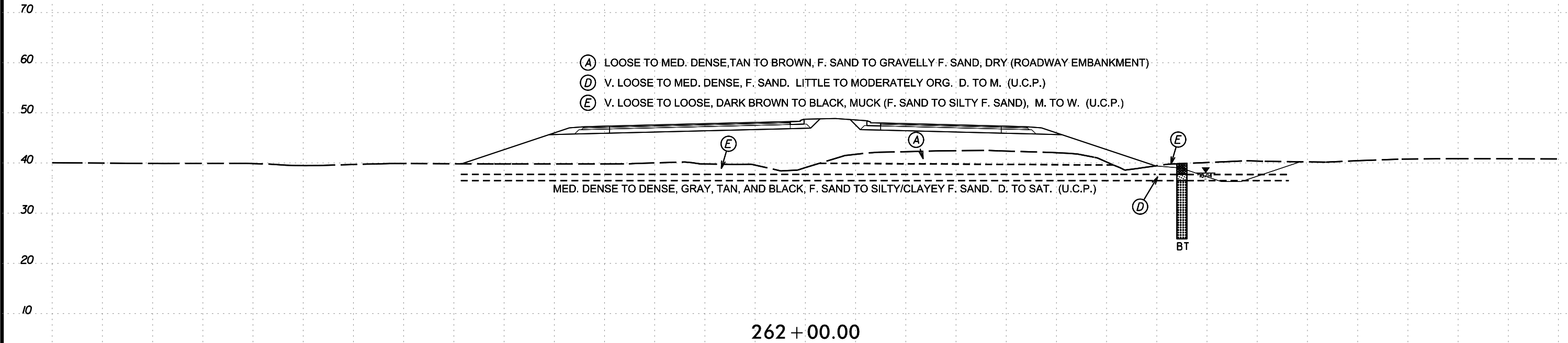
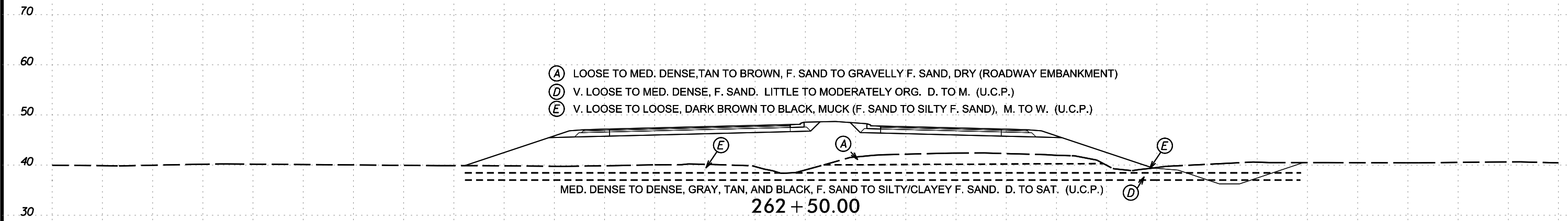
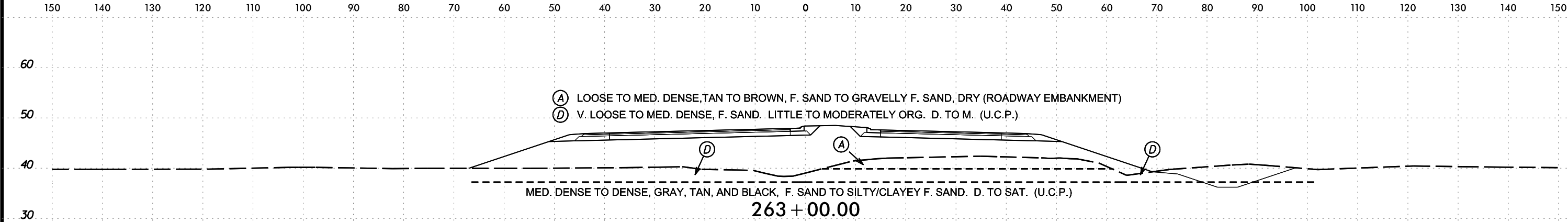


6/23/16



PROJ. REFERENCE NO.
R-5021

SHEET NO.
167



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LSTONE-PC

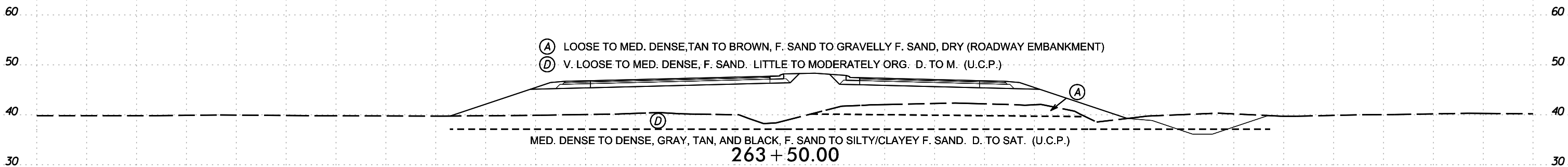
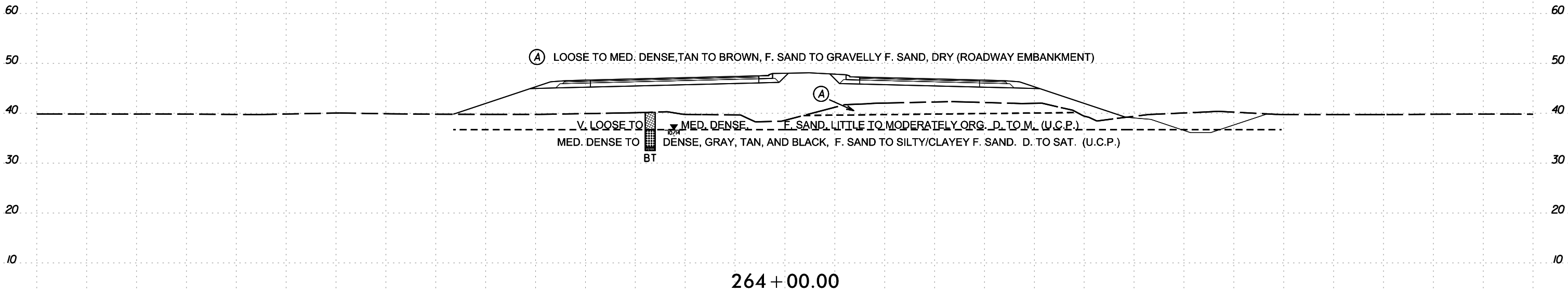
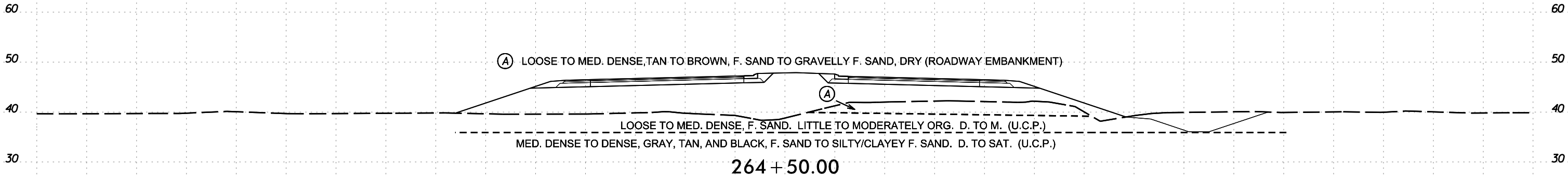
6/23/16



PROJ. REFERENCE NO.
R-5021

SHEET NO.
168

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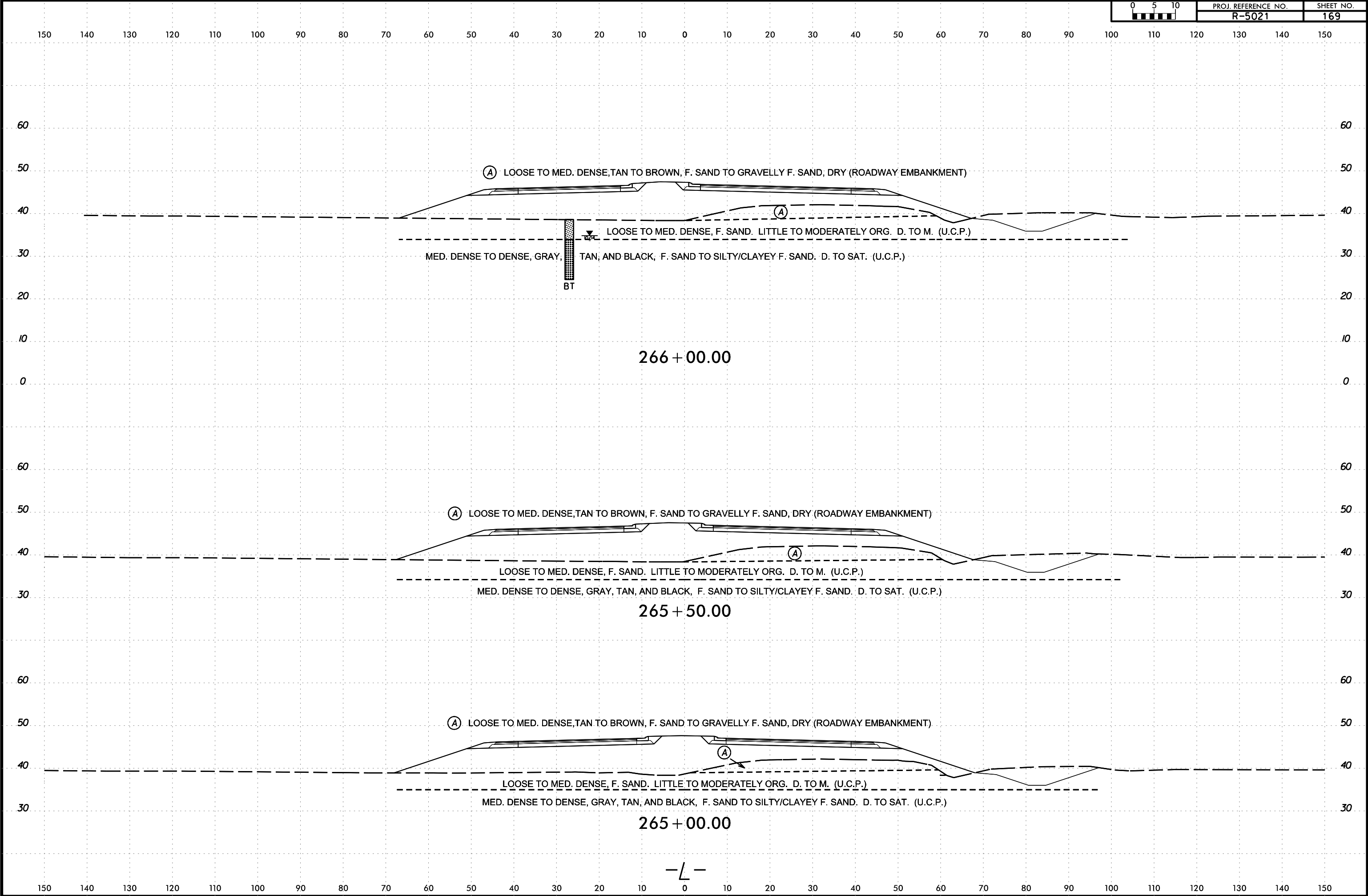


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1 stone AT LSTONE-PC

6/23/16

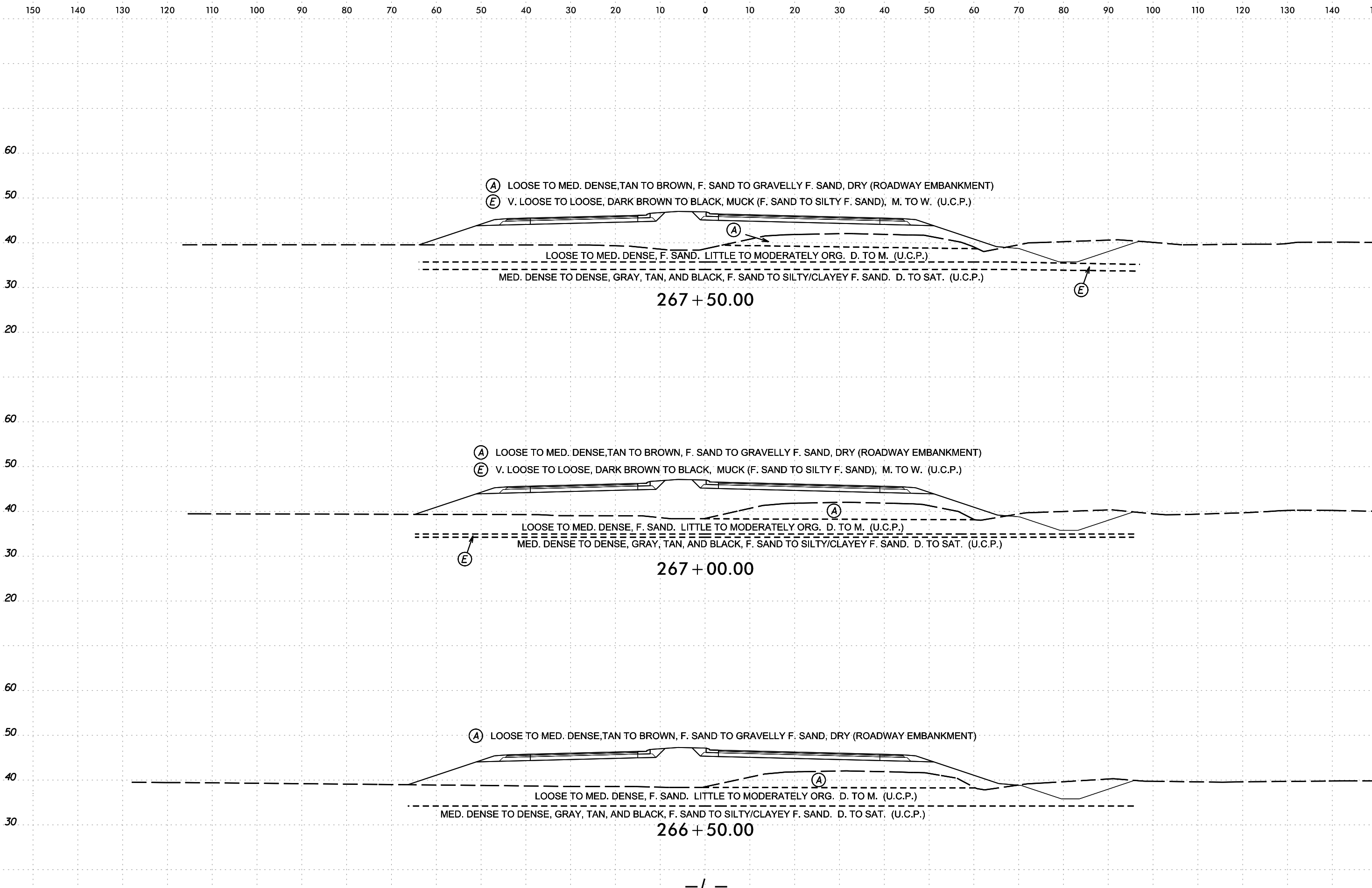
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LSTONE-PC



6/23/16

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LSTONE-PC

0510	PROJ. REFERENCE NO.	SHEET NO.
	R-5021	170



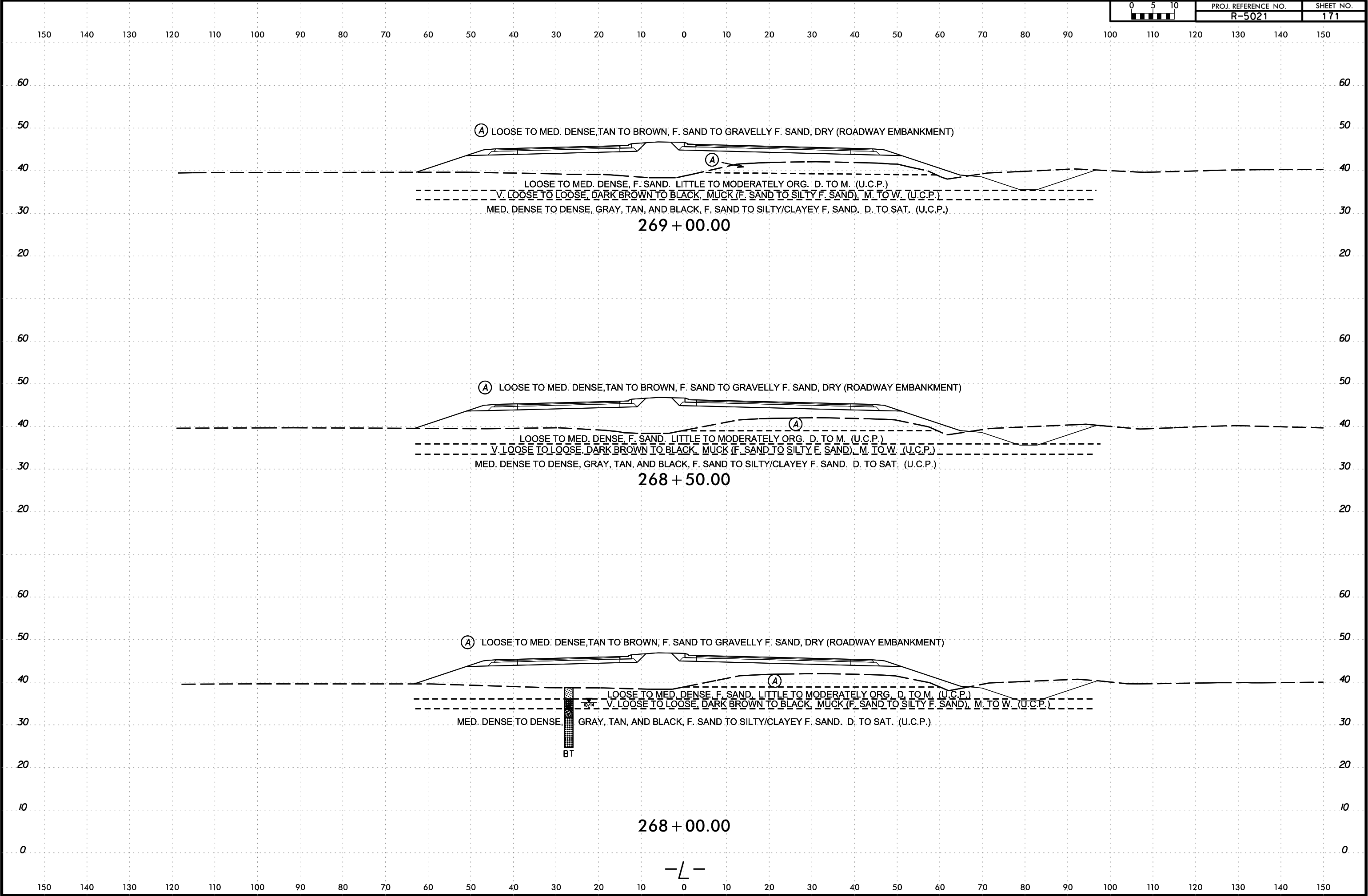
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6/23/16



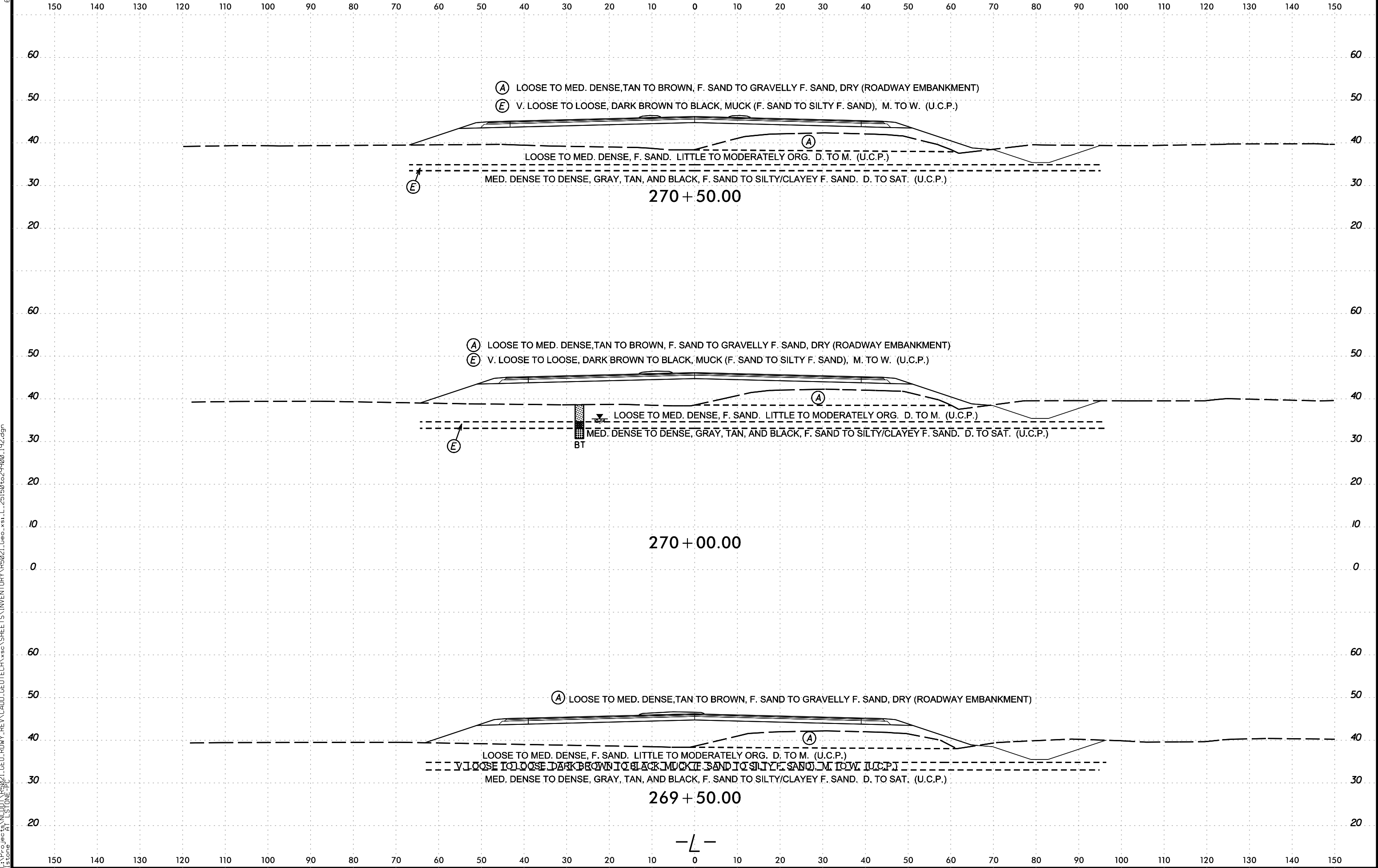
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R-5021

SHEET NO.
171



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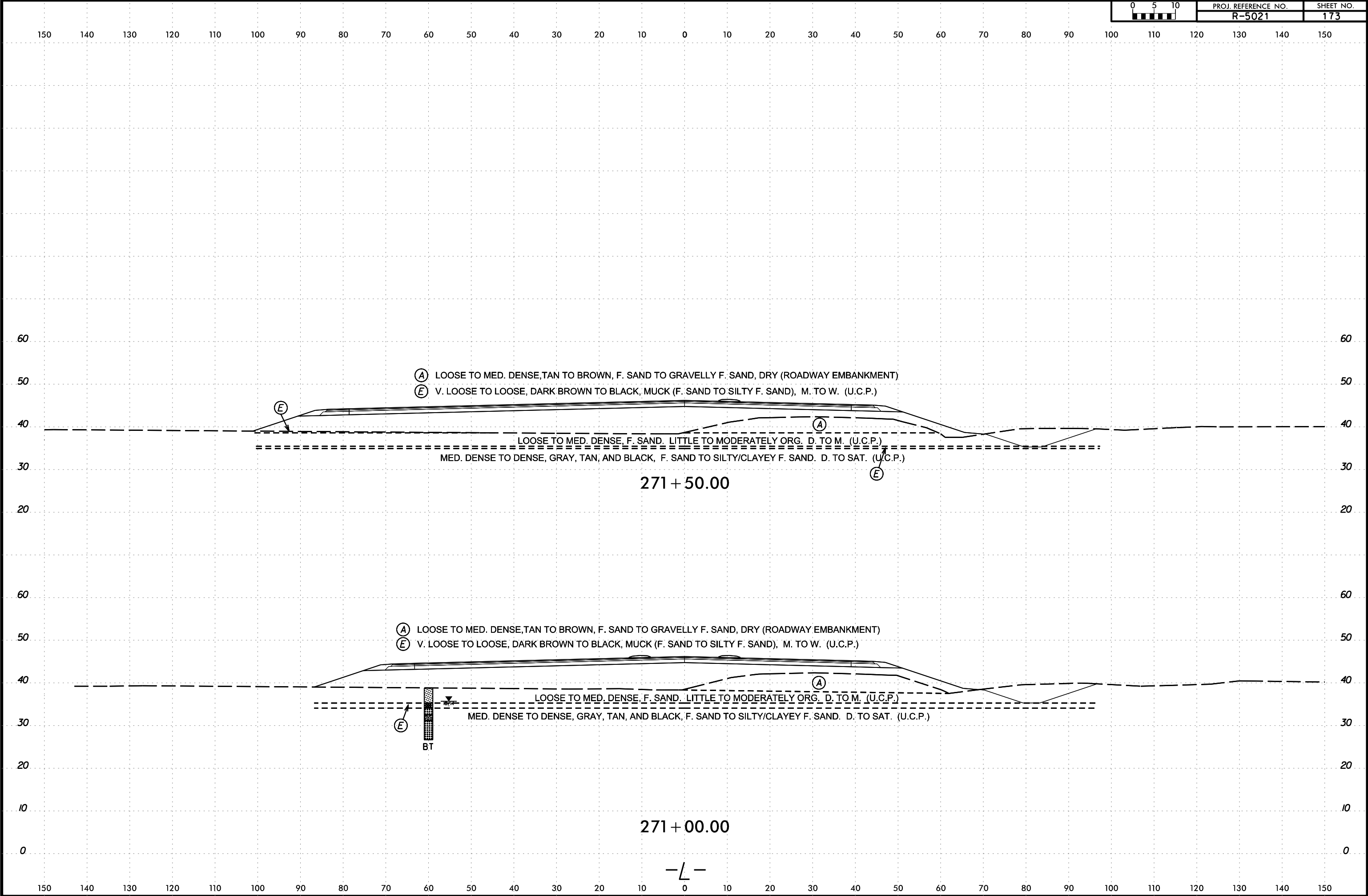
6/23/16



6/23/16

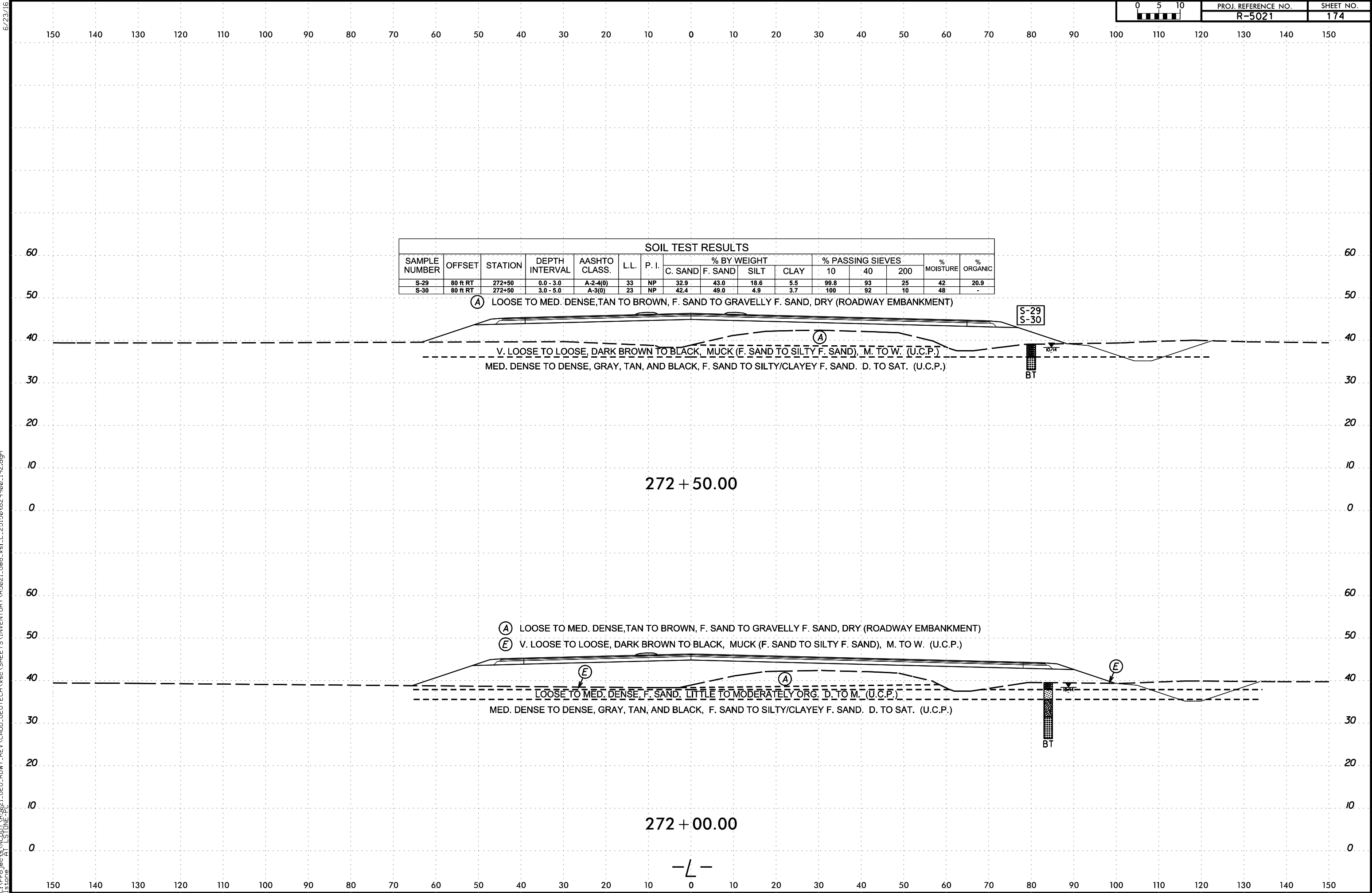
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LSTONE-PC

0	5	10	PROJ. REFERENCE NO.	SHEET NO.
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6/23/16

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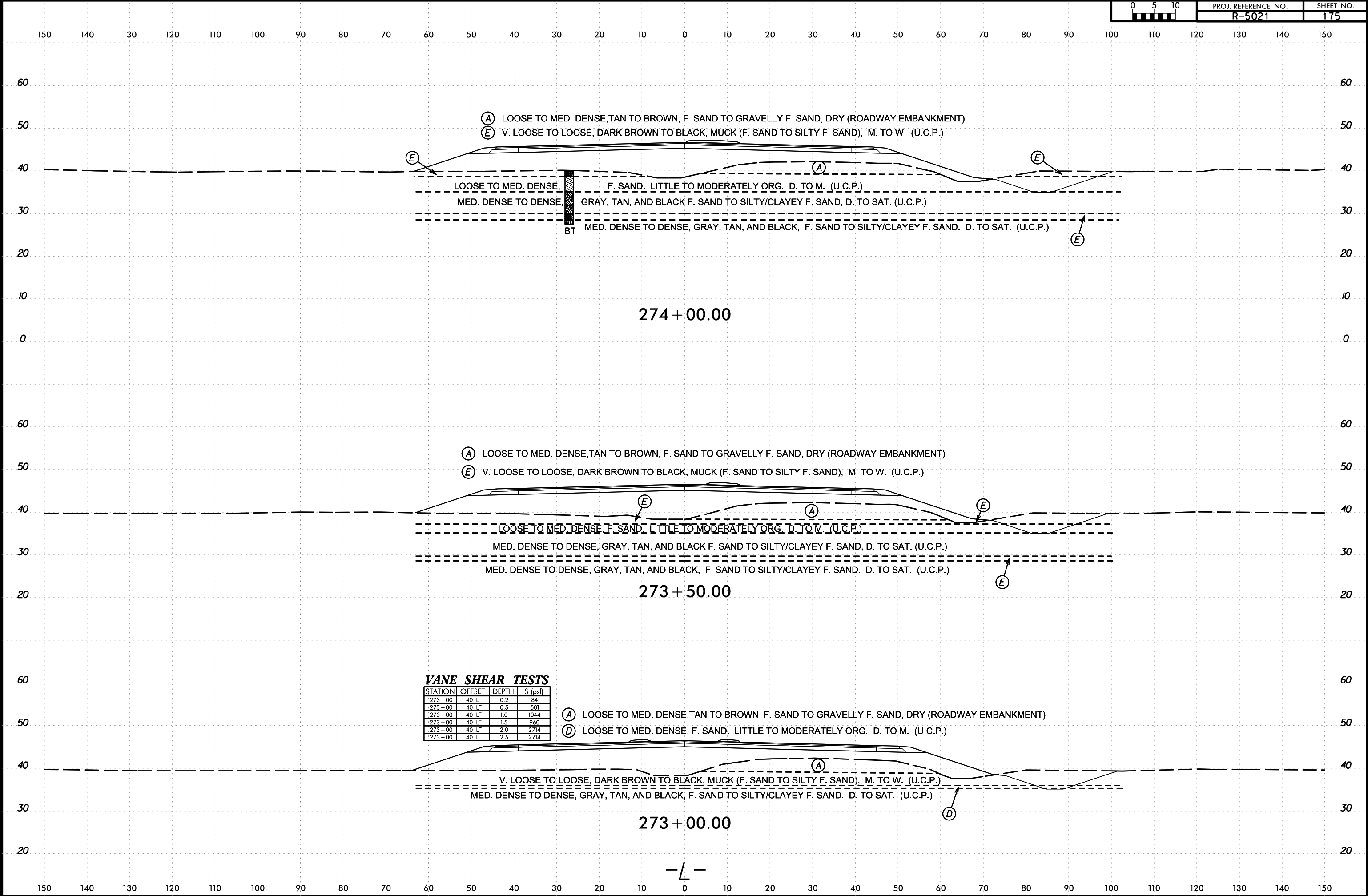


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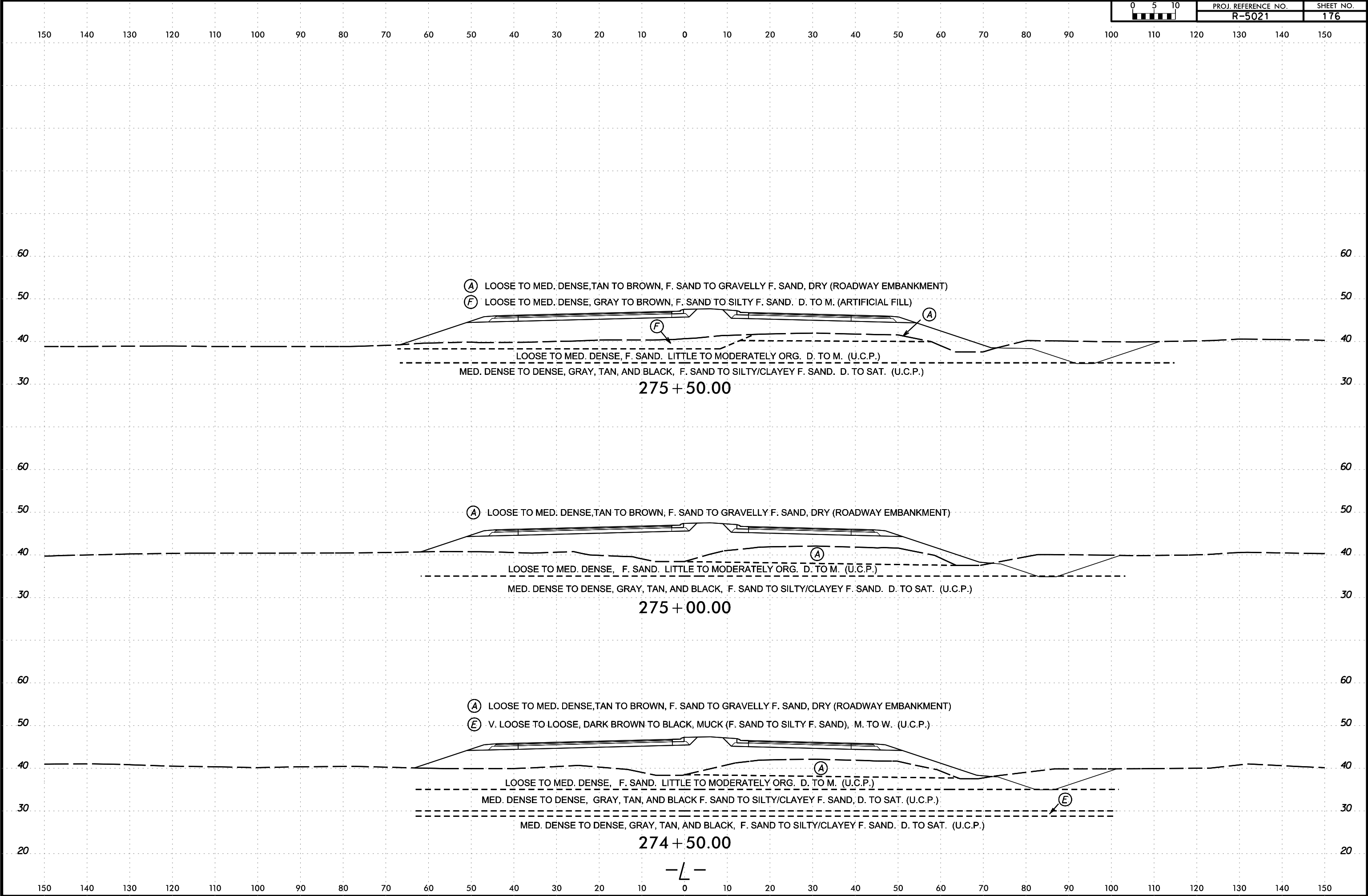
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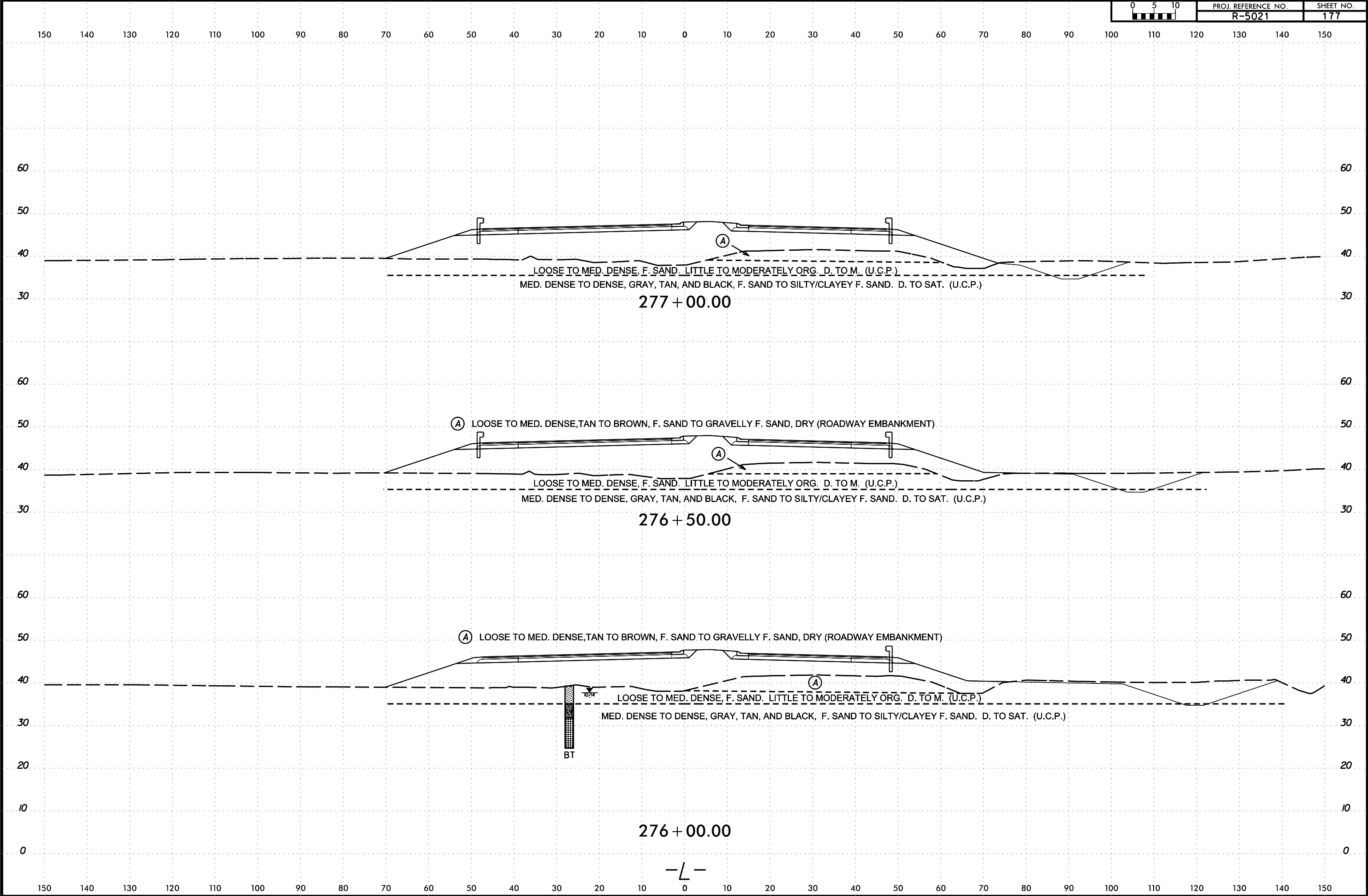
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LSTONE-PC



6/23/16

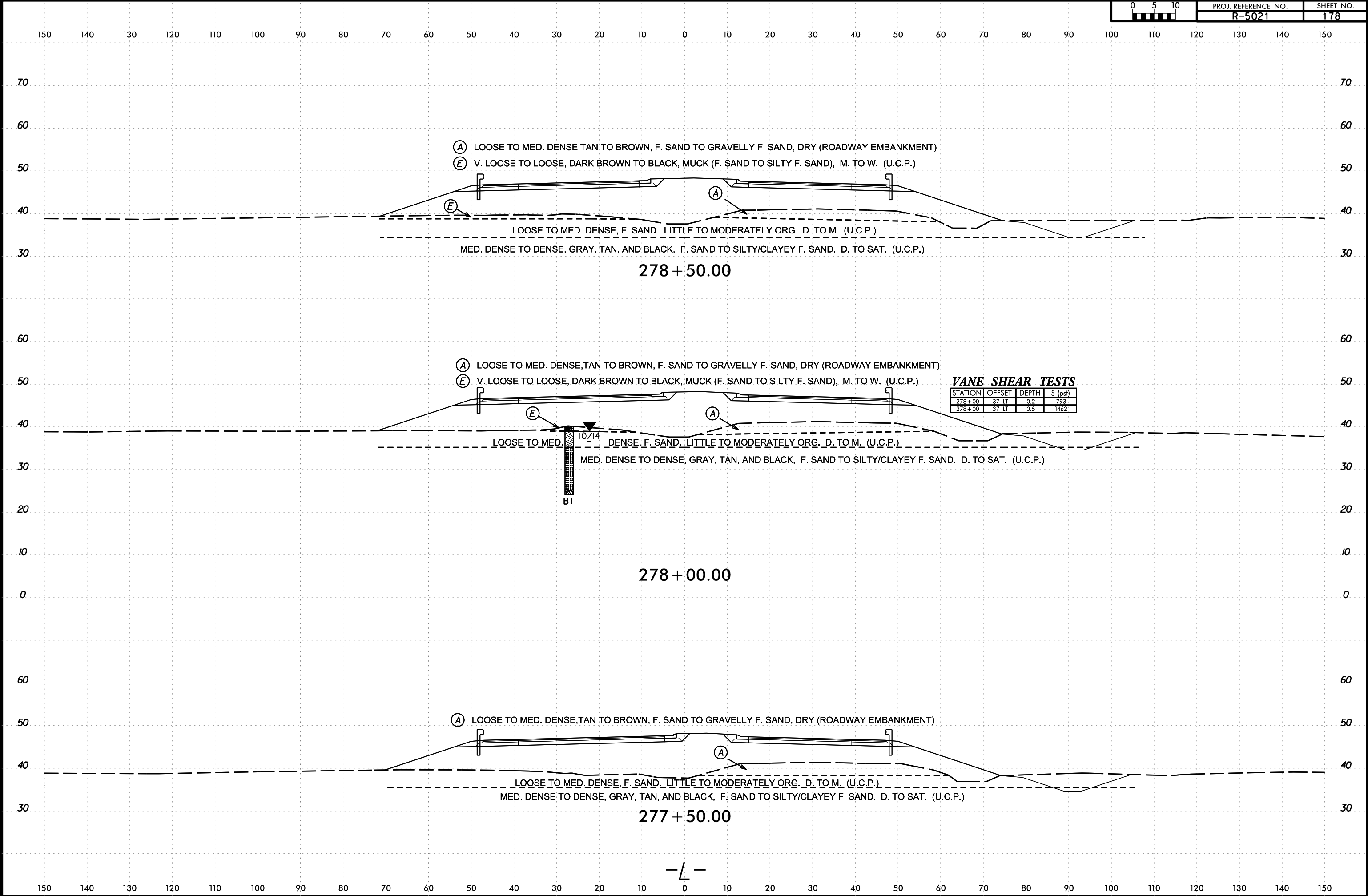
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LSTONE-PC



6/23/16



PROJ. REFERENCE NO.	SHEET NO.
R-5021	178



- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
- (E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

LOOSE TO MED. DENSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

278 + 50.00

- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
- (E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
278+00	37 LT	0.2	793
278+00	37 LT	0.5	1462

LOOSE TO MED. DENSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

10/14
BT

278 + 00.00

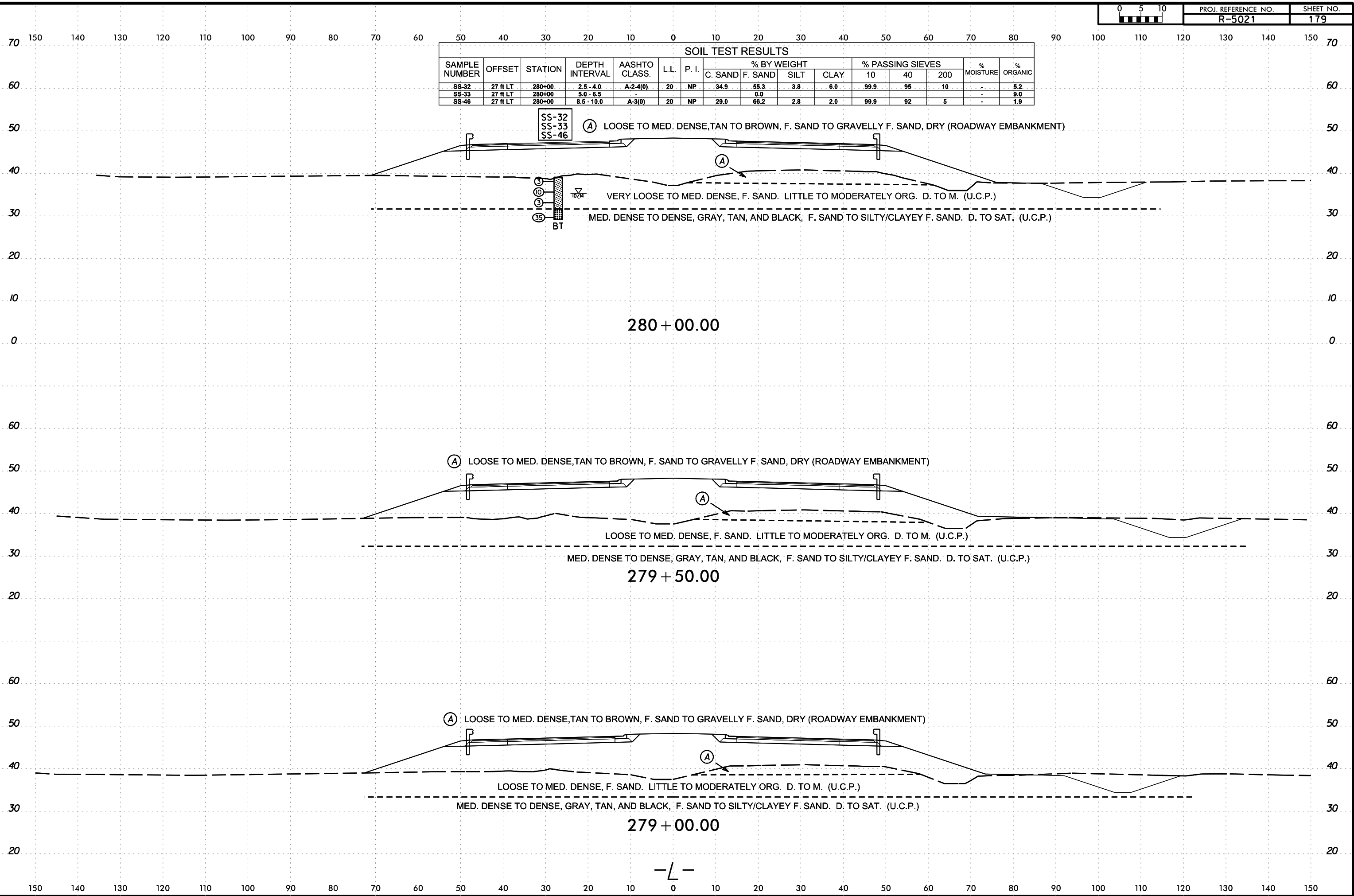
- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)

LOOSE TO MED. DENSE, F. SAND. LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

277 + 50.00

-L-



6/23/16



PROJ. REFERENCE NO.	SHEET NO.
R-5021	180

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60 60

50 50

40 40

30 30

20 20

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)



(A)

V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)

LOOSE TO MED. DENSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

281 + 50.00

60 60

50 50

40 40

30 30

20 20

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)

(E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)



(E)

(A)

LOOSE TO MED. DENSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

281 + 00.00

60 60

50 50

40 40

30 30

20 20

(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)



(A)

LOOSE TO MED. DENSE, F. SAND, LITTLE TO MODERATELY ORG. D. TO M. (U.C.P.)

MED. DENSE TO DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

280 + 50.00

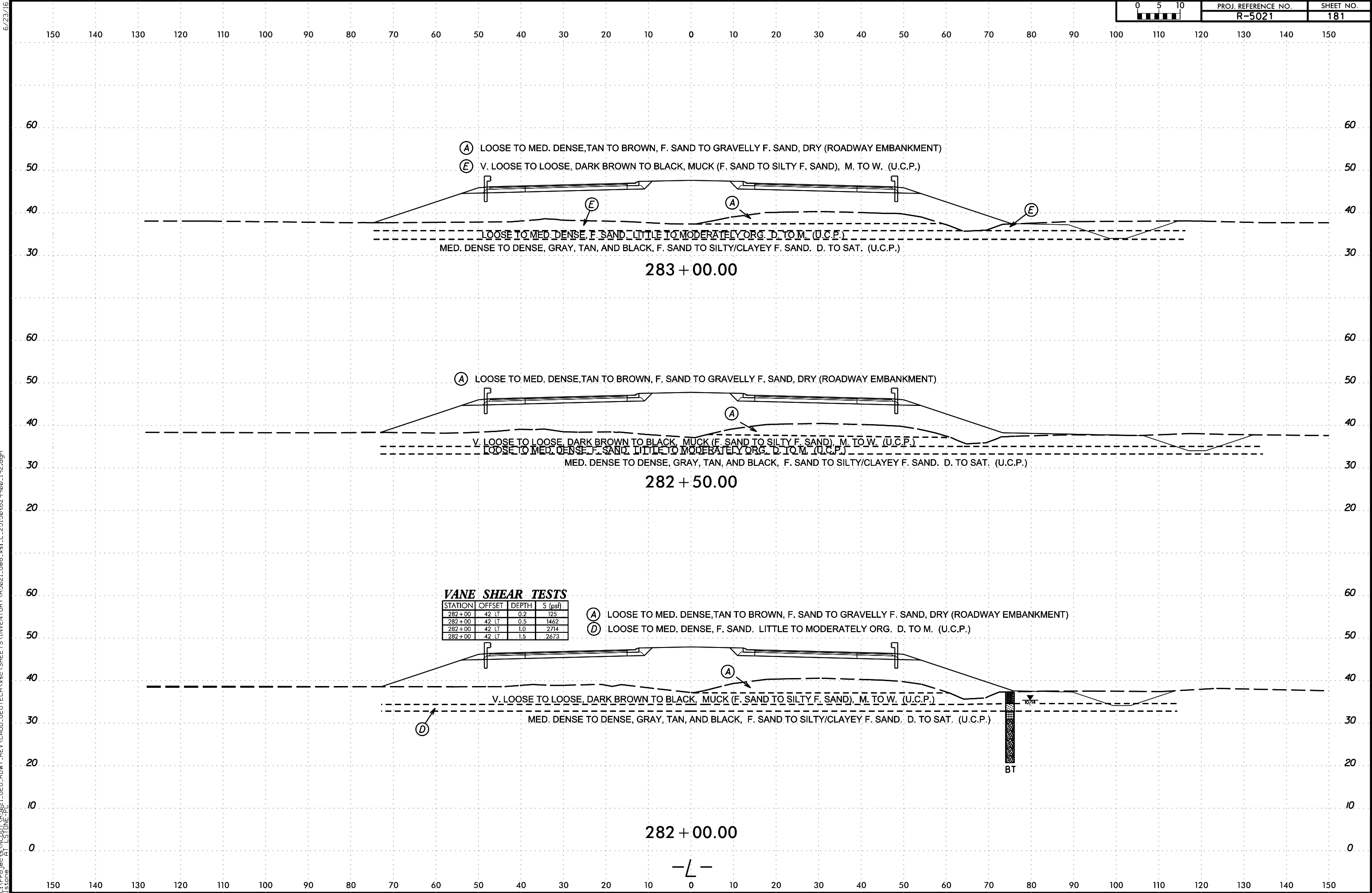
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1stone AT LSTONE-PC

6/23/16

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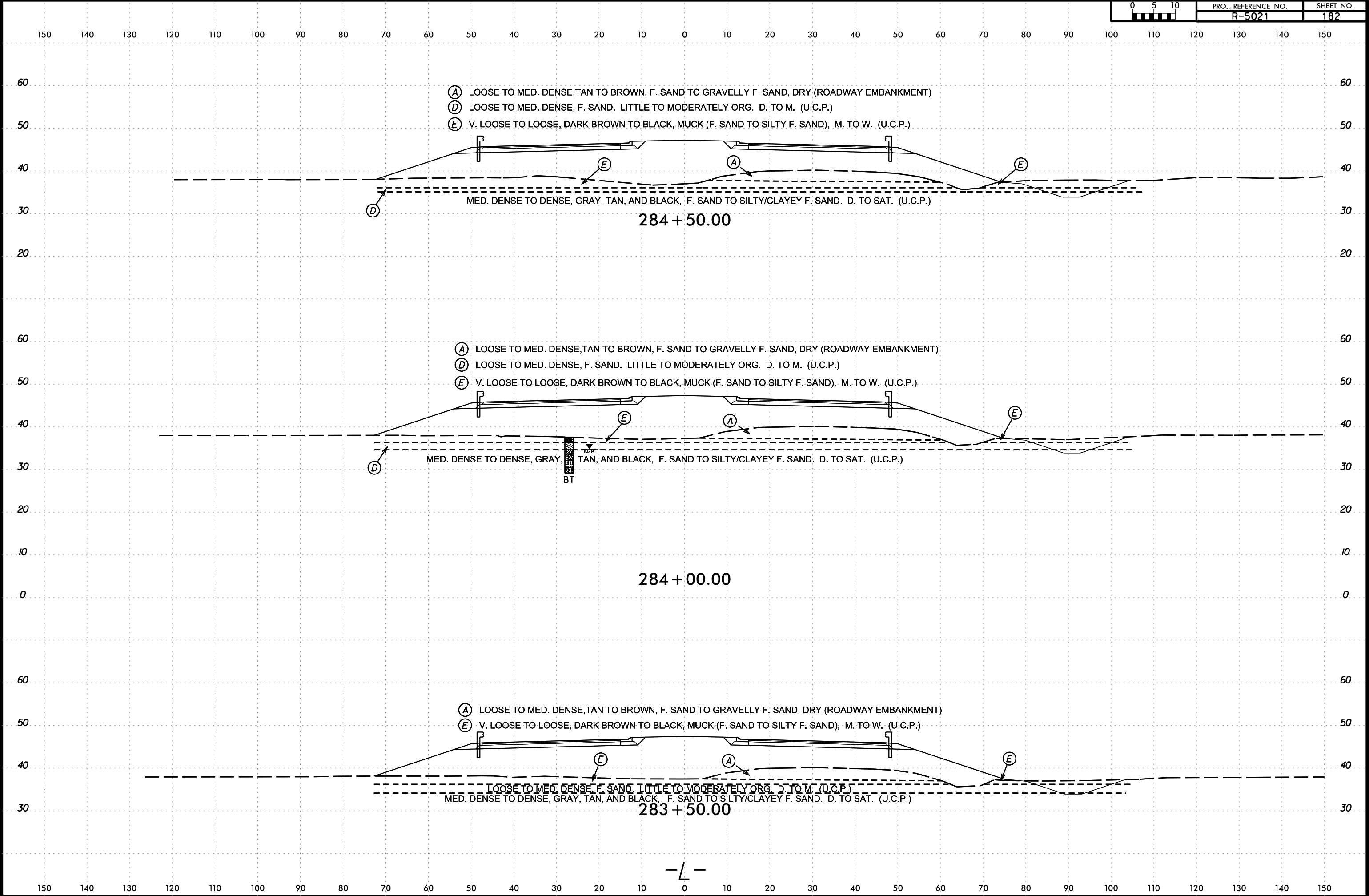


6/23/16



PROJ. REFERENCE NO.
R-5021

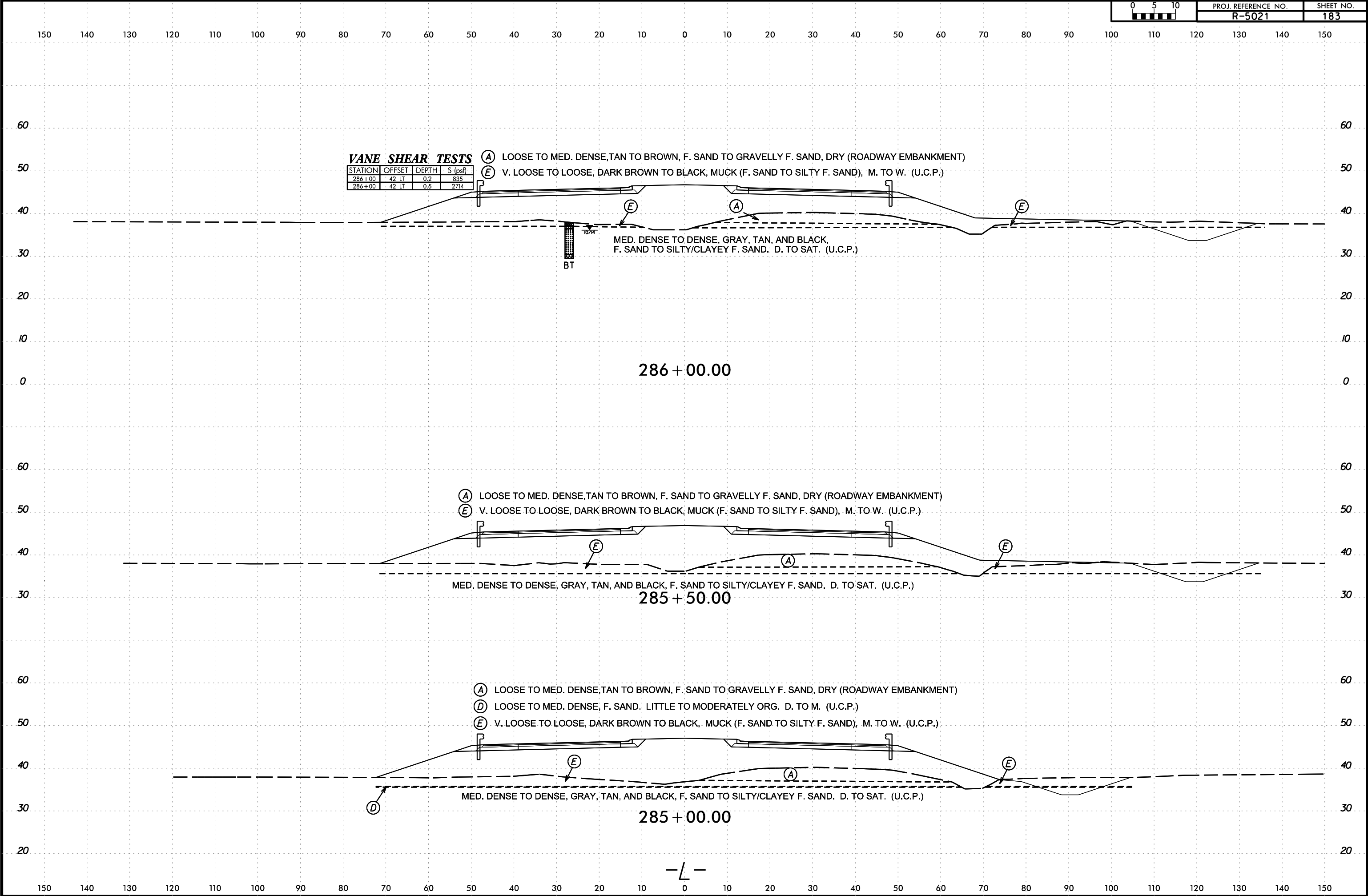
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LSTONE-PC

6/23/16

21-DEC-2017 13:18
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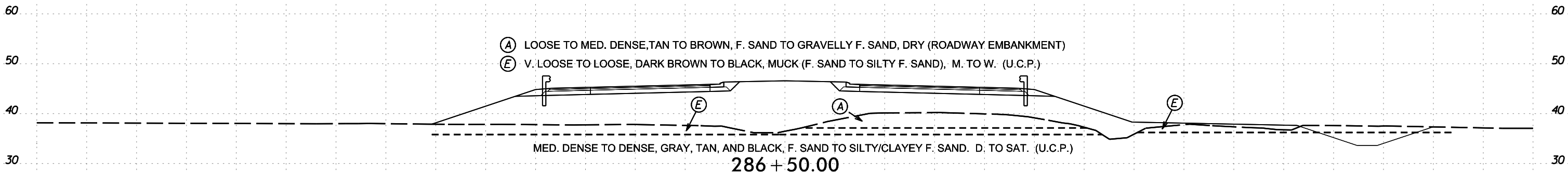
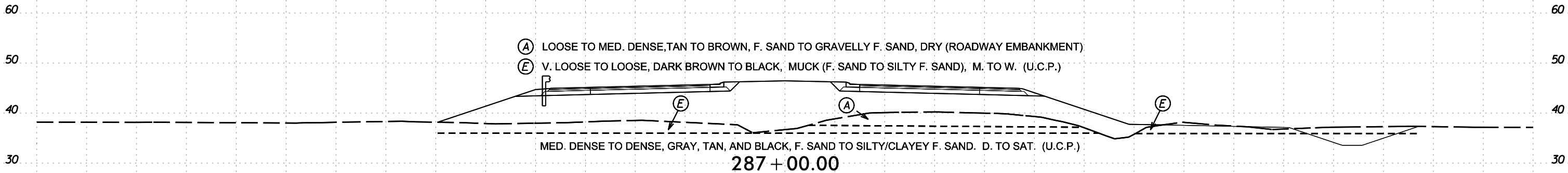
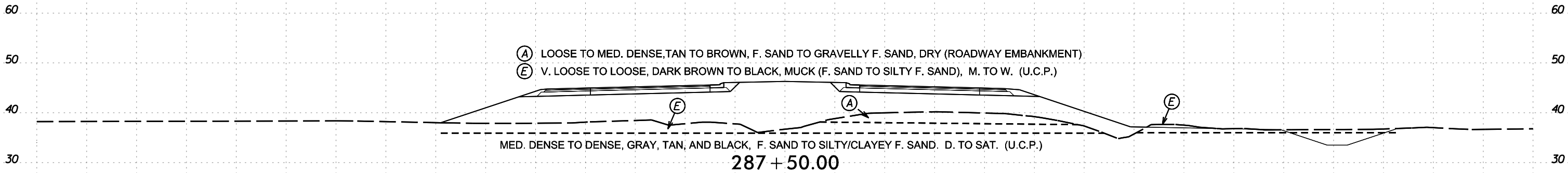
6/23/16



PROJ. REFERENCE NO.
R-5021

SHEET NO.
184

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

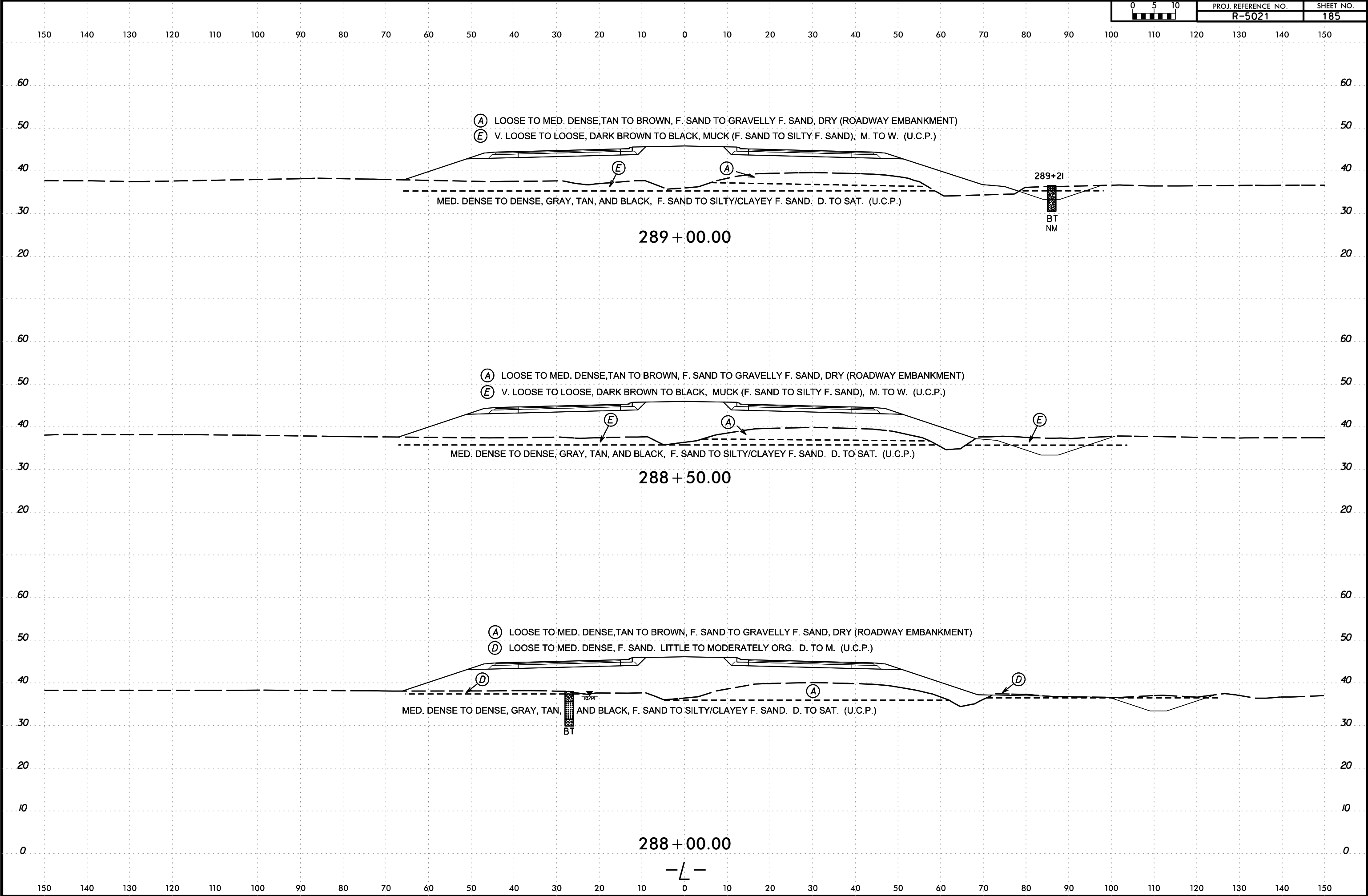


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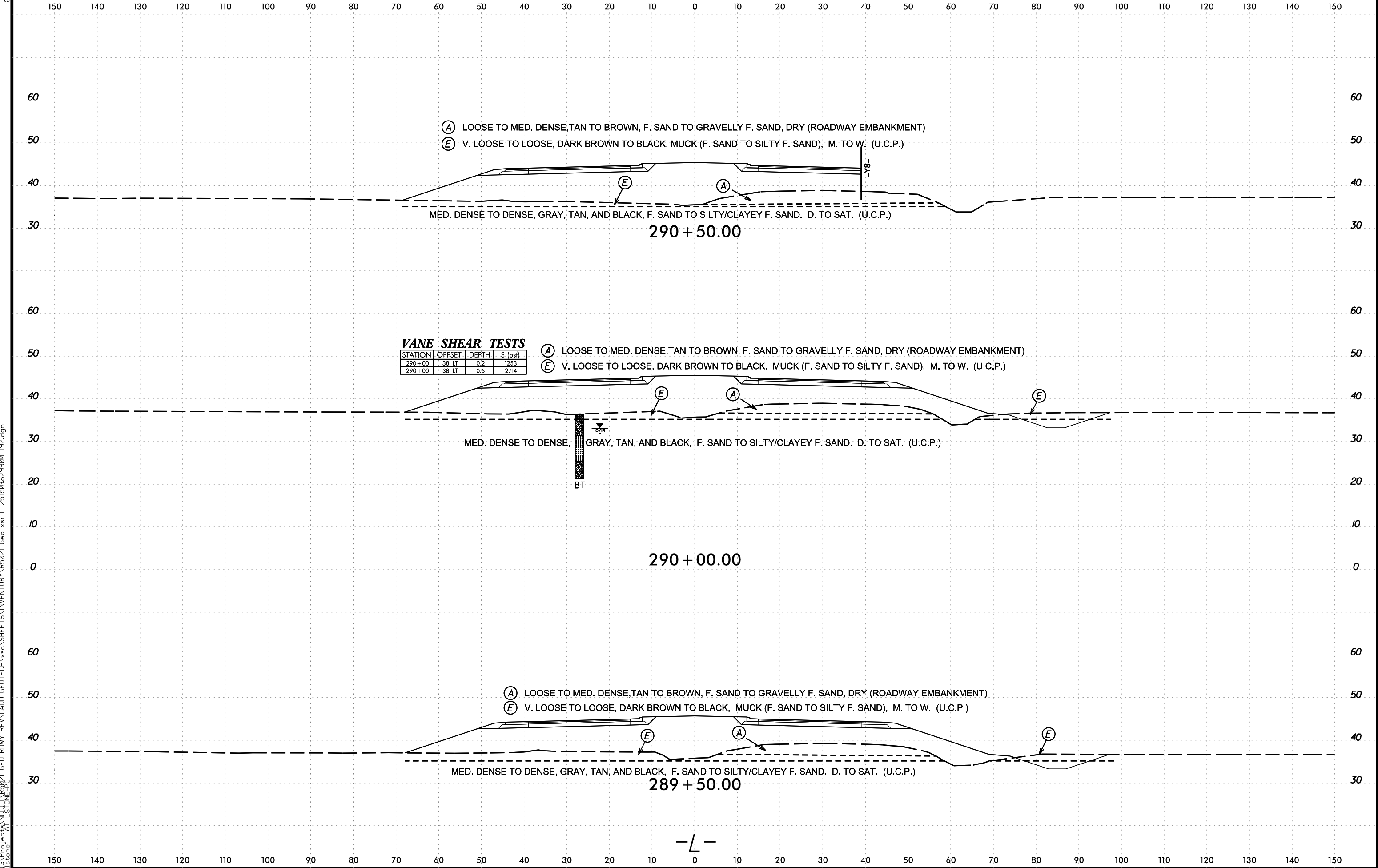
6/23/16



PROJ. REFERENCE NO.	SHEET NO.
R-5021	185



6/23/16

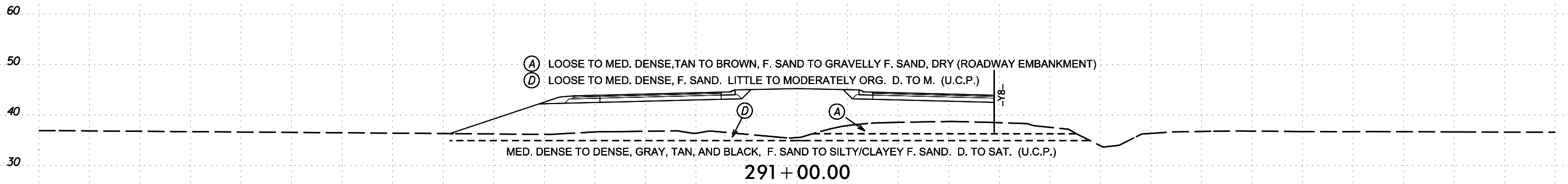
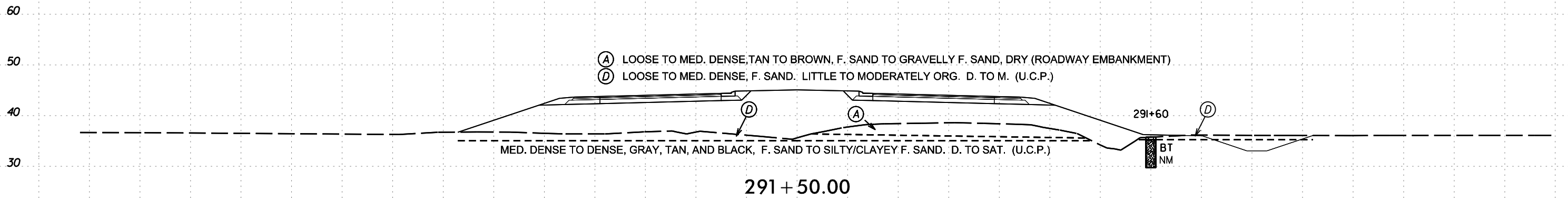
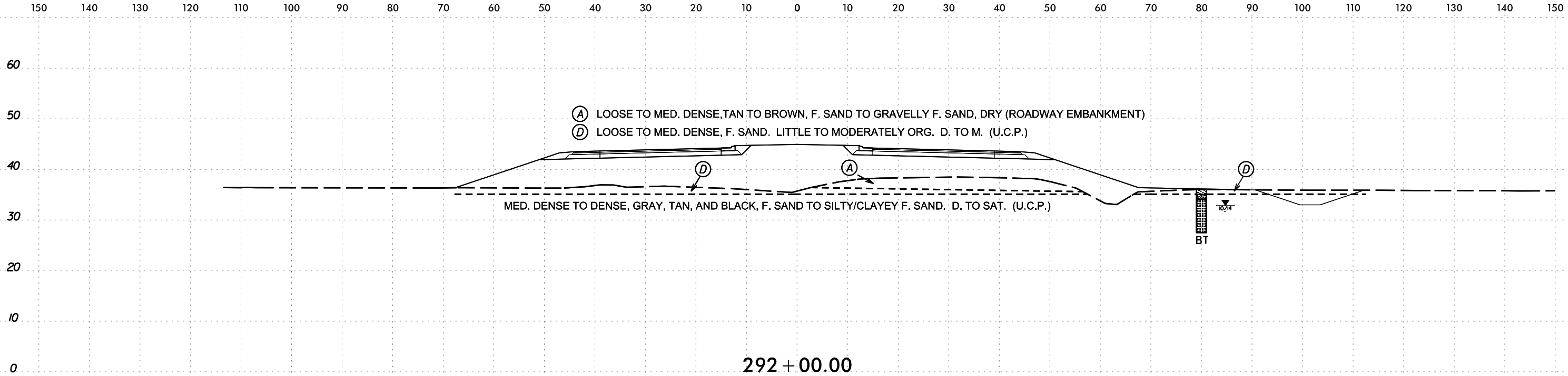


6/23/16



PROJ. REFERENCE NO.
R-5021

SHEET NO.
187

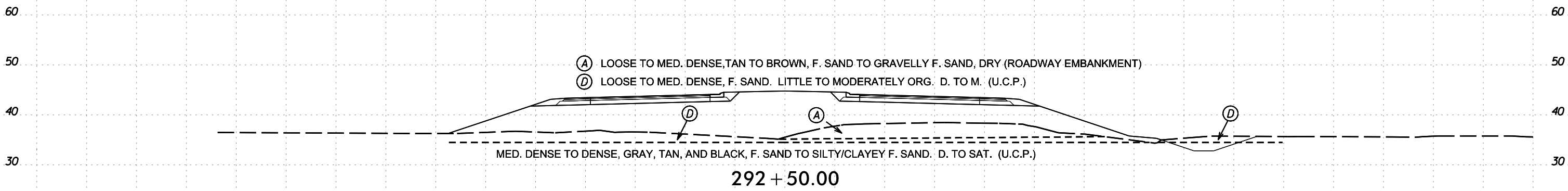
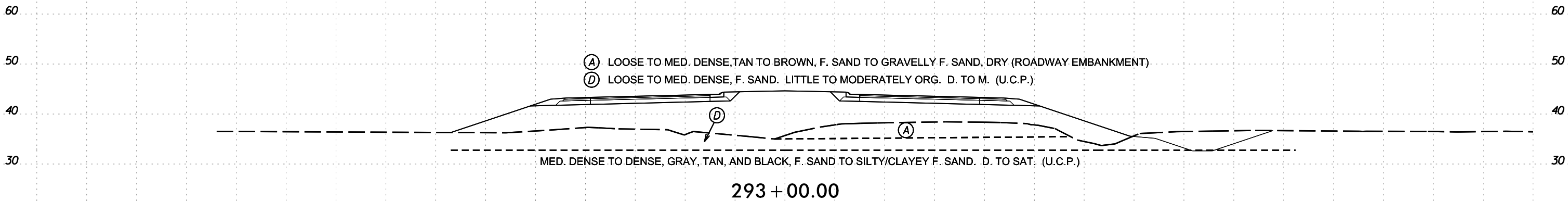
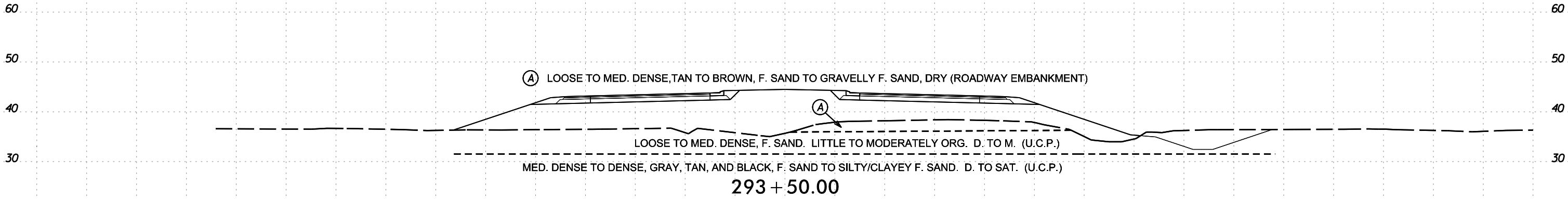


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1stone AT LSTONE-PC

6/23/16

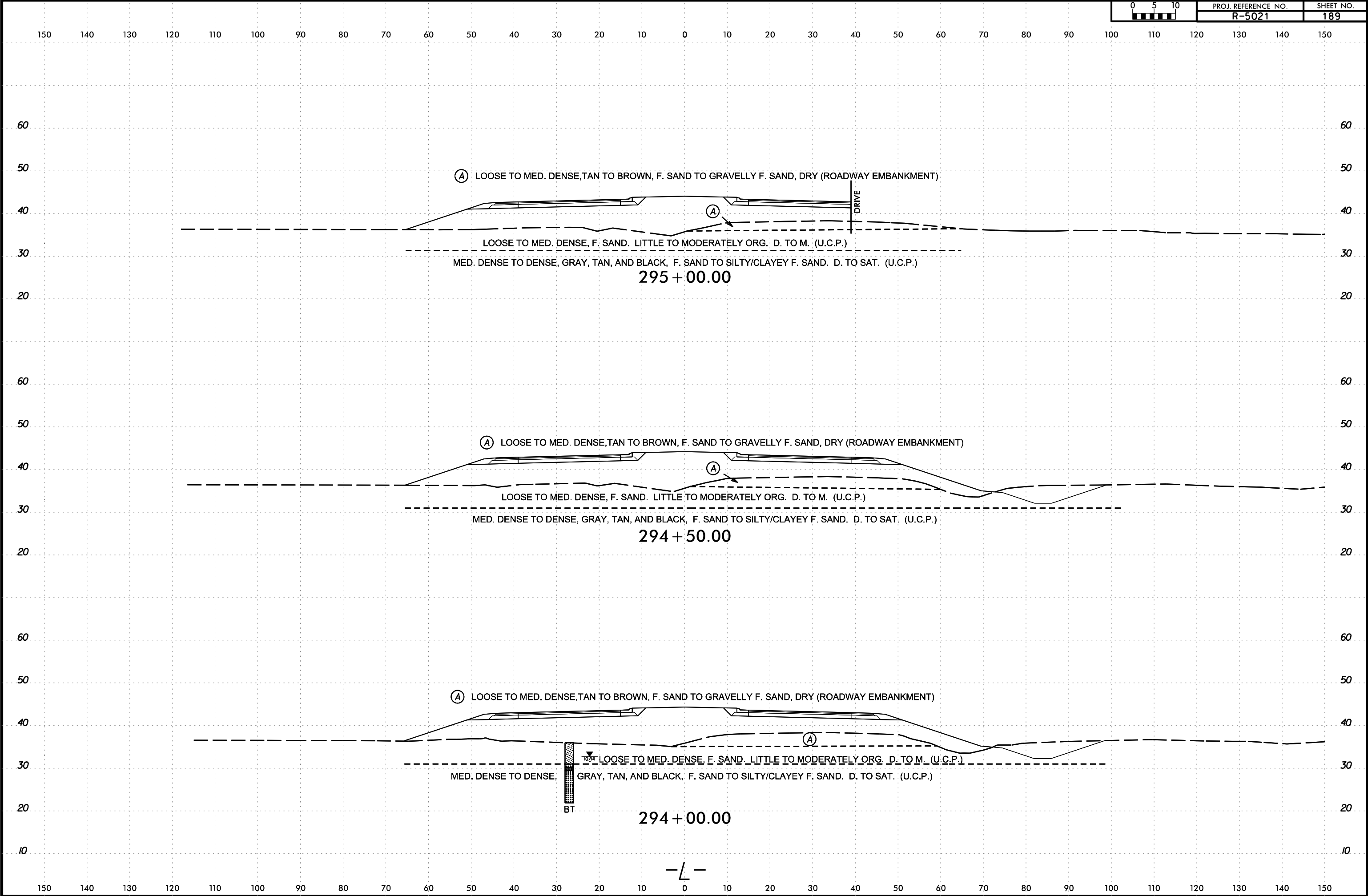
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6/23/16

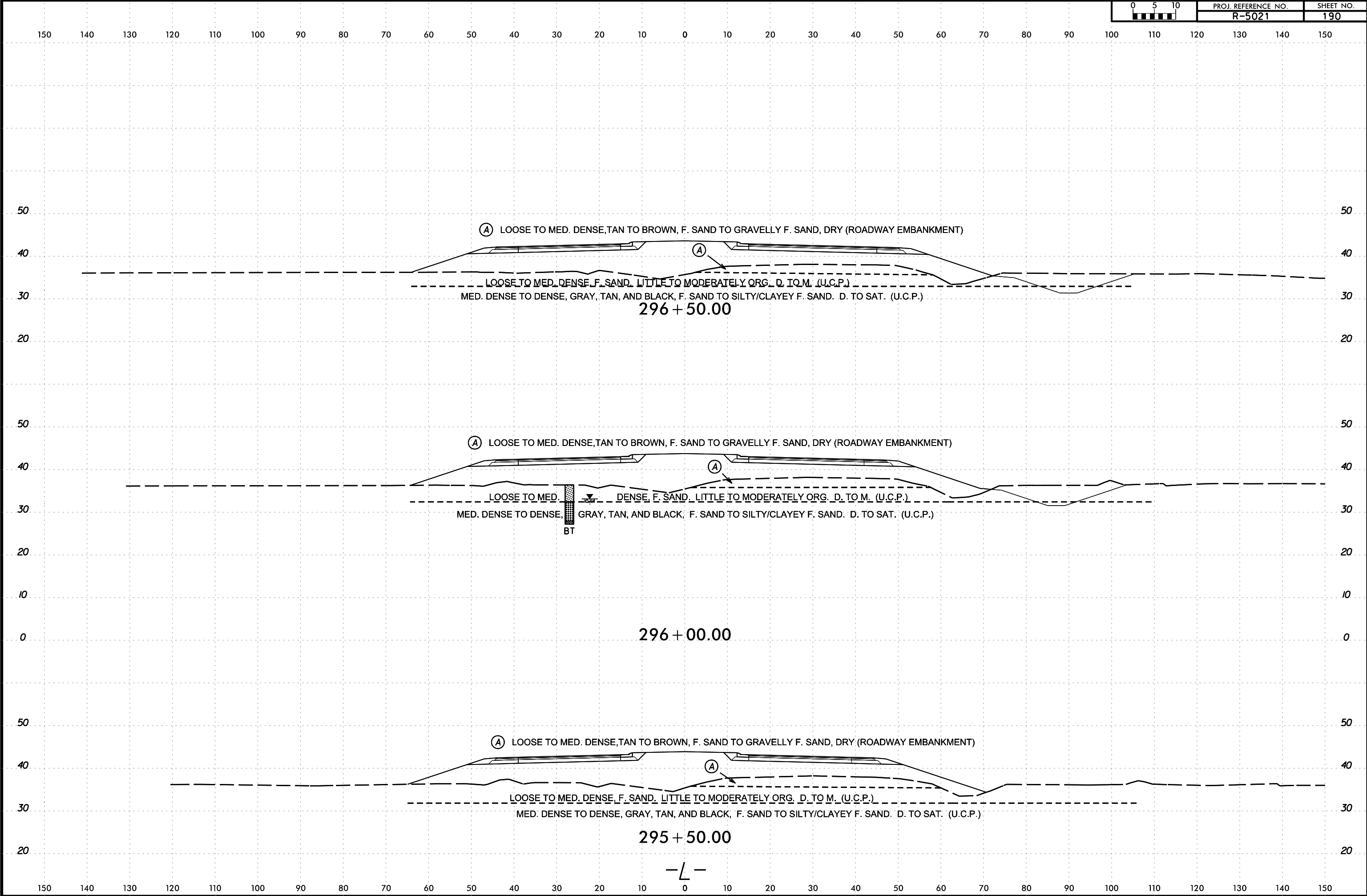
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LSTONE-PC



6/23/16



PROJ. REFERENCE NO.	SHEET NO.
R-5021	190

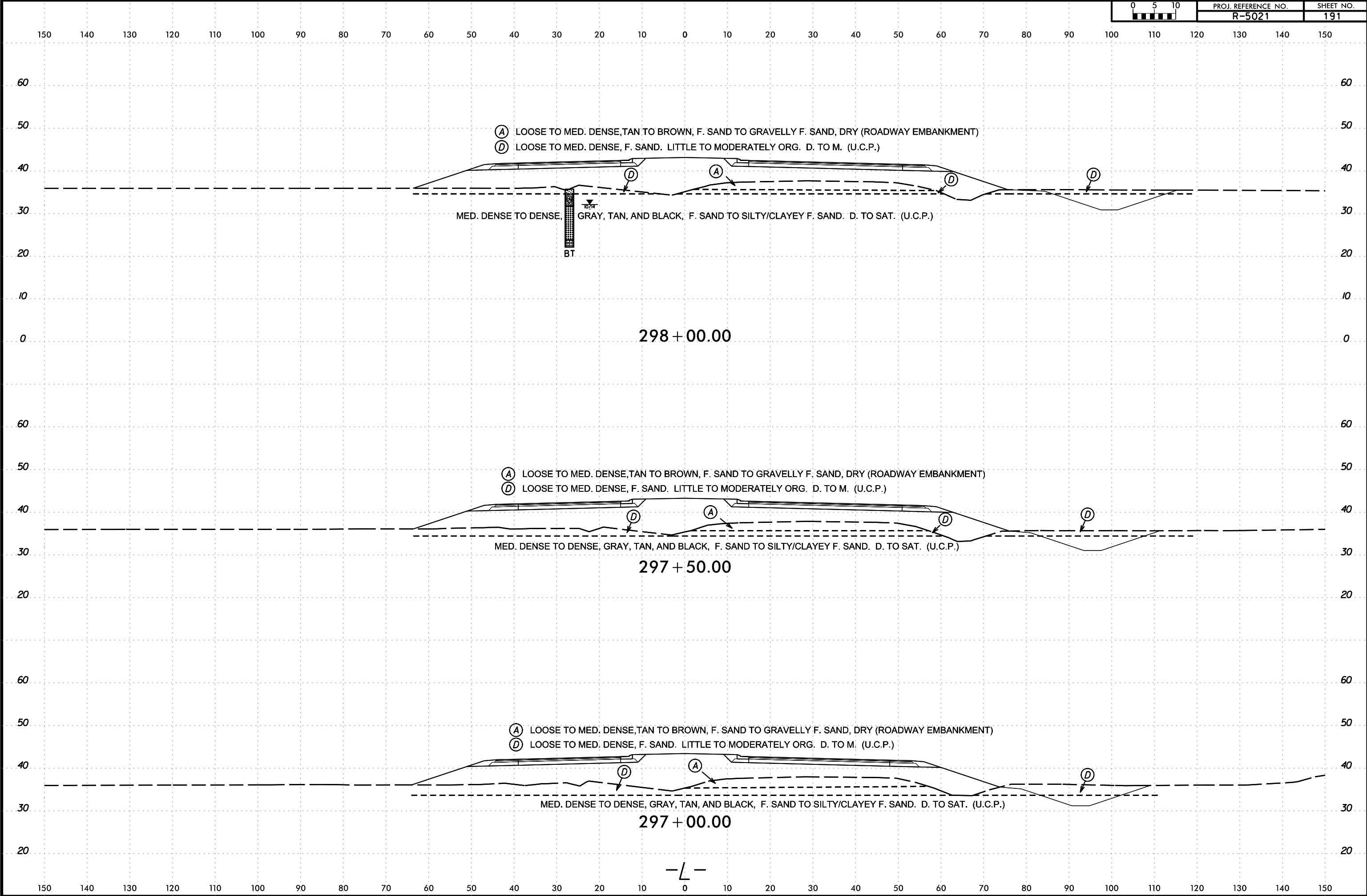


6/23/16

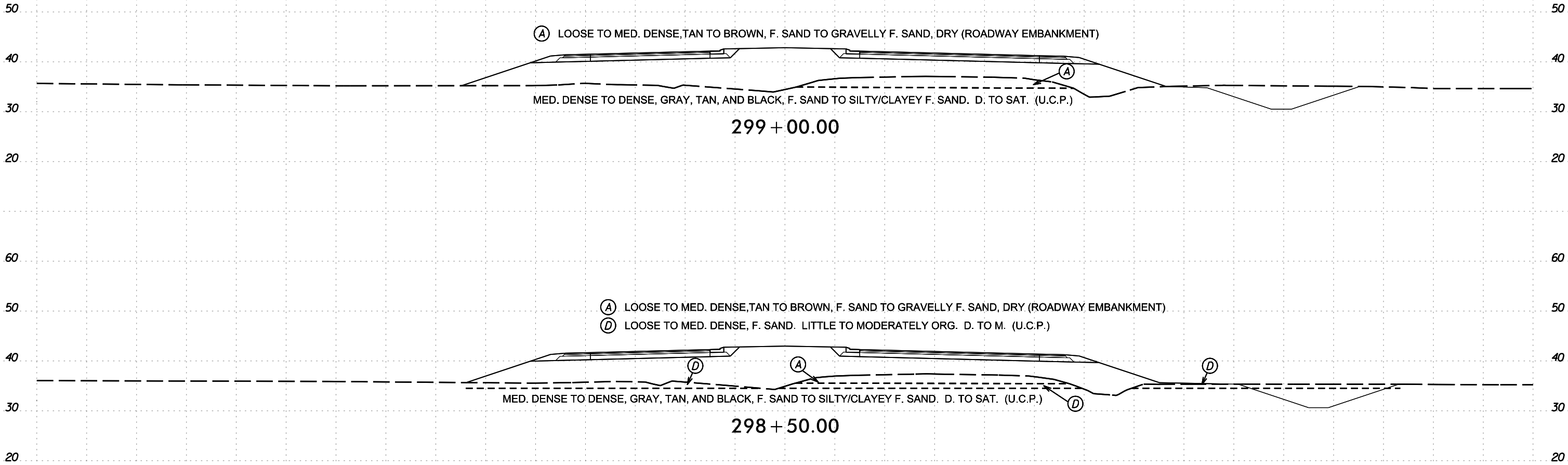


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R-5021	191

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LSTONE-PC



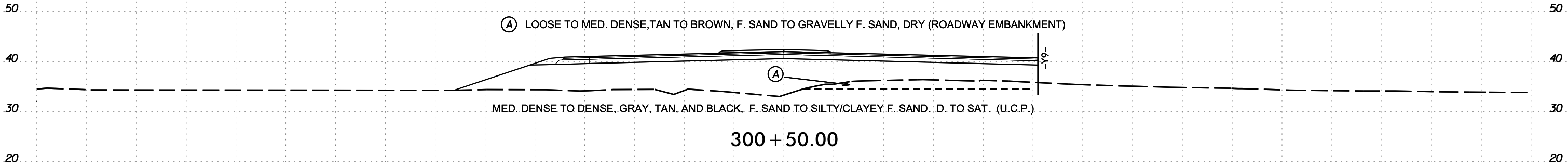
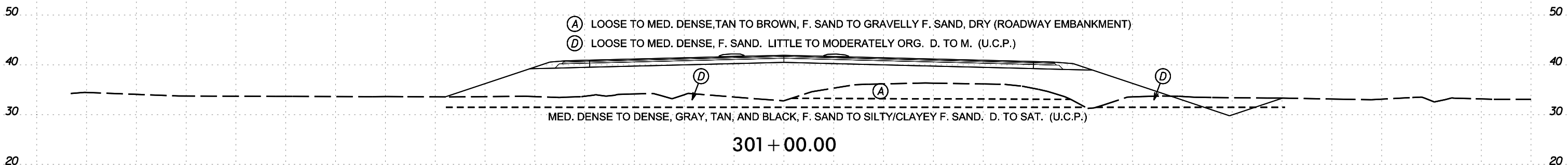
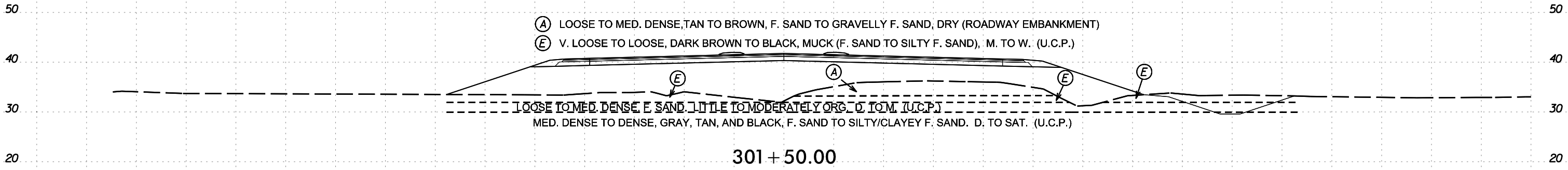
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6/23/16

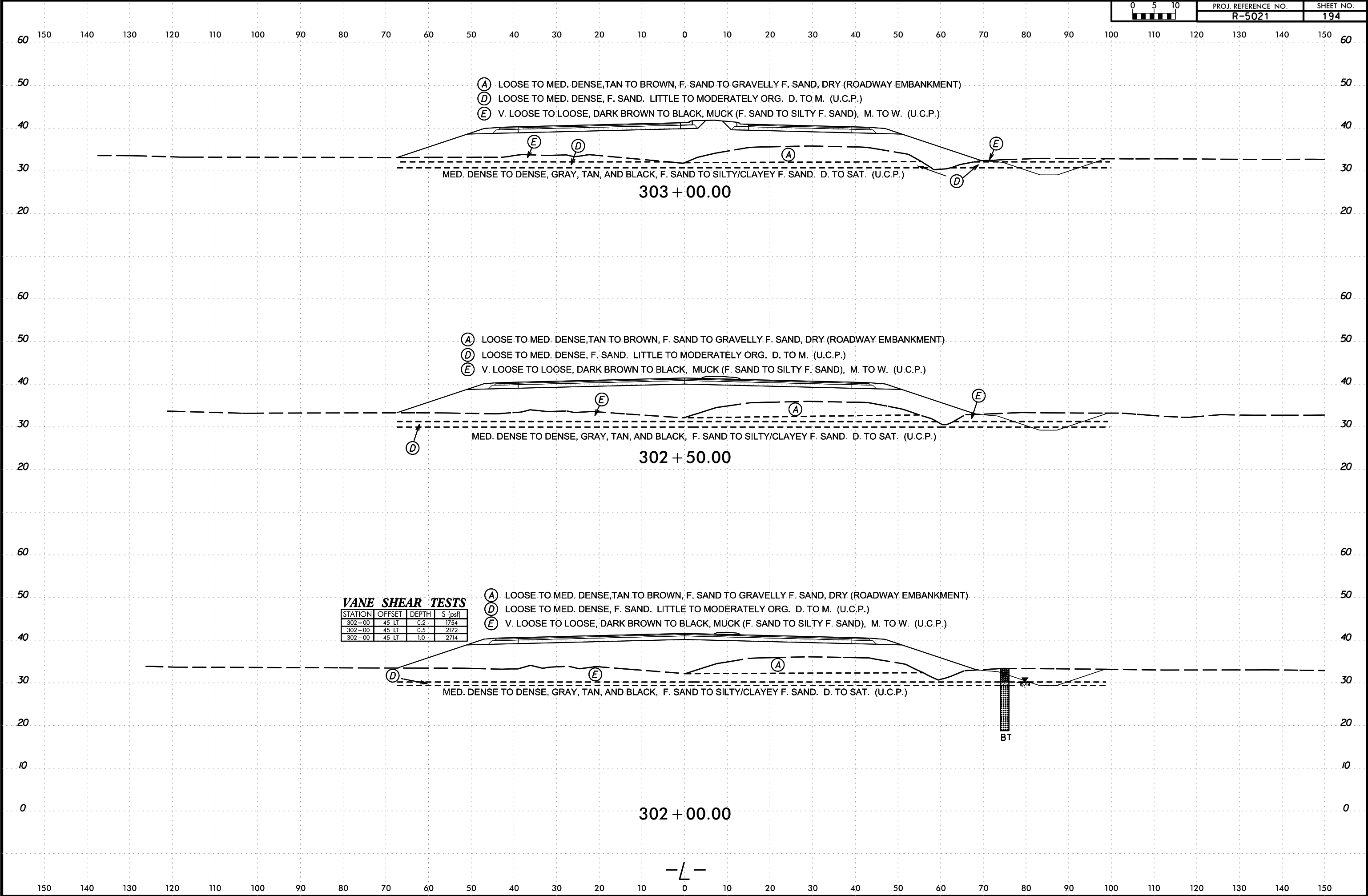
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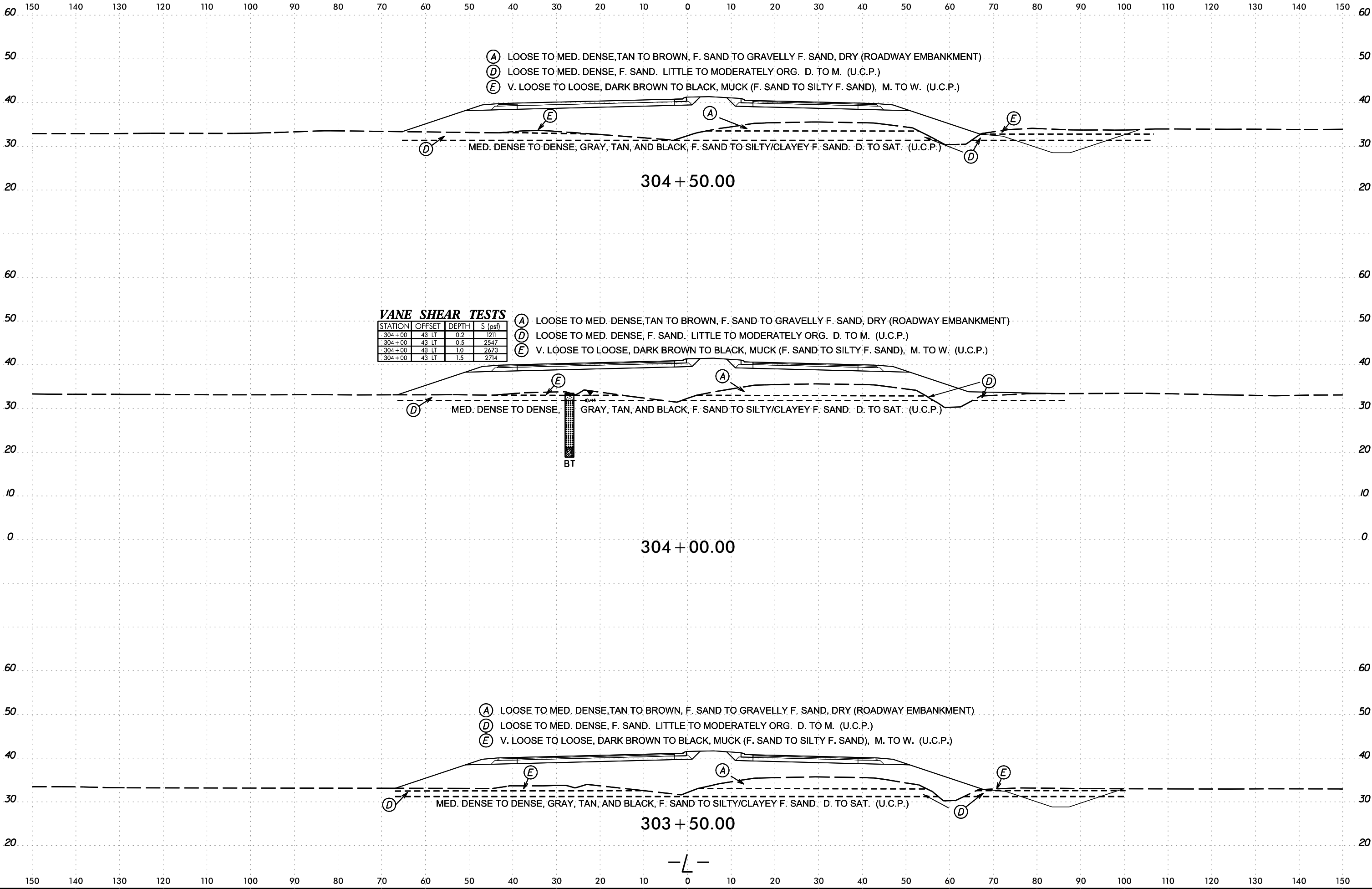
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6/23/16

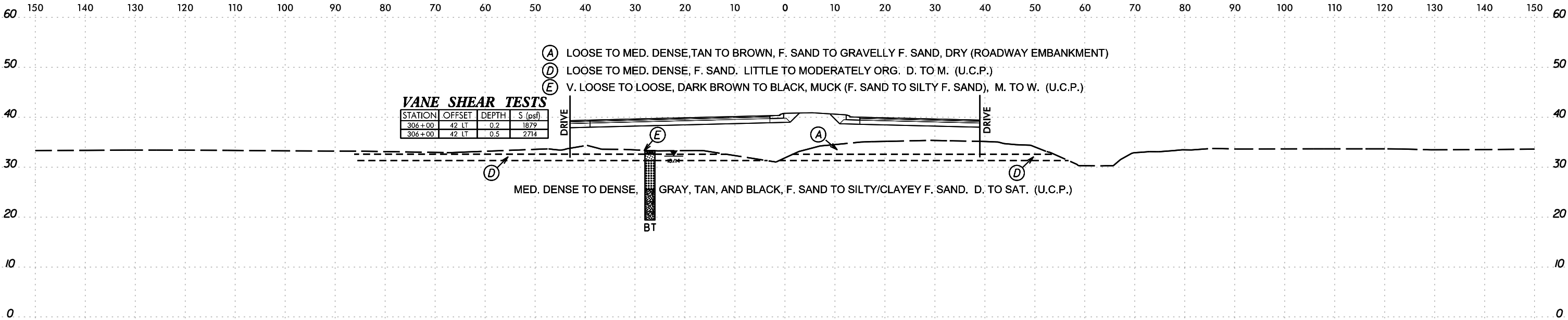
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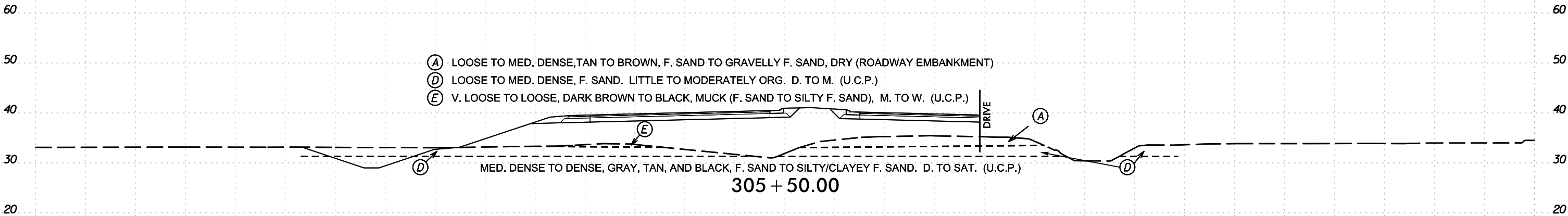
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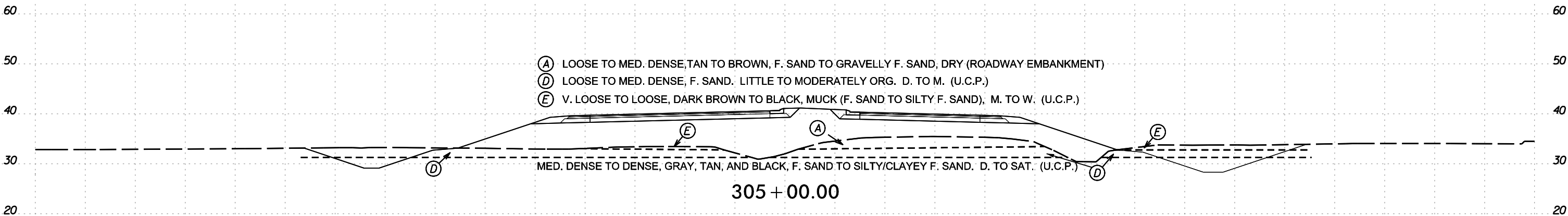
6/23/16



306 + 00.00



305 + 50.00

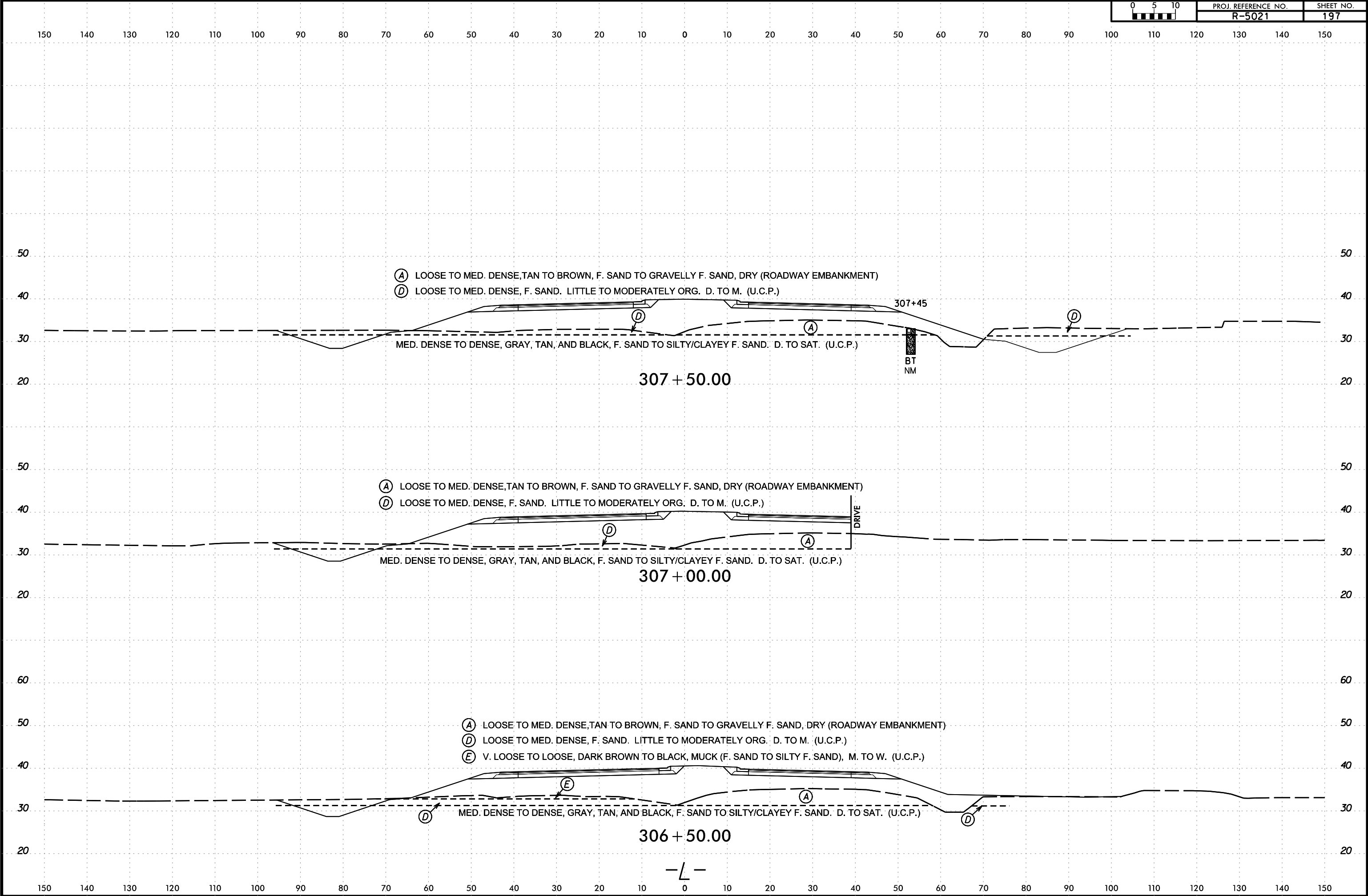


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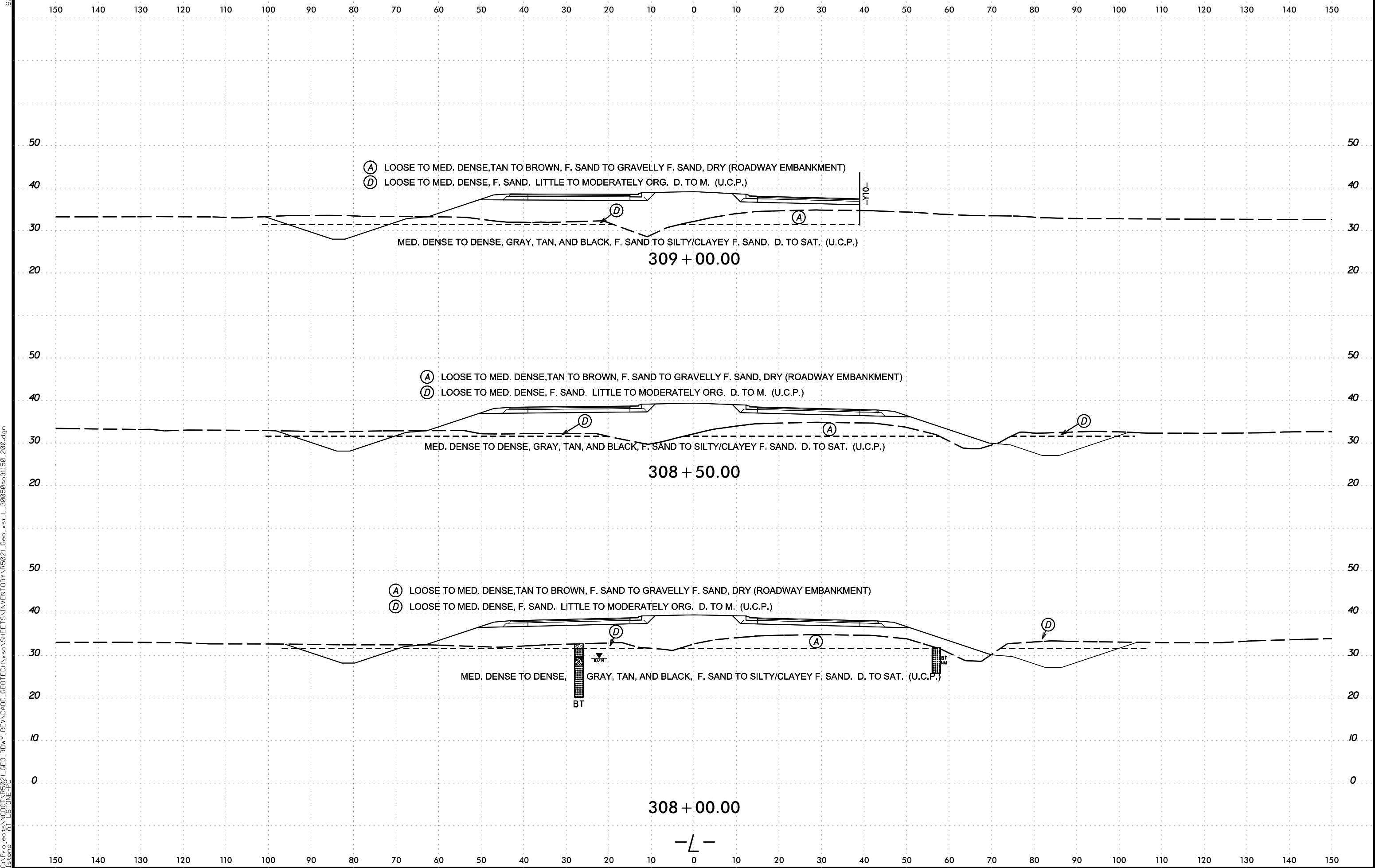
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6/23/16

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LSTONE-PC

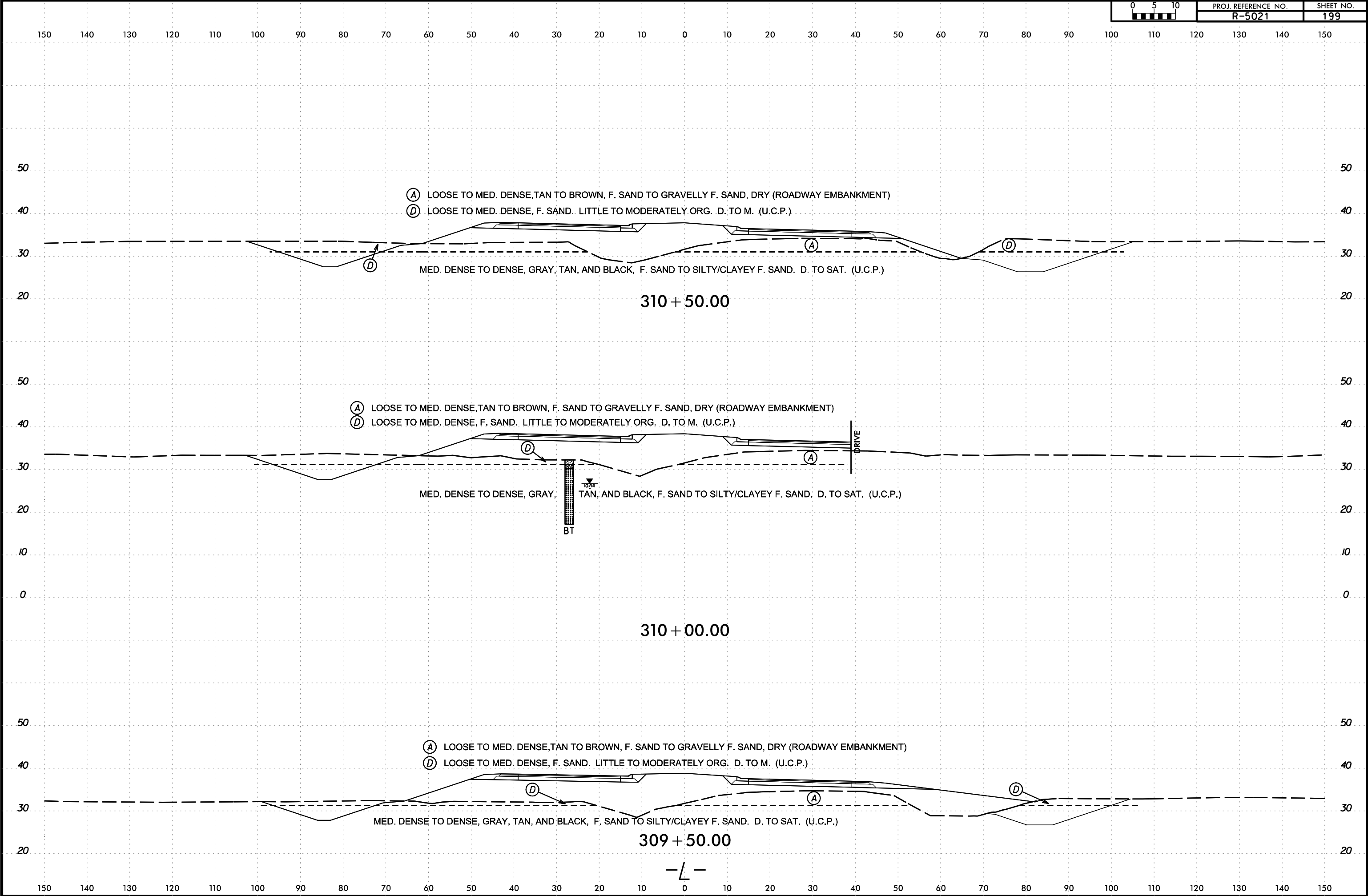


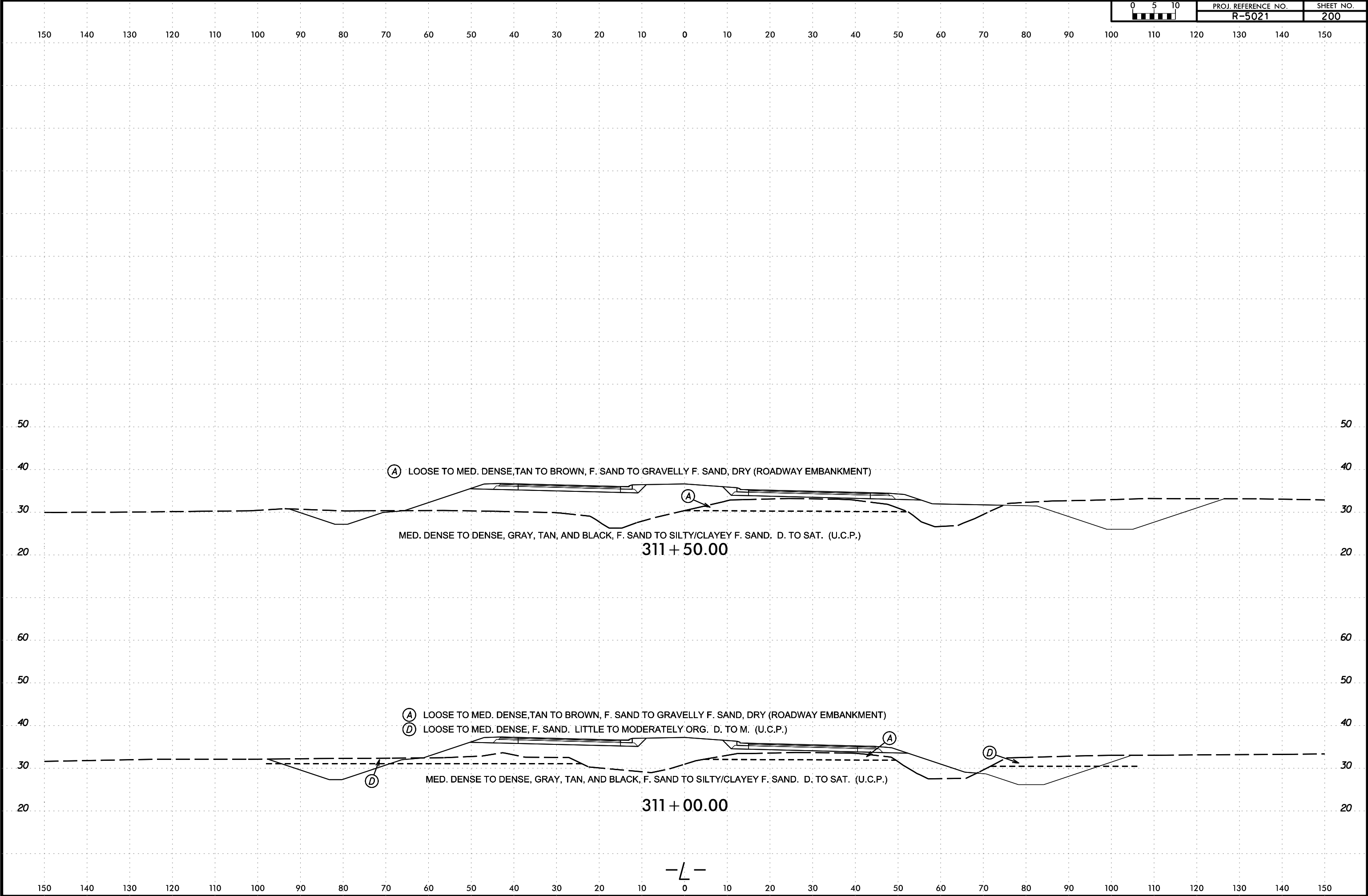
6/23/16



6/23/16

21-DEC-2017 13:18
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1stone AT LISTONE-PC

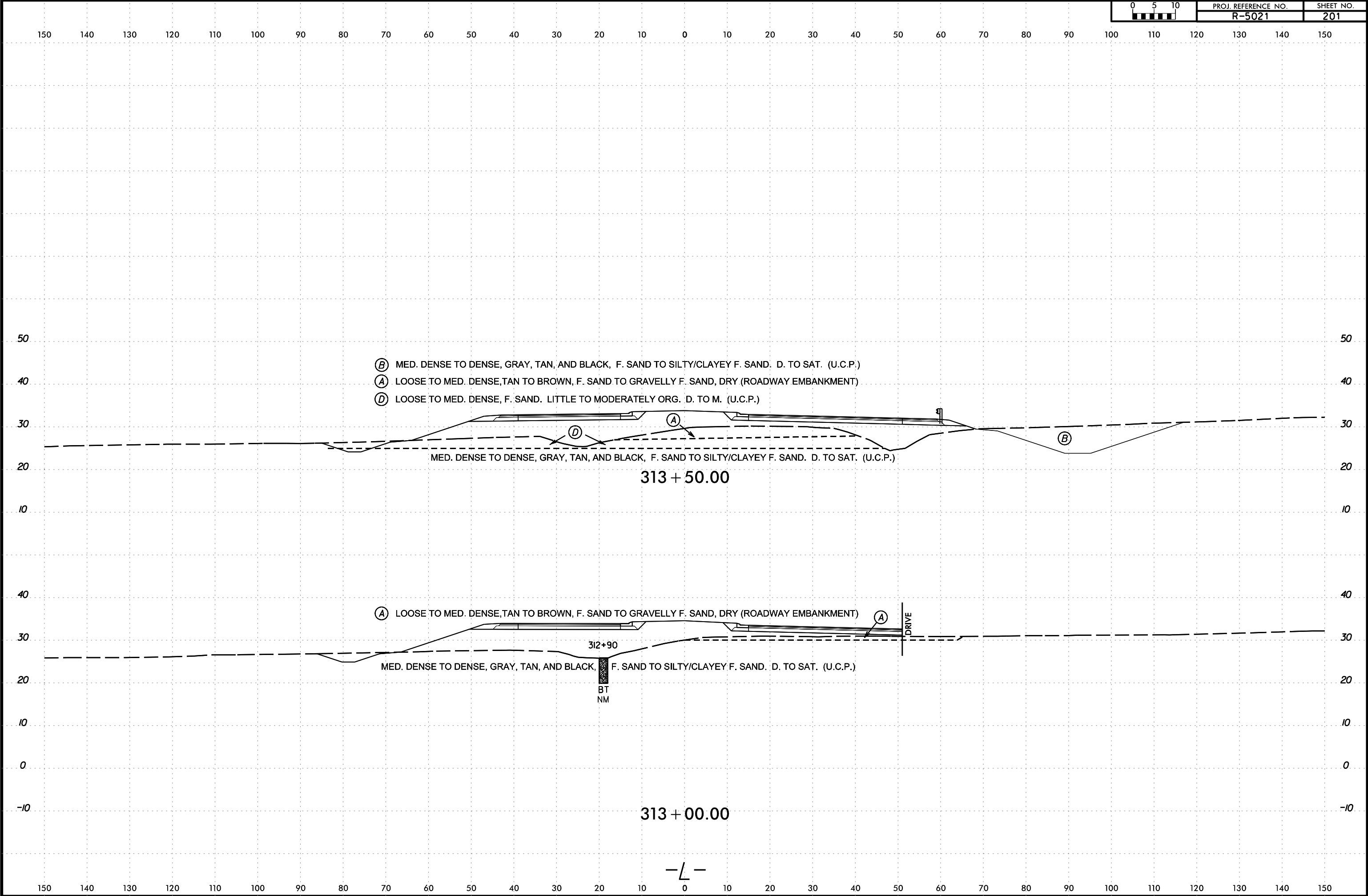


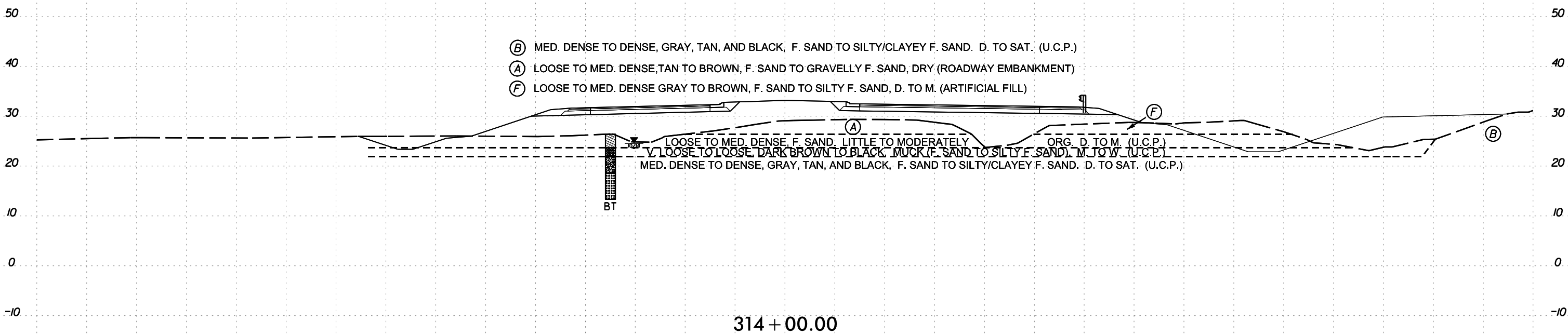
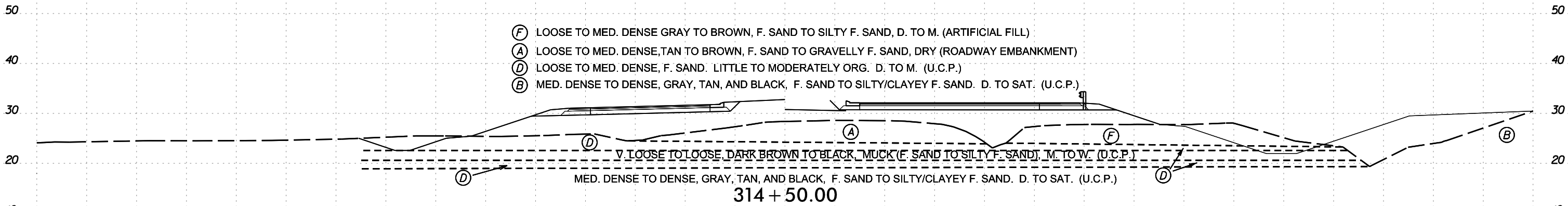
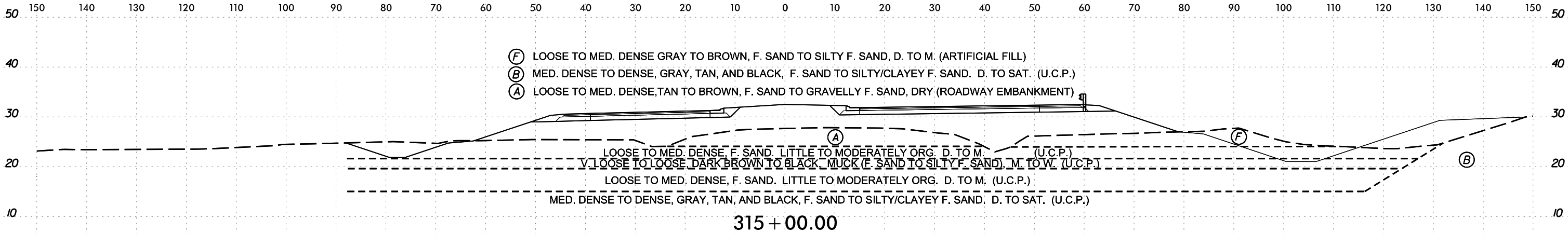


6/23/16

21-DEC-2017 13:18
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LSTONE-PC

0 5 10 	PROJ. REFERENCE NO.	SHEET NO.
	R-5021	201





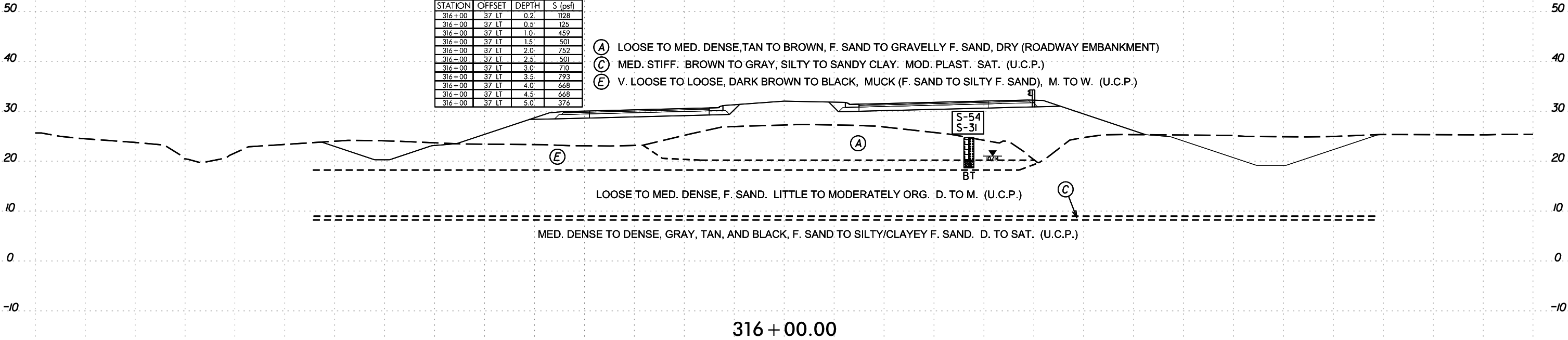
6/23/16

SOIL TEST RESULTS															
SAMPLE NUMBER	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-54	37 ft RT	316+00	0.0 - 4.5	A-3(0)	18	NP	46.6	50.4	1.3	1.7	100	87	3	-	0.9
S-31	37 ft RT	316+00	4.5 - 6.0	A-5(0)	58	NP	16.6	39.9	32.6	10.9	99.79	95	47	120	24.9

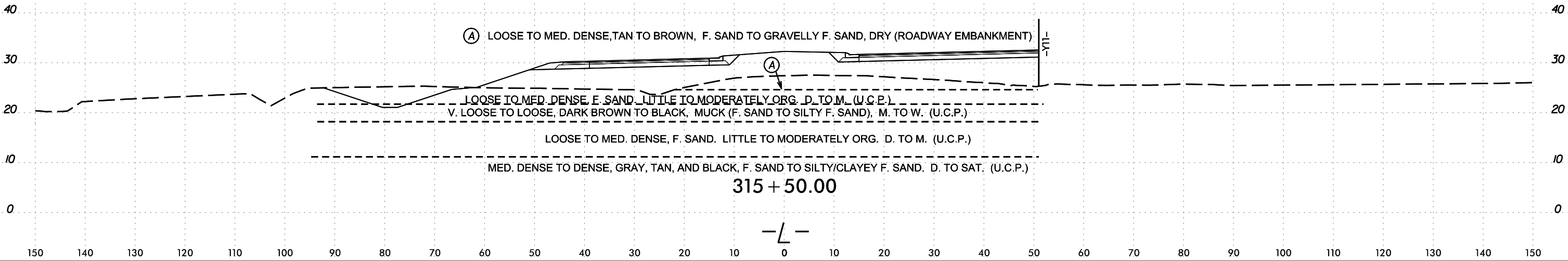
VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
316+00	37 LT	0.2	1128
316+00	37 LT	0.5	125
316+00	37 LT	1.0	459
316+00	37 LT	1.5	501
316+00	37 LT	2.0	752
316+00	37 LT	2.5	501
316+00	37 LT	3.0	710
316+00	37 LT	3.5	793
316+00	37 LT	4.0	668
316+00	37 LT	4.5	668
316+00	37 LT	5.0	376

- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
- (C) MED. STIFF. BROWN TO GRAY, SILTY TO SANDY CLAY. MOD. PLAST. SAT. (U.C.P.)
- (E) V. LOOSE TO LOOSE, DARK BROWN TO BLACK, MUCK (F. SAND TO SILTY F. SAND), M. TO W. (U.C.P.)



- (A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)

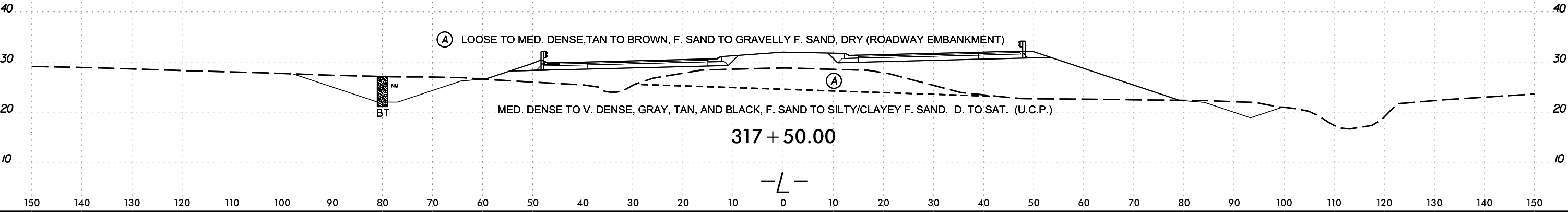


6/23/16

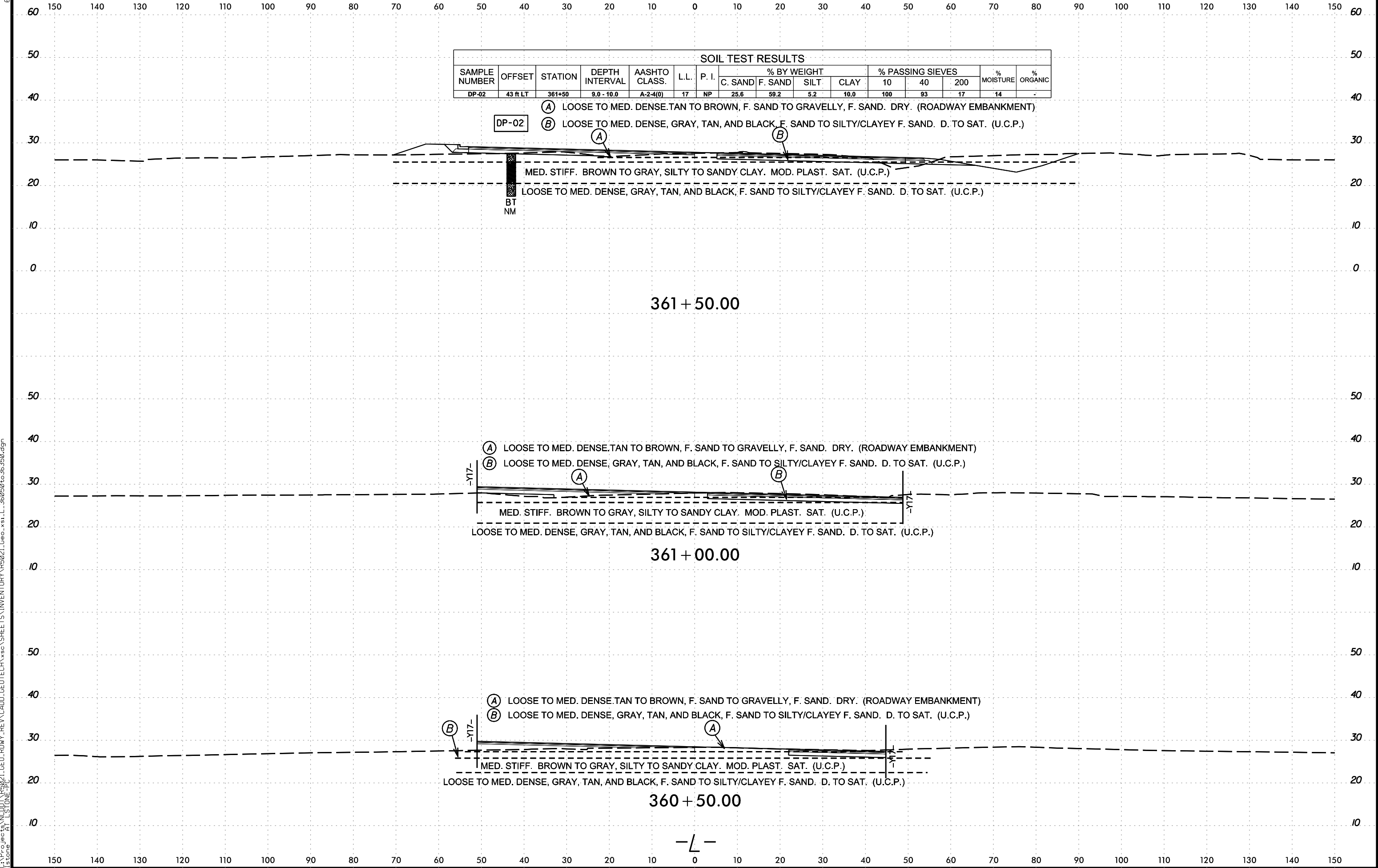
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LSTONE-PC

	PROJ. REFERENCE NO.	SHEET NO.
	R-5021	205

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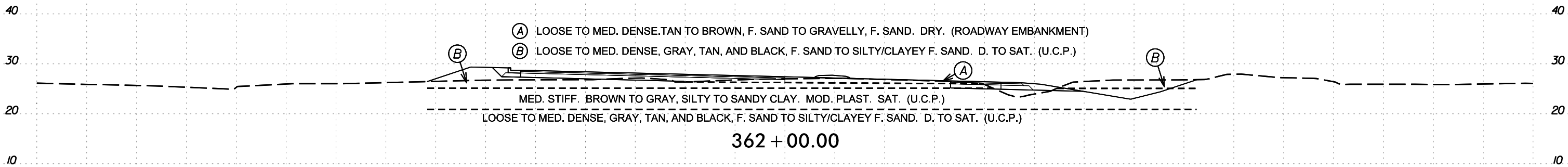
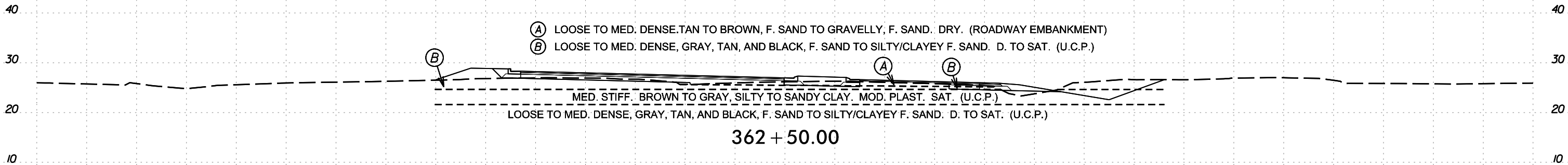
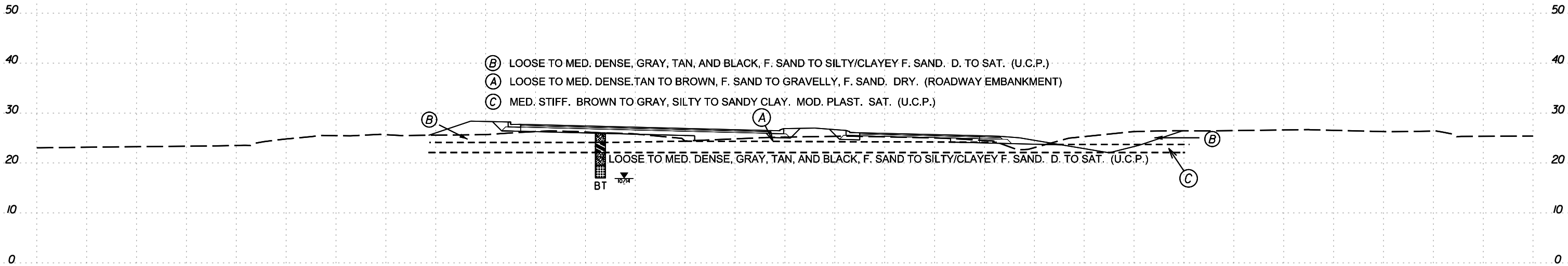


6/23/16



6/23/16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



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6/23/16

21-DEC-2017 13:18
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LSTONE-PC

	PROJ. REFERENCE NO.	SHEET NO.
	R-5021	208

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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(A) LOOSE TO MED. DENSE, TAN TO BROWN, F. SAND TO GRAVELLY, F. SAND. DRY. (ROADWAY EMBANKMENT)

(A)

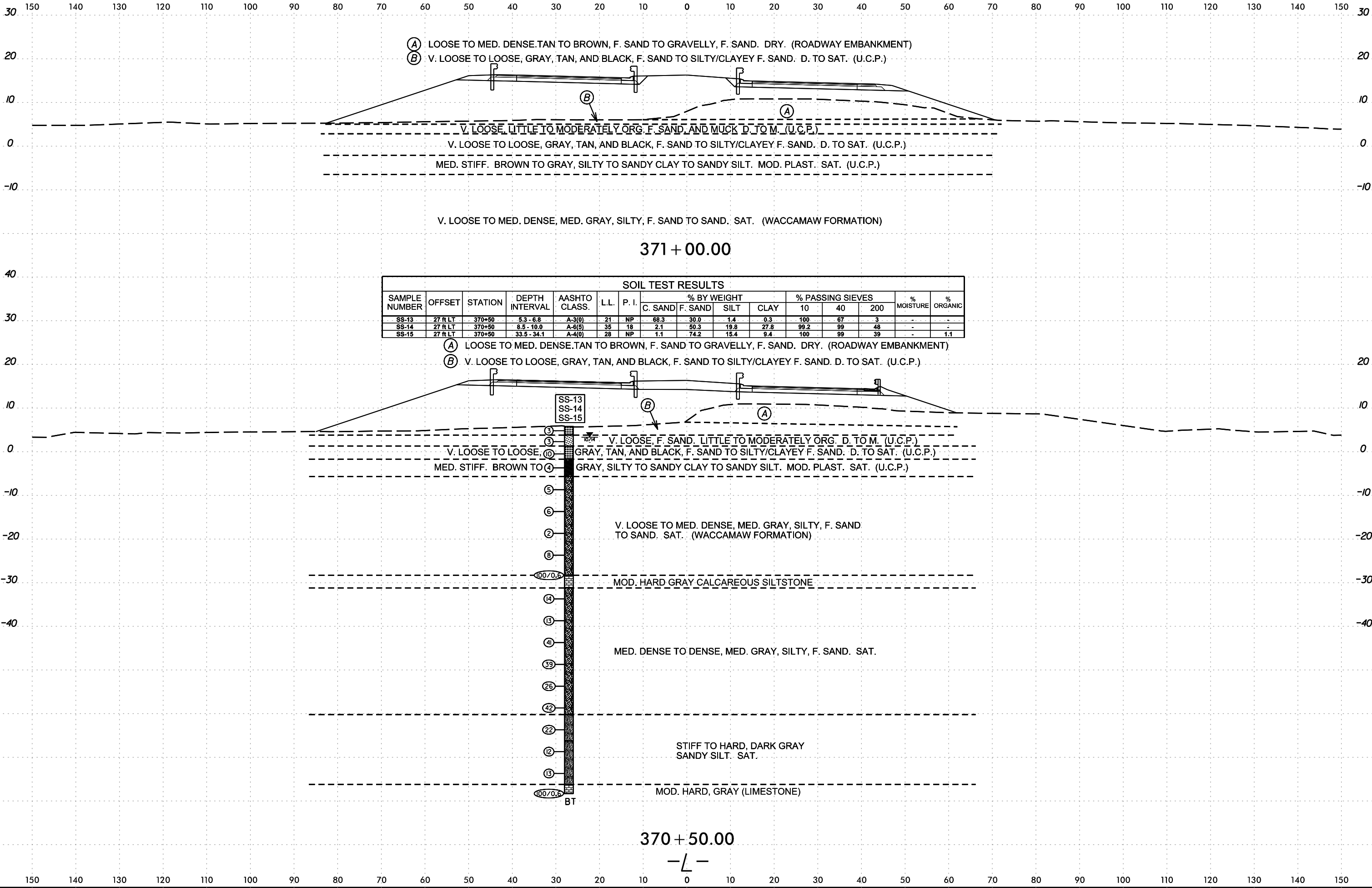
LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

363 + 50.00

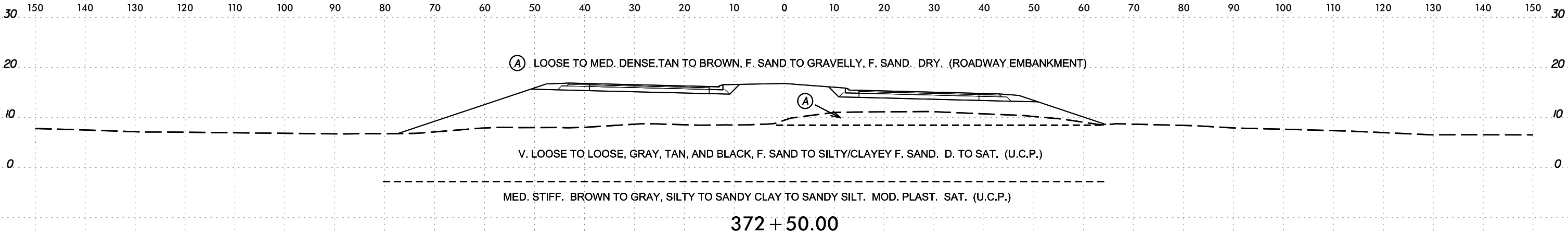
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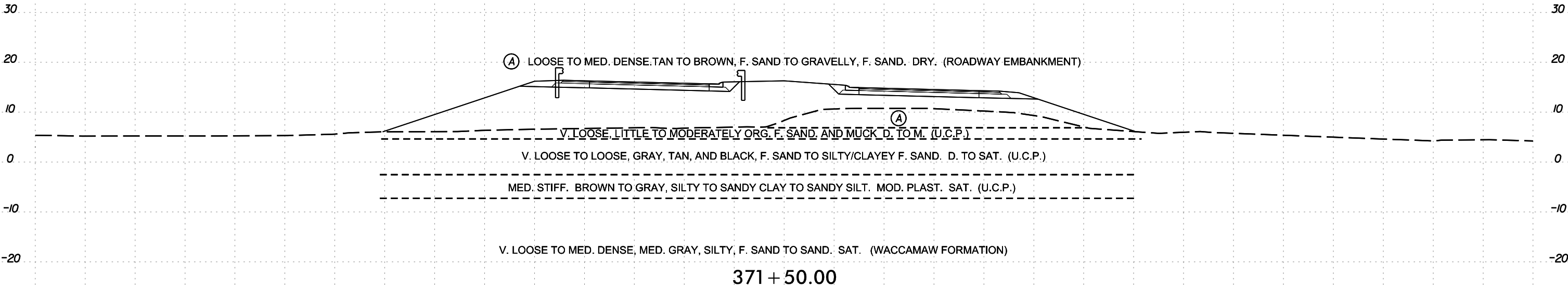
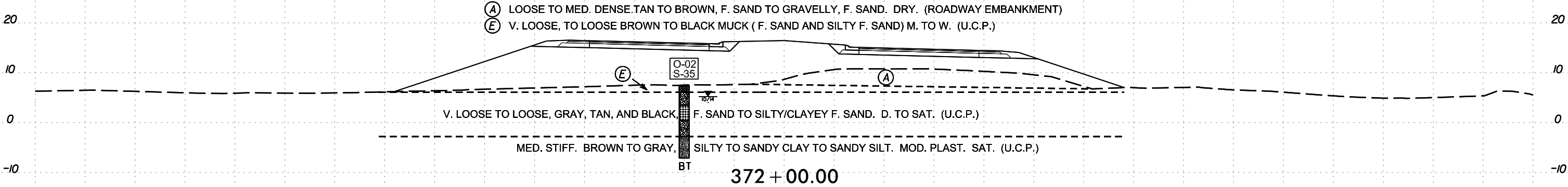
6/23/16



6/23/16



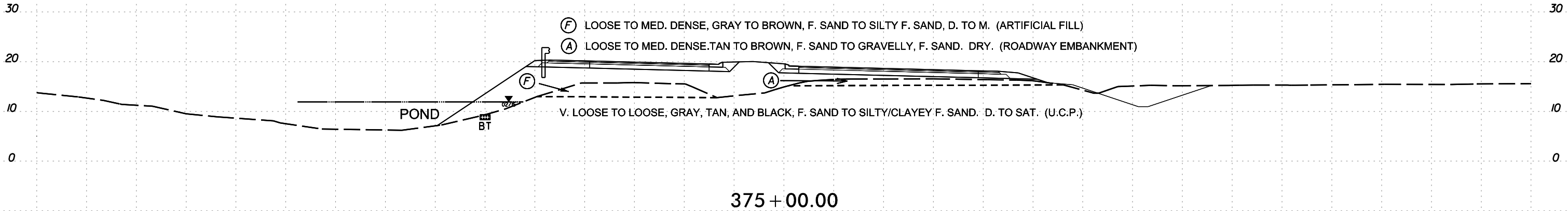
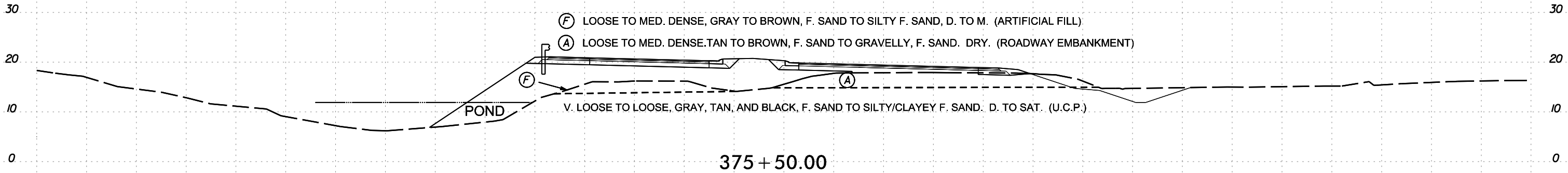
SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
O-02	20 ft LT	372+00	0.0 - 0.5	-	-	-	-	-	-	-	-	-	-	-	29.1
S-35	20 ft LT	372+00	0.5 - 1.0	A-4(3)	32	5	3.9	33.6	40.3	22.3	100	98	71	-	-



-L-

6/23/16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



-L-

6/23/16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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- 16	40LT	388+50	2.5 - 4.0	A- 2- 4(0)	19	NP	18	64.8	9.8	7.3	99.9	92	20	-	-
SS- 17	40LT	388+50	8.0 - 9.5	A- 6(0)	26	11	17	49.5	11	22.5	100	96	36	-	-
SS- 18	40LT	388+50	23.0 - 24.5	A- 2- 4(0)	25	NP	0.6	87.5	5.6	6.3	100	100	26	-	-
SS- 19	40LT	388+50	43.0 - 44.5	A- 7- 6(25)	51	28	1	23.3	42.6	33.1	99.2	99	84	-	-
SS- 20	40LT	388+50	68.0 - 69.5	A- 2- 6(0)	27	13	63	6.9	12.2	17.9	96.8	75	31	-	-

40

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0

-10

SS-16
SS-17
SS-18
SS-19
SS-20

(B) LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND WITH TRACE ORGANICS. D. TO SAT. (U.C.P.)

(B)

SOFT TO MED. STIFF, BROWN TO GRAY,

SILTY TO SANDY CLAY, LOW PLAST. SAT. (U.C.P.)

LOOSE TO MED. DENSE, GRAY, TAN,

AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND WITH TRACE ORGANICS. D. TO SAT. (U.C.P.)

(B)

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(B)

V. LOOSE TO MED. DENSE, MED. GRAY, SILTY, F. SAND TO F. SAND. SAT. (WACCAMAW FORMATION)

V. SOFT TO MED. STIFF, MED. GRAY,

CLAY TO SILTY CLAY, HIGHLY PLASTIC. SAT.

(B)

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LOOSE TO V. DENSE, LIGHT TO DARK GRAY, CLAYEY, F. SAND TO F. SAND. SAT.

V. STIFF TO HARD, DARK GRAY, SILT TO SILTY CLAY TO CLAY, MOD. PLASTIC. WET.

(B)

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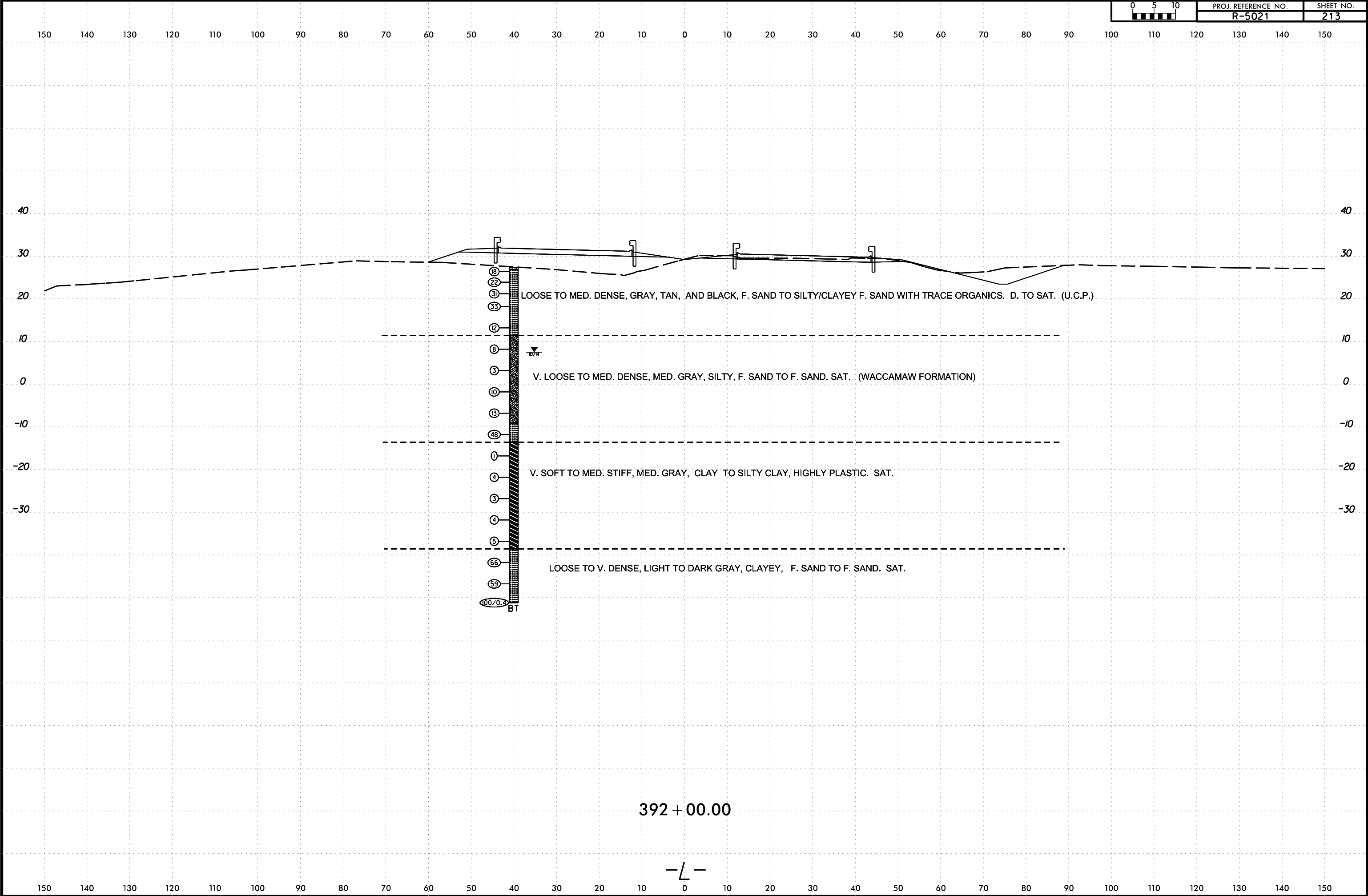
(B)

388 + 50.00

-L-

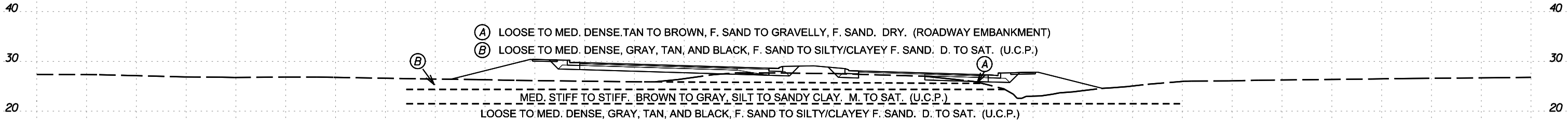
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6/23/16

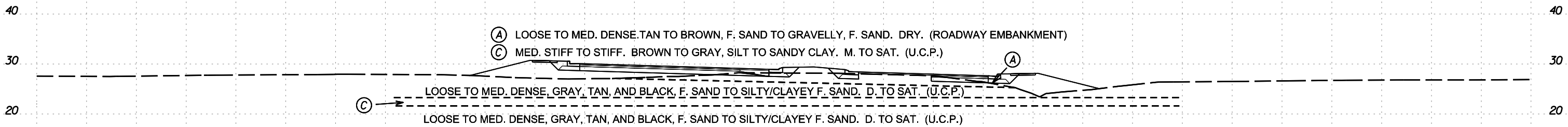


6/23/16

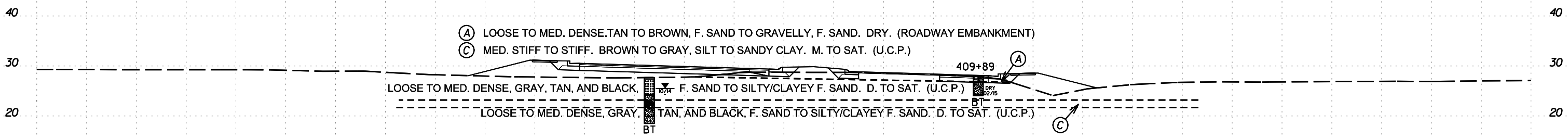
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411 + 00.00



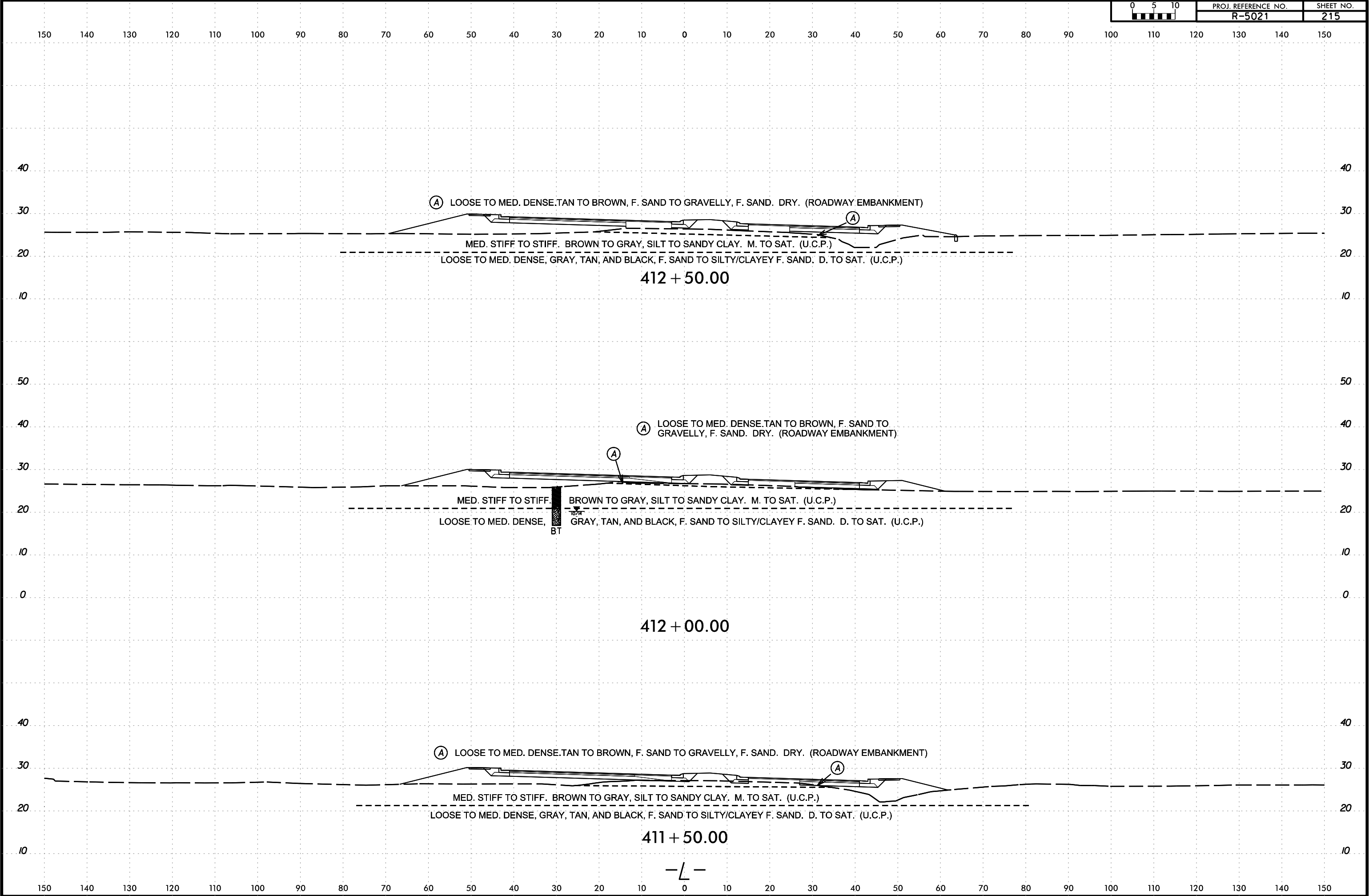
410 + 50.00



410 + 00.00

-L-

6/23/16



6/23/16

21-DEC-2017 13:18
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LSTONE-PC

	PROJ. REFERENCE NO.	SHEET NO.
	R-5021	216

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

40

30

20

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0

(A) LOOSE TO MED. DENSE. TAN TO BROWN, F. SAND TO GRAVELLY, F. SAND. DRY. (ROADWAY EMBANKMENT)

MED. DENSE F. SAND W/OYSTER SHELL FRAGS. M. (ARTIFICIAL FILL)

LOOSE TO MED. DENSE, GRAY, TAN, AND BLACK, F. SAND TO SILTY/CLAYEY F. SAND. D. TO SAT. (U.C.P.)

413 + 00.00

—L—

40

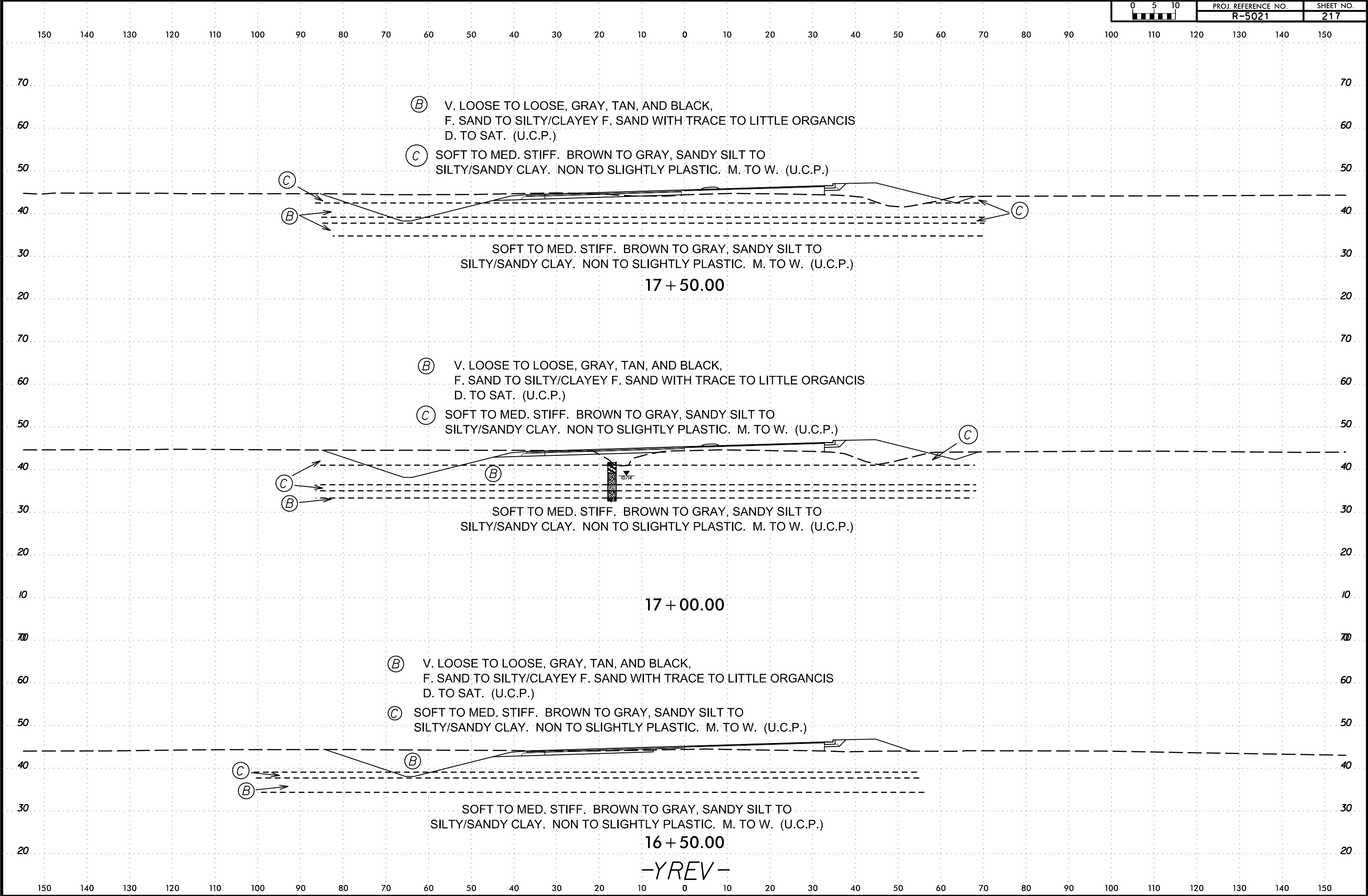
30

20

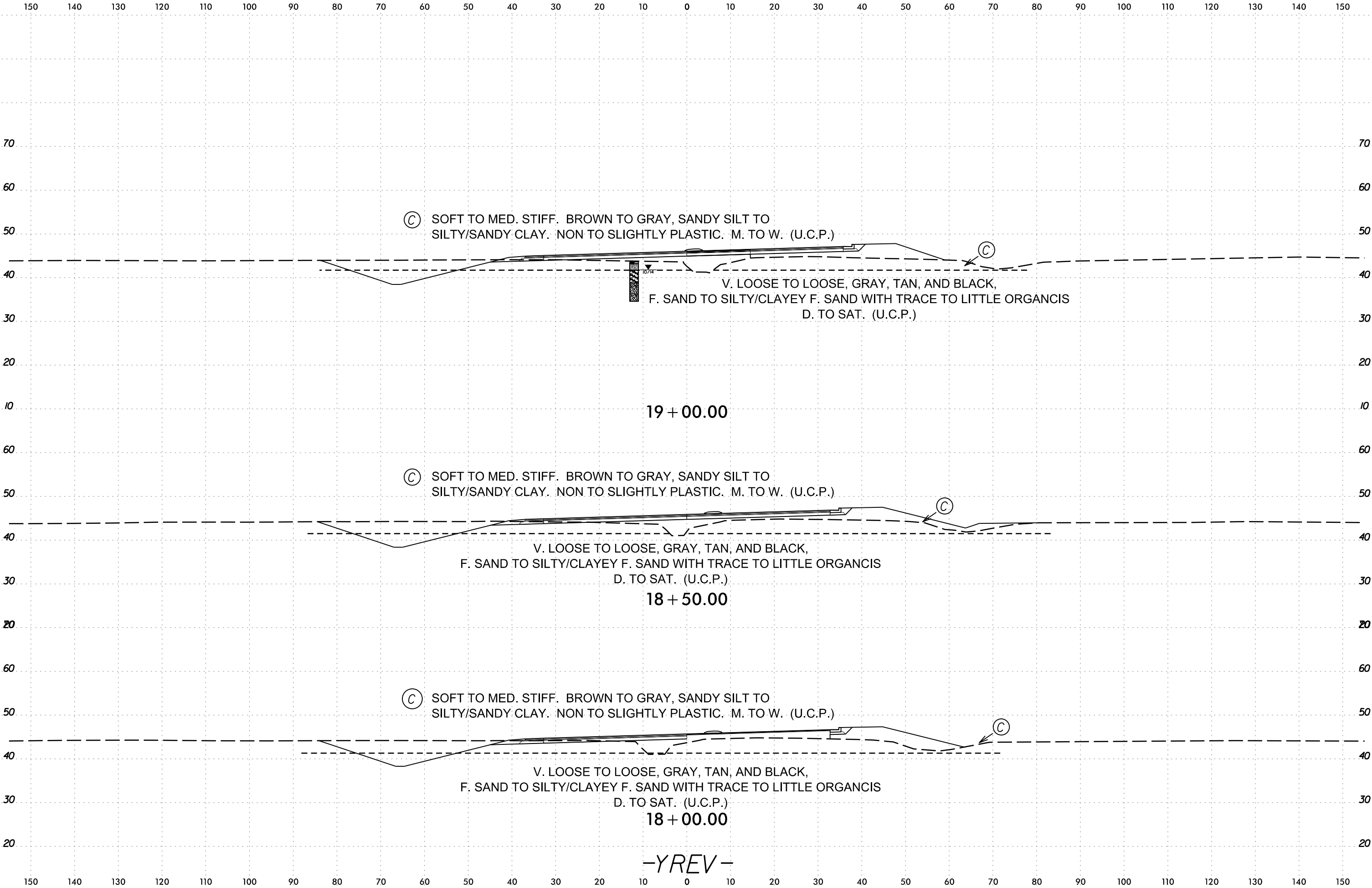
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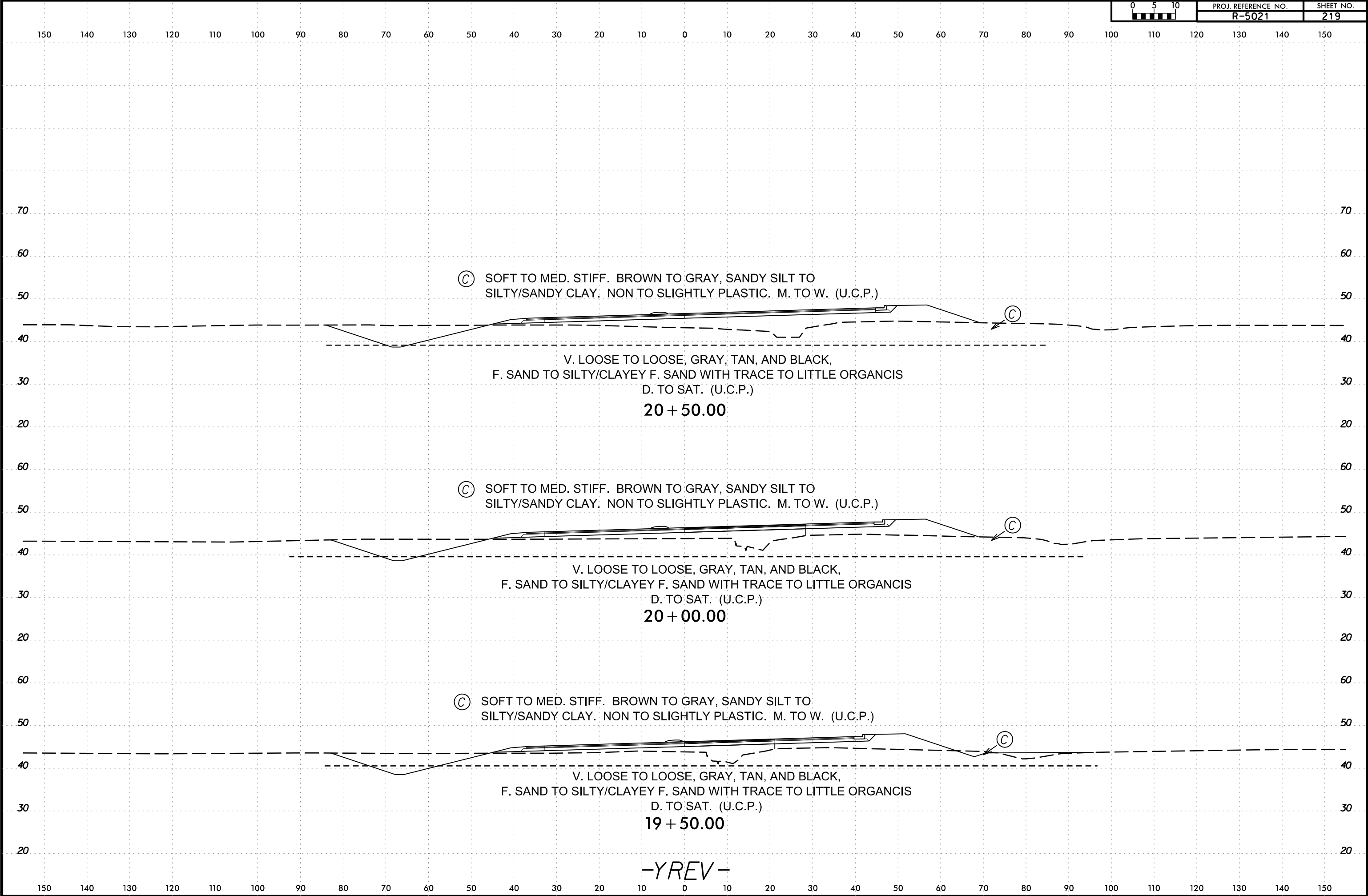
6/23/16



6/23/16

22-DEC-2017 12:09
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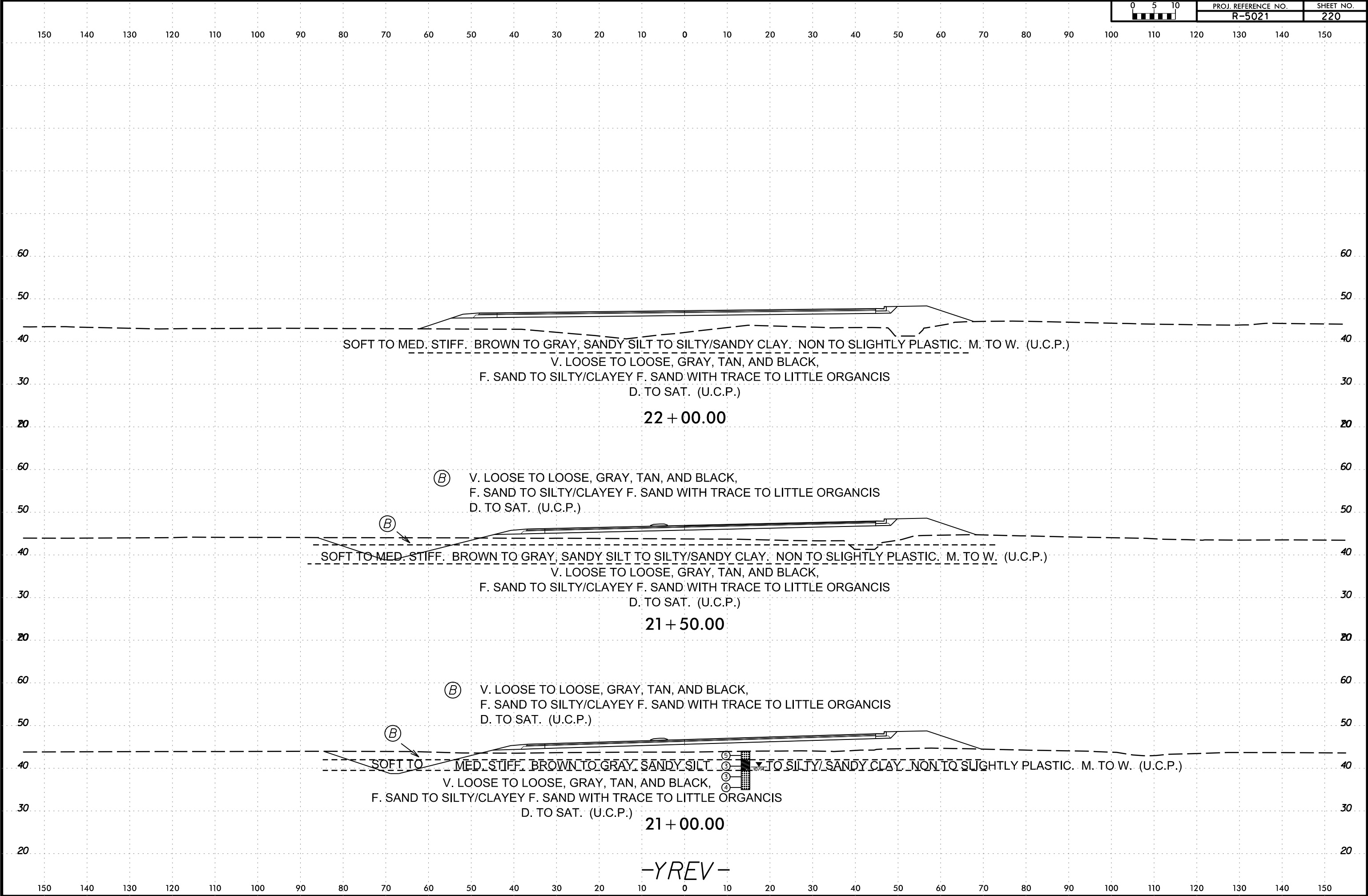
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	R-5021	219



6/23/16

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LSTONE-PC

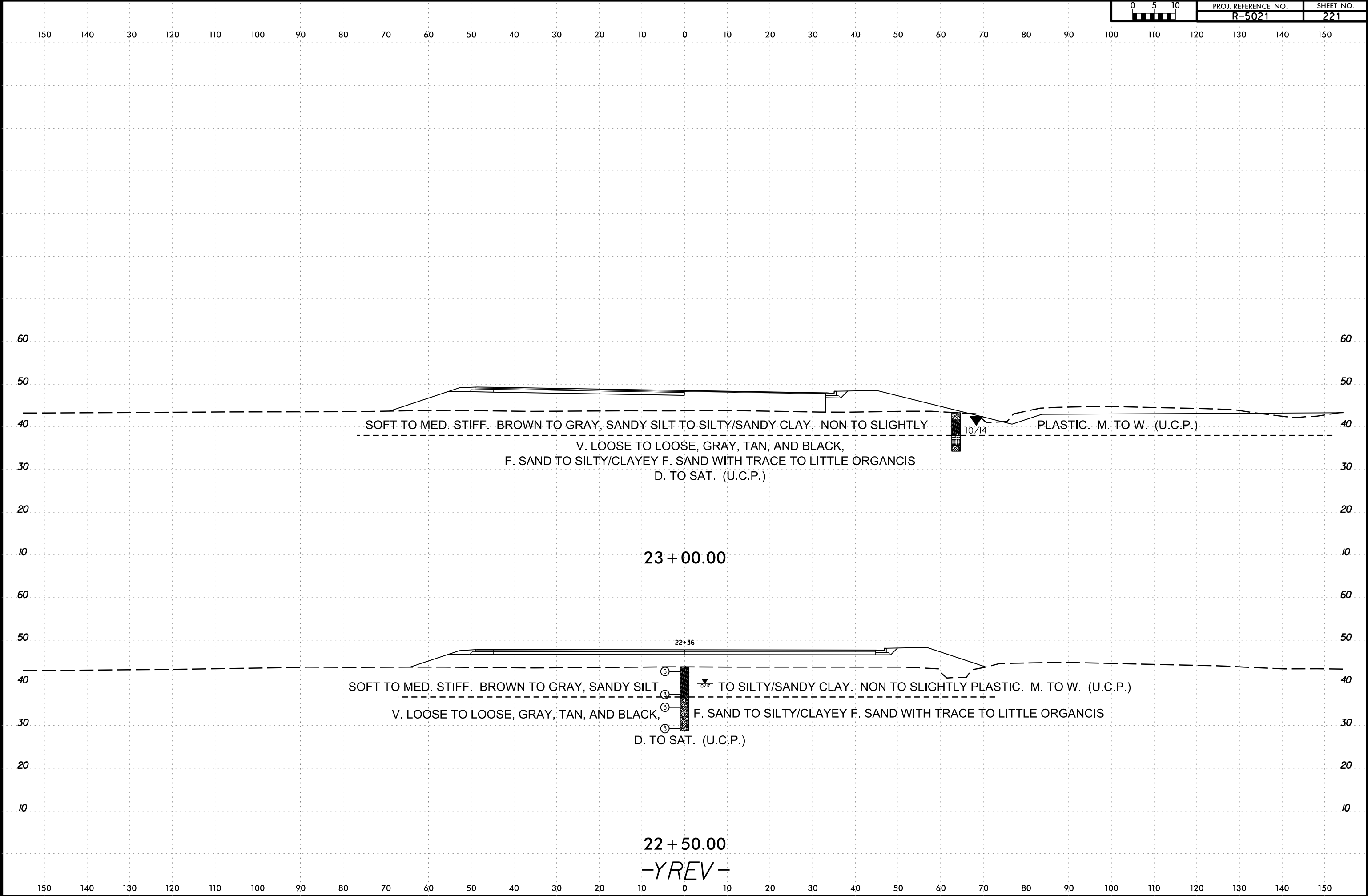
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	R-5021	220



6/23/16

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LSTONE-PC

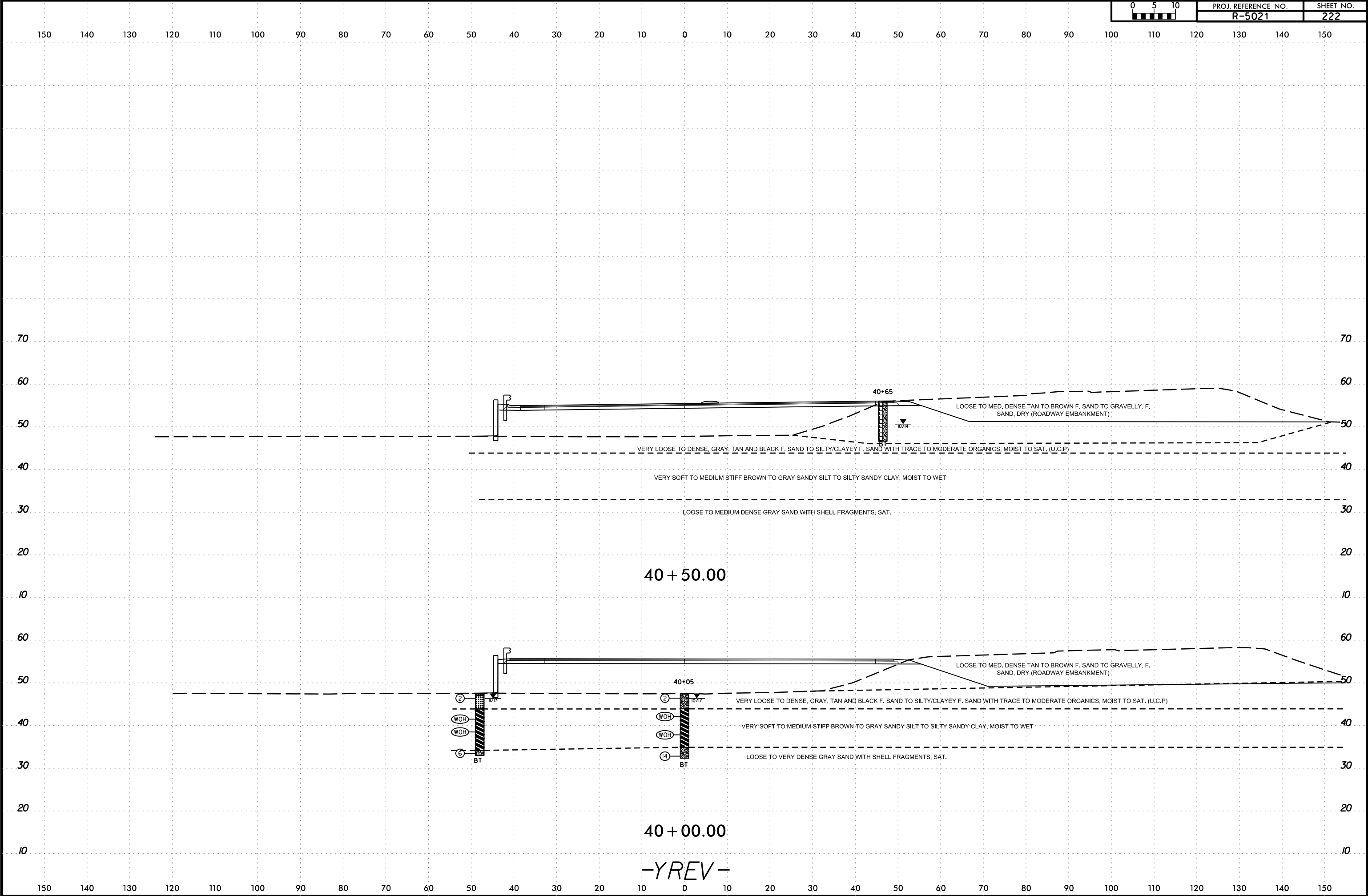
0 5 10 	PROJ. REFERENCE NO.	SHEET NO.
	R-5021	221



6/23/16

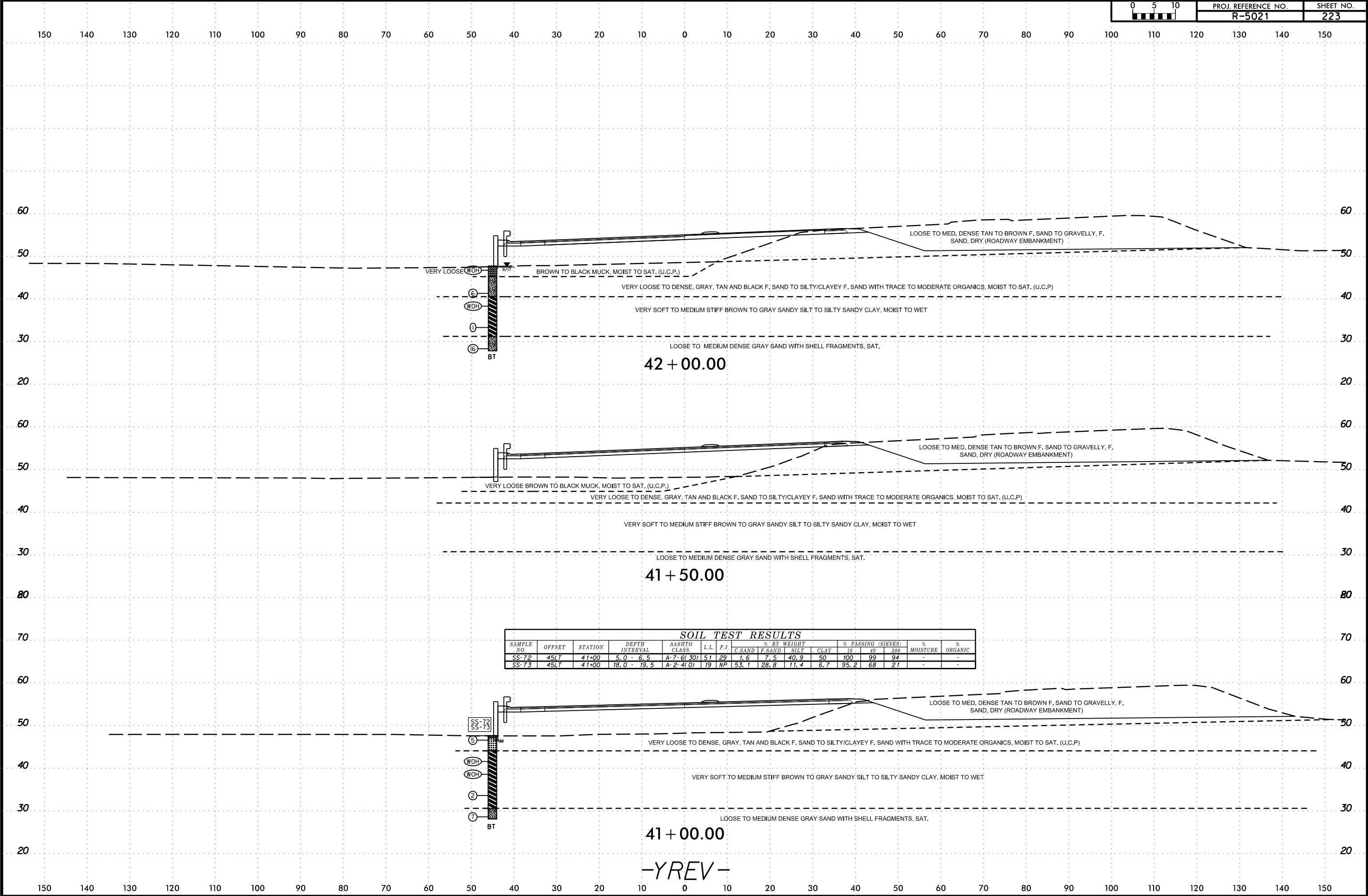
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LSTONE-PC

0	5	10	PROJ. REFERENCE NO.	SHEET NO.
			R-5021	222



6/23/16

22-DEC-2017 12:09
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LSTONE-PC

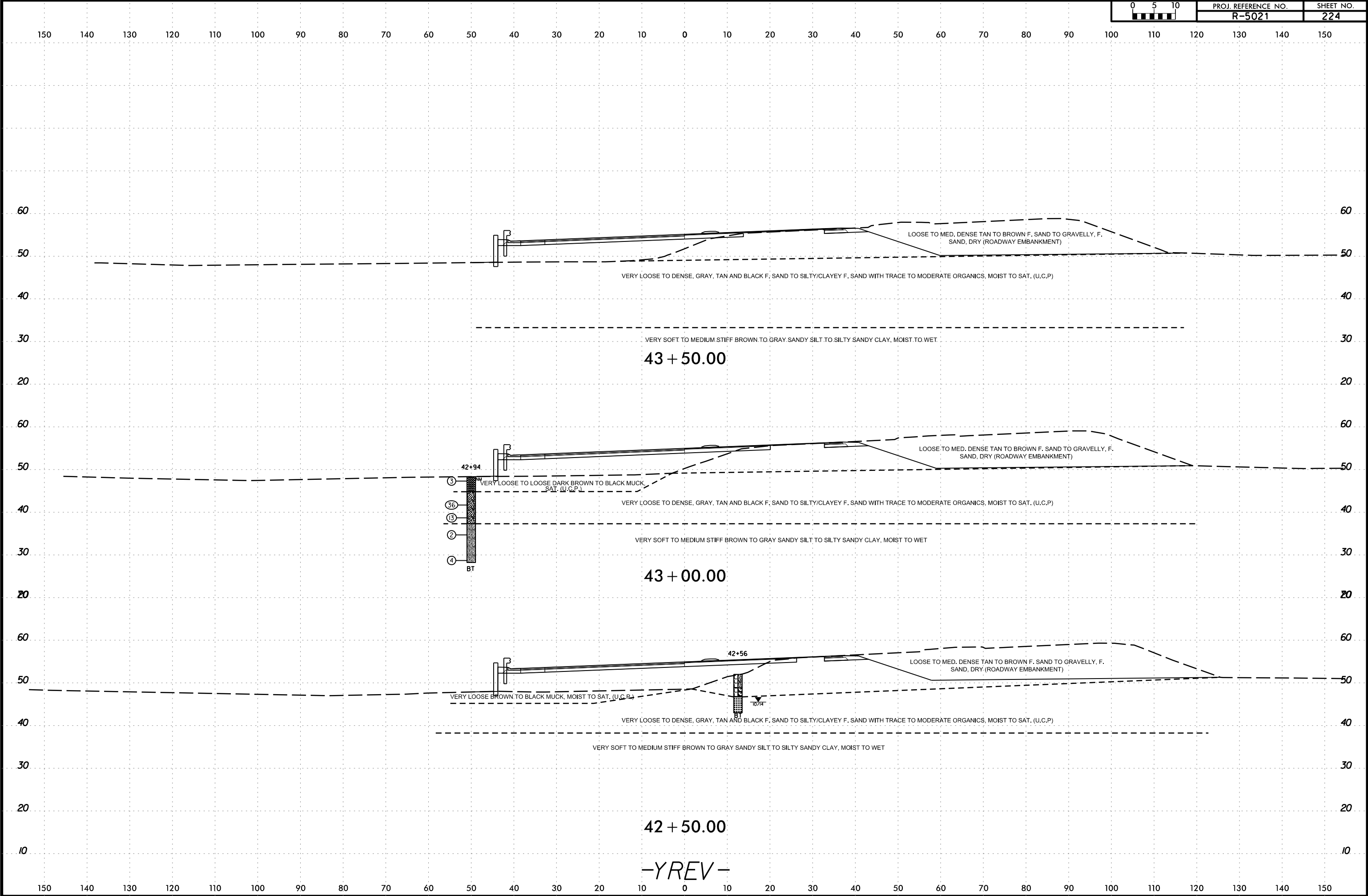


-YREV-

6/23/16

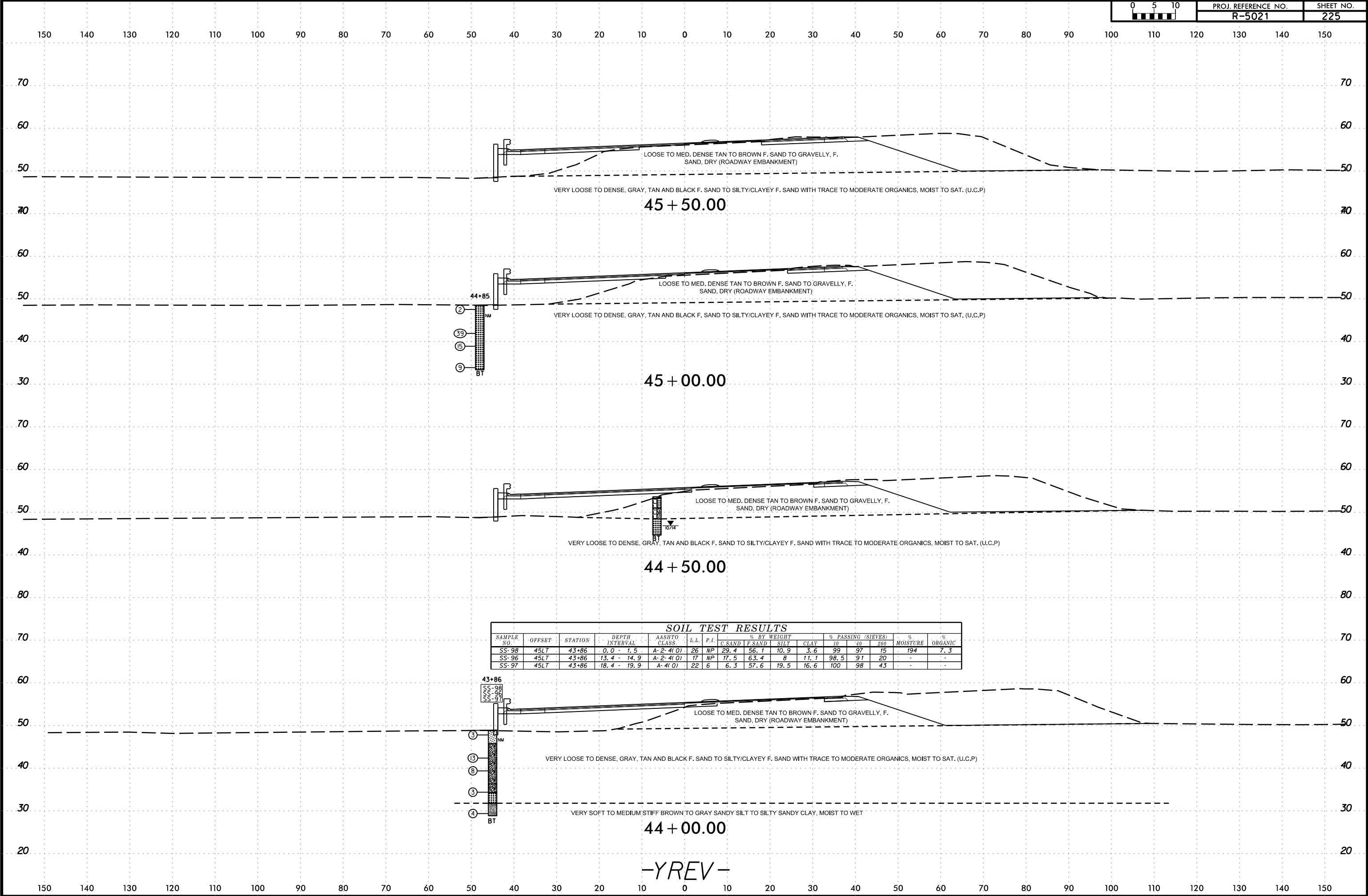
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LSTONE-PC

0	5	10
PROJ. REFERENCE NO.		
R-5021		
SHEET NO.		
224		



6/23/16

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LSTONE-PC

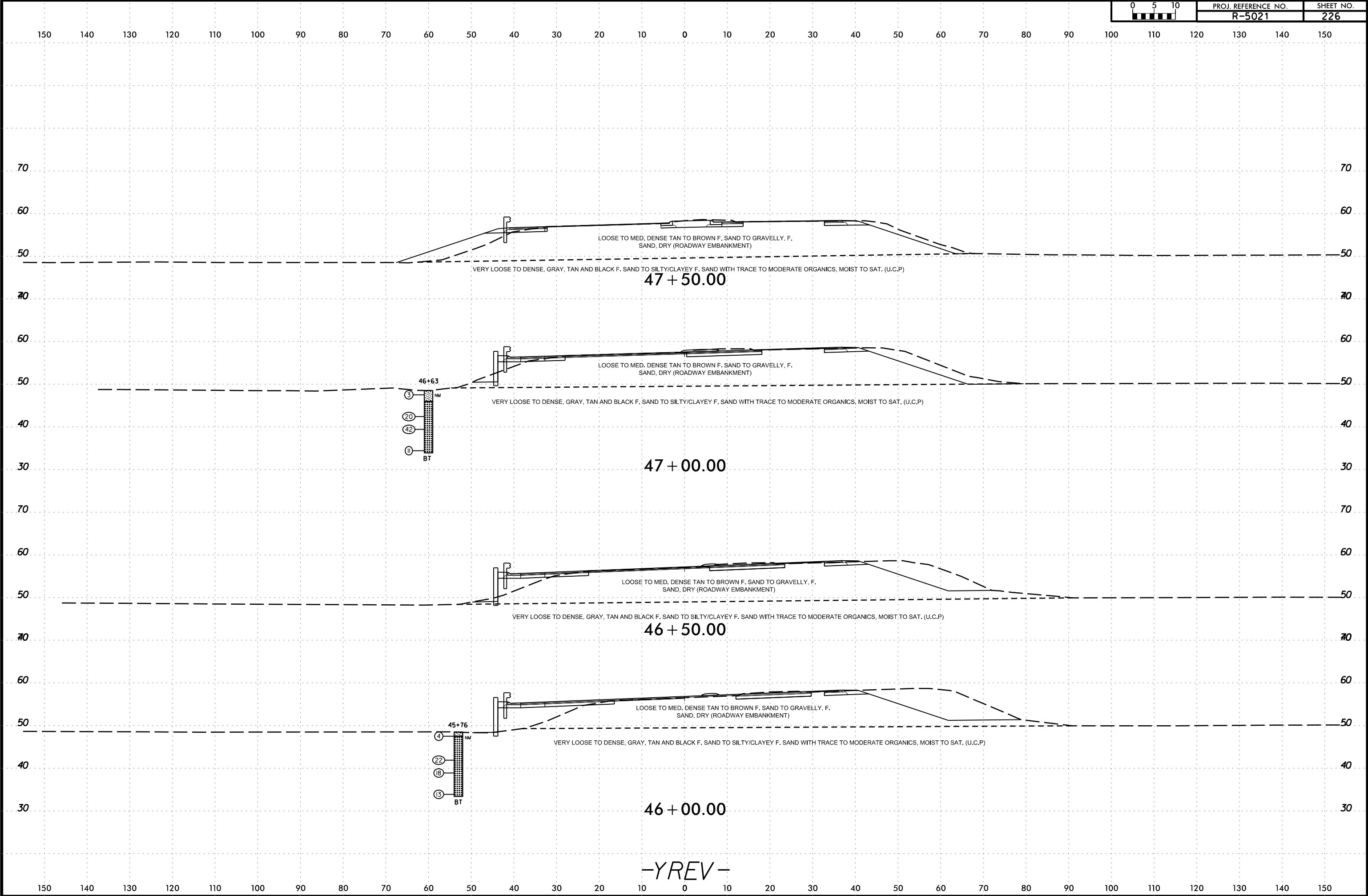


-YREV-

6/23/16

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LSTONE-PC

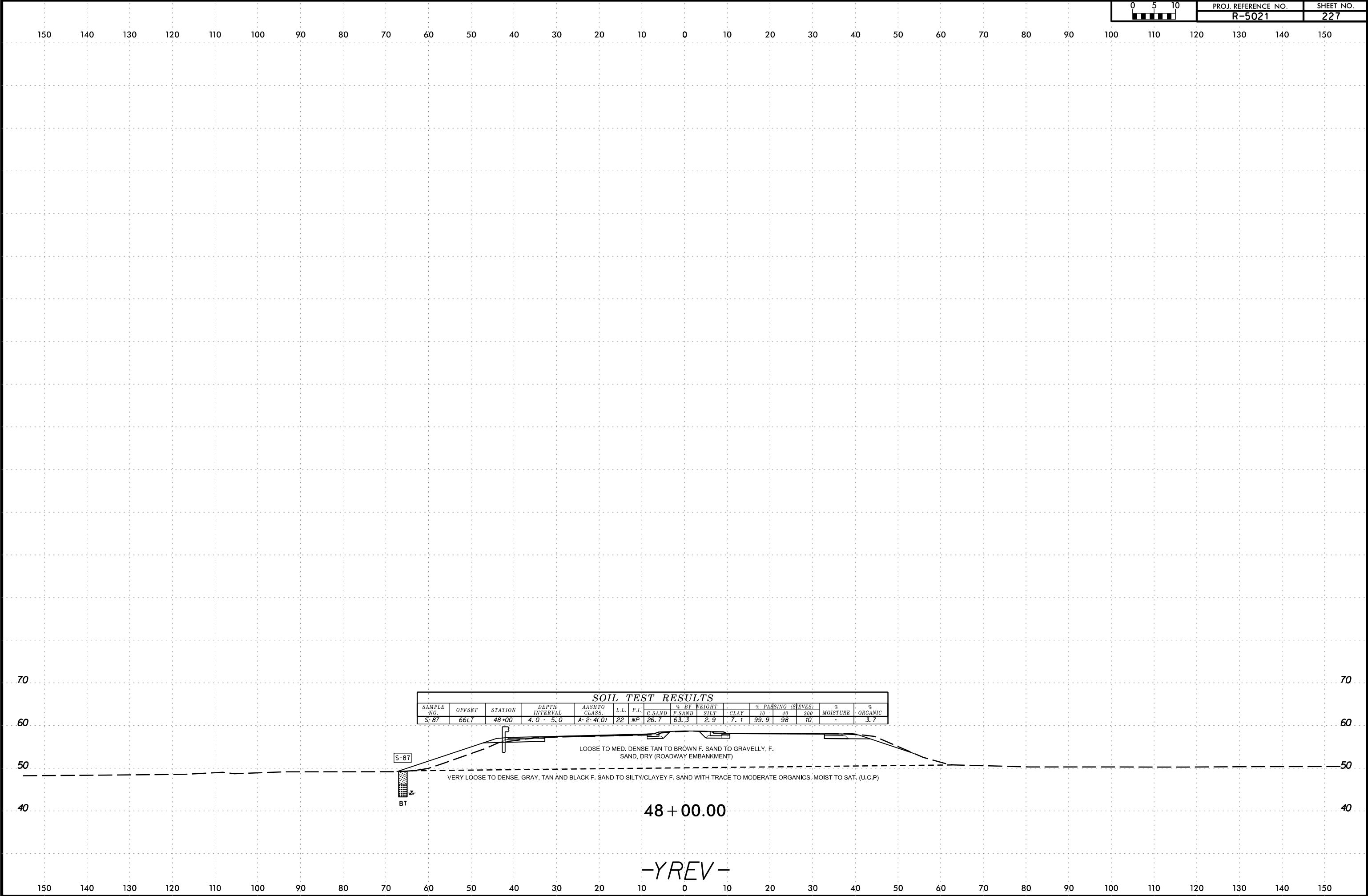
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	R-5021	226



-YREV-

6/23/16

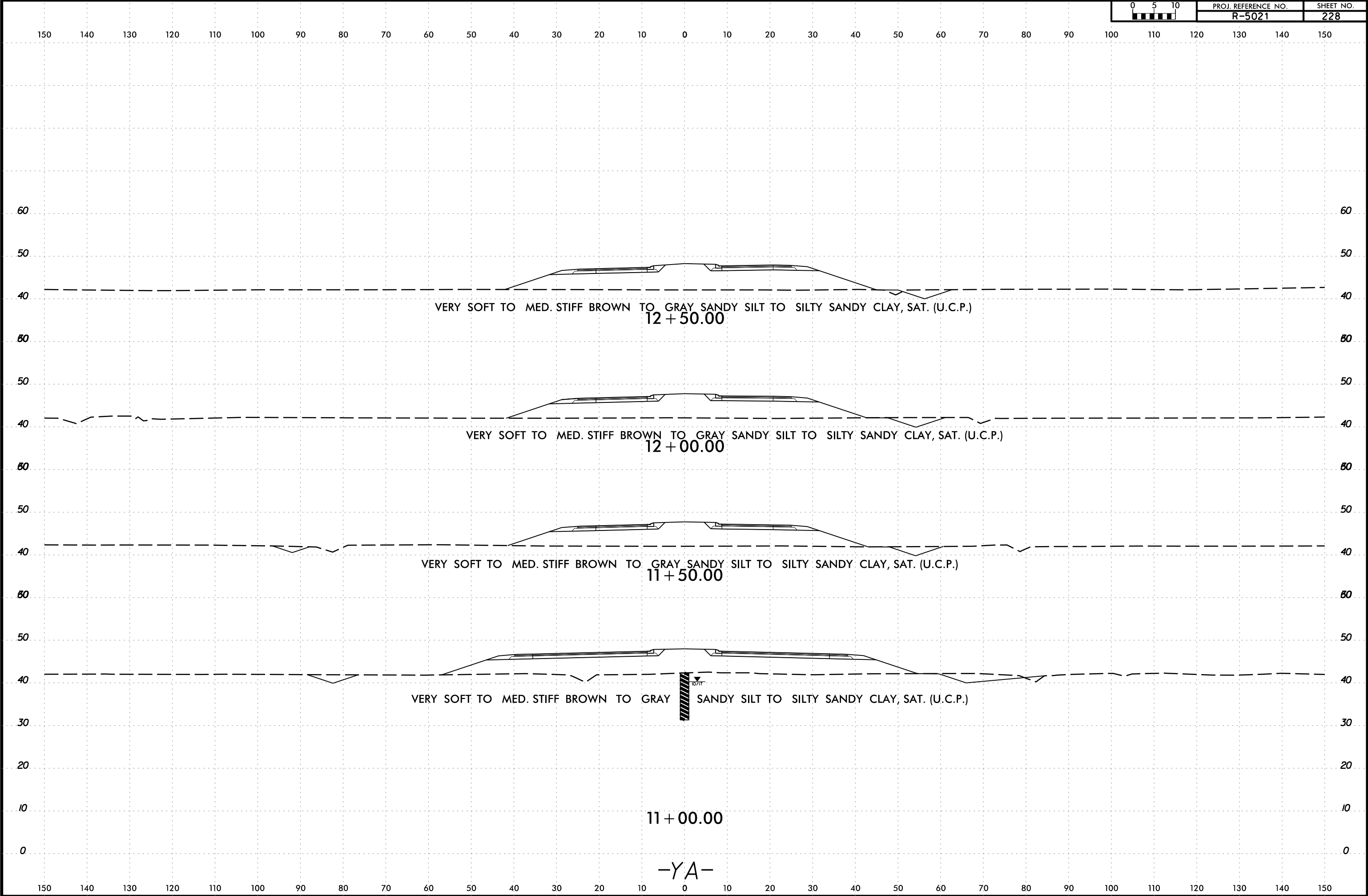
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STONE-FC



6/23/16

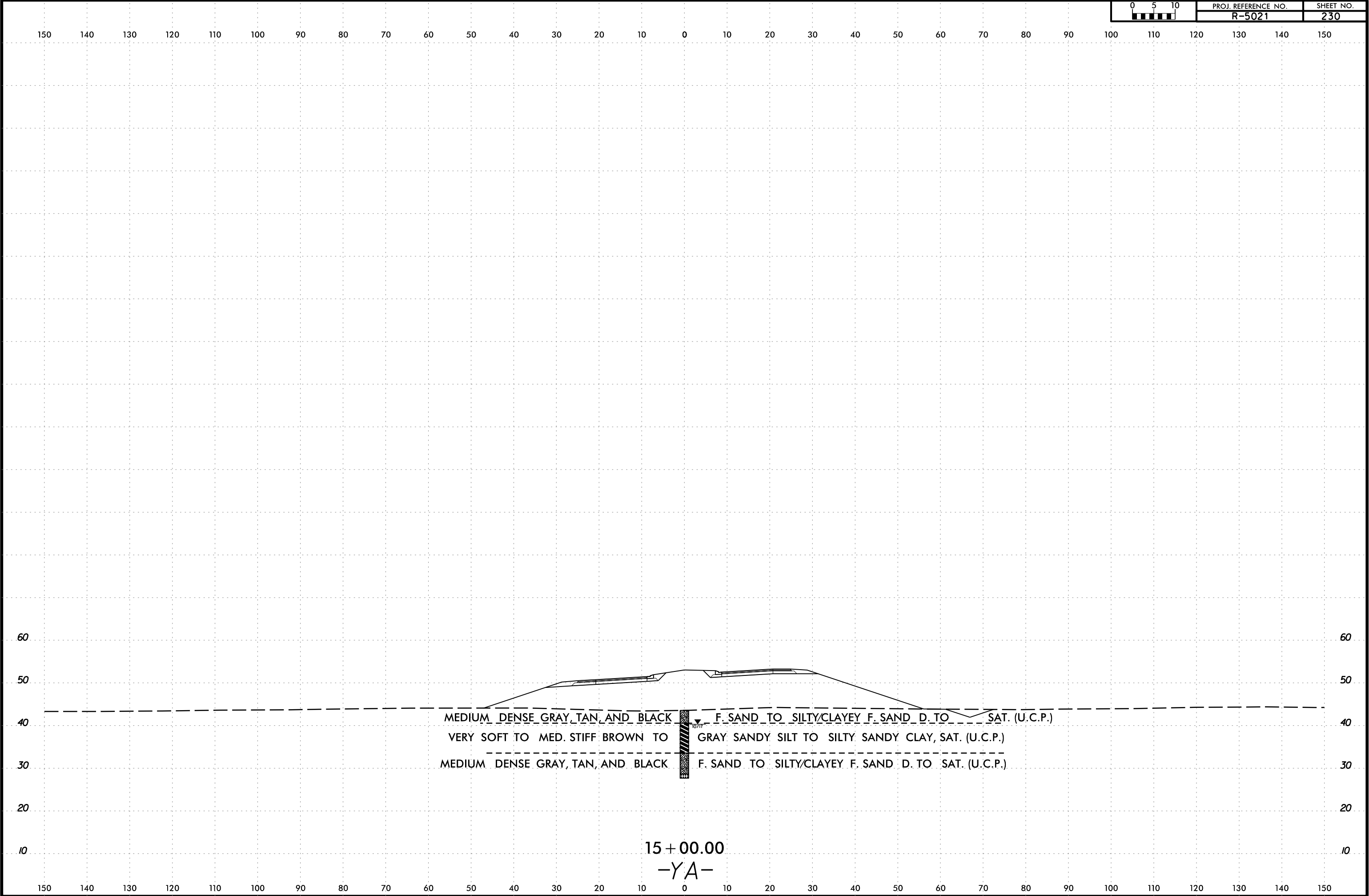
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LSTONE-PC

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	R-5021	228



6/23/16

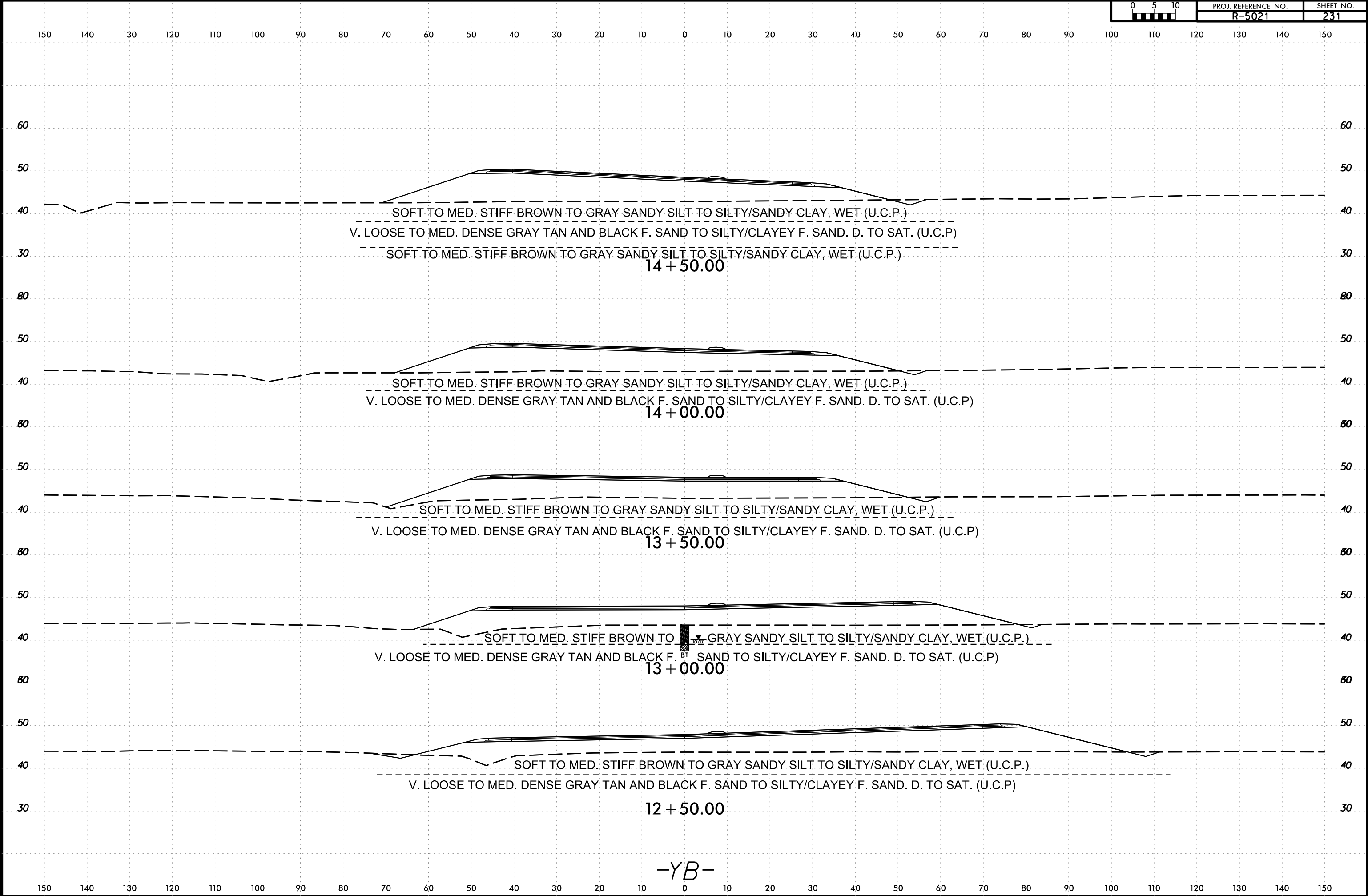
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1 stone



6/23/16

22-DEC-2017 12:09
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1stone-PC

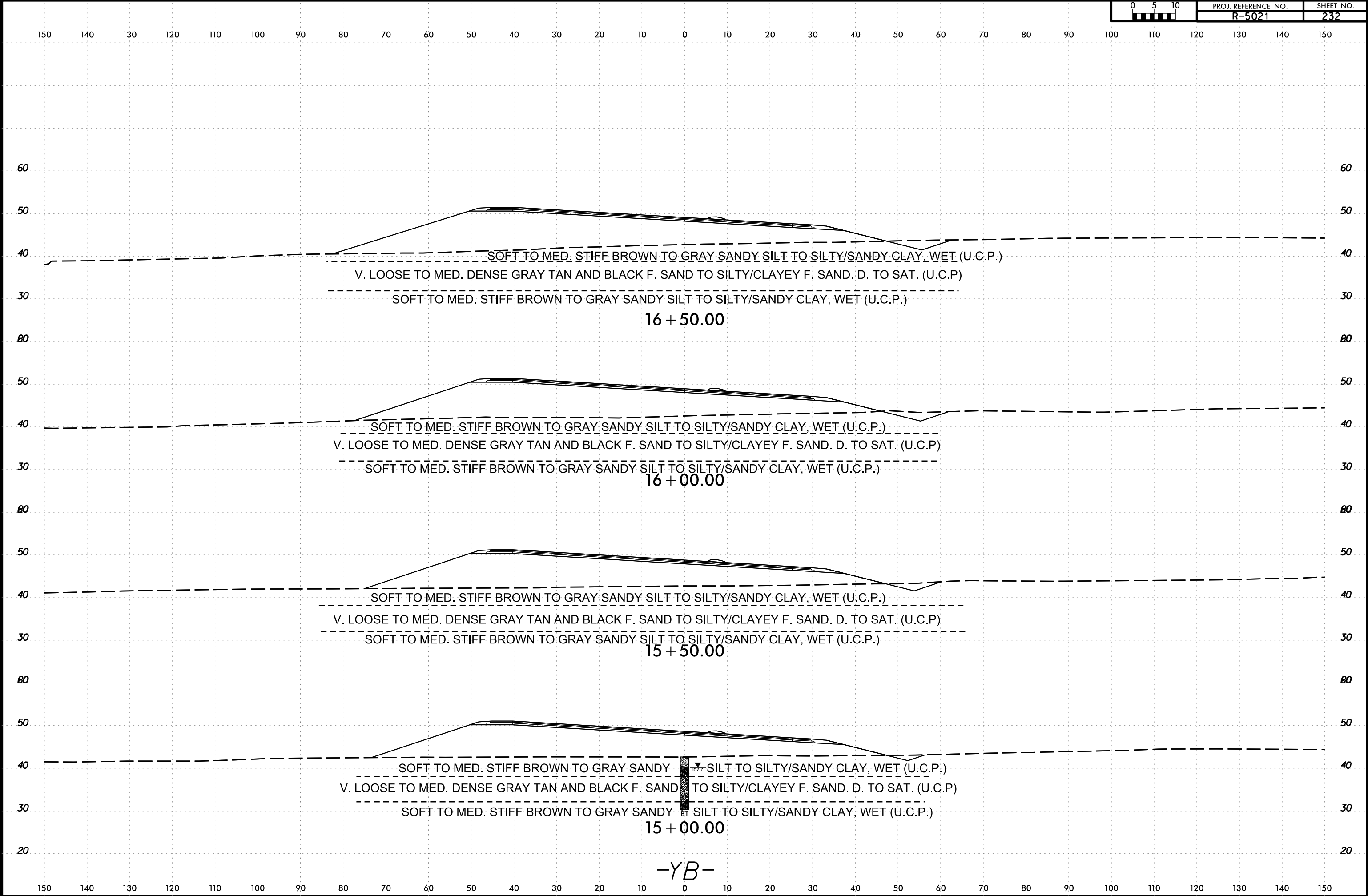
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	R-5021	231



6/23/16

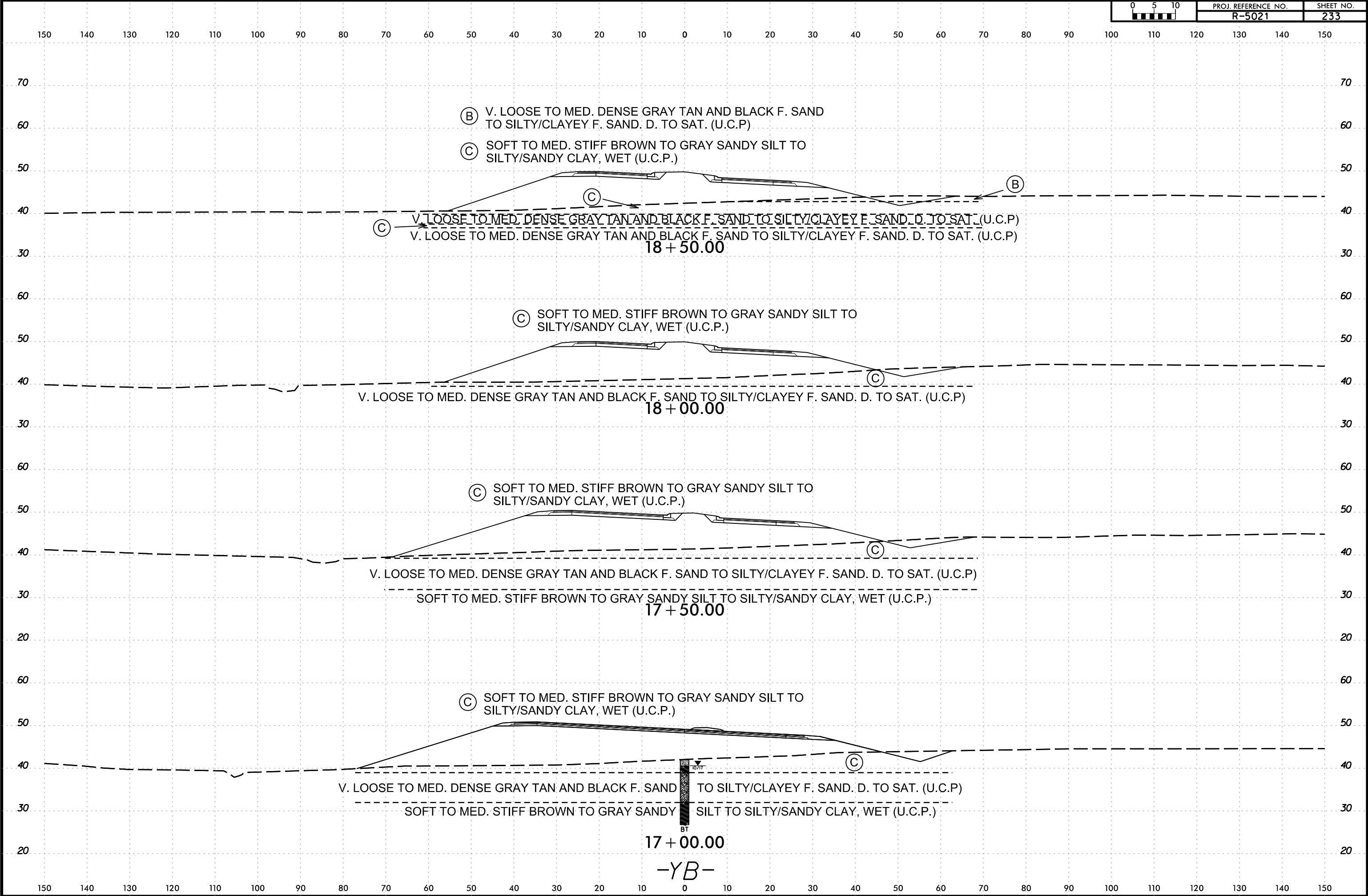
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1stone-PC

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5021	232



6/23/16

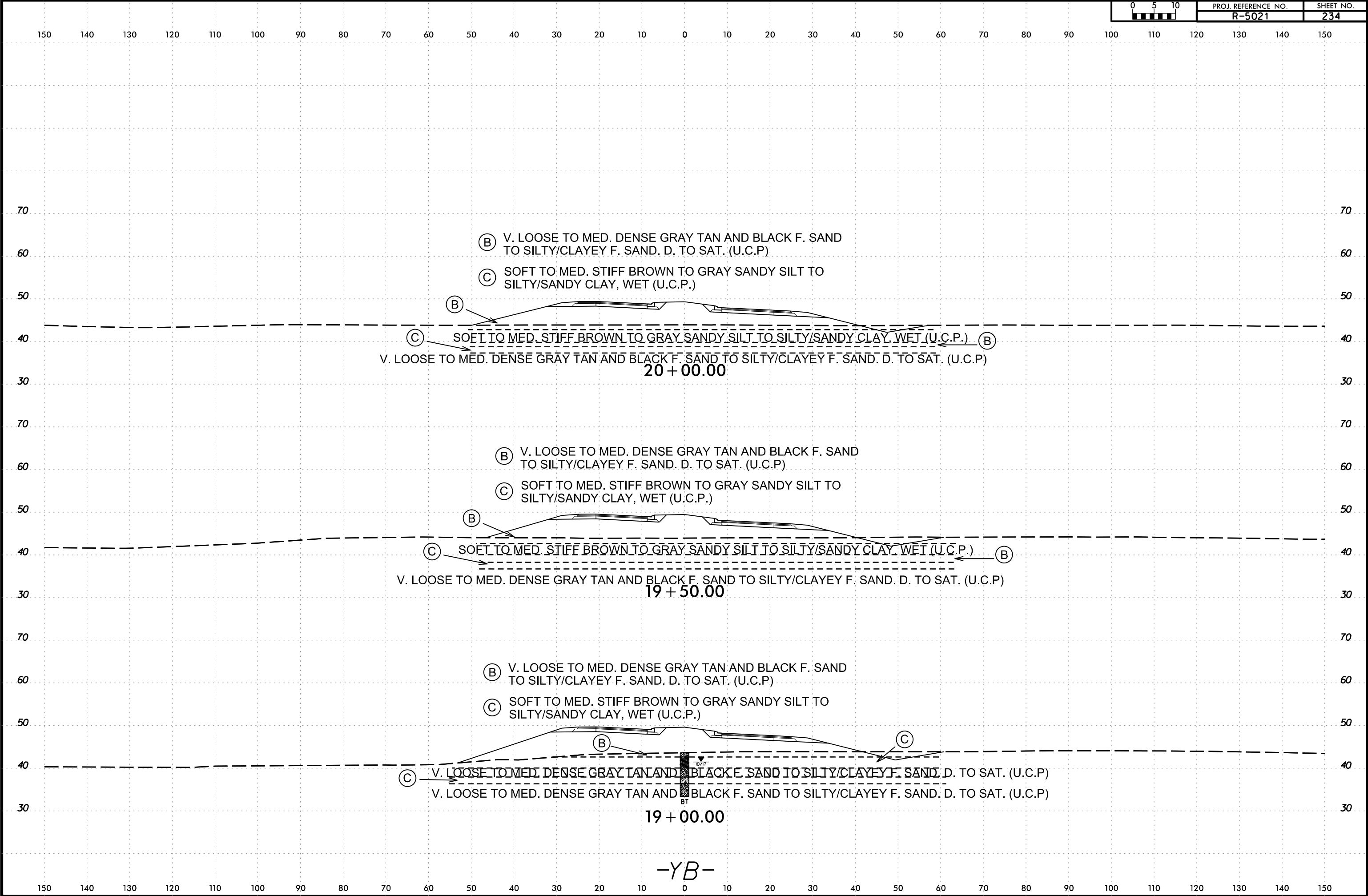
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1stone



6/23/16

22-DEC-2017 12:09
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1st of 10 sheets
LSTONE-PC

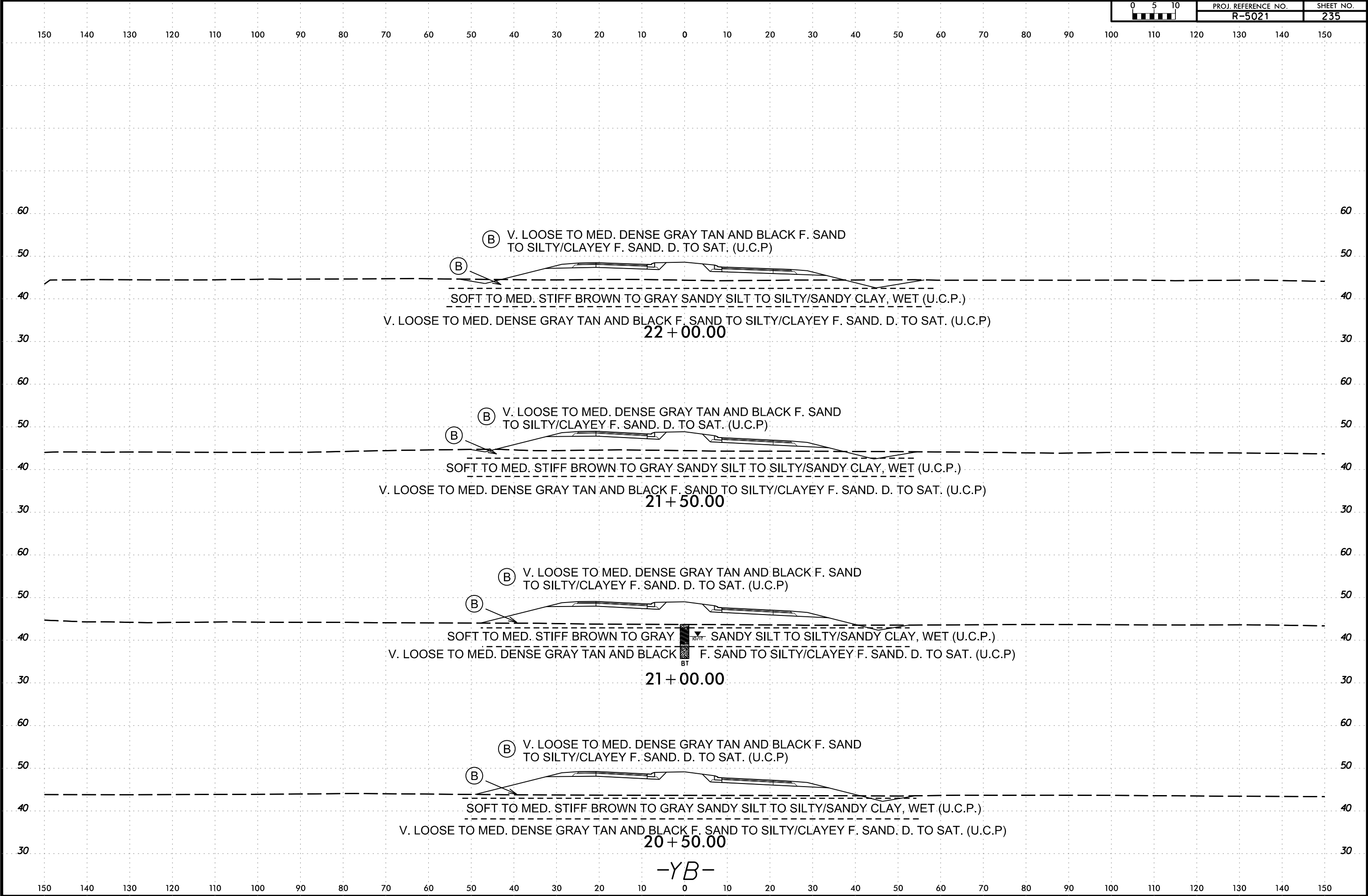
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	R-5021	234



6/23/16

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LSTONE-FC

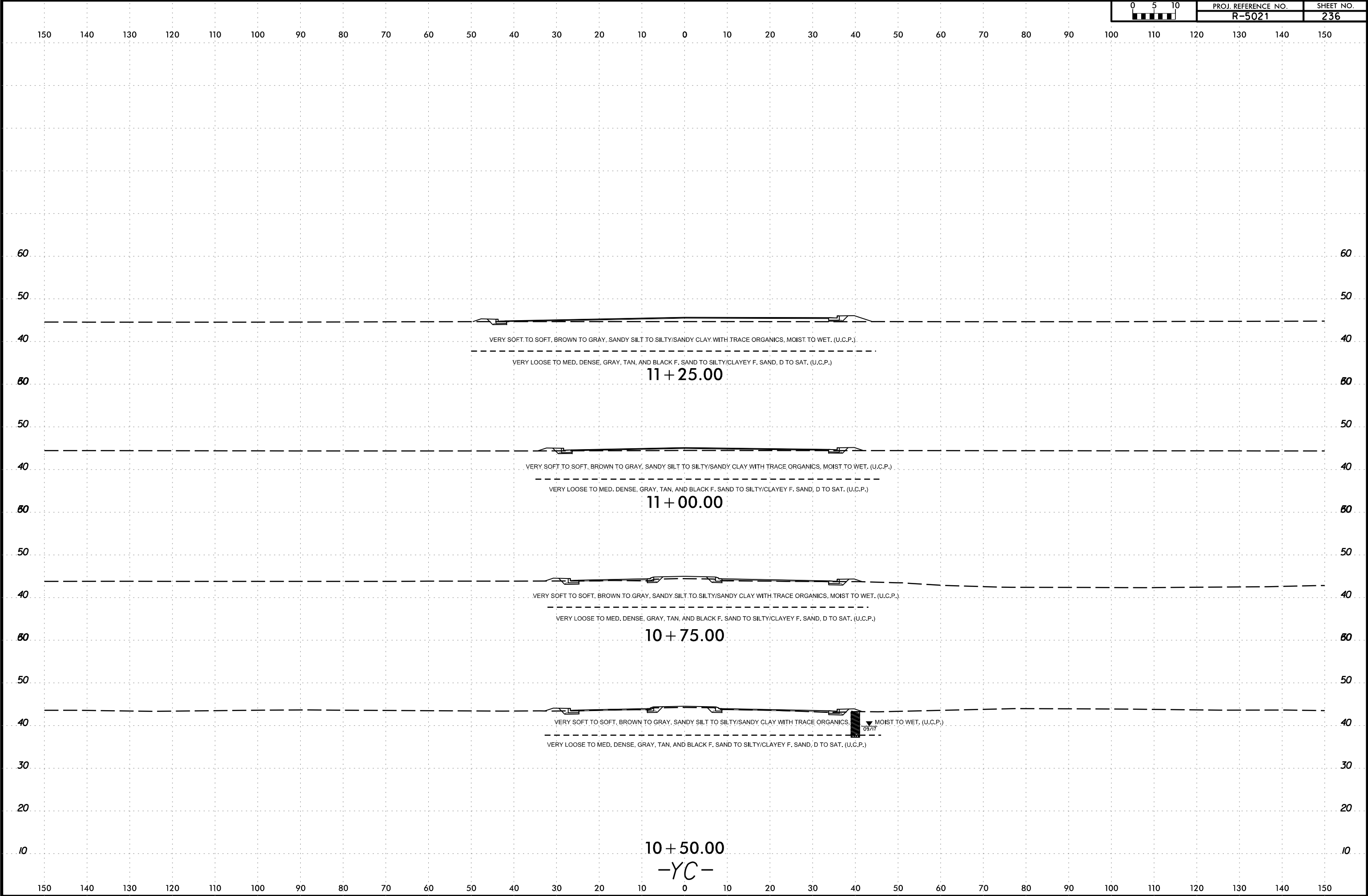
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	R-5021	235



6/23/16

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1stone-PC

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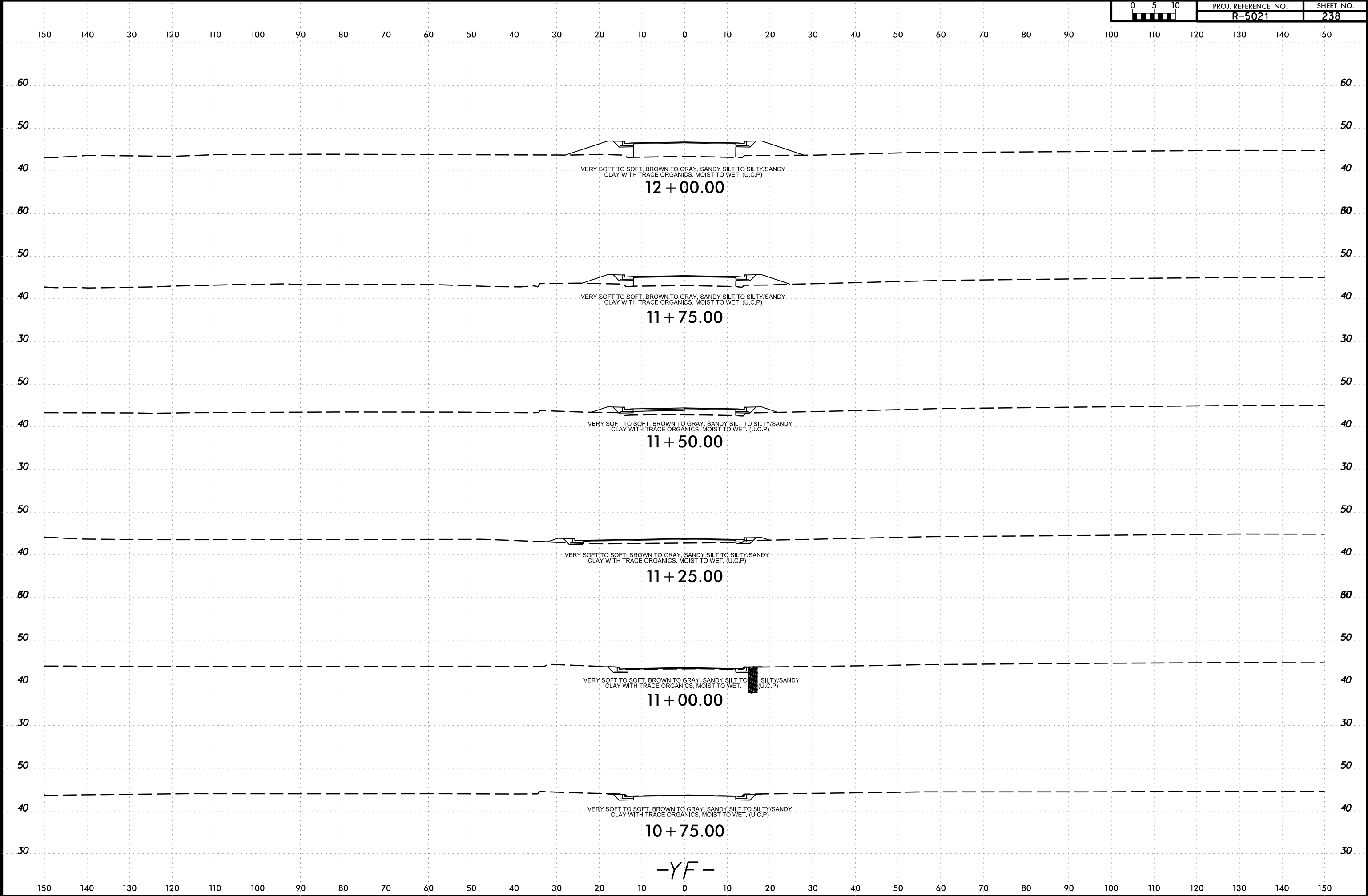




6/23/16

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LSTONE-FC

0 5 10 	PROJ. REFERENCE NO.	SHEET NO.
	R-5021	238



6/23/16

22-DEC-2017 12:09
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LSTONE-FC

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	R-5021	239

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60

50

40

30

60

50

40

30

20

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

08/14
LOOSE TO MED. DENSE TAN TO BROWN F. SAND, DRY (ROADWAY EMBANKMENT)
VERY SOFT TO SOFT, BROWN TO GRAY, SANDY SILT TO SILTY/SANDY CLAY WITH TRACE ORGANICS, MOIST TO WET. (U.C.P.)
V. LOOSE TO MED. DENSE, GRAY, TAN AND BLACK F. SAND TO SILTY/CLAYEY F. SAND, D TO SAT. (U.C.P.)
VERY SOFT TO SOFT, BROWN TO GRAY, SANDY SILT TO SILTY/SANDY CLAY WITH TRACE ORGANICS, MOIST TO WET. (U.C.P.)

12 + 50.00

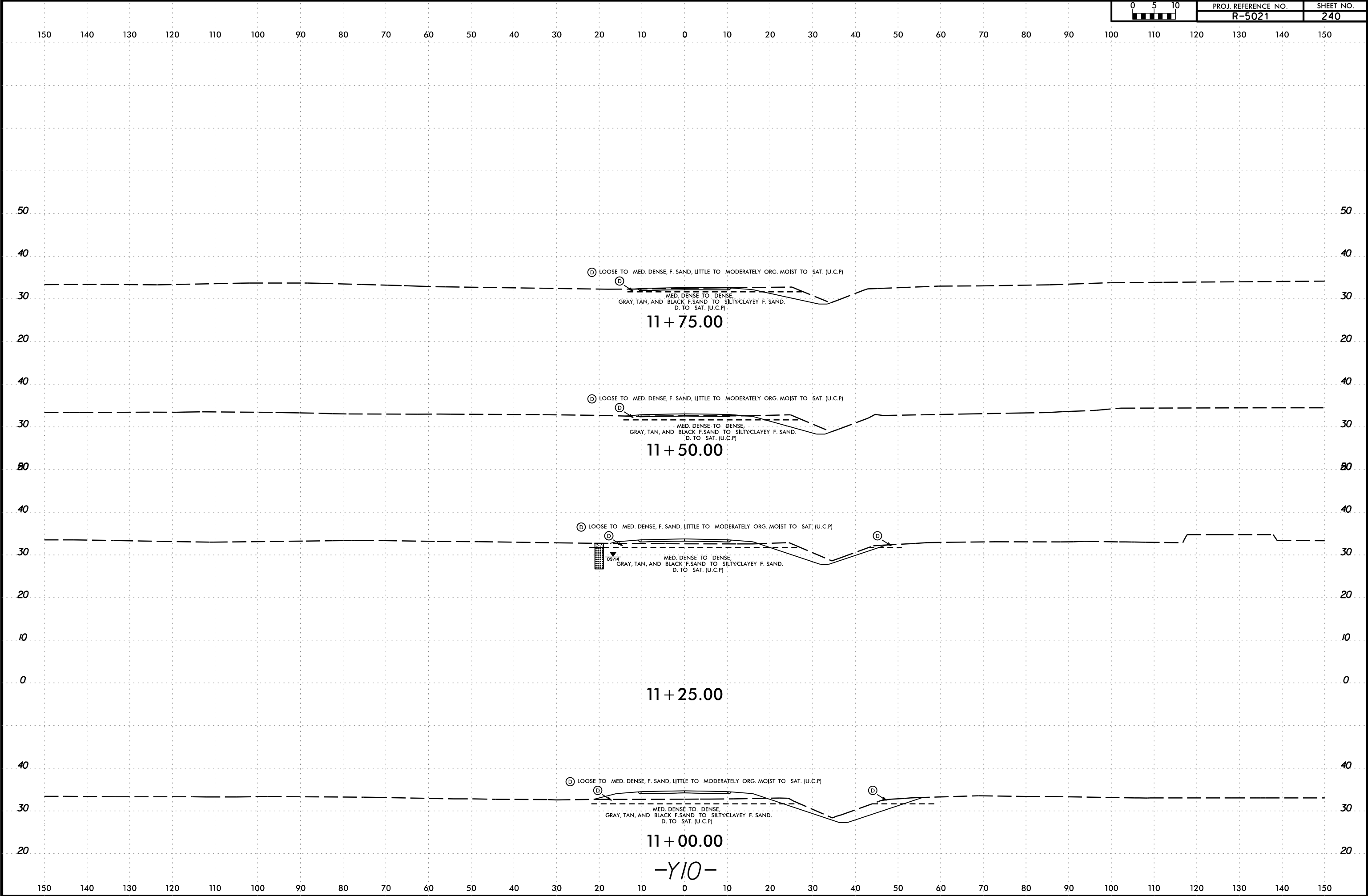
A LOOSE TO MED. DENSE TAN TO BROWN F. SAND, DRY (ROADWAY EMBANKMENT)
A
VERY SOFT TO SOFT, BROWN TO GRAY, SANDY SILT TO SILTY/SANDY CLAY WITH TRACE ORGANICS, MOIST TO WET. (U.C.P.)
V. LOOSE TO MED. DENSE, GRAY, TAN AND BLACK F. SAND TO SILTY/CLAYEY F. SAND, D TO SAT. (U.C.P.)
VERY SOFT TO SOFT, BROWN TO GRAY, SANDY SILT TO SILTY/SANDY CLAY WITH TRACE ORGANICS, MOIST TO WET. (U.C.P.)

12 + 25.00

-YF-

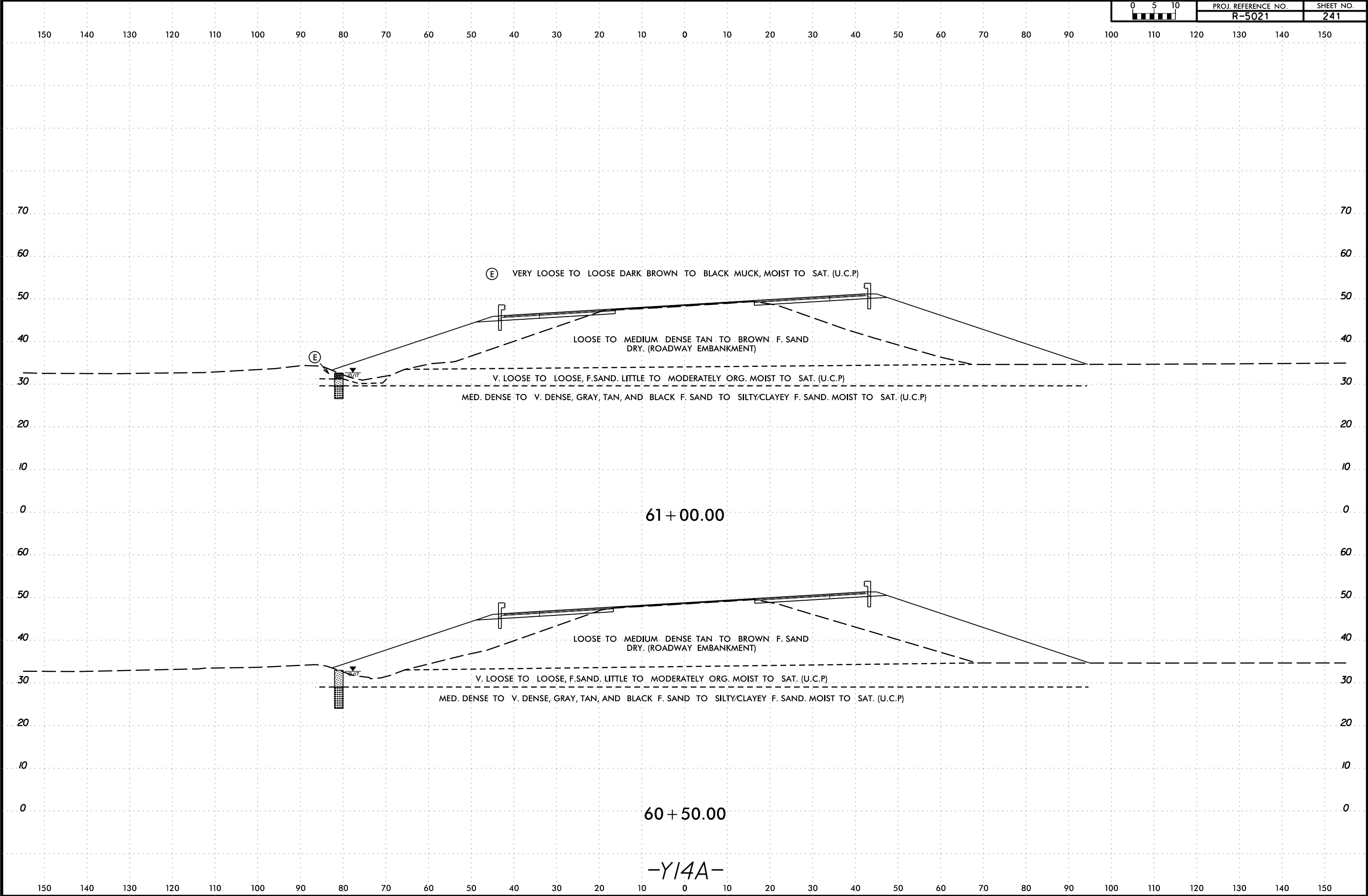
6/23/16

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1175
STONE-FC



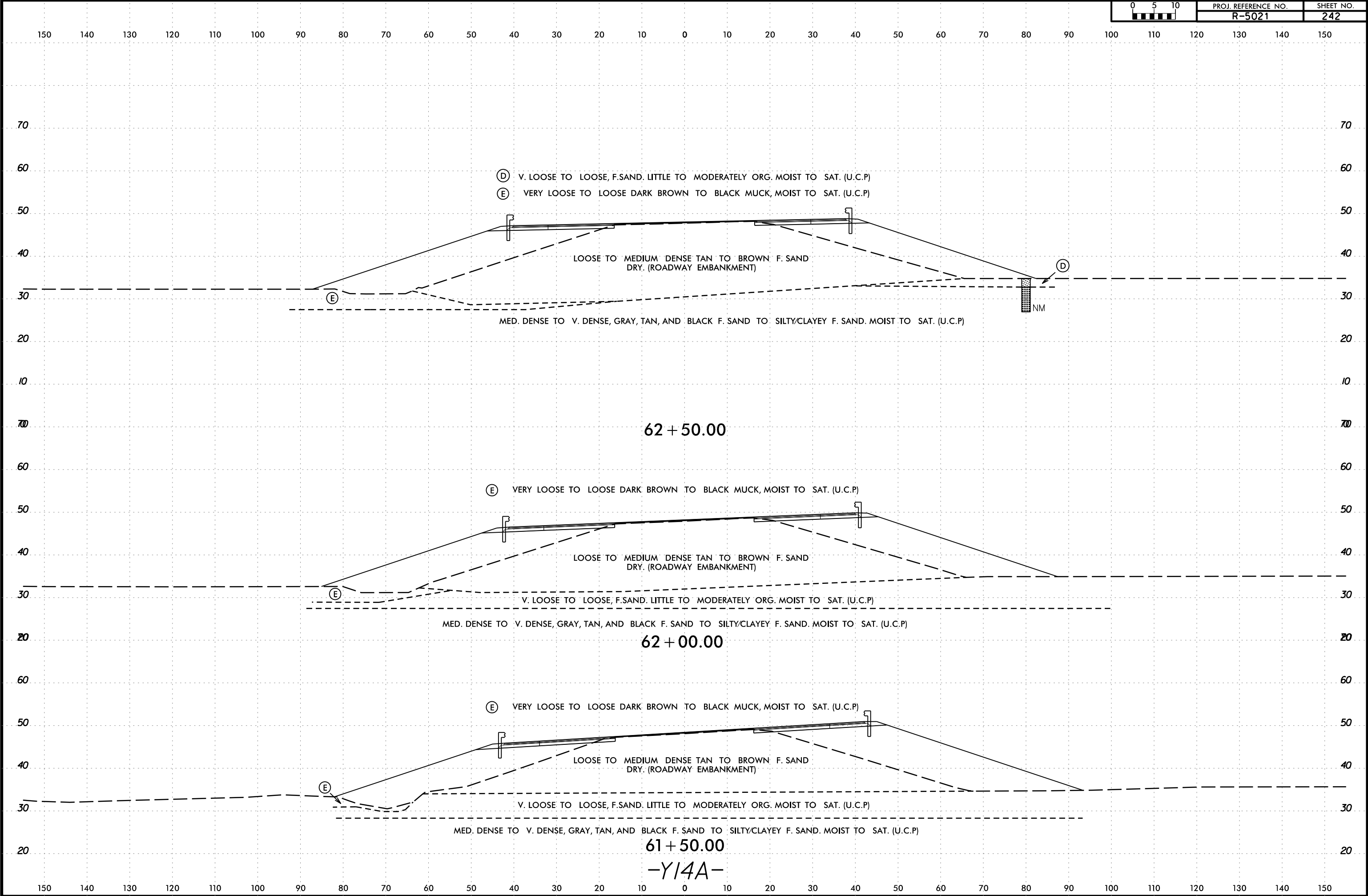
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ISTONE-PC



6/23/16

22-DEC-2017 12:09
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LSTONE-PC

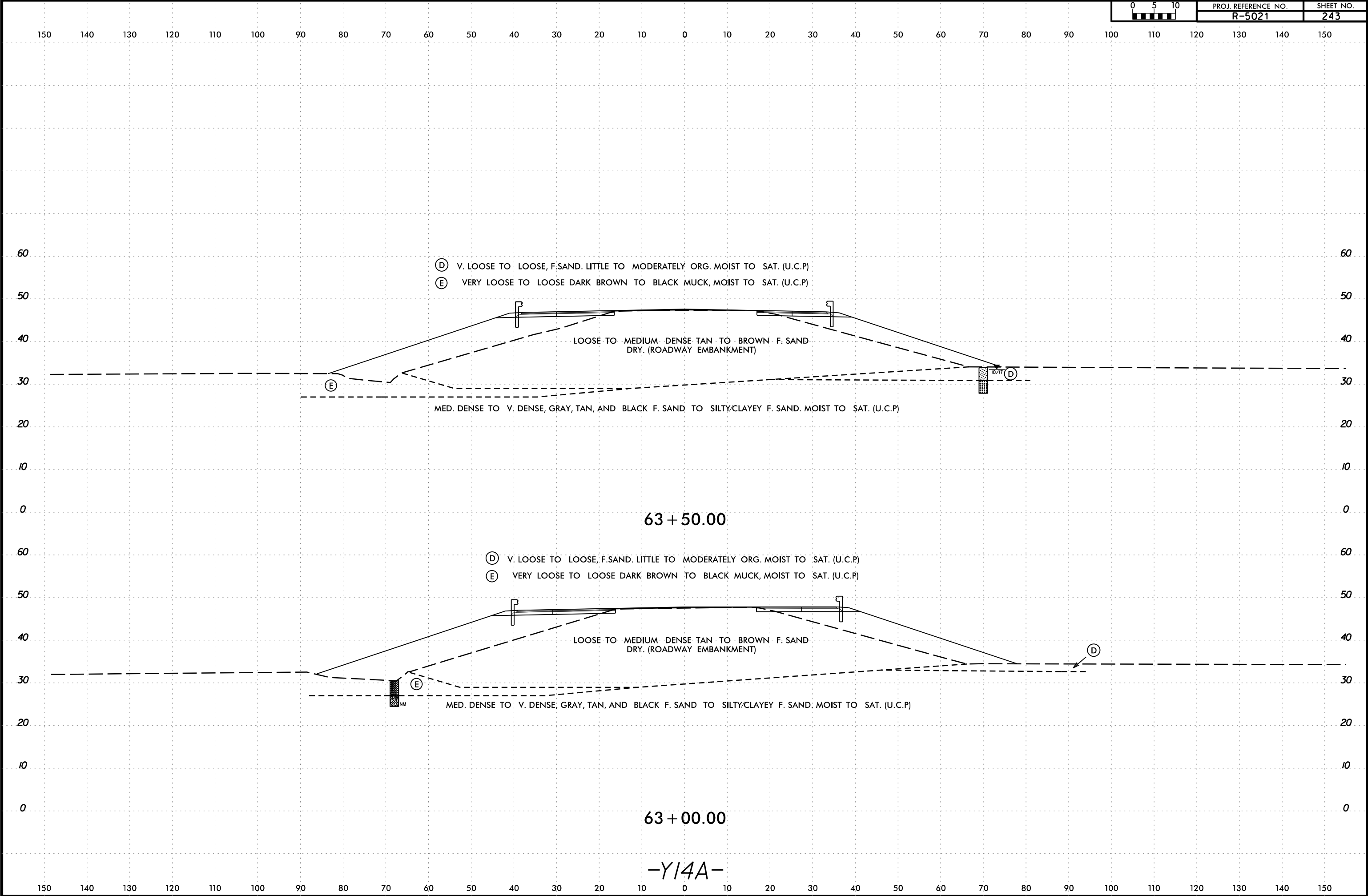


-Y/4A-

6/23/16

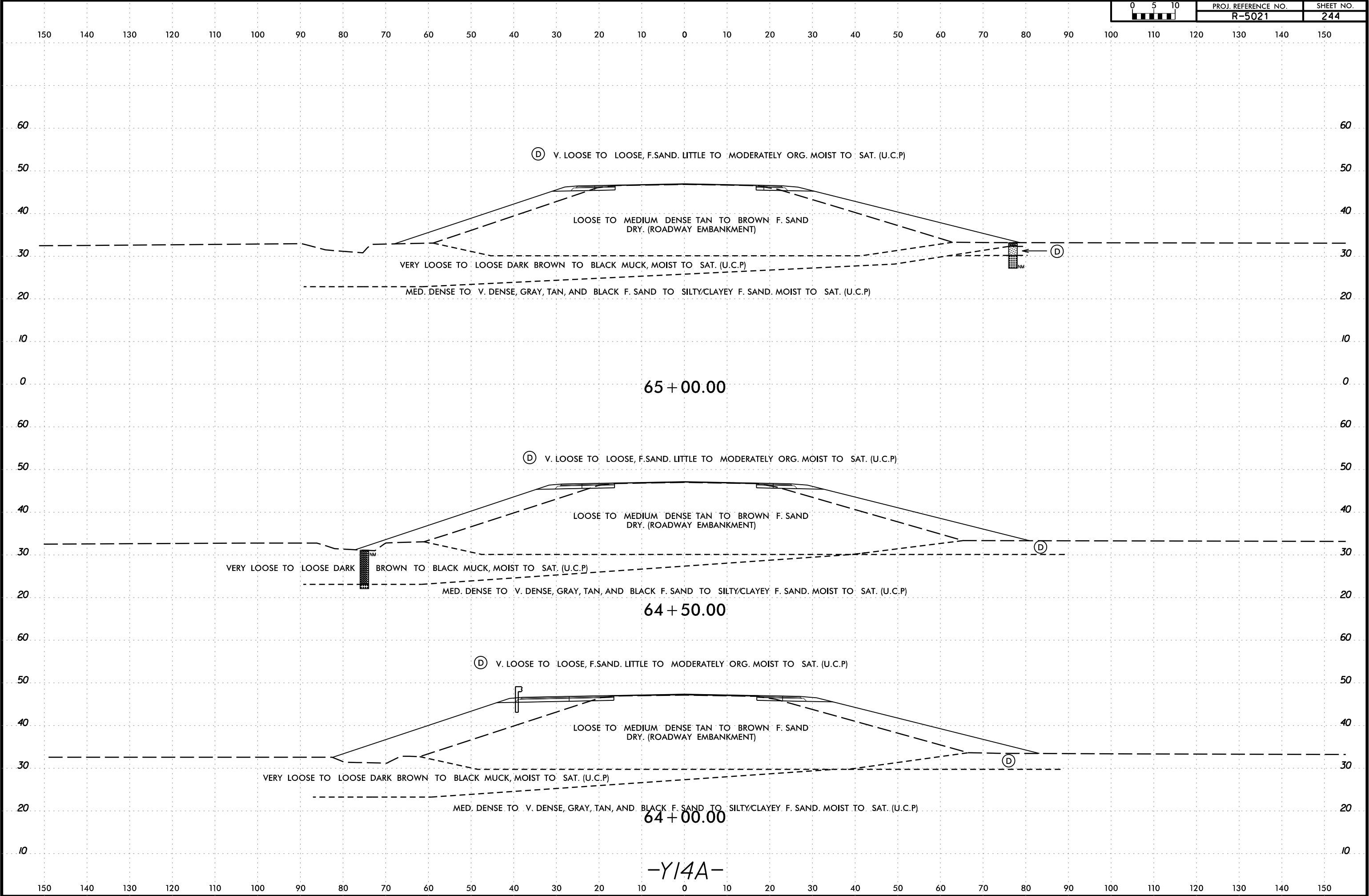
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LSTONE-PC

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	R-5021	243



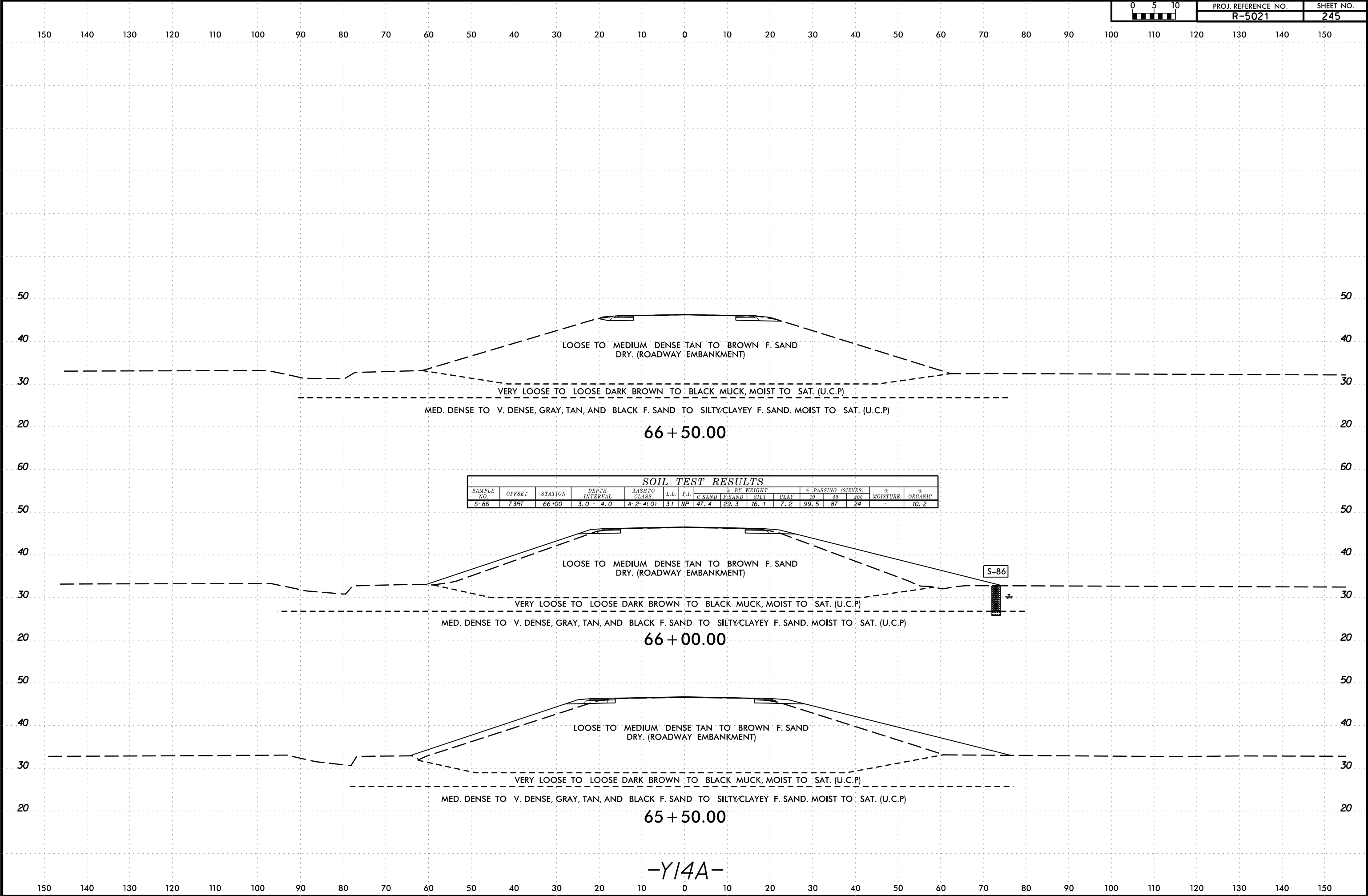
6/23/16

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LSTONE-FC



6/23/16

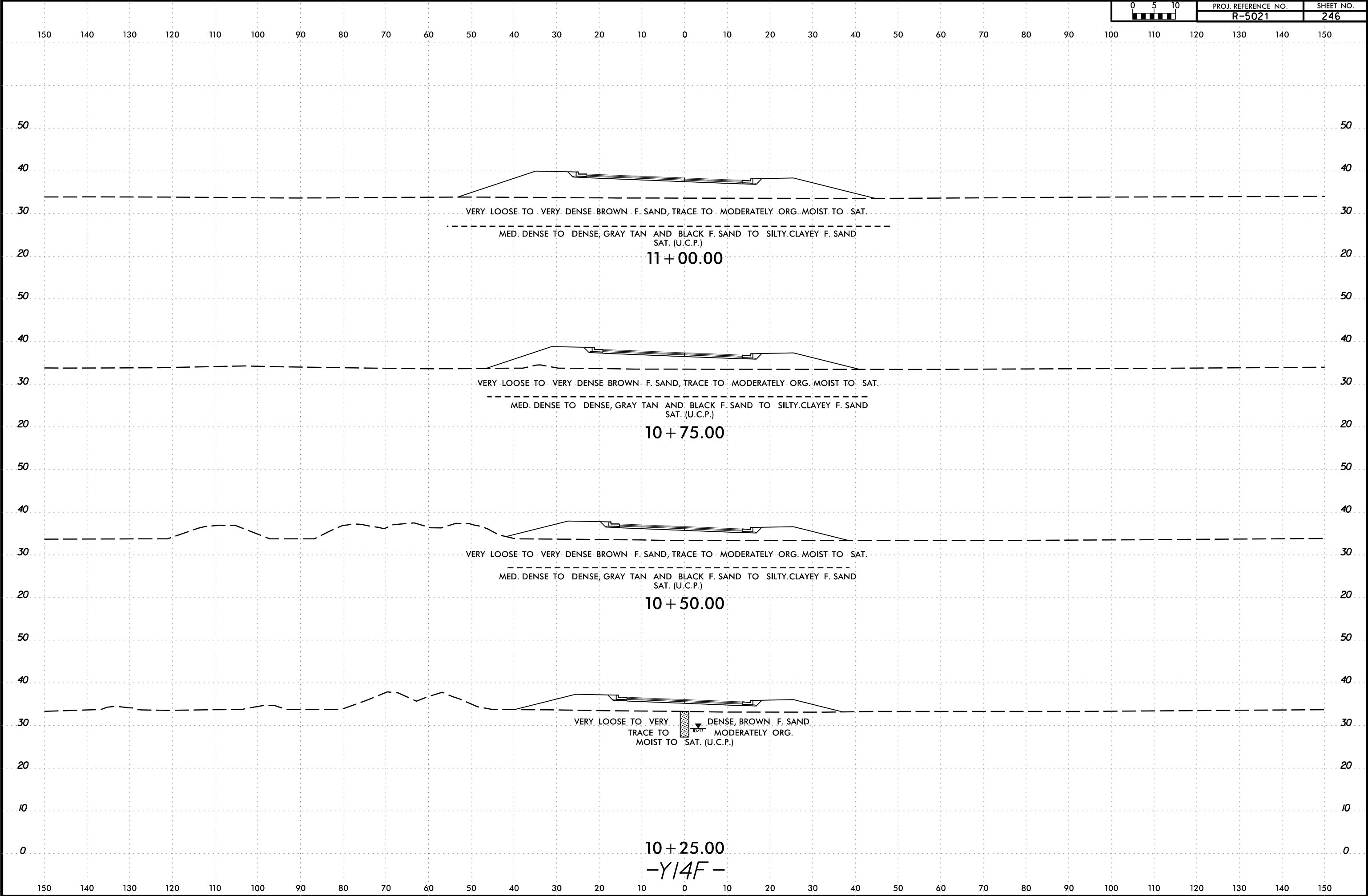
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LSTONE-PC



6/23/16

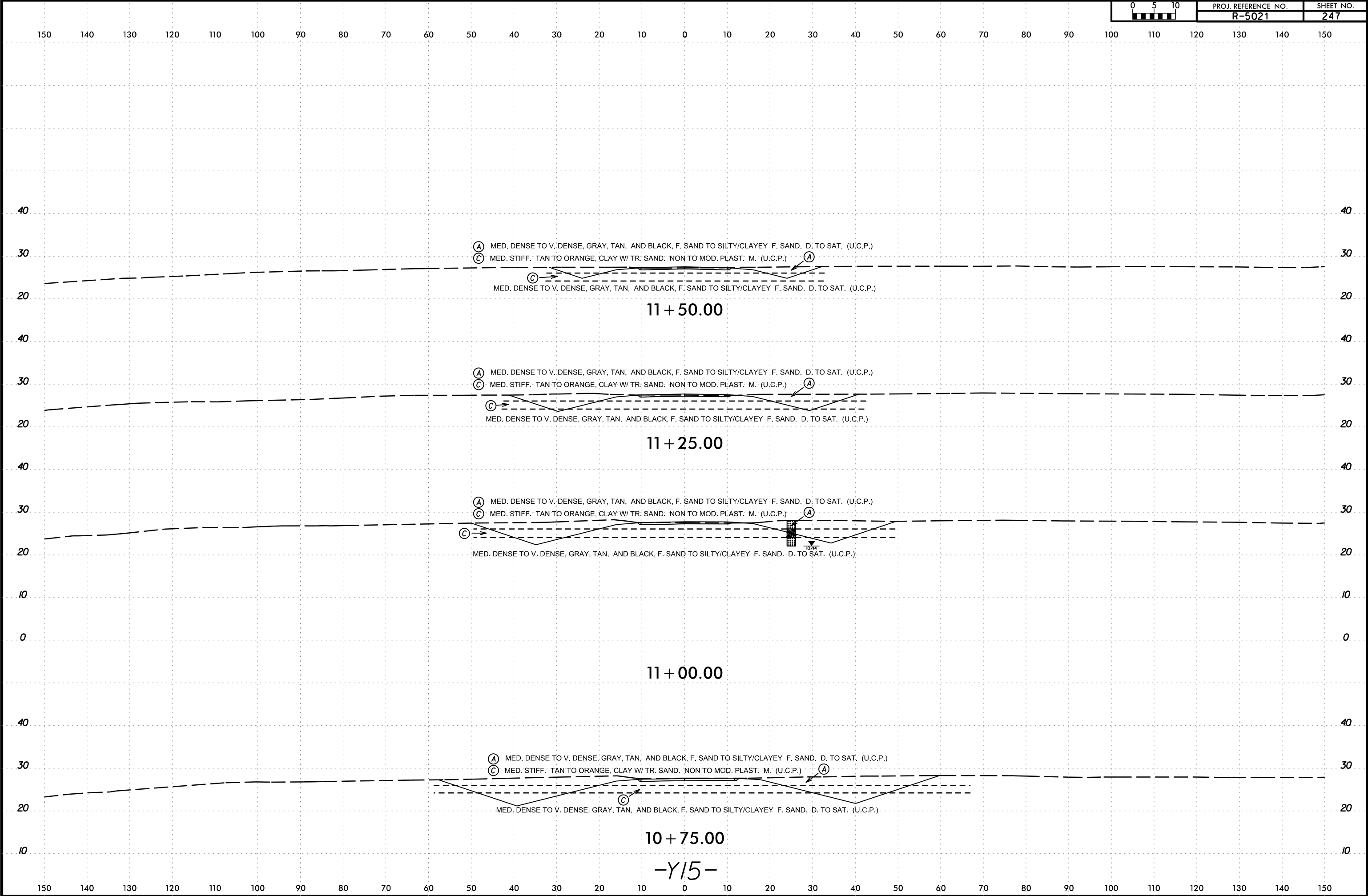
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LSTONE-PC

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	R-5021	246



6/23/16

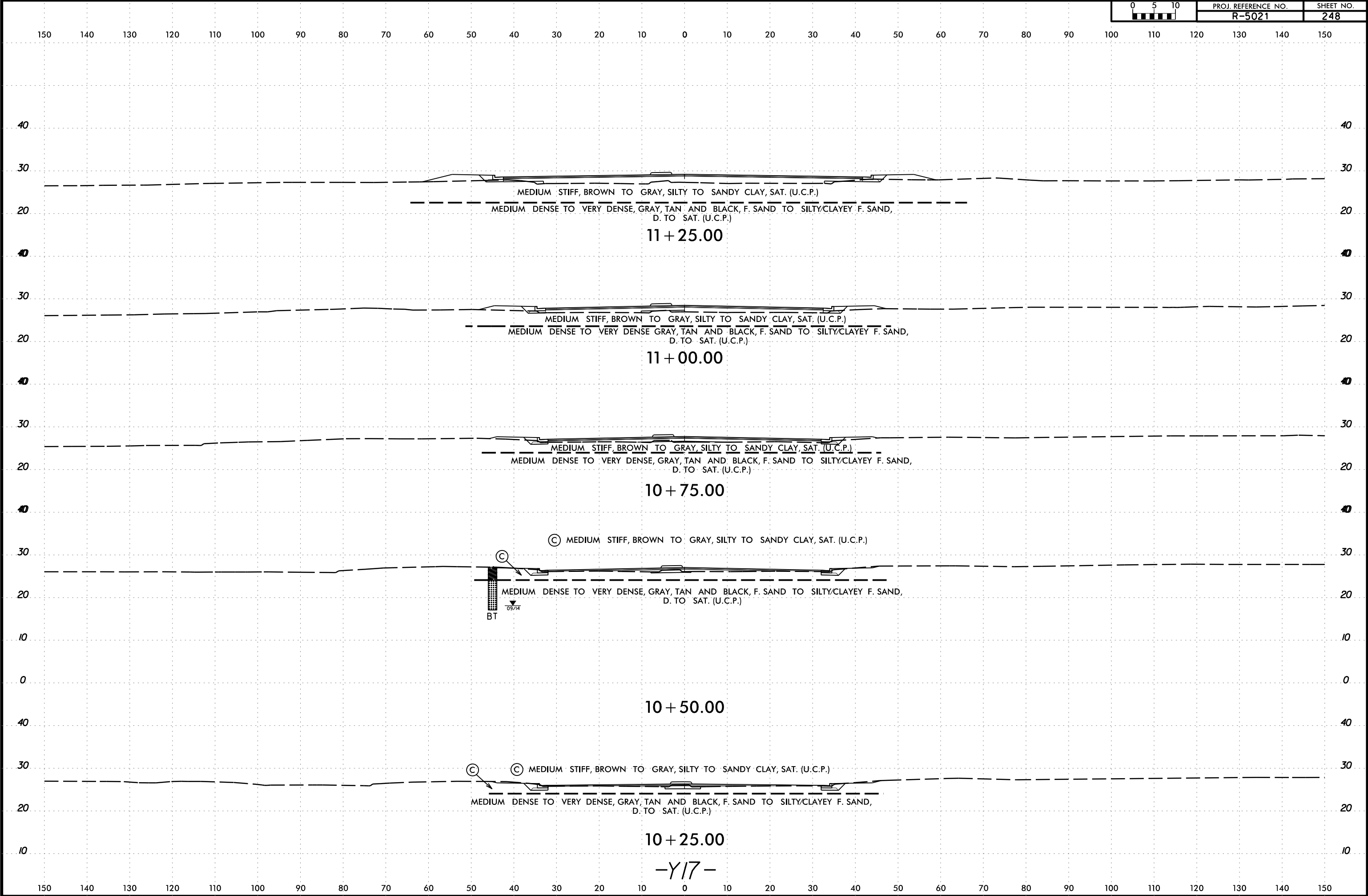
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LSTONE-FC



6/23/16

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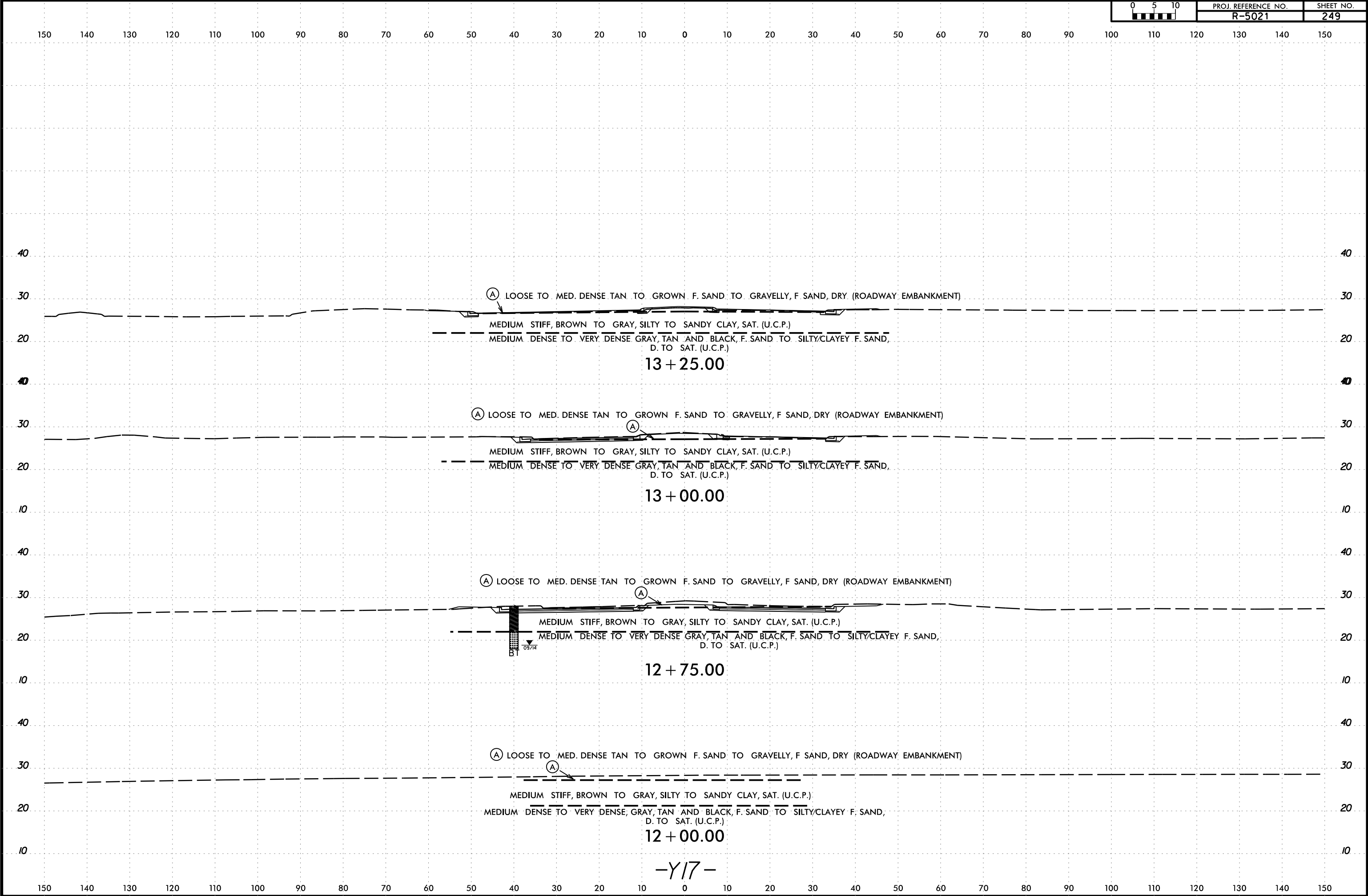
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6/23/16

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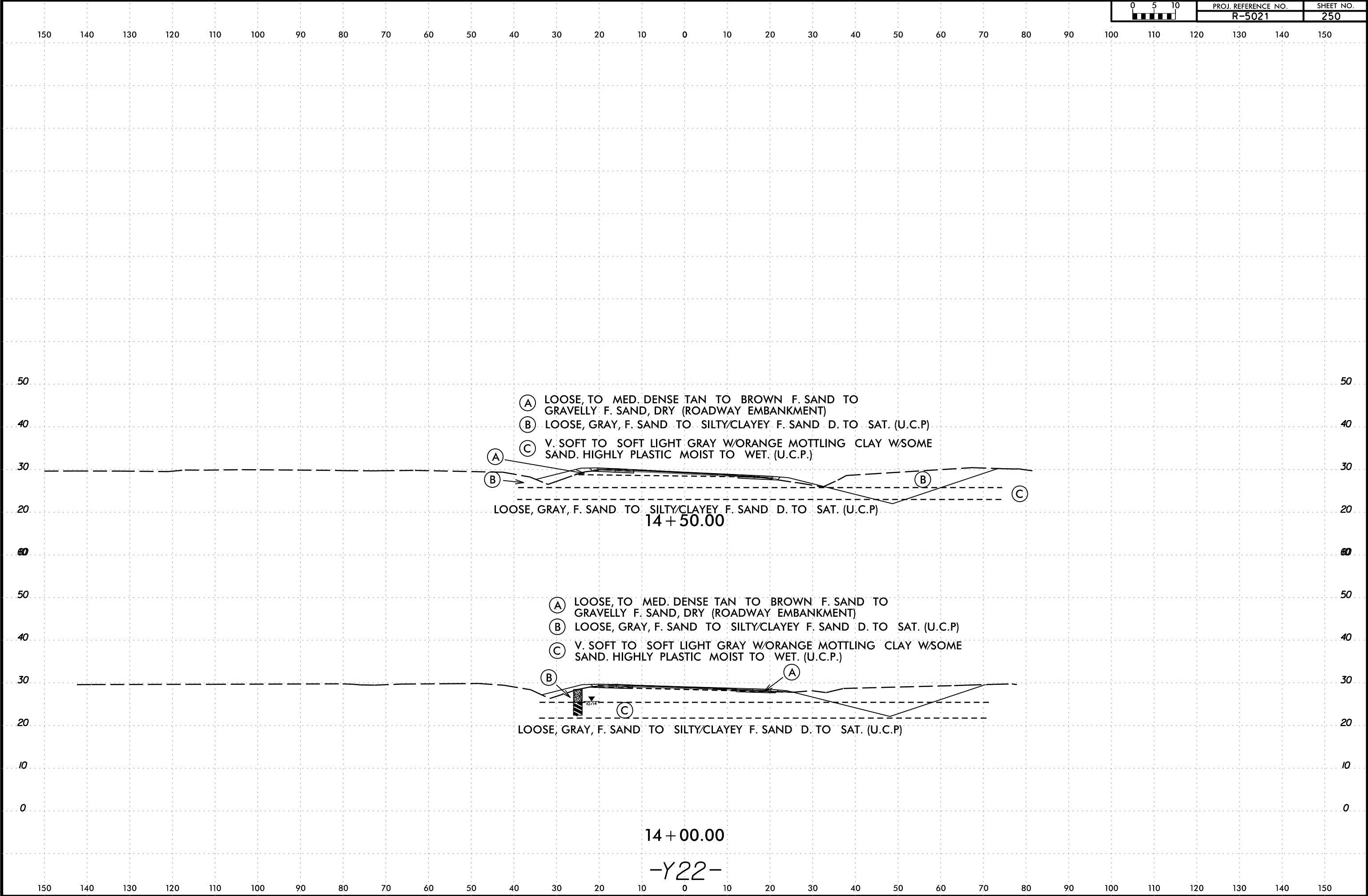
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6/23/16

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LSTONE-PC

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	R-5021	250



6/23/16

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1stone

0	5	10	PROJ. REFERENCE NO.	SHEET NO.
			R-5021	251

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

50

40

30

20

10

0

50

40

30

20

10

0

- (A) LOOSE, TO MED. DENSE TAN TO BROWN F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
- (B) LOOSE, GRAY, F. SAND TO SILTY/CLAYEY F. SAND D. TO SAT. (U.C.P)
- (C) V. SOFT TO SOFT LIGHT GRAY W/ORANGE MOTTLING CLAY W/SOME SAND. HIGHLY PLASTIC MOIST TO WET. (U.C.P.)

LOOSE, GRAY, F. SAND TO SILTY/CLAYEY F. SAND D. TO SAT. (U.C.P)

15 + 50.00

50

40

30

20

10

0

50

40

30

20

10

0

- (A) LOOSE, TO MED. DENSE TAN TO BROWN F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
- (B) LOOSE, GRAY, F. SAND TO SILTY/CLAYEY F. SAND D. TO SAT. (U.C.P)
- (C) V. SOFT TO SOFT LIGHT GRAY W/ORANGE MOTTLING CLAY W/SOME SAND. HIGHLY PLASTIC MOIST TO WET. (U.C.P.)

LOOSE, GRAY, F. SAND TO SILTY/CLAYEY F. SAND D. TO SAT. (U.C.P)

15 + 00.00

-Y22-

6/23/16

22-DEC-2017 12:09
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LSTONE-PC

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50 50

40 40

30 30

20 20

10 10

50 50

40 40

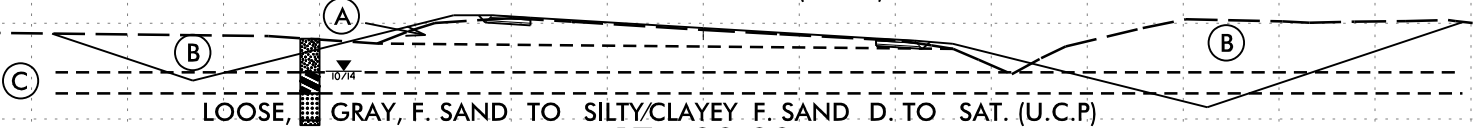
30 30

20 20

10 10

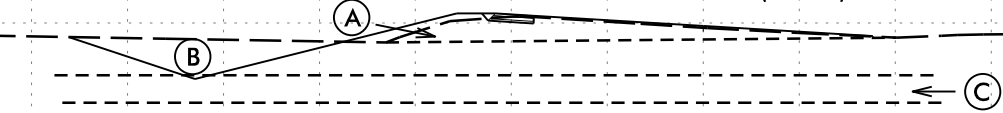
0 0

- (A) LOOSE, TO MED. DENSE TAN TO BROWN F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
- (B) LOOSE, GRAY, F. SAND TO SILTY/CLAYEY F. SAND D. TO SAT. (U.C.P)
- (C) V. SOFT TO SOFT LIGHT GRAY W/ORANGE MOTTLING CLAY W/SOME SAND. HIGHLY PLASTIC MOIST TO WET. (U.C.P.)



17+00.00

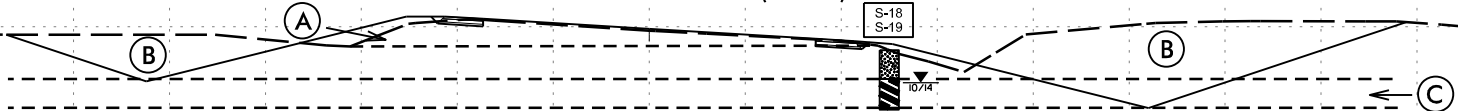
- (A) LOOSE, TO MED. DENSE TAN TO BROWN F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
- (B) LOOSE, GRAY, F. SAND TO SILTY/CLAYEY F. SAND D. TO SAT. (U.C.P)
- (C) V. SOFT TO SOFT LIGHT GRAY W/ORANGE MOTTLING CLAY W/SOME SAND. HIGHLY PLASTIC MOIST TO WET. (U.C.P.)



16+50.00

SOIL TEST RESULTS															
SAMPLE NUMBER	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-18	25 ft RT	16+00	0.0 - 3.0	A-2-4(0)	15	NP	36.5	40.3	13.9	9.3	100	93	27	-	-
S-19	25 ft RT	16+00	3.0 - 6.0	A-7-6(23)	45	28	1.8	23.6	35.4	39.1	100	100	84	-	-

- (A) LOOSE, TO MED. DENSE TAN TO BROWN F. SAND TO GRAVELLY F. SAND, DRY (ROADWAY EMBANKMENT)
- (B) LOOSE, GRAY, F. SAND TO SILTY/CLAYEY F. SAND D. TO SAT. (U.C.P)
- (C) V. SOFT TO SOFT LIGHT GRAY W/ORANGE MOTTLING CLAY W/SOME SAND. HIGHLY PLASTIC MOIST TO WET. (U.C.P.)

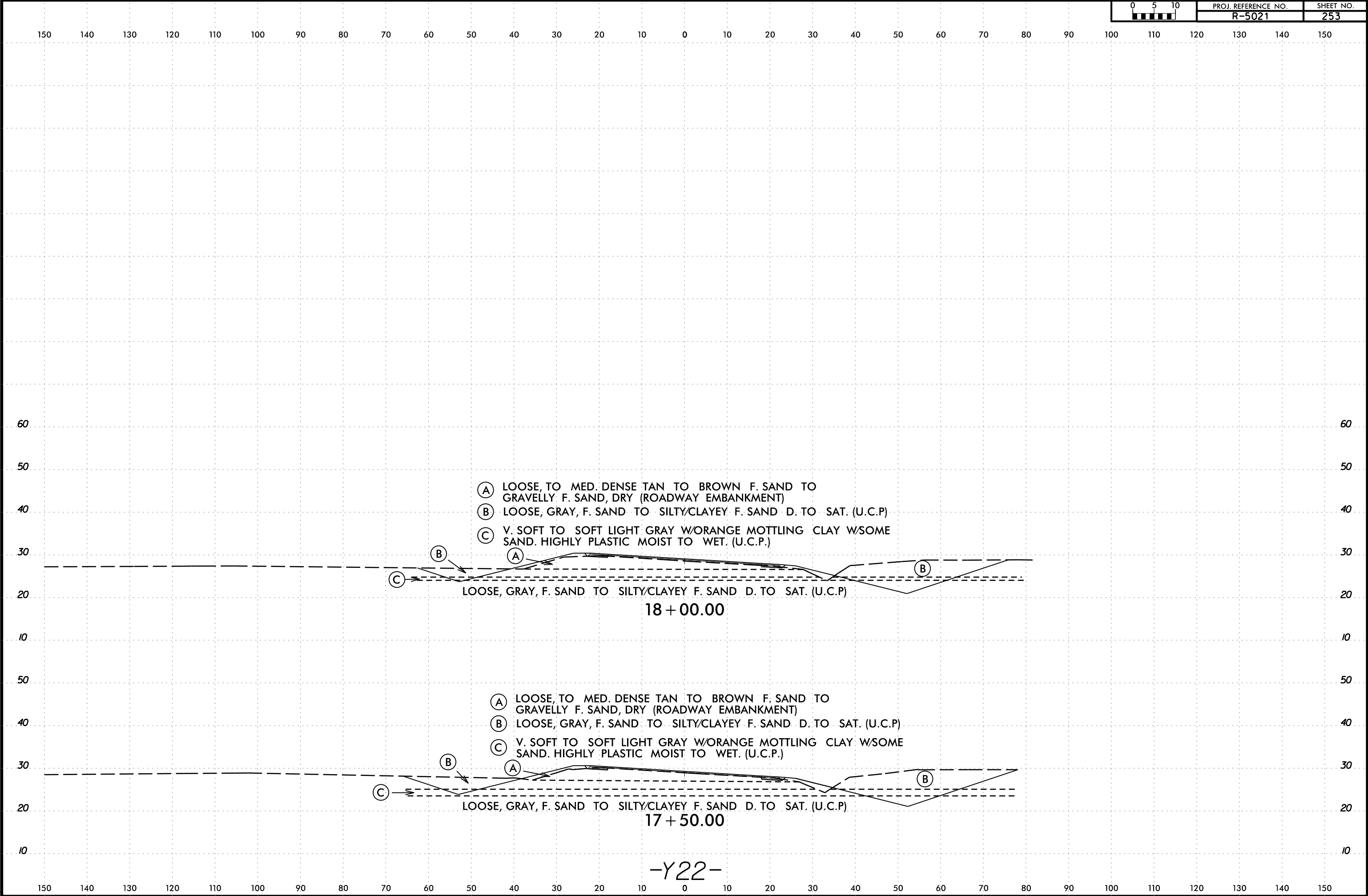


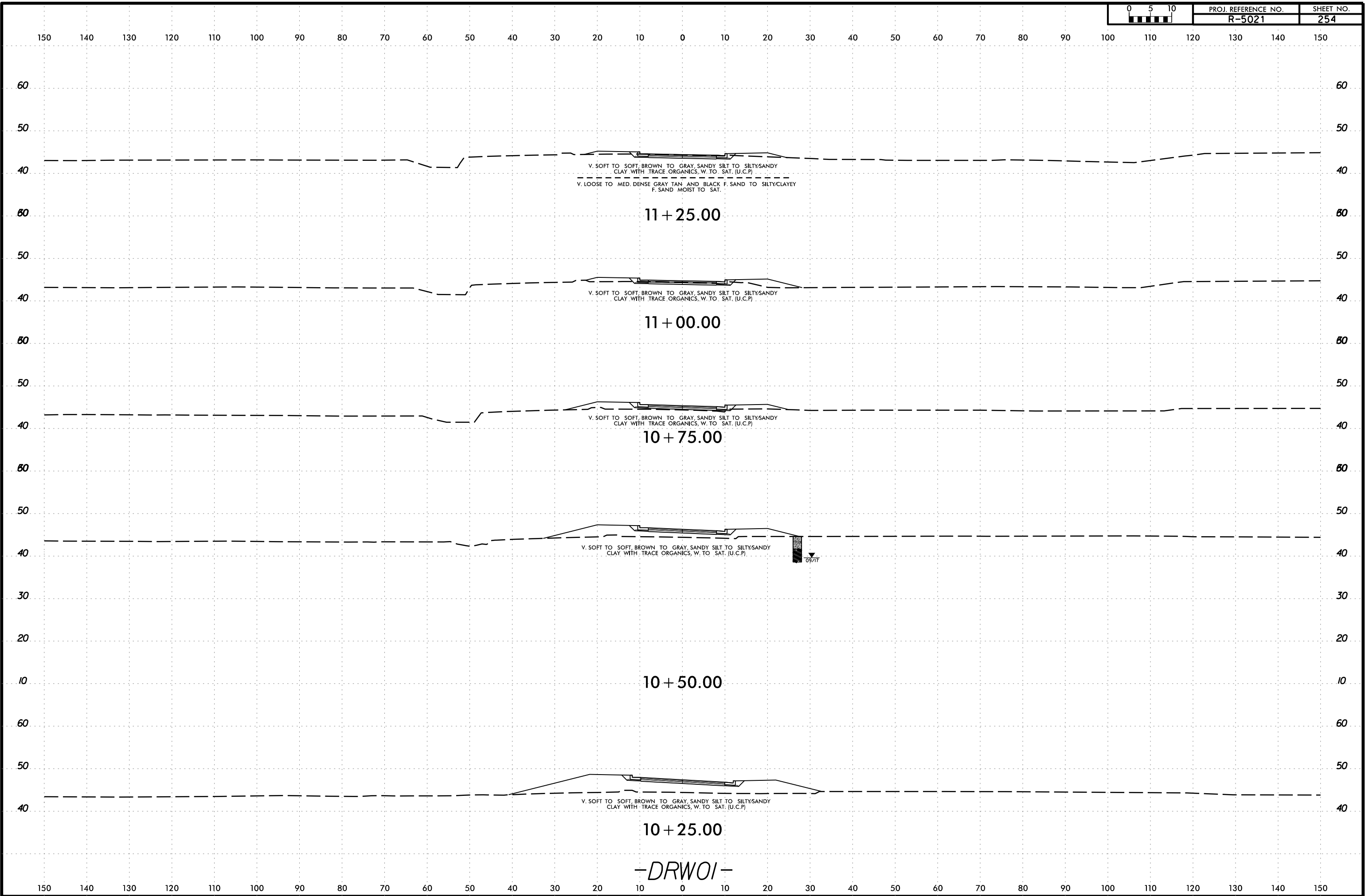
LOOSE, GRAY, F. SAND TO SILTY/CLAYEY F. SAND D. TO SAT. (U.C.P)

16+00.00

-Y22-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150





APPENDIX I

CPT LOGS

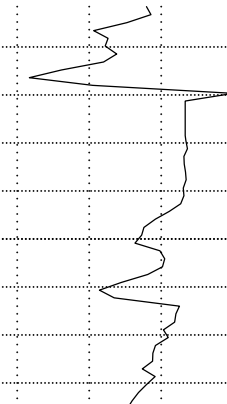
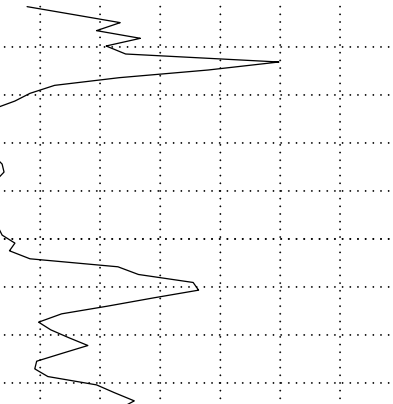
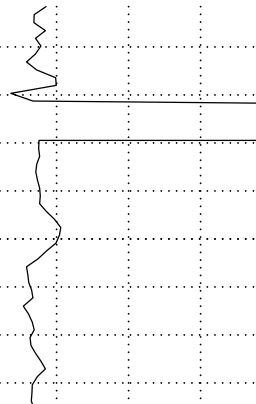
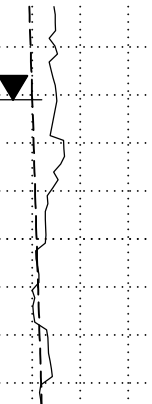
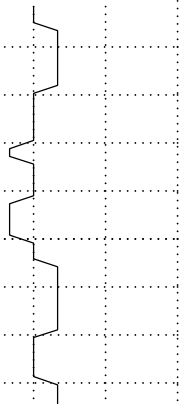
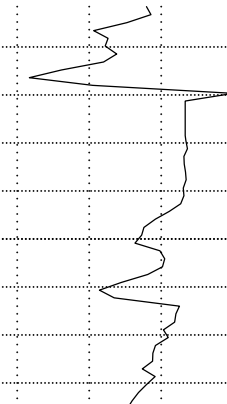
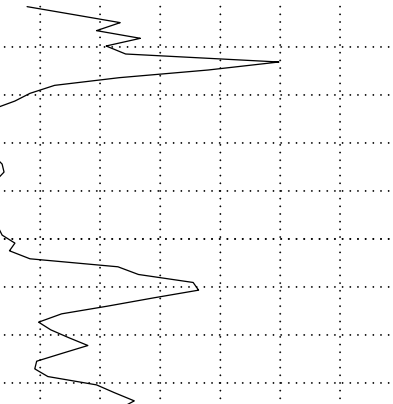
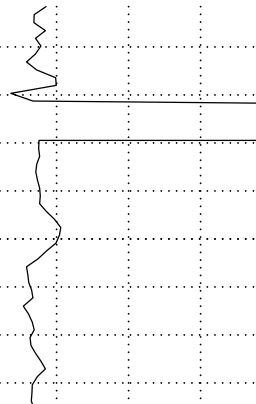
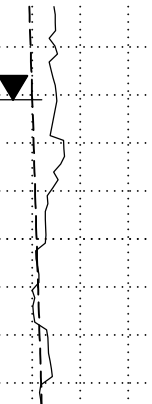
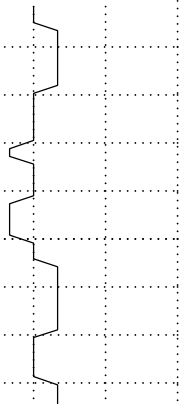
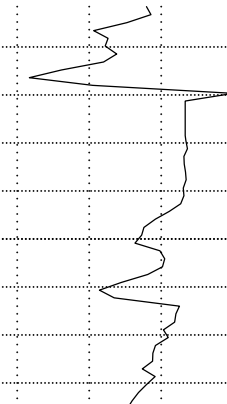
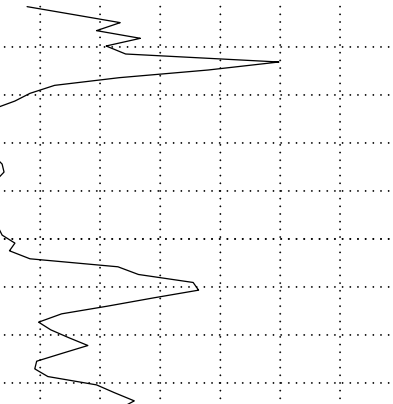
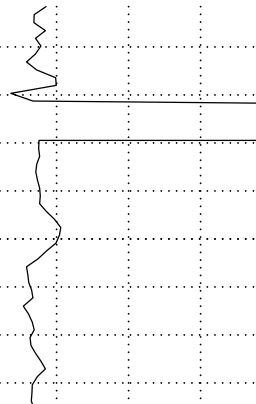
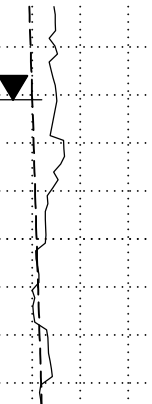
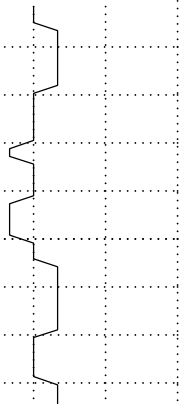


SHEET NO.:	1
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	2
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_05350		STATION: 53+50		OFFSET: 25 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSA1123		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 44.7 ft		TOTAL DEPTH: 8.7 ft		NORTHING: 82,674		EASTING: 2,261,263		24 HR.2.1 Caved		START DATE: 09/29/14		COMP. DATE: 09/29/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">44.7</td><td colspan="1"></td><td colspan="4">0.8 0.6 0.4 0.2 0</td><td colspan="4">10 20 30 40 50 60 70 80</td><td colspan="4">-1 1.75 4.50 7.25 10</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">39.7</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1">148.44444</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">34.7</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">29.7</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">24.7</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">19.7</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">14.7</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						44.7		0.8 0.6 0.4 0.2 0				10 20 30 40 50 60 70 80				-1 1.75 4.50 7.25 10					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						39.7	5.0													148.44444															34.7	10.0																												29.7	15.0																												24.7	20.0																												19.7	25.0																												14.7	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
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14.7	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	3
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_05550		STATION: 55+50		OFFSET: 40 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSA1123		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 45.1 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 82,644		EASTING: 2,261,461		24 HR.1.8 Caved		START DATE: 09/29/14		COMP. DATE: 09/29/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">45.1</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 1.75 4.50 7.25 10</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">40.1</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">35.1</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">30.1</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">25.1</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">20.1</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">15.1</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						45.1		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 1.75 4.50 7.25 10					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						40.1	5.0																												35.1	10.0																												30.1	15.0																												25.1	20.0																												20.1	25.0																												15.1	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
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20.1	25.0																																																																																																																																																																																																																																																						
15.1	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	4
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	6
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	7
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_06900		STATION: 68+99		OFFSET: 57 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSA1123		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 43.8 ft		TOTAL DEPTH: 16.7 ft		NORTHING: 82,305		EASTING: 2,262,769		24 HR. 3.3 H2O		START DATE: 09/29/14		COMP. DATE: 09/29/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">43.8</td><td colspan="1"></td><td colspan="4">0.8 0.6 0.4 0.2 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">38.8</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">33.8</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">28.8</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">23.8</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">18.8</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">13.8</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						43.8		0.8 0.6 0.4 0.2 0				20 40 60 80 100 120 140 160				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						38.8	5.0																												33.8	10.0																												28.8	15.0																												23.8	20.0																												18.8	25.0																												13.8	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
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SHEET NO.:	8
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																	
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A															
BORING NO.: L_07075		STATION: 71+21		OFFSET: 51 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSA1123		TECHNICIAN: M.A.D.															
COLLAR ELEV.: 42.9 ft		TOTAL DEPTH: 11.2 ft		NORTHING: 82,240		EASTING: 2,262,981		24 HR.1.8 Caved		START DATE: 09/29/14		COMP. DATE: 09/29/14		SURFACE WATER DEPTH: N/A															
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})							
42.9																													
37.9	5.0																												
32.9	10.0																												
27.9	15.0																												
22.9	20.0																												
17.9	25.0																												
12.9	30.0																												



SHEET NO.:	9
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A	
BORING NO.: L_07300		STATION: 73+00		OFFSET: 35 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.	
COLLAR ELEV.: 41.0 ft		TOTAL DEPTH: 14.6 ft		NORTHING: 82,177		EASTING: 2,263,149		24 HR. 0.0 H2O		START DATE: 09/30/14		COMP. DATE: 01/29/15		SURFACE WATER DEPTH: N/A	
ELEV (ft) DEPTH (ft) FRICTION (tsf) CONE RESISTANCE (tsf) FRICTION RATIO (%) PORE PRESSURE (tsf) SOIL BEHAVIOR TYPE (Robertson 1986) EQUIVALENT SPT (N_{60%}) 21.5 21.0 20.5 20.0 19.5 19.0 18.5 18.0 17.5 17.0 16.5 16.0 15.5 15.0 14.5 14.0 13.5 13.0 12.5 12.0 11.5 11.0 10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0 -0.5 -1.0 -1.5 -2.0 -2.5 -3.0 -3.5 -4.0 -4.5 -5.0 -5.5 -6.0 -6.5 -7.0 -7.5 -8.0 -8.5 -9.0 -9.5 -10.0 -10.5 -11.0 -11.5 -12.0 -12.5 -13.0 -13.5 -14.0 -14.5 -15.0 -15.5 -16.0 -16.5 -17.0 -17.5 -18.0 -18.5 -19.0 -19.5 -20.0 -20.5 -21.0 -21.5 -22.0 -22.5 -23.0 -23.5 -24.0 -24.5 -25.0 -25.5 -26.0 -26.5 -27.0 -27.5 -28.0 -28.5 -29.0 -29.5 -30.0 -30.5 -31.0 -31.5 -32.0 -32.5 -33.0 -33.5 -34.0 -34.5 -35.0 -35.5 -36.0 -36.5 -37.0 -37.5 -38.0 -38.5 -39.0 -39.5 -40.0 -40.5 -41.0 -41.5 -42.0 -42.5 -43.0 -43.5 -44.0 -44.5 -45.0 -45.5 -46.0 -46.5 -47.0 -47.5 -48.0 -48.5 -49.0 -49.5 -50.0 -50.5 -51.0 -51.5 -52.0 -52.5 -53.0 -53.5 -54.0 -54.5 -55.0 -55.5 -56.0 -56.5 -57.0 -57.5 -58.0 -58.5 -59.0 -59.5 -60.0 -60.5 -61.0 -61.5 -62.0 -62.5 -63.0 -63.5 -64.0 -64.5 -65.0 -65.5 -66.0 -66.5 -67.0 -67.5 -68.0 -68.5 -69.0 -69.5 -70.0 -70.5 -71.0 -71.5 -72.0 -72.5 -73.0 -73.5 -74.0 -74.5 -75.0 -75.5 -76.0 -76.5 -77.0 -77.5 -78.0 -78.5 -79.0 -79.5 -80.0 -80.5 -81.0 -81.5 -82.0 -82.5 -83.0 -83.5 -84.0 -84.5 -85.0 -85.5 -86.0 -86.5 -87.0 -87.5 -88.0 -88.5 -89.0 -89.5 -90.0 -90.5 -91.0 -91.5 -92.0 -92.5 -93.0 -93.5 -94.0 -94.5 -95.0 -95.5 -96.0 -96.5 -97.0 -97.5 -98.0 -98.5 -99.0 -99.5 -100.0 -100.5 -101.0 -101.5 -102.0 -102.5 -103.0 -103.5 -104.0 -104.5 -105.0 -105.5 -106.0 -106.5 -107.0 -107.5 -108.0 -108.5 -109.0 -109.5 -110.0 -110.5 -111.0 -111.5 -112.0 -112.5 -113.0 -113.5 -114.0 -114.5 -115.0 -115.5 -116.0 -116.5 -117.0 -117.5 -118.0 -118.5 -119.0 -119.5 -120.0 -120.5 -121.0 -121.5 -122.0 -122.5 -123.0 -123.5 -124.0 -124.5 -125.0 -125.5 -126.0 -126.5 -127.0 -127.5 -128.0 -128.5 -129.0 -129.5 -130.0 -130.5 -131.0 -131.5 -132.0 -132.5 -133.0 -133.5 -134.0 -134.5 -135.0 -135.5 -136.0 -136.5 -137.0 -137.5 -138.0 -138.5 -139.0 -139.5 -140.0 -140.5 -141.0 -141.5 -142.0 -142.5 -143.0 -143.5 -144.0 -144.5 -145.0 -145.5 -146.0 -146.5 -147.0 -147.5 -148.0 -148.5 -149.0 -149.5 -150.0 -150.5 -151.0 -151.5 -152.0 -152.5 -153.0 -153.5 -154.0 -154.5 -155.0 -155.5 -156.0 -156.5 -157.0 -157.5 -158.0 -158.5 -159.0 -159.5 -160.0 -160.5 -161.0 -161.5 -162.0 -162.5 -163.0 -163.5 -164.0 -164.5 -165.0 -															



SHEET NO.:	10
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																	
BORING NO.: L_07900		STATION: 79+00		OFFSET: 30 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																	
COLLAR ELEV.: 42.0 ft		TOTAL DEPTH: 11.2 ft		NORTHING: 82,012		EASTING: 2,263,726		24 HR.3.6 Caved		START DATE: 09/30/14		COMP. DATE: 09/30/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																	
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">42.0</td><td colspan="1"></td><td colspan="4">0.8 0.6 0.4 0.2 0</td><td colspan="4">5 10 15 20 25 30 35 40</td><td colspan="4">-1 1.75 4.50 7.25 10</td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">37.0</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">32.0</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">27.0</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">22.0</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">17.0</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">12.0</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						42.0		0.8 0.6 0.4 0.2 0				5 10 15 20 25 30 35 40				-1 1.75 4.50 7.25 10				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						37.0	5.0																											32.0	10.0																											27.0	15.0																											22.0	20.0																											17.0	25.0																											12.0	30.0																										
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																									
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PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track				MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																								
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT				CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																						
BORING NO.: L_08100		STATION: 81+00		OFFSET: 30 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung				CONE ID: DDG1242		TECHNICIAN: M.A.D.																						
COLLAR ELEV.: 43.0 ft		TOTAL DEPTH: 12.0 ft		NORTHING: 81,958		EASTING: 2,263,919		24 HR. 3.0 H2O		START DATE: 09/30/14				COMP. DATE: 09/30/14		SURFACE WATER DEPTH: N/A																						
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																		
43.0		0.8	0.6	0.4	0.2	0	10	20	30	40	50	60	70	80	-1	1.75	4.50	7.25	10	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
38.0	5.0																																					
33.0	10.0																																					



SHEET NO.:	12
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	13
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
BORING NO.: L_09100		STATION: 91+00		OFFSET: 25 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
COLLAR ELEV.: 52.9 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 81,687		EASTING: 2,264,881		24 HR.2.8 Caved		START DATE: 09/30/14		COMP. DATE: 09/30/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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_{60%})						52.9		2	1.5	1.0	0.5	0	50	100	150	200	250	300	350	400	-1	-0.25	0.50	1.25	2	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100																																			47.9	5.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													</			
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SHEET NO.:	15
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																													
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																											
BORING NO.: L_09700		STATION: 97+00		OFFSET: 70 ft RT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																											
COLLAR ELEV.: 50.8 ft		TOTAL DEPTH: 4.4 ft		NORTHING: 81,435		EASTING: 2,265,434		24 HR. 0.6 H2O		START DATE: 09/30/14		COMP. DATE: 09/30/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																											
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="1"></td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="1"></td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">50.8</td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">45.8</td><td colspan="1">5.0</td><td colspan="14"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">40.8</td><td colspan="1">10.0</td><td colspan="14"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">35.8</td><td colspan="1">15.0</td><td colspan="14"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">30.8</td><td colspan="1">20.0</td><td colspan="14"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">25.8</td><td colspan="1">25.0</td><td colspan="14"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">20.8</td><td colspan="1">30.0</td><td colspan="14"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)					SOIL BEHAVIOR TYPE (Robertson 1986)					EQUIVALENT SPT (N _{60%})						50.8																															45.8	5.0																	40.8	10.0																	35.8	15.0																	30.8	20.0																	25.8	25.0																	20.8	30.0																
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)					SOIL BEHAVIOR TYPE (Robertson 1986)					EQUIVALENT SPT (N _{60%})																																																																																																																																																																
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SHEET NO.:	16
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																	
BORING NO.: L_10500		STATION: 105+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																	
COLLAR ELEV.: 48.2 ft		TOTAL DEPTH: 11.2 ft		NORTHING: 81,315		EASTING: 2,266,231		24 HR.2.4 Caved		START DATE: 09/30/14		COMP. DATE: 09/30/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																	
<table><tr><td colspan="2">ELEV (ft)</td><td colspan="2">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="2">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="2"></td></tr><tr><td colspan="2">48.2</td><td colspan="2"></td><td colspan="4">8 6 4 2 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="2">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="2"></td></tr><tr><td colspan="2">43.2</td><td colspan="2">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2">▼</td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">38.2</td><td colspan="2">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">33.2</td><td colspan="2">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">28.2</td><td colspan="2">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">23.2</td><td colspan="2">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">18.2</td><td colspan="2">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr></table>																ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						48.2				8 6 4 2 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100						43.2		5.0														▼												38.2		10.0																										33.2		15.0																										28.2		20.0																										23.2		25.0																										18.2		30.0																									
ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																									
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SHEET NO.:	17
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																									
BORING NO.: L_10700		STATION: 107+06		OFFSET: 32 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																									
COLLAR ELEV.: 47.9 ft		TOTAL DEPTH: 17.1 ft		NORTHING: 81,264		EASTING: 2,266,431		24 HR. 3.0 H2O		START DATE: 09/30/14		COMP. DATE: 09/30/14		SURFACE WATER DEPTH: N/A																									
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)						PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})															
47.9		4	3	2	1	0	50	100	150	200	250	300	350	400	-1	-0.25	0.50	1.25	2		-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		



SHEET NO.:	18
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_10900		STATION: 109+00		OFFSET: 15 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 48.1 ft		TOTAL DEPTH: 14.1 ft		NORTHING: 81,208		EASTING: 2,266,616		24 HR. 2.6 H2O		START DATE: 09/30/14		COMP. DATE: 09/30/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">48.1</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">43.1</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">38.1</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">33.1</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">28.1</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">23.1</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">18.1</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						48.1		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						43.1	5.0																												38.1	10.0																												33.1	15.0																												28.1	20.0																												23.1	25.0																												18.1	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
48.1		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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18.1	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	19
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																	
BORING NO.: L_11400		STATION: 114+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																	
COLLAR ELEV.: 50.1 ft		TOTAL DEPTH: 12.1 ft		NORTHING: 81,074		EASTING: 2,267,098		24 HR. 1.5 H2O		START DATE: 09/30/14		COMP. DATE: 09/30/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																	
<table><tr><td colspan="2">ELEV (ft)</td><td colspan="2">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="2">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="2"></td></tr><tr><td colspan="2">50.1</td><td colspan="2"></td><td colspan="4">4 3 2 1 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 -0.25 0.50 1.25 2</td><td colspan="2">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="2"></td></tr><tr><td colspan="2">45.1</td><td colspan="2">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">40.1</td><td colspan="2">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">35.1</td><td colspan="2">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">30.1</td><td colspan="2">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">25.1</td><td colspan="2">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">20.1</td><td colspan="2">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr></table>																ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						50.1				4 3 2 1 0				50 100 150 200 250 300 350 400				-1 -0.25 0.50 1.25 2				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100						45.1		5.0																										40.1		10.0																										35.1		15.0																										30.1		20.0																										25.1		25.0																										20.1		30.0																									
ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																									
50.1				4 3 2 1 0				50 100 150 200 250 300 350 400				-1 -0.25 0.50 1.25 2				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																									
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SHEET NO.:	20
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	21
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	23
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

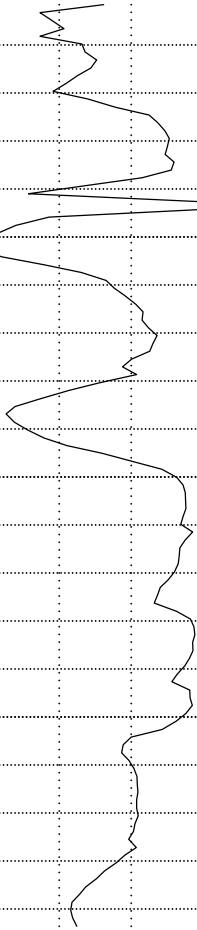
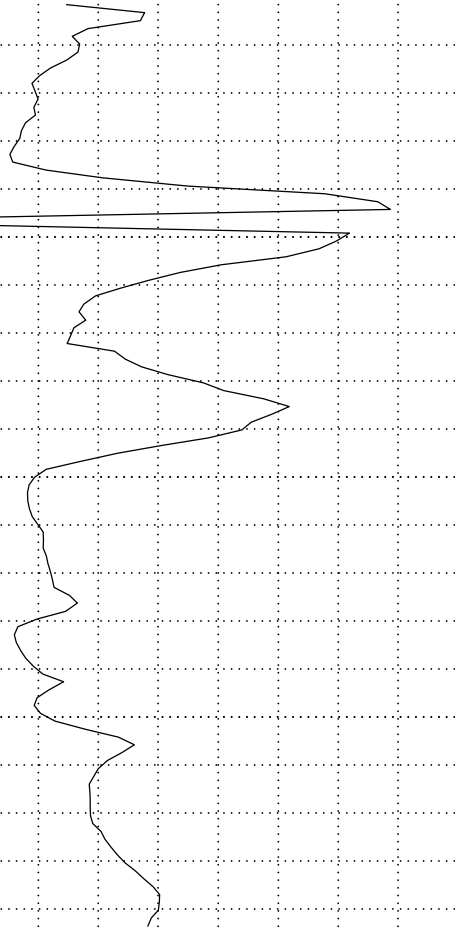
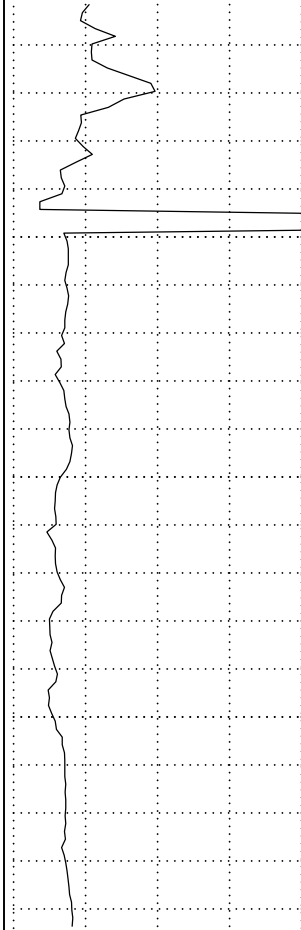
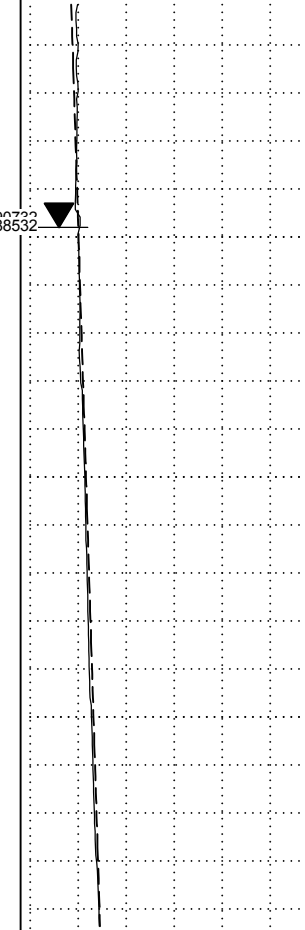
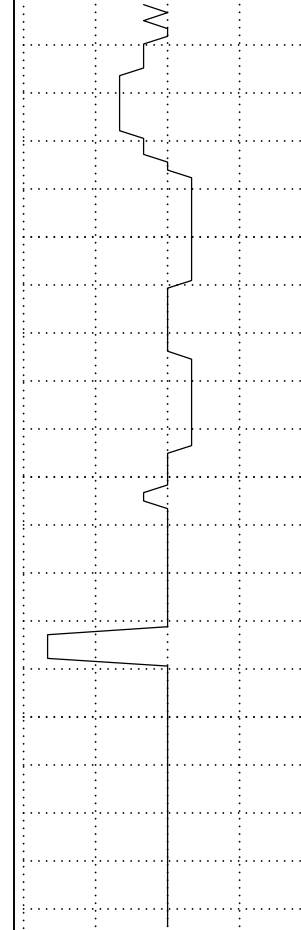
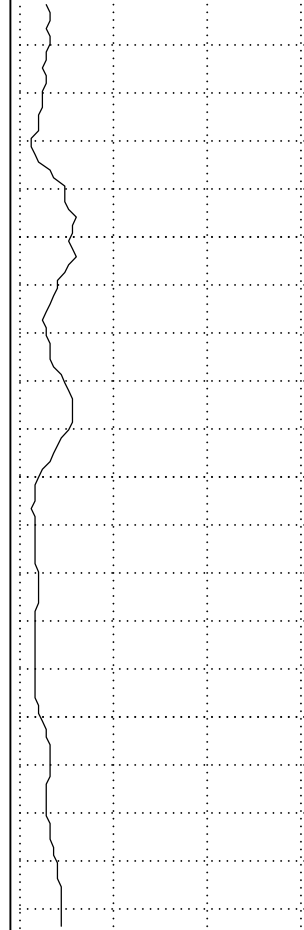
PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_12800		STATION: 128+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 49.2 ft		TOTAL DEPTH: 14.6 ft		NORTHING: 80,700		EASTING: 2,268,447		24 HR. 4.5 H2O		START DATE: 10/01/14		COMP. DATE: 10/01/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">49.2</td><td colspan="1"></td><td colspan="4">4 3 2 1 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 0.75 2.50 4.25 6</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">44.2</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4">1.02008</td><td colspan="1"></td><td colspan="4">▼</td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">39.2</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">34.2</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">29.2</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">24.2</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">19.2</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						49.2		4 3 2 1 0				50 100 150 200 250 300 350 400				-1 0.75 2.50 4.25 6					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						44.2	5.0									1.02008					▼														39.2	10.0																												34.2	15.0																												29.2	20.0																												24.2	25.0																												19.2	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
49.2		4 3 2 1 0				50 100 150 200 250 300 350 400				-1 0.75 2.50 4.25 6					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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39.2	10.0																																																																																																																																																																																																																																																						
34.2	15.0																																																																																																																																																																																																																																																						
29.2	20.0																																																																																																																																																																																																																																																						
24.2	25.0																																																																																																																																																																																																																																																						
19.2	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	24
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																										
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT			CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																							
BORING NO.: L_13200		STATION: 132+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung			CONE ID: DSG0867		TECHNICIAN: M.A.D.																							
COLLAR ELEV.: 47.2 ft		TOTAL DEPTH: 19.5 ft		NORTHING: 80,593		EASTING: 2,268,833		24 HR.4.8 Caved		START DATE: 10/01/14			COMP. DATE: 10/01/14		SURFACE WATER DEPTH: N/A																							
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)			CONE RESISTANCE (tsf)			FRICTION RATIO (%)			PORE PRESSURE (tsf)			SOIL BEHAVIOR TYPE (Robertson 1986)			EQUIVALENT SPT (N _{60%})																					
47.2		0.8	0.6	0.4	0.2	0	10	20	30	40	50	60	70	80	-1	1.75	4.50	7.25	10	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
																																						
42.2	5.0																																					
37.2	10.0																																					
32.2	15.0																																					
27.2	20.0																																					
22.2	25.0																																					
17.2	30.0																																					

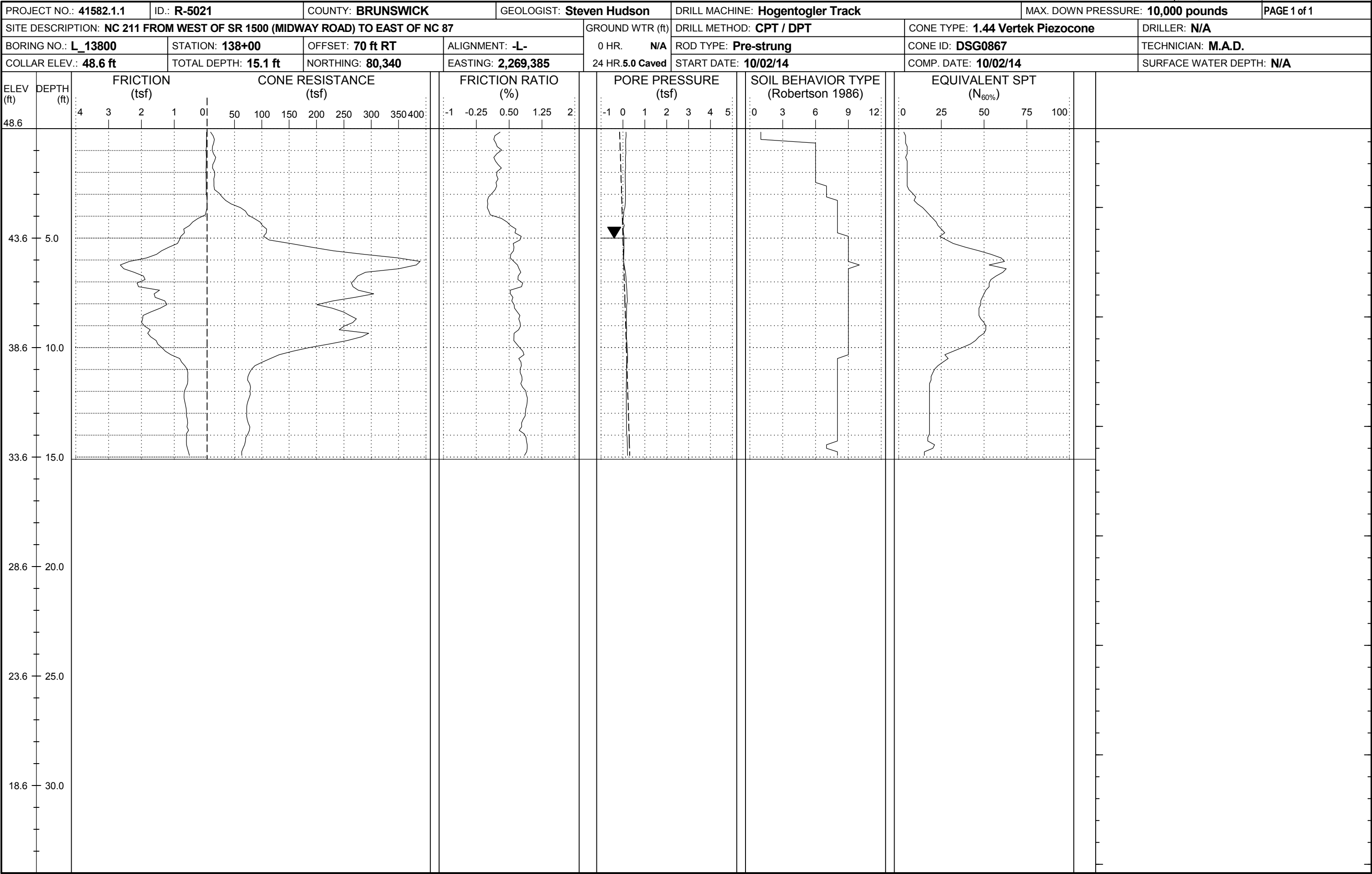


PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1								
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)	DRILL METHOD: CPT / DPT			CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A						
BORING NO.: L_13400		STATION: 134+00		OFFSET: 25 ft LT		ALIGNMENT: -L-		0 HR. N/A	ROD TYPE: Pre-strung			CONE ID: DSG0867		TECHNICIAN: M.A.D.						
COLLAR ELEV.: 47.4 ft		TOTAL DEPTH: 17.6 ft		NORTHING: 80,538		EASTING: 2,269,025		24 HR.4.6 Caved	START DATE: 10/01/14			COMP. DATE: 08/28/15		SURFACE WATER DEPTH: N/A						
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)			PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})			
47.4		4 3 2 1 0				50 100 150 200 250 300 350 400				-1 1.75 4.50 7.25 10			-1 0 1 2 3 4 5		0 3 6 9 12		0 25 50 75 100			
42.4	5.0																			
37.4	10.0																			
32.4	15.0																			
27.4	20.0																			
22.4	25.0																			
17.4	30.0																			



SHEET NO.:	27
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																													
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																											
BORING NO.: L_13600		STATION: 136+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																											
COLLAR ELEV.: 47.1 ft		TOTAL DEPTH: 18.0 ft		NORTHING: 80,487		EASTING: 2,269,218		24 HR. 7.3 H2O		START DATE: 10/01/14		COMP. DATE: 10/01/14		SURFACE WATER DEPTH: N/A																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)						PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																	
47.1		4	3	2	1	0	50	100	150	200	250	300	350	400	-1	1.25	3.50	5.75	8		-1	0	1	2	3	4	5		0	3	6	9	12		0	25	50	75	100		
42.1	5.0																																								
37.1	10.0																																								
32.1	15.0																																								
27.1	20.0																																								
22.1	25.0																																								
17.1	30.0																																								





SHEET NO.:	29
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1		
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87				GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A	
BORING NO.: L_14200		STATION: 142+00	OFFSET: 25 ft LT	ALIGNMENT: -L-	0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.
COLLAR ELEV.: 49.1 ft		TOTAL DEPTH: 13.6 ft	NORTHING: 80,324	EASTING: 2,269,796	24 HR. 5.8 H2O		START DATE: 10/02/14		COMP. DATE: 10/02/14		SURFACE WATER DEPTH: N/A
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)	CONE RESISTANCE (tsf)	FRICTION RATIO (%)	PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})		
49.1		4 3 2 1 0	50 100 150 200 250 300 350 400	-1 -0.25 0.50 1.25 2	-1 0 1 2 3 4 5		0 3 6 9 12		0 25 50 75 100		
44.1	5.0										
39.1	10.0										
34.1	15.0										
29.1	20.0										
24.1	25.0										
19.1	30.0										



SHEET NO.:	30
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																	
BORING NO.: L_14400		STATION: 144+00		OFFSET: 60 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																	
COLLAR ELEV.: 49.5 ft		TOTAL DEPTH: 12.1 ft		NORTHING: 80,305		EASTING: 2,269,998		24 HR.5.0 Caved		START DATE: 10/02/14		COMP. DATE: 10/02/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																	
<table><tr><td colspan="2">ELEV (ft)</td><td colspan="2">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="2">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="2"></td></tr><tr><td colspan="2">49.5</td><td colspan="2"></td><td colspan="4">8 6 4 2 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 0.75 2.50 4.25 6</td><td colspan="2">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="2"></td></tr><tr><td colspan="2">44.5</td><td colspan="2">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2">▼</td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">39.5</td><td colspan="2">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">34.5</td><td colspan="2">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">29.5</td><td colspan="2">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">24.5</td><td colspan="2">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">19.5</td><td colspan="2">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr></table>																ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						49.5				8 6 4 2 0				50 100 150 200 250 300 350 400				-1 0.75 2.50 4.25 6				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100						44.5		5.0														▼												39.5		10.0																										34.5		15.0																										29.5		20.0																										24.5		25.0																										19.5		30.0																									
ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																									
49.5				8 6 4 2 0				50 100 150 200 250 300 350 400				-1 0.75 2.50 4.25 6				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																									
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24.5		25.0																																																																																																																																																																																																																																													
19.5		30.0																																																																																																																																																																																																																																													



SHEET NO.:	31
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_15200		STATION: 152+00		OFFSET: 25 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 49.5 ft		TOTAL DEPTH: 6.4 ft		NORTHING: 80,057		EASTING: 2,270,760		24 HR.3.9 Caved		START DATE: 10/02/14		COMP. DATE: 10/02/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">49.5</td><td colspan="1"></td><td colspan="4">8 6 4 2 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 1.75 4.50 7.25 10</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">44.5</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">39.5</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">34.5</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">29.5</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">24.5</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">19.5</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						49.5		8 6 4 2 0				50 100 150 200 250 300 350 400				-1 1.75 4.50 7.25 10					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						44.5	5.0																												39.5	10.0																												34.5	15.0																												29.5	20.0																												24.5	25.0																												19.5	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
49.5		8 6 4 2 0				50 100 150 200 250 300 350 400				-1 1.75 4.50 7.25 10					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track			MAX. DOWN PRESSURE: 10,000 pounds			PAGE 1 of 1																								
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT			CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																							
BORING NO.: L_15400		STATION: 154+00		OFFSET: 25 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung			CONE ID: DSG0867		TECHNICIAN: M.A.D.																							
COLLAR ELEV.: 47.1 ft		TOTAL DEPTH: 16.6 ft		NORTHING: 80,004		EASTING: 2,270,952		24 HR. 3.7 H2O		START DATE: 10/06/14			COMP. DATE: 10/06/14		SURFACE WATER DEPTH: N/A																							
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)		PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})																						
47.1		4	3	2	1	0	50	100	150	200	250	300	350	400	-1	-0.25	0.50	1.25	2	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
42.1	5.0																																					
37.1	10.0																																					
32.1	15.0																																					
27.1	20.0																																					
22.1	25.0																																					
17.1	30.0																																					



SHEET NO.:	33
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																														
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																												
BORING NO.: L_15600		STATION: 156+00		OFFSET: 25 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																												
COLLAR ELEV.: 46.6 ft		TOTAL DEPTH: 14.6 ft		NORTHING: 79,951		EASTING: 2,271,145		24 HR. 2.8 H2O		START DATE: 10/06/14		COMP. DATE: 10/06/14		SURFACE WATER DEPTH: N/A																												
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)						PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})																						
46.6		2	1.5	1.0	0.5	0	50	100	150	200	250	300	350	400		-1	0.25	1.50	2.75	4		-1	0	1	2	3	4	5		0	3	6	9	12		0	25	50	75	100		
41.6	5.0																																									
36.6	10.0																																									
31.6	15.0																																									
26.6	20.0																																									
21.6	25.0																																									
16.6	30.0																																									



SHEET NO.:	34
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																							
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																					
BORING NO.: L_15800		STATION: 158+00		OFFSET: 75 ft RT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																																																																																																																																																																					
COLLAR ELEV.: 46.7 ft		TOTAL DEPTH: 15.1 ft		NORTHING: 79,801		EASTING: 2,271,311		24 HR. 1.9 H2O		START DATE: 10/06/14		COMP. DATE: 10/06/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																					
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">46.7</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 1.75 4.50 7.25 10</td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						46.7		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 1.75 4.50 7.25 10				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																	
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																													
46.7		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 1.75 4.50 7.25 10				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																													
<table><tr><td colspan="1">41.7</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">36.7</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">31.7</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">26.7</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">21.7</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">16.7</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																41.7	5.0																							36.7	10.0																											31.7	15.0																											26.7	20.0																											21.7	25.0																											16.7	30.0																										
41.7	5.0																																																																																																																																																																																		
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26.7	20.0																																																																																																																																																																																		
21.7	25.0																																																																																																																																																																																		
16.7	30.0																																																																																																																																																																																		



SHEET NO.:	35
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	36
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	37
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_16600		STATION: 166+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 47.0 ft		TOTAL DEPTH: 17.1 ft		NORTHING: 79,685		EASTING: 2,272,109		24 HR. 3.5 H2O		START DATE: 10/06/14		COMP. DATE: 10/06/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">47.0</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 1.75 4.50 7.25 10</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">42.0</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4">10.01455 10.83715</td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">37.0</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">32.0</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">27.0</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">22.0</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">17.0</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						47.0		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 1.75 4.50 7.25 10					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						42.0	5.0									10.01455 10.83715																			37.0	10.0																												32.0	15.0																												27.0	20.0																												22.0	25.0																												17.0	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
47.0		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 1.75 4.50 7.25 10					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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17.0	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	38
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	39
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_17000		STATION: 170+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 46.5 ft		TOTAL DEPTH: 16.1 ft		NORTHING: 79,579		EASTING: 2,272,495		24 HR. 3.3 H2O		START DATE: 10/06/14		COMP. DATE: 10/06/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">46.5</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 0.75 2.50 4.25 6</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">41.5</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">36.5</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">31.5</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">26.5</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">21.5</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">16.5</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						46.5		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 0.75 2.50 4.25 6					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						41.5	5.0																												36.5	10.0																												31.5	15.0																												26.5	20.0																												21.5	25.0																												16.5	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
46.5		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 0.75 2.50 4.25 6					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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16.5	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	41
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	42
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_17600		STATION: 176+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 46.5 ft		TOTAL DEPTH: 15.1 ft		NORTHING: 79,418		EASTING: 2,273,073		24 HR.2.3 Caved		START DATE: 10/06/14		COMP. DATE: 10/06/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">46.5</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 1.25 3.50 5.75 8</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">41.5</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">36.5</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">31.5</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">26.5</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">21.5</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">16.5</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						46.5		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 1.25 3.50 5.75 8					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						41.5	5.0																												36.5	10.0																												31.5	15.0																												26.5	20.0																												21.5	25.0																												16.5	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
46.5		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 1.25 3.50 5.75 8					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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16.5	30.0																																																																																																																																																																																																																																																						



PROJECT NO.: 41582.1.1			ID.: R-5021			COUNTY: BRUNSWICK			GEOLOGIST: Steven Hudson			DRILL MACHINE: Hogentogler Track			MAX. DOWN PRESSURE: 10,000 pounds			PAGE 1 of 1																					
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87										GROUND WTR (ft)		DRILL METHOD: CPT / DPT				CONE TYPE: 1.44 Vertek Piezocone				DRILLER: N/A																			
BORING NO.: L_17800			STATION: 178+00			OFFSET: 27 ft LT			ALIGNMENT: -L-			0 HR. N/A		ROD TYPE: Pre-strung				CONE ID: DSG0867				TECHNICIAN: M.A.D.																	
COLLAR ELEV.: 46.4 ft			TOTAL DEPTH: 15.6 ft			NORTHING: 79,365			EASTING: 2,273,266			24 HR. 2.1 H2O		START DATE: 10/06/14				COMP. DATE: 10/06/14				SURFACE WATER DEPTH: N/A																	
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)						PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})															
46.4		8	6	4	2	0	50	100	150	200	250	300	350	400	-1	1.75	4.50	7.25	10		-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
41.4	5.0																																						
36.4	10.0																																						
31.4	15.0																																						
26.4	20.0																																						
21.4	25.0																																						
16.4	30.0																																						



SHEET NO.:	44
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	45
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	46
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																										
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																								
BORING NO.: L_18600		STATION: 186+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.																								
COLLAR ELEV.: 46.4 ft		TOTAL DEPTH: 22.7 ft		NORTHING: 79,151		EASTING: 2,274,037		24 HR. 5.1 H2O		START DATE: 10/07/14		COMP. DATE: 10/07/14		SURFACE WATER DEPTH: N/A																								
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																		
46.4		8	6	4	2	0	50	100	150	200	250	300	350	400	-1	0.25	1.50	2.75	4	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
41.4	5.0																																					
36.4	10.0																																					
31.4	15.0																																					
26.4	20.0																																					
21.4	25.0																																					
16.4	30.0																																					



SHEET NO.:	48
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																							
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																					
BORING NO.: L_19000		STATION: 190+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.																																																																																																																																																																																																																					
COLLAR ELEV.: 46.5 ft		TOTAL DEPTH: 22.2 ft		NORTHING: 79,044		EASTING: 2,274,422		24 HR. 4.8 H2O		START DATE: 10/07/14		COMP. DATE: 10/07/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																					
<table><tr><td colspan="2">ELEV (ft)</td><td colspan="2">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="2">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">46.5</td><td colspan="2"></td><td colspan="4">4 3 2 1 0 1 50 100 150 200 250 300 350 400</td><td colspan="4">-1 1.25 3.50 5.75 8</td><td colspan="2">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">41.5</td><td colspan="2">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="2">▼</td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">36.5</td><td colspan="2">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">31.5</td><td colspan="2">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">26.5</td><td colspan="2">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">21.5</td><td colspan="2">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">16.5</td><td colspan="2">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr></table>																ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})								46.5				4 3 2 1 0 1 50 100 150 200 250 300 350 400				-1 1.25 3.50 5.75 8				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100								41.5		5.0										▼														36.5		10.0																								31.5		15.0																								26.5		20.0																								21.5		25.0																								16.5		30.0																							
ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																													
46.5				4 3 2 1 0 1 50 100 150 200 250 300 350 400				-1 1.25 3.50 5.75 8				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																	
41.5		5.0										▼																																																																																																																																																																																																																							
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31.5		15.0																																																																																																																																																																																																																																	
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16.5		30.0																																																																																																																																																																																																																																	



SHEET NO.:	50
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track	MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87				GROUND WTR (ft)	DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone	DRILLER: N/A
BORING NO.: L_19400		STATION: 194+00	OFFSET: 74 ft RT	ALIGNMENT: -L-	0 HR. N/A	ROD TYPE: Pre-strung	CONE ID: DDG1299	TECHNICIAN: M.A.D.
COLLAR ELEV.: 45.3 ft		TOTAL DEPTH: 19.0 ft	NORTHING: 78,840	EASTING: 2,274,781	24 HR. 2.5 H2O	START DATE: 10/07/14	COMP. DATE: 10/07/14	SURFACE WATER DEPTH: N/A
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)	CONE RESISTANCE (tsf)	FRICTION RATIO (%)	PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE (Robertson 1986)	EQUIVALENT SPT (N _{60%})	
45.3		4 3 2 1 0	50 100 150 200 250 300 350 400	-1 1.25 3.50 5.75 8	-1 0 1 2 3 4 5	0 3 6 9 12	0 25 50 75 100	
40.3	5.0							
35.3	10.0							
30.3	15.0							
25.3	20.0							
20.3	25.0							
15.3	30.0							



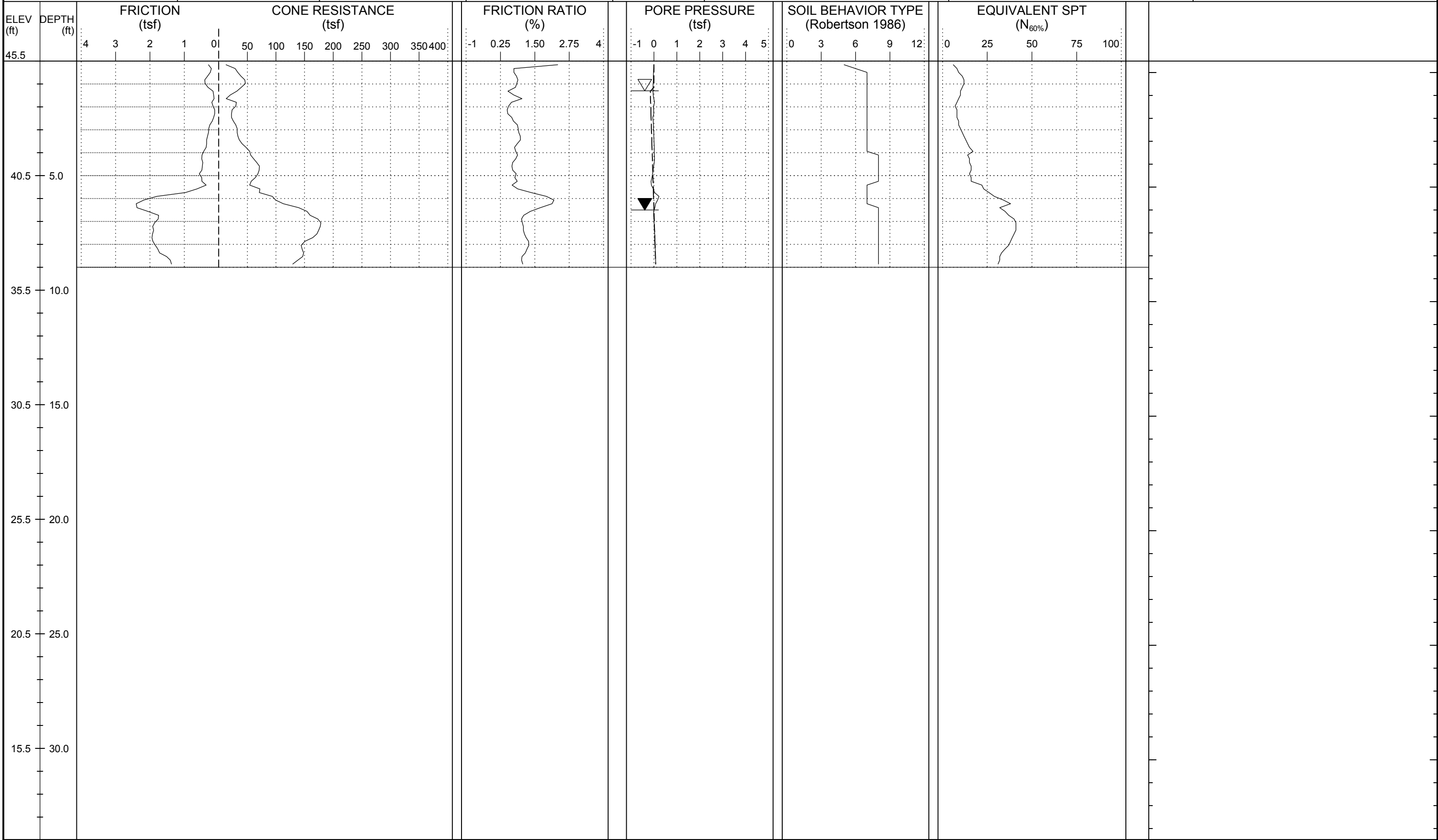
SHEET NO.:	51
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																	
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87						GROUND WTR (ft) 0 HR. N/A 24 HR. 4.9 Caved		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																	
BORING NO.: L_19600		STATION: 196+00		OFFSET: 27 ft LT				ALIGNMENT: -L-		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.															
COLLAR ELEV.: 45.4 ft		TOTAL DEPTH: 17.6 ft		NORTHING: 78,884				EASTING: 2,275,000		START DATE: 10/07/14		COMP. DATE: 10/07/14		SURFACE WATER DEPTH: N/A															
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N60%)							
45.4		4 3 2 1 0 1 50 100 150 200 250 300 350 400				-1 0.75 2.50 4.25 6				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100											
40.4	5.0																												
35.4	10.0																												
30.4	15.0																												
25.4	20.0																												
20.4	25.0																												
15.4	30.0																												



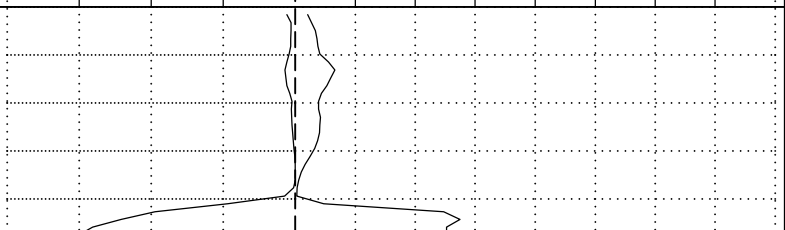
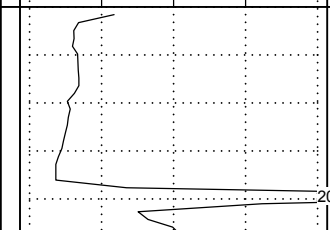
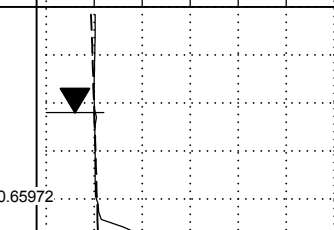
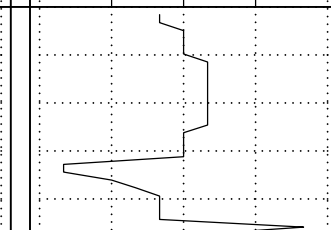
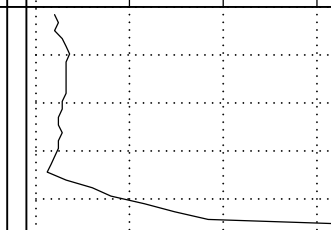
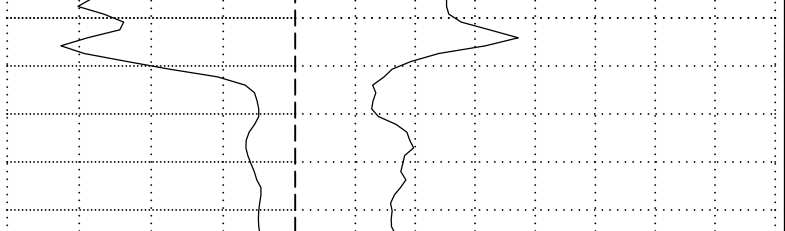
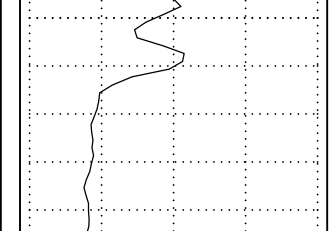
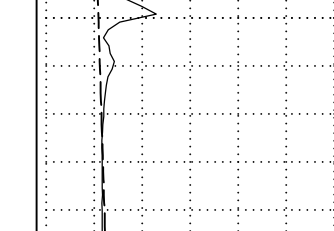
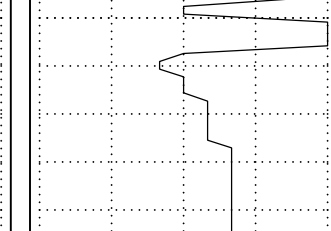
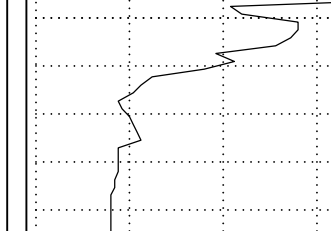
PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track			MAX. DOWN PRESSURE: 10,000 pounds			PAGE 1 of 1																							
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT			CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																						
BORING NO.: L_20600		STATION: 206+00		OFFSET: 25 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung			CONE ID: DDG1299		TECHNICIAN: M.A.D.																						
COLLAR ELEV.: 45.8 ft		TOTAL DEPTH: 11.7 ft		NORTHING: 78,615		EASTING: 2,275,963		24 HR. 3.6 H2O		START DATE: 10/08/14			COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																						
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})															
45.8		4	3	2	1	0	50	100	150	200	250	300	350	400	-1	0.25	1.50	2.75	4	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100	
40.8	5.0																																				
35.8	10.0																																				
30.8	15.0																																				
25.8	20.0																																				
20.8	25.0																																				
15.8	30.0																																				

SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87				GROUND WTR (ft)	DRILL METHOD: CPT / DPT	CONE TYPE: 1.44 Vertek Piezocone	DRILLER: N/A
BORING NO.: L_20800	STATION: N/A	OFFSET: 24 ft LT	ALIGNMENT: -L-	0 HR.1.3 Caved	ROD TYPE: Pre-strung	CONE ID: DDG1299	TECHNICIAN: M.A.D.
COLLAR ELEV.: 45.5 ft	TOTAL DEPTH: 9.0 ft	NORTHING: 78,561	EASTING: 2,276,156	24 HR. 6.5 Est.	START DATE: 10/08/14	COMP. DATE: 10/08/14	SURFACE WATER DEPTH: N/A





SHEET NO.:	55
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1							
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A					
BORING NO.: L_21200		STATION: 212+00		OFFSET: 17 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.					
COLLAR ELEV.: 44.4 ft		TOTAL DEPTH: 13.6 ft		NORTHING: 78,447		EASTING: 2,276,540		24 HR. 2.2		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A					
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)		PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})			
44.4		8 6 4 2 0				50 100 150 200 250 300 350 400				-1 1.75 4.50 7.25 10		-1 0 1 2 3 4 5		0 3 6 9 12		0 25 50 75 100			
39.4	5.0									20.65972									
34.4	10.0																		
29.4	15.0																		
24.4	20.0																		
19.4	25.0																		
14.4	30.0																		



SHEET NO.:	56
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A	
BORING NO.: L_21800		STATION: 218+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.	
COLLAR ELEV.: 43.7 ft		TOTAL DEPTH: 10.2 ft		NORTHING: 78,296		EASTING: 2,277,120		24 HR.4.4 Caved		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A	
ELEV (ft)		DEPTH (ft)		FRICTION (tsf)		CONE RESISTANCE (tsf)		FRICTION RATIO (%)		PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})	
43.7				2 1.5 1.0 0.5 0		20 40 60 80 100 120 140 160		-1 1.25 3.50 5.75 8		-1 0 1 2 3 4 5		0 3 6 9 12		0 25 50 75 100	
38.7		5.0													
33.7		10.0													
28.7		15.0													
23.7		20.0													
18.7		25.0													
13.7		30.0													



SHEET NO.:	57
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																																	
BORING NO.: L_22200		STATION: 222+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																																	
COLLAR ELEV.: 43.1 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 78,190		EASTING: 2,277,506		24 HR.3.5 Caved		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																																	
<table><tr><td colspan="2">ELEV (ft)</td><td colspan="2">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="2">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">43.1</td><td colspan="2"></td><td colspan="4">0.8 0.6 0.4 0.2 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="2">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">38.1</td><td colspan="2">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2">▼</td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">33.1</td><td colspan="2">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">28.1</td><td colspan="2">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">23.1</td><td colspan="2">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">18.1</td><td colspan="2">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">13.1</td><td colspan="2">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr></table>																ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})								43.1				0.8 0.6 0.4 0.2 0				20 40 60 80 100 120 140 160				-1 0.25 1.50 2.75 4				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100								38.1		5.0														▼														33.1		10.0																												28.1		15.0																												23.1		20.0																												18.1		25.0																												13.1		30.0																											
ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																									
43.1				0.8 0.6 0.4 0.2 0				20 40 60 80 100 120 140 160				-1 0.25 1.50 2.75 4				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																									
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13.1		30.0																																																																																																																																																																																																																																																													



SHEET NO.:	58
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	59
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_23200		STATION: 232+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 44.9 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 77,911		EASTING: 2,278,466		24 HR. 5.8 H2O		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">44.9</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">39.9</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4">▼</td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">34.9</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">29.9</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">24.9</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">19.9</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">14.9</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						44.9		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						39.9	5.0														▼														34.9	10.0																												29.9	15.0																												24.9	20.0																												19.9	25.0																												14.9	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
44.9		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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29.9	15.0																																																																																																																																																																																																																																																						
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14.9	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	60
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track	MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1	
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft)	DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone	DRILLER: N/A
BORING NO.: L_23400		STATION: 234+00	OFFSET: 35 ft LT	ALIGNMENT: -L-	0 HR. N/A	ROD TYPE: Pre-strung		CONE ID: DDG1299	TECHNICIAN: M.A.D.
COLLAR ELEV.: 44.0 ft		TOTAL DEPTH: 9.0 ft	NORTHING: 77,865	EASTING: 2,278,661	24 HR. 4.5 H2O	START DATE: 10/08/14		COMP. DATE: 10/08/14	SURFACE WATER DEPTH: N/A
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)	CONE RESISTANCE (tsf)	FRICTION RATIO (%)	PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE (Robertson 1986)	EQUIVALENT SPT (N _{60%})		
44.0									
39.0	5.0								
34.0	10.0								
29.0	15.0								
24.0	20.0								
19.0	25.0								
14.0	30.0								



SHEET NO.:	61
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	62
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																																																														
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																																																												
BORING NO.: L_23800_CPT		STATION: 238+00		OFFSET: 39 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																																																												
COLLAR ELEV.: 43.8 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 77,762		EASTING: 2,279,048		24 HR.1.7 Caved		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																																																												
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">43.8</td><td colspan="1"></td><td colspan="1">4</td><td colspan="1">3</td><td colspan="1">2</td><td colspan="1">1</td><td colspan="1">0</td><td colspan="1">50</td><td colspan="1">100</td><td colspan="1">150</td><td colspan="1">200</td><td colspan="1">250</td><td colspan="1">300</td><td colspan="1">350</td><td colspan="1">400</td><td colspan="1">-1</td><td colspan="1">0.75</td><td colspan="1">2.50</td><td colspan="1">4.25</td><td colspan="1">6</td><td colspan="1"></td><td colspan="1">-1</td><td colspan="1">0</td><td colspan="1">1</td><td colspan="1">2</td><td colspan="1">3</td><td colspan="1">4</td><td colspan="1">5</td><td colspan="1">0</td><td colspan="1">3</td><td colspan="1">6</td><td colspan="1">9</td><td colspan="1">12</td><td colspan="1">0</td><td colspan="1">25</td><td colspan="1">50</td><td colspan="1">75</td><td colspan="1">100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">38.8</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">33.8</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">28.8</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">23.8</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">18.8</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">13.8</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						43.8		4	3	2	1	0	50	100	150	200	250	300	350	400	-1	0.75	2.50	4.25	6		-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100			38.8	5.0																																33.8	10.0																																28.8	15.0																																23.8	20.0																																18.8	25.0																																13.8	30.0																															
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																																																			
43.8		4	3	2	1	0	50	100	150	200	250	300	350	400	-1	0.75	2.50	4.25	6		-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100																																																																																																																																																																																																																																																					
38.8	5.0																																																																																																																																																																																																																																																																																									
33.8	10.0																																																																																																																																																																																																																																																																																									
28.8	15.0																																																																																																																																																																																																																																																																																									
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13.8	30.0																																																																																																																																																																																																																																																																																									



SHEET NO.:	64
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1															
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A													
BORING NO.: L_24600		STATION: 246+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.													
COLLAR ELEV.: 41.3 ft		TOTAL DEPTH: 10.7 ft		NORTHING: 77,547		EASTING: 2,279,818		24 HR. 2.2 H2O		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A													
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})							
41.3		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 1.25 3.50 5.75 8				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100							
36.3	5.0																										
31.3	10.0																										
26.3	15.0																										
21.3	20.0																										
16.3	25.0																										
11.3	30.0																										



SHEET NO.:	65
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1	
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone	DRILLER: N/A
BORING NO.: L_24800		STATION: 248+00	OFFSET: 27 ft LT	ALIGNMENT: -L-	0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299	TECHNICIAN: M.A.D.
COLLAR ELEV.: 41.0 ft		TOTAL DEPTH: 11.2 ft	NORTHING: 77,495	EASTING: 2,280,011	24 HR. 1.5 H ₂ O		START DATE: 10/08/14		COMP. DATE: 10/08/14	SURFACE WATER DEPTH: N/A
ELEV (ft)	DEPTH (ft)	FRICTION (tsf) 0.8 0.6 0.4 0.2 0	CONE RESISTANCE (tsf) 20 40 60 80 100 120 140 160	FRICTION RATIO (%) -1 0.75 2.50 4.25 6	PORE PRESSURE (tsf) -1 0 1 2 3 4 5		SOIL BEHAVIOR TYPE (Robertson 1986) 0 3 6 9 12	EQUIVALENT SPT (N _{60%}) 0 25 50 75 100		
41.0					The graph displays various soil parameters plotted against depth. The leftmost column shows elevation (ft) decreasing from 41.0 at the surface to approximately 30.0 at 11.2 feet depth. The second column shows depth (ft) increasing from 0 to 11.2 feet. Subsequent columns show Friction (tsf), Cone Resistance (tsf), Friction Ratio (%), Pore Pressure (tsf), Soil Behavior Type (Robertson 1986), and Equivalent SPT (N_{60%}). A vertical dashed line indicates the water level at approximately 4.5 feet depth. The pore pressure plot includes a solid line for measured values and a dashed line representing hydrostatic conditions.					



SHEET NO.:	66
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_25000		STATION: 250+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 41.0 ft		TOTAL DEPTH: 13.6 ft		NORTHING: 77,442		EASTING: 2,280,204		24 HR. 2.0 H2O		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">41.0</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 0.75 2.50 4.25 6</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">36.0</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4">▲</td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">31.0</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">26.0</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">21.0</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">16.0</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">11.0</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						41.0		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 0.75 2.50 4.25 6					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						36.0	5.0														▲														31.0	10.0																												26.0	15.0																												21.0	20.0																												16.0	25.0																												11.0	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
41.0		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 0.75 2.50 4.25 6					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
36.0	5.0														▲																																																																																																																																																																																																																																								
31.0	10.0																																																																																																																																																																																																																																																						
26.0	15.0																																																																																																																																																																																																																																																						
21.0	20.0																																																																																																																																																																																																																																																						
16.0	25.0																																																																																																																																																																																																																																																						
11.0	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	67
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1															
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A													
BORING NO.: L_25200		STATION: 252+00		OFFSET: 70 ft RT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.													
COLLAR ELEV.: 41.1 ft		TOTAL DEPTH: 11.2 ft		NORTHING: 77,295		EASTING: 2,280,371		24 HR. 1.8 H2O		START DATE: 10/09/14		COMP. DATE: 10/09/14		SURFACE WATER DEPTH: N/A													
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})							
41.1		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 0.75 2.50 4.25 6				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100							
36.1	5.0																										
31.1	10.0																										
26.1	15.0																										
21.1	20.0																										
16.1	25.0																										
11.1	30.0																										



SHEET NO.:	68
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_25400		STATION: 254+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 40.8 ft		TOTAL DEPTH: 15.0 ft		NORTHING: 77,335		EASTING: 2,280,589		24 HR. 2.5 H2O		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">40.8</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">35.8</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">30.8</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">25.8</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">20.8</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">15.8</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">10.8</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						40.8		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						35.8	5.0																												30.8	10.0																												25.8	15.0																												20.8	20.0																												15.8	25.0																												10.8	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
40.8		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
35.8	5.0																																																																																																																																																																																																																																																						
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25.8	15.0																																																																																																																																																																																																																																																						
20.8	20.0																																																																																																																																																																																																																																																						
15.8	25.0																																																																																																																																																																																																																																																						
10.8	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	69
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1				
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft)	DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A			
BORING NO.: L_25600		STATION: 256+00	OFFSET: 60 ft LT	ALIGNMENT: -L-	0 HR. N/A	ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.			
COLLAR ELEV.: 40.0 ft		TOTAL DEPTH: 16.1 ft	NORTHING: 77,313	EASTING: 2,280,791	24 HR. 1.3 H2O	START DATE: 10/09/14		COMP. DATE: 10/09/14		SURFACE WATER DEPTH: N/A			
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)	CONE RESISTANCE (tsf)		FRICTION RATIO (%)	PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})			
40.0		2 1.5 1.0 0.5 0	50 100 150 200 250 300 350 400	-1 1.25 3.50 5.75 8 :	-1 0 1 2 3 4 5	0 3 6 9 12	0 25 50 75 100						
35.0	5.0												
30.0	10.0												
25.0	15.0												
20.0	20.0												
15.0	25.0												
10.0	30.0												



SHEET NO.:	70
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1						ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track							MAX. DOWN PRESSURE: 10,000 pounds									PAGE 1 of 1																		
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87												GROUND WTR (ft)			DRILL METHOD: CPT / DPT						CONE TYPE: 1.44 Vertek Piezocone						DRILLER: N/A																
BORING NO.: L_25800						STATION: 258+00			OFFSET: 32 ft LT			ALIGNMENT: -L-			0 HR. N/A			ROD TYPE: Pre-strung						CONE ID: DDG1299						TECHNICIAN: M.A.D.													
COLLAR ELEV.: 41.0 ft						TOTAL DEPTH: 14.6 ft			NORTHING: 77,233			EASTING: 2,280,976			24 HR. 2.0 H2O			START DATE: 10/09/14						COMP. DATE: 10/09/14						SURFACE WATER DEPTH: N/A													
ELEV (ft)			DEPTH (ft)		FRICTION (tsf)	CONE RESISTANCE (tsf)						FRICTION RATIO (%)								PORE PRESSURE (tsf)						SOIL BEHAVIOR TYPE (Robertson 1986)						EQUIVALENT SPT ($N_{60\%}$)											
41.0					-4	3	2	1	0	50	100	150	200	250	300	350	400	-1	0.75	2.50	4.25	6	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100				
												1.22141 1.22774 1.47007 1.22026 1.22026 1.10271 -1.10104 1.271311148 1.18996 1.22424 1.27788 1.1869 1.22133 1.22774 1.11398																															
36.0			5.0																																								
31.0			10.0																																								
26.0			15.0																																								
21.0			20.0																																								
16.0			25.0																																								
11.0			30.0																																								



SHEET NO.:	72
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																																																														
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																																																												
BORING NO.: L_26400		STATION: 264+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																																																												
COLLAR ELEV.: 40.2 ft		TOTAL DEPTH: 7.7 ft		NORTHING: 77,068		EASTING: 2,281,553		24 HR.3.6 Caved		START DATE: 10/09/14		COMP. DATE: 10/09/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																																																												
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">40.2</td><td colspan="1"></td><td colspan="1">4</td><td colspan="1">3</td><td colspan="1">2</td><td colspan="1">1</td><td colspan="1">0</td><td colspan="1">50</td><td colspan="1">100</td><td colspan="1">150</td><td colspan="1">200</td><td colspan="1">250</td><td colspan="1">300</td><td colspan="1">350</td><td colspan="1">400</td><td colspan="1">-1</td><td colspan="1">-0.25</td><td colspan="1">0.50</td><td colspan="1">1.25</td><td colspan="1">2</td><td colspan="1"></td><td colspan="1">-1</td><td colspan="1">0</td><td colspan="1">1</td><td colspan="1">2</td><td colspan="1">3</td><td colspan="1">4</td><td colspan="1">5</td><td colspan="1">0</td><td colspan="1">3</td><td colspan="1">6</td><td colspan="1">9</td><td colspan="1">12</td><td colspan="1">0</td><td colspan="1">25</td><td colspan="1">50</td><td colspan="1">75</td><td colspan="1">100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">35.2</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">30.2</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">25.2</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">20.2</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">15.2</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">10.2</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						40.2		4	3	2	1	0	50	100	150	200	250	300	350	400	-1	-0.25	0.50	1.25	2		-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100			35.2	5.0																																30.2	10.0																																25.2	15.0																																20.2	20.0																																15.2	25.0																																10.2	30.0																															
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																																																			
40.2		4	3	2	1	0	50	100	150	200	250	300	350	400	-1	-0.25	0.50	1.25	2		-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100																																																																																																																																																																																																																																																					
35.2	5.0																																																																																																																																																																																																																																																																																									
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15.2	25.0																																																																																																																																																																																																																																																																																									
10.2	30.0																																																																																																																																																																																																																																																																																									



SHEET NO.:	73
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	75
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft)	DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone	DRILLER: N/A
BORING NO.: L_27000		STATION: 270+00	OFFSET: 27 ft LT	ALIGNMENT: -L-	0 HR. N/A	ROD TYPE: Pre-strung		CONE ID: DSG0867	TECHNICIAN: M.A.D.
COLLAR ELEV.: 38.6 ft		TOTAL DEPTH: 7.9 ft	NORTHING: 76,908	EASTING: 2,282,131	24 HR. 3.3 H2O	START DATE: 10/09/14		COMP. DATE: 10/09/14	SURFACE WATER DEPTH: N/A
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)	CONE RESISTANCE (tsf)	FRICTION RATIO (%)		PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE (Robertson 1986)	EQUIVALENT SPT (N _{60%})	
38.6									
33.6	5.0								
28.6	10.0								
23.6	15.0								
18.6	20.0								
13.6	25.0								
8.6	30.0								



SHEET NO.:	76
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_27100		STATION: 271+00		OFFSET: 60 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 38.8 ft		TOTAL DEPTH: 12.1 ft		NORTHING: 76,913		EASTING: 2,282,236		24 HR.3.1 Caved		START DATE: 10/09/14		COMP. DATE: 10/09/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">38.8</td><td colspan="1"></td><td colspan="4">4 3 2 1 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">33.8</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">28.8</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">23.8</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">18.8</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">13.8</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">8.8</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						38.8		4 3 2 1 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						33.8	5.0																												28.8	10.0																												23.8	15.0																												18.8	20.0																												13.8	25.0																												8.8	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
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SHEET NO.:	77
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_27200		STATION: 272+00		OFFSET: 84 ft RT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 39.5 ft		TOTAL DEPTH: 13.1 ft		NORTHING: 76,747		EASTING: 2,282,294		24 HR. 1.1 H2O		START DATE: 10/09/14		COMP. DATE: 10/09/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">39.5</td><td colspan="1"></td><td colspan="4">4 3 2 1 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 1.75 4.50 7.25 10</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">34.5</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">29.5</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">24.5</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">19.5</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">14.5</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">9.5</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						39.5		4 3 2 1 0				50 100 150 200 250 300 350 400				-1 1.75 4.50 7.25 10					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						34.5	5.0																												29.5	10.0																												24.5	15.0																												19.5	20.0																												14.5	25.0																												9.5	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
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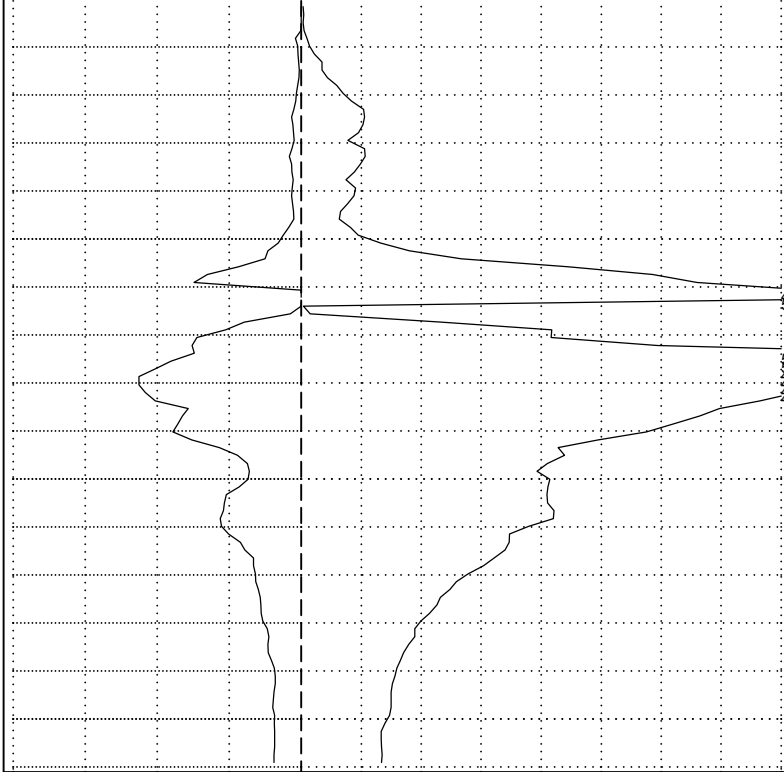
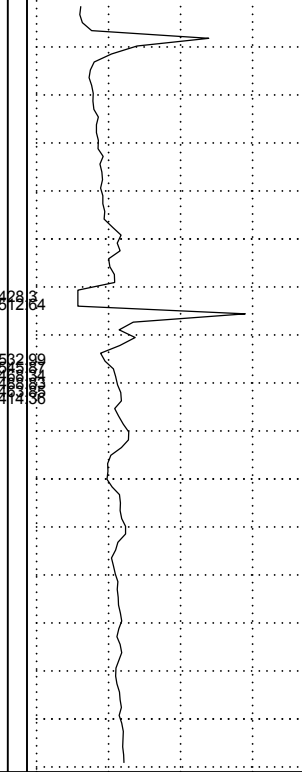
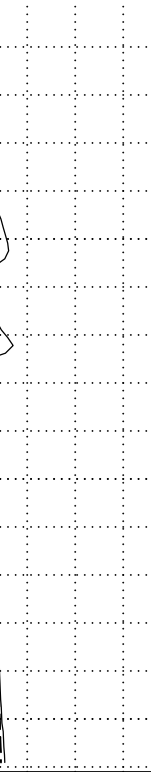
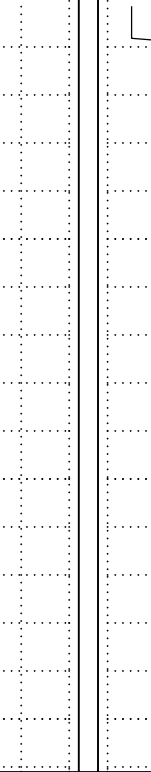
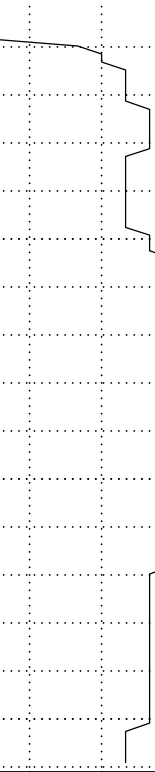
SHEET NO.:	78
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																				
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																		
BORING NO.: L_27400		STATION: 274+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																		
COLLAR ELEV.: 40.1 ft		TOTAL DEPTH: 12.6 ft		NORTHING: 76,801		EASTING: 2,282,517		24 HR. 1.7 H2O		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																		
<table><tr><td rowspan="2">ELEV (ft)</td><td rowspan="2">DEPTH (ft)</td><td colspan="5">FRICTION (tsf)</td><td colspan="5">CONE RESISTANCE (tsf)</td><td colspan="5">FRICTION RATIO (%)</td><td colspan="5">PORE PRESSURE (tsf)</td><td colspan="5">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="5">EQUIVALENT SPT (N_{60%})</td><td rowspan="2"></td><td rowspan="2"></td></tr><tr><td>2</td><td>1.5</td><td>1.0</td><td>0.5</td><td>0</td><td>20</td><td>40</td><td>60</td><td>80</td><td>100</td><td>120</td><td>140</td><td>160</td><td>-1</td><td>1.25</td><td>3.50</td><td>5.75</td><td>8</td><td>-1</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>0</td><td>3</td><td>6</td><td>9</td><td>12</td><td>0</td><td>25</td><td>50</td><td>75</td><td>100</td></tr><tr><td>40.1</td><td></td><td colspan="16"></td><td></td><td></td></tr><tr><td>35.1</td><td>5.0</td><td colspan="16"></td><td></td><td></td></tr><tr><td>30.1</td><td>10.0</td><td colspan="16"></td><td></td><td></td></tr><tr><td>25.1</td><td>15.0</td><td colspan="16"></td><td></td><td></td></tr><tr><td>20.1</td><td>20.0</td><td colspan="16"></td><td></td><td></td></tr><tr><td>15.1</td><td>25.0</td><td colspan="16"></td><td></td><td></td></tr><tr><td>10.1</td><td>30.0</td><td colspan="16"></td><td></td><td></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)					CONE RESISTANCE (tsf)					FRICTION RATIO (%)					PORE PRESSURE (tsf)					SOIL BEHAVIOR TYPE (Robertson 1986)					EQUIVALENT SPT (N _{60%})							2	1.5	1.0	0.5	0	20	40	60	80	100	120	140	160	-1	1.25	3.50	5.75	8	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100	40.1																				35.1	5.0																			30.1	10.0																			25.1	15.0																			20.1	20.0																			15.1	25.0																			10.1	30.0																		
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)					CONE RESISTANCE (tsf)					FRICTION RATIO (%)						PORE PRESSURE (tsf)					SOIL BEHAVIOR TYPE (Robertson 1986)					EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																				
		2	1.5	1.0	0.5	0	20	40	60	80	100	120	140	160	-1	1.25	3.50	5.75	8	-1	0	1	2	3	4	5	0	3	6	9	12	0			25	50	75	100																																																																																																																																																																																										
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PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																										
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT			CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																							
BORING NO.: L_27600		STATION: 276+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung			CONE ID: DDG1242		TECHNICIAN: M.A.D.																							
COLLAR ELEV.: 39.3 ft		TOTAL DEPTH: 14.6 ft		NORTHING: 76,747		EASTING: 2,282,709		24 HR.1.6 Caved		START DATE: 10/08/14			COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																							
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																
39.3		2	1.5	1.0	0.5	0	20	40	60	80	100	120	140	160	-1	0.75	2.50	4.25	6	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
34.3	5.0																																					
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PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																										
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																								
BORING NO.: L_27800		STATION: 278+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																								
COLLAR ELEV.: 40.2 ft		TOTAL DEPTH: 16.1 ft		NORTHING: 76,694		EASTING: 2,282,902		24 HR.1.3 Caved		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																								
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																
40.2		8	6	4	2	0	50	100	150	200	250	300	350	400	-1	0.75	2.50	4.25	6	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
																																						
35.2	5.0																																					



SHEET NO.:	81
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_28200		STATION: 282+00		OFFSET: 75 ft RT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1299		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 37.3 ft		TOTAL DEPTH: 16.6 ft		NORTHING: 76,489		EASTING: 2,283,260		24 HR. 1.9 H2O		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">37.3</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 1.25 3.50 5.75 8</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">32.3</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">27.3</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">22.3</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">17.3</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">12.3</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">7.3</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						37.3		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 1.25 3.50 5.75 8					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						32.3	5.0																												27.3	10.0																												22.3	15.0																												17.3	20.0																												12.3	25.0																												7.3	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
37.3		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 1.25 3.50 5.75 8					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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SHEET NO.:	82
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_28400		STATION: 284+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 37.6 ft		TOTAL DEPTH: 8.4 ft		NORTHING: 76,534		EASTING: 2,283,480		24 HR. 2.8 H2O		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
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ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
37.6		8 6 4 2 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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SHEET NO.:	83
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																	
BORING NO.: L_28600		STATION: 286+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																	
COLLAR ELEV.: 37.9 ft		TOTAL DEPTH: 8.5 ft		NORTHING: 76,480		EASTING: 2,283,673		24 HR.1.8 Caved		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																	
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">37.9</td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">32.9</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">27.9</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">22.9</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">17.9</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">12.9</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">7.9</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						37.9																													32.9	5.0																								27.9	10.0																								22.9	15.0																								17.9	20.0																								12.9	25.0																								7.9	30.0																							
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																								
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SHEET NO.:	84
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_28800		STATION: 288+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 38.0 ft		TOTAL DEPTH: 8.1 ft		NORTHING: 76,427		EASTING: 2,283,866		24 HR.1.1 Caved		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">38.0</td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">33.0</td><td colspan="1">5.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">28.0</td><td colspan="1">10.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">23.0</td><td colspan="1">15.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">18.0</td><td colspan="1">20.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">13.0</td><td colspan="1">25.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">8.0</td><td colspan="1">30.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						38.0																													33.0	5.0																												28.0	10.0																												23.0	15.0																												18.0	20.0																												13.0	25.0																												8.0	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
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SHEET NO.:	85
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																	
BORING NO.: L_29000		STATION: 290+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																	
COLLAR ELEV.: 36.4 ft		TOTAL DEPTH: 15.1 ft		NORTHING: 76,374		EASTING: 2,284,059		24 HR. 3.3 H2O		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																	
<table><tr><td colspan="2">ELEV (ft)</td><td colspan="2">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="2">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="2"></td></tr><tr><td colspan="2">36.4</td><td colspan="2"></td><td colspan="4">4 3 2 1 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 -0.25 0.50 1.25 2</td><td colspan="2">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="2"></td></tr><tr><td colspan="2">31.4</td><td colspan="2">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">26.4</td><td colspan="2">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">21.4</td><td colspan="2">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">16.4</td><td colspan="2">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">11.4</td><td colspan="2">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">6.4</td><td colspan="2">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr></table>																ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						36.4				4 3 2 1 0				50 100 150 200 250 300 350 400				-1 -0.25 0.50 1.25 2				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100						31.4		5.0																										26.4		10.0																										21.4		15.0																										16.4		20.0																										11.4		25.0																										6.4		30.0																									
ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																									
36.4				4 3 2 1 0				50 100 150 200 250 300 350 400				-1 -0.25 0.50 1.25 2				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																									
31.4		5.0																																																																																																																																																																																																																																													
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21.4		15.0																																																																																																																																																																																																																																													
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11.4		25.0																																																																																																																																																																																																																																													
6.4		30.0																																																																																																																																																																																																																																													



SHEET NO.:	86
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	87
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT			CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																
BORING NO.: L_29400		STATION: 294+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung			CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																
COLLAR ELEV.: 36.0 ft		TOTAL DEPTH: 14.1 ft		NORTHING: 76,267		EASTING: 2,284,444		24 HR. 3.3 H2O		START DATE: 10/08/14			COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">36.0</td><td colspan="1"></td><td colspan="4">8 6 4 2 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">31.0</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">26.0</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">21.0</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">16.0</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">11.0</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">6.0</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						36.0		8 6 4 2 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						31.0	5.0																											26.0	10.0																											21.0	15.0																											16.0	20.0																											11.0	25.0																											6.0	30.0																										
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																									
36.0		8 6 4 2 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																									
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6.0	30.0																																																																																																																																																																																																																																														



SHEET NO.:	88
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																										
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																								
BORING NO.: L_29600		STATION: 296+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																								
COLLAR ELEV.: 36.4 ft		TOTAL DEPTH: 9.2 ft		NORTHING: 76,213		EASTING: 2,284,637		24 HR. 3.3 H2O		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																								
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																
36.4		4	3	2	1	0	50	100	150	200	250	300	350	400	-1	-0.25	0.50	1.25	2	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
31.4	5.0																																					
26.4	10.0																																					
21.4	15.0																																					
16.4	20.0																																					
11.4	25.0																																					
6.4	30.0																																					



SHEET NO.:	89
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																																	
BORING NO.: L_29800		STATION: 298+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																																	
COLLAR ELEV.: 35.7 ft		TOTAL DEPTH: 13.6 ft		NORTHING: 76,160		EASTING: 2,284,830		24 HR. 3.6 H2O		START DATE: 10/08/14		COMP. DATE: 10/08/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																																	
<table><tr><td colspan="2">ELEV (ft)</td><td colspan="2">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="2">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">35.7</td><td colspan="2"></td><td colspan="4">8 6 4 2 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 0.75 2.50 4.25 6</td><td colspan="2">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">30.7</td><td colspan="2">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">25.7</td><td colspan="2">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">20.7</td><td colspan="2">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">15.7</td><td colspan="2">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">10.7</td><td colspan="2">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2">5.7</td><td colspan="2">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="2"></td></tr></table>																ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})								35.7				8 6 4 2 0				50 100 150 200 250 300 350 400				-1 0.75 2.50 4.25 6				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100								30.7		5.0																												25.7		10.0																												20.7		15.0																												15.7		20.0																												10.7		25.0																												5.7		30.0																											
ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																									
35.7				8 6 4 2 0				50 100 150 200 250 300 350 400				-1 0.75 2.50 4.25 6				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																									
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SHEET NO.:	90
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																	
BORING NO.: L_30200		STATION: 302+00		OFFSET: 75 ft RT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																	
COLLAR ELEV.: 33.4 ft		TOTAL DEPTH: 14.6 ft		NORTHING: 75,955		EASTING: 2,285,188		24 HR. 3.3 H2O		START DATE: 10/09/14		COMP. DATE: 10/09/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																	
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">33.4</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 1.75 4.50 7.25 10</td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">28.4</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">23.4</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">18.4</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">13.4</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">8.4</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">3.4</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						33.4		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 1.75 4.50 7.25 10				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						28.4	5.0																											23.4	10.0																											18.4	15.0																											13.4	20.0																											8.4	25.0																											3.4	30.0																										
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																									
33.4		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 1.75 4.50 7.25 10				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																									
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SHEET NO.:	91
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87						GROUND WTR (ft)		DRILL METHOD: CPT / DPT			CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
BORING NO.: L_30400		STATION: 304+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung			CONE ID: DSG0867		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
COLLAR ELEV.: 33.5 ft		TOTAL DEPTH: 14.6 ft		NORTHING: 76,000		EASTING: 2,285,408		24 HR.0.6 Caved		START DATE: 10/09/14			COMP. DATE: 10/09/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
33.5		8	6	4	2	0	1	50	100	150	200	250	300	350	400	-1	0.25	1.50	2.75	4	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								</



SHEET NO.:	92
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1									
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A							
BORING NO.: L_30600		STATION: 306+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DSG0867		TECHNICIAN: M.A.D.							
COLLAR ELEV.: 33.3 ft		TOTAL DEPTH: 13.9 ft		NORTHING: 75,946		EASTING: 2,285,600		24 HR.1.1 Caved		START DATE: 10/09/14		COMP. DATE: 10/09/14		SURFACE WATER DEPTH: N/A							
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})			
33.3																					
28.3	5.0																				
23.3	10.0																				
18.3	15.0																				
13.3	20.0																				
8.3	25.0																				
3.3	30.0																				



SHEET NO.:	93
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1			ID.: R-5021			COUNTY: BRUNSWICK			GEOLOGIST: Steven Hudson			DRILL MACHINE: Hogentogler Track			MAX. DOWN PRESSURE: 10,000 pounds			PAGE 1 of 1										
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87												GROUND WTR (ft)		DRILL METHOD: CPT / DPT				CONE TYPE: 1.44 Vertek Piezocone				DRILLER: N/A						
BORING NO.: L_30800				STATION: 308+00			OFFSET: 27 ft LT			ALIGNMENT: -L-			0 HR. N/A		ROD TYPE: Pre-strung				CONE ID: DSG0867				TECHNICIAN: M.A.D.					
COLLAR ELEV.: 32.8 ft				TOTAL DEPTH: 12.6 ft			NORTHING: 75,893			EASTING: 2,285,793			24 HR.3.4 Caved		START DATE: 10/09/14				COMP. DATE: 10/09/14				SURFACE WATER DEPTH: N/A					
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})					
32.8																												
27.8	5.0																											
22.8	10.0																											
17.8	15.0																											
12.8	20.0																											
7.8	25.0																											
2.8	30.0																											



SHEET NO.:	94
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_31000		STATION: 310+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 32.3 ft		TOTAL DEPTH: 15.1 ft		NORTHING: 75,839		EASTING: 2,285,986		24 HR. 5.6 H2O		START DATE: 10/10/14		COMP. DATE: 10/10/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">32.3</td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">27.3</td><td colspan="1">5.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">22.3</td><td colspan="1">10.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">17.3</td><td colspan="1">15.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">12.3</td><td colspan="1">20.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">7.3</td><td colspan="1">25.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">2.3</td><td colspan="1">30.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						32.3																													27.3	5.0																												22.3	10.0																												17.3	15.0																												12.3	20.0																												7.3	25.0																												2.3	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
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22.3	10.0																																																																																																																																																																																																																																																						
17.3	15.0																																																																																																																																																																																																																																																						
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7.3	25.0																																																																																																																																																																																																																																																						
2.3	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	97
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]

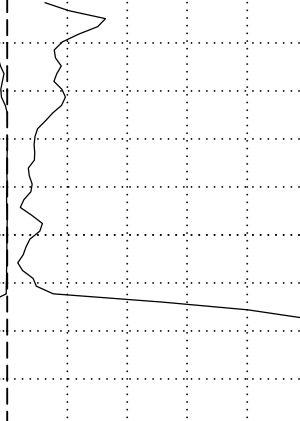
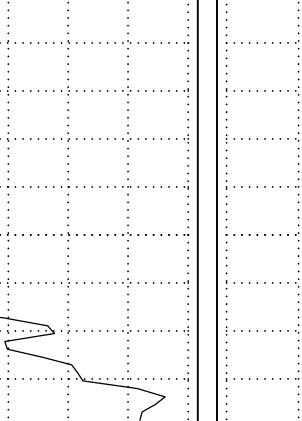
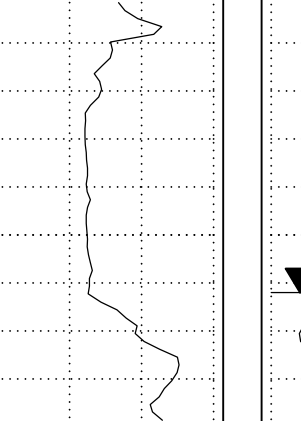
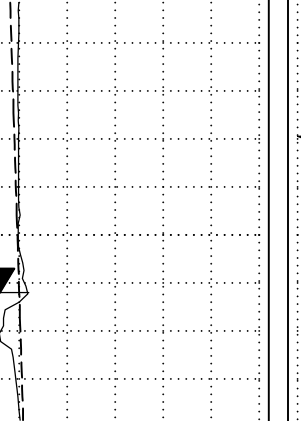
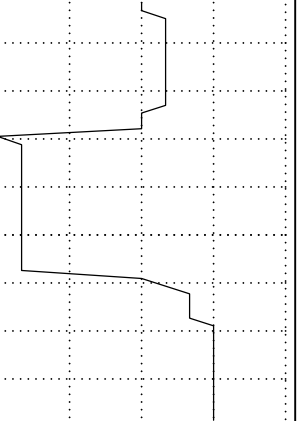
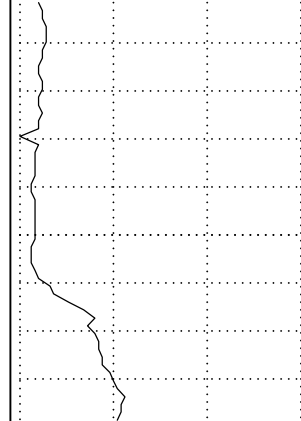


SHEET NO.:	100
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																	
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87						GROUND WTR (ft) 0 HR. N/A 24 HR.5.1 Caved		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																	
BORING NO.: L_35200		STATION: 352+00		OFFSET: 35 ft RT				ALIGNMENT: -L-		ROD TYPE: Pre-strung		CONE ID: DDG1195		TECHNICIAN: M.A.D.															
COLLAR ELEV.: 27.2 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 74,634				EASTING: 2,290,010		START DATE: 10/10/14		COMP. DATE: 10/10/14		SURFACE WATER DEPTH: N/A															
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})							
27.2																													
22.2	5.0																												
17.2	10.0																												
12.2	15.0																												
7.2	20.0																												
2.2	25.0																												
-2.8	30.0																												



SHEET NO.:	101
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1					
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87						GROUND WTR (ft) 0 HR. N/A 24 HR. 6.2 H2O		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A					
BORING NO.: L_35400		STATION: 354+00		OFFSET: 37 ft RT				ALIGNMENT: -L-		ROD TYPE: Pre-strung		CONE ID: DDG1195		TECHNICIAN: M.A.D.			
COLLAR ELEV.: 25.7 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 74,579				EASTING: 2,290,202		START DATE: 10/10/14		COMP. DATE: 10/10/14		SURFACE WATER DEPTH: N/A			
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)		CONE RESISTANCE (tsf)		FRICTION RATIO (%)		PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})					
25.7		0.8 0.6 0.4 0.2 0		20 40 60 80 100 120 140 160		-1 -0.55 -0.10 0.35 0.8		-1 0 1 2 3 4 5		0 3 6 9 12		0 25 50 75 100					
																	
	</																



SHEET NO.:	102
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87						GROUND WTR (ft) 0 HR. N/A 24 HR.8.3 Caved		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A			
BORING NO.: L_35800		STATION: 358+00		OFFSET: 39 ft LT				ALIGNMENT: -L-		ROD TYPE: Pre-strung		CONE ID: DDG1195		TECHNICIAN: M.A.D.	
COLLAR ELEV.: 29.4 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 74,545				EASTING: 2,290,608		START DATE: 10/10/14		COMP. DATE: 10/10/14		SURFACE WATER DEPTH: N/A	
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)		CONE RESISTANCE (tsf)		FRICTION RATIO (%)		PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})			
29.4															



SHEET NO.:	103
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1													
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft)	DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A												
BORING NO.: L_35950		STATION: 359+50	OFFSET: 37 ft LT	ALIGNMENT: -L-	0 HR. N/A	ROD TYPE: Pre-strung		CONE ID: DDG1195		TECHNICIAN: M.A.D.												
COLLAR ELEV.: 28.6 ft		TOTAL DEPTH: 9.7 ft	NORTHING: 74,503	EASTING: 2,290,752	24 HR.8.1 Caved	START DATE: 10/10/14		COMP. DATE: 10/10/14		SURFACE WATER DEPTH: N/A												
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)			CONE RESISTANCE (tsf)			FRICTION RATIO (%)			PORE PRESSURE (tsf)			SOIL BEHAVIOR TYPE (Robertson 1986)			EQUIVALENT SPT (N _{60%})					
28.6																						
23.6	5.0																					
18.6	10.0																					
13.6	15.0																					
8.6	20.0																					
3.6	25.0																					
-1.4	30.0																					



SHEET NO.:	104
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1															
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft) 0 HR. N/A 24 HR.9.1 Caved		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A													
BORING NO.: L_36300		STATION: 363+00		OFFSET: 37 ft LT		ALIGNMENT: -L-				ROD TYPE: Pre-strung		CONE ID: DDG1195		TECHNICIAN: M.A.D.													
COLLAR ELEV.: 26.0 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 74,405		EASTING: 2,291,089				START DATE: 10/10/14		COMP. DATE: 10/10/14		SURFACE WATER DEPTH: N/A													
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})					
26.0																											
21.0	5.0																										
16.0	10.0																										
11.0	15.0																										
6.0	20.0																										
1.0	25.0																										
-4.0	30.0																										

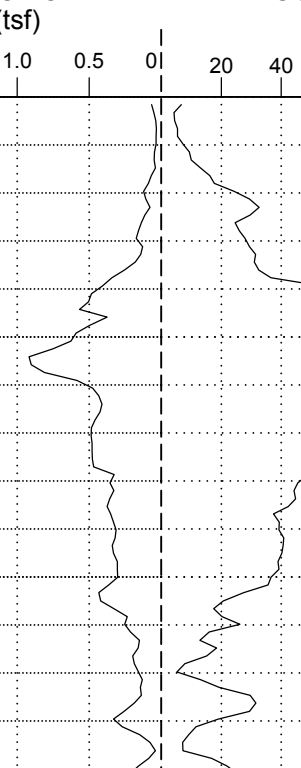
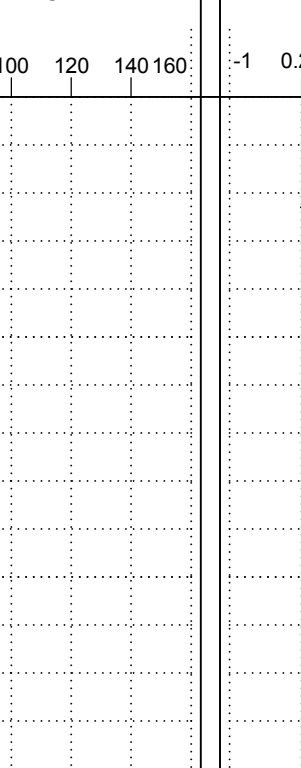
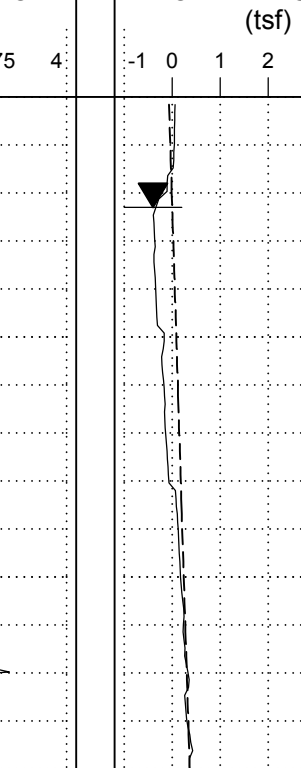
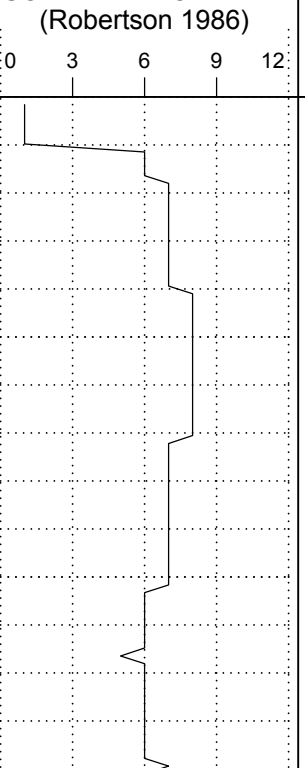


SHEET NO.:	105
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1	
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft) 0 HR. N/A 24 HR.7.7 Caved	DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A
BORING NO.: L_36500		STATION: 365+00	OFFSET: 45 ft LT	ALIGNMENT: -L-		ROD TYPE: Pre-strung		CONE ID: DDG1195		TECHNICIAN: M.A.D.
COLLAR ELEV.: 21.7 ft		TOTAL DEPTH: 9.0 ft	NORTHING: 74,349	EASTING: 2,291,282		START DATE: 10/10/14		COMP. DATE: 10/10/14		SURFACE WATER DEPTH: N/A
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)	CONE RESISTANCE (tsf)	FRICTION RATIO (%)	PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE (Robertson 1986)	EQUIVALENT SPT (N _{60%})			
21.7		0.8 0.6 0.4 0.2 0	20 40 60 80 100 120 140 160	-1 -0.25 0.50 1.25 2	-1 0 1 2 3 4 5	0 3 6 9 12	0 25 50 75 100			
16.7	5.0									
11.7	10.0									
6.7	15.0									
1.7	20.0									
-3.3	25.0									
-8.3	30.0									



SHEET NO.:	106
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1			ID.: R-5021			COUNTY: BRUNSWICK			GEOLOGIST: Steven Hudson			DRILL MACHINE: Hogentogler Track			MAX. DOWN PRESSURE: 10,000 pounds			PAGE 1 of 1																							
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87										GROUND WTR (ft)		DRILL METHOD: CPT / DPT				CONE TYPE: 1.44 Vertek Piezocone				DRILLER: N/A																					
BORING NO.: L_37200			STATION: 372+00			OFFSET: 20 ft LT			ALIGNMENT: -L-			0 HR. N/A		ROD TYPE: Pre-strung				CONE ID: DDG1242				TECHNICIAN: M.A.D.																			
COLLAR ELEV.: 7.5 ft			TOTAL DEPTH: 14.6 ft			NORTHING: 74,056			EASTING: 2,291,922			24 HR. 2.3 H2O		START DATE: 10/13/14				COMP. DATE: 10/13/14				SURFACE WATER DEPTH: N/A																			
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)					CONE RESISTANCE (tsf)					FRICTION RATIO (%)					PORE PRESSURE (tsf)					SOIL BEHAVIOR TYPE (Robertson 1986)					EQUIVALENT SPT (N _{60%})														
7.5		2	1.5	1.0	0.5	0	20	40	60	80	100	120	140	160	-1	0.25	1.50	2.75	4	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100					
																																									
-2.5	5.0																																								
-7.5	10.0																																								
-12.5	15.0																																								
-17.5	20.0																																								
-22.5	25.0																																								
	30.0																																								



SHEET NO.:	107
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																									
BORING NO.: L_37600		STATION: 376+00		OFFSET: 31 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																									
COLLAR ELEV.: 17.9 ft		TOTAL DEPTH: 9.2 ft		NORTHING: 73,881		EASTING: 2,292,284		24 HR.5.4 Caved		START DATE: 10/13/14		COMP. DATE: 10/13/14		SURFACE WATER DEPTH: N/A																									
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)						PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})															
17.9		2	1.5	1.0	0.5	0	20	40	60	80	100	120	140	160	-1	0.25	1.50	2.75	4		-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
12.9	5.0																																						
7.9	10.0																																						
2.9	15.0																																						
-2.1	20.0																																						
-7.1	25.0																																						
-12.1	30.0																																						



SHEET NO.:	108
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	109
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_38200		STATION: 382+00		OFFSET: 33 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 28.6 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 73,564		EASTING: 2,292,797		24 HR. 8.3 H2O		START DATE: 10/13/14		COMP. DATE: 10/13/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">28.6</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">23.6</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">18.6</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">13.6</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">8.6</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">3.6</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-1.4</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						28.6		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						23.6	5.0																												18.6	10.0																												13.6	15.0																												8.6	20.0																												3.6	25.0																												-1.4	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
28.6		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
23.6	5.0																																																																																																																																																																																																																																																						
18.6	10.0																																																																																																																																																																																																																																																						
13.6	15.0																																																																																																																																																																																																																																																						
8.6	20.0																																																																																																																																																																																																																																																						
3.6	25.0																																																																																																																																																																																																																																																						
-1.4	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	110
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																	
BORING NO.: L_38400		STATION: 384+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																	
COLLAR ELEV.: 27.9 ft		TOTAL DEPTH: 12.1 ft		NORTHING: 73,443		EASTING: 2,292,957		24 HR: 1.0 Caved		START DATE: 10/13/14		COMP. DATE: 10/13/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																	
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">27.9</td><td colspan="1"></td><td colspan="4">4 3 2 1 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 -0.25 0.50 1.25 2</td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">22.9</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">17.9</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">12.9</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">7.9</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">2.9</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-2.1</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						27.9		4 3 2 1 0				50 100 150 200 250 300 350 400				-1 -0.25 0.50 1.25 2				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						22.9	5.0																											17.9	10.0																											12.9	15.0																											7.9	20.0																											2.9	25.0																											-2.1	30.0																										
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																									
27.9		4 3 2 1 0				50 100 150 200 250 300 350 400				-1 -0.25 0.50 1.25 2				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																									
22.9	5.0																																																																																																																																																																																																																																														
17.9	10.0																																																																																																																																																																																																																																														
12.9	15.0																																																																																																																																																																																																																																														
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2.9	25.0																																																																																																																																																																																																																																														
-2.1	30.0																																																																																																																																																																																																																																														



SHEET NO.:	111
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																		
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																
BORING NO.: L_38600		STATION: 386+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.													
COLLAR ELEV.: 28.2 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 73,322		EASTING: 2,293,117		24 HR. Dry		START DATE: 10/13/14		COMP. DATE: 10/13/14		SURFACE WATER DEPTH: N/A													
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})					
28.2																											
23.2	5.0																										
18.2	10.0																										
13.2	15.0																										
8.2	20.0																										
3.2	25.0																										
-1.8	30.0																										



SHEET NO.:	112
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																	
BORING NO.: L_39600		STATION: 396+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																	
COLLAR ELEV.: 27.6 ft		TOTAL DEPTH: 9.2 ft		NORTHING: 72,651		EASTING: 2,293,862		24 HR.8.0 Caved		START DATE: 10/13/14		COMP. DATE: 10/13/14		SURFACE WATER DEPTH: N/A																	
ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})							
27.6				2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 1.75 4.50 7.25 10				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100							
22.6		5.0																													
17.6		10.0																													
12.6		15.0																													
7.6		20.0																													
2.6		25.0																													
-2.4		30.0																													



SHEET NO.:	113
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																																																														
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																																																												
BORING NO.: L_40000		STATION: 400+00		OFFSET: 29 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																																																												
COLLAR ELEV.: 27.9 ft		TOTAL DEPTH: 9.4 ft		NORTHING: 72,356		EASTING: 2,294,138		24 HR.0.7 Caved		START DATE: 10/13/14		COMP. DATE: 10/13/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																																																												
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">27.9</td><td colspan="1"></td><td colspan="1">2</td><td colspan="1">1.5</td><td colspan="1">1.0</td><td colspan="1">0.5</td><td colspan="1">0</td><td colspan="1">50</td><td colspan="1">100</td><td colspan="1">150</td><td colspan="1">200</td><td colspan="1">250</td><td colspan="1">300</td><td colspan="1">350</td><td colspan="1">400</td><td colspan="1">-1</td><td colspan="1">0.25</td><td colspan="1">1.50</td><td colspan="1">2.75</td><td colspan="1">4</td><td colspan="1"></td><td colspan="1">-1</td><td colspan="1">0</td><td colspan="1">1</td><td colspan="1">2</td><td colspan="1">3</td><td colspan="1">4</td><td colspan="1">5</td><td colspan="1">0</td><td colspan="1">3</td><td colspan="1">6</td><td colspan="1">9</td><td colspan="1">12</td><td colspan="1">0</td><td colspan="1">25</td><td colspan="1">50</td><td colspan="1">75</td><td colspan="1">100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">22.9</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">17.9</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">12.9</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">7.9</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">2.9</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-2.1</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						27.9		2	1.5	1.0	0.5	0	50	100	150	200	250	300	350	400	-1	0.25	1.50	2.75	4		-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100			22.9	5.0																																17.9	10.0																																12.9	15.0																																7.9	20.0																																2.9	25.0																																-2.1	30.0																															
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																																																			
27.9		2	1.5	1.0	0.5	0	50	100	150	200	250	300	350	400	-1	0.25	1.50	2.75	4		-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100																																																																																																																																																																																																																																																					
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SHEET NO.:	114
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																	
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A															
BORING NO.: L_40200		STATION: 402+28		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.															
COLLAR ELEV.: 32.3 ft		TOTAL DEPTH: 9.2 ft		NORTHING: 72,181		EASTING: 2,294,282		24 HR.3.1 Caved		START DATE: 10/13/14		COMP. DATE: 10/13/14		SURFACE WATER DEPTH: N/A															
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})							
32.3																													
27.3	5.0																												
22.3	10.0																												
17.3	15.0																												
12.3	20.0																												
7.3	25.0																												
2.3	30.0																												



SHEET NO.:	115
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_40800		STATION: 408+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 30.1 ft		TOTAL DEPTH: 9.2 ft		NORTHING: 71,723		EASTING: 2,294,628		24 HR. 2.5 H2O		START DATE: 10/13/14		COMP. DATE: 10/13/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">30.1</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">10 20 30 40 50 60 70 80</td><td colspan="4">-1 1.25 3.50 5.75 8</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">25.1</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">20.1</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">15.1</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">10.1</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">5.1</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">0.1</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						30.1		2 1.5 1.0 0.5 0				10 20 30 40 50 60 70 80				-1 1.25 3.50 5.75 8					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						25.1	5.0																												20.1	10.0																												15.1	15.0																												10.1	20.0																												5.1	25.0																												0.1	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
30.1		2 1.5 1.0 0.5 0				10 20 30 40 50 60 70 80				-1 1.25 3.50 5.75 8					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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SHEET NO.:	116
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																	
BORING NO.: L_41000		STATION: 410+00		OFFSET: 27 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																	
COLLAR ELEV.: 27.7 ft		TOTAL DEPTH: 9.2 ft		NORTHING: 71,553		EASTING: 2,294,737		24 HR.2.2 Caved		START DATE: 10/13/14		COMP. DATE: 10/13/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																	
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">27.7</td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">22.7</td><td colspan="1">5.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">17.7</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">12.7</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">7.7</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">2.7</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-2.3</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						27.7																													22.7	5.0																								17.7	10.0																								12.7	15.0																								7.7	20.0																								2.7	25.0																								-2.3	30.0																							
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																								
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SHEET NO.:	117
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1		
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft) 0 HR. N/A 24 HR. 5.7 Caved	DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A	
BORING NO.: L_41200		STATION: 412+00	OFFSET: 30 ft LT	ALIGNMENT: -L-		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.	
COLLAR ELEV.: 25.9 ft		TOTAL DEPTH: 9.0 ft	NORTHING: 71,379	EASTING: 2,294,839		START DATE: 10/14/14		COMP. DATE: 10/14/14		SURFACE WATER DEPTH: N/A	
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)		CONE RESISTANCE (tsf)		FRICTION RATIO (%)	PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)	EQUIVALENT SPT (N _{60%})	
25.9		4 3 2 1 0	20 40 60 80 100 120 140 160	-1 1.75 4.50 7.25 10		-1 0 1 2 3 4 5	0 3 6 9 12	0 25 50 75 100			
20.9	5.0				17.98839						
15.9	10.0										
10.9	15.0										
5.9	20.0										
0.9	25.0										
-4.1	30.0										



SHEET NO.:	118
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_41600		STATION: 415+90		OFFSET: 40 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 24.6 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 71,027		EASTING: 2,295,015		24 HR.3.2 Caved		START DATE: 10/14/14		COMP. DATE: 10/14/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">24.6</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 -0.25 0.50 1.25 2</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">19.6</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4">▼</td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">14.6</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">9.6</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">4.6</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-0.4</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-5.4</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						24.6		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 -0.25 0.50 1.25 2					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						19.6	5.0														▼														14.6	10.0																												9.6	15.0																												4.6	20.0																												-0.4	25.0																												-5.4	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
24.6		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 -0.25 0.50 1.25 2					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
19.6	5.0														▼																																																																																																																																																																																																																																								
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9.6	15.0																																																																																																																																																																																																																																																						
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-0.4	25.0																																																																																																																																																																																																																																																						
-5.4	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	119
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_42050		STATION: 420+50		OFFSET: 45 ft LT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 22.0 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 70,600		EASTING: 2,295,188		24 HR. 2.8		START DATE: 10/14/14		COMP. DATE: 10/14/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">22.0</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">17.0</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">12.0</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">7.0</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">2.0</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-3.0</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-8.0</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						22.0		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						17.0	5.0																												12.0	10.0																												7.0	15.0																												2.0	20.0																												-3.0	25.0																												-8.0	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
22.0		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
17.0	5.0																																																																																																																																																																																																																																																						
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7.0	15.0																																																																																																																																																																																																																																																						
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SHEET NO.:	120
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1							
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A					
BORING NO.: L_42400		STATION: 424+00		OFFSET: 55 ft LT		ALIGNMENT: -L-		0 HR. 0.0		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.					
COLLAR ELEV.: 23.5 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 70,278		EASTING: 2,295,325		24 HR. 4.8 Est.		START DATE: 10/14/14		COMP. DATE: 10/14/14		SURFACE WATER DEPTH: N/A					
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)		PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})			
23.5		4 3 2 1 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4		-1 0 1 2 3 4 5		0 3 6 9 12		0 25 50 75 100			
18.5	5.0	4 3 2 1 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4		-1 0 1 2 3 4 5		0 3 6 9 12		0 25 50 75 100			
13.5	10.0																		
8.5	15.0																		
3.5	20.0																		
-1.5	25.0																		
-6.5	30.0																		



SHEET NO.:	121
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: L_43000		STATION: 430+00		OFFSET: 50 ft RT		ALIGNMENT: -L-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 21.4 ft		TOTAL DEPTH: 9.2 ft		NORTHING: 69,681		EASTING: 2,295,447		24 HR. 4.4		START DATE: 10/14/14		COMP. DATE: 10/14/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">21.4</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 -0.25 0.50 1.25 2</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">16.4</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">11.4</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">6.4</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">1.4</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-3.6</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-8.6</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						21.4		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 -0.25 0.50 1.25 2					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						16.4	5.0																												11.4	10.0																												6.4	15.0																												1.4	20.0																												-3.6	25.0																												-8.6	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
21.4		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 -0.25 0.50 1.25 2					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
16.4	5.0																																																																																																																																																																																																																																																						
11.4	10.0																																																																																																																																																																																																																																																						
6.4	15.0																																																																																																																																																																																																																																																						
1.4	20.0																																																																																																																																																																																																																																																						
-3.6	25.0																																																																																																																																																																																																																																																						
-8.6	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	122
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: L. STONE	DRILL MACHINE: CATLIN CPT/DPT-01	MAX. DOWN PRESSURE: <10,000lbs		PAGE 1 of 1	
SITE DESCRIPTION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft)	DRILL METHOD: CPT / DPT		CONE TYPE: Type II Piezcone "10cm²"	DRILLER: N/A
BORING NO.: YREV_1100		STATION: 11+00	OFFSET: 43 ft LT	ALIGNMENT: -YREV-	0 HR. N/A	ROD TYPE: PRE-STRUNG		CONE ID: DSG1156	TECHNICIAN: CATLIN
COLLAR ELEV.: 42.9 ft		TOTAL DEPTH: 8.9 ft	NORTHING: 83,990	EASTING: 2,263,658	24 HR. 3.3	START DATE: 10/17/17		COMP. DATE: 10/17/17	SURFACE WATER DEPTH: N/A
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)	CONE RESISTANCE (tsf)	FRICTION RATIO (%)	PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE (Robertson 1986)	EQUIVALENT SPT (N _{60%})		
42.9									
37.9	5.0								
32.9	10.0								
27.9	15.0								
22.9	20.0								
17.9	25.0								
12.9	30.0								



SHEET NO.:	123
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Corey Futral		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1							
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A					
BORING NO.: YREV_01500		STATION: 15+00		OFFSET: 15 ft LT		ALIGNMENT: -YREV-		0 HR. 6.0		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: CATLIN					
COLLAR ELEV.: 43.1 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 83,591		EASTING: 2,263,634		24 HR. 3.9		START DATE: 09/25/14		COMP. DATE: 10/16/14		SURFACE WATER DEPTH: N/A					
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)		PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})			
43.1		0.8 0.6 0.4 0.2 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4		-1 0 1 2 3 4 5		0 3 6 9 12		0 25 50 75 100			
38.1	5.0																		
33.1	10.0																		
28.1	15.0																		
23.1	20.0																		
18.1	25.0																		
13.1	30.0																		



SHEET NO.:	124
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1													
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87				GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A												
BORING NO.: YREV_01700		STATION: 17+00	OFFSET: 17 ft LT	ALIGNMENT: -YREV-	0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.											
COLLAR ELEV.: 41.6 ft		TOTAL DEPTH: 9.0 ft	NORTHING: 83,391	EASTING: 2,263,648	24 HR.3.1 Caved		START DATE: 10/16/14		COMP. DATE: 10/16/14		SURFACE WATER DEPTH: N/A											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)			CONE RESISTANCE (tsf)			FRICTION RATIO (%)			PORE PRESSURE (tsf)			SOIL BEHAVIOR TYPE (Robertson 1986)			EQUIVALENT SPT (N _{60%})					
41.6																						
36.6	5.0																					
31.6	10.0																					
26.6	15.0																					
21.6	20.0																					
16.6	25.0																					
11.6	30.0																					



SHEET NO.:	125
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																	
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A															
BORING NO.: YREV_01902		STATION: 19+02		OFFSET: 12 ft LT		ALIGNMENT: -YREV-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.															
COLLAR ELEV.: 43.6 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 83,191		EASTING: 2,263,666		24 HR.1.8 Caved		START DATE: 10/16/14		COMP. DATE: 10/16/14		SURFACE WATER DEPTH: N/A															
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})							
43.6																													
38.6	5.0																												
33.6	10.0																												
28.6	15.0																												
23.6	20.0																												
18.6	25.0																												
13.6	30.0																												



SHEET NO.:	126
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																				
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																		
BORING NO.: YREV_02294		STATION: 22+94		OFFSET: 64 ft RT		ALIGNMENT: -YREV-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.															
COLLAR ELEV.: 43.3 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 82,791		EASTING: 2,263,669		24 HR. 3.1 H2O		START DATE: 10/16/14		COMP. DATE: 10/16/14		SURFACE WATER DEPTH: N/A															
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})							
43.3																													
38.3	5.0																												
33.3	10.0																												
28.3	15.0																												
23.3	20.0																												
18.3	25.0																												
13.3	30.0																												



SHEET NO.:	127
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582						ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: L. STONE	DRILL MACHINE: CATLIN CPT/DPT-01							MAX. DOWN PRESSURE: <10,000lbs									PAGE 1 of 1																	
SITE DESCRIPTION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD) TO EAST OF NC 87																							GROUND WTR (ft)			DRILL METHOD: CPT / DPT							CONE TYPE: Type II Piezcone "10cm²"							DRILLER: N/A		
BORING NO.: YREV_2400						STATION: 24+00			OFFSET: CL			ALIGNMENT: -YREV-			0 HR.		N/A		ROD TYPE: PRE-STRUNG							CONE ID: DSG1156							TECHNICIAN: CATLIN									
COLLAR ELEV.: 43.7 ft						TOTAL DEPTH: 12.3 ft			NORTHING: 82,702			EASTING: 2,263,751			24 HR.		2.5		START DATE: 10/17/17							COMP. DATE: 10/17/17							SURFACE WATER DEPTH: N/A									
	ELEV (ft)	DEPTH (ft)	FRICTION (tsf)					CONE RESISTANCE (tsf)					FRICTION RATIO (%)						PORE PRESSURE (tsf)					SOIL BEHAVIOR TYPE (Robertson 1986)					EQUIVALENT SPT (N_{60%})													
	43.7		0.8 0.6 0.4 0.2 0					20 40 60 80 100 120 140 160					-1 1.25 3.50 5.75 8 :						-1 0 1 2 3 4 5					0 3 6 9 12					0 25 50 75 100													
	38.7	5.0																																								
	33.7	10.0																																								
	28.7	15.0																																								
	23.7	20.0																																								
	18.7	25.0																																								
	13.7	30.0																																								



SHEET NO.:	128
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Corey Futral	DRILL MACHINE: Hand Auger		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1													
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A											
BORING NO.: YREV_02498		STATION: 24+98	OFFSET: 104 ft RT	ALIGNMENT: -YREV-	0 HR. 2.8		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: CATLIN											
COLLAR ELEV.: 44.1 ft		TOTAL DEPTH: 9.0 ft	NORTHING: 82,591	EASTING: 2,263,663	24 HR. N/A		START DATE: 09/25/14		COMP. DATE: 10/16/14		SURFACE WATER DEPTH: N/A											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)			CONE RESISTANCE (tsf)			FRICTION RATIO (%)			PORE PRESSURE (tsf)			SOIL BEHAVIOR TYPE (Robertson 1986)			EQUIVALENT SPT (N _{60%})					
44.1		0.8 0.6 0.4 0.2 0	10 20 30 40 50 60 70 80	-1 0.75 2.50 4.25 6	-1 0 1 2 3 4 5	0 3 6 9 12	0 25 50 75 100															
39.1	5.0																					
34.1	10.0																					
29.1	15.0																					
24.1	20.0																					
19.1	25.0																					
14.1	30.0																					



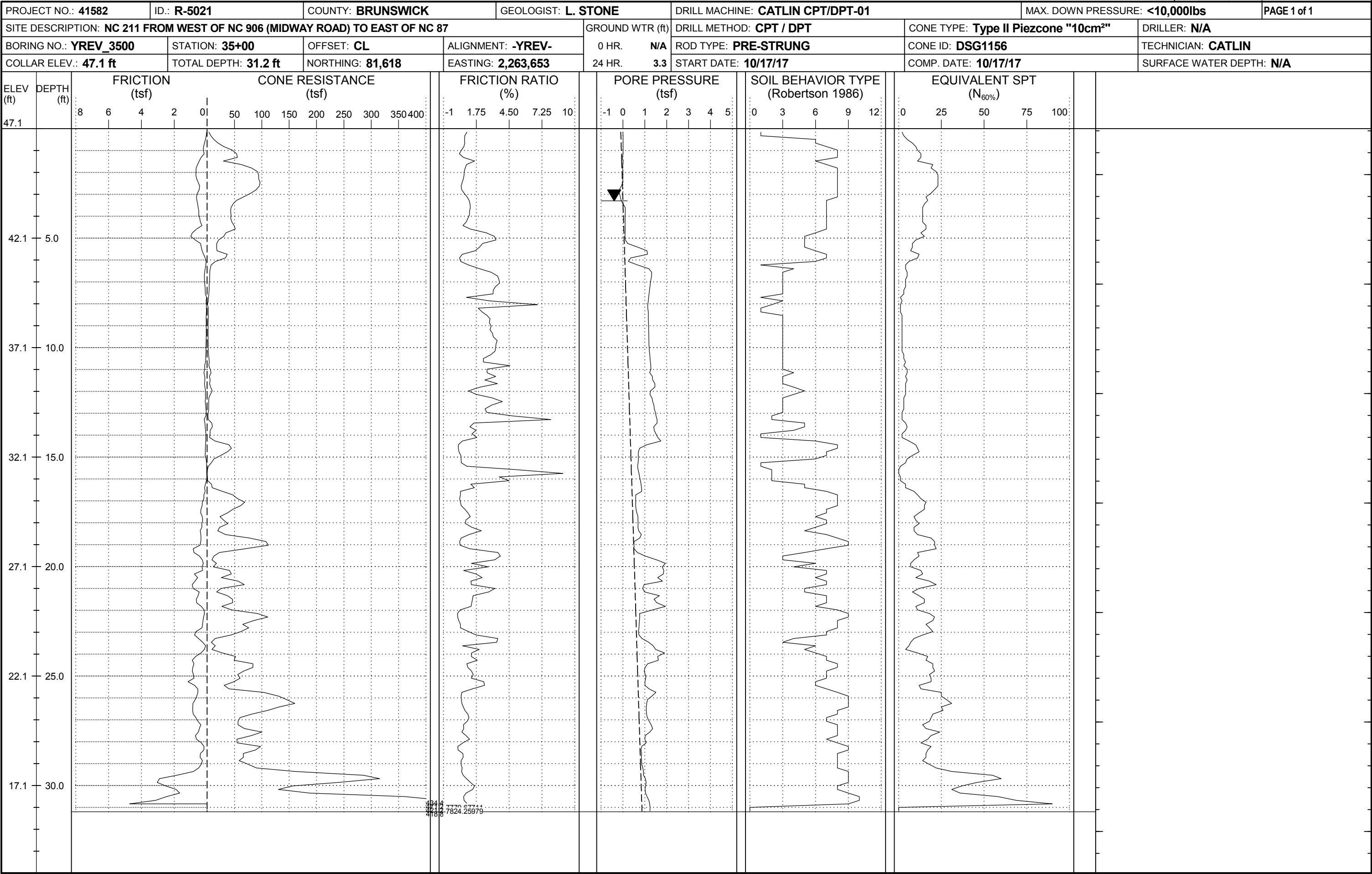
SHEET NO.:	129
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87				GROUND WTR (ft)	DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A
BORING NO.: YREV_02709		STATION: 27+09	OFFSET: 84 ft RT	ALIGNMENT: -YREV-	0 HR. N/A	ROD TYPE: Pre-strung		CONE ID: DDG1242	TECHNICIAN: M.A.D.
COLLAR ELEV.: 42.2 ft		TOTAL DEPTH: 9.0 ft	NORTHING: 82,392	EASTING: 2,263,697	24 HR. 2.8 H2O	START DATE: 10/16/14		COMP. DATE: 10/16/14	SURFACE WATER DEPTH: N/A
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)	CONE RESISTANCE (tsf)	FRICTION RATIO (%)		PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE (Robertson 1986)	EQUIVALENT SPT (N _{60%})	
42.2									
37.2	5.0								
32.2	10.0								
27.2	15.0								
22.2	20.0								
17.2	25.0								
12.2	30.0								



SHEET NO.:	130
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

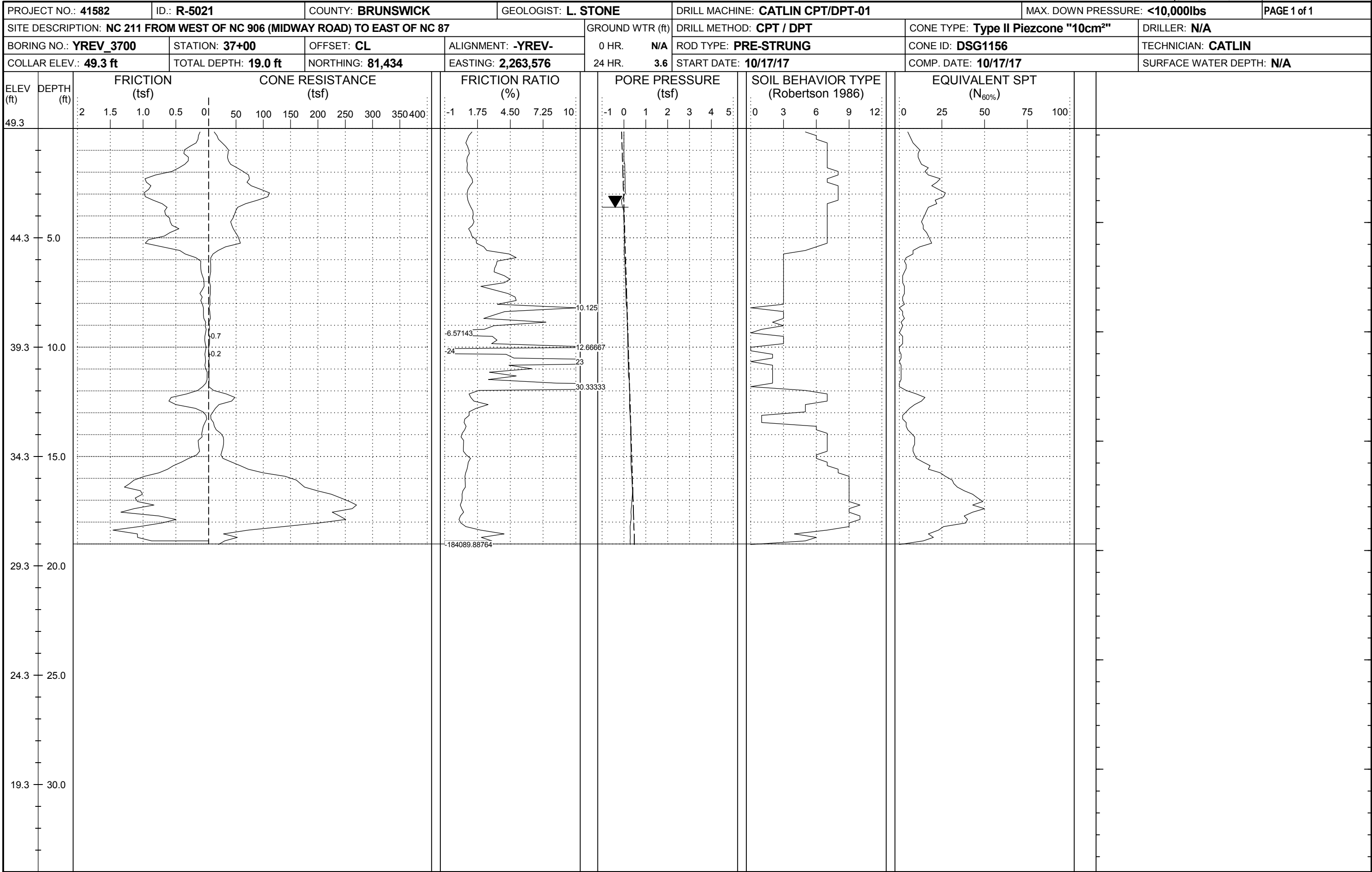
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SHEET NO.:	132
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																			
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																	
BORING NO.: YREV_03600		STATION: 36+55		OFFSET: 68 ft LT		ALIGNMENT: -YREV-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																	
COLLAR ELEV.: 51.9 ft		TOTAL DEPTH: 9.7 ft		NORTHING: 81,499		EASTING: 2,263,532		24 HR.4.3 Caved		START DATE: 10/16/14		COMP. DATE: 10/16/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																	
<table><tr><td colspan="2">ELEV (ft)</td><td colspan="2">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="2">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="2"></td></tr><tr><td colspan="2">51.9</td><td colspan="2"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="2">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="2"></td></tr><tr><td colspan="2">46.9</td><td colspan="2">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2">▼</td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">41.9</td><td colspan="2">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">36.9</td><td colspan="2">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">31.9</td><td colspan="2">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">26.9</td><td colspan="2">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr><tr><td colspan="2">21.9</td><td colspan="2">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td><td colspan="4"></td><td colspan="4"></td><td colspan="2"></td></tr></table>																ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						51.9				2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 0.25 1.50 2.75 4				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100						46.9		5.0														▼												41.9		10.0																										36.9		15.0																										31.9		20.0																										26.9		25.0																										21.9		30.0																									
ELEV (ft)		DEPTH (ft)		FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																									
51.9				2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 0.25 1.50 2.75 4				-1 0 1 2 3 4 5		0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																									
46.9		5.0														▼																																																																																																																																																																																																																															
41.9		10.0																																																																																																																																																																																																																																													
36.9		15.0																																																																																																																																																																																																																																													
31.9		20.0																																																																																																																																																																																																																																													
26.9		25.0																																																																																																																																																																																																																																													
21.9		30.0																																																																																																																																																																																																																																													





SHEET NO.:	134
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

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SHEET NO.:	135
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track				MAX. DOWN PRESSURE: 10,000 pounds				PAGE 1 of 1											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft) 0 HR. N/A 24 HR.6.5 Caved		DRILL METHOD: CPT / DPT				CONE TYPE: 1.44 Vertek Piezocone				DRILLER: N/A									
BORING NO.: YREV_04255		STATION: 42+56		OFFSET: 13 ft RT		ALIGNMENT: -YREV-				ROD TYPE: Pre-strung				CONE ID: DDG1242				TECHNICIAN: M.A.D.									
COLLAR ELEV.: 52.0 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 80,959		EASTING: 2,263,287				START DATE: 10/16/14				COMP. DATE: 10/16/14				SURFACE WATER DEPTH: N/A									
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})					
52.0																											
47.0	5.0																										
42.0	10.0																										
37.0	15.0																										
32.0	20.0																										
27.0	25.0																										
22.0	30.0																										



SHEET NO.:	136
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1									
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A							
BORING NO.: YREV_04450		STATION: 44+50		OFFSET: 6 ft LT		ALIGNMENT: -YREV-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.							
COLLAR ELEV.: 53.6 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 80,774		EASTING: 2,263,223		24 HR.6.8 Caved		START DATE: 10/16/14		COMP. DATE: 10/16/14		SURFACE WATER DEPTH: N/A							
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})			
53.6																					
48.6	5.0																				
43.6	10.0																				
38.6	15.0																				
33.6	20.0																				
28.6	25.0																				
23.6	30.0																				



SHEET NO.:	137
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: L. STONE		DRILL MACHINE: CATLIN CPT/DPT-01		MAX. DOWN PRESSURE: <10,000lbs		PAGE 1 of 1																	
SITE DESCRIPTION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: Type II Piezcone "10cm²"		DRILLER: N/A															
BORING NO.: YA_1100		STATION: 11+00		OFFSET: CL		ALIGNMENT: -YA-		0 HR. N/A		ROD TYPE: PRE-STRUNG		CONE ID: DSG1156		TECHNICIAN: CATLIN															
COLLAR ELEV.: 42.3 ft		TOTAL DEPTH: 11.0 ft		NORTHING: 82,073		EASTING: 2,263,018		24 HR. 2.1		START DATE: 10/17/17		COMP. DATE: 10/17/17		SURFACE WATER DEPTH: N/A															
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})							
42.3		2 1.5 1.0 0.5 0				5 10 15 20 25 30 35 40				-1 1.75 4.50 7.25 10				-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100							
		1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
37.3	5.0	1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
		1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
32.3	10.0	1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
		1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
27.3	15.0	1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
		1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
22.3	20.0	1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
		1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
17.3	25.0	1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
		1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
12.3	30.0	1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							
		1.0 0.5 0				5 10 15 20 25 30 35 40				4.50 7.25 10				0 1 2 3 4 5				3 6 9 12				25 50 75 100							



SHEET NO.:	138
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

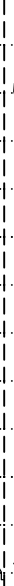
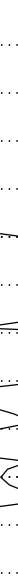
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SHEET NO.:	139
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



PROJECT NO.: 41582			ID.: R-5021			COUNTY: BRUNSWICK			GEOLOGIST: L. STONE			DRILL MACHINE: CATLIN CPT/DPT-01			MAX. DOWN PRESSURE: <10,000lbs			PAGE 1 of 1																				
SITE DESCRIPTION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD) TO EAST OF NC 87												GROUND WTR (ft)		DRILL METHOD: CPT / DPT				CONE TYPE: Type II Piezcone "10cm"				DRILLER: N/A																
BORING NO.: YB_1500			STATION: 15+00			OFFSET: CL			ALIGNMENT: -YB-			0 HR. N/A		ROD TYPE: PRE-STRUNG				CONE ID: DSG1156				TECHNICIAN: CATLIN																
COLLAR ELEV.: 42.6 ft			TOTAL DEPTH: 12.3 ft			NORTHING: 82,754			EASTING: 2,264,007			24 HR. 2.5		START DATE: 10/17/17				COMP. DATE: 10/17/17				SURFACE WATER DEPTH: N/A																
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)						PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})														
42.6		2	1.5	1.0	0.5	0	20	40	60	80	100	120	140	160	-1	0.75	2.50	4.25	6	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
																																						
37.6	5.0																																					
32.6	10.0																																					
27.6	15.0																																					
22.6	20.0																																					
17.6	25.0																																					
12.6	30.0																																					

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SHEET NO.:	141
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: L. STONE	DRILL MACHINE: CATLIN CPT/DPT-01		MAX. DOWN PRESSURE: <10,000lbs		PAGE 1 of 1																													
SITE DESCRIPTION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD) TO EAST OF NC 87					GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: Type II Piezcone "10cm²"		DRILLER: N/A																											
BORING NO.: YB_1700		STATION: 17+00		OFFSET: CL		ALIGNMENT: -YB-		0 HR. N/A		ROD TYPE: PRE-STRUNG		CONE ID: DSG1156		TECHNICIAN: CATLIN																								
COLLAR ELEV.: 48.4 ft		TOTAL DEPTH: 15.3 ft		NORTHING: 82,579		EASTING: 2,264,100		24 HR. 1.9		START DATE: 10/17/17		COMP. DATE: 10/17/17		SURFACE WATER DEPTH: N/A																								
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																
48.4		2	1.5	1.0	0.5	0	20	40	60	80	100	120	140	160	-1	0.75	2.50	4.25	6	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
43.4	5.0																																					
38.4	10.0																																					
33.4	15.0																																					
28.4	20.0																																					
23.4	25.0																																					
18.4	30.0																																					



SHEET NO.:	142
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: L. STONE		DRILL MACHINE: CATLIN CPT/DPT-01		MAX. DOWN PRESSURE: <10,000lbs		PAGE 1 of 1																										
SITE DESCRIPTION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: Type II Piezcone "10cm²"		DRILLER: N/A																								
BORING NO.: YB_1900		STATION: 19+00		OFFSET: CL		ALIGNMENT: -YB-		0 HR. N/A		ROD TYPE: PRE-STRUNG		CONE ID: DSG1156		TECHNICIAN: CATLIN																								
COLLAR ELEV.: 43.6 ft		TOTAL DEPTH: 10.3 ft		NORTHING: 82,382		EASTING: 2,264,130		24 HR. 2.3		START DATE: 10/17/17		COMP. DATE: 10/17/17		SURFACE WATER DEPTH: N/A																								
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N ₆₀ %)																
43.6		2	1.5	1.0	0.5	0	20	40	60	80	100	120	140	160	-1	1.25	3.50	5.75	8	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
38.6	5.0																																					
33.6	10.0																																					
28.6	15.0																																					
23.6	20.0																																					
18.6	25.0																																					
13.6	30.0																																					



SHEET NO.:	143
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: L. STONE		DRILL MACHINE: CATLIN CPT/DPT-01		MAX. DOWN PRESSURE: <10,000lbs		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: Type II Piezcone "10cm²"		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: YB_2100		STATION: 21+00		OFFSET: CL		ALIGNMENT: -YB-		0 HR. N/A		ROD TYPE: PRE-STRUNG		CONE ID: DSG1156		TECHNICIAN: CATLIN																																																																																																																																																																																																																																									
COLLAR ELEV.: 43.7 ft		TOTAL DEPTH: 8.0 ft		NORTHING: 82,183		EASTING: 2,264,120		24 HR. 2.8		START DATE: 10/17/17		COMP. DATE: 10/17/17		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">43.7</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 1.75 4.50 7.25 10</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">38.7</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">33.7</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">28.7</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">23.7</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">18.7</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">13.7</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						43.7		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 1.75 4.50 7.25 10					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						38.7	5.0																												33.7	10.0																												28.7	15.0																												23.7	20.0																												18.7	25.0																												13.7	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
43.7		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 1.75 4.50 7.25 10					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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28.7	15.0																																																																																																																																																																																																																																																						
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18.7	25.0																																																																																																																																																																																																																																																						
13.7	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	144
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	145
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: L. STONE		DRILL MACHINE: CATLIN CPT/DPT-01		MAX. DOWN PRESSURE: <10,000lbs		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: Type II Piezcone "10cm²"		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: Y14A_5250		STATION: 52+50		OFFSET: 63 ft LT		ALIGNMENT: -Y14A-		0 HR. N/A		ROD TYPE: PRE-STRUNG		CONE ID: DSG1156		TECHNICIAN: CATLIN																																																																																																																																																																																																																																									
COLLAR ELEV.: 34.2 ft		TOTAL DEPTH: 7.1 ft		NORTHING: 76,261		EASTING: 2,288,742		24 HR. 3.6		START DATE: 10/17/17		COMP. DATE: 10/17/17		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">34.2</td><td colspan="1"></td><td colspan="4">8 6 4 2 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 -0.25 0.50 1.25 2</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">29.2</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">24.2</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">19.2</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">14.2</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">9.2</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">4.2</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						34.2		8 6 4 2 0				50 100 150 200 250 300 350 400				-1 -0.25 0.50 1.25 2					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						29.2	5.0																												24.2	10.0																												19.2	15.0																												14.2	20.0																												9.2	25.0																												4.2	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
34.2		8 6 4 2 0				50 100 150 200 250 300 350 400				-1 -0.25 0.50 1.25 2					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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PROJECT NO.: 41582		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: L. STONE		DRILL MACHINE: CATLIN CPT/DPT-01		MAX. DOWN PRESSURE: <10,000lbs		PAGE 1 of 1																										
SITE DESCRIPTION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: Type II Piezcone "10cm²"		DRILLER: N/A																								
BORING NO.: Y14A_5650		STATION: 56+50		OFFSET: 80 ft LT		ALIGNMENT: -Y14A-		0 HR. N/A		ROD TYPE: PRE-STRUNG		CONE ID: DSG1156		TECHNICIAN: CATLIN																								
COLLAR ELEV.: 34.0 ft		TOTAL DEPTH: 10.5 ft		NORTHING: 76,518		EASTING: 2,289,021		24 HR. 2.3		START DATE: 10/17/17		COMP. DATE: 10/17/17		SURFACE WATER DEPTH: N/A																								
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																
34.0		8	6	4	2	0	50	100	150	200	250	300	350	400	-1	0.25	1.50	2.75	4	-1	0	1	2	3	4	5	0	3	6	9	12	0	25	50	75	100		
29.0	5.0																																					
24.0	10.0																																					
19.0	15.0																																					
14.0	20.0																																					
9.0	25.0																																					
4.0	30.0																																					

41582

248

9007.14678



SHEET NO.:	147
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: L. STONE		DRILL MACHINE: CATLIN CPT/DPT-01		MAX. DOWN PRESSURE: <10,000lbs		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: Type II Piezcone "10cm²"		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: Y14A_6050		STATION: 60+50		OFFSET: 81 ft LT		ALIGNMENT: -Y14A-		0 HR. N/A		ROD TYPE: PRE-STRUNG		CONE ID: DSG1156		TECHNICIAN: CATLIN																																																																																																																																																																																																																																									
COLLAR ELEV.: 32.9 ft		TOTAL DEPTH: 8.9 ft		NORTHING: 76,834		EASTING: 2,289,218		24 HR. 0.2		START DATE: 10/17/17		COMP. DATE: 10/17/17		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">32.9</td><td colspan="1"></td><td colspan="4">4 3 2 1 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 0.25 1.50 2.75 4</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">27.9</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">22.9</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">17.9</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">12.9</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">7.9</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">2.9</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						32.9		4 3 2 1 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						27.9	5.0																												22.9	10.0																												17.9	15.0																												12.9	20.0																												7.9	25.0																												2.9	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
32.9		4 3 2 1 0				50 100 150 200 250 300 350 400				-1 0.25 1.50 2.75 4					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
27.9	5.0																																																																																																																																																																																																																																																						
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7.9	25.0																																																																																																																																																																																																																																																						
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SHEET NO.:	148
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: L. STONE		DRILL MACHINE: CATLIN CPT/DPT-01		MAX. DOWN PRESSURE: <10,000lbs		PAGE 1 of 1																	
SITE DESCRIPTION: NC 211 FROM WEST OF NC 906 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: Type II Piezcone "10cm²"		DRILLER: N/A															
BORING NO.: Y14A_6250		STATION: 62+50		OFFSET: 80 ft RT		ALIGNMENT: -Y14A-		0 HR. N/A		ROD TYPE: PRE-STRUNG		CONE ID: DSG1156		TECHNICIAN: CATLIN															
COLLAR ELEV.: 34.7 ft		TOTAL DEPTH: 7.9 ft		NORTHING: 76,970		EASTING: 2,289,434		24 HR. FIAD		START DATE: 10/17/17		COMP. DATE: 10/17/17		SURFACE WATER DEPTH: N/A															
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)				PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})							
34.7																													
29.7	5.0																												
24.7	10.0																												
19.7	15.0																												
14.7	20.0																												
9.7	25.0																												
4.7	30.0																												



SHEET NO.:	149
PROJ. NO.:	41582
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	151
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: Y22_01700		STATION: 16+98		OFFSET: 41 ft LT		ALIGNMENT: -Y22-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 28.4 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 71,609		EASTING: 2,296,385		24 HR.3.4 Caved		START DATE: 10/14/14		COMP. DATE: 10/14/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">28.4</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 1.25 3.50 5.75 8</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">23.4</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">18.4</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">13.4</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">8.4</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">3.4</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-1.6</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						28.4		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 1.25 3.50 5.75 8					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						23.4	5.0																												18.4	10.0																												13.4	15.0																												8.4	20.0																												3.4	25.0																												-1.6	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
28.4		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 1.25 3.50 5.75 8					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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13.4	15.0																																																																																																																																																																																																																																																						
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3.4	25.0																																																																																																																																																																																																																																																						
-1.6	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	152
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: Y22_01900		STATION: 19+00		OFFSET: 19 ft RT		ALIGNMENT: -Y22-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 26.5 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 71,433		EASTING: 2,296,266		24 HR.3.1 Caved		START DATE: 10/14/14		COMP. DATE: 10/14/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">26.5</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">20 40 60 80 100 120 140 160</td><td colspan="4">-1 -0.25 0.50 1.25 2</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">21.5</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">16.5</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">11.5</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">6.5</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">1.5</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-3.5</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						26.5		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 -0.25 0.50 1.25 2					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						21.5	5.0																												16.5	10.0																												11.5	15.0																												6.5	20.0																												1.5	25.0																												-3.5	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
26.5		2 1.5 1.0 0.5 0				20 40 60 80 100 120 140 160				-1 -0.25 0.50 1.25 2					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
21.5	5.0																																																																																																																																																																																																																																																						
16.5	10.0																																																																																																																																																																																																																																																						
11.5	15.0																																																																																																																																																																																																																																																						
6.5	20.0																																																																																																																																																																																																																																																						
1.5	25.0																																																																																																																																																																																																																																																						
-3.5	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	153
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: Y22_02400		STATION: 24+00		OFFSET: 20 ft RT		ALIGNMENT: -Y22-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 23.8 ft		TOTAL DEPTH: 9.7 ft		NORTHING: 70,999		EASTING: 2,296,032		24 HR.3.6 Caved		START DATE: 10/14/14		COMP. DATE: 10/14/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">23.8</td><td colspan="1"></td><td colspan="4">2 1.5 1.0 0.5 0</td><td colspan="4">50 100 150 200 250 300 350 400</td><td colspan="4">-1 1.75 4.50 7.25 10</td><td colspan="1"></td><td colspan="4">-1 0 1 2 3 4 5</td><td colspan="4">0 3 6 9 12</td><td colspan="4">0 25 50 75 100</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">18.8</td><td colspan="1">5.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">13.8</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">8.8</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">3.8</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-1.2</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-6.2</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						23.8		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 1.75 4.50 7.25 10					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100						18.8	5.0																												13.8	10.0																												8.8	15.0																												3.8	20.0																												-1.2	25.0																												-6.2	30.0																											
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})																																																																																																																																																																																																																																
23.8		2 1.5 1.0 0.5 0				50 100 150 200 250 300 350 400				-1 1.75 4.50 7.25 10					-1 0 1 2 3 4 5				0 3 6 9 12				0 25 50 75 100																																																																																																																																																																																																																																
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-6.2	30.0																																																																																																																																																																																																																																																						



SHEET NO.:	154
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021	COUNTY: BRUNSWICK	GEOLOGIST: Steven Hudson	DRILL MACHINE: Hogentogler Track	MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87				GROUND WTR (ft) 0 HR. N/A 24 HR. 4.1 Caved	DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone	DRILLER: N/A
BORING NO.: Y22_02800	STATION: 28+00	OFFSET: 30 ft LT	ALIGNMENT: -Y22-		ROD TYPE: Pre-strung		CONE ID: DDG1242	TECHNICIAN: M.A.D.
COLLAR ELEV.: 21.3 ft	TOTAL DEPTH: 9.0 ft	NORTHING: 70,648	EASTING: 2,295,834		START DATE: 10/14/14		COMP. DATE: 10/14/14	SURFACE WATER DEPTH: N/A
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)	CONE RESISTANCE (tsf)	FRICTION RATIO (%)	PORE PRESSURE (tsf)	SOIL BEHAVIOR TYPE (Robertson 1986)	EQUIVALENT SPT (N _{60%})	
21.3		2 1.5 1.0 0.5 0	20 40 60 80 100 120 140 160	-1 0.25 1.50 2.75 4	-1 0 1 2 3 4 5	0 3 6 9 12	0 25 50 75 100	
16.3	5.0							
11.3	10.0							
6.3	15.0							
1.3	20.0							
-3.7	25.0							
-8.7	30.0							



SHEET NO.:	155
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

[illegible]



SHEET NO.:	156
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1																																																																																																																																																																																																																																											
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)		DRILL METHOD: CPT / DPT		CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A																																																																																																																																																																																																																																									
BORING NO.: Y22_03200		STATION: 32+00		OFFSET: 30 ft LT		ALIGNMENT: -Y22-		0 HR. N/A		ROD TYPE: Pre-strung		CONE ID: DDG1242		TECHNICIAN: M.A.D.																																																																																																																																																																																																																																									
COLLAR ELEV.: 22.2 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 70,326		EASTING: 2,295,593		24 HR.3.9 Caved		START DATE: 10/14/14		COMP. DATE: 10/14/14		SURFACE WATER DEPTH: N/A																																																																																																																																																																																																																																									
<table><tr><td colspan="1">ELEV (ft)</td><td colspan="1">DEPTH (ft)</td><td colspan="4">FRICTION (tsf)</td><td colspan="4">CONE RESISTANCE (tsf)</td><td colspan="4">FRICTION RATIO (%)</td><td colspan="1"></td><td colspan="4">PORE PRESSURE (tsf)</td><td colspan="4">SOIL BEHAVIOR TYPE (Robertson 1986)</td><td colspan="4">EQUIVALENT SPT (N_{60%})</td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">22.2</td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">17.2</td><td colspan="1">5.0</td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="4"> </td><td colspan="4"> </td><td colspan="4"> </td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">12.2</td><td colspan="1">10.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">7.2</td><td colspan="1">15.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">2.2</td><td colspan="1">20.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-2.8</td><td colspan="1">25.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr><tr><td colspan="1">-7.8</td><td colspan="1">30.0</td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="4"></td><td colspan="4"></td><td colspan="4"></td><td colspan="1"></td><td colspan="1"></td></tr></table>																ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)					PORE PRESSURE (tsf)				SOIL BEHAVIOR TYPE (Robertson 1986)				EQUIVALENT SPT (N _{60%})						22.2																													17.2	5.0																												12.2	10.0																												7.2	15.0																												2.2	20.0																												-2.8	25.0																												-7.8	30.0																											
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SHEET NO.:	157
PROJ. NO.:	41582.1.1
TIP NO.:	R-5021
COUNTY:	BRUNSWICK

PROJECT NO.: 41582.1.1		ID.: R-5021		COUNTY: BRUNSWICK		GEOLOGIST: Steven Hudson		DRILL MACHINE: Hogentogler Track		MAX. DOWN PRESSURE: 10,000 pounds		PAGE 1 of 1								
SITE DESCRIPTION: NC 211 FROM WEST OF SR 1500 (MIDWAY ROAD) TO EAST OF NC 87								GROUND WTR (ft)	DRILL METHOD: CPT / DPT			CONE TYPE: 1.44 Vertek Piezocone		DRILLER: N/A						
BORING NO.: Y22_03800		STATION: 38+00		OFFSET: 20 ft LT		ALIGNMENT: -Y22-		0 HR. N/A	ROD TYPE: Pre-strung			CONE ID: DDG1242		TECHNICIAN: M.A.D.						
COLLAR ELEV.: 22.1 ft		TOTAL DEPTH: 9.0 ft		NORTHING: 70,049		EASTING: 2,295,055		24 HR.1.0 Caved	START DATE: 10/14/14			COMP. DATE: 10/14/14		SURFACE WATER DEPTH: N/A						
ELEV (ft)	DEPTH (ft)	FRICTION (tsf)				CONE RESISTANCE (tsf)				FRICTION RATIO (%)			PORE PRESSURE (tsf)		SOIL BEHAVIOR TYPE (Robertson 1986)		EQUIVALENT SPT (N _{60%})			
22.1		</																		