

REFERENCE: R-5709C

PROJECT: 50205

SEE SHEET 3 FOR PLAN SHEET LAYOUT
AT TIME OF INVESTIGATION

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

ROADWAY
SUBSURFACE INVESTIGATION

COUNTY HOKE
PROJECT DESCRIPTION NC 211 WIDENING FROM 0.4
MILES NORTH OF SR 1225 (ASHEMONT RD.) TO
EAST OF SR 1244 (W.PALMER ST.) /SR 1311
(MOCKINGBIRD HILL RD.) IN RAEFORD

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5709C	1	

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NOTES:

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- BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL
<u>P. NEUMANN</u>
<u>M. METRY</u>
<u>P. CARY</u>
<u>F&ME PERSONNEL</u>

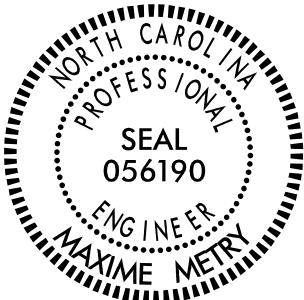
INVESTIGATED BY RK&K
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SIGNATURE	DATE
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PROJECT REFERENCE NO.

R-5709C

SHEET NO.

2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

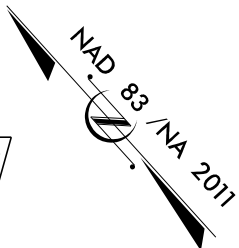
SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION										GRADATION										ROCK DESCRIPTION										TERMS AND DEFINITIONS																																																																																																																																																																																																																											
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN 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, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i>										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. THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED. MINERAL NAMES SUCH AS QUARTZ, FELOSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE. SLIGHTLY COMPRESSIBLE MODERATELY COMPRESSIBLE HIGHLY COMPRESSIBLE PERCENTAGE OF MATERIAL GROUND WATER MISCELLANEOUS SYMBOLS RECOMMENDATION SYMBOLS ABBREVIATIONS EQUIPMENT USED ON SUBJECT PROJECT										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) WEATHERING FRESH VERY SLIGHT (V SL.) SLIGHT (SL.) MODERATE (MOD.) MODERATELY SEVERE (MOD. SEV.) SEVERE (SEV.) VERY SEVERE (V SEV.) COMPLETE ROCK HARDNESS VERY HARD HARD MODERATELY HARD MEDIUM HARD SOFT VERY SOFT FRACTURE SPACING BEDDING INDURATION										ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS IN OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: ELEVATION: FEET NOTES: BOREHOLE ELEVATIONS DETERMINED FROM PROVIDED .TIN FILE TIN FILE: R5709_Is.tin DATE: 1/24/2023 ABBREVIATIONS: F.I.A.D. - FILLED IMMEDIATELY AFTER DRILLING																																																																																																																																																																																																																											
SOIL LEGEND AND AASHTO CLASSIFICATION <table><thead><tr><th>GENERAL CLASS.</th><th colspan="5">GRANULAR MATERIALS (≤ 35% PASSING #200)</th><th colspan="5">SILT-CLAY MATERIALS (> 35% PASSING #200)</th><th colspan="5">ORGANIC MATERIALS</th></tr><tr><th>GROUP CLASS.</th><th>A-1</th><th>A-3</th><th colspan="3">A-2</th><th>A-4</th><th>A-5</th><th>A-6</th><th>A-7</th><th>A-1, A-2</th><th>A-4, A-5</th><th colspan="3"></th></tr><tr><th>SYMBOL</th><th>A-1-a</th><th>A-1-b</th><th>A-2-4</th><th>A-2-5</th><th>A-2-6</th><th>A-2-7</th><th></th><th></th><th></th><th>A-7-5, A-7-6</th><th>A-3</th><th>A-6, A-7</th><th></th></tr></thead><tbody><tr><td>% PASSING #10 #40 #200</td><td>50 MX 30 MX 15 MX</td><td>50 MX 25 MX 10 MX</td><td>51 MN 10 MX</td><td>35 MX</td><td>35 MX</td><td>35 MX</td><td>35 MX</td><td>36 MN</td><td>36 MN</td><td>36 MN</td><td>36 MN</td><td>36 MN</td><td></td></tr><tr><td>MATERIAL PASSING #40 LL PI</td><td colspan="2">— 6 MX</td><td>— NP</td><td>40 MX</td><td>41 MN</td><td>40 MX</td><td>41 MN</td><td>40 MX</td><td>41 MN</td><td>40 MX</td><td>41 MN</td><td>41 MN</td><td></td></tr><tr><td>GROUP INDEX</td><td>0</td><td>0</td><td>0</td><td>4 MX</td><td>8 MX</td><td>12 MX</td><td>16 MX</td><td>NO MX</td><td colspan="5"></td><td></td></tr><tr><td>USUAL TYPES OF MAJOR MATERIALS</td><td colspan="2">STONE FRAGS, GRAVEL, AND SAND</td><td>FINE SAND</td><td colspan="3">SILTY OR CLAYEY GRAVEL AND SAND</td><td colspan="3">SILTY SOILS</td><td colspan="3">CLAYEY SOILS</td><td></td></tr><tr><td>GEN. RATING AS SUBGRADE</td><td colspan="5">EXCELLENT TO GOOD</td><td colspan="5">FAIR TO POOR</td><td>FAIR TO POOR</td><td>POOR</td><td>UNSUITABLE</td></tr></tbody></table> PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30										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-7-5, A-7-6	A-3	A-6, A-7		% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX 10 MX	51 MN 10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	36 MN		MATERIAL PASSING #40 LL PI	— 6 MX		— NP	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	41 MN		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	CONSISTENCY OR DENSENESS <table><thead><tr><th>PRIMARY SOIL TYPE</th><th>COMPACTNESS OR CONSISTENCY</th><th>RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)</th><th>RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT²)</th></tr></thead><tbody><tr><td>GENERALLY GRANULAR MATERIAL (NON-COHESIVE)</td><td>VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE</td><td>< 4 4 TO 10 10 TO 30 30 TO 50 > 50</td><td>N/A</td></tr><tr><td>GENERALLY SILT-CLAY MATERIAL (COHESIVE)</td><td>VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD</td><td>< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30</td><td>< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4</td></tr></tbody></table>										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 <table><thead><tr><th>U.S. STD. SIEVE SIZE OPENING (MM)</th><th>4</th><th>10</th><th>40</th><th>60</th><th>200</th><th>270</th></tr></thead><tbody><tr><td></td><td>4.76</td><td>2.00</td><td>0.42</td><td>0.25</td><td>0.075</td><td>0.053</td></tr></tbody></table> <table><thead><tr><th>BOULDER (BLDR.)</th><th>COBBLE (COB.)</th><th>GRAVEL (GR.)</th><th>COARSE SAND (CSE. SD.)</th><th>FINE SAND (F SD.)</th><th>SILT (SL.)</th><th>CLAY (CL.)</th></tr></thead><tbody><tr><td>GRAIN SIZE</td><td>MM 305 IN. 12</td><td>75 3</td><td>2.0</td><td>0.25</td><td>0.05</td><td>0.005</td></tr></tbody></table>										U.S. STD. SIEVE SIZE OPENING (MM)	4	10	40	60	200	270		4.76	2.00	0.42	0.25	0.075	0.053	BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)	GRAIN SIZE	MM 305 IN. 12	75 3	2.0	0.25	0.05	0.005	SOIL MOISTURE - CORRELATION OF TERMS <table><thead><tr><th>SOIL MOISTURE SCALE (ATTERBERG LIMITS)</th><th>FIELD MOISTURE DESCRIPTION</th><th>GUIDE FOR FIELD MOISTURE DESCRIPTION</th></tr></thead><tbody><tr><td rowspan="4">LL PLASTIC RANGE (PI) PL</td><td>LIQUID LIMIT</td><td></td></tr><tr><td>- SATURATED - (SAT.)</td><td>USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE</td></tr><tr><td>- WET - (W)</td><td>SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE</td></tr><tr><td>PLASTIC LIMIT</td><td></td></tr><tr><td rowspan="3">OM SL</td><td>OPTIMUM MOISTURE SHRINKAGE LIMIT</td><td></td></tr><tr><td>- MOIST - (M)</td><td>SOLID; AT OR NEAR OPTIMUM MOISTURE</td></tr><tr><td>- DRY - (D)</td><td>REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE</td></tr></tbody></table>										SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION	LL PLASTIC RANGE (PI) PL	LIQUID LIMIT		- SATURATED - (SAT.)	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ARE USED TO DESCRIBE APPEARANCE.									
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-7-5, A-7-6	A-3	A-6, A-7																																																																																																																																																																																																																																													
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX 10 MX	51 MN 10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	36 MN																																																																																																																																																																																																																																													
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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																																																																																																																																																																																																																																												
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																																																																																																																																																																																																																																																						
U.S. STD. SIEVE SIZE OPENING (MM)	4	10	40	60	200	270																																																																																																																																																																																																																																																			
	4.76	2.00	0.42	0.25	0.075	0.053																																																																																																																																																																																																																																																			
BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)																																																																																																																																																																																																																																																			
GRAIN SIZE	MM 305 IN. 12	75 3	2.0	0.25	0.05	0.005																																																																																																																																																																																																																																																			
SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION																																																																																																																																																																																																																																																							
LL PLASTIC RANGE (PI) PL	LIQUID LIMIT																																																																																																																																																																																																																																																								
	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE																																																																																																																																																																																																																																																							
	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE																																																																																																																																																																																																																																																							
	PLASTIC LIMIT																																																																																																																																																																																																																																																								
OM SL	OPTIMUM MOISTURE SHRINKAGE LIMIT																																																																																																																																																																																																																																																								
	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE																																																																																																																																																																																																																																																							
	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE																																																																																																																																																																																																																																																							
NON PLASTIC	PLASTICITY INDEX (PI)	DRY STRENGTH																																																																																																																																																																																																																																																							
SLIGHTLY PLASTIC	0-5	VERY LOW																																																																																																																																																																																																																																																							
MODERATELY PLASTIC	6-15	SLIGHT																																																																																																																																																																																																																																																							
HIGHLY PLASTIC	16-25	MEDIUM																																																																																																																																																																																																																																																							
	26 OR MORE	HIGH																																																																																																																																																																																																																																																							

DATE: 8-15-14

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5709C	3	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50205.1.4		PE	
50205.2.1		ROW	
50205.2.2		UTILITIES	
50205.3.4		CONSTRUCTION	

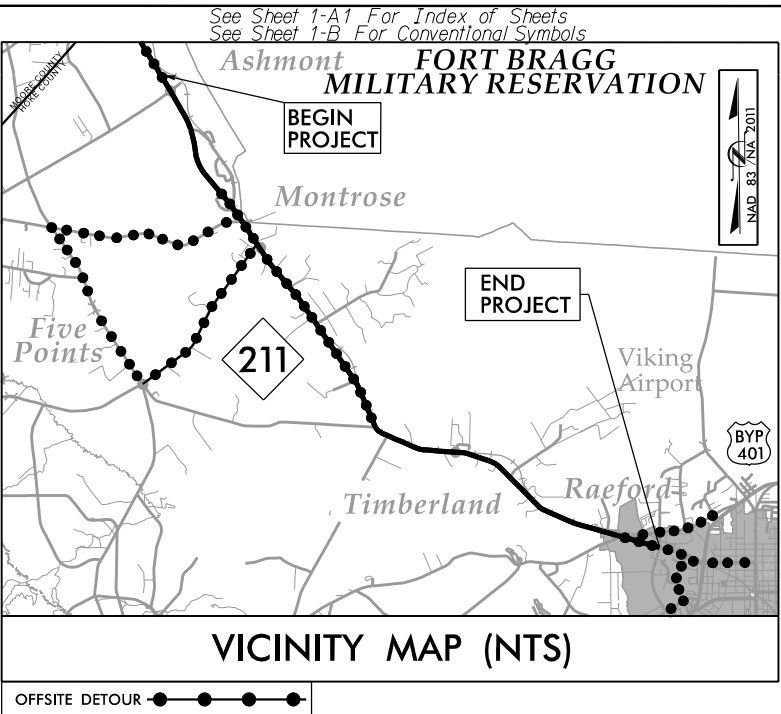


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

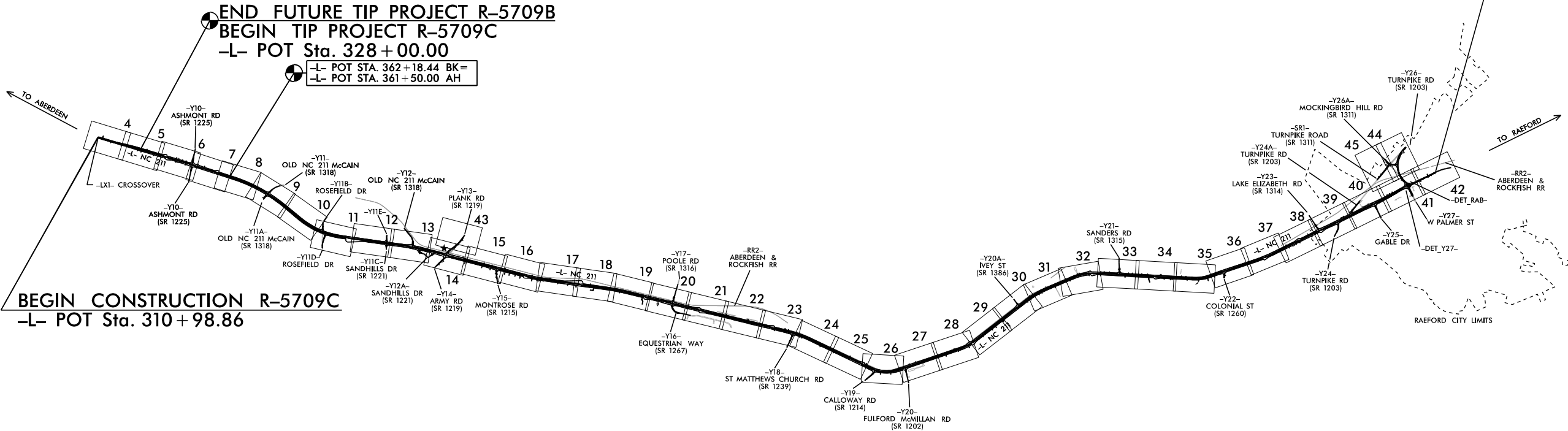
HOKE COUNTY

LOCATION: NC 211 FROM 0.40 MILES NORTH OF SR 1225 (ASHEMONT ROAD) TO EAST OF SR 1244 (WEST PALMER STREET)/SR 1311 (MOCKINGBIRD HILL ROAD) IN RAEFORD.

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND SIGNALS



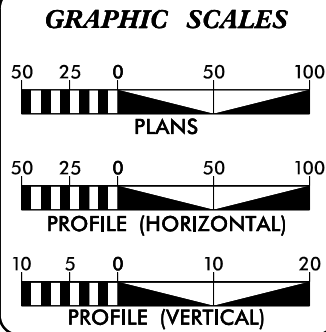
END TIP PROJECT R-5709C
-L2B- POC Sta. 835 + 30.00



NOTE:
1. THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

★ PROPOSED SIGNAL

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



DESIGN DATA

ADT 2024 = 16,400
ADT 2044 = 23,400

K = 9%
D = 60%
T = 21% *

V = 60 MPH
TTST = 16% DUAL 5%
FUNC CLASS = MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5709C..... 9.608 miles
LENGTH STRUCTURE TIP PROJECT R-5709C..... 0.000 miles
TOTAL LENGTH OF PROJECT R-5709C..... 9.608 miles

NCDOT CONTACT

Terry E. Farr, PE
PROJECT MANAGER

PLANS PREPARED BY:
RK&K
8601 Six Forks Road, Forum 1 Suite 700
RALEIGH, NORTH CAROLINA 27615-3960
NC LICENSE NO. F-0112
1-888-521-4455 OR 919-878-9560

FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 23, 2021

LETTING DATE:
JANUARY 21, 2025

Brandon McInnis, PE
PROJECT ENGINEER

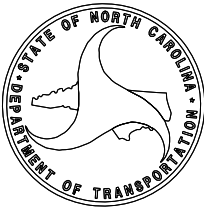
Mary Mays Yahl, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

SIGNATURE: _____

SIGNATURE: _____





September 3, 2024

WBS Number: 50205.1.1

TIP Number: R-5709C

County: Hoke

Description: NC 211 Widening from 0.4 miles north of SR 1225 (Ashemont Road) to east of SR 1244 (West Palmer Street) / SR 1311 (Mockingbird Hill Road) in Raeford

Subject: Roadway Subsurface Inventory Report

PROJECT DESCRIPTION

The proposed project consists of improvements to NC-211, including widening, grading, drainage, resurfacing, and signals. The proposed project is approximately 9.6 miles in length. It begins 0.4 miles north of SR 1225 (Ashemont Road) and ends east of SR 1244 (West Palmer Street) / SR 1311 (Mockingbird Hill Road) in Hoke County, NC.

The geotechnical investigation for R-5709C was performed during December 2019 and May & June 2020. During this time, a total of 280 Standard Penetration Test (SPT) borings, and 8 auger probe borings were drilled. The SPT borings were advanced with an ATV mounted CME 550X drill rig and a trailer mounted CME 45B drill rig, both equipped with automatic hammers. Auger probe borings were advanced using a hand auger. Representative soil samples were collected from the split spoon and soil cuttings for field visual classification and laboratory testing.

The following alignments were investigated. Selected cross sections of these alignments are included in this report.

Line	Stations (±)
-L-	310+99 – 824+26
-LX1-	10+00 – 26+19
-L2B-	824+26 – 835+30
-RAB_L2-	10+00 – 14+02
-Y10-	12+92 – 19+75
-Y11-	10+00 – 12+45
-Y11A-	10+25 – 12+66
-Y11B-	10+00 – 13+25
-Y11C-	10+15 – 12+33
-Y11D-	10+00 – 15+73
-Y11E-	10+00 – 13+00
-Y12-	10+00 – 12+00
-Y12A-	9+98 – 18+31
-Y13-	10+00 – 19+15
-Y14-	10+95 – 16+23
-Y15-	11+75 – 15+69
-Y16-	14+50 – 19+33
-Y17-	10+00 – 13+25

Line	Stations (±)
-Y18-	12+25 – 15+77
-Y19-	10+75 – 15+48
-Y20-	12+85 – 15+89
-Y20A-	10+00 – 11+25
-Y21-	10+00 – 12+75
-Y22-	10+50 – 12+58
-Y23-	10+00 – 12+25
-Y24-	11+65 – 15+83
-Y25-	14+00 – 15+99
-Y26-	10+00 – 26+00
-Y26A-	9+99 – 15+50
-Y27-	10+00 – 13+86
-SR1-	15+00 – 17+77
-DR7-	10+50 – 12+42
-DR8-	10+60 – 12+62
-DR10-	10+00 – 13+22

PHYSIOGRAPHY AND GEOLOGY

The proposed project is located in the Coastal Plain Physiographic Province. The terrain within and around the project is flat to gently rolling hills. The land surrounding the proposed roadway is typically agricultural or forested, but there are a few locations with swamps on one or both sides of the existing roadway. Topographic relief along the length of the project alignment ranges in elevation from 277.2 feet to 507.2 feet.

The proposed project is underlain by the Cretaceous-age Middendorf Formation and Tertiary-age Pinehurst Formation. The Middendorf Formation consists of cross-bedded sands, sandstones, and mudstones. The Pinehurst Formation consists of unconsolidated, cross-bedded sands with rhythmic bands of clayey sand. Local surficial soils in the project area are typically classified as undivided coastal plain soils.

A typical soil profile consists of a loose/soft upper layer of sand or clay underlain by more stiff/dense material of the formational Coastal Plain soils. The formational Coastal Plain soils are typically composed of sands and clays. An increase in stiffness/density usually differentiates between undivided Coastal Plain and the underlying formational Coastal Plain soils.

GROUNDWATER PROPERTIES

Some borings were backfilled immediately upon their completion because of safety concerns related to leaving the borings open overnight, but 24-hour stabilized groundwater measurements were taken at the majority of borings. Groundwater was measured at elevations ranging from 279.4’ to 436.0’. It should be noted that the groundwater levels fluctuate depending upon seasonal factors such as precipitation and temperature. As such, soil moisture and groundwater conditions at other times may vary or be different from those described in this report. Small intermittent channels exist throughout the project providing drainage during heavy rainfall events. Some channels are spring fed while others appear to be artificial from construction of the existing roadway.

SOIL PROPERTIES

Soils encountered during the geotechnical investigation are separated into five categories based on origin. The origins consist of roadway embankment, artificial fill, alluvial soils, undivided coastal plain, and Coastal Plain.

Materials interpreted as roadway embankment were encountered within the limits of the existing NC 211 alignment and intersecting roads. The roadway embankment consists of very loose to dense, non-plastic silty to moderately plastic (PI = 4-18) clayey fine to coarse SAND (A-2-4, A-2-5, A-2-6, A-2-7, A-3) and medium stiff to very stiff, sandy to silty moderately to highly plastic (PI = 17-29) CLAY (A-6, A-7-5, A-7-6). Encountered roadway embankment was up to 32 feet thick.

Materials interpreted as artificial fill were encountered within the proposed project. Encountered artificial fill was up to 3 feet thick and consisted of loose, non-plastic, silty fine to coarse SAND (A-2-4).

Alluvial soils were encountered in the proposed project. They are composed of very loose, silty fine to coarse SAND (A-2-4); very soft, non-plastic, fine to coarse sandy SILT (A-4); and very soft, fine to coarse sandy to clayey MUCK with 13.9 to 30.8 percent organic matter. Encountered alluvial soils were up to 12 feet thick.

Soils classified as undivided coastal plain are located throughout the project and generally consist of very loose to dense, non-plastic silty to moderately plastic (PI = 5-25) clayey fine to coarse SAND (A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-3); very soft to very stiff, non-plastic fine to coarse sandy to slightly plastic (PI = 4-10) clayey SILT (A-4, A-5); and soft to hard, fine sandy to silty slightly to highly plastic (PI = 11-36) CLAY (A-6, A-7-5, A-7-6). The encountered undivided coastal plain soils were up to 18 feet thick.

Formational Coastal Plain soils are located throughout the project and generally consist of very loose to dense, non-plastic silty to moderately plastic (PI = 4-16) clayey fine to coarse SAND (A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-3); soft to stiff, fine sandy to clayey SILT (A-4, A-5); and soft to hard, fine to coarse sandy to silty slightly to moderately plastic (PI = 7-23) CLAY (A-6, A-7-5, A-7-6). The encountered undivided coastal plain soils were up to 35 feet thick.

AREAS OF SPECIAL GEOTECHNICAL INTEREST

Alluvial Soils: The following areas contain alluvial soils:

<u>Line</u>	<u>Stations (±)</u>	<u>Offset</u>
-L-	418+50 – 419+25	RT
-L-	498+80 – 499+69	RT
-L-	557+75 – 559+75	LT & RT
-L-	559+75 – 561+25	RT
-L-	564+75 – 565+50	RT
-L-	565+50 – 566+75	LT & RT
-L-	566+75 – 567+05	RT
-L-	731+19 – 733+43	RT
-L-	737+81 – 739+69	RT
-L-	740+02 – 741+59	RT

Artificial Fill: The following areas contain artificial fill:

<u>Line</u>	<u>Stations (±)</u>	<u>Offset</u>
-L-	434+10 – 435+48	RT
-L-	436+54 – 437+21	LT
-L-	450+67 – 451+85	LT & RT
-Y12A-	11+55 – 12+69	LT & RT
-Y12A-	15+60 – 17+74	LT & RT

Highly Plastic Soils: The following areas contain soils with plasticity indices (PI) greater than 20 within proposed cut sections and within 3-ft of subgrade:

<u>Line</u>	<u>Stations (±)</u>	<u>Offset</u>
-L-	429+75 – 431+25	LT
-L-	653+75 – 655+50	LT & RT
-L-	655+50 – 658+25	LT
-L-	693+25 – 698+25	LT & RT
-L-	700+25 – 705+25	RT
-L-	756+25 – 767+25	LT & RT
-L-	778+25 – 784+25	LT & RT
-L-	811+25 – 821+25	LT & RT
-L-	827+25 – 830+25	LT & RT
-Y24-	12+50 – 14+25	LT & RT
-Y26-	21+25 – 25+50	LT & RT
-Y26A-	11+25 – 14+25	LT & RT

Organic Soils: The following areas contain moderately to highly organics soils associated with wetlands or alluvial deposits. These soils have the potential to cause embankment/subgrade and/or slope stability problem during construction.

<u>Line</u>	<u>Stations (±)</u>	<u>Offset</u>
-L-	557+75 – 559+75	LT & RT
-L-	559+75 – 561+25	RT
-L-	564+75 – 565+50	RT
-L-	565+50 – 566+75	LT & RT
-L-	566+75 – 567+05	RT

Groundwater: Groundwater was encountered within **six (6) feet** of proposed subgrade at the following locations:

<u>Line</u>	<u>Stations (±)</u>	<u>Offset</u>
-L-	676+75 – 686+50	LT & RT
-L-	686+55 – 690+50	LT
-L-	690+50 – 693+00	LT & RT
-L-	693+00 – 695+00	RT
-L-	695+00 – 708+00	LT & RT
-L-	708+00 – 709+75	RT

<u>Line</u>	<u>Stations (±)</u>	<u>Offset</u>
-L-	709+75 – 726+25	LT & RT
-L-	727+75 – 731+50	LT & RT
-L-	731+50 – 733+25	RT
-L-	735+75 – 742+25	LT & RT
-L-	742+25 – 748+50	LT & RT
-L-	751+75 – 758+25	LT & RT
-L-	769+75 – 772+25	LT & RT
-Y17-	10+75 – 11+50	LT & RT
-Y17-	11+50 – 12+50	LT & RT
-Y18-	12+25 – 15+50	LT & RT
-Y21-	10+75 – 12+75	LT & RT
-Y24-	11+65 – 15+83	LT & RT
-Y25-	14+00 – 15+50	LT & RT

Ponds: A pond is located near the proposed embankment at the following location:

<u>Line</u>	<u>Stations (±)</u>	<u>Offset</u>
-L-	666+37 – 666+59	RT

Water Wells: Water wells are located near the proposed embankment at the following locations:

<u>Line</u>	<u>Station</u>	<u>Offset (ft)</u>
-L-	336+34	225’ RT
-L-	454+06	74 RT
-L-	576+88	122’ LT
-L-	742+56	88 RT

Prepared by,

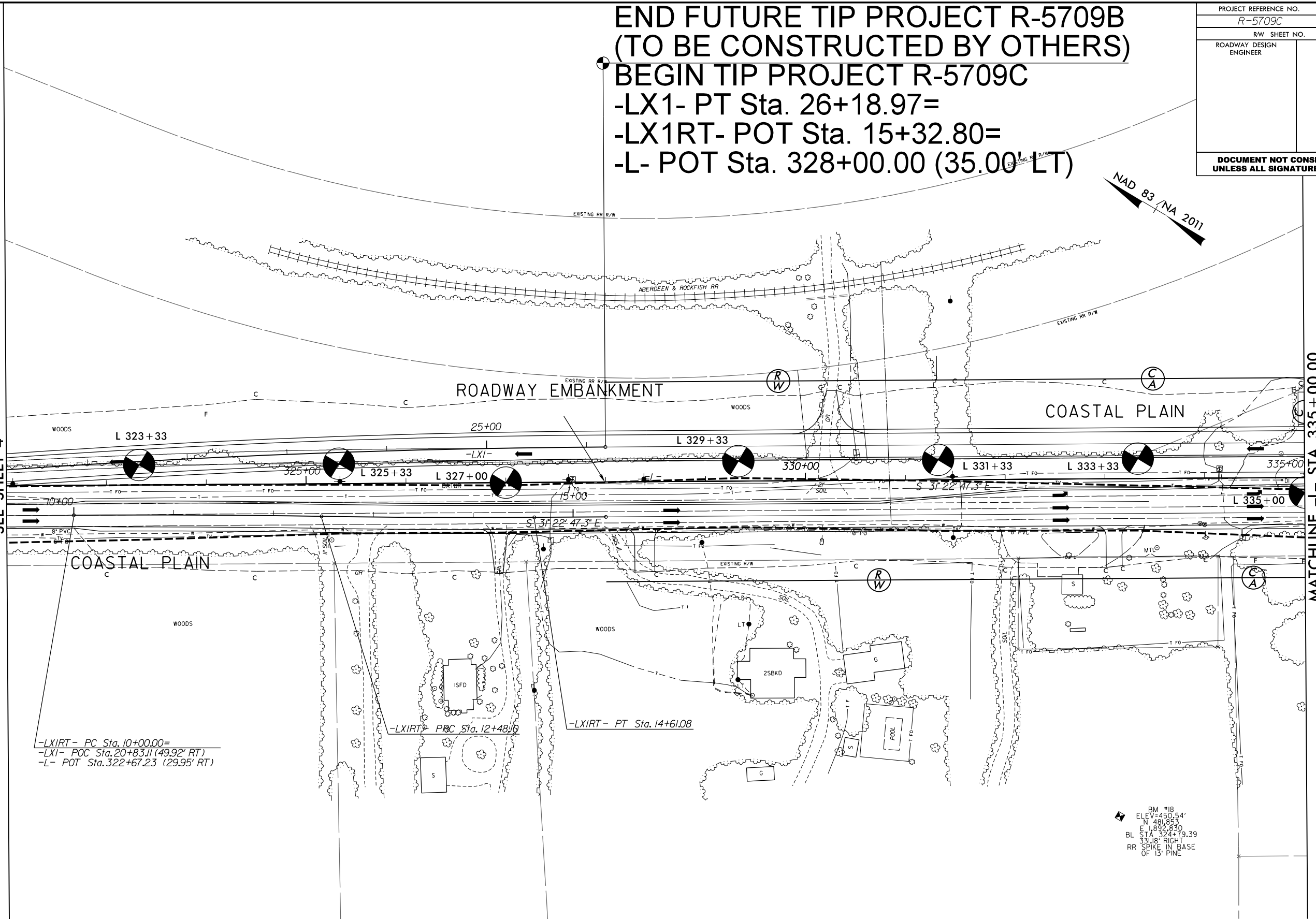
Maxime Metry, PE
Project Engineer I, Geotechnical
Registered, North Carolina 056190

Atefeh Asoudeh
Atefeh Asoudeh, PE
Project Manager, Geotechnical

END FUTURE TIP PROJECT R-5709B
(TO BE CONSTRUCTED BY OTHERS)
BEGIN TIP PROJECT R-5709C
-LX1- PT Sta. 26+18.97=
-LX1RT- POT Sta. 15+32.80=
-L- POT Sta. 328+00.00 (35.00' LT)

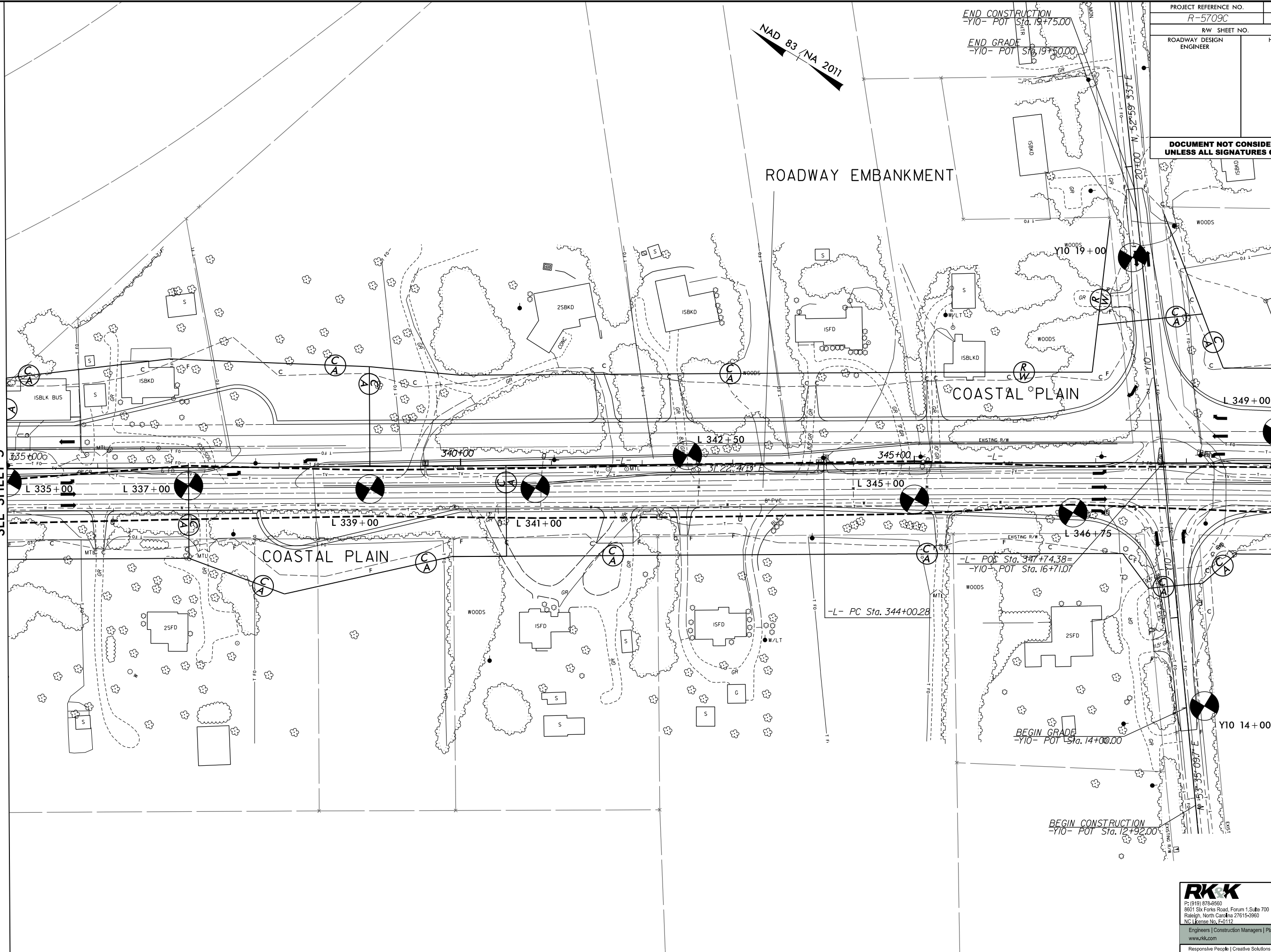
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R-5709C	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE -L- STA. 322+00.00
SEE SHEET 4



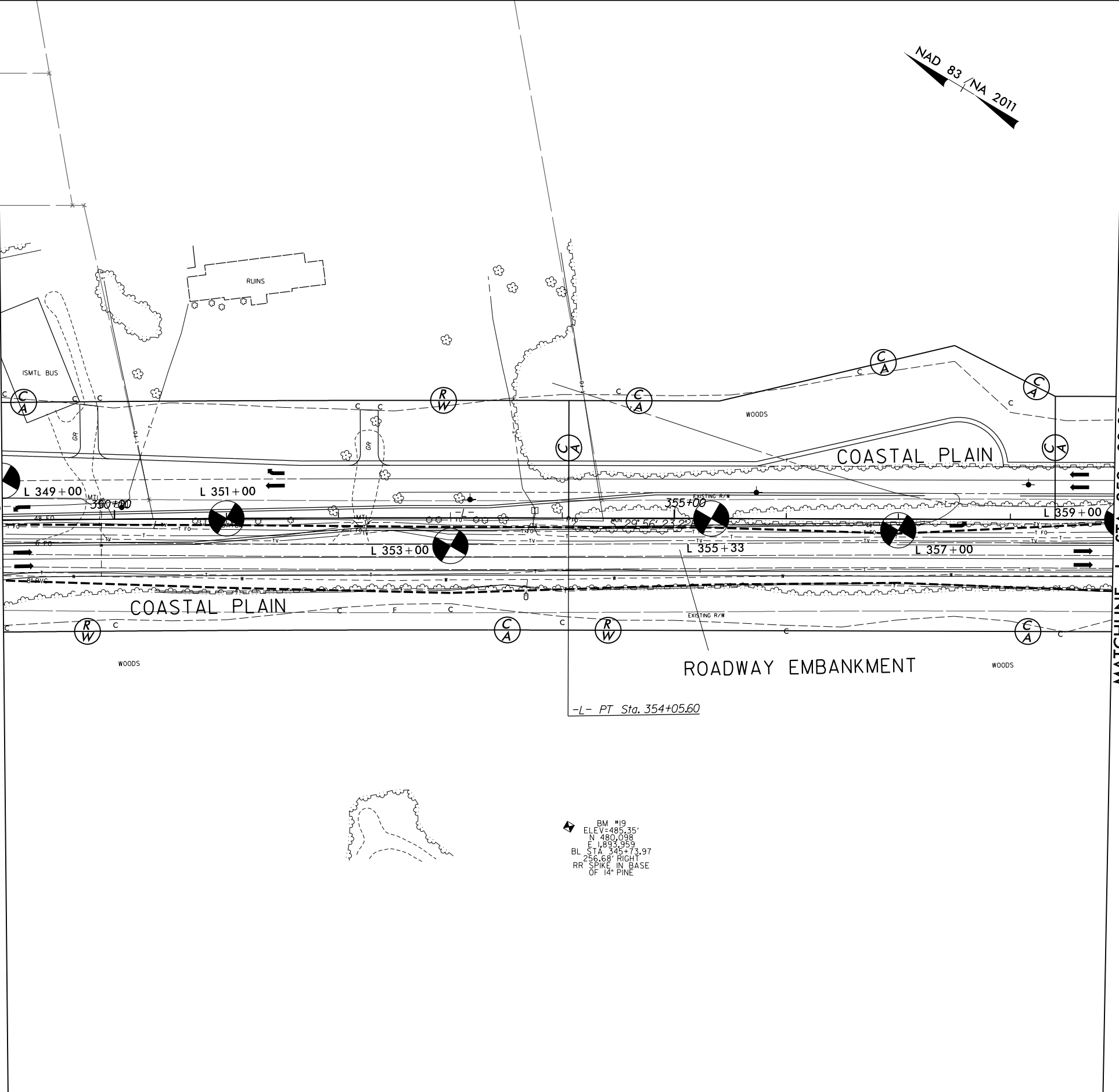
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MATCHLINE -L- STA. 335+00.00
SEE SHEET 5



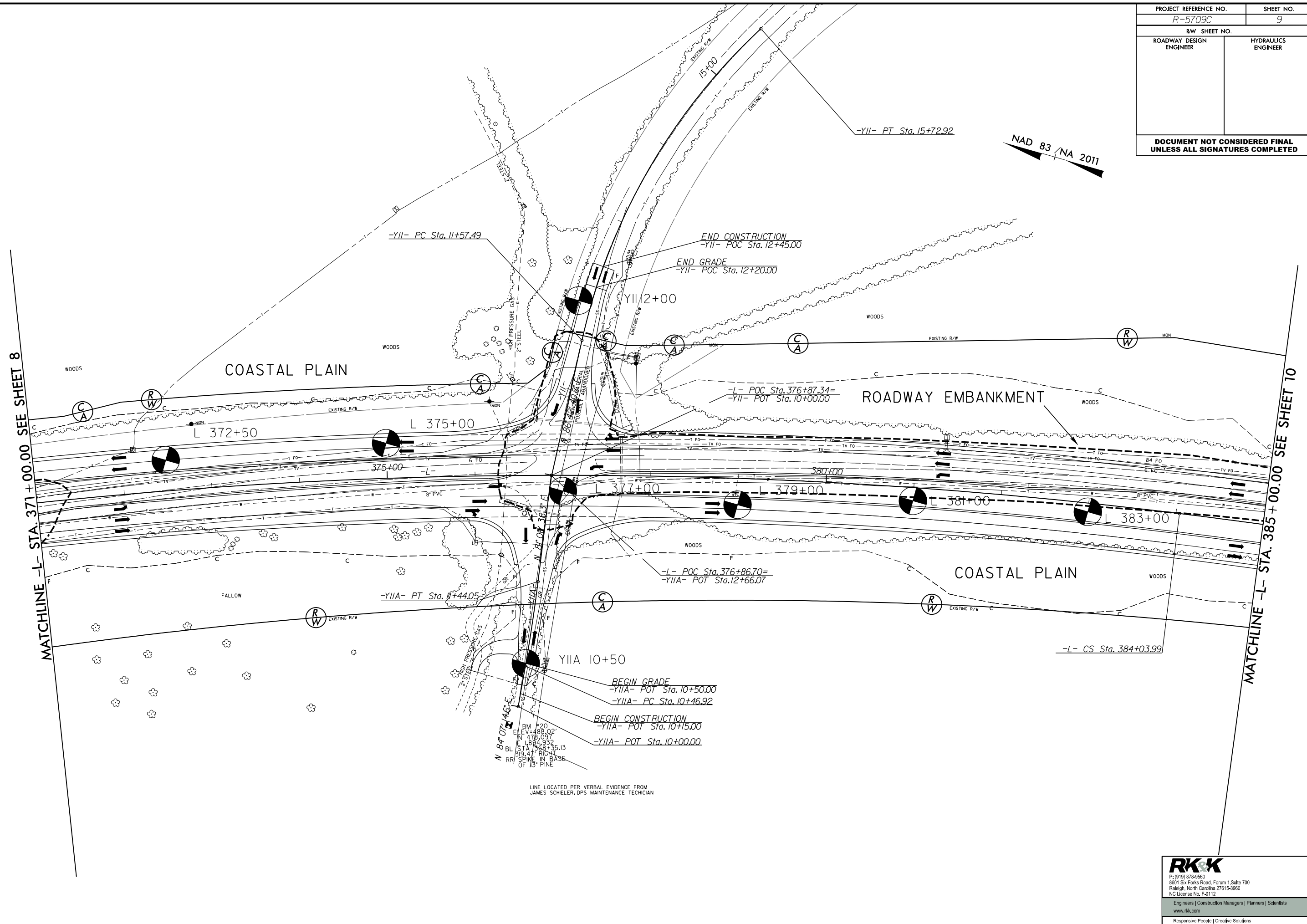
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SEE SHEET 6

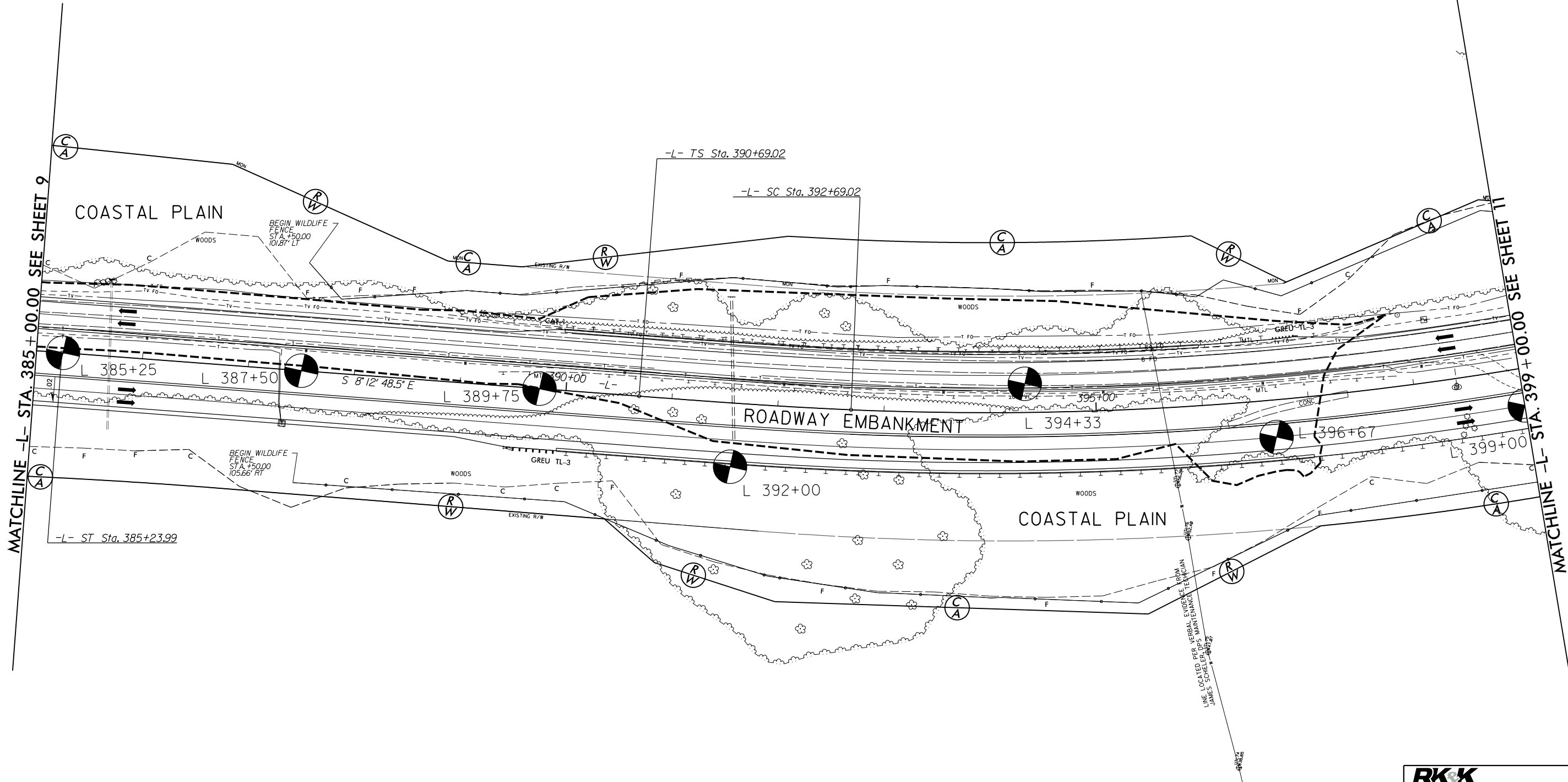


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SEE SHEET 8

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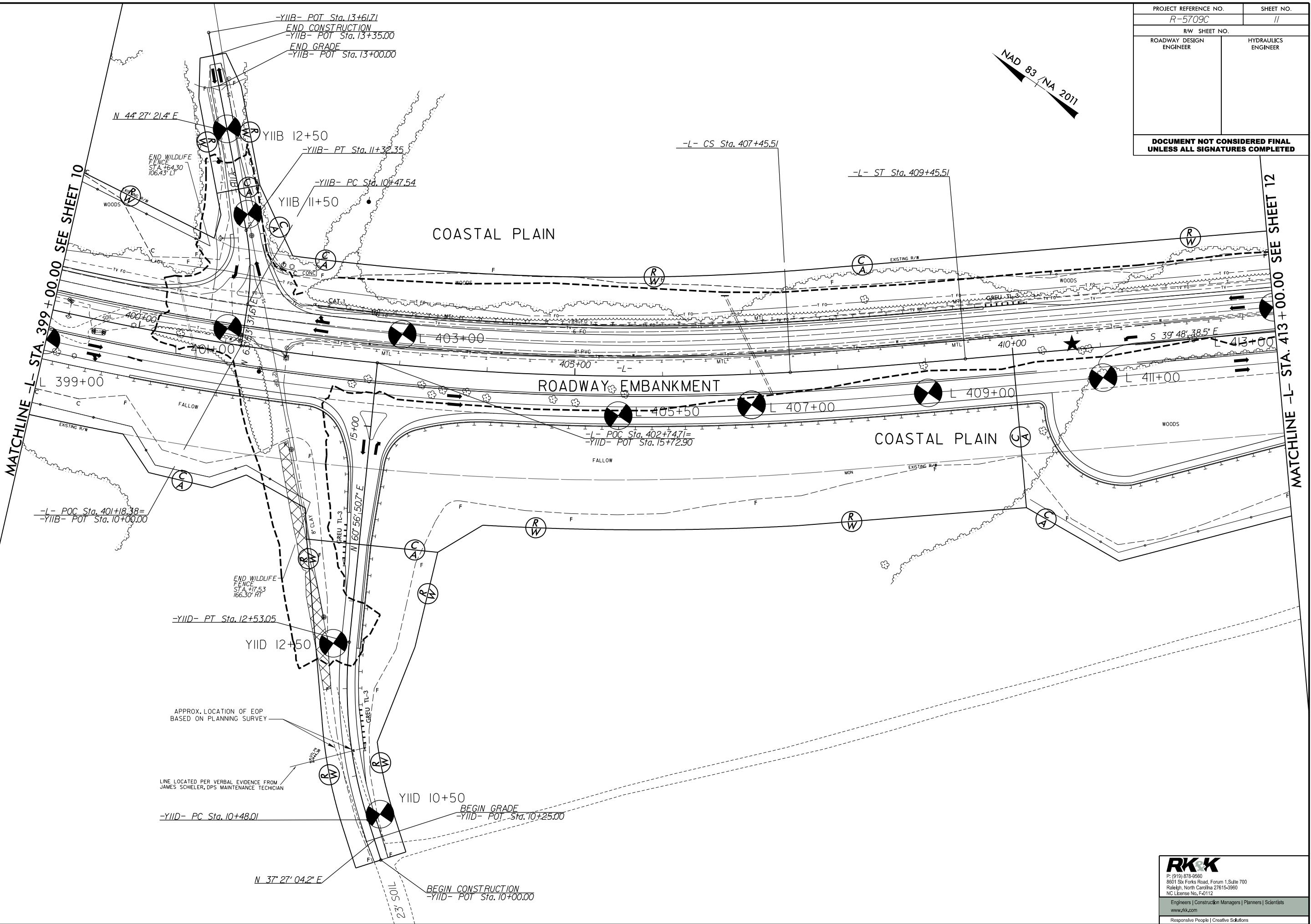
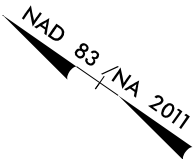


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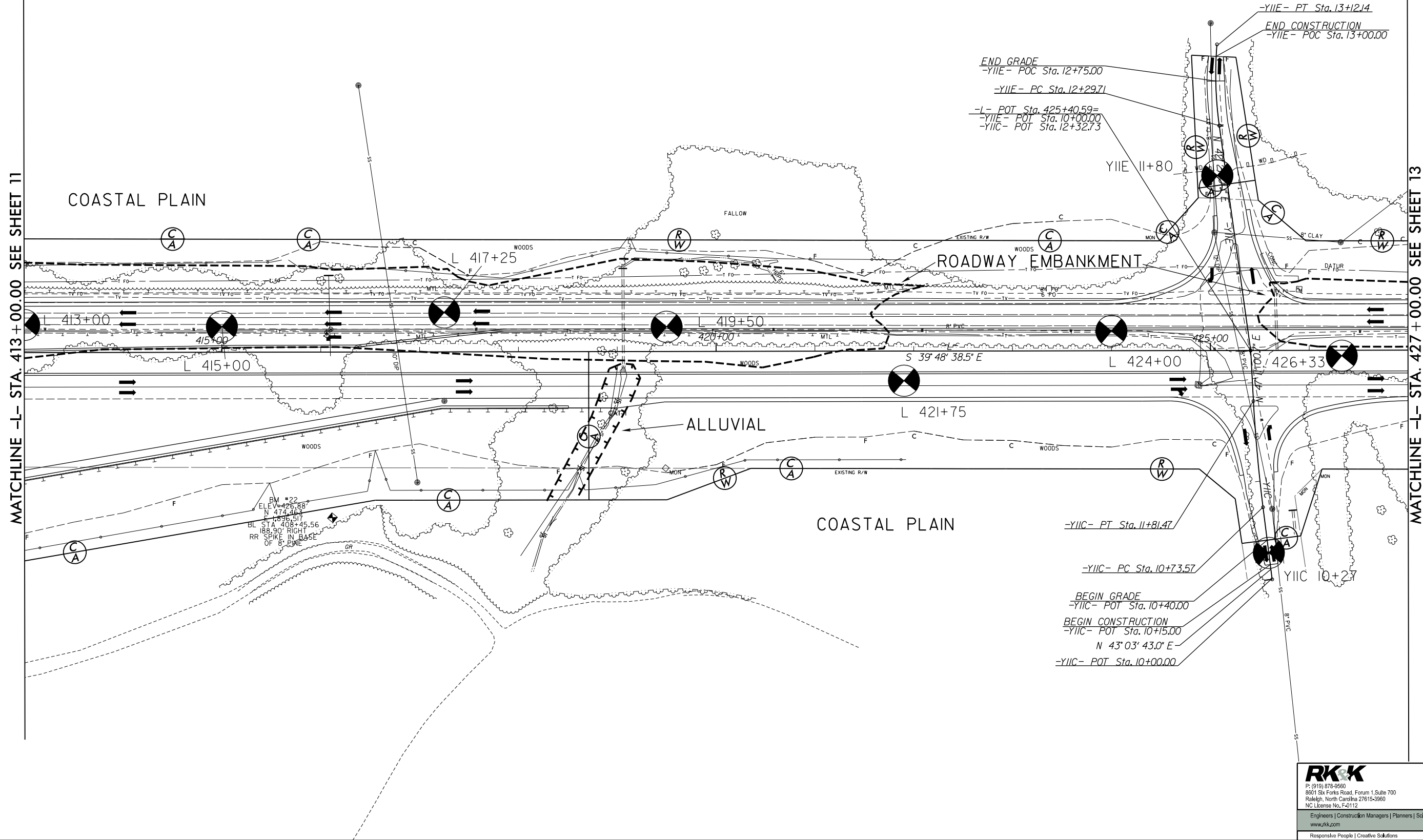


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RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

PROJECT REFERENCE NO.	SHEET NO.
R-5709C	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



PROJECT REFERENCE NO.	SHEET NO.
R-5709C	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

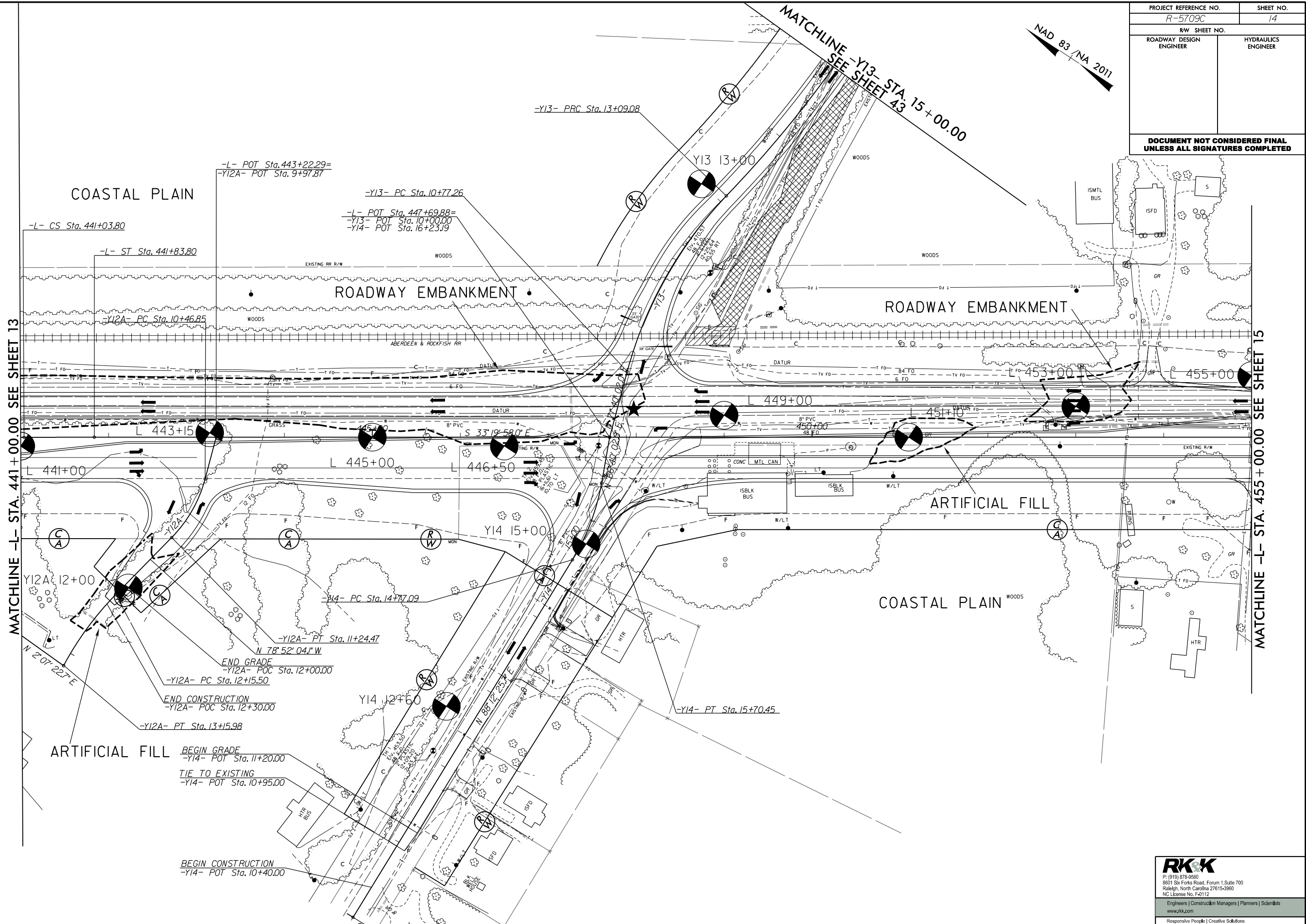


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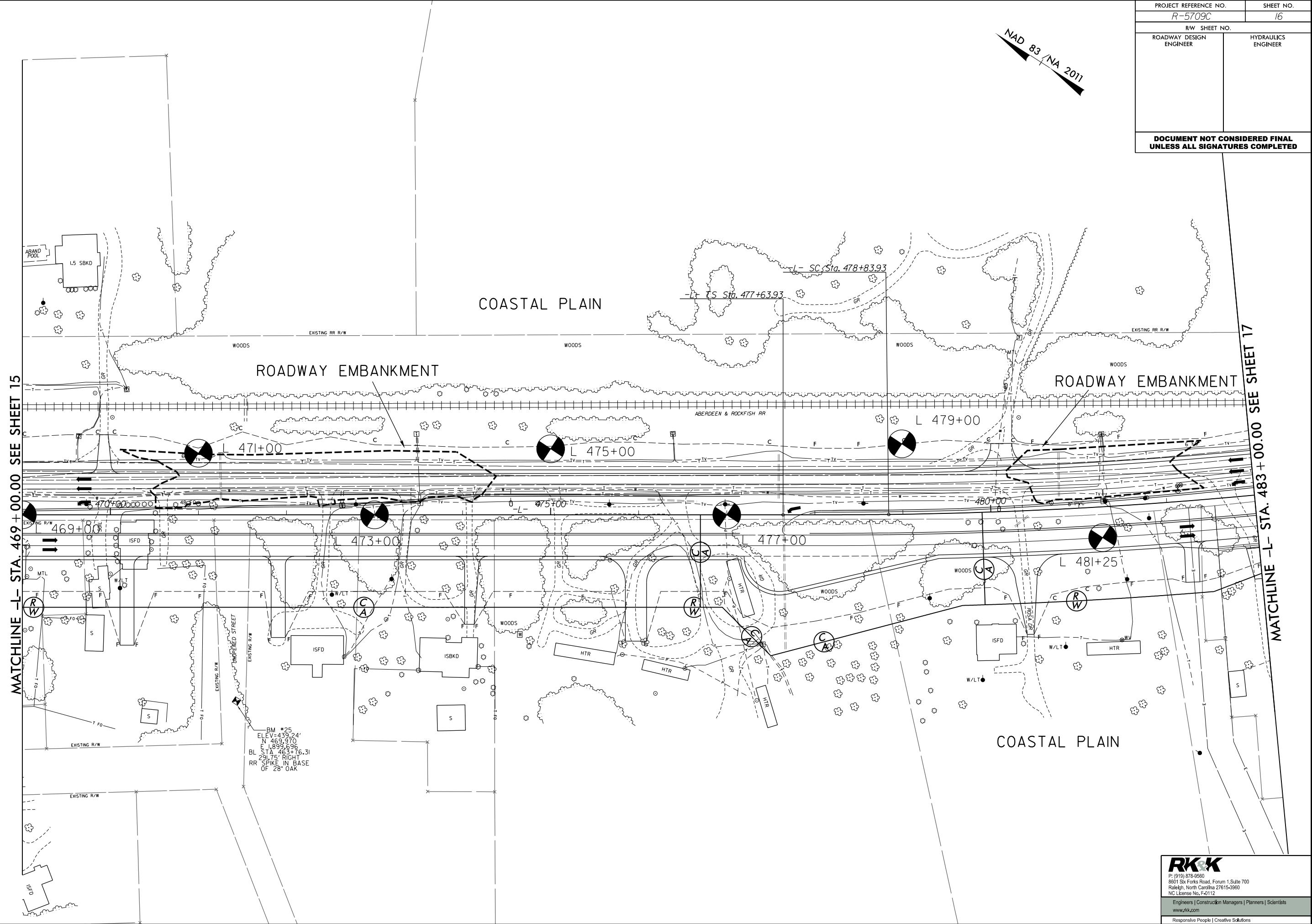
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PROJECT REFERENCE NO. <i>R-5709C</i>		SHEET NO. <i>14</i>	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

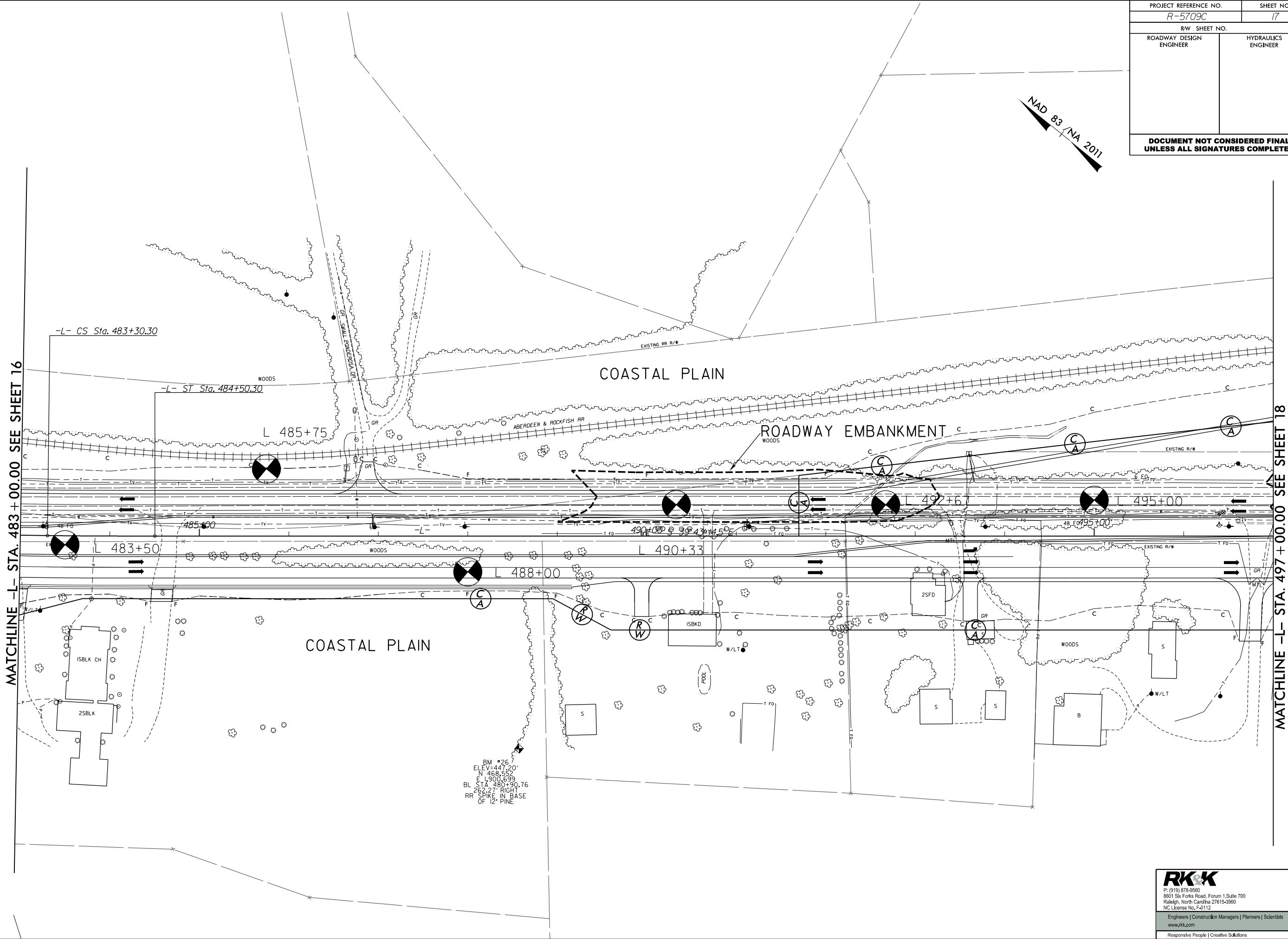
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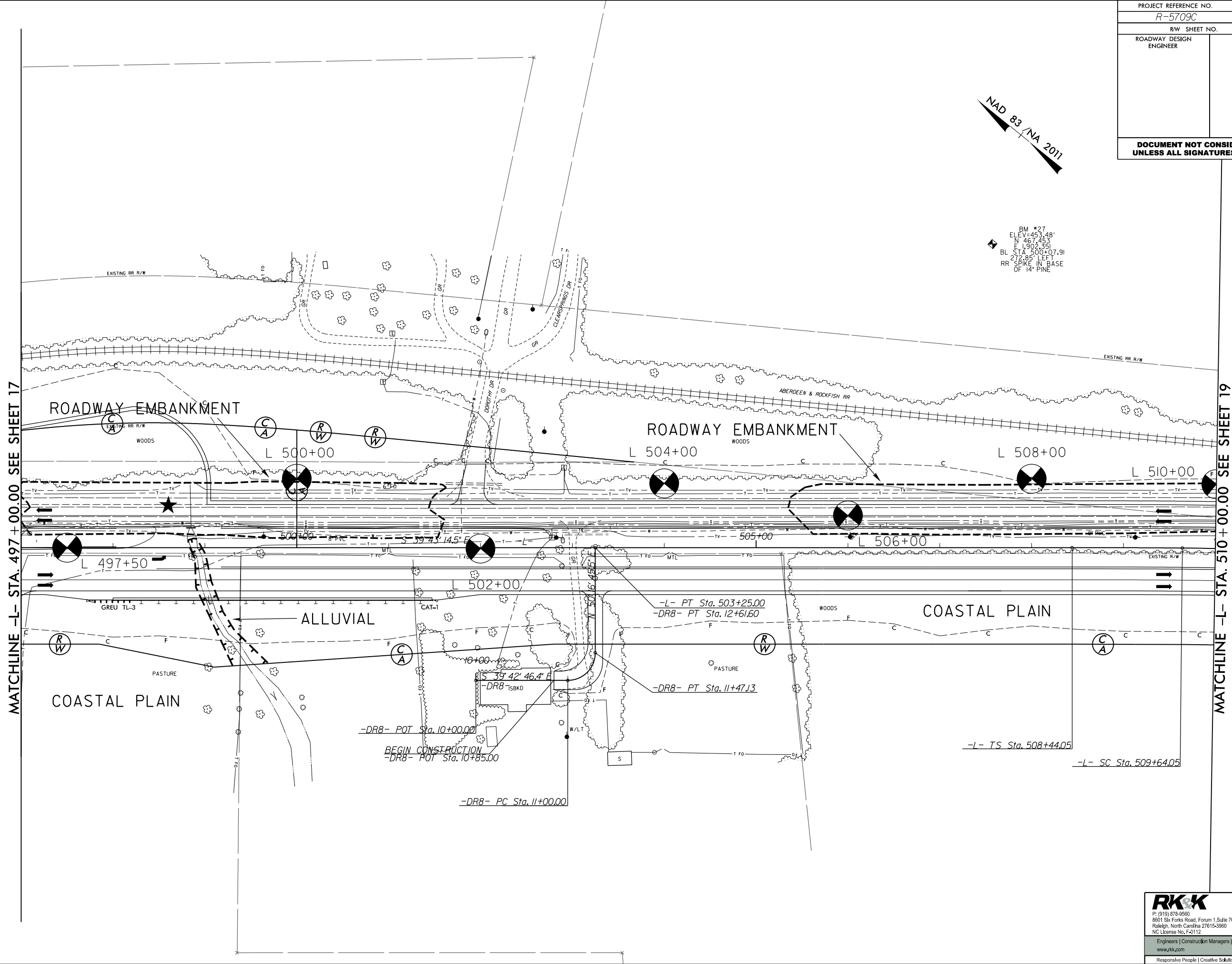
PROJECT REFERENCE NO. <i>R-5709C</i>		SHEET NO. <i>16</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

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PROJECT REFERENCE NO.	SHEET NO.
R-5709C	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

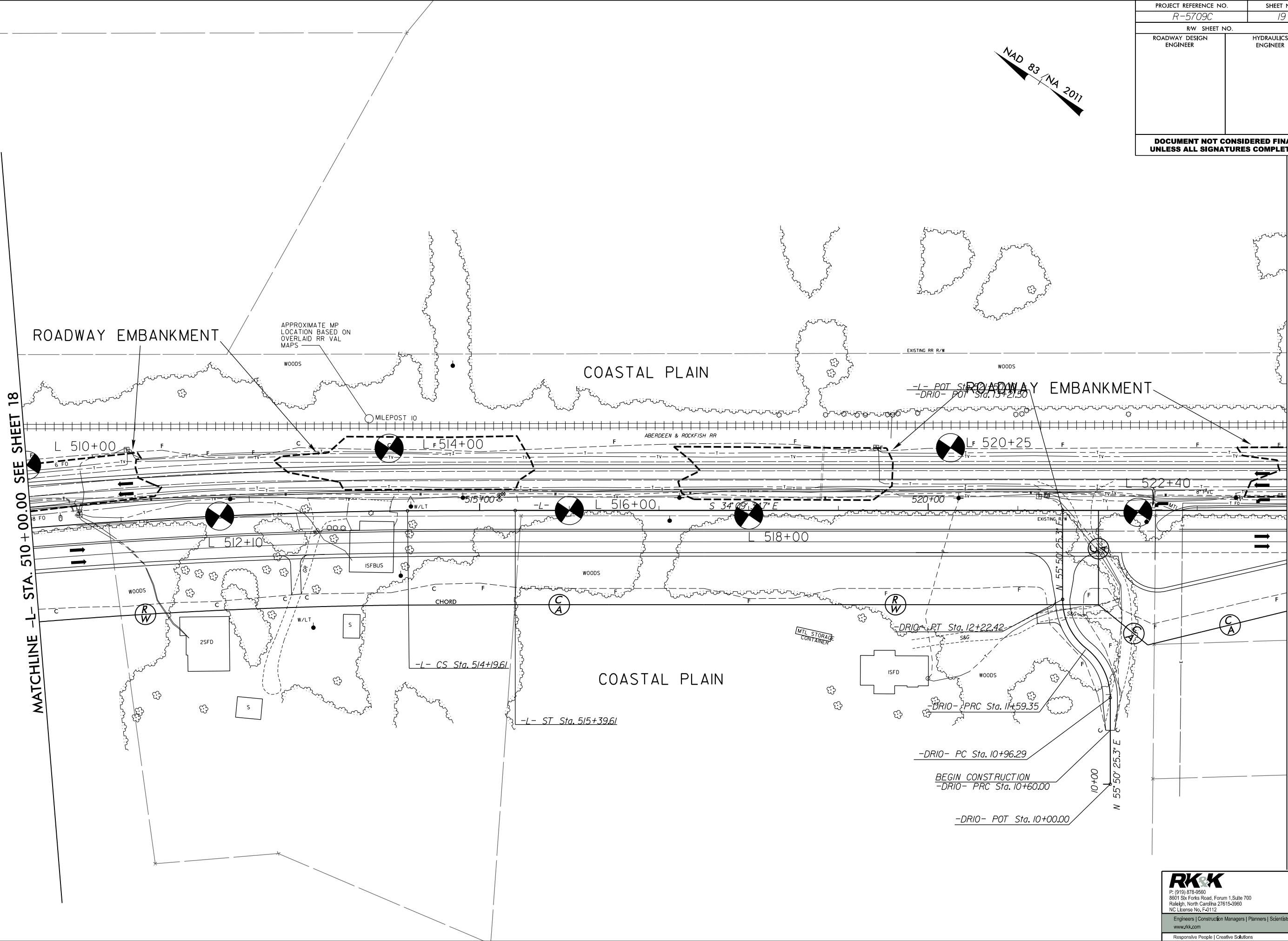


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8/23/2024
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mmfcr



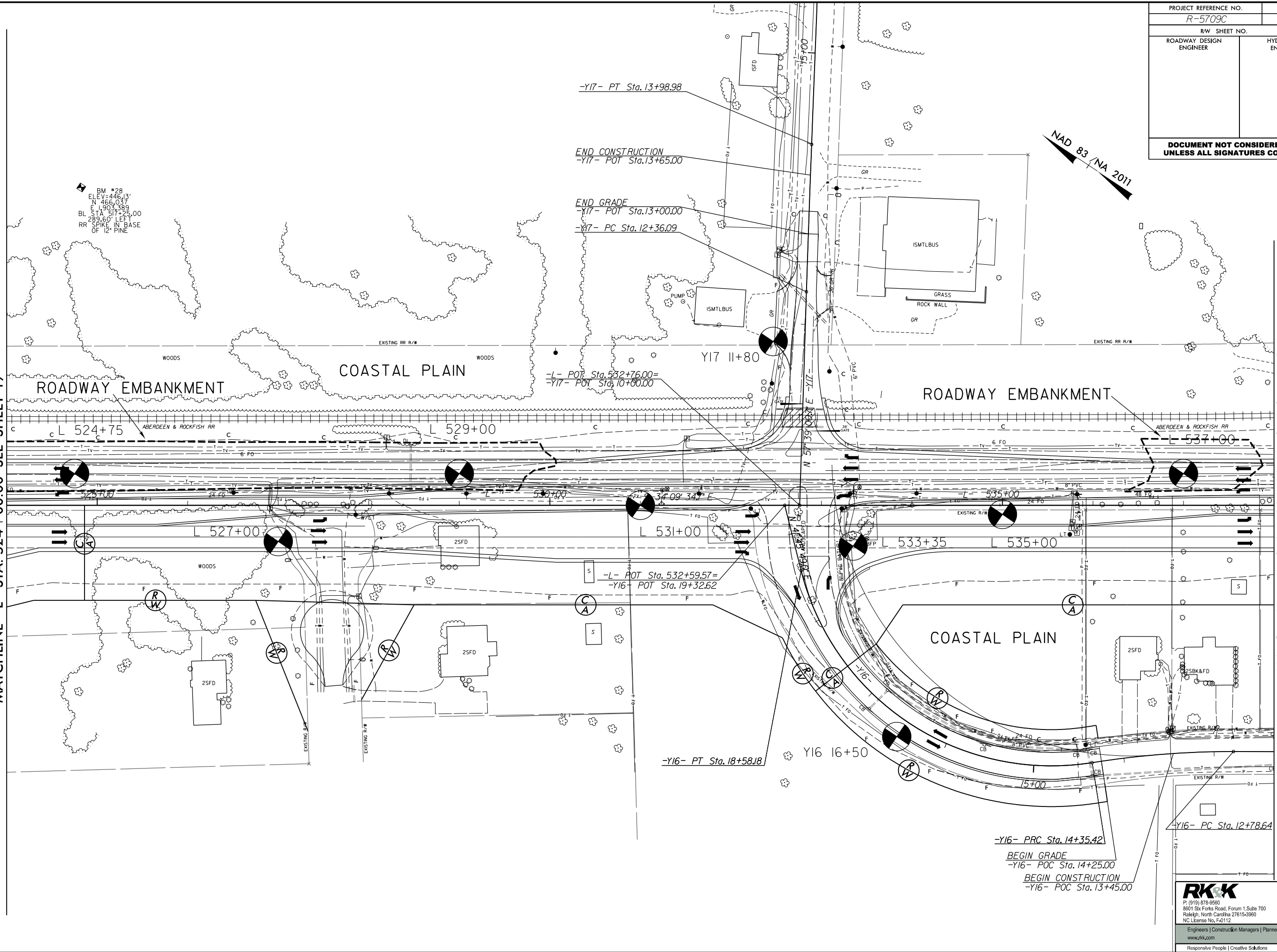
PROJECT REFERENCE NO.		SHEET NO.
R-5709C		18
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

PROJECT REFERENCE NO.		SHEET NO.	
R-5709C		19	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



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8/23/2024
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mmecr

MATCHLINE -L- STA. 524 + 00.00 SEE SHEET 19



MATCHLINE -L- STA. 538 + 00.00 SEE SHEET 21

PROJECT REFERENCE NO.	SHEET NO.
R-5709C	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

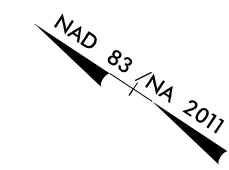
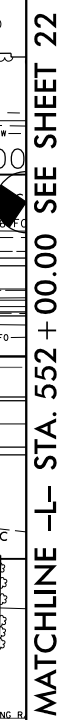


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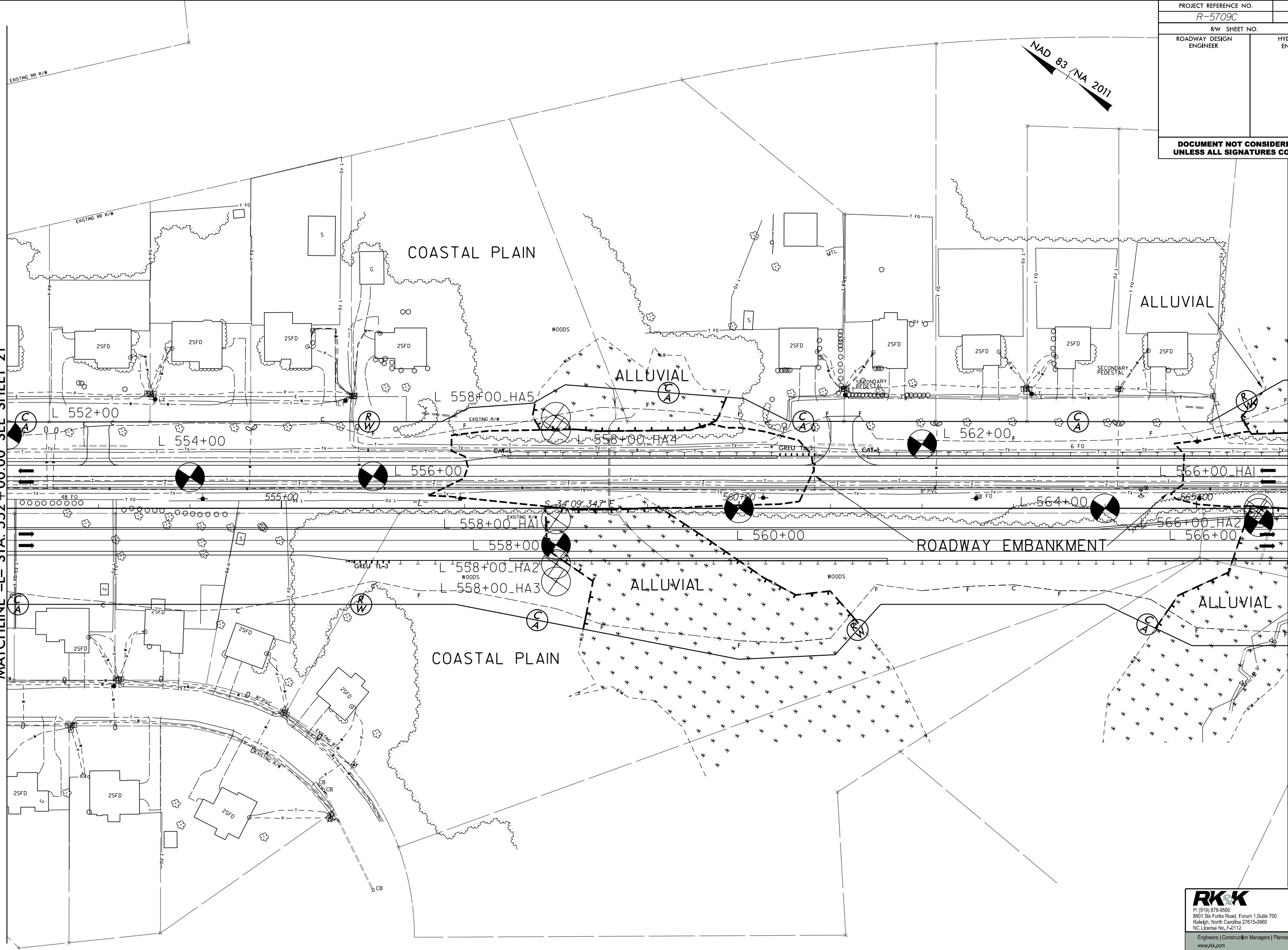
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mmecr

MATCHLINE -L- STA. 552 + 00.00 SEE SHEET 21



MATCHLINE -L- STA. 566 + 00.00 SEE SHEET 23

PROJECT REFERENCE NO. <i>R-5709C</i>		SHEET NO. <i>22</i>	
R/W SHEET NO.			
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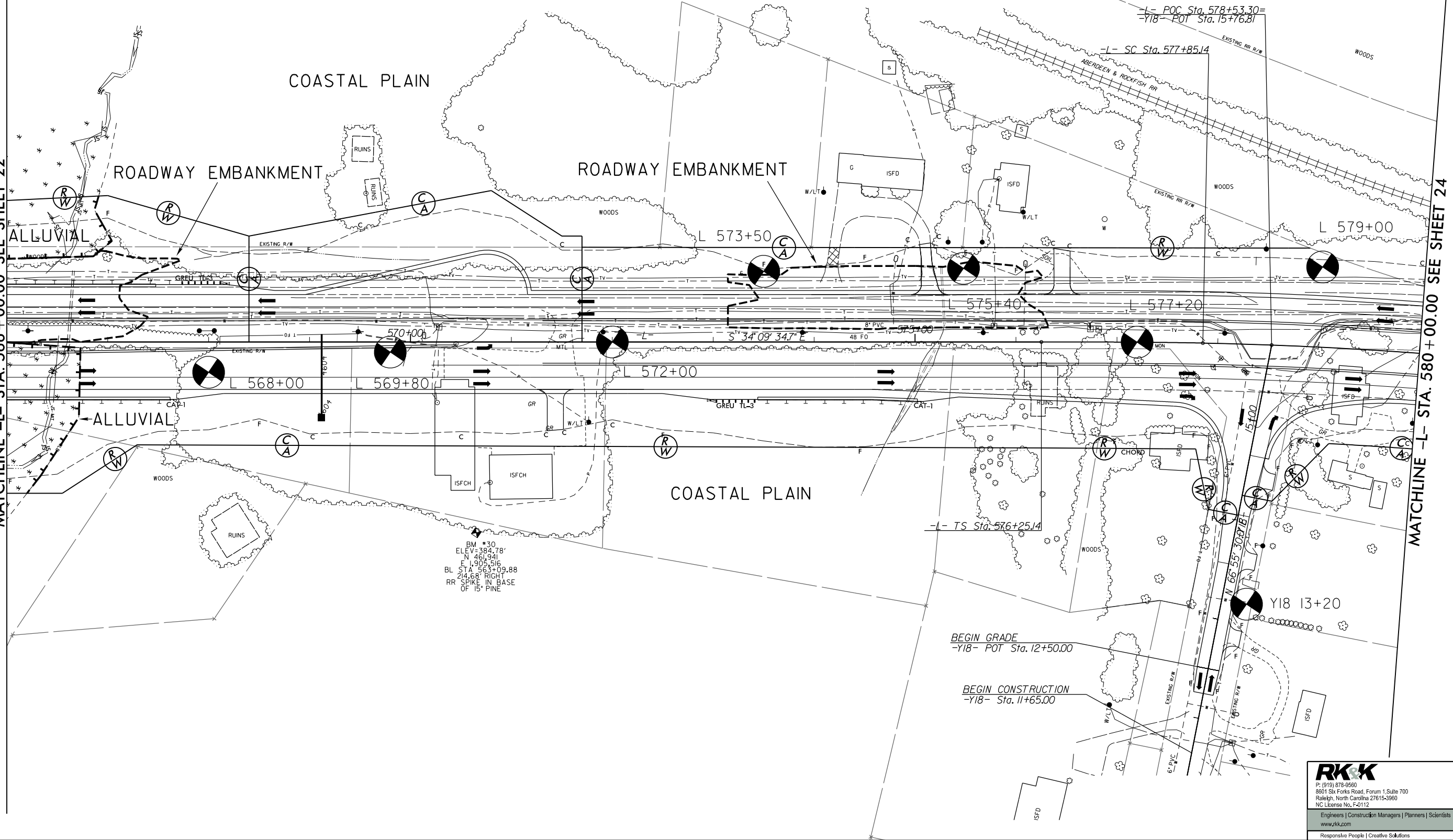
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MATCHLINE -L- STA. 566 + 00.00 SEE SHEET 22

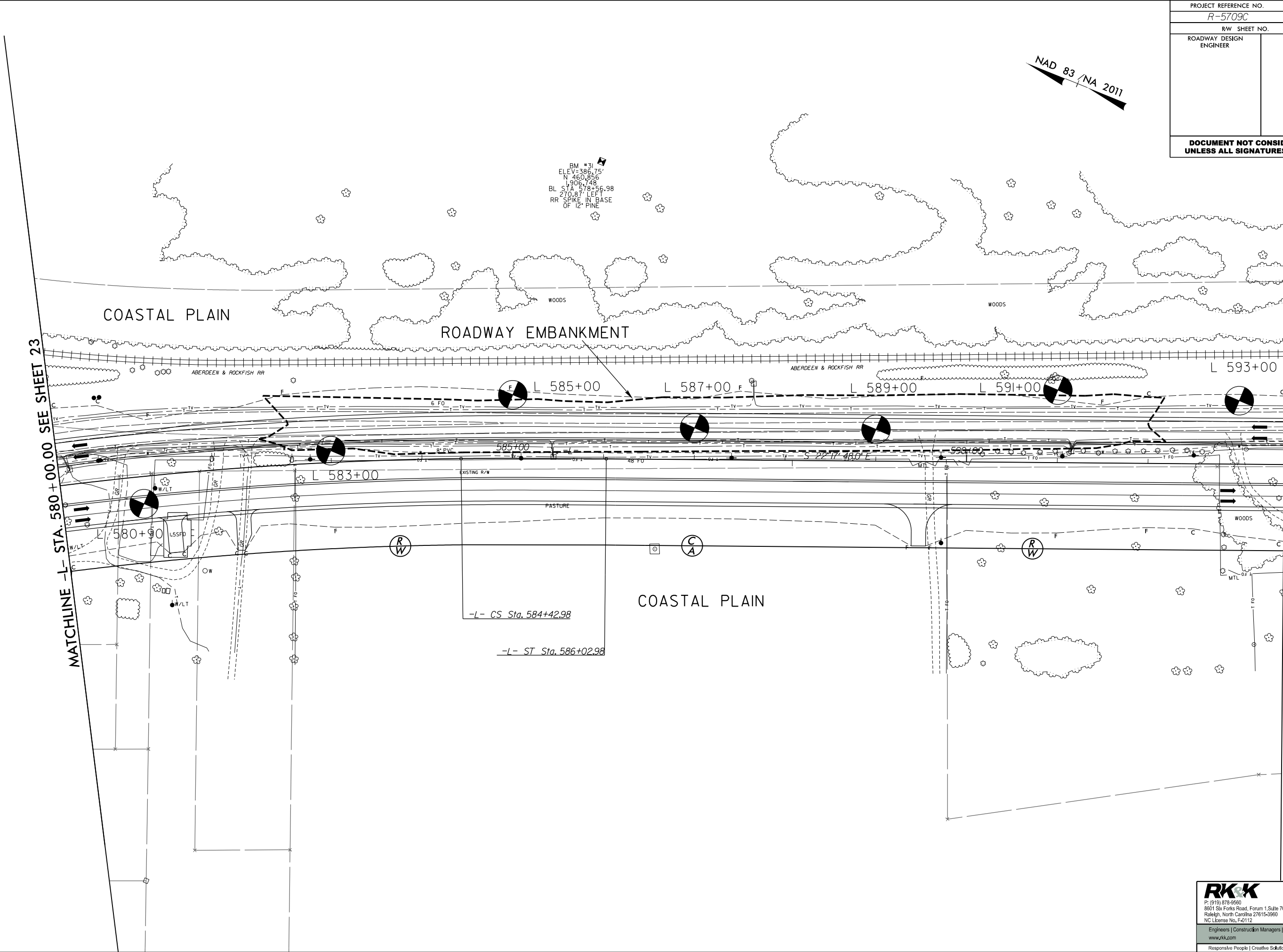


PROJECT REFERENCE NO. <i>R-5709C</i>		SHEET NO. <i>23</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

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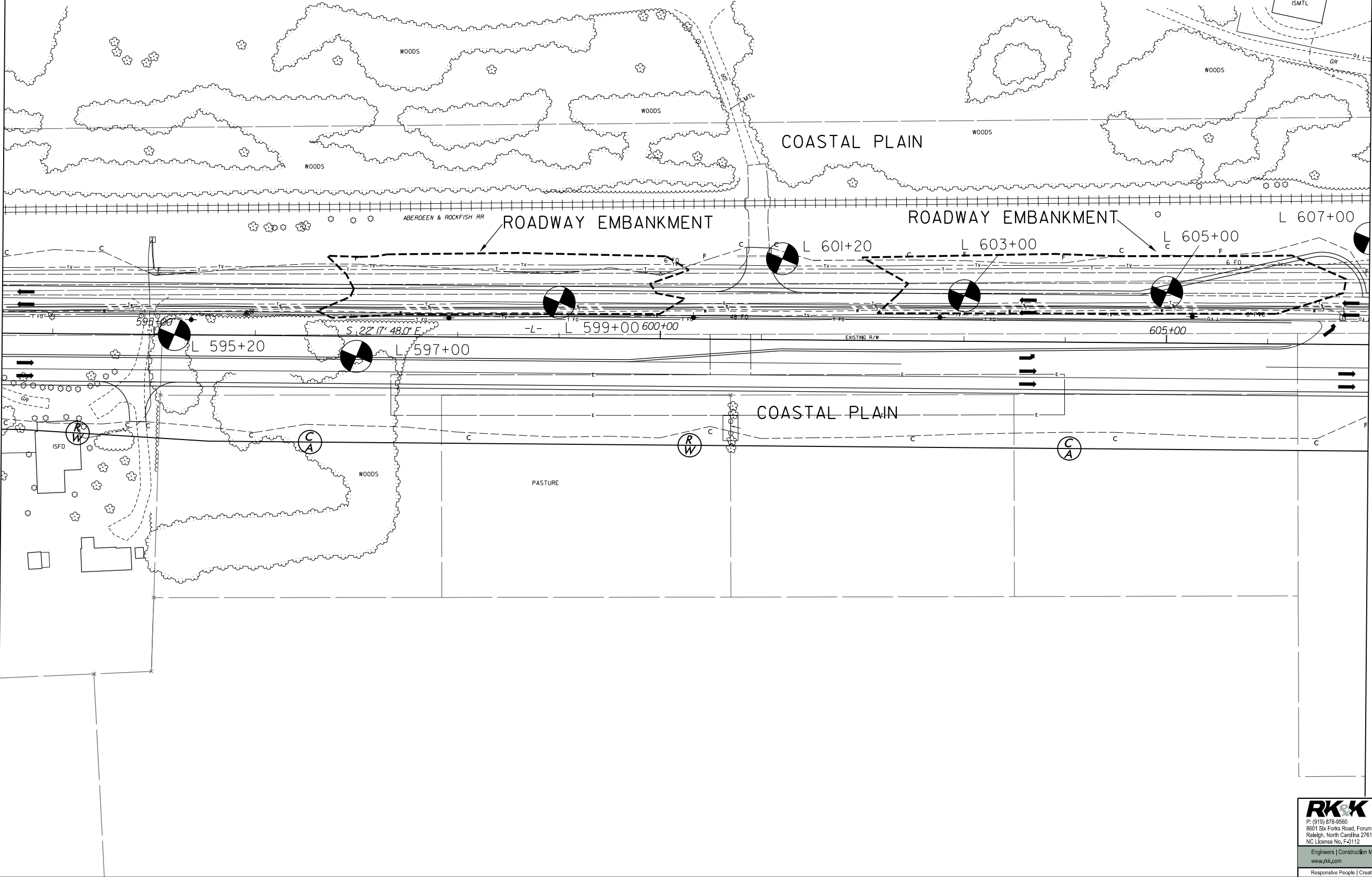
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8/23/2024
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mmecr

PROJECT REFERENCE NO. <i>R-5709C</i>		SHEET NO. <i>24</i>
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



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MATCHLINE -L- STA. 593 + 50.00 SEE SHEET 24



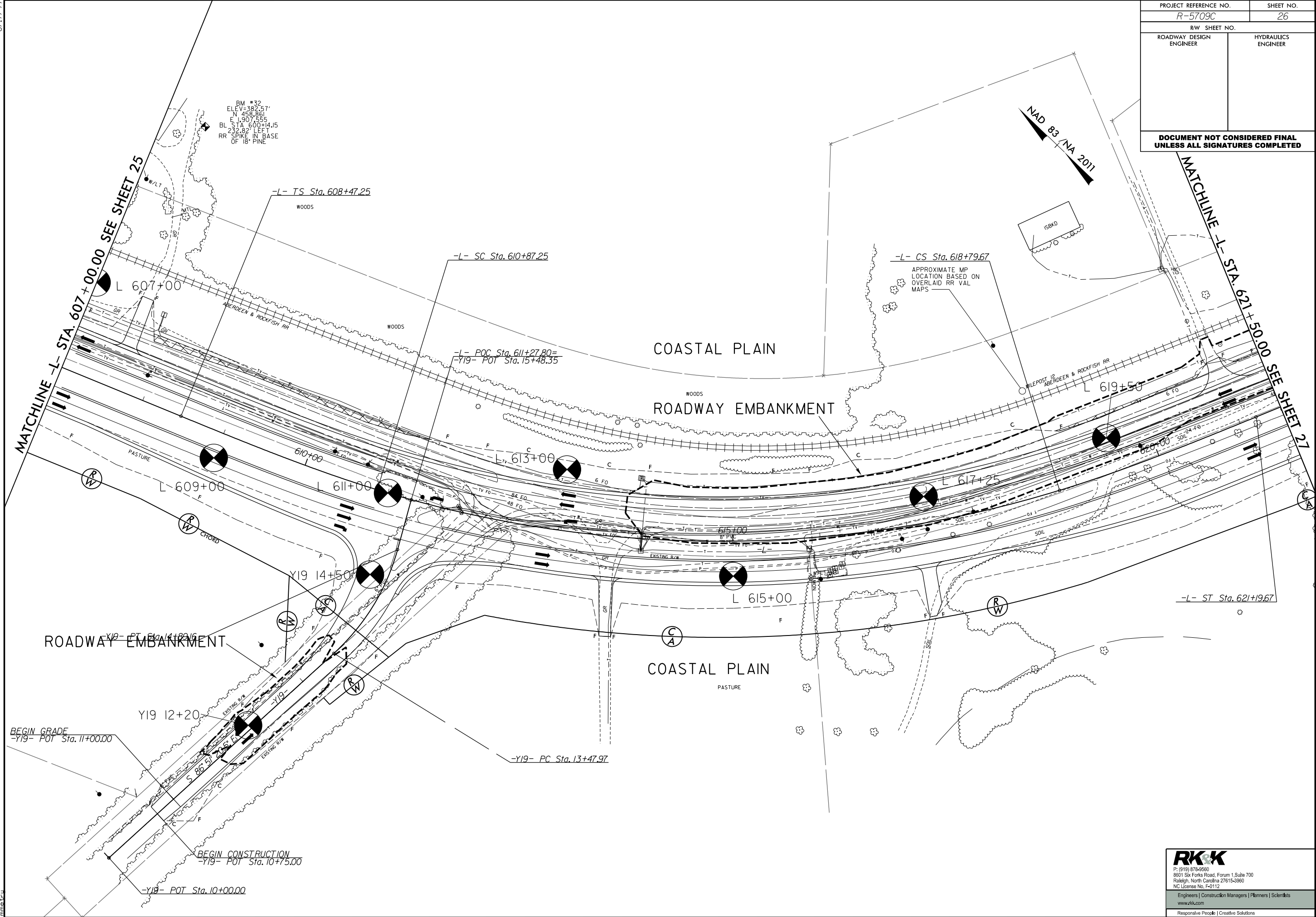
MATCHLINE -L- STA. 607 + 00.00 SEE SHEET 26

PROJECT REFERENCE NO. <i>R-5709C</i>		SHEET NO. <i>25</i>
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

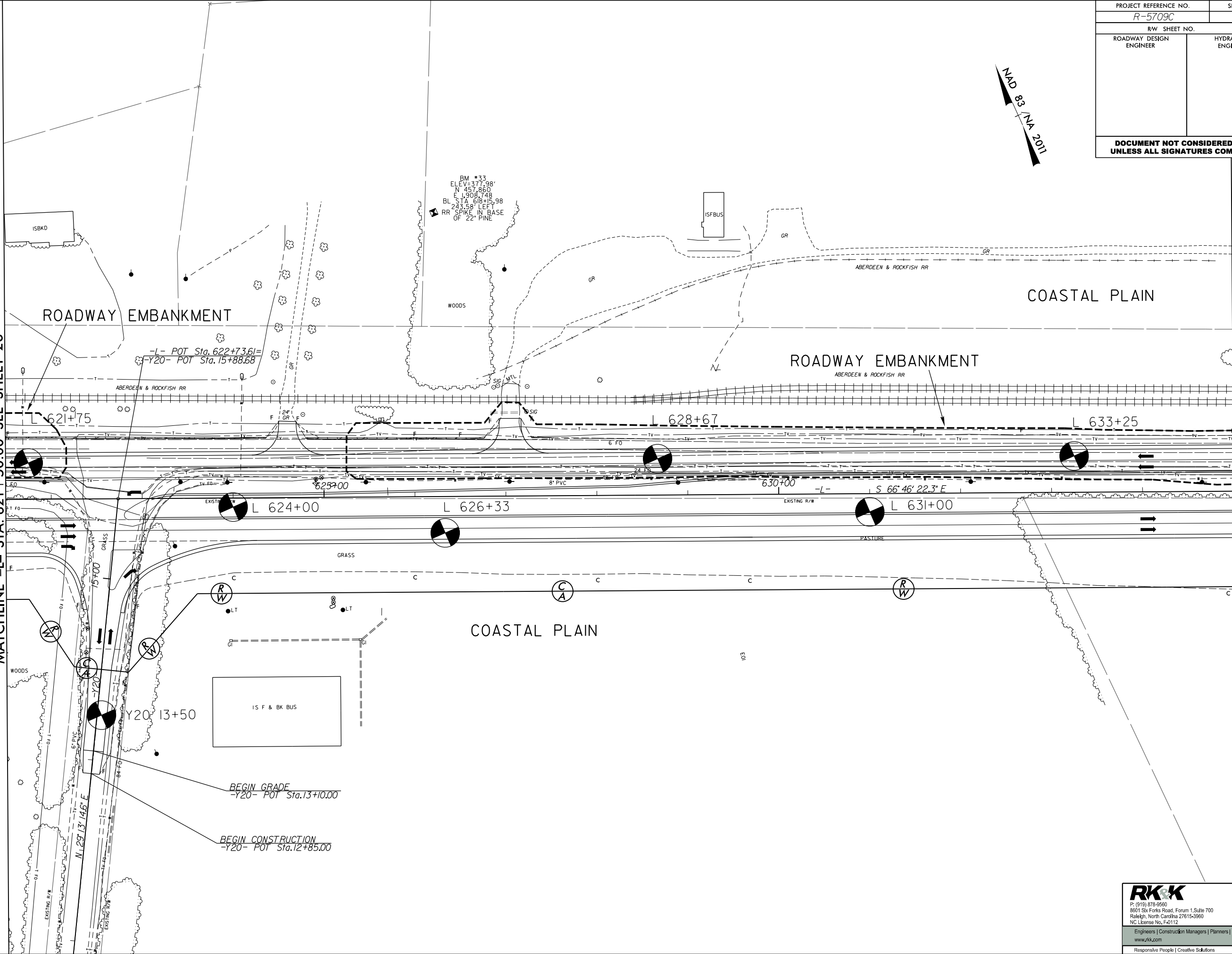
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PROJECT REFERENCE NO.	SHEET NO.
R-5709C	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- STA. 621+50.00 SEE SHEET 26



MATCHLINE -L- STA. 635+00.00 SEE SHEET 28

PROJECT REFERENCE NO. <i>R-5709C</i>		SHEET NO. <i>27</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



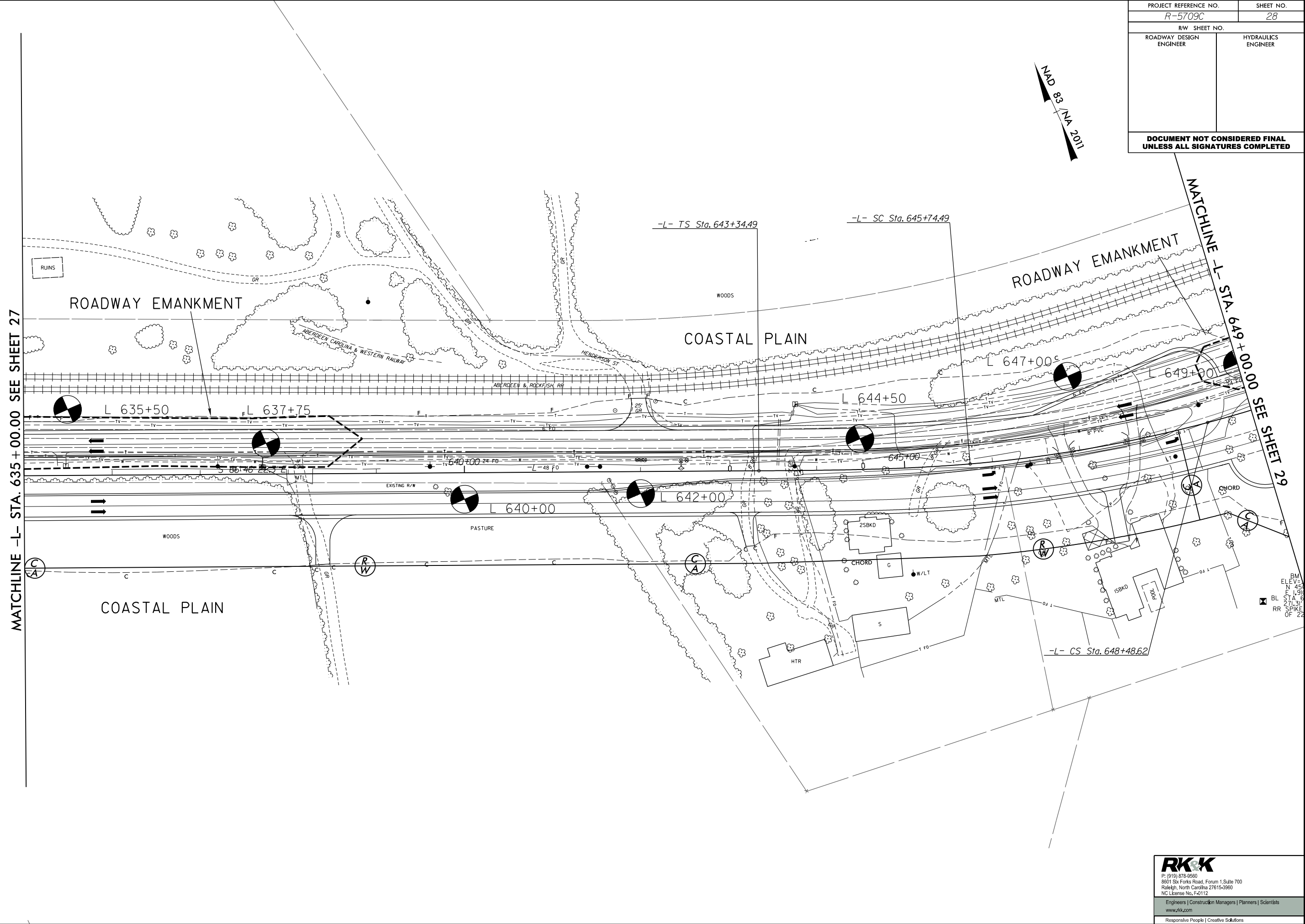
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mmecr

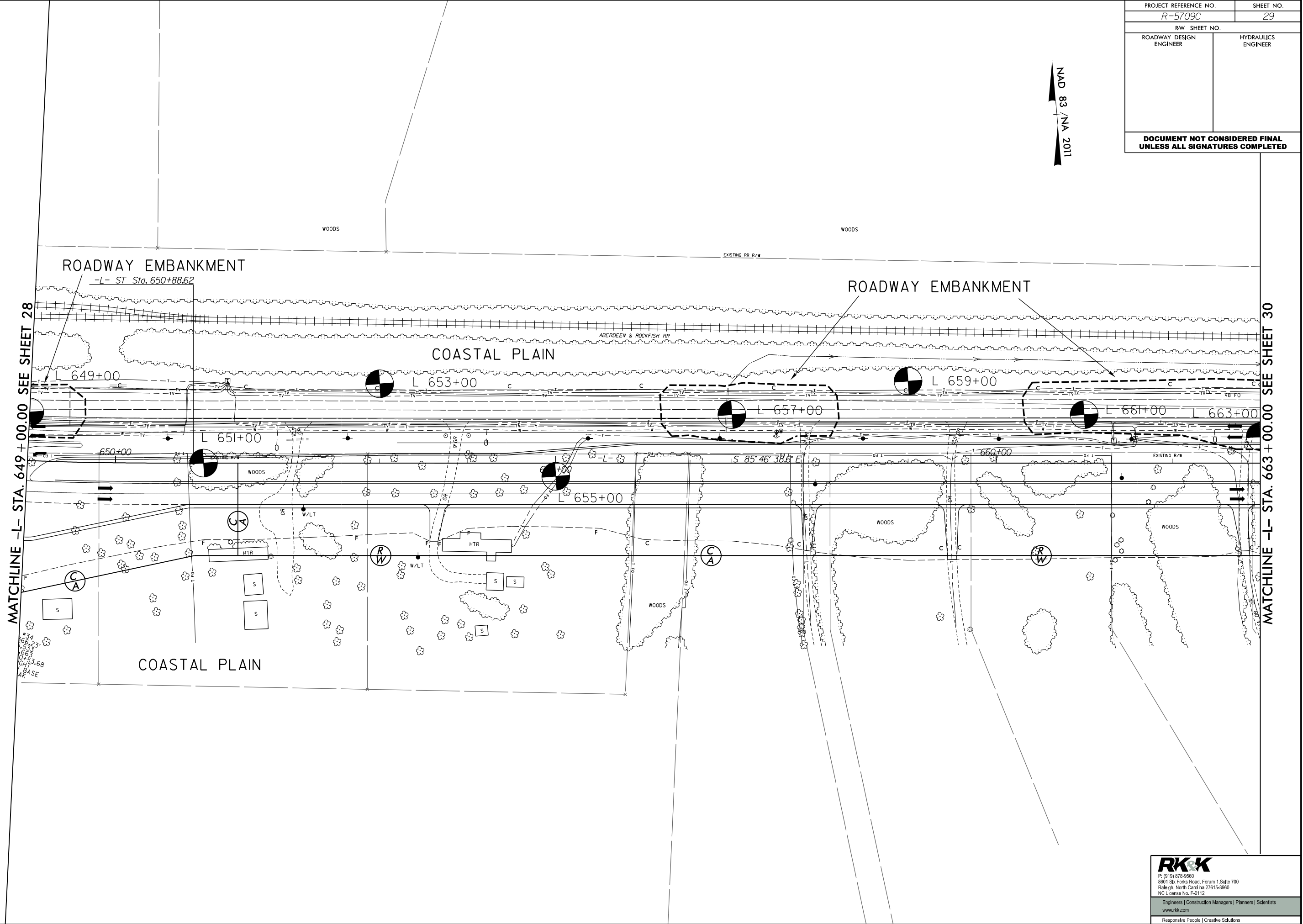


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8/23/2024
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MATCHLINE -L- STA. 649 + 00.00 SEE SHEET 28

MATCHLINE -L- STA. 663 + 00.00 SEE SHEET 30

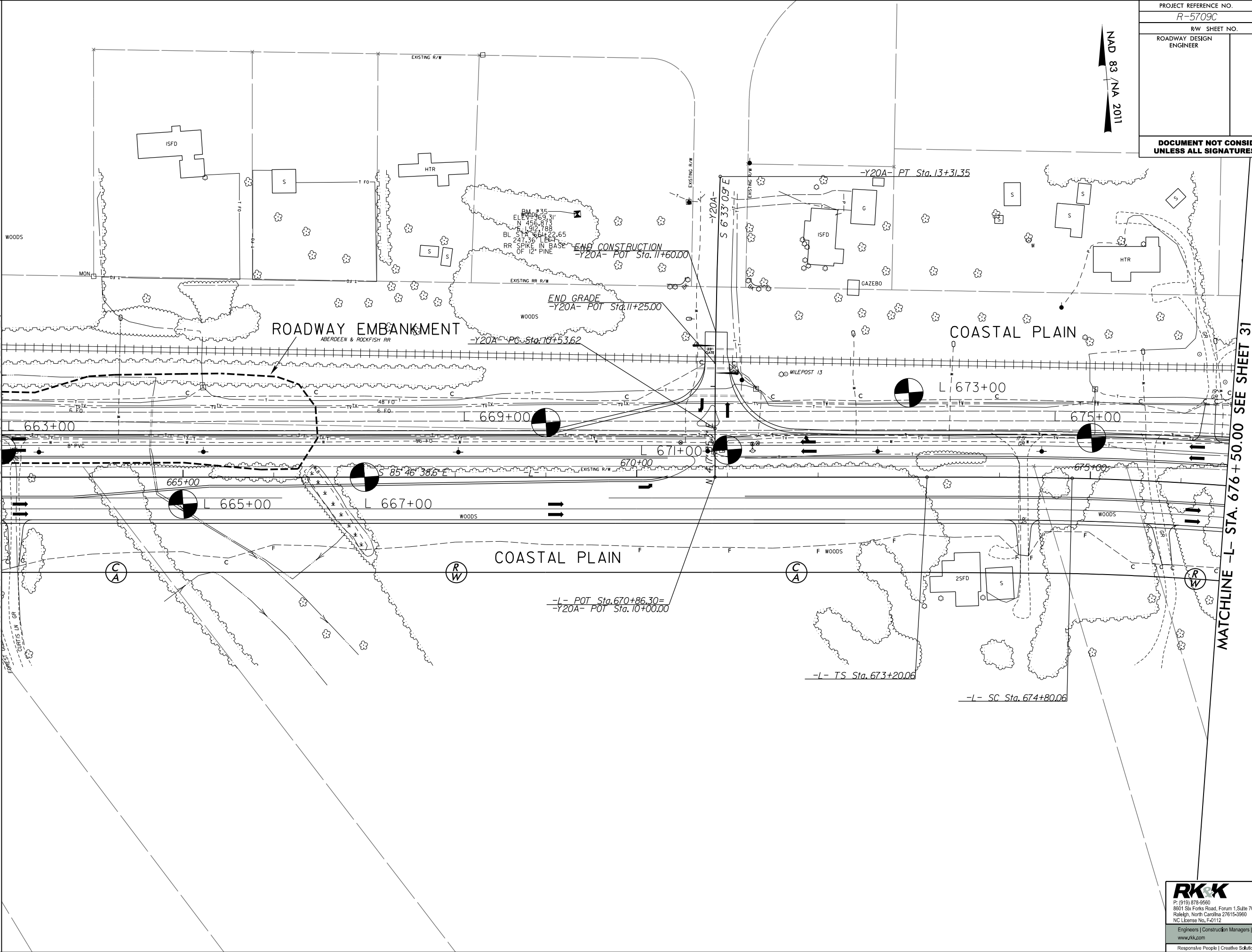


PROJECT REFERENCE NO. <i>R-5709C</i>		SHEET NO. <i>29</i>	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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mmecr

MATCHLINE -L- STA. 663+00.00 SEE SHEET 29



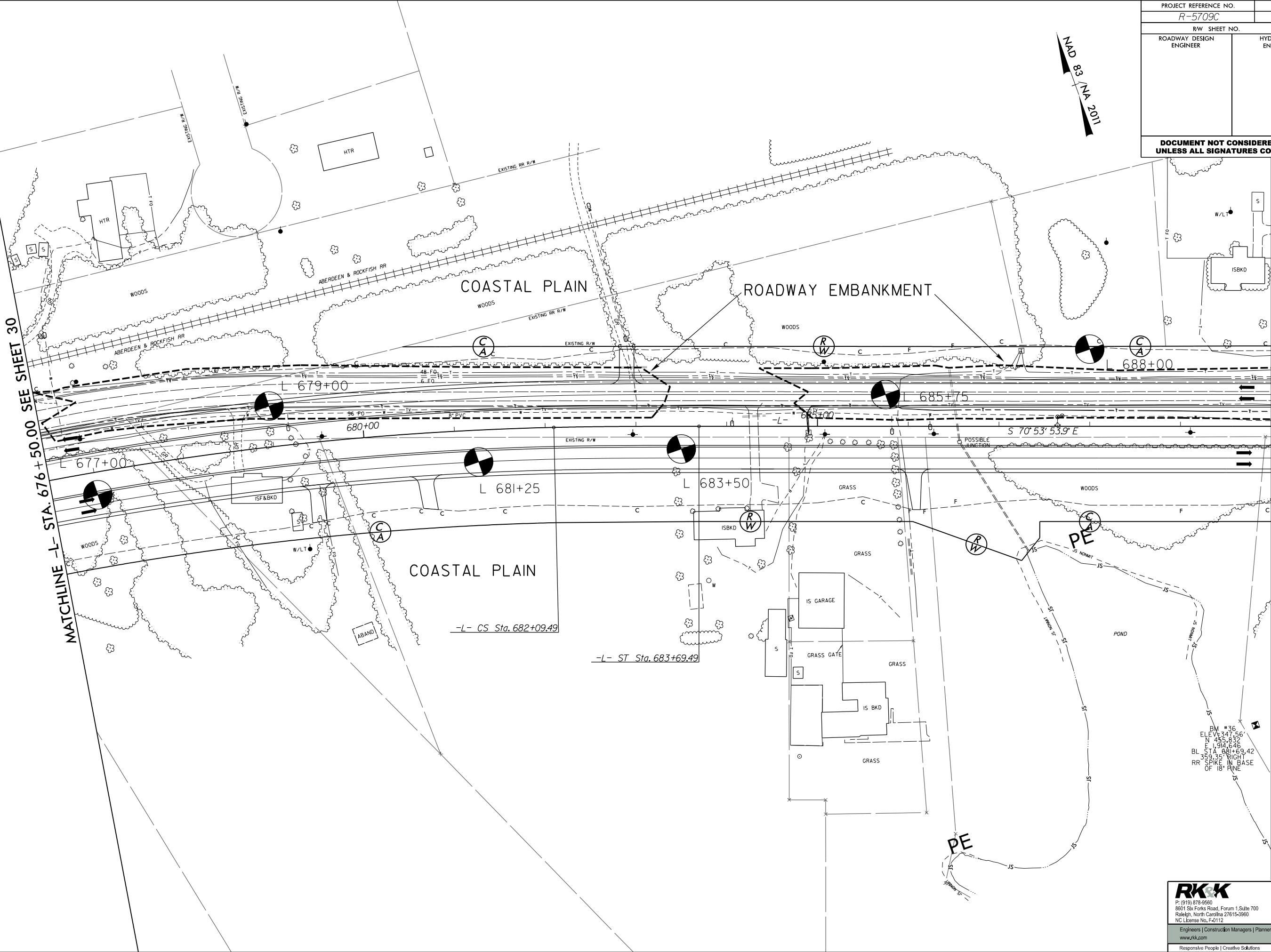
NAD 83 / NA 2011

PROJECT REFERENCE NO. <i>R-5709C</i>		SHEET NO. <i>30</i>
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	

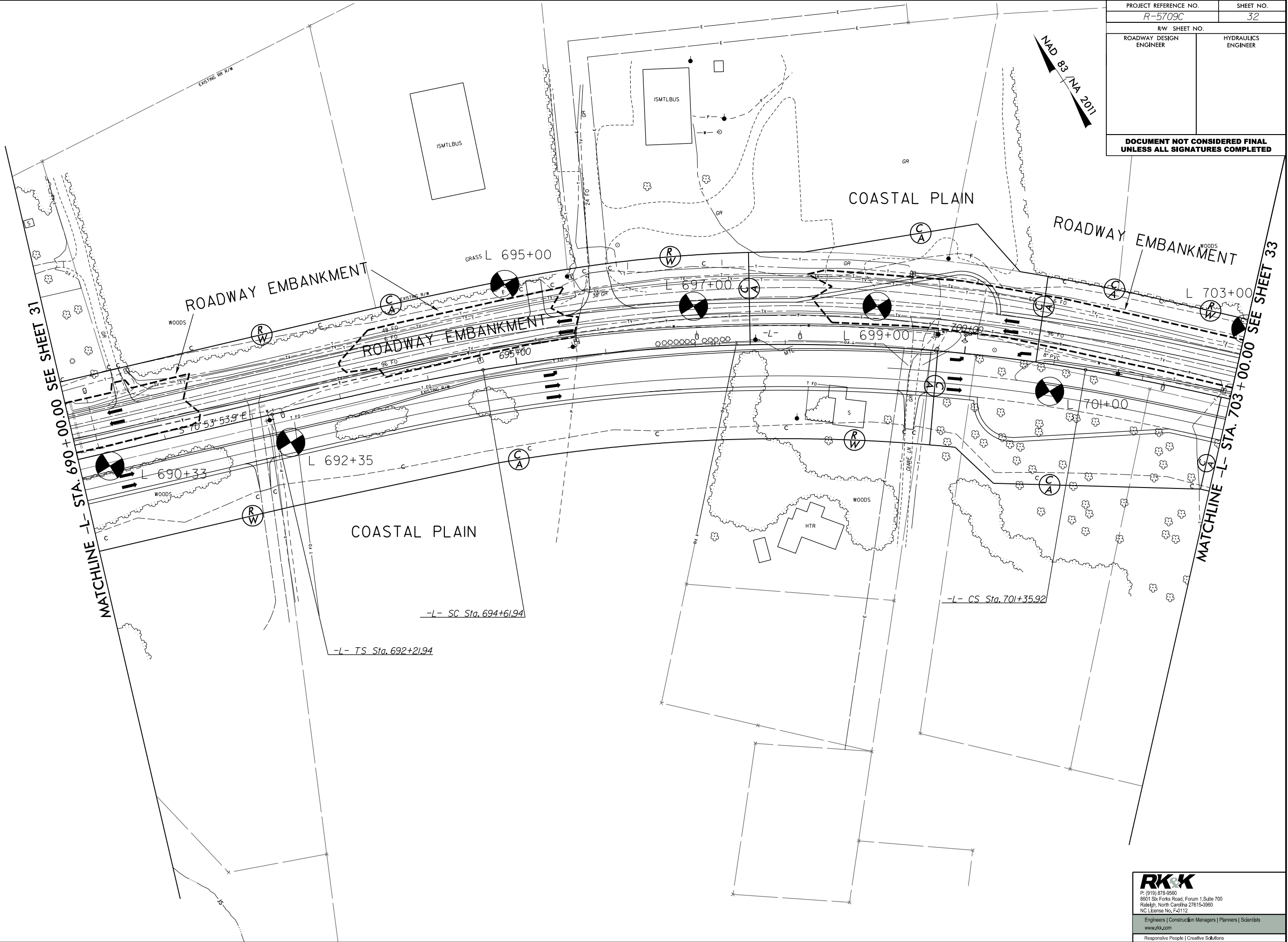
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PROJECT REFERENCE NO.		SHEET NO.	
R-5709C		31	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

NAD 83/NA 2011

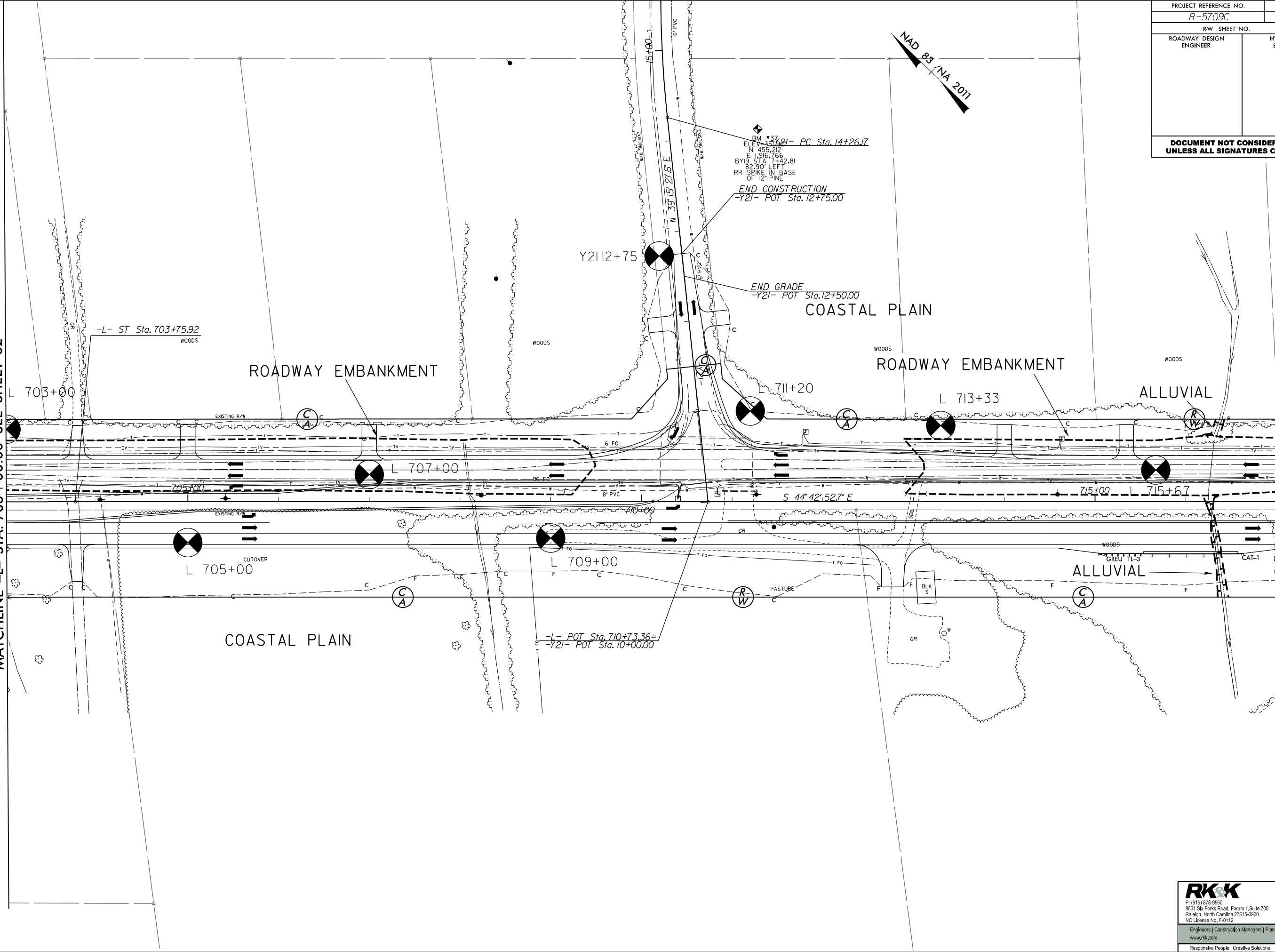


PROJECT REFERENCE NO.	SHEET NO.
R-5709C	32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



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mmecr

MATCHLINE -L- STA. 703 + 00.00 SEE SHEET 32



MATCHLINE -L- STA. 717 + 00.00 SEE SHEET 34

PROJECT REFERENCE NO.		SHEET NO.	
R-5709C		33	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



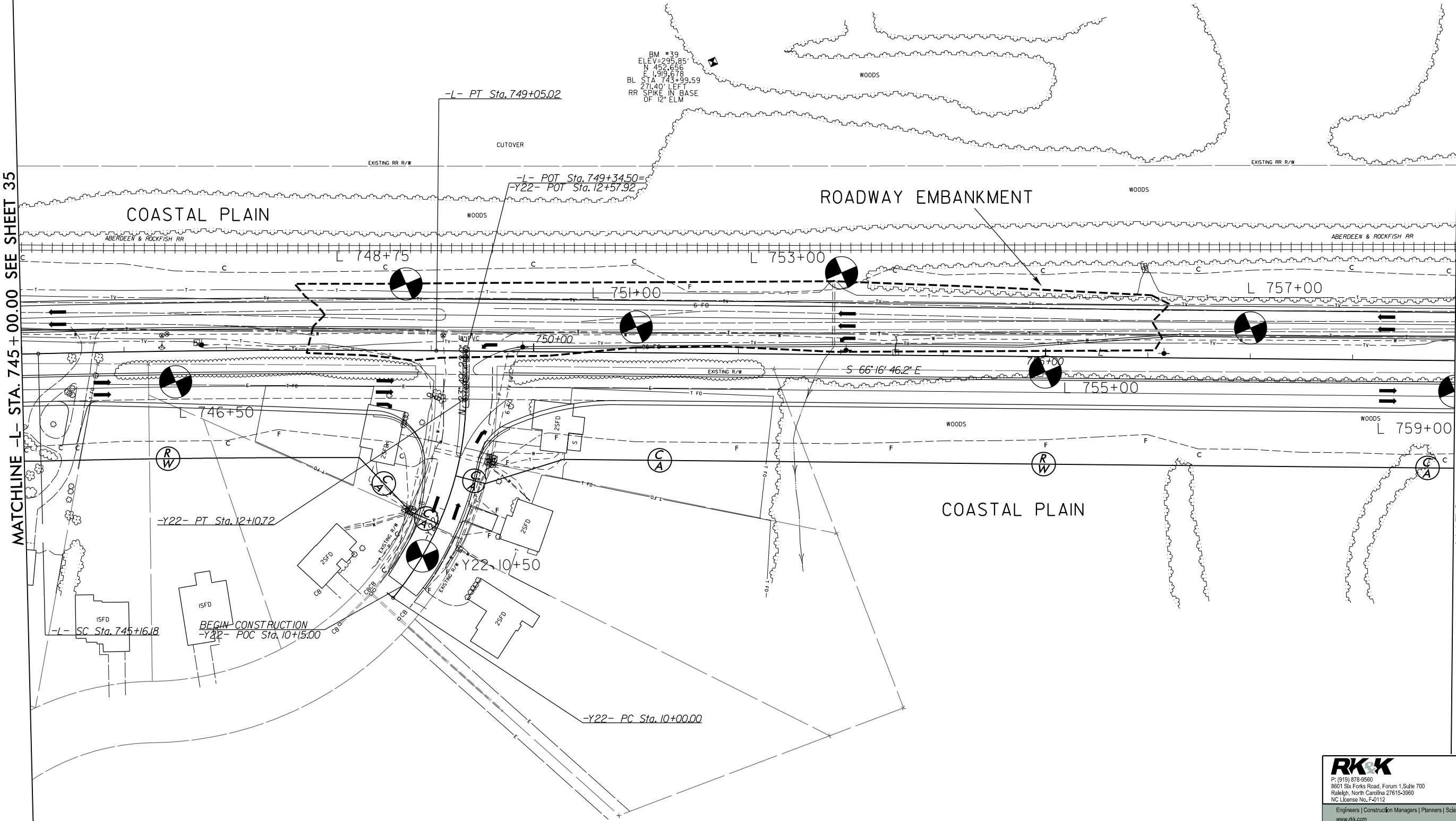
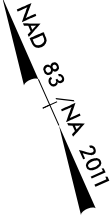
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PROJECT REFERENCE NO.		SHEET NO.
R-5709C		36
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



MATCHLINE -L- STA. 745+00.00 SEE SHEET 35

MATCHLINE -L- STA. 759+00.00 SEE SHEET 37



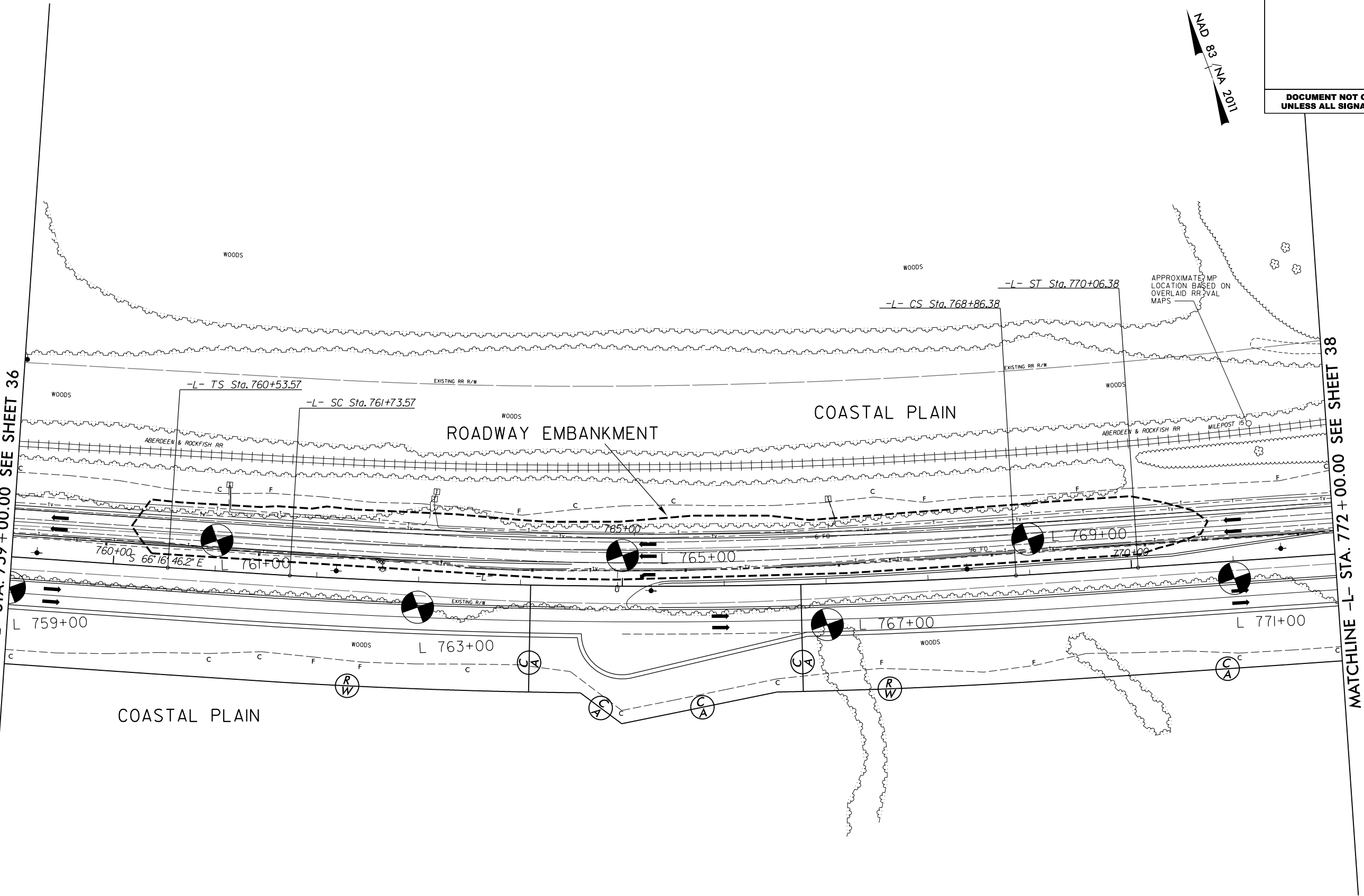
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MATCHLINE -L- STA. 759 + 00.00 SEE SHEET 36

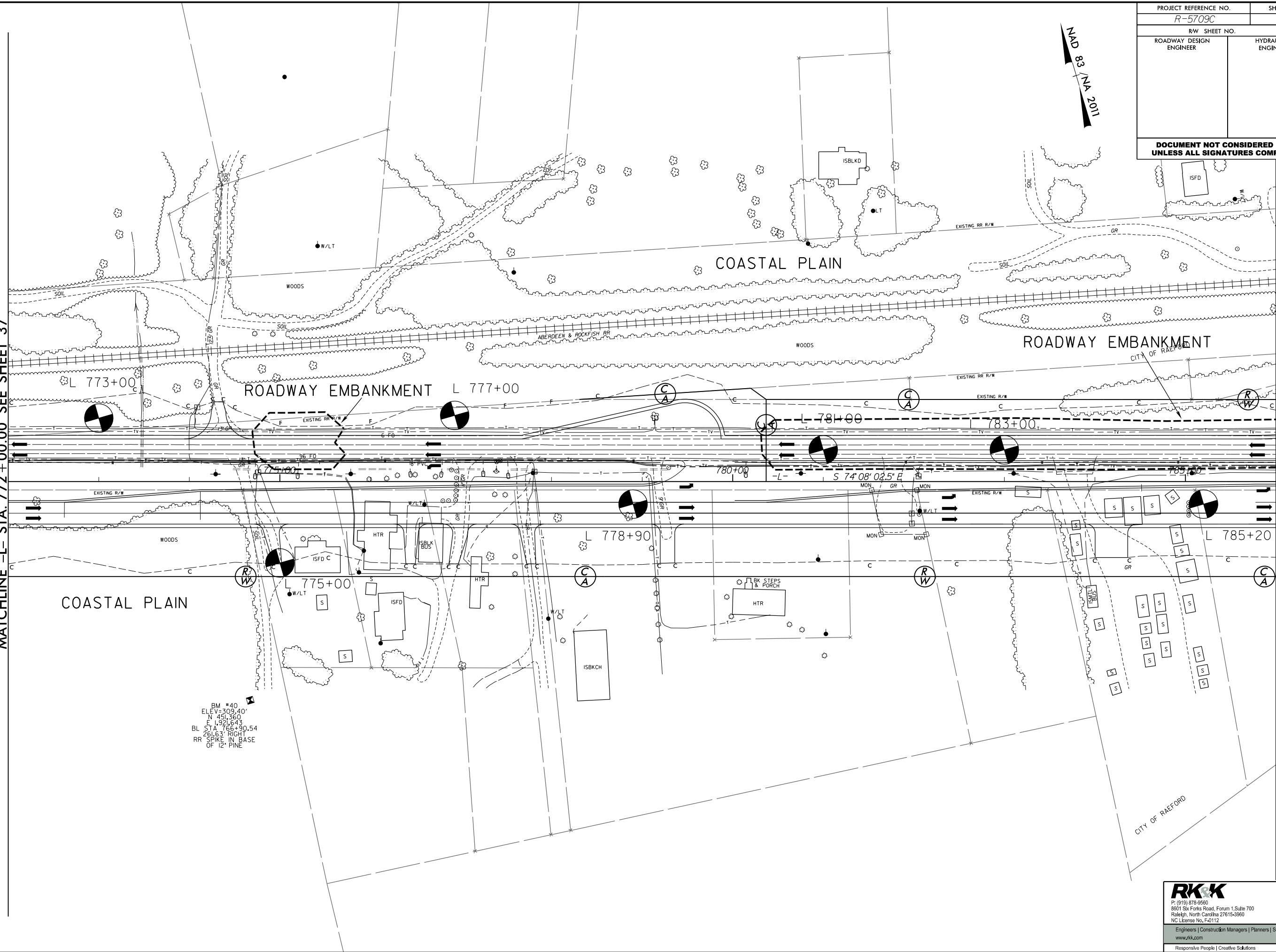


MATCHLINE -L- STA. 772 + 00.00 SEE SHEET 38

PROJECT REFERENCE NO.		SHEET NO.
R-5709C		37
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

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8/23/2024
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MATCHLINE -L- STA. 772 + 00.00 SEE SHEET 37



MATCHLINE -L- STA. 786 + 00.00 SEE SHEET 39



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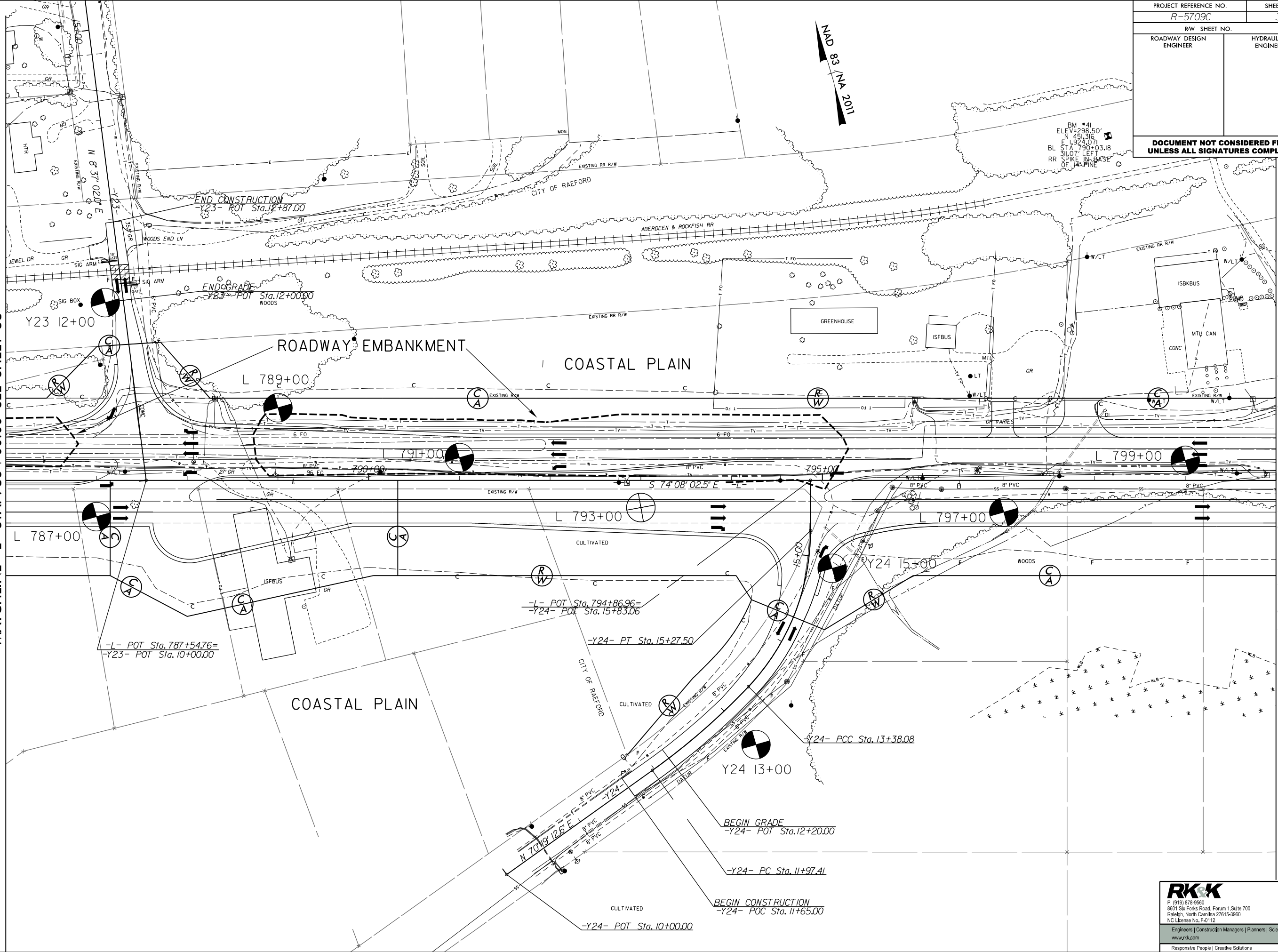
8/17/99

8/23/2024
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mmecr

MATCHLINE -L- STA. 786 + 00.00 SEE SHEET 38

MATCHLINE -L- STA. 800 + 00.00 SEE SHEET 40

PROJECT REFERENCE NO.		SHEET NO.	
R-5709C		39	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



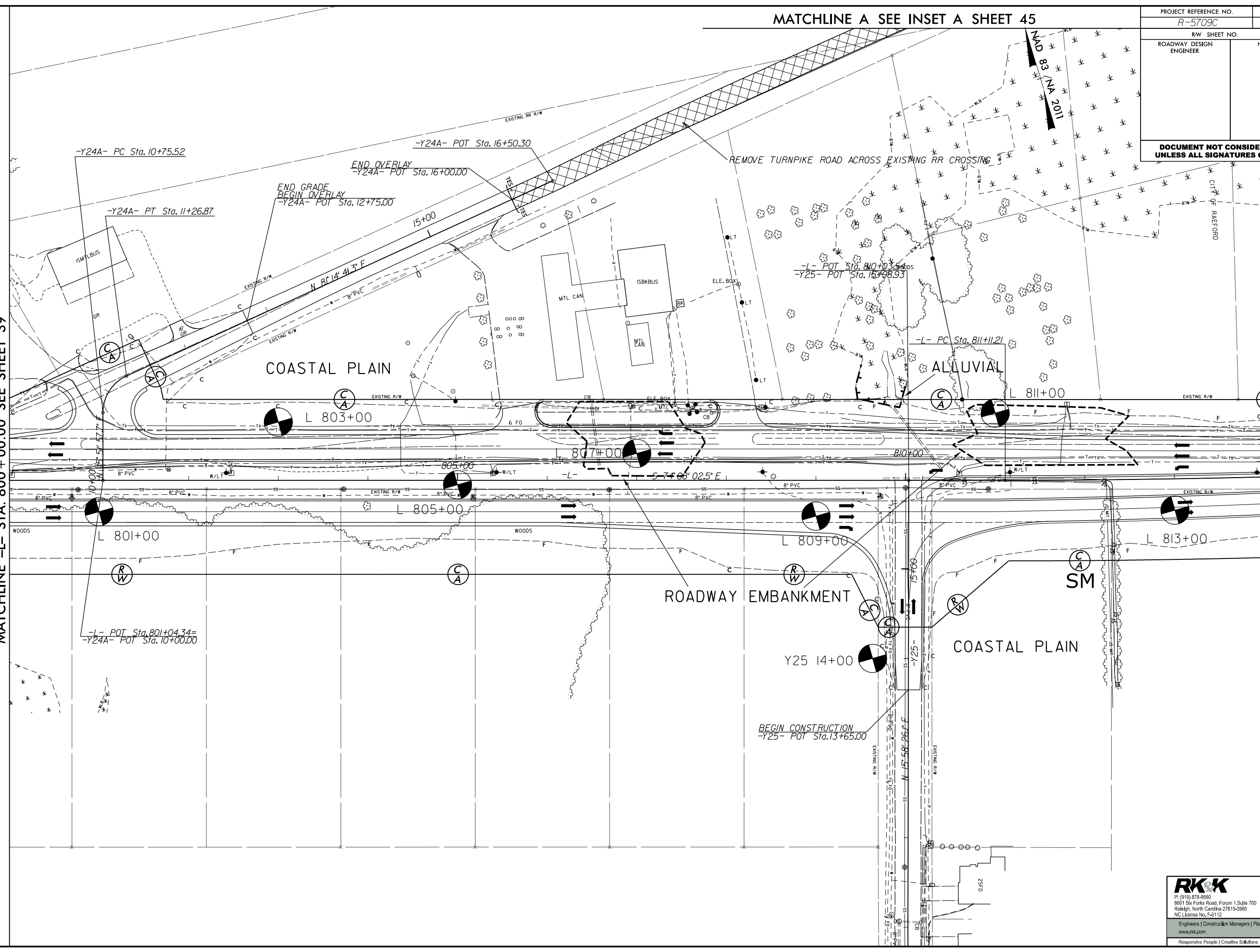
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mmfcr

MATCHLINE -L- STA. 800 + 00.00 SEE SHEET 39



MATCHLINE -L- STA. 814 + 00.00 SEE SHEET 41

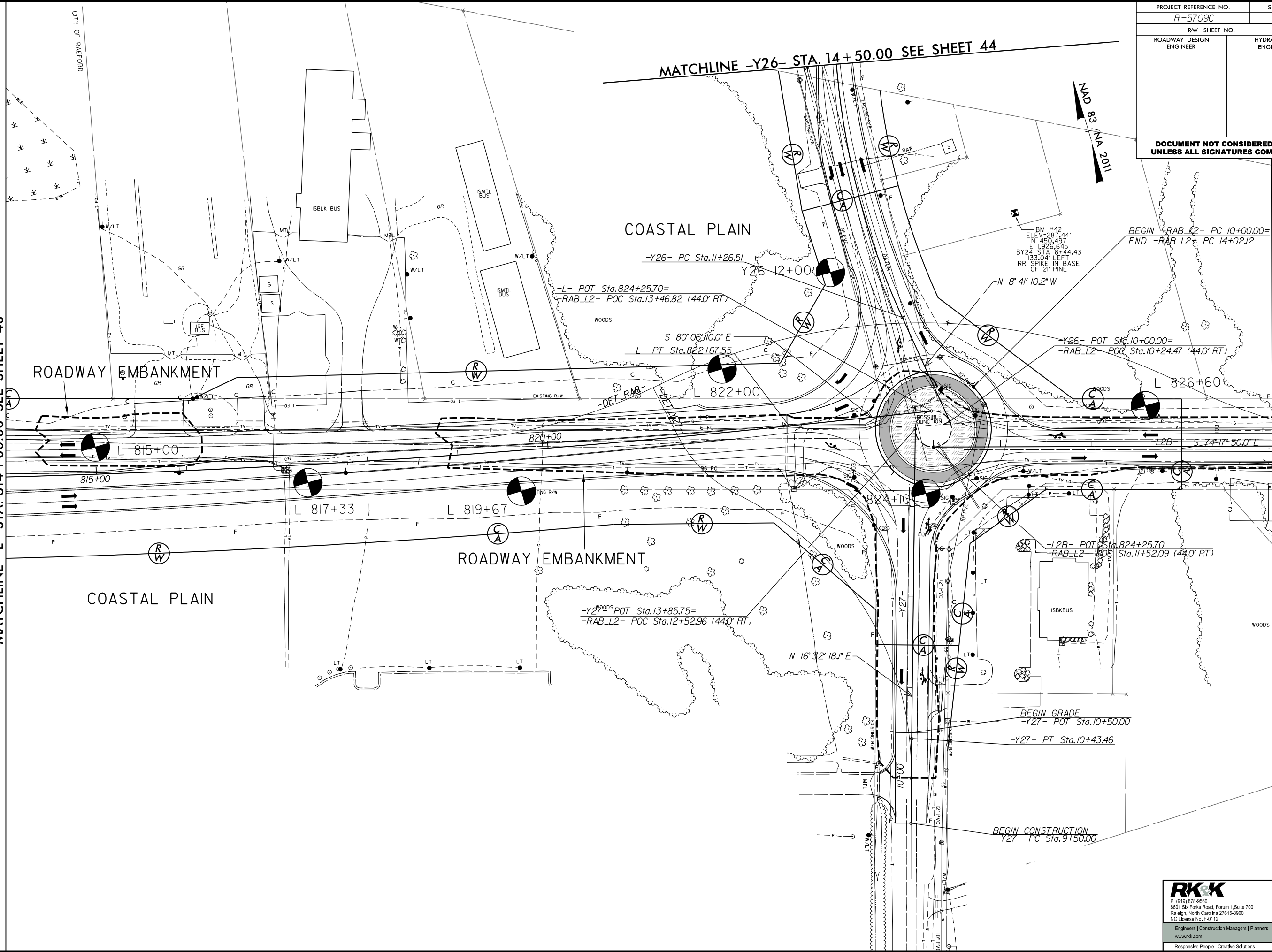
MATCHLINE A SEE INSET A SHEET 45

PROJECT REFERENCE NO. <i>R-5709C</i>		SHEET NO. <i>40</i>
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER

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MATCHLINE -L- STA. 814+00.00 SEE SHEET 40



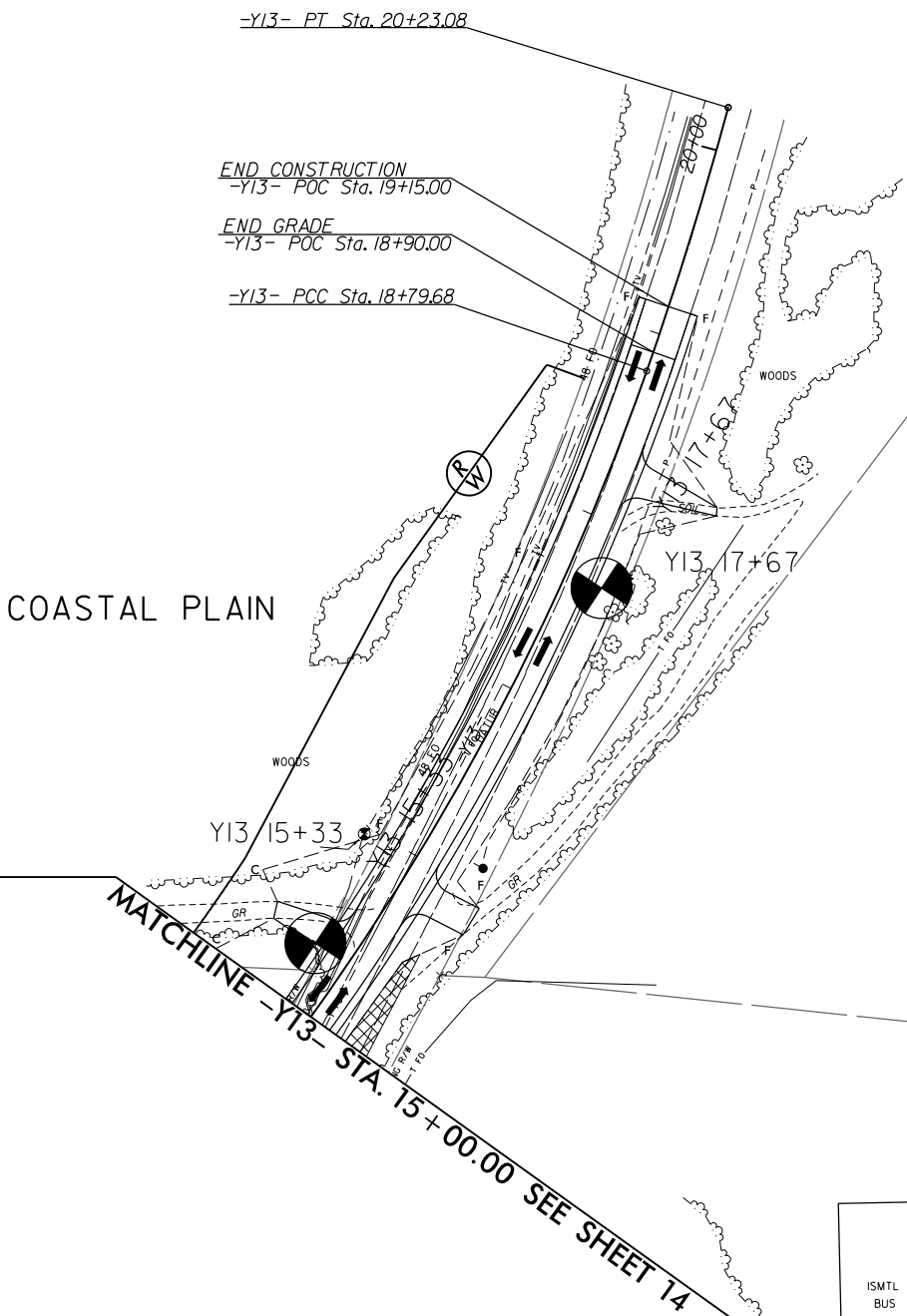
PROJECT REFERENCE NO. <i>R-5709C</i>		SHEET NO. <i>41</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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PROJECT REFERENCE NO.		SHEET NO.	
R-5709C		43	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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mmecr

MATCHLINE B SEE INSET A THIS SHEET

Milepost 15.83
Turnpike Road

GRADE TO DRAIN

-SRI- POT Sta.10+00.00

BEGIN OVERLAY
-SRI- POC Sta.10+75.00

COASTAL PLAIN

333

WILLIAM F. WRIGHT
AND WIFE
ANNE S. WRIGHT
DB 950 PG 365

-SRI- PC Sta.14+93.78

END OVERLAY
BEGIN GRADE
-SRI- POC Sta.15+00.00

412A

NORTH RAEFORD
FIRE DEPARTMENT, INC.
DB 143 PG 218
MB 3 SL 390
WOODS

-SRI- PT Sta.15+06.29

PHILLIP R. TAYLOR
DB 956 PG 370

412C

WOODS

Milepost 15.91

OFFSET=2'
R=320'

MATCHLINE -SRI- STA.16+50.00 SEE SHEET 44

NAD 83 / NA 2011

NAD 83 / NA 2011

MATCHLINE A SEE SHEET 40

MATCHLINE B THIS SHEET

INSET A

PROJECT REFERENCE NO.	SHEET NO.
R-5709C	45
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

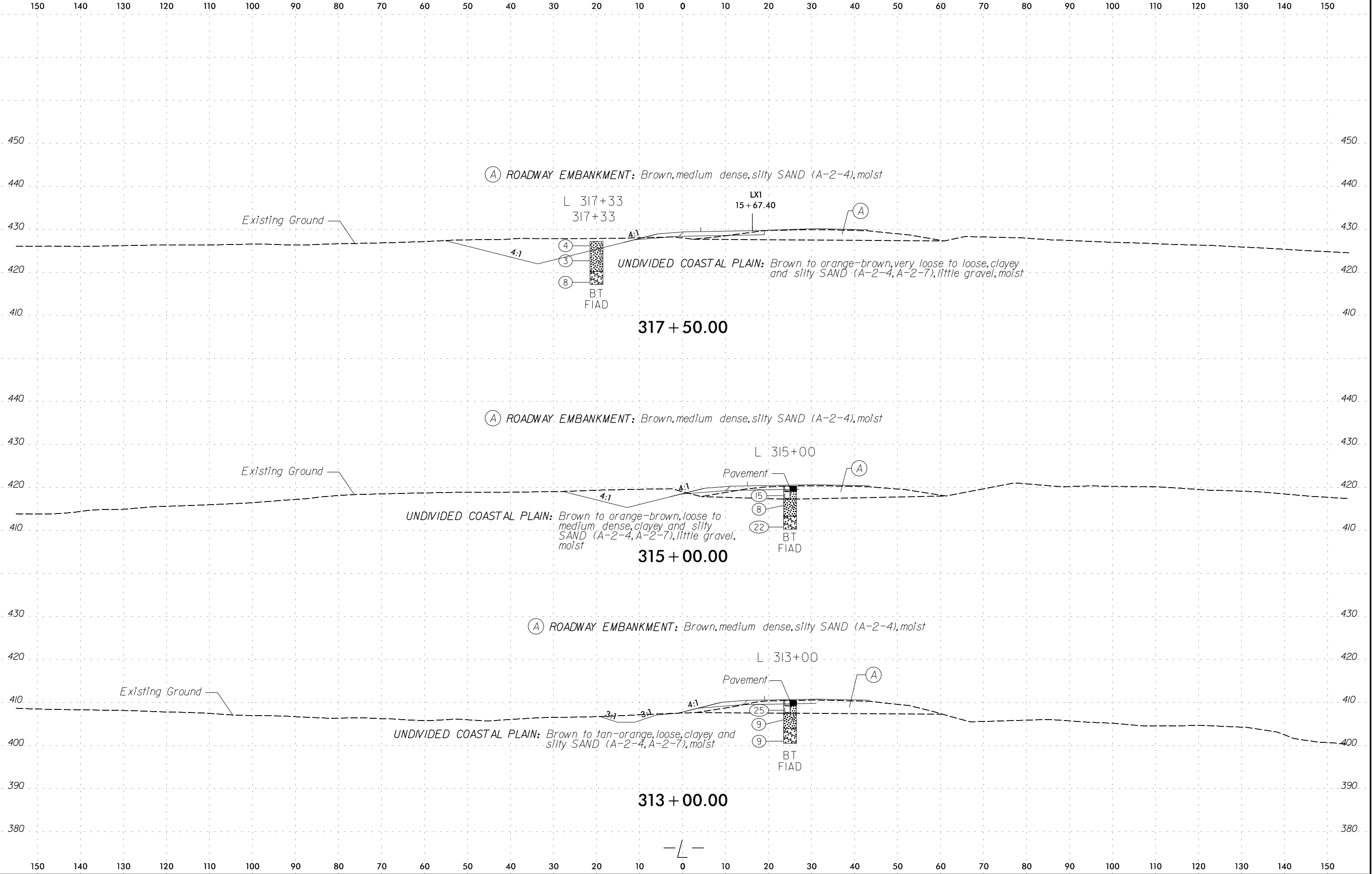
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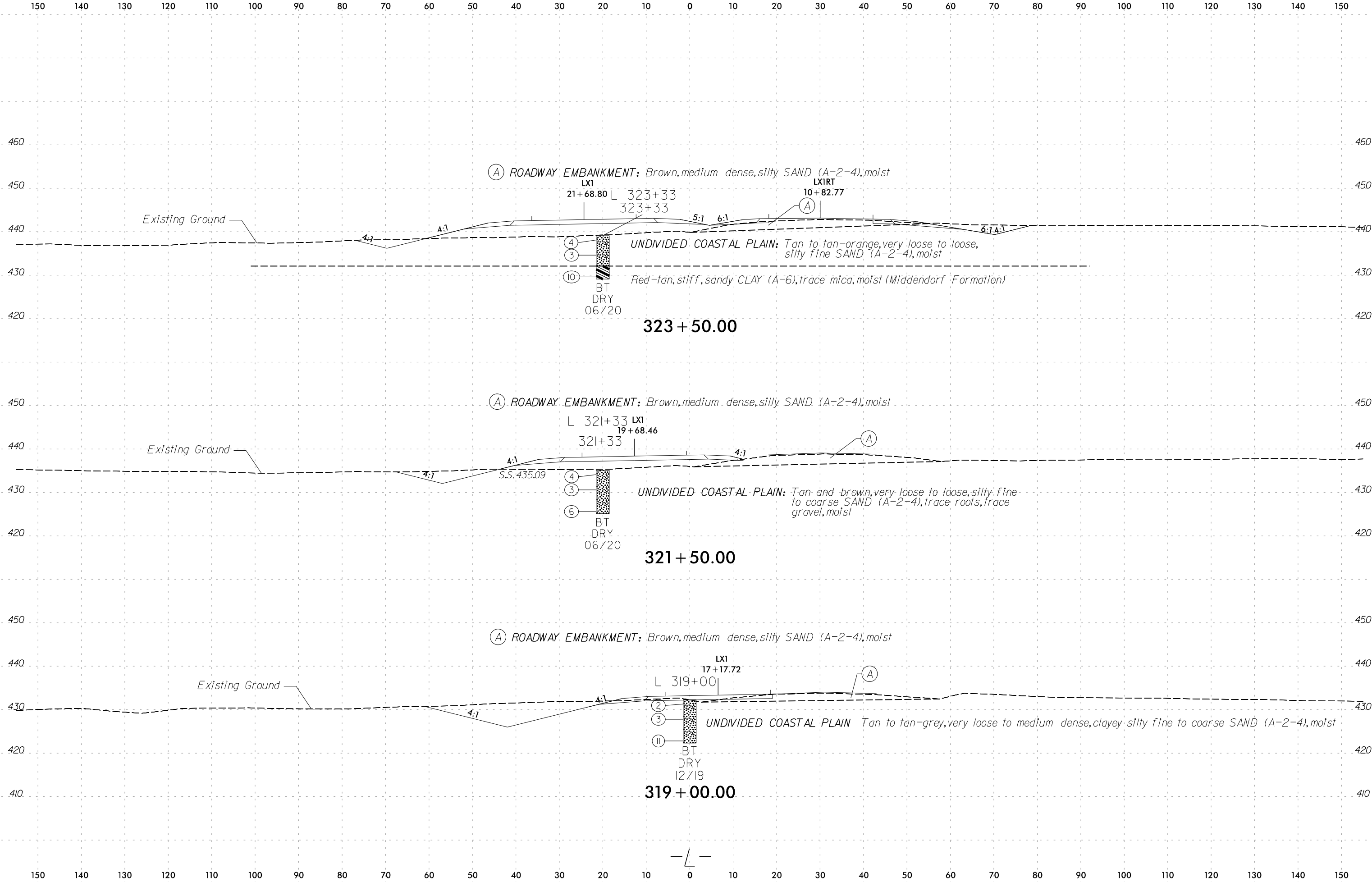
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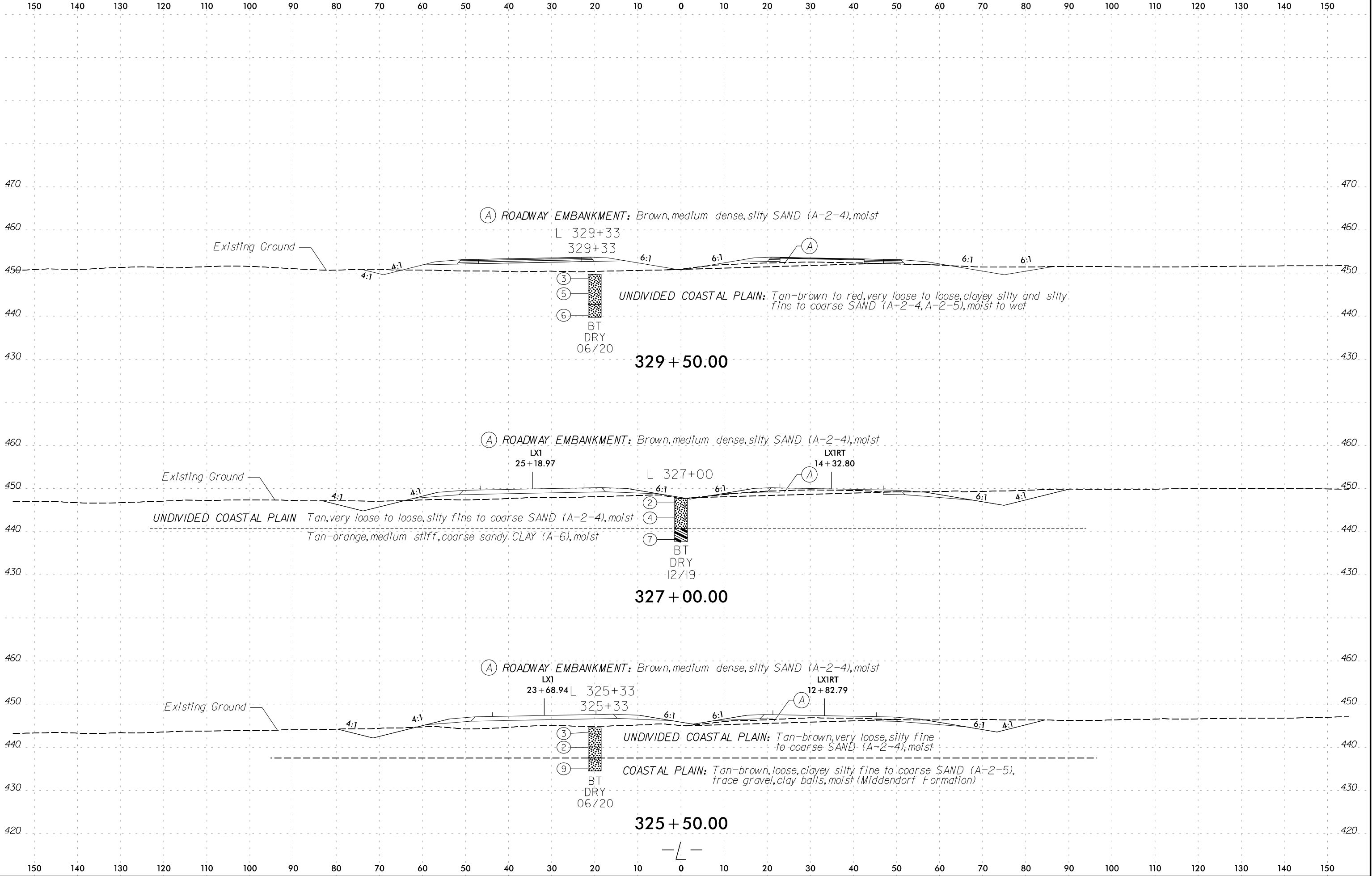
6/23/16

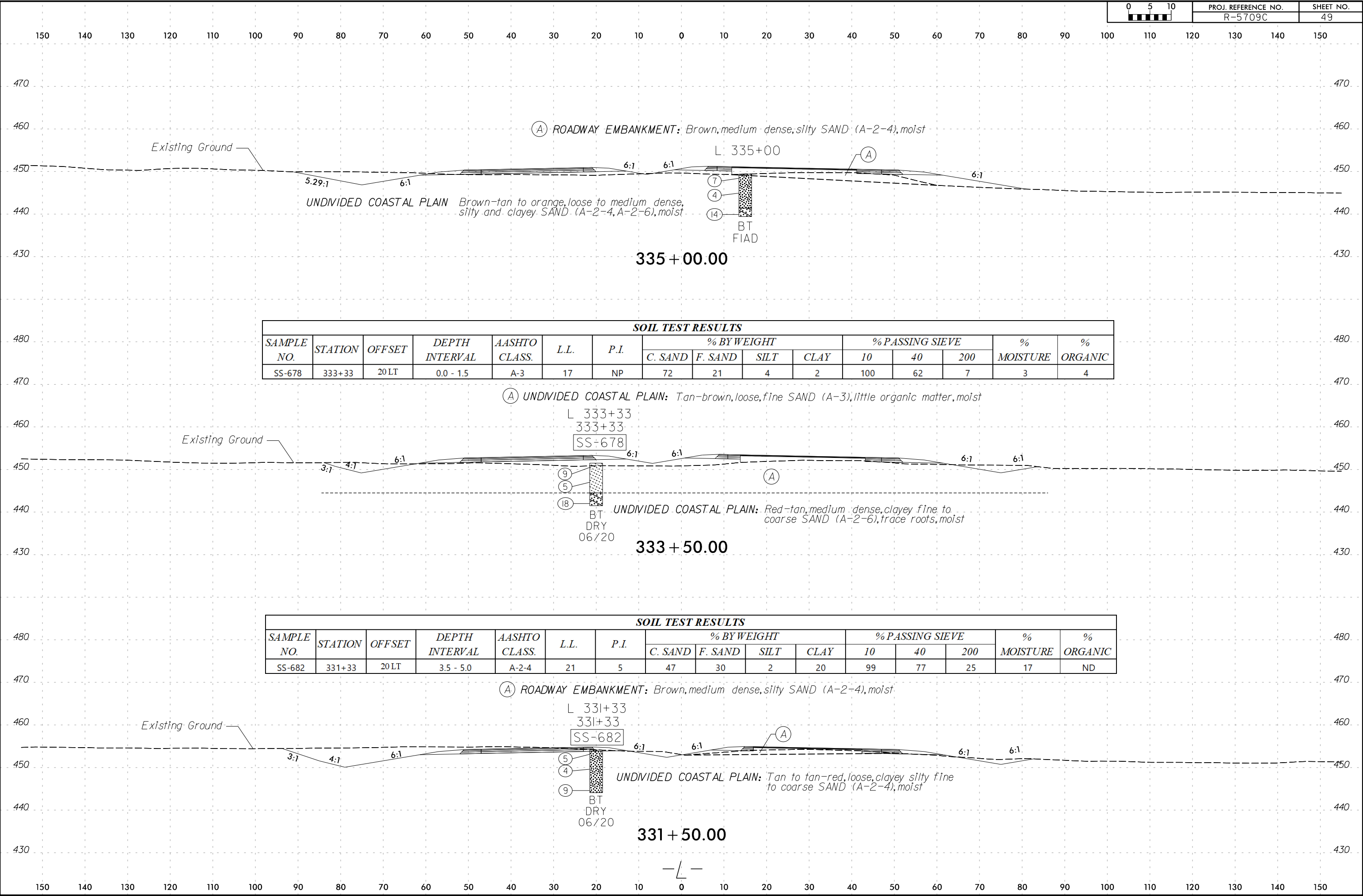


6/23/16

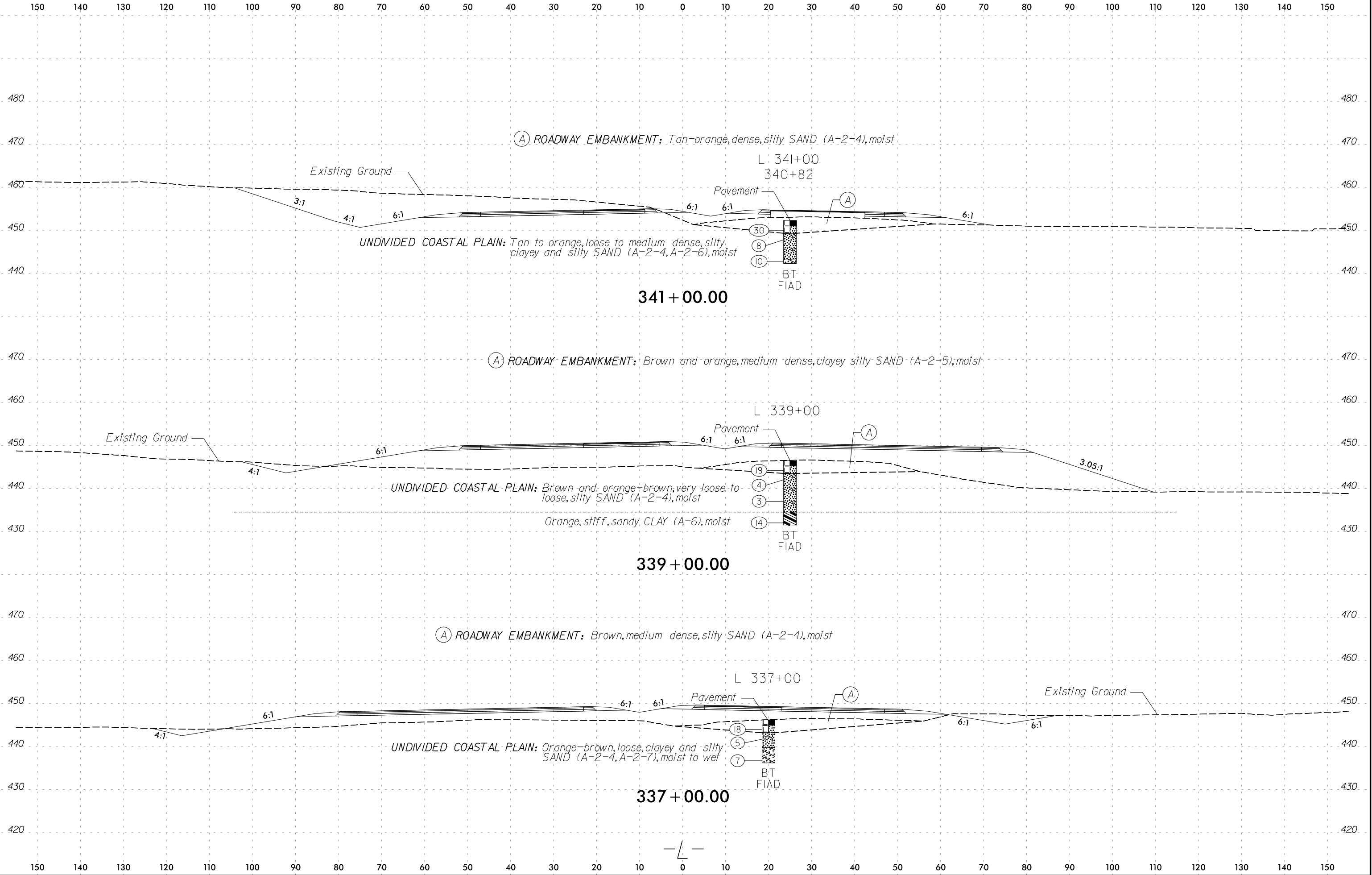


6/23/16



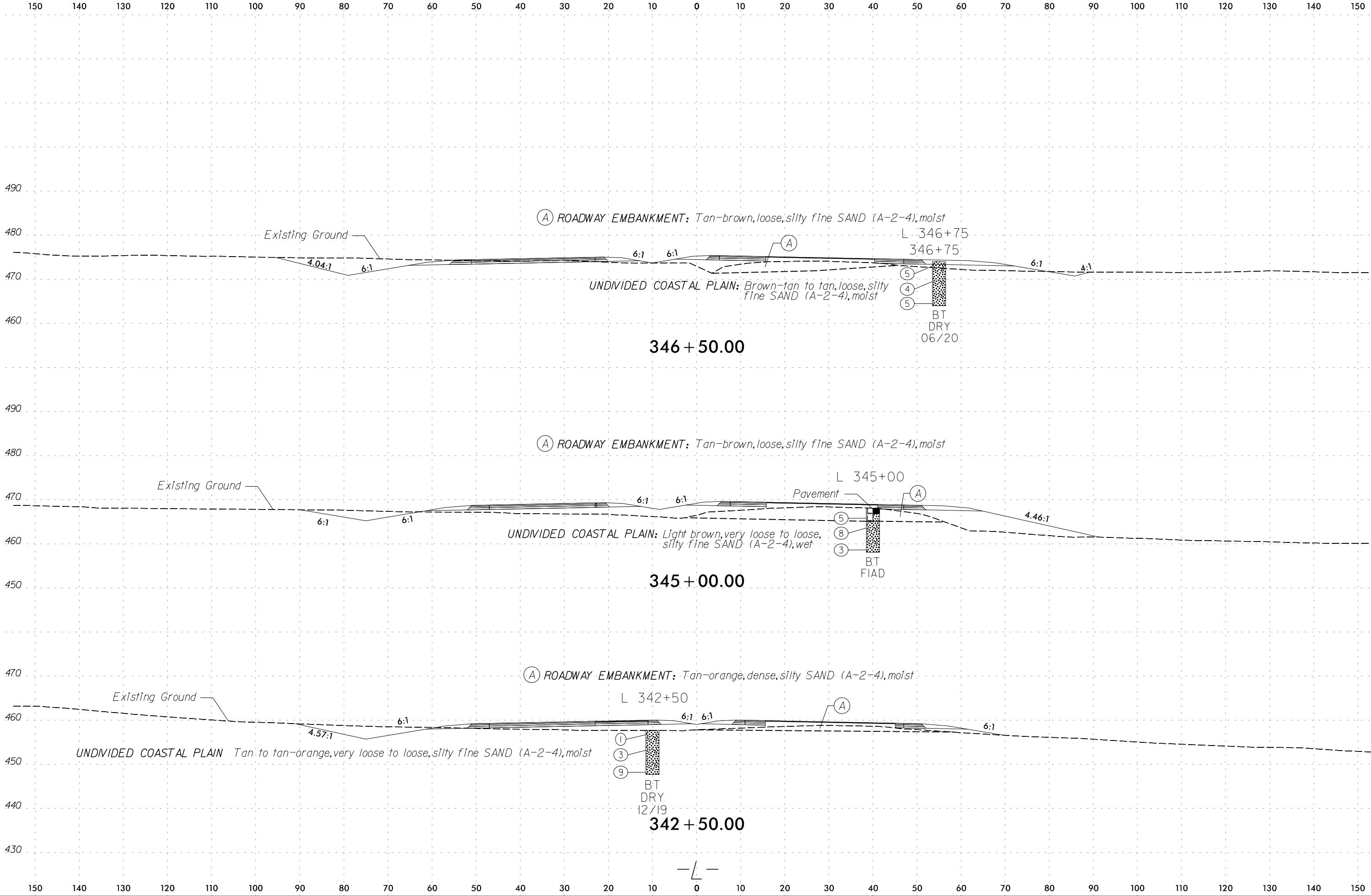


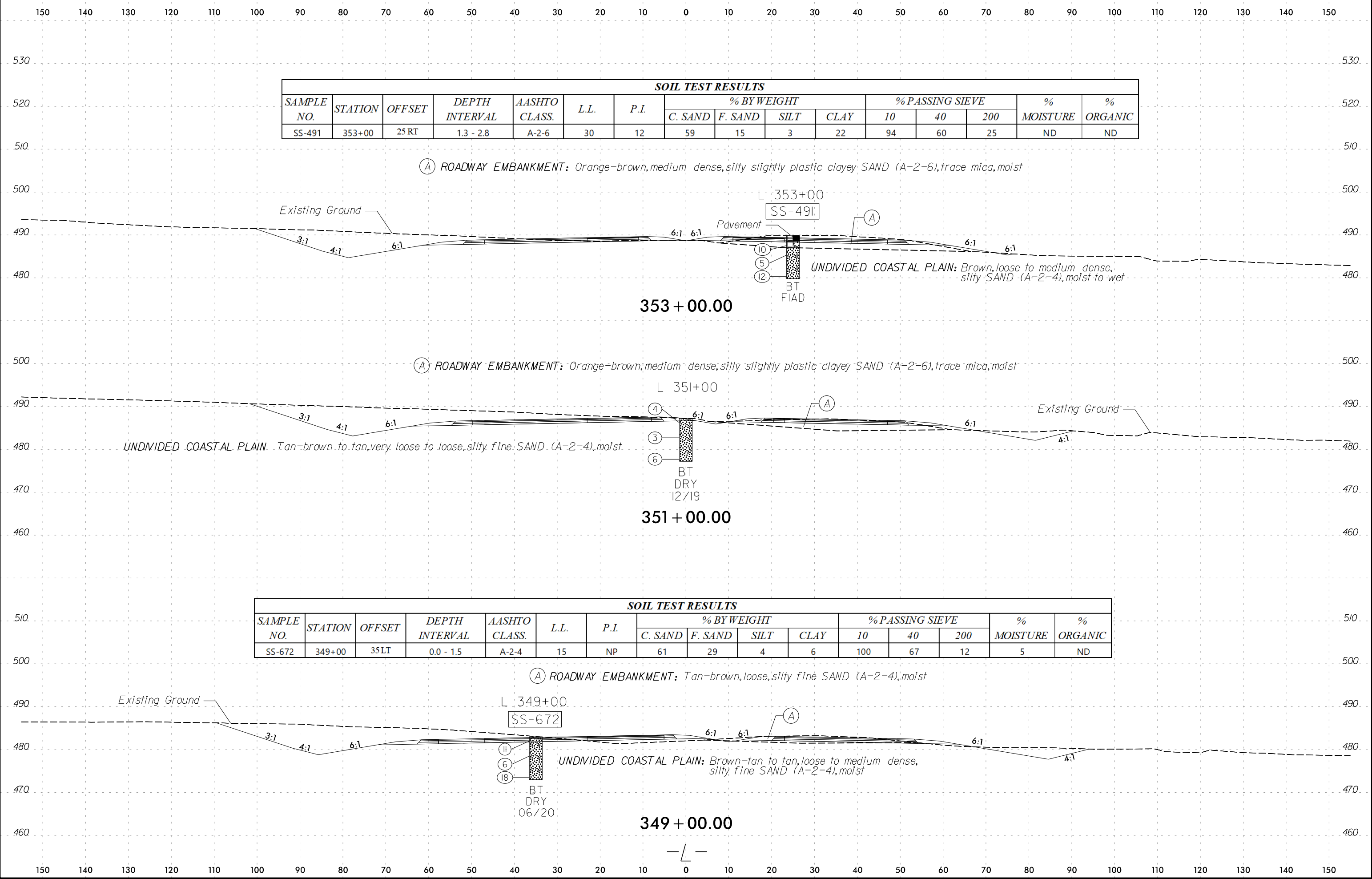
6/23/16



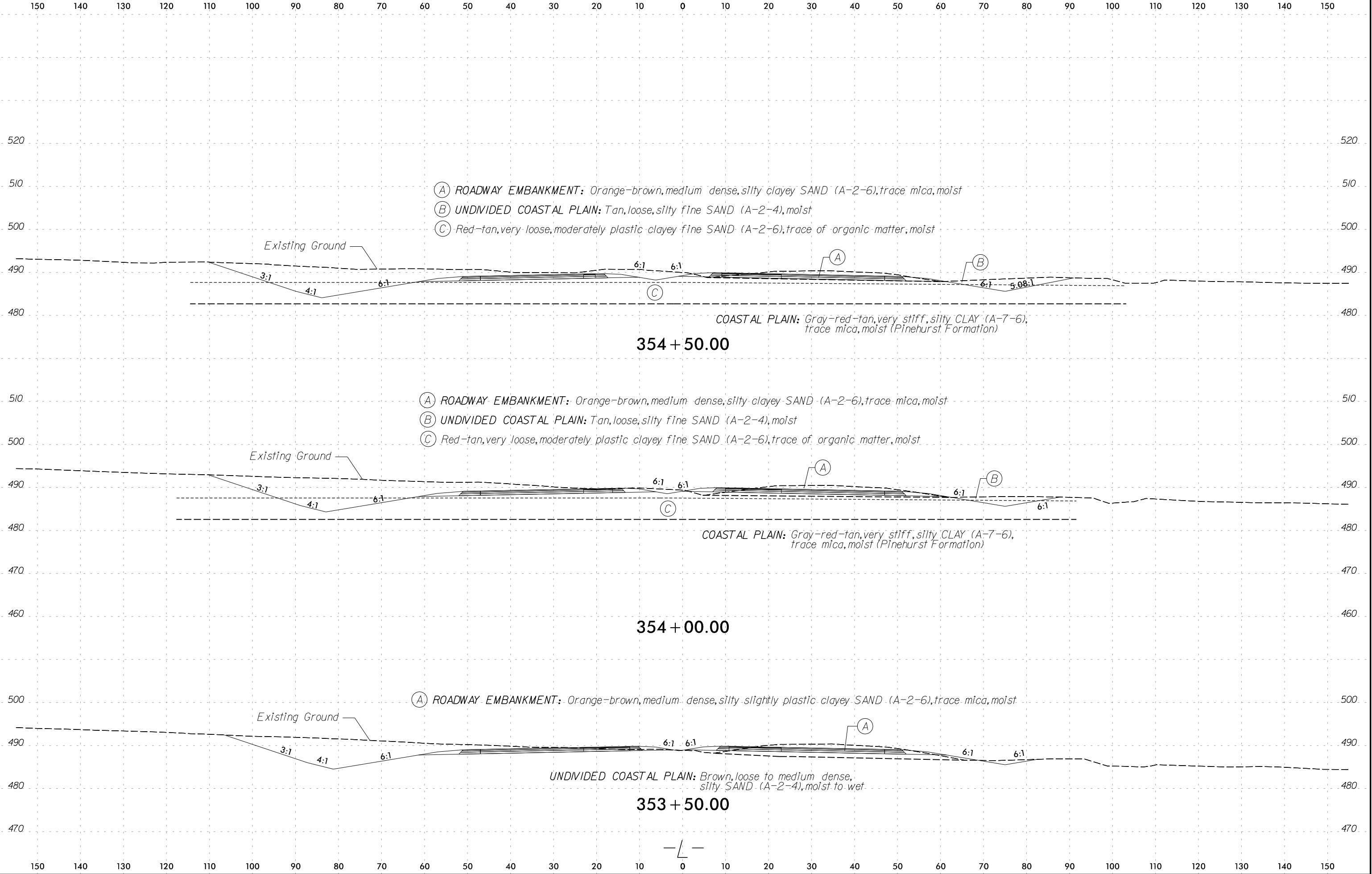
6/23/16

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	R-5709C	51





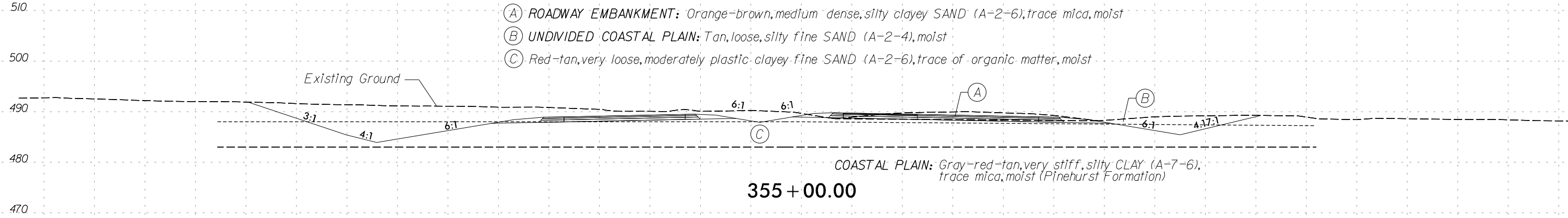
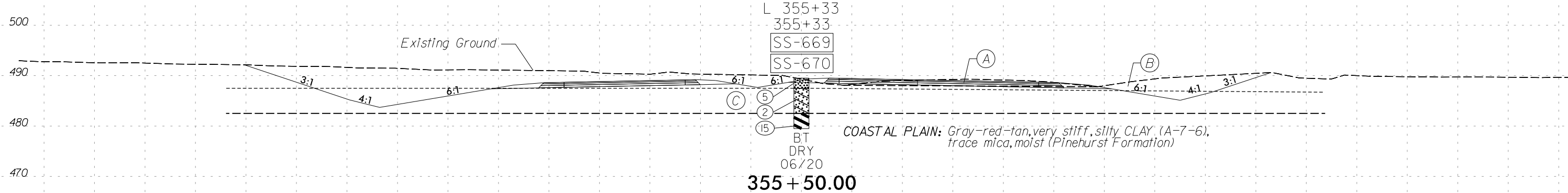
6/23/16



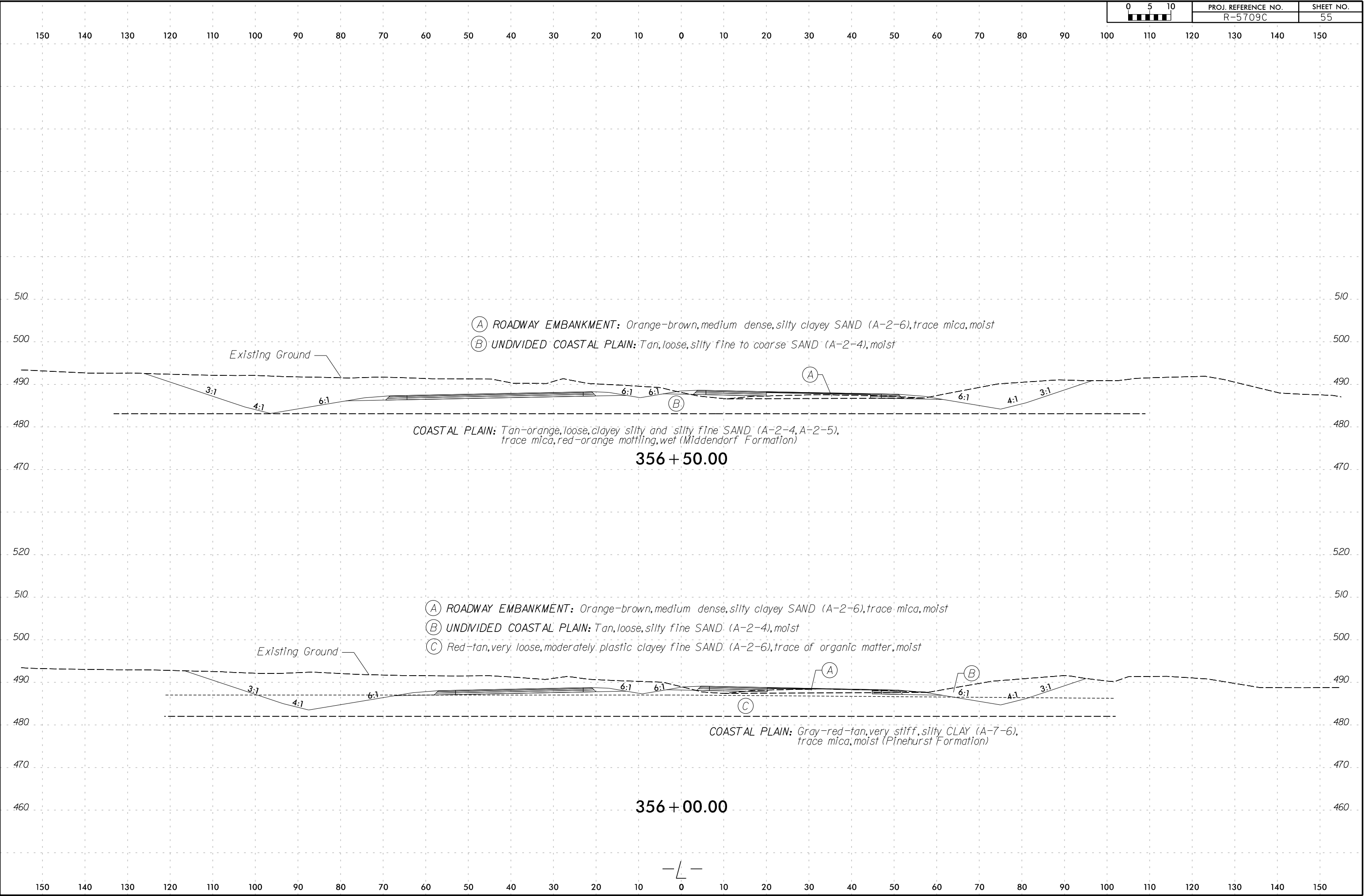


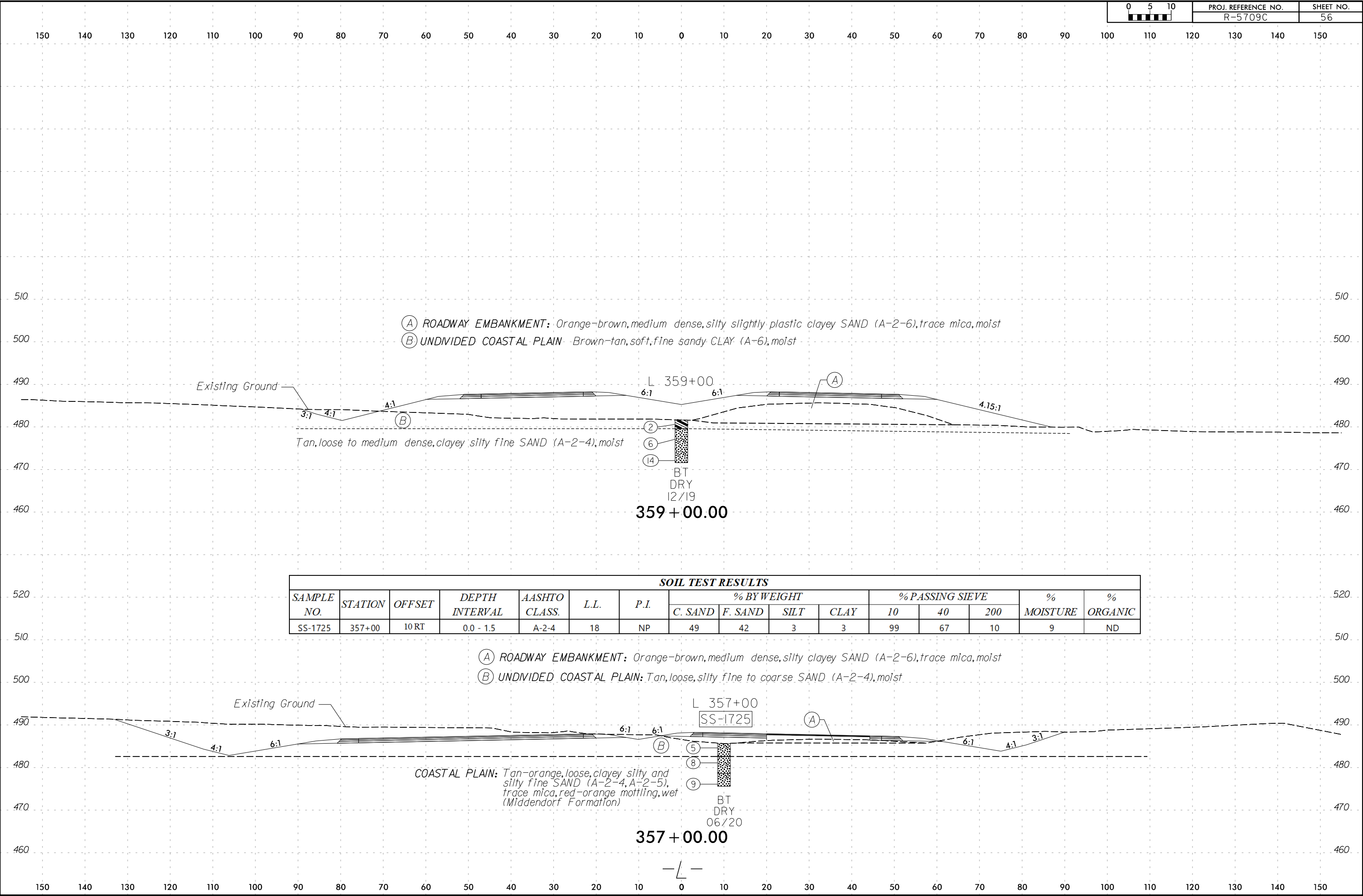
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-669	355+33	0 CL	0.0 - 1.5	A-2-4	15	NP	65	20	5	10	98	54	17	3	ND
SS-670	355+33	0 CL	3.5 - 5.0	A-2-6	40	16	57	13	2	28	98	54	31	18	ND

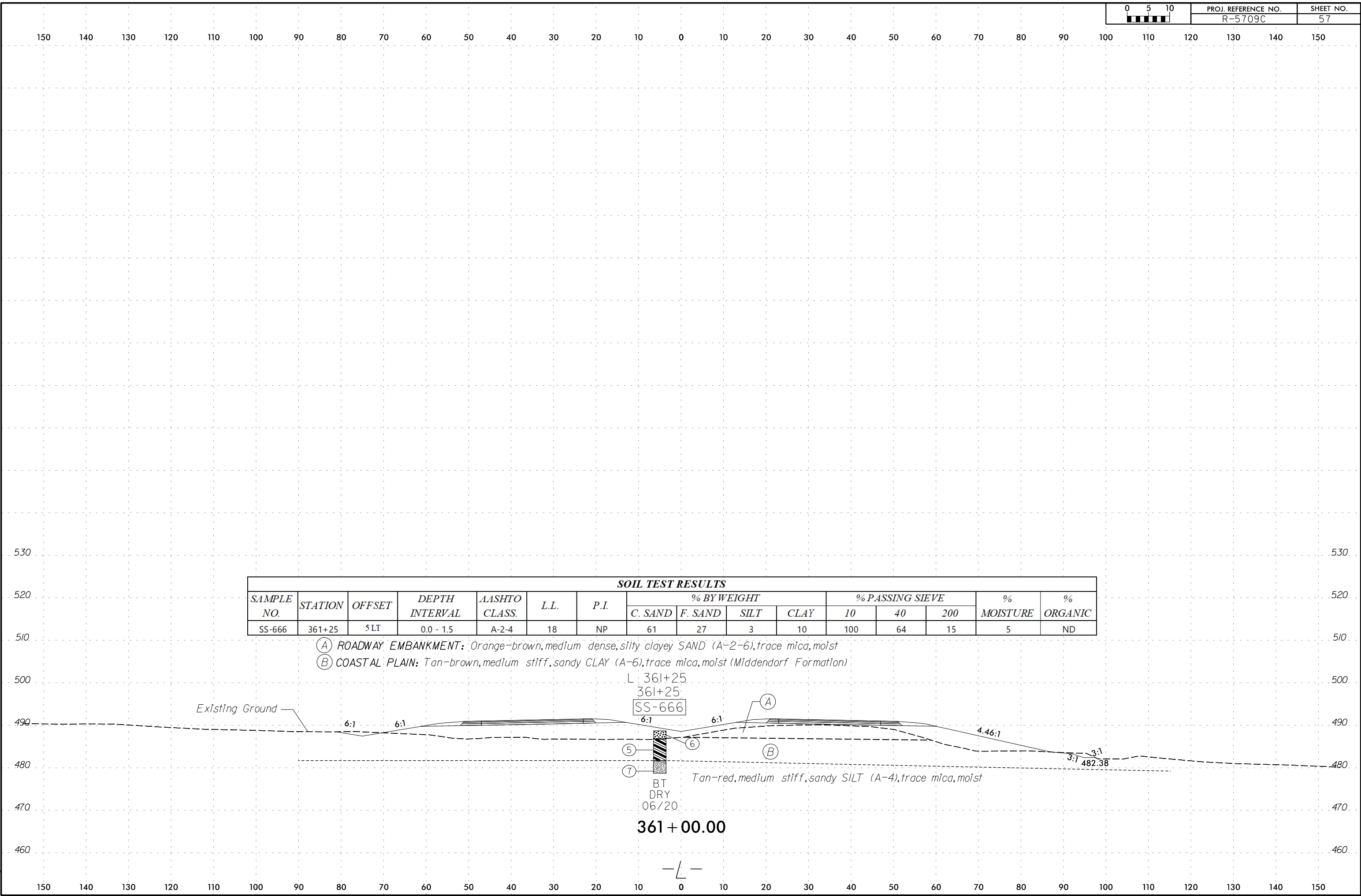
- (A) ROADWAY EMBANKMENT: Orange-brown, medium dense, silty clayey SAND (A-2-6), trace mica, moist
- (B) UNDIVIDED COASTAL PLAIN: Tan, loose, silty fine SAND (A-2-4), moist
- (C) Red-tan, very loose, moderately plastic clayey fine SAND (A-2-6), trace of organic matter, moist



6/23/16

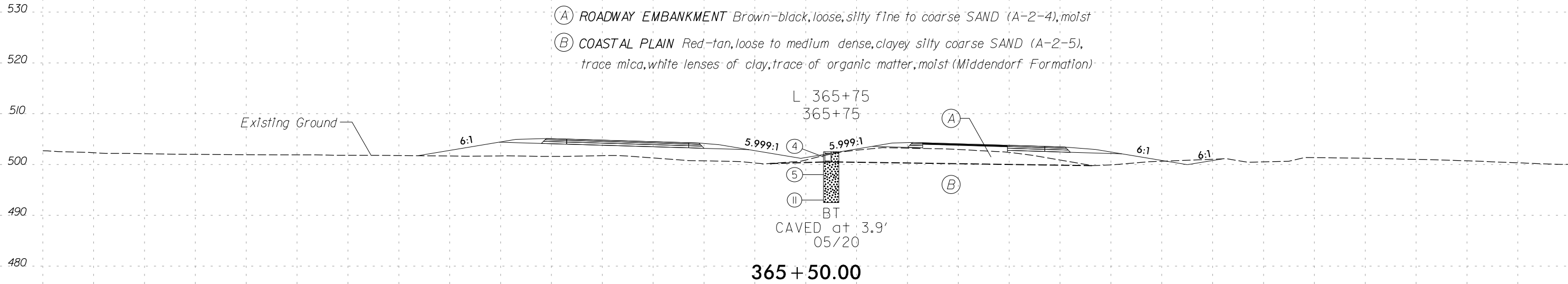




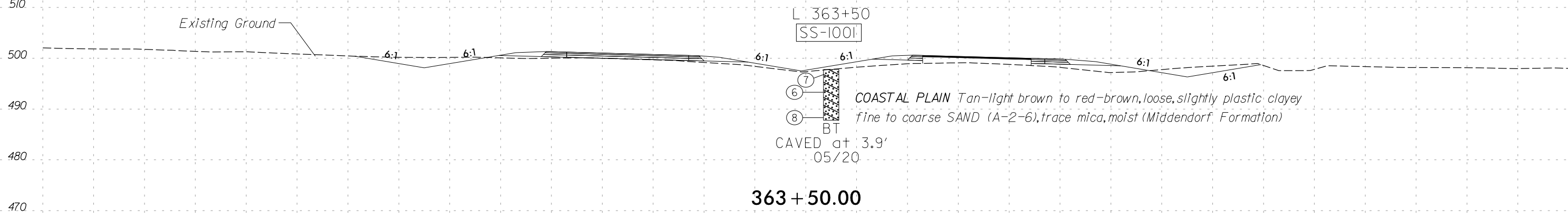


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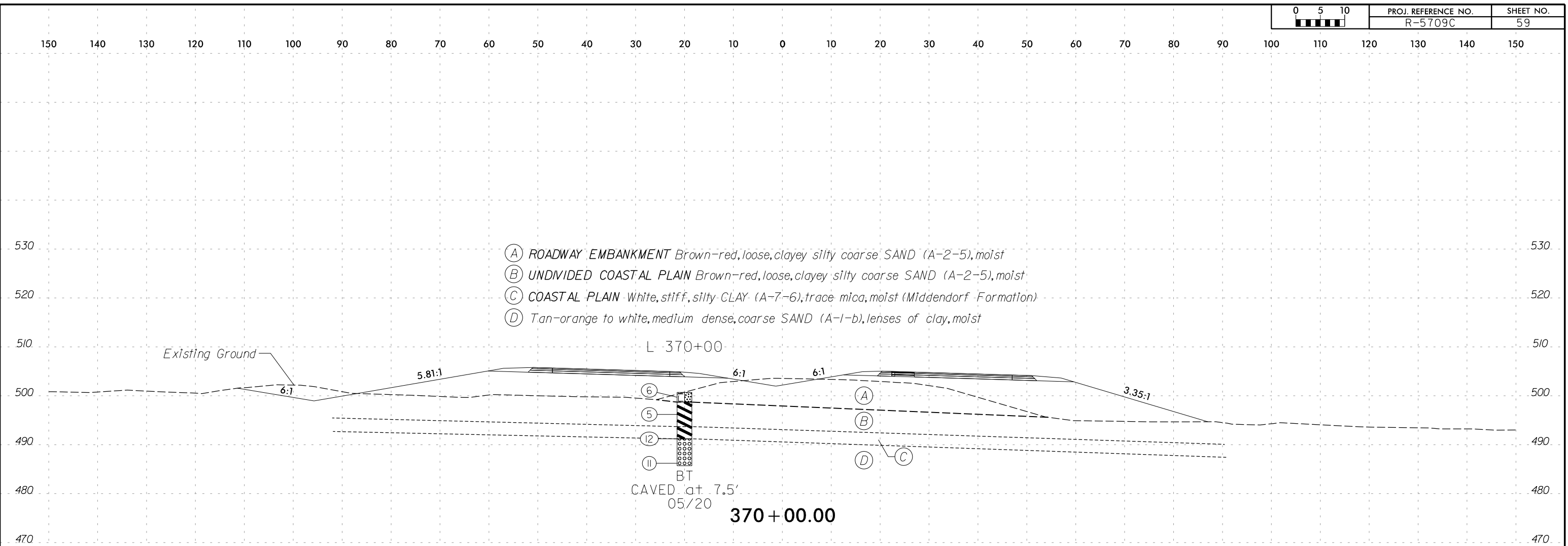
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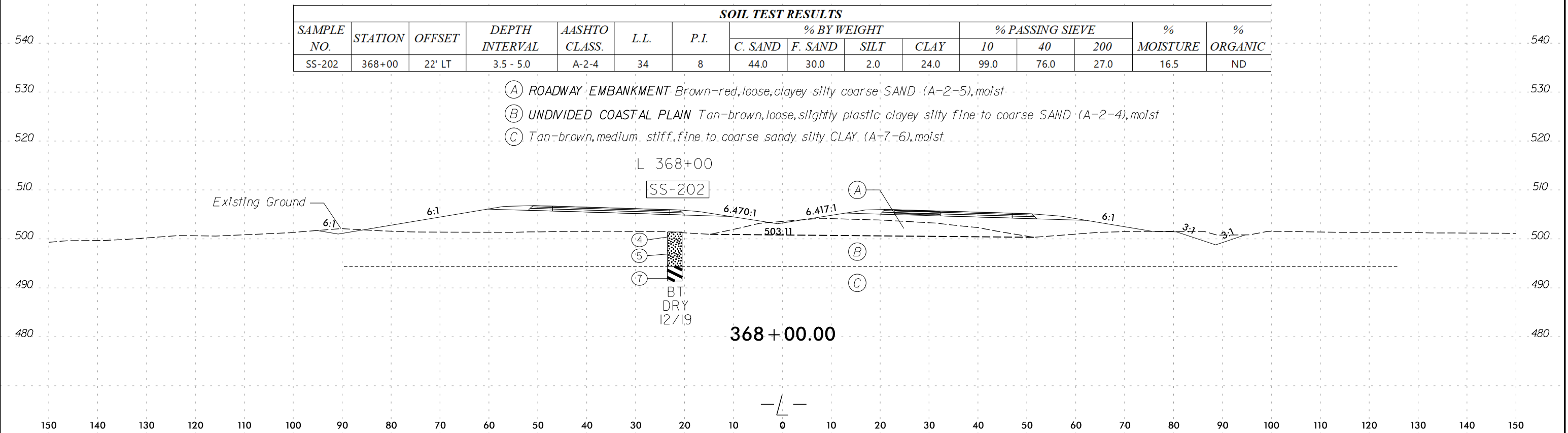
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1001	363+50	5' RT	3.5 - 5.0	A-2-6 (0)	32	14	61.0	14.0	1.0	24.0	97.0	52.0	25.0	20.0	ND

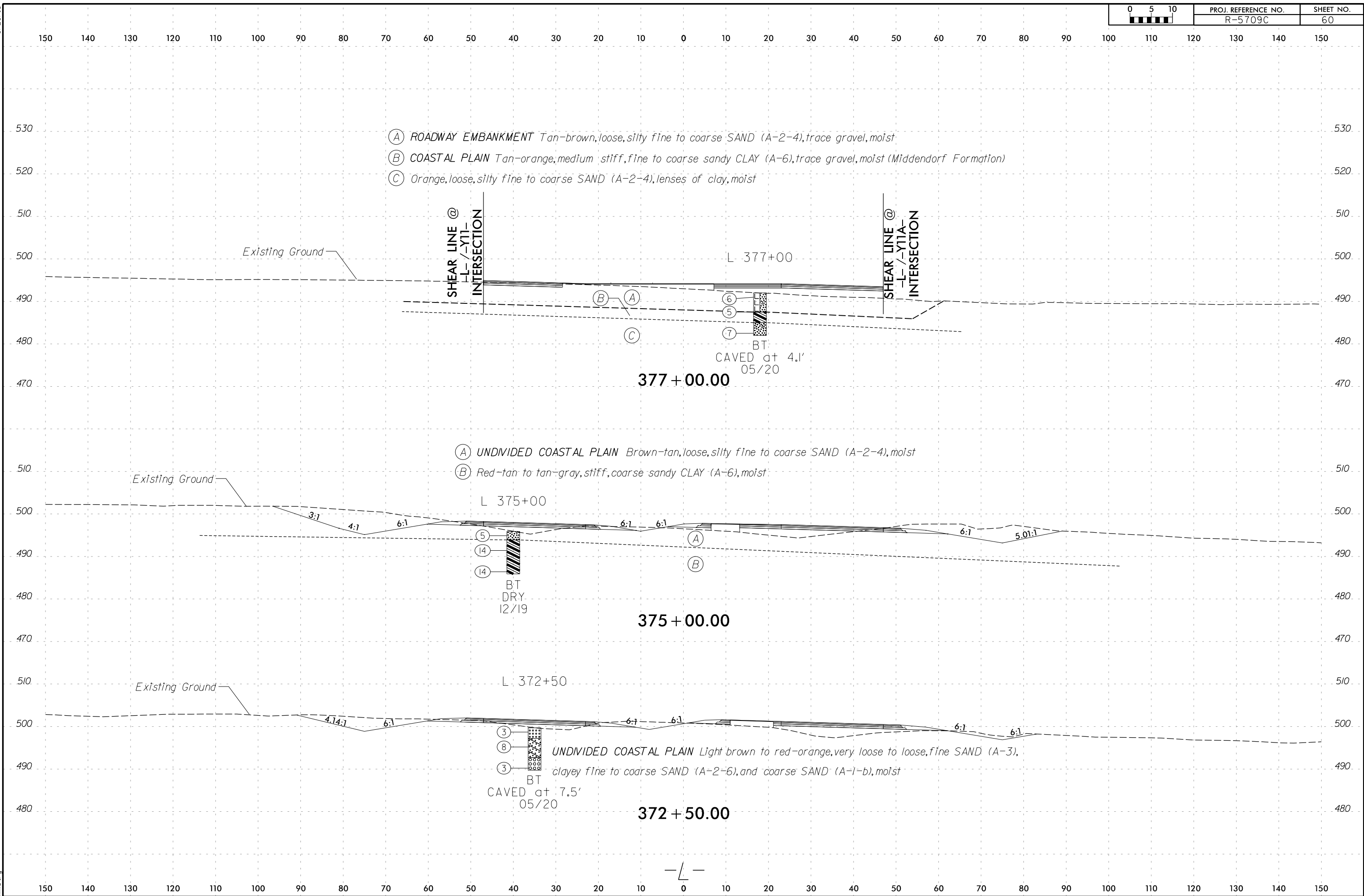


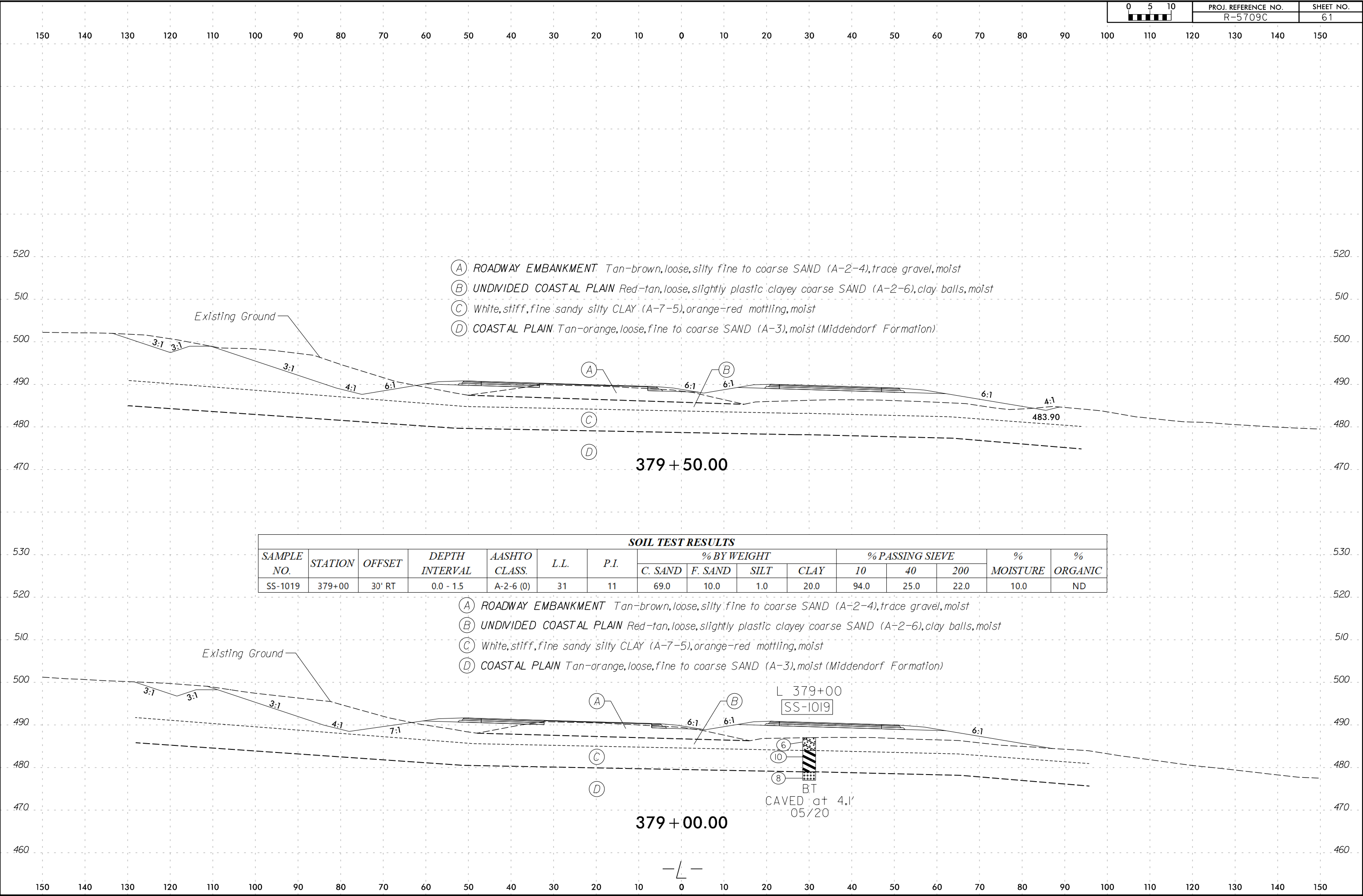
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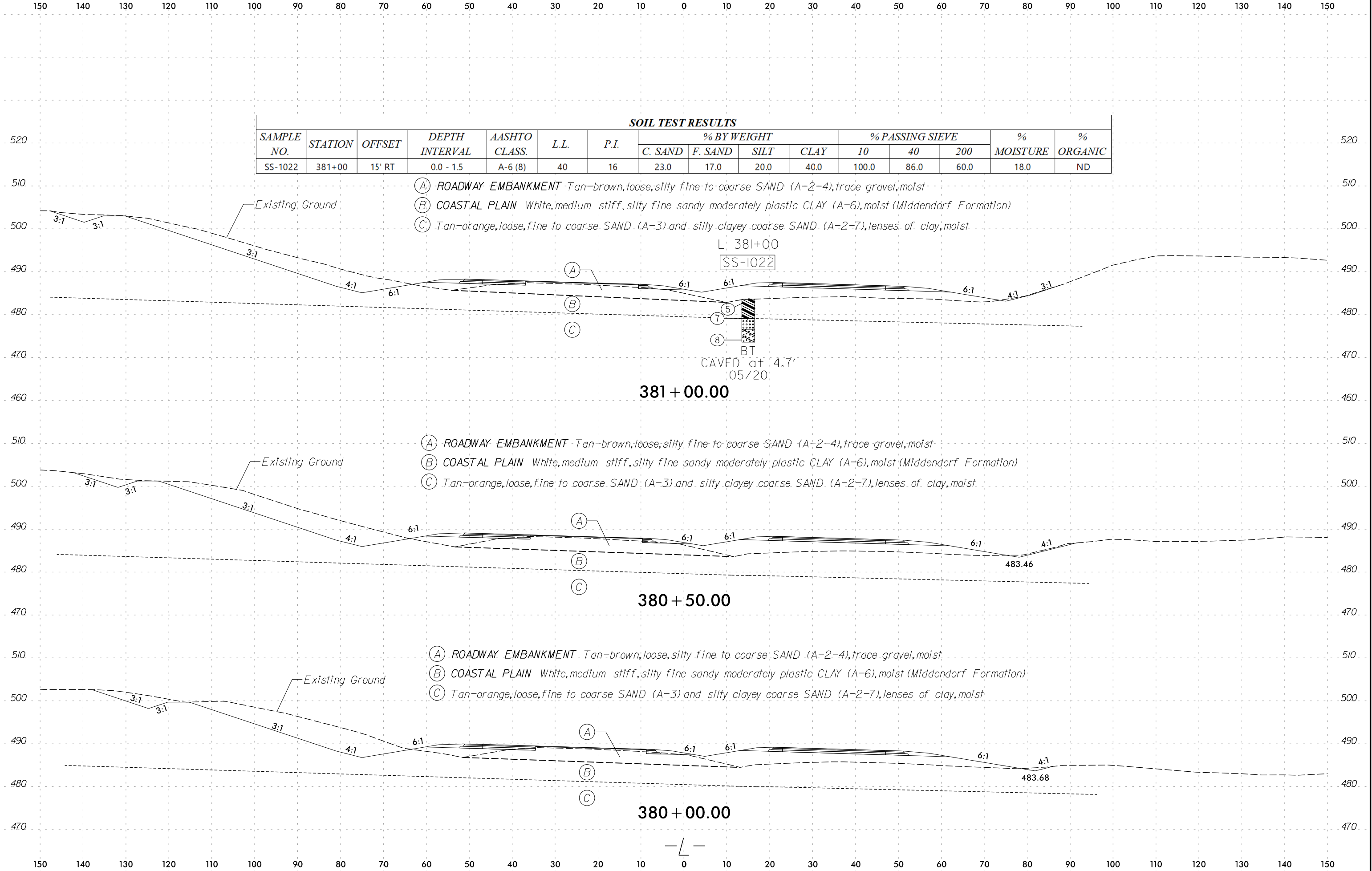
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-202	368+00	22' LT	3.5 - 5.0	A-2-4	34	8	44.0	30.0	2.0	24.0	99.0	76.0	27.0	16.5	ND

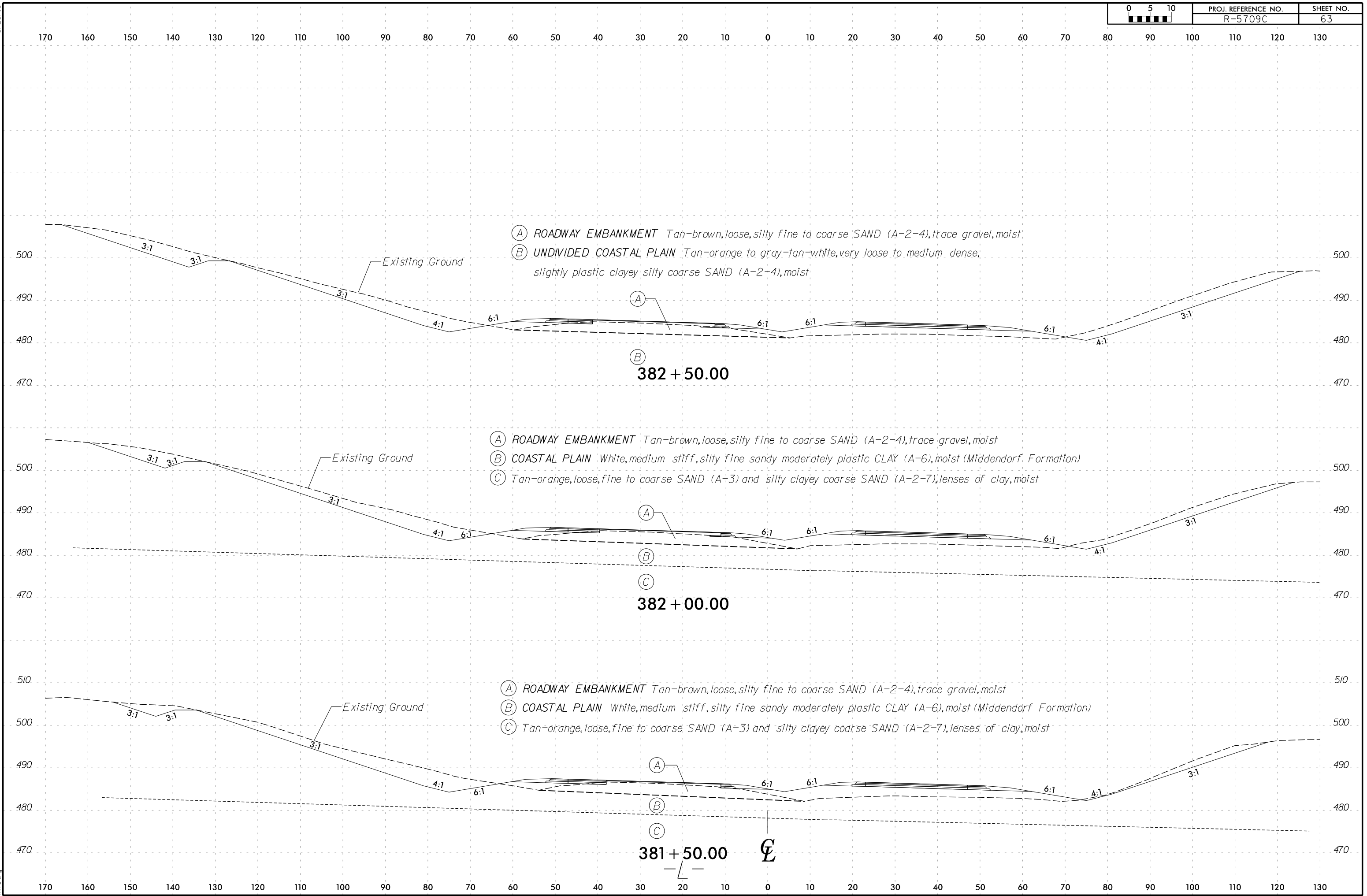


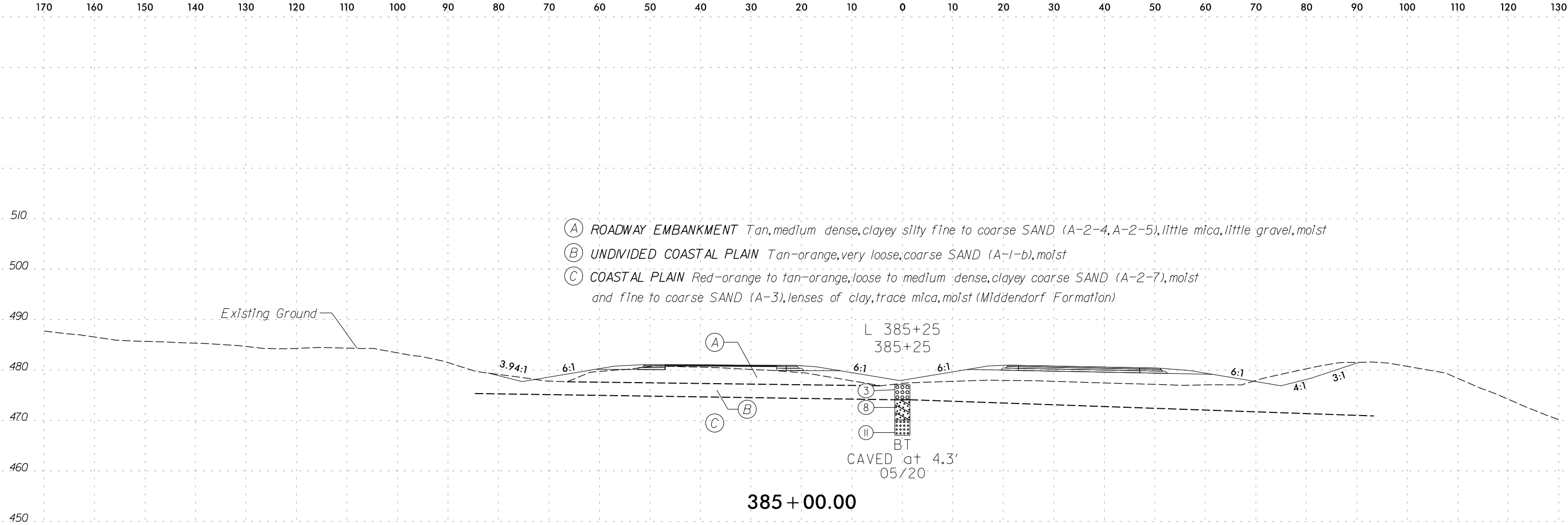




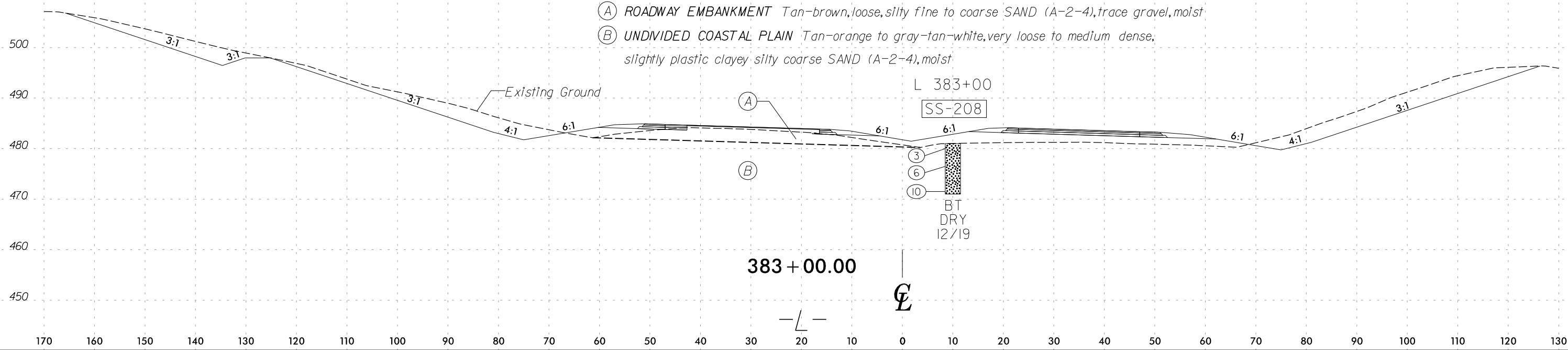
6/23/16







SOIL TEST RESULTS													
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE		
							C. SAND	F. SAND	SILT	CLAY	10	40	200
SS-208	383+00	10' RT	3.5 - 5.0	A-2-4	23	6	56.0	21.0	3.0	20.0	99.0	58.0	23.2



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

510 510

500 500

490 490

480 480

470 470

460 460

450 450

440 440

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-1031	389+75	0' CL	0 - 1.5	A-2-4	22	NP	35.0	45.0	2.0	18.0	100.0	94.0	21.0	11.0	ND

- (A) ROADWAY EMBANKMENT Tan, medium dense, clayey silty fine to coarse SAND (A-2-4, A-2-5), little mica, little gravel, moist
- (B) COASTAL PLAIN Tan-orange, very loose to loose, clayey fine to coarse SAND (A-2-6), moist (Middendorf Formation)
- (C) Tan, very stiff, silty CLAY (A-7-6), moist

L 389+75
389+75
SS-1031

5.648:1
472.94
(6)
(3)
(4)
(15)
BT
DRY
05/20

389 + 50.00

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-1028	387+50	0' CL	0.0 - 1.5	A-2-4	20	NP	53.0	29.0	8.0	10.0	98.0	71.0	18.0	12.0	ND

- (A) ROADWAY EMBANKMENT Tan, medium dense, clayey silty fine to coarse SAND (A-2-4, A-2-5), little mica, little gravel, moist
- (B) COASTAL PLAIN Tan-orange, loose, clayey silty fine to coarse SAND (A-2-4), lenses of clay, moist to wet (Middendorf Formation)

L 387+50
SS-1028

(4)
(5)
(9)
BT
CAVED at 4.8'
05/20

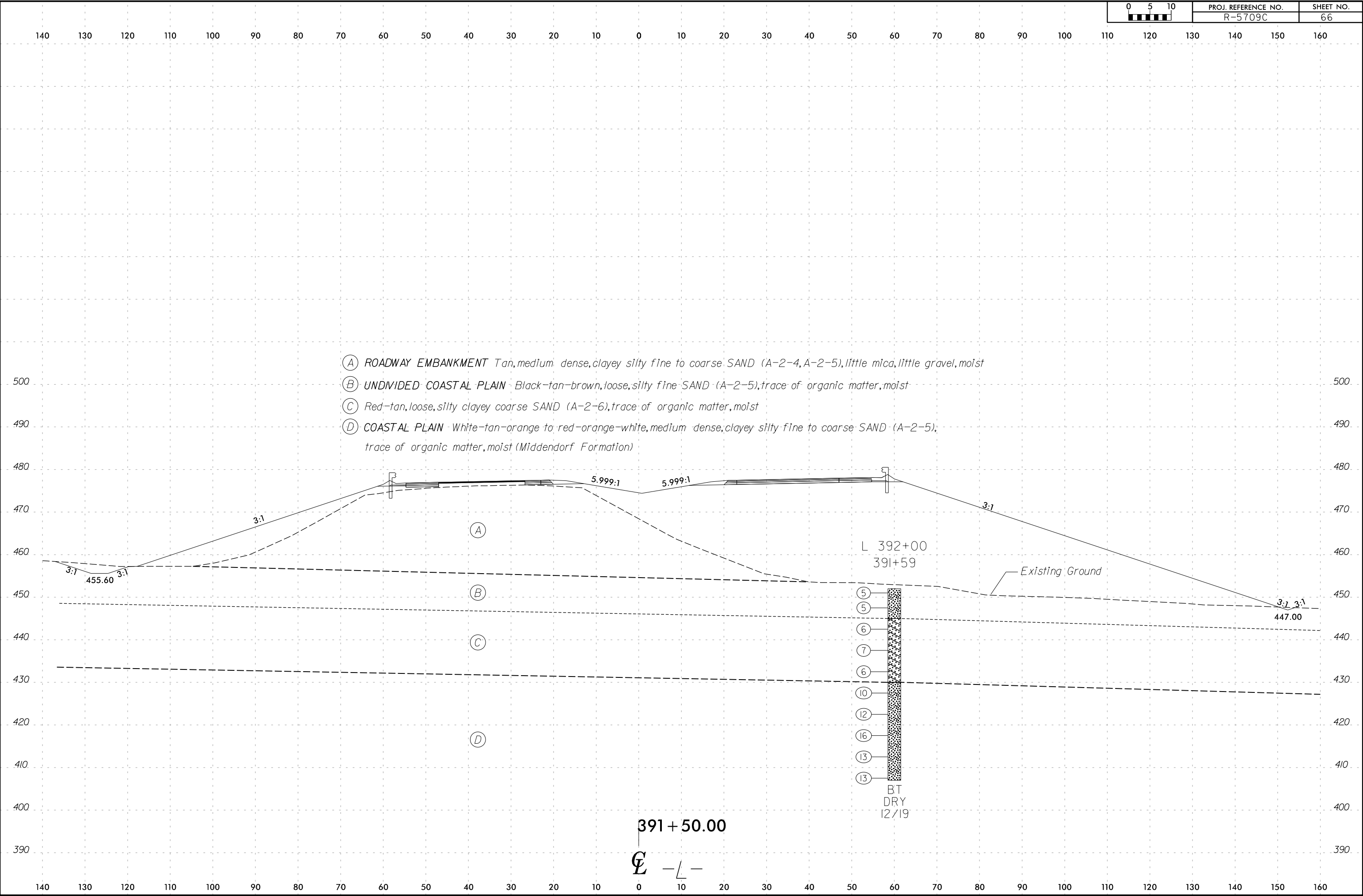
387 + 50.00

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

8/29/2024
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mmstrg

6/23/16

0 5 10 	PROJ. REFERENCE NO.	SHEET NO.
	R-5709C	66



6/23/16

1301201101009080706050403020100102030405060708090100110120130140150160170

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-11	394+33	27' LT	33.5 - 35.0	A-6 (1)	36	13	46.0	15.0	8.2	30.4	99.0	64.0	38.6	19.8	5.7

- (A)

ROADWAY EMBANKMENT Tan to red to gray, loose to medium dense, clayey silty fine to coarse SAND (A-2-4, A-2-5) and silty clayey fine to coarse SAND (A-2-7), little mica, little gravel, little wood fragments, moist
- (B)

Brown-gray, very stiff, sandy CLAY (A-6), trace of organic matter, moist
- (C)

UNDIVIDED COASTAL PLAIN Brown, medium stiff, silty sandy slightly plastic CLAY (A-6), little wood fragments, moist
- (D)

Brown-orange, loose, silty SAND (A-2-4), trace mica, moist
- (E)

COASTAL PLAIN Tan-white, orange-tan, and light gray, medium dense, clayey silty fine to coarse SAND (A-2-4, A-2-5) and clayey coarse SAND (A-2-7), trace mica, trace to little gravel, moist (Middendorf Formation)

L 394+33
394+33

SS-II

Pavement

5.999:1

5.998:1

3:1

Existing Ground

(28)
(13)
(19)
(17)
(21)
(19)
(7)
(7)
(7)
(6)
(19)
(20)
(19)
(18)

BT
FIAD

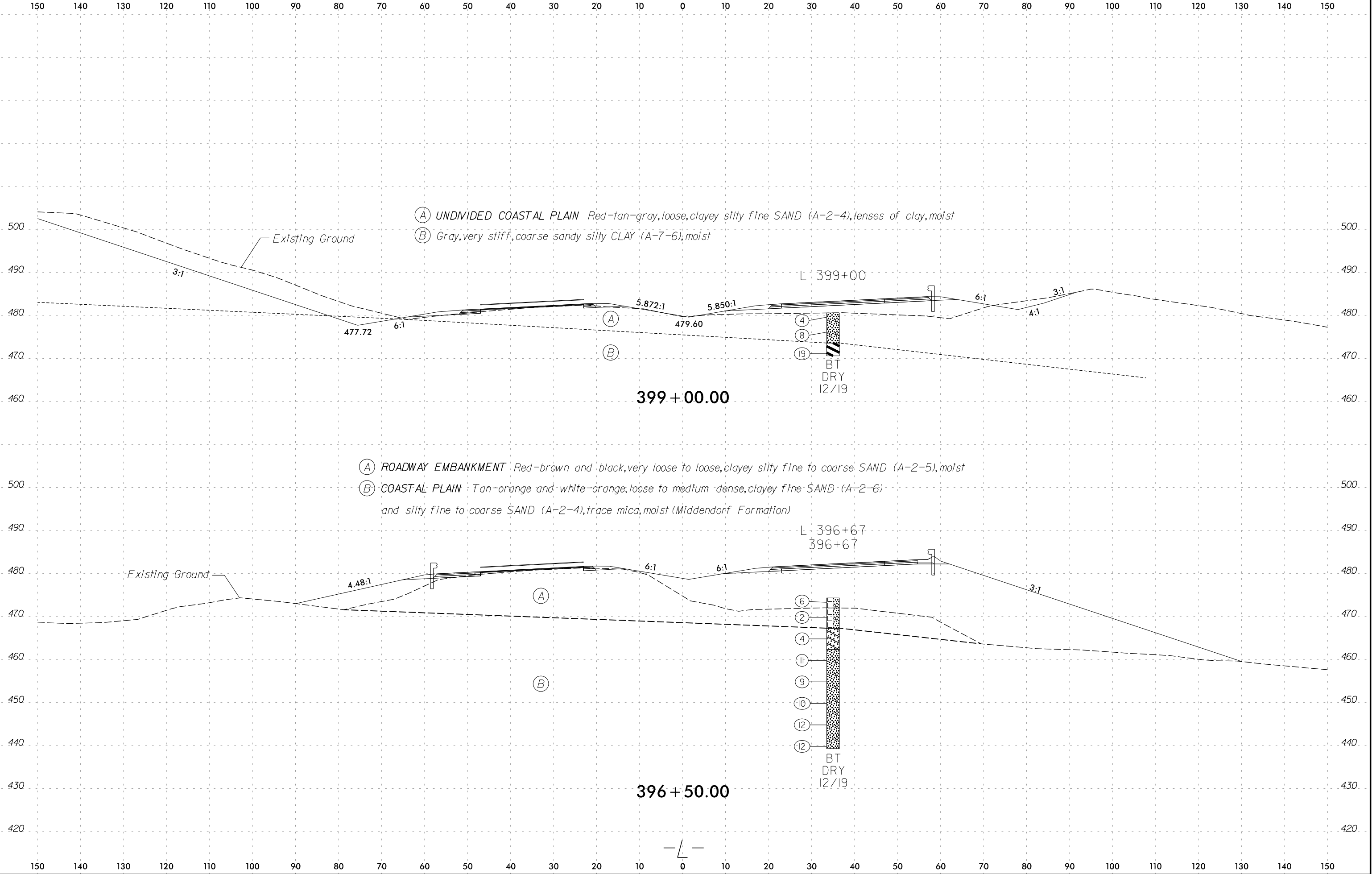
394 + 50.00

CL

— / —

1301201101009080706050403020100102030405060708090100110120130140150160170

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.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-705	401+00	35' RT	13.5 - 15.0	A-7-5(20)	23	7	0.4	7.3	11.8	80.5	100.0	100.0	92.3	17.5	ND

- (A)

UNDIVIDED COASTAL PLAIN Tan-orange, medium dense, silty fine SAND (A-2-4), lenses of clay, moist
- (B)

COASTAL PLAIN Red-orange, medium dense, clayey fine to coarse SAND (A-2-6), lenses of clay, moist (Middendorf Formation)
- (C)

Tan-gray-purple, very stiff to hard, silty highly plastic CLAY (A-7-5), moist

Existing Ground

SHEAR LINE @
-L- / -Y1B-
INTERSECTION

L 401+00

SS-705

Pavement

6:1

6:1

3:1

(14)

(24)

(10)

(25)

(28)

(28)

(32)

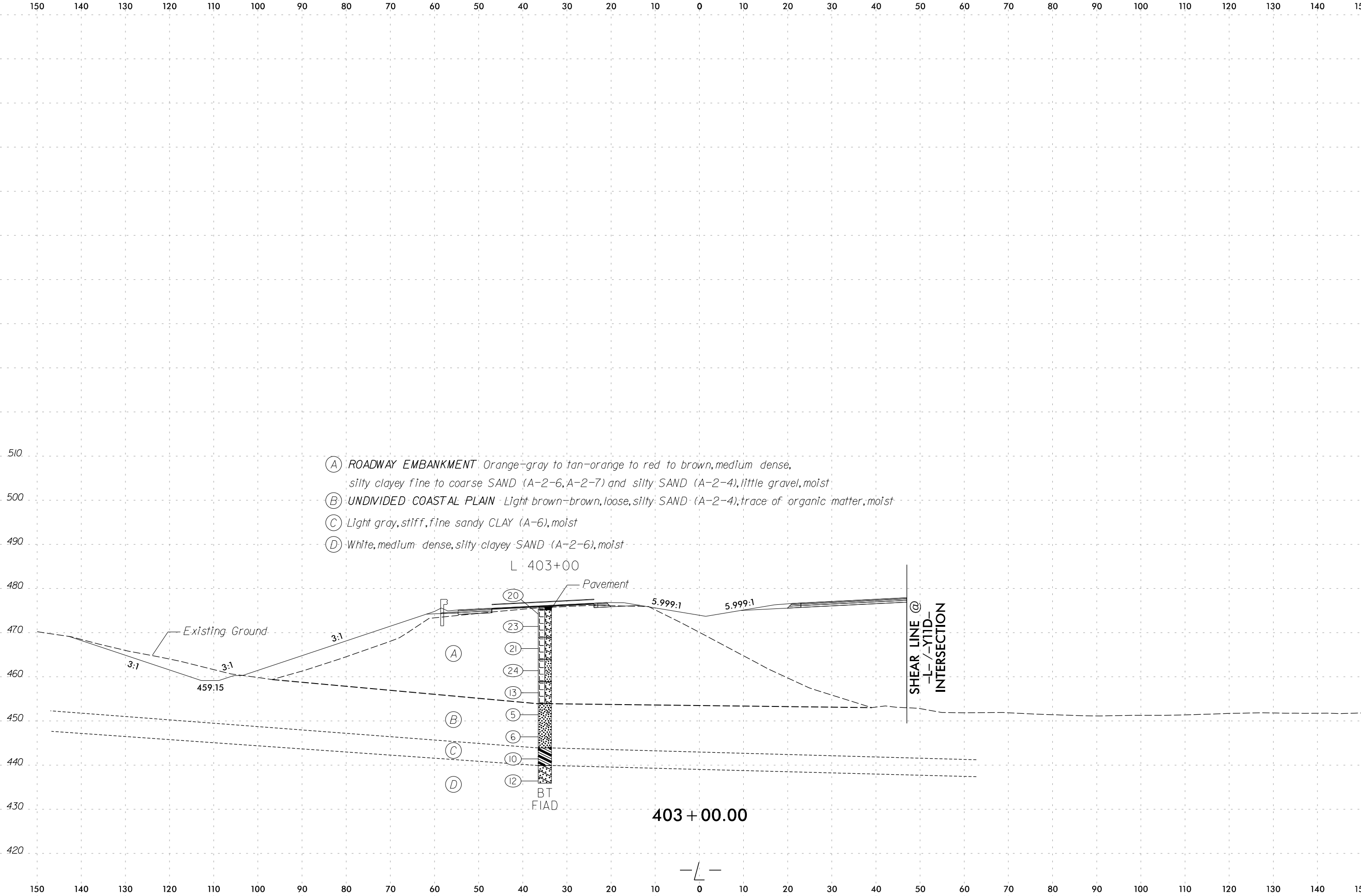
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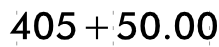
BT
DRY
12/19

401 + 00.00

— / —

6/23/16

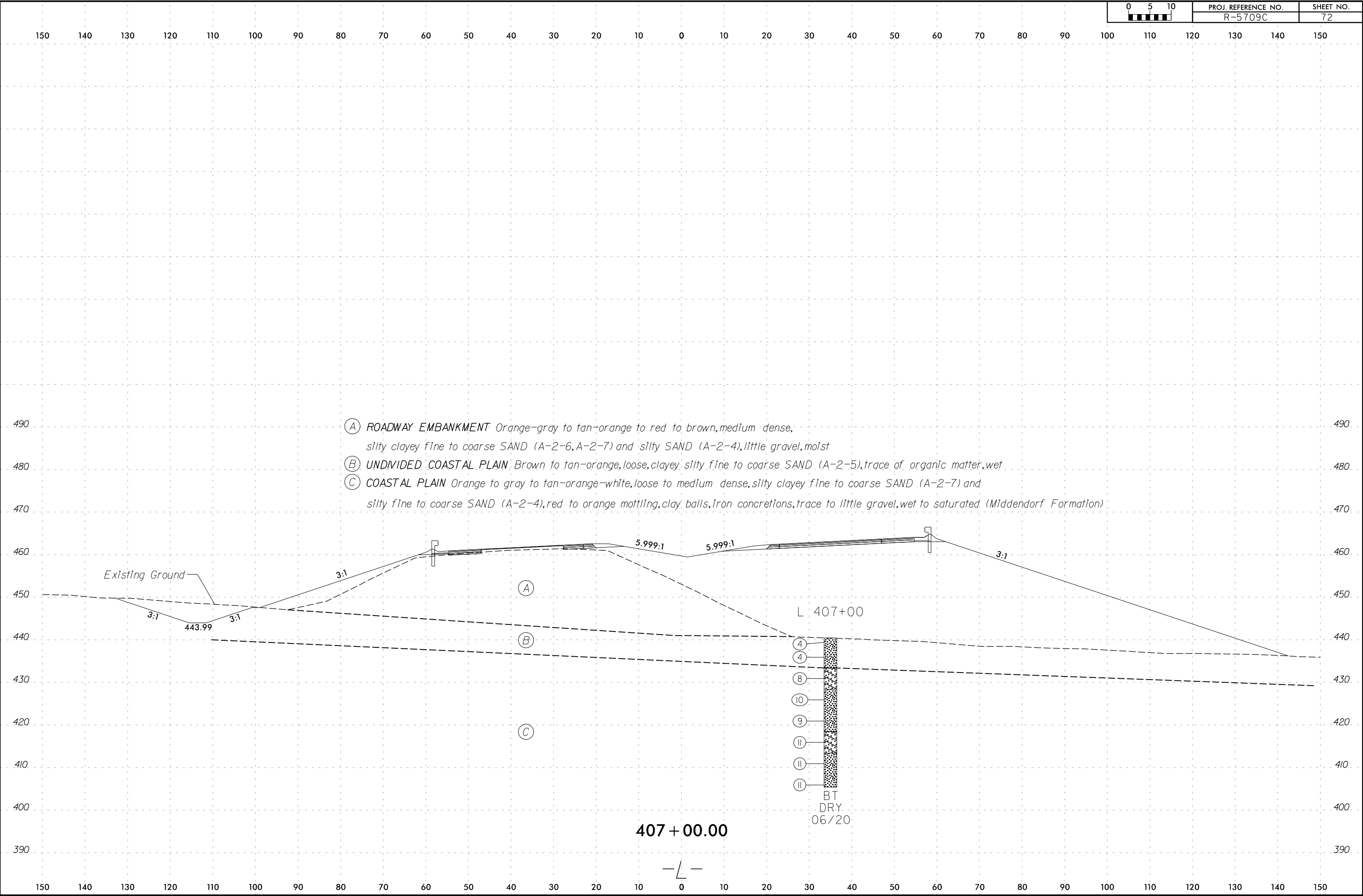


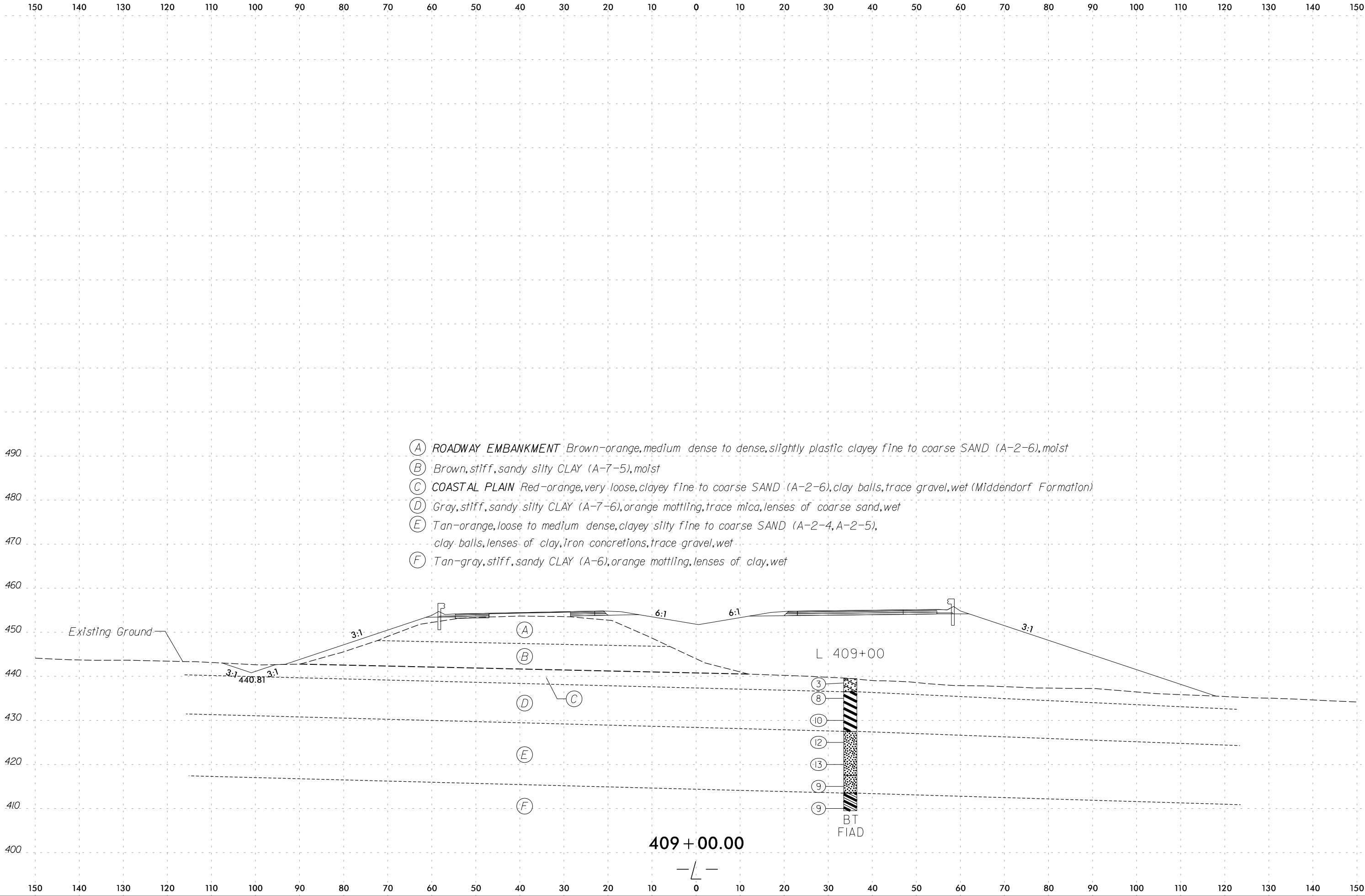


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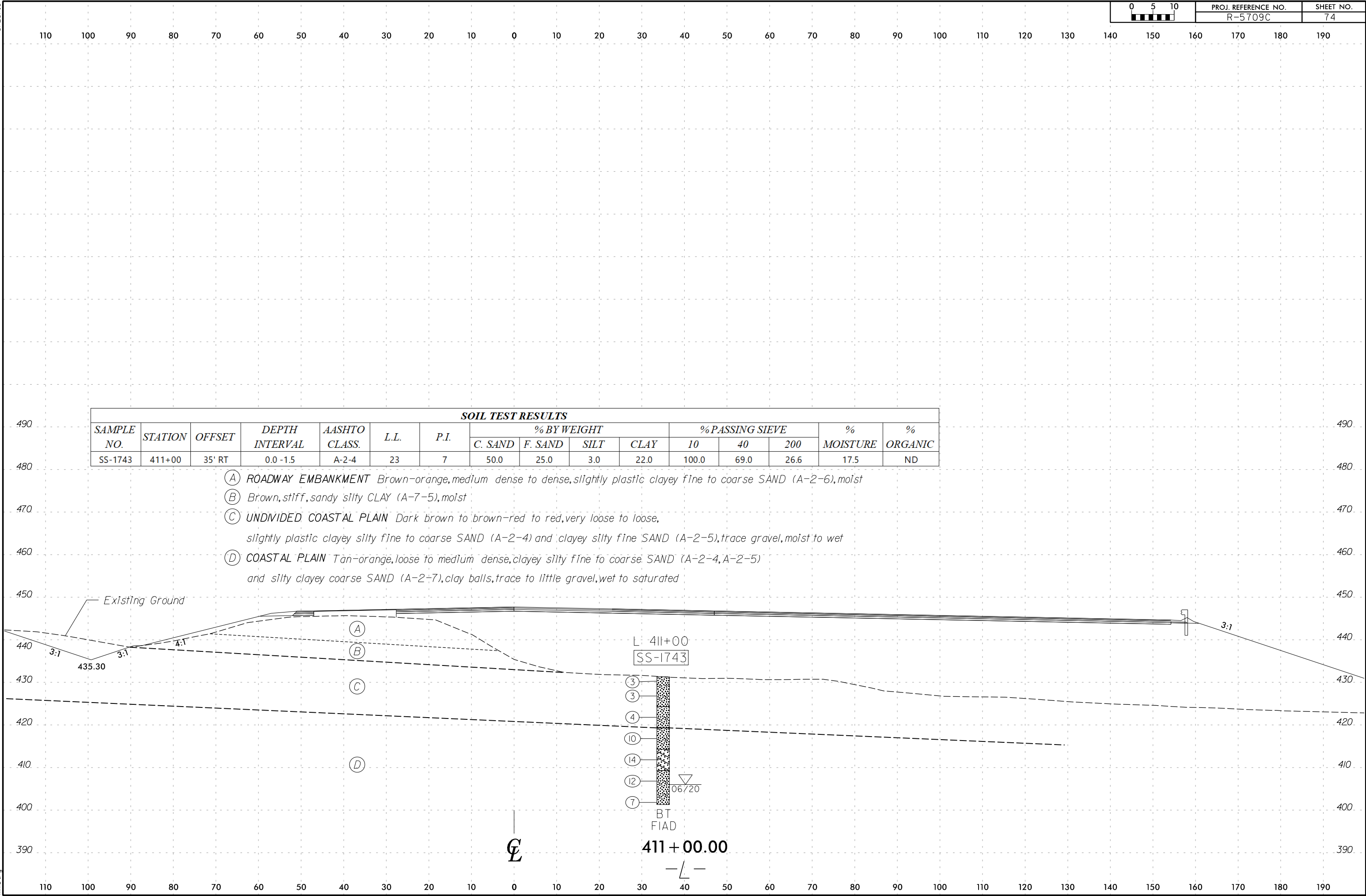
6/23/16

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	R-5709C	72

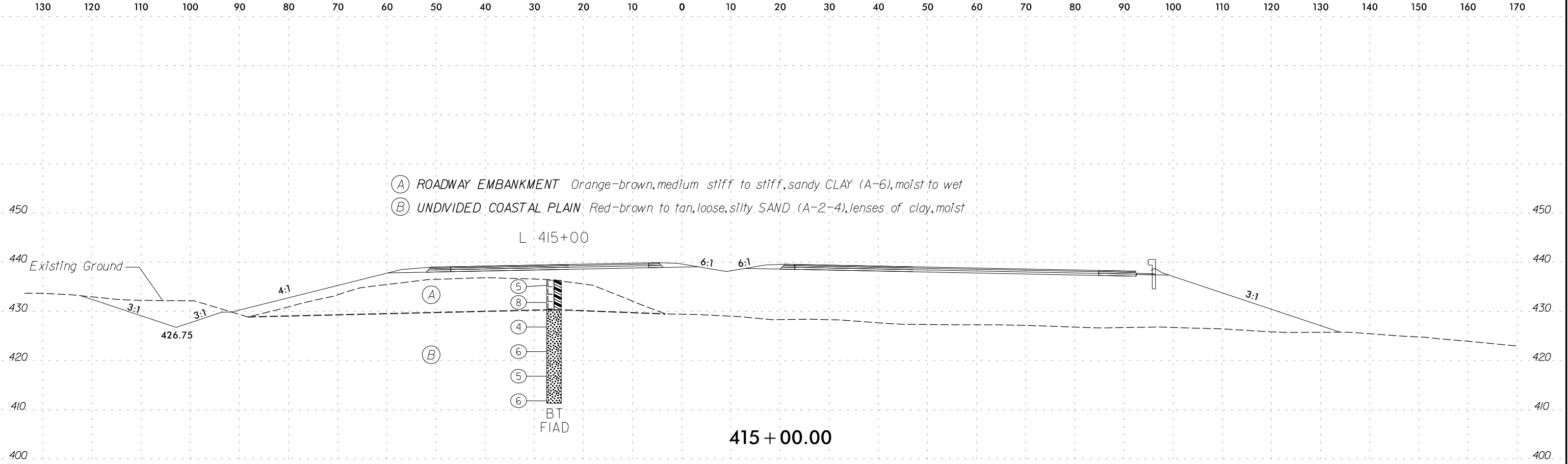




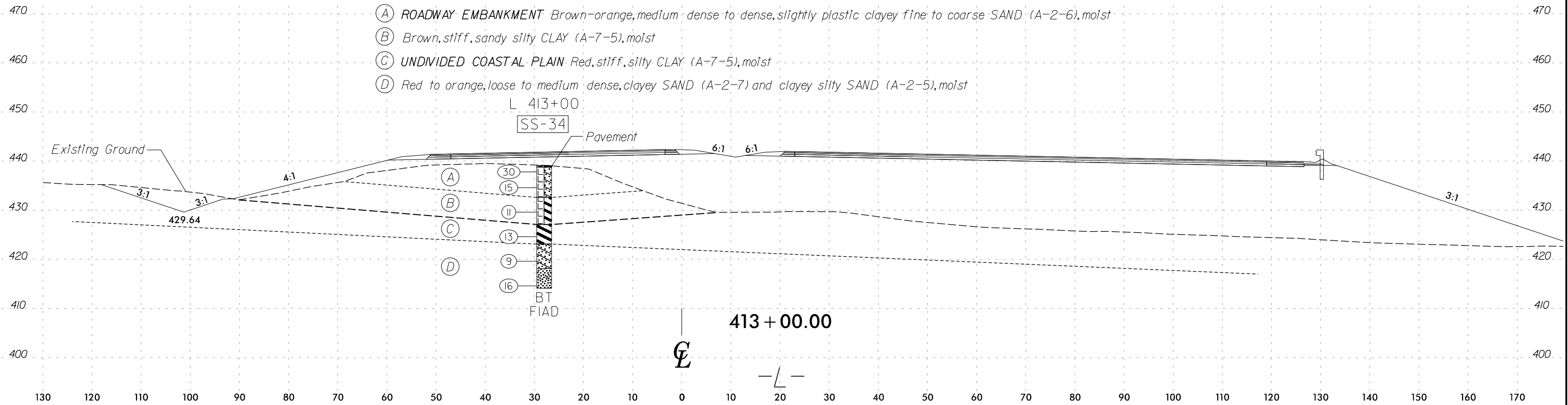
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6/23/16



SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-34	413+00	28' LT	0.3 - 1.8	A-2-6 (0)	30	13	61.0	12.0	1.0	26.0	100.0	51.0	27.0	7.0	ND



6/23/16

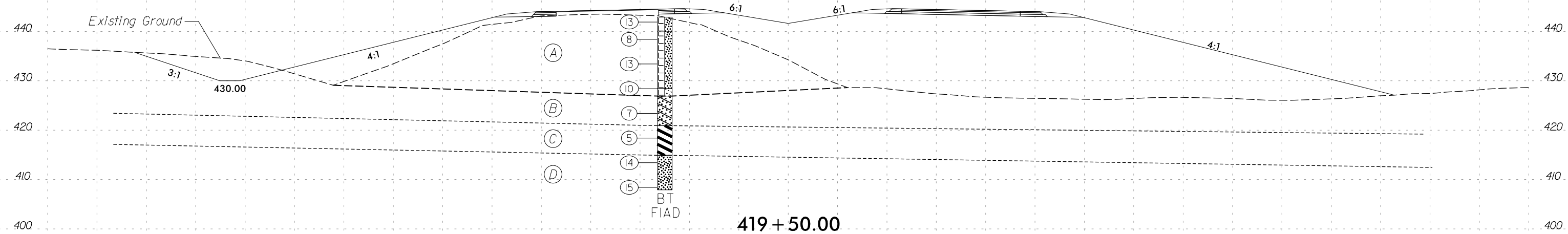
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-47	419+50	25' LT	14.5 - 15.0	A-2-4	33	8	46.3	26.3	9.1	18.2	97.0	66.0	27.0	56.0	7.0

- (A) ROADWAY EMBANKMENT Light orange to orange to brown-dark brown, loose to medium dense, slightly plastic clayey silty SAND (A-2-4), trace mica, moderately organic, (wood fragments), moist
- (B) UNDIVIDED COASTAL PLAIN Gray to orange, loose, clayey SAND (A-2-6), moist
- (C) Light gray to orange, medium stiff, silty CLAY (A-7-6), trace mica, moist
- (D) White to orange, medium dense, clayey silty SAND (A-2-5), moist

L 419+50

SS-47

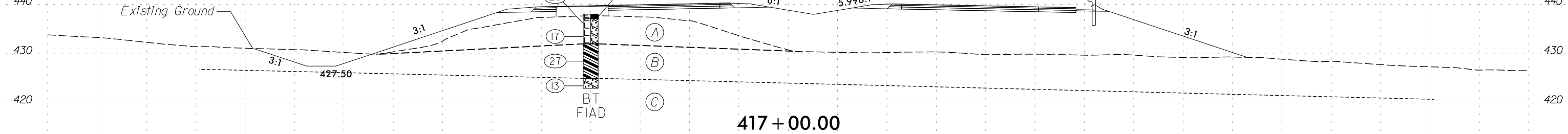


- (A) ROADWAY EMBANKMENT Brown-orange, medium dense, clayey SAND (A-2-7), little gravel, moist
- (B) UNDIVIDED COASTAL PLAIN Light gray-orange, very stiff, fine sandy CLAY (A-6), moist
- (C) Orange, medium dense, clayey SAND (A-2-7), moist

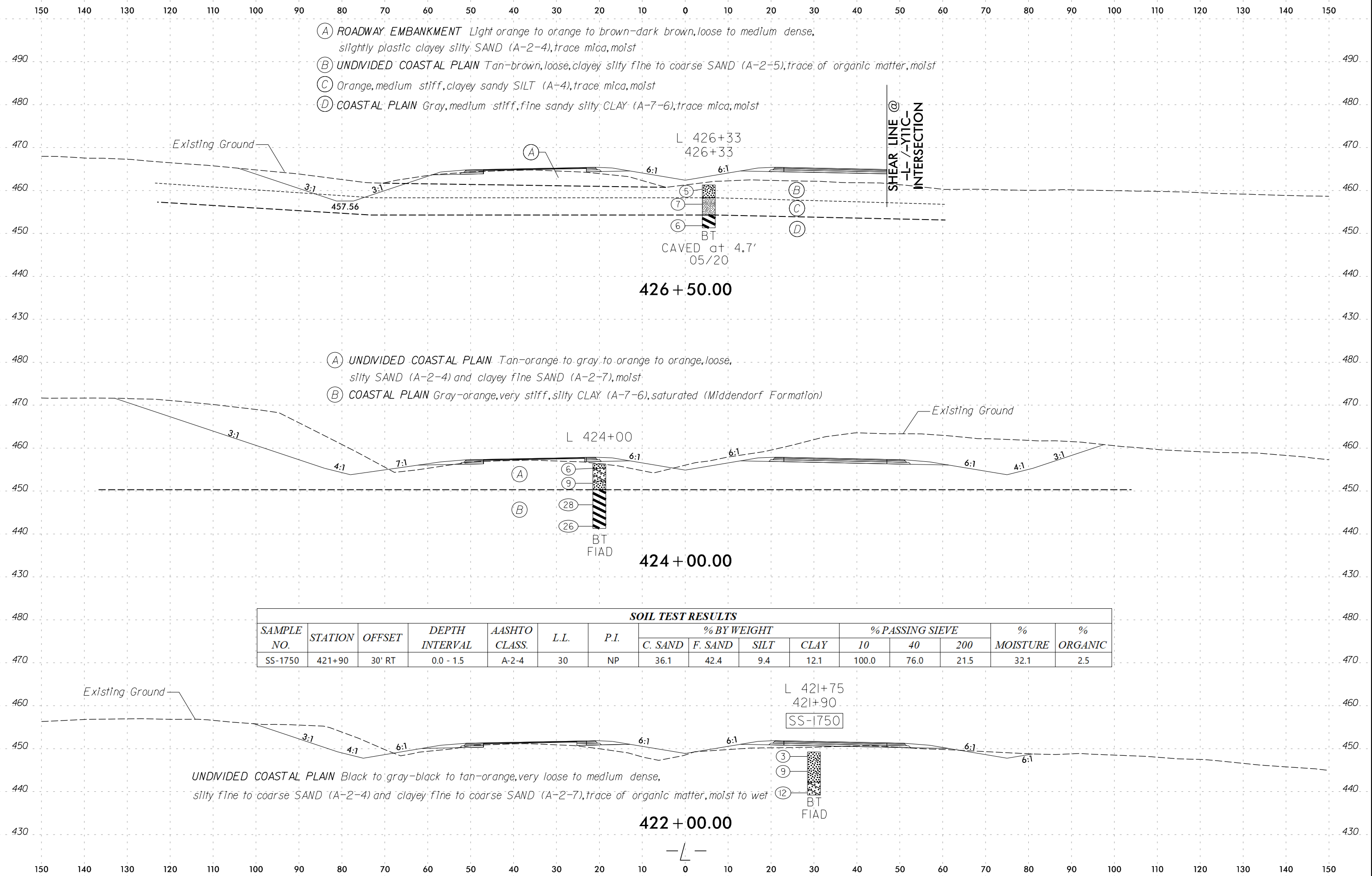
L 417+25

417+25

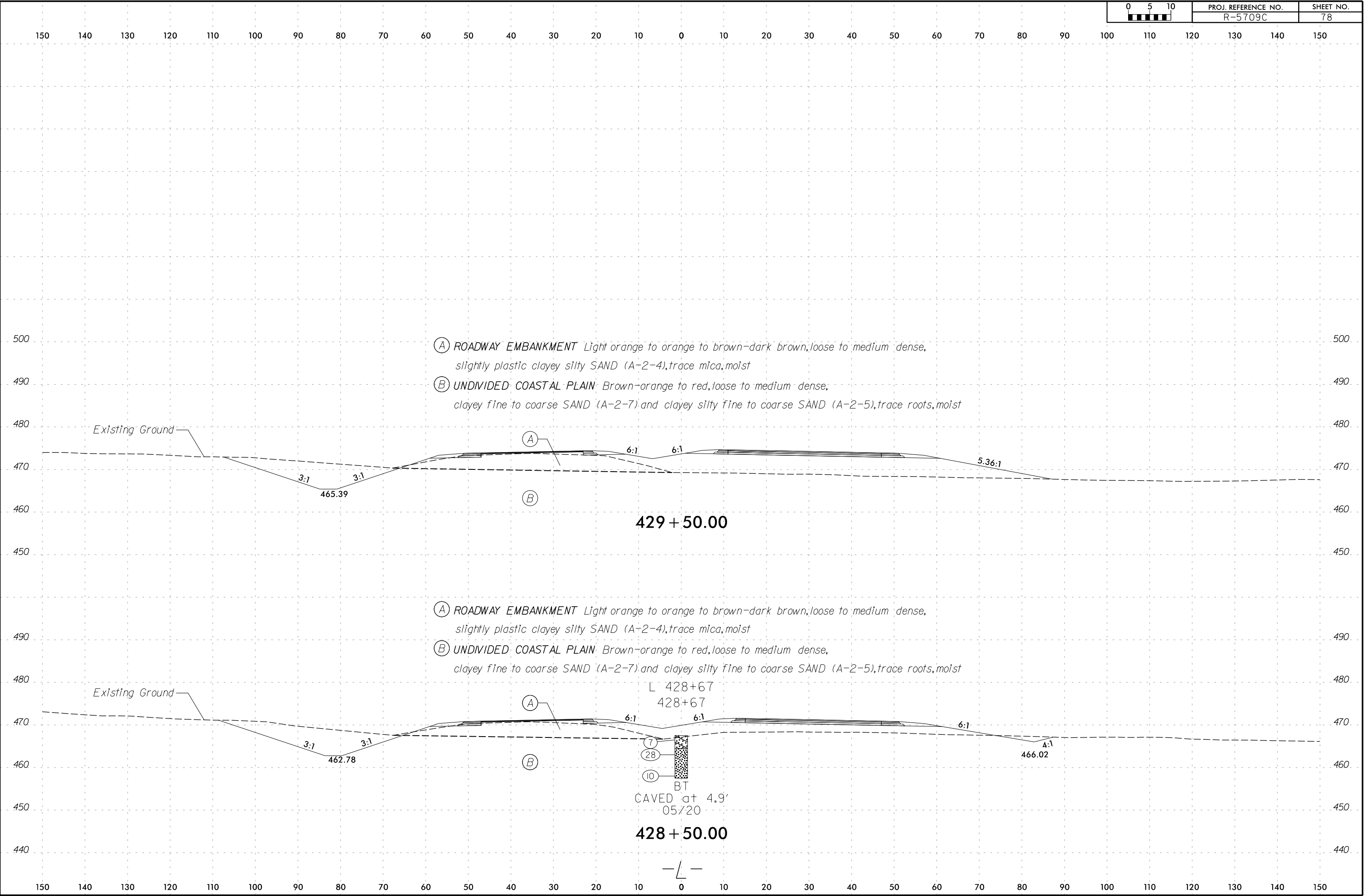
Pavement

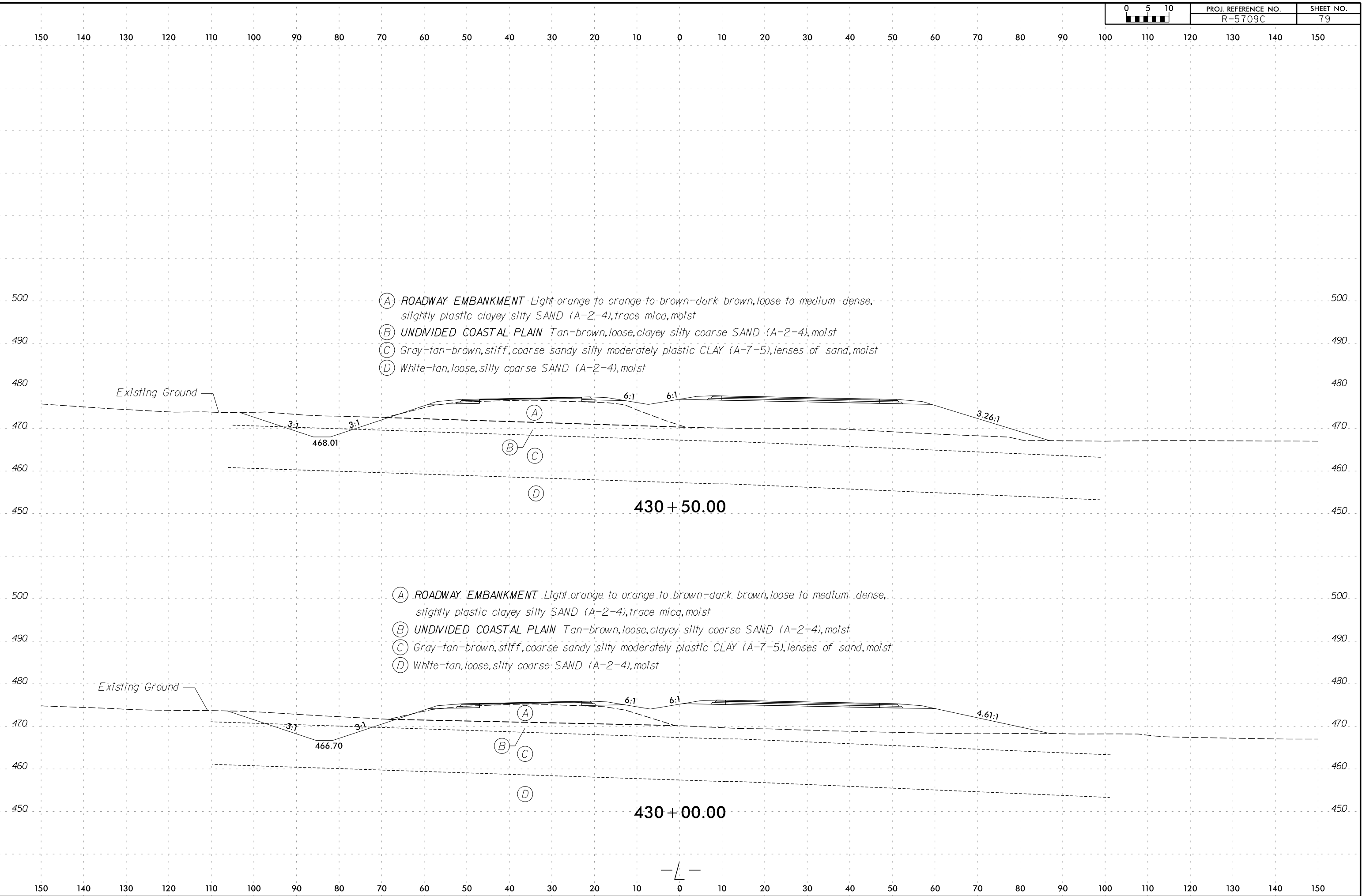


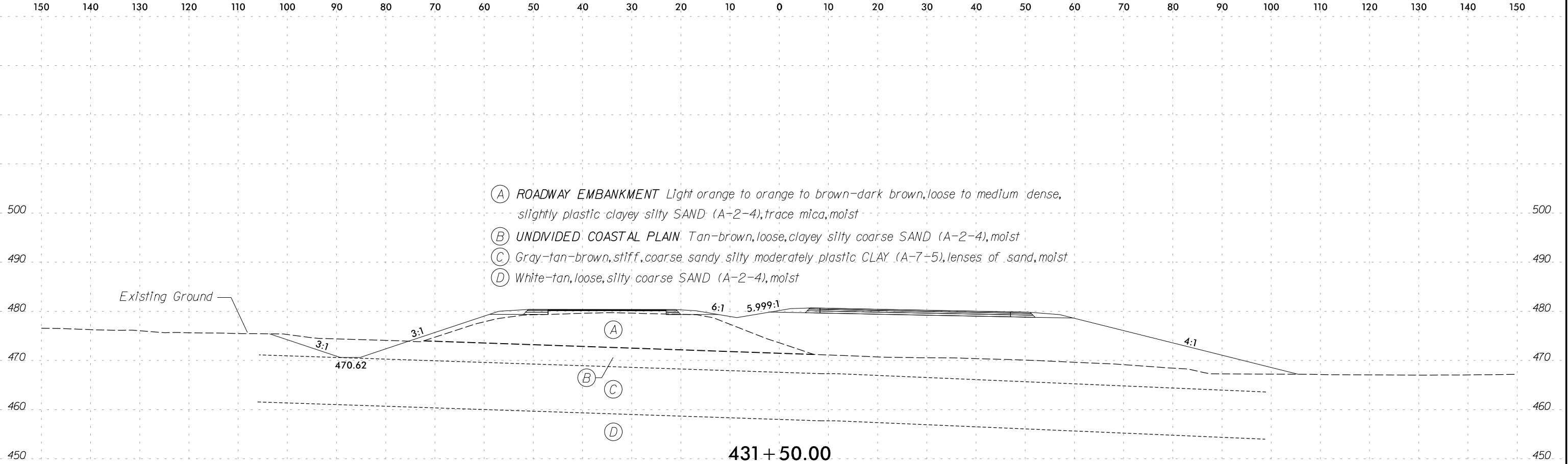
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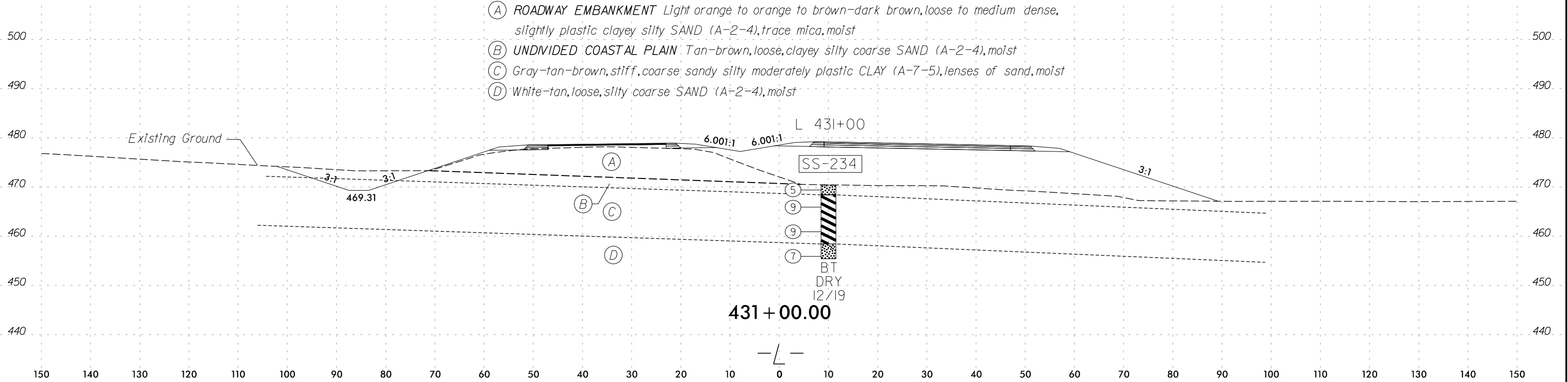
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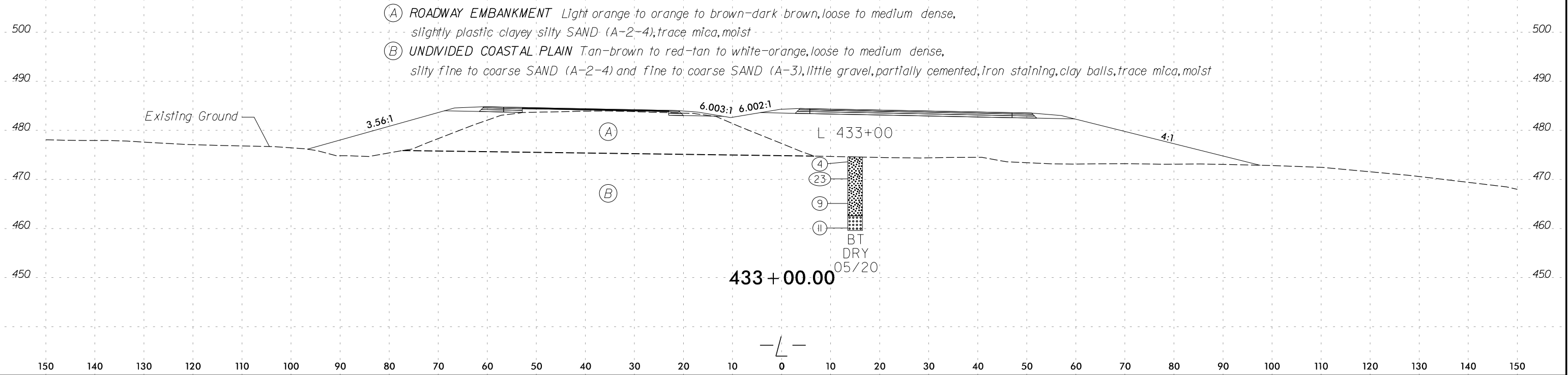


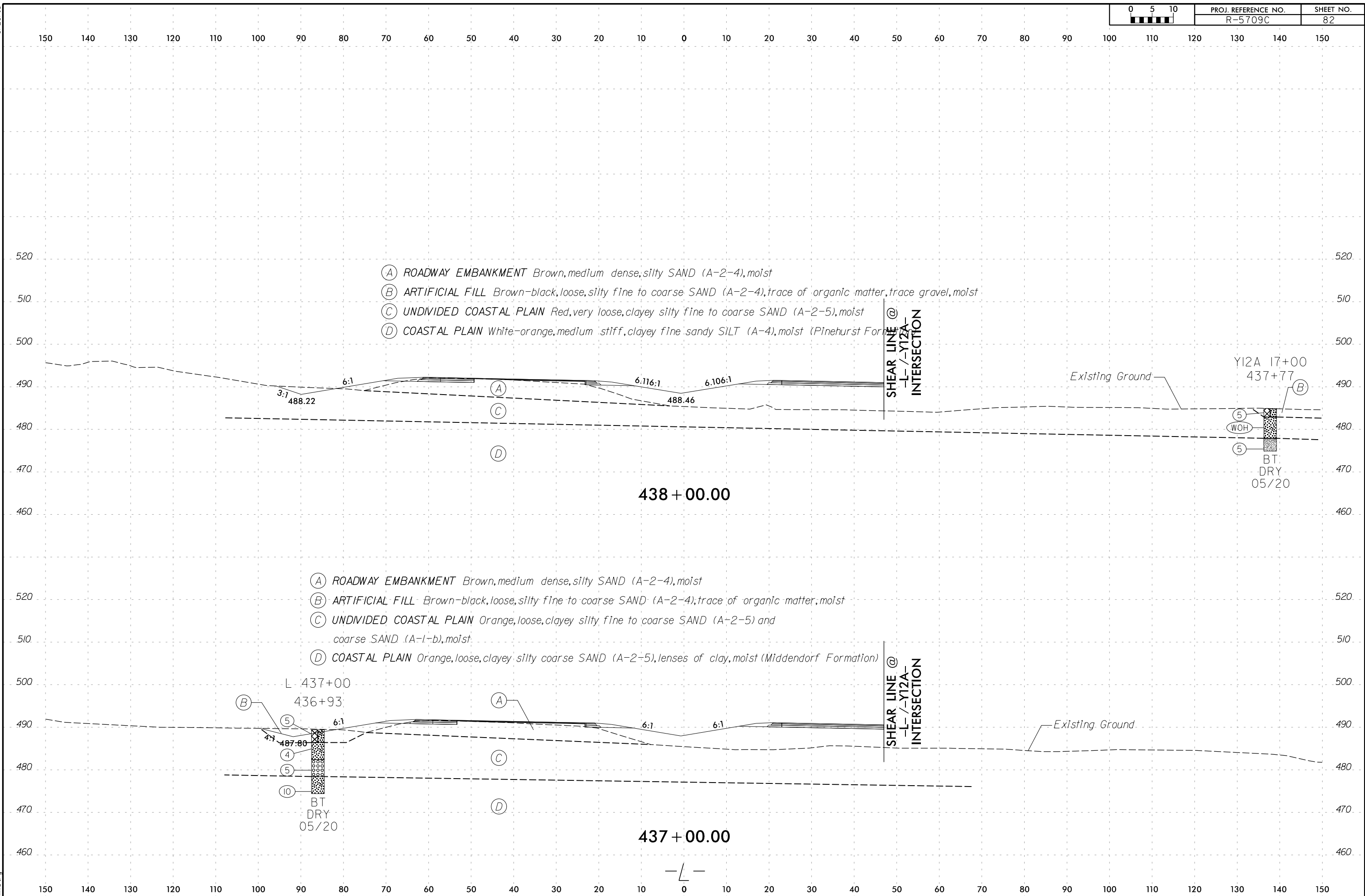




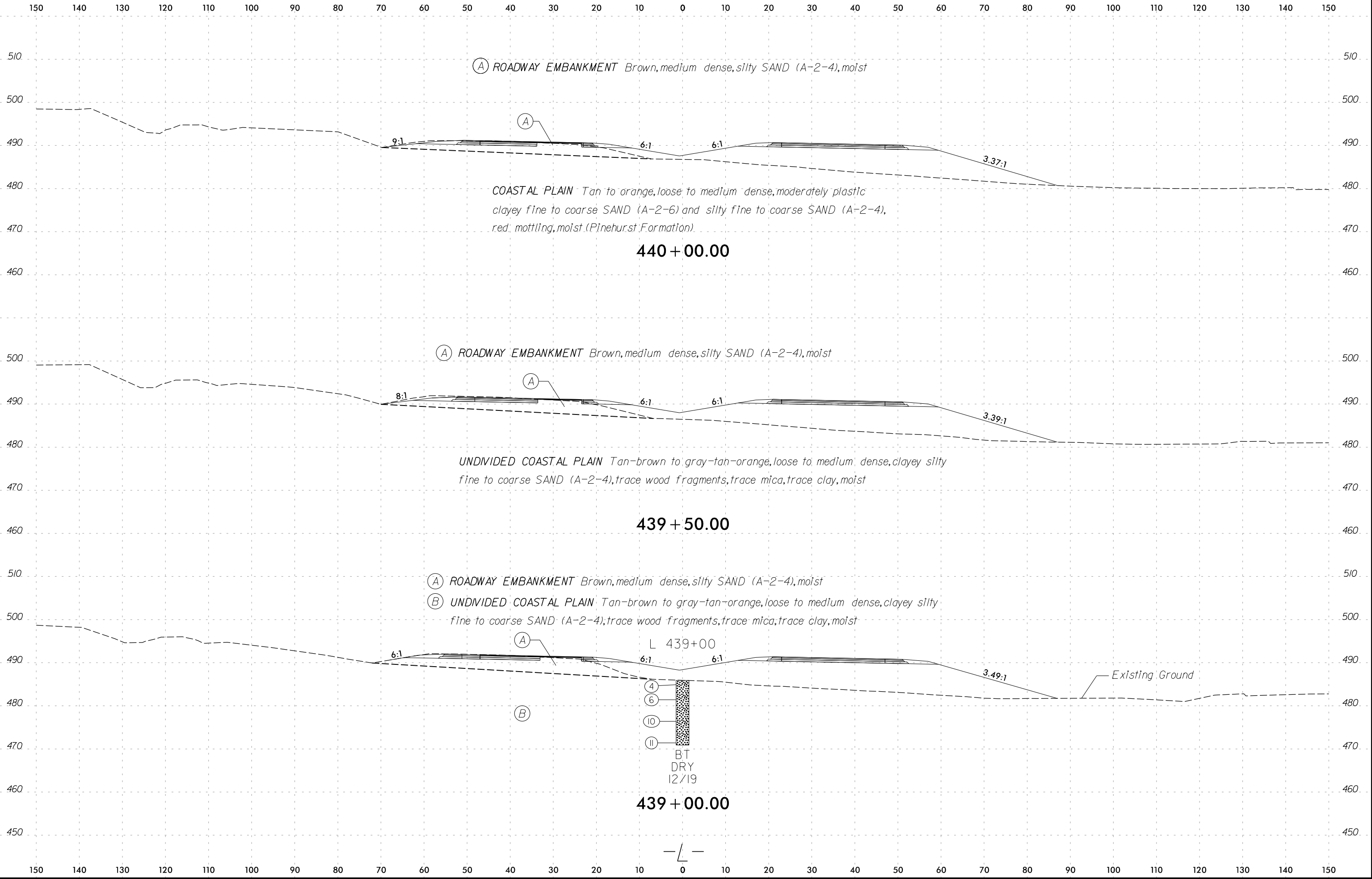
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-234	431+00	10' RT	3.5 - 5.0	A-7-5(20)	59	25	2.0	2.0	31.0	65.0	100.0	99.0	96.6	27.5	ND



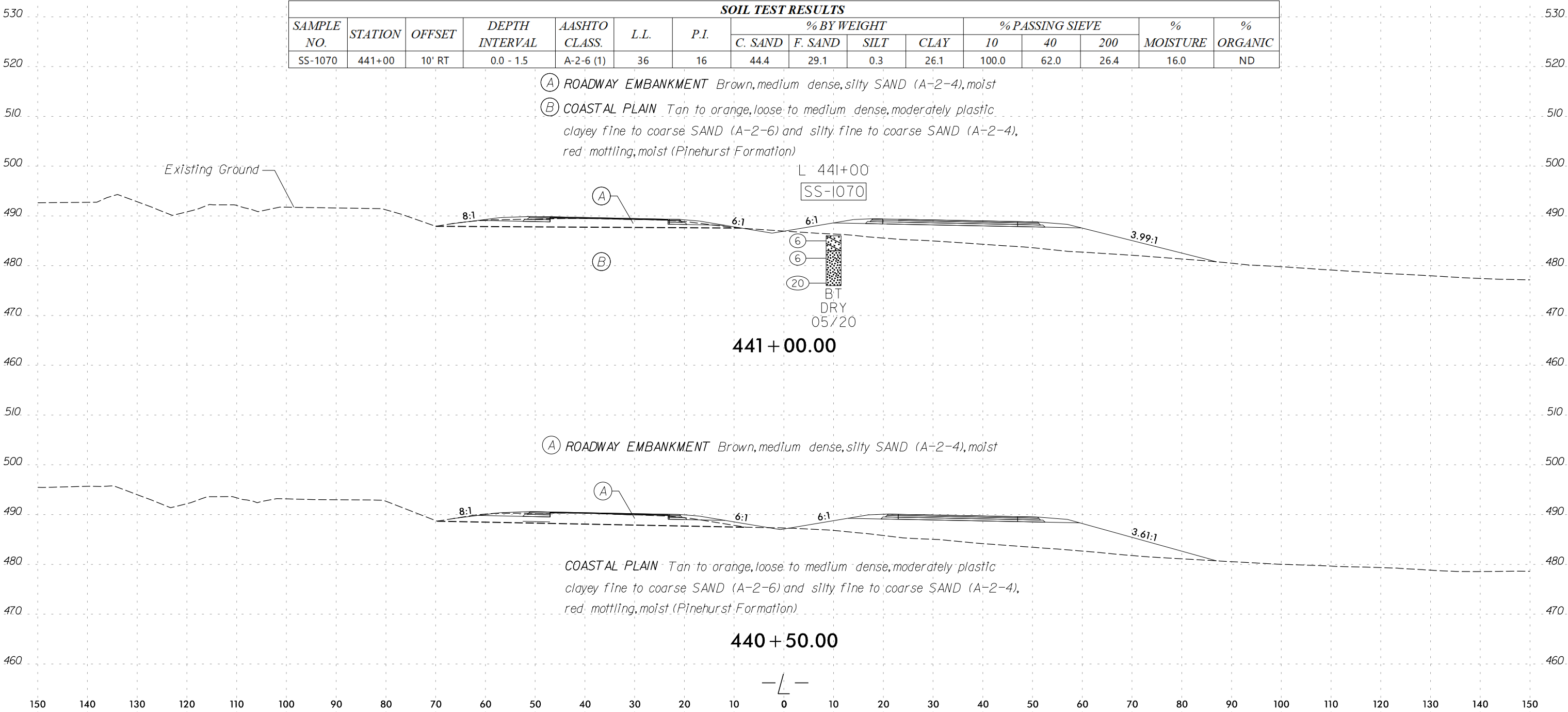




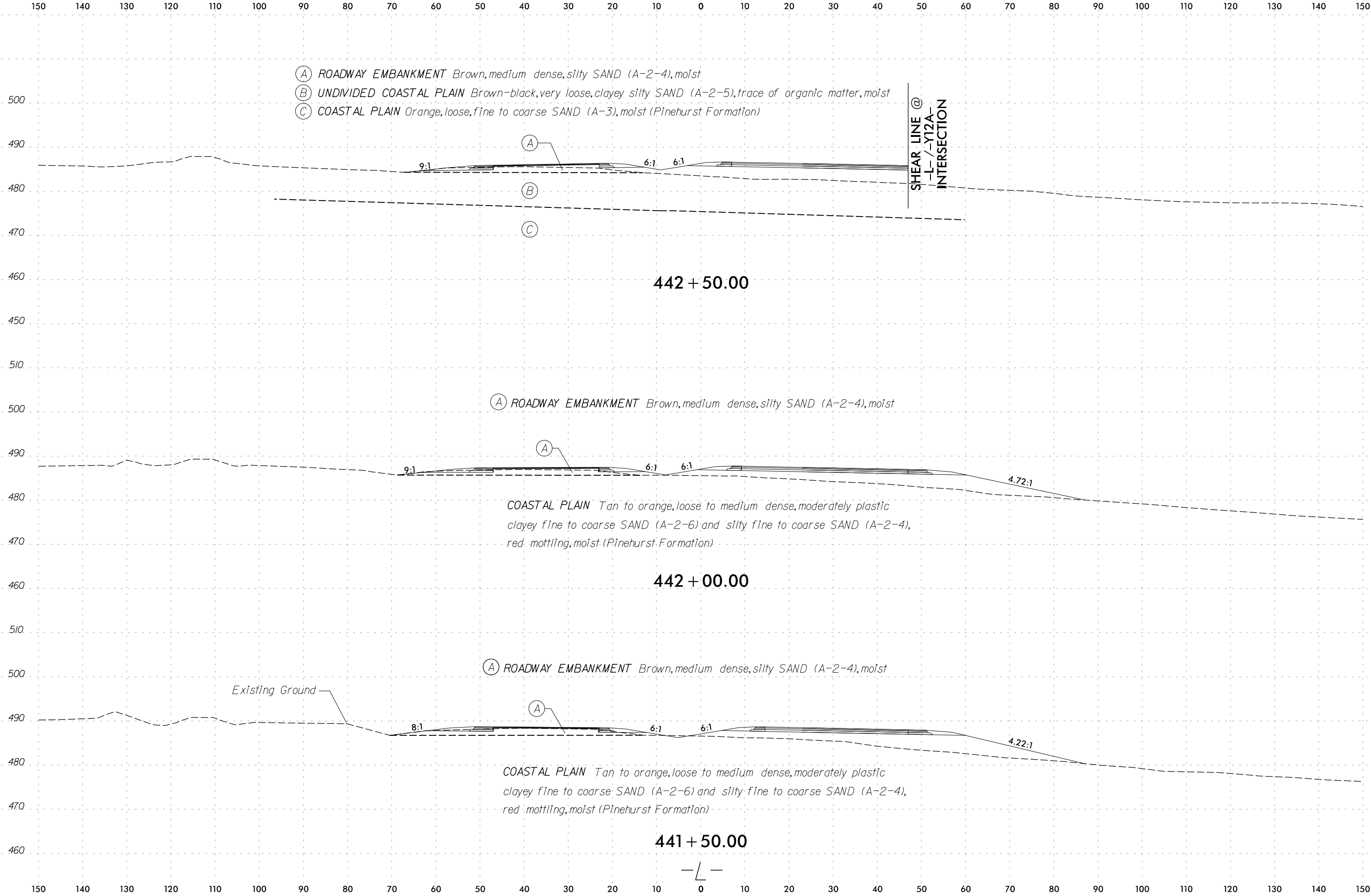
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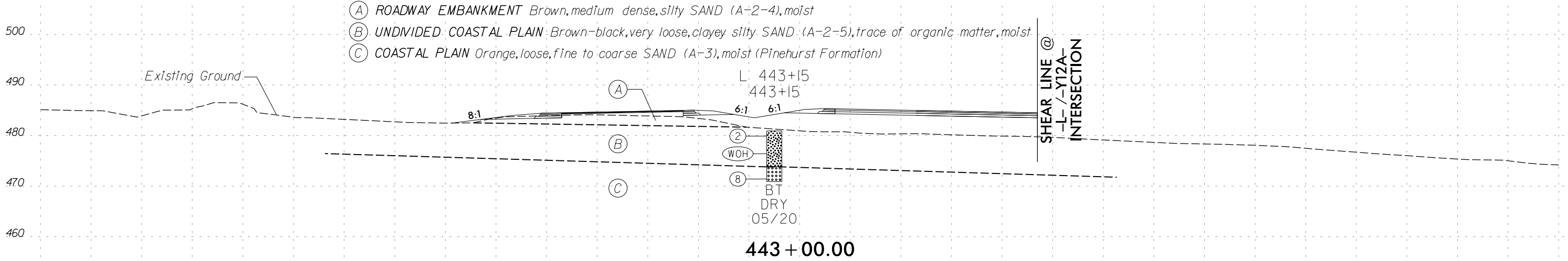
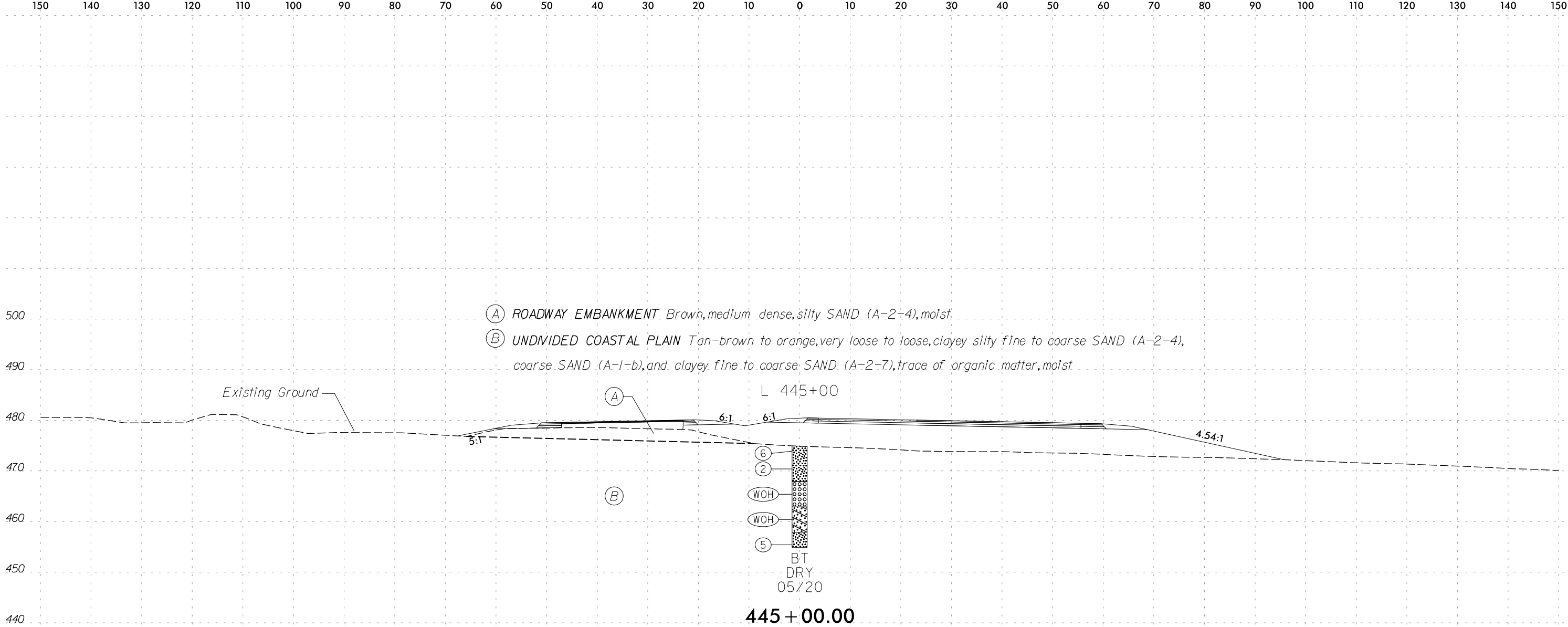


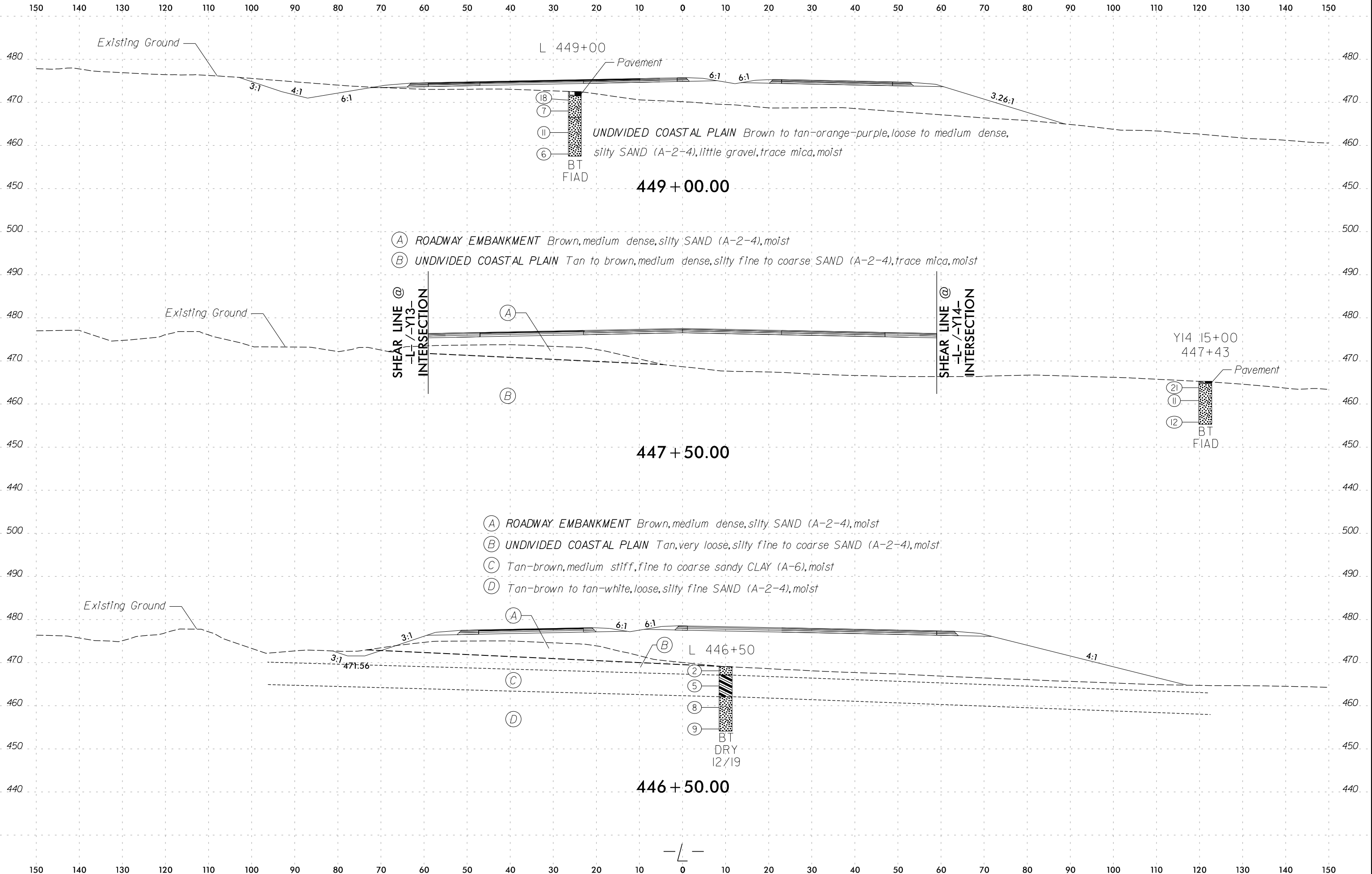
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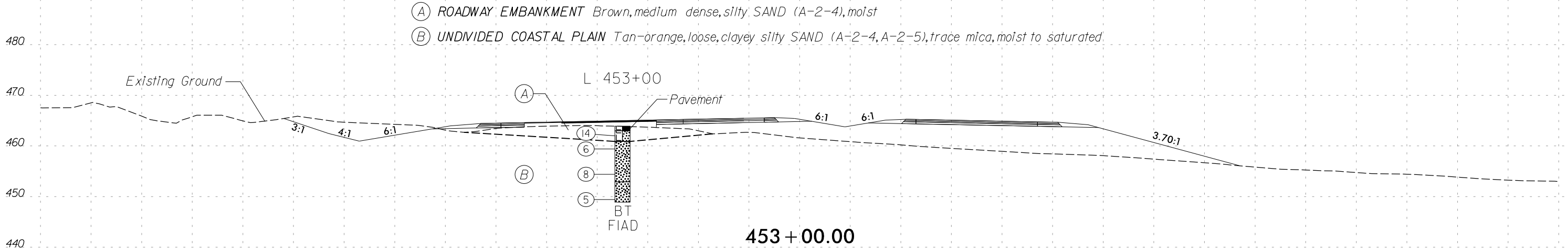




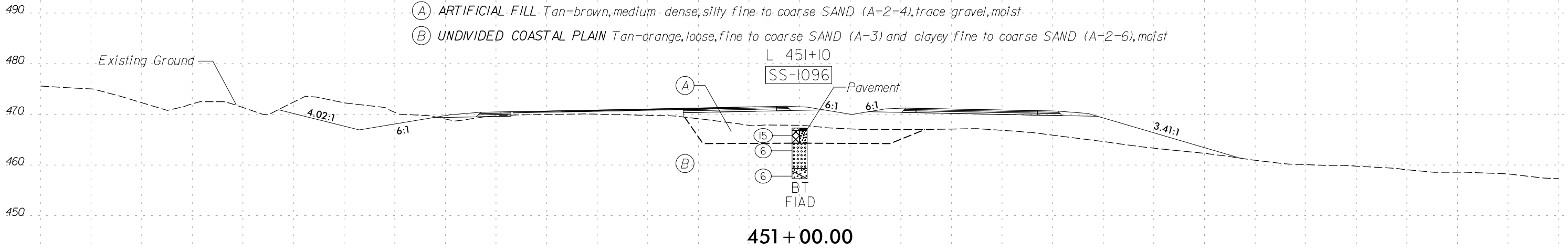


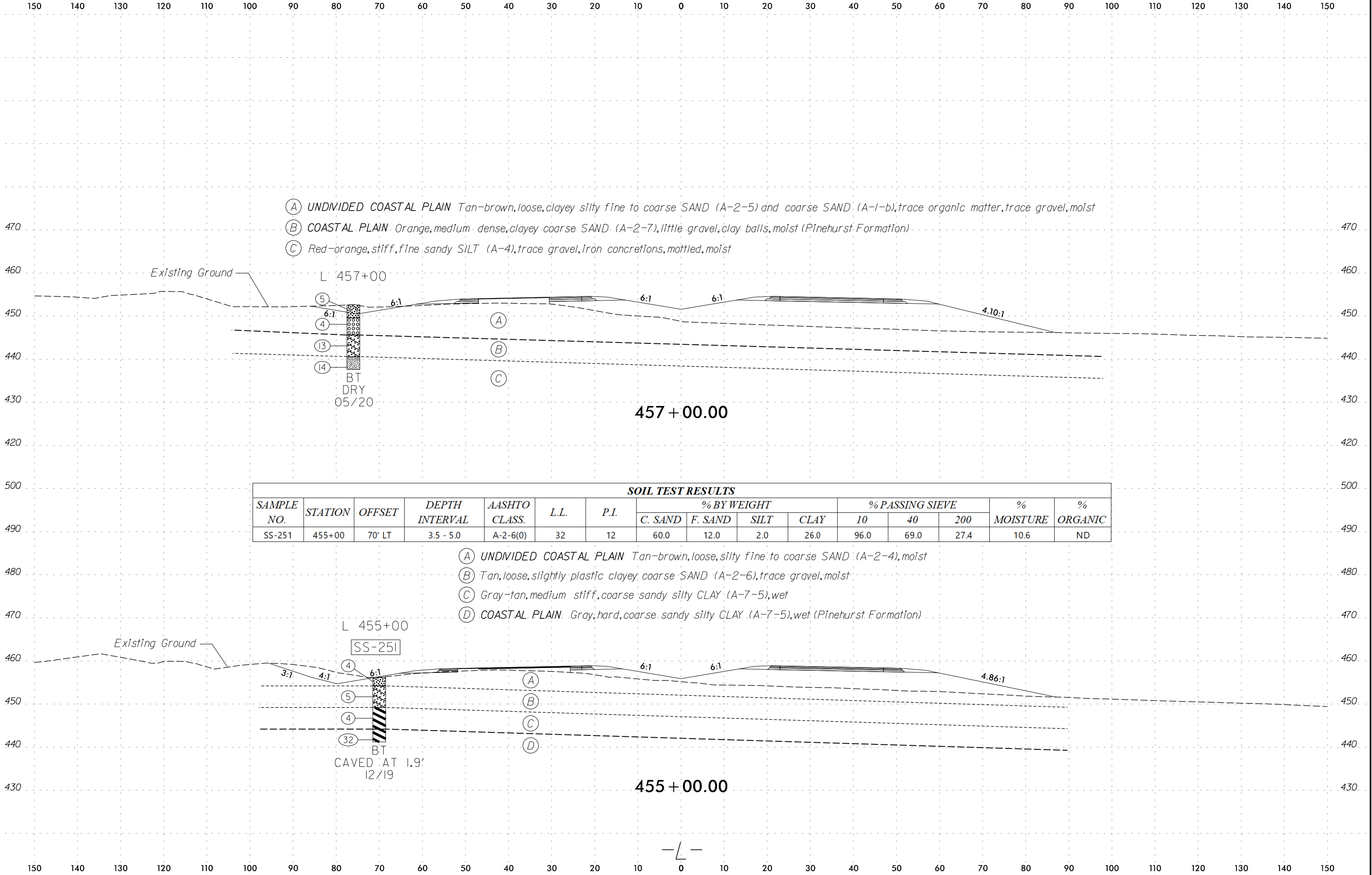
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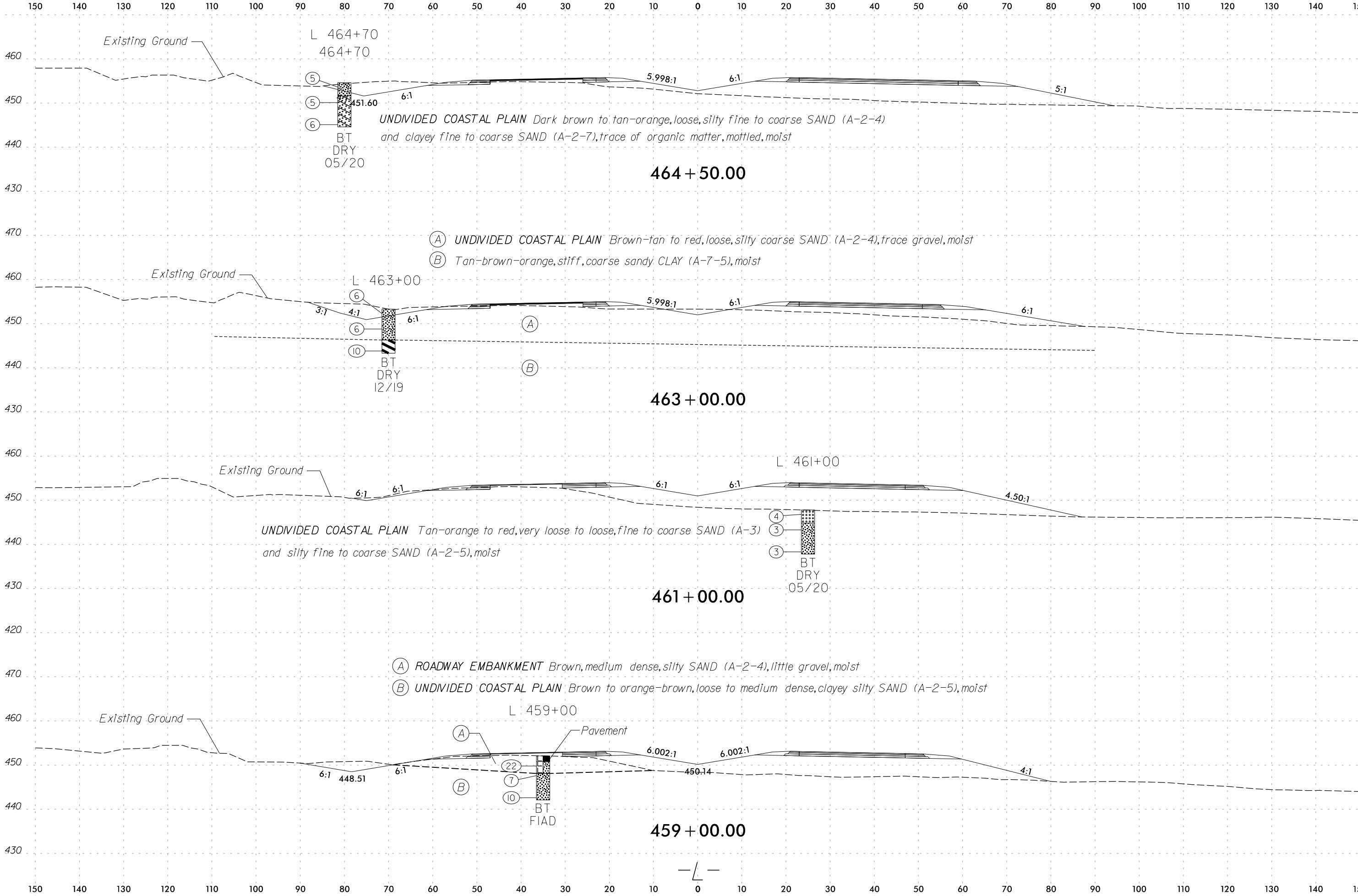


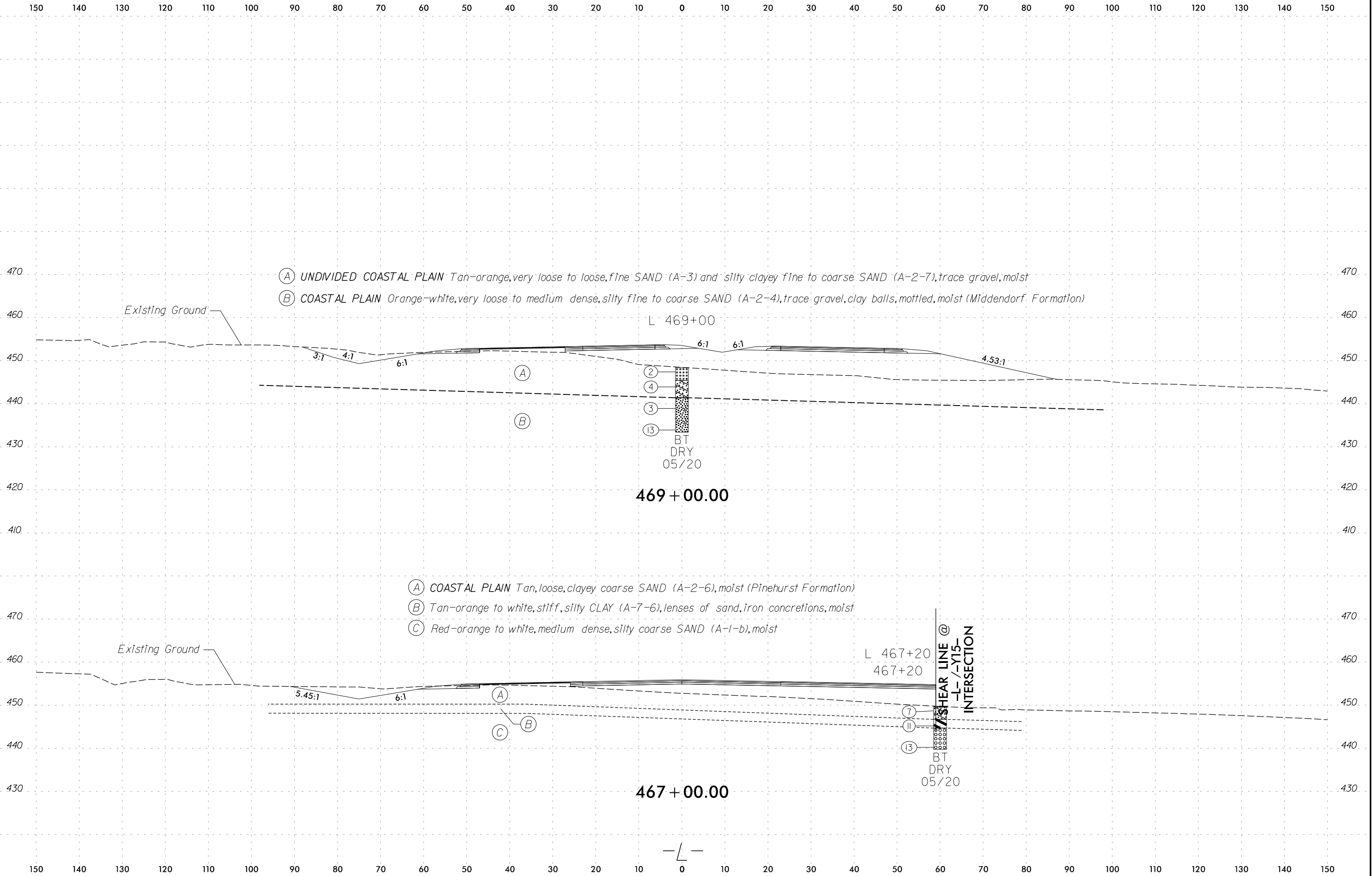
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS - 1096	451+10	0' CL	0.0 - 2.0	A-2-4	19	NP	66.0	24.0	2.0	8.0	99.0	52.0	10.9	5.8	ND





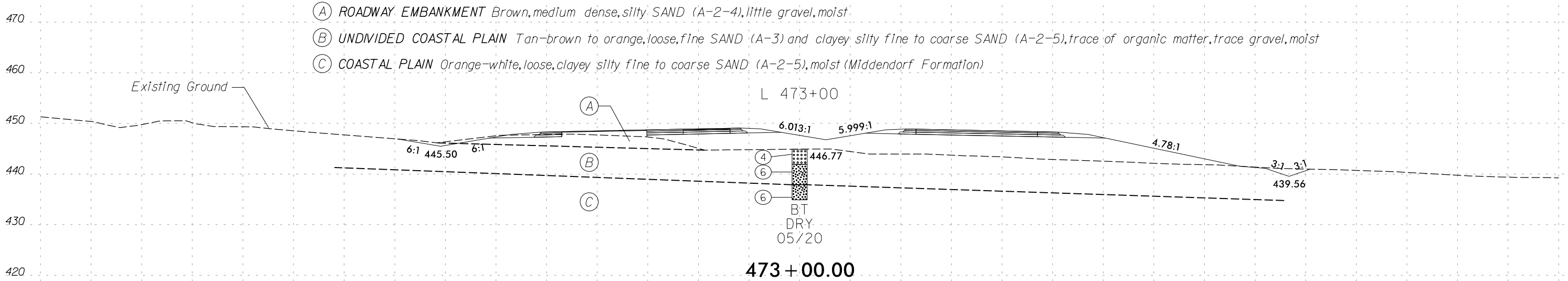
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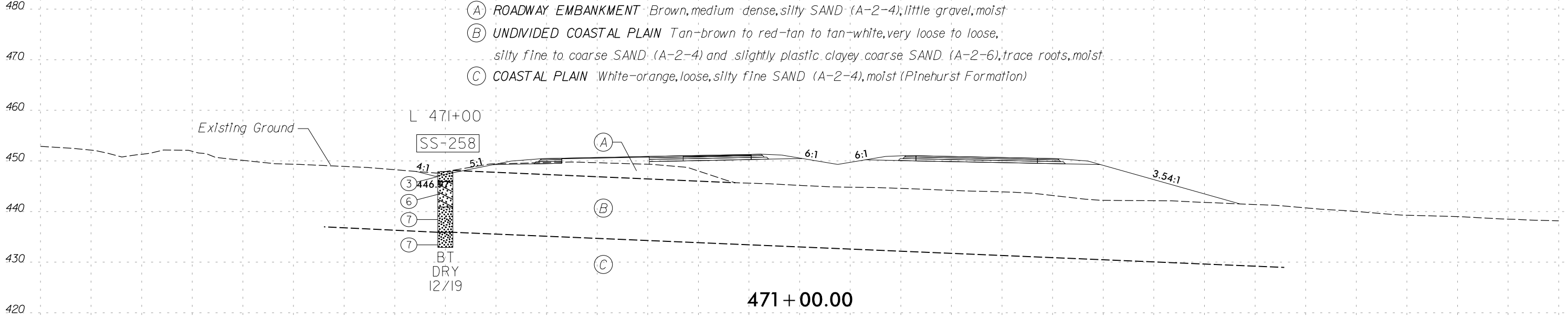


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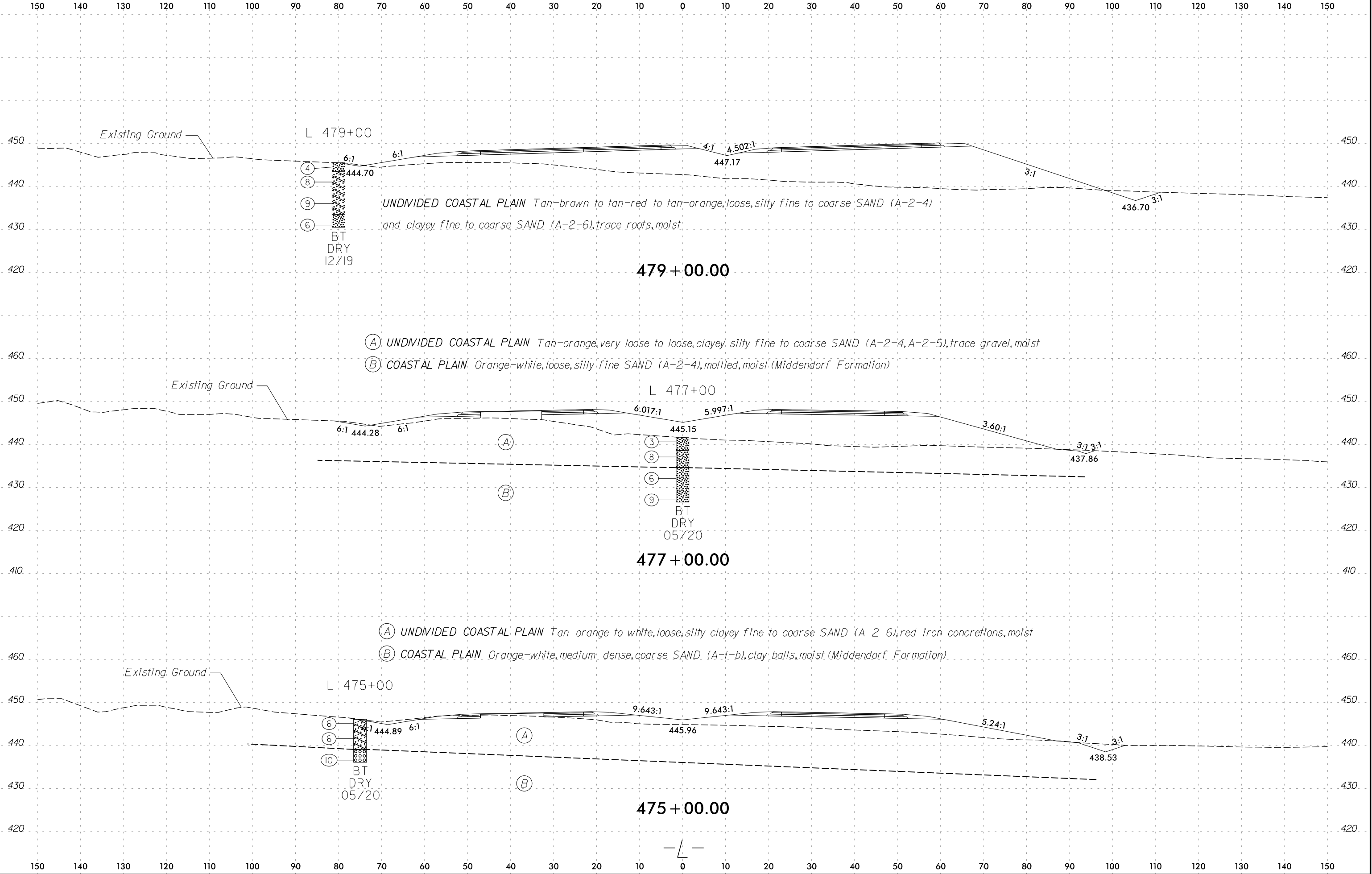
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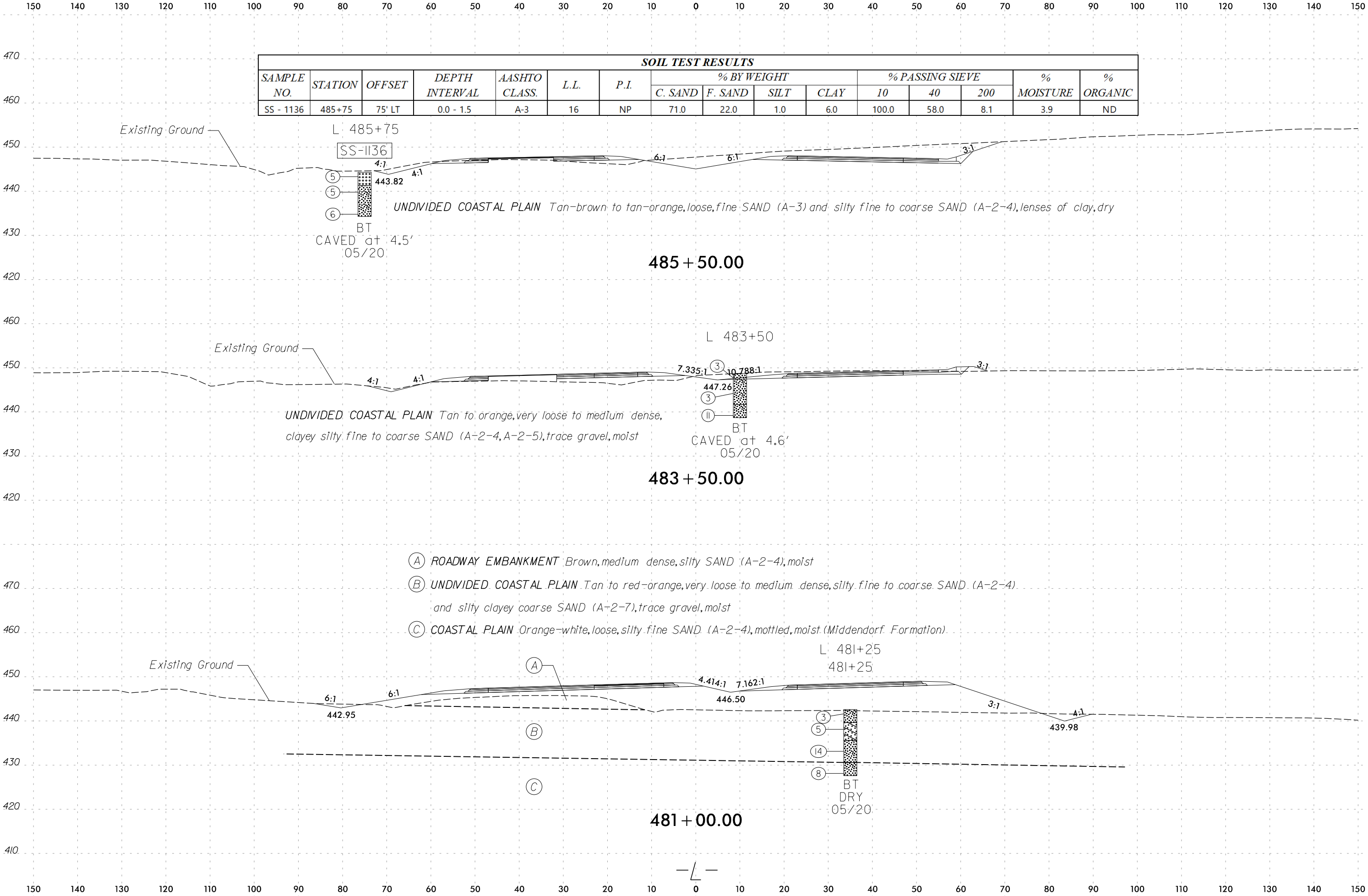
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-258	471+00	70' LT	3.5 - 5.0	A-2-6(0)	32	12	50.0	23.0	1.0	26.0	99.0	69.0	27.3	16.4	ND

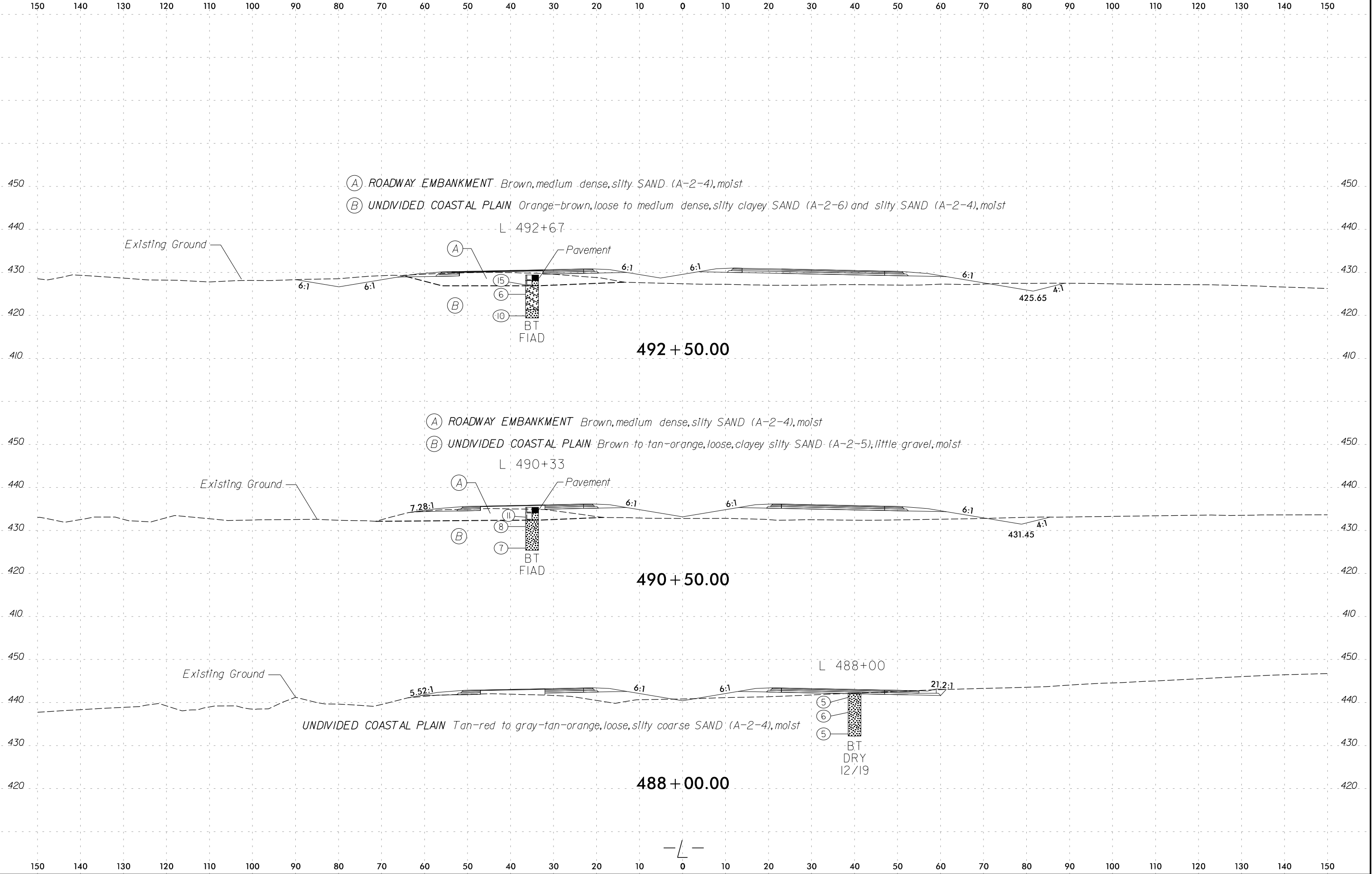


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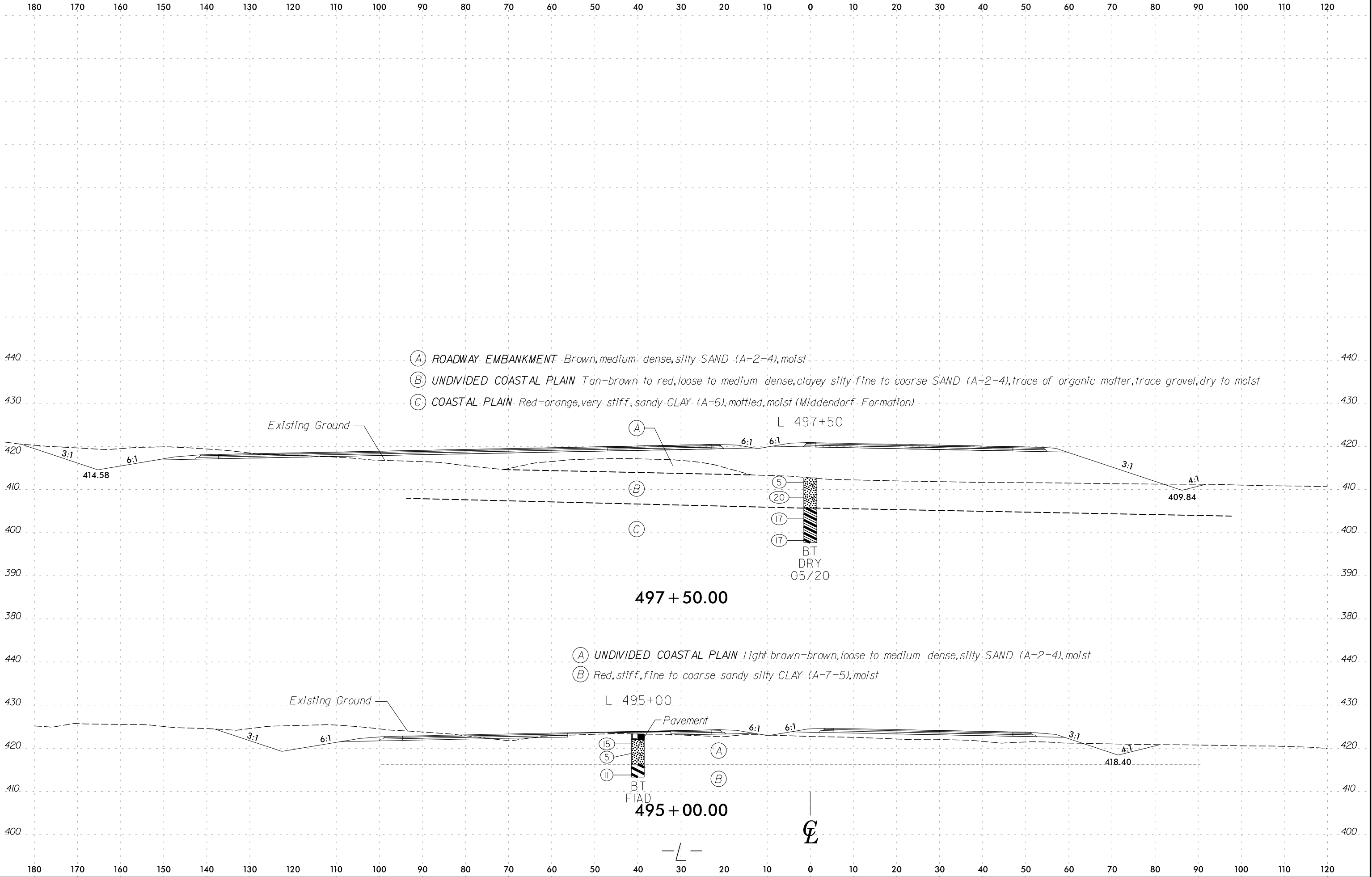


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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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400 400

390 390

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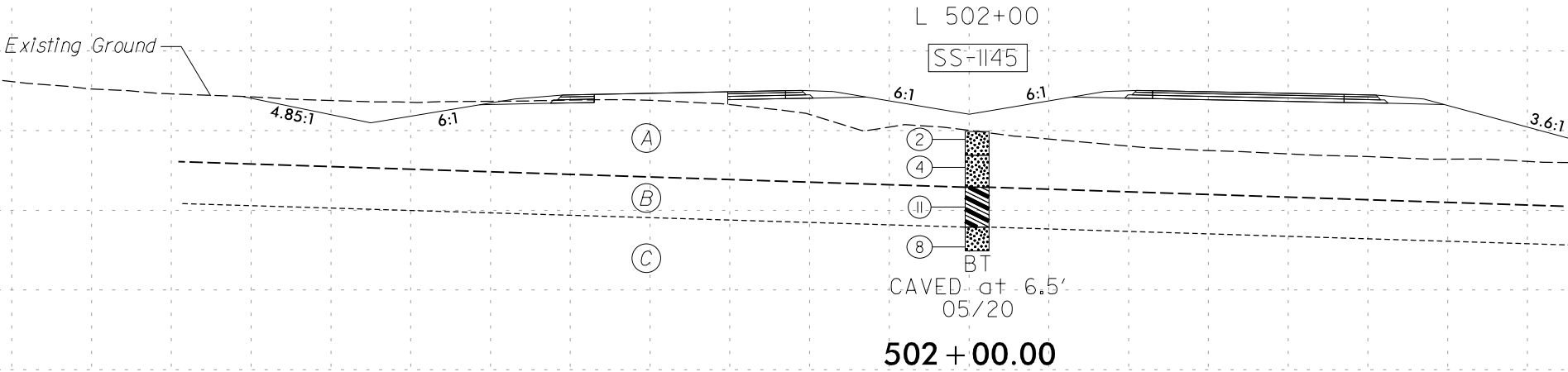
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380 380

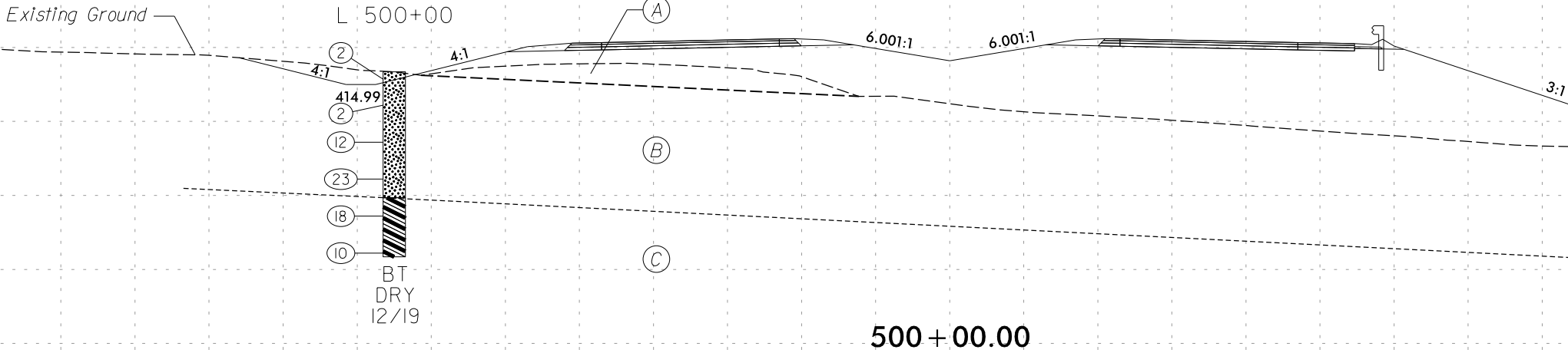
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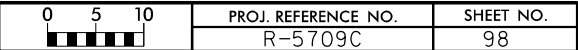
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1145	502+00	1' RT	8.5 - 10.0	A-6 (2)	36	15	39.0	24.0	4.0	34.0	100.0	81.0	38.0	17.0	ND

- (A) UNDIVIDED COASTAL PLAIN Tan-brown to orange,very loose to loose,clayey silty fine to coarse SAND (A-2-4,A-2-5),trace gravel,trace of organic matter,dry to moist
- (B) COASTAL PLAIN Red-orange,stiff,sandy slightly plastic CLAY (A-6),moist (Middendorf Formation)
- (C) Tan-orange,loose,silty fine to coarse SAND (A-2-4),clay balls,mottled,moist

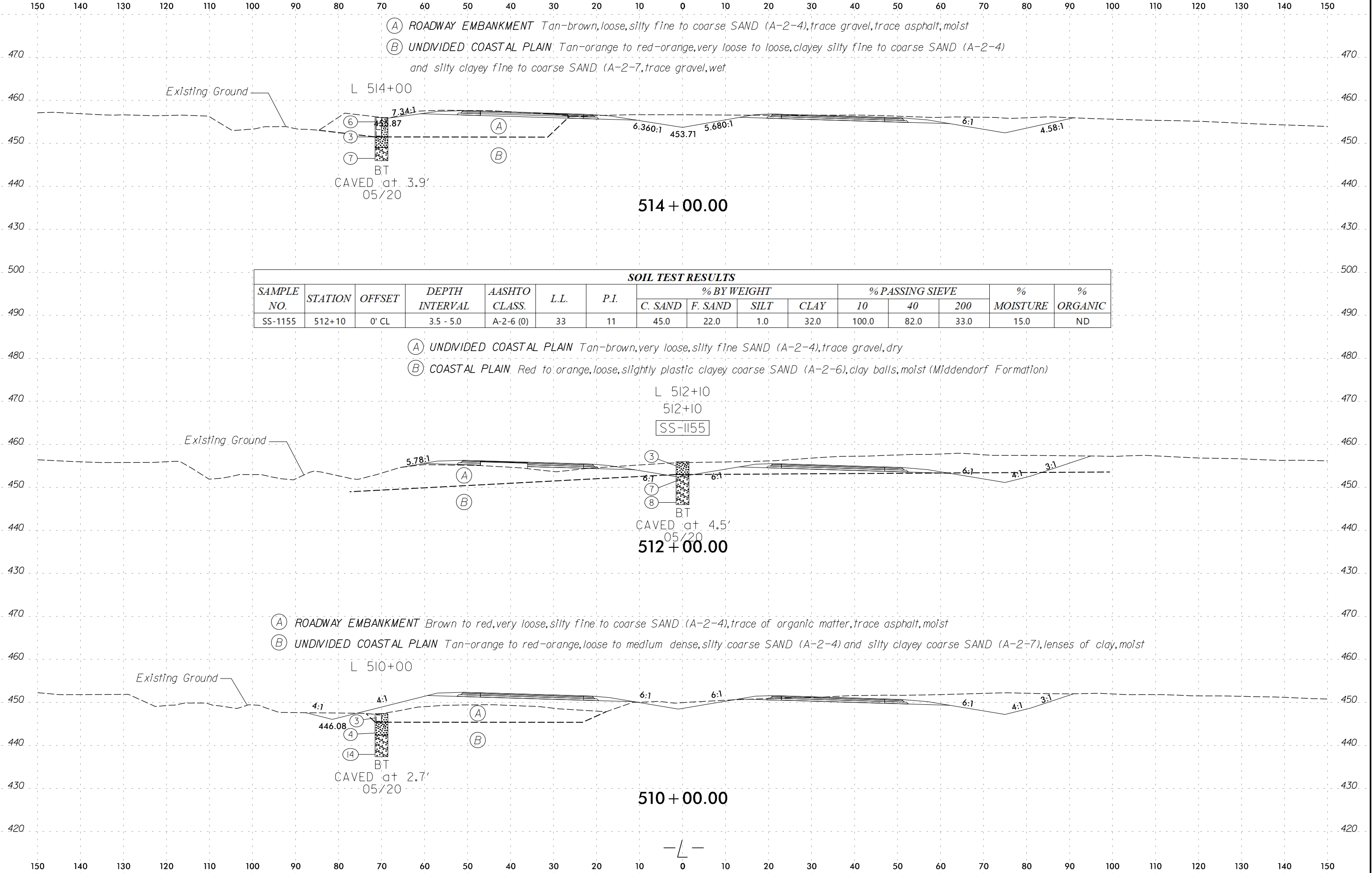


- (A) ROADWAY EMBANKMENT Brown,loose,clayey SAND (A-2-7),little gravel,wet
- (B) UNDIVIDED COASTAL PLAIN Tan to red-orange,very loose to medium dense,silty fine to coarse SAND (A-2-4),trace gravel,moist
- (C) Tan-red,stiff to very stiff,coarse sandy CLAY (A-6),moist

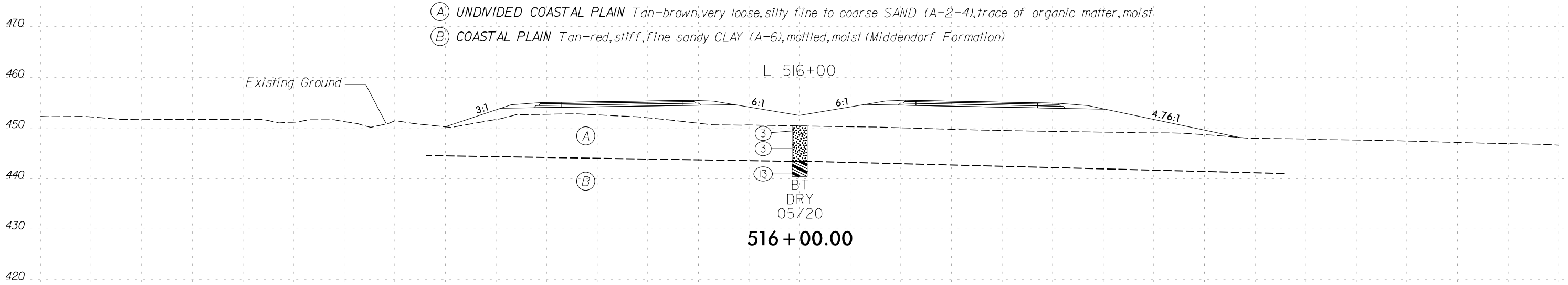
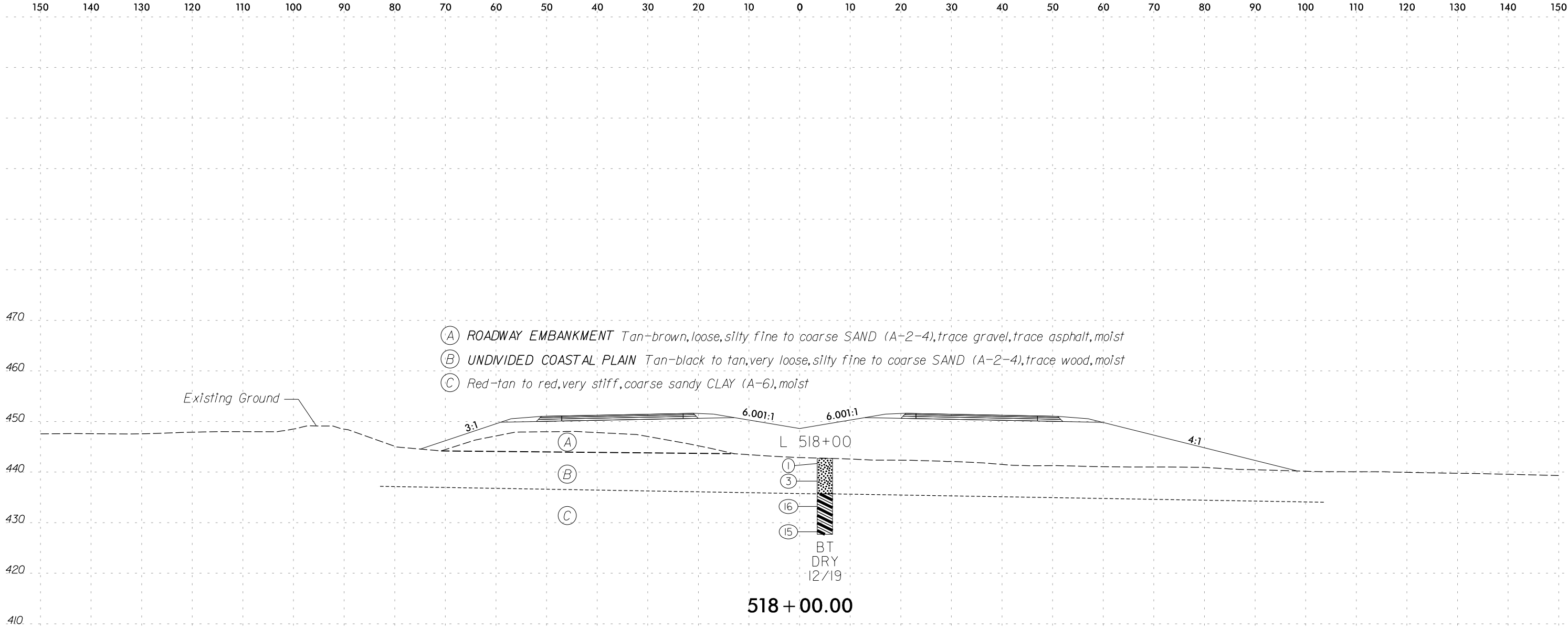




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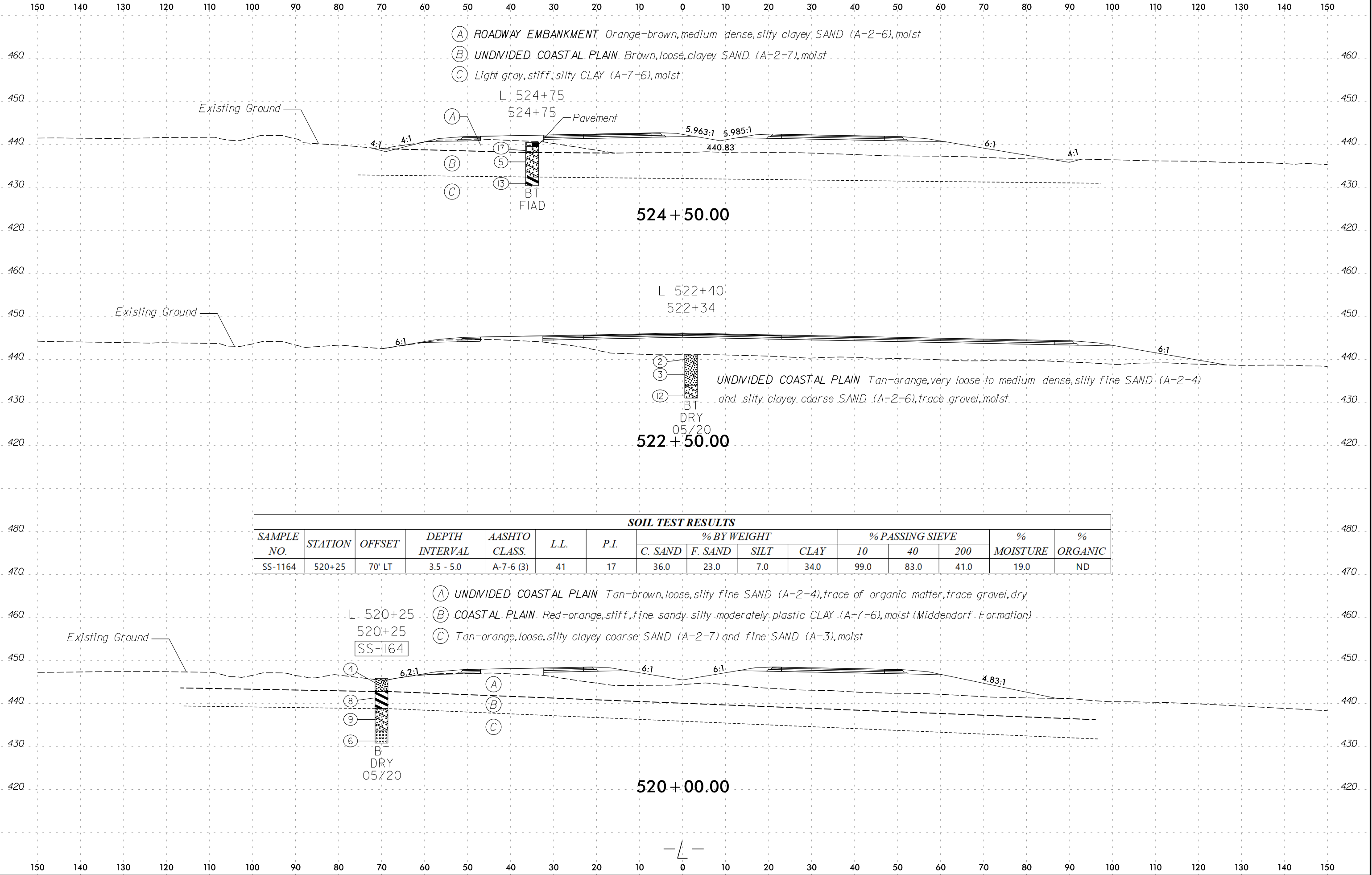


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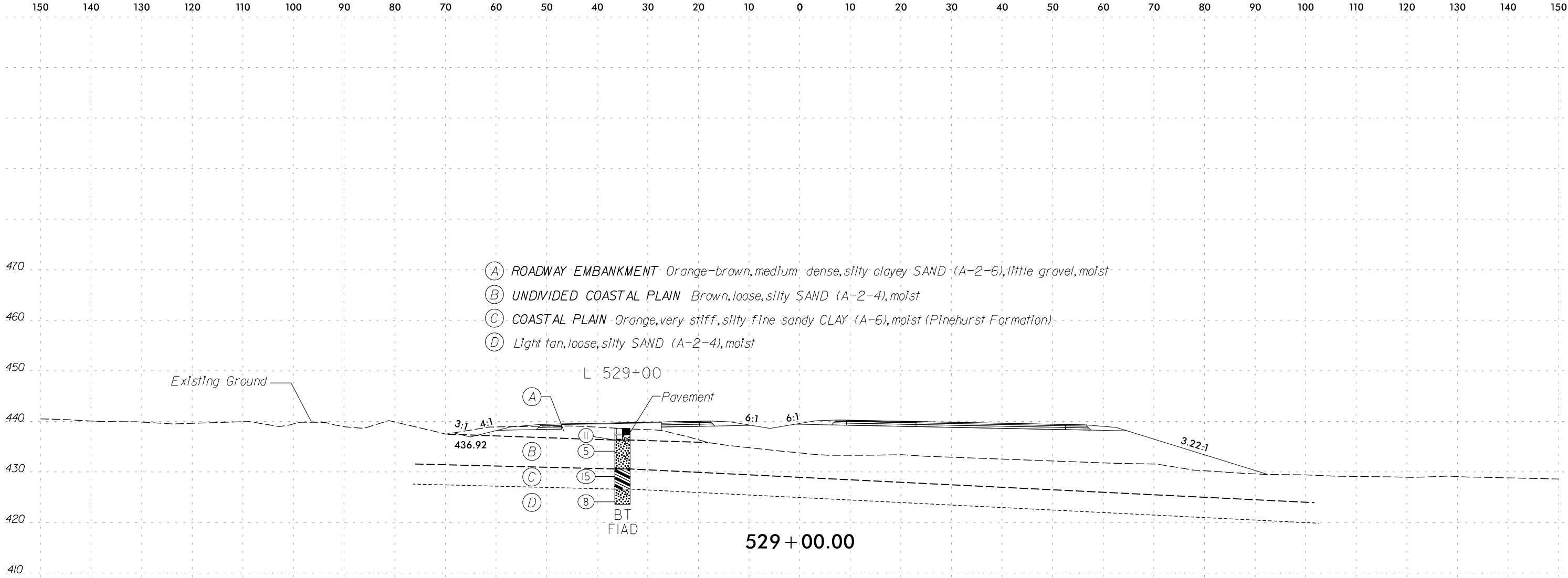


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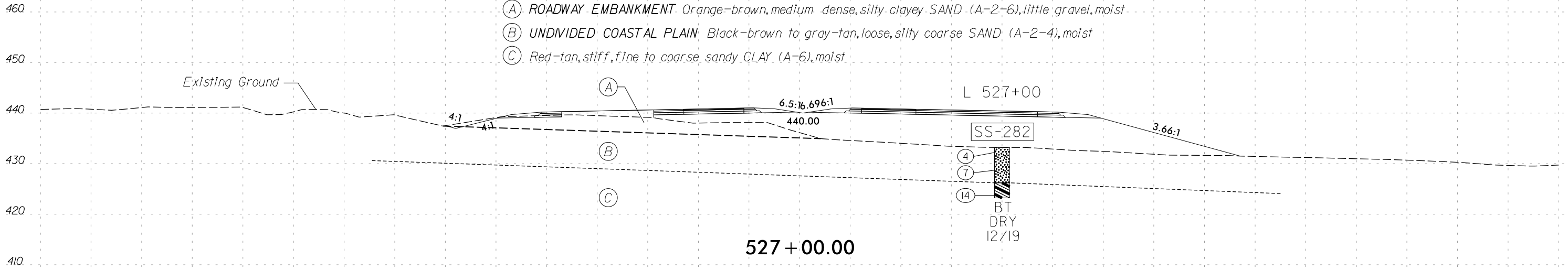
6/23/16



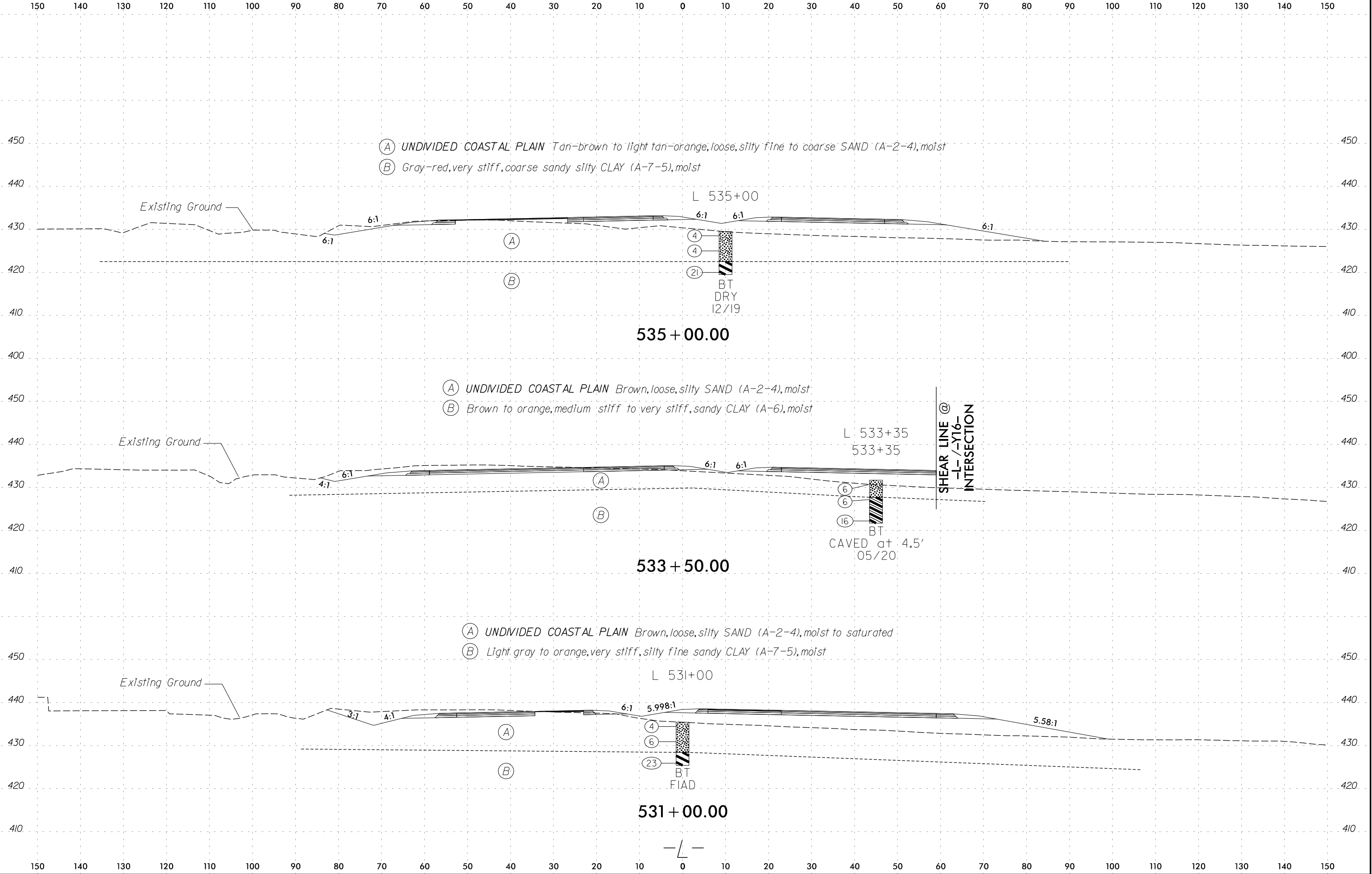
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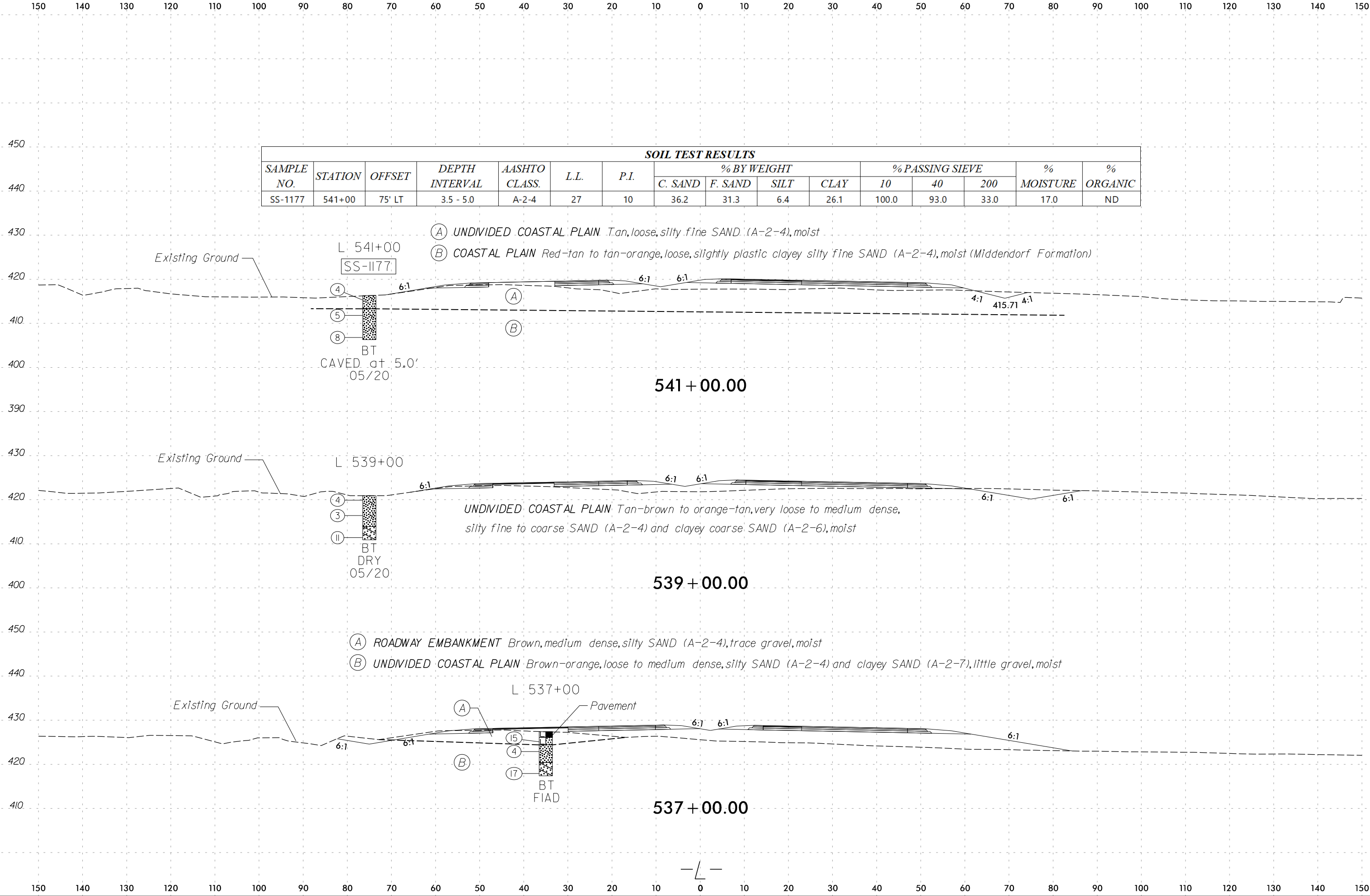


SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-282	527+00	40' RT	3.5 - 5.0	A-2-4	20	NP	47.0	33.0	5.0	14.0	100.0	76.0	19.4	13.5	ND

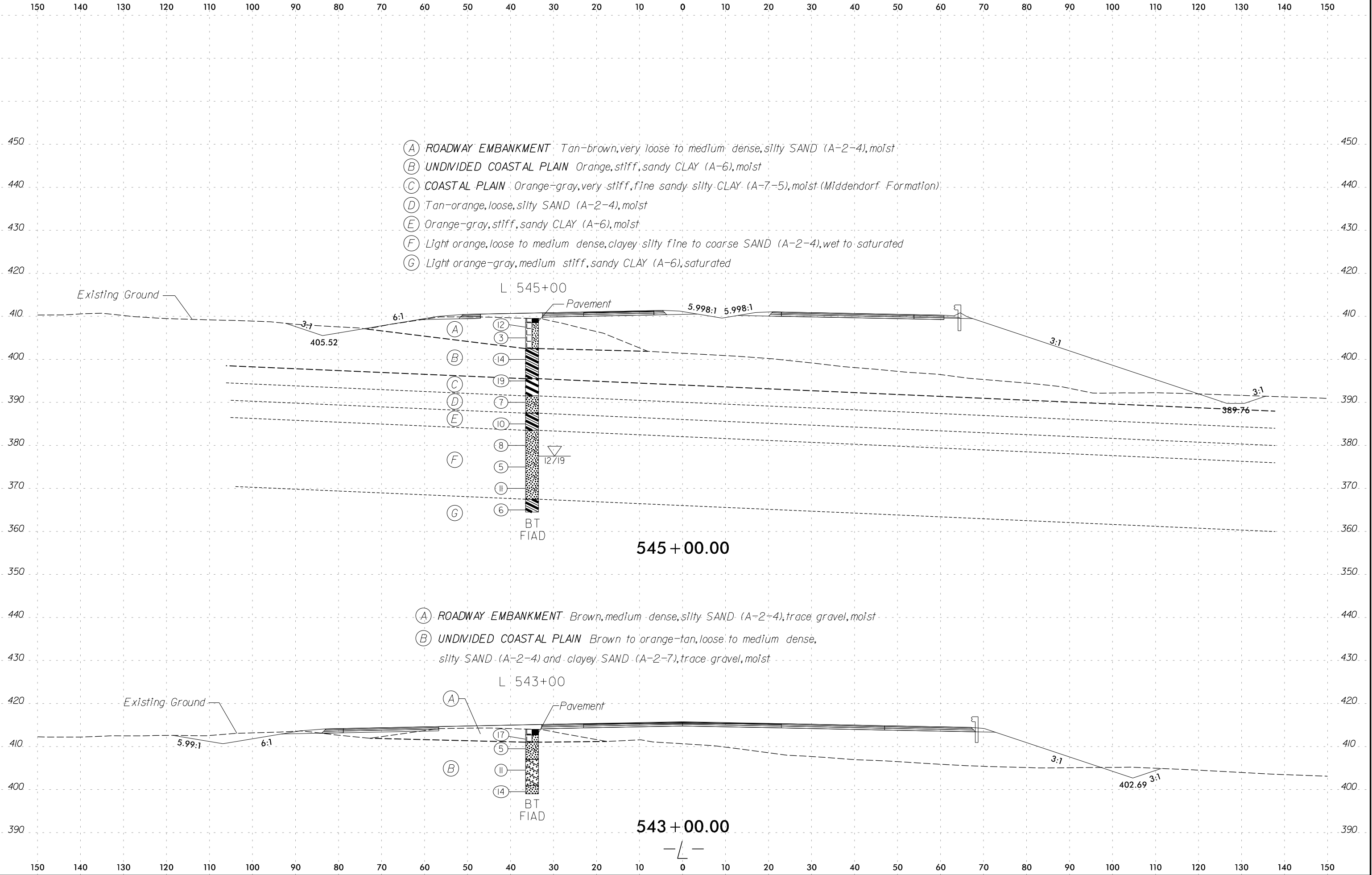


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6/23/16



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

450

440

430

420

410

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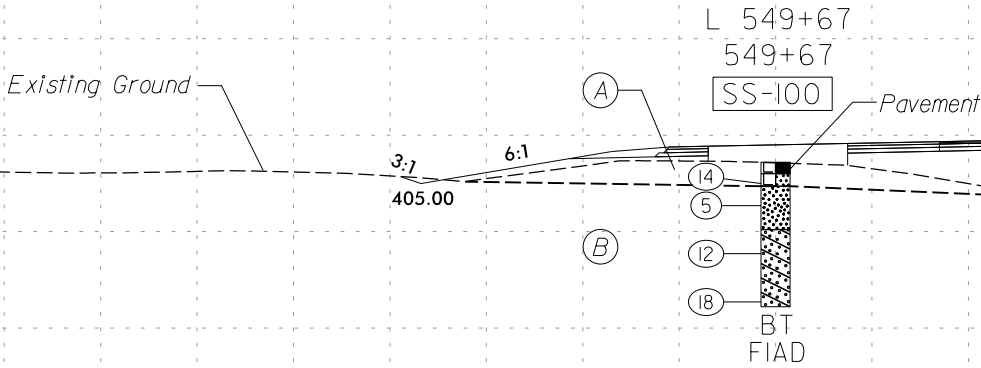
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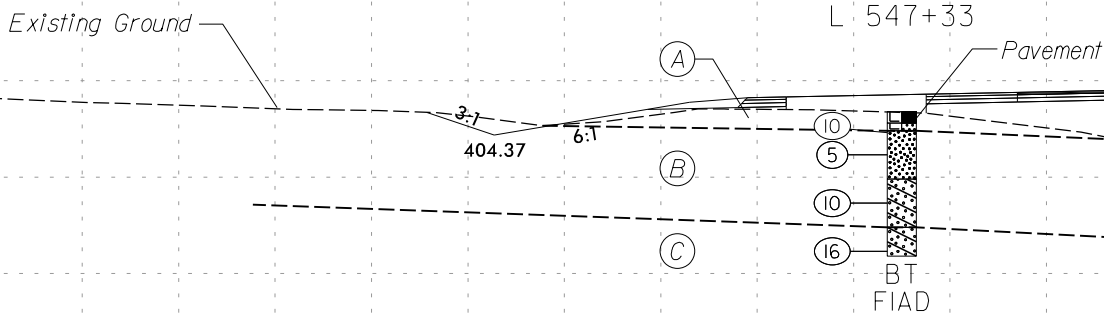
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SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-100	549+67	40' LT	1.2 - 2.7	A-2-4	25	7	49.0	23.0	0.0	28.0	100.0	75.0	29.0	13.0	ND

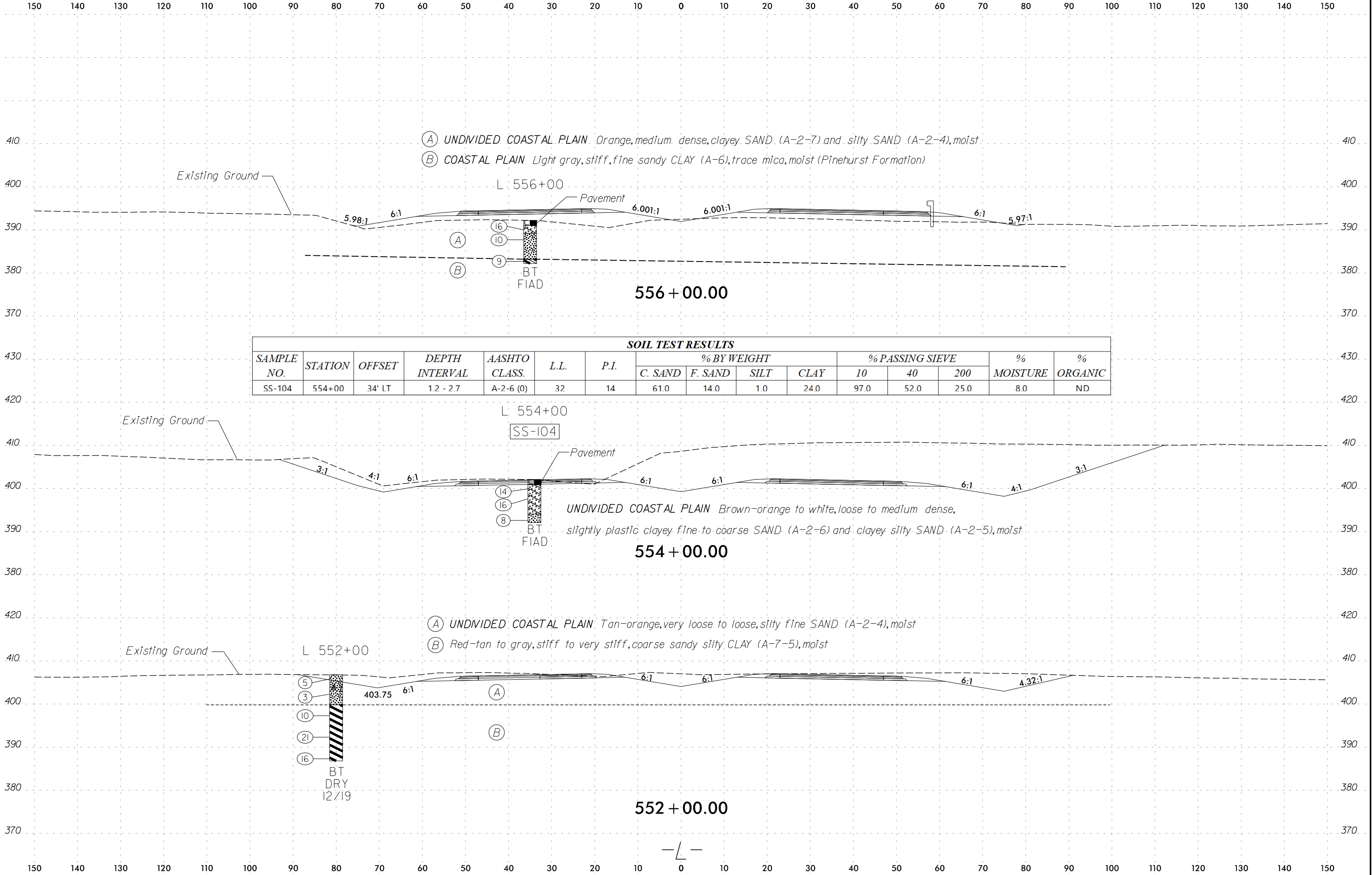
- (A) ROADWAY EMBANKMENT Orange-tan, medium dense, slightly plastic clayey silty fine to coarse SAND (A-2-4), moist
- (B) UNDIVIDED COASTAL PLAIN Light brown to orange, loose to medium dense, silty SAND (A-2-4) and clayey SAND (A-2-7), moist



- (A) ROADWAY EMBANKMENT Brown-gray to orange-brown, medium dense, silty SAND (A-2-4), trace gravel, moist
- (B) UNDIVIDED COASTAL PLAIN Brown-gray to orange-brown, loose to medium dense, silty SAND (A-2-4) and clayey SAND (A-2-7), trace gravel, moist
- (C) COASTAL PLAIN Tan, medium dense, clayey SAND (A-2-7), trace mica, moist (Pinehurst Formation)



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

430

420

410

400

390

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370

360

350

340

330

320

SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-292	558+00	40' RT	0 - 1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	87.8	13.9

- (A) ROADWAY EMBANKMENT Orange-tan, medium dense, slightly plastic clayey silty fine to coarse SAND (A-2-4), moist
- (B) ALLUVIAL Black, very soft, clayey fine to coarse sandy MUCK, highly organic, saturated
- (C) Black-gray, very loose, silty fine to coarse SAND (A-2-4), trace to little organic matter, saturated
- (D) COASTAL PLAIN Gray-orange-black, hard, fine to coarse sandy CLAY (A-6), saturated (Pinehurst Formation)
- (E) Gray-tan-orange, medium dense, silty fine to coarse SAND (A-2-4), saturated
- (F) Gray-orange to gray-red, medium stiff to hard, coarse sandy CLAY (A-6), saturated (SANDSTONE)

Existing Ground

L 558+00_HA4

L 558+00_HA5

BT 9/20

BT 9/20

3:1

(A)

(C)

(D)

(E)

(F)

6.001:1

6.001:1

L 558+00_HA1

L 558+00

SS-292

L 558+00_HA2

L 558+00_HA3

3:1

BT 9/20

WOH

(3)

(1)

(50)

(51)

(20)

(5)

(100/0.6)

(79)

BT

12/19

BT 9/20

BT 9/20

558 + 00.00

—/—

430

420

410

400

390

380

370

360

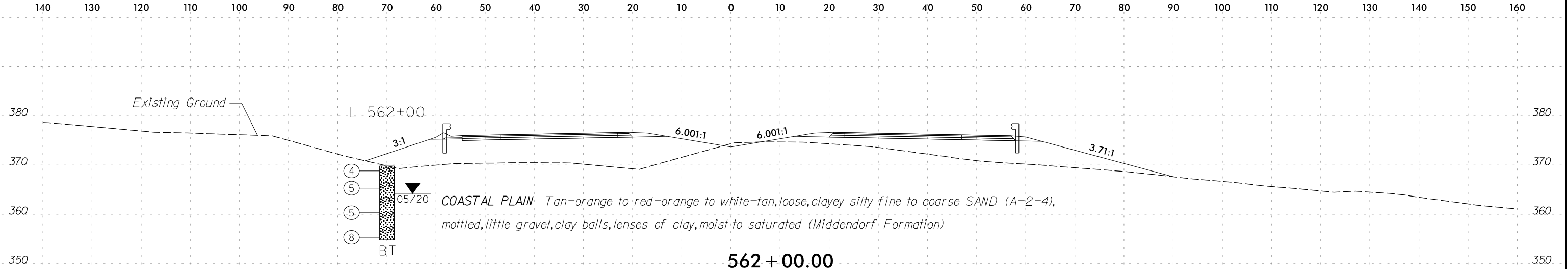
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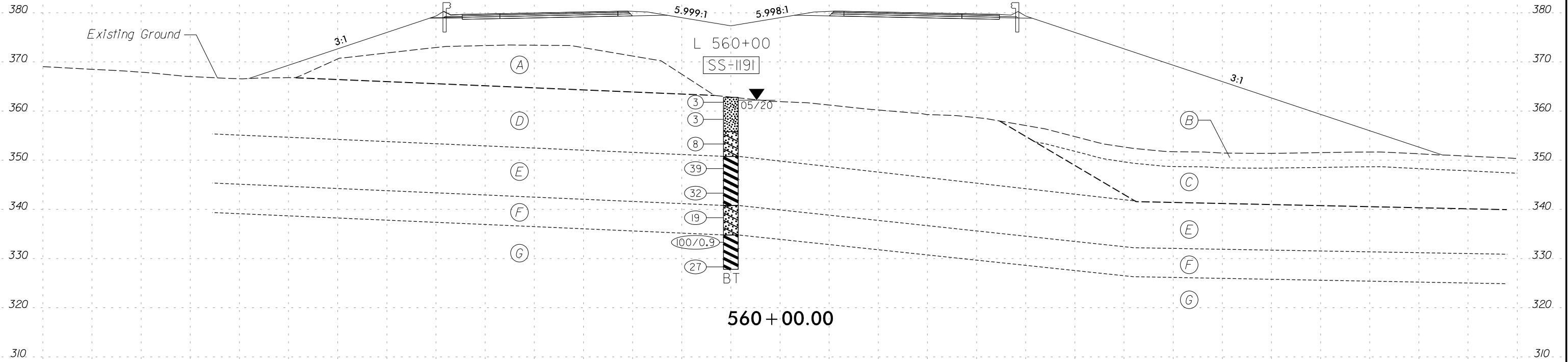
320

6/23/16



SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1191	560+00	0' CL	0.0 - 1.5	A-2-4	23	NP	48.5	27.4	10.0	14.2	100.0	75.0	24.0	27.0	ND

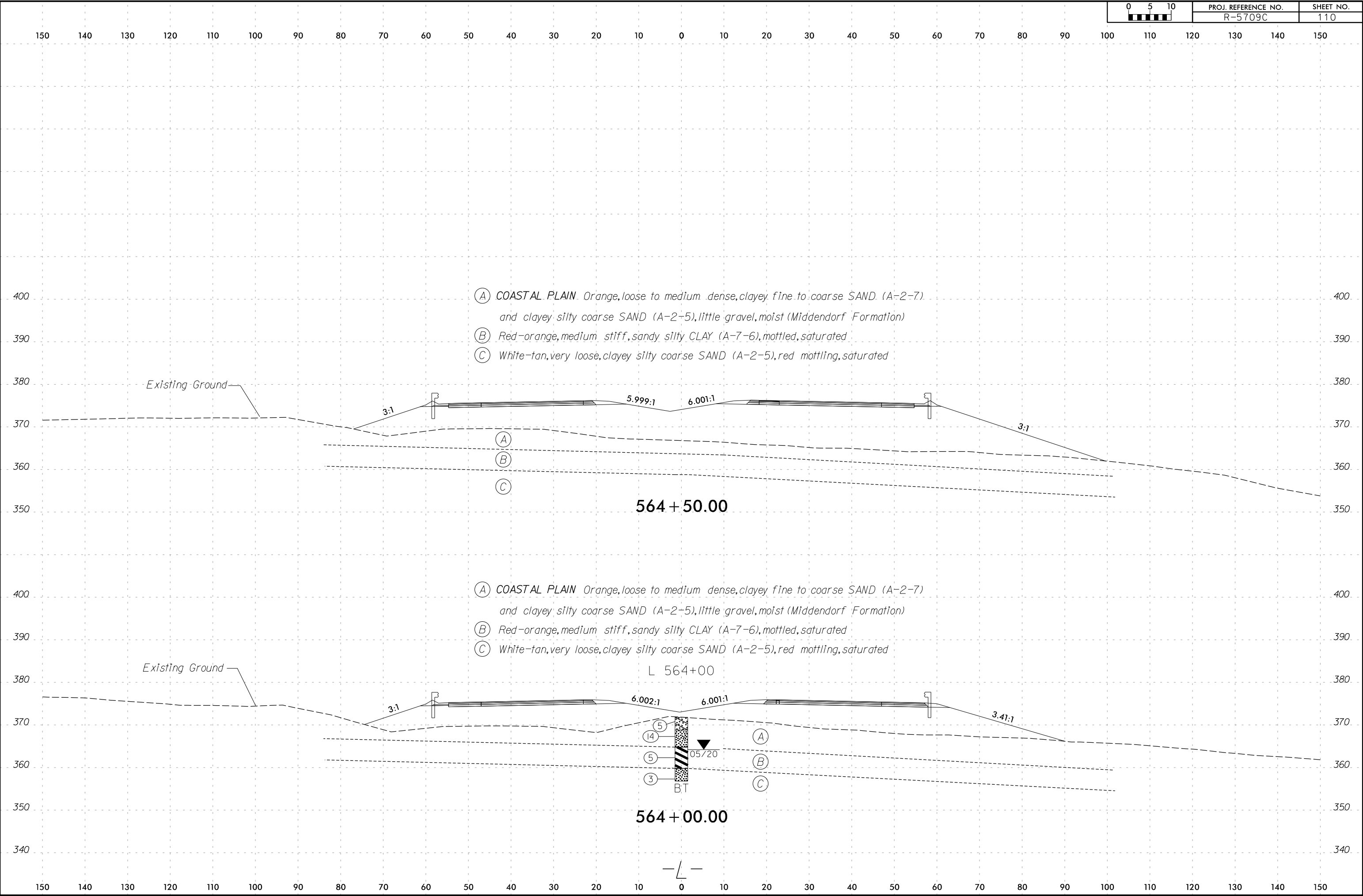
- (A) ROADWAY EMBAKMENT Orange-tan, medium dense, slightly plastic clayey silty fine to coarse SAND (A-2-4), moist
- (B) ALLUVIAL Black, very soft, clayey fine to coarse sandy MUCK, highly organic, saturated
- (C) Black-gray, very loose, silty fine to coarse SAND (A-2-4), trace to little organic matter, saturated
- (D) COASTAL PLAIN Gray-black to tan, very loose to loose, silty SAND (A-2-4) and silty clayey coarse SAND (A-2-6), little gravel, wet to saturated (Middendorf Formation)
- (E) Gray to orange, hard, fine sandy silty CLAY (A-7-6), purple and orange mottling, saturated
- (F) Gray, medium dense, silty clayey fine SAND (A-2-6), purple and orange mottling, saturated
- (G) Gray, very stiff to hard, fine sandy silty CLAY (A-7-6), trace mica, saturated (MUDSTONE)



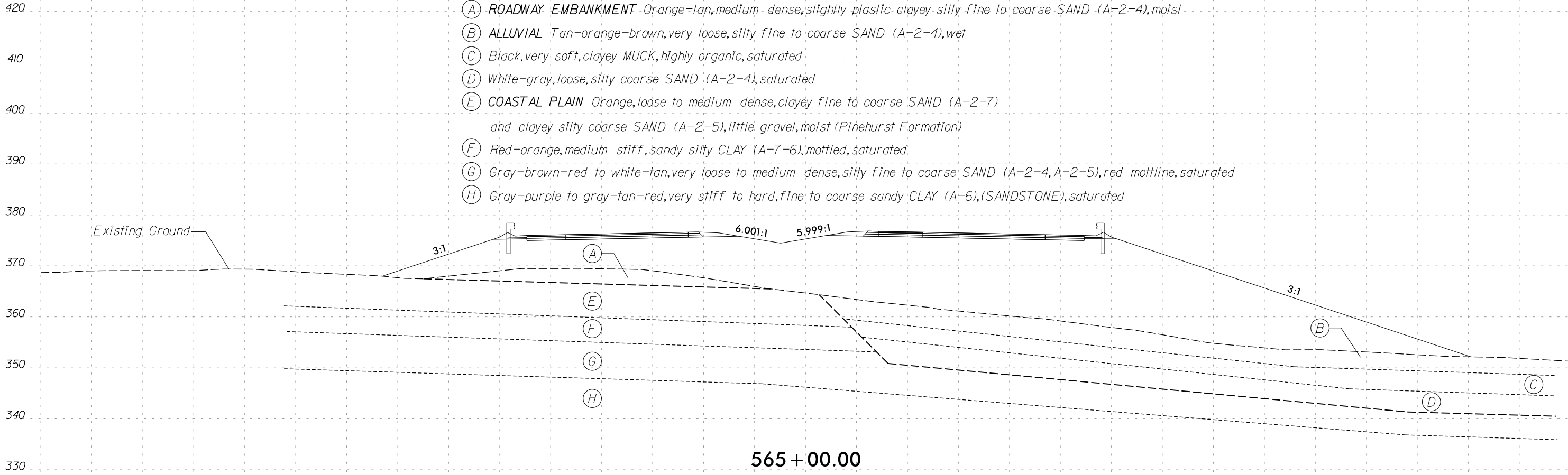
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5709C	110



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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

420 420

410 410

400 400

390 390

380 380

370 370

360 360

350 350

340 340

330 330

320 320

310 310

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.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-302	566+00	15' RT	3.5 - 5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	191.8	30.8

- (A)

ROADWAY EMBANKMENT Orange-tan, medium dense, slightly plastic clayey silty fine to coarse SAND (A-2-4), moist
- (B)

ALLUVIAL Tan-orange-brown, very loose, silty fine to coarse SAND (A-2-4), wet
- (C)

Black, very soft, clayey MUCK, highly organic, saturated
- (D)

White-gray, loose, silty coarse SAND (A-2-4), saturated
- (E)

COASTAL PLAIN Gray-brown-red, medium dense, silty fine to coarse SAND (A-2-4), saturated (Pinehurst Formation)
- (F)

Gray-purple to gray-tan-red, very stiff to hard, fine to coarse sandy CLAY (A-6), (SANDSTONE), saturated

Existing Ground

3:1

6.001:1

6.001:1

3:1

L 566+00

L 566+00_HA1

565+68

565+68

SS-302

9/20

BT

9/20

BT

12/19

L 566+00_HA2

565+68

WOH

(5)

(3)

(22)

(30)

(100/0.4)

(57)

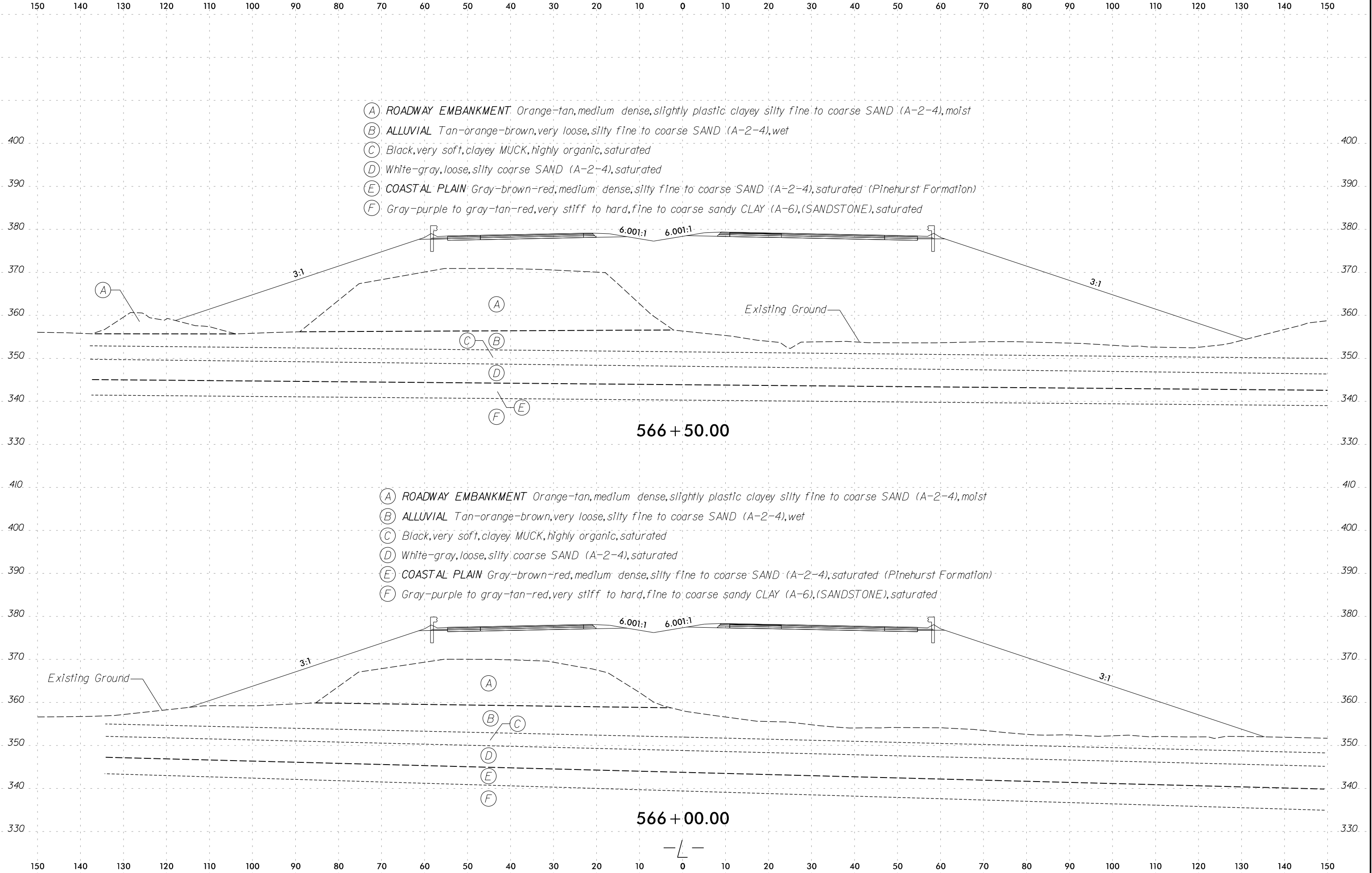
(53)

(45)

BT

565+50.00

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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

410 410

400 400

390 390

380 380

370 370

360 360

350 350

400 400

390 390

380 380

370 370

360 360

350 350

340 340

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.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-125	568+00	30' RT	0.0 - 1.5	A-4 (0)	29	9	32.0	30.0	6.0	32.0	99.0	82.0	38.0	27.0	ND

- (A) UNDIVIDED COASTAL PLAIN Brown to orange, medium stiff, slightly plastic clayey sandy SILT (A-4), moist
(B) Tan, loose to medium dense, clayey silty SAND (A-2-4, A-2-5), trace mica, moist to saturated

L 568+00

SS-125

Existing Ground

3.21:1

6:1

6.001:1

4.61:1

(A)

(B)

(4)

(13)

(7)

(8)

05/20

BT

CAVED at 6.7'
05/20

568 + 00.00

- (A) ROADWAY EMBANKMENT Orange-tan, medium dense, slightly plastic clayey silty fine to coarse SAND (A-2-4), moist
(B) UNDIVIDED COASTAL PLAIN Brown to orange, medium stiff, slightly plastic clayey sandy SILT (A-4), moist
(C) Tan, loose to medium dense, clayey silty SAND (A-2-4, A-2-5), trace mica, moist to saturated

3:1

6.002:1

6.002:1

3:1

(A)

(B)

(C)

Existing Ground

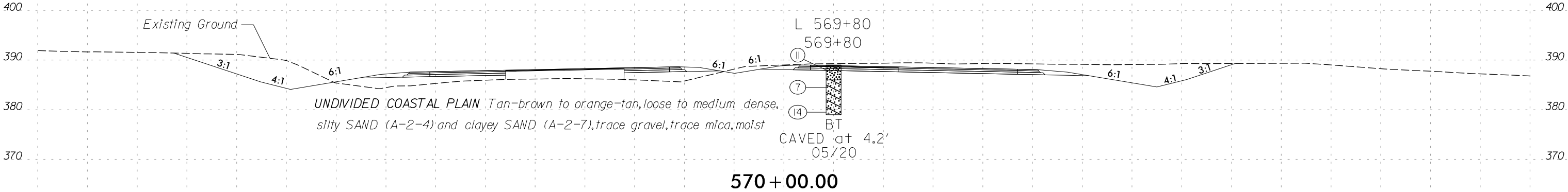
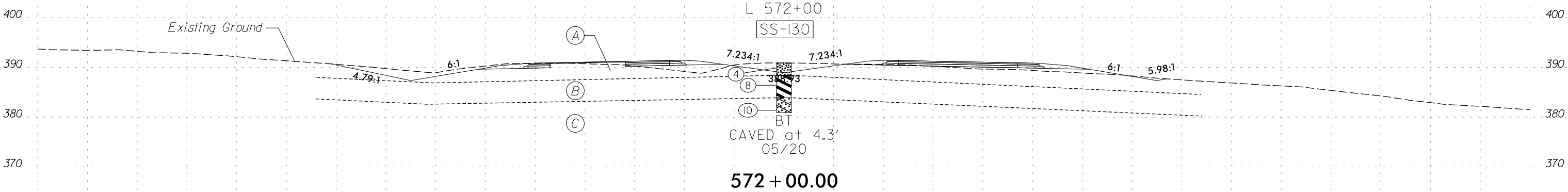
567 + 00.00

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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

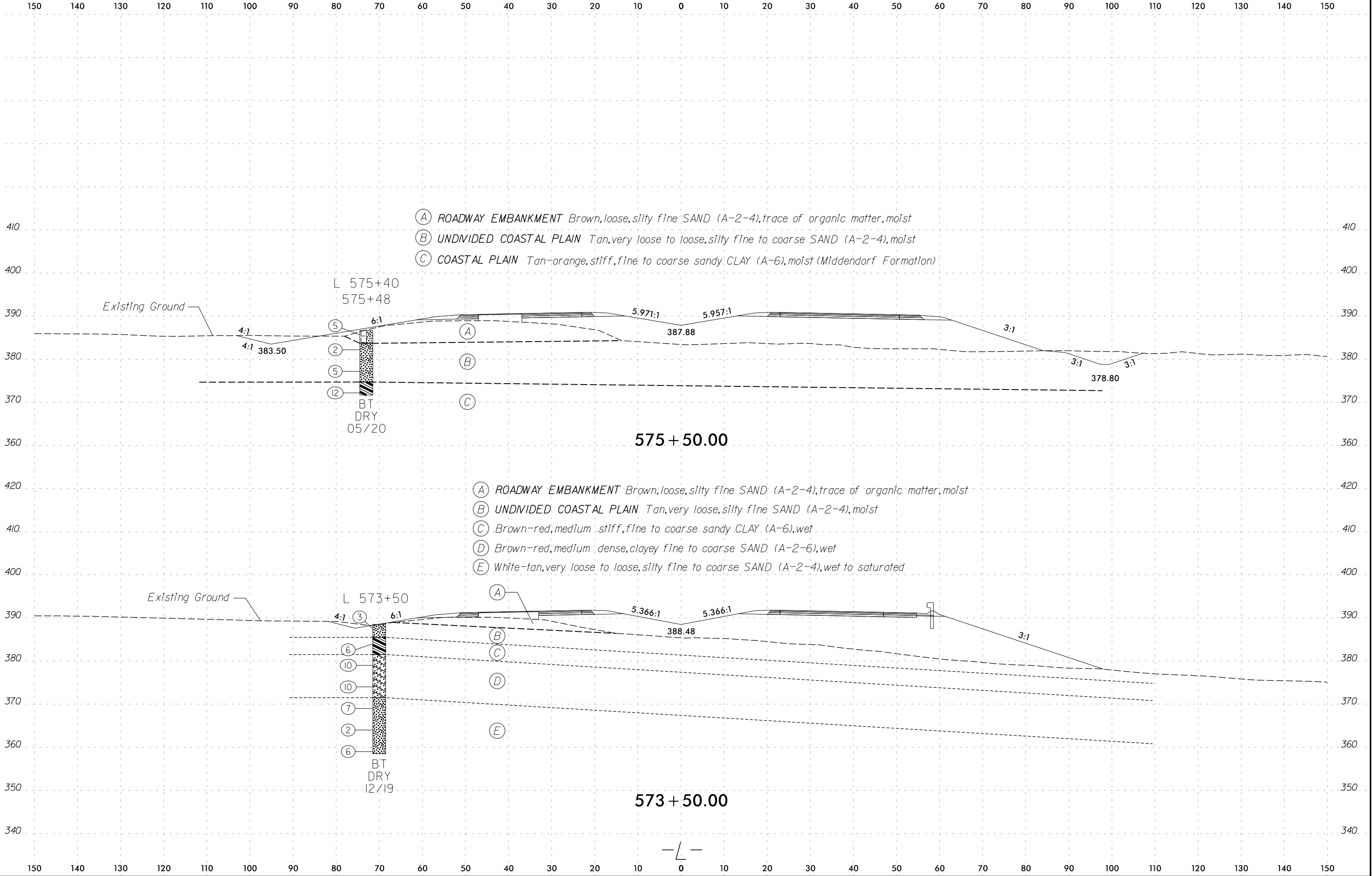
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-130	572+00	0' CL	3.5 - 5.0	A-7-6 (9)	45	24	29.0	19.0	12.0	40.0	100.0	85.0	52.0	17.0	ND

- (A) UNDIVIDED COASTAL PLAIN Brown, loose, silty SAND (A-2-4), moist
- (B) Red-orange, stiff, sandy silty moderately plastic CLAY (A-7-6), moist
- (C) Orange, medium dense, clayey SAND (A-2-7), little gravel, moist

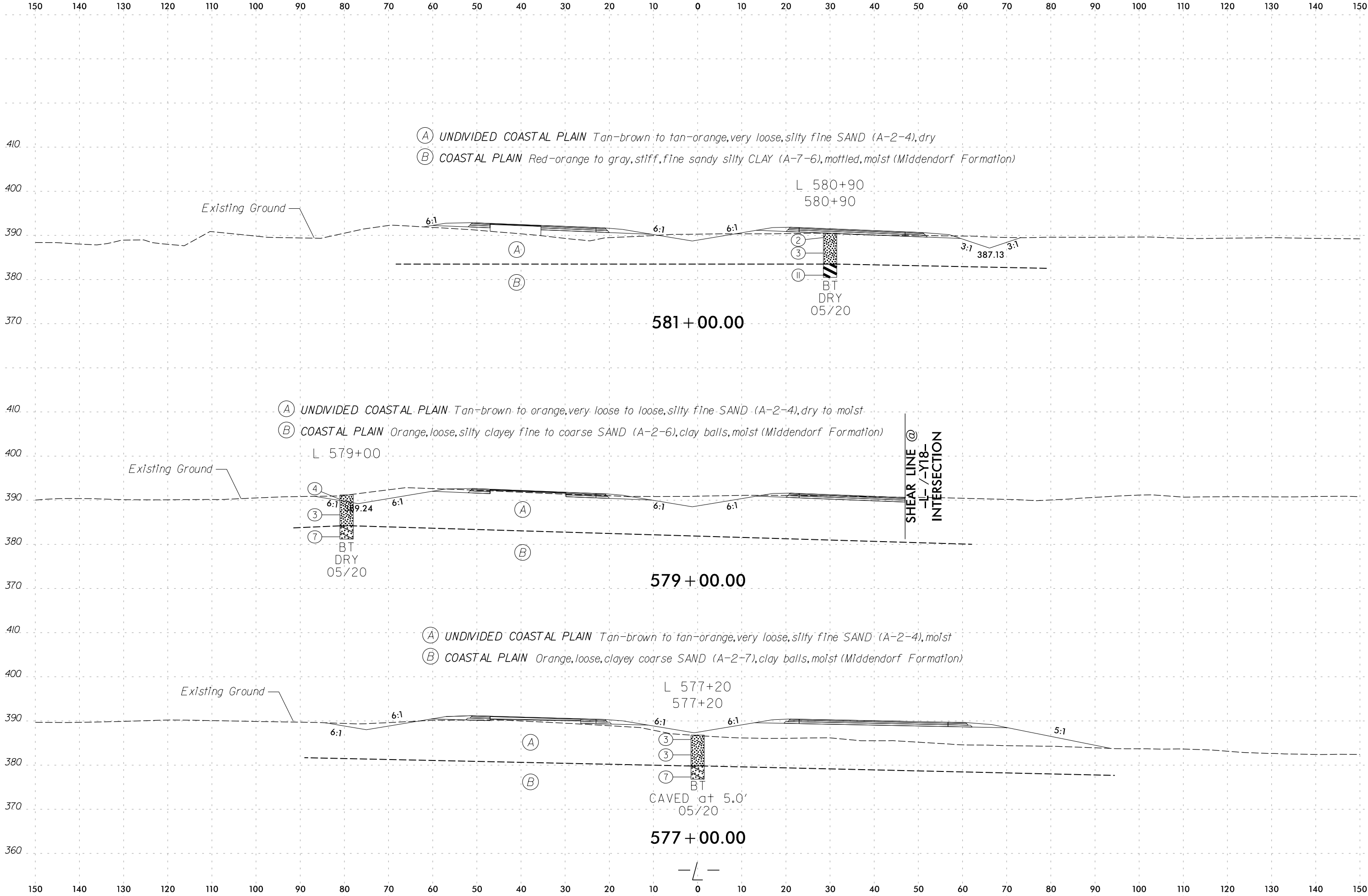


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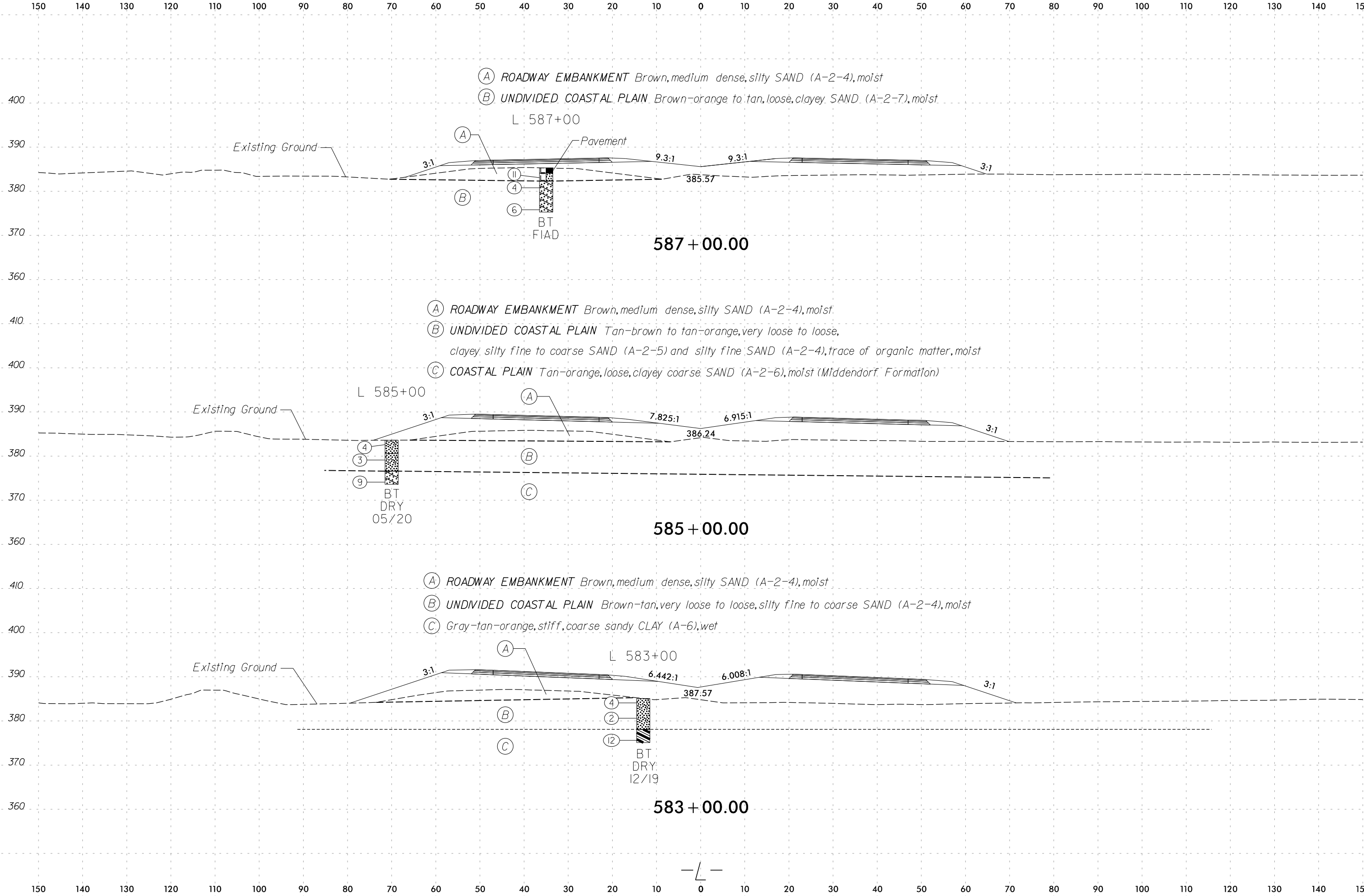
6/23/16



6/23/16



6/23/16

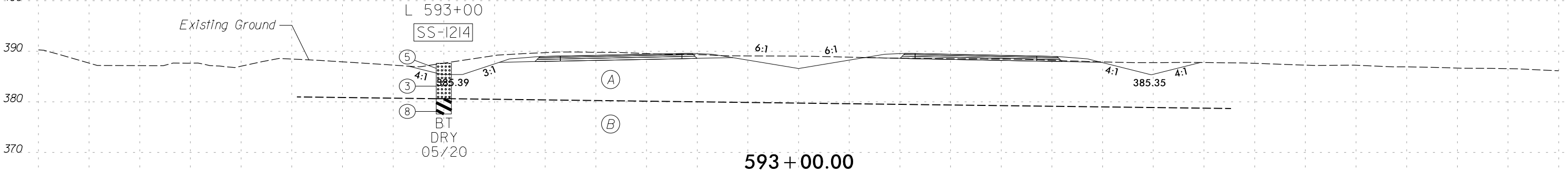


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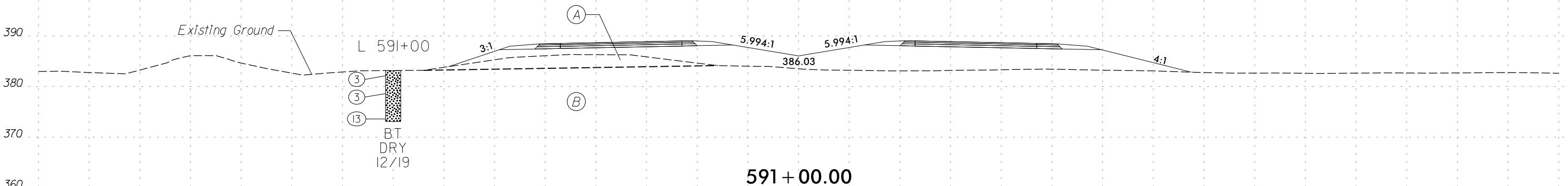
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SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS - 1214	593+00	70' LT	0.0 - 1.5	A-3	20	NP	52.0	43.0	1.0	4.0	100.0	80.0	6.4	4.8	ND

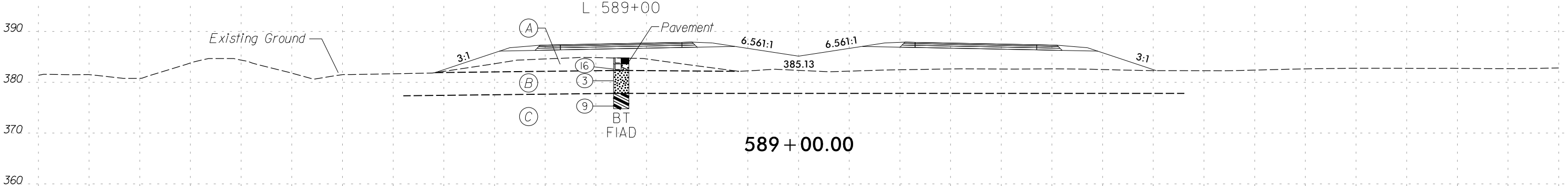
- (A) UNDIVIDED COASTAL PLAIN Tan-orange,very loose to loose,fine SAND (A-3),trace gravel,moist
- (B) COASTAL PLAIN Tan-orange,stiff,fine sandy silty CLAY (A-7-6),trace mica,moist (Middendorf Formation)



- (A) ROADWAY EMBANKMENT Orange,medium dense,clayey SAND (A-2-7),moist
- (B) UNDIVIDED COASTAL PLAIN Gray to brown to light gray,very loose to medium dense, silty fine to coarse SAND. (A-2-4),trace roots,moist

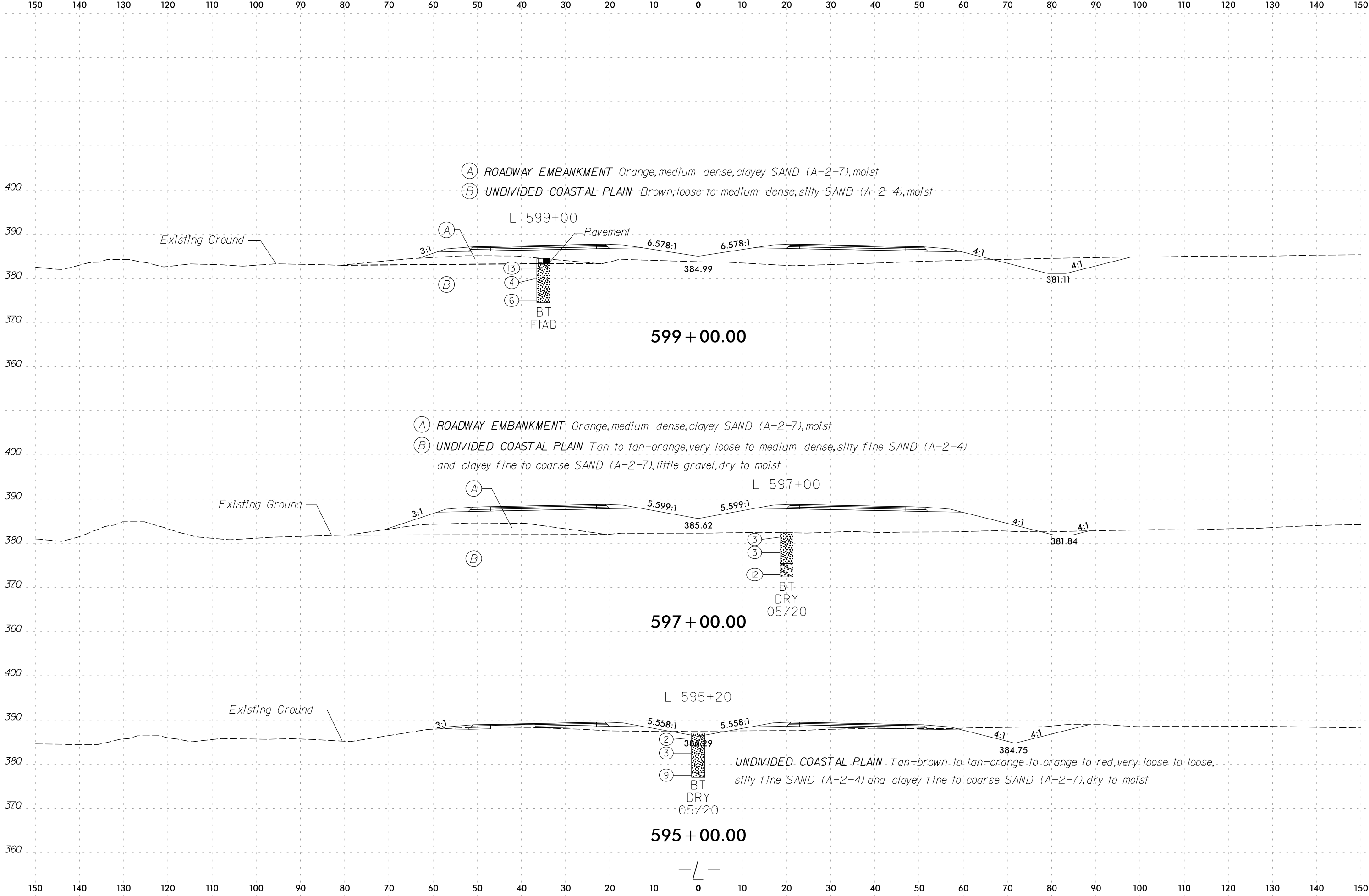


- (A) ROADWAY EMBANKMENT Orange,medium dense,clayey SAND (A-2-7),moist
- (B) UNDIVIDED COASTAL PLAIN Brown-orange,very loose,silty SAND (A-2-4),moist
- (C) COASTAL PLAIN Brown-orange,stiff,sandy CLAY (A-6),moist



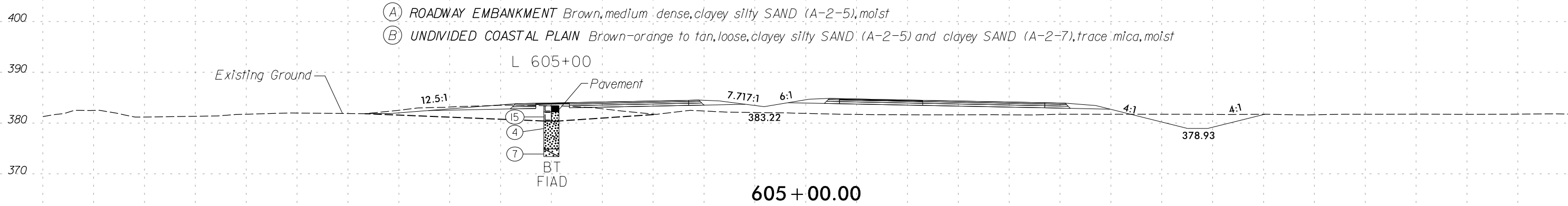
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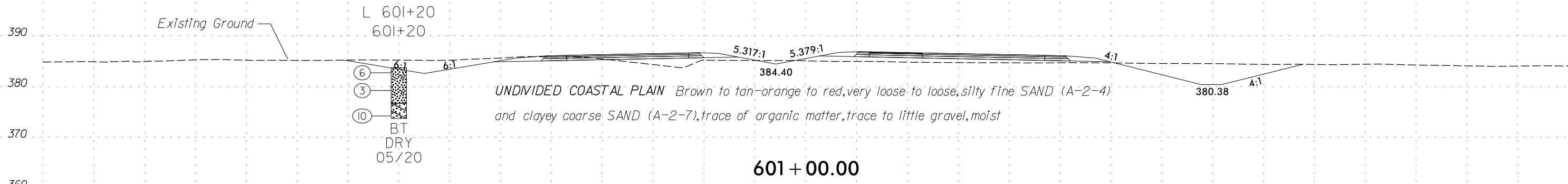
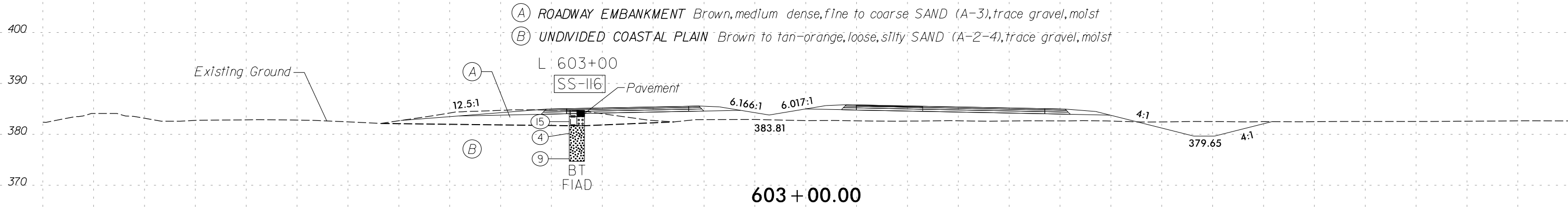


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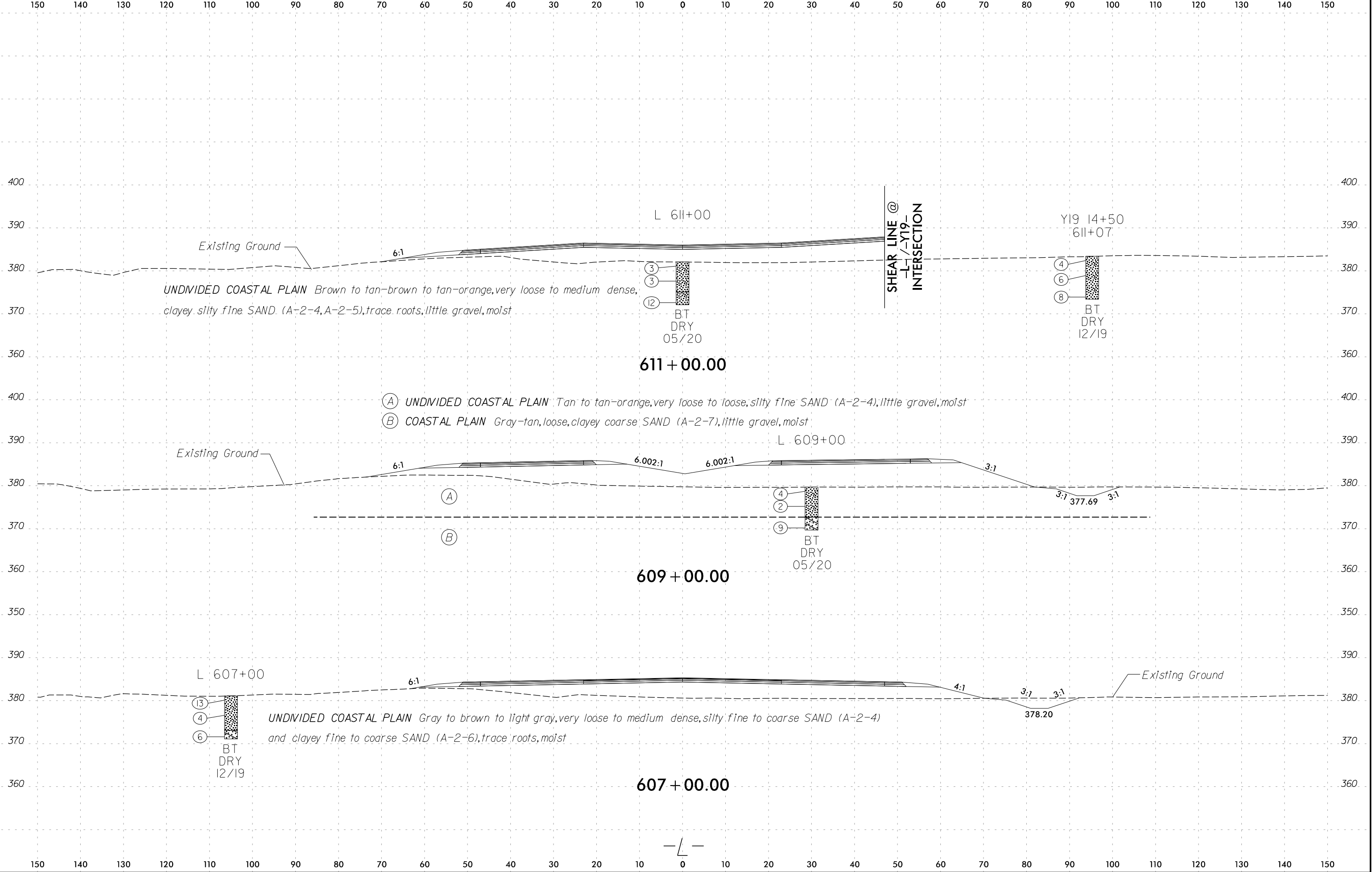
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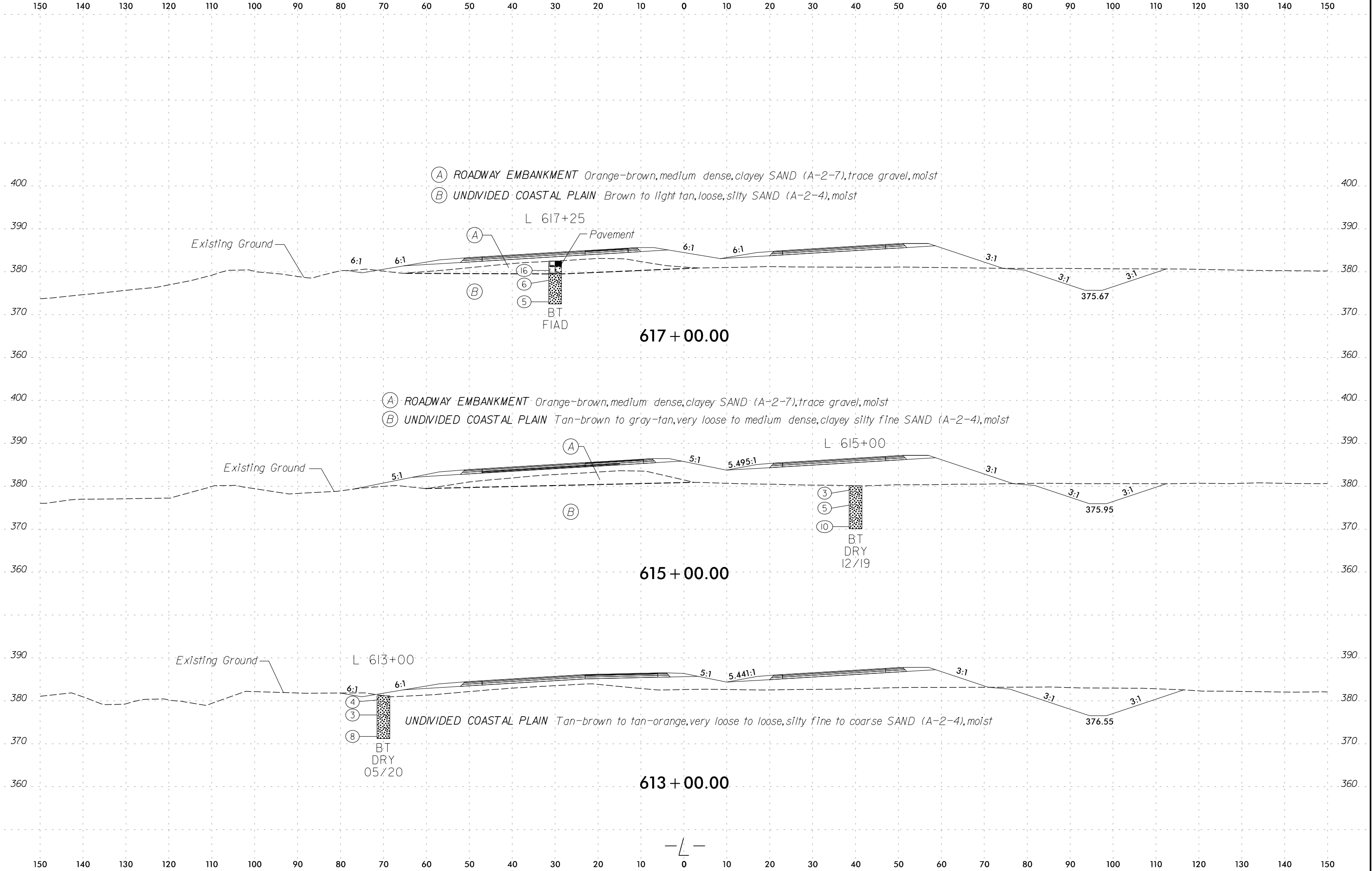


SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS - 116	603+00	45' LT	1.2 - 2.7	A-3	16	NP	58.8	35.1	2.1	4.0	100.0	69.0	6.1	5.2	ND

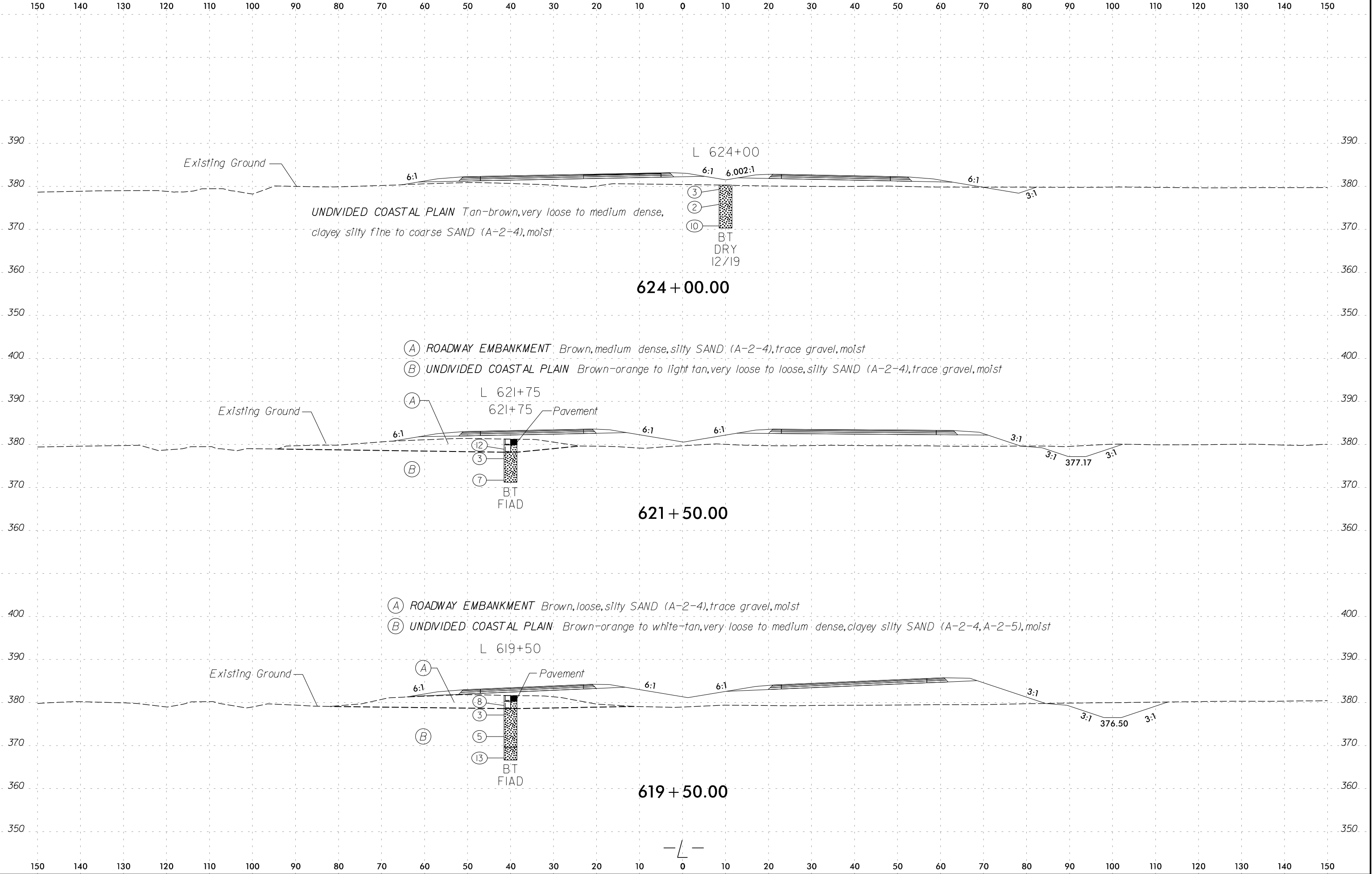


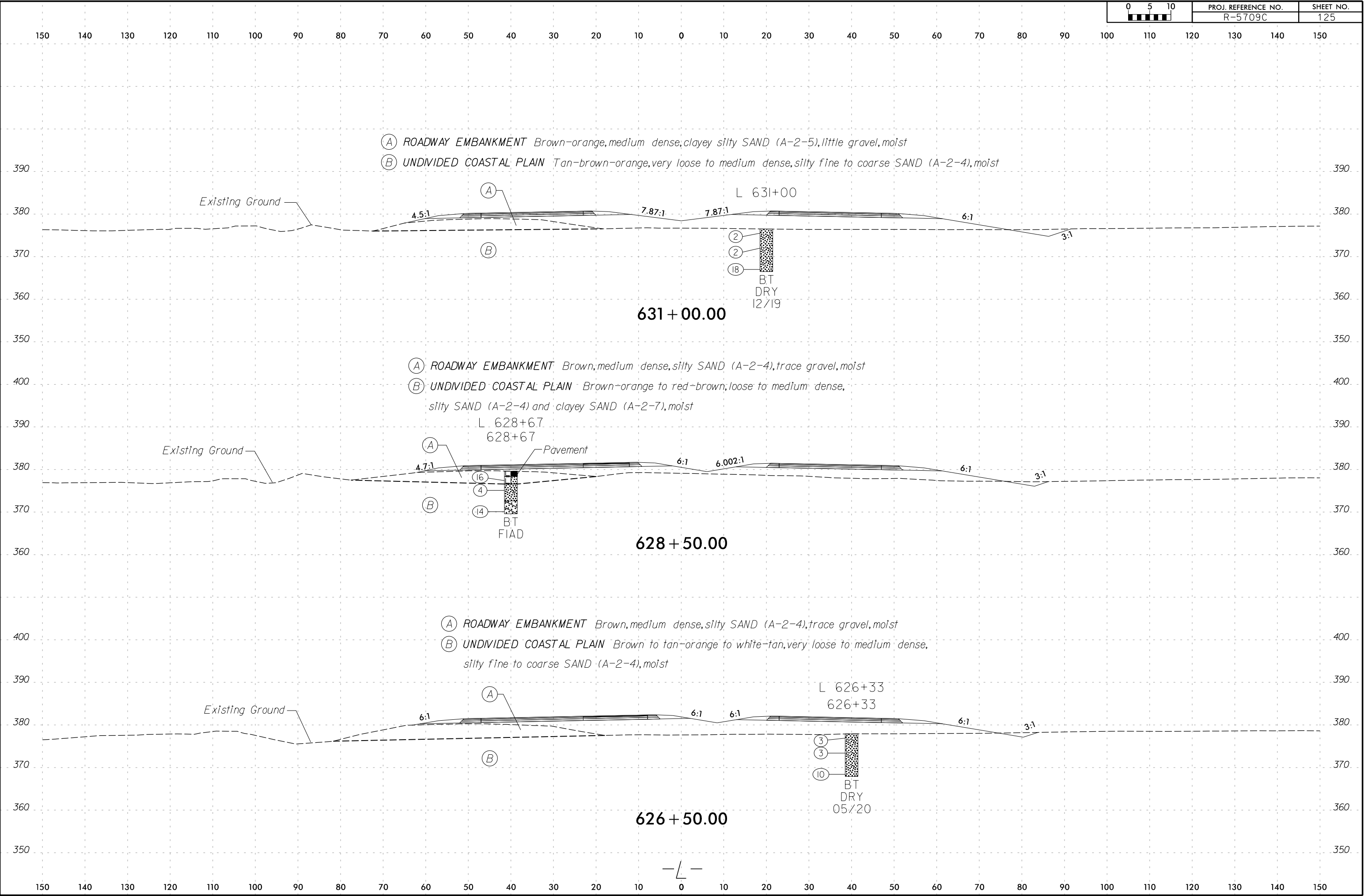
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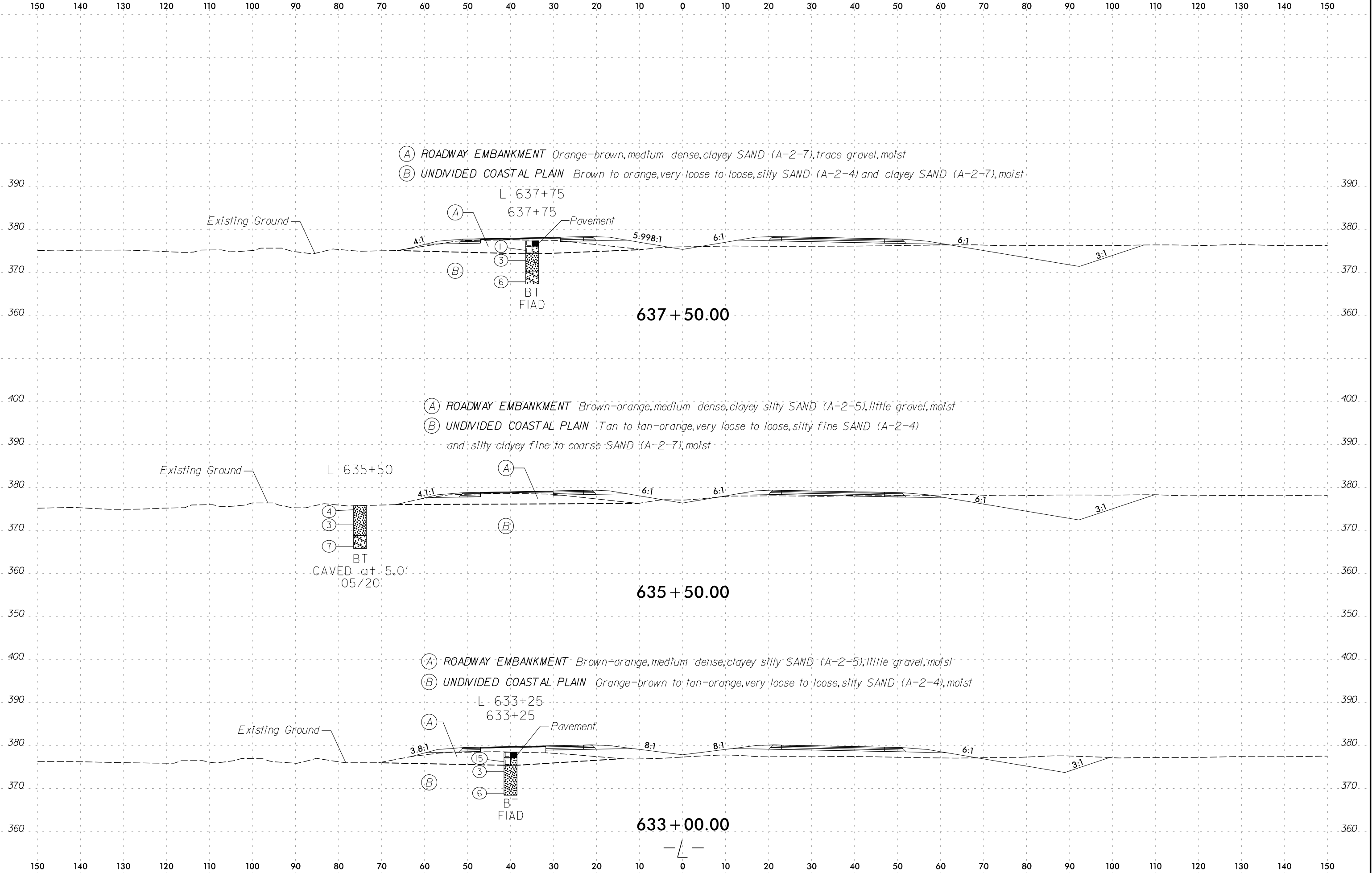




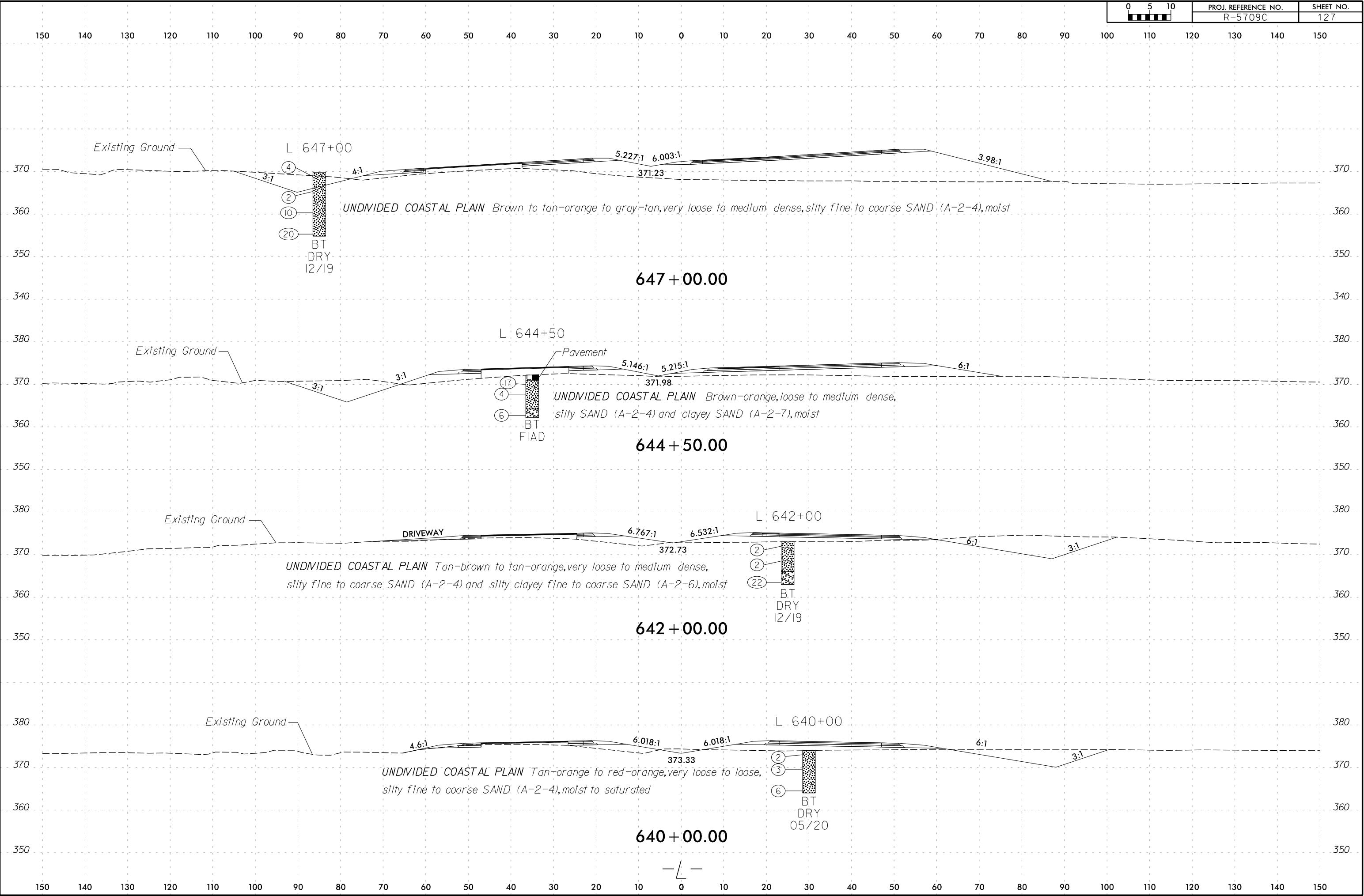
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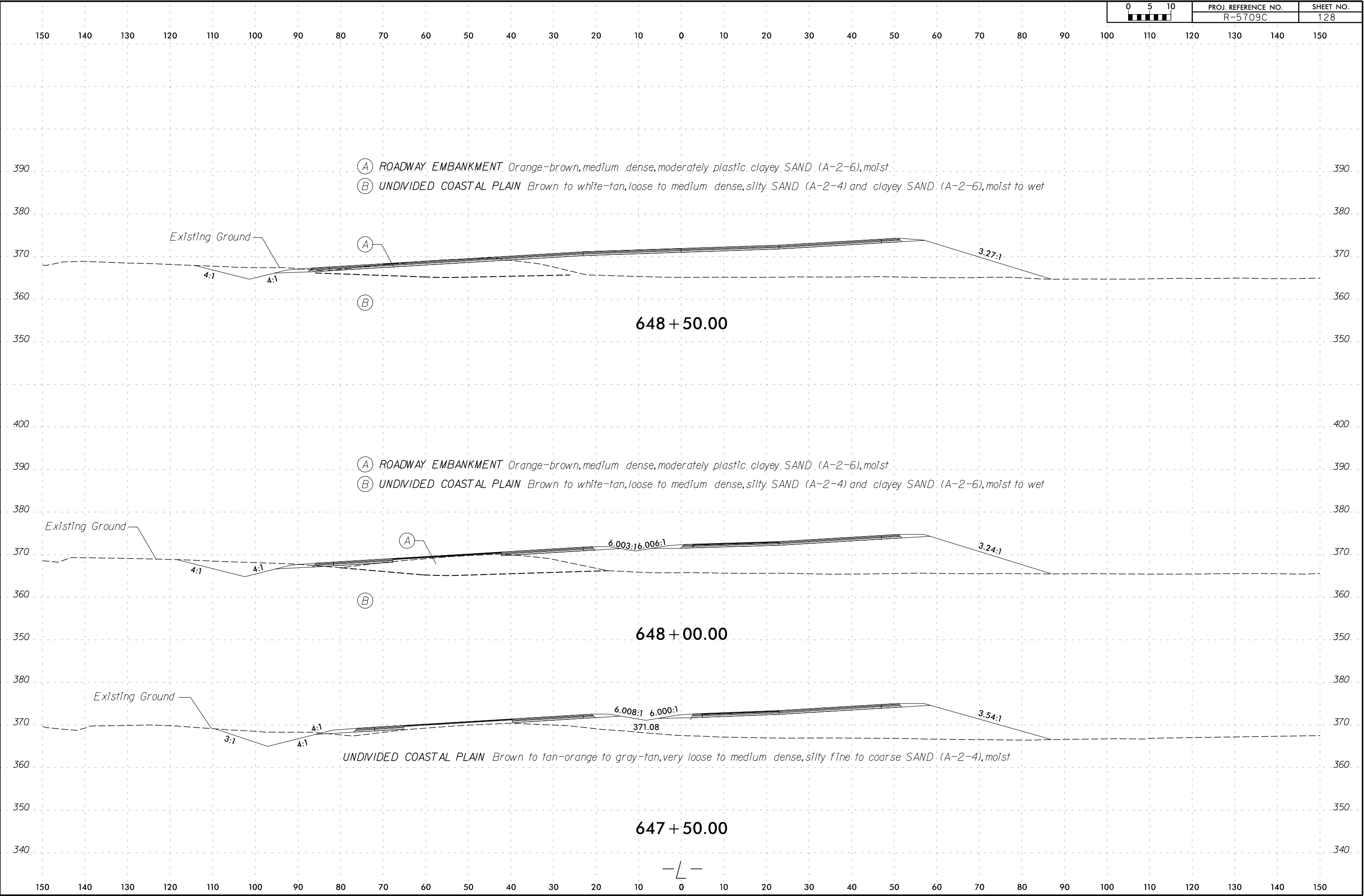




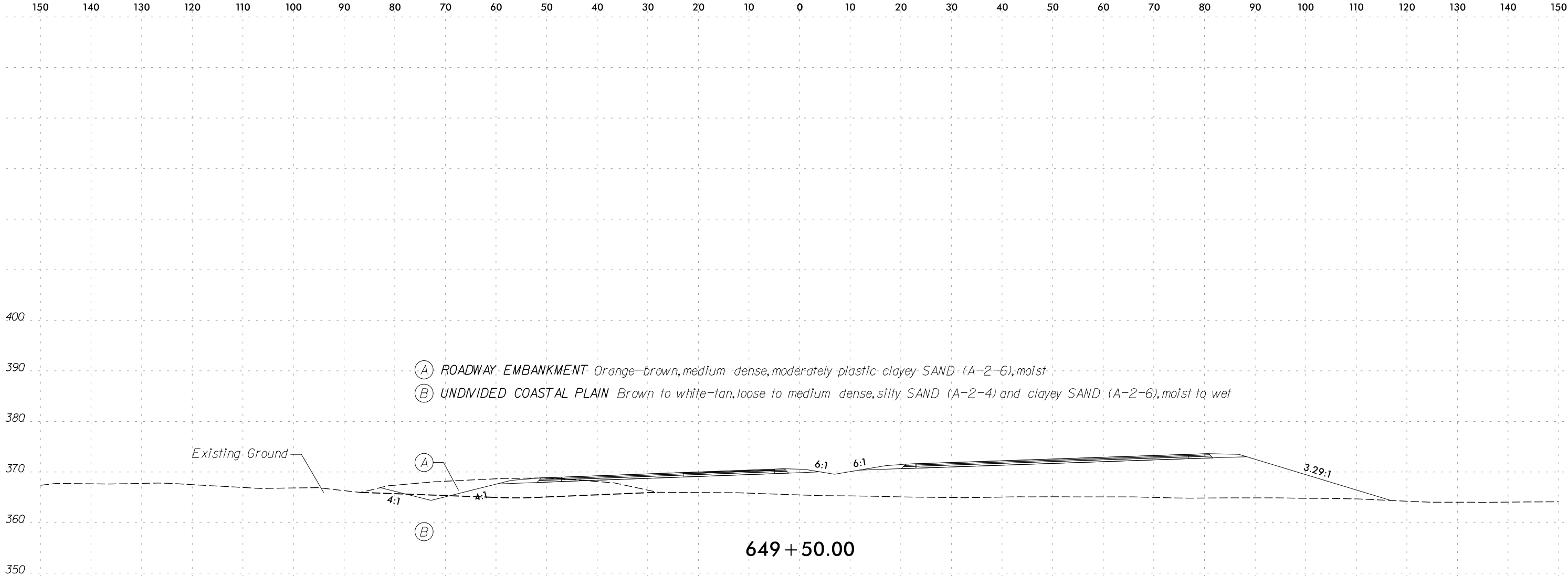
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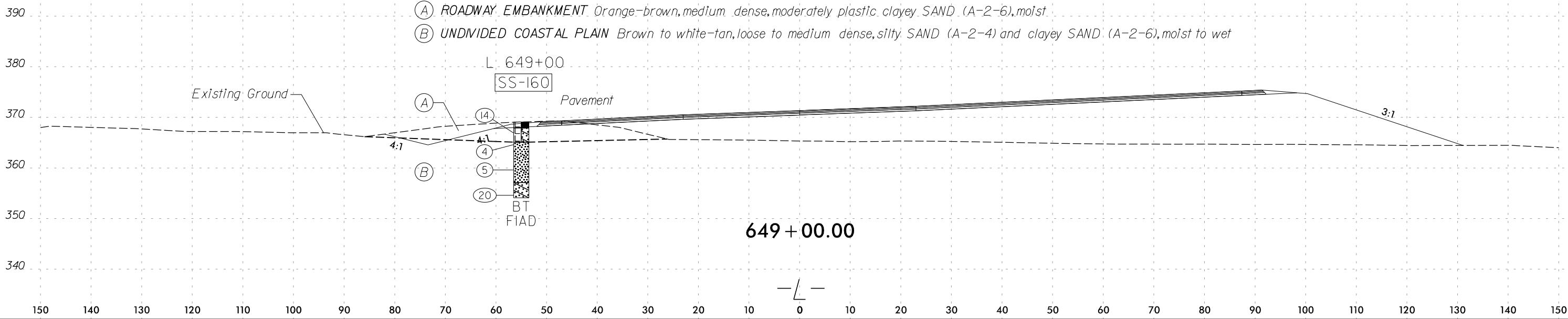
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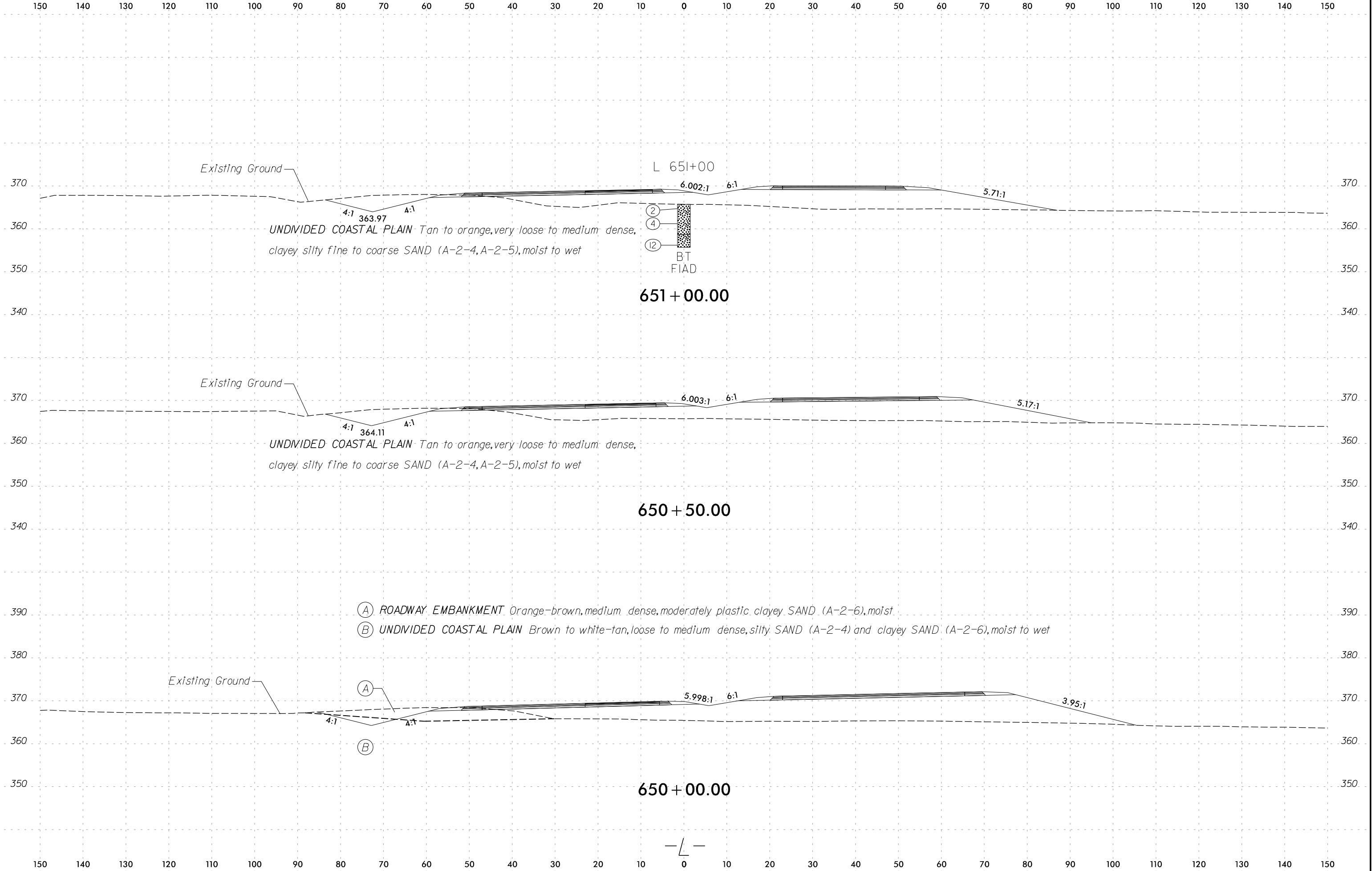


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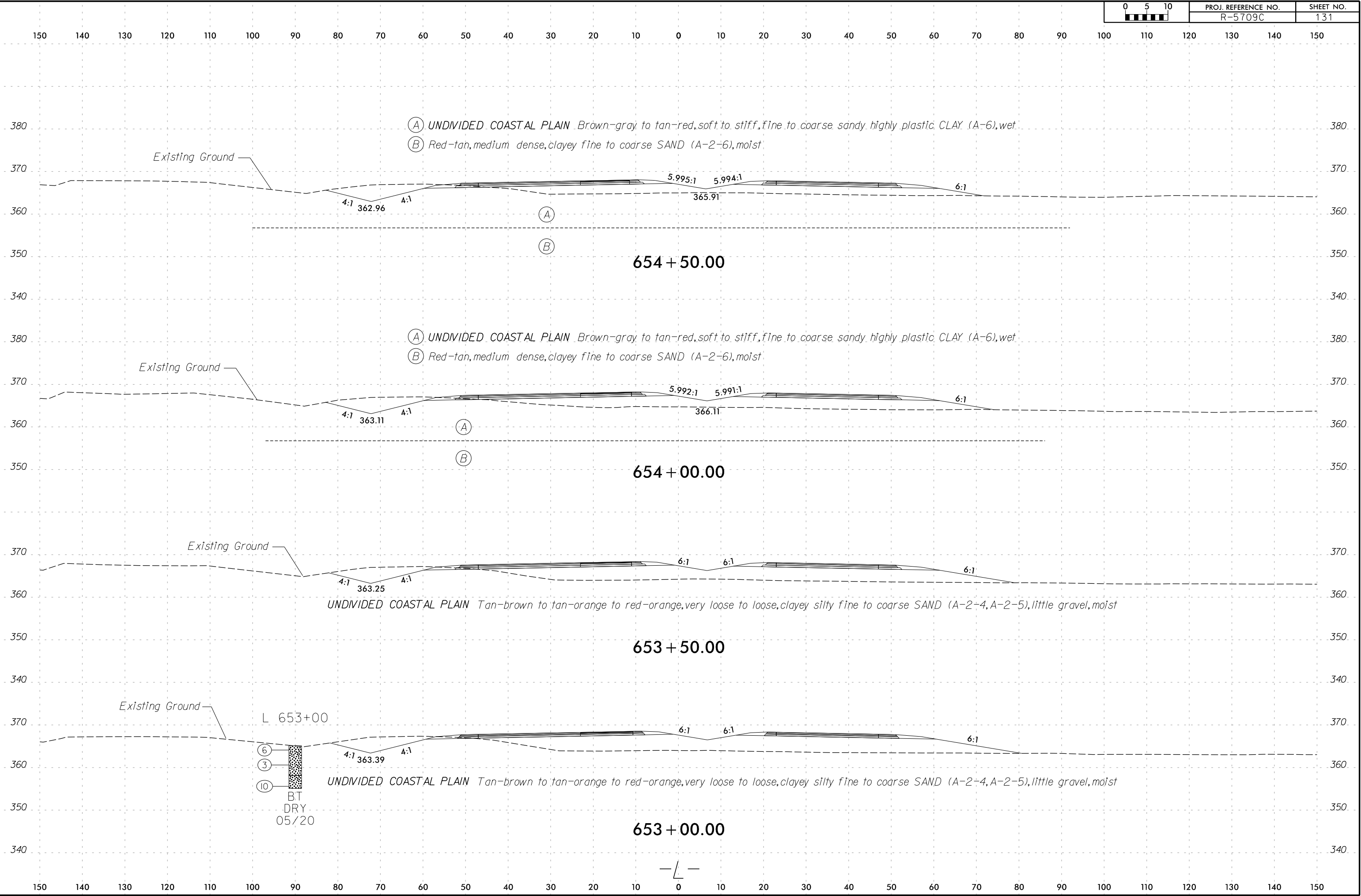


SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-160	649+00	55' LT	1.2 - 2.7	A-2-6 (1)	37	18	53.0	15.0	2.0	30.0	99.0	64.0	32.0	14.0	ND

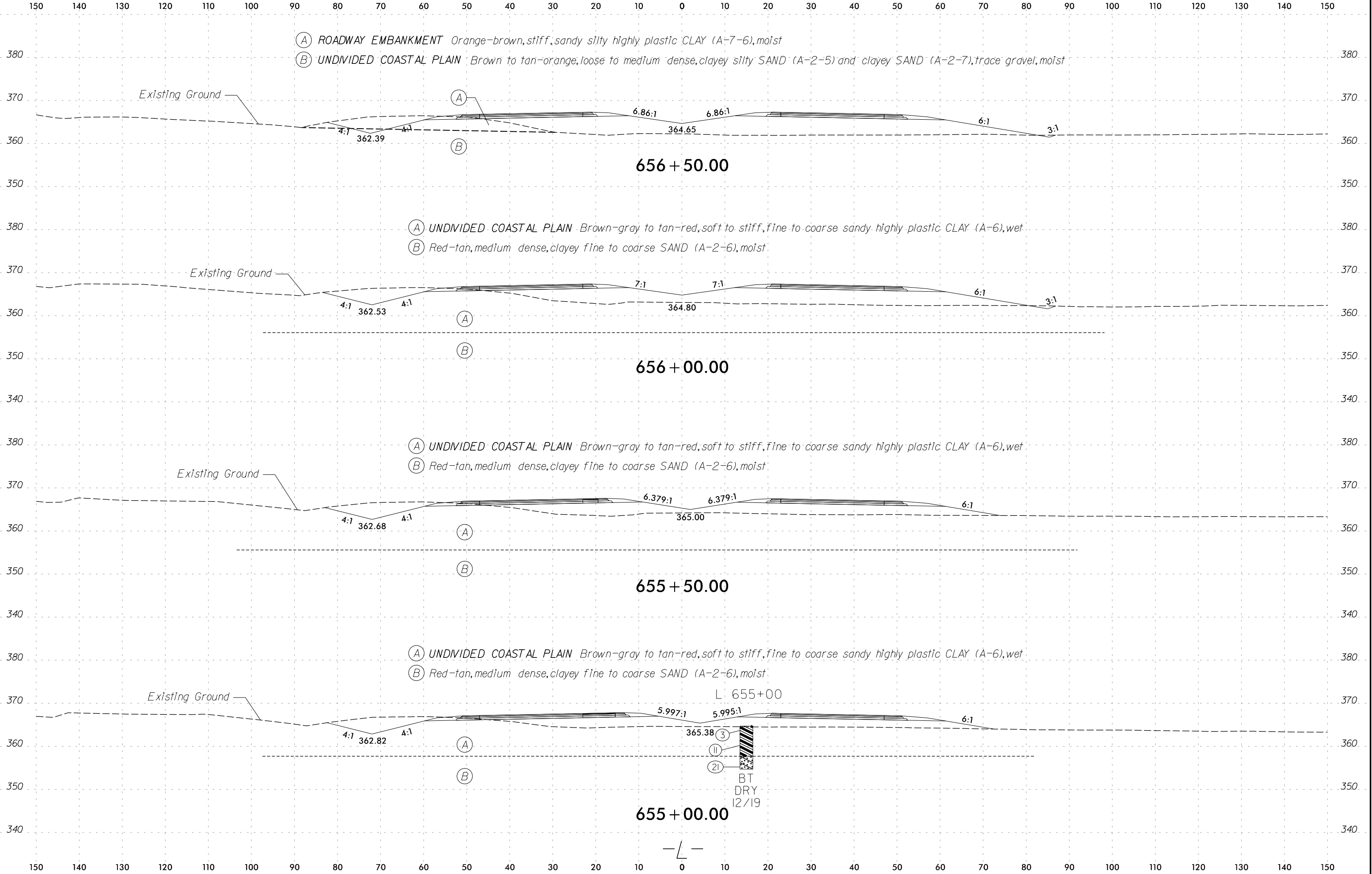




6/23/16

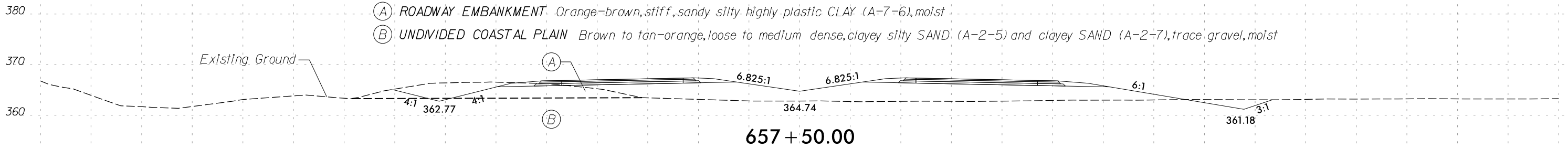
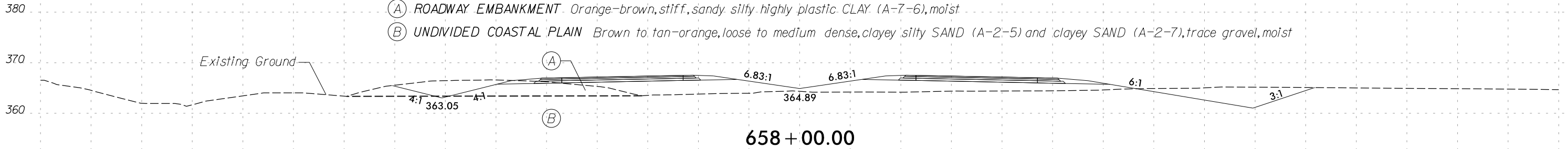


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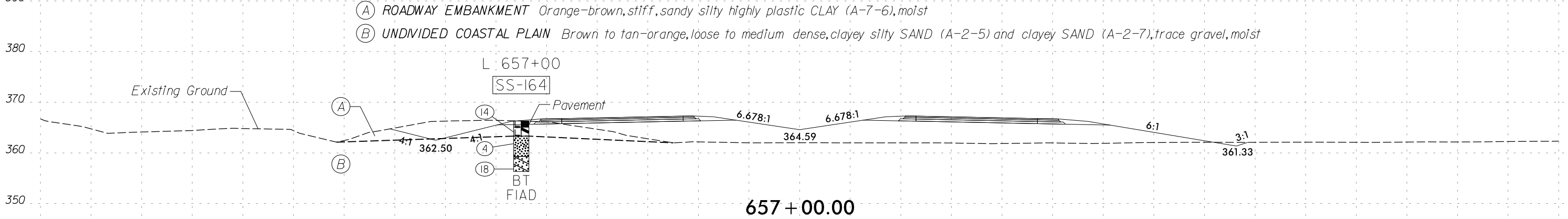


6/23/16

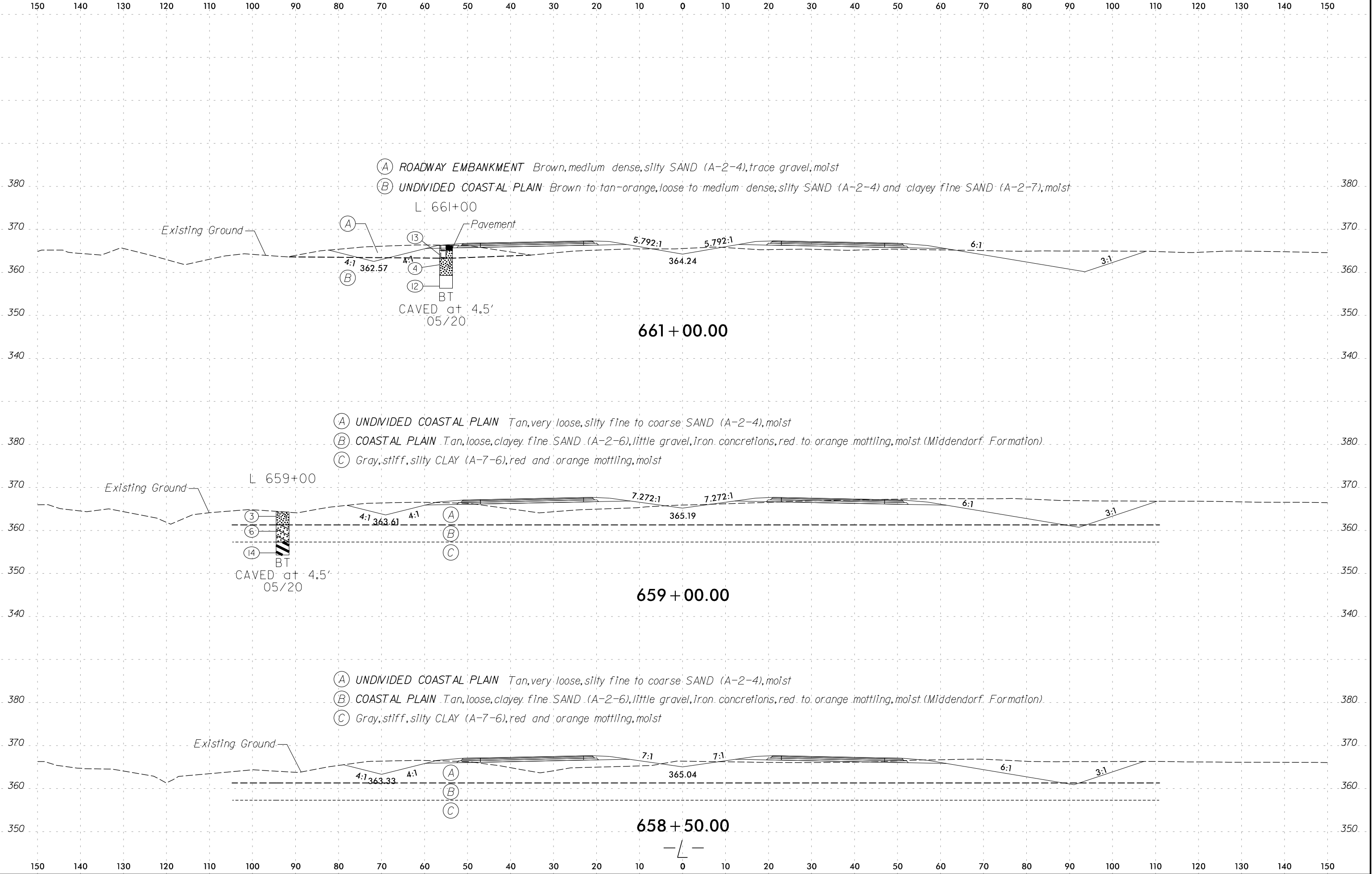
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-164	657+00	55' LT	1.2 - 2.7	A-7-6 (8)	50	29	40.0	15.0	3.0	42.0	99.0	74.0	45.0	15.0	ND



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

410 410

400 400

390 390

380 380

370 370

360 360

350 350

340 340

330 330

380 380

370 370

360 360

350 350

340 340

330 330

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.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1253	665+00	30' RT	0.0 - 1.5	A-6 (3)	28	11	26.0	18.0	20.0	36.0	99.0	84.0	56.0	16.0	5.0

- A

ROADWAY EMBANKMENT

Gray to red-brown, stiff, coarse sandy CLAY (A-6), moist
- B

COASTAL PLAIN

Light-dark gray, soft to stiff, fine sandy slightly plastic CLAY (A-6) and fine sandy silty CLAY (A-7-6), trace of organic matter, moist (Middendorf Formation)
- C

Orange-white, very loose to medium dense, clayey coarse SAND (A-2-7), mottled, moist to saturated

L 665+00

SS-1253

665 + 00.00

4
8
13
3
BT
DRY
05/20

- A

ROADWAY EMBANKMENT

Gray to red-brown, stiff, coarse sandy CLAY (A-6), moist
- B

UNDIVIDED COASTAL PLAIN

Brown, loose, clayey fine to coarse SAND (A-2-6), moist
- C

Red-brown to gray, very stiff, fine to coarse sandy silty CLAY (A-7-5), moist

L 663+00

Pavement

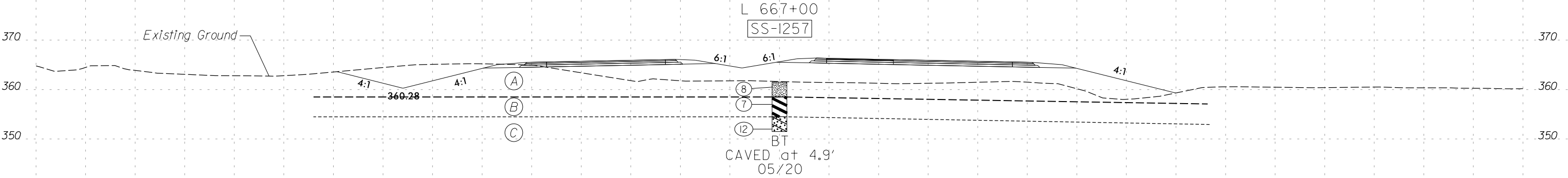
663 + 00.00

BT
FIAD

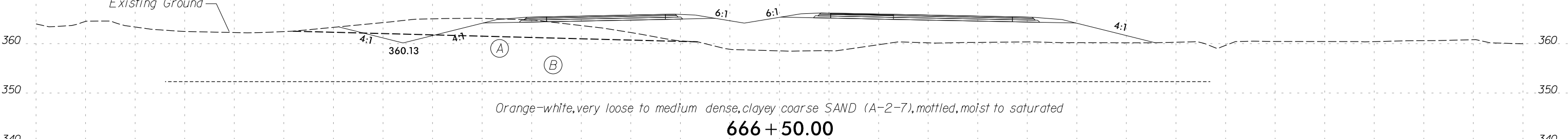
6/23/16

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1257	667+00	0' CL	0.0 - 1.5	A-4 (0)	27	8	50.0	13.0	17.0	20.0	100.0	65.0	37.0	12.0	5.0

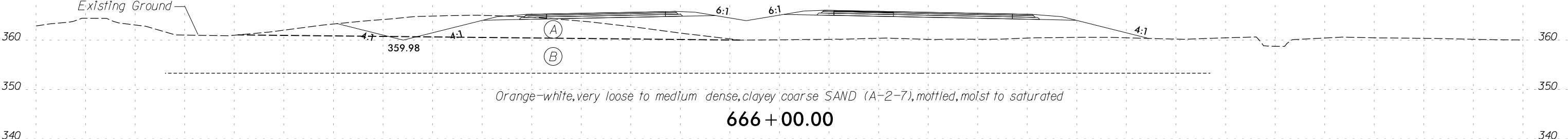
- (A) UNDIVIDED COASTAL PLAIN Dark gray-black, stiff, slightly plastic clayey sandy SILT (A-4), trace of organic matter
- (B) COASTAL PLAIN Light gray, medium stiff, silty CLAY (A-7-6) (Middendorf Formation)
- (C) Tan-red, medium dense, clayey coarse SAND (A-2-7), red mottling



- (A) ROADWAY EMBANKMENT Gray to red-brown, stiff, coarse sandy CLAY (A-6), moist
- (B) COASTAL PLAIN Light-dark gray, soft to stiff, fine sandy slightly plastic CLAY (A-6) and fine sandy silty CLAY (A-7-6), trace of organic matter, moist (Middendorf Formation)



- (A) ROADWAY EMBANKMENT Gray to red-brown, stiff, coarse sandy CLAY (A-6), moist
- (B) COASTAL PLAIN Light-dark gray, soft to stiff, fine sandy slightly plastic CLAY (A-6) and fine sandy silty CLAY (A-7-6), trace of organic matter, moist (Middendorf Formation)

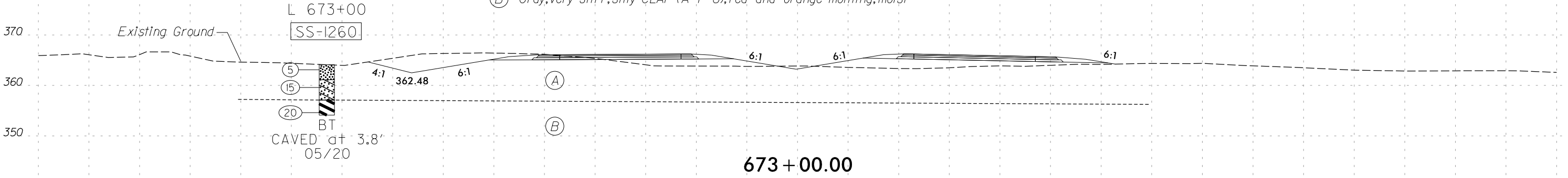


6/23/16

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

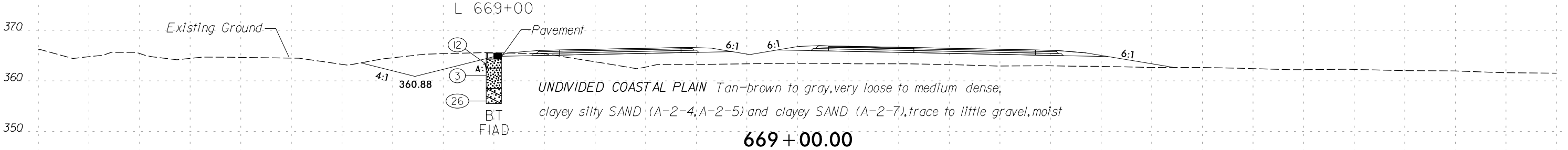
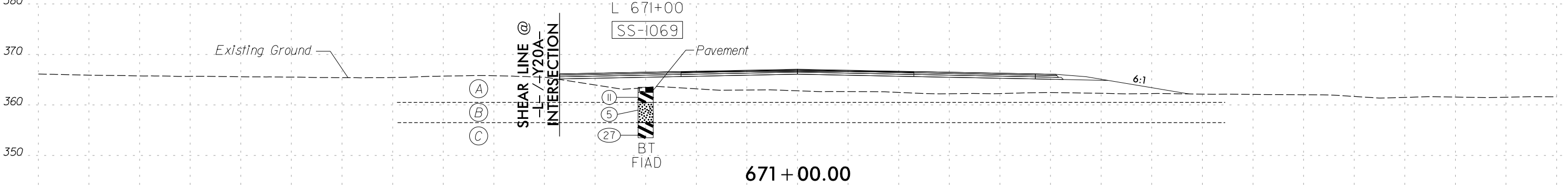
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1260	673+00	93' LT	0.0 - 1.5	A-2-4	18	4	42.0	26.0	12.0	20.0	99.0	74.0	32.0	13.0	ND

- (A) COASTAL PLAIN Brown to red-orange, loose to medium dense, clayey silty SAND (A-2-4) and clayey coarse SAND (A-2-7), mottled, trace of organic matter, moist (Middendorf Formation)
- (B) Gray, very stiff, silty CLAY (A-7-6), red and orange mottling, moist



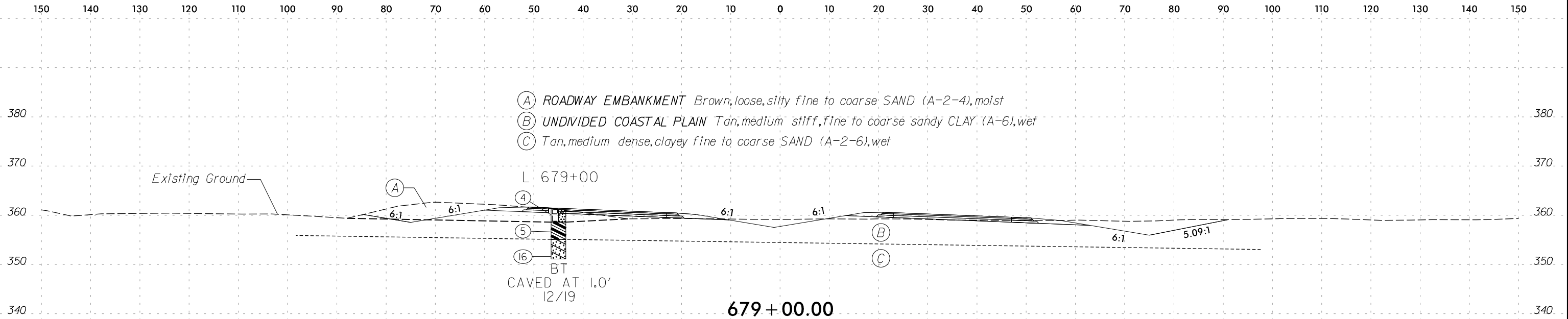
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1069	671+00	30' LT	3.5 - 5.0	A-2-4	19	5	48.0	23.0	7.0	22.0	100.0	75.0	28.8	17.0	ND

- (A) UNDIVIDED COASTAL PLAIN Gray, stiff, fine to coarse sandy silty CLAY (A-7-5), moist
- (B) Gray, loose, clayey silty fine to coarse SAND (A-2-4), moist
- (C) Red-brown, very stiff, coarse sandy silty CLAY (A-7-5), moist

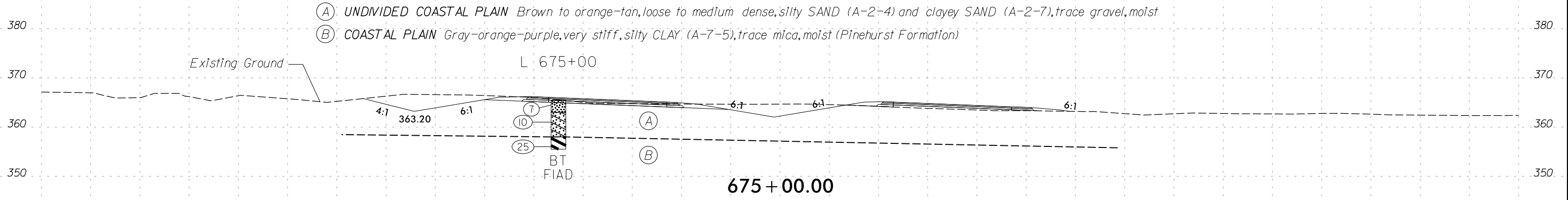
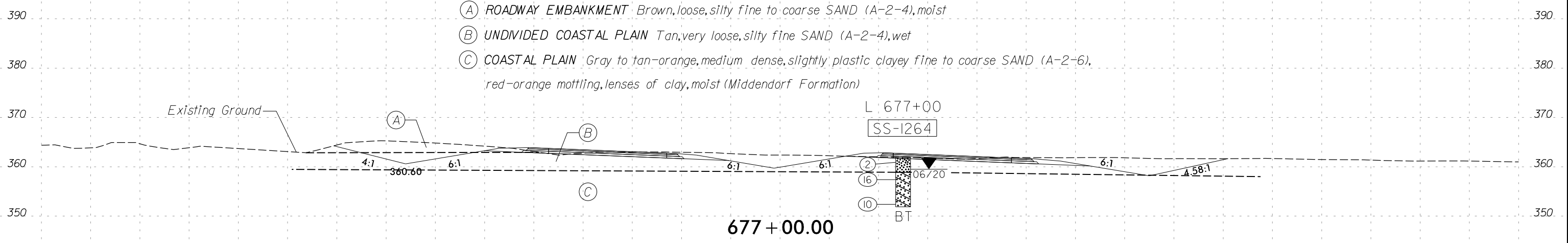


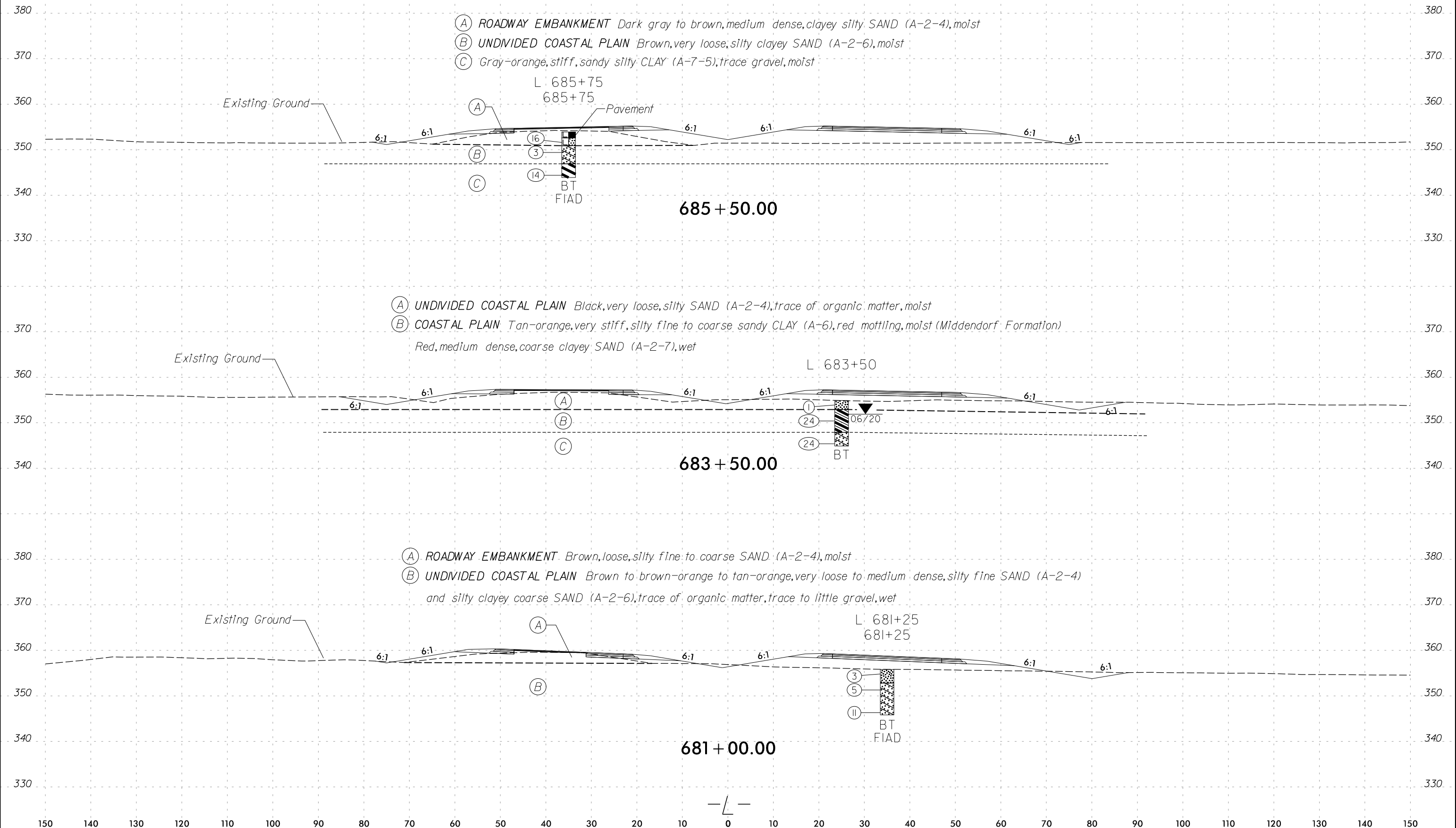
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6/23/16

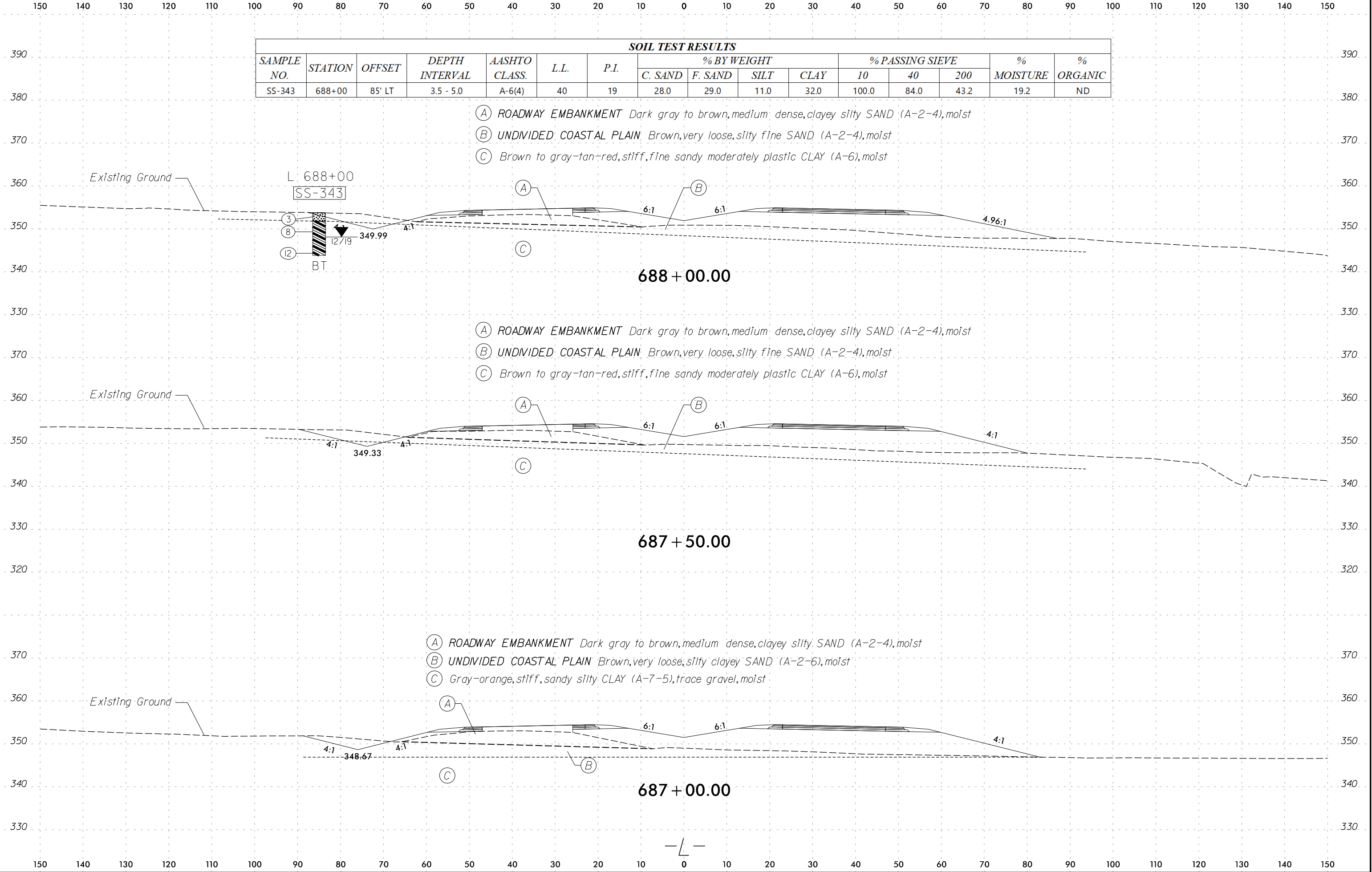


SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1264	677+00	25' RT	3.5 - 5.0	A-2-6(1)	34	15	46.9	22.4	4.5	26.1	99.8	68.8	30.6	ND	ND

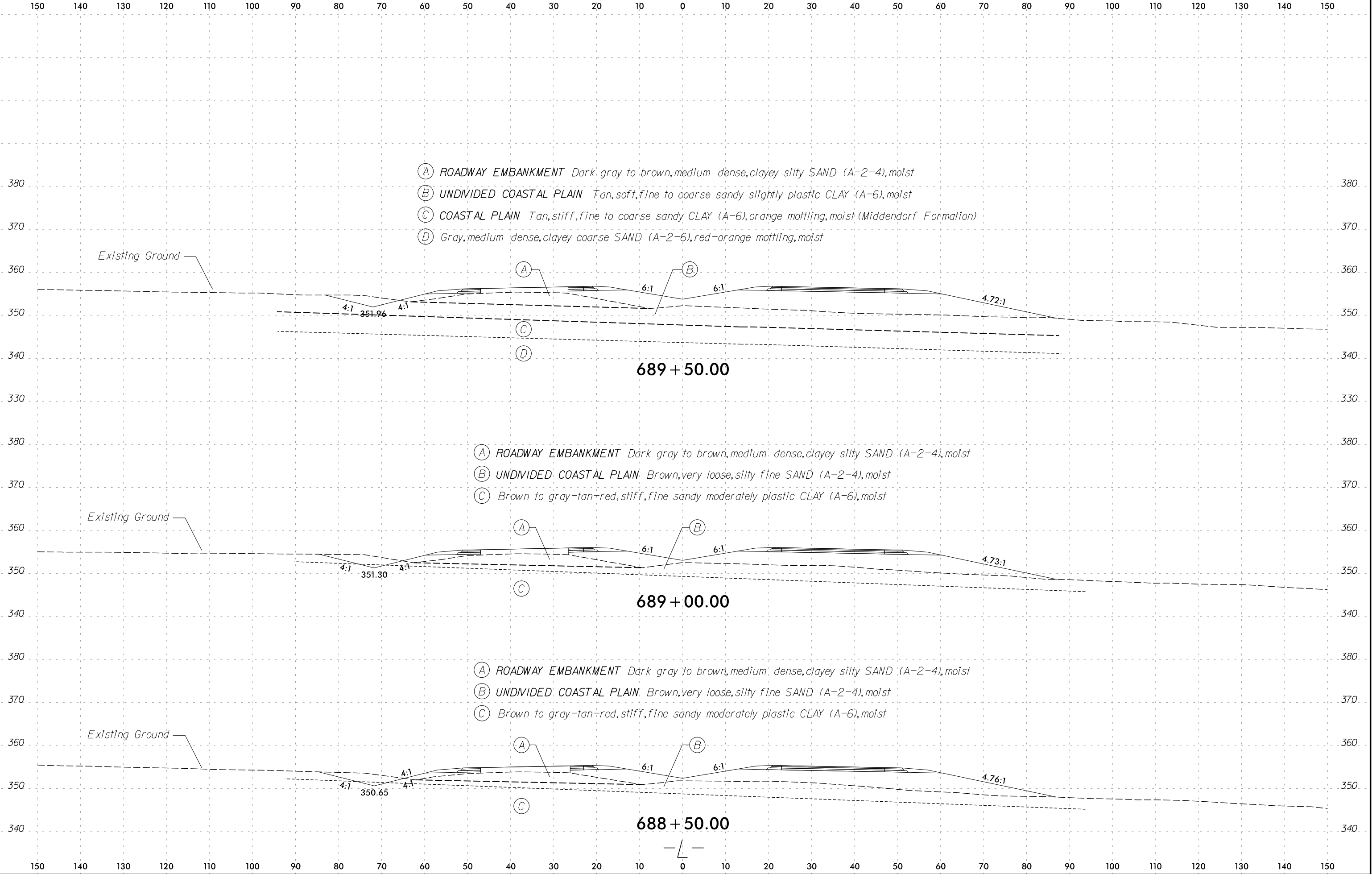


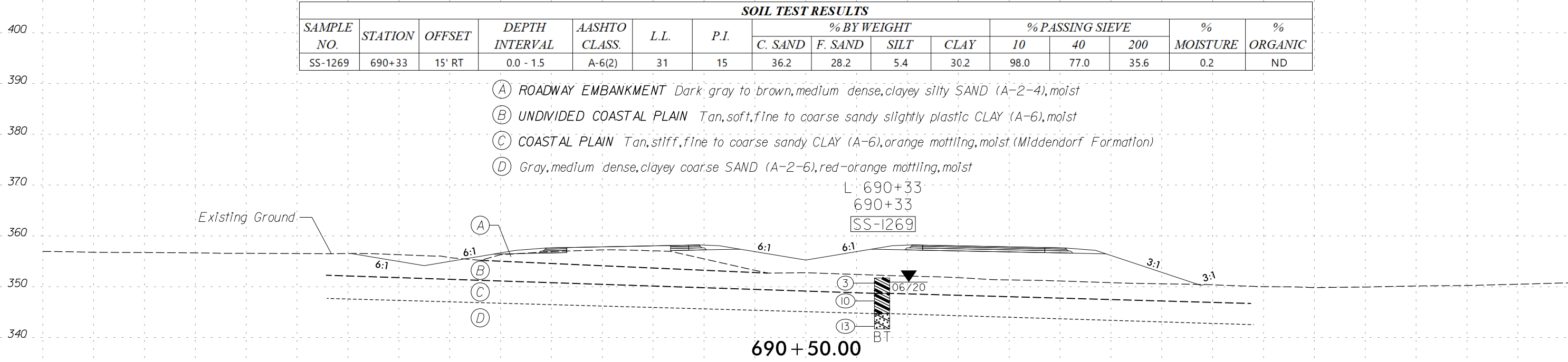
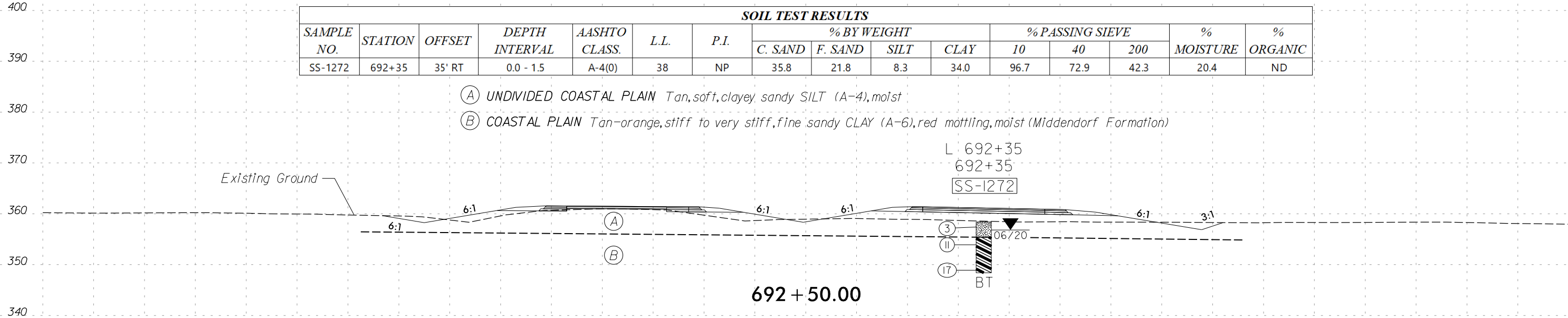


6/23/16

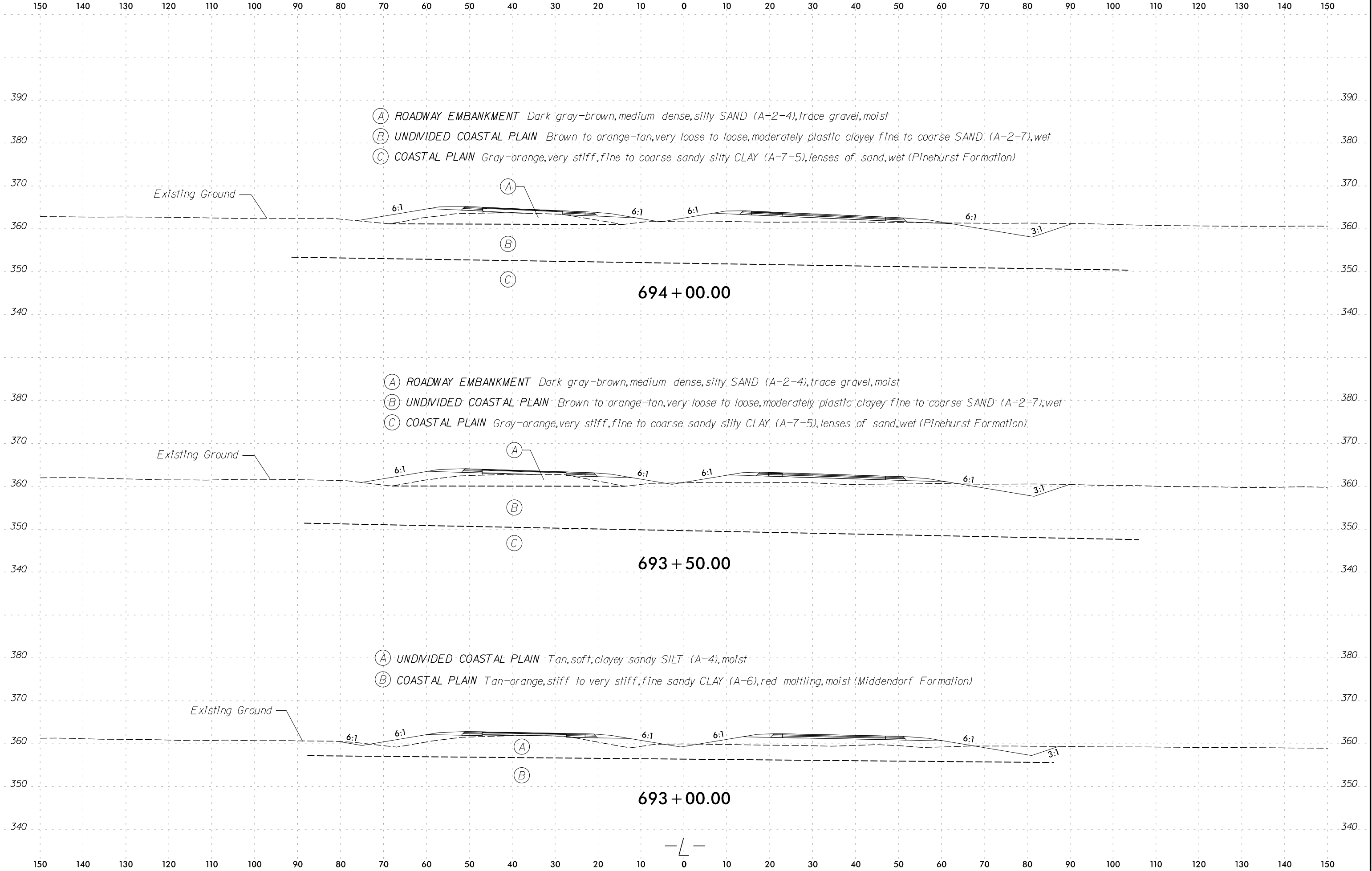


6/23/16





6/23/16



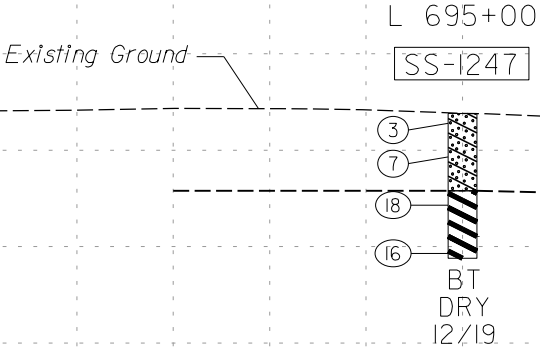
6/23/16

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

400 390 380 370 360 350 340 330 390 380 370 360 350 340 330 390 380 370 360 350 340 330

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1247	695+00	90' LT	3.5 - 5.0	A-2-7(3)	46	25	48.0	18.0	6.0	28.0	95.0	62.0	32.4	19.1	ND

- (A) ROADWAY EMBANKMENT Dark gray-brown,medium dense,silty SAND (A-2-4),trace gravel,moist
- (B) UNDIVIDED COASTAL PLAIN Brown to orange-tan,very loose to loose,moderately plastic clayey fine to coarse SAND (A-2-7),wet
- (C) COASTAL PLAIN Gray-orange,very stiff,fine to coarse sandy silty CLAY (A-7-5),lenses of sand,wet (Pinehurst Formation)



695 + 00.00

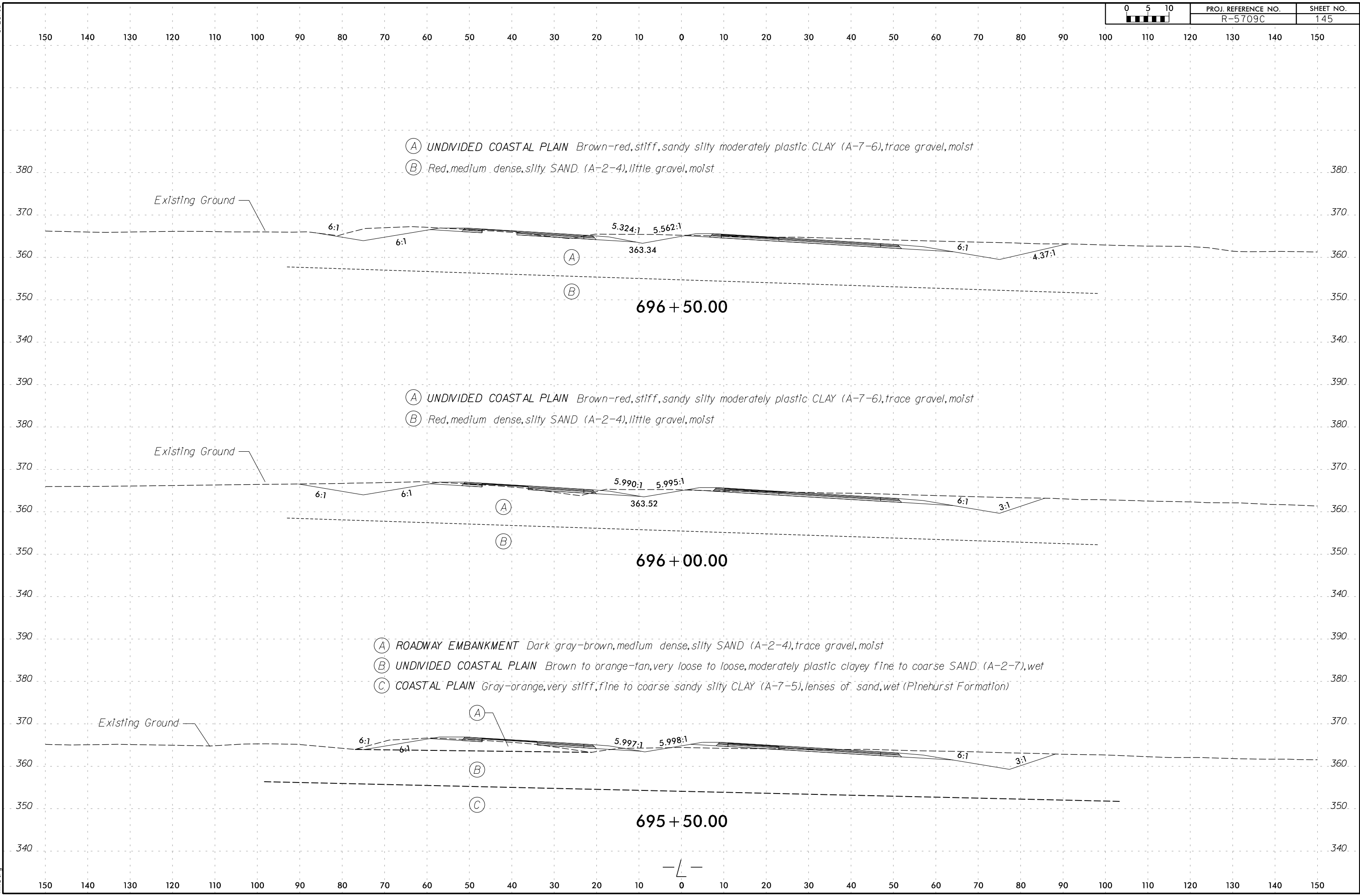
- (A) ROADWAY EMBANKMENT Dark gray-brown,medium dense,silty SAND (A-2-4),trace gravel,moist
- (B) UNDIVIDED COASTAL PLAIN Brown to orange-tan,very loose to loose,moderately plastic clayey fine to coarse SAND (A-2-7),wet
- (C) COASTAL PLAIN Gray-orange,very stiff,fine to coarse sandy silty CLAY (A-7-5),lenses of sand,wet (Pinehurst Formation)



694 + 50.00

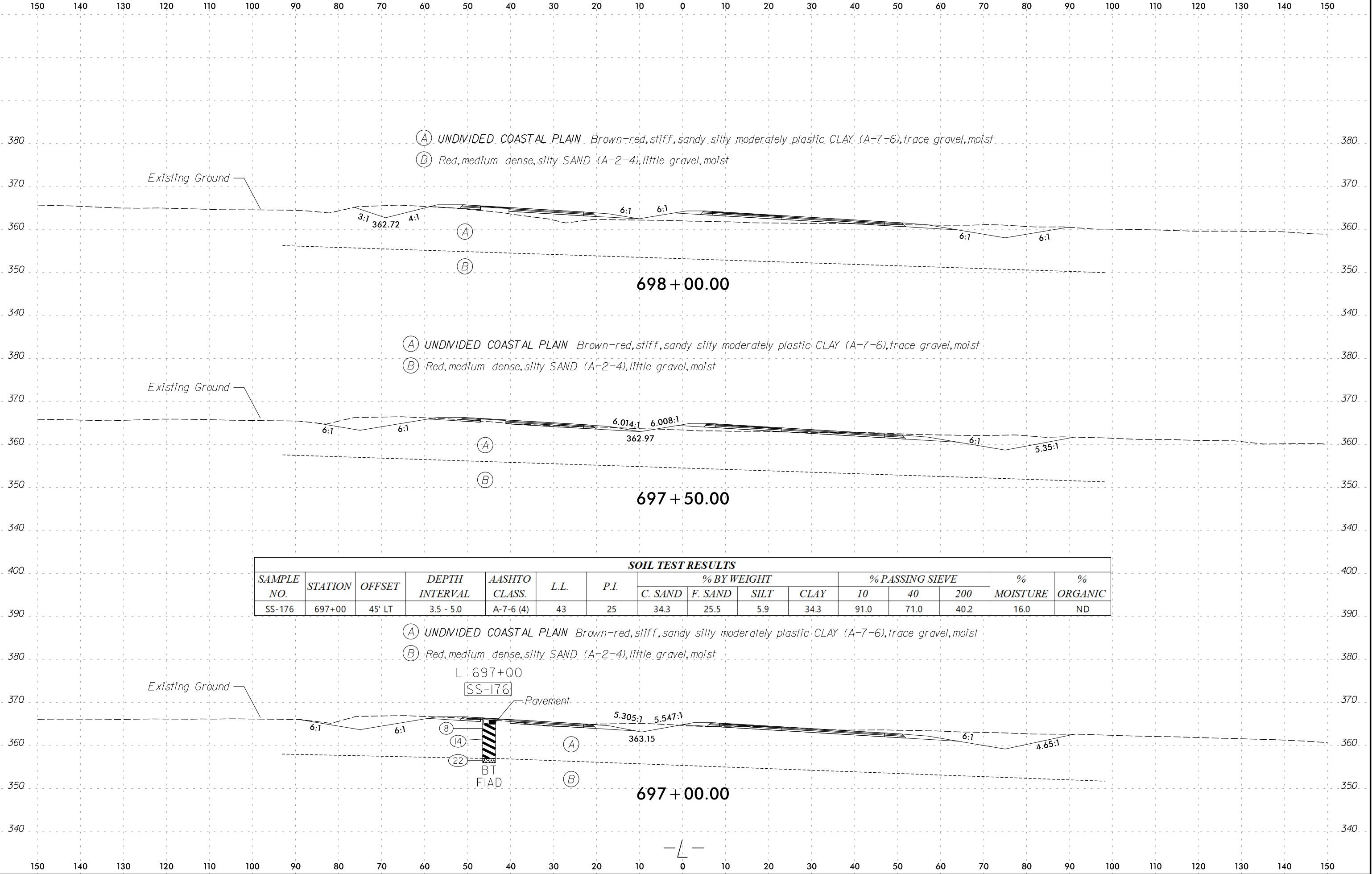
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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

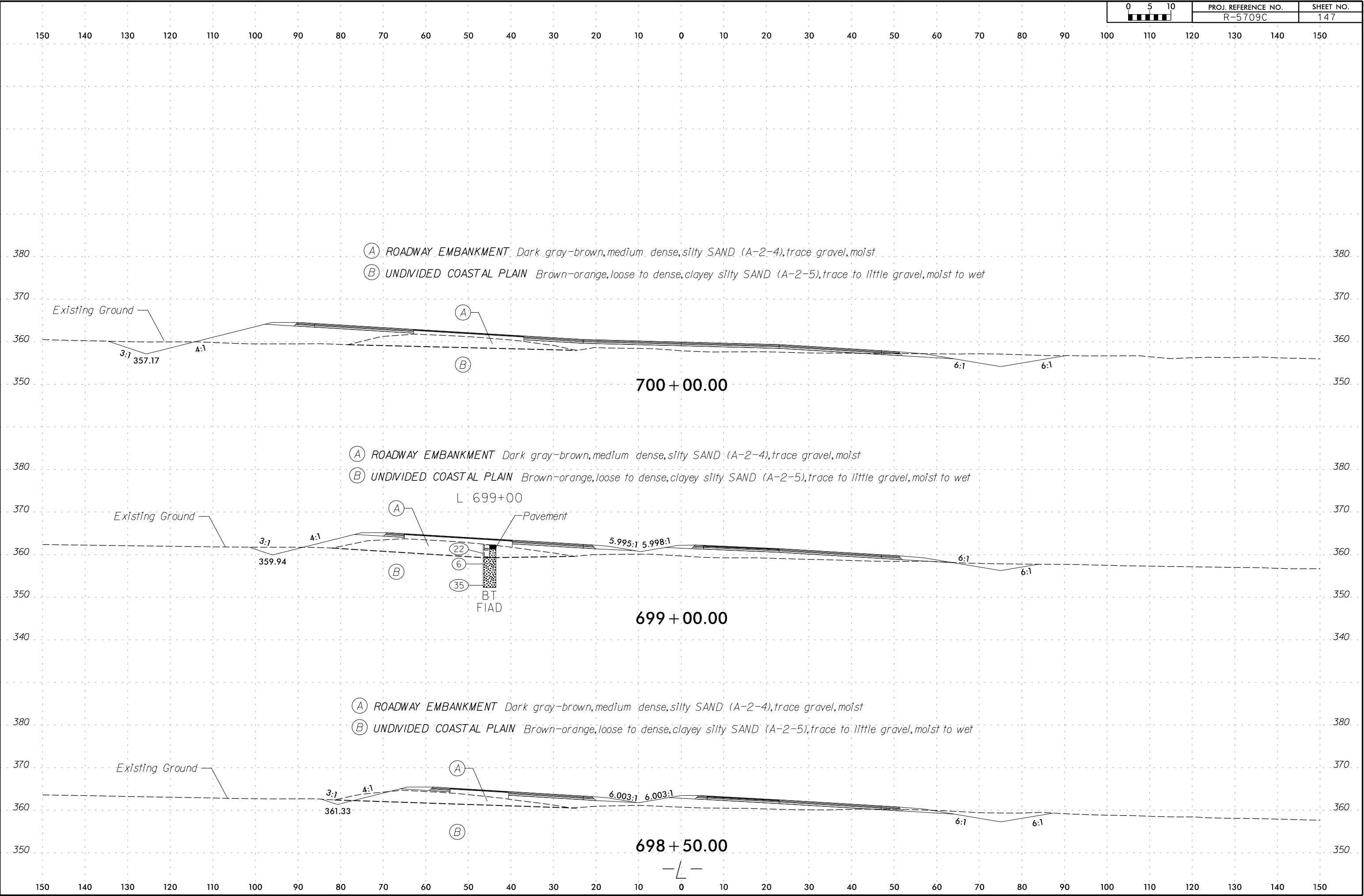


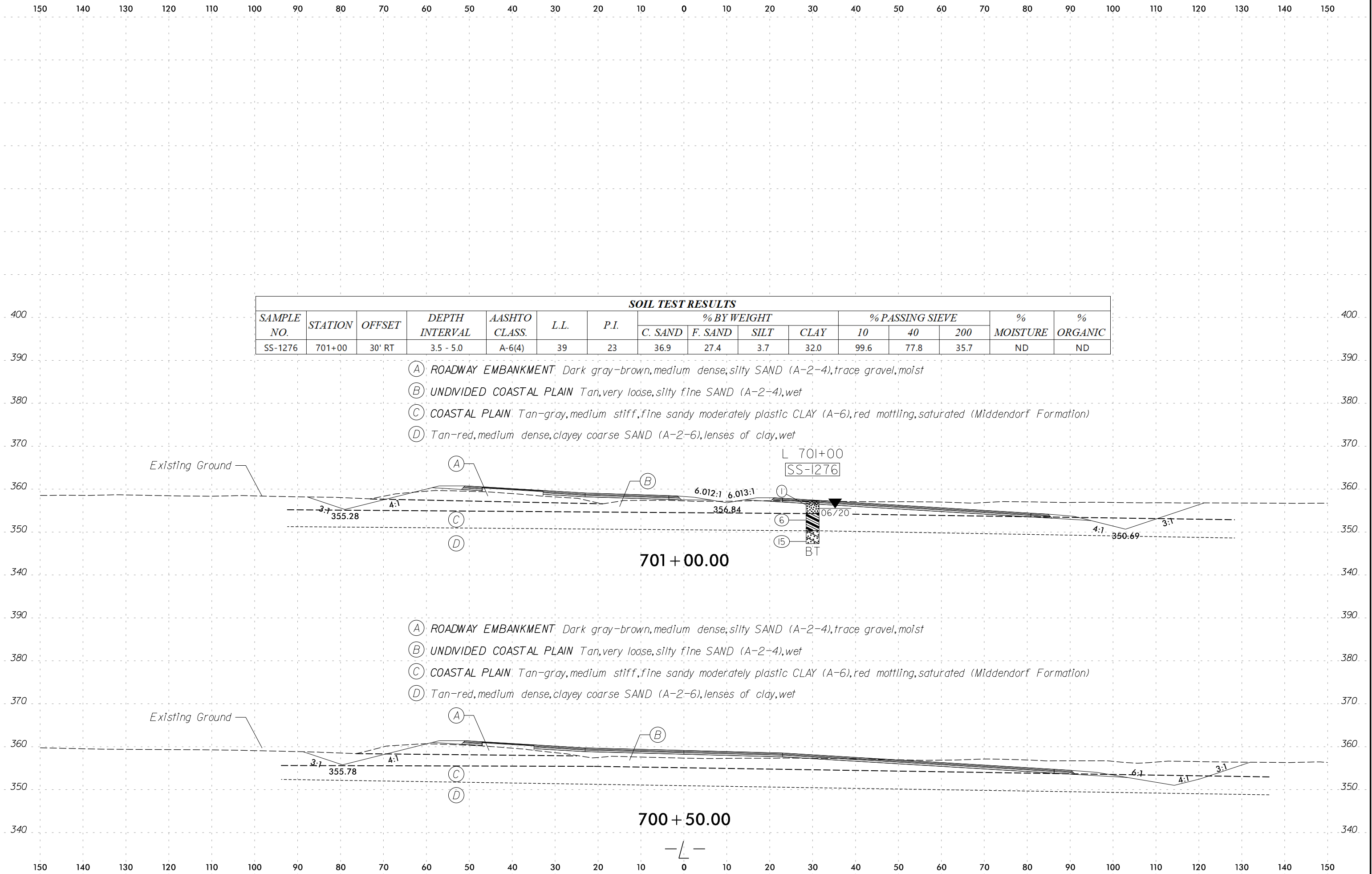
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mmetry

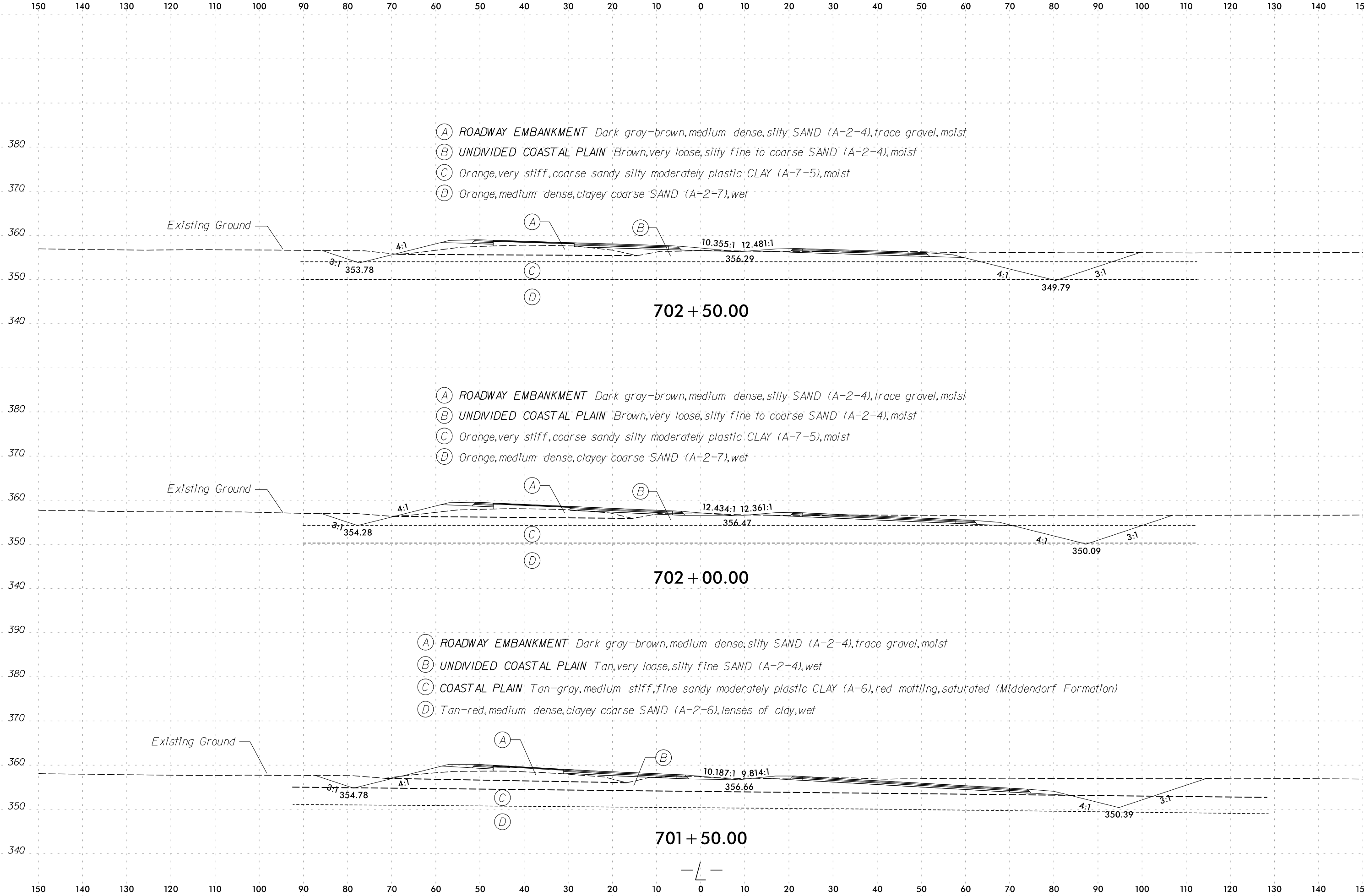


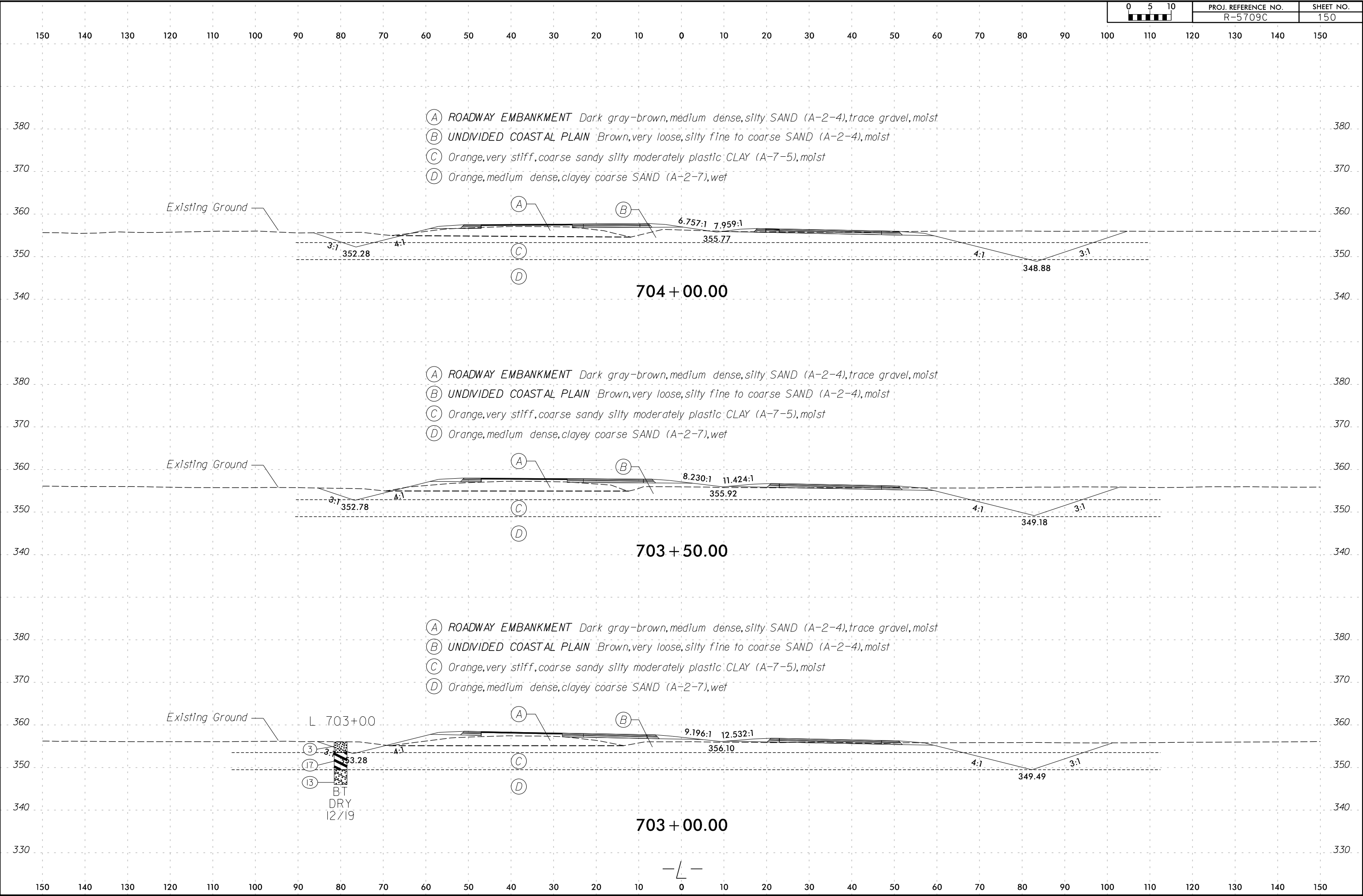
6/23/16

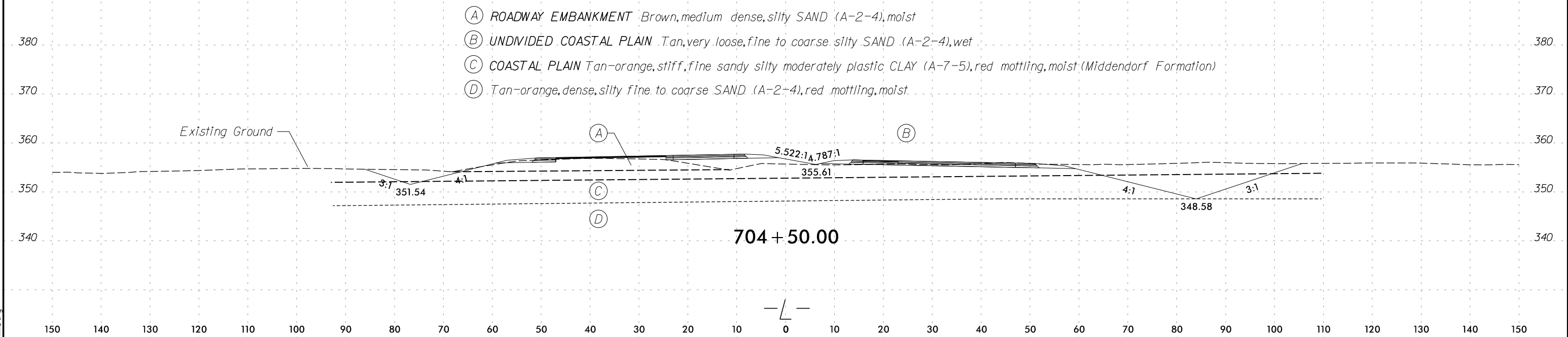
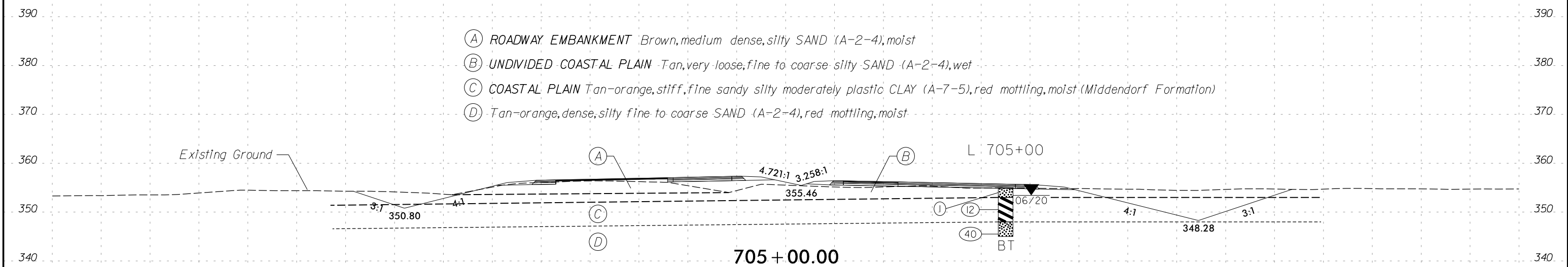
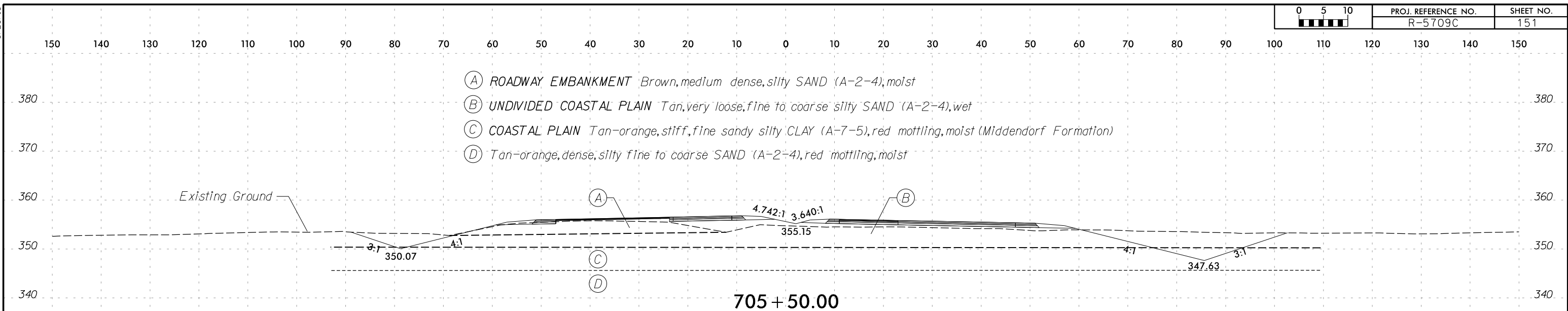


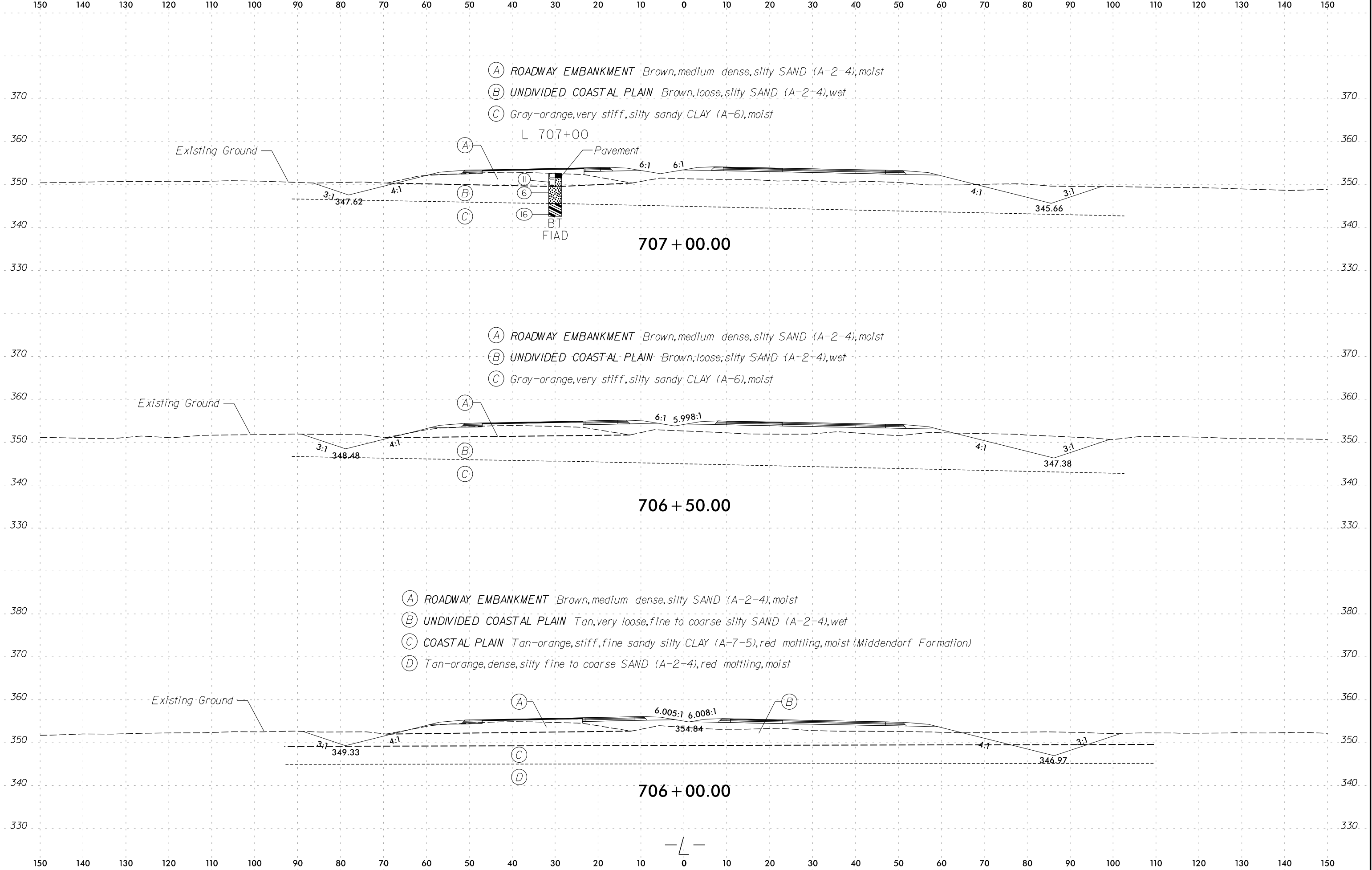


6/23/16

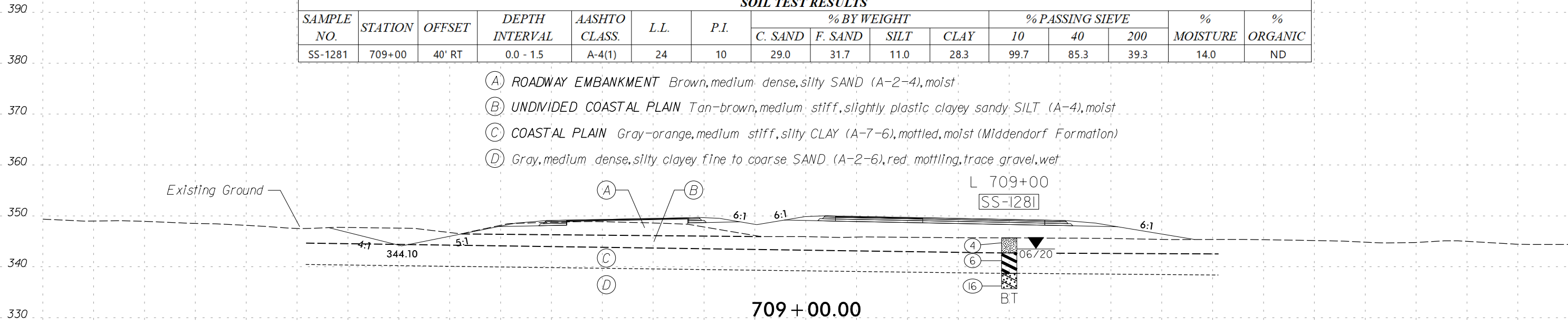
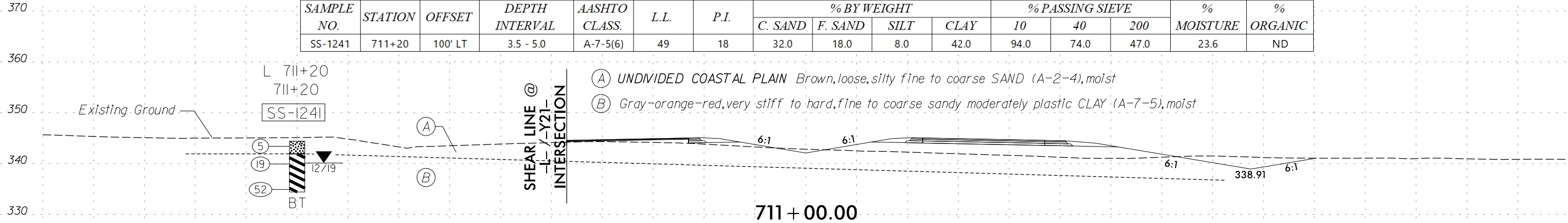


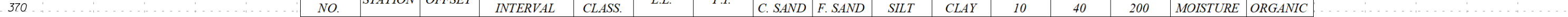






150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150





SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-185	715+67	35' LT	1.2 - 2.7	A-2-4	15	4	41.0	28.0	9.0	22.0	100.0	74.0	31.0	8.0	ND

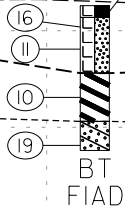
- (A) ROADWAY EMBANKMENT Brown-orange, medium dense, silty SAND (A-2-4), moist
- (B) UNDIVIDED COASTAL PLAIN Orange, stiff, sandy silty CLAY (A-7-5), moist
- (C) Tan-orange, medium dense, clayey SAND (A-2-7), little gravel, moist

L 715+67
715+67

SS-185

Pavement

Existing Ground



715 + 50.00

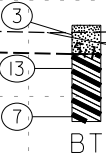
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-1287	713+30	84' LT	0.0 - 1.5	A-4(0)	35	NP	34.1	22.2	7.6	36.1	95.6	72.9	43.7	17.4	ND

- (A) ROADWAY EMBANKMENT Brown-orange, medium dense, silty SAND (A-2-4), moist
- (B) UNDIVIDED COASTAL PLAIN Tan-brown, soft, clayey sandy SILT (A-4), moist
- (C) COASTAL PLAIN Tan-orange, medium stiff to stiff, silty fine to coarse sandy CLAY (A-6), red mottling, moist (Middendorf Formation)

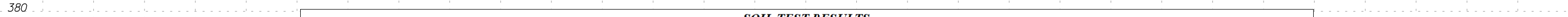
L 713+33
713+30

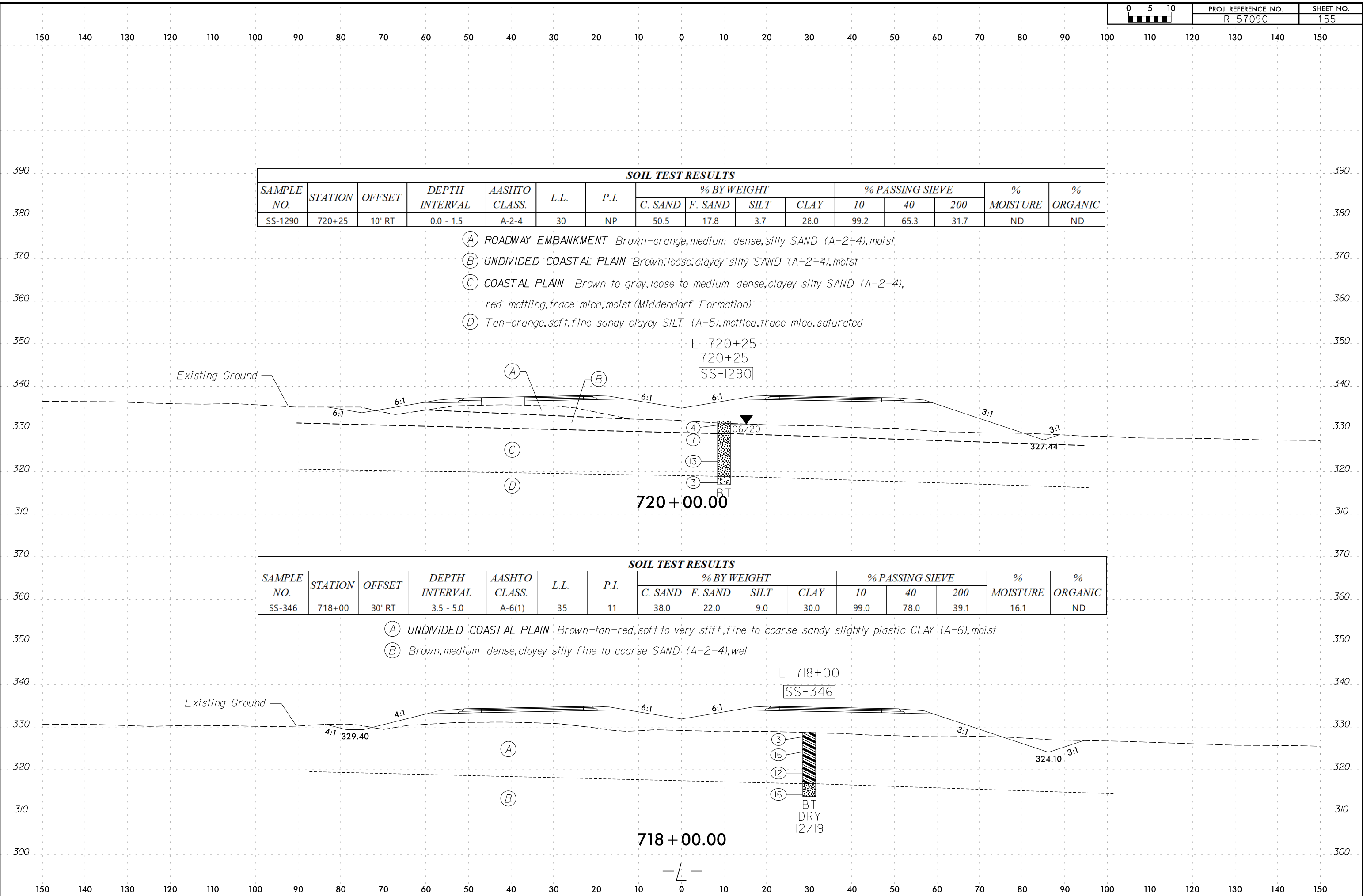
SS-1287

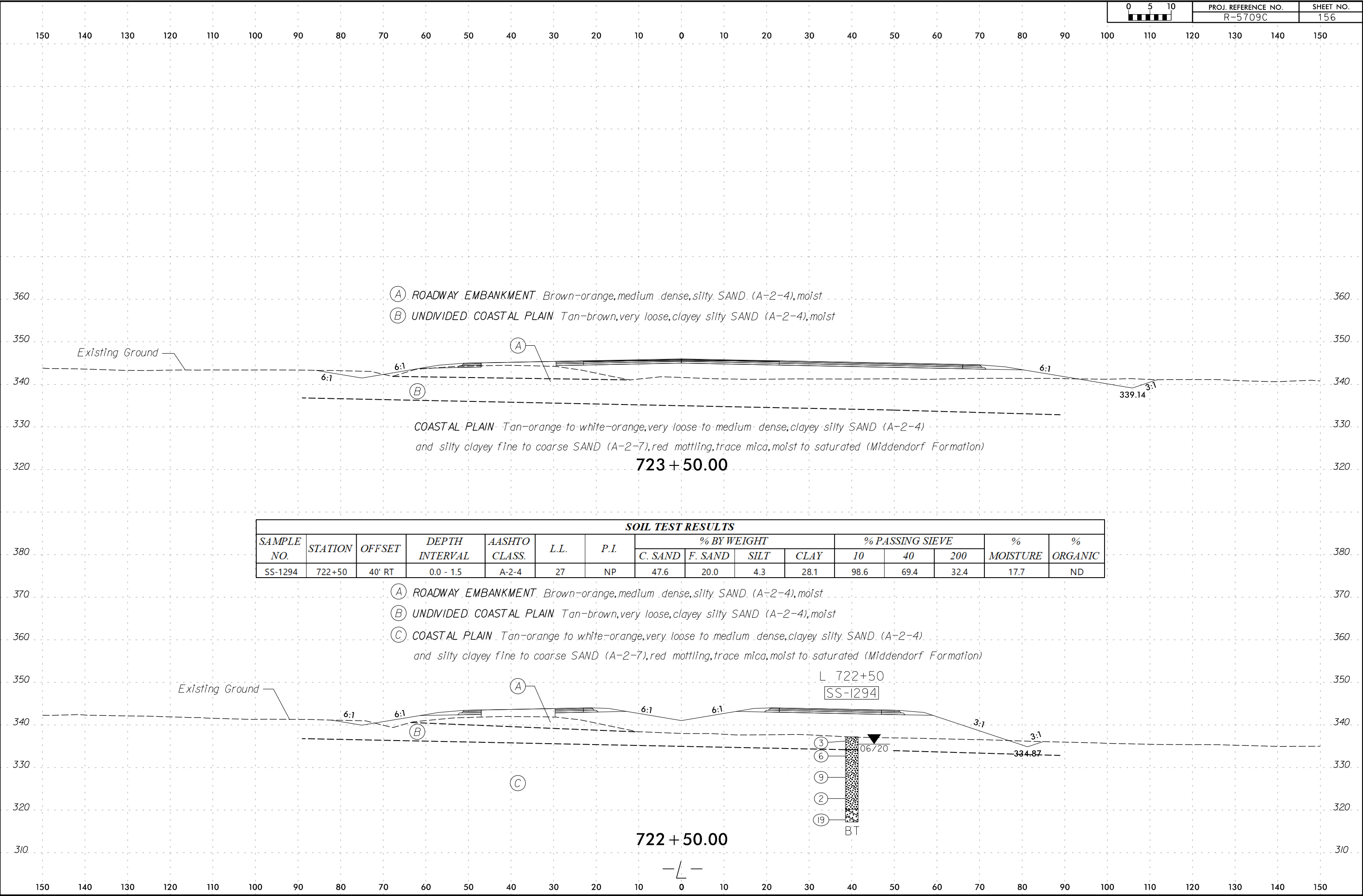
Existing Ground

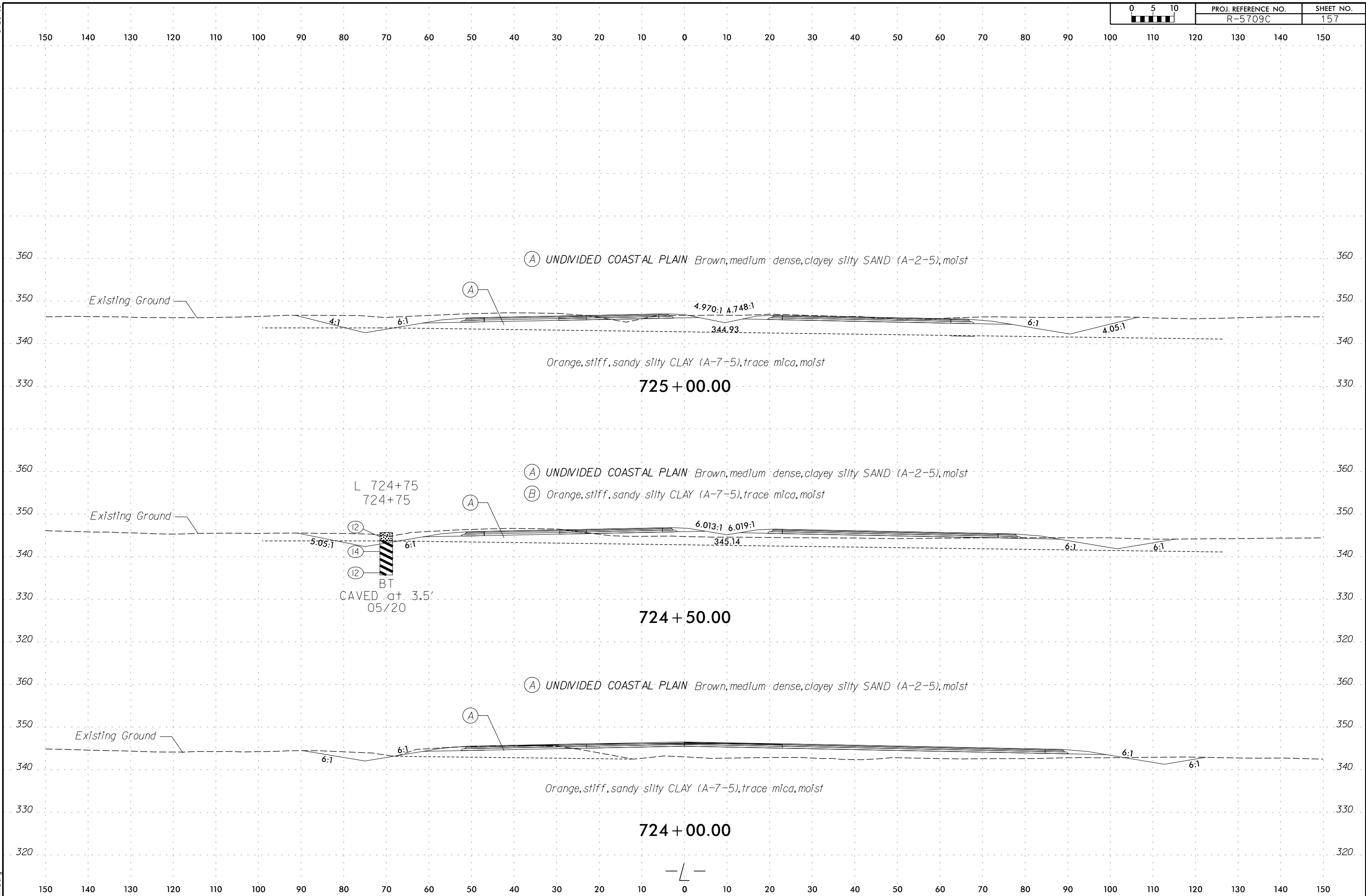


713 + 50.00

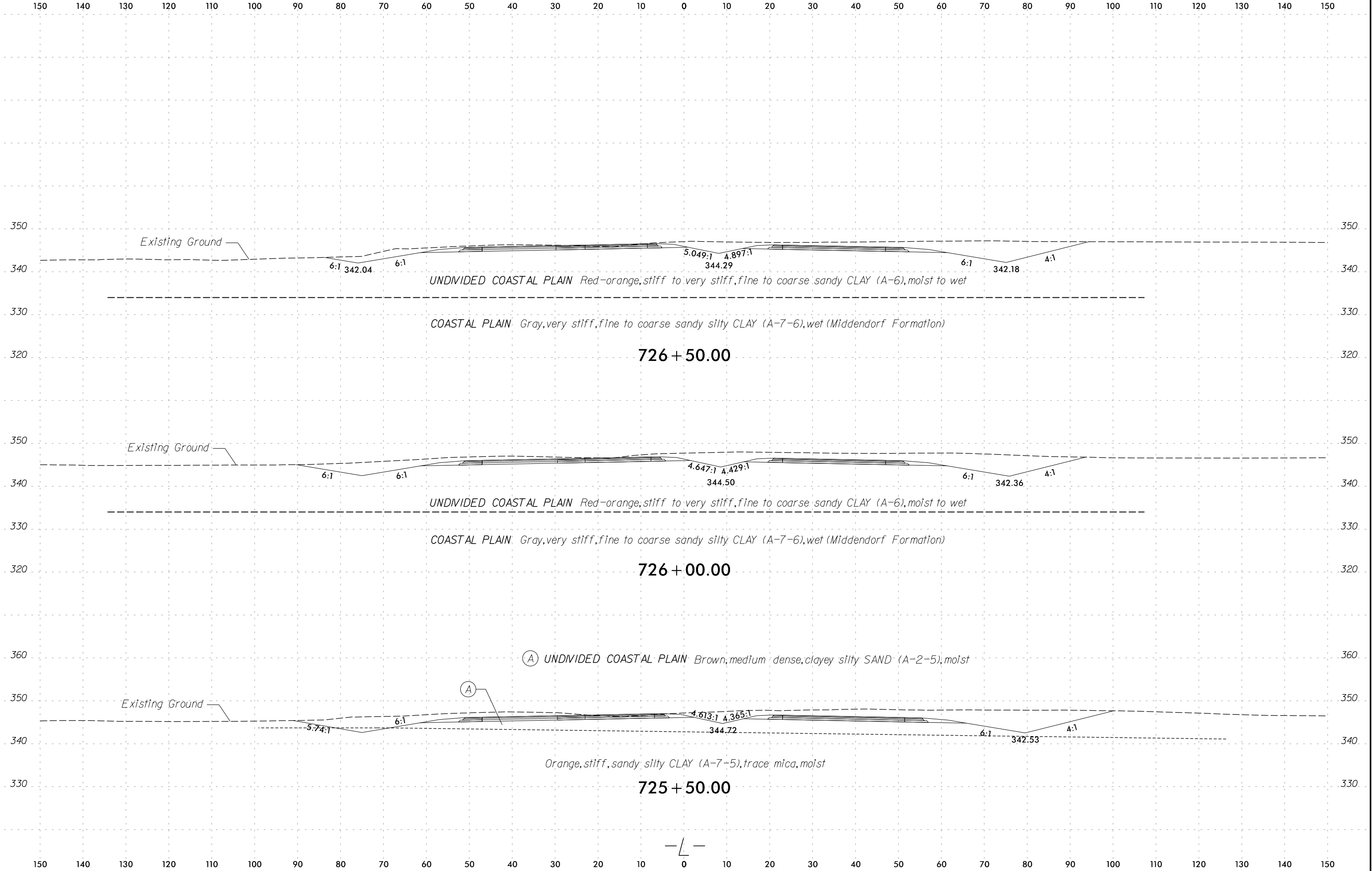




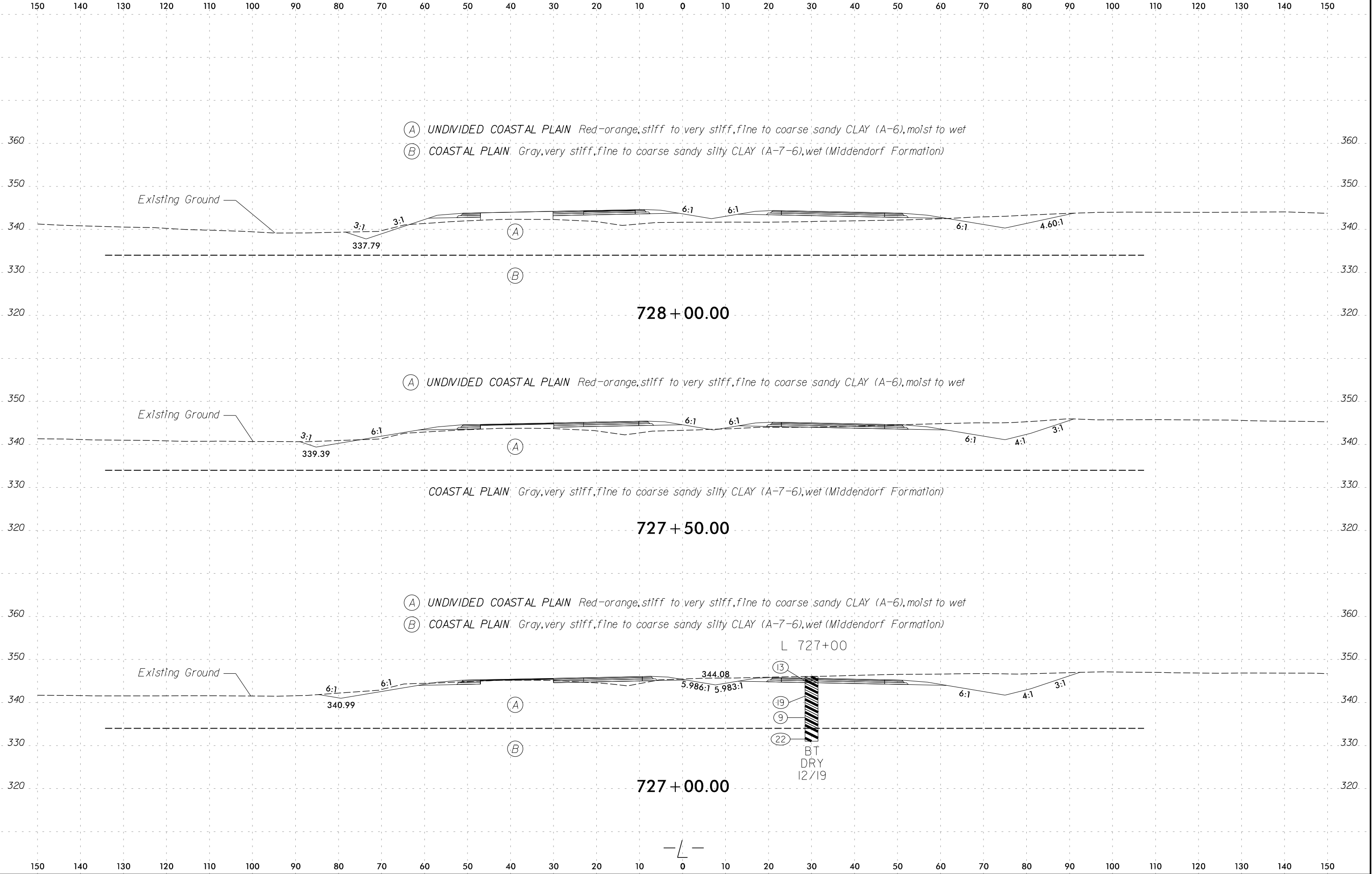




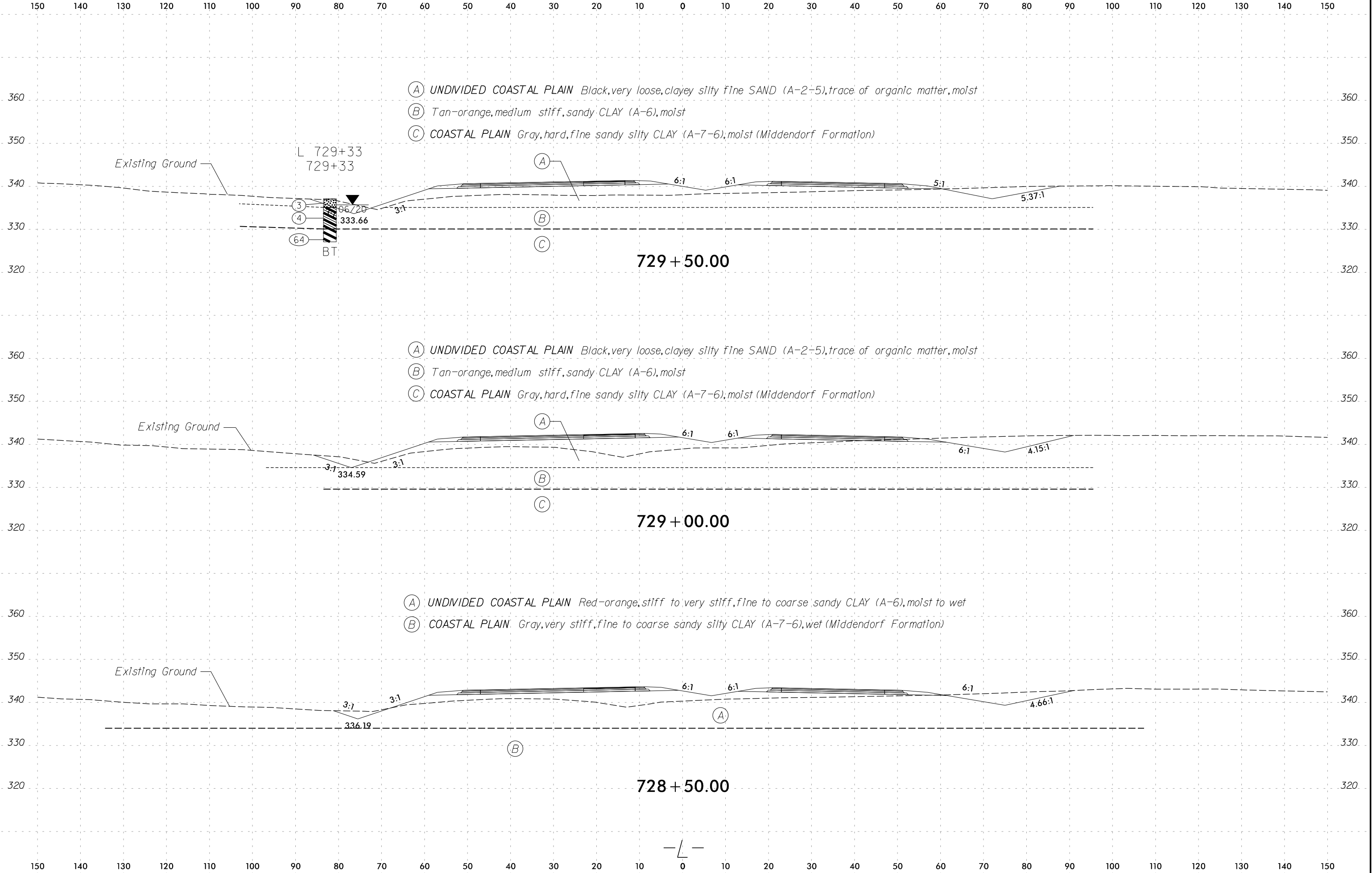
6/23/16

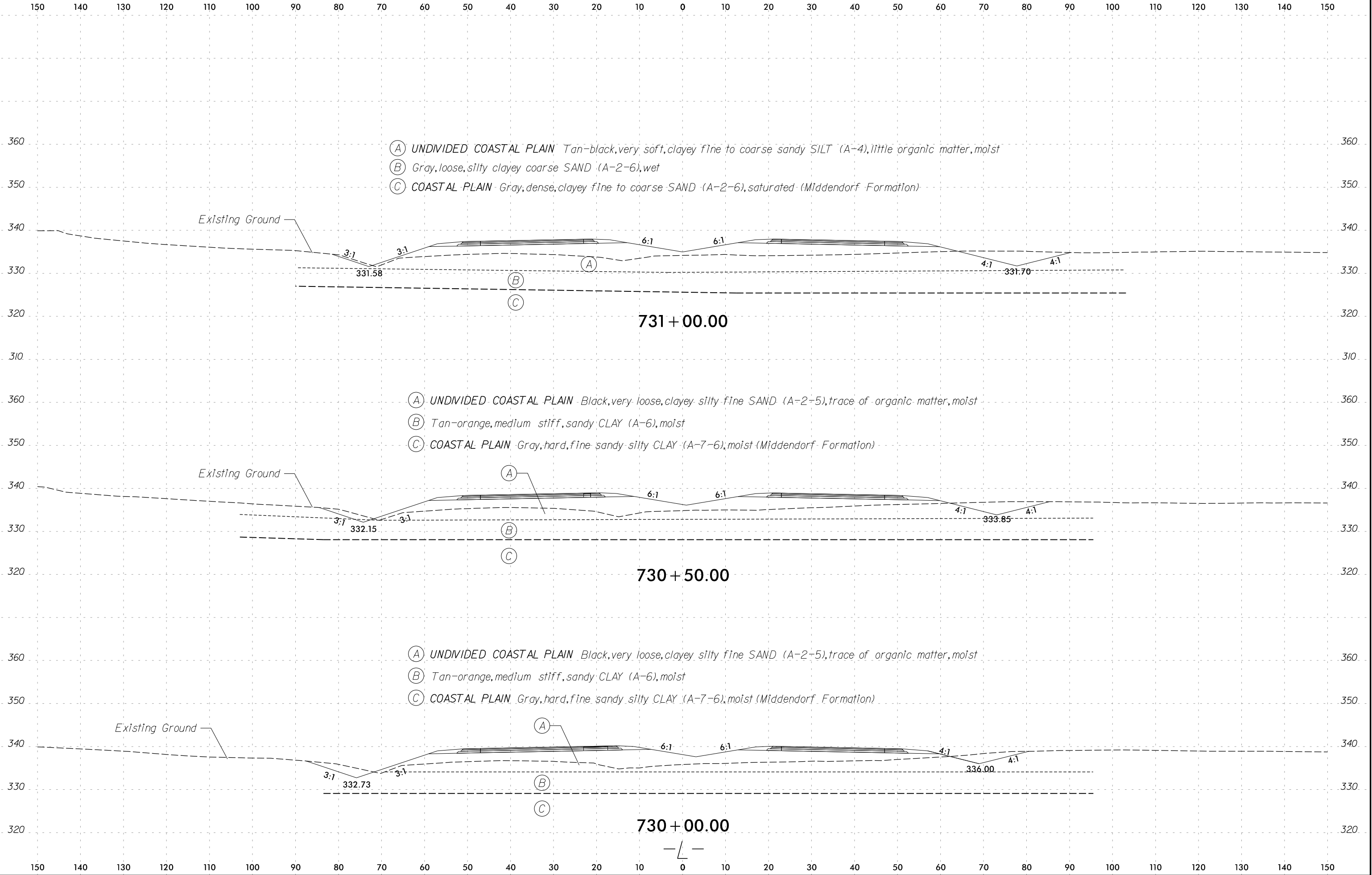


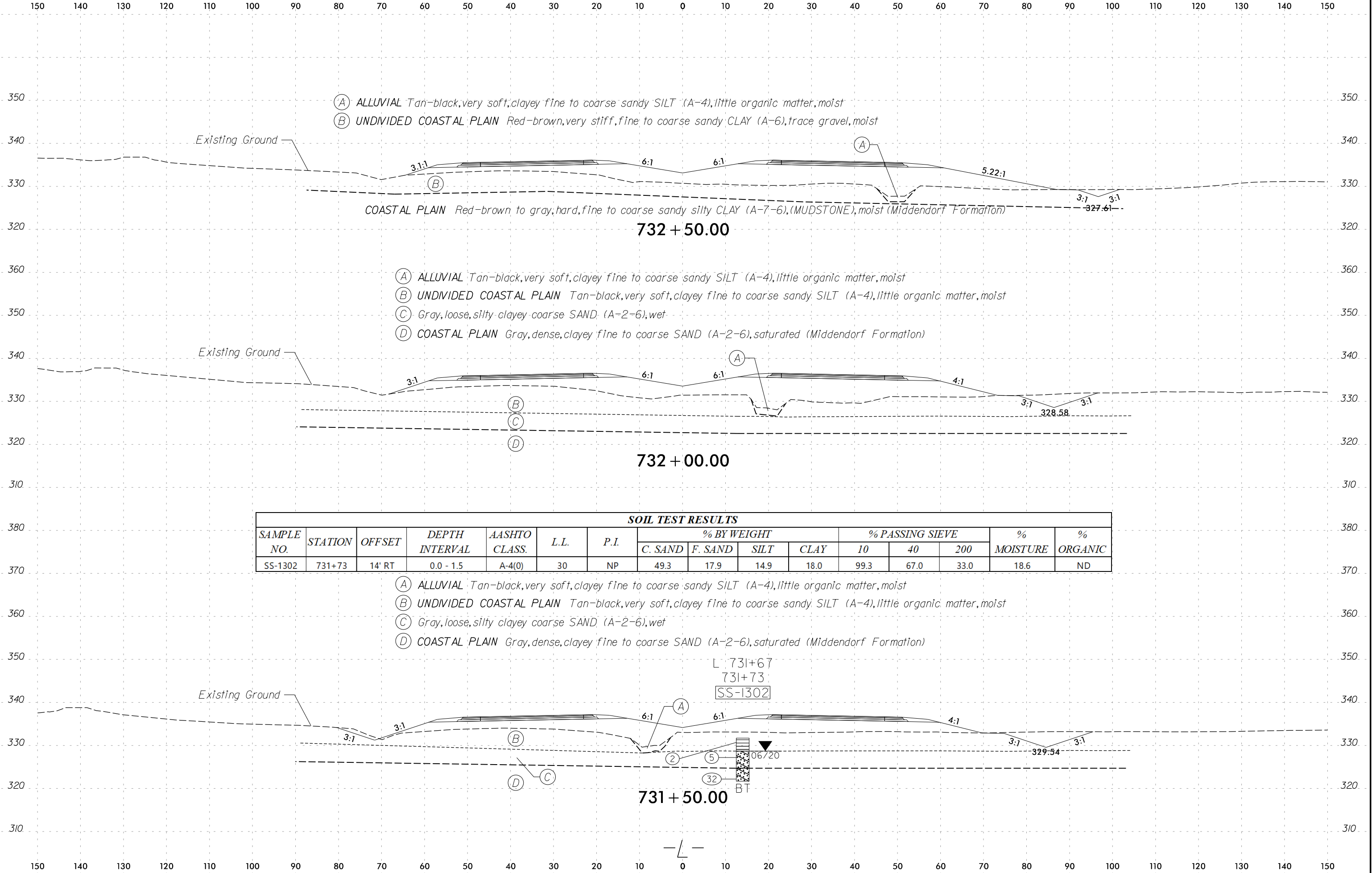
6/23/16

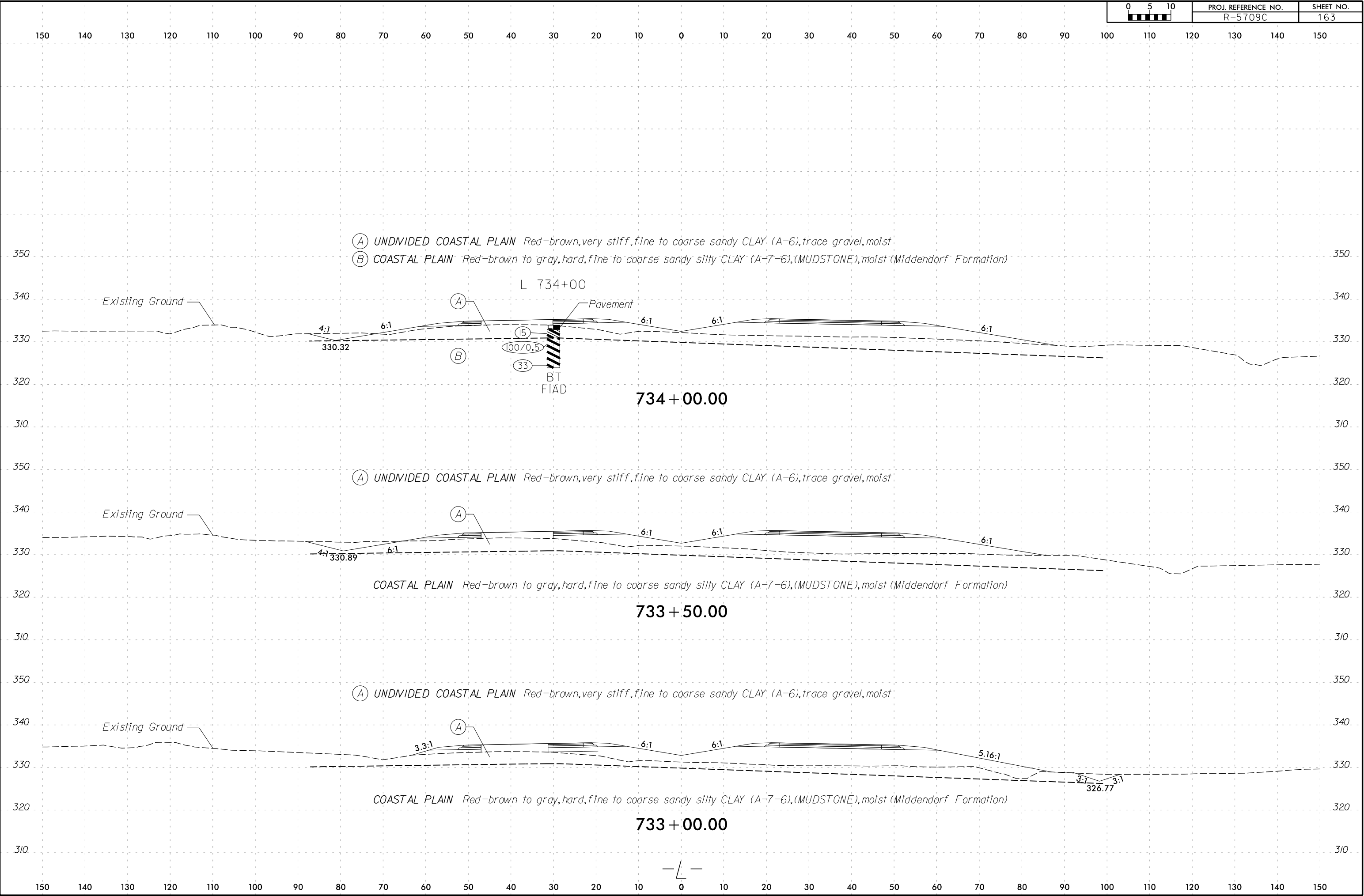


6/23/16

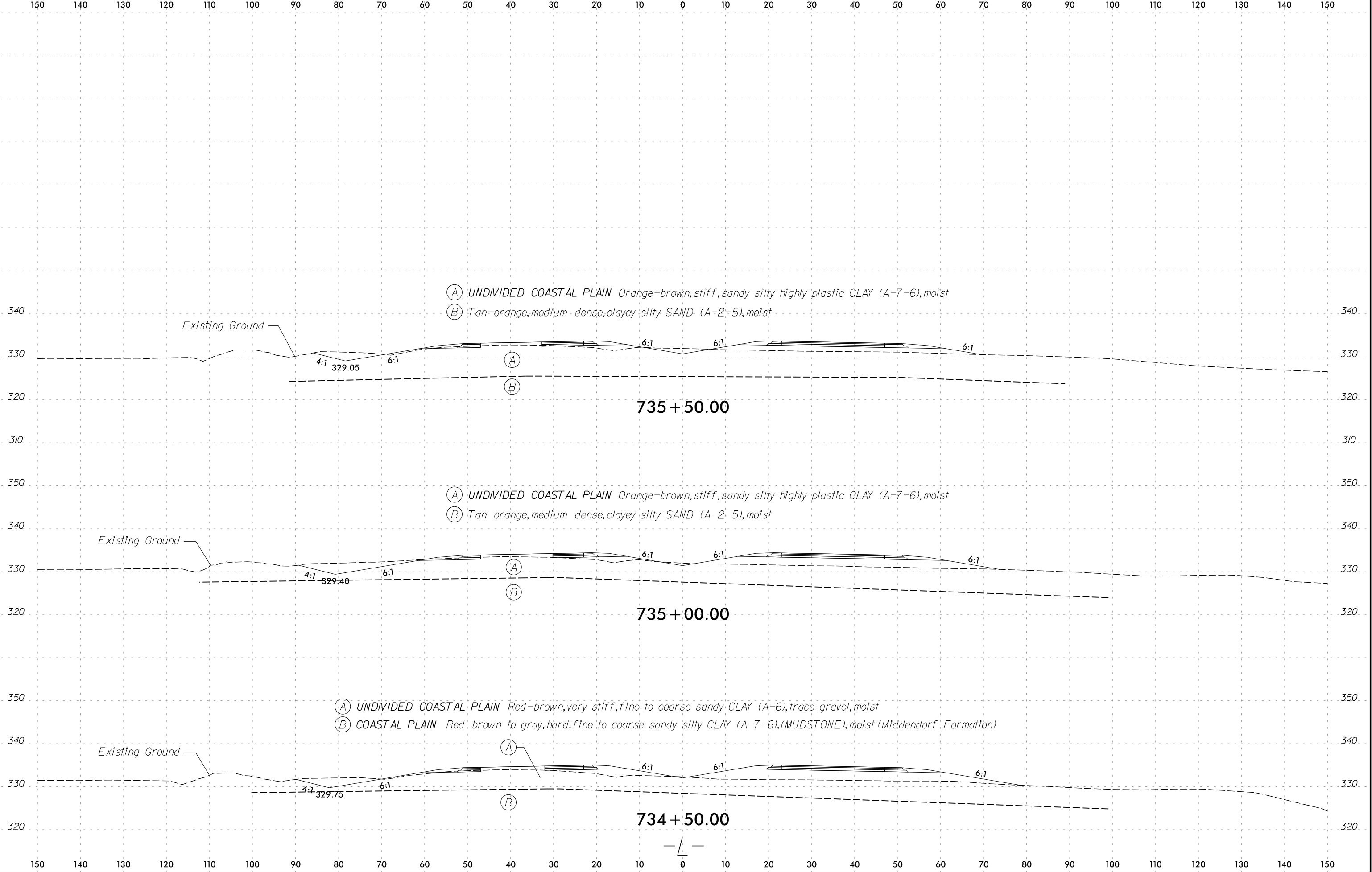


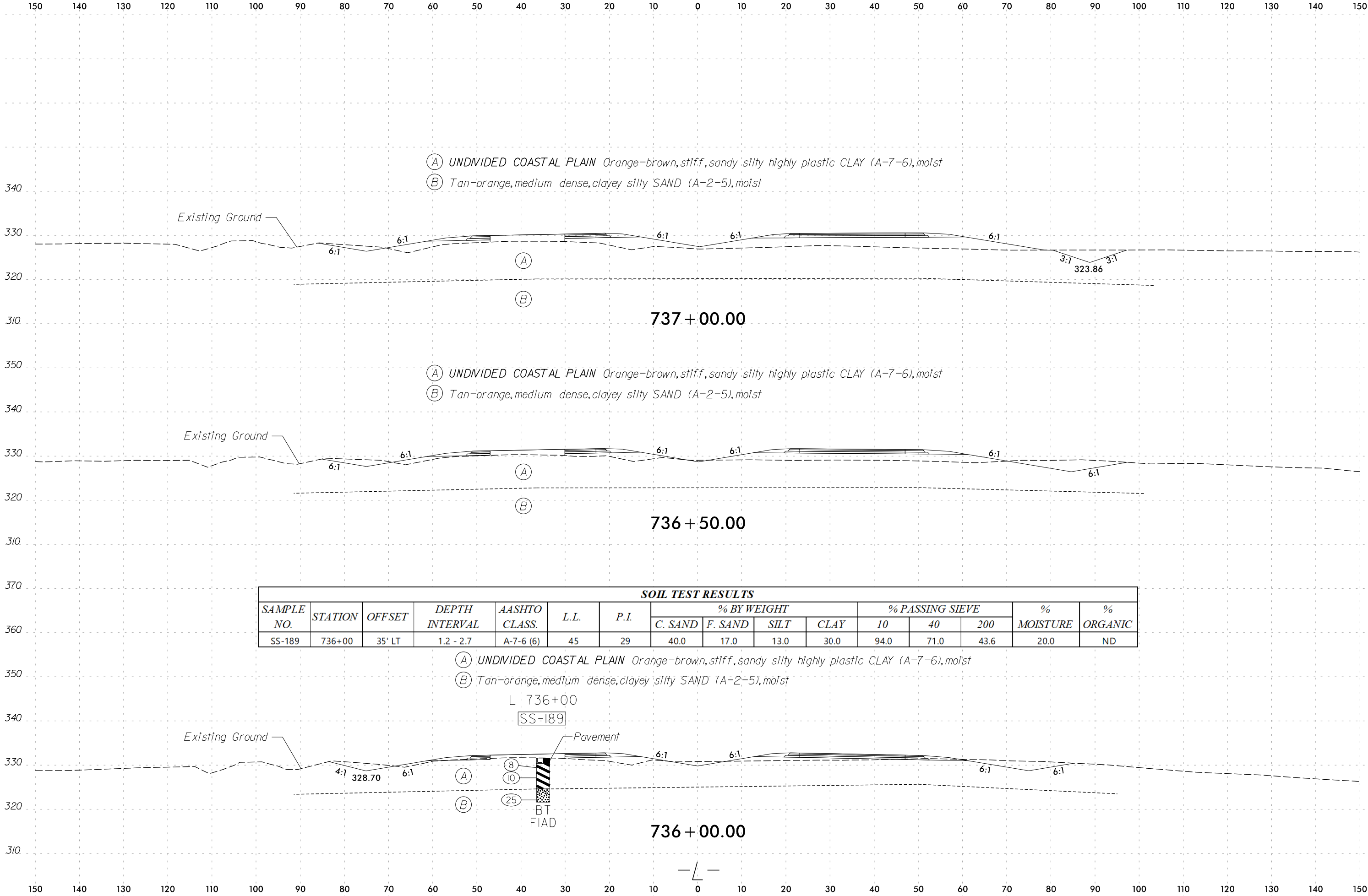


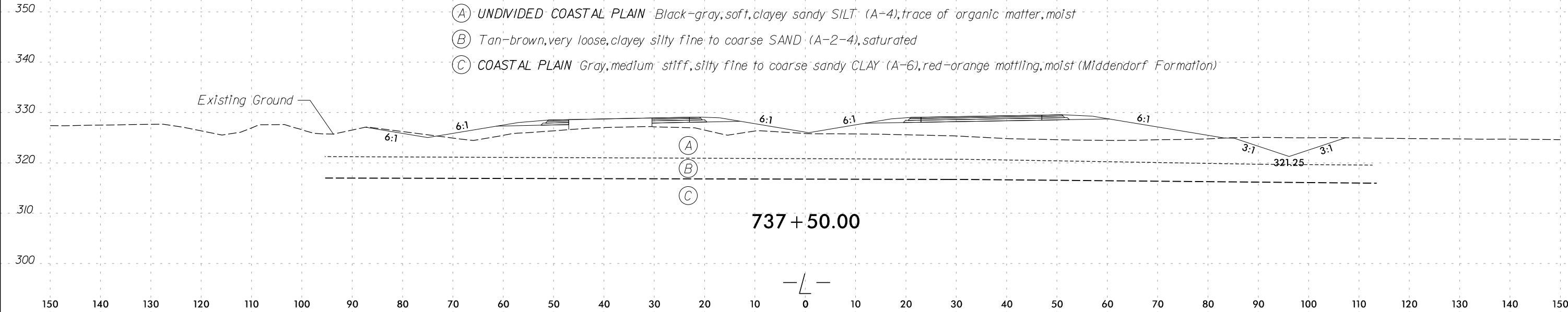
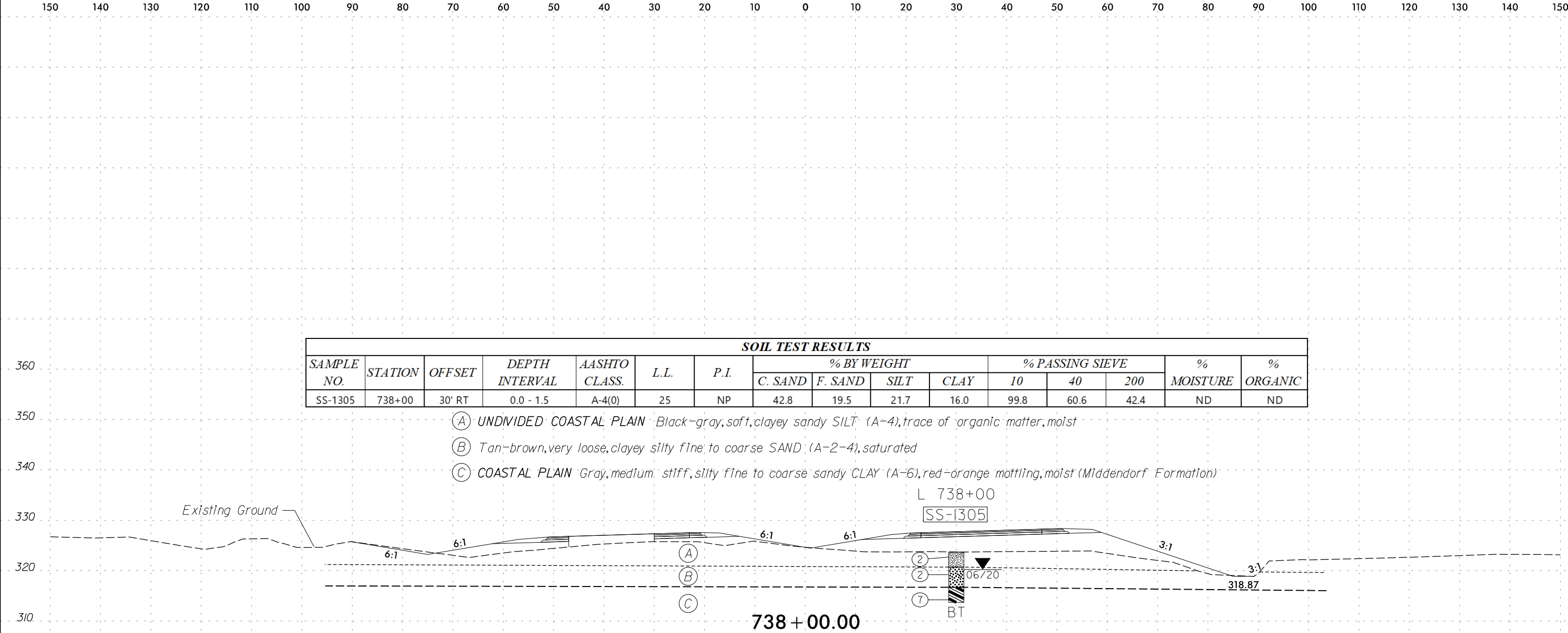




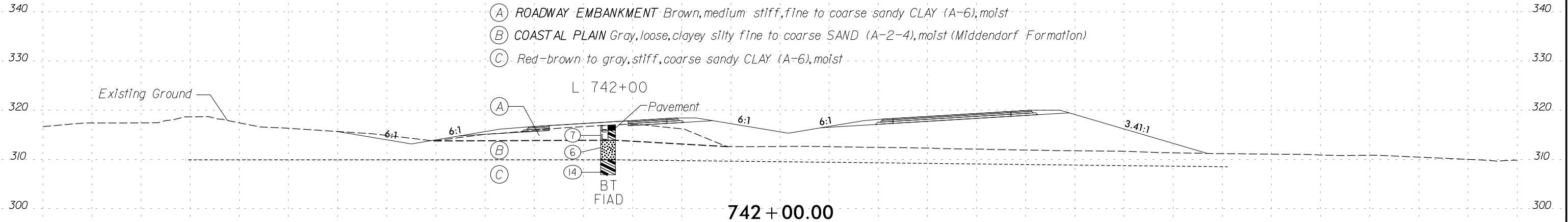
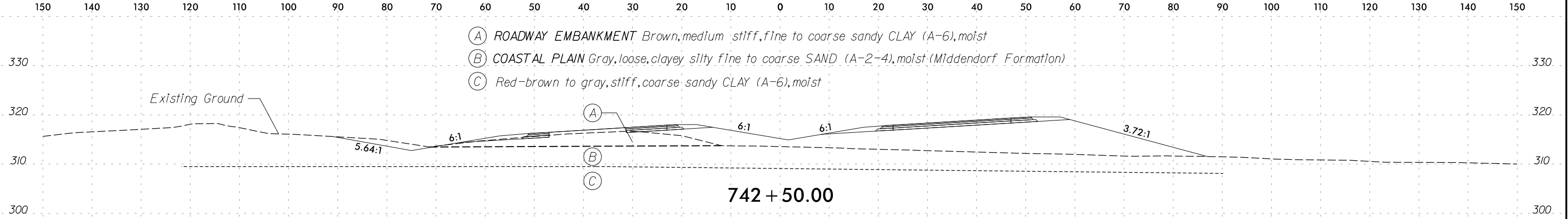
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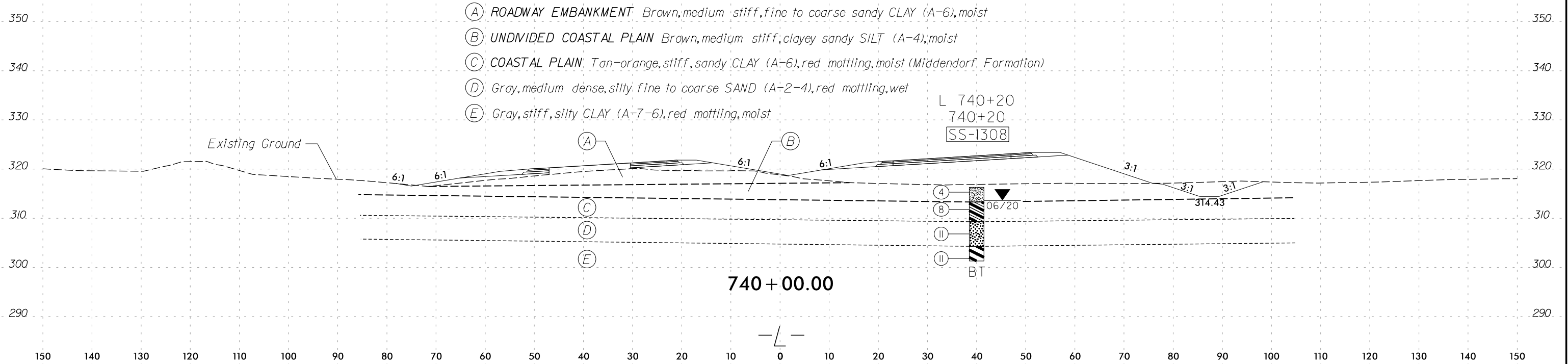




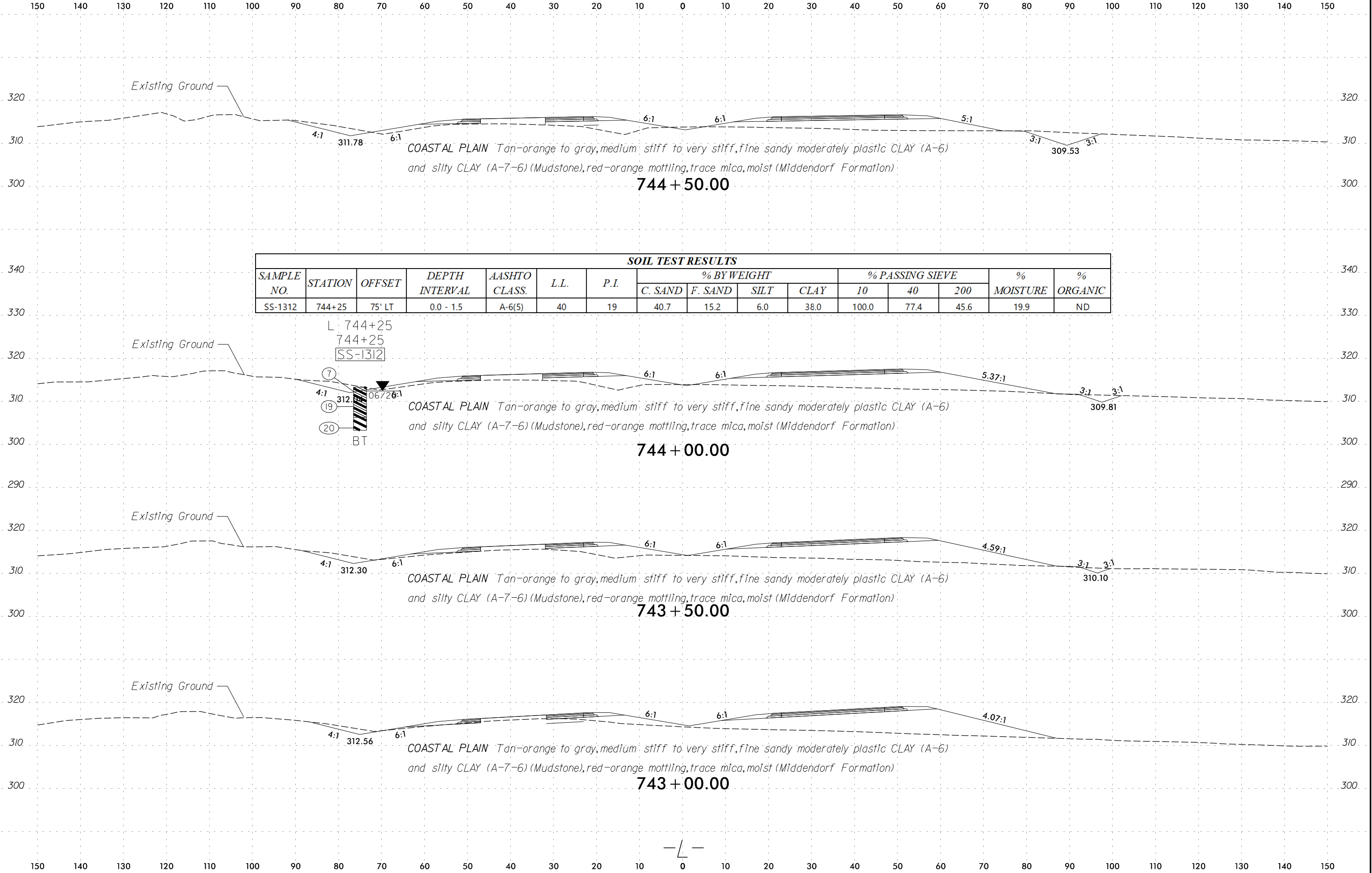
6/23/16

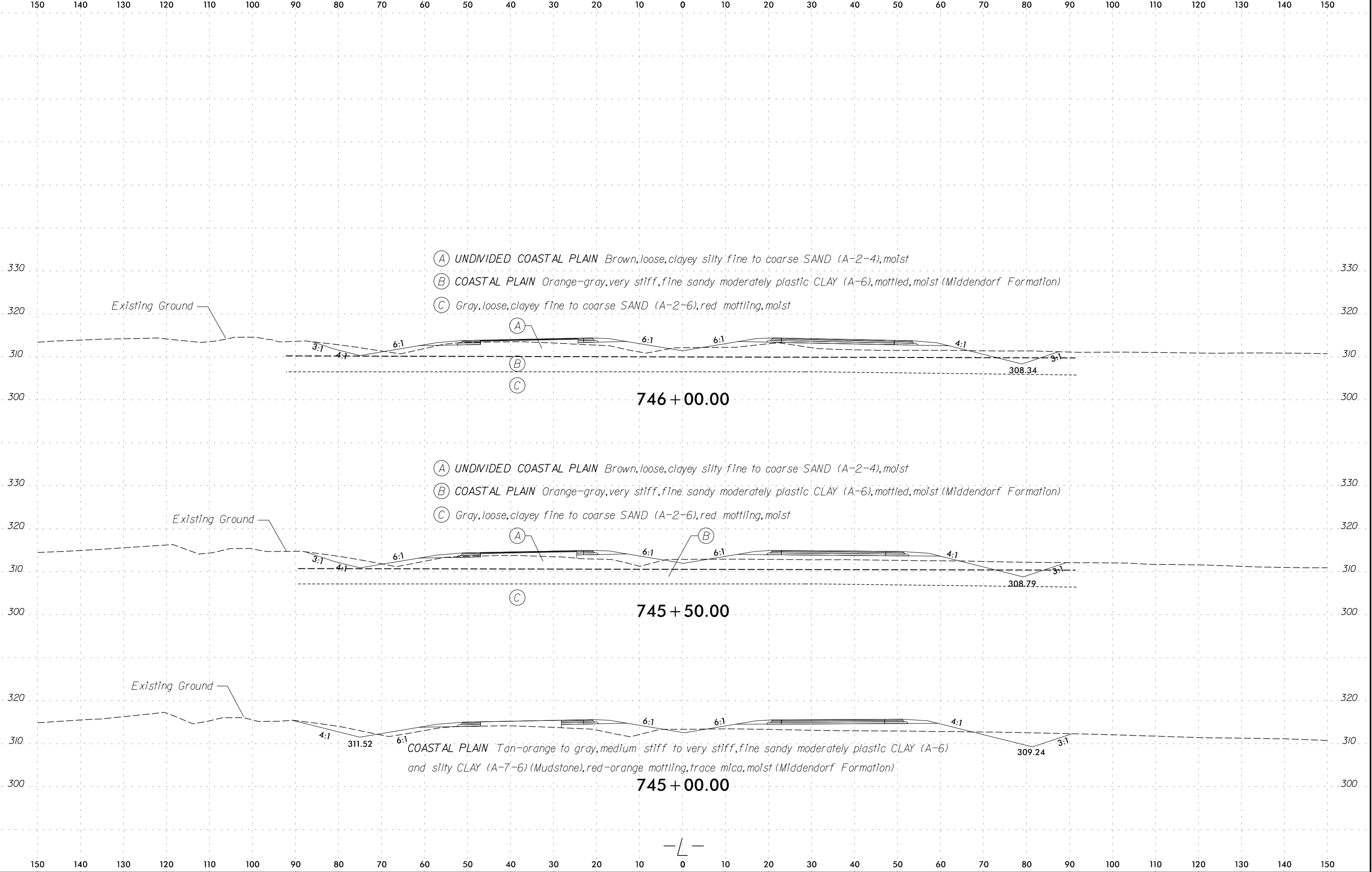


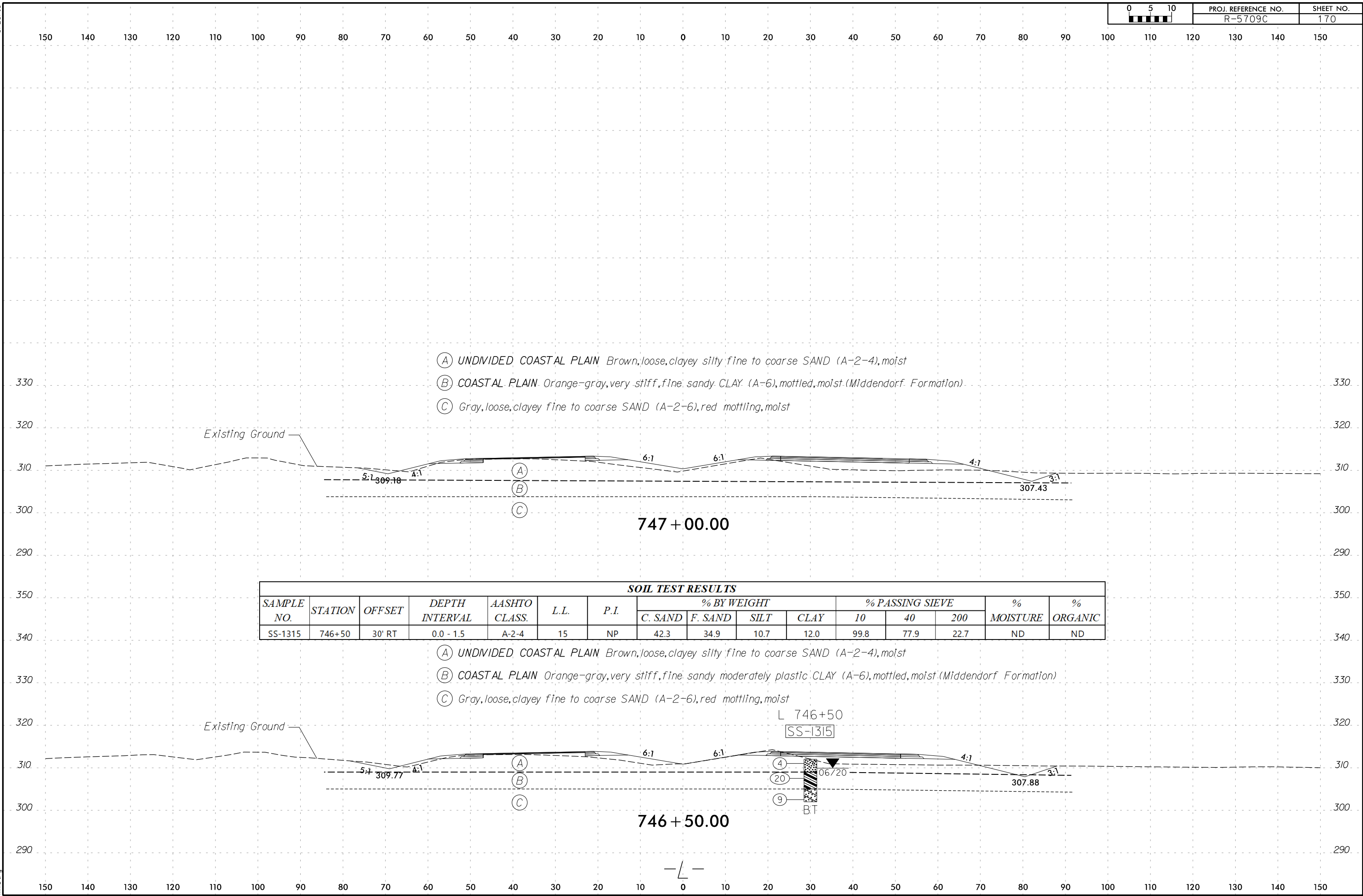
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1308	740+20	40' RT	0.0 - 1.5	A-4(0)	20	NP	35.6	24.0	10.3	30.2	99.5	77.3	40.5	18.8	ND



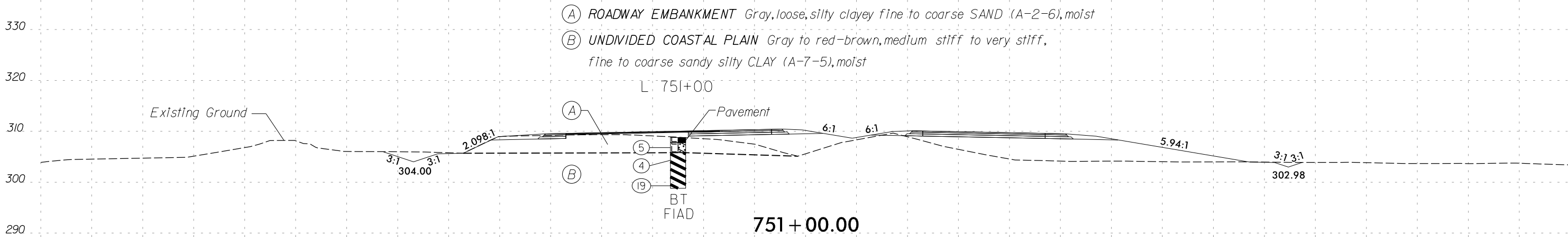
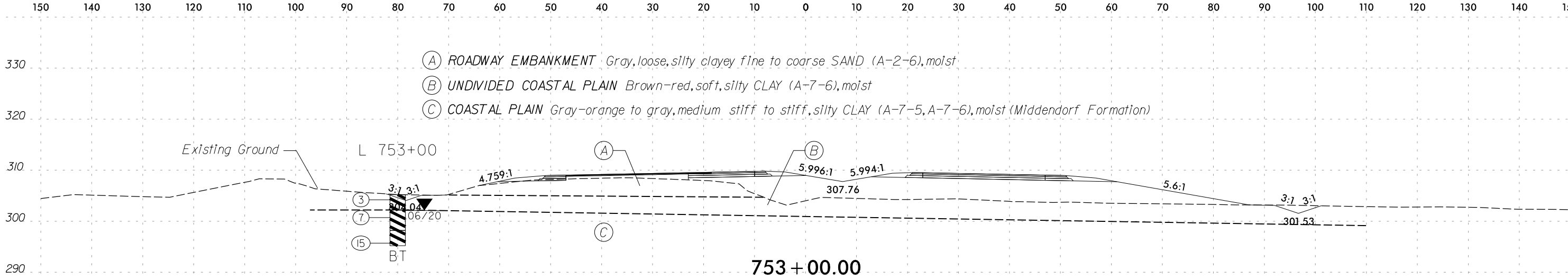
6/23/16



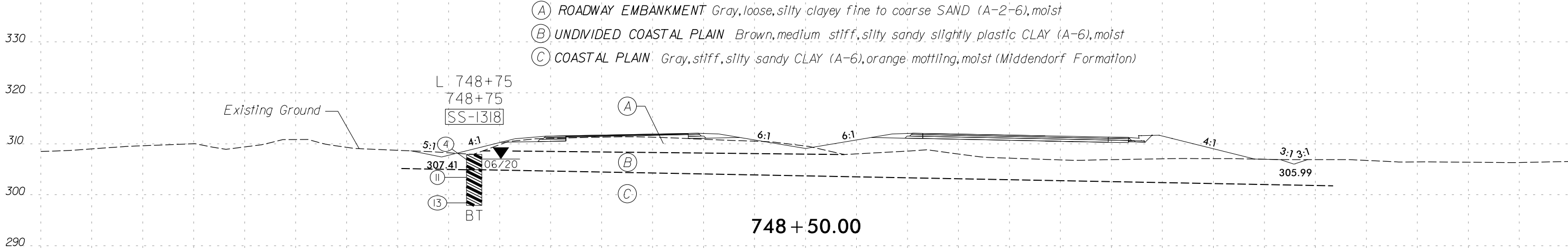




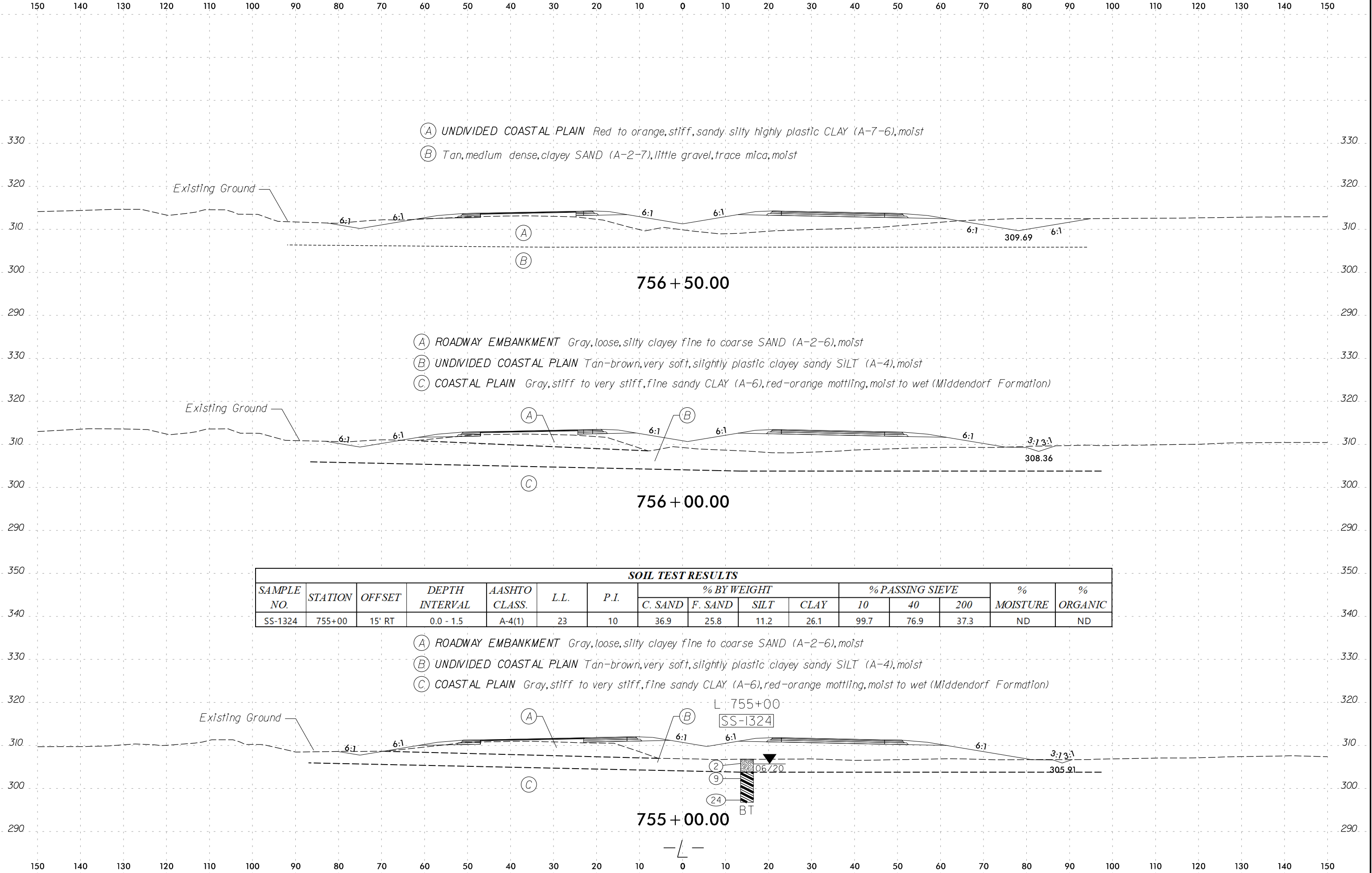
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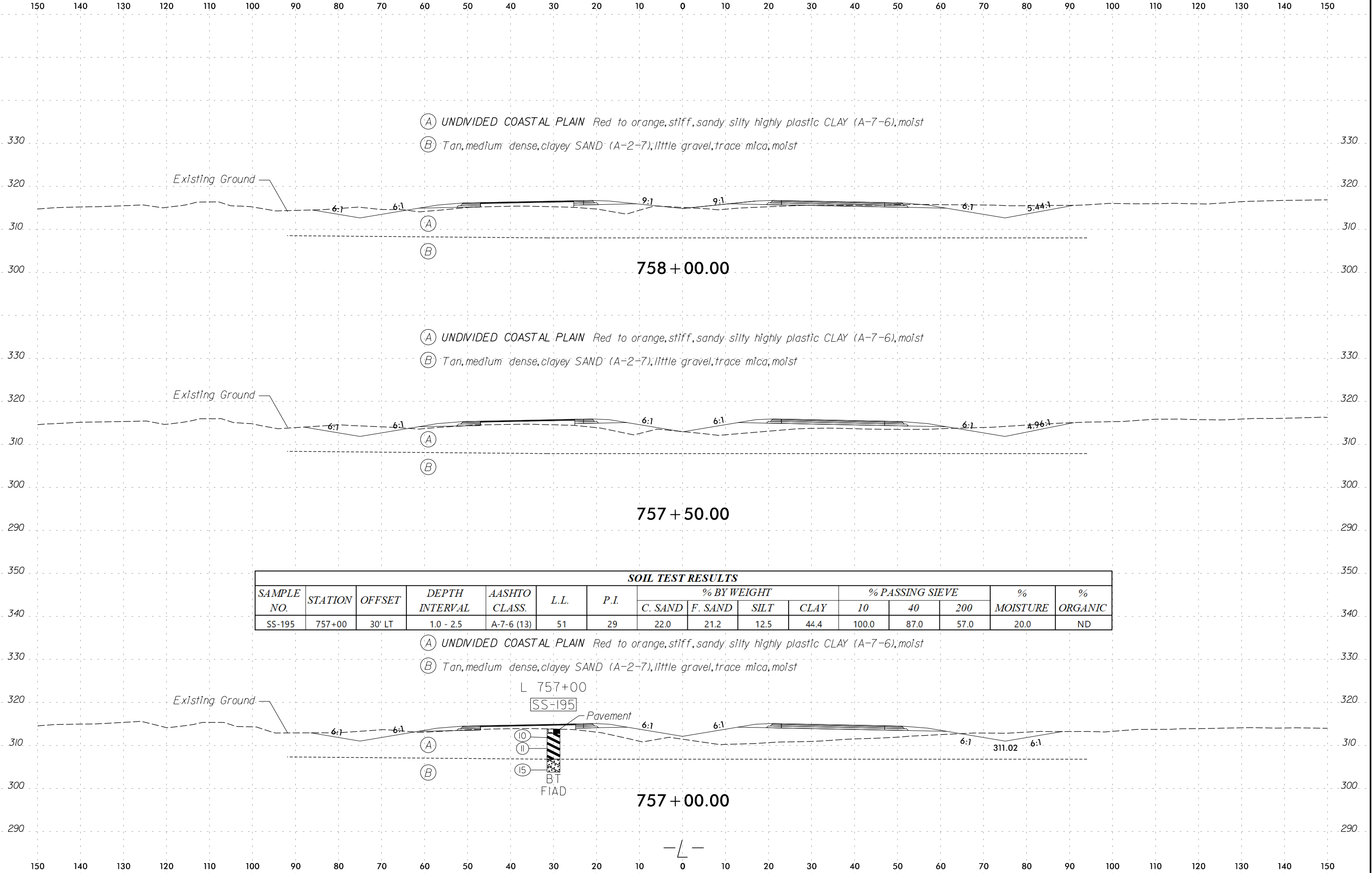
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SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1318	748+75	65' LT	0.0 - 1.5	A-6(3)	30	12	28.6	24.9	14.4	32.1	99.3	81.3	46.5	18.1	ND



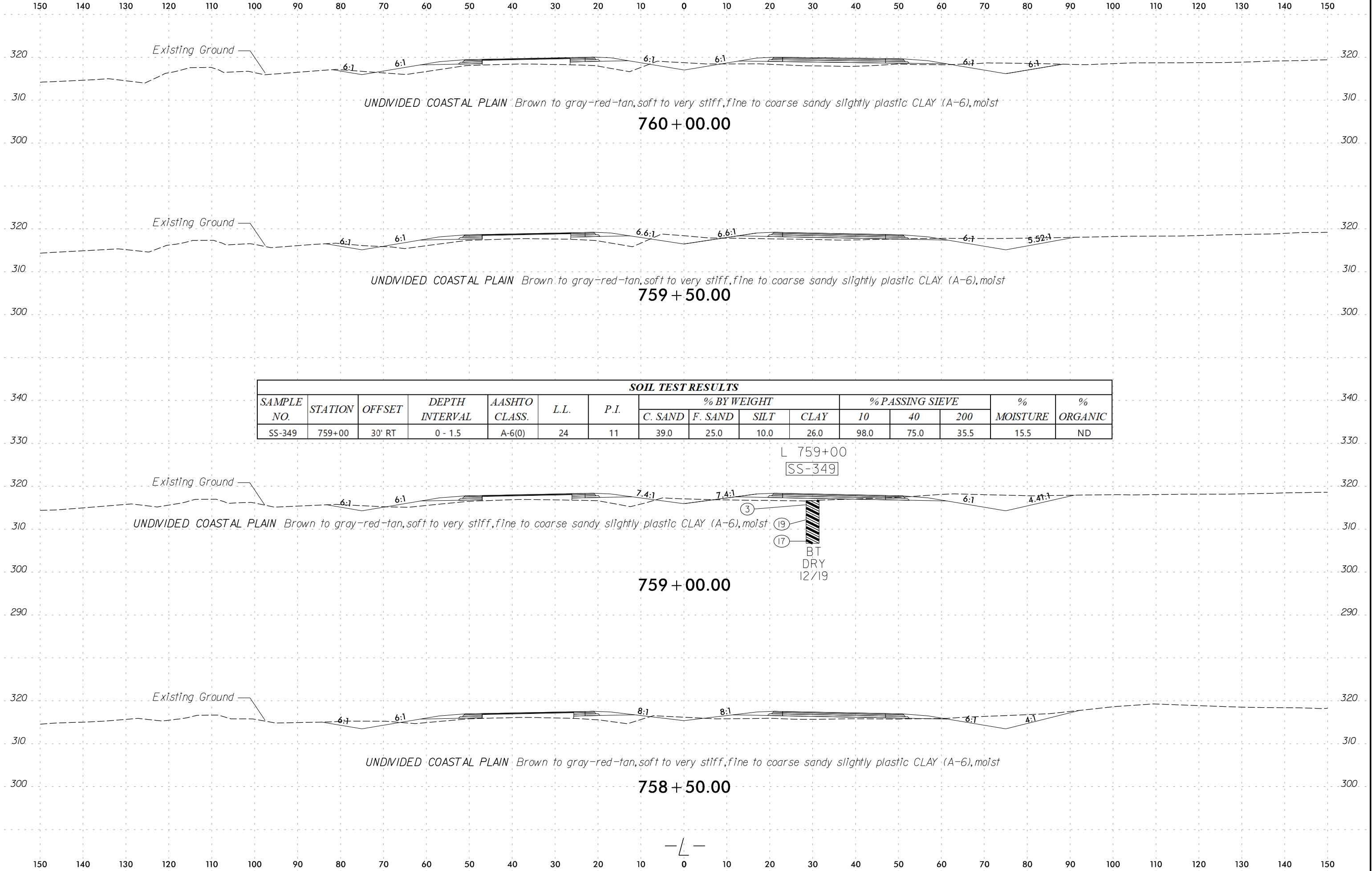
6/23/16



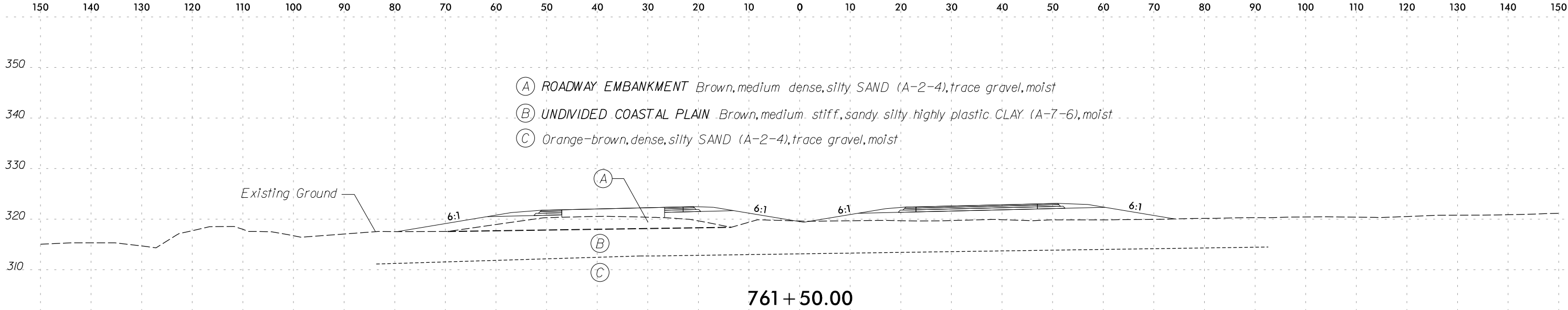
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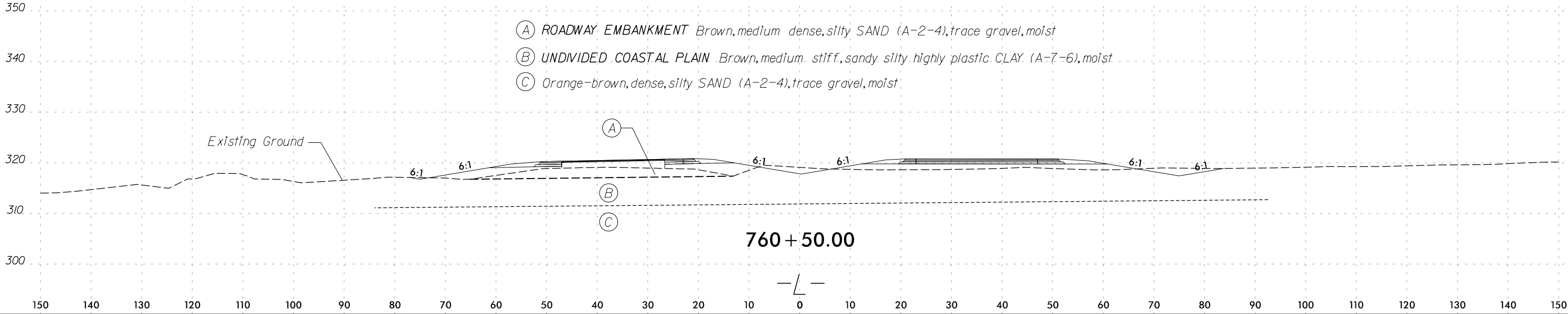
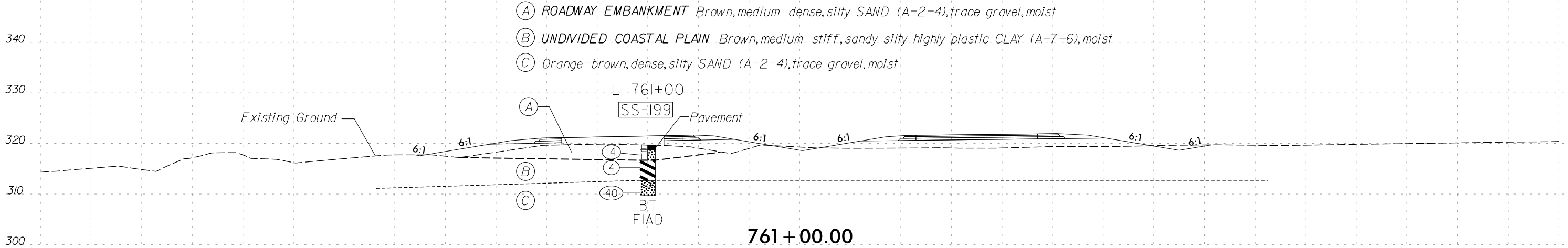
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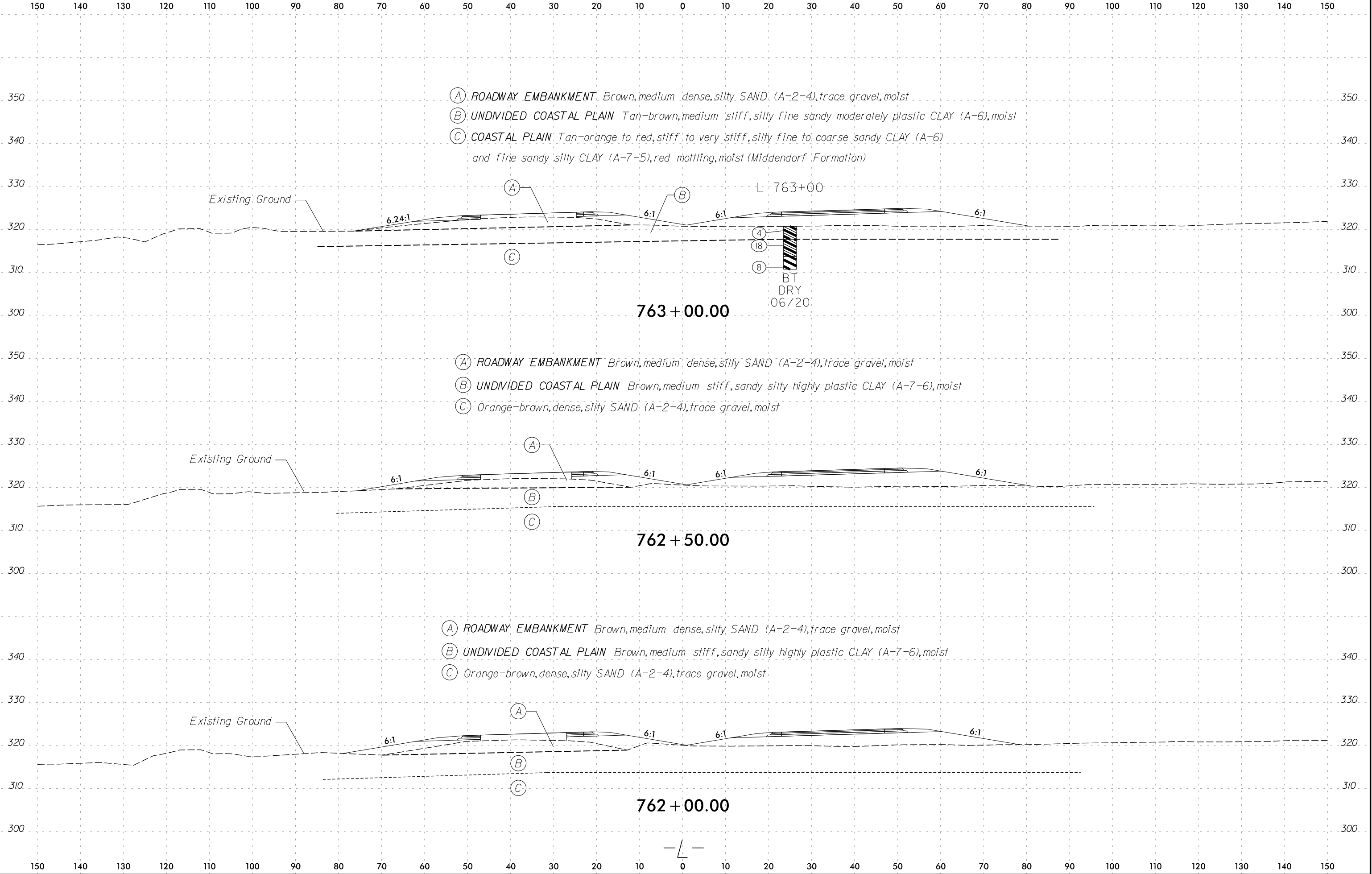
6/23/16



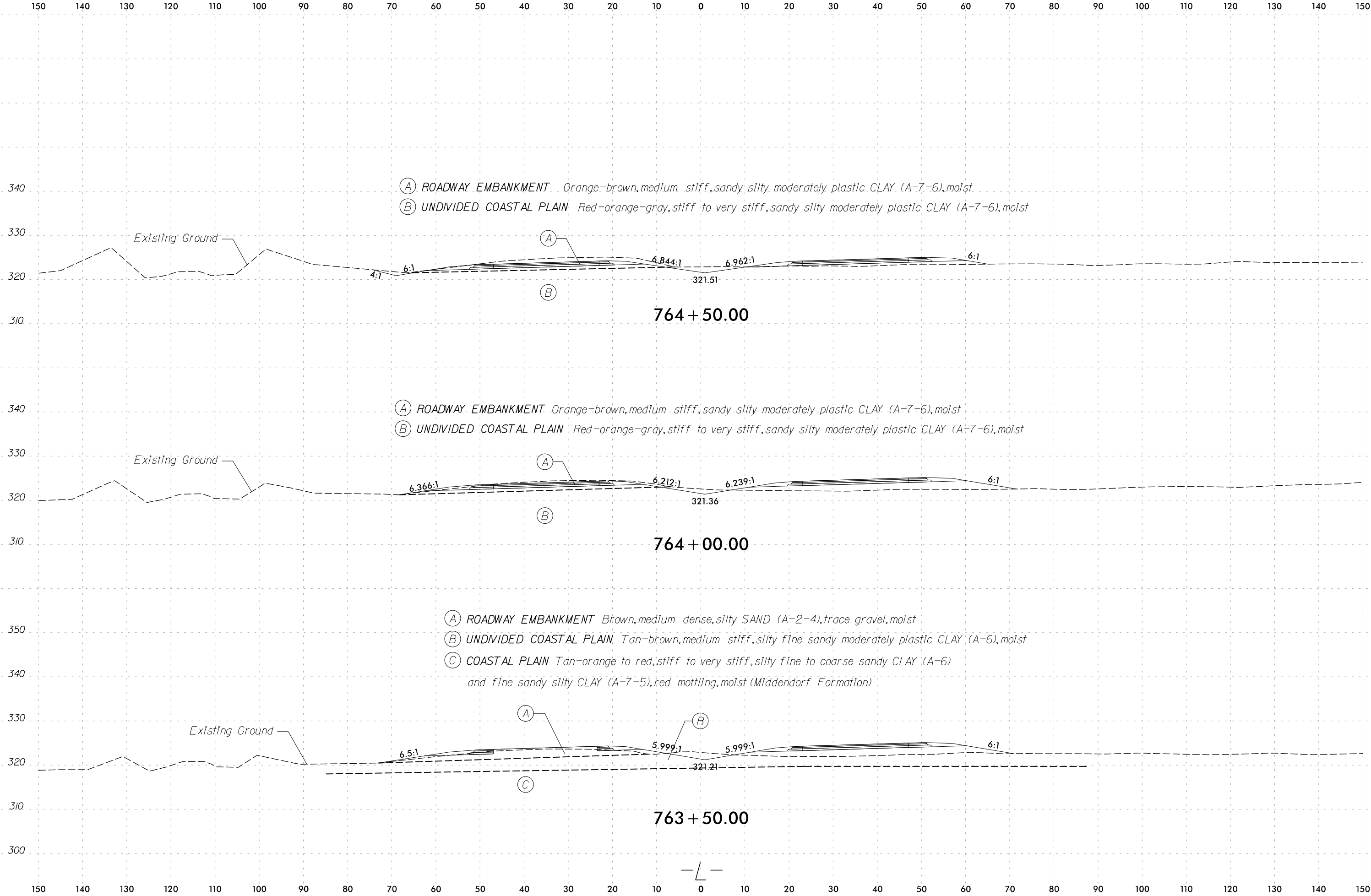
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-199	761+00	30' LT	3.5 - 5.0	A-7-6 (6)	43	28	40.0	18.0	6.0	36.0	98.0	72.0	42.0	13.0	ND



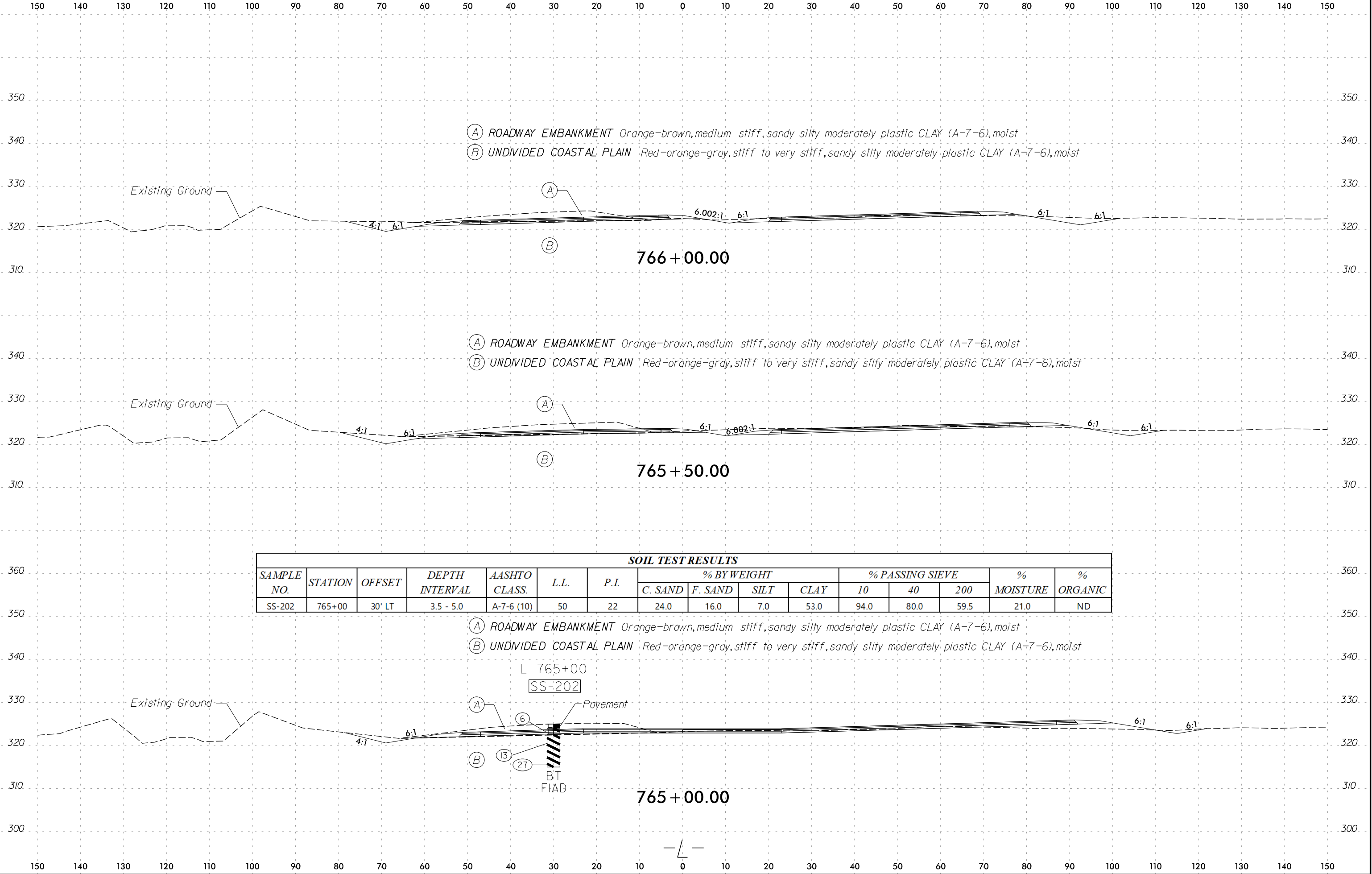
6/23/16



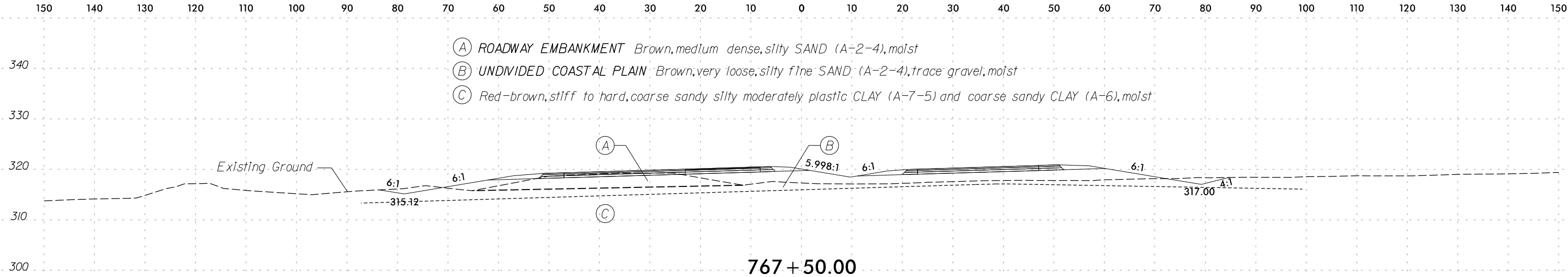
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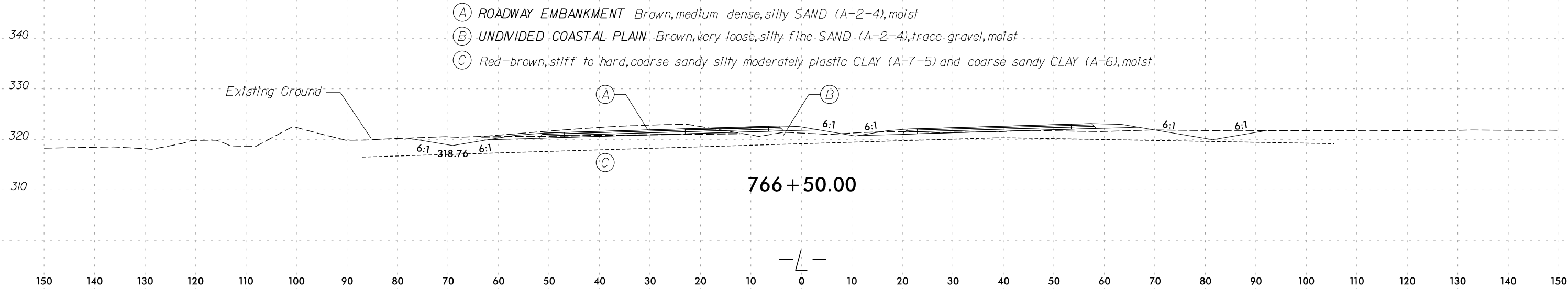
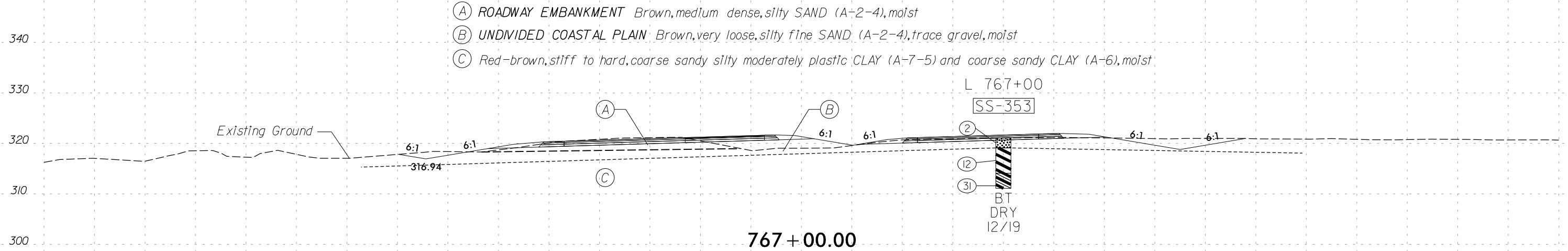
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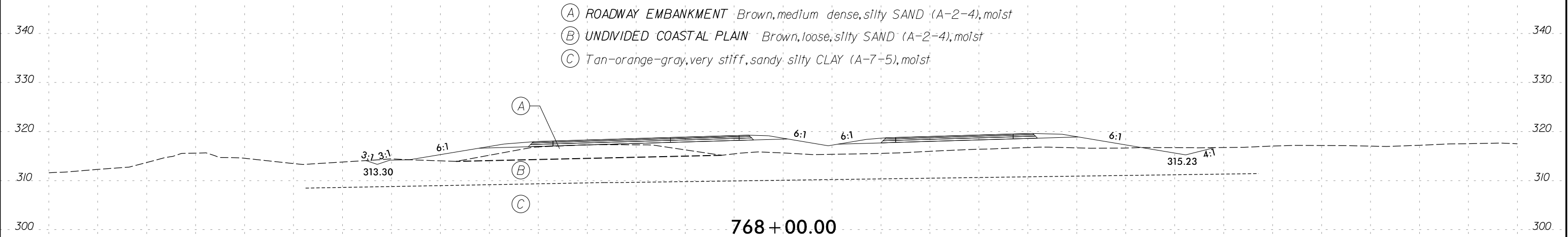


6/23/16

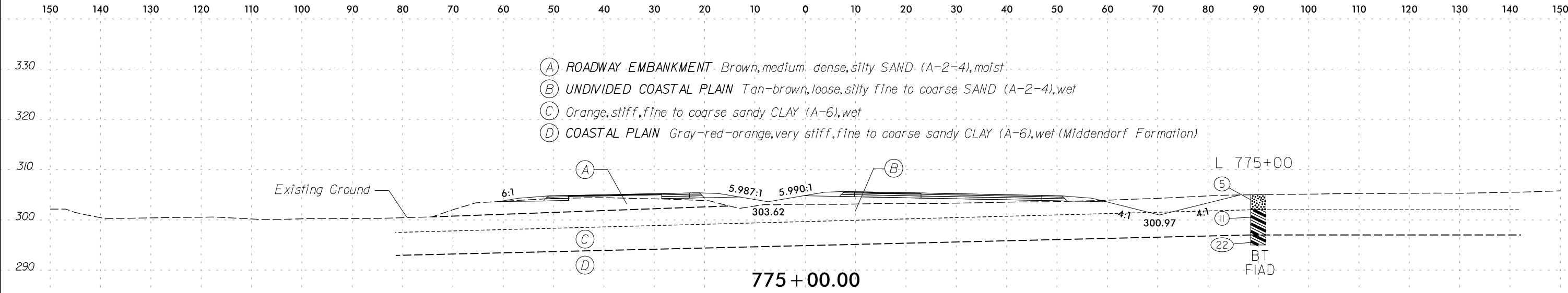


SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-353	767+00	40' RT	3.5 - 5.0	A-7-5(12)	54	19	19.0	15.0	2.0	64.0	98.0	87.0	64.4	25.1	ND

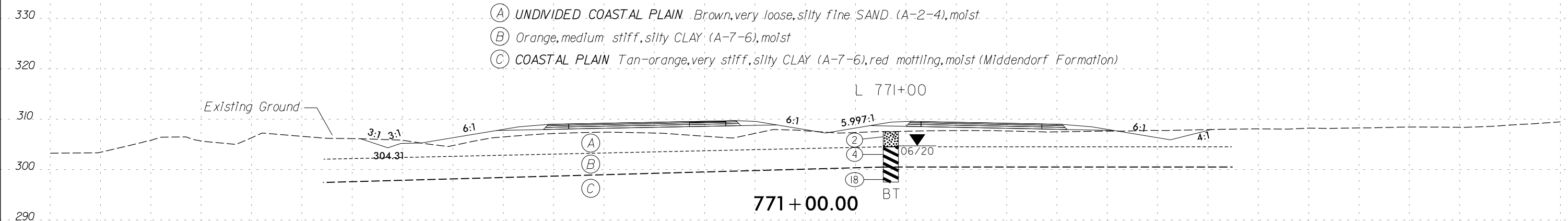
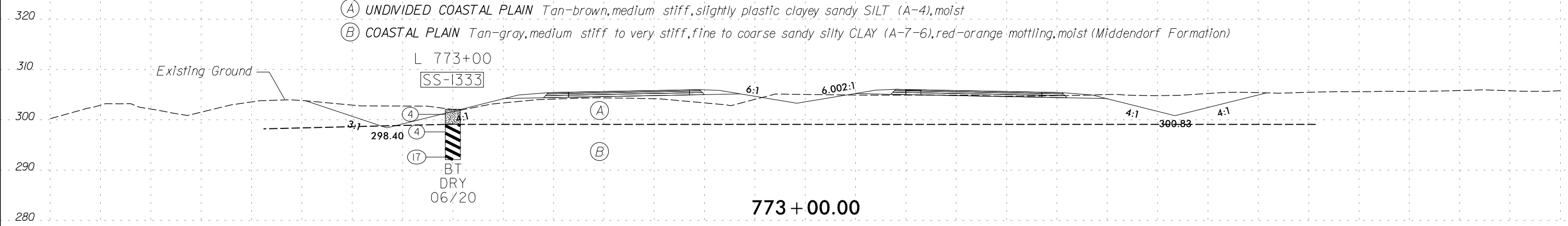


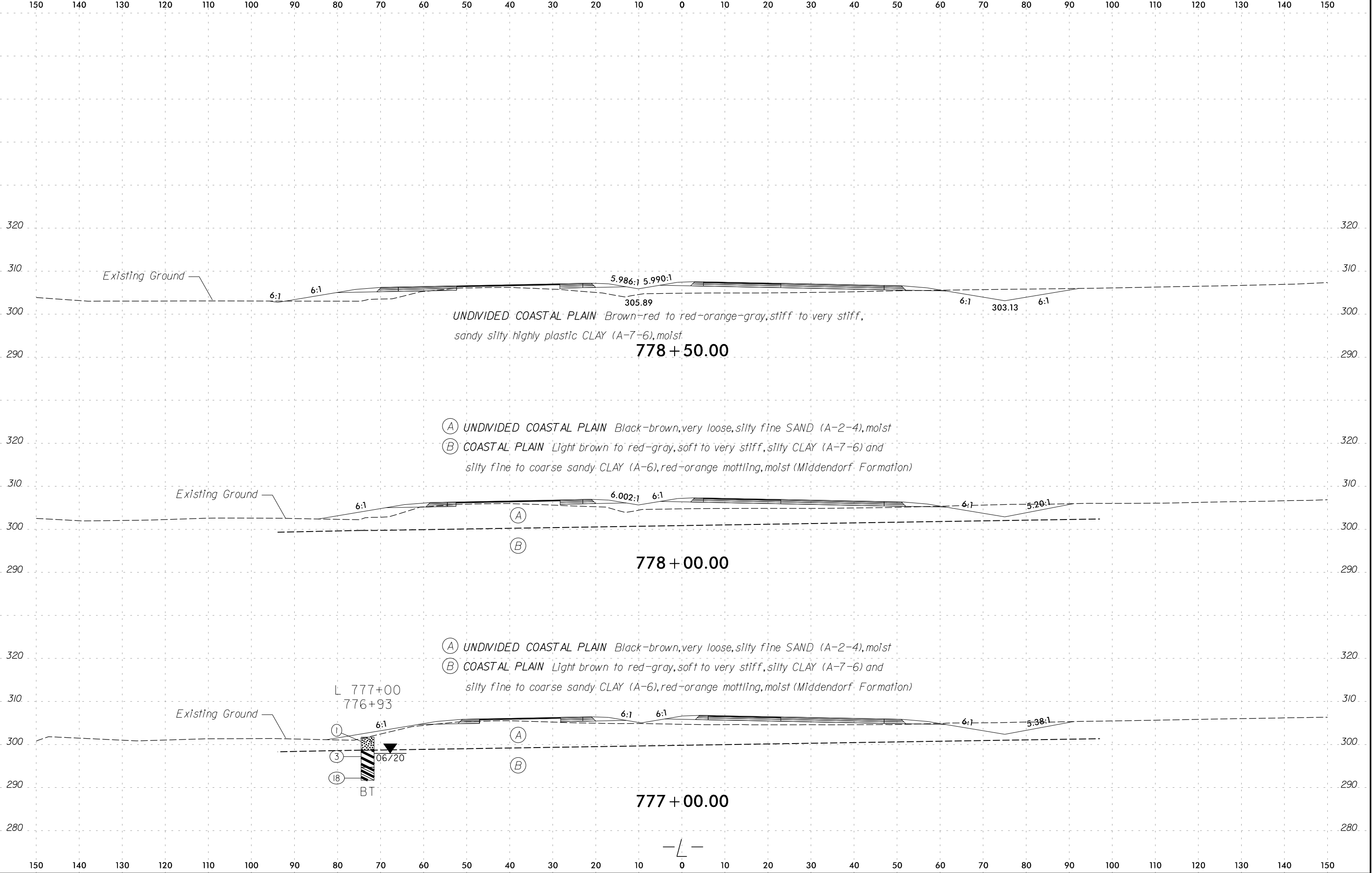


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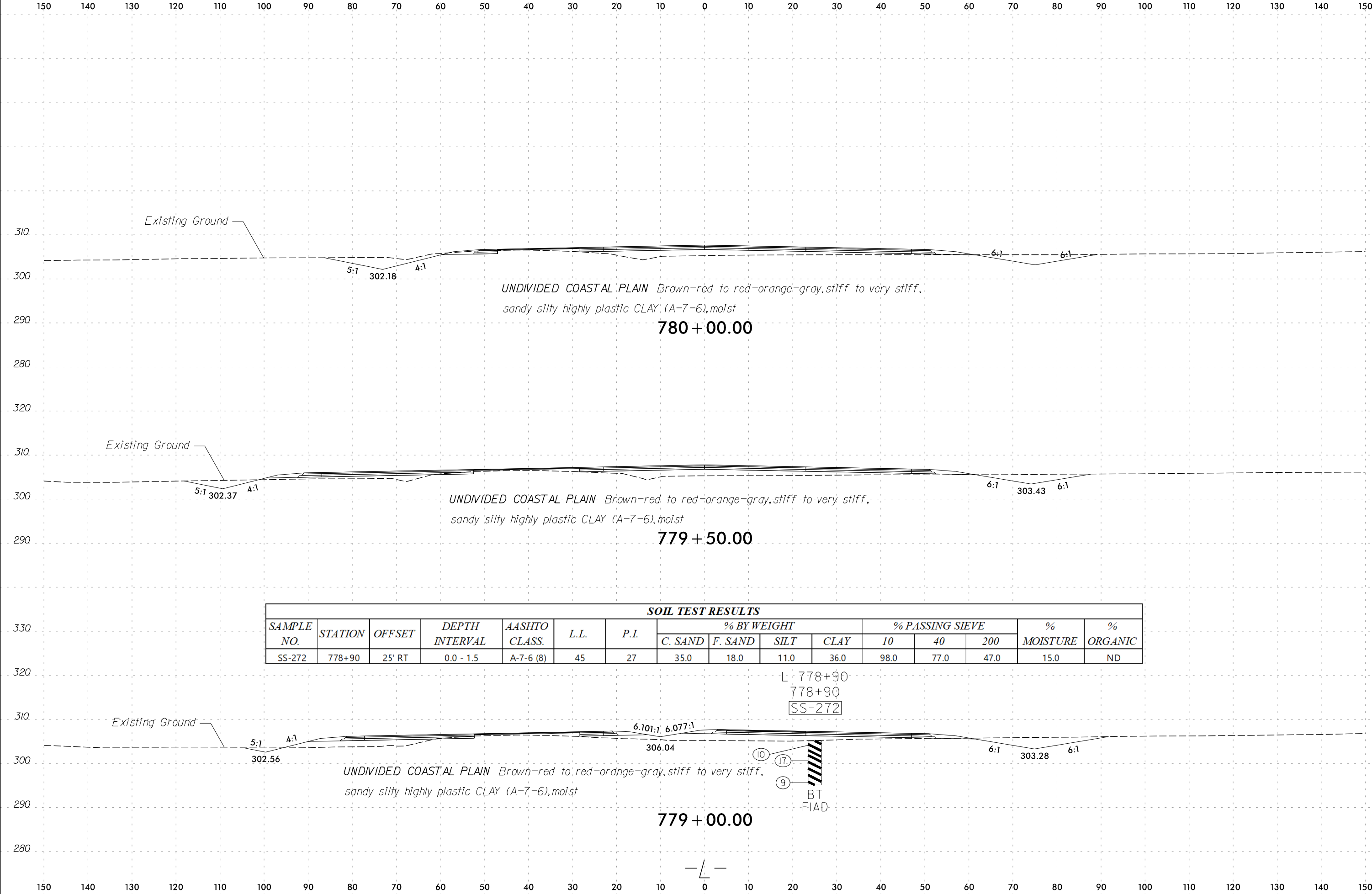


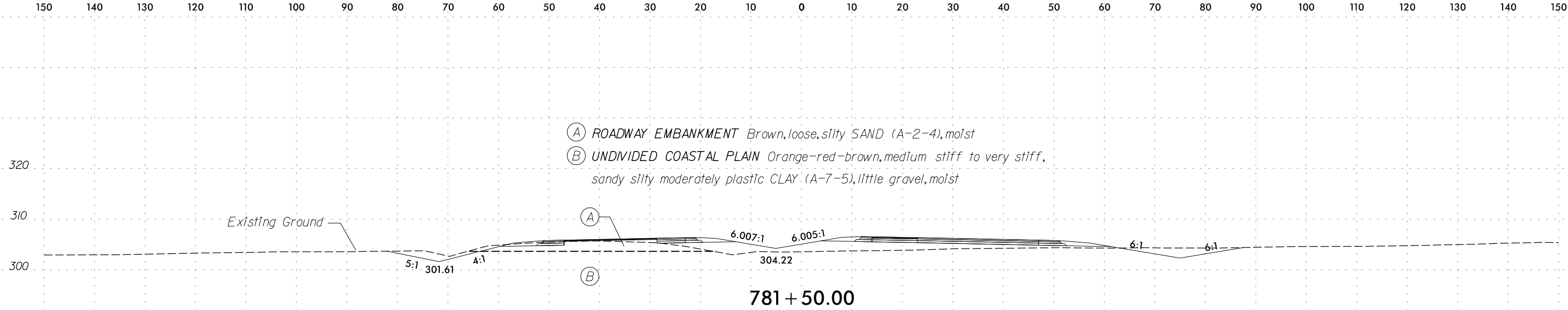
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1333	773+00	70' LT	0.0 - 1.5	A-4(1)	29	6	30.5	20.2	15.2	34.0	95.6	77.1	49.4	24.5	ND



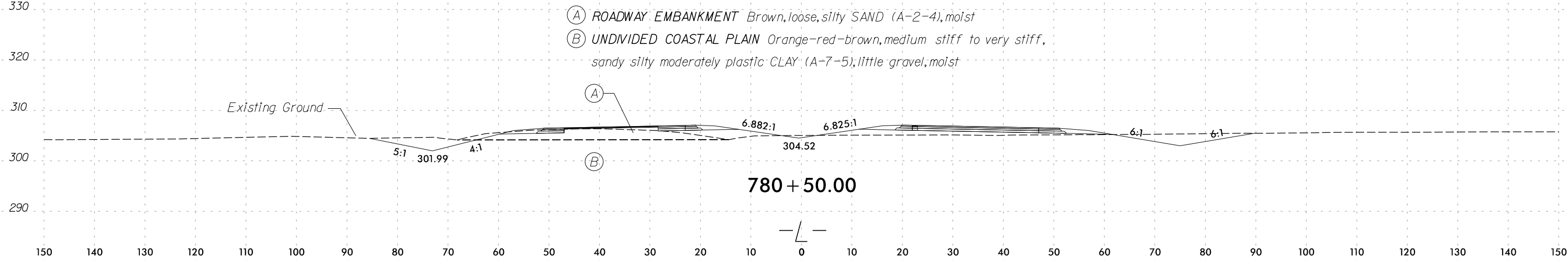
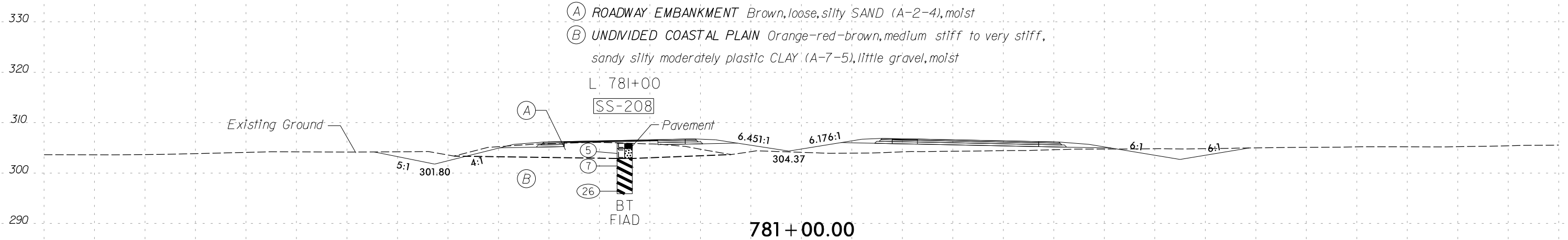


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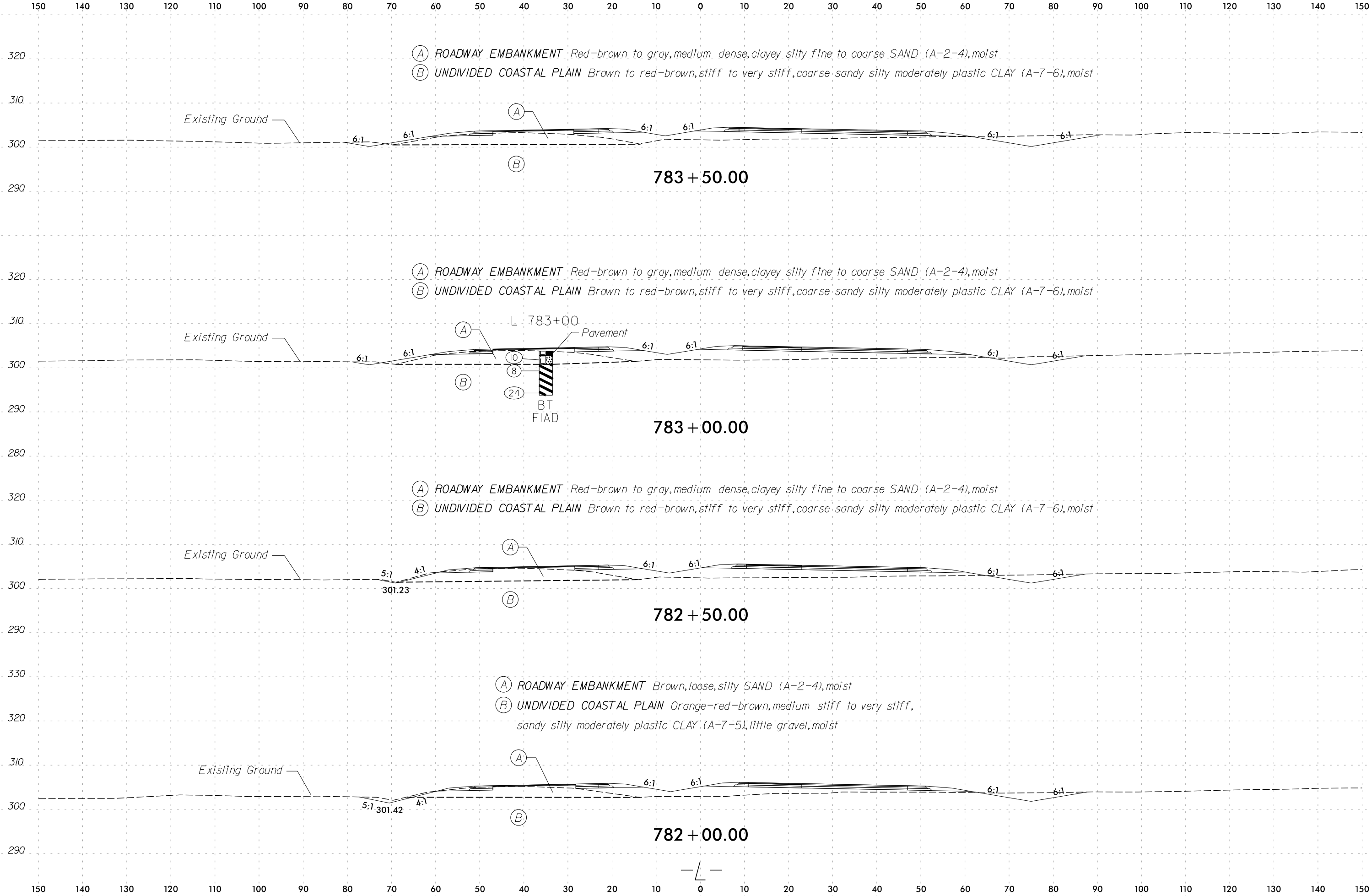




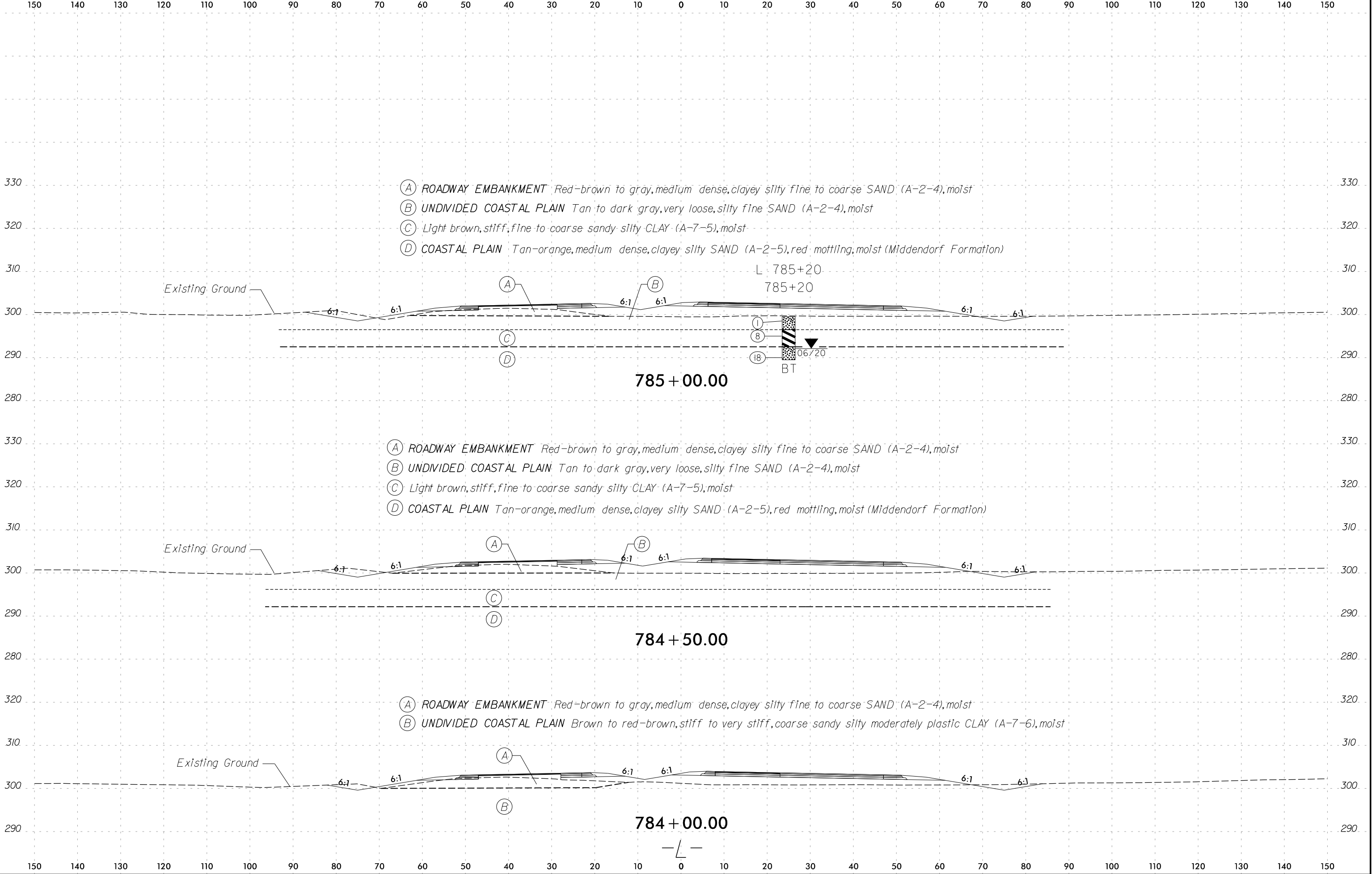
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-208	781+00	35' LT	3.5 - 5.0	A-7-6 (7)	45	23	34.0	17.0	9.0	40.0	95.0	74.0	47.0	18.0	ND



6/23/16

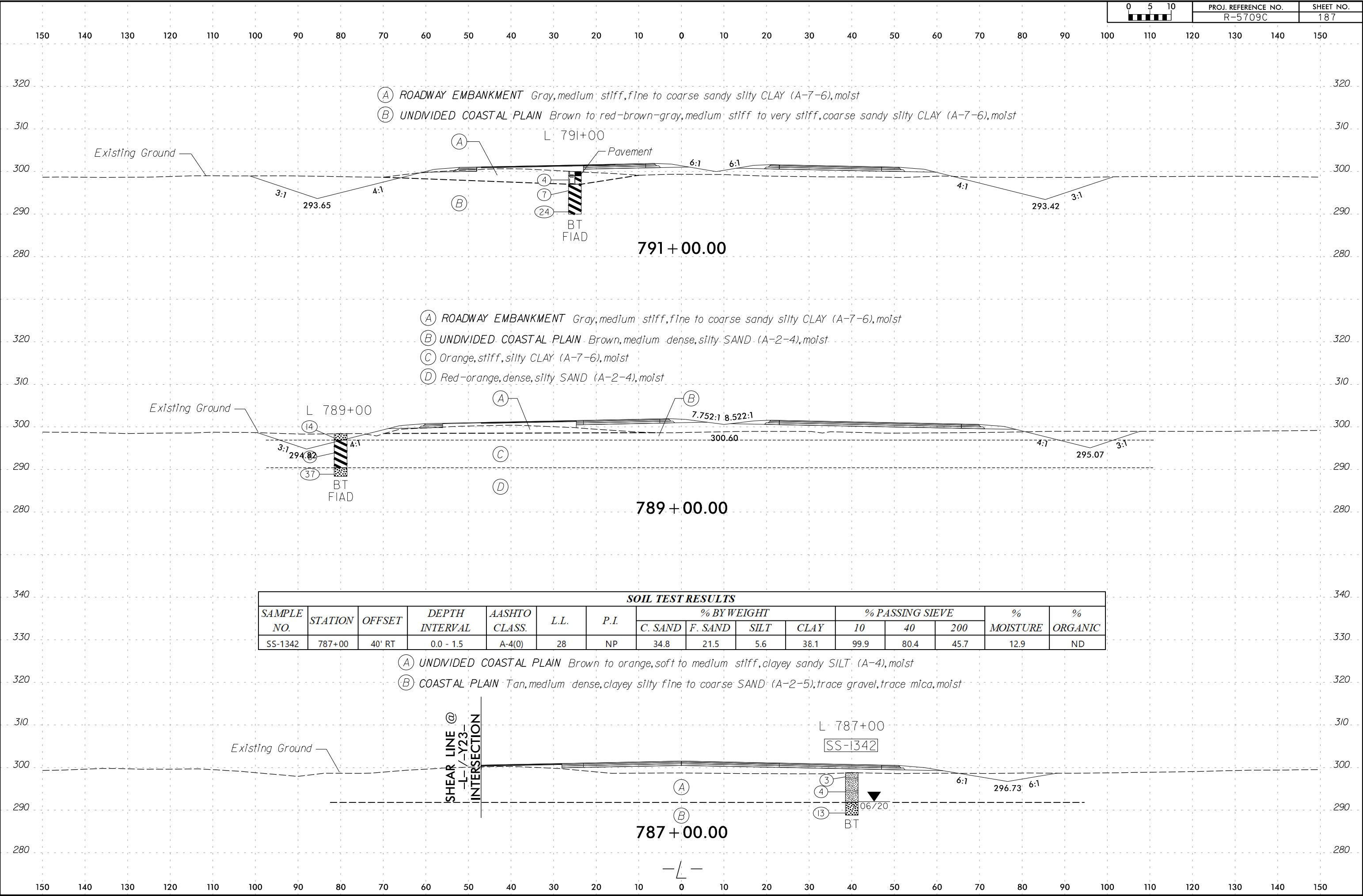


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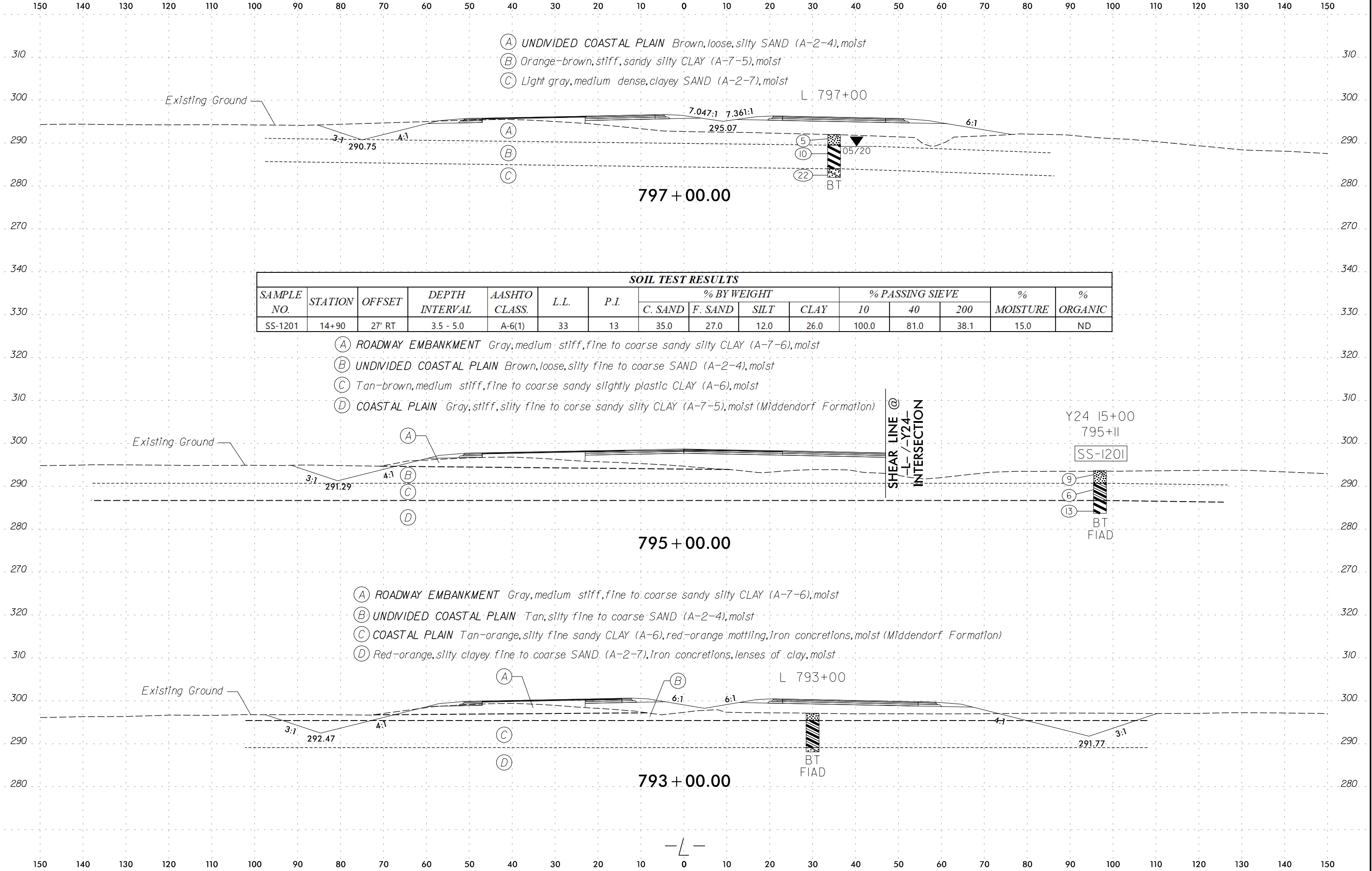


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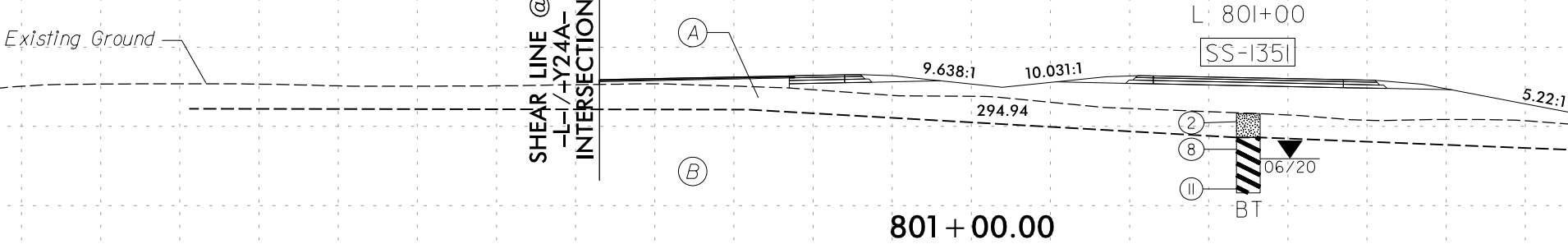
6/23/16

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

330 320 310 300 290 280 270 340 330 320 310 300 290 280 270 340 330 320 310 300 290 280 270 340 330 320 310 300 290 280 270 340

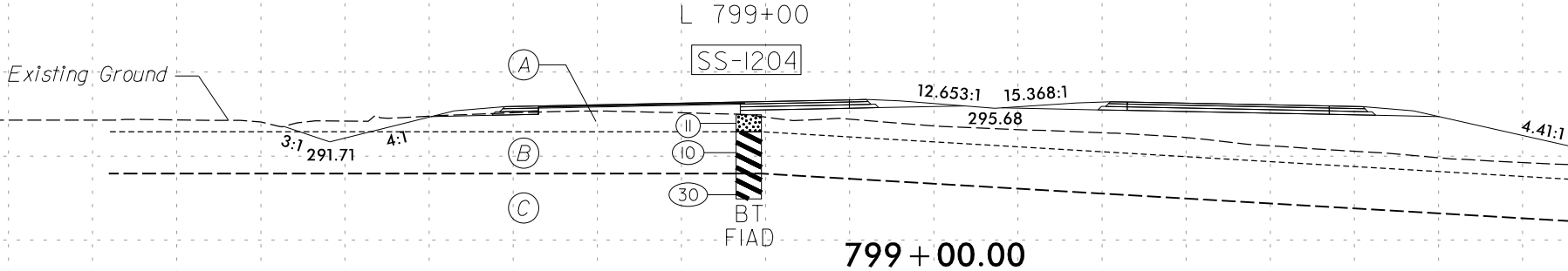
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1351	801+00	35' RT	0.0 - 1.5	A-4(0)	29	NP	35.6	33.0	6.9	24.5	99.6	80.0	32.4	ND	ND

- (A) UNDIVIDED COASTAL PLAIN Tan-orange,very soft,clayey sandy SILT (A-4),moist
(B) COASTAL PLAIN Tan-orange-gray,stiff,fine to coarse sandy silty CLAY (A-7-6),
red-orange mottling,iron concretions,moist (Middendorf Formation)



SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1204	799+00	28' LT	3.5 - 5.0	A-7-6(4)	42	15	29.0	24.0	9.0	38.0	99.0	83.0	46.5	18.6	ND

- (A) UNDIVIDED COASTAL PLAIN Brown,medium dense,clayey silty SAND (A-2-4),moist
(B) Tan-brown,stiff,fine to coarse sandy silty slightly plastic CLAY (A-7-6),moist
(C) COASTAL PLAIN Gray-red-orange,very stiff,fine to coarse sandy CLAY (A-6),wet (Middendorf Formation)



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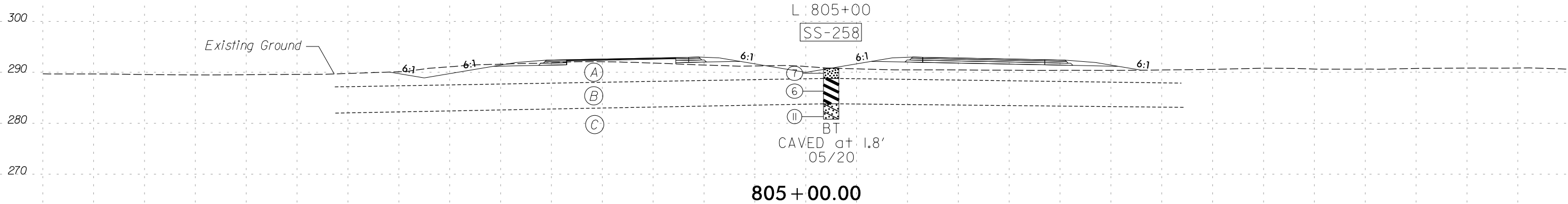
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330

SOIL TEST RESULTS																
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC	
							C. SAND	F. SAND	SILT	CLAY	10	40	200			
320	SS-258	805+00	5' RT	3.5 - 5.0	A-7-6 (11)	48	23	23.0	19.0	20.0	38.0	100.0	87.0	58.0	23.0	ND

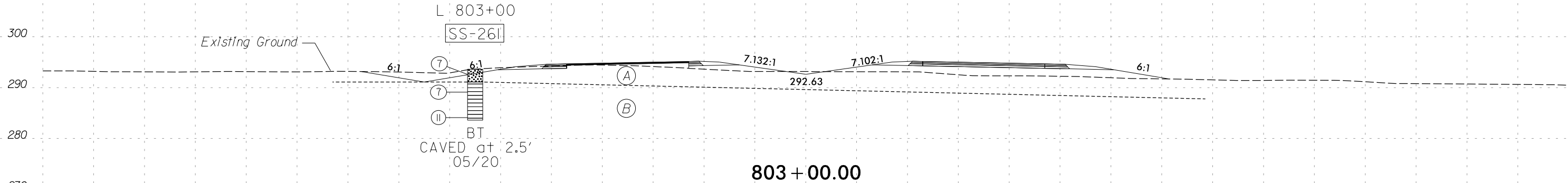
- (A) UNDIVIDED COASTAL PLAIN Brown, loose, silty SAND (A-2-4), moist
- (B) Orange, medium stiff, silty moderately plastic CLAY (A-7-6), moist
- (C) Red-orange, medium dense, clayey SAND (A-2-7), little gravel, moist



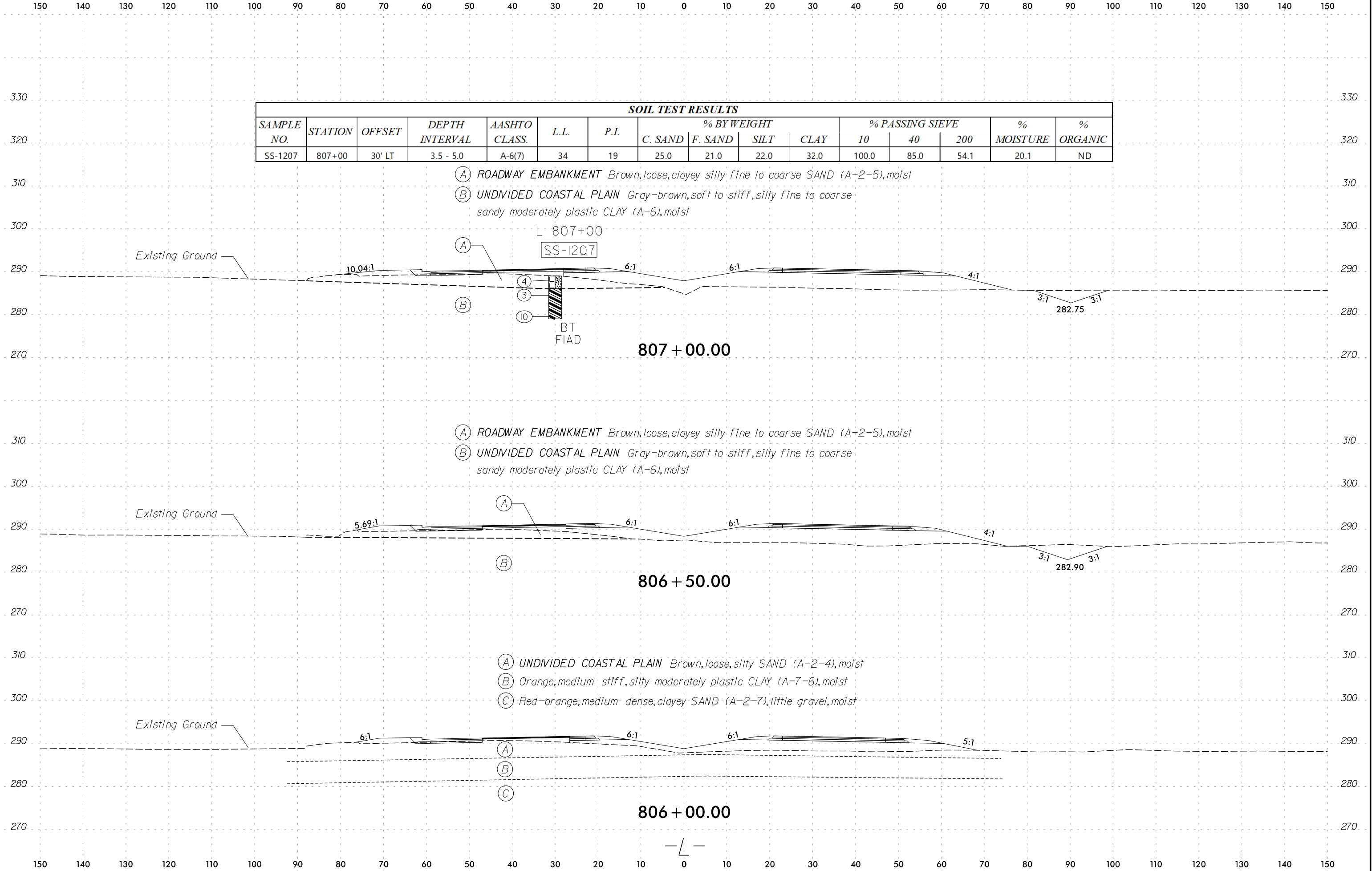
330

SOIL TEST RESULTS																
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC	
							C. SAND	F. SAND	SILT	CLAY	10	40	200			
320	SS-261	803+00	65' LT	3.5 - 5.0	A-6 (6)	38	20	26.2	24.4	13.0	36.4	100.0	85.0	49.3	21.0	6.0

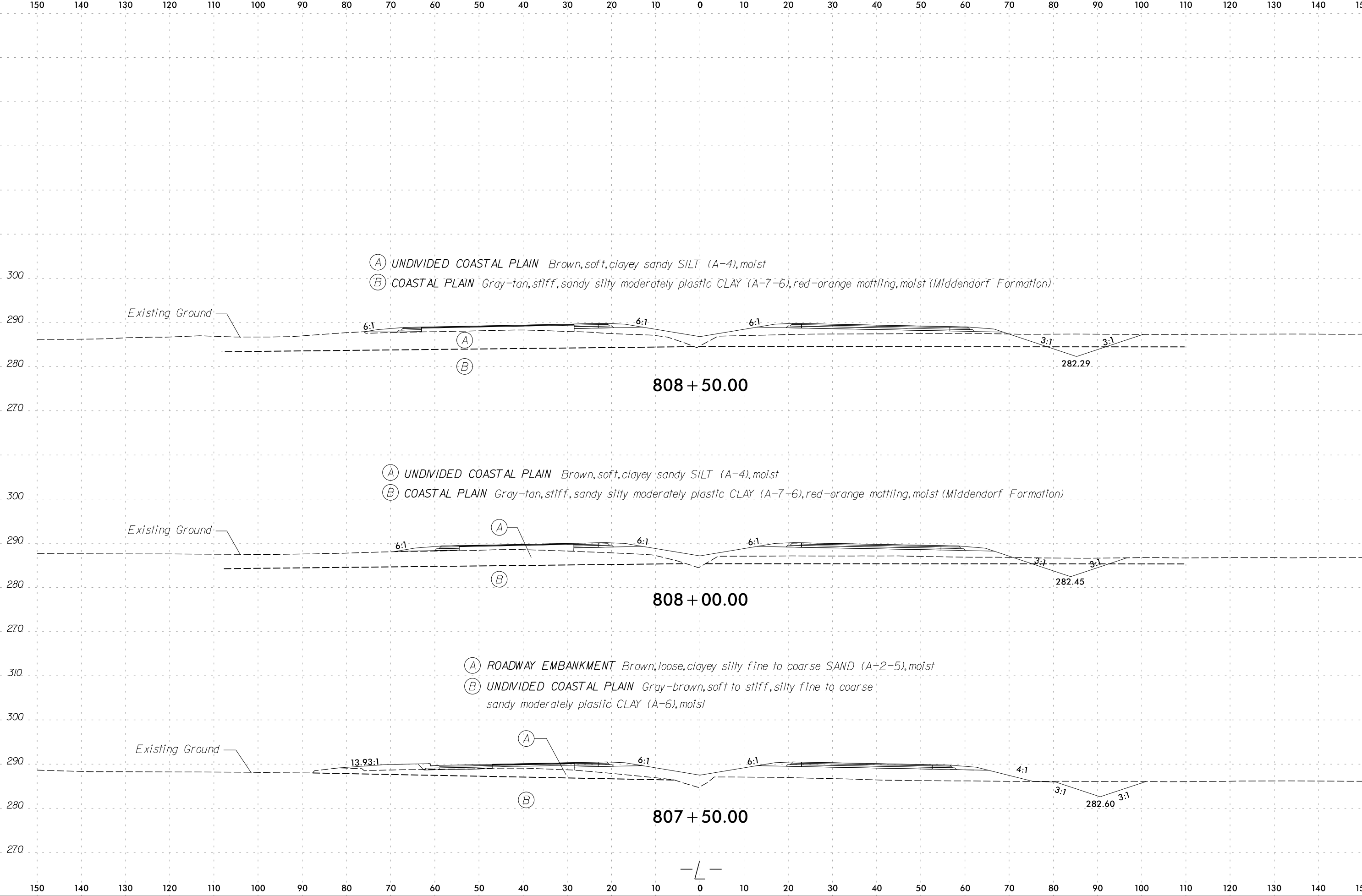
- (A) UNDIVIDED COASTAL PLAIN Brown, loose, silty SAND (A-2-4), little gravel, trace of organic matter, moist
- (B) Red-orange-brown, medium stiff to stiff, sandy moderately plastic CLAY (A-6), little organic matter, moist

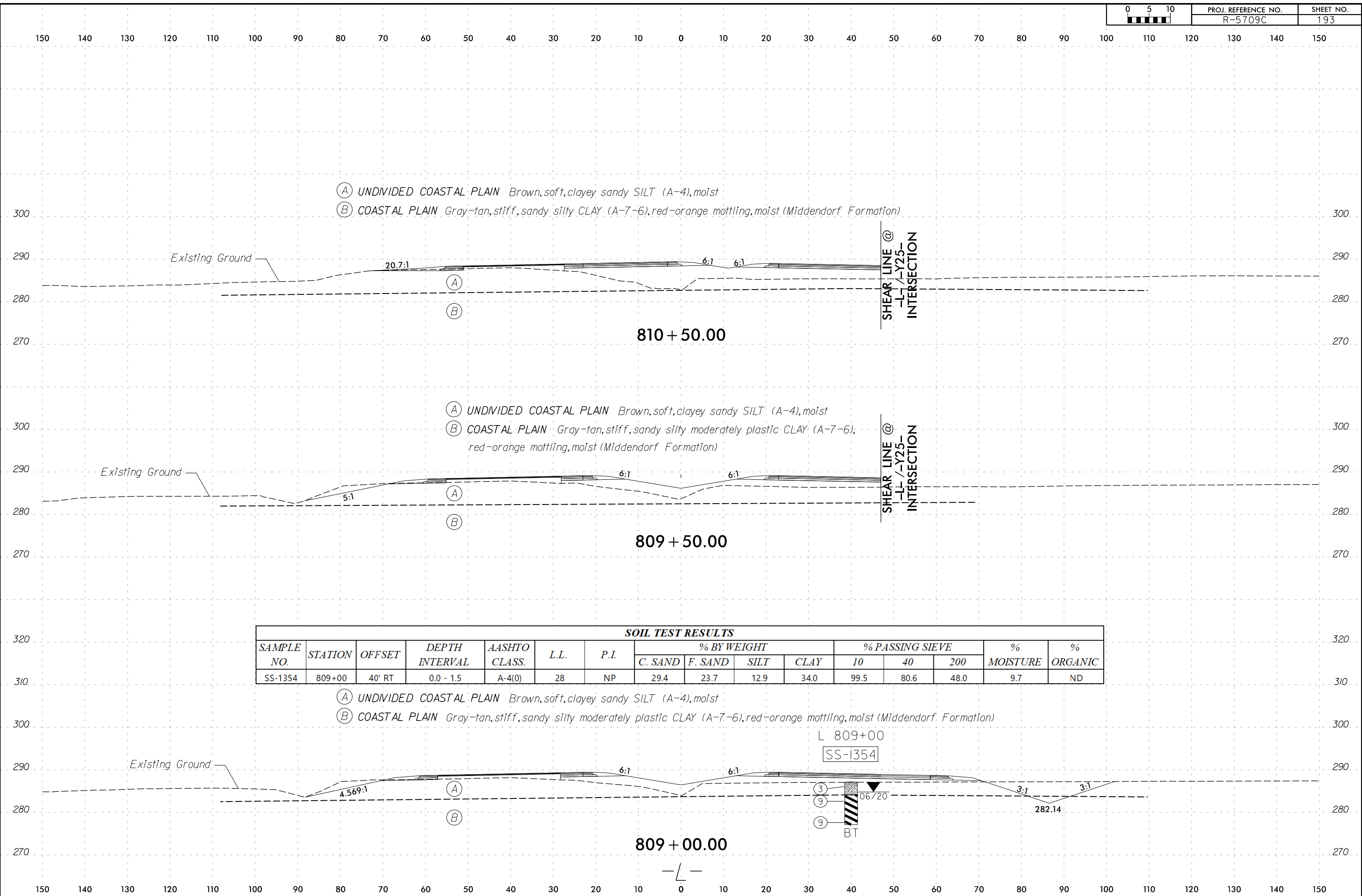


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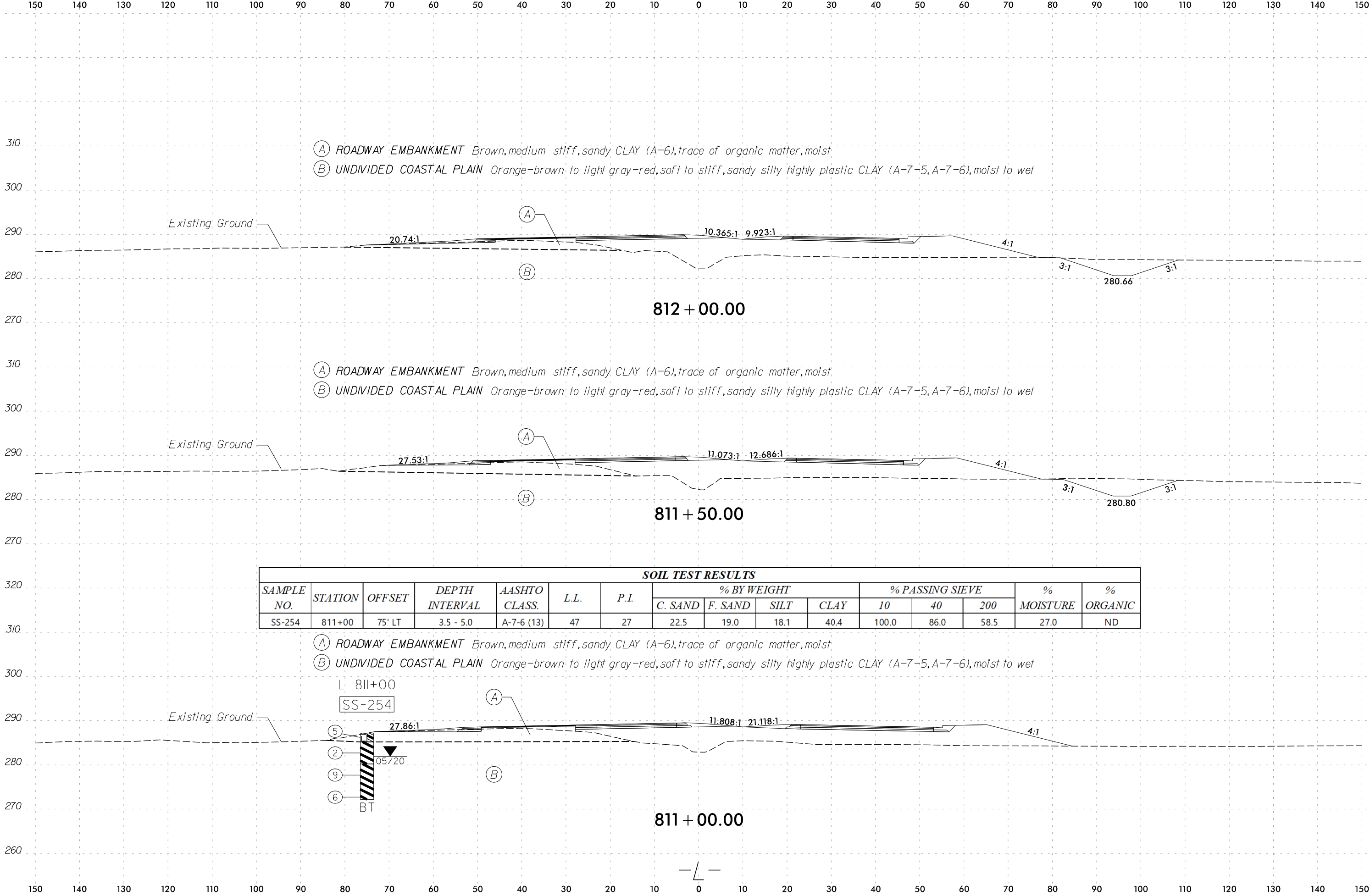


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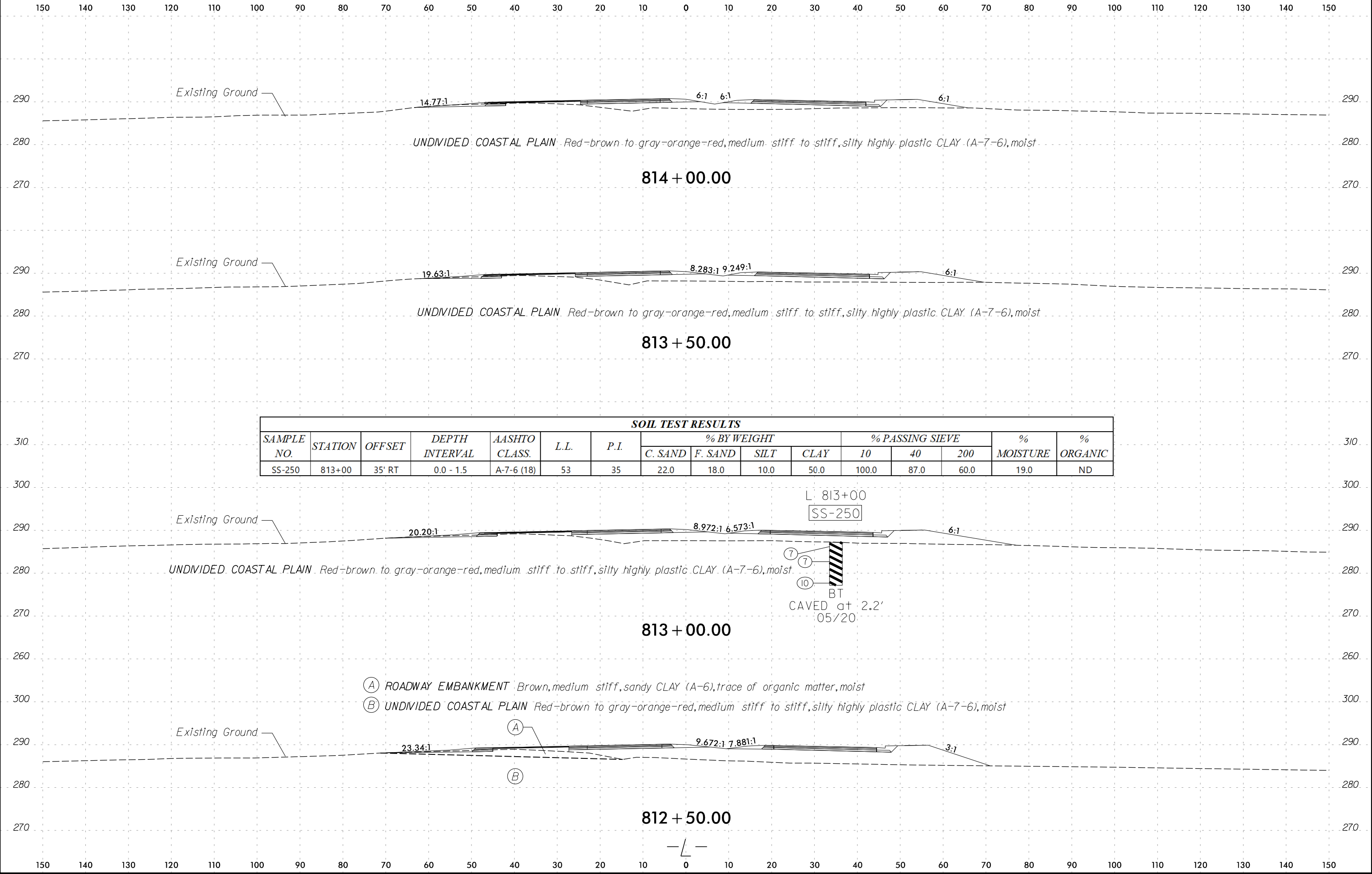


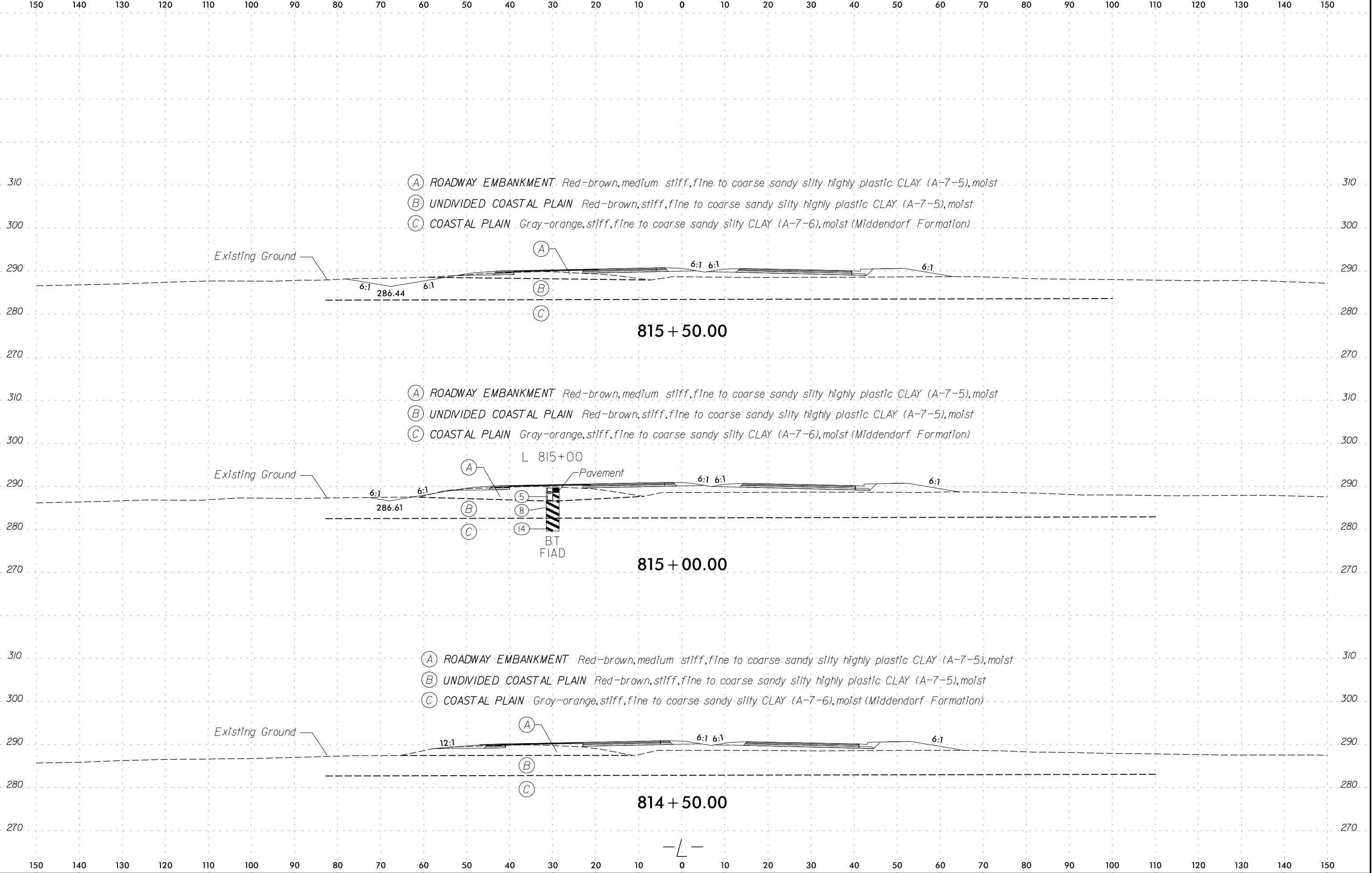
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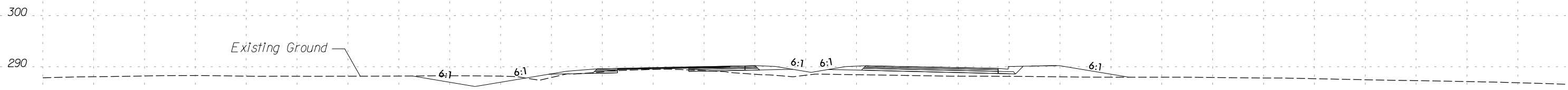
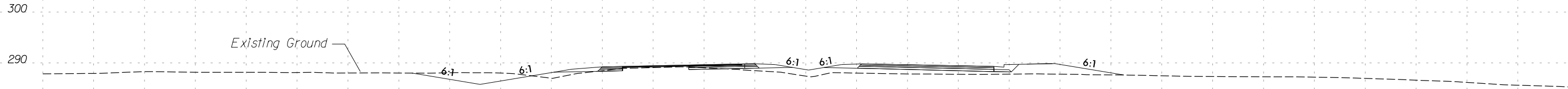
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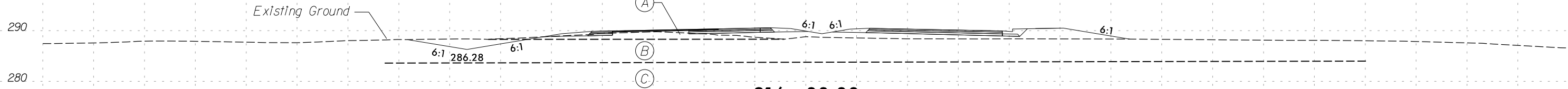


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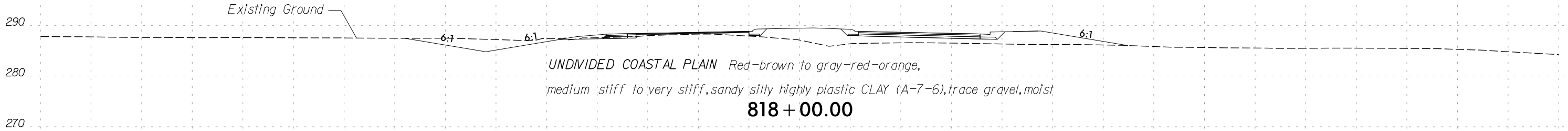
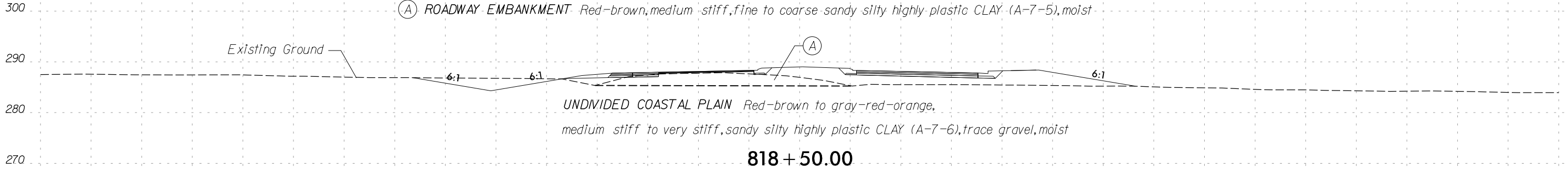
- (A) ROADWAY EMBANKMENT Red-brown, medium stiff, fine to coarse sandy silty highly plastic CLAY (A-7-5), moist
- (B) UNDIVIDED COASTAL PLAIN Red-brown, stiff, fine to coarse sandy silty highly plastic CLAY (A-7-5), moist
- (C) COASTAL PLAIN Gray-orange, stiff, fine to coarse sandy silty CLAY (A-7-6), moist (Middendorf Formation)



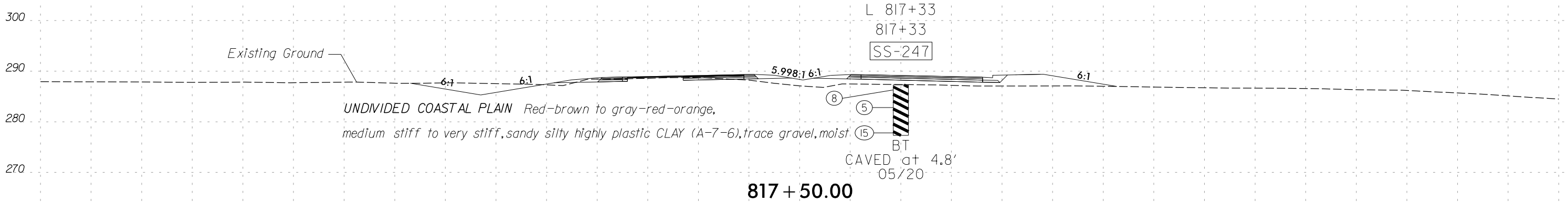
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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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

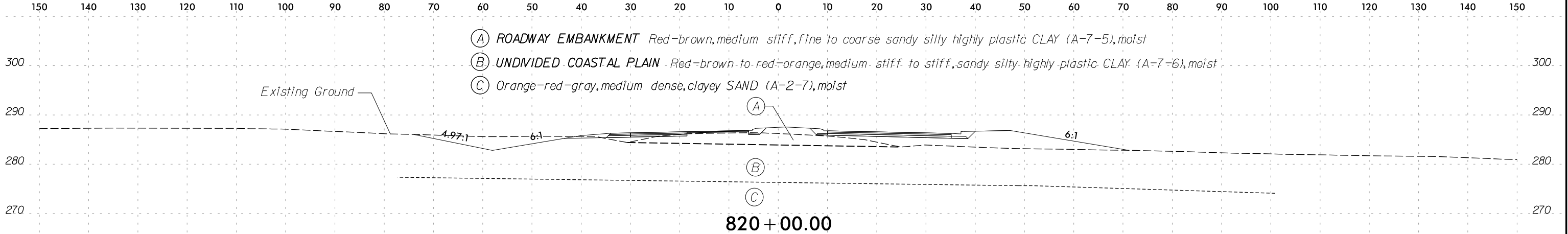


SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-247	817+33	20' RT	0.0 - 1.5	A-7-6 (12)	44	27	24.0	18.0	9.0	49.0	100.0	85.0	58.0	17.0	ND

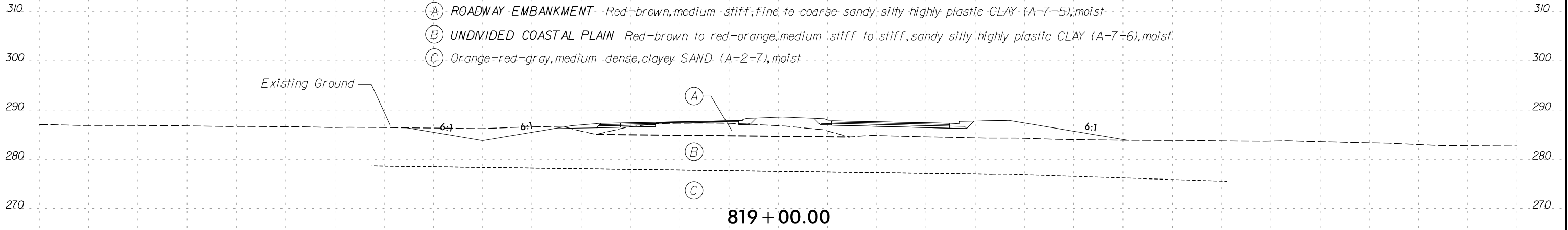
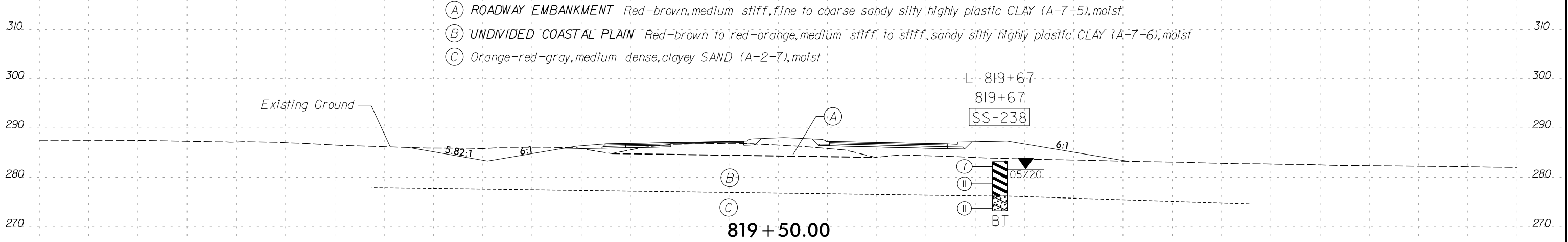


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

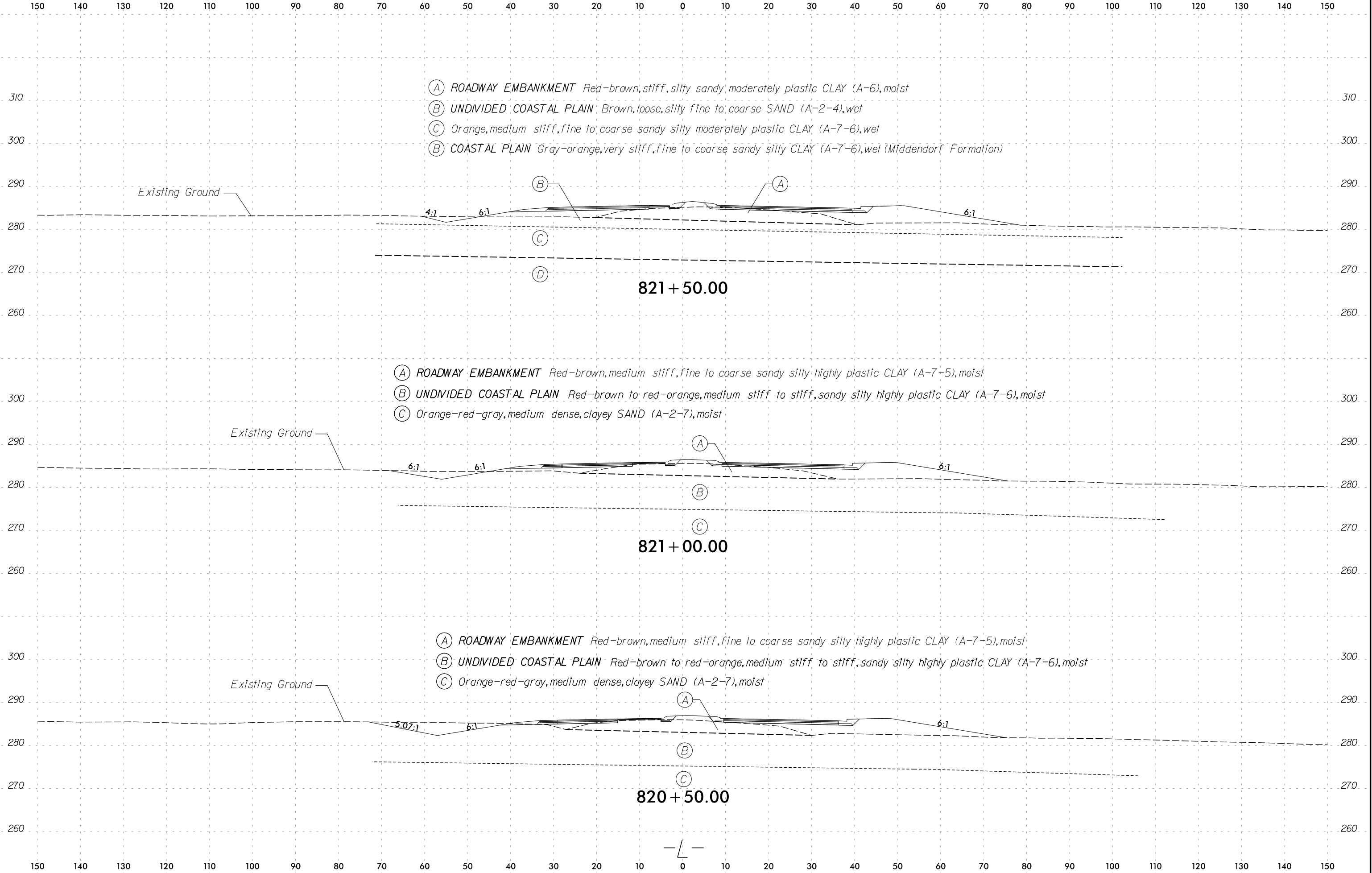
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SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-238	819+67	45' RT	0.0 - 1.5	A-7-6 (18)	55	28	17.0	15.0	17.0	51.0	100.0	90.0	68.0	26.0	ND



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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

330 330

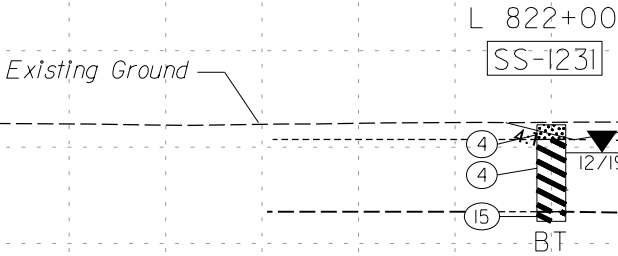
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1231	822+00	70' LT	3.5 - 5.0	A-7-6(6)	44	16	27.0	20.0	13.0	40.0	100.0	84.0	53.4	23.3	ND

- (A) ROADWAY EMBANKMENT Red-brown, stiff, silty sandy, moderately plastic CLAY (A-6), moist
- (B) UNDIVIDED COASTAL PLAIN Brown, loose, silty fine to coarse SAND (A-2-4), wet
- (C) Orange, medium stiff, fine to coarse sandy silty moderately plastic CLAY (A-7-6), wet
- (B) COASTAL PLAIN Gray-orange, very stiff, fine to coarse sandy silty CLAY (A-7-6), wet (Middendorf Formation)

310 310

300 300

290 290



280 280

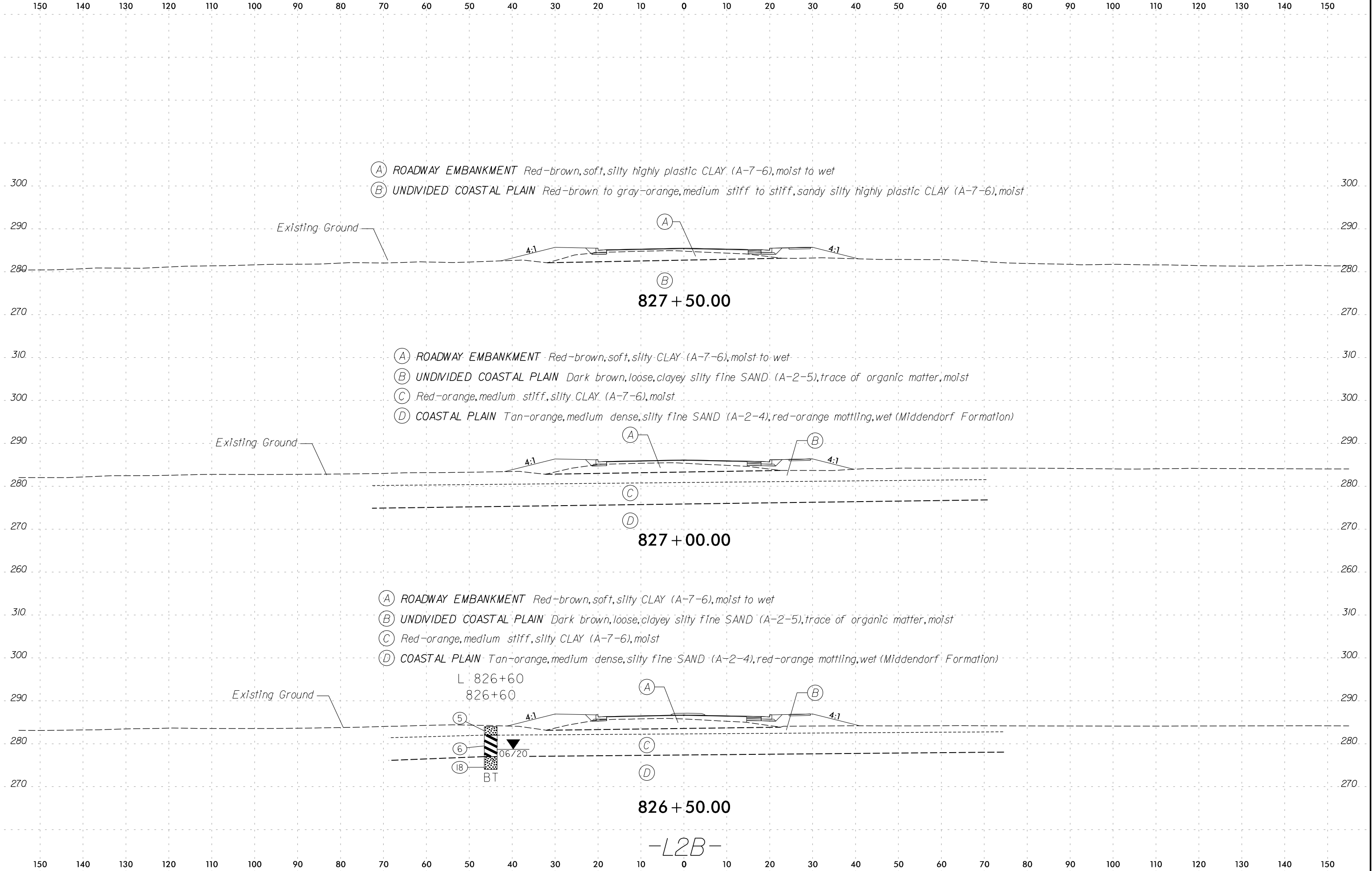
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260 260

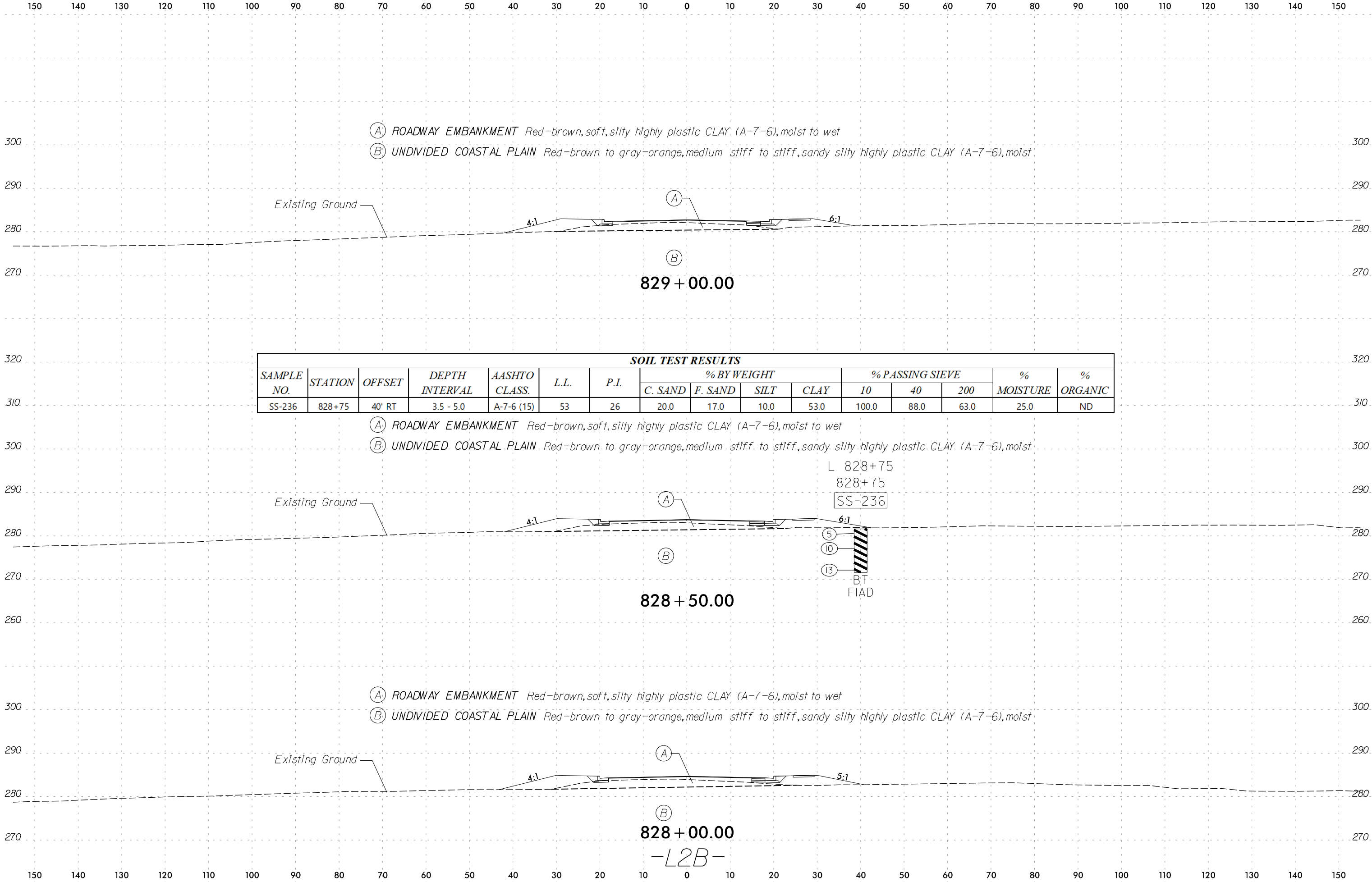
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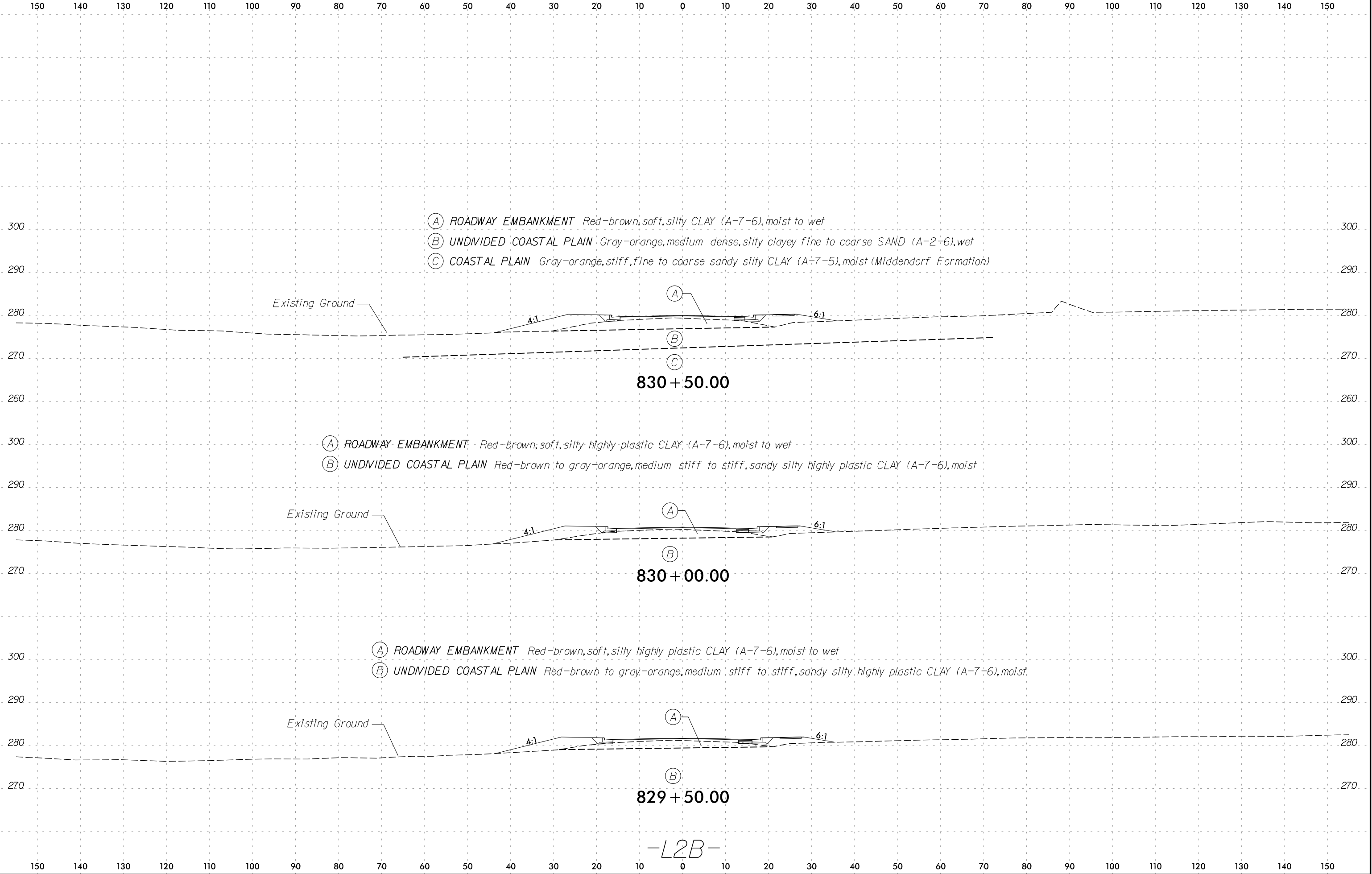
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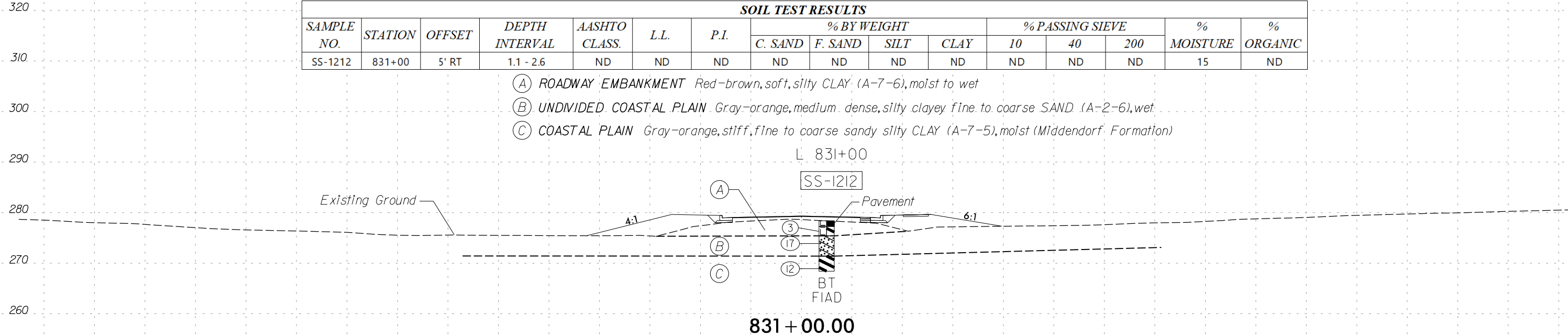
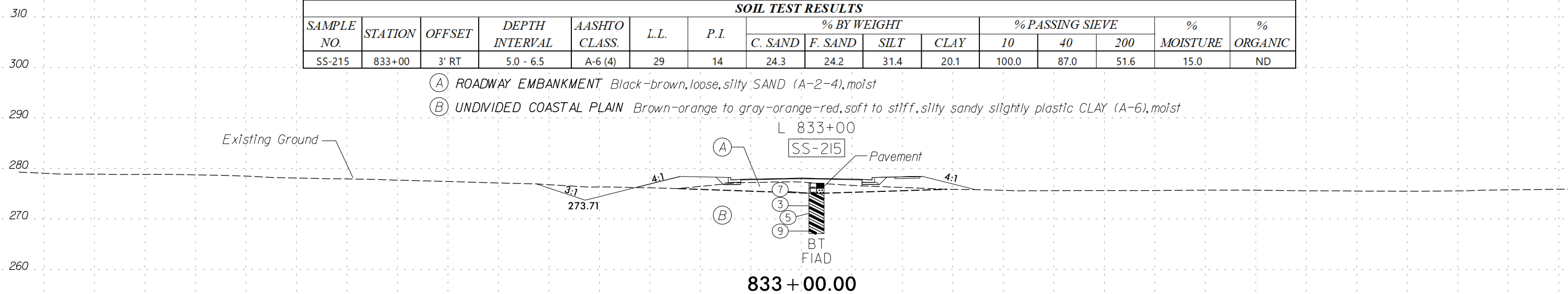
6/23/16





6/23/16

1501401301201101009080706050403020100102030405060708090100110120130140150



-L2B-

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

320

310

300

290

280

270

260

250

320

310

300

290

280

270

260

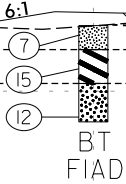
250

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-1215	834+50	20' LT	0 - 1.5	A-4(0)	15	3	28.0	27.0	31.0	14.0	99.0	85.0	45.0	20.4	ND

- (A) ROADWAY EMBANKMENT Black-brown, loose, silty SAND (A-2-4), moist
- (B) UNDIVIDED COASTAL PLAIN Brown, medium stiff, fine to coarse sandy SILT (A-4), moist
- (C) Orange-tan, very stiff, fine sandy silty CLAY (A-7-5), moist
- (D) Orange, medium dense, silty fine to coarse SAND (A-2-4), wet

L 834+50

SS-1215



Existing Ground

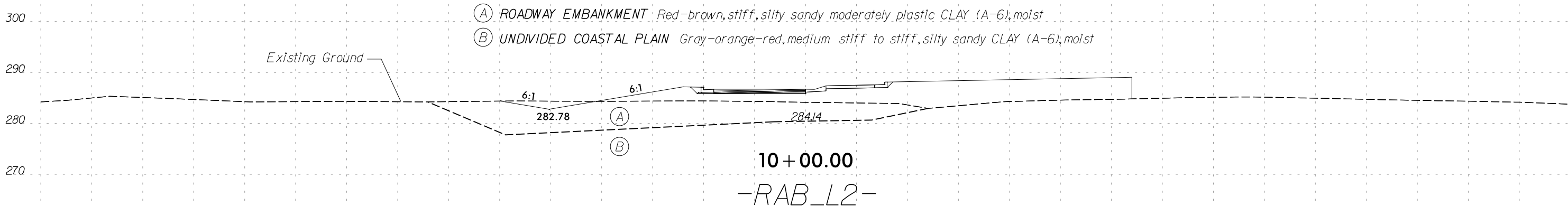
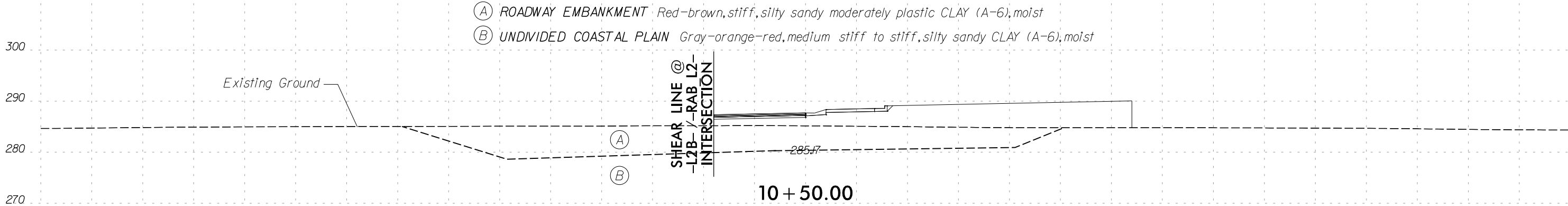
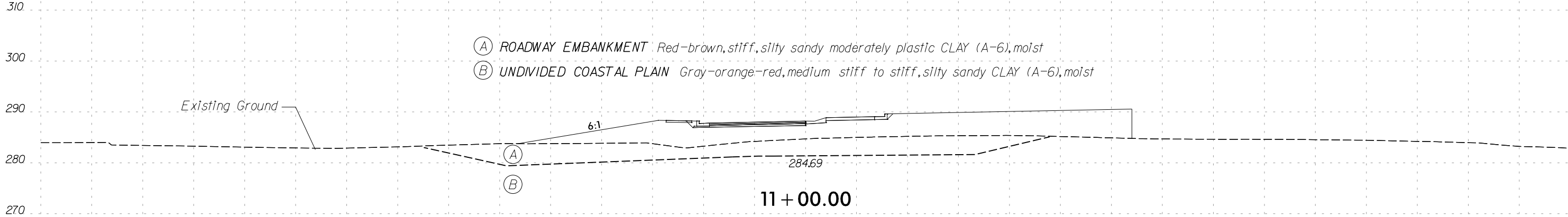
834 + 50.00

-L2B-

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



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

320 320

310 310

300 300

290 290

280 280

270 270

260 260

320 320

310 310

300 300

290 290

280 280

270 270

260 260

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

(A) ROADWAY EMBANKMENT Red-brown, stiff, silty-sandy-moderately plastic CLAY (A-6), moist
(B) UNDIVIDED COASTAL PLAIN Gray-orange-red, medium stiff to stiff, silty sandy CLAY (A-6), moist

SHEAR LINE @
-Y27-/-RAB L2-
INTERSECTION

Existing Ground

12 + 00.00

284.37

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-210	11+60	8' LT	1.0 - 2.5	A-6 (6)	31	17	25.0	21.0	13.0	40.0	99.0	83.0	53.0	11.0	ND

(A) ROADWAY EMBANKMENT Red-brown, stiff, silty-sandy-moderately plastic CLAY (A-6), moist
(B) UNDIVIDED COASTAL PLAIN Gray-orange-red, medium stiff to stiff, silty sandy CLAY (A-6), moist

SHEAR LINE @
-Y27-/-RAB L2-
INTERSECTION

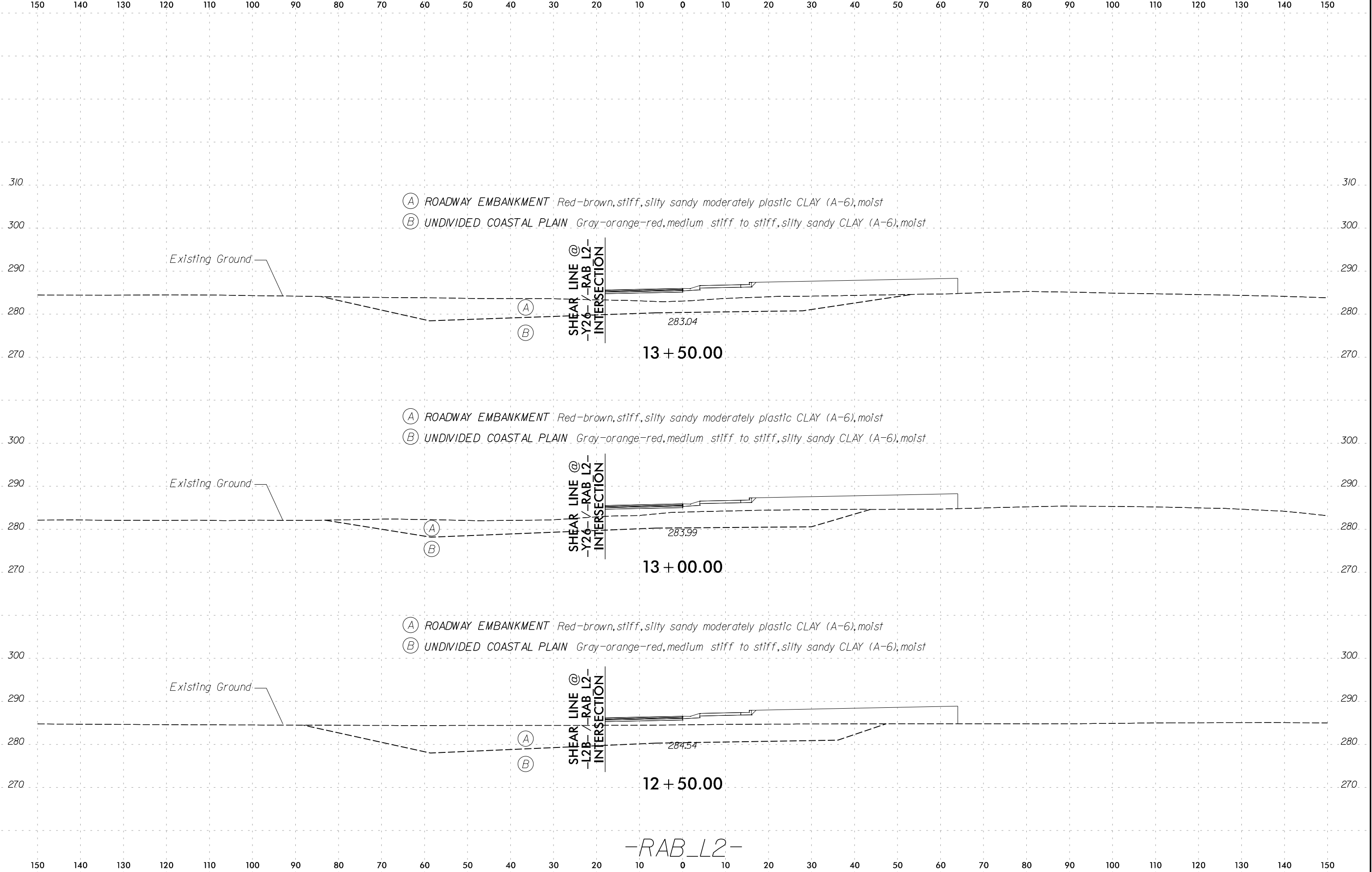
Existing Ground

L 824+10
11+60
SS-210
Pavement
BT
FIAD

11 + 50.00

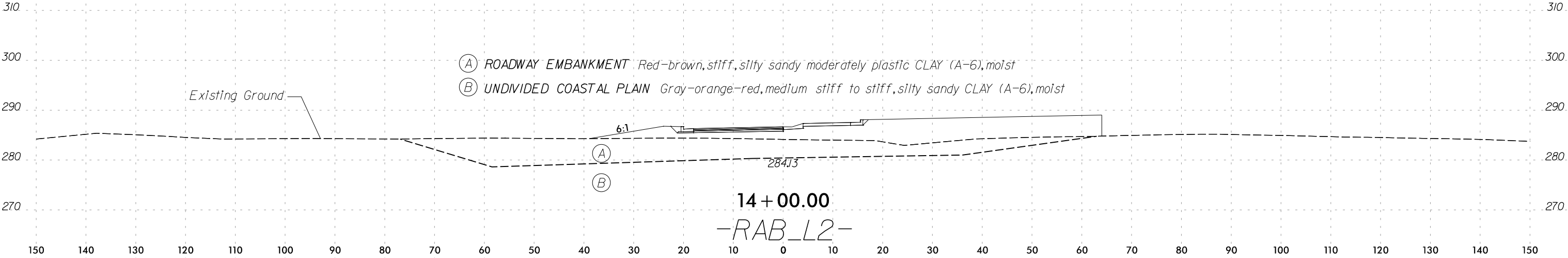
284.42

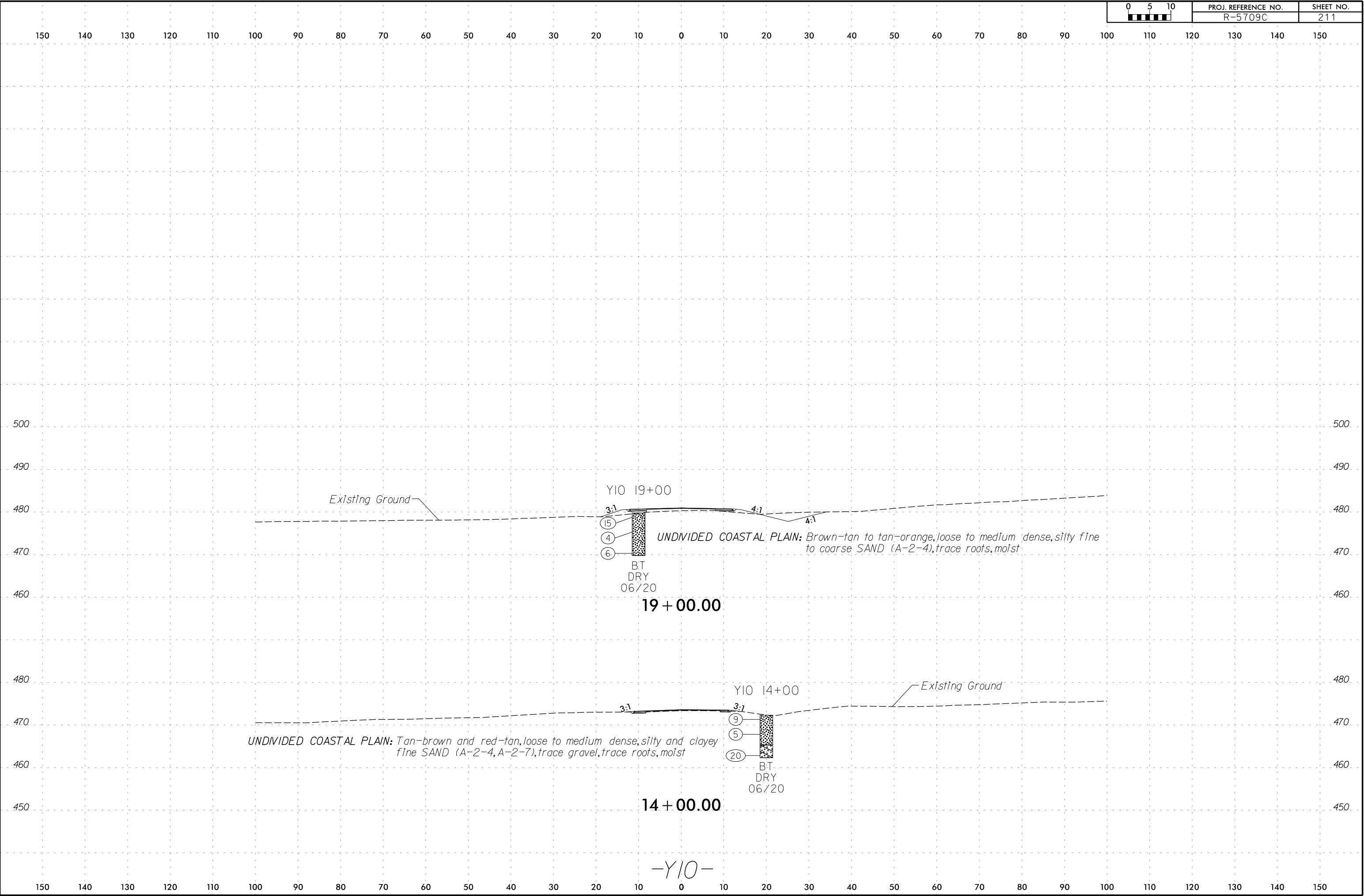
-RAB_L2-



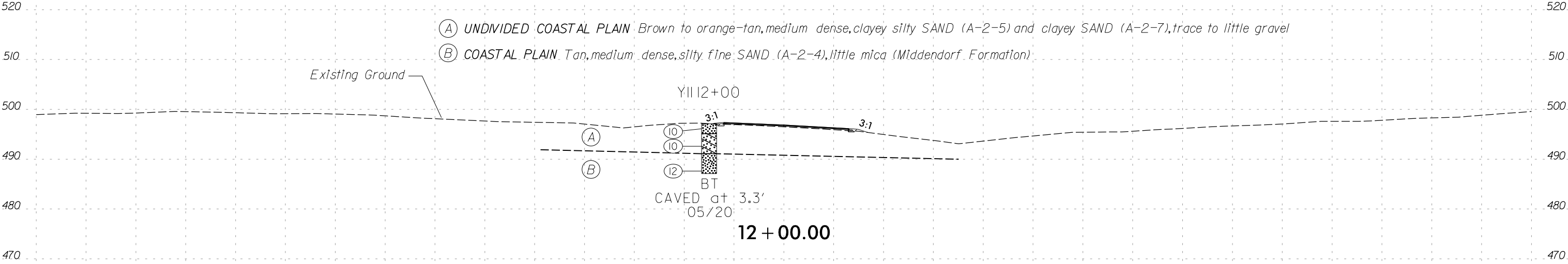
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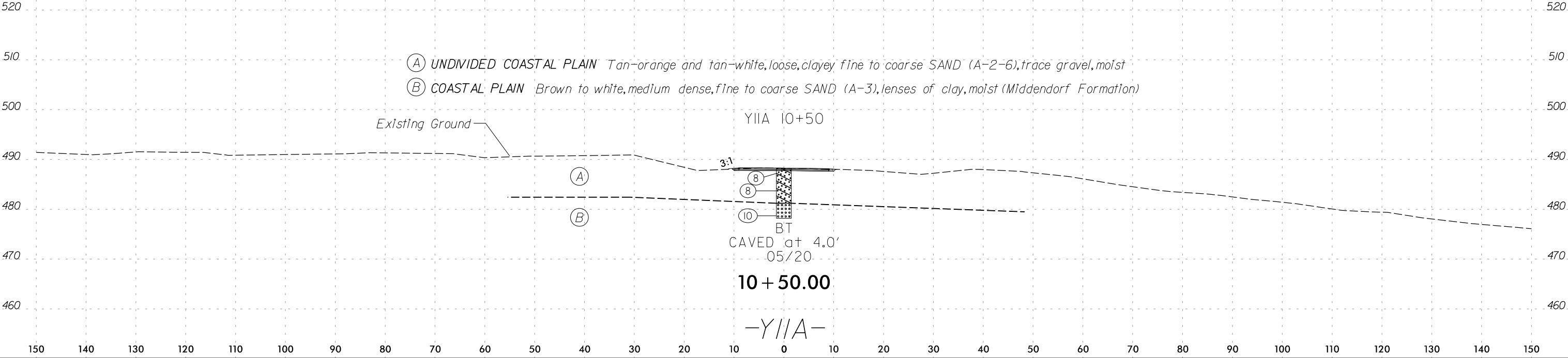




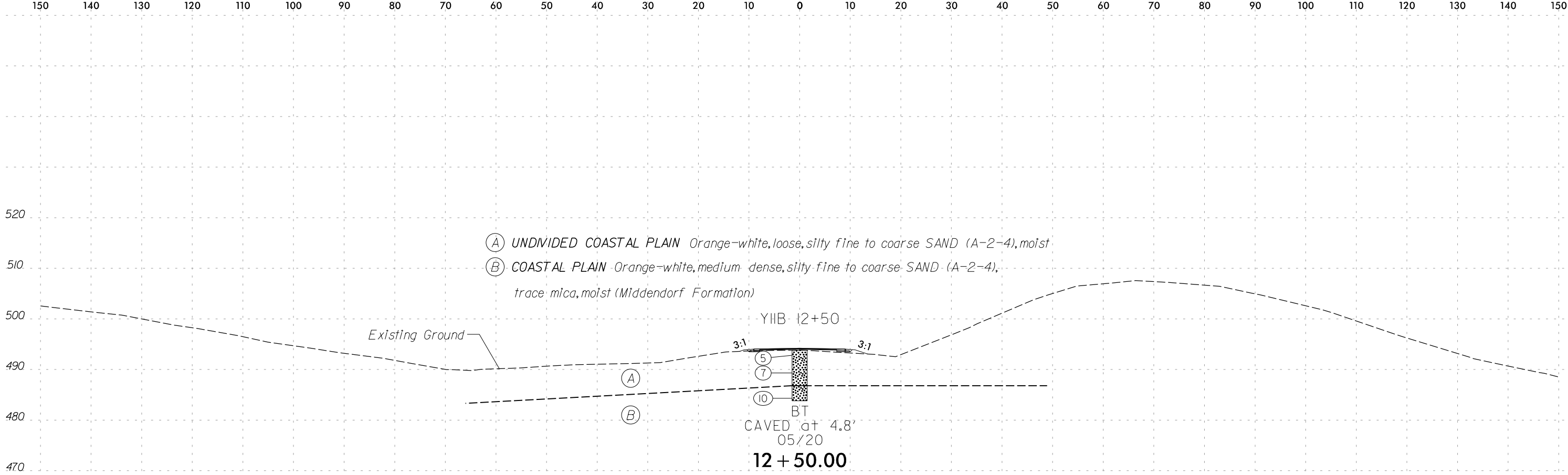
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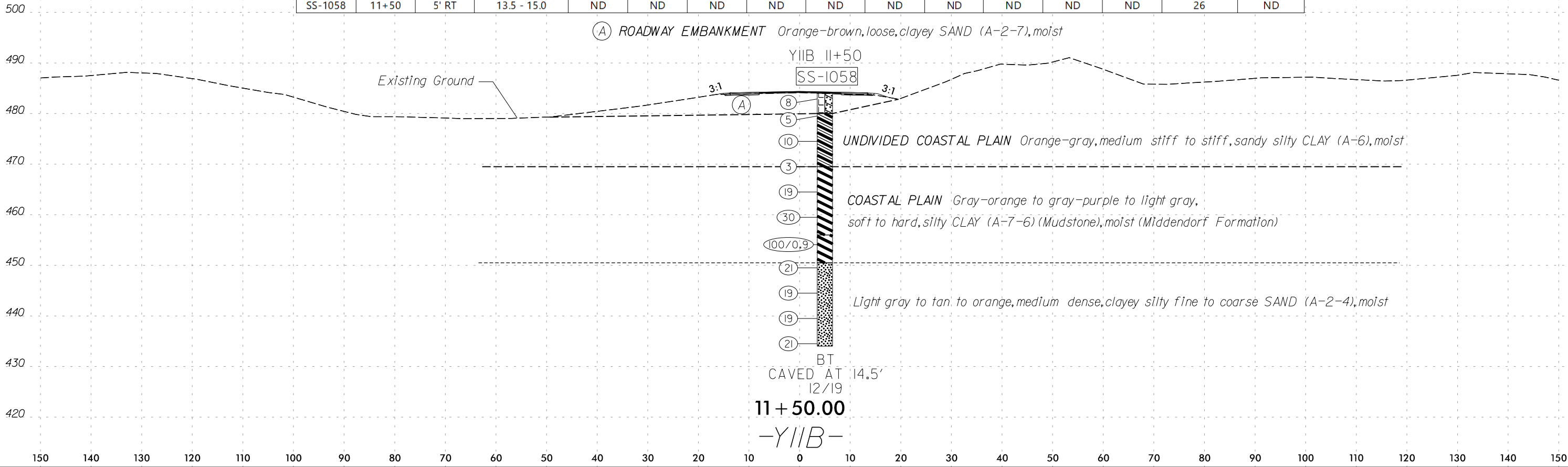
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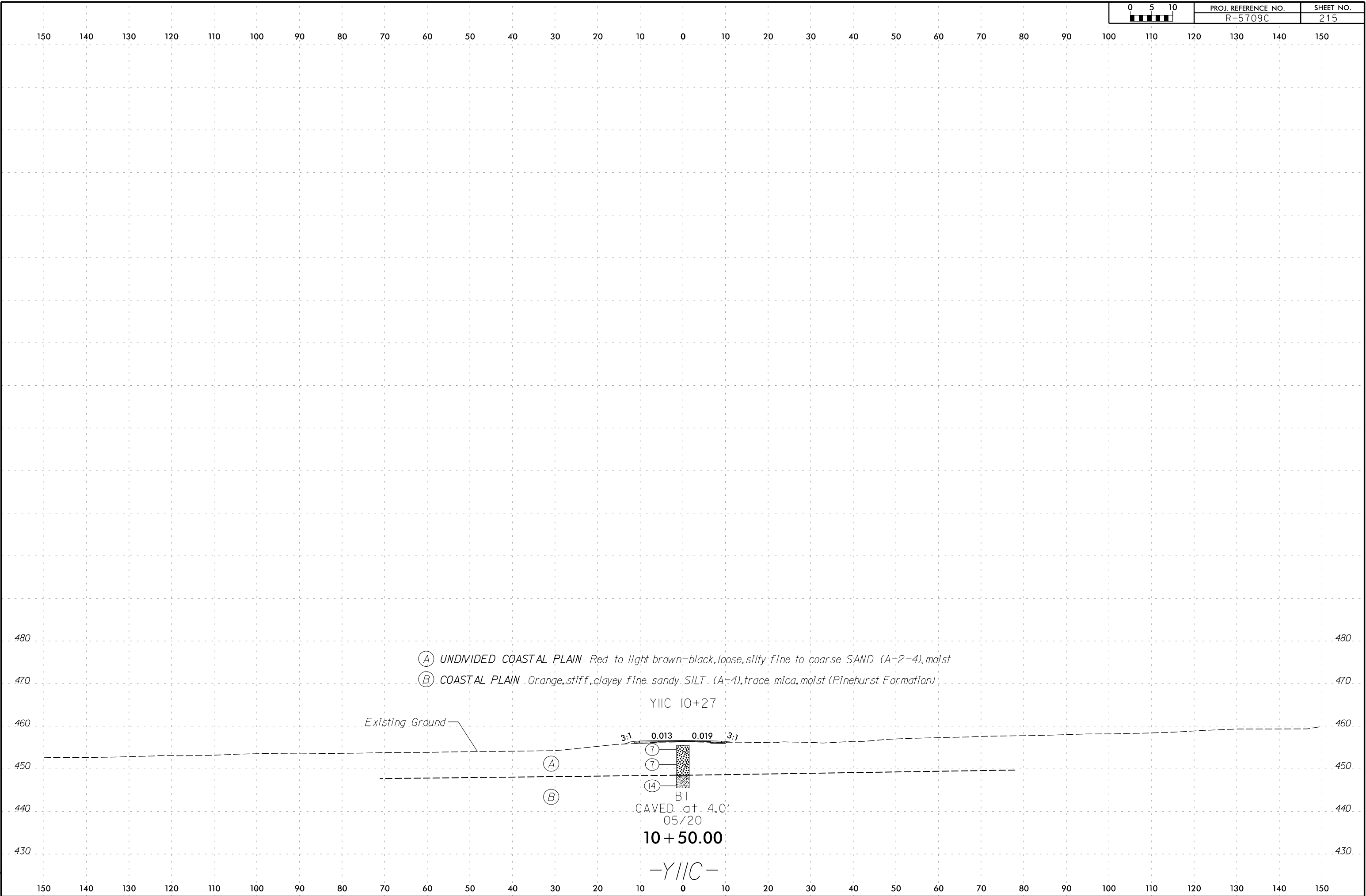


6/23/16

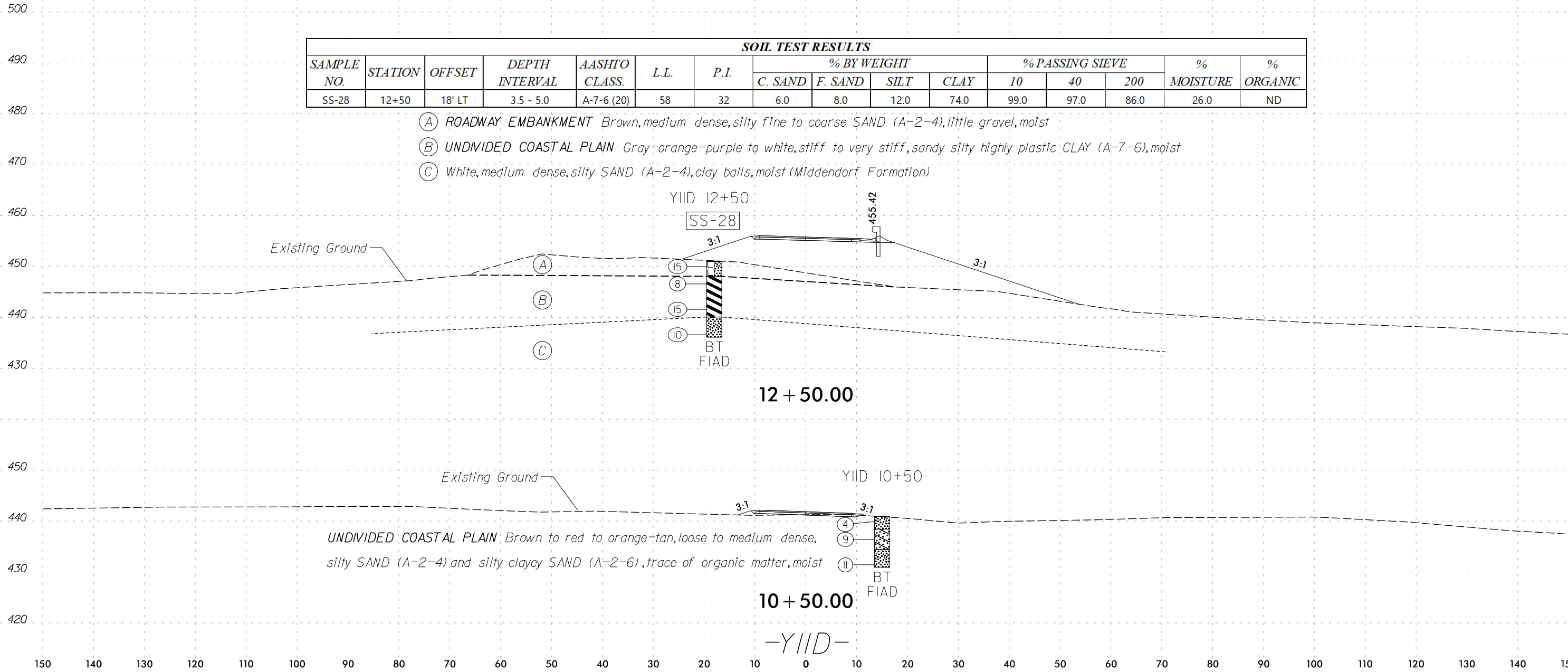


SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1058	11+50	5' RT	13.5 - 15.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	26	ND





1501401301201101009080706050403020100102030405060708090100110120130140150



6/23/16

05	PROJ. REFERENCE NO.	SHEET NO.
0 5 10	R-5709C	217

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

490 490

480 480

470 470

460 460

450 450

440 440

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

Existing Ground

YIIE II+80
II+80

3:1 0.020 0.020 3:1

12
6
6

BT
DRY
05/20

UNDIVIDED COASTAL PLAIN Orange, loose to medium dense, clayey silty fine to coarse SAND (A-2-5)
and clayey fine to coarse SAND (A-2-7), moist to wet (Pinehurst Formation)

12 + 00.00

-YIIE-

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

520 520

510 510

500 500

490 490

480 480

470 470

500 500

490 490

480 480

470 470

460 460

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

- (A) ARTIFICIAL FILL Brown-black, loose, silty fine to coarse SAND (A-2-4), trace of organic matter, trace gravel, moist
- (B) UNDIVIDED COASTAL PLAIN Red, very loose, clayey silty fine to coarse SAND (A-2-5), moist
- (C) COASTAL PLAIN White-orange, medium stiff, clayey fine sandy SILT (A-4), moist (Pinehurst Formation)

Existing Ground

Y12A 17+00

(A)

(B)

(C)

(5)

(5)

BT

DRY

05/20

0.020

0.020

3:1

3:1

485.21

17 + 00.00

- (A) ARTIFICIAL FILL Tan-brown, loose, silty fine to coarse SAND (A-2-4), trace of organic matter, trace gravel, moist
- (B) UNDIVIDED COASTAL PLAIN Tan-orange, loose, fine to coarse SAND (A-3), moist
- (C) COASTAL PLAIN Tan-orange, medium dense, clayey silty fine to coarse SAND (A-2-5), moist (Pinehurst Formation)

Existing Ground

Y12A 12+00

(A)

(B)

(C)

(4)

(5)

(10)

BT

FIAD

0.059

0.010

3:1

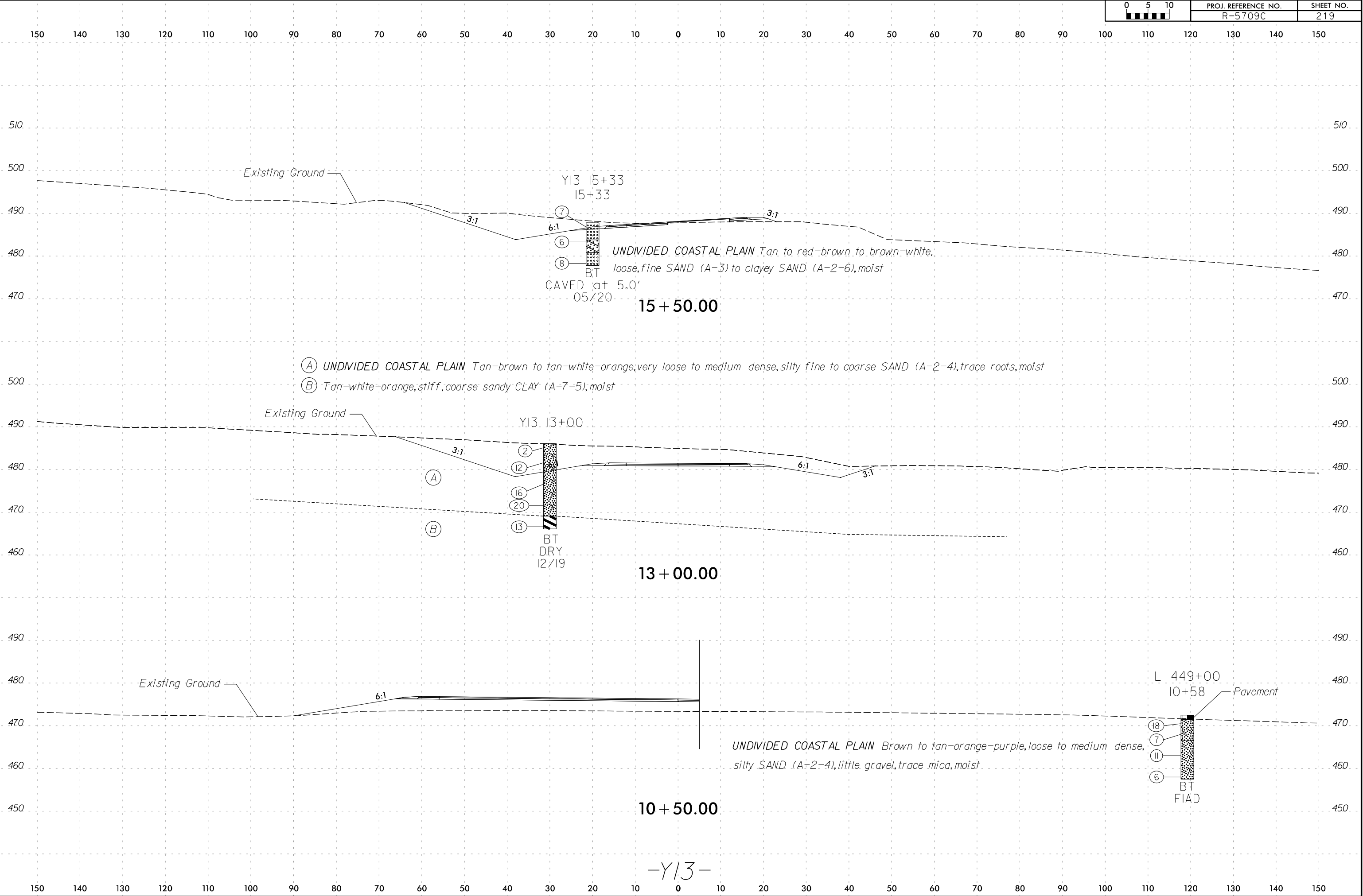
3:1

476.77

12 + 00.00

-Y12A-

6/23/16



6/23/16

0510	PROJ. REFERENCE NO.	SHEET NO.
	R-5709C	220

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

510

500

490

480

470

Existing Ground

UNDIVIDED COASTAL PLAIN Red-brown to tan to orange, very loose to loose,
silty fine to coarse SAND (A-2-4), trace gravel, moist

17 + 50.00

-Y13-

Y13 17+67
17+67

- 6
- 2
- 5

BT
DRY
05/20

3:1

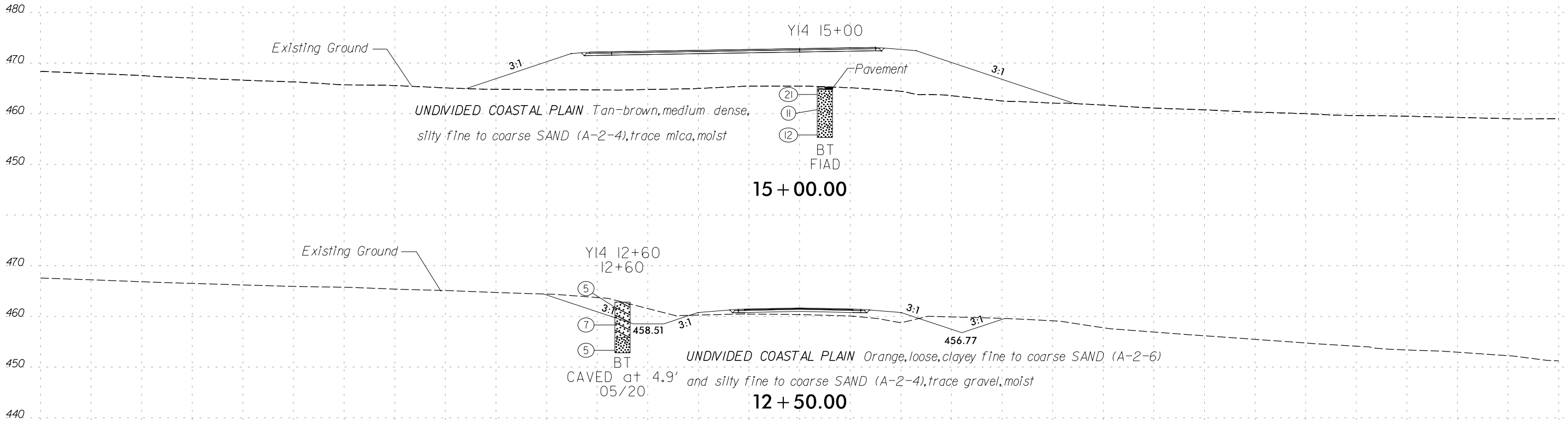
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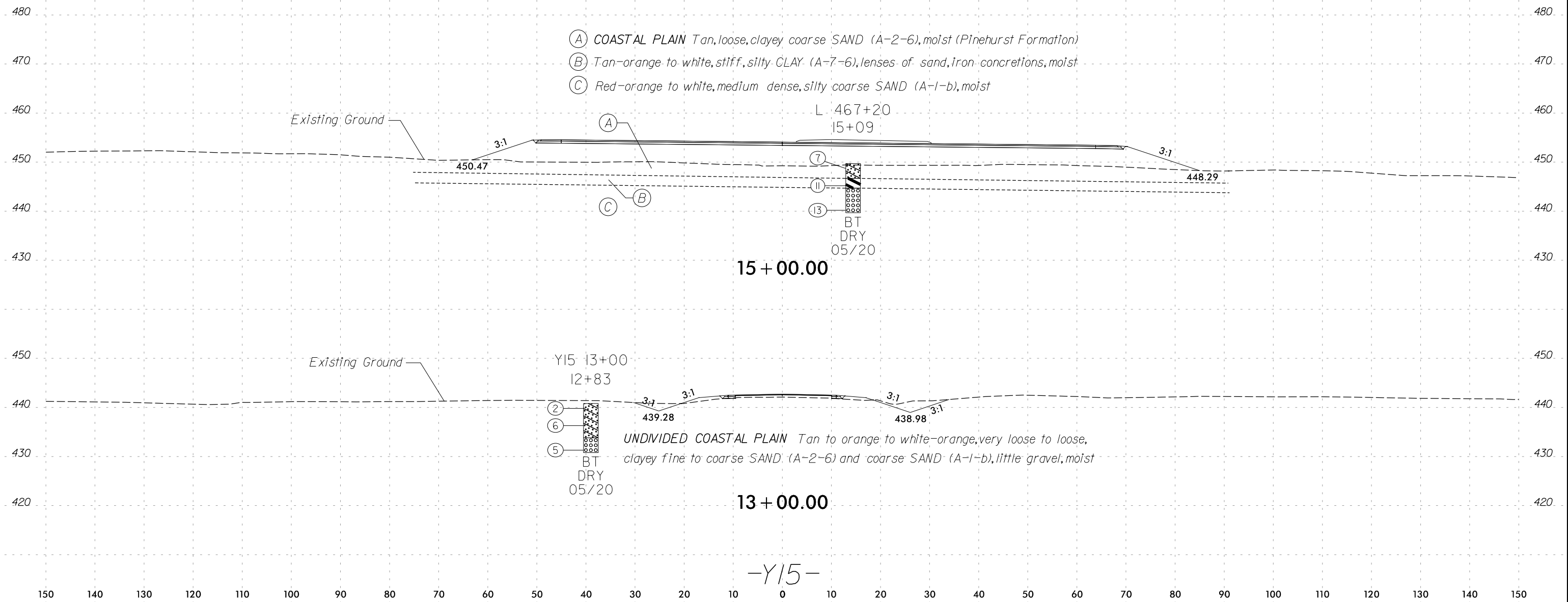
6:1

8/29/2024
R:\Geotech\Investigation\Design\CADD_GEO\TECH\XSC\R-5709C\R5709C_GEO_xsl_Y13.dgn
mmetrg

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

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

450 450

440 440

430 430

420 420

410 410

430 430

420 420

410 410

400 400

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

Existing Ground

- (A) UNDIVIDED COASTAL PLAIN Brown, loose, silty SAND (A-2-4), moist
- (B) Brown to orange, medium stiff to very stiff, sandy CLAY (A-6), moist

L 533+35
18+71

(6)

(6)

(16)

BT
CAVED at 4.5'
05/20

SHEAR LINE @
INTERSECTION WITH -L-

18 + 50.00

Existing Ground

YI6 16+50

3:1

(6)

(4)

(13)

BT

CAVED at 4.1'
05/20

UNDIVIDED COASTAL PLAIN Brown to orange, loose to medium dense,
silty SAND (A-2-4) and clayey SAND (A-2-7), little gravel, moist

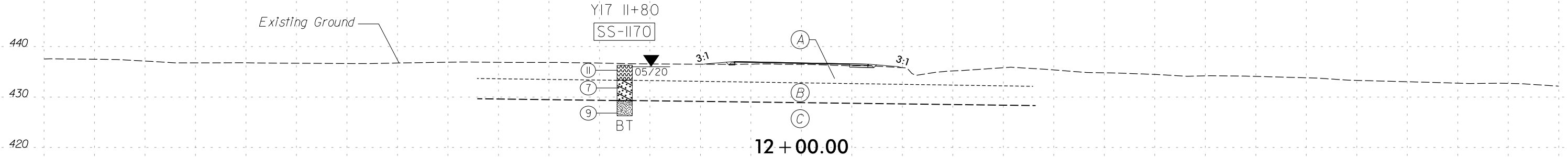
16 + 50.00

-YI6-

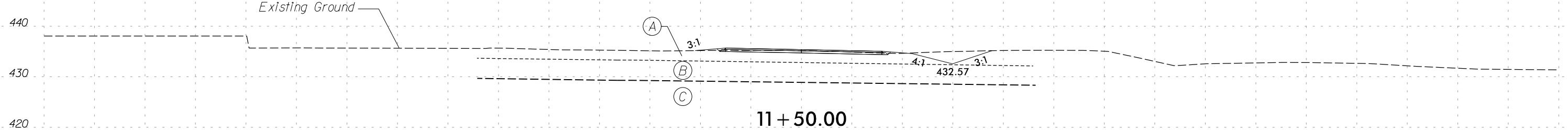


SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1170	11+80	35' LT	0.0 - 1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.0

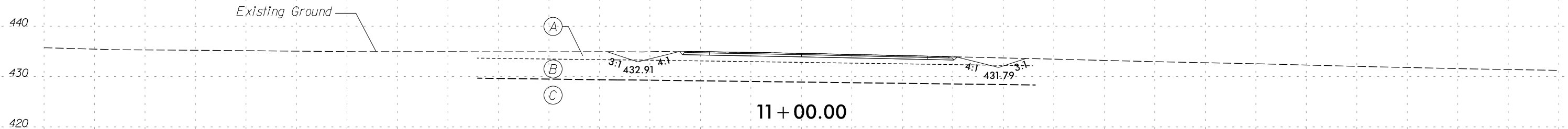
- (A) UNDIVIDED COASTAL PLAIN Black, stiff, sandy PEAT, moderately to highly organic, moist
- (B) Tan, loose, clayey coarse SAND (A-2-7), moist
- (C) COASTAL PLAIN Tan-orange, stiff, fine sandy SILT (A-4), iron concretions, mottled, moist (Middendorf Formation)



- (A) UNDIVIDED COASTAL PLAIN Black, stiff, sandy PEAT, moderately to highly organic, moist
- (B) Tan, loose, clayey coarse SAND (A-2-7), moist
- (C) COASTAL PLAIN Tan-orange, stiff, fine sandy SILT (A-4), iron concretions, mottled, moist (Middendorf Formation)



- (A) UNDIVIDED COASTAL PLAIN Black, stiff, sandy PEAT, moderately to highly organic, moist
- (B) Tan, loose, clayey coarse SAND (A-2-7), moist
- (C) COASTAL PLAIN Tan-orange, stiff, fine sandy SILT (A-4), iron concretions, mottled, moist (Middendorf Formation)



11 + 00.00
-Y17-

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

470 470

460 460

450 450

440 440

430 430

420 420

470 470

460 460

450 450

440 440

430 430

420 420

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

- (A) UNDIVIDED COASTAL PLAIN Black, stiff, sandy PEAT, moderately to highly organic, moist
- (B) Tan, loose, clayey coarse SAND (A-2-7), moist
- (C) COASTAL PLAIN Tan-orange, stiff, fine sandy SILT (A-4), iron concretions, mottled, moist (Middendorf Formation)

Existing Ground

3:1
437.52

4:1

4:1
436.86

3:1

13 + 00.00

- (A) UNDIVIDED COASTAL PLAIN Black, stiff, sandy PEAT, moderately to highly organic, moist
- (B) Tan, loose, clayey coarse SAND (A-2-7), moist
- (C) COASTAL PLAIN Tan-orange, stiff, fine sandy SILT (A-4), iron concretions, mottled, moist (Middendorf Formation)

Existing Ground

3:1

3:1

12 + 50.00

-Y/7-

6/23/16

8/29/2024
R:\Geotech\Investigation\Design\CADD_GEO\TECH\ssc\R-5709C\R5709C_GEO_xsl-Y18.dgn
mmetrg

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

430 430

420 420

410 410

400 400

390 390

380 380

370 370

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.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1202	13+20	25' RT	0.0 - 1.5	A-2-4	14	NP	50.0	32.5	1.5	16.0	100.0	74.0	20.1	15.0	ND

- (A) UNDIVIDED COASTAL PLAIN Brown-orange to tan-orange,very loose to loose,silty fine SAND (A-2-4),moist
- (B) COASTAL PLAIN Orange,medium dense,clayey coarse SAND (A-2-6),clay balls,moist to wet (Middendorf Formation)

Y18 13+20

SS-1202

Existing Ground

3:1

3:1

(A)

(3)

(4)

0.5/20

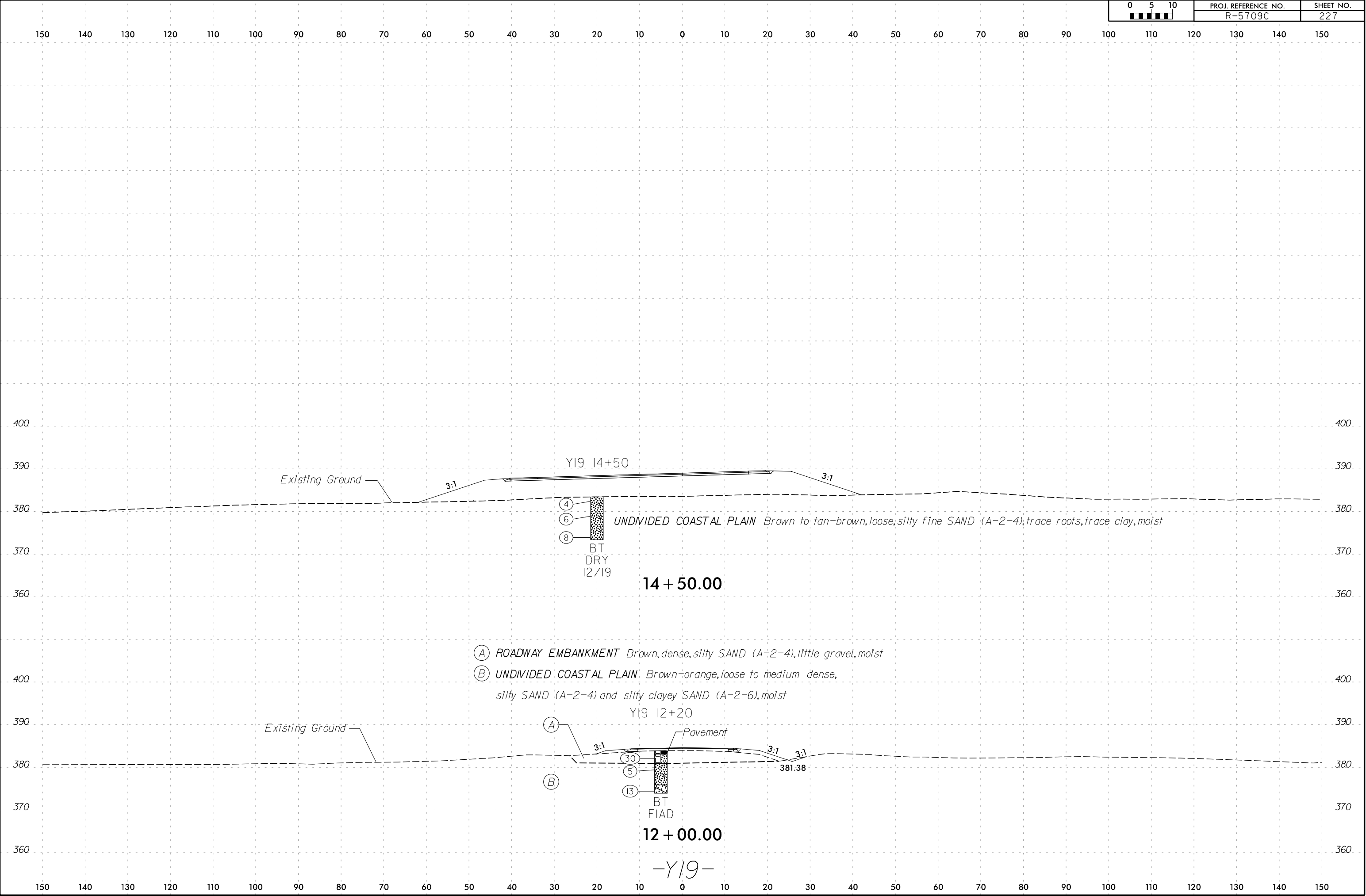
(12)

BT

13 + 00.00

-Y18-

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

400 400

390 390

380 380

370 370

360 360

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

Existing Ground

Y20 13+50

Pavement

3:1
379.69

3:1

3:1
378.95

3:1

3

17

10

BT
FIAD

UNDIVIDED COASTAL PLAIN Brown-orange, very loose to medium dense,
silty SAND (A-2-4) and silty clayey SAND (A-2-6), moist

13 + 50.00

-Y20-

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

380 380

370 370

360 360

350 350

340 340

380 380

370 370

360 360

350 350

340 340

330 330

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

- (A)

COASTAL PLAIN Tan-brown,very loose,clayey silty fine to coarse SAND (A-2-5),red mottling,wet (Middendorf Formation)
- (B)

Tan-orange,medium stiff to very stiff,fine sandy silty CLAY (A-7-5,A-7-6),red mottling,moist

Existing Ground

Y2112+75

3

15

7

BT

(A)

(B)

348.74

12 + 50.00

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1241	711+20	100' LT	3.5 - 5.0	A-7-5(6)	49	18	32.0	18.0	8.0	42.0	94.0	74.0	47.0	23.6	ND

- (A)

UNDIVIDED COASTAL PLAIN Brown,loose,silty fine to coarse SAND (A-2-4),moist
- (B)

Gray-orange-red,very stiff to hard,fine to coarse sandy moderately plastic CLAY (A-7-5),moist

Existing Ground

L 711+20

10+95

SS-1241

5

19

52

BT

(A)

(B)

345.32

11 + 00.00

-Y21-

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

350

350

340

340

330

330

320

320

310

310

300

300

290

290

280

280

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-193	10+50	0' CL	3.5 - 5.0	A-6 (0)	26	11	45.0	18.0	19.0	18.0	99.0	71.0	37.0	15.0	ND

- (A) UNDIVIDED COASTAL PLAIN Brown, loose, silty SAND (A-2-4), little gravel, moist
- (B) Brown-orange to light gray, medium stiff to very stiff, silty sandy slightly plastic CLAY (A-6), moist

Existing Ground

Y22 10+50

SS-193

Pavement

5

5

25

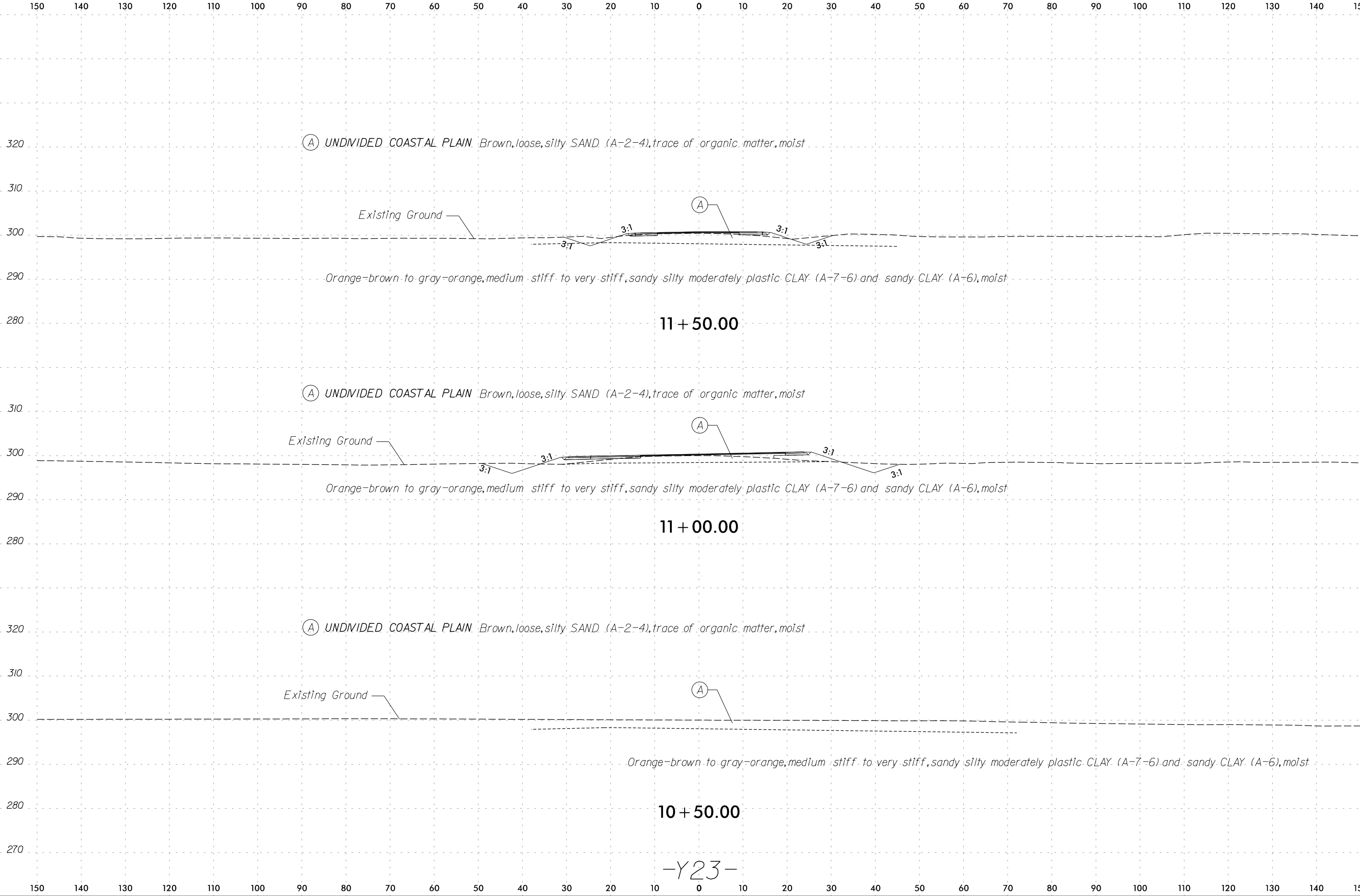
BT

FIAD

10 + 50.00

-Y22-

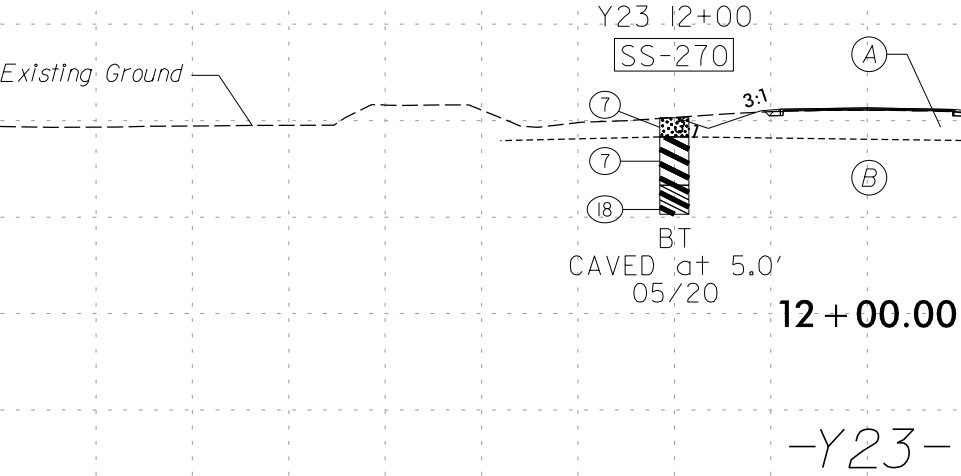
6/23/16

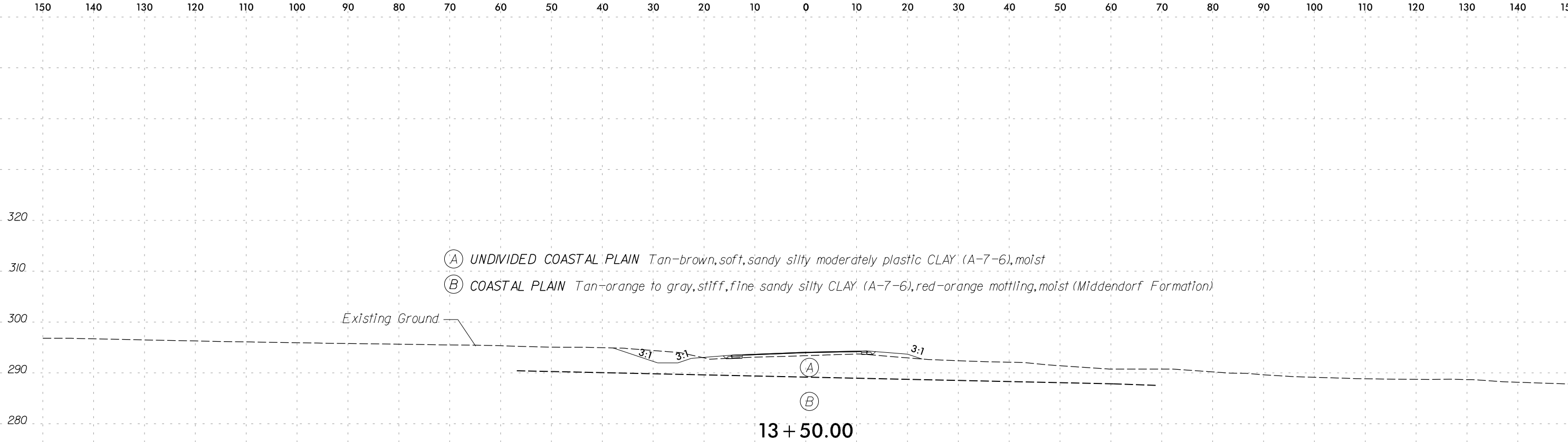


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

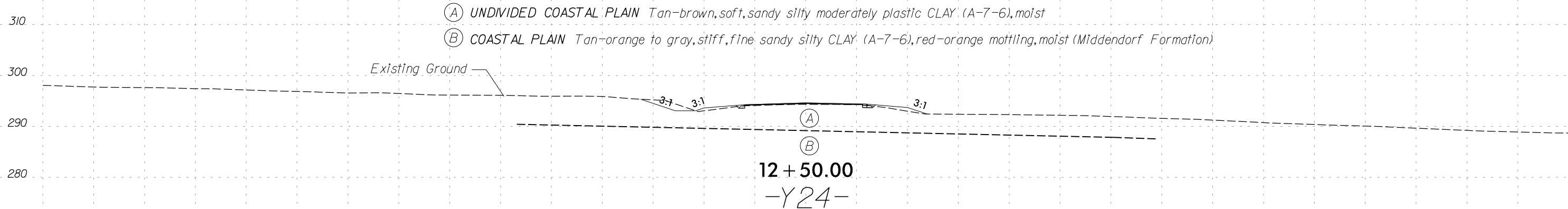
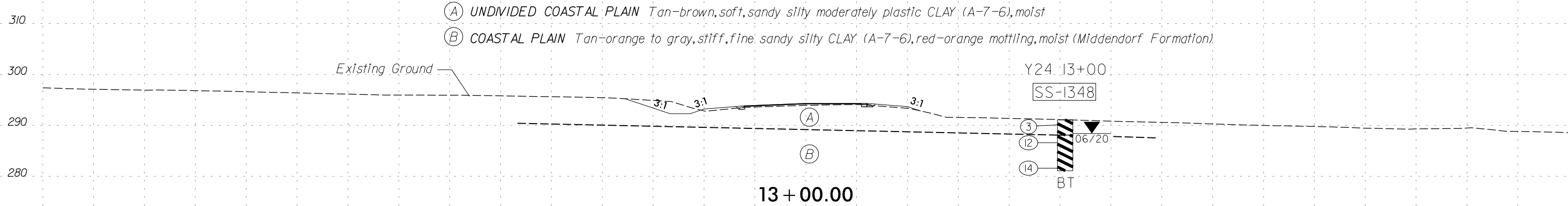
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-270	12+00	20' LT	3.5 - 5.0	A-7-6 (6)	43	19	32.9	16.5	6.2	44.5	99.0	79.0	50.7	19.0	ND

- (A) UNDIVIDED COASTAL PLAIN Brown, loose, silty SAND (A-2-4), trace of organic matter, moist
- (B) Orange-brown to gray-orange, medium stiff to very stiff, sandy silty moderately plastic CLAY (A-7-6) and sandy CLAY (A-6), moist

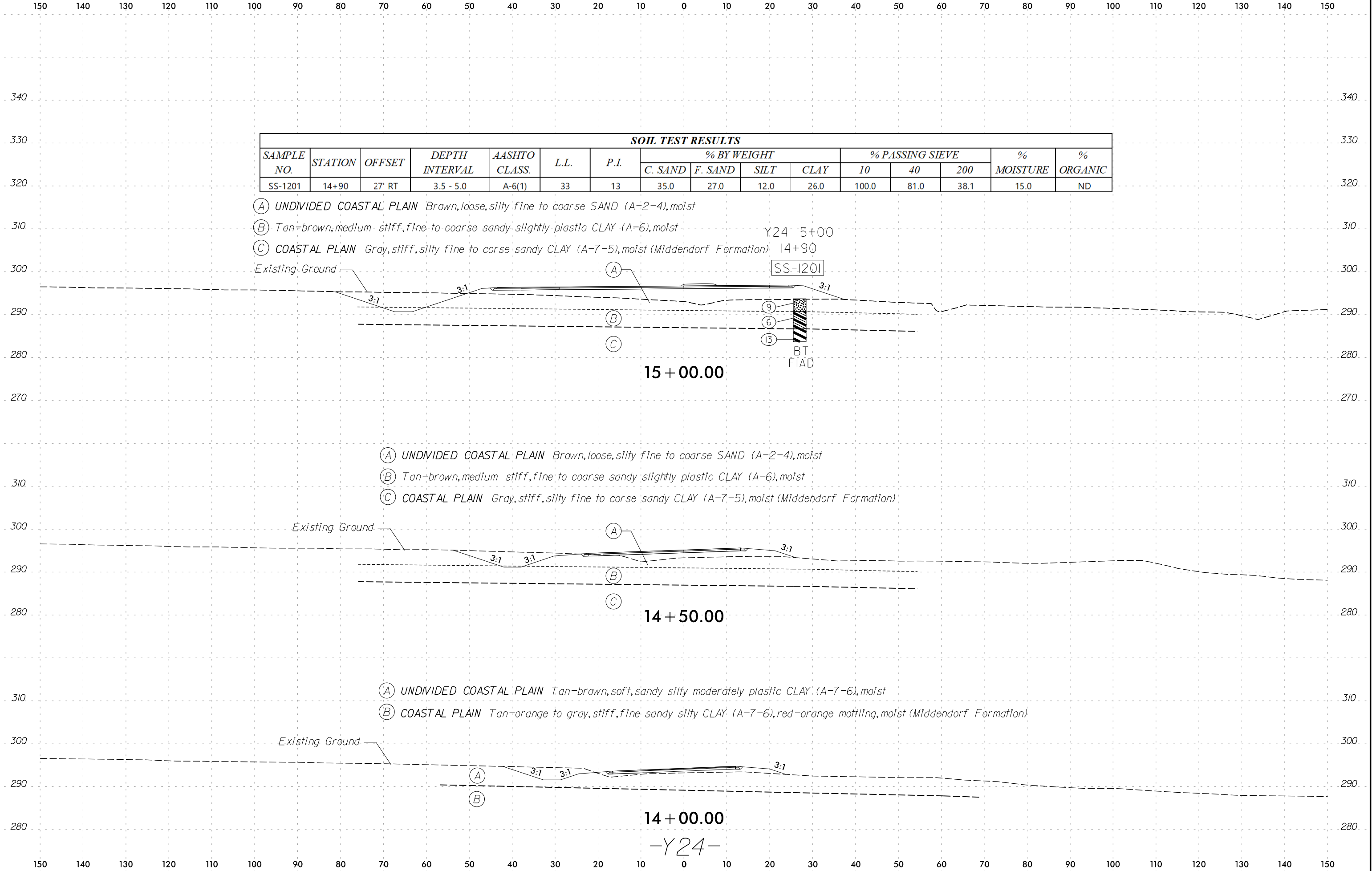




SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1348	13+00	51' RT	0.0 - 1.5	A-7-6(7)	42	24	31.8	23.7	10.3	34.2	99.8	79.6	45.0	ND	ND



6/23/16

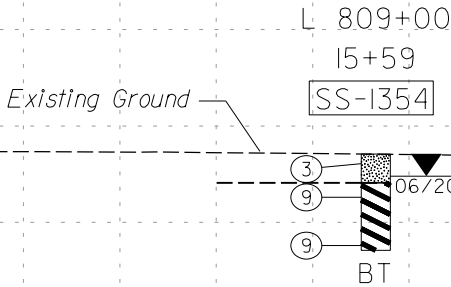


6/23/16

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

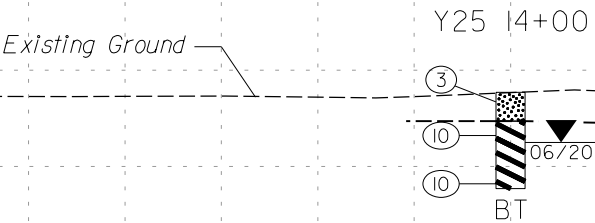
SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-1354	809+00	40' RT	0.0 - 1.5	A-4(0)	28	NP	29.4	23.7	12.9	34.0	99.5	80.6	48.0	9.7	ND

- (A) UNDIVIDED COASTAL PLAIN Brown, soft, clayey sandy SILT (A-4), moist
- (B) COASTAL PLAIN Gray-tan, stiff, sandy silty CLAY (A-7-6), red-orange mottling, moist (Middendorf Formation)



15 + 50.00

- (A) UNDIVIDED COASTAL PLAIN Brown, very loose, silty fine SAND (A-2-4), moist
- (B) COASTAL PLAIN Tan-orange-red, stiff, silty CLAY (A-7-6), red mottling, moist (Middendorf Formation)



14 + 00.00

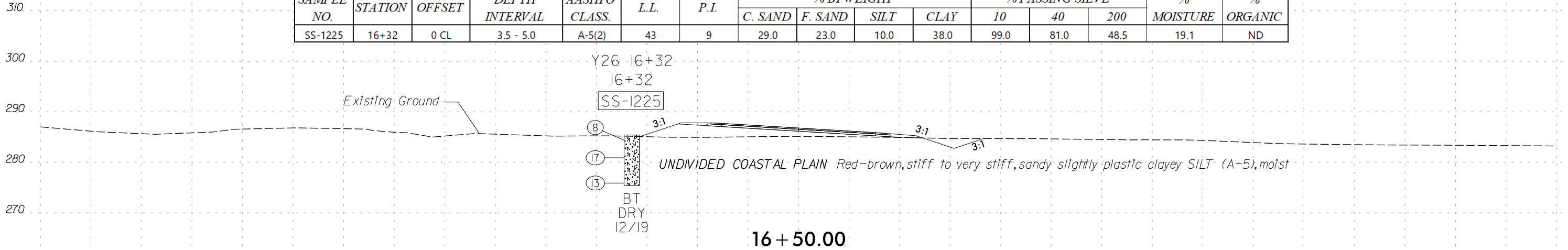
-Y25-

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

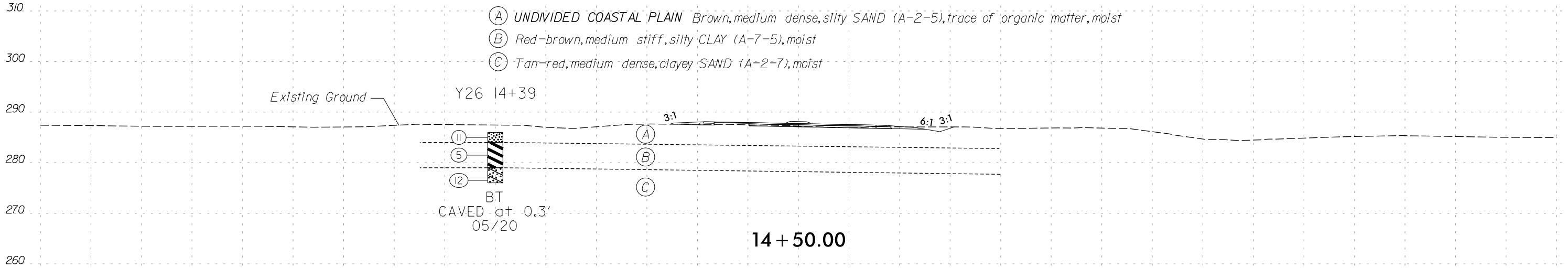
6/23/16

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

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1225	16+32	0 CL	3.5 - 5.0	A-5(2)	43	9	29.0	23.0	10.0	38.0	99.0	81.0	48.5	19.1	ND

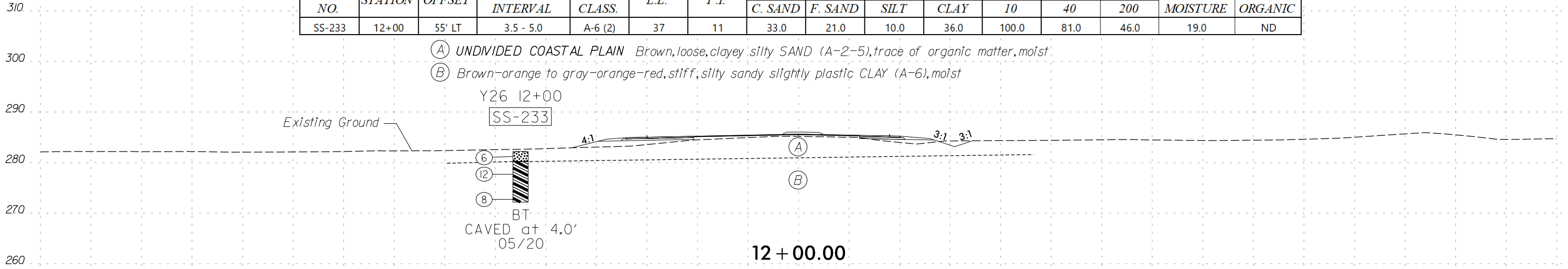


- (A) *UNDIVIDED COASTAL PLAIN Brown, medium dense, silty SAND (A-2-5), trace of organic matter, moist*
- (B) *Red-brown, medium stiff, silty CLAY (A-7-5), moist*
- (C) *Tan-red, medium dense, clayey SAND (A-2-7), moist*



SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-233	12+00	55' LT	3.5 - 5.0	A-6 (2)	37	11	33.0	21.0	10.0	36.0	100.0	81.0	46.0	19.0	ND

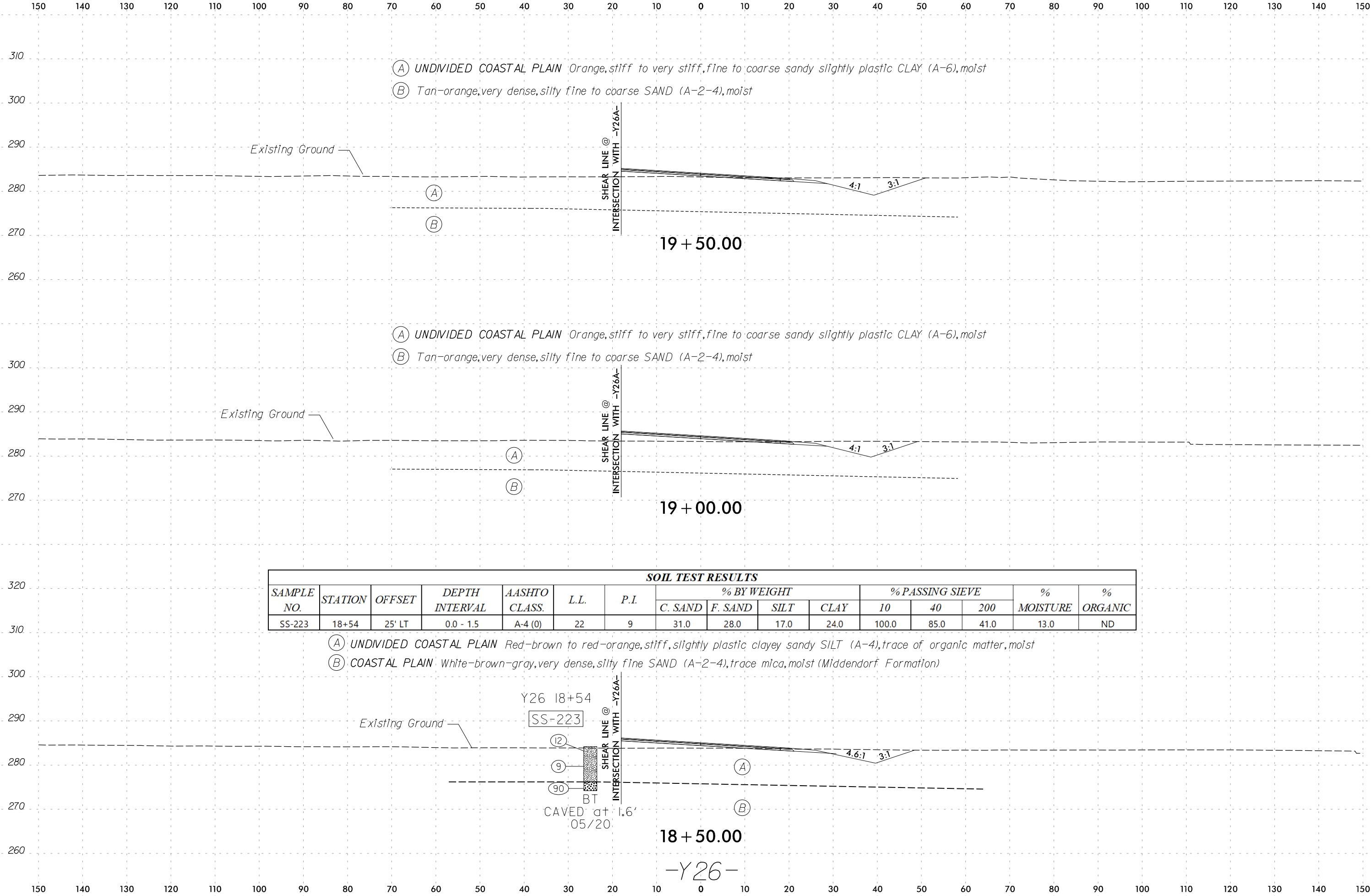
- (A) *UNDIVIDED COASTAL PLAIN Brown, loose, clayey silty SAND (A-2-5), trace of organic matter, moist*
- (B) *Brown-orange to gray-orange-red, stiff, silty sandy slightly plastic CLAY (A-6), moist*



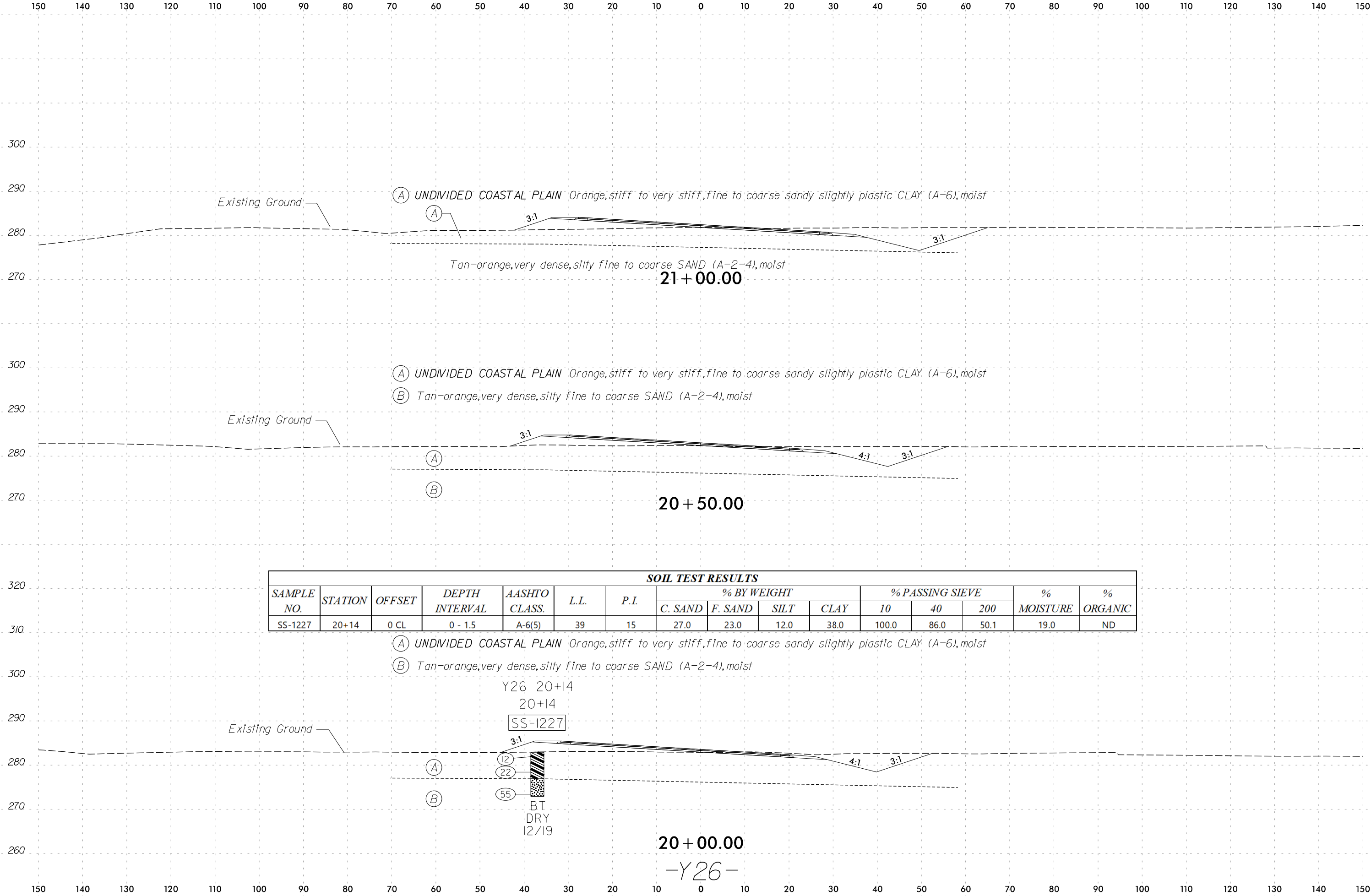
12 + 00.00

-Y26-

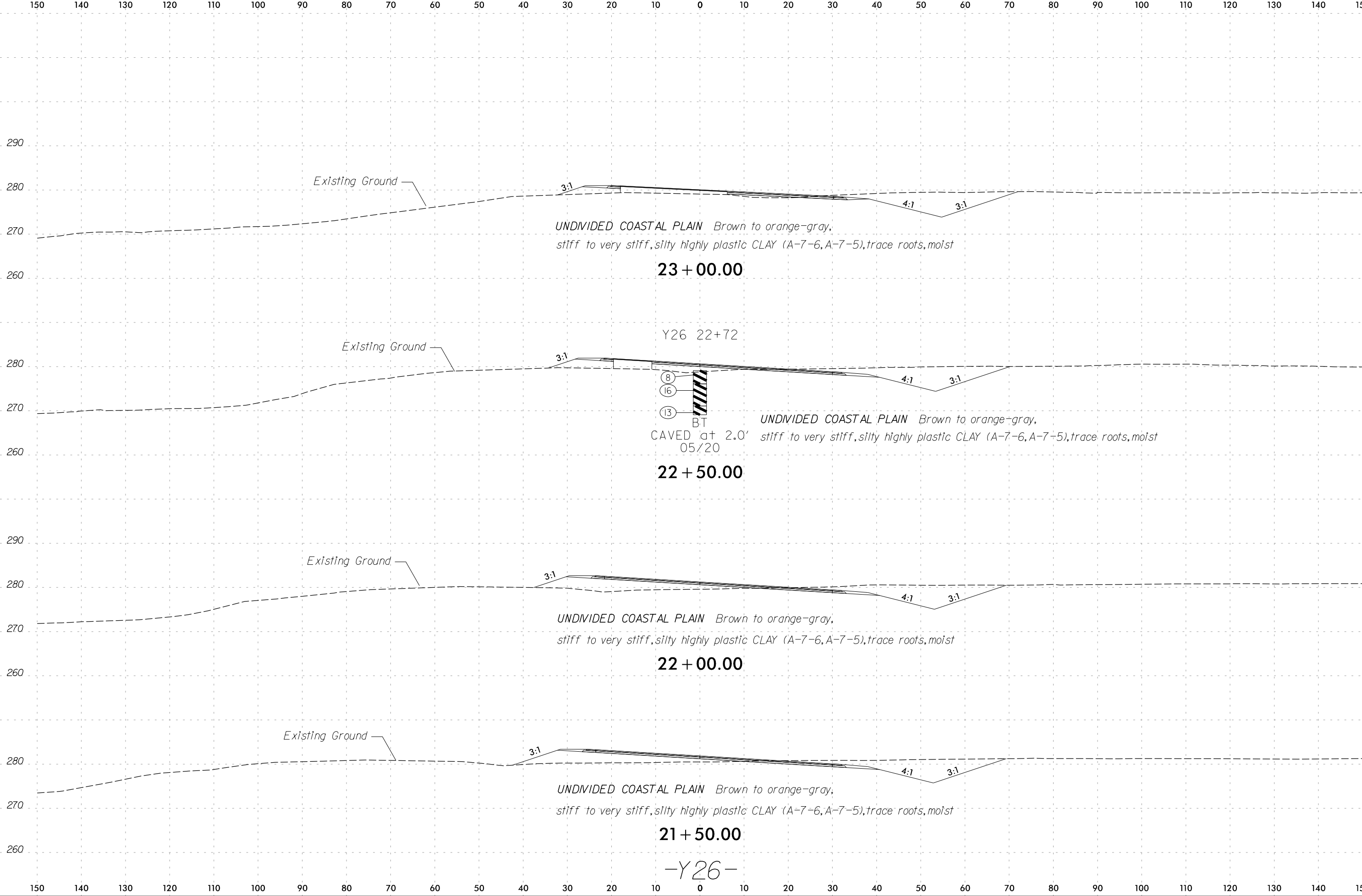
6/23/16



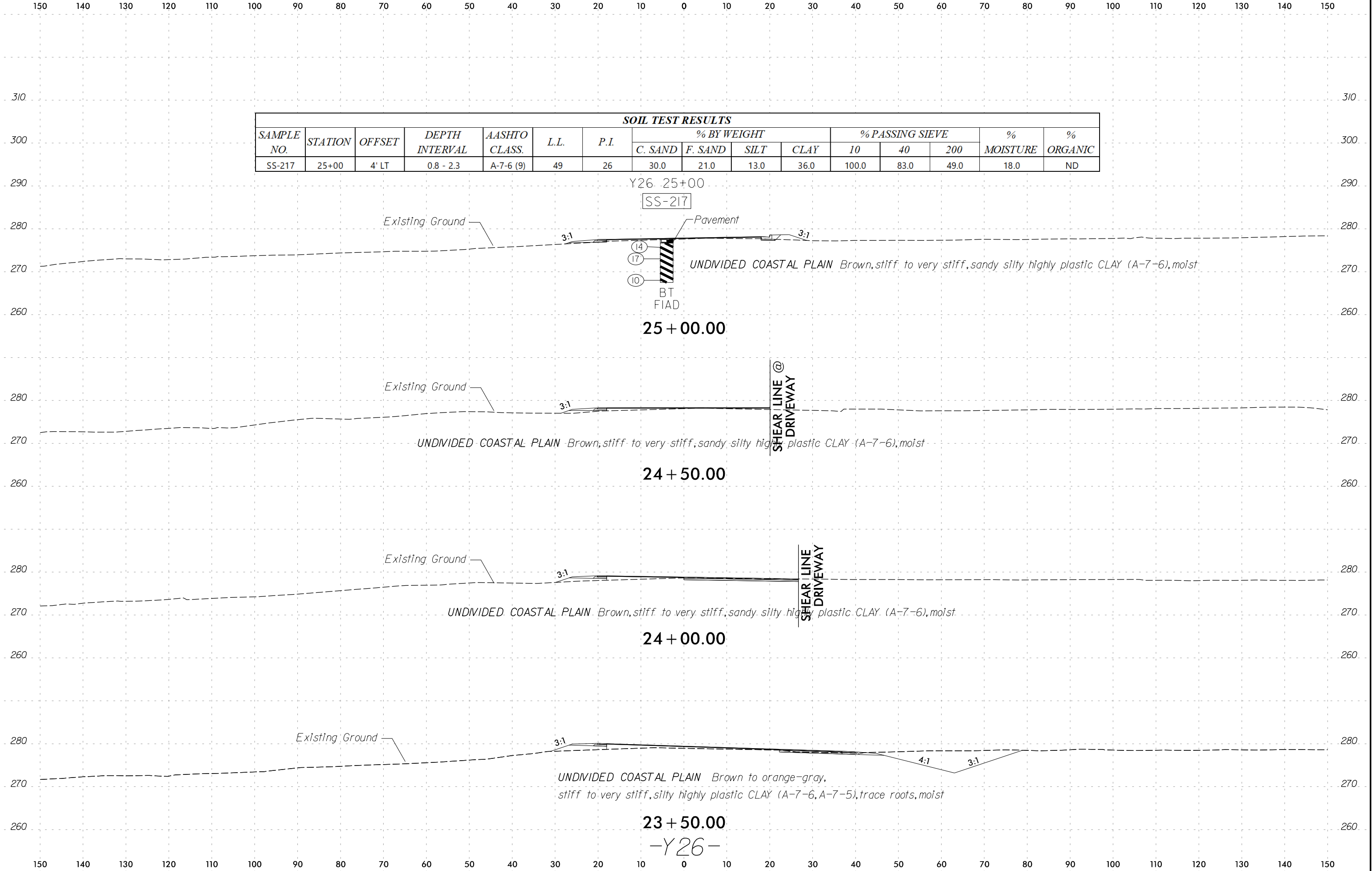
6/23/16



6/23/16



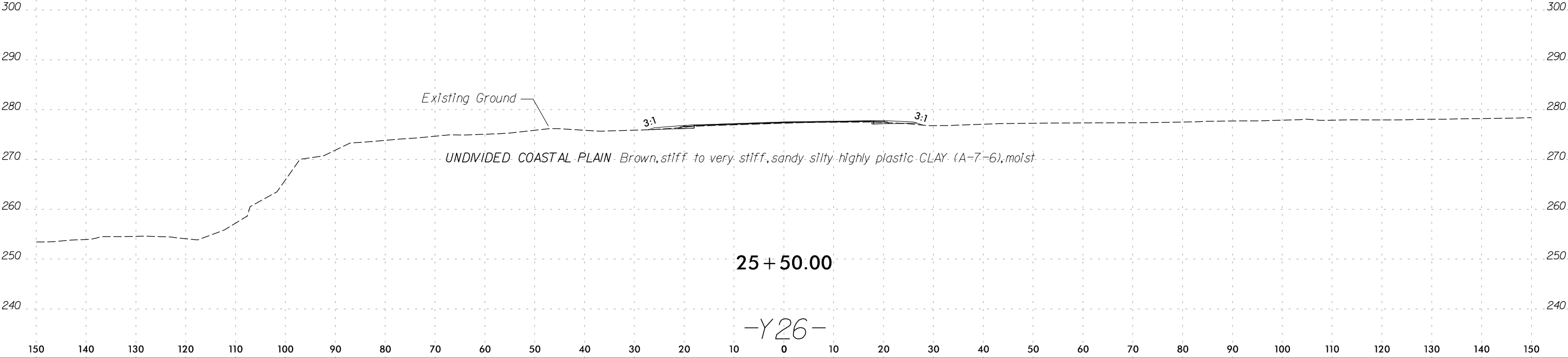
6/23/16



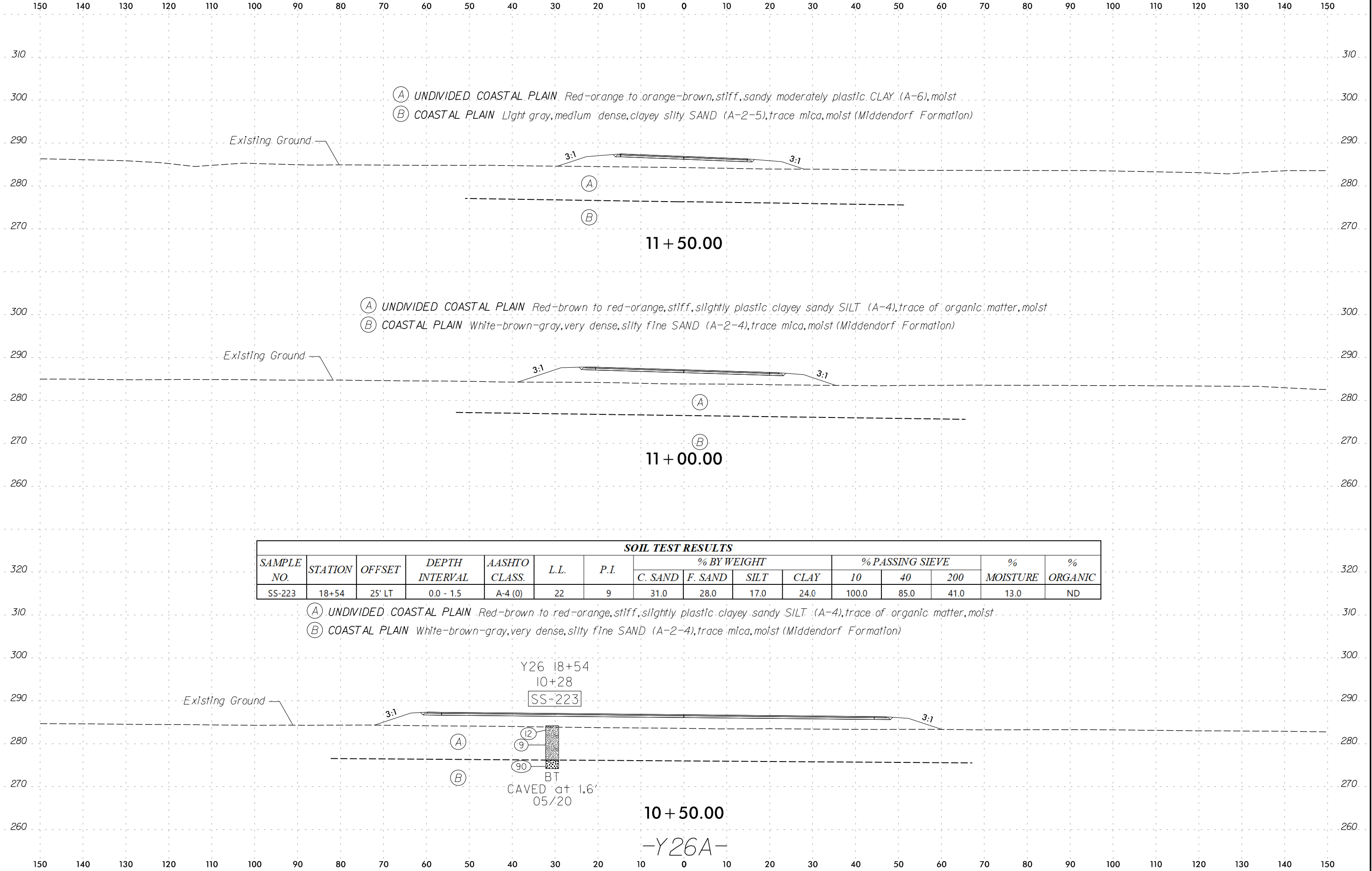
6/23/16

0510	PROJ. REFERENCE NO.	SHEET NO.
	R-5709C	241

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

340

340

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260

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-226	12+30	0' CL	0.0 - 1.5	A-6 (3)	38	20	36.0	27.0	9.0	28.0	100.0	80.0	37.0	15.0	ND

- (A) UNDIVIDED COASTAL PLAIN Red-orange to orange-brown, stiff, sandy moderately plastic CLAY (A-6), moist
- (B) COASTAL PLAIN Light gray, medium dense, clayey silty SAND (A-2-5), trace mica, moist (Middendorf Formation)

Existing Ground

SHEAR LINE @
INTERSECTION WITH -SRI-

Y26A 12+30

SS-226

3:1

8
10
15

05/20

BT

12 + 50.00

- (A) UNDIVIDED COASTAL PLAIN Red-orange to orange-brown, stiff, sandy moderately plastic CLAY (A-6), moist
- (B) COASTAL PLAIN Light gray, medium dense, clayey silty SAND (A-2-5), trace mica, moist (Middendorf Formation)

Existing Ground

3:1

(A)

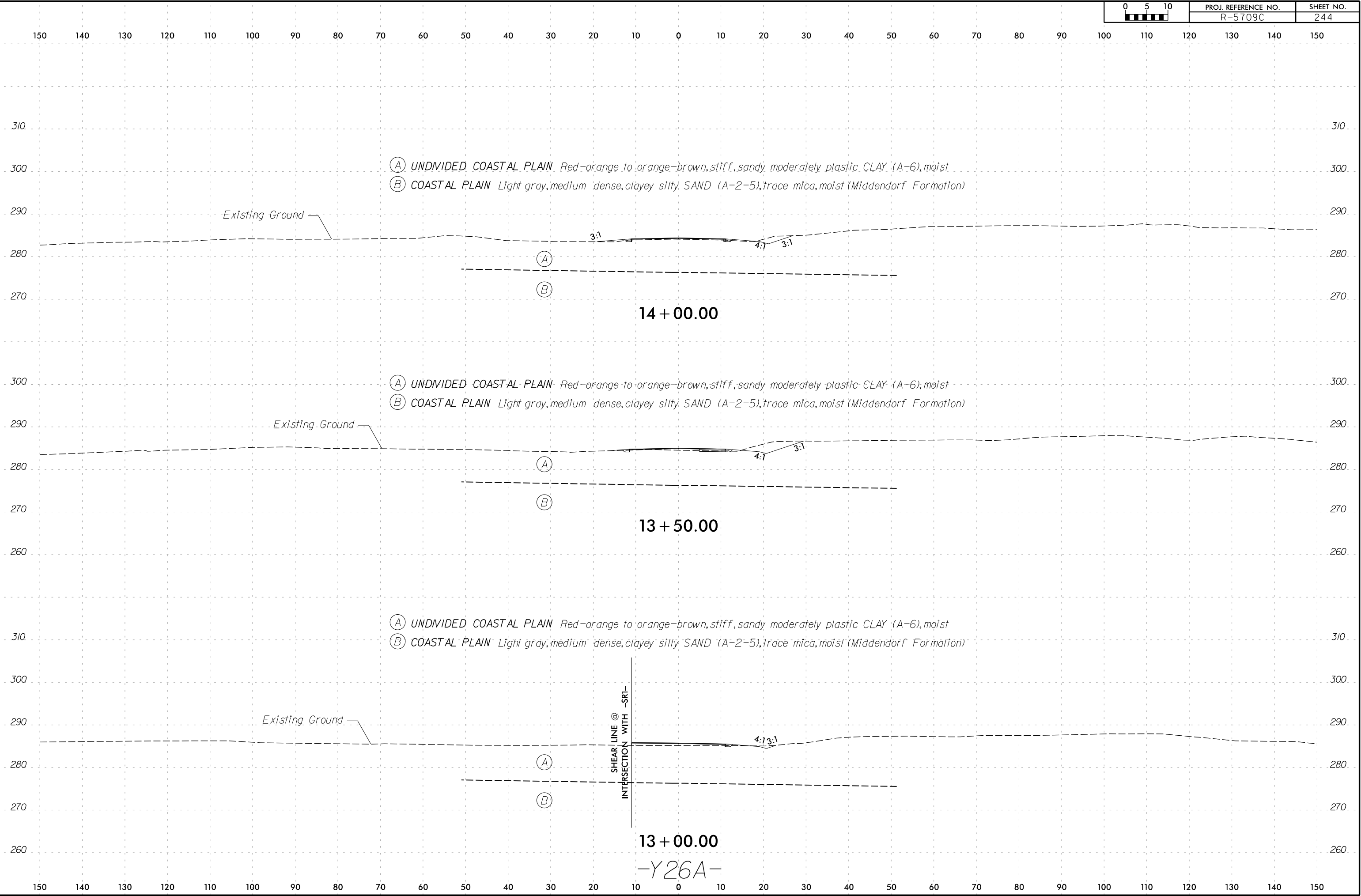
(B)

12 + 00.00

-Y26A-

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



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

330

320

310

300

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270

260

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-245	14+60	40' LT	3.5 - 5.0	A-7-6 (14)	56	36	30.5	19.2	16.2	34.1	100.0	81.0	50.4	19.0	ND

- (A) UNDIVIDED COASTAL PLAIN Brown, loose, silty SAND (A-2-4), trace of organic matter, moist
- (B) Orange-gray, stiff to very stiff, sandy silty highly plastic CLAY (A-7-6), moist

Y26A 14+60

14+60

SS-245

Existing Ground

6

12

18

BT

CAVED at 4.6'
05/20

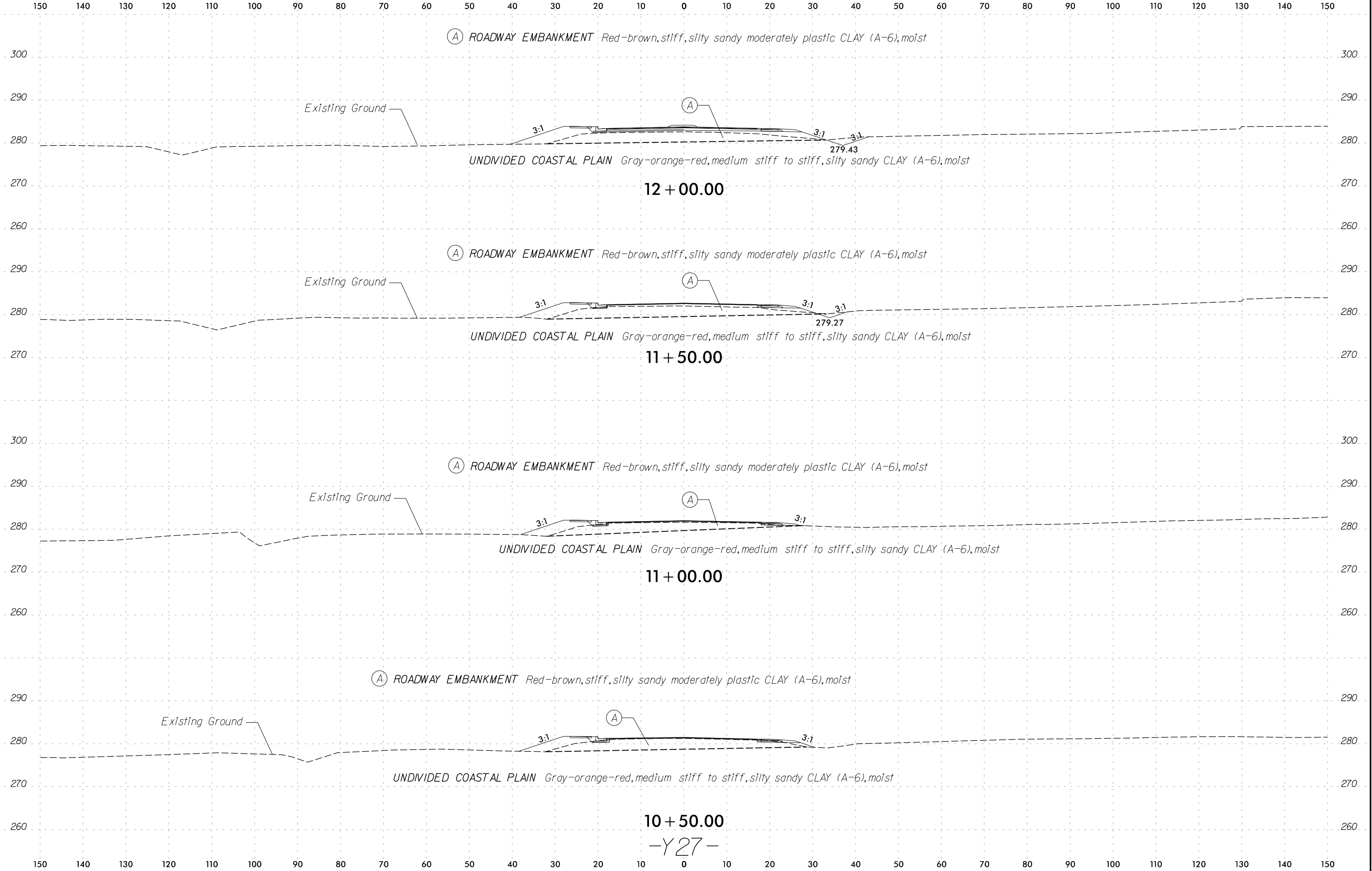
(A)

(B)

14 + 50.00

-Y26A-

6/23/16

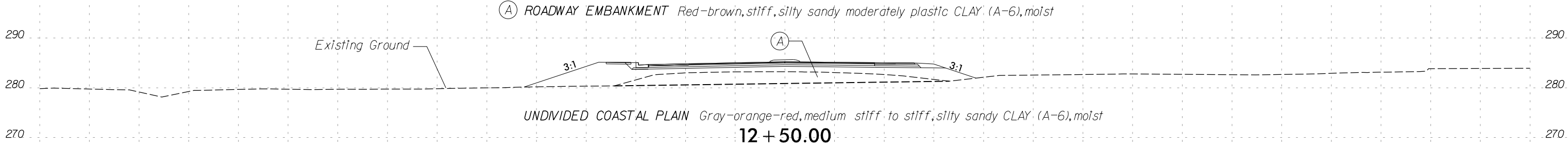
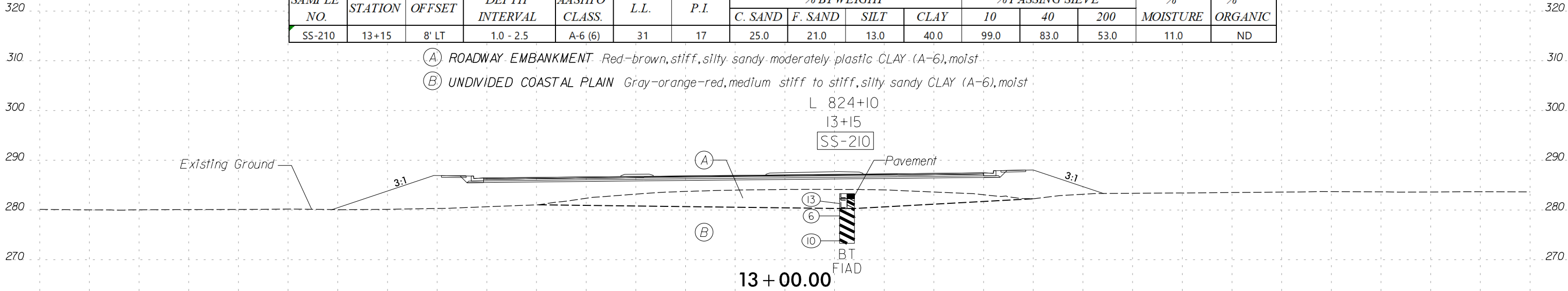


6/23/16

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

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-210	13+15	8' LT	1.0 - 2.5	A-6 (6)	31	17	25.0	21.0	13.0	40.0	99.0	83.0	53.0	11.0	ND

- (A) ROADWAY EMBANKMENT Red-brown, stiff, silty sandy moderately plastic CLAY (A-6), moist
- (B) UNDIVIDED COASTAL PLAIN Gray-orange-red, medium stiff to stiff, silty sandy CLAY (A-6), moist



PROJECT: 50205 REFERENCE: R-5709C

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5709C	248	

ROADWAY
SUBSURFACE INVESTIGATION

APPENDIX A
BORE LOGS

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 50205.1.1		TIP R-5709		COUNTY HOKE		GEOLOGIST Cary, P.								
SITE DESCRIPTION NC 211 Widening from US 15-501 in Aberdeen to SR 1244 (W. Palmer St.)/SR 1311 (Mockingbird Hill Rd.)						GROUND WTR (ft)								
BORING NO. Y26 27+00		STATION 27+00		OFFSET 4 ft LT		ALIGNMENT -Y26-								
COLLAR ELEV. 276.0 ft		TOTAL DEPTH 10.0 ft		NORTHING 451,394		EASTING 1,927,455								
DRILL RIG/HAMMER EFF./DATE FME3304 CME-45B 87% 03/13/2020				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic								
DRILLER Phillips, J.		START DATE 05/18/20		COMP. DATE 05/18/20		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT			SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			ELEV. (ft)	DEPTH (ft)
280														
275	275.2	0.8	4	3	15								276.0	0.0
270	272.5	3.5	2	3	4								275.2	0.8
													273.0	3.0
	267.5	8.5	3	5	8								269.0	7.0
													266.0	10.0
Boring Terminated at Elevation 266.0 ft in silty clayey SAND (A-2-6)														
*Not shown in cross section - boring drilled beyond the end of updated Y26 alignment														

NCDOT BORE DOUBLE R5709_SEC2_RDY.GPJ NC_DOT.GDT 2/18/21

PROJECT: 50205

REFERENCE: R-5709C

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

ROADWAY
SUBSURFACE INVESTIGATION

APPENDIX B
LAB RESULTS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5709C	250	

LAB RESULTS

Project: NC 211 Widening from 0.4 miles north of SR 1225 (Ashemont Road) to east of SR 1244 (West Palmer Street) / SR 1311 (Mockingbird Hill Road) in Raeford

T.I.P.: R-5709C

Boring No.	Sample No.	Station No.	Offset	Alignment	Northing	Easting	Sample Depth (ft)	AASHTO Classification	% PASSING SIEVE			% BY WEIGHT				LL	PI	% ORGANIC	% MOISTURE
									10	40	200	C. SAND	F. SAND	SILT	CLAY				
L 331+33	SS-682	331+33	20' LT	L	482193	1893042	3.5 - 5.0	A-2-4	99	77	25	47	30	2	20	21	5	ND	17
L 333+33	SS-678	333+33	20' LT	L	482023	1893146	0.0 - 1.5	A-3	100	62	7	72	21	4	2	17	NP	4	3
L 349+00	SS-672	349+00	35' LT	L	480691	1893972	0.0 - 1.5	A-2-4	100	67	12	61	29	4	6	15	NP	ND	5
L 353+00	SS-491	353+00	25' RT	L	480315	1894123	1.3 - 2.8	A-2-6	94	60	25	59	15	3	22	30	12	ND	ND
L 355+33	SS-669	355+33	0' CL	L	480126	1894261	0.0 - 1.5	A-2-4	98	54	17	65	20	5	10	15	NP	ND	3
L 355+33	SS-670	355+33	0' CL	L	480126	1894261	3.5 - 5.0	A-2-6	98	54	31	57	13	2	28	40	16	ND	18
L 357+00	SS-1725	357+00	10' RT	L	479976	1894335	0.0 - 1.5	A-2-4	99	67	10	49	42	3	3	18	NP	ND	9
L 361+25	SS-666	361+25	5' LT	L	479615	1894561	0.0 - 1.5	A-2-4	100	64	15	61	27	3	10	18	NP	ND	5
L 363+50	SS-1001	363+50	5' RT	L	479356	1894698	3.5 - 5.0	A-2-6 (0)	97.0	52.0	25.0	61.0	14.0	1.0	24.0	32	14	ND	20.0
L 368+00	SS-202	368+00	22' LT	L	478968	1894928	3.5 - 5.0	A-2-4	99.0	76.0	27.0	44.0	30.0	2.0	24.0	34	8	ND	16.5
L 379+00	SS-1019	379+00	30' RT	L	477915	1895244	0.0 - 1.5	A-2-6 (0)	94.0	25.0	22.0	69.0	10.0	1.0	20.0	31	11	ND	10.0
L 381+00	SS-1022	381+00	15' RT	L	477724	1895303	0.0 - 1.5	A-6 (8)	100.0	86.0	60.0	23.0	17.0	20.0	40.0	40	16	ND	18.0
L 383+00	SS-208	383+00	10' RT	L	477530	1895346	3.5 - 5.0	A-2-4	99.0	58.0	23.2	56.0	21.0	3.0	20.0	23	6	ND	17.5
L 387+50	SS-1028	387+50	0' CL	L	477086	1895422	0.0 - 1.5	A-2-4	98.0	71.0	18.0	53.0	29.0	8.0	10.0	20	NP	ND	12.0
L 394+33	SS-11	394+33	27' LT	L	476418	1895558	33.5 - 35.0	A-6 (1)	99.0	64.0	38.6	46.0	15.0	8.2	30.4	36	13	5.7	19.8
L 389+75	SS-1031	389+75	0' CL	L	476863	1895454	0 - 1.5	A-2-4	100.0	94.0	21.0	35.0	45.0	2.0	18.0	22	NP	ND	11.0
L 401+00	SS-705	401+00	35' RT	L	475792	1895769	13.5 - 15.0	A-7-5 (20)	100.0	100.0	92.3	0.4	7.3	11.8	80.5	23	7	ND	17.5
L 405+50	SS-224	405+50	45' RT	L	475370	1895941	3.5 - 5.0	A-2-4	100.0	60.0	32.0	54.0	14.0	8.0	24.0	36	10	ND	14.2
L 411+00	SS-1743	411+00	35' RT	L	474941	1896292	0.0 -1.5	A-2-4	100.0	69.0	26.6	50.0	25.0	3.0	22.0	23	7	ND	17.5
L 413+00	SS-34	413+00	28' LT	L	474828	1896468	0.3 - 1.8	A-2-6 (0)	100.0	51.0	27.0	61.0	12.0	1.0	26.0	30	13	ND	7.0
L 419+50	SS-47	419+50	25' LT	L	474327	1896882	14.5 - 15.0	A-2-4	97.0	66.0	27.0	46.3	26.3	9.1	18.2	33	8	7.0	56.0
L 421+75	SS-1750	421+90	30' RT	L	474107	1896993	0.0 - 1.5	A-2-4	100.0	76.0	21.5	36.1	42.4	9.4	12.1	30	NP	2.5	32.1
L 431+00	SS-234	431+00	10' RT	L	473421	1897591	3.5 - 5.0	A-7-5(20)	100.0	99.0	96.6	2.0	2.0	31.0	65.0	59	25	ND	27.5
L 441+00	SS-1070	441+00	10' RT	L	472620	1898188	0.0 - 1.5	A-2-6 (1)	100.0	62.0	26.4	44.4	29.1	0.3	26.1	36	16	ND	16.0
L 451+10	SS - 1096	451+10	0' CL	L	471785	1898756	0.0 - 2.0	A-2-4	99.0	52.0	10.9	66.0	24.0	2.0	8.0	19	NP	ND	5.8
L 455+00	SS-251	455+00	70' LT	L	471498	1899028	3.5 - 5.0	A-2-6(0)	96.0	69.0	27.4	60.0	12.0	2.0	26.0	32	12	ND	10.6
L 471+00	SS-258	471+00	70' LT	L	470161	1899908	3.5 - 5.0	A-2-6(0)	99.0	69.0	27.3	50.0	23.0	1.0	26.0	32	12	ND	16.4
L 485+75	SS - 1136	485+75	75' LT	L	468969	1900759	0.0 - 1.5	A-3	100.0	58.0	8.1	71.0	22.0	1.0	6.0	16	NP	ND	3.9
L 502+00	SS-1145	502+00	1' RT	L	467670	1901739	8.5 - 10.0	A-6 (2)	100.0	81.0	38.0	39.0	24.0	4.0	34.0	36	15	ND	17.0
L 508+00	SS-274	508+00	75' LT	L	467257	1902181	0 - 1.5	A-2-4	100.0	56.0	14.8	63.0	22.0	9.0	6.0	16	NP	ND	12.3
L 512+10	SS-1155	512+10	0' CL	L	466889	1902379	3.5 - 5.0	A-2-6 (0)	100.0	82.0	33.0	45.0	22.0	1.0	32.0	33	11	ND	15.0
L 520+25	SS-1164	520+25	70' LT	L	466257	1902900	3.5 - 5.0	A-7-6 (3)	99.0	83.0	41.0	36.0	23.0	7.0	34.0	41	17	ND	19.0
L 527+00	SS-282	527+00	40' RT	L	465637	1903188	3.5 - 5.0	A-2-4	100.0	76.0	19.4	47.0	33.0	5.0	14.0	20	NP	ND	13.5
L 541+00	SS-1177	541+00	75' LT	L	464543	1904069	3.5 - 5.0	A-2-4	100.0	93.0	33.0	36.2	31.3	6.4	26.1	27	10	ND	17.0
L 549+67	SS-100	549+67	40' LT	L	463806	1904527	1.2 - 2.7	A-2-4	100.0	75.0	29.0	49.0	23.0	0.0	28.0	25	7	ND	13.0
L 554+00	SS-104	554+00	34' LT	L	463445	1904765	1.2 - 2.7	A-2-6 (0)	97.0	52.0	25.0	61.0	14.0	1.0	24.0	32	14	ND	8.0
L 558+00	SS-292	558+00	40' RT	L	463072	1904929	0 - 1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.9	87.8
L 560+00	SS-1191	560+00	0' CL	L	462929	1905074	0.0 - 1.5	A-2-4	100.0	75.0	24.0	48.5	27.4	10.0	14.2	23	NP	ND	27.0
L 566+00	SS-302	566+00	15' RT	L	462451	1905381	3.5 - 5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	30.8	191.8
L 568+00	SS-125	568+00	30' RT	L	462250	1905499	0.0 - 1.5	A-4 (0)	99.0	82.0	38.0	32.0	30.0	6.0	32.0	29	9	ND	27.0
L 572+00	SS-130	572+00	0' CL	L	461936	1905748	3.5 - 5.0	A-7-6 (9)	100.0	85.0	52.0	29.0	19.0	12.0	40.0	45	24	ND	17.0
L 593+00	SS - 1214	593+00	70' LT	L	460106	1906777	0.0 - 1.5	A-3	100.0	80.0	6.4	52.0	43.0	1.0	4.0	20	NP	ND	4.8
L 603+00	SS - 116	603+00	45' LT	L	459172	1907134	1.2 - 2.7	A-3	100.0	69.0	6.1	58.8	35.1	2.1	4.0	16	NP	ND	5.2

Boring No.	Sample No.	Station No.	Offset	Alignment	Northing	Easting	Sample Depth (ft)	AASHTO Classification	% PASSING SIEVE			% BY WEIGHT				LL	PI	% ORGANIC	% MOISTURE
									10	40	200	C. SAND	F. SAND	SILT	CLAY				
L 649+00	SS-160	649+00	55' LT	L	456792	1910744	1.2 - 2.7	A-2-6 (1)	99.0	64.0	32.0	53.0	15.0	2.0	30.0	37	18	ND	14.0
L 657+00	SS-164	657+00	55' LT	L	456730	1911539	1.2 - 2.7	A-7-6 (8)	99.0	74.0	45.0	40.0	15.0	3.0	42.0	50	29	ND	15.0
L 665+00	SS-1253	665+00	30' RT	L	456586	1912331	0.0 - 1.5	A-6 (3)	99.0	84.0	56.0	26.0	18.0	20.0	36.0	28	11	ND	16.0
L 665+00	SS-1253A	665+00	30' RT	L	456586	1912331	0.0 - 1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.0	ND
L 667+00	SS-1257	667+00	0' CL	L	456603	1912512	0.0 - 1.5	A-4 (0)	100.0	65.0	37.0	50.0	13.0	17.0	20.0	27	8	5.0	12.0
L 671+00	SS-1069	671+00	30' LT	L	456626	1912939	3.5 - 5.0	A-2-4	100.0	75.0	28.8	48.0	23.0	7.0	22.0	19	5	ND	17.0
L 673+00	SS-1260	673+00	93' LT	L	456650	1913137	0.0 - 1.5	A-2-4	99.0	74.0	32.0	42.0	26.0	12.0	20.0	18	4	ND	13.0
L 677+00	SS-1264	677+00	25' RT	L	456490	1913524	3.5 - 5.0	A-2-6(1)	99.8	68.8	30.6	46.9	22.4	4.5	26.1	34	15	ND	ND
L 688+00	SS-343	688+00	85' LT	L	456284	1914610	3.5 - 5.0	A-6(4)	100.0	84.0	43.2	28.0	29.0	11.0	32.0	40	19	ND	19.2
L 690+33	SS-1269	690+33	15' RT	L	456113	1914797	0.0 - 1.5	A-6(2)	98.0	77.0	35.6	36.2	28.2	5.4	30.2	31	15	ND	0.2
L 692+35	SS-1272	692+35	35' RT	L	456028	1914981	0.0 - 1.5	A-4(0)	96.7	72.9	42.3	35.8	21.8	8.3	34.0	38	NP	ND	ND
L 695+00	SS-1247	695+00	90' LT	L	456050	1915277	3.5 - 5.0	A-2-7(3)	95.0	62.0	32.4	48.0	18.0	6.0	28.0	46	25	ND	19.1
L 697+00	SS-176	697+00	45' LT	L	455918	1915441	3.5 - 5.0	A-7-6 (4)	91.0	71.0	40.2	34.3	25.5	5.9	34.3	43	25	ND	16.0
L 701+00	SS-1276	701+00	30' RT	L	455626	1915726	3.5 - 5.0	A-6(4)	99.6	77.8	35.7	36.9	27.4	3.7	32.0	39	23	ND	ND
L 709+00	SS-1281	709+00	40' RT	L	455057	1916285	0.0 - 1.5	A-4(1)	99.7	85.3	39.3	29.0	31.7	11.0	28.3	24	10	ND	14.0
L 711+20	SS-1241	711+20	100' LT	L	454999	1916540	3.5 - 5.0	A-7-5(6)	94.0	74.0	47.0	32.0	18.0	8.0	42.0	49	18	ND	23.6
L 713+33	SS-1287	713+30	84' LT	L	454839	1916676	0.0 - 1.5	A-4(0)	95.6	72.9	43.7	34.1	22.2	7.6	36.1	35	NP	ND	17.4
L 715+67	SS-185	715+67	35' LT	L	454636	1916808	1.2 - 2.7	A-2-4	100.0	74.0	31.0	41.0	28.0	9.0	22.0	15	4	ND	8.0
L 718+00	SS-346	718+00	30' RT	L	454424	1916926	3.5 - 5.0	A-6(1)	99.0	78.0	39.1	38.0	22.0	9.0	30.0	35	11	ND	16.1
L 720+25	SS-1290	720+25	10' RT	L	454279	1917098	0.0 - 1.5	A-2-4	99.2	65.3	31.7	50.5	17.8	3.7	28.0	30	NP	ND	ND
L 722+50	SS-1294	722+50	40' RT	L	454098	1917235	0.0 - 1.5	A-2-4	98.6	69.4	32.4	47.6	20.0	4.3	28.1	27	NP	ND	17.7
L 731+67	SS-1302	731+73	14' RT	L	453460	1917903	0.0 - 1.5	A-4(0)	99.3	67.0	33.0	49.3	17.9	14.9	18.0	30	NP	ND	18.6
L 736+00	SS-189	736+00	35' LT	L	453191	1918238	1.2 - 2.7	A-7-6 (6)	94.0	71.0	43.6	40.0	17.0	13.0	30.0	45	29	ND	20.0
L 738+00	SS-1305	738+00	30' RT	L	453004	1918334	0.0 - 1.5	A-4(0)	99.8	60.6	42.4	42.8	19.5	21.7	16.0	25	NP	ND	ND
L 740+20	SS-1308	740+20	40' RT	L	452850	1918498	0.0 - 1.5	A-4(0)	99.5	77.3	40.5	35.6	24.0	10.3	30.2	20	NP	ND	18.8
L 744+25	SS-1312	744+25	75' LT	L	452757	1918904	0.0 - 1.5	A-6(5)	100.0	77.4	45.6	40.7	15.2	6.0	38.0	40	19	ND	19.9
L 746+50	SS-1315	746+50	30' RT	L	452575	1919072	0.0 - 1.5	A-2-4	99.8	77.9	22.7	42.3	34.9	10.7	12.0	15	NP	ND	ND
L 748+75	SS-1318	748+75	65' LT	L	452575	1919317	0.0 - 1.5	A-6(3)	99.3	81.3	46.5	28.6	24.9	14.4	32.1	30	12	ND	18.1
L 755+00	SS-1324	755+00	15' RT	L	452250	1919857	0.0 - 1.5	A-4(1)	99.7	76.9	37.3	36.9	25.8	11.2	26.1	23	10	ND	ND
L 757+00	SS-195	757+00	30' LT	L	452211	1920058	1.0 - 2.5	A-7-6 (13)	100.0	87.0	57.0	22.0	21.2	12.5	44.4	51	29	ND	20.0
L 759+00	SS-349	759+00	30' RT	L	452075	1920218	0 - 1.5	A-6(0)	98.0	75.0	35.5	39.0	25.0	10.0	26.0	24	11	ND	15.5
L 761+00	SS-199	761+00	30' LT	L	452050	1920425	3.5 - 5.0	A-7-6 (6)	98.0	72.0	42.0	40.0	18.0	6.0	36.0	43	28	ND	13.0
L 765+00	SS-202	765+00	30' LT	L	451901	1920794	3.5 - 5.0	A-7-6 (10)	94.0	80.0	59.5	24.0	16.0	7.0	53.0	50	22	ND	21.0
L 767+00	SS-353	767+00	40' RT	L	451769	1920961	3.5 - 5.0	A-7-5(12)	98.0	87.0	64.4	19.0	15.0	2.0	64.0	54	19	ND	25.1
L 773+00	SS-1333	773+00	70' LT	L	451706	1921567	0.0 - 1.5	A-4(1)	95.6	77.1	49.4	30.5	20.2	15.2	34.0	29	6	ND	24.5
L 778+90	SS-272	778+90	25' RT	L	451453	1922109	0.0 - 1.5	A-7-6 (8)	98.0	77.0	47.0	35.0	18.0	11.0	36.0	45	27	ND	15.0
L 781+00	SS-208	781+00	35' LT	L	451453	1922327	3.5 - 5.0	A-7-6 (7)	95.0	74.0	47.0	34.0	17.0	9.0	40.0	45	23	ND	18.0
L 787+00	SS-1342	787+00	40' RT	L	451217	1922884	0.0 - 1.5	A-4(0)	99.9	80.4	45.7	34.8	21.5	5.6	38.1	28	NP	ND	12.9
L 799+00	SS-1204	799+00	28' LT	L	450949	1924055	3.5 - 5.0	A-7-6(4)	99.0	83.0	46.5	29.0	24.0	9.0	38.0	42	15	ND	18.6
L 801+00	SS-1351	801+00	35' RT	L	450839	1924232	0.0 - 1.5	A-4(0)	99.6	80.0	32.4	35.6	33.0	6.9	24.5	29	NP	ND	ND
L 803+00	SS-261	803+00	65' LT	L	450881	1924452	3.5 - 5.0	A-6 (6)	100.0	85.0	49.3	26.2	24.4	13.0	36.4	38	20	6.0	21.0
L 805+00	SS-258	805+00	5' RT	L	450759	1924625	3.5 - 5.0	A-7-6 (11)	100.0	87.0	58.0	23.0	19.0	20.0	38.0	48	23	ND	23.0
L 807+00	SS-1207	807+00	33' LT	L	450735	1924826	3.5 - 5.0	A-6(7)	100.0	85.0	54.1	25.0	21.0	22.0	32.0	34	19	ND	20.1
L 809+00	SS-1354	809+00	40' RT	L	450616	1925000	0.0 - 1.5	A-4(0)	99.5	80.6	48.0	29.4	23.7	12.9	34.0	28	NP	ND	9.7
L 811+00	SS-254	811+00	75' LT	L	450672	1925224	3.5 - 5.0	A-7-6 (13)	100.0	86.0	58.5	22.5	19.0	18.1	40.4	47	27	ND	27.0
L 813+00	SS-250	813+00	35' RT	L	450511	1925386	0.0 - 1.5	A-7-6 (18)	100.0	87.0	60.0	22.0	18.0	10.0	50.0	53	35	ND	19.0
L 817+33	SS-247	817+33	20' RT	L	450407	1925807	0.0 - 1.5	A-7-6 (12)	100.0	85.0	58.0	24.0	18.0	9.0	49.0	44	27	ND	17.0

Boring No.	Sample No.	Station No.	Offset	Alignment	Northing	Easting	Sample Depth (ft)	AASHTO Classification	% <i>PASSING SIEVE</i>			% <i>BY WEIGHT</i>				LL	PI	% <i>ORGANIC</i>	% <i>MOISTURE</i>
									<i>10</i>	<i>40</i>	<i>200</i>	<i>C. SAND</i>	<i>F. SAND</i>	<i>SILT</i>	<i>CLAY</i>				
L 819+67	SS-238	819+67	45' RT	L	450322	1926027	0.0 - 1.5	A-7-6 (18)	100.0	90.0	68.0	17.0	15.0	17.0	51.0	55	28	ND	26.0
L 822+00	SS-1231	822+00	70' LT	L	450377	1926281	3.5 - 5.0	A-7-6(6)	100.0	84.0	53.4	27.0	20.0	13.0	40.0	44	16	ND	23.3
L 824+10	SS-210	11+60	8' LT	L	450174	1926449	1.0 - 2.5	A-6 (6)	99.0	83.0	53.0	25.0	21.0	13.0	40.0	31	17	ND	11.0
L 828+75	SS-236	828+75	40' RT	L2B	450111	1926910	3.5 - 5.0	A-7-6 (15)	100.0	88.0	63.0	20.0	17.0	10.0	53.0	53	26	ND	25.0
L 831+00	SS-1212	831+00	5' RT	L2B	450085	1927137	1.1 - 2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14.5
L 833+00	SS-215	833+00	3' RT	L2B	450033	1927329	5.0 - 6.5	A-6 (4)	100.0	87.0	51.6	24.3	24.2	31.4	20.1	29	14	ND	15.0
L 834+50	SS-1215	834+50	20' LT	L2B	450015	1927479	0 - 1.5	A-4(0)	99.0	85.0	45.0	28.0	27.0	31.0	14.0	15	3	ND	20.4
Y11B 11+50	SS-1058	11+50	5' RT	Y11B	475668	1895708	13.5 - 15.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	26.1
Y11D 12+50	SS-28	12+50	18' LT	Y11D	475488	1895543	3.5 - 5.0	A-7-6 (20)	99.0	97.0	86.0	6.0	8.0	12.0	74.0	58	32	ND	26.0
Y17 11+80	SS-1170	11+80	35' LT	Y17	465311	1903677	0.0 - 1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.0	ND
Y18 13+20	SS-1202	13+20	25' RT	Y18	461270	1905886	0.0 - 1.5	A-2-4	100.0	74.0	20.1	50.0	32.5	1.5	16.0	14	NP	ND	15.0
Y22 10+50	SS-193	10+50	0' CL	Y22	452324	1919227	3.5 - 5.0	A-6 (0)	99.0	71.0	37.0	45.0	18.0	19.0	18.0	26	11	ND	15.0
Y23 12+00	SS-270	12+00	20' LT	Y23	451441	1922958	3.5 - 5.0	A-7-6 (6)	99.0	79.0	50.7	32.9	16.5	6.2	44.5	43	19	ND	19.0
Y24 13+00	SS-1348	13+00	51' RT	Y24	450777	1923514	0.0 - 1.5	A-7-6(7)	99.8	79.6	45.0	31.8	23.7	10.3	34.2	42	24	ND	ND
Y24 15+00	SS-1201	14+90	27' RT	Y24	450941	1923648	3.5 - 5.0	A-6(1)	100.0	81.0	38.1	35.0	27.0	12.0	26.0	33	13	ND	15.0
Y26 12+00	SS-233	12+00	55' LT	Y26	450454	1926434	3.5 - 5.0	A-6 (2)	100.0	81.0	46.0	33.0	21.0	10.0	36.0	37	11	ND	19.0
Y26 18+54	SS-223	18+54	25' LT	Y26	451087	1926651	0.0 - 1.5	A-4 (0)	100.0	85.0	41.0	31.0	28.0	17.0	24.0	22	9	ND	13.0
Y26 25+00	SS-217	25+00	4' LT	Y26	451380	1927256	0.8 - 2.3	A-7-6 (9)	100.0	83.0	49.0	30.0	21.0	13.0	36.0	49	26	ND	18.0
Y26 23+00	SS-1225	23+00	0 CL	Y26	450926	1926540	3.5 - 5.0	A-5(2)	99.0	81.0	48.5	29.0	23.0	10.0	38.0	43	9	ND	19.1
Y26 27+00	SS-1227	27+00	0 CL	Y26	451394	1927455	0 - 1.5	A-6(5)	100.0	86.0	50.1	27.0	23.0	12.0	38.0	39	15	ND	19.0
Y26A 12+30	SS-226	12+30	0' CL	Y26A	451276	1926547	0.0 - 1.5	A-6 (3)	100.0	80.0	37.0	36.0	27.0	9.0	28.0	38	20	ND	15.0
Y26A 14+60	SS-245	14+60	40' LT	Y26A	451496	1926454	3.5 - 5.0	A-7-6 (14)	100.0	81.0	50.4	30.5	19.2	16.2	34.1	56	36	ND	19.0