STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5986B	1	105

REFERENCE: I-5986B

PROJECT: 47532

SEE SHEET 3 FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

CROSS SECTIONS

LINE	STATION	SHEETS
-L-	953+00 - 956+50	4 - 6
-L-	959+00 - 960+50	7 - 8
-L-	962+50 - 968+50	9 - 13
-L-	977+00 - 988+50	14 - 22
-L-	1015+00 - 1023+00	24 - 28
-L-	1055+50 - 1059+00	30 - 32
-Y14-	34+00 - 39+00	33 - 38
-Y14RPB-	10+00 - 10+50	8
-Y14RPB-	12+49.67 - 14+46.88	9 - 10
-Y14RPB-	14+98 - 19+00	39 - 41
-Y14RPC-	10+38.88	6
-Y14RPC-	12+88.22 - 14+37.85	7 - 8
-Y14RPC-	14+37.85 - 21+75	42 - 48
-Y15-	21+50 - 26+00	49 - 52
-Y15RPA-	12+81.55 - 10+32.90	24 - 26
-Y15RPA-	13+30.23 - 19+00	53 - 58
-Y15RPD-	14+24.37 - 10+28.95	24 - 27
-Y15RPD-	14+24.37 - 21+50	59 - 64
-Y24-	51+50 - 55+00	65 - 67
-Y24-	66+50 - 69+00	67 - 69
-NBCD-	30+50 - 35+50	70 - 74
-SBCD-	13+69.75 - 40+50	75 - 92
-SR9-	80+93.42 - 84+43.42	4 - 6
-SR9-	86+93.42 - 87+43.44	7
-SR9-	89+88 - 92+76	93 - 95
-SR9A-	21+50 - 27+50	96 - 98
-SR11-	10+50 - 12+00	99 - 100
-SR11-	17+05.80 - 24+96.99	24 - 29
-SR12-	15+50 - 21+50	101 - 104
-SR13-	18+01.47 - 21+51.47	30 - 32
-SR18-	24+00 - 25+00	105

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

ROADWAY SUBSURFACE INVESTIGATION

COUNTY *CUMBERLAND, HARNETT AND JOHNSTON*

PROJECT DESCRIPTION *IMPROVE I-95 INTERCHANGES AT US 421 (EXIT 73) AND SR 1793 (SPRING BRANCH / POPE ROAD) (EXIT 72)*

SITE DESCRIPTION *SECTION 2 of 4; I-5878 PORTION, -L- STATION 946+00 TO 1063+00*

RECOMMENDATIONS

CAUTION NOTICE

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

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

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

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

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DATE *APRIL 2020*

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NORTH CAROLINA PROFESSIONAL SEAL 032125 ENGINEER STACIE E. MITCHELL

DocuSigned by:
Stacie Mitchell 4/24/2020
BBC611B64F19458...
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
I–5986	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE,
VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

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

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

CONSISTENCY OR DENSENESS

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

TEXTURE OR GRAIN SIZE

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

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

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

SOIL MOISTURE - CORRELATION OF TERMS

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

PLASTICITY

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

COLOR

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

GRADATION

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

ANGULARITY OF GRAINS

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

MINERALOGICAL COMPOSITION

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

COMPRESSIBILITY

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

PERCENTAGE OF MATERIAL

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

GROUND WATER

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

MISCELLANEOUS SYMBOLS

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

RECOMMENDATION SYMBOLS

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

ABBREVIATIONS

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

SAMPLE ABBREVIATIONS

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

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] CME-45C
- [ ] CME-55
- [X] CME-550
- [ ] VANE SHEAR TEST
- [ ] PORTABLE HOIST
- [X] DIETRICH D-50
- [ ] _____

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

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

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

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

ROCK DESCRIPTION

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

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

WEATHERING

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

ROCK HARDNESS

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

FRACTURE SPACING

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

BEDDING

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

INDURATION

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

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

TERMS AND DEFINITIONS

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

AQUIFER - A WATER BEARING FORMATION OR STRATA.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BENCH MARK: • SEE NOTE

ELEVATION: FEET

NOTES:

• Elevations derived from geopak and the .tin file I5896b_2_ls_tin.tin dated 06/18/18

DATE: 8-15-14

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5986B	3	105

PROJ. REFERENCE NO.	STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
I-5986B	47532.1.3		PE
I-5986B	47532.2.3		R/W
I-5877	53077.1.1	NHPP-0095(032)69	PE
I-5877	53077.1.2		PE
I-5877	53077.2.1		R/W
I-5877	53077.2.2		UTIL
I-5878	53078.1.1	NHPP-0095(007)73	PE
I-5878	53078.1.2		PE
I-5878	53078.2.1		R/W
I-5878	53078.2.2	NHPP-0095(017)73	R/W
I-5883	53083.1.1	NHPP-0095(033)74	PE
I-5883	53083.1.2		PE
I-5883	53083.2.1		R/W
I-5883	53083.2.2	NHPP-0095(033)74	R/W

TIP PROJECT: I-5986B

CONTRACT:

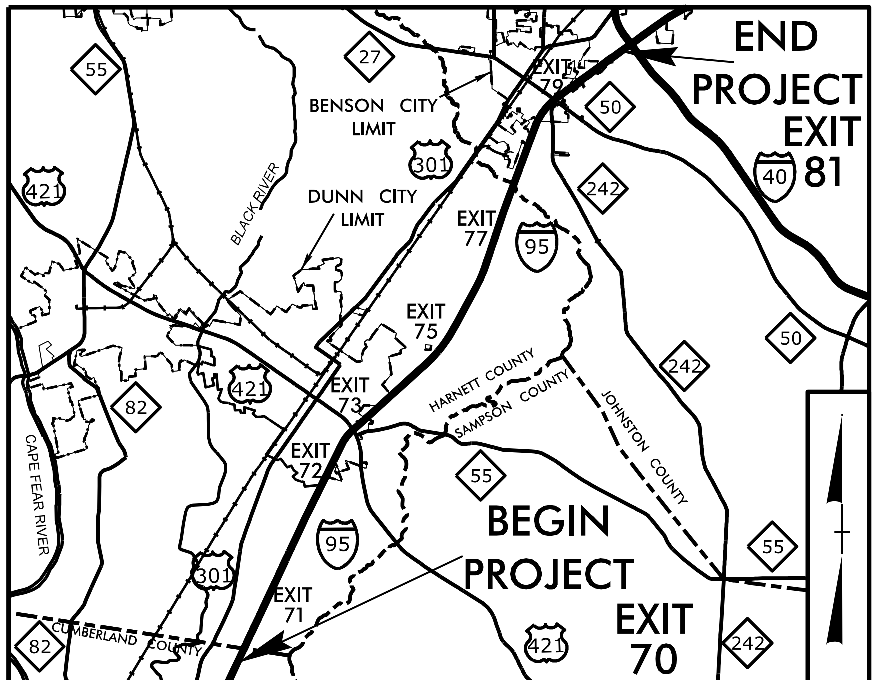
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND, HARNETT, AND JOHNSTON COUNTIES

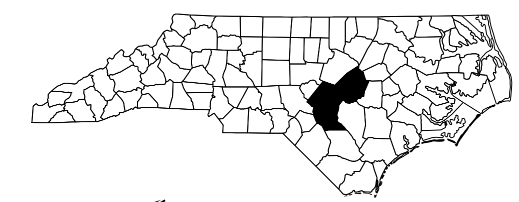
LOCATION: I-95 FROM SR 1811 (BUD HAWKINS ROAD) (EXIT 70) TO I-40 (EXIT 81). WIDEN TO EIGHT LANES.

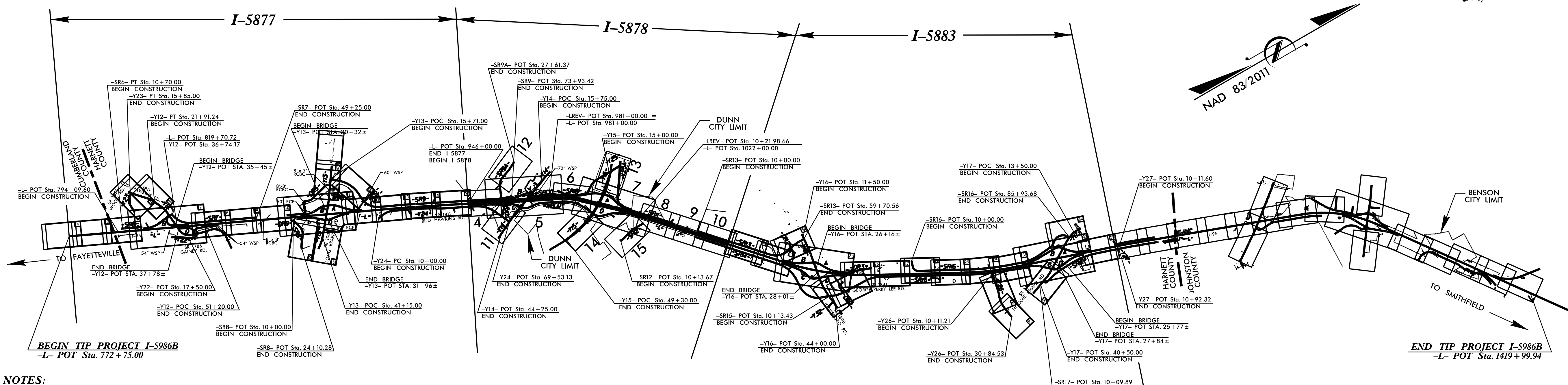
TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS, CULVERTS, AND STRUCTURES

25% PLANS (I-5878 Section)



VICINITY MAP
(Not to Scale)





NOTES:

1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
2. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
3. THIS PROJECT IS WITHIN DUNN AND BENSON MUNICIPAL BOUNDARIES.
4. DESIGN EXCEPTION REQUIRED FOR HORIZONTAL ALIGNMENT AND HORIZONTAL STOPPING SIGHT DISTANCE ON SR 1811 (BUD HAWKINS ROAD) AND SR 1785 (ELM ST. EXT.). (SEE PLAN SHEETS 7, 12 & 13)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2020 = 58,900
ADT 2040 = 75,700
K = 7 %
D = 55 %
T = 24 % *
V = 70 MPH
* (17% TTST + 7% DUALS)
FUNC CLASS = INTERSTATE
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I 5986B = 11.865 MILES

LENGTH STRUCTURE TIP PROJECT I-5986B = 0.020 MILES

TOTAL LENGTH TIP PROJECT I-5986B = 11.885 MILES

Prepared In the Office of:

Michael Baker
Michael Baker Engineering, Inc.
8000 Regency Parkway, Suite 600
Cary, NC 27518
Professional Corporation License Number: F-1084

FOR DIVISION OF HIGHWAYS

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 1, 2019

LETTING DATE:
JULY 21, 2020

SUSAN C. LANCASTER, P.E.
PROJECT ENGINEER

CURTIS TILLMAN, P.E.
PROJECT DESIGN ENGINEER

STEVE D. KENDALL, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	4

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

220
210
200
190
180

-SR9-
STA. 81+43.42

(C) ROADWAY EMBANKMENT
BROWN, LOOSE CLAYEY SAND MOIST

(A) ROADWAY EMBANKMENT
GRAY BROWN VERY LOOSE TO LOOSE CLAYEY FINE TO COARSE SAND AND SILTY FINE TO COARSE SAND MOIST

(B) ROADWAY EMBANKMENT
MEDIUM STIFF TAN SANDY CLAY, MOIST

A:1 3:1 6.35:1 6:1

COASTAL PLAIN RED GRAY BROWN STIFF TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

953+50.00

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 953+25

-SR9-
STA. 80+93.42

(A) ROADWAY EMBANKMENT
TAN ORANGE MEDIUM STIFF SANDY SILT MOIST

(B) ROADWAY EMBANKMENT
TAN SOFT SANDY CLAY MOIST

A:1 3:1 5.92:1 6:1

ROADWAY EMBANKMENT
GRAY BROWN LOOSE SILTY SAND MOIST

COASTAL PLAIN YELLOW, ORANGE TAN, RED, YELLOW, ORANGE, MEDIUM DENSE SILTY SAND

RED, GRAY, STIFF TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

953+00.00

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	5

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

220 210 200 190 180

Ⓒ **COASTAL PLAIN**
BROWN LOOSE CLAYEY SAND, MOIST

Ⓐ **ROADWAY EMBANKMENT**
LOOSE GRAY, RED AND BROWN CLAYEY SAND, MOIST

Ⓑ **ROADWAY EMBANKMENT**
MEDIUM STIFF TAN SANDY CLAY, MOIST

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-296	69' LT	955+00	0.0 - 1.5	A-6(10)	38	17	13	25	20	42	99	96	66.9	20.6	ND
SS-4048	CL	955+00	3.3 - 4.8	A-6(4)	27	12	13	34	24	29	98	95	57.7	16.5	ND

-SR9-
STA. 82+93.42

SS-296 SS-4048

4:1 3:1 6:1 6:1 6:1

6 17 15 BT

3 10 16 BT FIAD

8 22 12 BT

COASTAL PLAIN MEDIUM STIFF TO VERY STIFF GRAY, TAN, ORANGE, YELLOW, AND RED SILTY CLAY, SANDY CLAY AND SANDY SILT, MOIST [MIDDENDORF FORMATION]

MEDIUM DENSE YELLOW, ORANGE, AND TAN CLAYEY SAND SATURDATED

955+00.00

Ⓒ **ROADWAY EMBANKMENT**
BROWN, LOOSE CLAYEY SAND MOIST

Ⓐ **ROADWAY EMBANKMENT**
GRAY BROWN VERY LOOSE TO LOOSE CLAYEY FINE TO COARSE SAND AND SILTY FINE TO COARSE SAND MOIST

Ⓑ **ROADWAY EMBANKMENT**
MEDIUM STIFF TAN SANDY CLAY, MOIST

-SR9-
STA. 82+43.42

4:1 3:1 6:1 6:1 6:1

COASTAL PLAIN RED GRAY BROWN STIFF TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

954+50.00

Ⓒ **ROADWAY EMBANKMENT**
BROWN, LOOSE CLAYEY SAND MOIST

Ⓐ **ROADWAY EMBANKMENT**
GRAY BROWN VERY LOOSE TO LOOSE CLAYEY FINE TO COARSE SAND AND SILTY FINE TO COARSE SAND MOIST

Ⓑ **ROADWAY EMBANKMENT**
MEDIUM STIFF TAN SANDY CLAY, MOIST

-SR9-
STA. 81+93.42

4:1 3:1 6.92:1 6:1 6:1

COASTAL PLAIN RED GRAY BROWN STIFF TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

954+00.00

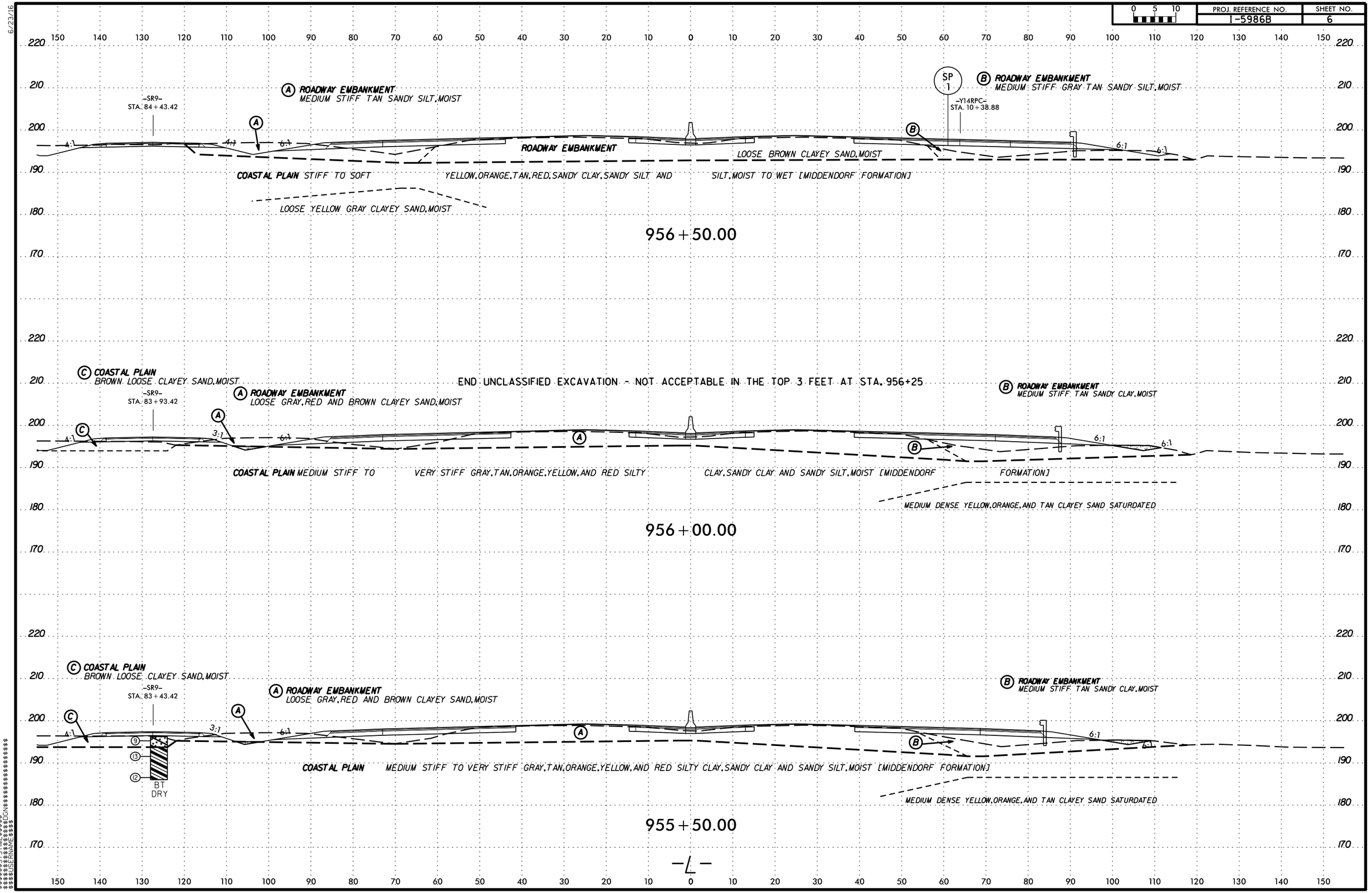
-L-

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

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	6



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$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
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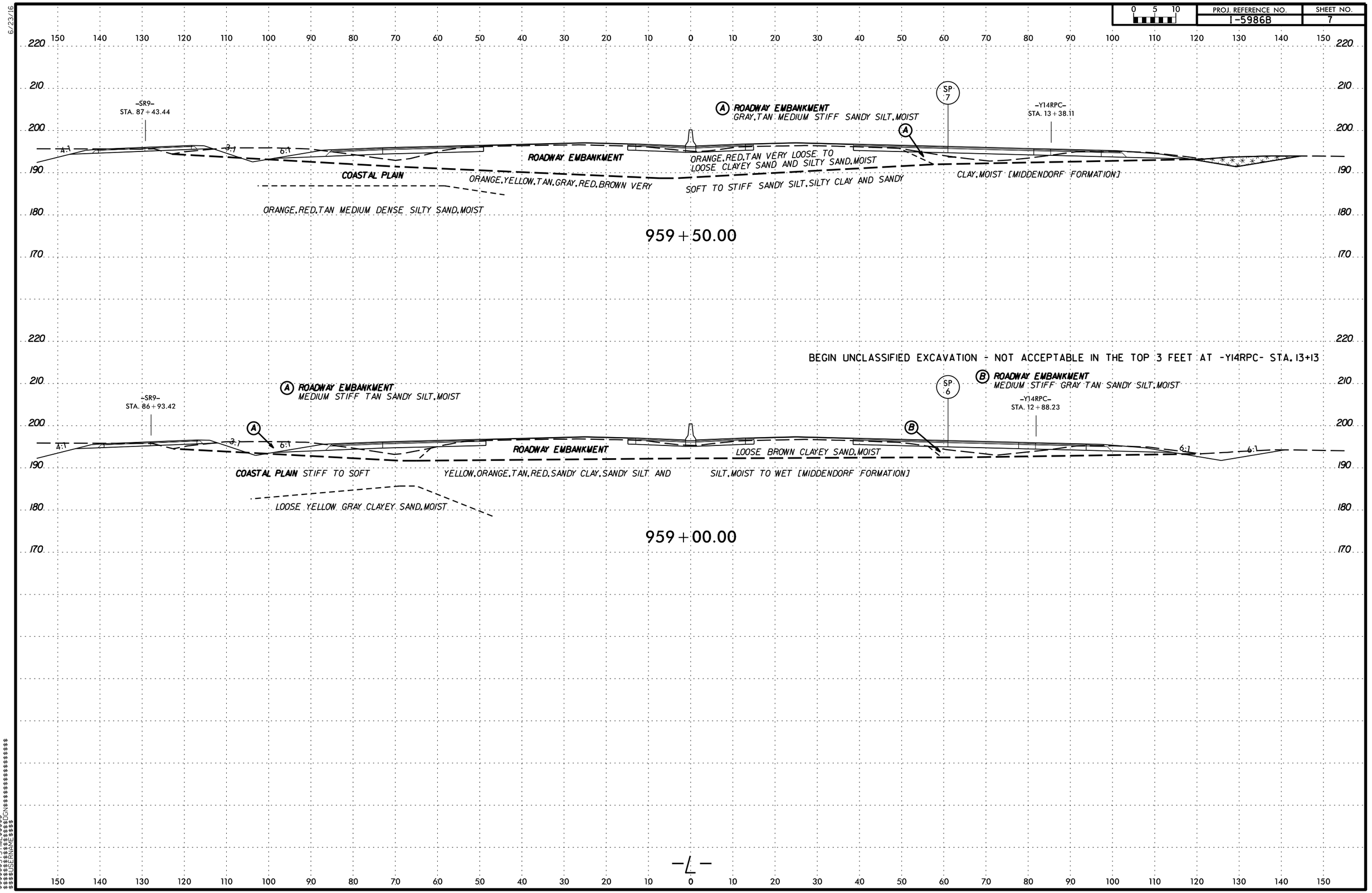
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	7



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$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
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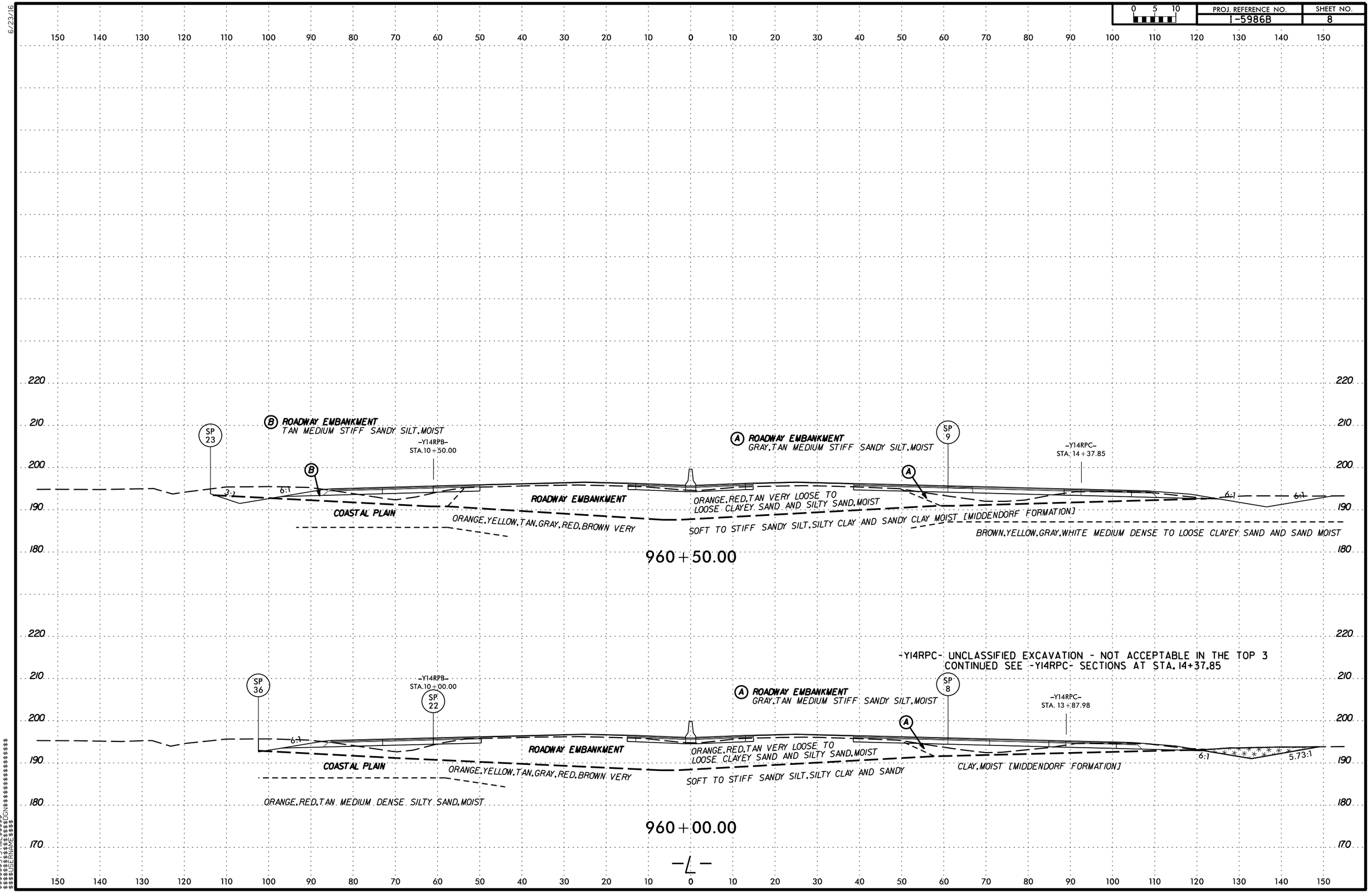
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	8



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$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
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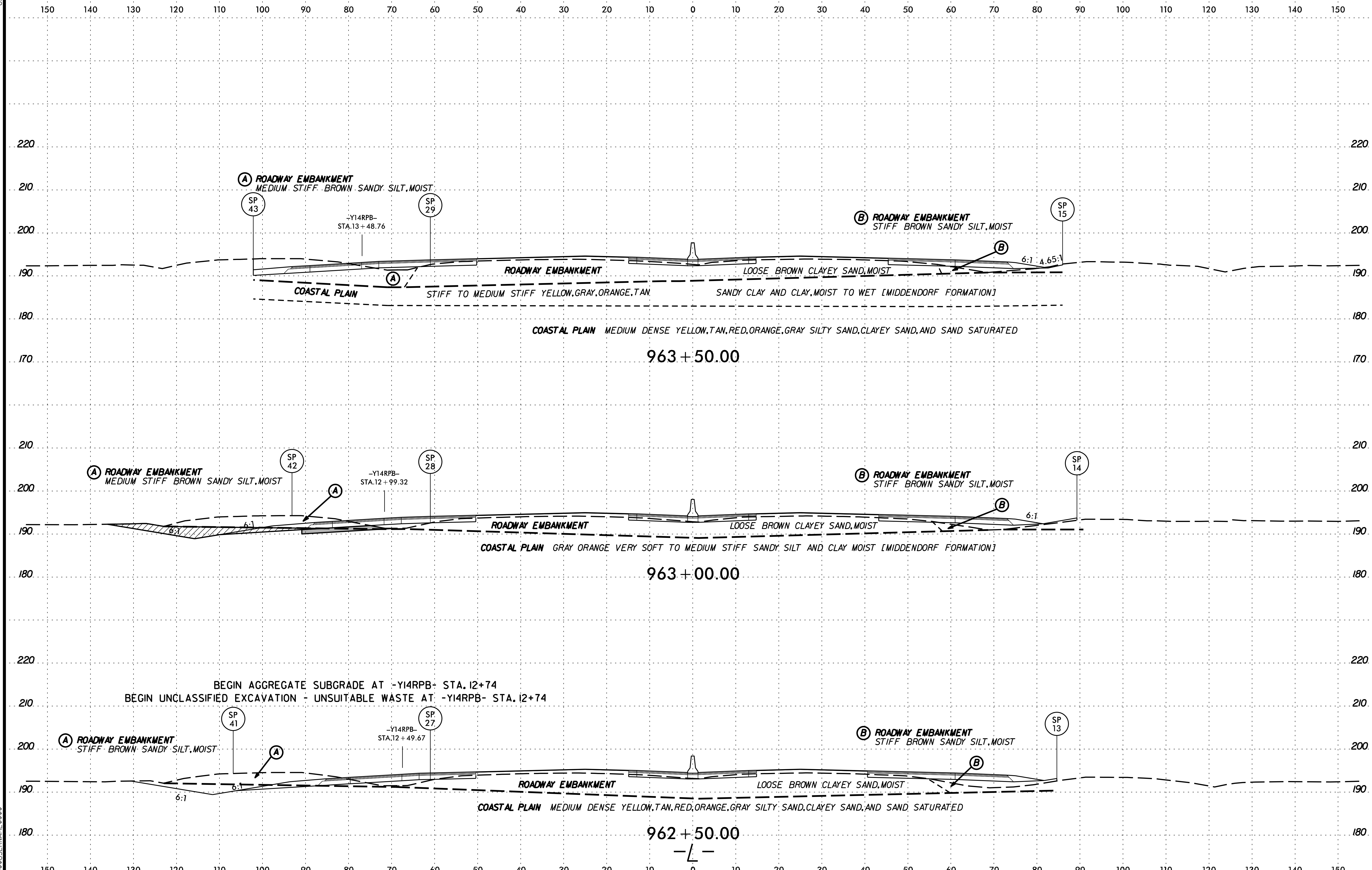
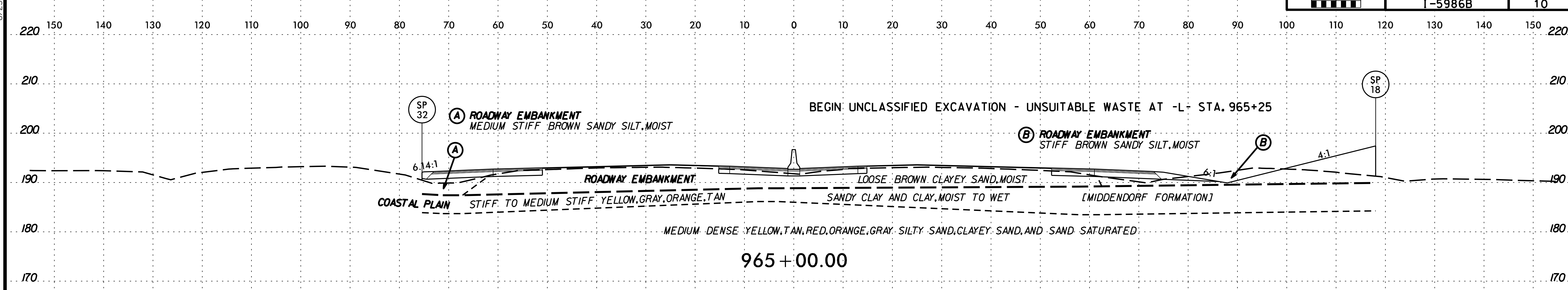
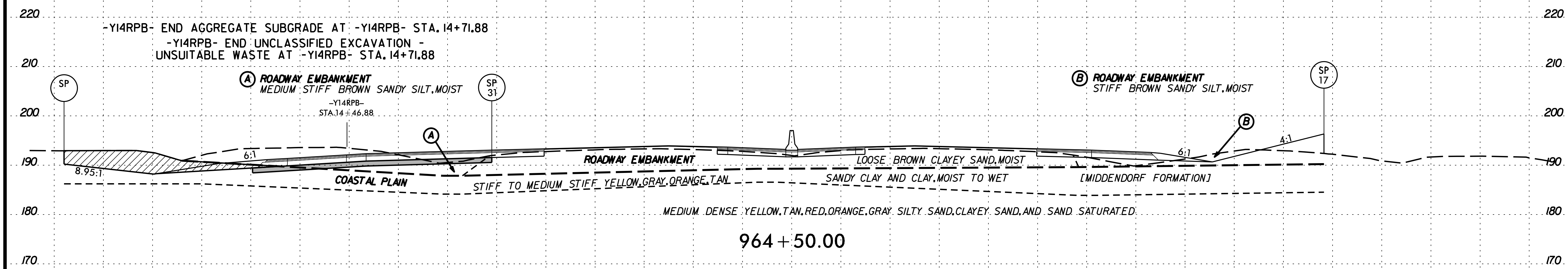
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	9



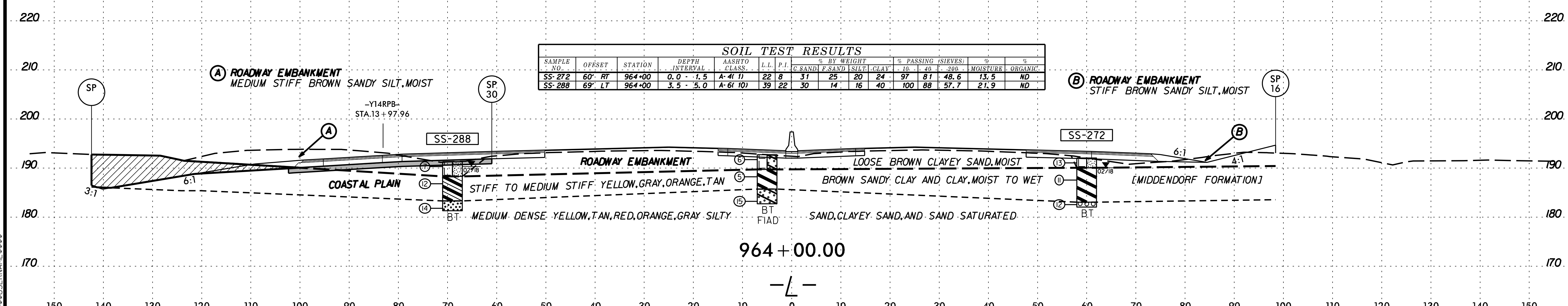
$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$





SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-272	60' RT	964+00	0.0 - 1.5	A-4(1)	22	8	31	25	20	24	97	81	48.6	13.5	ND
SS-288	69' LT	964+00	3.5 - 5.0	A-6(10)	39	22	30	14	16	40	100	88	57.7	21.9	ND



6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	11

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

210
200
190
180

SP 35

A **ROADWAY EMBANKMENT**
MEDIUM STIFF BROWN SANDY SILT, MOIST

B **ROADWAY EMBANKMENT**
MEDIUM STIFF BROWN SILTY CLAY, MOIST

SP 21

A
6:1
2.2%
6:1
ROADWAY EMBANKMENT
LOOSE BROWN CLAYEY SAND, MOIST
B
6:1
4:1
3.5:1

COASTAL PLAIN STIFF YELLOW GRAY SANDY CLAY, WET

COASTAL PLAIN STIFF YELLOW ORANGE AND TAN SANDY CLAY, WET

COASTAL PLAIN VERY LOOSE TO MEDIUM DENSE GRAY, ORANGE, YELLOW, TAN, CLAYEY SAND, SILTY SAND AND SAND, SATURATED

966+50.00

210
200
190
180

SP 34

A **ROADWAY EMBANKMENT**
MEDIUM STIFF BROWN SANDY SILT, MOIST

B **ROADWAY EMBANKMENT**
MEDIUM STIFF BROWN SILTY CLAY, MOIST

SP 20

A
6:1
6:1
ROADWAY EMBANKMENT
LOOSE BROWN CLAYEY SAND, MOIST
B
6:1
4:1
3.5:1

COASTAL PLAIN STIFF YELLOW GRAY SANDY CLAY, WET

COASTAL PLAIN STIFF YELLOW ORANGE AND TAN SANDY CLAY, WET

COASTAL PLAIN VERY LOOSE TO MEDIUM DENSE GRAY, ORANGE, YELLOW, TAN, CLAYEY SAND, SILTY SAND AND SAND, SATURATED

966+00.00

220
210
200
190
180
170

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 965+75

SP 33

A **ROADWAY EMBANKMENT**
MEDIUM STIFF BROWN SILTY CLAY, MOIST

B **COASTAL PLAIN**
STIFF YELLOW GRAY SANDY CLAY, WET

SP 19

6:1
ROADWAY EMBANKMENT
LOOSE BROWN CLAYEY SAND, MOIST
A
6:1
4:1

COASTAL PLAIN STIFF YELLOW ORANGE AND TAN SANDY CLAY, WET

B

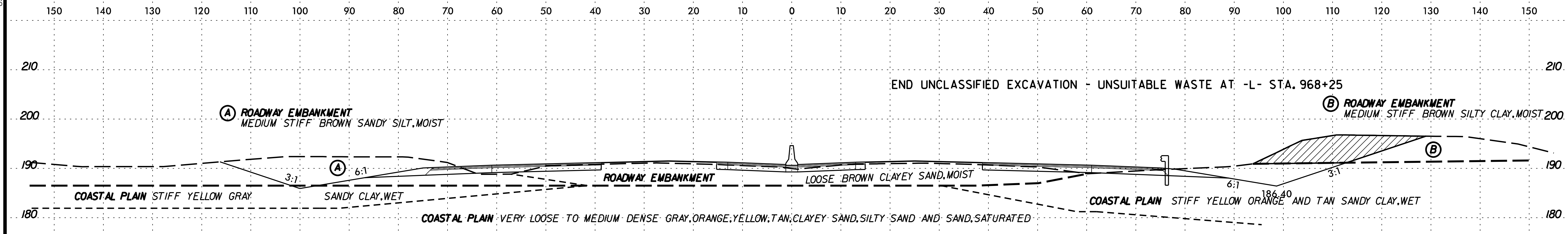
COASTAL PLAIN VERY LOOSE TO MEDIUM DENSE GRAY, ORANGE, YELLOW, TAN, CLAYEY SAND, SILTY SAND AND SAND, SATURATED

965+50.00

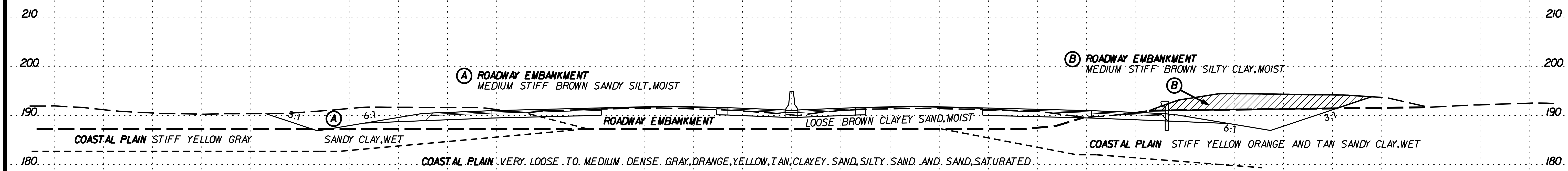
$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

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

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	12



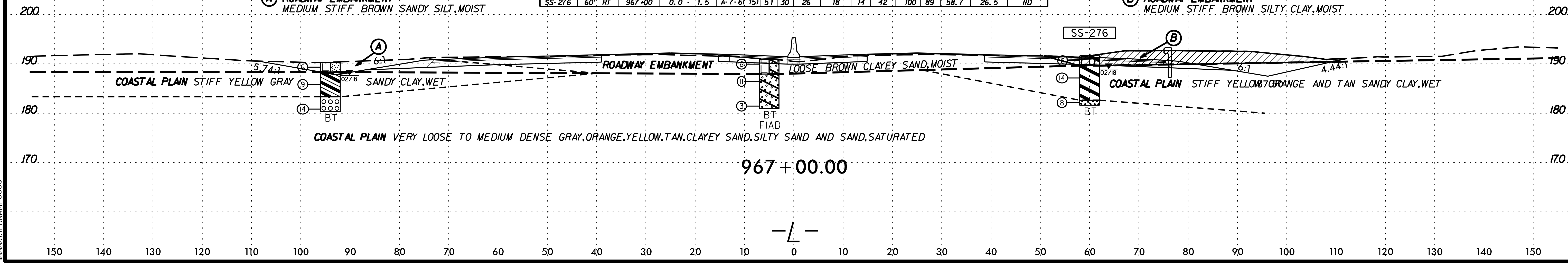
968 + 00.00



967 + 50.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-276	60' RT	967+00	0.0 - 1.5	A-7-6(15)	51	30	26	18	14	42	100	89	58.7	26.5	ND

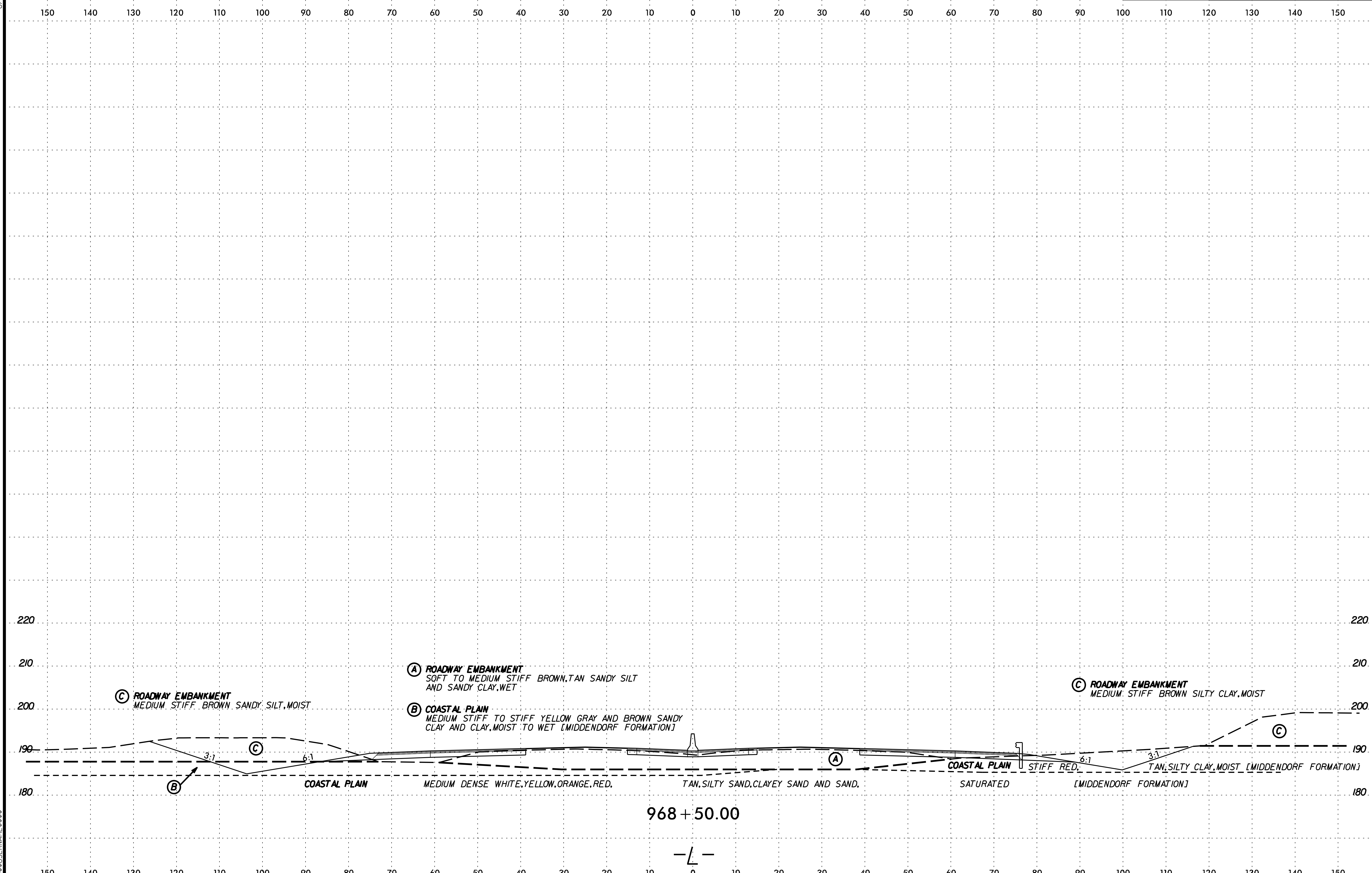


967 + 00.00

-L-

6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	13



$$$$$$SYSTIME$$$$$ $$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$ $$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	14

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

210
200
190
180
170

SP 46

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 977+25

(A) ROADWAY EMBANKMENT
LOOSE BROWN CLAYEY SAND,WET

(A)

6:1

MATCH TO -NBCD-

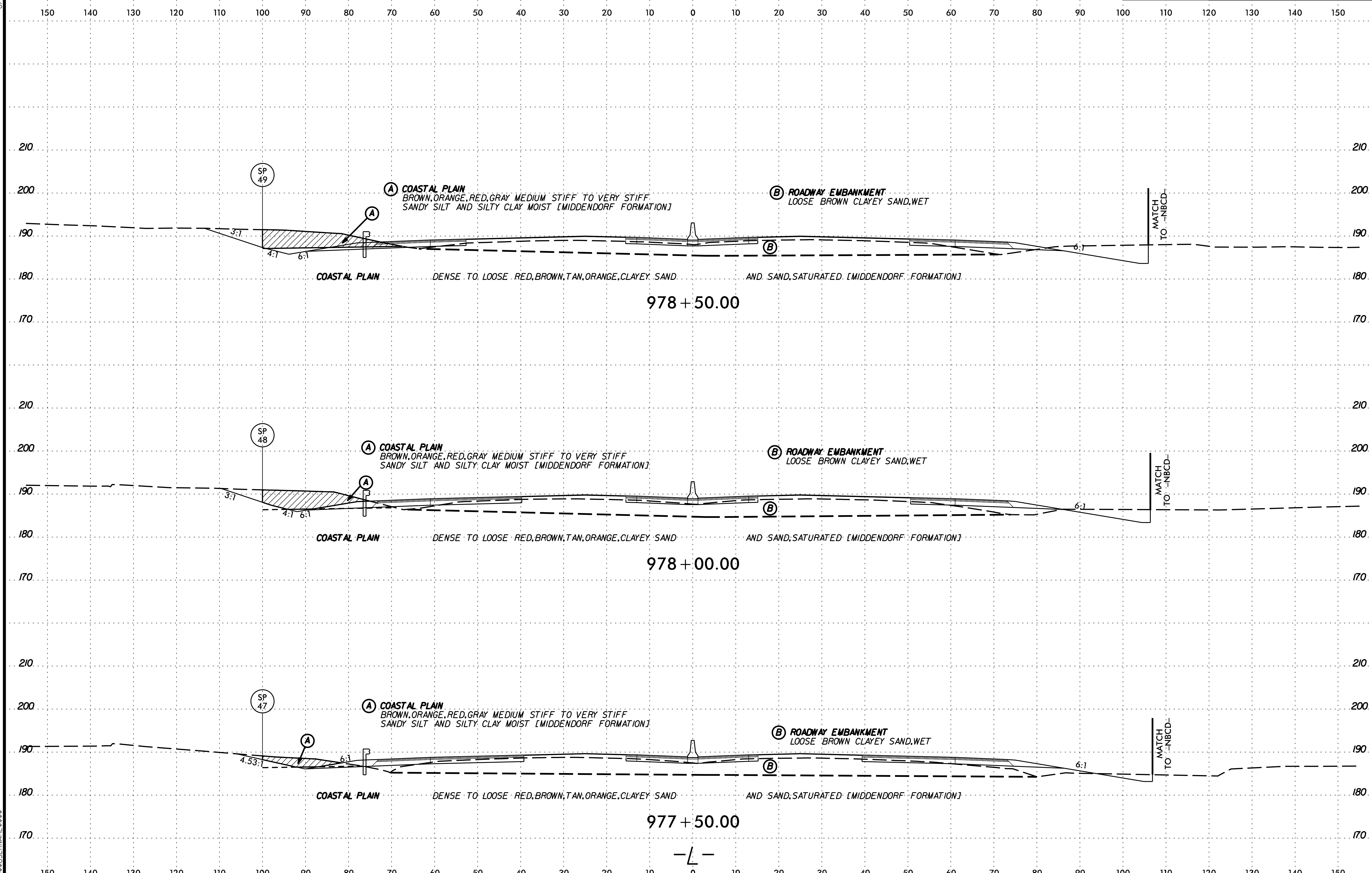
COASTAL PLAIN ORANGE MEDIUM STIFF SILT MOIST [MIDDENDORF FORMATION]

977+00.00

-L-

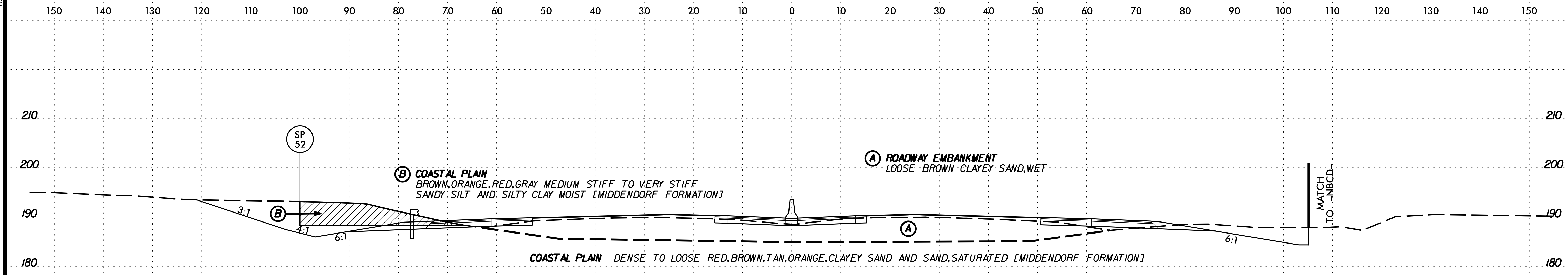
$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

0 5 10 (scale)	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	15

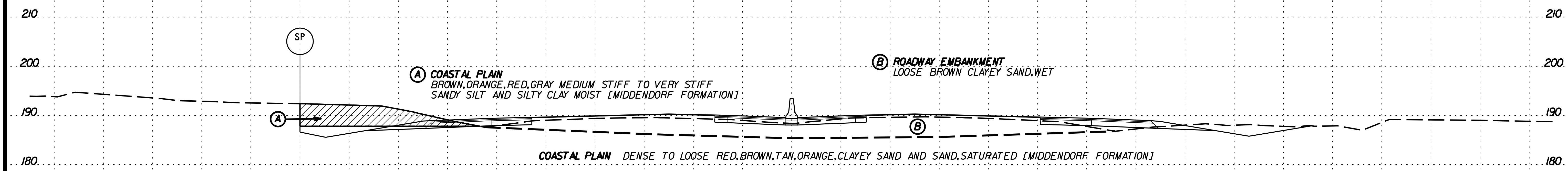


6/23/16

$$$$$SYSTIME$$$$ $$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$



980+00.00



979+50.00

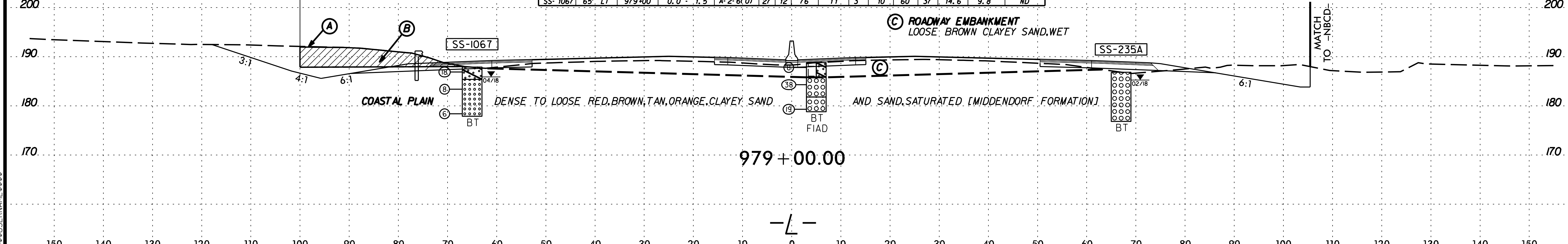
(A) COASTAL PLAIN
TAN,ORANGE,BROWN,MEDIUM DENSE TO LOOSE
SILTY SAND MOIST [MIDDENDORF FORMATION]

(B) COASTAL PLAIN
BROWN,ORANGE,RED,GRAY MEDIUM STIFF TO VERY STIFF
SANDY SILT AND SILTY CLAY MOIST [MIDDENDORF FORMATION]

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-235A	67' RT	979+00	0.0 - 1.5	A-1-b(0)	21	5	75	13	3	9	59	38	14.0	9.6	ND
SS-1067	65' LT	979+00	0.0 - 1.5	A-2-6(0)	27	12	76	11	3	10	60	37	14.6	9.8	ND

(C) ROADWAY EMBANKMENT
LOOSE BROWN CLAYEY SAND,WET

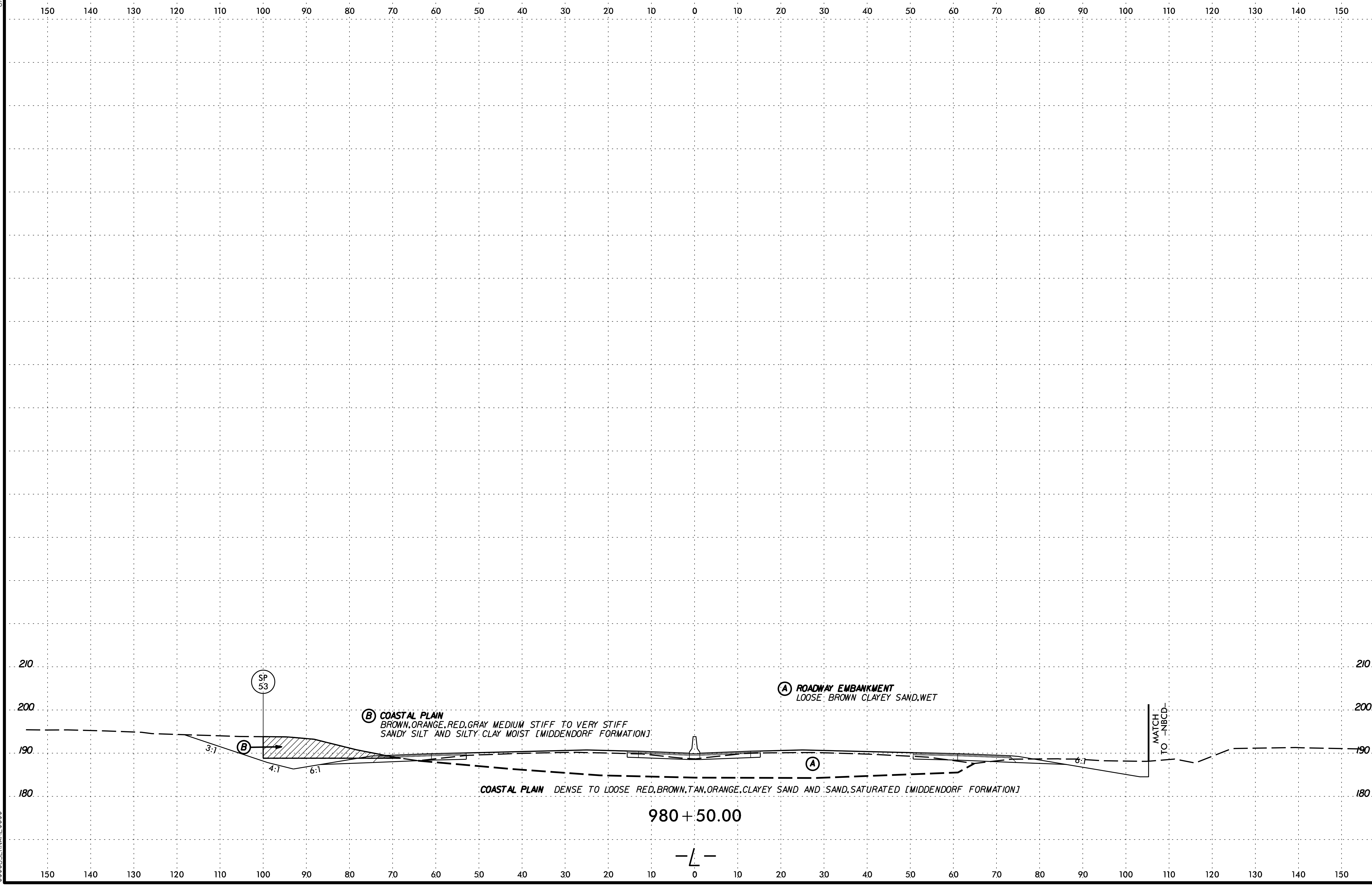


979+00.00

-L-

6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	17



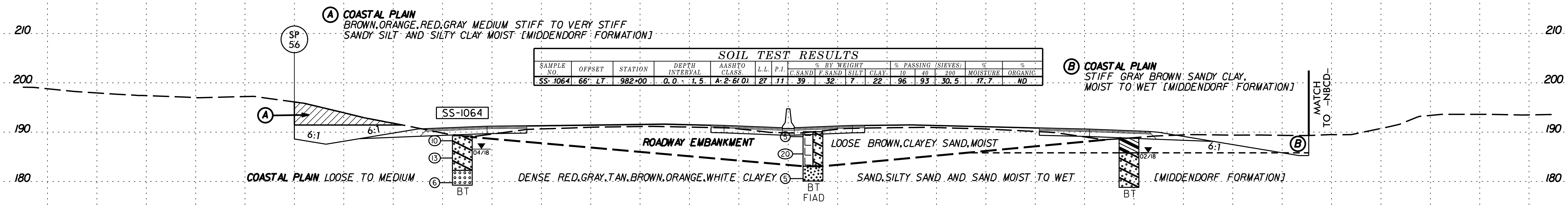
$$$$$SYSTIME$$$$ $$$$$$$$$$DGN$$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$

6/23/16

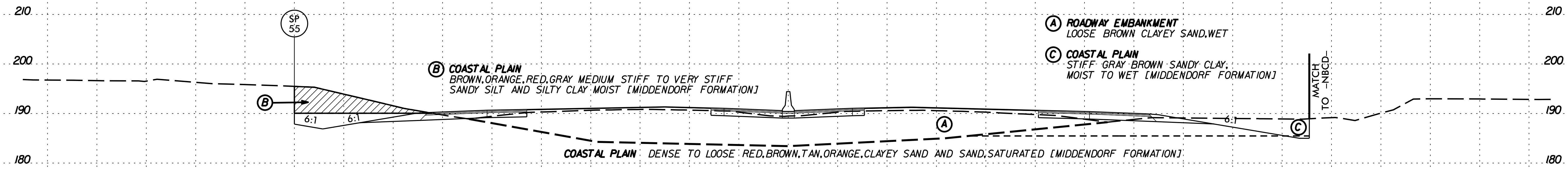
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	18

SOIL TEST RESULTS

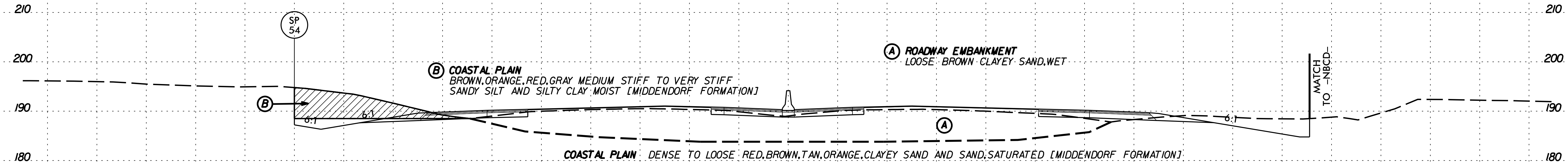
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-1064	66' LT	982+00	0.0 - 1.5	A-2-6(0)	27	11	39	32	7	22	96	93	30.5	17.7	ND



982+00.00



981+50.00



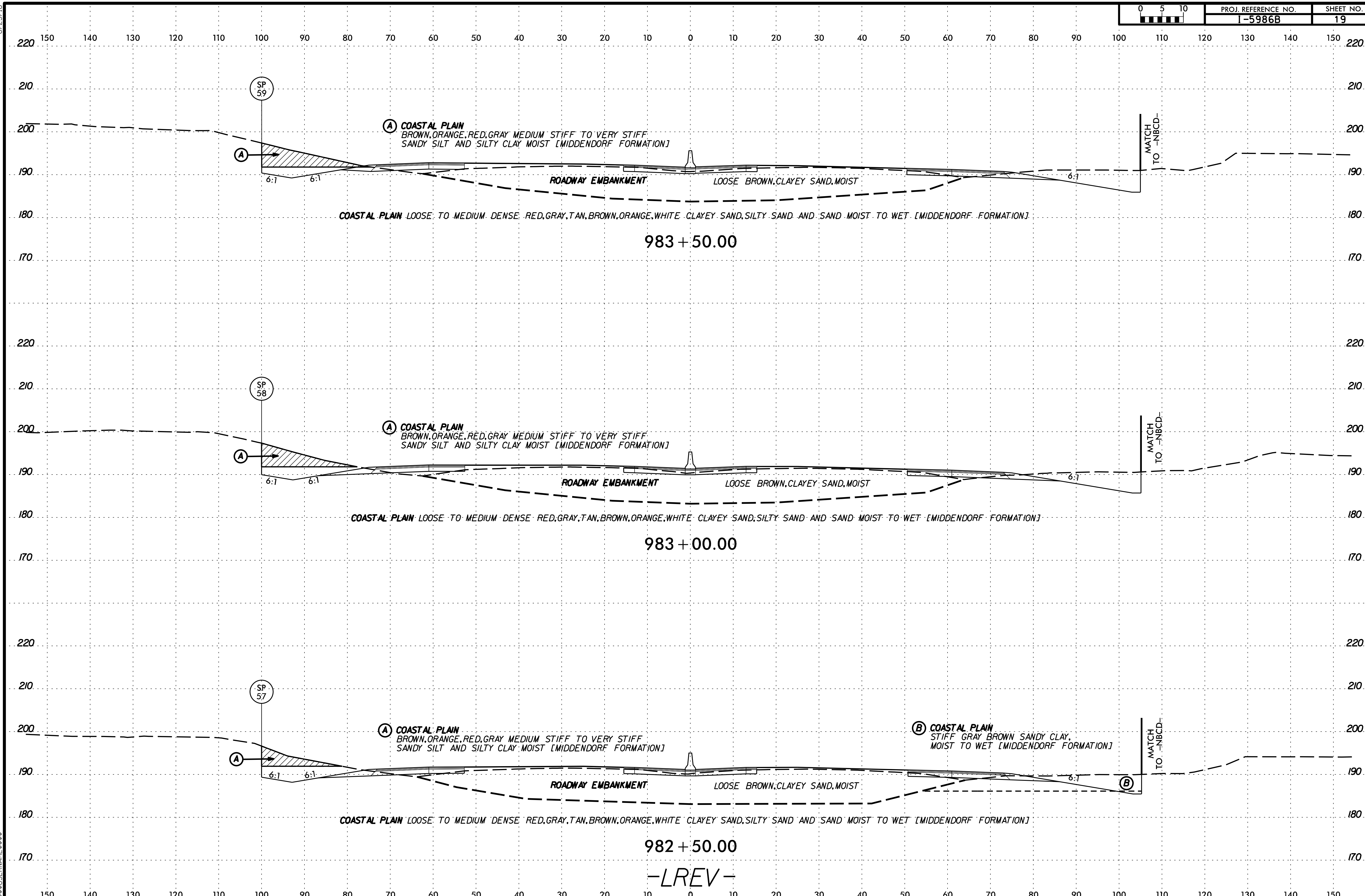
981+00.00

-LREV-

$$$$$SYSTIME$$$$
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

6/23/16

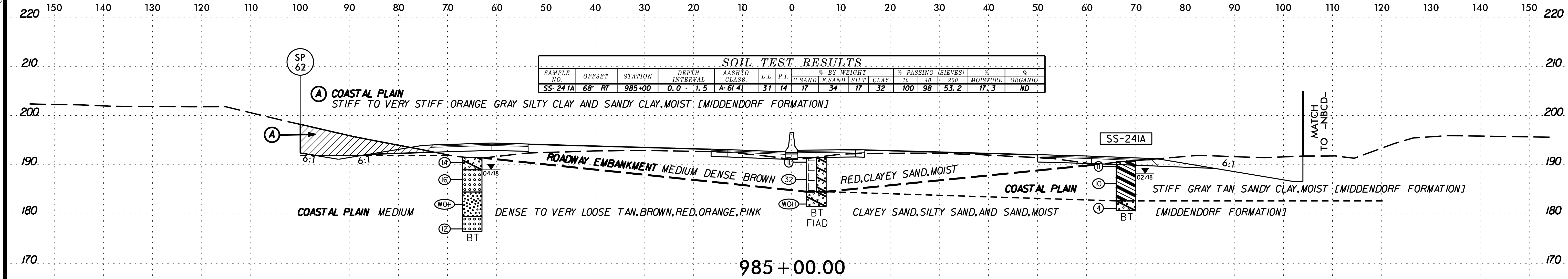
PROJ. REFERENCE NO.	SHEET NO.
I-5986B	19



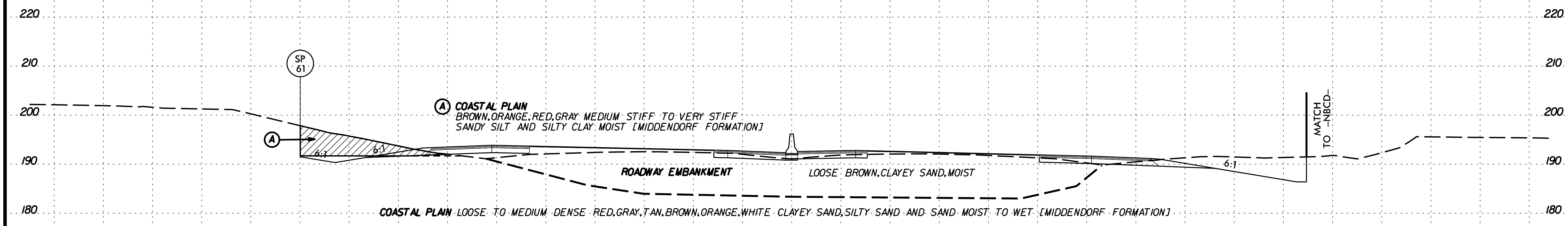
$$$$$SYSTIME$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

SOIL TEST RESULTS

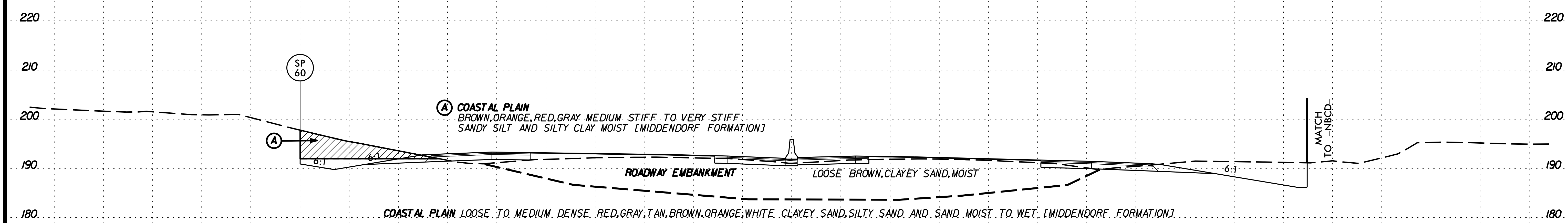
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-241A	68' RT	985+00	0.0 - 1.5	A-6(4)	31	14	17	34	17	32	100	98	53.2	17.3	ND



985+00.00



984+50.00



984+00.00

-LREV-

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	21

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

220 210 200 190 180

SP 65

(A) **COASTAL PLAIN** STIFF TO VERY STIFF ORANGE GRAY SILTY CLAY AND SANDY CLAY, MOIST [MIDDENDORF FORMATION]

6:1 6:1 6:1

(A) **ROADWAY EMBANKMENT** MEDIUM DENSE BROWN RED, CLAYEY SAND, MOIST

COASTAL PLAIN STIFF GRAY TAN SANDY CLAY, MOIST [MIDDENDORF FORMATION]

MATCH TO -NBCD-

COASTAL PLAIN MEDIUM DENSE TO VERY LOOSE TAN, BROWN, RED, ORANGE, PINK CLAYEY SAND, SILTY SAND, AND SAND, MOIST [MIDDENDORF FORMATION]

986+50.00

SP 64

(A) **COASTAL PLAIN** STIFF TO VERY STIFF ORANGE GRAY SILTY CLAY AND SANDY CLAY, MOIST [MIDDENDORF FORMATION]

6:1 6:1 6:1

(A) **ROADWAY EMBANKMENT** MEDIUM DENSE BROWN RED, CLAYEY SAND, MOIST

COASTAL PLAIN STIFF GRAY TAN SANDY CLAY, MOIST [MIDDENDORF FORMATION]

MATCH TO -NBCD-

COASTAL PLAIN MEDIUM DENSE TO VERY LOOSE TAN, BROWN, RED, ORANGE, PINK CLAYEY SAND, SILTY SAND, AND SAND, MOIST [MIDDENDORF FORMATION]

986+00.00

SP 63

(A) **COASTAL PLAIN** STIFF TO VERY STIFF ORANGE GRAY SILTY CLAY AND SANDY CLAY, MOIST [MIDDENDORF FORMATION]

6:1 6:1 6:1

(A) **ROADWAY EMBANKMENT** MEDIUM DENSE BROWN RED, CLAYEY SAND, MOIST

COASTAL PLAIN STIFF GRAY TAN SANDY CLAY, MOIST [MIDDENDORF FORMATION]

MATCH TO -NBCD-

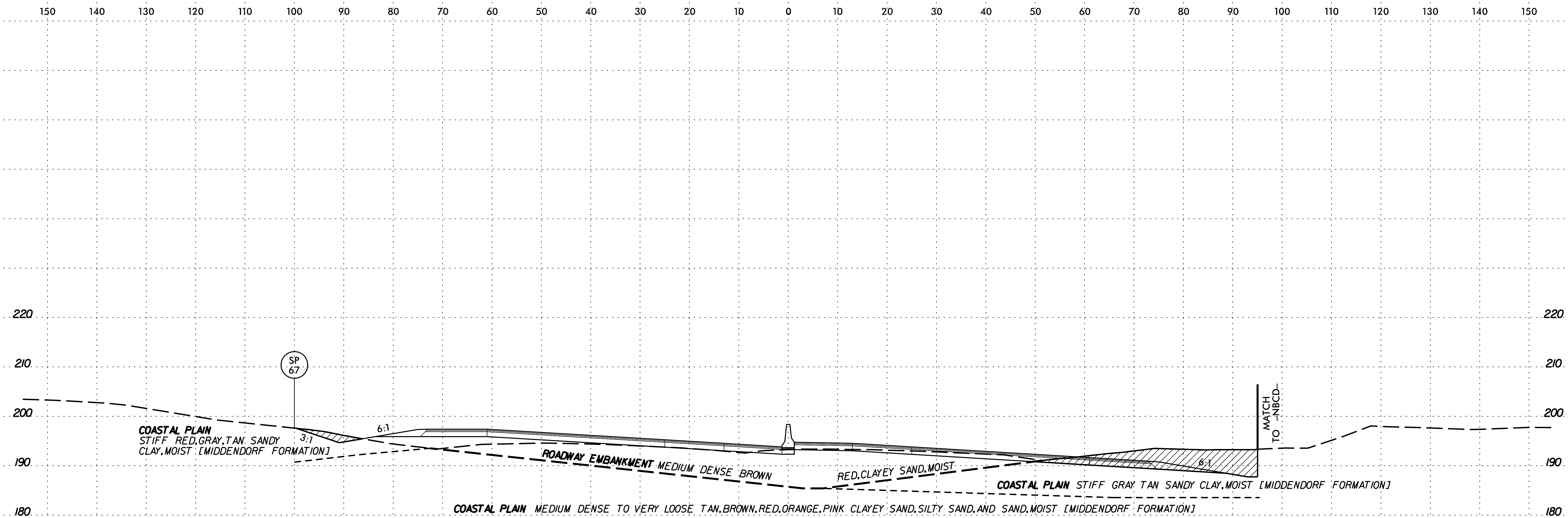
COASTAL PLAIN MEDIUM DENSE TO VERY LOOSE TAN, BROWN, RED, ORANGE, PINK CLAYEY SAND, SILTY SAND, AND SAND, MOIST [MIDDENDORF FORMATION]

985+50.00

-LREV-

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

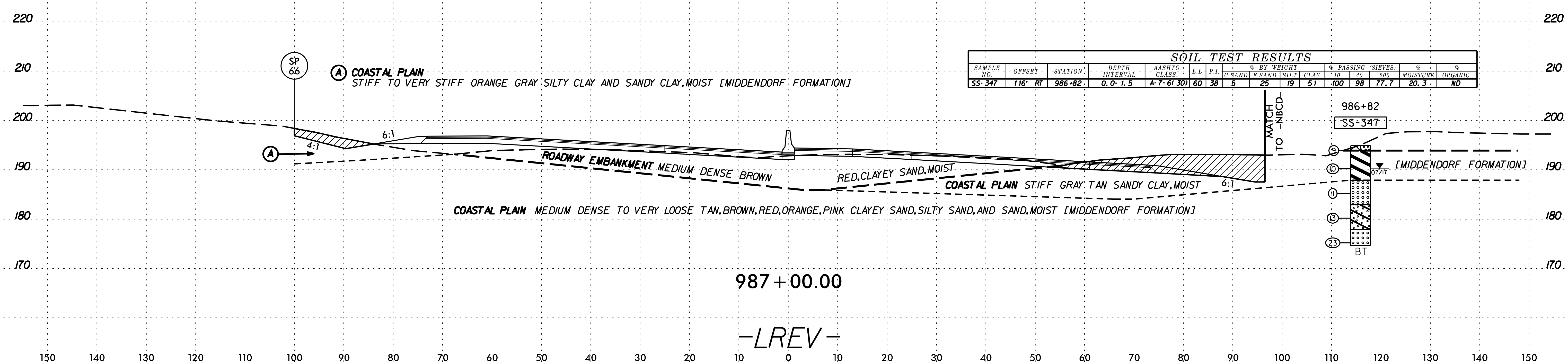
PROJ. REFERENCE NO.	SHEET NO.
I-5986B	22



987+50.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-347	116' RT	986+82	0.0-1.5	A-7-6(30)	60	38	5	25	19	51	100	98	77.7	20.3	ND



987+00.00

-LREV-

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	23

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

220 210 200 190 180 230 220 210 200 190 180 170

SP 69

COASTAL PLAIN
STIFF RED,GRAY,TAN SANDY CLAY,MOIST [MIDDENDORF FORMATION]

3:1 6:1

(A) ROADWAY EMBANKMENT
LOOSE TO MEDIUM DENSE RED CLAYEY SAND,MOIST

(B) COASTAL PLAIN
VERY STIFF RED TAN SANDY CLAY,MOIST [MIDDENDORF FORMATION]

6:1 4:1 3:1

MATCH TO -NBCD-

COASTAL PLAIN MEDIUM DENSE TO LOOSE RED,TAN,ORANGE,CLAYEY SAND,AND SAND,SATURATED

988+50.00

END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 988+25

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C SAND	F SAND	SILT	CLAY	% PASSING (SIEVES) #10	#40	#200	% MOISTURE	% ORGANIC
SS-1057	80' LT	988+00	0.0 - 1.5	A-6(10)	38	21	9	35	18	38	100	98	60.7	22.1	ND

SP 68

SS-1057

COASTAL PLAIN
STIFF RED,GRAY,TAN SANDY CLAY,MOIST [MIDDENDORF FORMATION]

3:1 6:1

10 23 8 04/18 BT

ROADWAY EMBANKMENT LOOSE TO MEDIUM DENSE RED CLAYEY SAND,MOIST

11 7 12 11/18 BT

(A) COASTAL PLAIN
VERY STIFF RED TAN SANDY CLAY,MOIST [MIDDENDORF FORMATION]

6:1 4:1 3:1

MATCH TO -NBCD-

15 16 12 02/18 BT

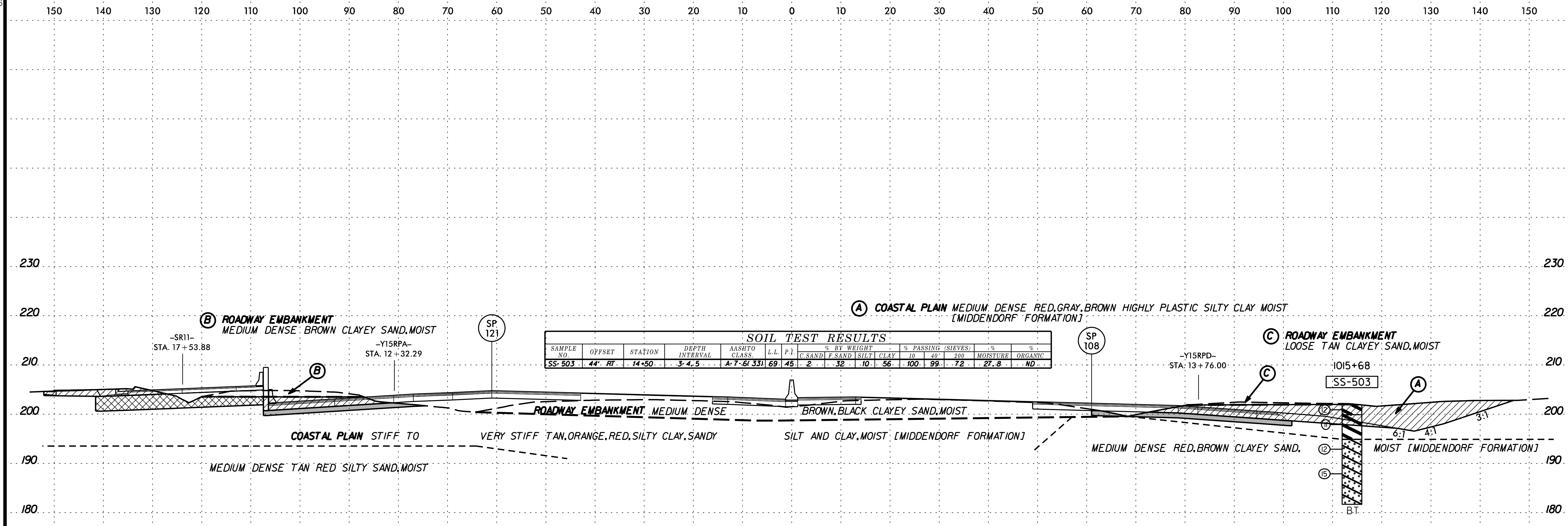
COASTAL PLAIN MEDIUM DENSE TO LOOSE RED,TAN,ORANGE, CLAYEY SAND,AND SAND,SATURATED

988+00.00

-LREV-

$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

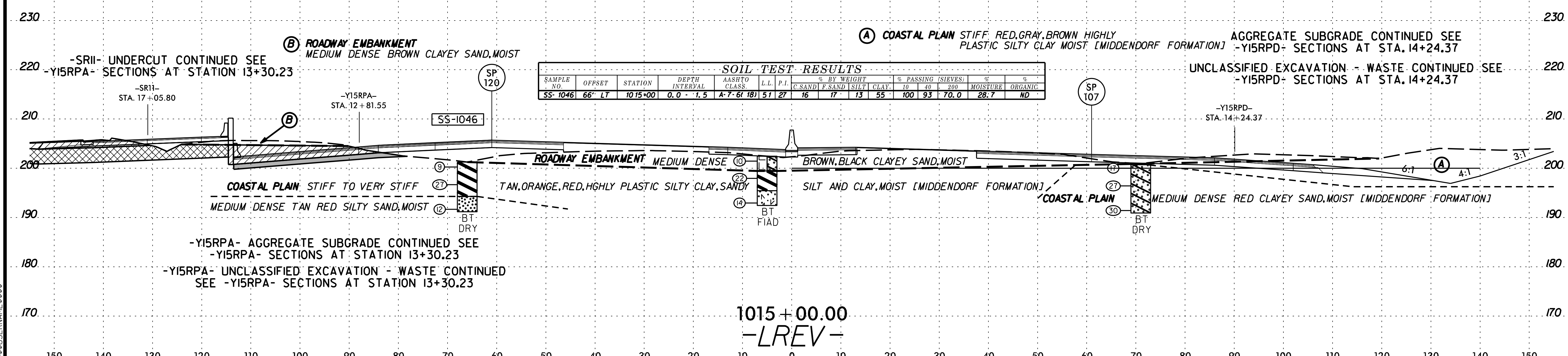
PROJ. REFERENCE NO.	SHEET NO.
I-5986B	24



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-503	44' RT	14+50	3-4.5	A-7-6(33)	69	45	2	32	10	56	100	99	72	27.8	ND

1015+50.00



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-1046	66' LT	1015+00	0.0 - 1.5	A-7-6(18)	51	27	16	17	13	55	100	93	70.0	28.7	ND

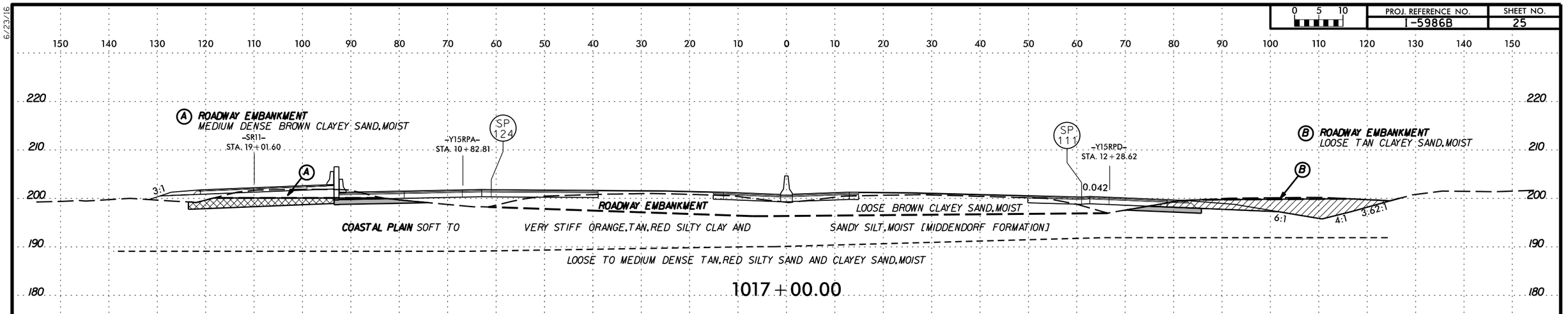
1015+00.00

-LREV-

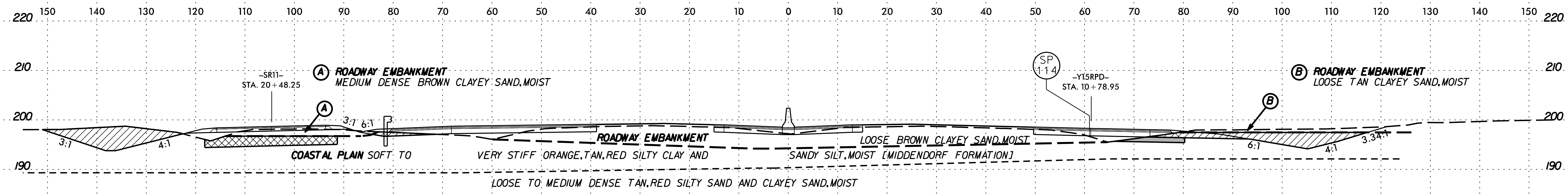
6/23/16

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	25

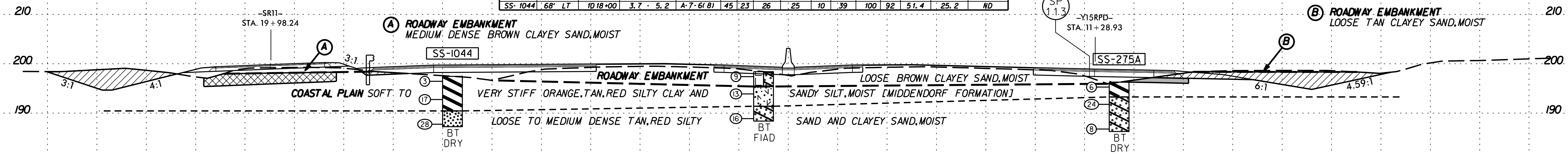


$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

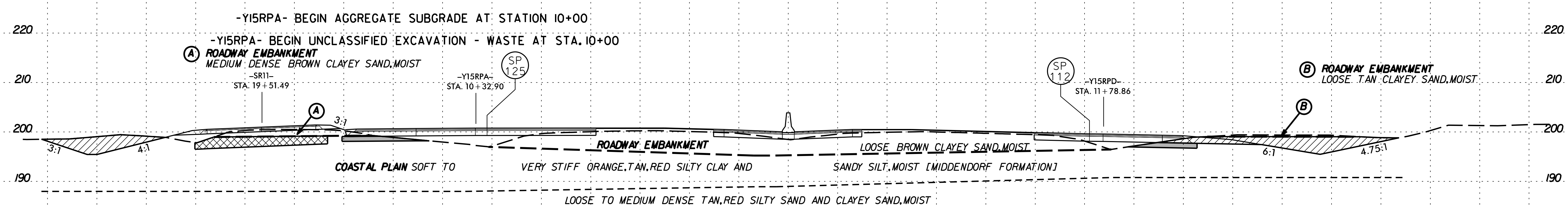


1018+50.00

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-275A	67' RT	1018+00	0.0 - 1.5	A-7-6(10)	44	23	5	44	8	43	100	100	54.9	26.7	ND
SS-1044	68' LT	1018+00	3.7 - 5.2	A-7-6(8)	45	23	26	25	10	39	100	92	51.4	25.2	ND



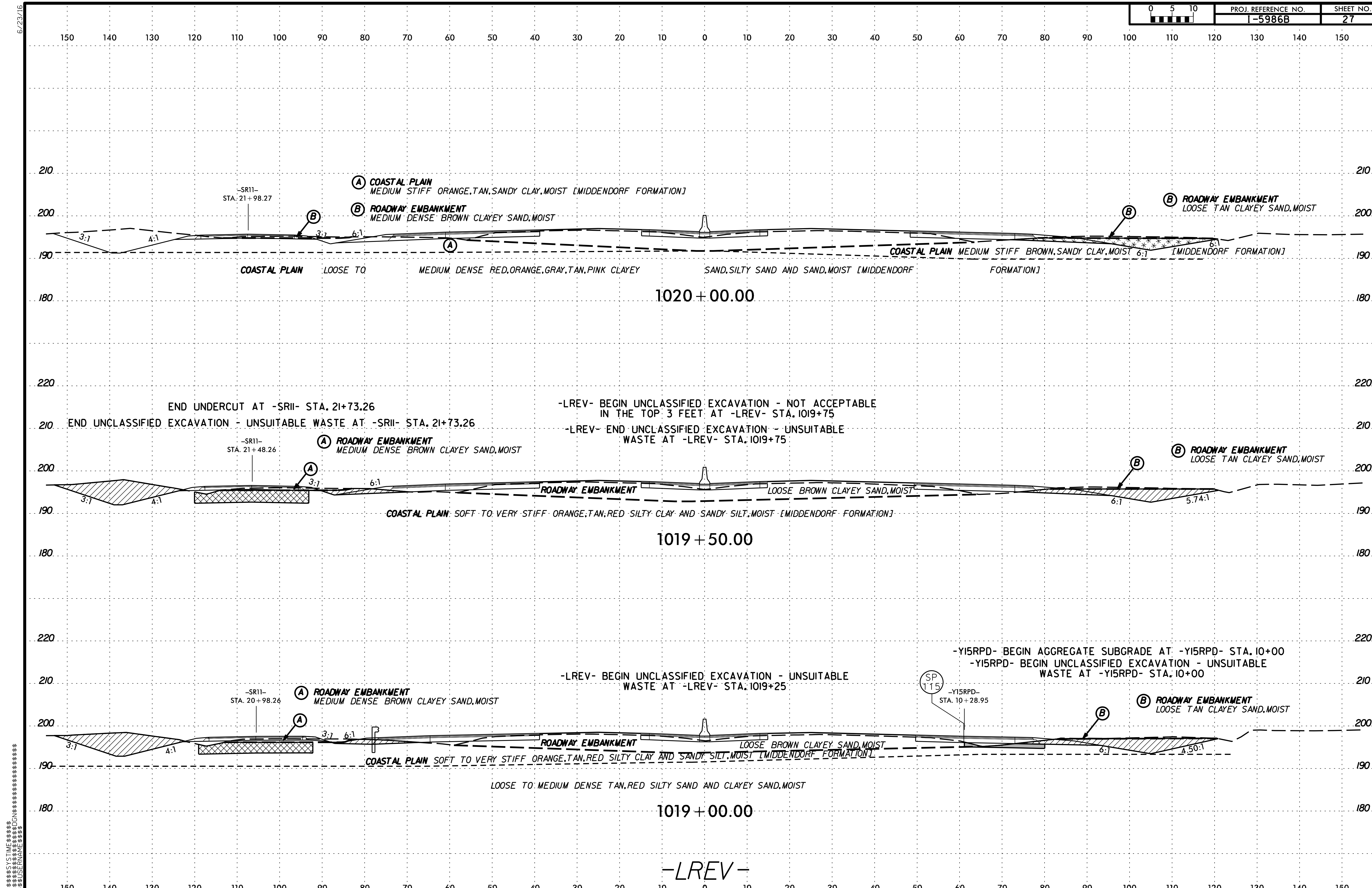
1018+00.00



1017+50.00

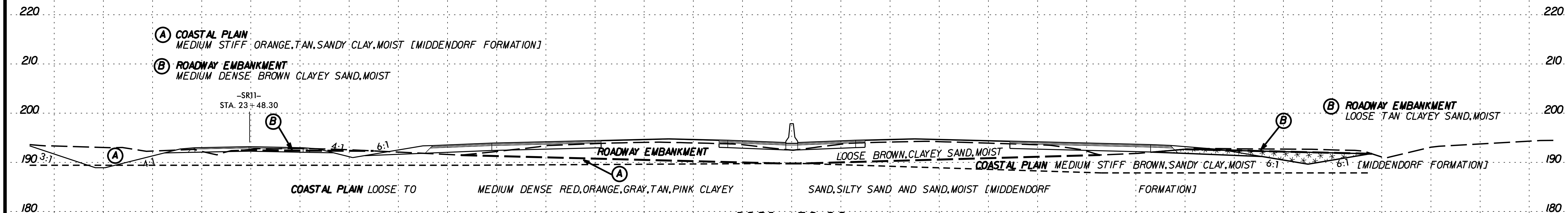
-LREV-

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	27



6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	28



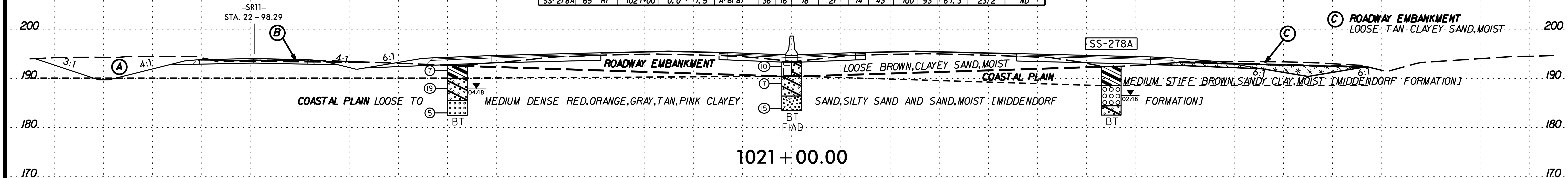
1021+50.00

Ⓐ COASTAL PLAIN
MEDIUM STIFF ORANGE,TAN,SANDY CLAY,MOIST [MIDDENDORF FORMATION]

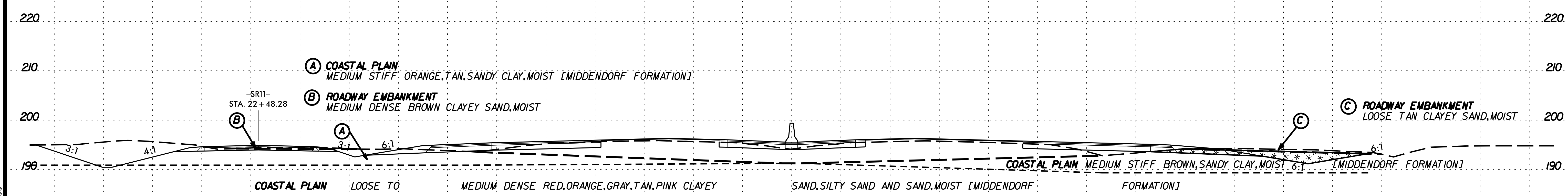
Ⓑ ROADWAY EMBANKMENT
MEDIUM DENSE BROWN CLAYEY SAND,MOIST

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-278A	65' RT	1021+00	0.0 - 1.5	A-6(8)	36	16	16	27	14	43	100	93	61.3	23.2	ND



1021+00.00



1020+50.00

-LREV-

$$$$$$SYSTIME$$$$$
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$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	29

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

210 200 190 180 170

–SR11–
STA. 24+96.99

Ⓐ **ROADWAY EMBANKMENT**
MEDIUM DENSE BROWN CLAYEY SAND,MOIST

Ⓑ **ROADWAY EMBANKMENT**
LOOSE TAN CLAYEY SAND,MOIST

3:1 4:1 3:1 6:1 6:1 6:1

ROADWAY EMBANKMENT *LOOSE,TAN,SILTY SAND,MOIST*

COASTAL PLAIN *SOFT TO STIFF TAN, GRAY,RED,ORANGE SANDY SILT,CLAY AND SANDY CLAY,MOIST [MIDDENDORF FORMATION]*

MEDIUM DENSE,TAN,SAND,MOIST

MEDIUM DENSE TO DENSE,TAN,RED,PINK,CLAYEY SAND AND SAND,MOIST

1023+00.00

Ⓐ **COASTAL PLAIN**
MEDIUM STIFF ORANGE,TAN,SANDY CLAY,MOIST [MIDDENDORF FORMATION]

Ⓑ **ROADWAY EMBANKMENT**
MEDIUM DENSE BROWN CLAYEY SAND,MOIST

END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 1022+75

–SR11–
STA. 24+46.98

Ⓑ **ROADWAY EMBANKMENT**
LOOSE TAN CLAYEY SAND,MOIST

3:1 Ⓐ 4:1 3:1 6:1 6:1 6:1

ROADWAY EMBANKMENT *LOOSE BROWN,CLAYEY SAND,MOIST*

COASTAL PLAIN *MEDIUM STIFF BROWN,SANDY CLAY,MOIST [MIDDENDORF FORMATION]*

COASTAL PLAIN *LOOSE TO MEDIUM DENSE RED,ORANGE,GRAY,TAN,PINK CLAYEY SAND,SILTY SAND AND SAND,MOIST [MIDDENDORF FORMATION]*

1022+50.00

Ⓐ **COASTAL PLAIN**
MEDIUM STIFF ORANGE,TAN,SANDY CLAY,MOIST [MIDDENDORF FORMATION]

Ⓑ **ROADWAY EMBANKMENT**
MEDIUM DENSE BROWN CLAYEY SAND,MOIST

–SR11–
STA. 23+96.97

Ⓑ **ROADWAY EMBANKMENT**
LOOSE TAN CLAYEY SAND,MOIST

3:1 Ⓐ 4:1 3:1 6:1 6:1 6:1

ROADWAY EMBANKMENT *LOOSE BROWN,CLAYEY SAND,MOIST*

COASTAL PLAIN *MEDIUM STIFF BROWN,SANDY CLAY,MOIST [MIDDENDORF FORMATION]*

COASTAL PLAIN *LOOSE TO MEDIUM DENSE RED,ORANGE,GRAY,TAN,PINK CLAYEY SAND,SILTY SAND AND SAND,MOIST [MIDDENDORF FORMATION]*

1022+00.00

–L–

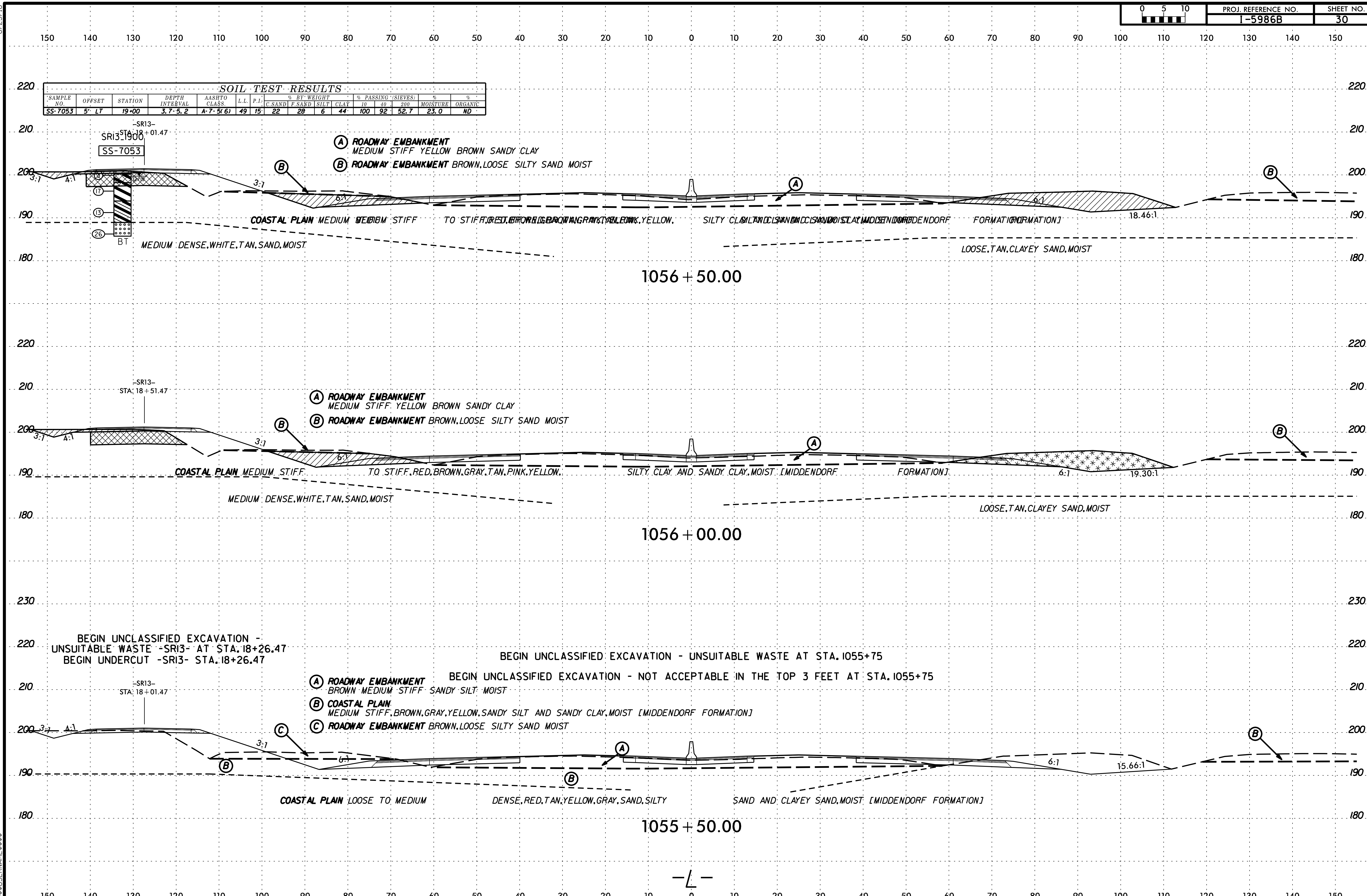
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

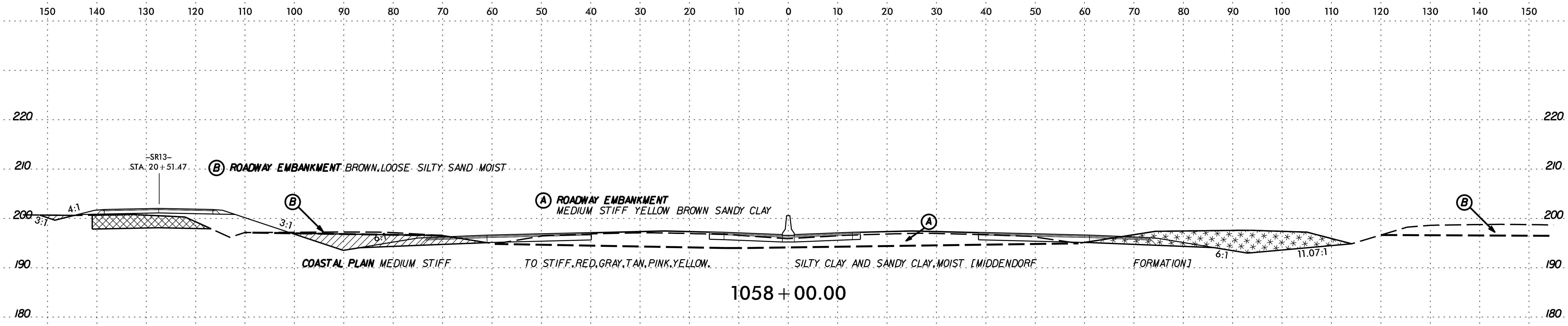
$$$$USERNAME$$$$
$$$$SYSTIME$$$$

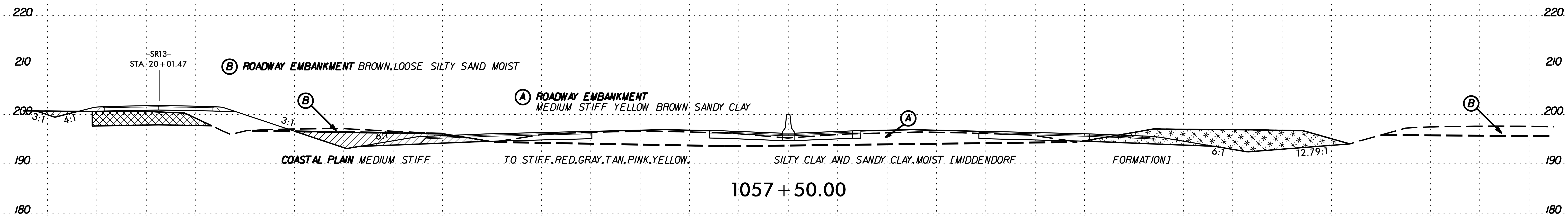
PROJ. REFERENCE NO.	SHEET NO.
I-5986B	30

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-7053	5' LT	19+00	3.7-5.2	A-7-5(6)	49	15	22	28	6	44	100	92	52.7	23.0	ND

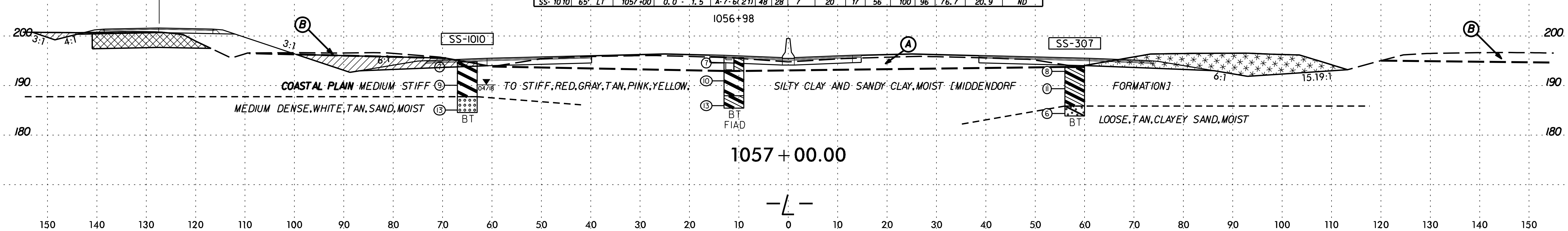






SOIL TEST RESULTS

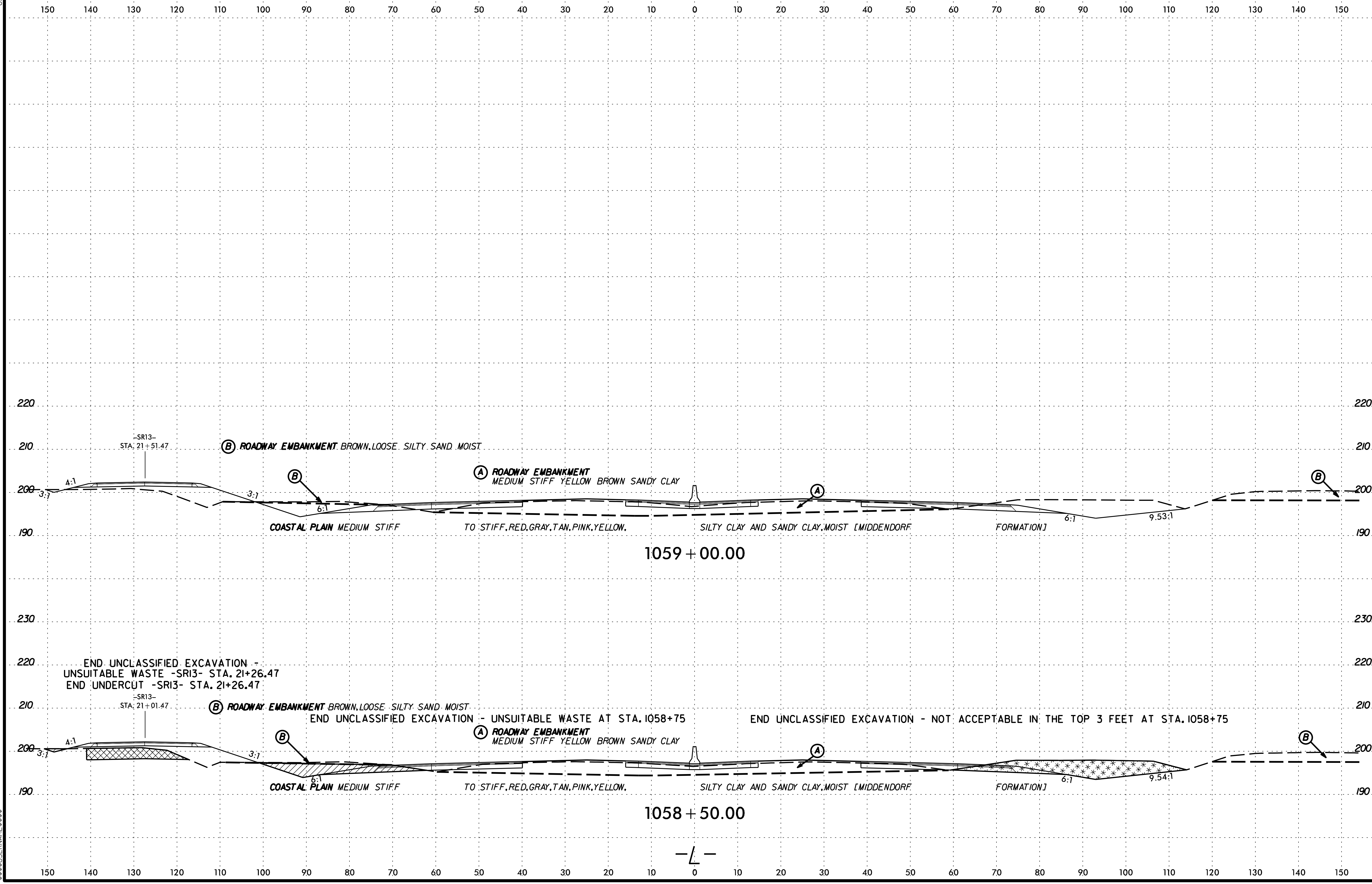
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-307	58' RT	1057+00	0.0 - 1.5	A-6(5)	34	16	29	24	14	33	95	83	50.3	20.7	ND
SS-1010	65' LT	1057+00	0.0 - 1.5	A-7-6(21)	48	28	7	20	17	56	100	96	76.7	20.9	ND



$$$$$SYSTIME$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

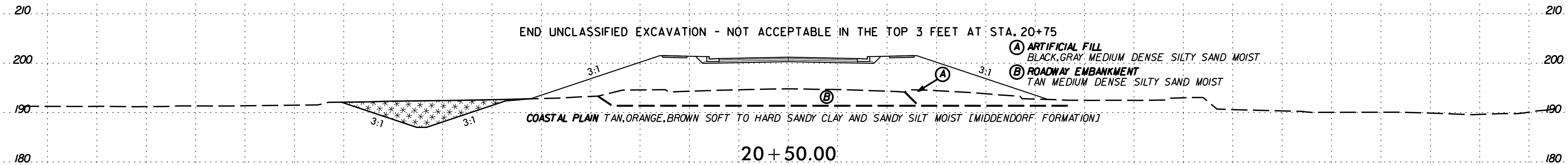
6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	32

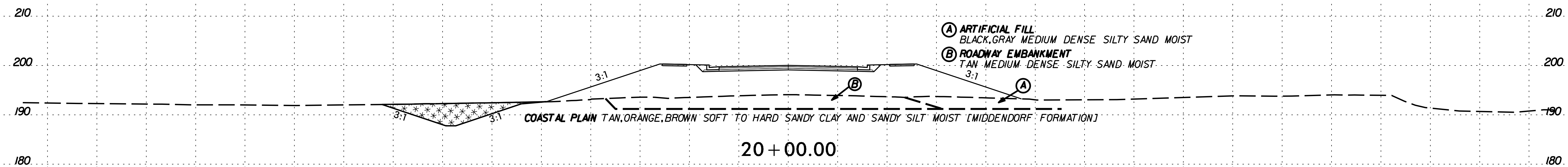


$$$$SYSTIME$$$$
$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16



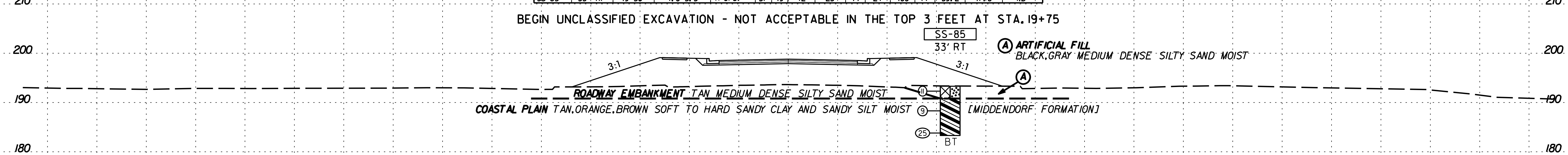
20+50.00



20+00.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-85	33' RT	19+50	4.0-5.5	A-6(3)	37	19	42	23	11	24	100	77	39.2	17.6	ND



19+50.00

-Y14-

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

6/23/16

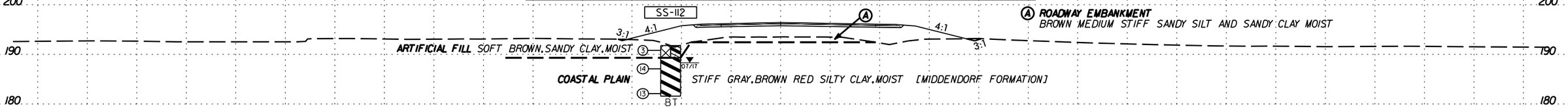
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	34

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

210 200 190 180 170

SOIL TEST RESULTS

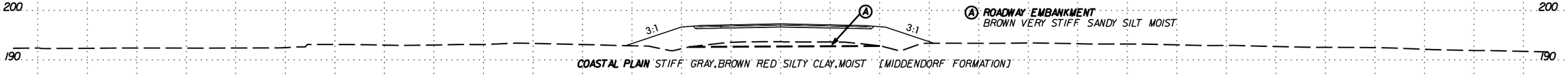
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-112	22' LT	34+00	0.0-1.5	A-6(6)	31	16	21	24	20	35	100	92	59.1	18.2	ND



A ROADWAY EMBANKMENT
BROWN MEDIUM STIFF SANDY SILT AND SANDY CLAY MOIST

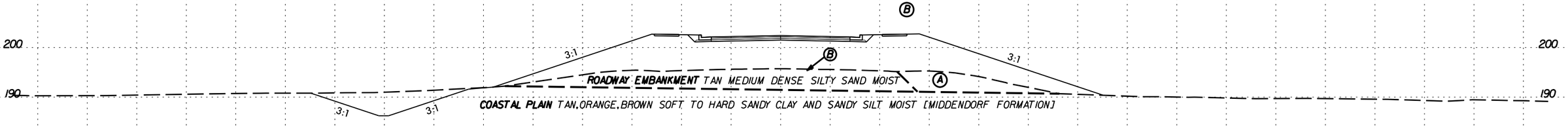
34+00.00

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 33+75



A ROADWAY EMBANKMENT
BROWN VERY STIFF SANDY SILT MOIST

33+50.00



21+00.00

-Y14-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

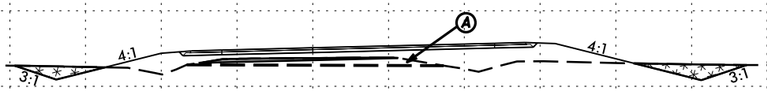
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	35

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

220 210 200 190 180

Ⓐ **ROADWAY EMBANKMENT**
BROWN MEDIUM STIFF SANDY SILT AND SANDY CLAY MOIST

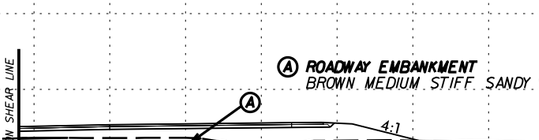


COASTAL PLAIN STIFF BROWN,GRAY,RED SILTY CLAY,MOIST [MIDDENDORF FORMATION]

35+50.00

INTERSECTION SHEAR LINE

Ⓐ **ROADWAY EMBANKMENT**
BROWN MEDIUM STIFF SANDY SILT AND SANDY CLAY MOIST



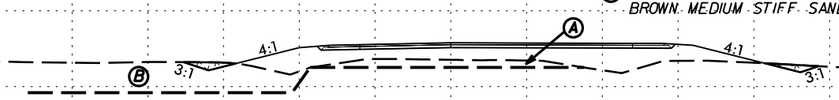
COASTAL PLAIN STIFF GRAY,BROWN RED SILTY CLAY,MOIST [MIDDENDORF FORMATION]

35+00.00

BEGIN AGGREGATE SUBGRADE AT STA. 34+75

Ⓑ **ARTIFICIAL FILL**
SOFT BROWN,SANDY CLAY,MOIST

Ⓐ **ROADWAY EMBANKMENT**
BROWN MEDIUM STIFF SANDY SILT AND SANDY CLAY MOIST

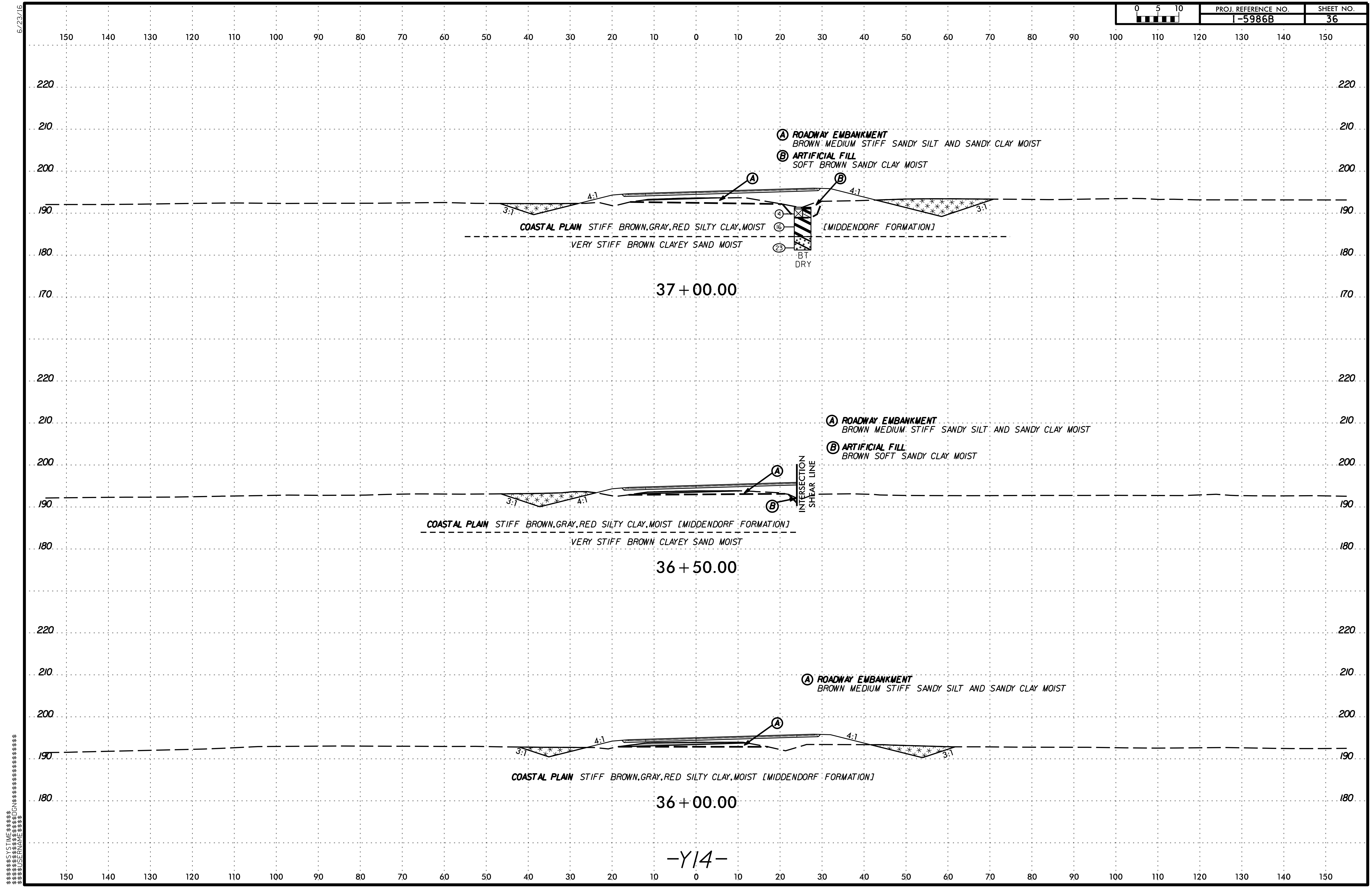


COASTAL PLAIN STIFF GRAY,BROWN RED SILTY CLAY,MOIST [MIDDENDORF FORMATION]

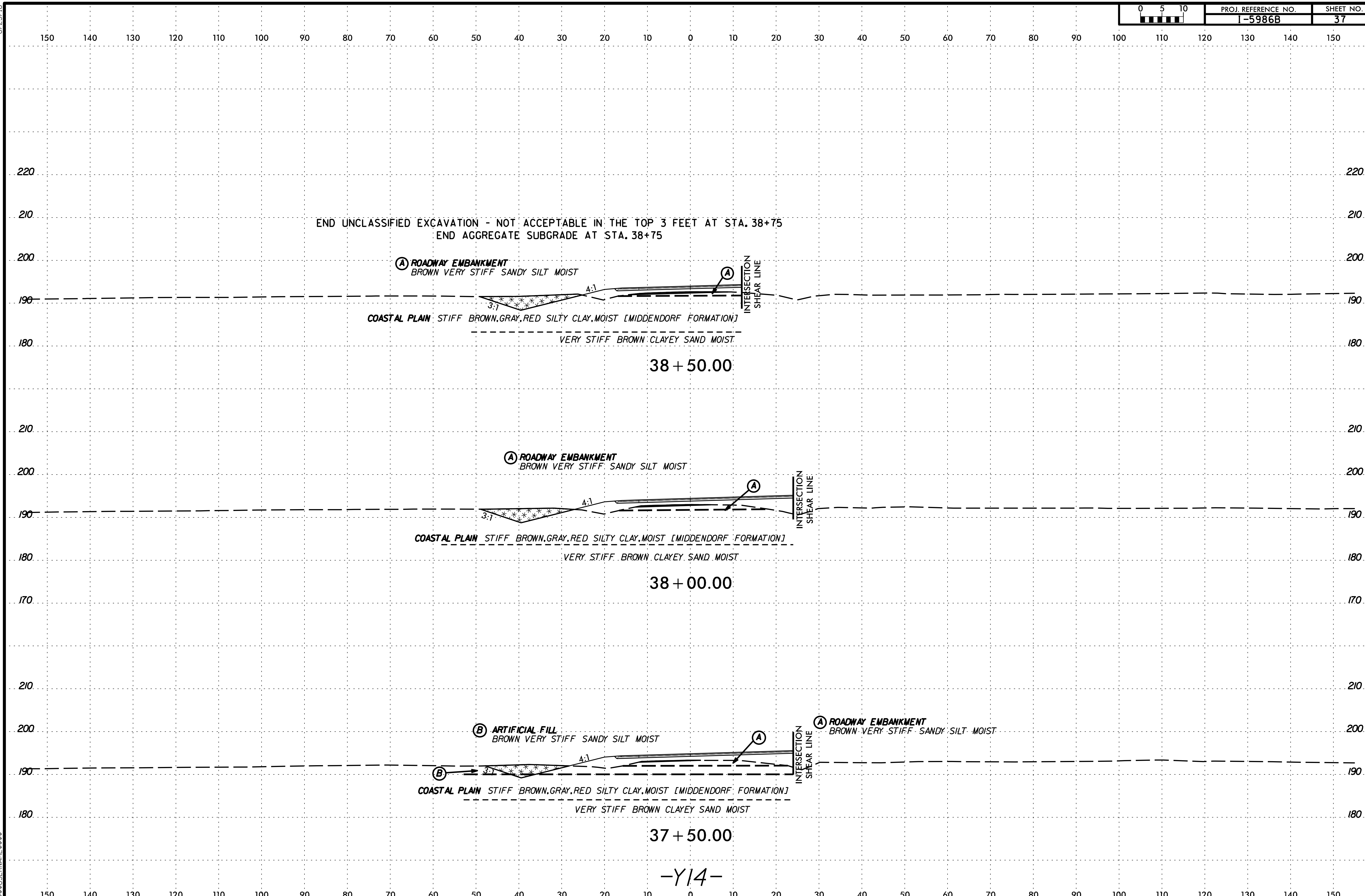
34+50.00

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	36



6/23/16



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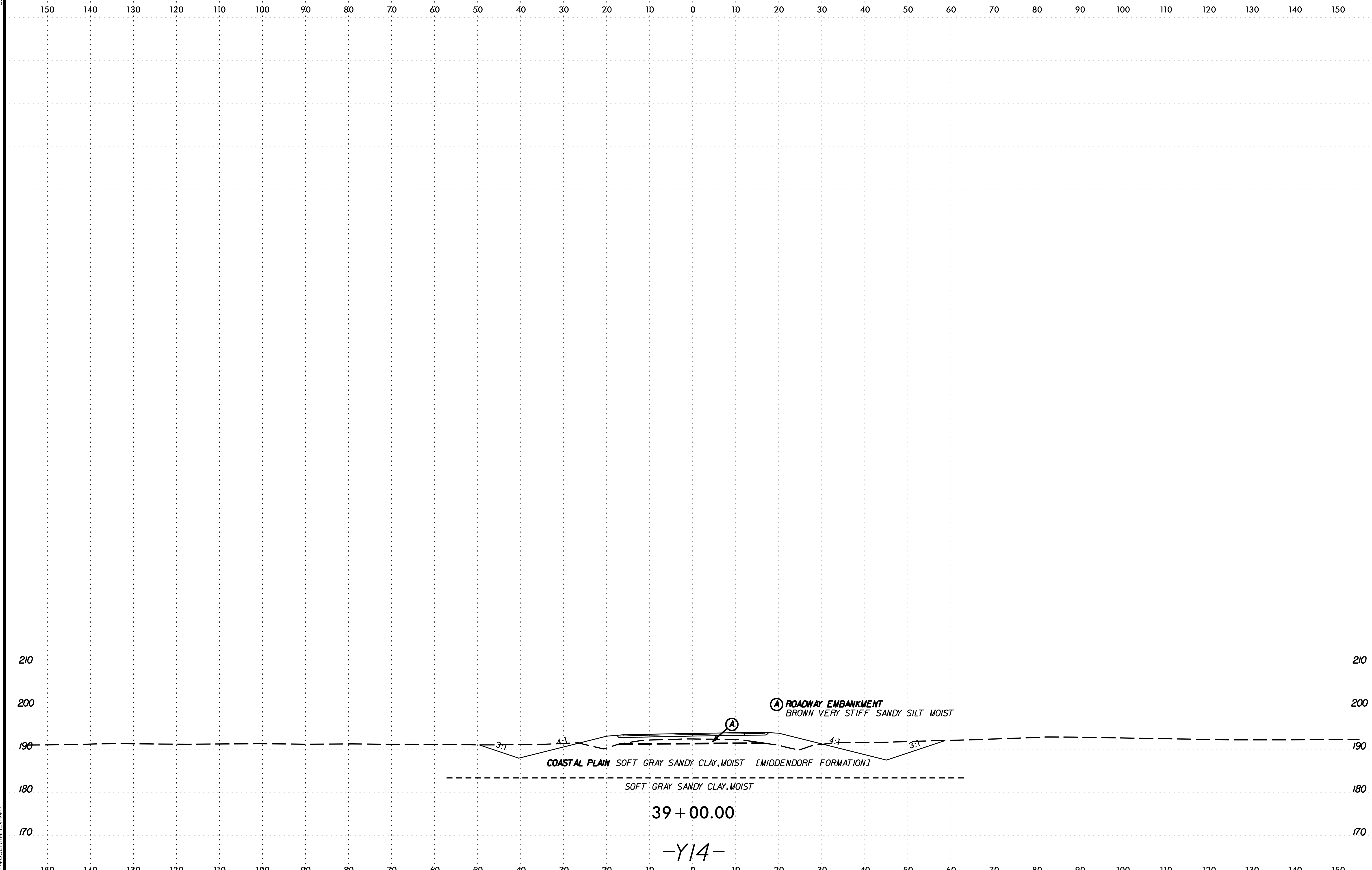
$$$$DGN$$$$
$$$$USERNAME$$$$

6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	38



$$$$$SYSTIME$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	39

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

210
200
190
180

Ⓐ **ROADWAY EMBANKMENT** MEDIUM STIFF BROWN SANDY SILT, MOIST

SP 34

Ⓐ

3:1 4:1 6:1 6:1

COASTAL PLAIN MEDIUM STIFF TO VERY STIFF YELLOW, BROWN, GRAY SANDY CLAY AND SILTY CLAY, MOIST [MIDDENDORF FORMATION]

LOOSE TO DENSE TAN, PINK SAND, MOIST

15+98.00

210
200
190
180

Ⓐ **ROADWAY EMBANKMENT** MEDIUM STIFF BROWN SANDY SILT, MOIST

SP 33

Ⓐ

3:1 4:1 6:1 6:1

COASTAL PLAIN MEDIUM STIFF BROWN GRAY SILTY CLAY, MOIST [MIDDENDORF FORMATION]

MEDIUM DENSE GRAY, TAN CLAYEY SAND, MOIST

15+48.00

210
200
190
180
170
160

Ⓐ **ROADWAY EMBANKMENT** MEDIUM STIFF BROWN SANDY SILT, MOIST

SP 32

MATCH TO -SR9-

Ⓐ

6:1 6:1

COASTAL PLAIN MEDIUM STIFF BROWN GRAY SILTY CLAY, MOIST [MIDDENDORF FORMATION]

MEDIUM DENSE GRAY, TAN CLAYEY SAND, MOIST

BEGIN UNDERCUT AT STA. 14+72

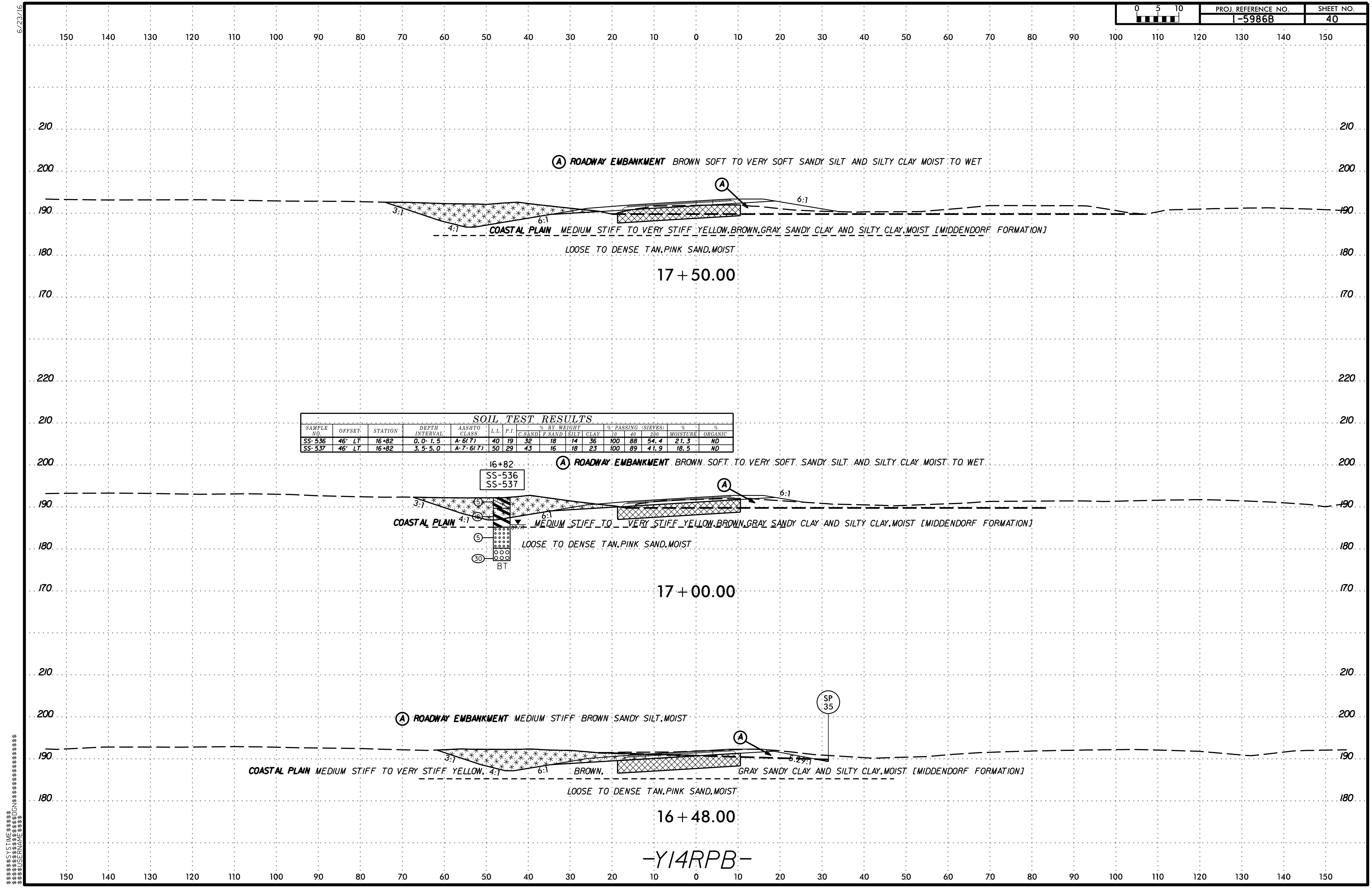
BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET
CONTINUED AT STA. 14+72

14+98.00

-Y14RPB-

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

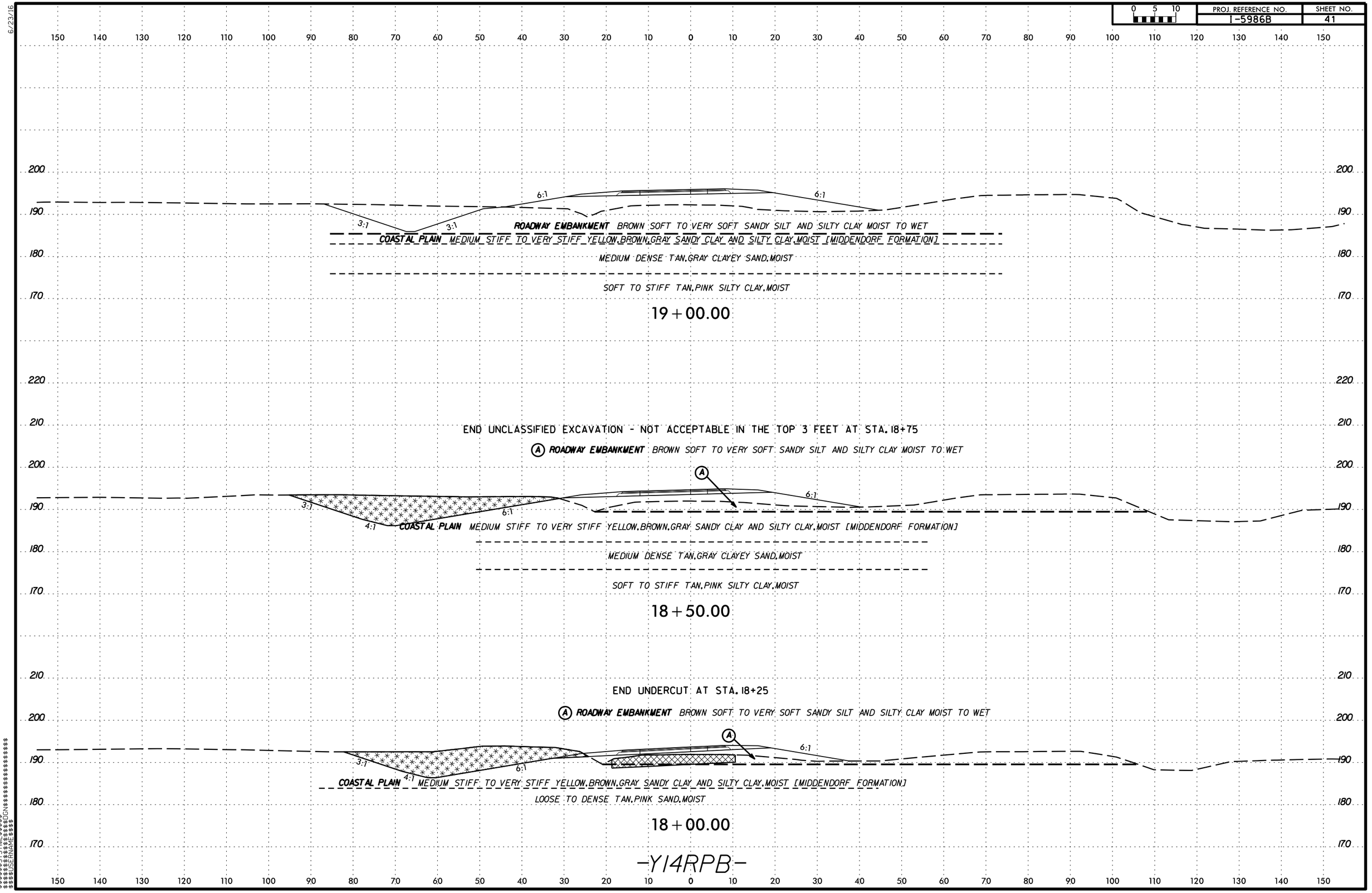
$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-536	46' LT	16+82	0.0-1.5	A-6(7)	40	19	32	18	14	36	100	88	54.4	21.3	ND
SS-537	46' LT	16+82	3.5-5.0	A-7-6(7)	50	29	43	16	18	23	100	89	41.9	18.5	ND

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	41



-Y14RPB-

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	42

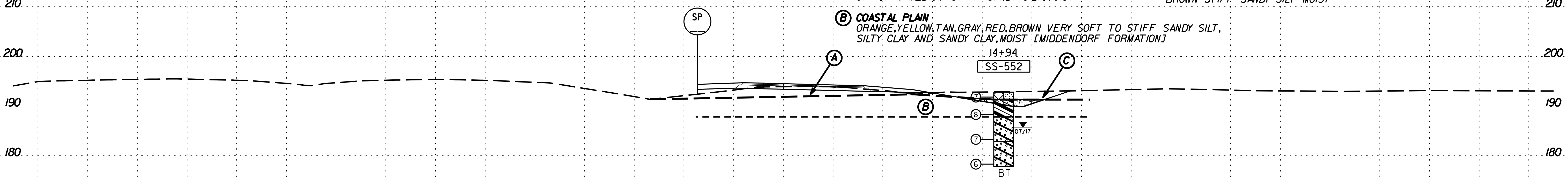
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-552	44' RT	14+94	3.5-5.0	A-6(5)	34	17	24	33	19	24	100	94	49.8	20.7	ND

(A) **ROADWAY EMBANKMENT**
GRAY,TAN MEDIUM STIFF SANDY SILT,MOIST

(B) **COASTAL PLAIN**
ORANGE,YELLOW,TAN,GRAY,RED,BROWN VERY SOFT TO STIFF SANDY SILT,
SILTY CLAY AND SANDY CLAY,MOIST [MIDDENDORF FORMATION]

(C) **ARTIFICIAL FILL**
BROWN STIFF SANDY SILT MOIST



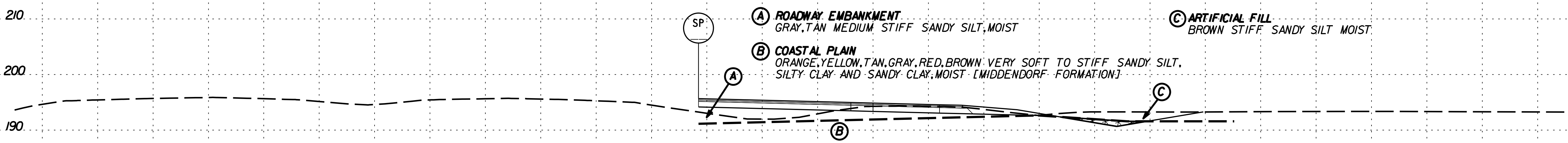
BROWN,YELLOW,GRAY,WHITE MEDIUM DENSE TO LOOSE CLAYEY SAND AND SAND MOIST TO WET

14+89.00

(A) **ROADWAY EMBANKMENT**
GRAY,TAN MEDIUM STIFF SANDY SILT,MOIST

(B) **COASTAL PLAIN**
ORANGE,YELLOW,TAN,GRAY,RED,BROWN VERY SOFT TO STIFF SANDY SILT,
SILTY CLAY AND SANDY CLAY,MOIST [MIDDENDORF FORMATION]

(C) **ARTIFICIAL FILL**
BROWN STIFF SANDY SILT MOIST



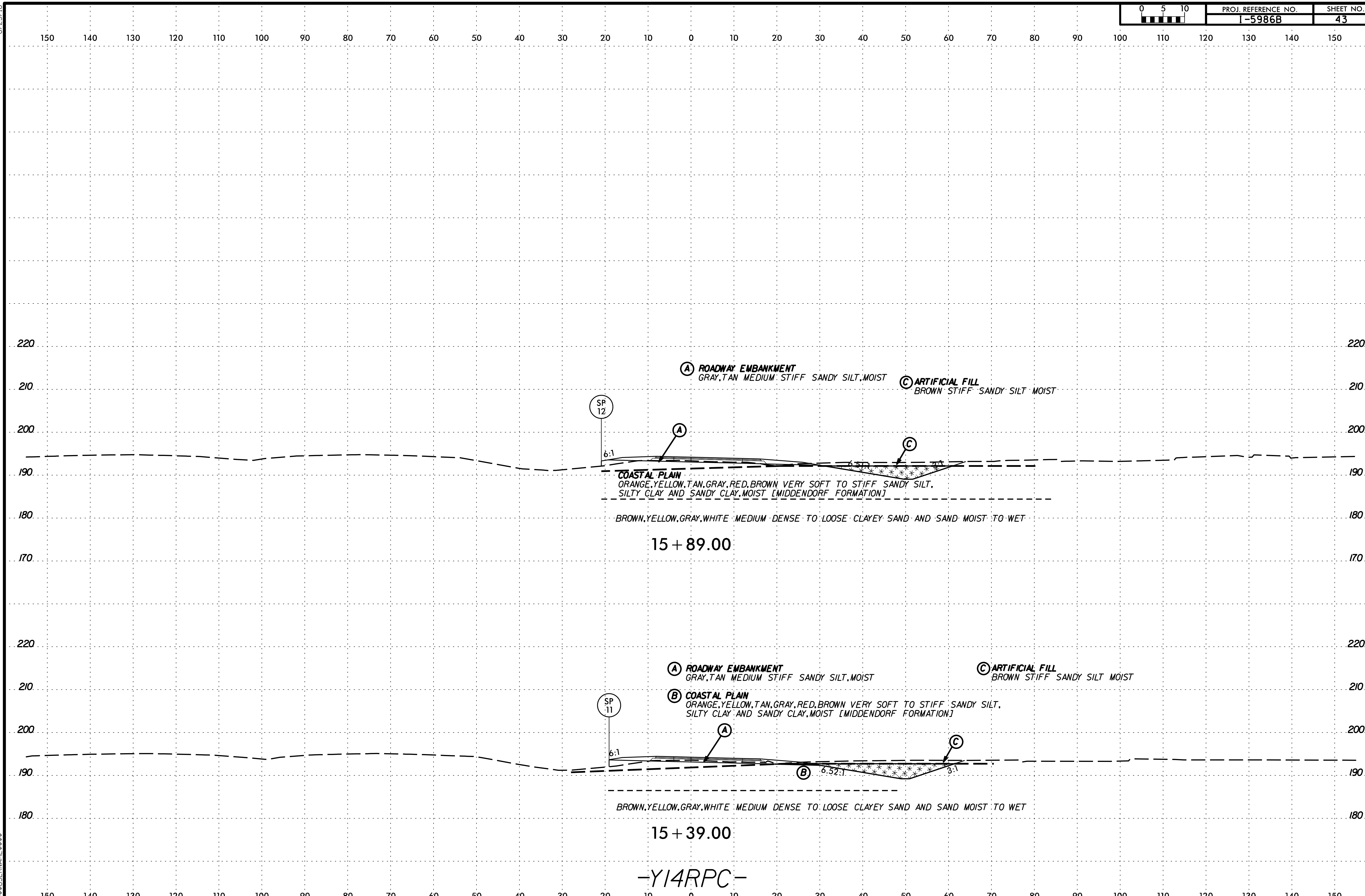
BROWN,YELLOW,GRAY,WHITE MEDIUM DENSE TO LOOSE CLAYEY SAND AND SAND MOIST TO WET

UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET
CONTINUED SEE -L- SECTIONS STA. 960+50

14+37.85

-Y14RPC-

$$$$$SYSTIME$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$



6/23/16

$$$$$SYSTIME$$$$$
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	44

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

220
210
200
190
180
170

SP 14

(A) ROADWAY EMBANKMENT
GRAY,TAN MEDIUM STIFF SANDY SILT,MOIST

(B) ARTIFICIAL FILL
BROWN STIFF SANDY SILT MOIST

5.75:1

6.44:1

3:1

COASTAL PLAIN
ORANGE,YELLOW,TAN,GRAY,RED,BROWN VERY SOFT TO STIFF SANDY SILT, SILTY CLAY AND SANDY CLAY,MOIST [MIDDENDORF FORMATION]

BROWN,YELLOW,GRAY,WHITE MEDIUM DENSE TO LOOSE CLAYEY SAND AND SAND MOIST TO WET

16+89.00

(A) ROADWAY EMBANKMENT
GRAY,TAN MEDIUM STIFF SANDY SILT,MOIST

SP 13

(B) ARTIFICIAL FILL
BROWN STIFF SANDY SILT MOIST

6:1

6.47:1

3:1

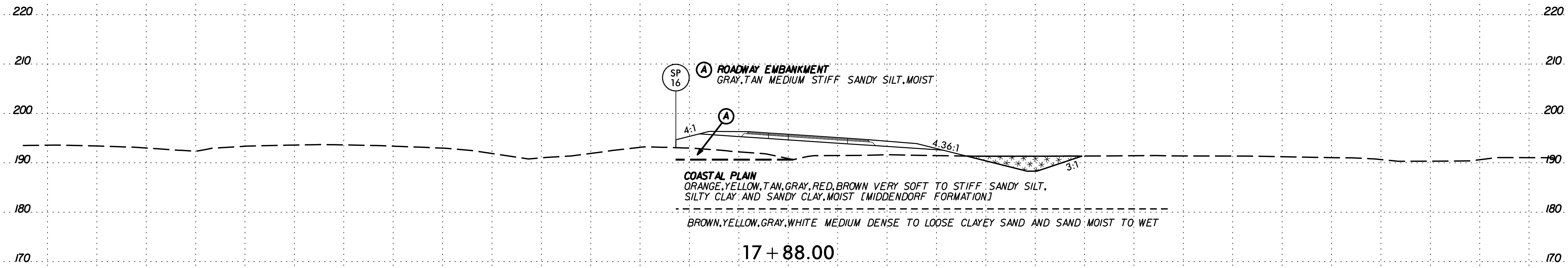
COASTAL PLAIN
ORANGE,YELLOW,TAN,GRAY,RED,BROWN VERY SOFT TO STIFF SANDY SILT, SILTY CLAY AND SANDY CLAY,MOIST [MIDDENDORF FORMATION]

BROWN,YELLOW,GRAY,WHITE MEDIUM DENSE TO LOOSE CLAYEY SAND AND SAND MOIST TO WET

16+39.00

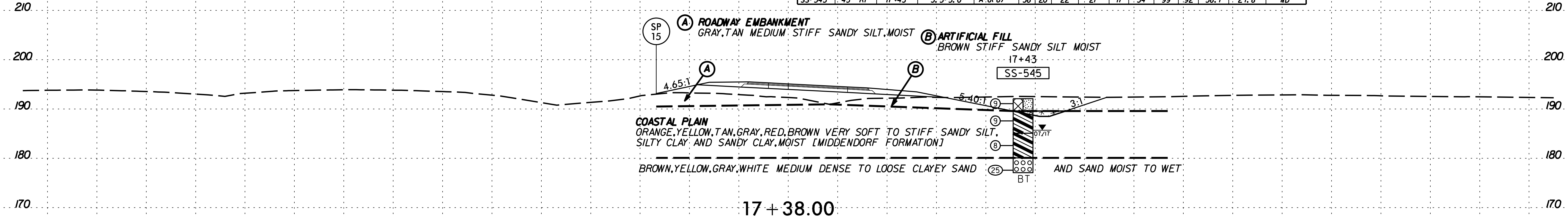
-Y14RPC-

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$



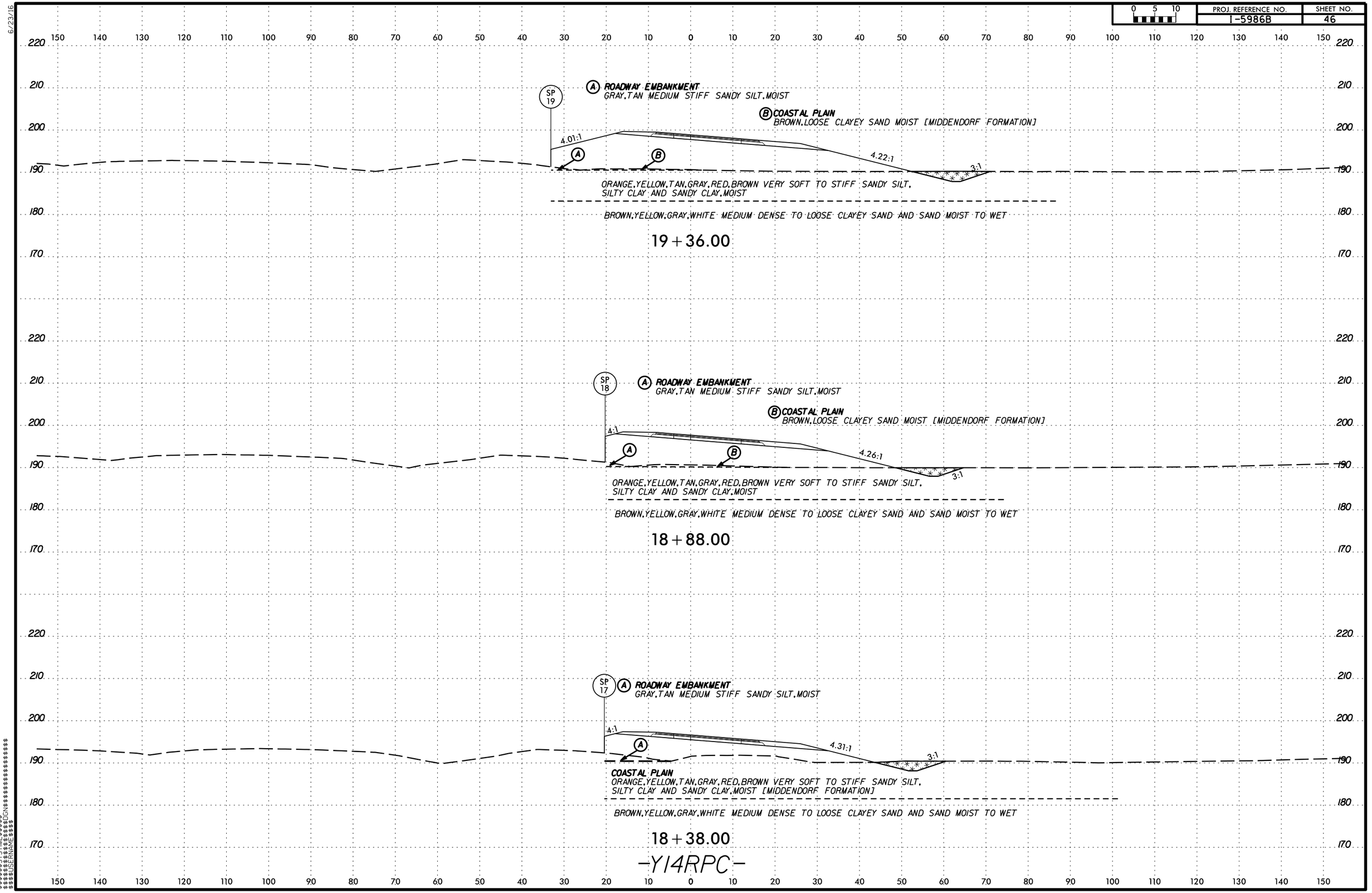
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-545	45' RT	17+43	3.5-5.0	A-6(8)	36	20	22	27	17	34	99	92	56.7	21.8	ND



-Y14RPC-

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	46

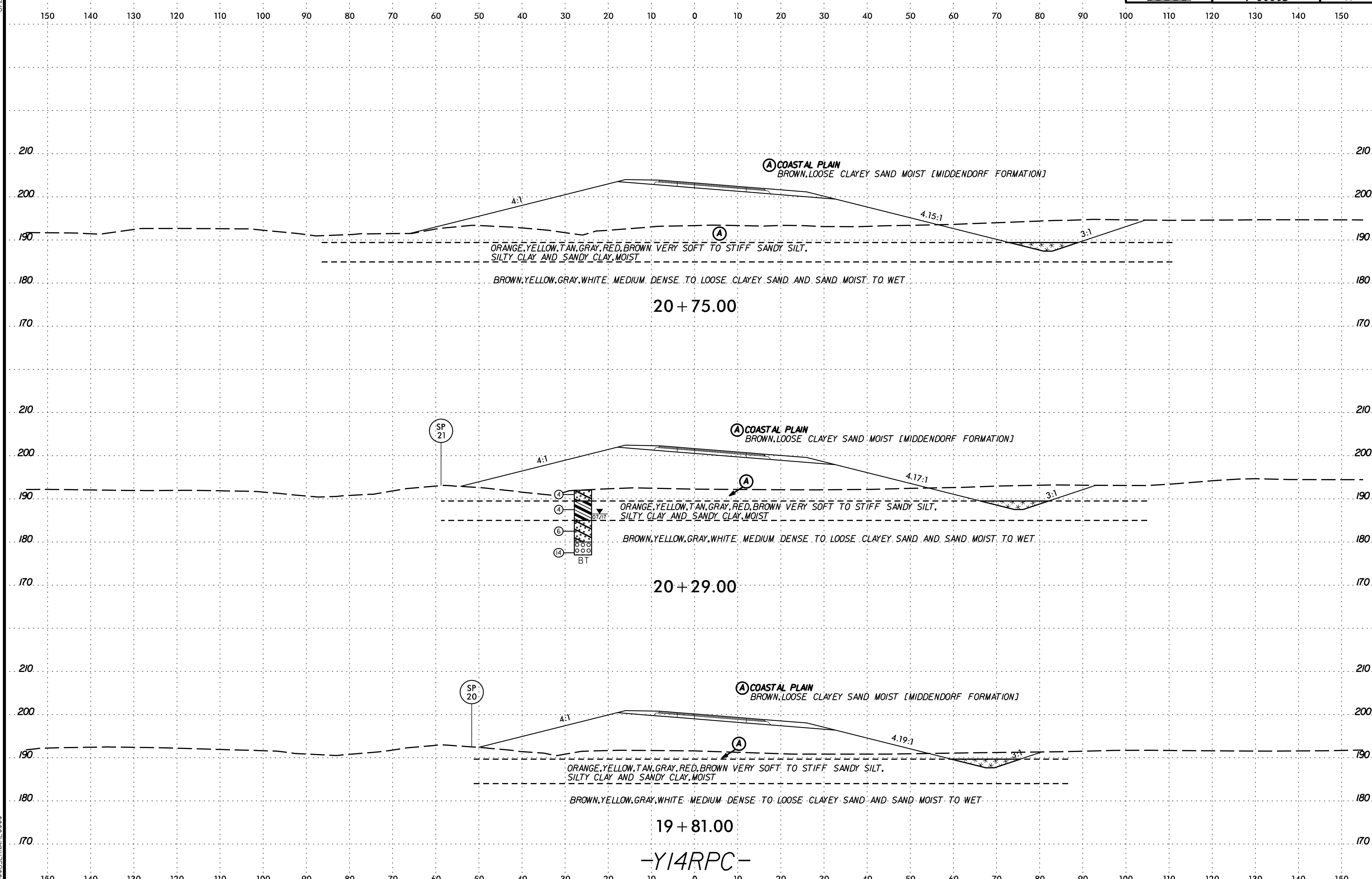


-Y14RPC-

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

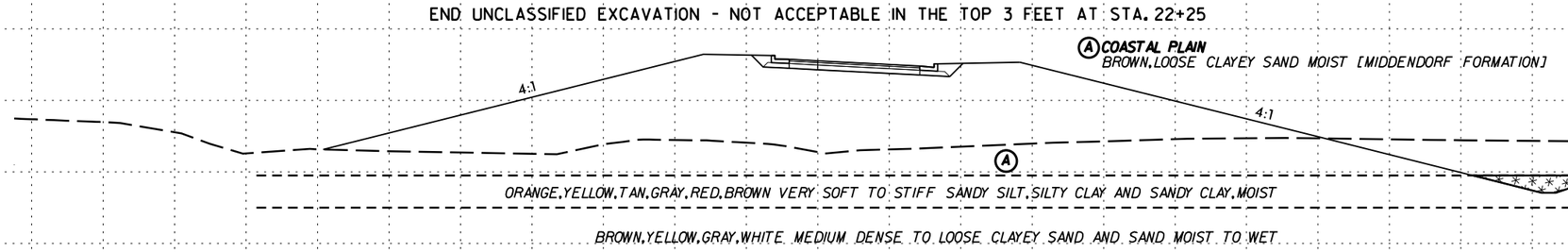
6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	47

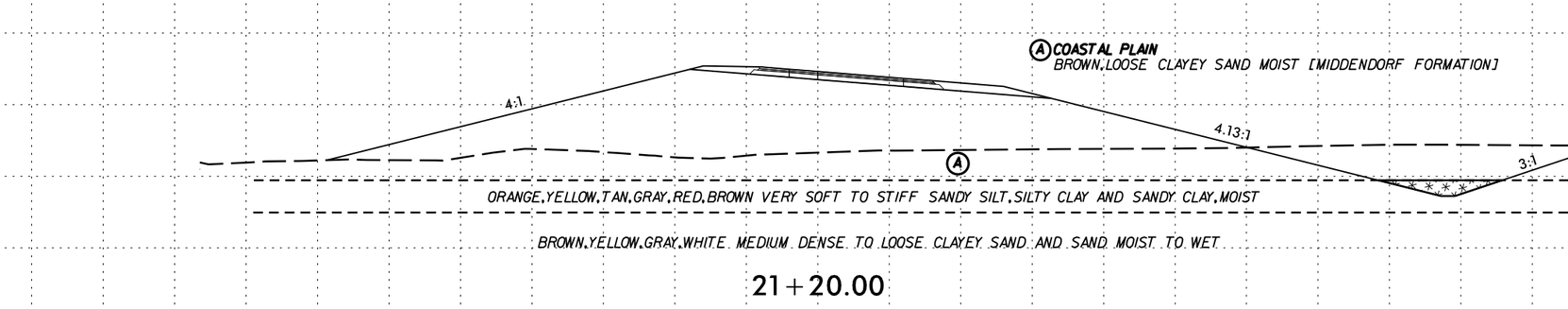


$$$$$SYSTIME$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 22+25



21+75.00



21+20.00

-Y14RPC-

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	49

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

220
210
200
190

INTERSECTION SHEAR LINE

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE SAND MOIST

4:1

COASTAL PLAIN GRAY,BLACK,RED,BROWN MEDIUM STIFF TO STIFF SILTY CLAY MOIST TO DRY [MIDDENDORF FORMATION]

22+50.00

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE SAND MOIST

4:1 4:1

COASTAL PLAIN GRAY,BLACK,RED,BROWN MEDIUM STIFF TO STIFF SILTY CLAY MOIST TO DRY [MIDDENDORF FORMATION]

22+00.00

230
220
210
200
190

BEGIN AGGREGATE SUBGRADE AT STA. 21+75
BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 21+75

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE SAND MOIST

Ⓑ ROADWAY EMBANKMENT
TAN,GRAY MEDIUM STIFF TO STIFF SILTY CLAY MOIST

4:1 4:1

COASTAL PLAIN GRAY,BLACK,RED,BROWN MEDIUM STIFF TO STIFF SILTY CLAY MOIST TO DRY [MIDDENDORF FORMATION]

21+50.00

-Y15-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

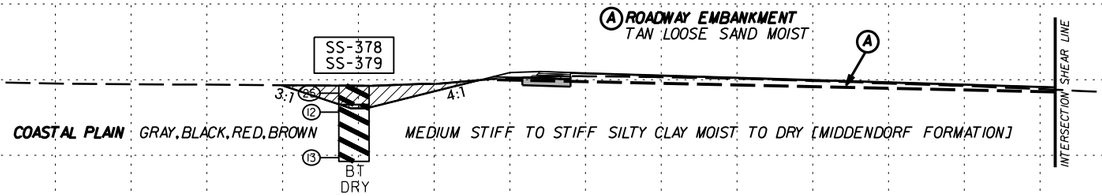
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	50

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

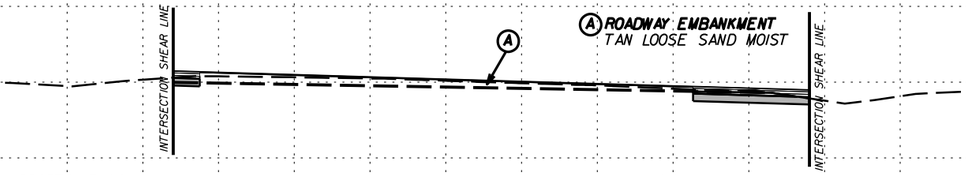
230 220 210 200 190 180

SOIL TEST RESULTS

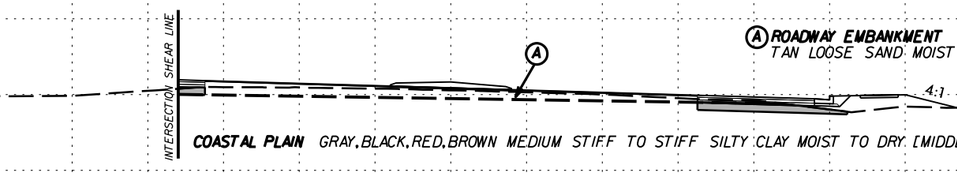
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-378	61' LT	24+00	0.0-1.5	A-7-6(6)	44	24	24	38	13	25	100	88	44.4	14.8	ND
SS-379	61' LT	24+00	3.5-5.5	A-7-6(8)	41	22	17	39	11	33	100	94	51.9	19.2	ND



24+00.00



23+50.00



23+00.00

-Y15-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	51

END AGGREGATE SUBGRADE AT STA. 25+75

END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 25+75

Ⓐ ROADWAY EMBANKMENT
TAN HARD SANDY CLAY MOIST

3:1 4:1 Ⓐ 4:1 3:1

COASTAL PLAIN GRAY, BLACK, RED, BROWN MEDIUM STIFF TO STIFF SILTY CLAY MOIST TO DRY [MIDDENDORF FORMATION]

25+50.00

Ⓐ ROADWAY EMBANKMENT
TAN HARD SANDY CLAY MOIST

3:1 4:1 Ⓐ 4:1 3:1

COASTAL PLAIN GRAY, BLACK, RED, BROWN MEDIUM STIFF TO STIFF SILTY CLAY MOIST TO DRY [MIDDENDORF FORMATION]

25+00.00

Ⓐ ROADWAY EMBANKMENT
TAN HARD SANDY CLAY MOIST

3:1 4:1 Ⓐ 4:1 3:1

COASTAL PLAIN GRAY, BLACK, RED, BROWN MEDIUM STIFF TO STIFF SILTY CLAY MOIST TO DRY [MIDDENDORF FORMATION]

24+50.00

-Y15-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	52

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

210
200
190
180

COASTAL PLAIN RED,GRAY,TAN,BROWN MEDIUM STIFF TO VERY STIFF SANDY CLAY MOIST [MIDDENDORF FORMATION]

26+00.00

-Y15-

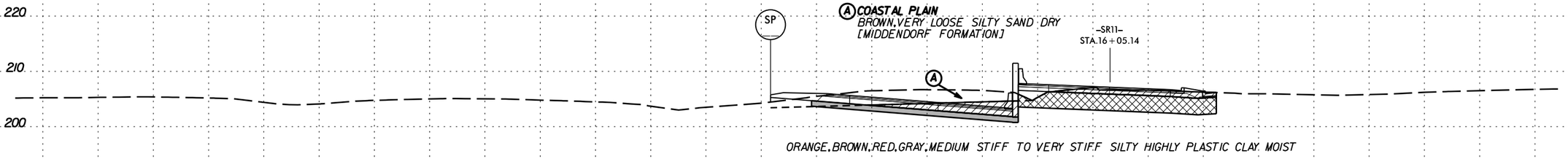
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	53

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

230 220 210 200 190 180



13+85.00

-Y15RPA- AGGREGATE SUBGRADE CONTINUED SEE -LREV- SECTIONS AT STATION 1015+00

-SR11- UNDERCUT CONTINUED SEE -LREV- SECTIONS AT STATION 1015+00

-SR11- & -Y15RPA- UNCLASSIFIED EXCAVATION - WASTE CONTINUED SEE -LREV- SECTIONS AT STATION 1015+00

13+30.23

-Y15RPA-

$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	54

COASTAL PLAIN
BROWN, VERY LOOSE SILTY SAND DRY
[MIDDENDORF FORMATION]

-SR11-
STA. 14+93.23

ORANGE, BROWN, RED, GRAY, MEDIUM STIFF TO VERY STIFF SILTY HIGHLY PLASTIC CLAY MOIST

MEDIUM DENSE TAN RED CLAYEY AND SILTY SAND, MOIST

15+00.00

SP

(A) COASTAL PLAIN
BROWN, VERY LOOSE SILTY SAND DRY
[MIDDENDORF FORMATION]

-SR11-
STA. 15+07.82

ORANGE, BROWN, RED, GRAY, MEDIUM STIFF TO VERY STIFF SILTY HIGHLY PLASTIC CLAY MOIST

MEDIUM DENSE TAN RED CLAYEY AND SILTY SAND, MOIST

14+85.00

BEGIN UNCLASSIFIED EXCAVATION - WASTE CONTINUED AT -SR11- STATION 15+81

SP

(A) COASTAL PLAIN
BROWN, VERY LOOSE SILTY SAND DRY
[MIDDENDORF FORMATION]

-SR11-
STA. 15+56.48

INTERSECTION SHEAR LINE

ORANGE, BROWN, RED, GRAY, MEDIUM STIFF TO VERY STIFF SILTY HIGHLY PLASTIC CLAY MOIST

MEDIUM DENSE TAN RED CLAYEY AND SILTY SAND, MOIST

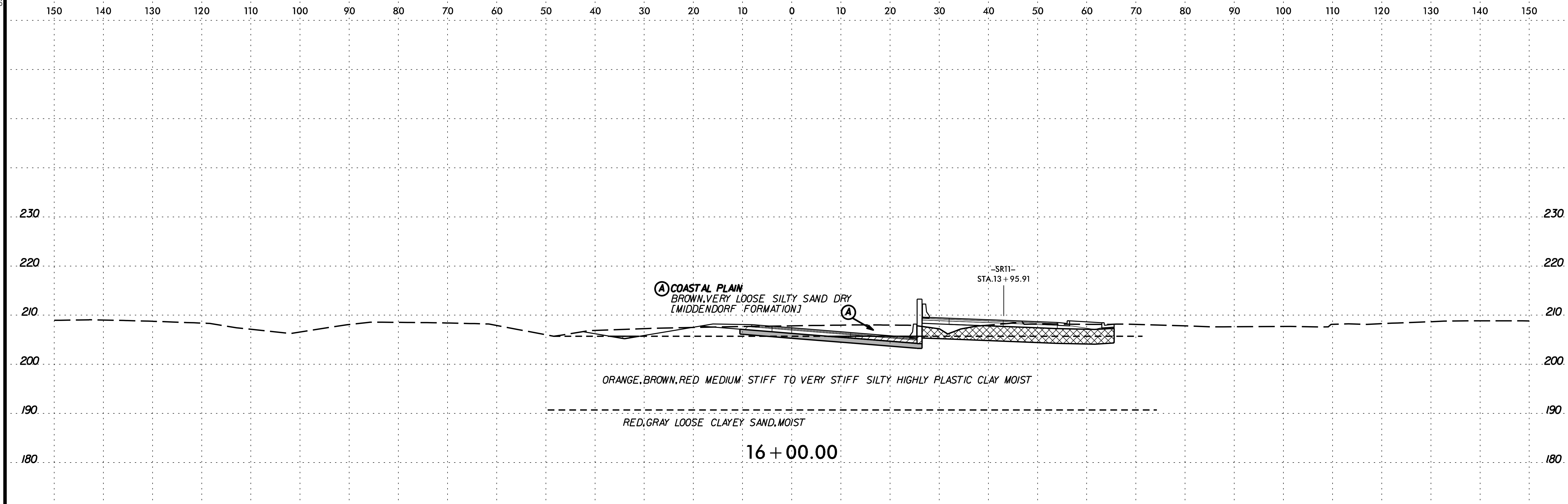
14+35.00

-Y15RPA-

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

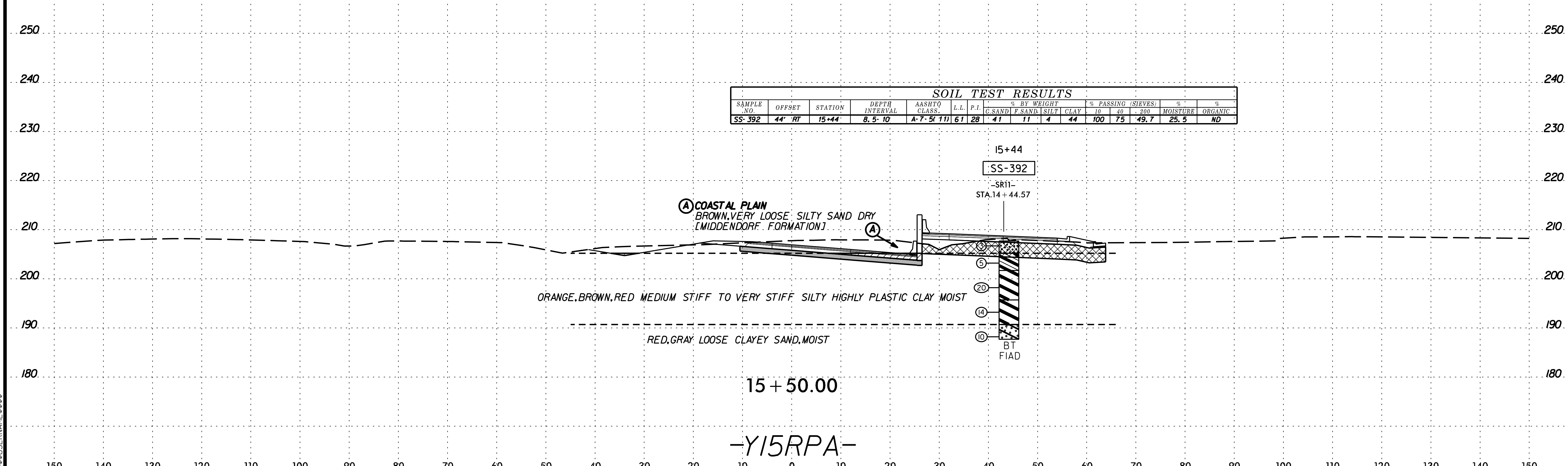
6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	55



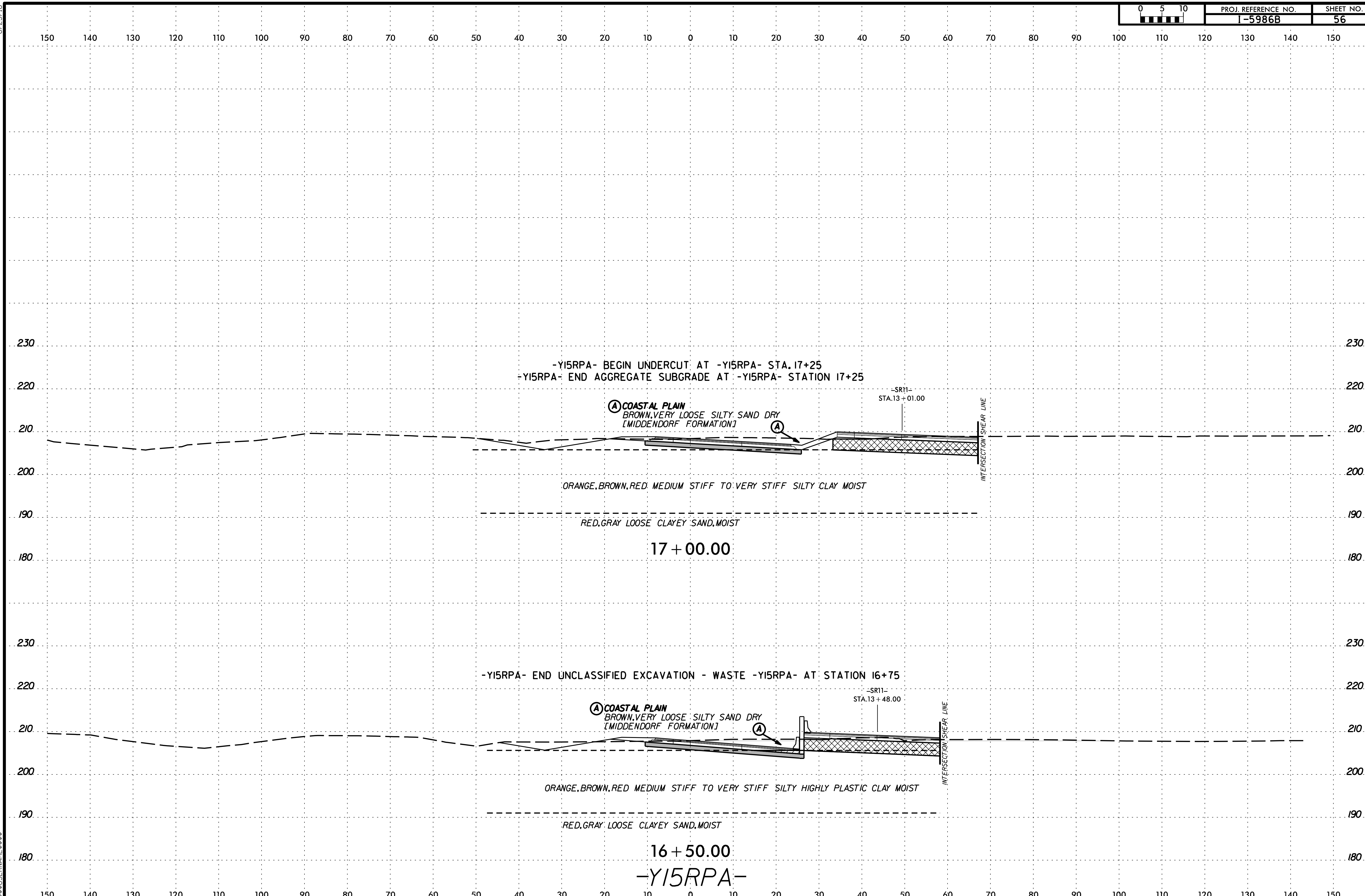
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND.	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-392	44' RT	15+44	8.5-10	A-7-5(11)	61	28	41	11	4	44	100	75	49.7	25.5	ND



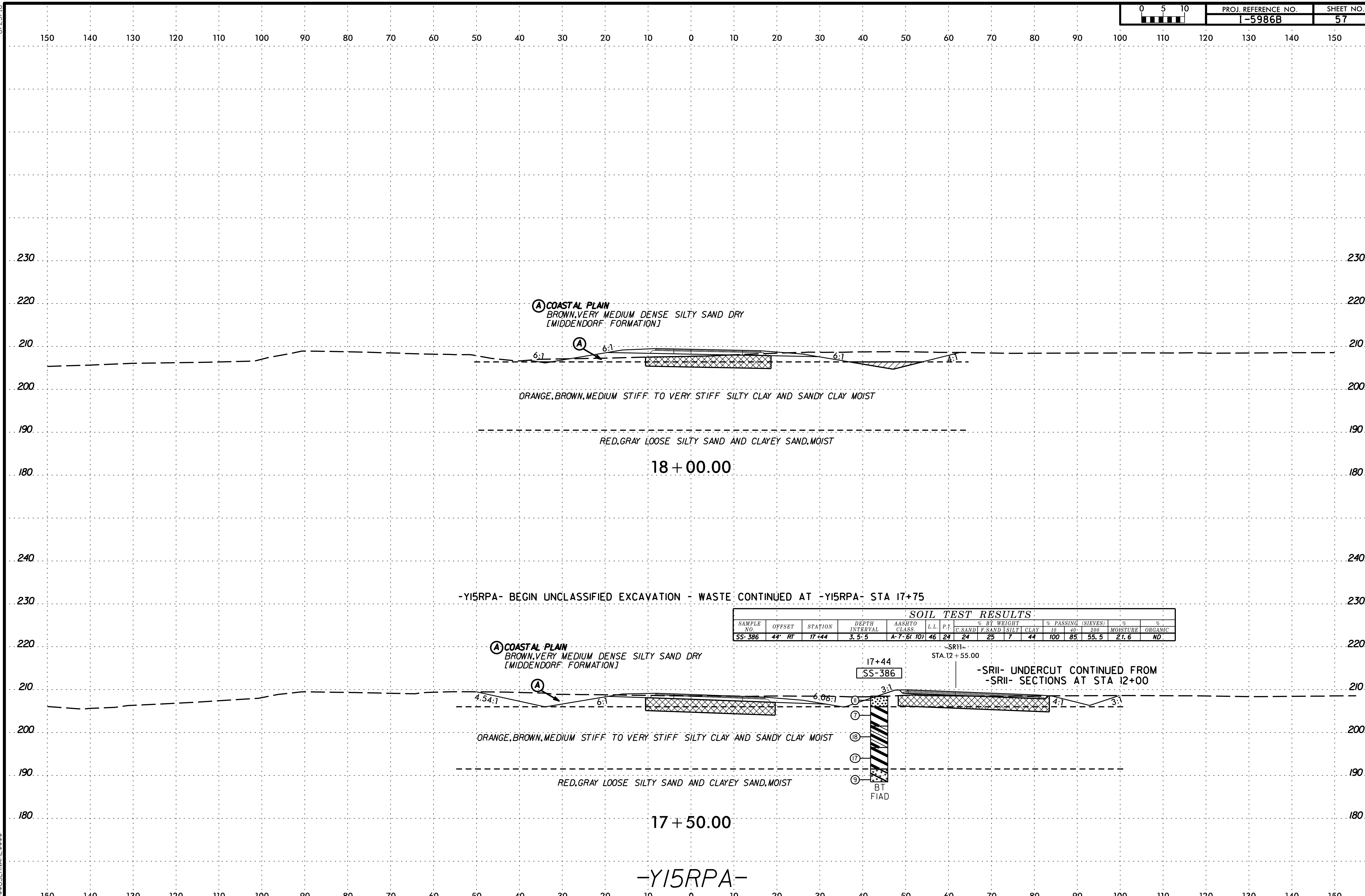
$$$$$$SYSTIME$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16



$$$$$SYSTIME$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	57



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-386	44' RT	17+44	3.5-5	A-7-6(10)	46	24	24	25	7	44	100	85	55.5	21.6	ND

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	58

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

220
210
200
190
240
230
220
210
200
190
180

6:1 6:1 4:1

COASTAL PLAIN
ORANGE, BROWN, MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST

19+00.00

END UNCLASSIFIED EXCAVATION - WASTE CONTINUED AT STATION 18+75
END UNDERCUT AT STATION 18+75

Ⓐ **COASTAL PLAIN**
BROWN, VERY MEDIUM DENSE SILTY SAND DRY
[MIDDENDORF FORMATION]

Ⓐ 6:1 6:1 6:1 4:1

COASTAL PLAIN
ORANGE, BROWN, MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST

RED, GRAY LOOSE SILTY SAND AND CLAYEY SAND, MOIST

18+50.00

-Y15RPA-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	59

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

220
210
200
190

SP 105

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE SILTY SAND MOIST

Ⓐ

6.06:1

COASTAL PLAIN
RED,BROWN,GRAY,TAN MEDIUM STIFF TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN MEDIUM DENSE RED CLAYEY SAND,MOIST [MIDDENDORF FORMATION]

15+26.00

SP 106

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE SILTY SAND MOIST

Ⓐ

6.04:1

COASTAL PLAIN
RED,BROWN,GRAY,TAN MEDIUM STIFF TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN MEDIUM DENSE RED CLAYEY SAND,MOIST [MIDDENDORF FORMATION]

14+76.00

BEGIN UNDERCUT AT STA. 14+49.37
END AGGREGATE SUBGRADE AT STA. 14+49.37

SP 107

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE SILTY SAND MOIST

Ⓐ

14+26

27
30
BT
DRY

COASTAL PLAIN
RED,BROWN,GRAY,TAN MEDIUM STIFF TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN MEDIUM DENSE RED CLAYEY SAND,MOIST [MIDDENDORF FORMATION]

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE CONTINUED FROM -L- SECTIONS AT STA. 1015+00

14+24.37

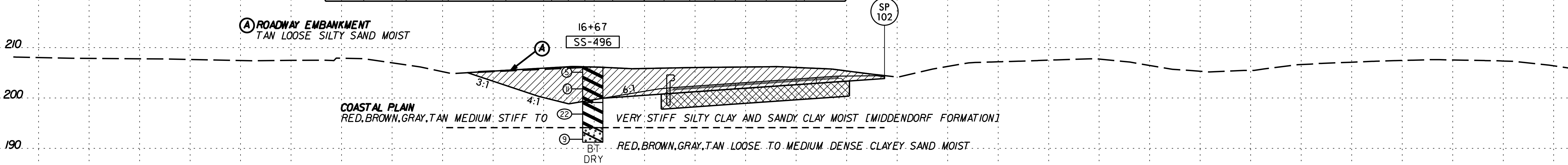
-Y15RPD-

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

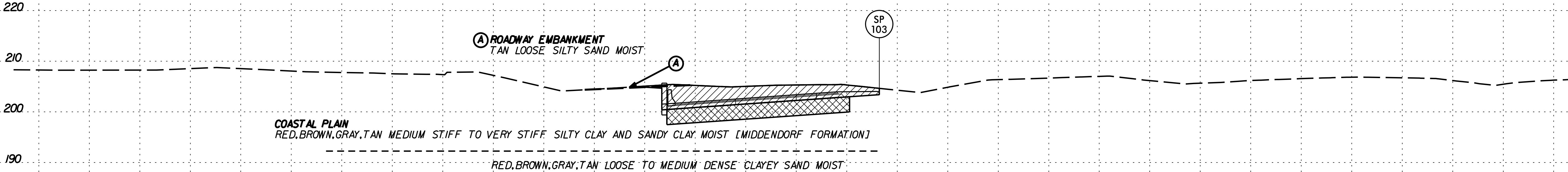
0 5 10

SOIL TEST RESULTS

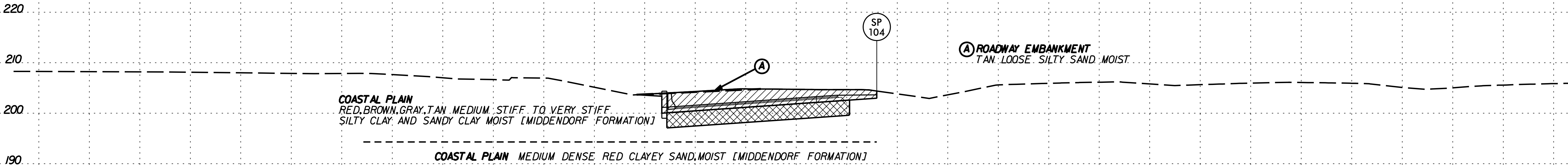
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-496	40' LT	16+67	3.3-4.8	A-7-5(13)	50	20	16	22	13	49	100	93	66.5	26.4	ND



16+76.00



16+26.00



15+76.00

-Y15RPD-

$$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	61

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

220
210
200
190

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE SILTY SAND MOIST

3:1 4.04:1 6:1 3:1

COASTAL PLAIN
RED,BROWN,GRAY,TAN MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

18+00.00

220
210
200
190

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE SILTY SAND MOIST

3:1 5:1 6:1 4:1

COASTAL PLAIN
RED,BROWN,GRAY,TAN MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

RED,BROWN,GRAY,TAN LOOSE TO MEDIUM DENSE CLAYEY SAND MOIST

17+50.00

180

230
220
210
200
190

SP 101

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE SILTY SAND MOIST

3:1 6:1 6:1

COASTAL PLAIN
RED,BROWN,GRAY,TAN MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

RED,BROWN,GRAY,TAN LOOSE TO MEDIUM DENSE CLAYEY SAND MOIST

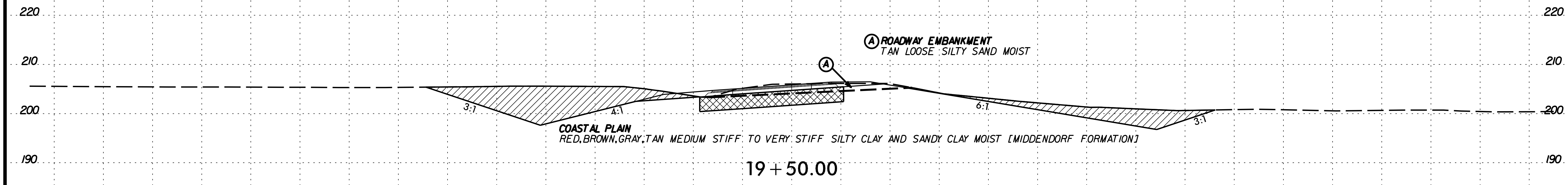
17+26.00

180

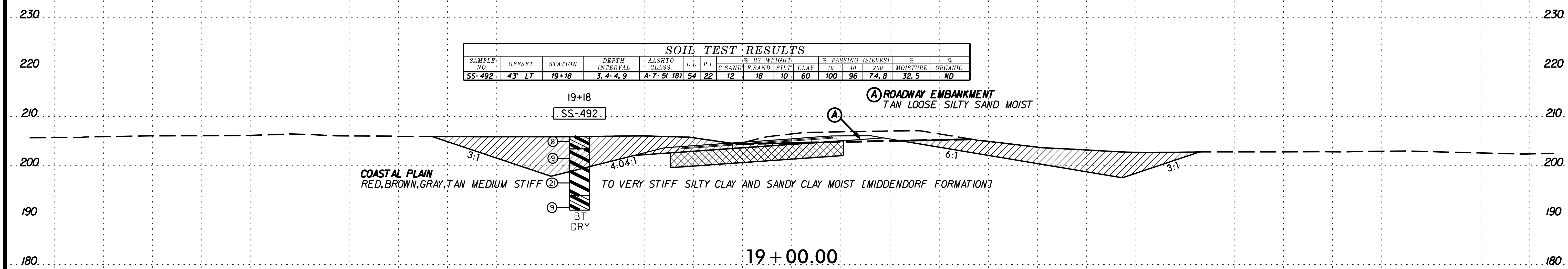
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

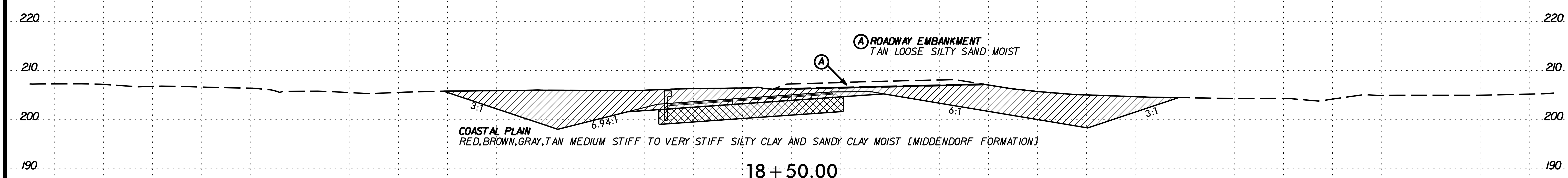
$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

-Y15RPD-



SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-492	43' LT	19+18	3.4-4.9	A-7-5(18)	54	22	12	18	10	60	100	96	74.8	32.5	ND





-Y15RPD-

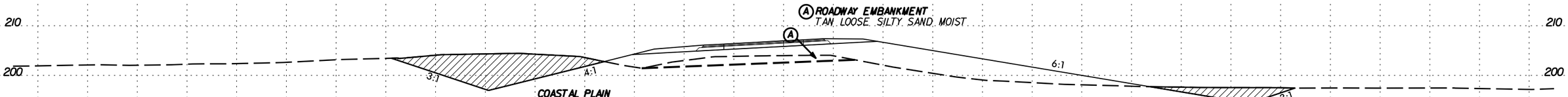
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	63

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

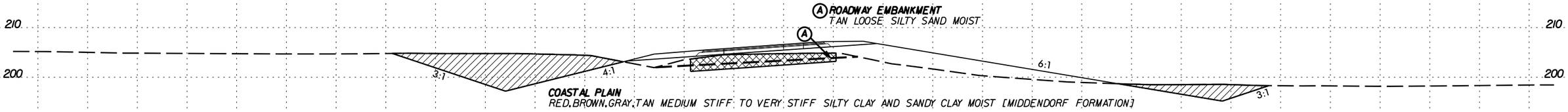
230 220 210 200 190

END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 21+25

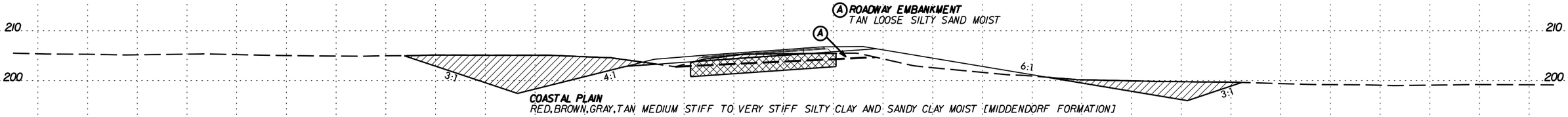


21+00.00

END UNDERCUT AT STA. 20+75



20+50.00



20+00.00

-Y15RPD-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	64

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

230 220 210 200 190

Ⓐ **ROADWAY EMBANKMENT**
TAN LOOSE SILTY SAND MOIST

Ⓑ **COASTAL PLAIN**
TAN MEDIUM DENSE TO DENSE CLAYEY SAND DRY TO MOIST
[MIDDENDORF FORMATION]

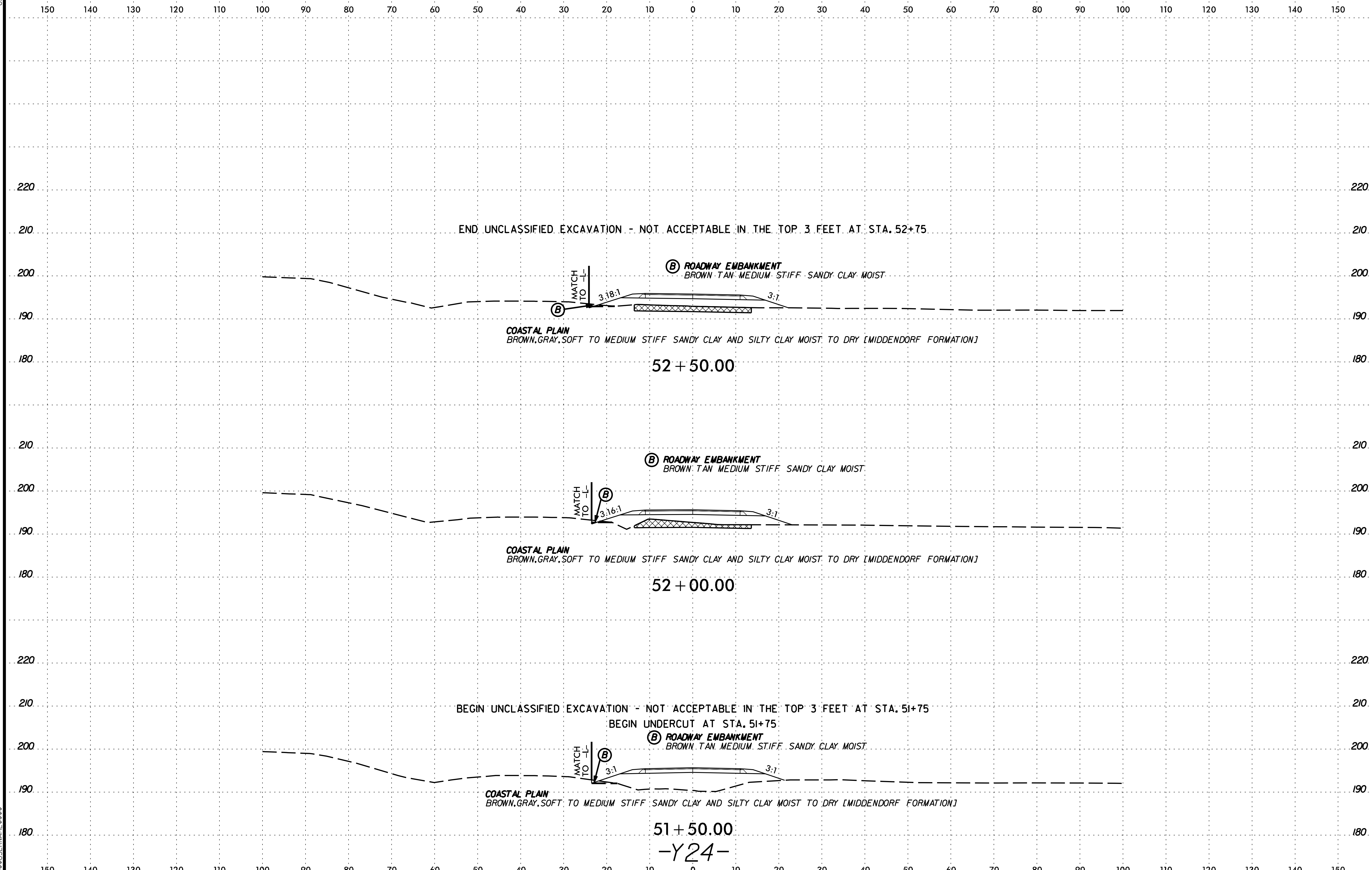
3:1 4:1 6:1 3:1

COASTAL PLAIN
RED,TAN,PINK,GRAY SOFT TO STIFF SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

21+50.00

-Y15RPD-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

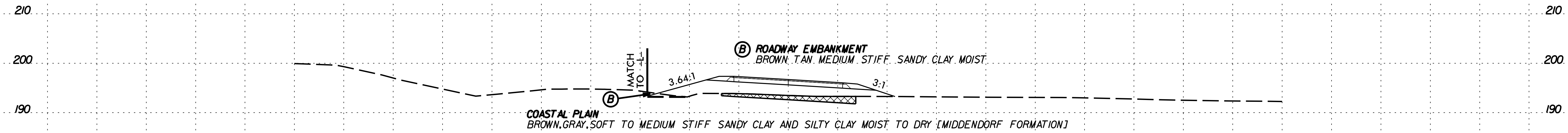


6/23/16

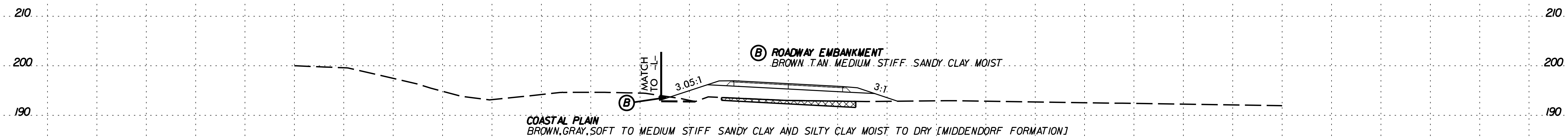
$$$$$SYSTIME$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

0 5 10

6/23/16



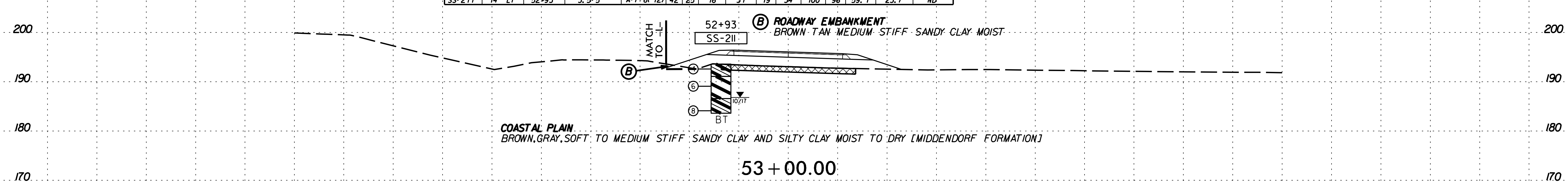
54+00.00



53+50.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			%	%
							C.SAND	F.SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-211	14' LT	52+93	3.5-5	A-7-6(12)	42	25	16	31	19	34	100	96	59.1	23.7	ND



53+00.00

-Y24-

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

$$$$SYSTIME$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	67

END UNDERCUT AT STA. 67+25

3:1 4:1 3:1

COASTAL PLAIN
BROWN,GRAY,SOFT TO STIFF,SANDY CLAY AND SILTY CLAY MOIST [MIDDENDORF FORMATION]

67+00.00

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 66+75
BEGIN UNDERCUT AT STA. 66+75

3:1 4:1 3:1

COASTAL PLAIN
BROWN,GRAY,ORANGE,STIFF,SANDY SILT AND SILTY CLAY MOIST TO DRY [MIDDENDORF FORMATION]

RED,BROWN,MEDIUM DENSE,CLAYEY SAND MOIST

66+50.00

Ⓐ **COASTAL PLAIN**
BROWN,RED VERY LOOSE TO MEDIUM DENSE SILTY SAND AND CLAYEY SAND
MOIST TO WET [MIDDENDORF FORMATION]

Ⓐ 3:1 3:1

BROWN,GRAY,SOFT TO MEDIUM STIFF SANDY CLAY AND SILTY CLAY MOIST TO DRY [MIDDENDORF FORMATION]

55+00.00

Ⓑ **ROADWAY EMBANKMENT**
BROWN TAN MEDIUM STIFF SANDY CLAY MOIST

END UNDERCUT AT STA. 54+75

Ⓑ 3:1 3:1

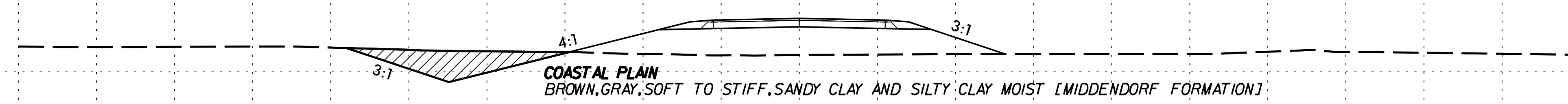
COASTAL PLAIN
BROWN,GRAY,SOFT TO MEDIUM STIFF SANDY CLAY AND SILTY CLAY MOIST TO DRY [MIDDENDORF FORMATION]

54+50.00

-Y24-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

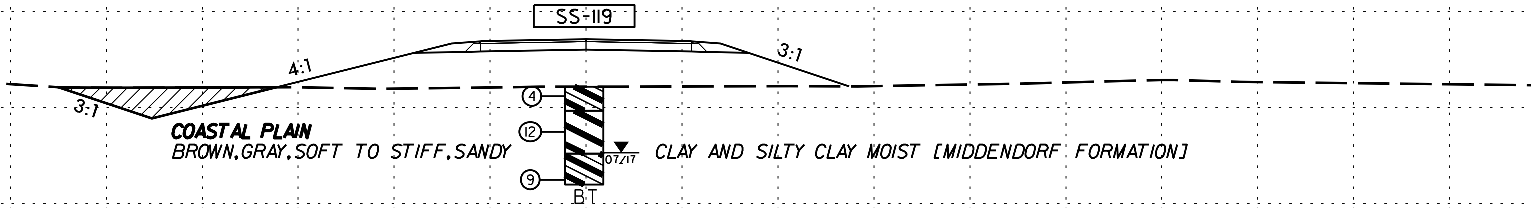
PROJ. REFERENCE NO.	SHEET NO.
I-5986B	68



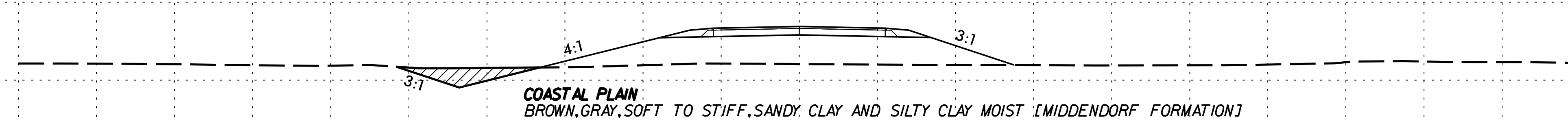
68 + 50.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS- 119	CL	67+94	3.7-5.2	A-7-6(14)	41	24	19	21	32	28	100	88	66	17.4	ND



68 + 00.00



67 + 50.00

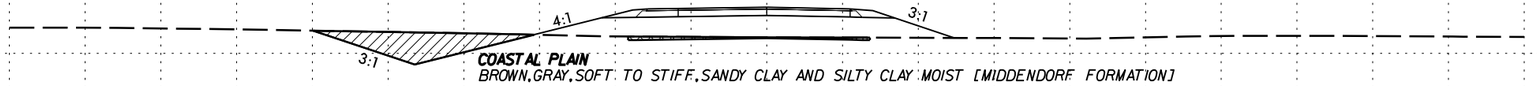
-Y24-

6/23/16

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	69

END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 69+25
END UNDERCUT AT STA. 69+25



COASTAL PLAIN
BROWN, GRAY, SOFT TO STIFF, SANDY CLAY AND SILTY CLAY MOIST [MIDDENDORF FORMATION]

69+00.00
-Y24-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	70

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

230 220 210 200 190 180 170

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-170	52' LT	30+40	0.0-1.5	A-6(8)	30	14	8	26	32	34	100	97	72.6	16	ND

BEGIN UNDERCUT AT -NBCD- STA. 30+75

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE - AT -NBCD- STA. 30+75

30+40
SS-170

MATCH TO -LREV-

6:1 6:1 6:1 5.75:1

5
14
13
2
38

BT
DRY

COASTAL PLAIN
BROWN,GRAY,RED,VERY SOFT TO STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST TO SAT.[MIDDENDORF FORMATION]

TAN,GRAY DENSE CLAYEY SAND AND SAND MOIST TO SAT.[MIDDENDORF FORMATION]

30+50.00

-NBCD-

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

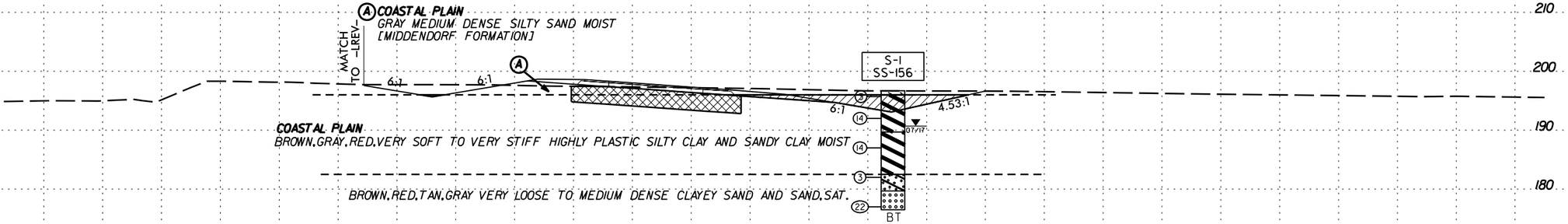
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	71

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-1	44' RT	31+50	1.0-5.0	A-7-6(16)	42	24	10	29	25	36	100	95	71.9	22.3	ND
SS-156	44' RT	31+50	3.7-5.2	A-7-6(34)	60	36	5	12	30	53	100	98	86.4	24.8	ND



-NBCD-

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	72

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

210
200
190
180
170

(A) COASTAL PLAIN
GRAY MEDIUM DENSE SILTY SAND MOIST
[MIDDENDORF FORMATION]

6:1 6:1 6:1 4.82:1

BROWN,GRAY,RED,VERY SOFT TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST

BROWN,RED,TAN,GRAY VERY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SAND,SAT.

BROWN,GRAY,SOFT TO STIFF SANDY CLAY WET TO MOIST

33+00.00

(A) COASTAL PLAIN
GRAY MEDIUM DENSE SILTY SAND MOIST
[MIDDENDORF FORMATION]

6:1 6:1 6:1 4.73:1

COASTAL PLAIN
BROWN,GRAY,RED,VERY SOFT TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST

BROWN,RED,TAN,GRAY VERY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SAND,SAT.

32+50.00

220
210
200
190
180
170

(A) COASTAL PLAIN
GRAY MEDIUM DENSE SILTY SAND MOIST
[MIDDENDORF FORMATION]

6:1 6:1 6:1 4.58:1

COASTAL PLAIN
BROWN,GRAY,RED,VERY SOFT TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST

BROWN,RED,TAN,GRAY VERY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SAND,SAT.

32+00.00

-NBCD-

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

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

6/23/16

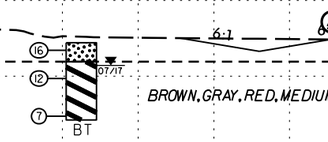
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	73

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

210 200 190 180

Ⓐ **COASTAL PLAIN**
GRAY MEDIUM DENSE SILTY SAND MOIST
[MIDDENDORF FORMATION]

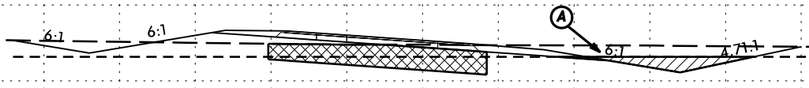
34+73



BROWN,GRAY,RED,MEDIUM STIFF TO STIFF HIGHLY PLASTIC SILTY CLAY MOIST [MIDDENDORF FORMATION]

34+50.00

Ⓐ **COASTAL PLAIN**
GRAY MEDIUM DENSE SILTY SAND MOIST
[MIDDENDORF FORMATION]



BROWN,GRAY,RED,VERY SOFT TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST

BROWN,RED,TAN,GRAY VERY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SAND,SAT.

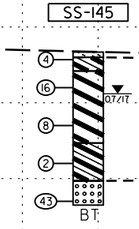
BROWN,GRAY,SOFT TO STIFF SANDY CLAY WET TO MOIST

34+00.00

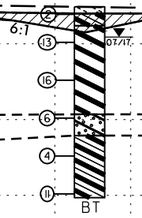
SOIL TEST RESULTS															
SAMPLE NO	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	L.L.	P.I.	% BY WEIGHT C SAND	% BY WEIGHT F SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) #10	% PASSING (SIEVES) #40	% PASSING (SIEVES) #200	% MOISTURE	% ORGANIC
SS-150	44' RT	33+50	3.7-5.2	A-7-6(20)	50	28	8	25	26	41	100	96	73.6	20.8	ND
SS-145	91' LT	33+31	3.7-5.2	A-7-6(25)	55	32	9	19	24	48	100	95	77.4	23.6	ND

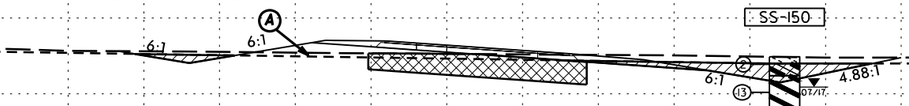
Ⓐ **COASTAL PLAIN**
GRAY MEDIUM DENSE SILTY SAND MOIST
[MIDDENDORF FORMATION]

33+31
SS-145



SS-150





BROWN,GRAY,RED,VERY SOFT TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST

BROWN,RED,TAN,GRAY VERY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SAND,SAT.

BROWN,GRAY,SOFT TO STIFF SANDY CLAY WET TO MOIST

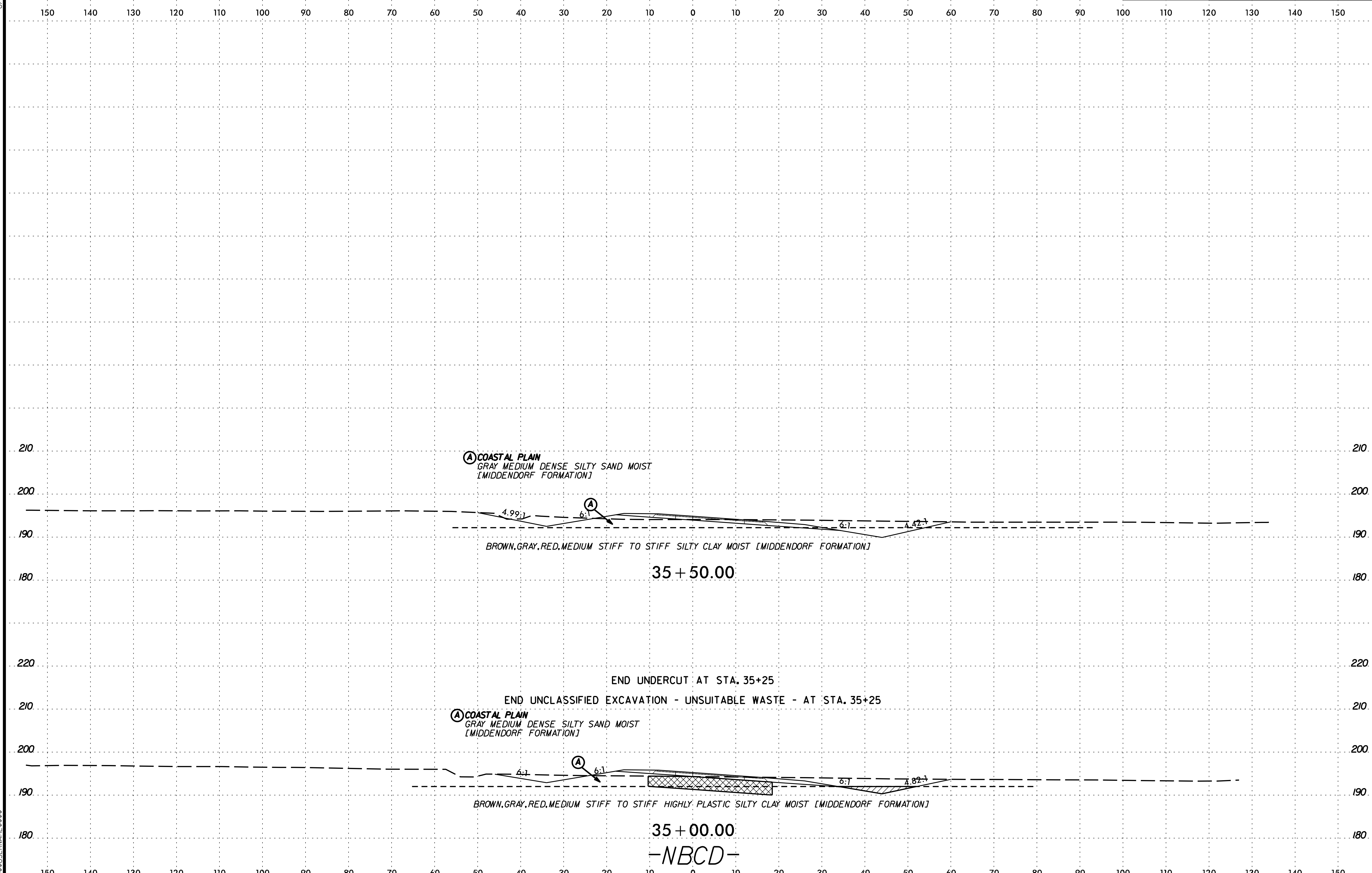
33+50.00

-NBCD-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

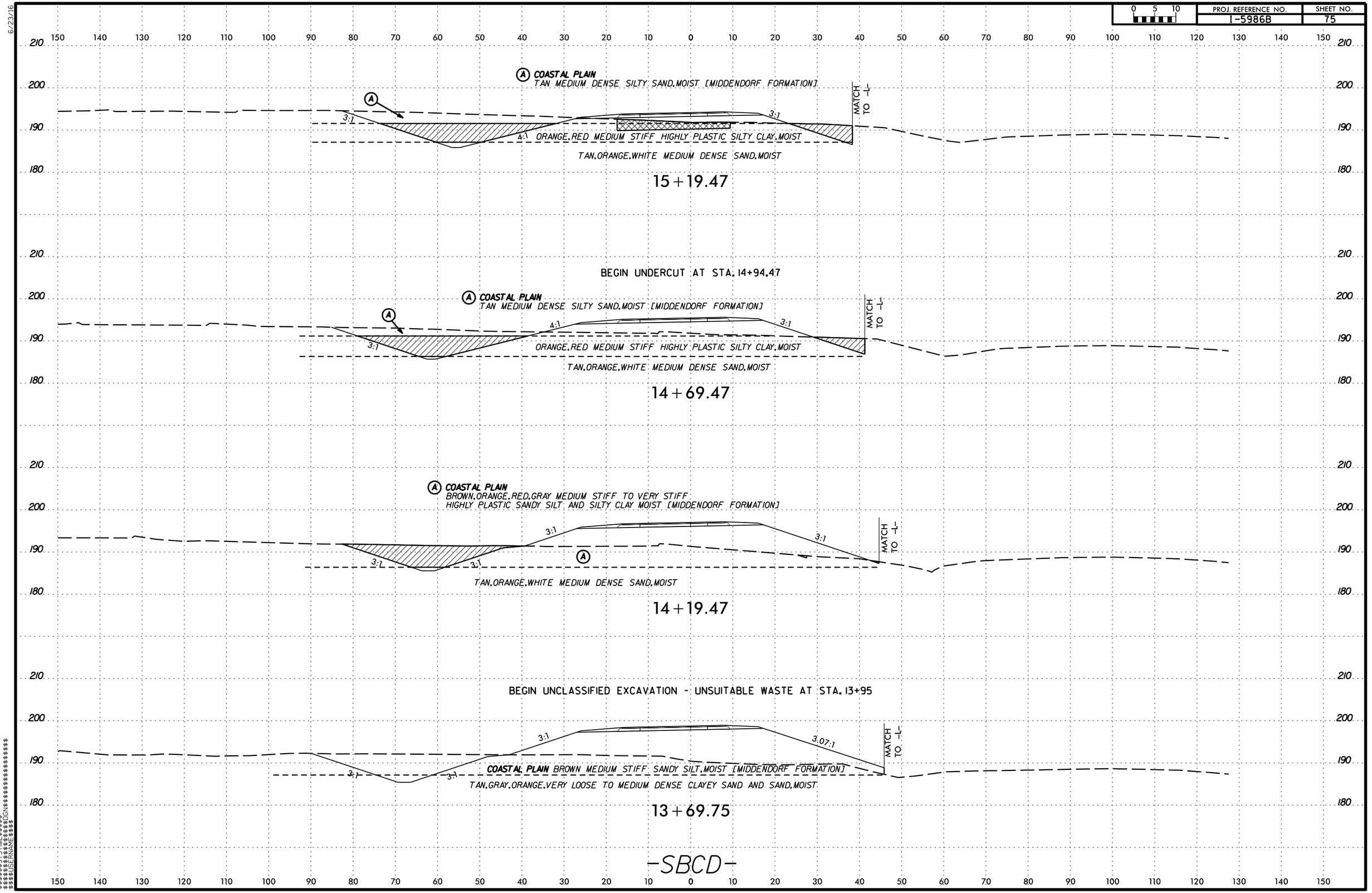
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	74



$$$$$SYSTIME$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

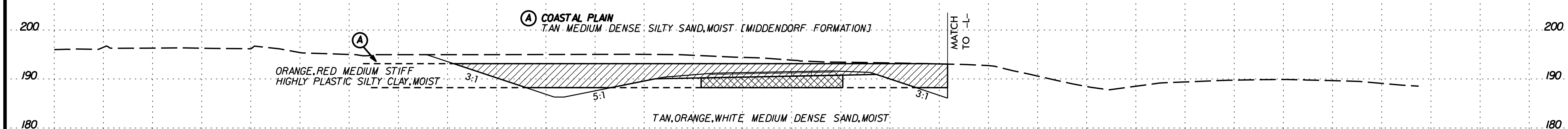
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	75

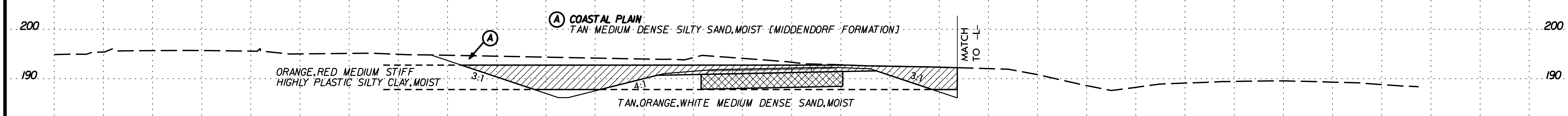


-SBCD-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$



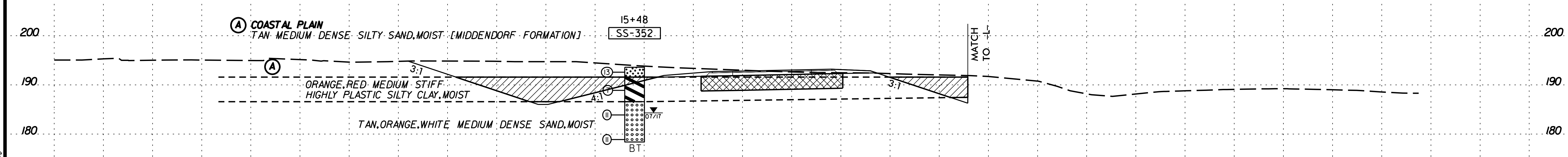
16+69.47



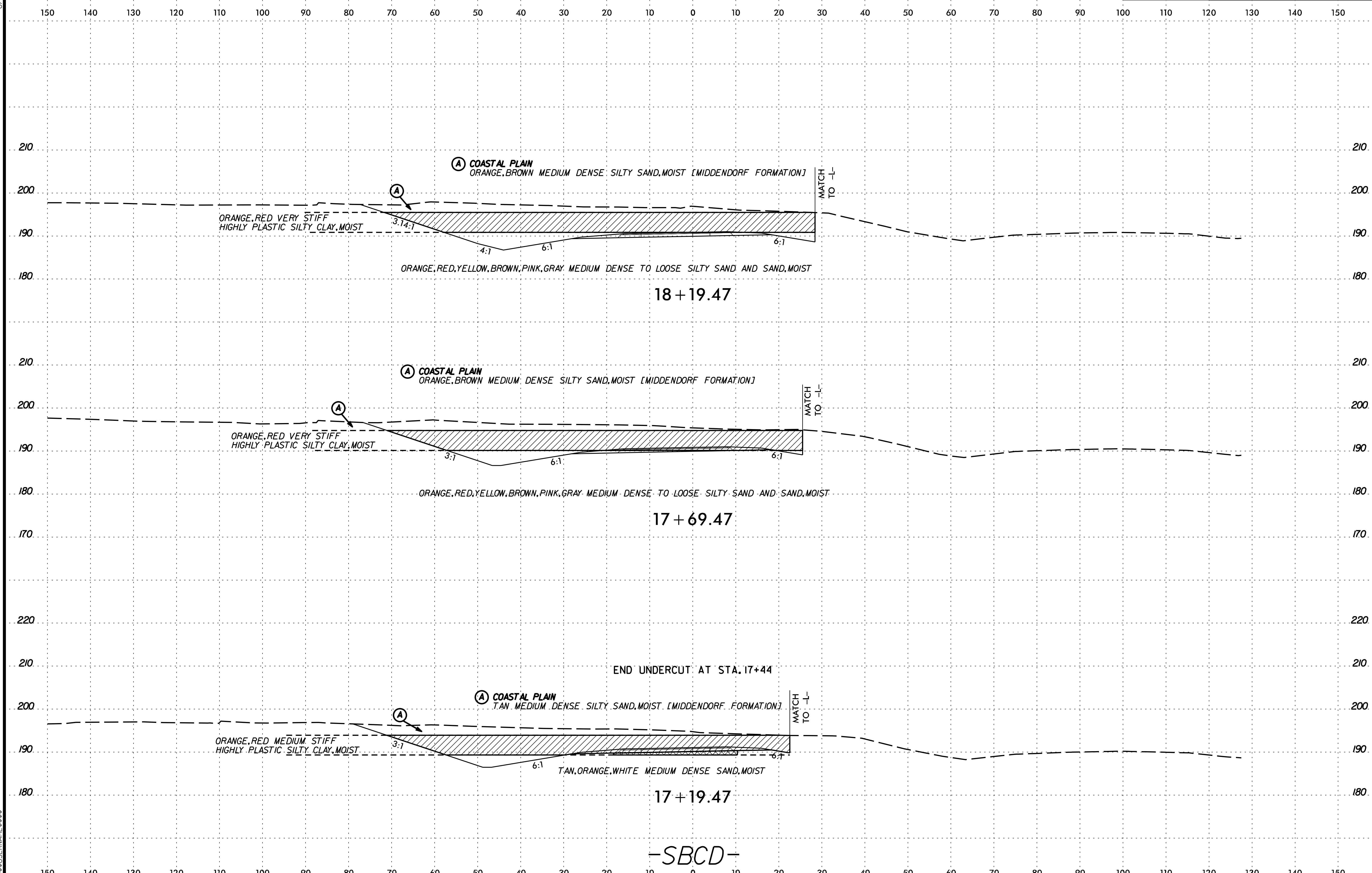
16+19.47

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-352	32' LT	15+48	3.7-5.2	A-7-6(12)	47	24	19	25	18	38	100	90	60.5	22.7	ND

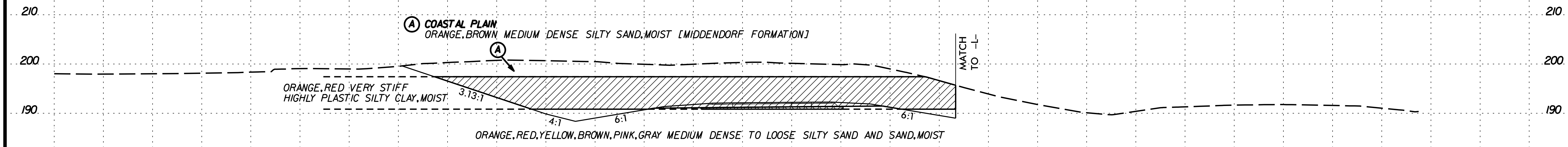


15+69.47
-SBCD-



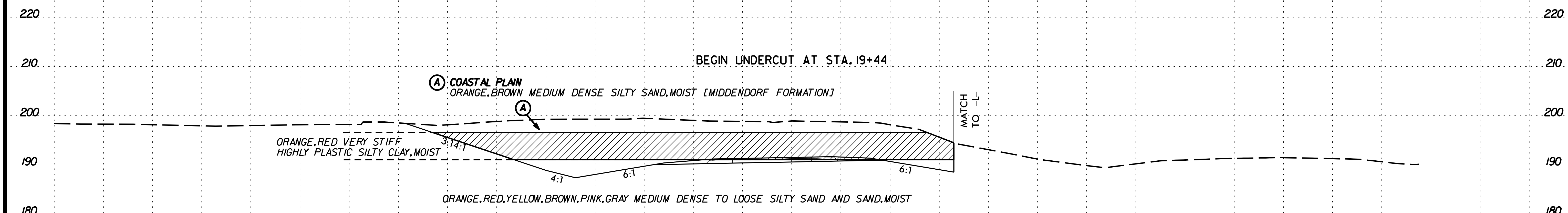
A COASTAL PLAIN
ORANGE,BROWN MEDIUM DENSE SILTY SAND,MOIST [MIDDENDORF FORMATION]
MATCH TO -L-
ORANGE,RED VERY STIFF
HIGHLY PLASTIC SILTY CLAY,MOIST
3.14:1
4:1
6:1
6:1
ORANGE,RED,YELLOW,BROWN,PINK,GRAY MEDIUM DENSE TO LOOSE SILTY SAND AND SAND,MOIST
18+19.47
A COASTAL PLAIN
ORANGE,BROWN MEDIUM DENSE SILTY SAND,MOIST [MIDDENDORF FORMATION]
MATCH TO -L-
ORANGE,RED VERY STIFF
HIGHLY PLASTIC SILTY CLAY,MOIST
3:1
6:1
6:1
ORANGE,RED,YELLOW,BROWN,PINK,GRAY MEDIUM DENSE TO LOOSE SILTY SAND AND SAND,MOIST
17+69.47
END UNDERCUT AT STA. 17+44
A COASTAL PLAIN
TAN MEDIUM DENSE SILTY SAND,MOIST [MIDDENDORF FORMATION]
MATCH TO -L-
ORANGE,RED MEDIUM STIFF
HIGHLY PLASTIC SILTY CLAY,MOIST
3:1
6:1
6:1
TAN,ORANGE,WHITE MEDIUM DENSE SAND,MOIST
17+19.47
-SBCD-

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	78



19+69.48

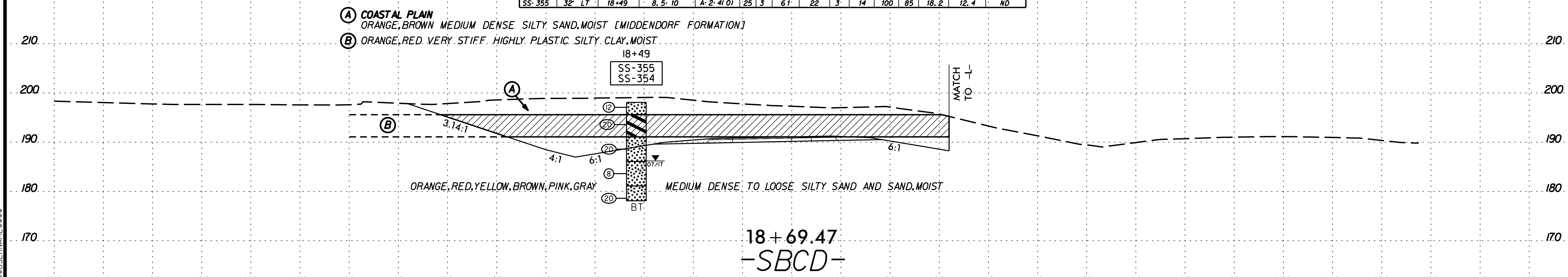
BEGIN UNDERCUT AT STA. 19+44



19+19.47

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND			% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-354	32' LT	18+49	3.5-5.0	A-7-6(28)	61	33	7	22	20	51	100	96	78.8	26.5	ND
SS-355	32' LT	18+49	8.5-10	A-2-4(0)	25	3	61	22	3	14	100	85	18.2	12.4	ND



18+69.47

-SBCD-

6/23/16

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	79

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C SAND	F SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-359	35' LT	21+44	3.5-5	A-7-5(23)	61	29	12	19	12	57	100	94	73.8	29.7	ND

Ⓐ **COASTAL PLAIN**
BROWN LOOSE SILTY SAND, MOIST [MIDDENDORF FORMATION]

21+44
SS-359

ORANGE, RED VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY, MOIST

3.15:1
4:1
6:1
6:1
MATCH TO -L-

7
4
12
23
BT
DRY

ORANGE, BROWN, GRAY MEDIUM DENSE SAND, MOIST

21+20.74

COASTAL PLAIN BROWN LOOSE SILTY SAND, MOIST [MIDDENDORF FORMATION]

ORANGE, RED VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY, MOIST

3.13:1
4:1
6:1
6:1
6:1
MATCH TO -L-

ORANGE, BROWN, GRAY MEDIUM DENSE SAND, MOIST

20+69.85

Ⓐ **COASTAL PLAIN**
ORANGE, BROWN MEDIUM DENSE SILTY SAND, MOIST [MIDDENDORF FORMATION]

ORANGE, RED VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY, MOIST

3.11:1
Ⓐ
4:1
6:1
6:1
6:1
MATCH TO -L-

ORANGE, RED, YELLOW, BROWN, PINK, GRAY MEDIUM DENSE TO LOOSE SILTY SAND AND SAND, MOIST

20+19.58

-SBCD-

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	80

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

220 210 200 190 180

Ⓐ **COASTAL PLAIN**
BROWN LOOSE SILTY SAND, MOIST [MIDDENDORF FORMATION]

ORANGE, RED VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY, MOIST

3:1 6:1 4:1 6:1

MATCH TO -L-

ORANGE, BROWN, GRAY MEDIUM DENSE SILTY AND CLAYEY SAND, MOIST

22+74.53

Ⓐ **COASTAL PLAIN**
BROWN LOOSE SILTY SAND, MOIST [MIDDENDORF FORMATION]

ORANGE, RED VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY, MOIST

3:1 6:1 4:1 6:1

MATCH TO -L-

ORANGE, BROWN, GRAY MEDIUM DENSE SAND, MOIST

22+23.44

Ⓐ **COASTAL PLAIN**
BROWN LOOSE SILTY SAND, MOIST [MIDDENDORF FORMATION]

ORANGE, RED VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY, MOIST

3:1 6:1 4:1 6:1

MATCH TO -L-

ORANGE, BROWN, GRAY MEDIUM DENSE SAND, MOIST

21+72.04

-SBCD-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	81

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

220 210 200 190 180

SP 79

-SR18-
STA. 13+25.00

(A) ARTIFICIAL FILL
BROWN LOOSE SILTY SAND, MOIST

3:1 4:1 3:1 4:1 3:1

MATCH TO -L-

COASTAL PLAIN
BROWN STIFF TO VERY STIFF HIGHLY PLASTIC SANDY CLAY, MOIST [MIDDENDORF FORMATION]

RED, BROWN MEDIUM DENSE CLAYEY SAND, MOIST

24+28.27

(B) ARTIFICIAL FILL
BROWN LOOSE SILTY SAND AND CLAYEY SAND MOIST

-SR18-
STA. 12+75.00

SP 78

(A) COASTAL PLAIN
BROWN LOOSE SILTY SAND, MOIST [MIDDENDORF FORMATION]

23+53

(B)

3:1 4:1 3.554:1 3:1 4.4:1 3:1

MATCH TO -L-

BT. DRY

BROWN STIFF TO VERY STIFF HIGHLY PLASTIC SANDY CLAY, MOIST [MIDDENDORF FORMATION]

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT -SR18- STA. 12+50

BEGIN UNDERCUT AT -SR18- STA. 12+50

RED, BROWN MEDIUM DENSE CLAYEY SAND, MOIST

23+76.84

COASTAL PLAIN

BROWN LOOSE SILTY SAND, MOIST [MIDDENDORF FORMATION]

3.17:1 4:1 6:1 3:1

MATCH TO -L-

BROWN STIFF TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

RED, BROWN MEDIUM DENSE SILTY AND CLAYEY SAND, MOIST

23+25.59

-SBCD-

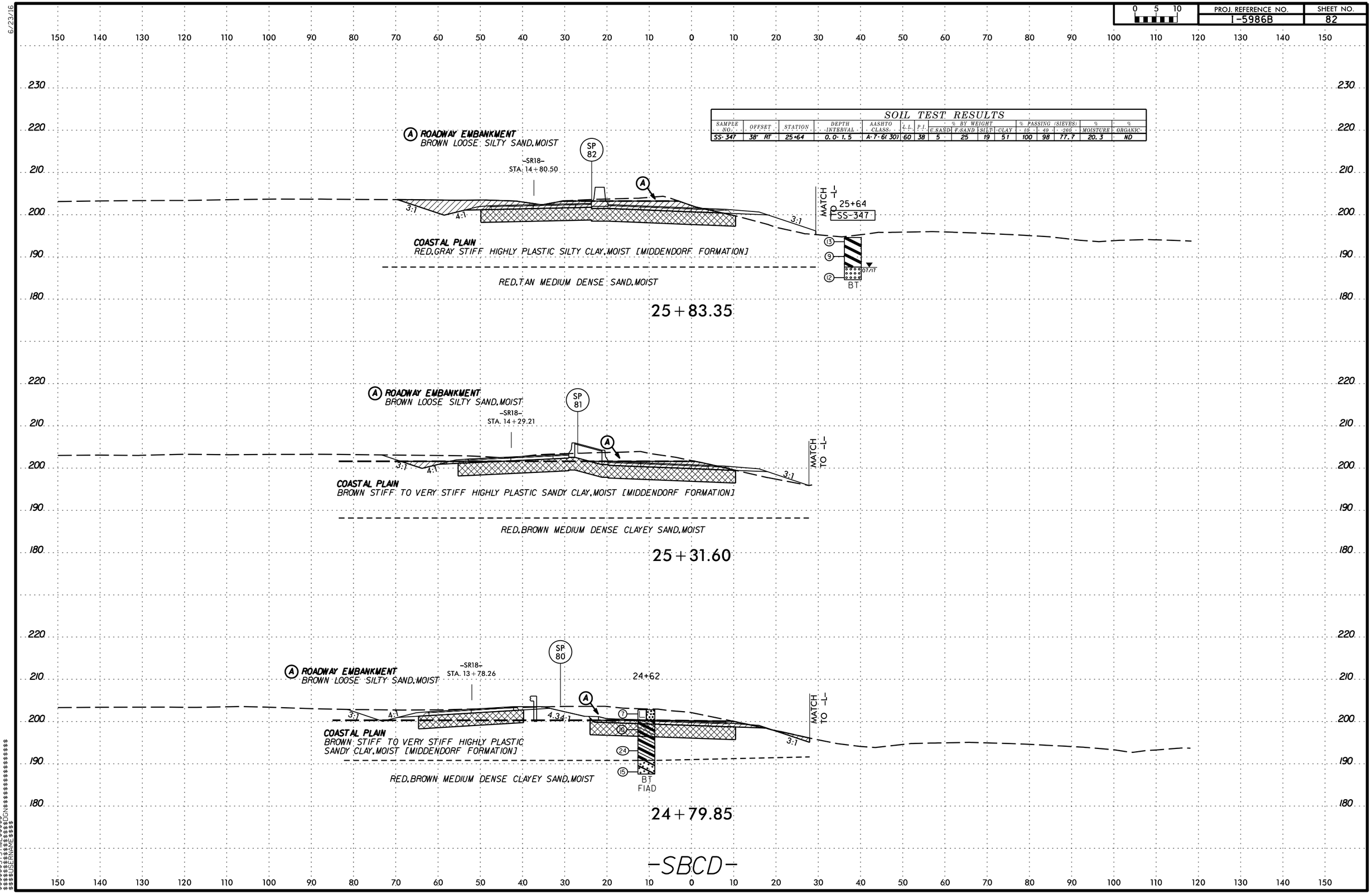
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$
$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	82

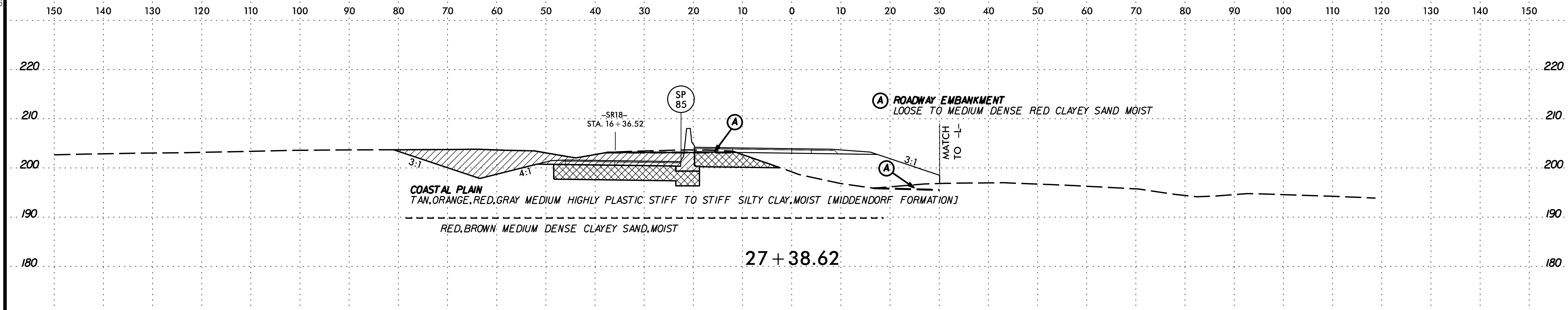
SOIL TEST RESULTS

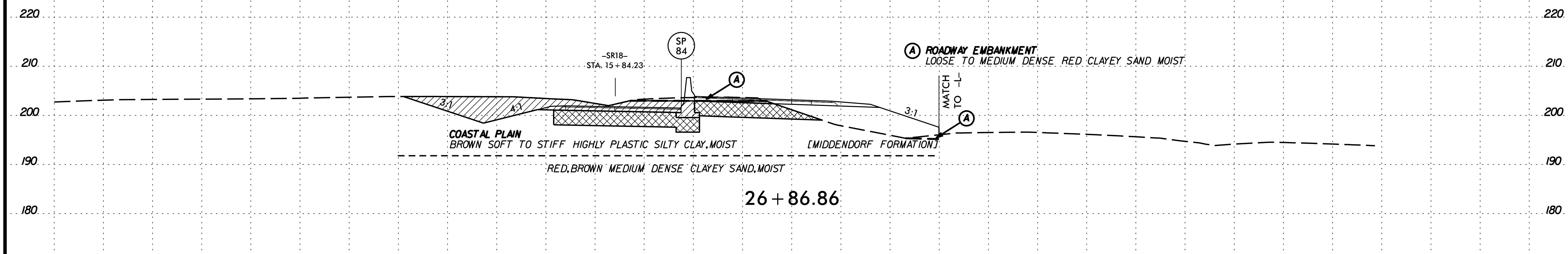
SAMPEE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) #10	% PASSING (SIEVES) #40	% PASSING (SIEVES) #200	% MOISTURE	% ORGANIC
SS-347	38' RT	25+64	0.0-1.5	A-7-6(30)	60	38	5	25	19	51	100	98	77.7	20.3	ND



–SBCD–

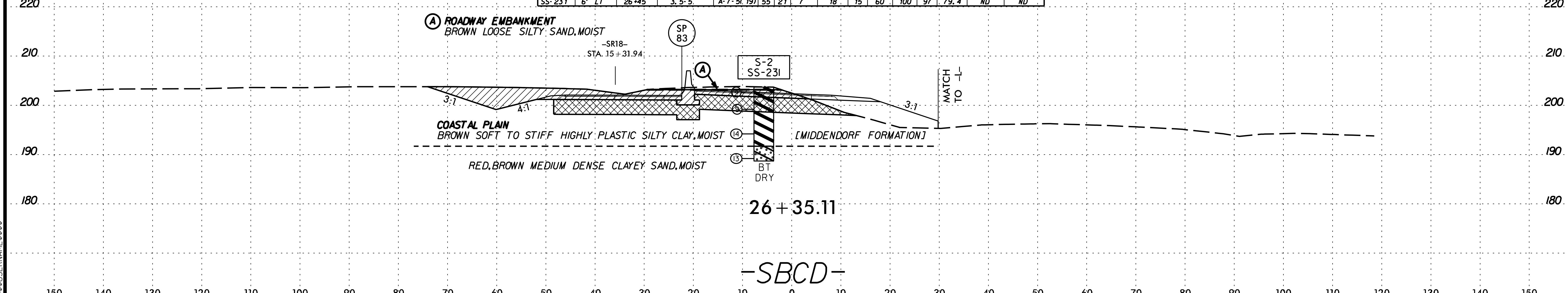
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$





SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-2	6' LT	26+45	1.0-5.0	A-7-6(13)	43	23	10	32	14	44	100	96	66.3	24.3	ND
SS-231	6' LT	26+45	3.5-5.	A-7-5(19)	55	21	7	18	15	60	100	97	79.4	ND	ND



-SBCD-

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	84

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

220 210 200 190

SP 88

–SR18–
STA. 17+86.78

Ⓐ ROADWAY EMBANKMENT
LOOSE TO MEDIUM DENSE RED CLAYEY SAND MOIST

3:1 4:1 3:1

MATCH –L–

COASTAL PLAIN
BROWN,ORANGE,RED,GRAY MEDIUM STIFF TO STIFF SANDY SILT,SANDY CLAY AND HIGHLY PLASTIC SILTY CLAY,MOIST [MIDDENDORF FORMATION]

28+91.00

220 210 200 190

SP 87

–SR18–
STA. 17+37.81

Ⓐ ROADWAY EMBANKMENT
LOOSE TO MEDIUM DENSE RED CLAYEY SAND MOIST

3:1 4:1 3:1

MATCH –L–

COASTAL PLAIN
TAN,ORANGE,RED,GRAY MEDIUM STIFF TO STIFF HIGHLY PLASTIC SILTY CLAY,MOIST [MIDDENDORF FORMATION]

28+41.00

230 220 210 200 190 180

BEGIN UNCLASSIFIED EXCAVATION -
NOT ACCEPTABLE IN THE TOP 3 FEET AT -SR18- STA. 16+90
END UNCLASSIFIED EXCAVATION -
UNSUITABLE WASTE AT -SR18- STA. 16+90

BEGIN UNCLASSIFIED EXCAVATION -
NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 27+94
END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 27+94

SP 86

Ⓐ ROADWAY EMBANKMENT
LOOSE TO MEDIUM DENSE RED CLAYEY SAND MOIST

–SR18–
STA. 16+87.95

28+13

3:1 4:1 3:1

MATCH –L–

6 13 13

BT
DRY

COASTAL PLAIN
TAN,ORANGE,RED,GRAY MEDIUM STIFF TO STIFF HIGHLY PLASTIC SILTY CLAY,MOIST [MIDDENDORF FORMATION]

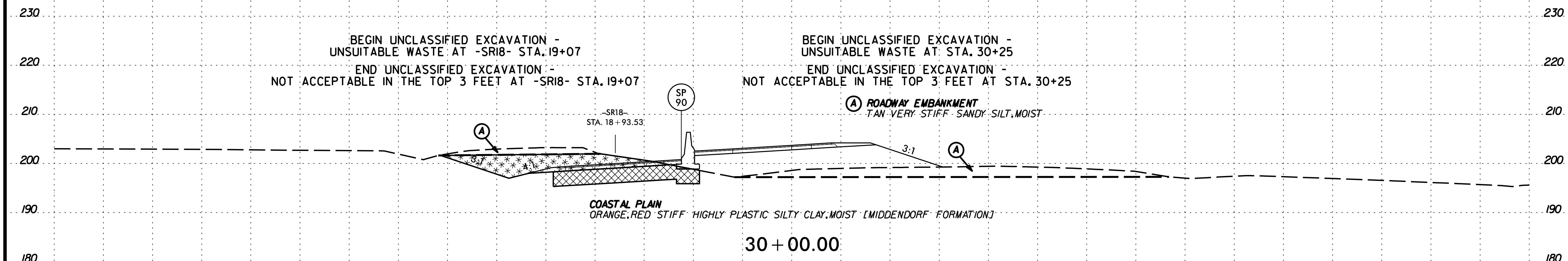
27+90.08

–SBCD–

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

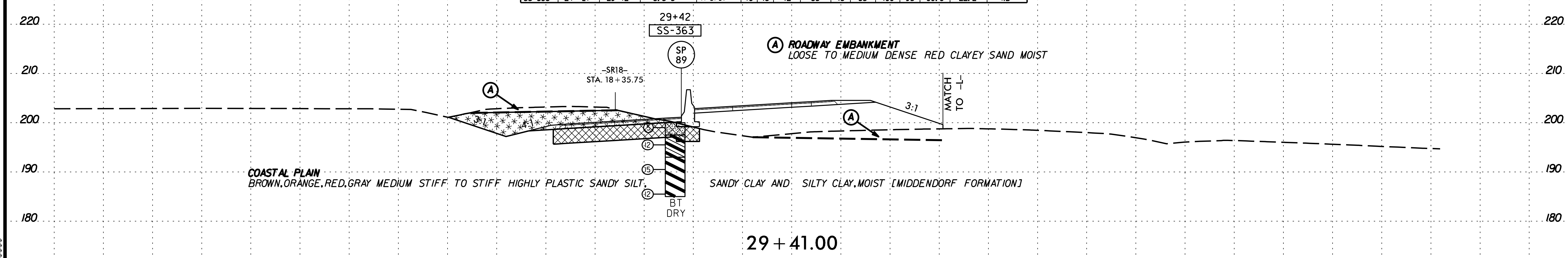
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16



30+00.00

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-363	24' LT	29+42	3.5-5	A-6(9)	40	18	12	35	18	35	100	95	60.6	22.2	ND

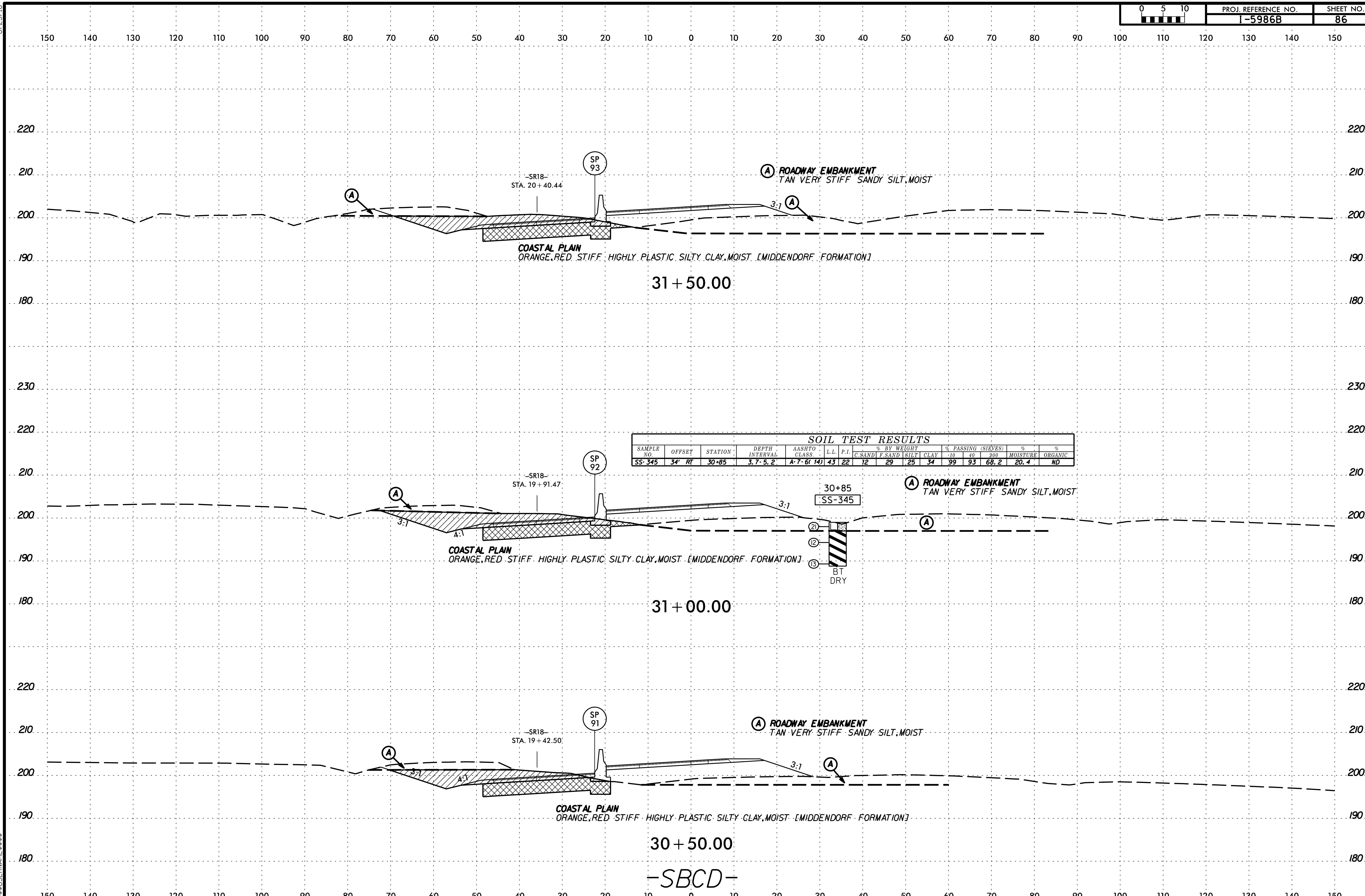


29+41.00

-SBCD-

$$$$$SYSTIME$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	86



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-345	34' RT	30+85	3.7-5.2	A-7-6(14)	43	22	12	29	25	34	99	93	68.2	20.4	ND

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	87

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

220 210 200 190 180

SP 96

–SR18–
STA. 21+88.40

(A) **ROADWAY EMBANKMENT**
TAN VERY STIFF SANDY SILT, MOIST

3:1 4:1 6:1 6:1

COASTAL PLAIN
ORANGE, RED MEDIUM STIFF TO STIFF HIGHLY PLASTIC SILTY CLAY, MOIST [MIDDENDORF FORMATION]

33+00.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-343	41' RT	32+42	8.7-10.2	A-7-6(38)	60	38	1	15	33	51	100	99	91	24.7	ND

SP 95

–SR18–
STA. 21+38.40

(A) **ROADWAY EMBANKMENT**
TAN VERY STIFF SANDY SILT, MOIST

32+42
SS-343

3:1 4:1 3:1

(12) (11)

BT
DRY

COASTAL PLAIN
ORANGE, RED MEDIUM STIFF TO STIFF HIGHLY PLASTIC SILTY CLAY, MOIST [MIDDENDORF FORMATION]

32+50.00

230 220 210 200 190 180

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-7077	36' LT	32+11	1.0-2.0	A-7-6(20)	51	27	7	25	16	52	100	97	73.6	28.0	ND

S-7077
32+11

SP 94

–SR18–
STA. 20+89.41

(A) **ROADWAY EMBANKMENT**
TAN VERY STIFF SANDY SILT, MOIST

3:1 4:1 3:1

BT
FIAD

COASTAL PLAIN
ORANGE, RED STIFF HIGHLY PLASTIC SILTY CLAY, MOIST [MIDDENDORF FORMATION]

32+00.00

-SBCD-

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

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	88

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

220 210 200 190 180

Ⓐ **COASTAL PLAIN**
BROWN MEDIUM DENSE SILTY SAND,MOIST [MIDDENDORF FORMATION]

–SR18–
STA. 23+30.00

SP 99

3:1 4:1 4:1 6.2:1 6:1 6:1

COASTAL PLAIN
ORANGE,RED MEDIUM STIFF TO STIFF HIGHLY PLASTIC SILTY CLAY,MOIST [MIDDENDORF FORMATION]

34+50.00

SP 98

–SR18–
STA. 22+83.90

Ⓐ **ROADWAY EMBANKMENT**
TAN VERY STIFF SANDY SILT,MOIST

3:1 4:1 6:1 6:1

COASTAL PLAIN
ORANGE,RED MEDIUM STIFF TO STIFF HIGHLY PLASTIC SILTY CLAY,MOIST [MIDDENDORF FORMATION]

34+00.00

SP 97

–SR18–
STA. 22+36.87

Ⓐ **ROADWAY EMBANKMENT**
TAN VERY STIFF SANDY SILT,MOIST

3:1 4:1 6:1 6:1

COASTAL PLAIN
ORANGE,RED MEDIUM STIFF TO STIFF HIGHLY PLASTIC SILTY CLAY,MOIST [MIDDENDORF FORMATION]

33+50.00

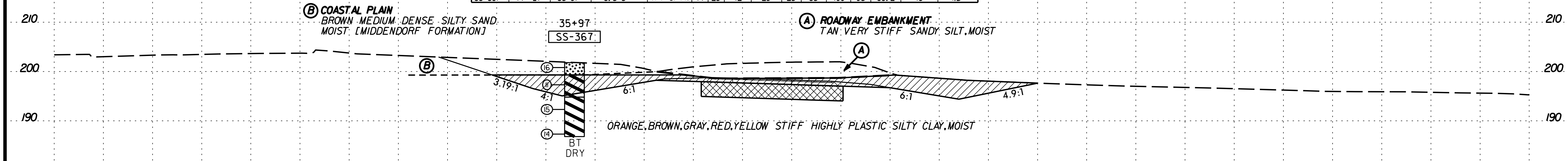
–SBCD–

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

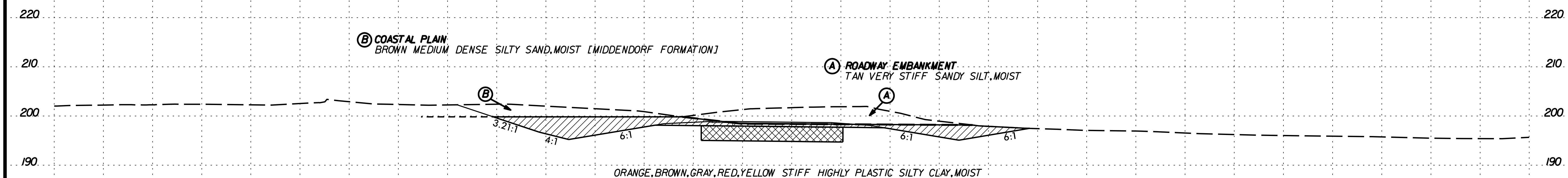
6/23/16

SOIL TEST RESULTS

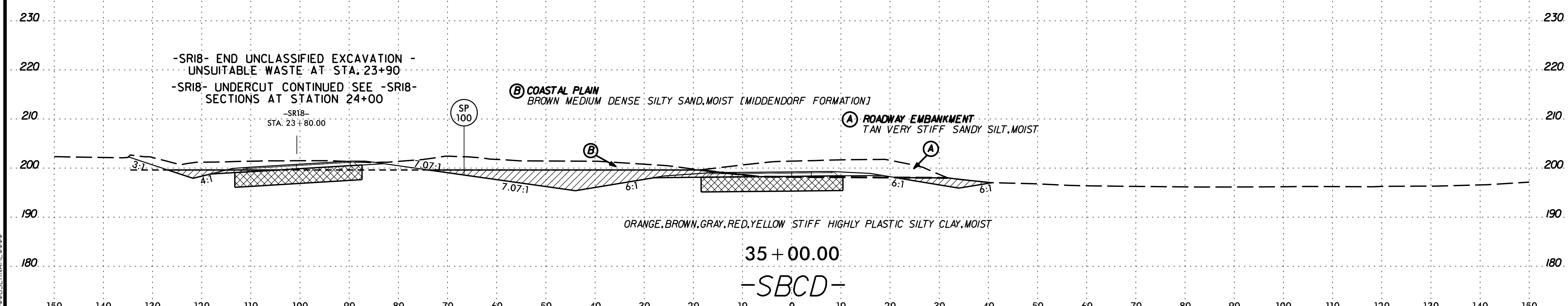
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-367	44' LT	35+97	3.5-5	A-7-6(14)	44	23	12	28	25	35	100	95	68.2	18	ND



36+00.00



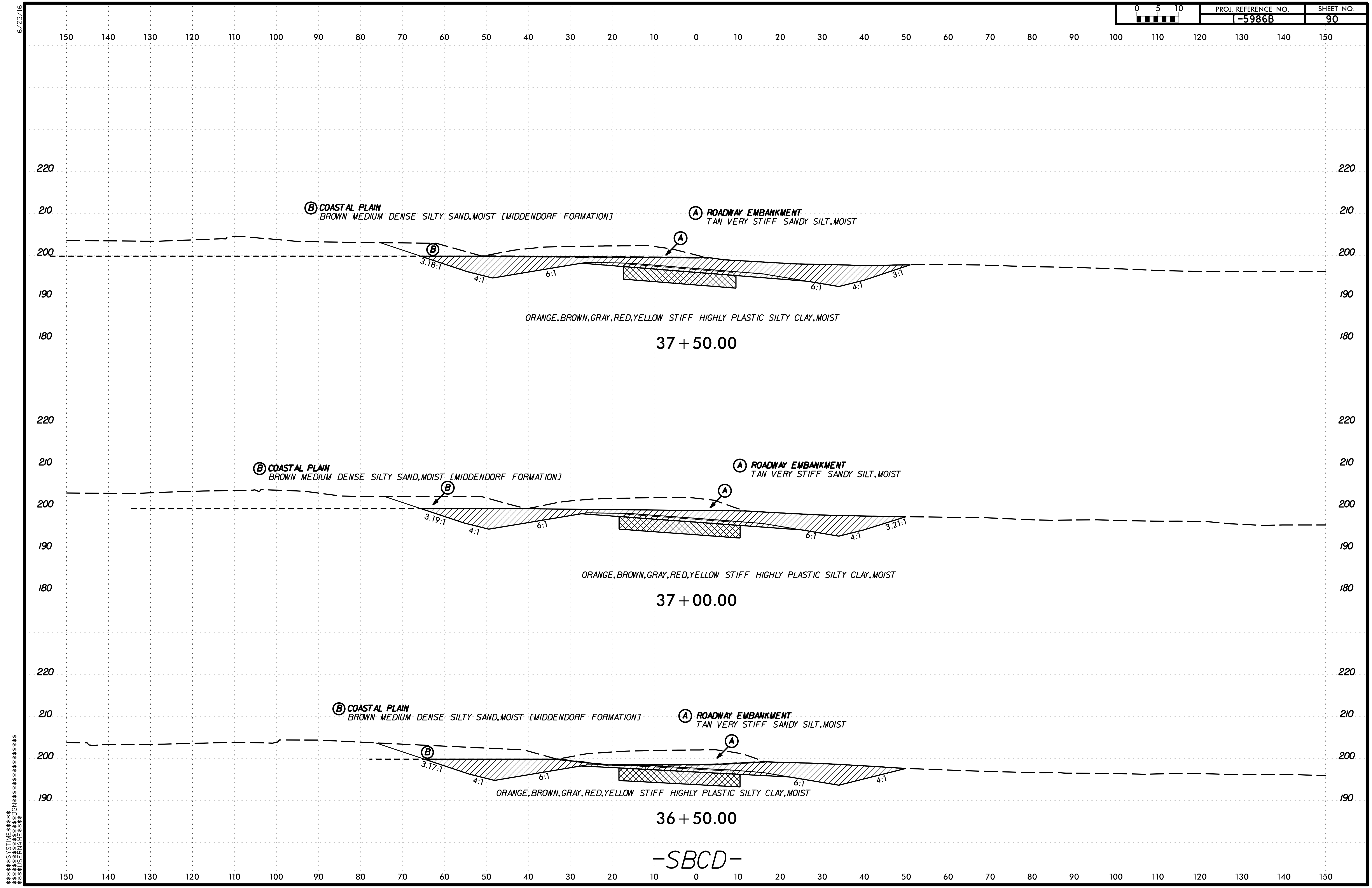
35+50.00



35+00.00

-SBCD-

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	90



6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	91

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

220 210 200 190 180 170

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-370	44' RT.	38+99	0.0-1.5	A-6(9)	32	15	10	23	30	37	100	95	73.7	9	ND

Ⓐ ROADWAY EMBANKMENT
TAN VERY STIFF SANDY SILT, MOIST

38+99
SS-370

3:1 4:1 6:1 6:1 3:1

14 14 11 12

07/17

BT

COASTAL PLAIN
BROWN, YELLOW, GRAY STIFF HIGHLY PLASTIC SANDY CLAY AND SILTY CLAY, MOIST [MIDDENDORF FORMATION]

YELLOW, BROWN MEDIUM DENSE SAND, MOIST

39+00.00

Ⓐ ROADWAY EMBANKMENT
TAN VERY STIFF SANDY SILT, MOIST

3:1 4:1 6:1 6:1 3:1

COASTAL PLAIN
BROWN, YELLOW, GRAY STIFF HIGHLY PLASTIC SANDY CLAY AND SILTY CLAY, MOIST [MIDDENDORF FORMATION]

YELLOW, BROWN MEDIUM DENSE SAND, MOIST

38+50.00

Ⓐ ROADWAY EMBANKMENT
TAN VERY STIFF SANDY SILT, MOIST

3.27:1 4:1 6:1 6:1 4:1 3:1

COASTAL PLAIN
BROWN, YELLOW, GRAY STIFF HIGHLY PLASTIC SANDY CLAY AND SILTY CLAY, MOIST [MIDDENDORF FORMATION]

YELLOW, BROWN MEDIUM DENSE SAND, MOIST

38+00.00

-SBCD-

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

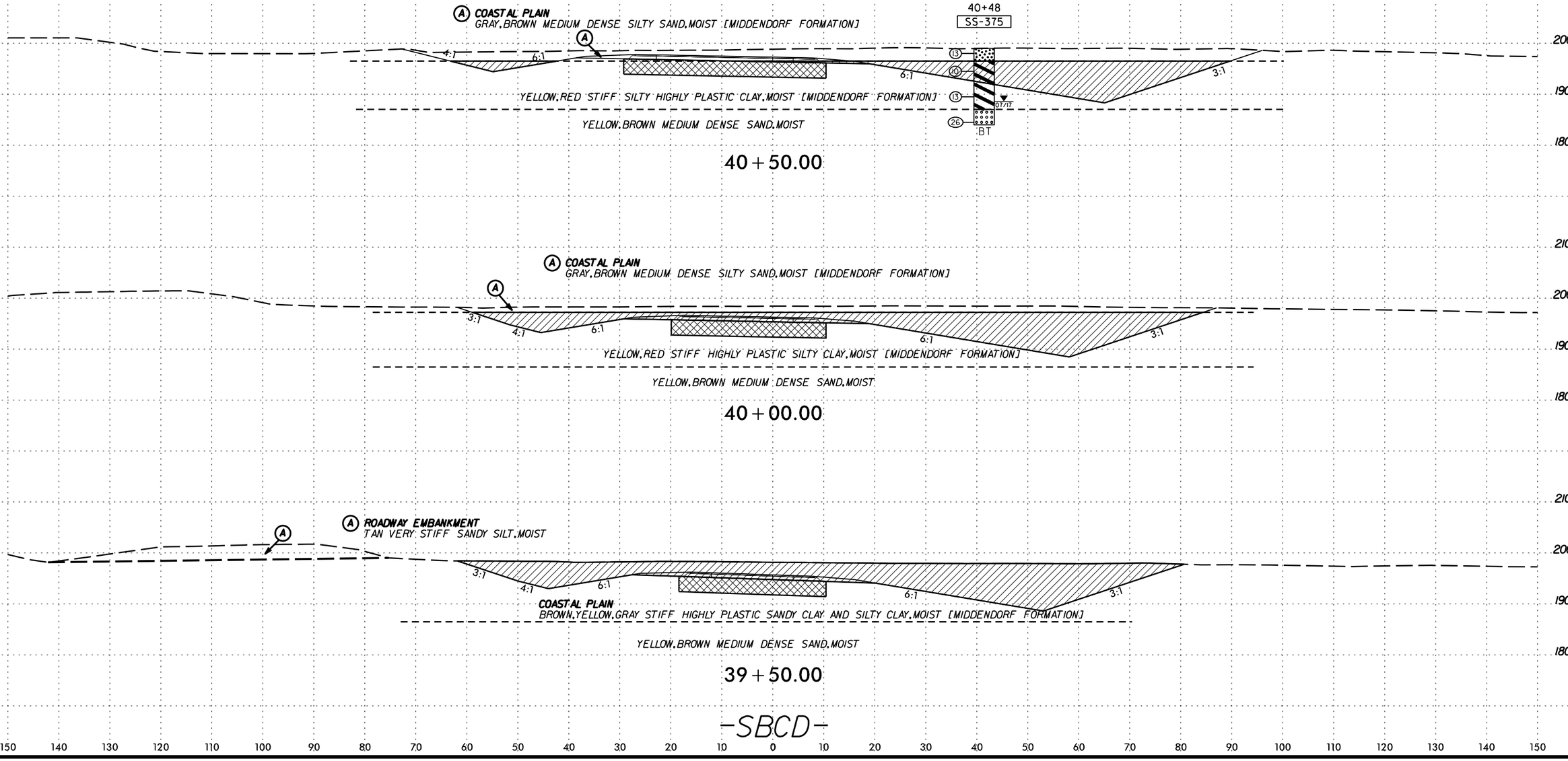
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	92

END UNDERCUT AT -SBCD- STA. 41+14

END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT -SBCD- STA. 41+14

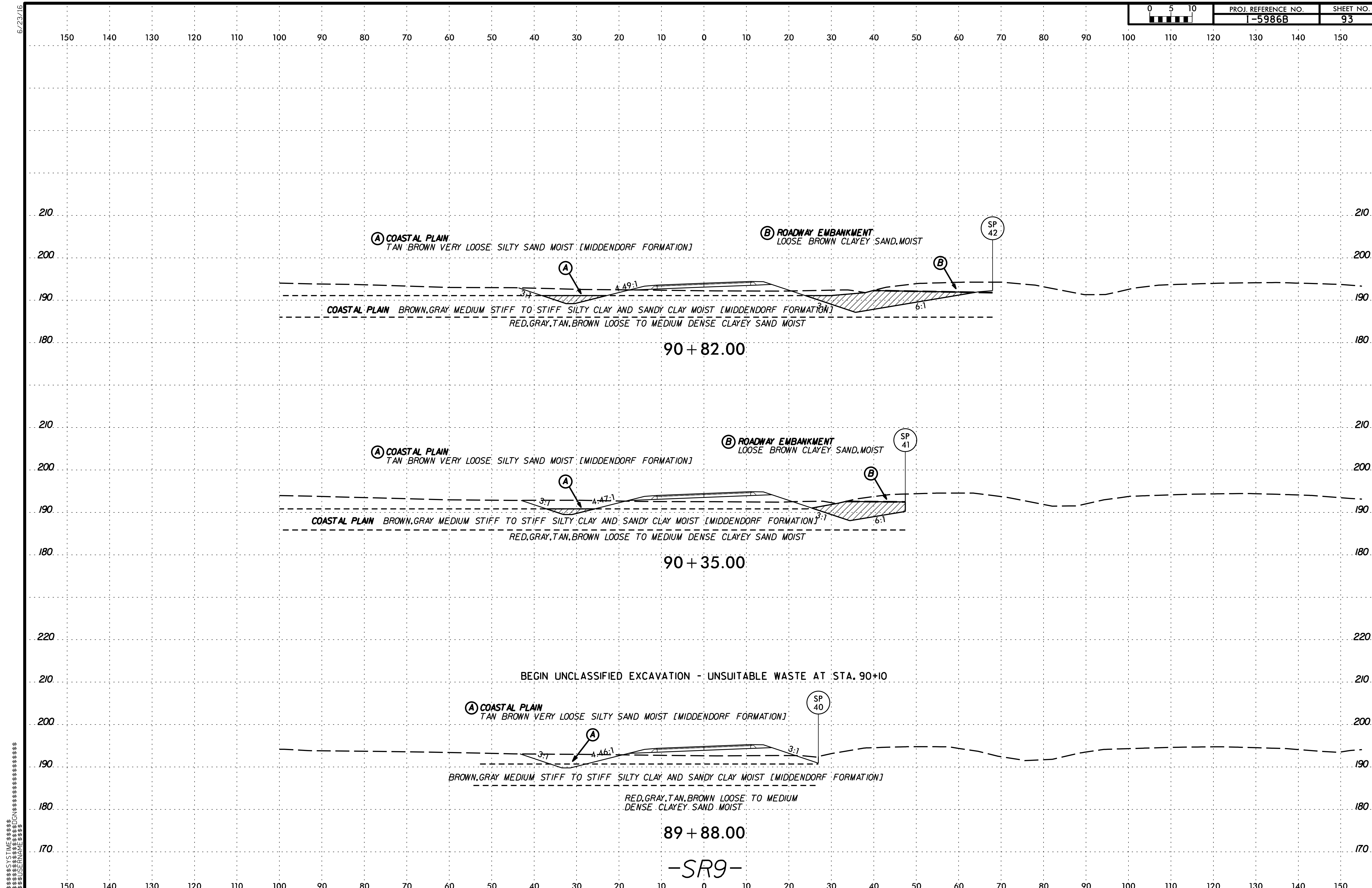
SOIL TEST RESULTS

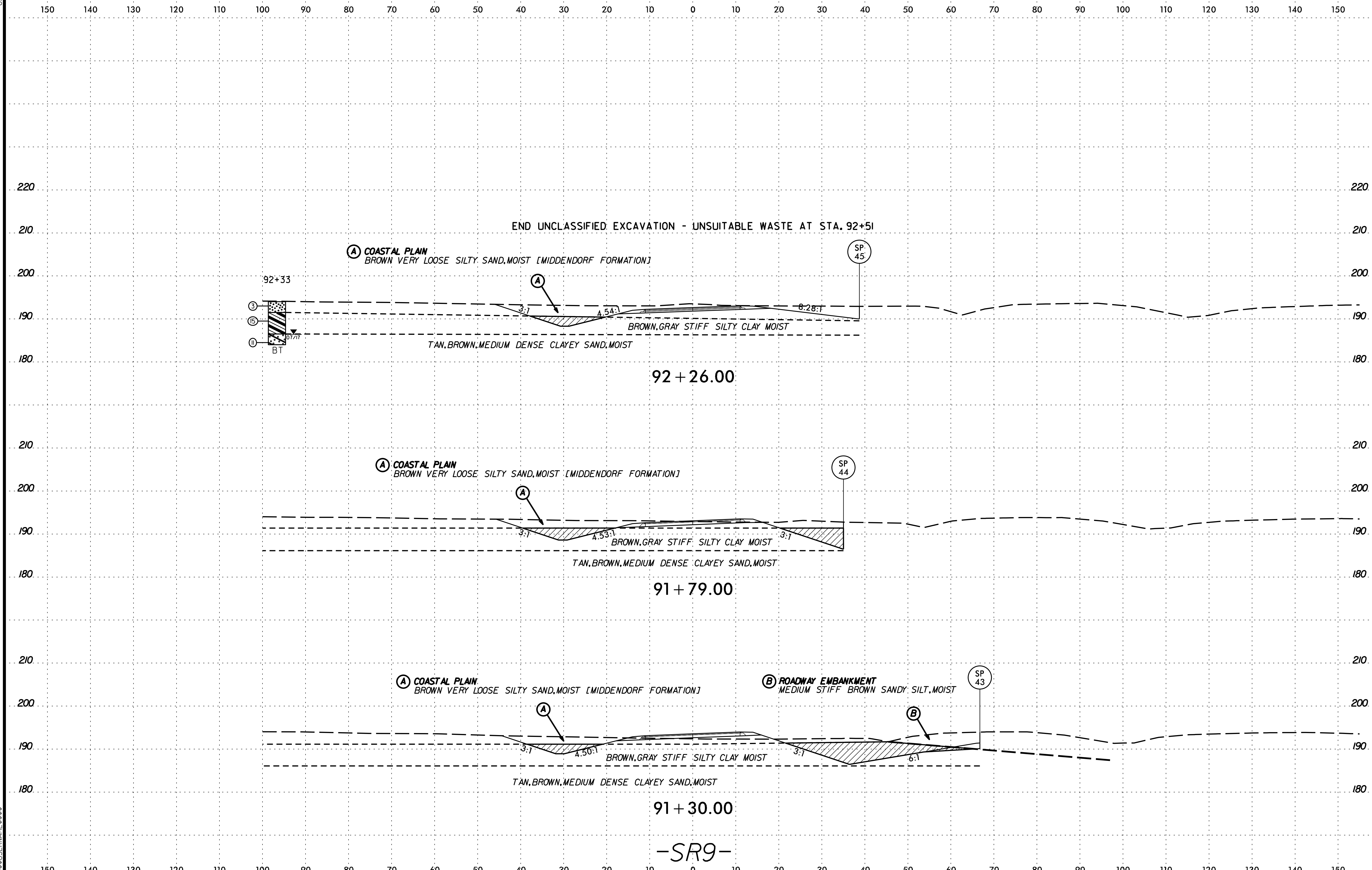
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-375	41' RT.	40+48	3.5-5	A-7-6(14)	45	23	12	30	23	35	99	94	66.8	23.1	ND



$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

PROJ. REFERENCE NO. I-5986B | SHEET NO. 93





6/23/16

$$$$$SYSTIME$$$$$ $$$$$$$$$$DGN$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$

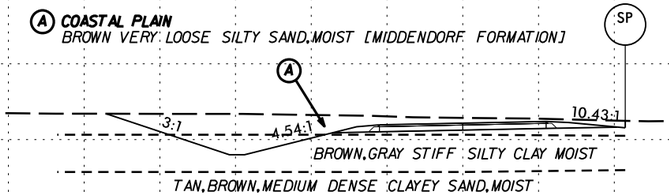
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	95

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

210
200
190
180

Ⓐ **COASTAL PLAIN**
BROWN VERY LOOSE SILTY SAND,MOIST [MIDDENDORF FORMATION]



92+76.00

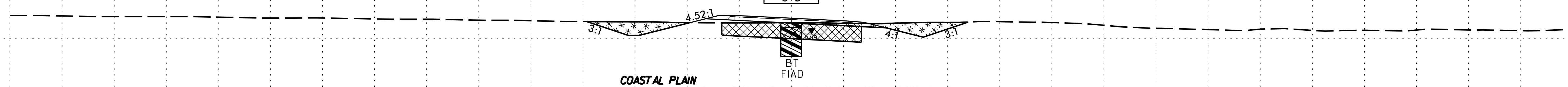
-SR9-

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

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

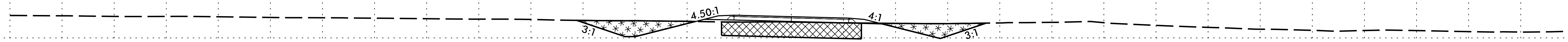
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			%	%
							C.SAND	F.SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
S-5	CL	23+00	1.5-2.0	A-6(9)	36	16	18	22	24	36	99	88	66.0	24.1	ND



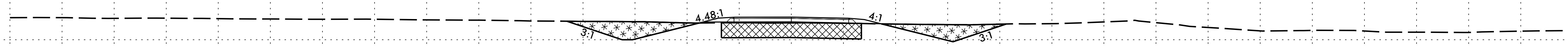
COASTAL PLAIN
ORANGE,GRAY,BROWN,RED,MEDIUM STIFF TO VERY STIFF SANDY CLAY AND SILTY CLAY MOIST TO WET [MIDDENDORF FORMATION]

23+00.00



COASTAL PLAIN
ORANGE,GRAY,BROWN,RED,MEDIUM STIFF TO VERY STIFF SANDY CLAY AND SILTY CLAY MOIST TO WET [MIDDENDORF FORMATION]

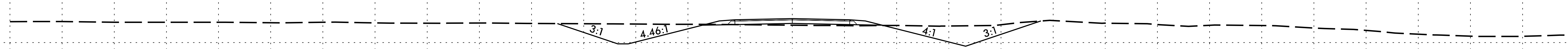
22+50.00



COASTAL PLAIN
ORANGE,GRAY,BROWN,RED,MEDIUM STIFF TO VERY STIFF SANDY CLAY AND SILTY CLAY MOIST TO WET [MIDDENDORF FORMATION]

22+00.00

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 21+75
BEGIN UNDERCUT AT STA 21+75



COASTAL PLAIN
ORANGE,GRAY,BROWN,RED,MEDIUM STIFF TO VERY STIFF SANDY CLAY AND SILTY CLAY MOIST TO WET [MIDDENDORF FORMATION]

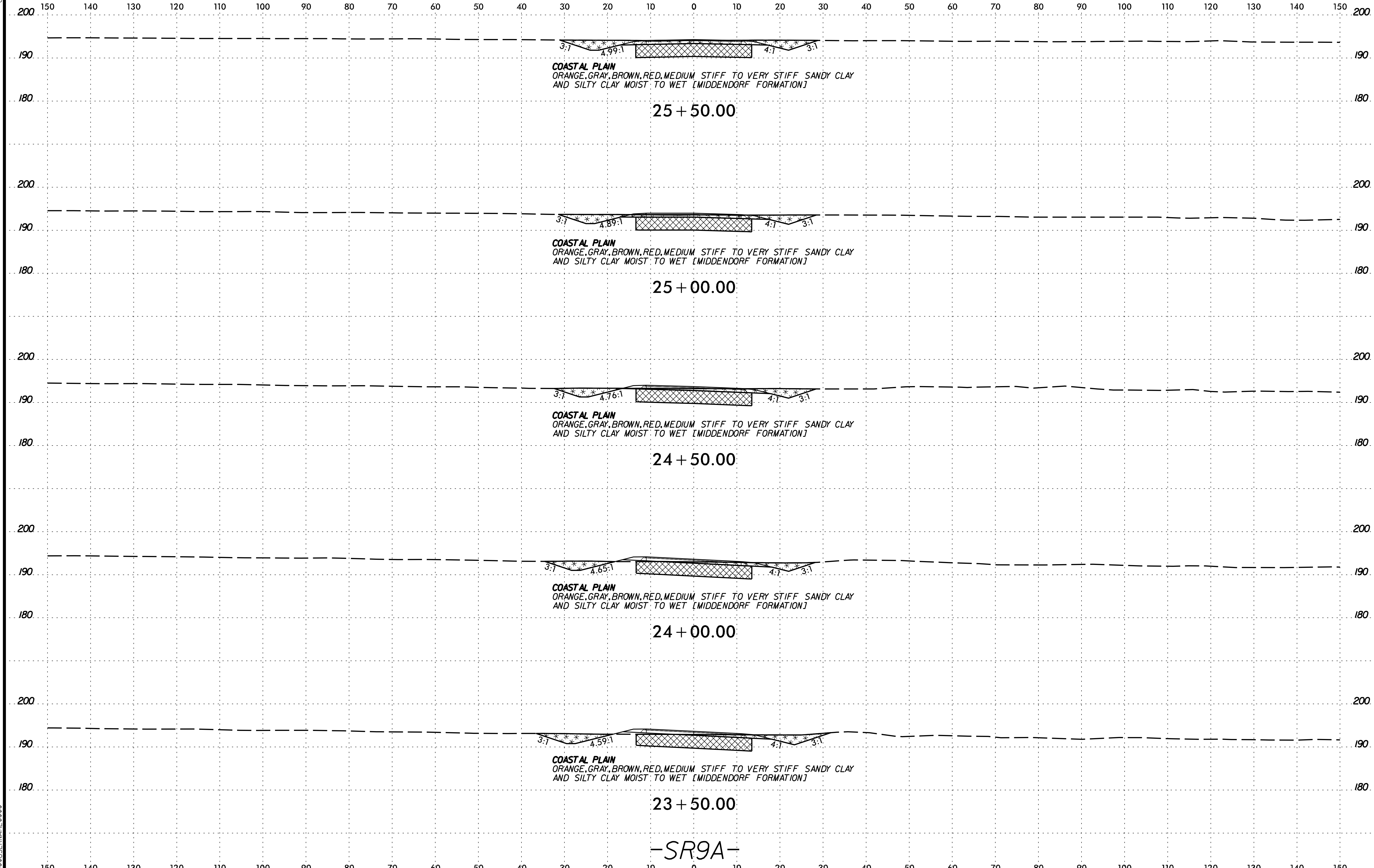
21+50.00

-SR9A-

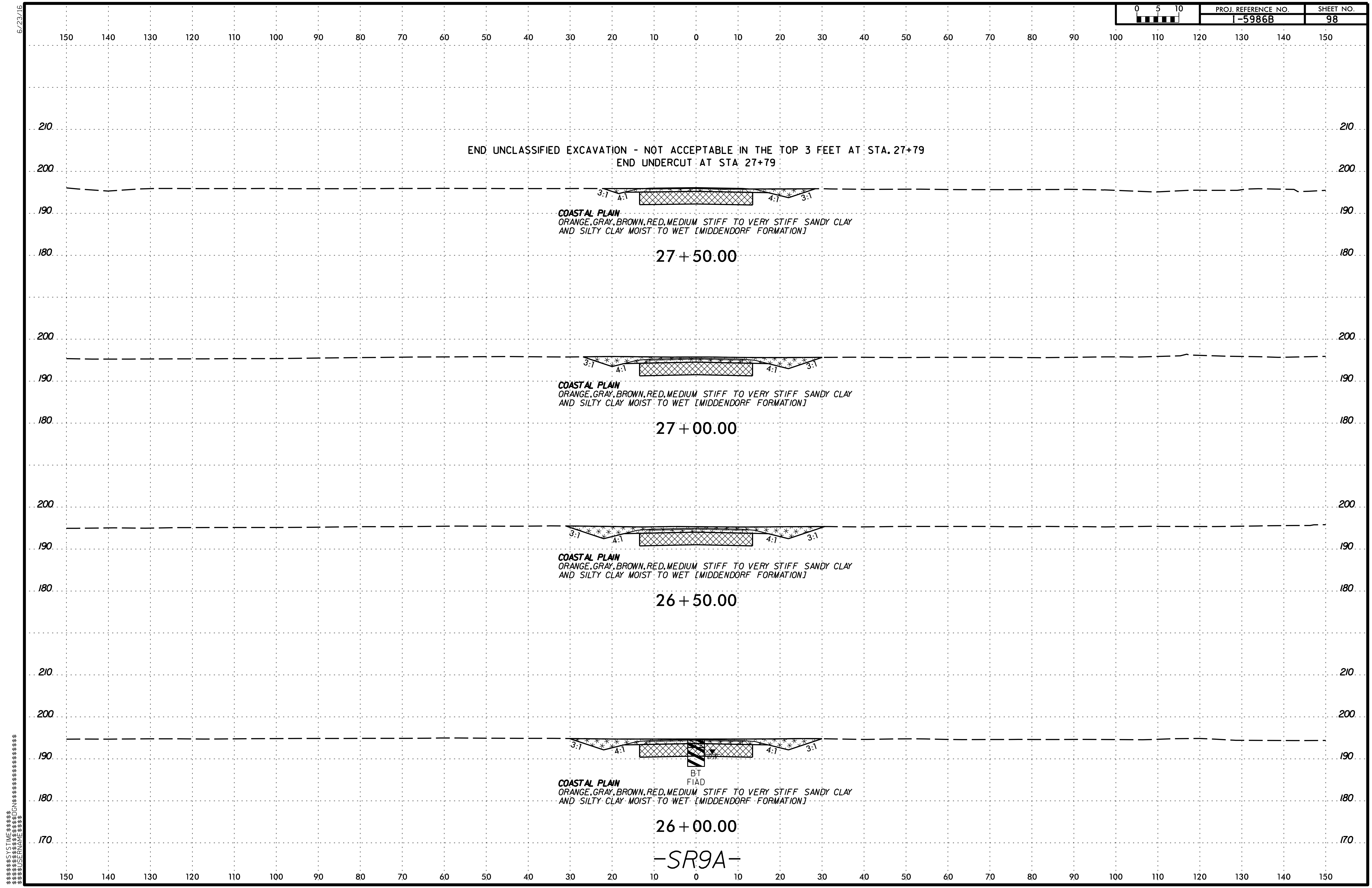
6/23/16

6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	97



$$$$$SYSTIME$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$


6/23/16
PROJ. REFERENCE NO.
I-5986B
SHEET NO.
98
0 5 10
END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 27+79
END UNDERCUT AT STA 27+79
COASTAL PLAIN
ORANGE,GRAY,BROWN,RED,MEDIUM STIFF TO VERY STIFF SANDY CLAY
AND SILTY CLAY MOIST TO WET [MIDDENDORF FORMATION]
27 + 50.00
COASTAL PLAIN
ORANGE,GRAY,BROWN,RED,MEDIUM STIFF TO VERY STIFF SANDY CLAY
AND SILTY CLAY MOIST TO WET [MIDDENDORF FORMATION]
27 + 00.00
COASTAL PLAIN
ORANGE,GRAY,BROWN,RED,MEDIUM STIFF TO VERY STIFF SANDY CLAY
AND SILTY CLAY MOIST TO WET [MIDDENDORF FORMATION]
26 + 50.00
BT
FIAD
COASTAL PLAIN
ORANGE,GRAY,BROWN,RED,MEDIUM STIFF TO VERY STIFF SANDY CLAY
AND SILTY CLAY MOIST TO WET [MIDDENDORF FORMATION]
26 + 00.00
-SR9A-
$$$$$SYSTIME$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	99

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

230
220
210
200
190
180

Ⓐ COASTAL PLAIN
BROWN LOOSE TO VERY LOOSE SILTY SAND DRY
[MIDDENDORF FORMATION]

3:1 4:1 3:1

ORANGE,BROWN,RED,GRAY MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST

RED,GRAY LOOSE CLAYEY SAND MOIST

11+00.00

Ⓐ COASTAL PLAIN
BROWN LOOSE TO VERY LOOSE SILTY SAND DRY
[MIDDENDORF FORMATION]

3:1 4:1 4:1 3:1

ORANGE,BROWN,RED,GRAY MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST

RED,GRAY LOOSE CLAYEY SAND MOIST

BEGIN UNDERCUT AT STA 10+50

10+50.00

-SR11-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	100

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

240
230
220
210
200
190
180

CONTINUE UNDERCUT SEE -Y15RPA- SECTIONS STA 17+50

Ⓐ **COASTAL PLAIN**
BROWN LOOSE TO VERY LOOSE SILTY SAND DRY
[MIDDENDORF FORMATION]

3:1 4:1 Ⓐ 3:1

ORANGE,BROWN,RED,GRAY MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST

RED,GRAY LOOSE CLAYEY SAND MOIST

12+00.00

Ⓐ **COASTAL PLAIN**
BROWN LOOSE TO VERY LOOSE SILTY SAND DRY
[MIDDENDORF FORMATION]

3:1 4:1 Ⓐ 3:1

ORANGE,BROWN,RED,GRAY MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST

RED,GRAY LOOSE CLAYEY SAND MOIST

11+50.00

-SR11-

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

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

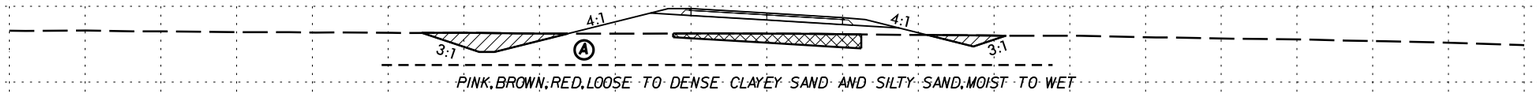
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	101

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

220
210
200
190
180

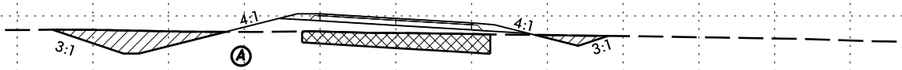
Ⓐ **COASTAL PLAIN**
BROWN, RED, TAN, VERY SOFT TO VERY STIFF
SANDY CLAY, SILTY CLAY AND SANDY SILT MOIST
[MIDDENDORF FORMATION]



PINK, BROWN, RED, LOOSE TO DENSE CLAYEY SAND AND SILTY SAND, MOIST TO WET

16 + 50.00

Ⓐ **COASTAL PLAIN**
BROWN, RED, TAN, VERY SOFT TO VERY STIFF
SANDY CLAY, SILTY CLAY AND SANDY SILT MOIST
[MIDDENDORF FORMATION]



PINK, BROWN, RED, LOOSE TO DENSE CLAYEY SAND AND SILTY SAND, MOIST TO WET

16 + 00.00

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 15+75
BEGIN UNDERCUT AT STA 15+75

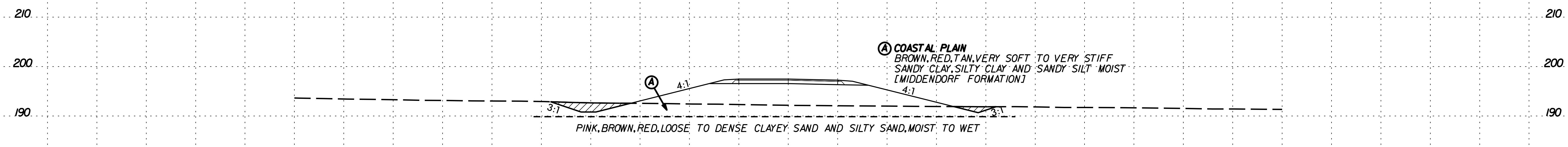
COASTAL PLAIN BROWN, RED, TAN, VERY SOFT TO VERY STIFF CLAY AND SANDY SILT MOIST [MIDDENDORF FORMATION]

PINK, BROWN, RED, LOOSE TO DENSE CLAYEY SAND AND SILTY SAND, MOIST TO WET

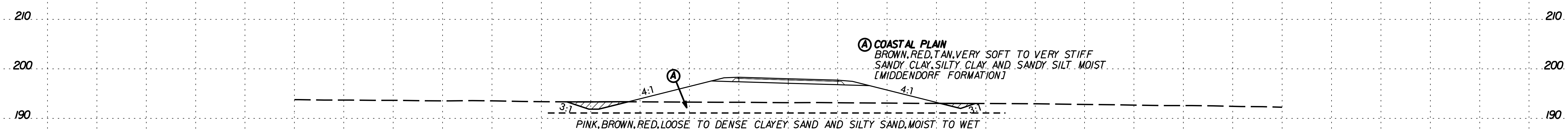
15 + 50.00

-SR12-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$



18 + 00.00

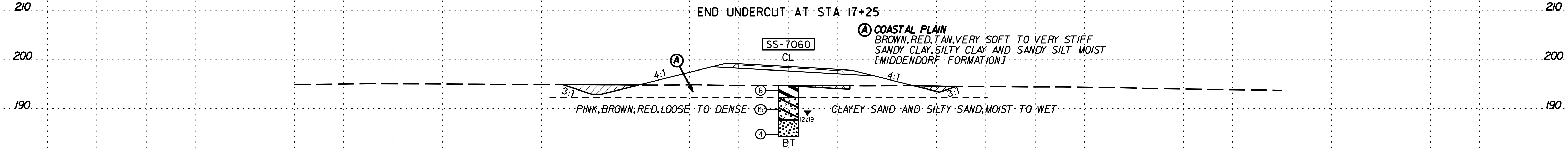


17 + 50.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-7060	CL	17+00	0.0-1.5	A-7-6(14)	52	26	12	30	5	53	99	92	61.8	18.1	ND

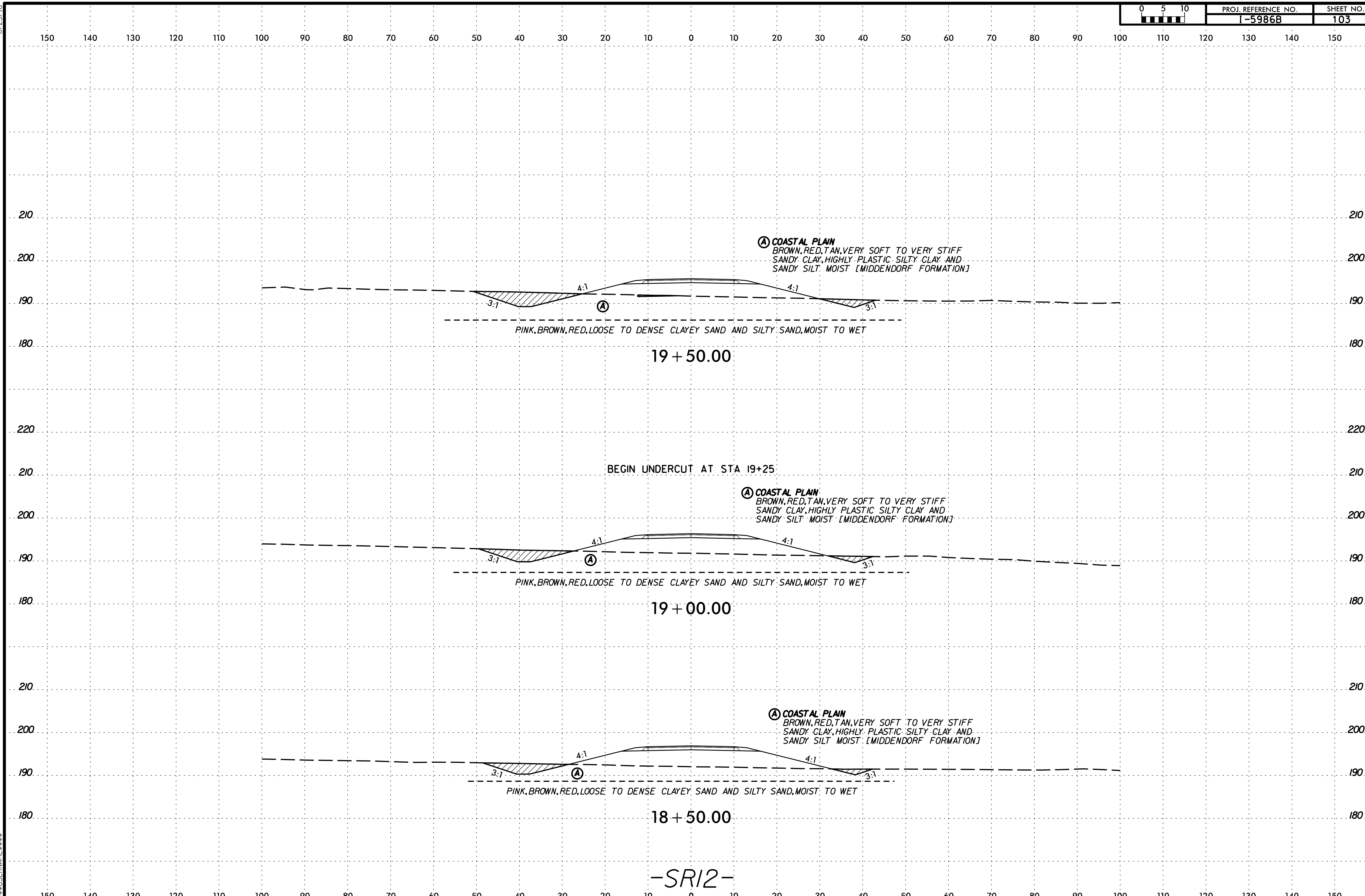
END UNDERCUT AT STA 17+25



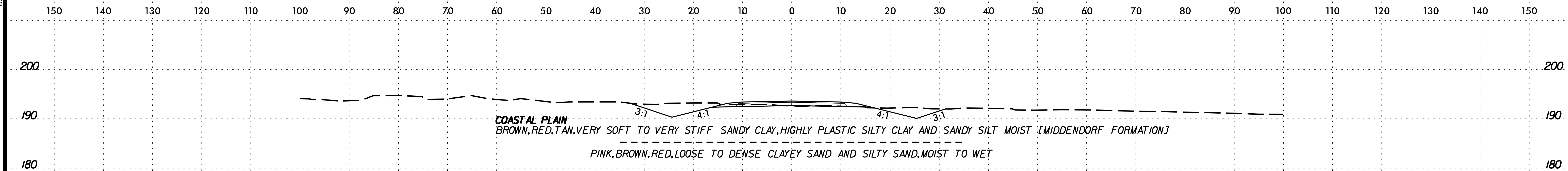
17 + 00.00

6/23/16

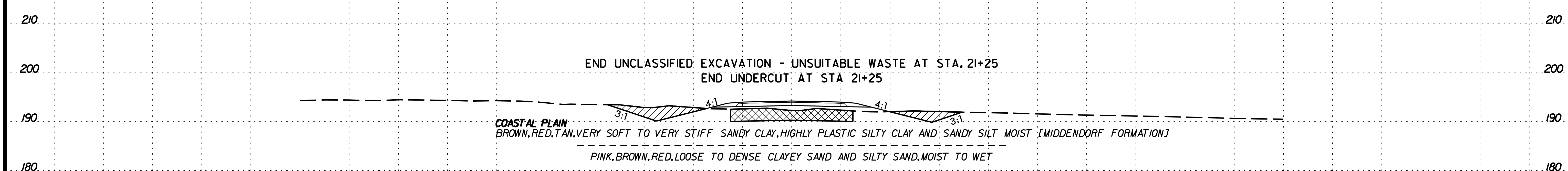
PROJ. REFERENCE NO.	SHEET NO.
I-5986B	103



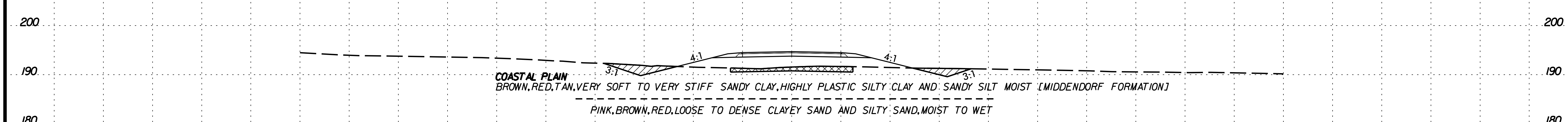
$$$$$SYSTIME$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$



21+50.00



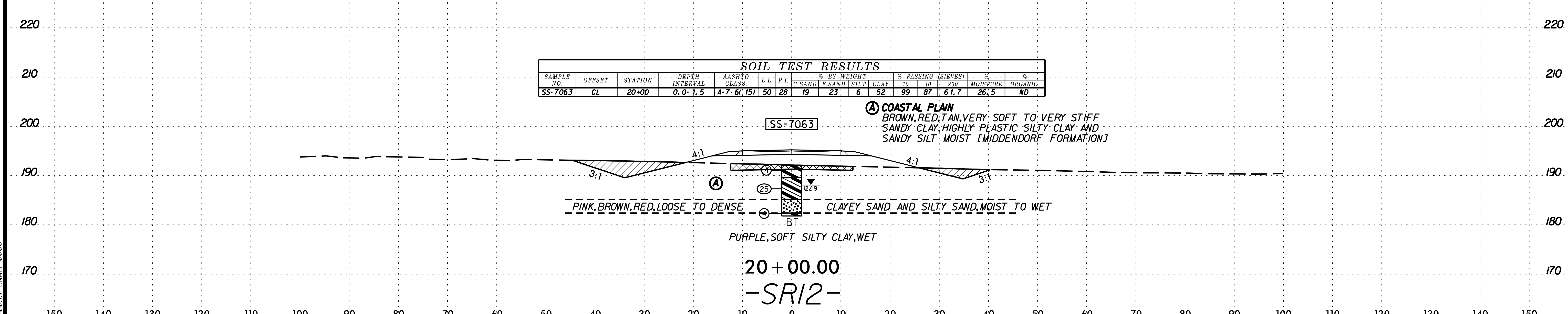
21+00.00



20+50.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-7063	CL	20+00	0.0-1.5	A-7-6(15)	50	28	19	23	6	52	99	87	61.7	26.5	ND



20+00.00

-SR12-

$$$$$SYSTIME$$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

6/23/16

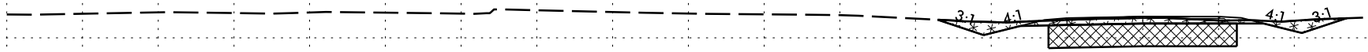
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	105

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

220
210
200
190

END UNDERCUT AT STA. 25+35.10

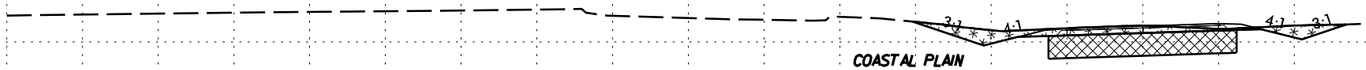
END UNCLASSIFIED EXCAVATION -
NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 25+35.10



COASTAL PLAIN
BROWN, ORANGE, RED, GRAY, TAN, SOFT TO VERY STIFF
SANDY CLAY, SILTY CLAY AND SANDY SILT MOIST [MIDDENDORF FORMATION]

25+00.00

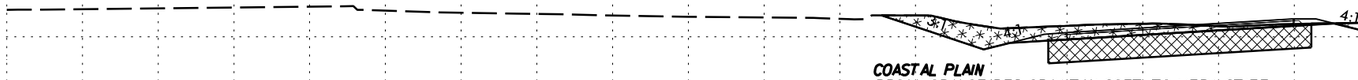
210
200
190



COASTAL PLAIN
BROWN, ORANGE, RED, GRAY, TAN, SOFT TO VERY STIFF
SANDY CLAY, SILTY CLAY AND SANDY SILT MOIST [MIDDENDORF FORMATION]

24+50.00

210
200
190
180
170



COASTAL PLAIN
BROWN, ORANGE, RED, GRAY, TAN, SOFT TO VERY STIFF
SANDY CLAY, SILTY CLAY AND SANDY SILT MOIST [MIDDENDORF FORMATION]

UNDERCUT CONTINUED FROM -SBCD- SECTIONS AT STA. 35+00

BEGIN UNCLASSIFIED EXCAVATION NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 23+90

24+00.00

-SR18-

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

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5986B	1	95

REFERENCE: I-5986B

PROJECT: 47532

CROSS SECTIONS

LINE	STATION	SHEETS
-L-	1233+00 - 1244+50	4 - 12
-L-	1271+00 - 1275+00	13 - 16
-L-	1280+00 - 1290+00	17 - 24
-L-	1295+00 - 1299+00	25 - 29
-L-	1313+00 - 1317+00	30 - 32
-L-	1319+00 - 1329+00	33 - 40
-L-	1361+00 - 1371+00	41 - 48
-L-	1379+00 - 1382+50	49 - 52
-L-	1390+50 - 1394+50	53 - 57
-L-	1397+00 - 1401+00	58 - 61
-L-	1403+00 - 1406+50	61 - 64
-Y19RPB-	25+56.24 - 30+52.08	65 - 67
-Y28-	15+75 - 18+00	68 - 69
-Y29A-	9+50 - 34+29.08	30 - 36, 70 - 75
-Y33-	31+85 - 38+12	51 - 60, 76 - 81
-SR17-	48+80.99 - 60+28.34	4 - 12, 82 - 87
-SR19-	12+02.79 - 23+48.68	4 - 12, 88 - 95

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

ROADWAY SUBSURFACE INVESTIGATION

COUNTY *CUMBERLAND, HARNETT, AND JOHNSTON*

PROJECT DESCRIPTION *I-95 FROM NORTH OF SR 1002 (LONG BRANCH ROAD) (EXIT 71) TO I-40 (EXIT 81) WIDEN TO 8 LANES*

SITE DESCRIPTION *SECTION 4 of 4; I-5986B PORTION, -L- STATION 1232+00 TO 1410+00.00*

RECOMMENDATIONS

CAUTION NOTICE

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

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

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

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

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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
I-5986B	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE,
VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

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

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

CONSISTENCY OR DENSENESS

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

TEXTURE OR GRAIN SIZE

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

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

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

SOIL MOISTURE - CORRELATION OF TERMS

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

PLASTICITY

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

COLOR

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

GRADATION

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

ANGULARITY OF GRAINS

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

MINERALOGICAL COMPOSITION

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

COMPRESSIBILITY

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

PERCENTAGE OF MATERIAL

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

GROUND WATER

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

MISCELLANEOUS SYMBOLS

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

RECOMMENDATION SYMBOLS

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

ABBREVIATIONS

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

SAMPLE ABBREVIATIONS

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

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] CME-45C
- [ ] CME-55
- [X] CME-550
- [ ] VANE SHEAR TEST
- [ ] PORTABLE HOIST
- [X] DIEDRICH D-50
- [ ] _____

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

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

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

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

ROCK DESCRIPTION

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

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

WEATHERING

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

ROCK HARDNESS

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

FRACTURE SPACING

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

BEDDING

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

INDURATION

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

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

TERMS AND DEFINITIONS

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

AQUIFER - A WATER BEARING FORMATION OR STRATA.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BENCH MARK: • SEE NOTE

ELEVATION: FEET

NOTES:

• Elevations derived from geopak and the .tin file I5896b_2_ls_tin.tin dated 06/18/18

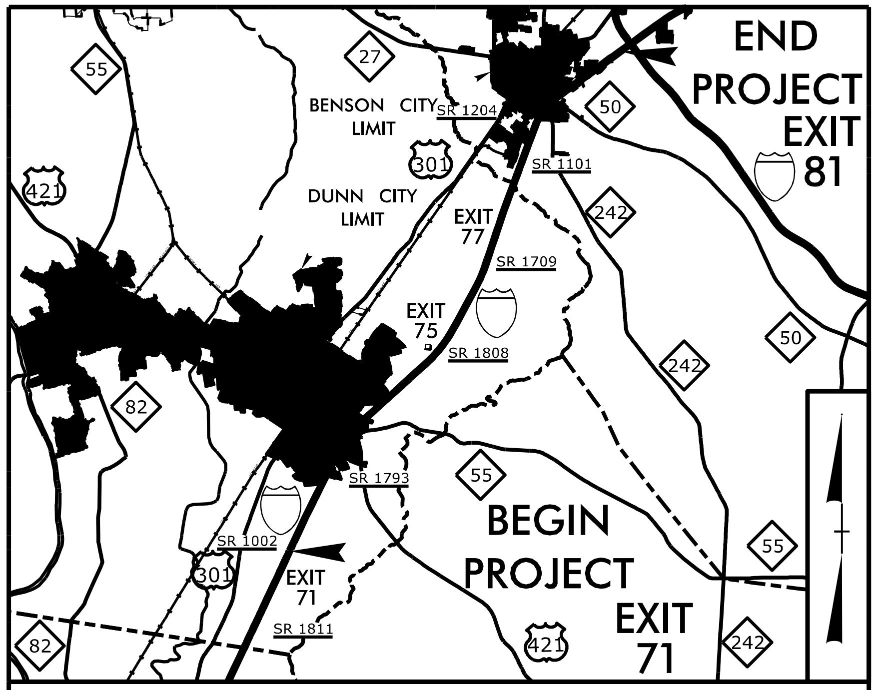
DATE: 8-15-14

TIP PROJECT: I-5986B

CONTRACT:

STATE	STATE PROJECT REFERENCE NO.		SHEET NO.	TOTAL SHEETS
N.C.	I-5986B		3	95
PROJ. REFERENCE NO.	STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
I-5986B	47532.1.3		PE	
I-5986B	47532.2.3		R/W	
I-5878	53078.1.1	NHPP-0095(007)73	PE	
I-5878	53078.1.2		PE	
I-5878	53078.2.1		R/W	
I-5878	53078.2.2	NHPP-0095(017)73	R/W	
I-5883	53083.1.1	NHPP-0095(033)74	PE	
I-5883	53083.1.2		PE	
I-5883	53083.2.1		R/W	
I-5883	53083.2.2	NHPP-0095(033)74	R/W	

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



VICINITY MAP
(Not to Scale)

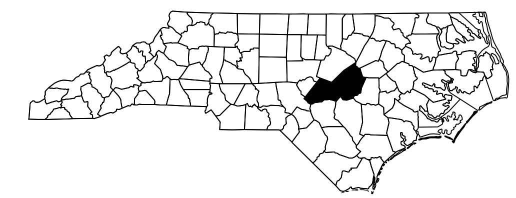
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

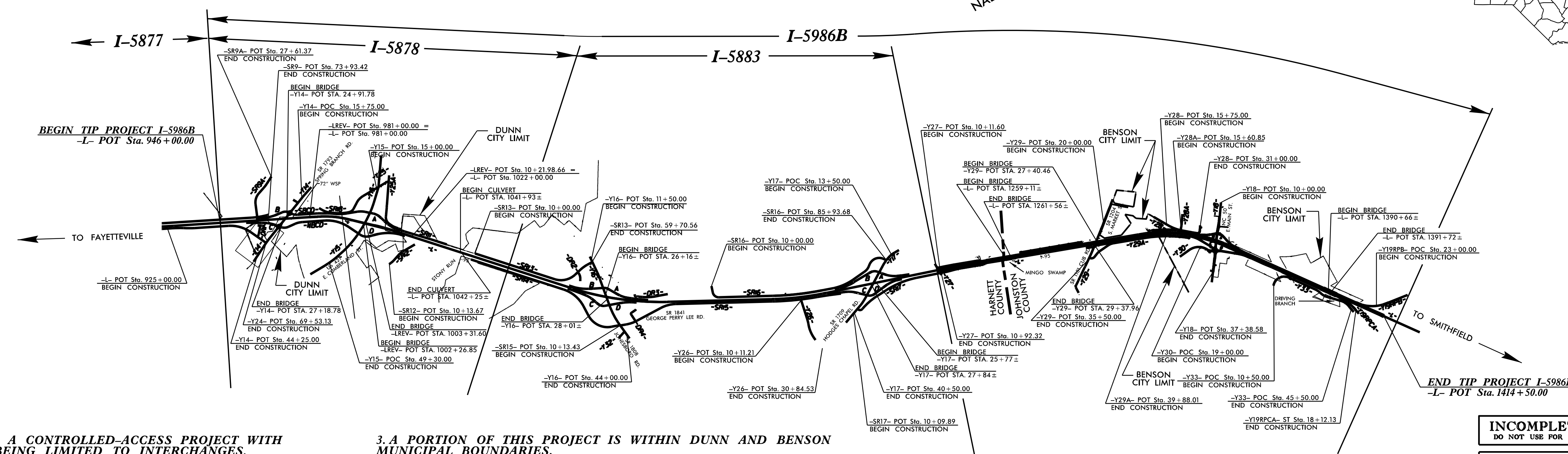
HARNETT AND JOHNSTON COUNTIES

LOCATION: *I-95 FROM NORTH OF SR 1002 (LONG BRANCH ROAD) (EXIT 71) TO I-40 (EXIT 81). WIDEN TO EIGHT LANES.*

TYPE OF WORK: *GRADING, PAVING, DRAINAGE, SIGNALS, CULVERTS, AND STRUCTURES*

FDFI PLANS
(Northern Section)





NOTES:

1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

2. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II & III.

3. A PORTION OF THIS PROJECT IS WITHIN DUNN AND BENSON MUNICIPAL BOUNDARIES.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2020 = 58,900
ADT 2040 = 75,700
K = 7 %
D = 55 %
T = 24 % *
V = 70 MPH
* (17% TTST + 7% DUALS)
FUNC CLASS = INTERSTATE STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I 5986B = 8.806 MILES

LENGTH STRUCTURE TIP PROJECT I-5986B = 0.067 MILES

TOTAL LENGTH TIP PROJECT I-5986B = 8.873 MILES

Prepared In the Office of:

Michael Baker
Michael Baker Engineering, Inc.
8000 Regency Parkway, Suite 600
Cary, NC 27518
Professional Corporation License Number: F-1084

FOR DIVISION OF HIGHWAYS

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 16, 2019

LETTING DATE:
JULY 21, 2020

SUSAN C. LANCASTER, P.E.
PROJECT ENGINEER

TERRY A. HARRIS, P.E.
PROJECT DESIGN ENGINEER

STEVE D. KENDALL, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

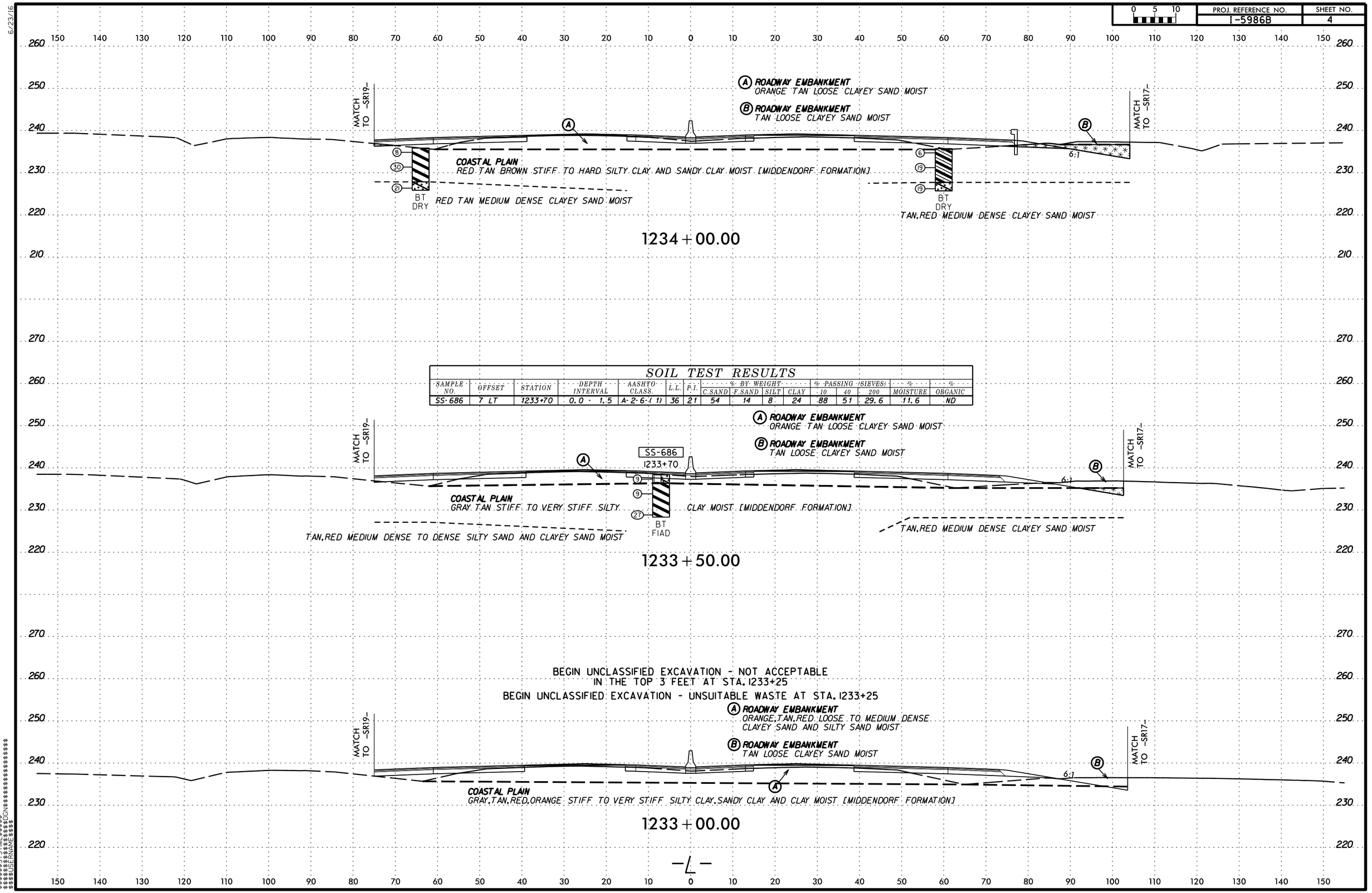
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

09/08/99

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	4



SOIL TEST RESULTS

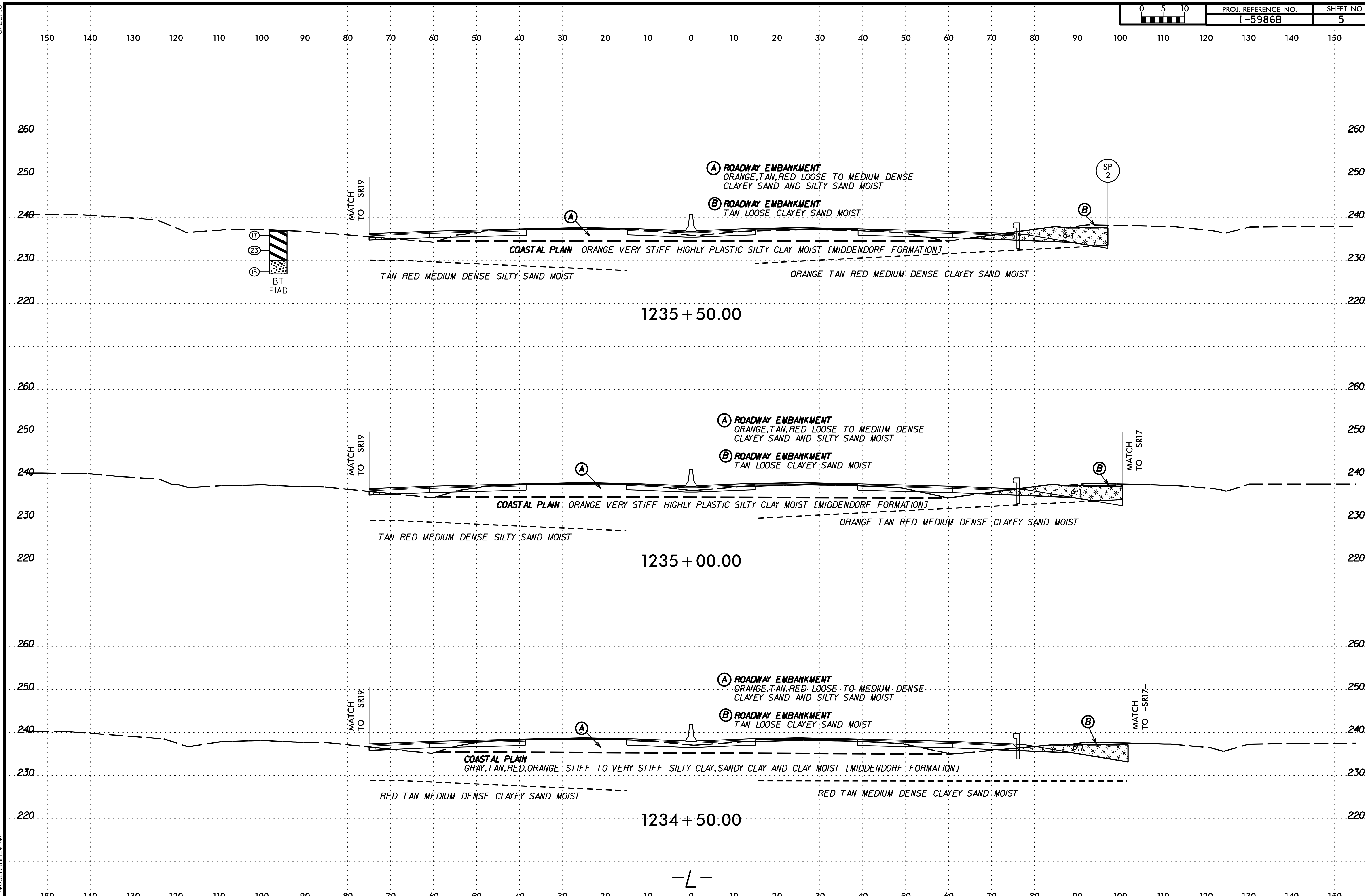
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-686	7 LT	1233+70	0.0 - 1.5	A-2-6-(1)	36	21	54	14	8	24	88	51	29.6	11.6	ND

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1233+25

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1233+25

—L—

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

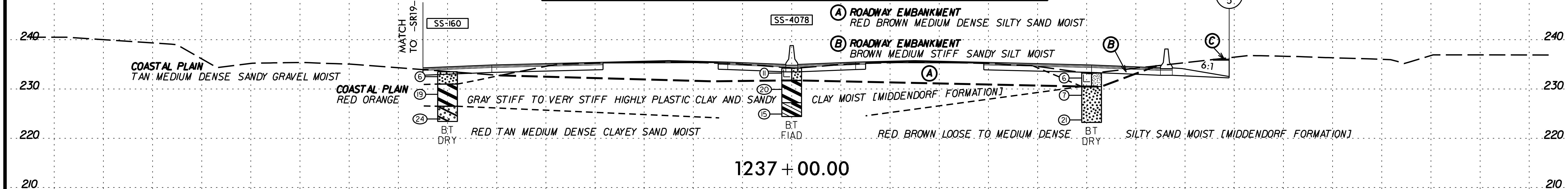


6/23/16
PROJ. REFERENCE NO.
I-5986B
SHEET NO.
5
0 5 10
ROADWAY EMBANKMENT
ORANGE,TAN,RED LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST
ROADWAY EMBANKMENT
TAN LOOSE CLAYEY SAND MOIST
COASTAL PLAIN ORANGE VERY STIFF HIGHLY PLASTIC SILTY CLAY MOIST [MIDDENDORF FORMATION]
TAN RED MEDIUM DENSE SILTY SAND MOIST
ORANGE TAN RED MEDIUM DENSE CLAYEY SAND MOIST
MATCH TO -SR19-
MATCH TO -SR17-
SP 2
BT FIAD
1235+50.00
1235+00.00
COASTAL PLAIN
GRAY,TAN,RED,ORANGE STIFF TO VERY STIFF SILTY CLAY,SANDY CLAY AND CLAY MOIST [MIDDENDORF FORMATION]
RED TAN MEDIUM DENSE CLAYEY SAND MOIST
1234+50.00
-L-

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1237+25

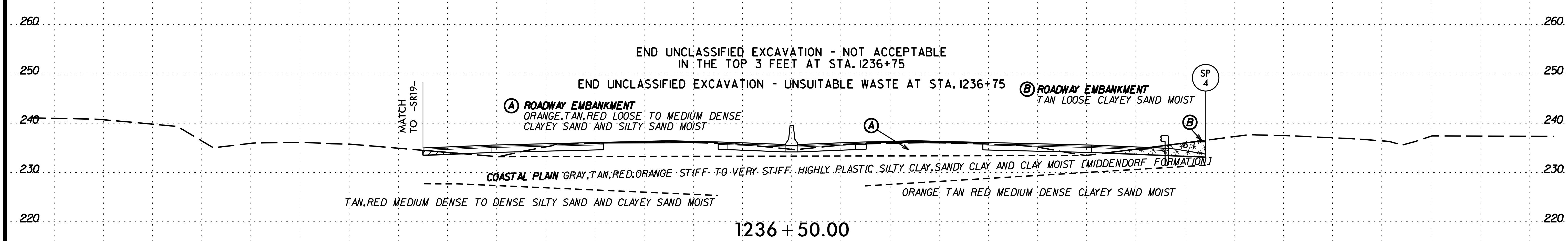
SOIL TEST RESULTS

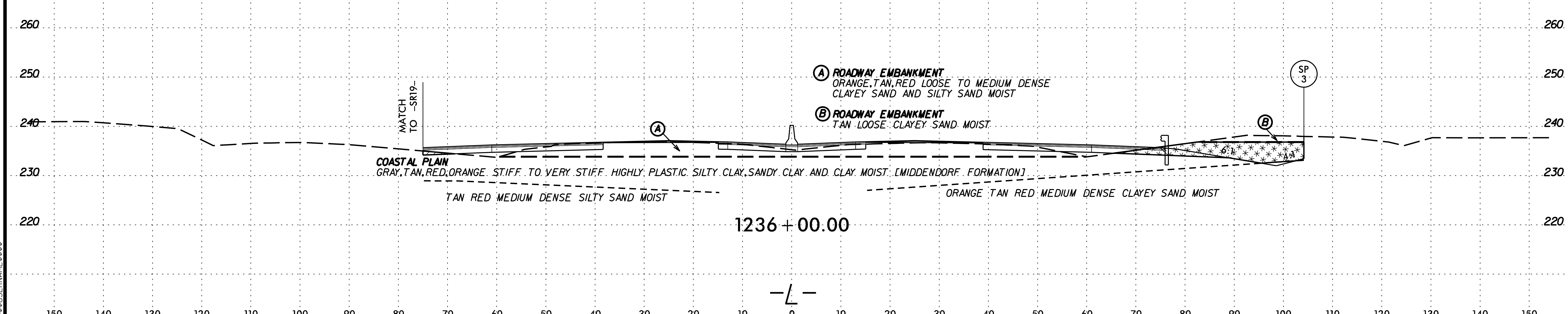
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-4078	0	1237+00	3.3-4.8	A-7-6 (44)	70	47	4	12	19	65	100	98	85.6	26.2	ND
SS-160	70 LT	1237+00	3.6-5.1	A-7-6 (29)	62	38	4	16	21	59	92	91	75.3	21.6	ND



END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 1236+75

END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1236+75

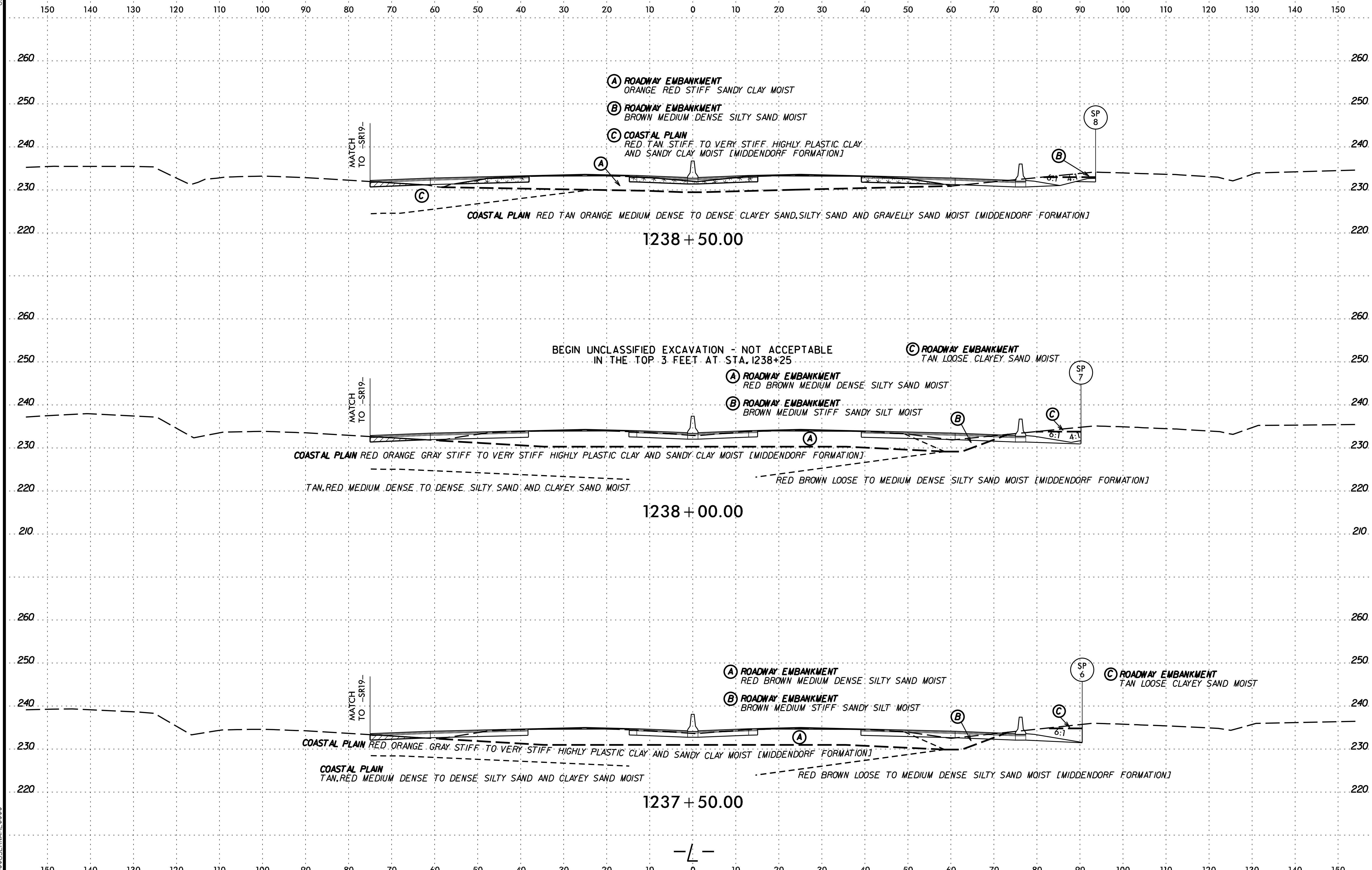




-L-

PROJ. REFERENCE NO. I-5986B

SHEET NO. 7



6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	8

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

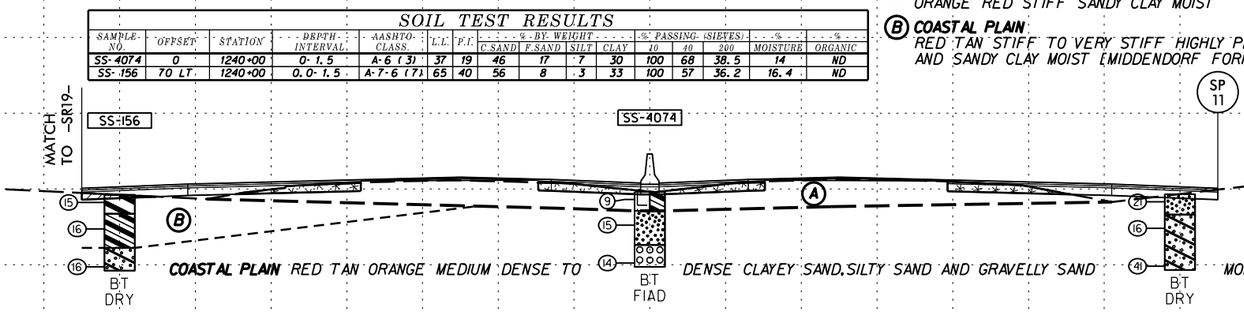
260 250 240 230 220 210

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C SAND	% BY WEIGHT F SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-4074	0	1240+00	0-1.5	A-6 (3)	37	19	46	17	7	30	100	68	38.5	14	ND
SS-156	70 LT.	1240+00	0.0-1.5	A-7-6 (7)	65	40	56	8	3	33	100	57	36.2	16.4	ND

Ⓐ **ROADWAY EMBANKMENT**
ORANGE RED STIFF SANDY CLAY MOIST

Ⓑ **COASTAL PLAIN**
RED TAN STIFF TO VERY STIFF HIGHLY PLASTIC CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

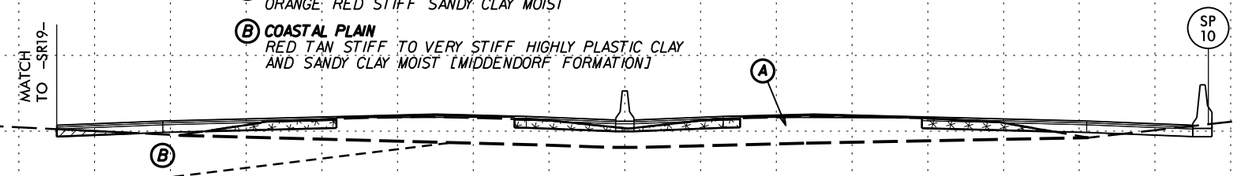


COASTAL PLAIN RED TAN ORANGE MEDIUM DENSE TO DENSE CLAYEY SAND, SILTY SAND AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

1240+00.00

Ⓐ **ROADWAY EMBANKMENT**
ORANGE RED STIFF SANDY CLAY MOIST

Ⓑ **COASTAL PLAIN**
RED TAN STIFF TO VERY STIFF HIGHLY PLASTIC CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]



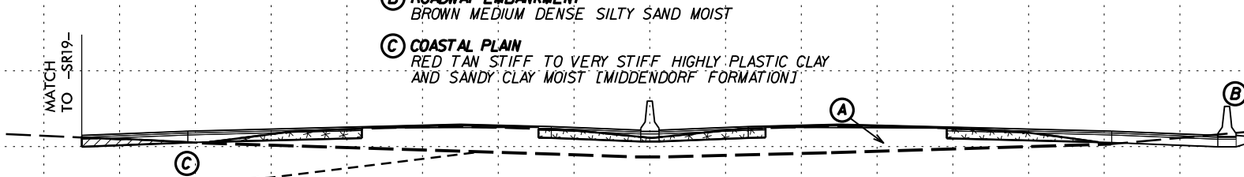
COASTAL PLAIN RED TAN ORANGE MEDIUM DENSE TO DENSE CLAYEY SAND, SILTY SAND AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

1239+50.00

Ⓐ **ROADWAY EMBANKMENT**
ORANGE RED STIFF SANDY CLAY MOIST

Ⓑ **ROADWAY EMBANKMENT**
BROWN MEDIUM DENSE SILTY SAND MOIST

Ⓒ **COASTAL PLAIN**
RED TAN STIFF TO VERY STIFF HIGHLY PLASTIC CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]



COASTAL PLAIN RED TAN ORANGE MEDIUM DENSE TO DENSE CLAYEY SAND, SILTY SAND AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

1239+00.00

—L—

$$$$USERNAME$$$$
$$$$SYSTIME$$$$
$$$$DGN$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	9

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

250 240 230 220 210

MATCH TO -SR19-

(B) **COASTAL PLAIN**
RED TAN VERY STIFF HIGHLY PLASTIC CLAY MOIST [MIDDENDORF FORMATION]

(A) **ROADWAY EMBANKMENT**
RED LOOSE CLAYEY SAND MOIST

SP 14

COASTAL PLAIN
RED TAN MEDIUM DENSE TO DENSE GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
BROWN ORANGE STIFF TO HARD CLAY AND SANDY SILT MOIST [MIDDENDORF FORMATION]

1241+50.00

END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 1241+25

(A) **ROADWAY EMBANKMENT**
ORANGE RED STIFF SANDY CLAY MOIST

(B) **COASTAL PLAIN**
RED TAN STIFF TO VERY STIFF HIGHLY PLASTIC CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

(C) **ROADWAY EMBANKMENT**
BROWN MEDIUM DENSE SAND MOIST

SP 13

MATCH TO -SR19-

1241+24

(C) 10 15 19 05/19 B.T

COASTAL PLAIN
RED TAN ORANGE MEDIUM DENSE TO DENSE CLAYEY SAND, SILTY SAND AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

1241+00.00

(A) **ROADWAY EMBANKMENT**
ORANGE RED STIFF SANDY CLAY MOIST

(B) **COASTAL PLAIN**
RED TAN STIFF TO VERY STIFF HIGHLY PLASTIC CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

SP 12

MATCH TO -SR19-

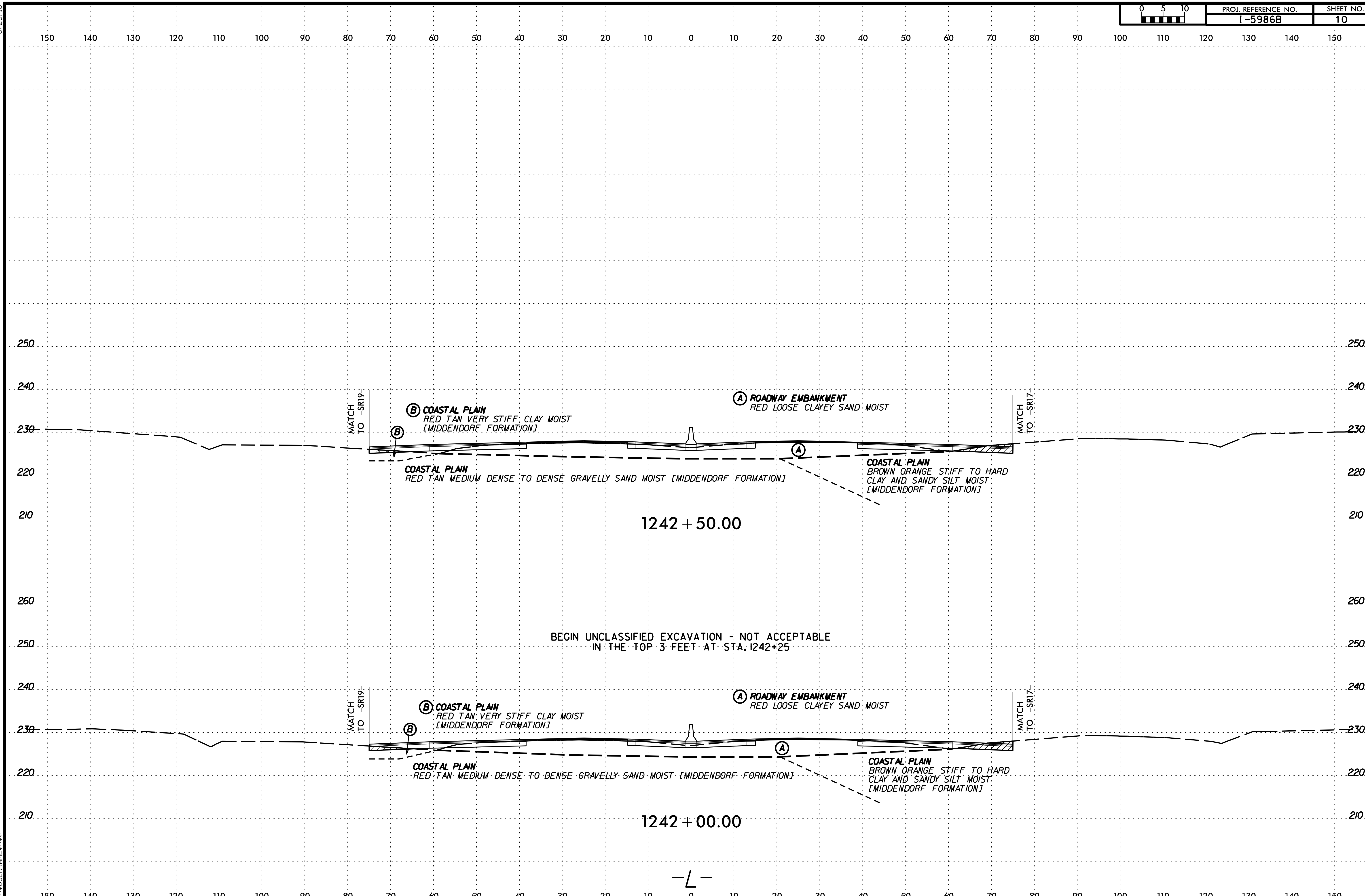
COASTAL PLAIN
RED TAN ORANGE MEDIUM DENSE TO DENSE CLAYEY SAND, SILTY SAND AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

1240+50.00

$$$$USERNAME$$$$
$$$$SYSTIME$$$$$

6/23/16

PROJ. REFERENCE NO. I-5986B | SHEET NO. 10

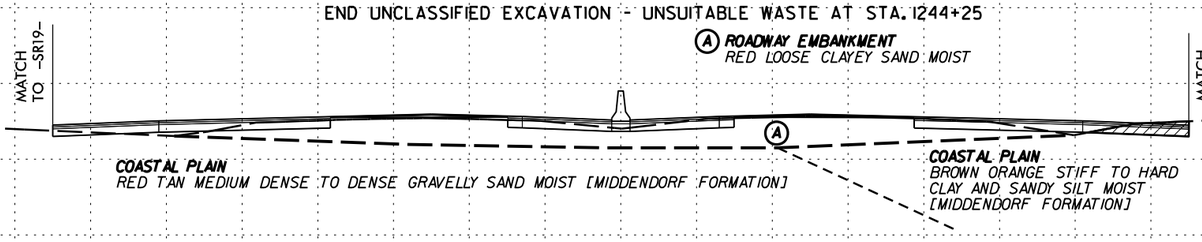


$$$$$SYSTIME$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

6/23/16

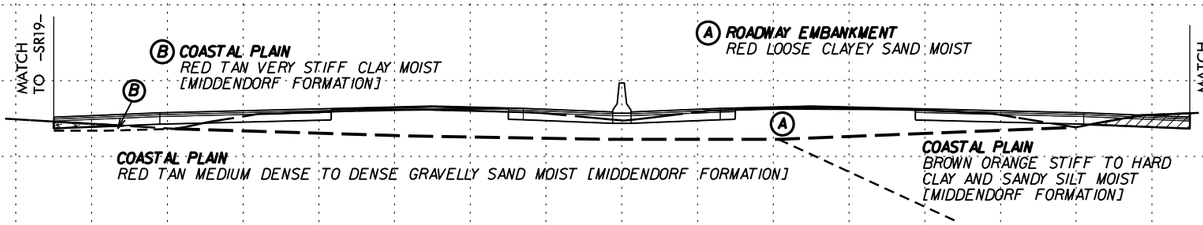
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	11

END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1244+25



1244+00.00

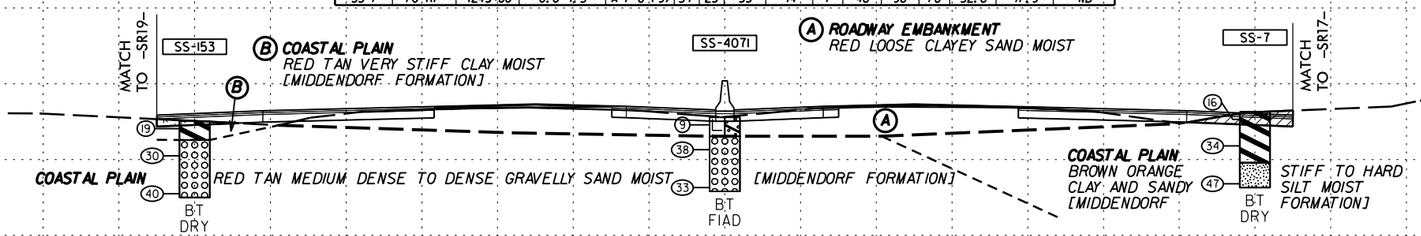
END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 1243+75



1243+50.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-407 1	0	1243+00	0-1.5	A-2-6 (0)	31	16	47	21	10	22	91	62	30.8	12.7	ND
SS-153	70 LT	1243+00	0.0-1.5	A-7-6 (2)	42	18	50	7	5	38	86	57	36.9	18.3	ND
SS-7	70 RT	1243+00	0.0-1.5	A-7-6 (9)	51	23	33	14	7	46	98	76	52.6	17.9	ND



1243+00.00

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	12

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

240
230
220
210

MATCH TO -SR19-

(A) ROADWAY EMBANKMENT
RED BROWN LOOSE SILTY SAND MOIST

MATCH TO -SR17-

COASTAL PLAIN
RED BROWN LOOSE TO DENSE SILTY SAND, CLAYEY SAND, AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

1244+50.00
-L-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	13

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

240
230
220
210
200

Ⓐ **ROADWAY EMBANKMENT**
TAN MEDIUM DENSE CLAYEY SAND MOIST

Ⓑ **COASTAL PLAIN**
BROWN RED MEDIUM DENSE SILTY SAND AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]

6:1 6:1 6:1 5.89:1

Ⓐ Ⓑ

COASTAL PLAIN
BROWN ORANGE RED MEDIUM STIFF TO VERY STIFF SANDY CLAY AND CLAY MOIST TO WET

1271+50.00

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1271+25

Ⓐ **ROADWAY EMBANKMENT**
BROWN RED LOOSE CLAYEY SAND MOIST

6:1 6:1 6:1 6:1

Ⓐ

COASTAL PLAIN
BROWN ORANGE YELLOW MEDIUM DENSE TO VERY DENSE CLAYEY SAND, SILTY SAND, AND GRAVELLY SAND MOIST TO WET [MIDDENDORF FORMATION]

1271+00.00

—L—

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	14

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

250 240 230 220 210 200

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1273+25

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-4624	6 LT	1273+00	0-1.5	A-2-6 (0)	33	17	51	17	5	27	87	55	29.8	10.2	ND
SS-115	74 LT	1273+00	3.6-5.1	A-7-6 (7)	52	24	42	10	3	45	95	74	46.4	25.5	ND

SS-115 SS-4624

(A) ROADWAY EMBANKMENT
TAN MEDIUM DENSE CLAYEY SAND MOIST

(B) COASTAL PLAIN
BROWN RED MEDIUM DENSE SILTY SAND
AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]

4.55:1 6:1 6:1 4:1 3.81:1

(16) (18) (5) BT DRY

COASTAL PLAIN
BROWN ORANGE RED MEDIUM STIFF TO

(13) (26) (7) 05/19 BT FIAD

VERY STIFF SANDY CLAY AND CLAY MOIST TO WET

(17) (14) (5) BT DRY

1273+00.00

(A) ROADWAY EMBANKMENT
TAN MEDIUM DENSE CLAYEY SAND MOIST

(B) COASTAL PLAIN
BROWN RED MEDIUM DENSE SILTY SAND
AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]

6:1 6:1 6:1 6:1

COASTAL PLAIN
BROWN ORANGE RED MEDIUM STIFF TO VERY STIFF SANDY CLAY AND CLAY MOIST TO WET

1272+50.00

(A) ROADWAY EMBANKMENT
TAN MEDIUM DENSE CLAYEY SAND MOIST

(B) COASTAL PLAIN
BROWN RED MEDIUM DENSE SILTY SAND
AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]

6:1 6:1 6:1 6:1

COASTAL PLAIN
BROWN ORANGE RED MEDIUM STIFF TO VERY STIFF SANDY CLAY AND CLAY MOIST TO WET

1272+00.00

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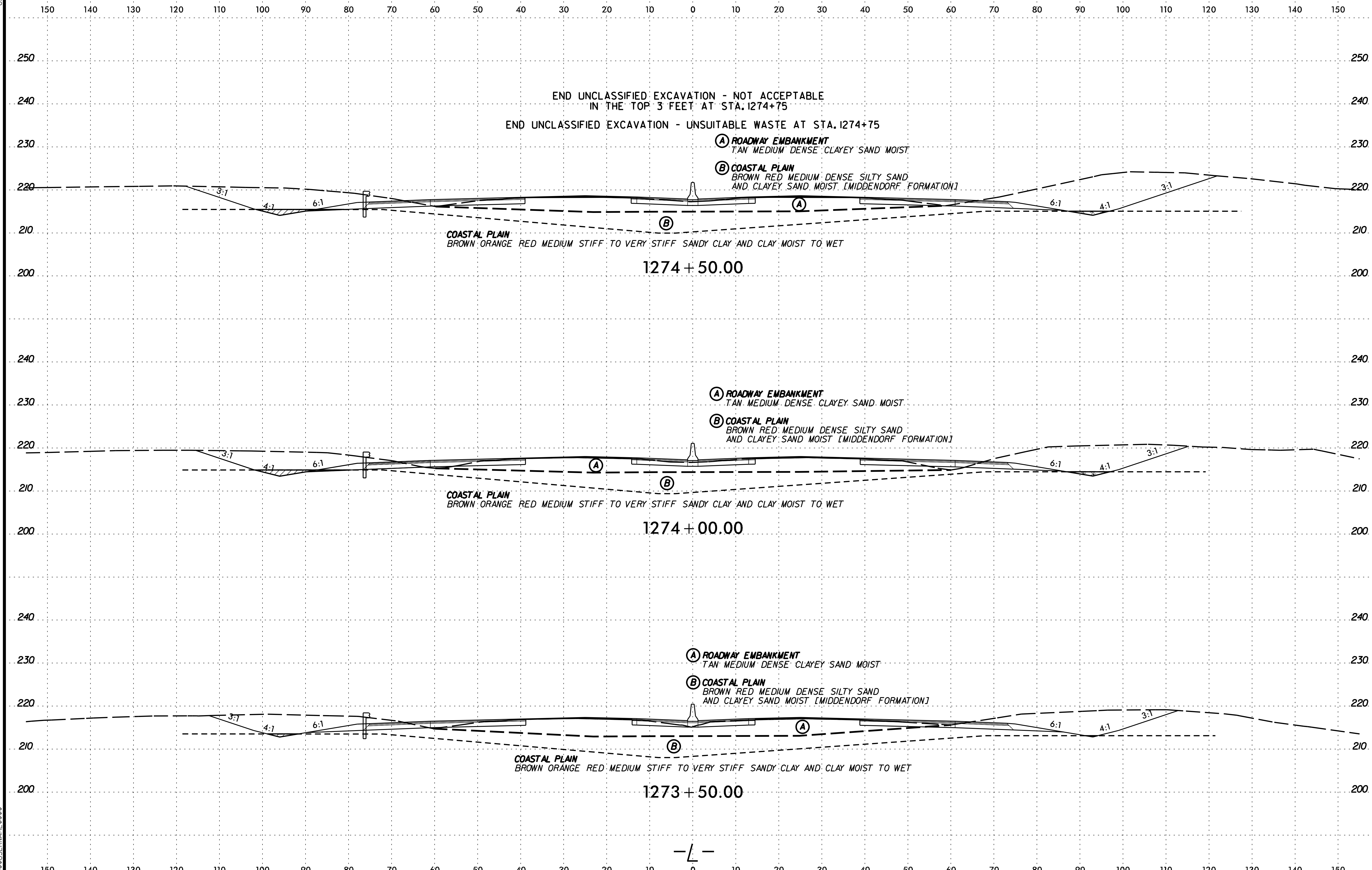
$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

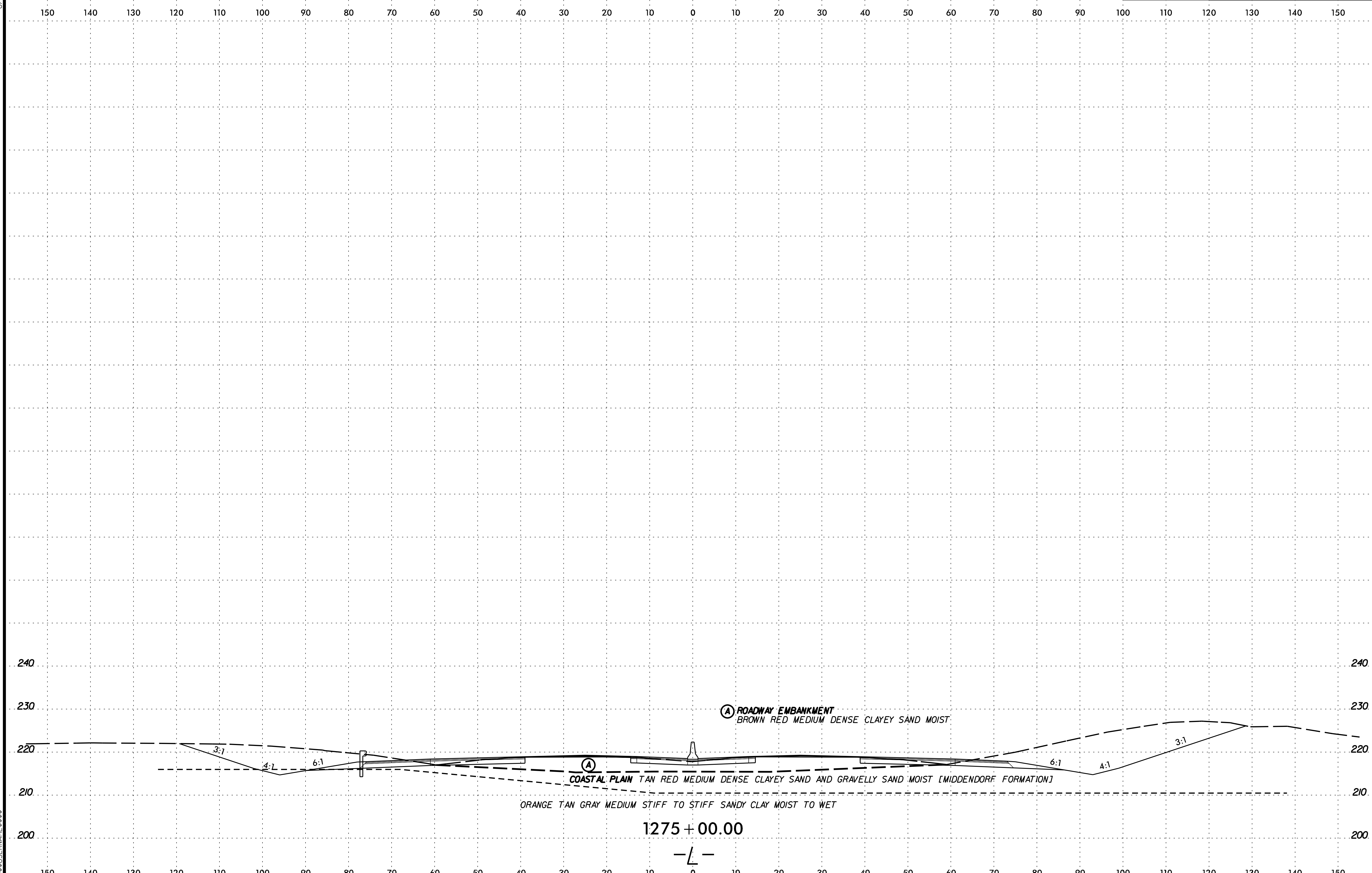
PROJ. REFERENCE NO.	SHEET NO.
I-5986B	15



$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	16



1275+00.00

-L-

$$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	17

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

250
240
230
220
210

(A) ROADWAY EMBANKMENT
BROWN RED MEDIUM DENSE CLAYEY SAND MOIST

(C) COASTAL PLAIN
BROWN TAN VERY STIFF CLAY DRY [MIDDENDORF FORMATION]

COASTAL PLAIN
TAN VERY STIFF CLAY DRY [MIDDENDORF FORMATION]

3:1 4:1 6:1 6:1 4:1 3:1

COASTAL PLAIN
GRAY TAN RED LOOSE TO DENSE GRAVELLY SAND AND CLAYEY SAND MOIST TO WET [MIDDENDORF FORMATION]

1280+50.00

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 1280+25

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1280+25

(A) ROADWAY EMBANKMENT
BROWN RED MEDIUM DENSE CLAYEY SAND MOIST

(B) COASTAL PLAIN
BROWN ORANGE LOOSE CLAYEY SAND MOIST TO WET [MIDDENDORF FORMATION]

3:1 4:1 6:1 6:1 4:1 3:1

COASTAL PLAIN
RED TAN BLACK LOOSE TO MEDIUM DENSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
TAN GRAY BROWN MEDIUM STIFF SILTY CLAY AND CLAY MOIST TO WET [MIDDENDORF FORMATION]

1280+00.00

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

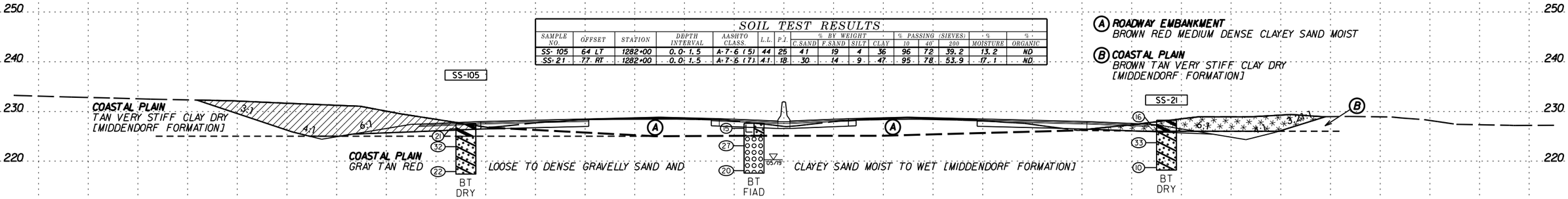
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	18

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

250 240 230 220 210

SOIL TEST RESULTS

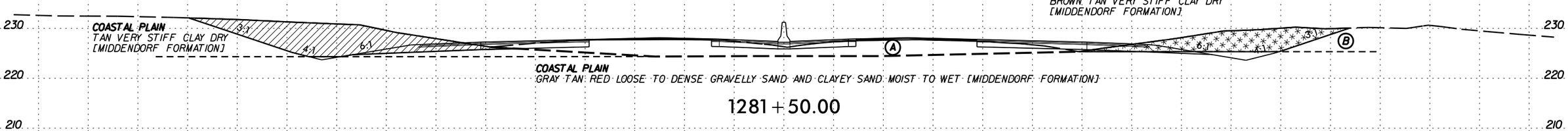
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-105	64 LT	1282+00	0.0-1.5	A-7-6 (51)	44	25	41	19	4	36	96	72	39.2	13.2	ND
SS-21	77 RT	1282+00	0.0-1.5	A-7-6 (7)	41	18	30	14	9	47	95	78	53.9	17.1	ND



A ROADWAY EMBANKMENT
BROWN RED MEDIUM DENSE CLAYEY SAND MOIST

B COASTAL PLAIN
BROWN TAN VERY STIFF CLAY DRY
[MIDDENDORF FORMATION]

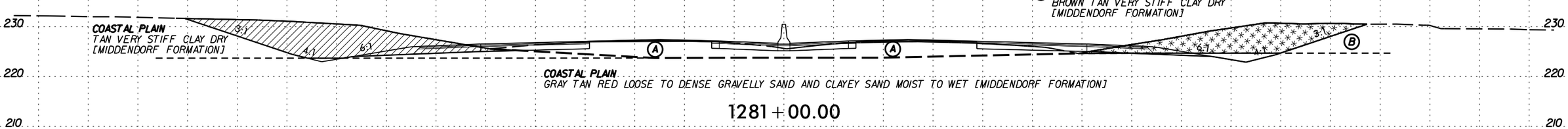
1282+00.00



A ROADWAY EMBANKMENT
BROWN RED MEDIUM DENSE CLAYEY SAND MOIST

B COASTAL PLAIN
BROWN TAN VERY STIFF CLAY DRY
[MIDDENDORF FORMATION]

1281+50.00



A ROADWAY EMBANKMENT
BROWN RED MEDIUM DENSE CLAYEY SAND MOIST

B COASTAL PLAIN
BROWN TAN VERY STIFF CLAY DRY
[MIDDENDORF FORMATION]

1281+00.00

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

—L—

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	19

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

260 250 240 230 220

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1283+75
END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1283+75

Ⓐ **ROADWAY EMBANKMENT**
BROWN RED MEDIUM DENSE CLAYEY SAND MOIST

COASTAL PLAIN
TAN VERY STIFF CLAY DRY
[MIDDENDORF FORMATION]

3:1 4:1 6:1 6:1 6:1

COASTAL PLAIN
GRAY TAN RED LOOSE TO DENSE GRAVELLY SAND AND CLAYEY SAND MOIST TO WET [MIDDENDORF FORMATION]

1283+50.00

Ⓐ **ROADWAY EMBANKMENT**
BROWN RED MEDIUM DENSE CLAYEY SAND MOIST

COASTAL PLAIN
TAN VERY STIFF CLAY DRY
[MIDDENDORF FORMATION]

3:1 4:1 6:1 6:1 6:1

COASTAL PLAIN
GRAY TAN RED LOOSE TO DENSE GRAVELLY SAND AND CLAYEY SAND MOIST TO WET [MIDDENDORF FORMATION]

1283+00.00

END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1282+75

Ⓐ **ROADWAY EMBANKMENT**
BROWN RED MEDIUM DENSE CLAYEY SAND MOIST

Ⓑ **COASTAL PLAIN**
BROWN TAN VERY STIFF CLAY DRY
[MIDDENDORF FORMATION]

COASTAL PLAIN
TAN VERY STIFF CLAY DRY
[MIDDENDORF FORMATION]

3:1 4:1 6:1 6:1 4:1:1

COASTAL PLAIN
GRAY TAN RED LOOSE TO DENSE GRAVELLY SAND AND CLAYEY SAND MOIST TO WET [MIDDENDORF FORMATION]

1282+50.00

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	20

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

260 250 240 230 220 210

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10.	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200.	% MOISTURE	% ORGANIC
SS-4613	4 LT	1285+00	3.4-4.9	A-7-6 (7)	48	24	34	17	2	47	90	71	46	20.2	ND
SS-102	74 LT	1285+00	0.0-1.5	A-7-6 (6)	43	20	31	16	7	46	88	71	48	15.5	ND

SS-102 SS-4613

3:1 4:1 6:1 5.67:1

21 27 16 BT DRY

TAN ORANGE MEDIUM DENSE CLAYEY SAND MOIST

A 18 8 14 BT FIAD

COASTAL PLAIN
BROWN,YELLOW,ORANGE SOFT TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

8 3 3 BT 6T7/8

COASTAL PLAIN
BROWN VERY LOOSE TO LOOSE SILTY SAND AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]

1285+00.00

A **ROADWAY EMBANKMENT**
GRAY BROWN MEDIUM DENSE CLAYEY SAND MOIST

3:1 4:1 6:1 5.42:1

TAN ORANGE MEDIUM DENSE CLAYEY SAND MOIST

A

COASTAL PLAIN
BROWN,YELLOW,ORANGE SOFT TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
BROWN VERY LOOSE TO LOOSE SILTY SAND AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]

1284+50.00

A **ROADWAY EMBANKMENT**
GRAY BROWN MEDIUM DENSE CLAYEY SAND MOIST

3:1 4:1 6:1 6:1 6.02:1

TAN ORANGE MEDIUM DENSE CLAYEY SAND MOIST

A

COASTAL PLAIN
BROWN,YELLOW,SOFT TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
BROWN VERY LOOSE TO LOOSE SILTY SAND AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]

1284+00.00

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	21

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

250 240 230 220 210

Ⓐ **ROADWAY EMBANKMENT**
GRAY BROWN MEDIUM DENSE CLAYEY SAND MOIST

6:1 6:1

COASTAL PLAIN
BROWN,YELLOW,ORANGE SOFT TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

TAN ORANGE MEDIUM DENSE CLAYEY SAND MOIST

6:1 3:1

COASTAL PLAIN
BROWN VERY LOOSE TO LOOSE SILTY SAND AND CLAYEY SAND MOIST
[MIDDENDORF FORMATION]

1286+50.00

Ⓐ **ROADWAY EMBANKMENT**
GRAY BROWN MEDIUM DENSE CLAYEY SAND MOIST

4.40:1 6:1

COASTAL PLAIN
BROWN,YELLOW,ORANGE SOFT TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

TAN ORANGE MEDIUM DENSE CLAYEY SAND MOIST

5.34:1 3:1

COASTAL PLAIN
BROWN VERY LOOSE TO LOOSE SILTY SAND AND CLAYEY SAND MOIST
[MIDDENDORF FORMATION]

1286+00.00

Ⓐ **ROADWAY EMBANKMENT**
GRAY BROWN MEDIUM DENSE CLAYEY SAND MOIST

3.87:1 4:1 6:1

COASTAL PLAIN
BROWN,YELLOW,ORANGE SOFT TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

TAN ORANGE MEDIUM DENSE CLAYEY SAND MOIST

5.38:1 3:1

COASTAL PLAIN
BROWN VERY LOOSE TO LOOSE SILTY SAND AND CLAYEY SAND MOIST
[MIDDENDORF FORMATION]

1285+50.00

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	22

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

260
250
240
230
220
210

Ⓐ **ROADWAY EMBANKMENT**
TAN STIFF SANDY CLAY MOIST

Ⓑ **COASTAL PLAIN**
BROWN VERY LOOSE TO LOOSE SILTY SAND MOIST
[MIDDENDORF FORMATION]

6:1 6:1 6:1 3:1

COASTAL PLAIN
GRAY TAN LOOSE TO MEDIUM DENSE CLAYEY SAND MOIST
[MIDDENDORF FORMATION]

COASTAL PLAIN
BROWN RED GRAY MEDIUM STIFF TO VERY STIFF SANDY CLAY MOIST TO WET [MIDDENDORF FORMATION]

GRAY TAN LOOSE TO MEDIUM DENSE
CLAYEY SAND AND SAND WET

1287 + 50.00

Ⓐ **ROADWAY EMBANKMENT**
TAN STIFF SANDY CLAY MOIST

6:1 6:1 6:1 3:1

COASTAL PLAIN
GRAY TAN LOOSE TO MEDIUM DENSE CLAYEY SAND MOIST
[MIDDENDORF FORMATION]

COASTAL PLAIN
BROWN RED GRAY MEDIUM STIFF TO VERY STIFF SANDY CLAY MOIST TO WET [MIDDENDORF FORMATION]

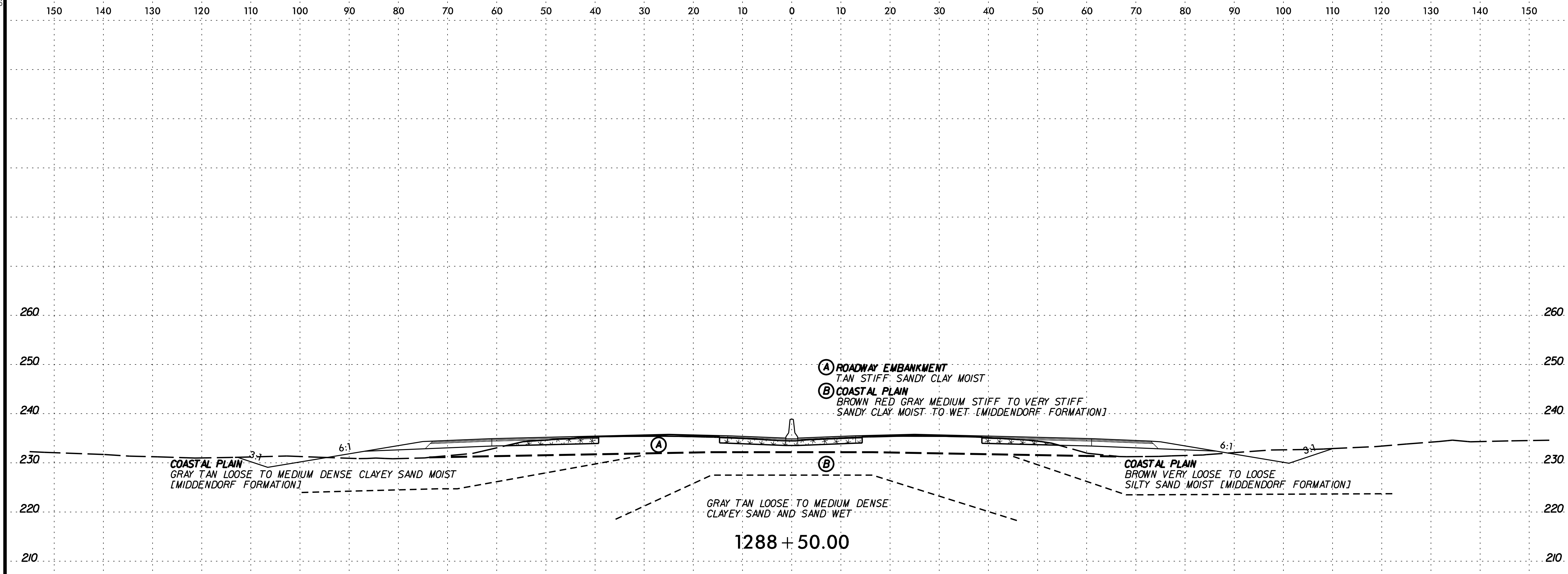
COASTAL PLAIN
BROWN VERY LOOSE TO LOOSE SILTY
SAND MOIST [MIDDENDORF FORMATION]

GRAY TAN LOOSE TO MEDIUM DENSE
CLAYEY SAND AND SAND WET

1287 + 00.00

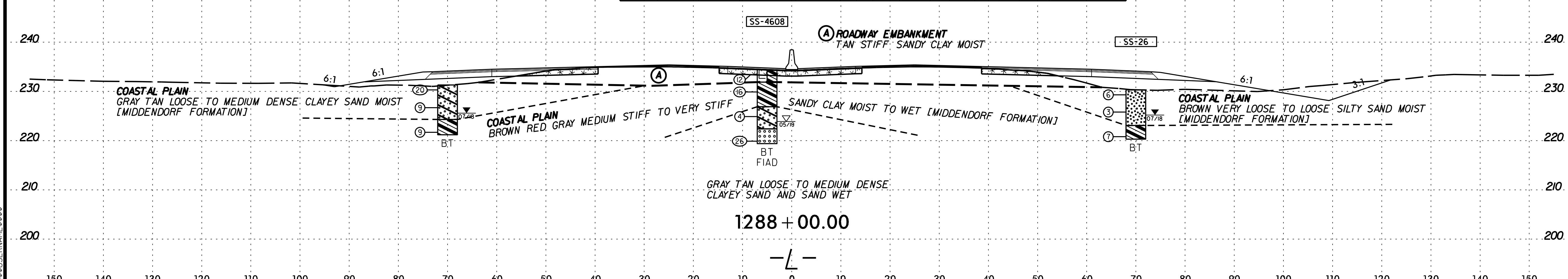
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

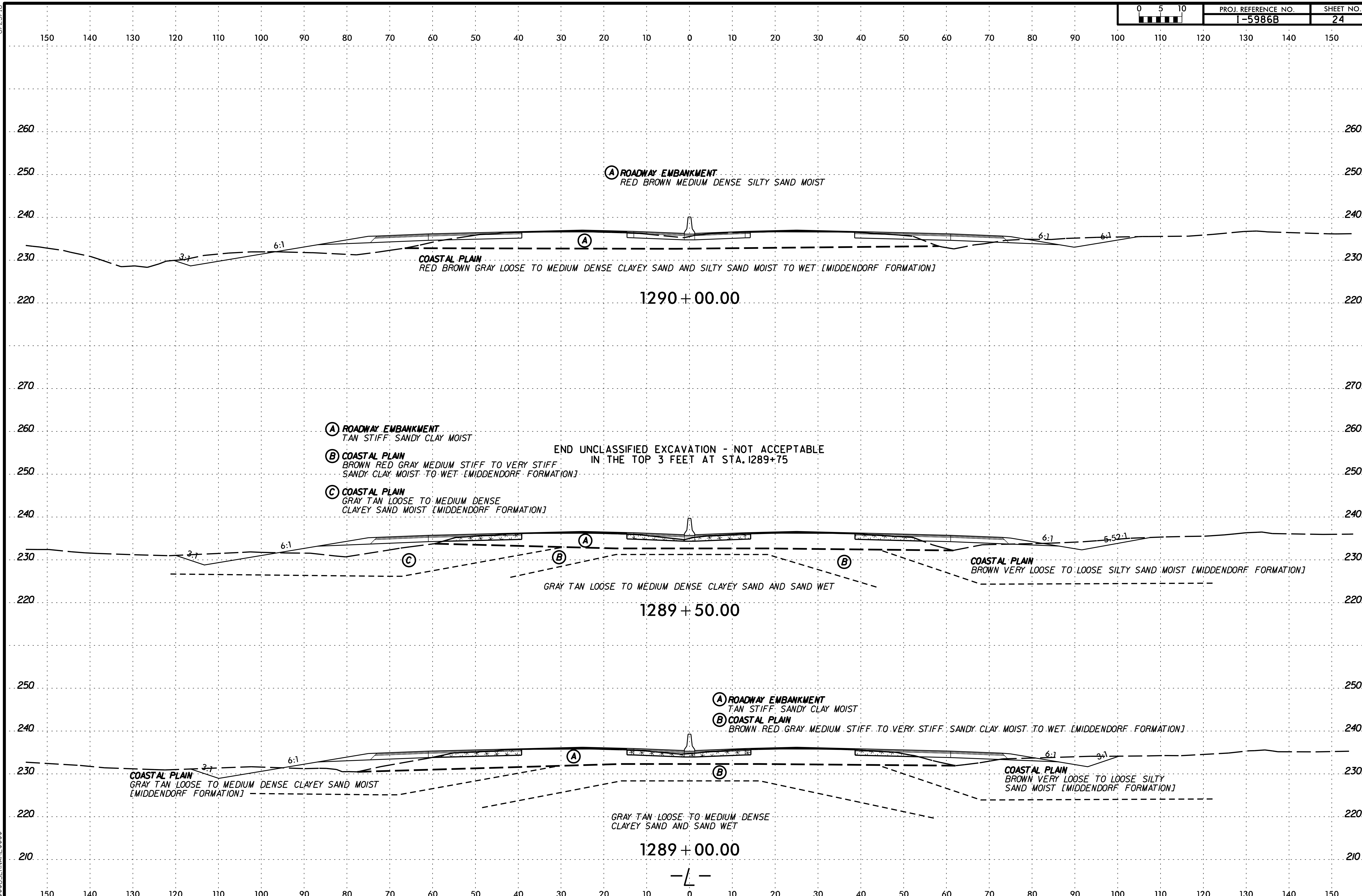


SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-4608	5 LT	1288+00	0-1.5	A-6 (2)	34	18	40	21	11	28	91	67	38.2	10.8	ND
SS-26	70 RT	1288+00	0.0-1.5	A-2-4 (0)	16	4	41	26	17	16	95	72	34.3	8.5	ND



6/23/16



$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	25

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1295+25

1295+05

1294+54

6:1 6:1

6:1 6:1

Ⓐ **ROADWAY EMBANKMENT**
GRAY, BROWN, YELLOW, LOOSE TO MEDIUM DENSE SILTY

Ⓑ **ROADWAY EMBANKMENT**
ORANGE, MED. STIFF, SANDY CLAY (A-6), MOIST

Ⓒ **COASTAL PLAIN**
PINK, GRAY MEDIUM STIFF SANDY CLAY (A-6), WET [M

COASTAL PLAIN. VERY LOOSE TO MED. DENSE, RED, GRAY, TAN AND ORANGE, CLAYEY SAND (A-2-6) AND SILTY SAND (A-2-4), TRACE GRAVEL MOIST TO SAT. [MIDDENDORF FORMATION]

COASTAL PLAIN. MED. STIFF, BLACK AND DARK GRAY, SILTY CLAY (A-7-6), WITH SAND SEAMS, TRACE MICA AND TRACE GRAVEL, WET [CAPE FEAR FORMATION]

LOOSE TO MED. DENSE, DARK GRAY, BROWN, SILTY SAND (A-2-4), TRACE MICA, MOIST TO SAT.

STIFF TO HARD, BLACK, GRAY AND DARK GRAY, SANDY CLAY (A-6) AND CLAY WITH SAND SEAMS (A-7-6), TRACE MICA, MOIST

DENSE, GRAY, SILTY SAND (A-2-4), SAT.

VERY STIFF, GREEN, GRAY, SILTY CLAY (A-7-6), AND SANDY CLAY (A-6), TRACE MICA WET

MED. DENSE TO DENSE, TAN, GRAY AND GREEN, CLAYEY FINE SAND (A-2-6), WITH SAND SEAMS, TRACE MICA, MOIST TO SAT.

VERY STIFF TO HARD, TAN, BROWN AND GRAY, SILTY CLAY (A-7-6) AND SANDY CLAY (A-6), TRACE MICA, MOIST TO WET

MEDIUM DENSE GRAY CLAYEY SAND (A-2-6) TRACE MICA, WET

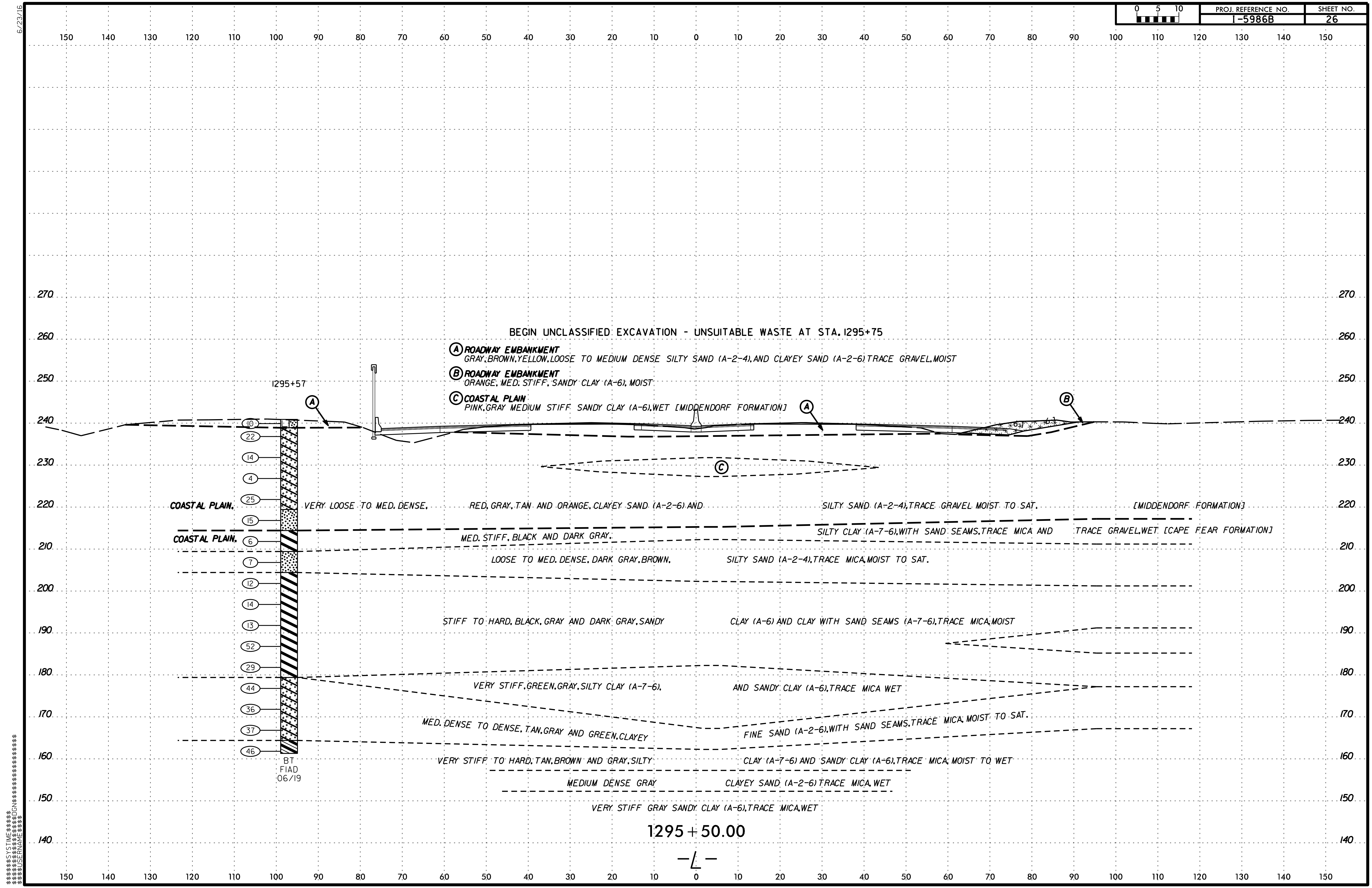
VERY STIFF GRAY SANDY CLAY (A-6), TRACE MICA, WET

BT
FIAD
12/19

BT
FIAD
06/19

1295+00.00

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$


6/23/16
PROJ. REFERENCE NO.
I-5986B
SHEET NO.
26
0 5 10
BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1295+75
(A) ROADWAY EMBANKMENT
GRAY, BROWN, YELLOW, LOOSE TO MEDIUM DENSE SILTY SAND (A-2-4), AND CLAYEY SAND (A-2-6) TRACE GRAVEL, MOIST
(B) ROADWAY EMBANKMENT
ORANGE, MED. STIFF, SANDY CLAY (A-6), MOIST
(C) COASTAL PLAIN
PINK, GRAY MEDIUM STIFF SANDY CLAY (A-6), WET [MIDDENDORF FORMATION]
1295+57
A
A
B
C
6:1
6:1
10
22
14
4
25
15
6
7
12
14
13
52
29
44
36
37
46
BT
FIAD
06/19
COASTAL PLAIN, VERY LOOSE TO MED. DENSE, RED, GRAY, TAN AND ORANGE, CLAYEY SAND (A-2-6) AND SILTY SAND (A-2-4), TRACE GRAVEL MOIST TO SAT. [MIDDENDORF FORMATION]
COASTAL PLAIN, MED. STIFF, BLACK AND DARK GRAY, SILTY CLAY (A-7-6), WITH SAND SEAMS, TRACE MICA AND TRACE GRAVEL, WET [CAPE FEAR FORMATION]
LOOSE TO MED. DENSE, DARK GRAY, BROWN, SILTY SAND (A-2-4), TRACE MICA, MOIST TO SAT.
STIFF TO HARD, BLACK, GRAY AND DARK GRAY, SANDY CLAY (A-6) AND CLAY WITH SAND SEAMS (A-7-6), TRACE MICA, MOIST
VERY STIFF, GREEN, GRAY, SILTY CLAY (A-7-6), AND SANDY CLAY (A-6), TRACE MICA WET
MED. DENSE TO DENSE, TAN, GRAY AND GREEN, CLAYEY FINE SAND (A-2-6), WITH SAND SEAMS, TRACE MICA, MOIST TO SAT.
VERY STIFF TO HARD, TAN, BROWN AND GRAY, SILTY CLAY (A-7-6) AND SANDY CLAY (A-6), TRACE MICA, MOIST TO WET
MEDIUM DENSE GRAY CLAYEY SAND (A-2-6) TRACE MICA, WET
VERY STIFF GRAY SANDY CLAY (A-6), TRACE MICA, WET
1295 + 50.00
-L-
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
270 260 250 240 230 220 210 200 190 180 170 160 150 140
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	27

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

270
260
250
240
230
220

Ⓐ **ROADWAY EMBANKMENT**
BROWN MEDIUM DENSE CLAYEY SAND DRY

Ⓑ **ROADWAY EMBANKMENT**
BROWN YELLOW STIFF CLAY MOIST

Ⓒ **COASTAL PLAIN**
BROWN STIFF SANDY CLAY MOIST
[MIDDENDORF FORMATION]

4.55:1 6:1 6:1 6:1

Ⓐ Ⓑ Ⓒ

COASTAL PLAIN TAN GRAY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
TAN YELLOW STIFF SANDY CLAY MOIST

1296+50.00

Ⓐ **ROADWAY EMBANKMENT**
BROWN MEDIUM DENSE CLAYEY SAND DRY

Ⓑ **ROADWAY EMBANKMENT**
BROWN YELLOW STIFF CLAY MOIST

Ⓒ **COASTAL PLAIN**
BROWN STIFF SANDY CLAY MOIST
[MIDDENDORF FORMATION]

4.19:1 6:1 6:1 6:1

Ⓐ Ⓑ Ⓒ

COASTAL PLAIN
TAN GRAY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST [MIDDENDORF FORMATION]

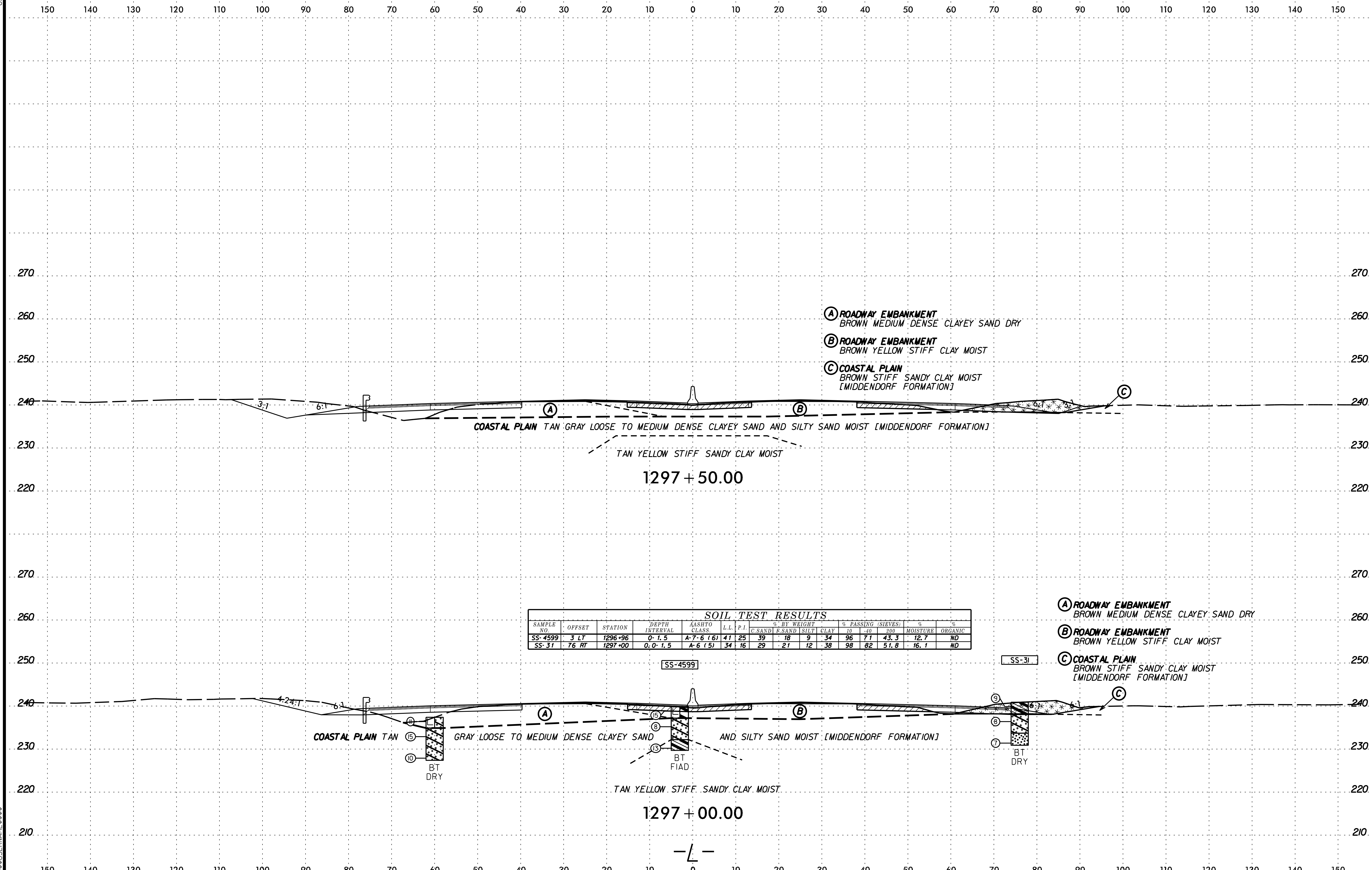
TAN YELLOW STIFF SANDY CLAY MOIST

1296+00.00

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	28



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-4599	3 LT	1296+96	0-1.5	A-7-6 (6)	41	25	39	18	9	34	96	71	43.3	12.7	ND
SS-31	76 RT	1297+00	0.0-1.5	A-6 (5)	34	16	29	21	12	38	98	82	51.8	16.1	ND

$$$$$SYSTIME$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	29

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

260 250 240 230 220

Ⓐ **ROADWAY EMBANKMENT**
YELLOW RED LOOSE CLAYEY SAND MOIST

3:1 6:1 6:1 3:1

COASTAL PLAIN
GRAY ORANGE BLACK MEDIUM STIFF TO STIFF SANDY CLAY,SANDY SILT,AND CLAY MOIST [MIDDENDORF FORMATION]

GRAY MEDIUM DENSE CLAYEY SAND MOIST

1299+00.00

END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1298+75

END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1298+75

Ⓐ **ROADWAY EMBANKMENT**
BROWN MEDIUM DENSE CLAYEY SAND DRY

Ⓑ **ROADWAY EMBANKMENT**
BROWN YELLOW STIFF CLAY MOIST

Ⓒ **COASTAL PLAIN**
BROWN STIFF SANDY CLAY MOIST
[MIDDENDORF FORMATION]

3:1 6:1 6:1 3:1

COASTAL PLAIN
TAN YELLOW STIFF SANDY CLAY MOIST [MIDDENDORF FORMATION]

1298+50.00

Ⓐ **ROADWAY EMBANKMENT**
BROWN MEDIUM DENSE CLAYEY SAND DRY

Ⓑ **ROADWAY EMBANKMENT**
BROWN YELLOW STIFF CLAY MOIST

Ⓒ **COASTAL PLAIN**
BROWN STIFF SANDY CLAY MOIST
[MIDDENDORF FORMATION]

3:1 6:1 6:1 3:1

COASTAL PLAIN TAN GRAY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST [MIDDENDORF FORMATION]

TAN YELLOW STIFF SANDY CLAY MOIST

1298+00.00

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

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

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	30

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

260 250 240 230

Ⓐ ROADWAY EMBANKMENT
BROWN RED MEDIUM DENSE CLAYEY SAND DRY TO MOIST

5.70:1 3:1 3:1 6:1

MATCH TO-Y29A-

COASTAL PLAIN
BROWN ORANGE STIFF TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

1314+00.00

260 250 240 230

Ⓐ ROADWAY EMBANKMENT
BROWN RED MEDIUM DENSE CLAYEY SAND DRY TO MOIST

6:1 3:1 3:1 6:1

MATCH TO-Y29A-

COASTAL PLAIN
BROWN ORANGE STIFF TO VERY STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

1313+50.00

270 260 250 240 230 220

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 1313+25

Ⓐ ROADWAY EMBANKMENT
BROWN LOOSE TO MEDIUM DENSE SILTY SAND MOIST

Ⓑ COASTAL PLAIN
BROWN,GRAY,ORANGE LOOSE SILTY SAND MOIST [MIDDENDORF FORMATION]

6:1 3:1 3:1 5.74:1

COASTAL PLAIN
RED BROWN GRAY SOFT TO STIFF SANDY CLAY AND SILTY CLAY MOIST [MIDDENDORF FORMATION]

RED BROWN LOOSE SILTY SAND MOIST

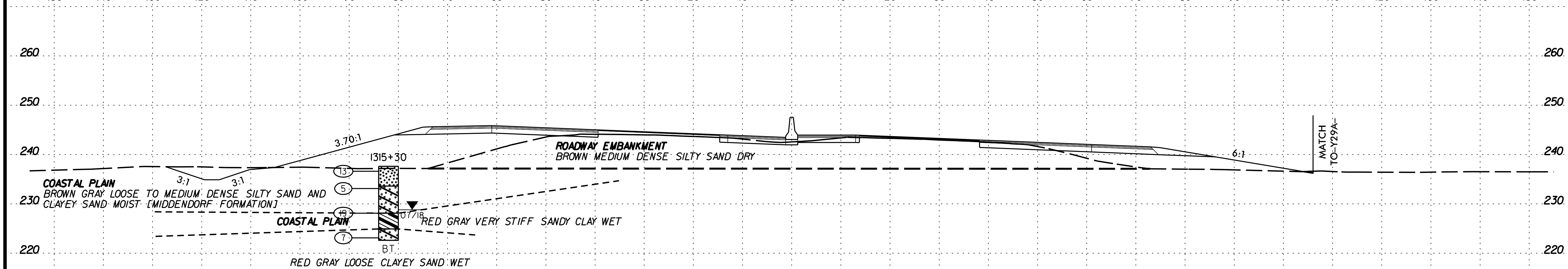
RED BROWN MEDIUM DENSE SILTY AND CLAYEY SAND MOIST

1313+00.00

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

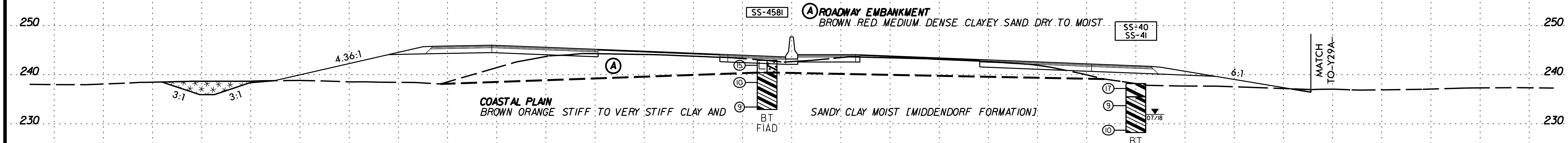
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	31

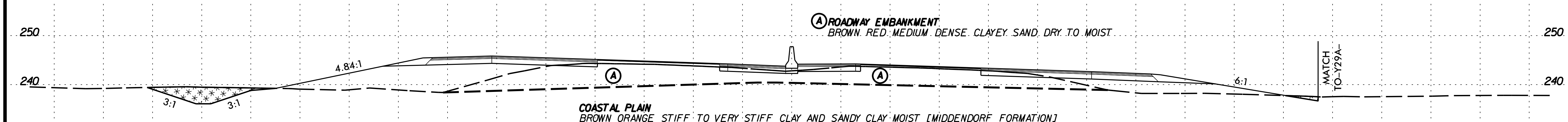


1315+50.00

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-4581	5 LT	1315+00	0-1.5	A-2-6 (1)	30	15	41	24	7	28	90	68	33.7	8.6	ND
SS-40	70 RT	1315+00	0.0-1.5	A-7-6 (6)	48	19	35	14	6	45	91	69	47.2	14.6	ND
SS-41	70 RT	1315+00	3.5-5.0	A-6 (2)	32	14	37	23	14	26	98	78	40	17.1	ND



1315+00.00



1314+50.00

-L-

6/23/16

$$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	32

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

270 260 250 240 230 220

Ⓐ **ROADWAY EMBANKMENT**
BROWN RED MEDIUM DENSE CLAYEY SAND AND SILTY SAND DRY TO MOIST

Ⓑ **COASTAL PLAIN**
BROWN RED MEDIUM DENSE SILTY SAND MOIST [MIDDENDORF FORMATION]

3:1

6:1

TAN ORANGE LOOSE CLAYEY SAND MOIST

COASTAL PLAIN
GRAY RED BROWN SOFT TO STIFF SANDY CLAY, SANDY SILT, AND SILTY CLAY MOIST [MIDDENDORF FORMATION]

1317+00.00

END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 1316+75

260 250 240 230 220

3.11:1 3:1 3:1

ROADWAY EMBANKMENT
BROWN MEDIUM DENSE SILTY SAND DRY

6:1

MATCH TO-Y29A-

COASTAL PLAIN *BROWN GRAY LOOSE TO MEDIUM DENSE SILTY SAND AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]*

COASTAL PLAIN *RED GRAY VERY STIFF SANDY CLAY WET*

RED GRAY LOOSE CLAYEY SAND WET

1316+50.00

260 250 240 230 220 210

3.32:1 3:1 3:1

ROADWAY EMBANKMENT
BROWN MEDIUM DENSE SILTY SAND DRY

6:1

MATCH TO-Y29A-

COASTAL PLAIN *BROWN GRAY LOOSE TO MEDIUM DENSE SILTY SAND AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]*

COASTAL PLAIN *RED GRAY VERY STIFF SANDY CLAY WET*

RED GRAY LOOSE CLAYEY SAND WET

1316+00.00

—L—

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

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	33

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

260
250
240
230
220

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1319+25

Ⓐ **ROADWAY EMBANKMENT**
BROWN RED MEDIUM DENSE CLAYEY SAND AND SILTY SAND DRY TO MOIST

6:1

6:1

MATCH TO-Y29A-

COASTAL PLAIN
BROWN RED MEDIUM DENSE SILTY SAND MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
GRAY RED BROWN SOFT TO STIFF SANDY CLAY, SANDY SILT, AND SILTY CLAY MOIST [MIDDENDORF FORMATION]

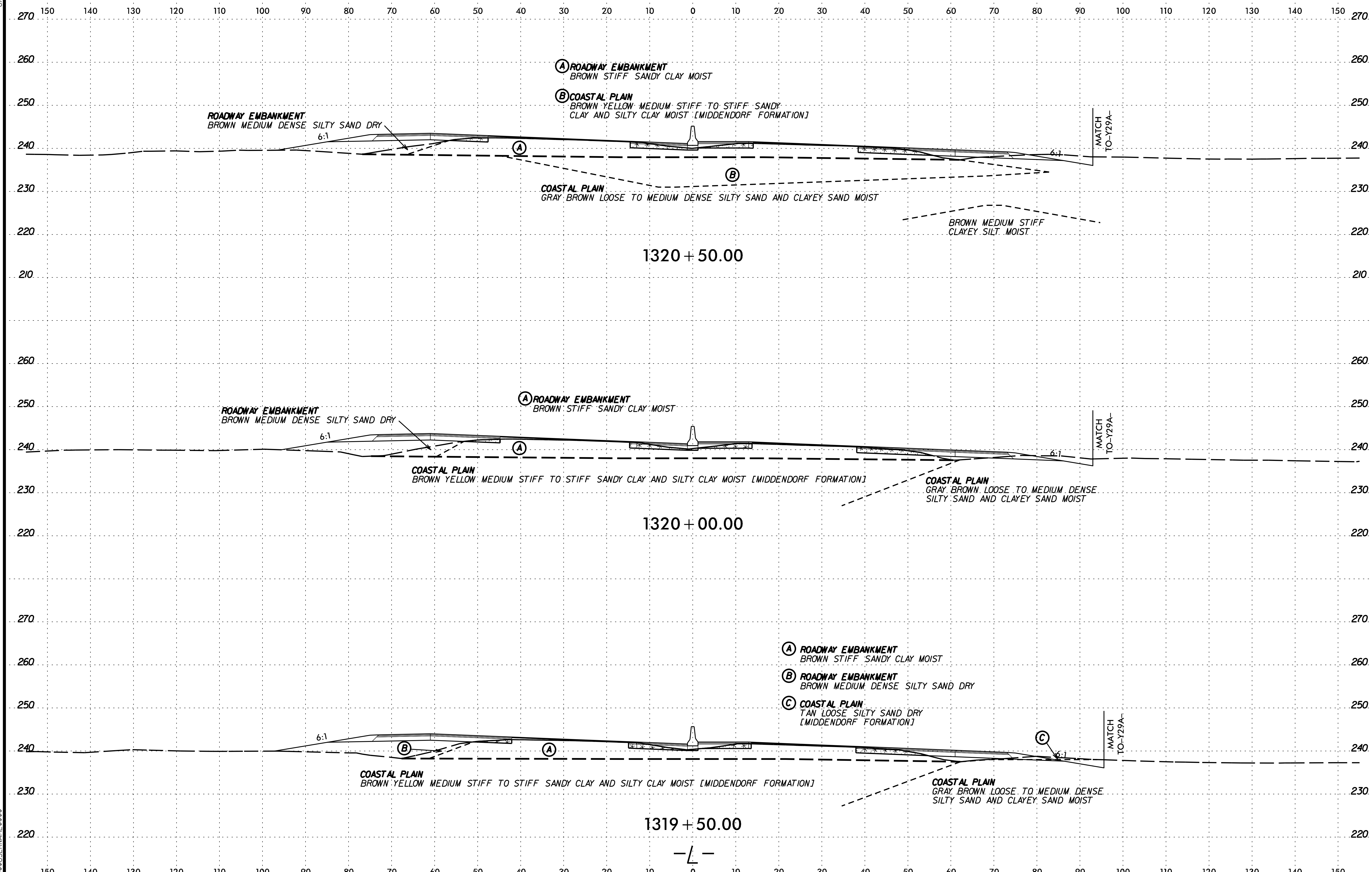
TAN ORANGE LOOSE CLAYEY SAND MOIST

1319+00.00

—℄—

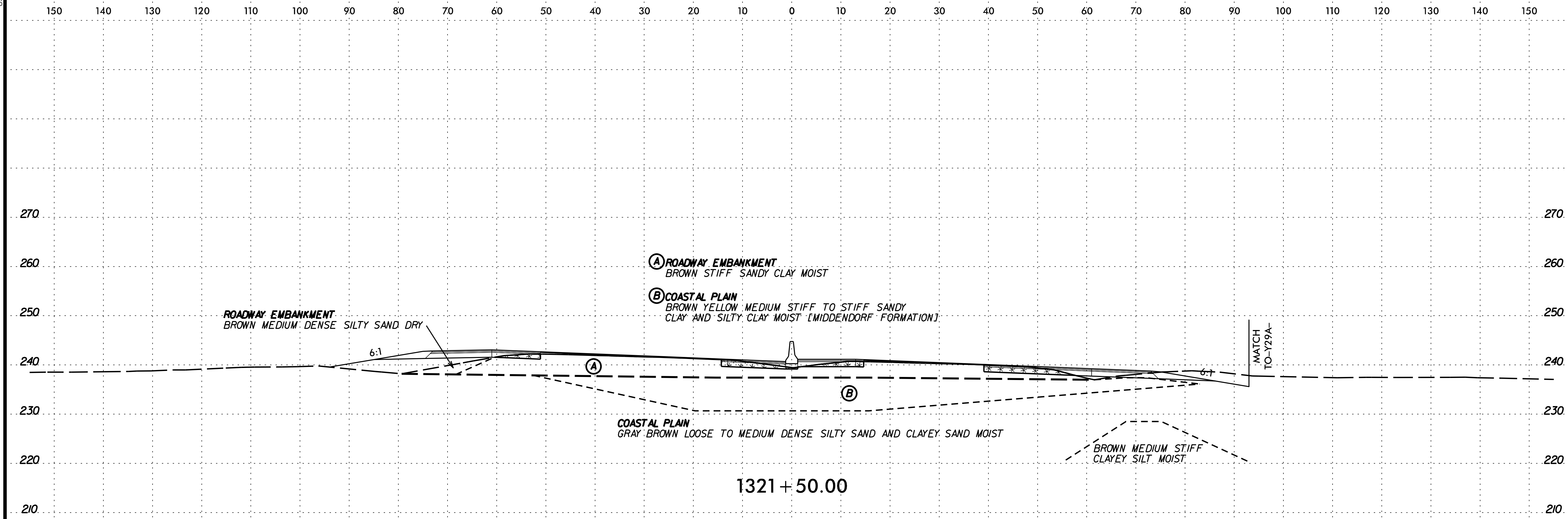
$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	34



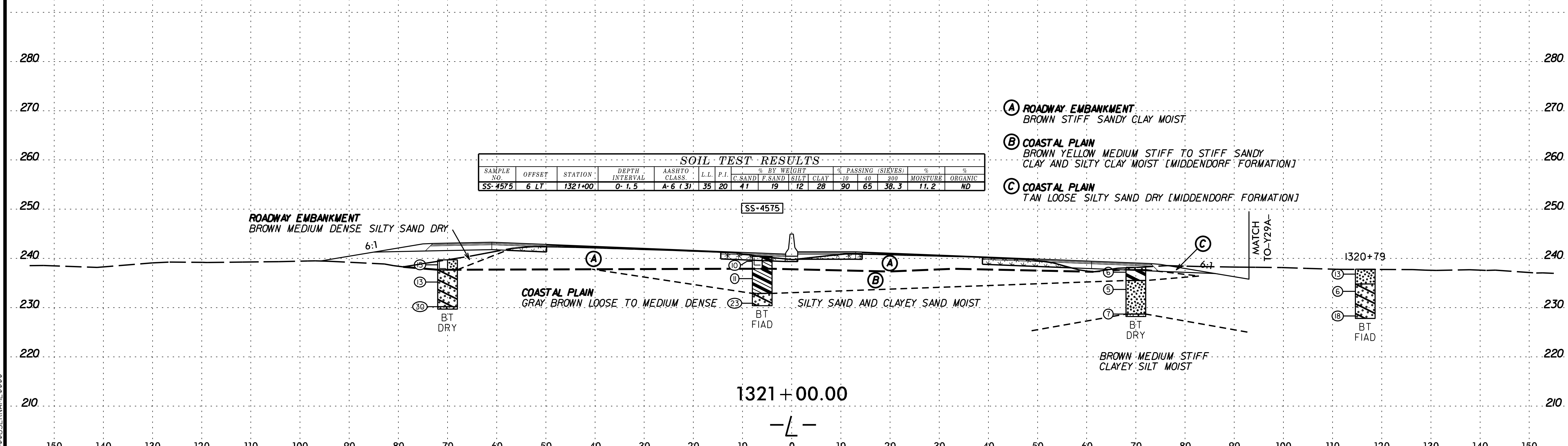
6/23/16

$$$$$SYSTIME$$$$$ $$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-4575	6 LT	1321+00	0-1.5	A-6 (3)	35	20	41	19	12	28	90	65	38.3	11.2	ND



6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	36

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

260 250 240 230 220

A ROADWAY EMBANKMENT
BROWN MEDIUM DENSE SILTY SAND DRY TO MOIST

6:1

COASTAL PLAIN
GRAY BROWN LOOSE TO MEDIUM DENSE
CLAYEY SAND MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
GRAY BROWN MEDIUM STIFF TO VERY STIFF SANDY CLAY AND HIGHLY PLASTIC CLAY MOIST [MIDDENDORF FORMATION]

RED ORANGE GRAY MEDIUM
DENSE SILTY SAND MOIST

6:1 4.88:1

RED ORANGE GRAY MEDIUM DENSE SILTY SAND MOIST

1323+00.00

270 260 250 240 230 220

END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1322+75
BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1322+75

A ROADWAY EMBANKMENT
BROWN STIFF SANDY CLAY MOIST

ROADWAY EMBANKMENT
BROWN MEDIUM DENSE SILTY SAND DRY

6:1

COASTAL PLAIN
BROWN YELLOW MEDIUM STIFF TO STIFF SANDY CLAY AND SILTY CLAY MOIST [MIDDENDORF FORMATION]

6:1

MATCH
TO-Y29A-

COASTAL PLAIN
GRAY BROWN LOOSE TO MEDIUM DENSE
SILTY SAND AND CLAYEY SAND MOIST

1322+50.00

260 250 240 230 220

ROADWAY EMBANKMENT
BROWN MEDIUM DENSE SILTY SAND DRY

6:1

A ROADWAY EMBANKMENT
BROWN STIFF SANDY CLAY MOIST

COASTAL PLAIN
BROWN YELLOW MEDIUM STIFF TO STIFF SANDY CLAY AND SILTY CLAY MOIST [MIDDENDORF FORMATION]

6:1

MATCH
TO-Y29A-

COASTAL PLAIN
GRAY BROWN LOOSE TO MEDIUM DENSE
SILTY SAND AND CLAYEY SAND MOIST

1322+00.00

250 240 230 220

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

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	37

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

250 240 230 220

Ⓐ ROADWAY EMBANKMENT
BROWN MEDIUM DENSE SILTY SAND DRY TO MOIST

3:1 6:1

COASTAL PLAIN
GRAY BROWN LOOSE TO MEDIUM DENSE
CLAYEY SAND MOIST [MIDDENDORF FORMATION]

RED ORANGE GRAY MEDIUM
DENSE SILTY SAND MOIST

Ⓐ

COASTAL PLAIN
GRAY BROWN MEDIUM STIFF TO VERY STIFF SANDY CLAY AND HIGHLY PLASTIC CLAY MOIST [MIDDENDORF FORMATION]

6:1 4:1

RED ORANGE GRAY MEDIUM DENSE SILTY SAND MOIST

1324+50.00

260 250 240 230 220

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-4573	5 LT	1324+00	3.6-5.1	A-7-6 (9)	49	30	33	22	12	33	95	74	46.5	19.3	ND

SS-4573

Ⓐ ROADWAY EMBANKMENT
BROWN MEDIUM DENSE SILTY SAND DRY TO MOIST

6:1

COASTAL PLAIN
GRAY BROWN LOOSE TO MEDIUM DENSE
CLAYEY SAND MOIST [MIDDENDORF FORMATION]

17 10 25
BT
DRY

RED ORANGE GRAY MEDIUM
DENSE SILTY SAND MOIST

Ⓐ

COASTAL PLAIN
GRAY BROWN MEDIUM STIFF TO VERY STIFF

12 8 8
BT
FIAD

SANDY CLAY AND HIGHLY PLASTIC CLAY MOIST

9 11 15
BT
DRY

6:1 4:3

[MIDDENDORF FORMATION]

RED ORANGE GRAY MEDIUM DENSE SILTY SAND MOIST

1324+00.00

260 250 240 230 220 210

Ⓐ ROADWAY EMBANKMENT
BROWN MEDIUM DENSE SILTY SAND DRY TO MOIST

6:1

COASTAL PLAIN
GRAY BROWN LOOSE TO MEDIUM DENSE
CLAYEY SAND MOIST [MIDDENDORF FORMATION]

RED ORANGE GRAY MEDIUM
DENSE SILTY SAND MOIST

Ⓐ

COASTAL PLAIN
GRAY BROWN MEDIUM STIFF TO VERY STIFF SANDY CLAY AND HIGHLY PLASTIC CLAY MOIST [MIDDENDORF FORMATION]

6:1 4:3

RED ORANGE GRAY MEDIUM DENSE SILTY SAND MOIST

1323+50.00

—L—

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

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	38

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

260 250 240 230 220

(A) **ROADWAY EMBANKMENT**
BROWN LOOSE TO MEDIUM DENSE
SILTY SAND DRY TO MOIST

(B) **COASTAL PLAIN**
GRAY BROWN RED STIFF SANDY CLAY AND SILTY CLAY
DRY TO MOIST [MIDDENDORF FORMATION]

3:1 6:1 6:1 4:1 3:1

COASTAL PLAIN
GRAY BROWN RED LOOSE TO DENSE CLAYEY SAND, SILTY SAND, AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

1326+00.00

270 260 250 240 230 220 210

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1325+75
END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1325+75

(A) **ROADWAY EMBANKMENT**
BROWN MEDIUM DENSE SILTY SAND DRY TO MOIST

3:1 6:1 6:1 4:1

COASTAL PLAIN
GRAY BROWN LOOSE TO MEDIUM DENSE
CLAYEY SAND MOIST [MIDDENDORF FORMATION]

RED ORANGE GRAY MEDIUM
DENSE SILTY SAND MOIST

COASTAL PLAIN
GRAY BROWN MEDIUM STIFF TO VERY STIFF SANDY CLAY AND CLAY MOIST [MIDDENDORF FORMATION]

RED ORANGE GRAY MEDIUM DENSE SILTY SAND MOIST

1325+50.00

250 240 230 220 210

(A) **ROADWAY EMBANKMENT**
BROWN MEDIUM DENSE SILTY SAND DRY TO MOIST

3:1 6:1 6:1 4:1

COASTAL PLAIN
GRAY BROWN LOOSE TO MEDIUM DENSE
CLAYEY SAND MOIST [MIDDENDORF FORMATION]

RED ORANGE GRAY MEDIUM
DENSE SILTY SAND MOIST

COASTAL PLAIN
GRAY BROWN MEDIUM STIFF TO VERY STIFF SANDY CLAY AND HIGHLY PLASTIC CLAY MOIST [MIDDENDORF FORMATION]

RED ORANGE GRAY MEDIUM DENSE SILTY SAND MOIST

1325+00.00

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	39

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

260 250 240 230 220

Ⓐ **ROADWAY EMBANKMENT**
BROWN LOOSE TO MEDIUM DENSE
SILTY SAND DRY TO MOIST

Ⓑ **COASTAL PLAIN**
GRAY BROWN RED STIFF SANDY CLAY AND SILTY CLAY
DRY TO MOIST [MIDDENDORF FORMATION]

6:1 6:1 4:1 3.44:1

COASTAL PLAIN
GRAY BROWN RED LOOSE TO DENSE CLAYEY SAND,SILTY SAND,AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

1327+50.00

270 260 250 240 230 220

Ⓐ **ROADWAY EMBANKMENT**
BROWN LOOSE TO MEDIUM DENSE
SILTY SAND DRY TO MOIST

Ⓑ **COASTAL PLAIN**
GRAY BROWN RED STIFF SANDY CLAY AND SILTY CLAY
DRY TO MOIST [MIDDENDORF FORMATION]

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-4570	5 LT	1327+00	3.5-5.0	A-6 (3)	36	21	40	24	12	24	99	75	37	16.1	ND
SS-49	65 RT	1327+00	3.5-5.0	A-2-6 (0)	32	16	47	24	5	24	98	73	29.8	16.5	ND

SS-4570 SS-49

3:1 6:1 6:1 4:1 3.44:1

14 8 15 — BT DRY

8 14 44 — BT FIAD

12 9 24 — BT DRY

COASTAL PLAIN
GRAY BROWN RED LOOSE TO DENSE CLAYEY SAND,SILTY SAND,AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

1327+00.00

260 250 240 230 220

Ⓐ **ROADWAY EMBANKMENT**
BROWN LOOSE TO MEDIUM DENSE
SILTY SAND DRY TO MOIST

Ⓑ **COASTAL PLAIN**
GRAY BROWN RED STIFF SANDY CLAY AND SILTY CLAY
DRY TO MOIST [MIDDENDORF FORMATION]

3:1 6:1 6:1 4:1 3.37:1

COASTAL PLAIN
GRAY BROWN RED LOOSE TO DENSE CLAYEY SAND,SILTY SAND,AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

1326+50.00

—L—

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

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	40

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

260 250 240 230 220

SP 20

Ⓐ **ROADWAY EMBANKMENT**
BROWN LOOSE TO MEDIUM DENSE SILTY SAND DRY TO MOIST

Ⓐ

COASTAL PLAIN
RED BROWN GRAY LOOSE TO DENSE CLAYEY SAND, SILTY SAND, AND SAND MOIST [MIDDENDORF FORMATION]

TAN GRAY STIFF SILTY CLAY MOIST

4:1 3:1

1329+00.00

260 250 240 230 220

Ⓐ **ROADWAY EMBANKMENT**
BROWN LOOSE TO MEDIUM DENSE
SILTY SAND DRY TO MOIST

END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1328+75

SP 19

Ⓑ **COASTAL PLAIN**
GRAY BROWN RED STIFF SANDY CLAY AND SILTY CLAY
DRY TO MOIST [MIDDENDORF FORMATION]

Ⓐ Ⓑ

COASTAL PLAIN
GRAY BROWN RED LOOSE TO DENSE CLAYEY SAND, SILTY SAND, AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

4:1 3:1

1328+50.00

260 250 240 230 220

Ⓐ **ROADWAY EMBANKMENT**
BROWN LOOSE TO MEDIUM DENSE
SILTY SAND DRY TO MOIST

SP 18

Ⓑ **COASTAL PLAIN**
GRAY BROWN RED STIFF SANDY CLAY AND SILTY CLAY
DRY TO MOIST [MIDDENDORF FORMATION]

Ⓐ Ⓑ

COASTAL PLAIN
GRAY BROWN RED LOOSE TO DENSE CLAYEY SAND, SILTY SAND, AND GRAVELLY SAND MOIST [MIDDENDORF FORMATION]

4:1 3:1

1328+00.00

℄

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

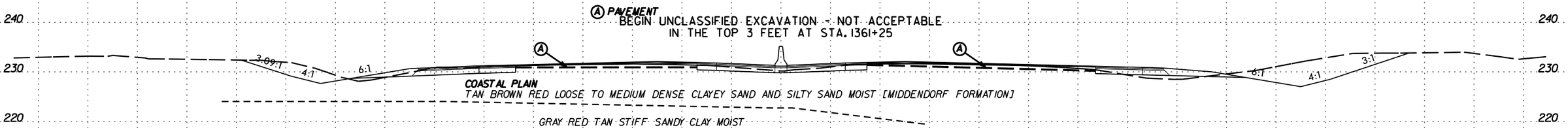
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	41

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

250
240
230
220
210



1361+00.00

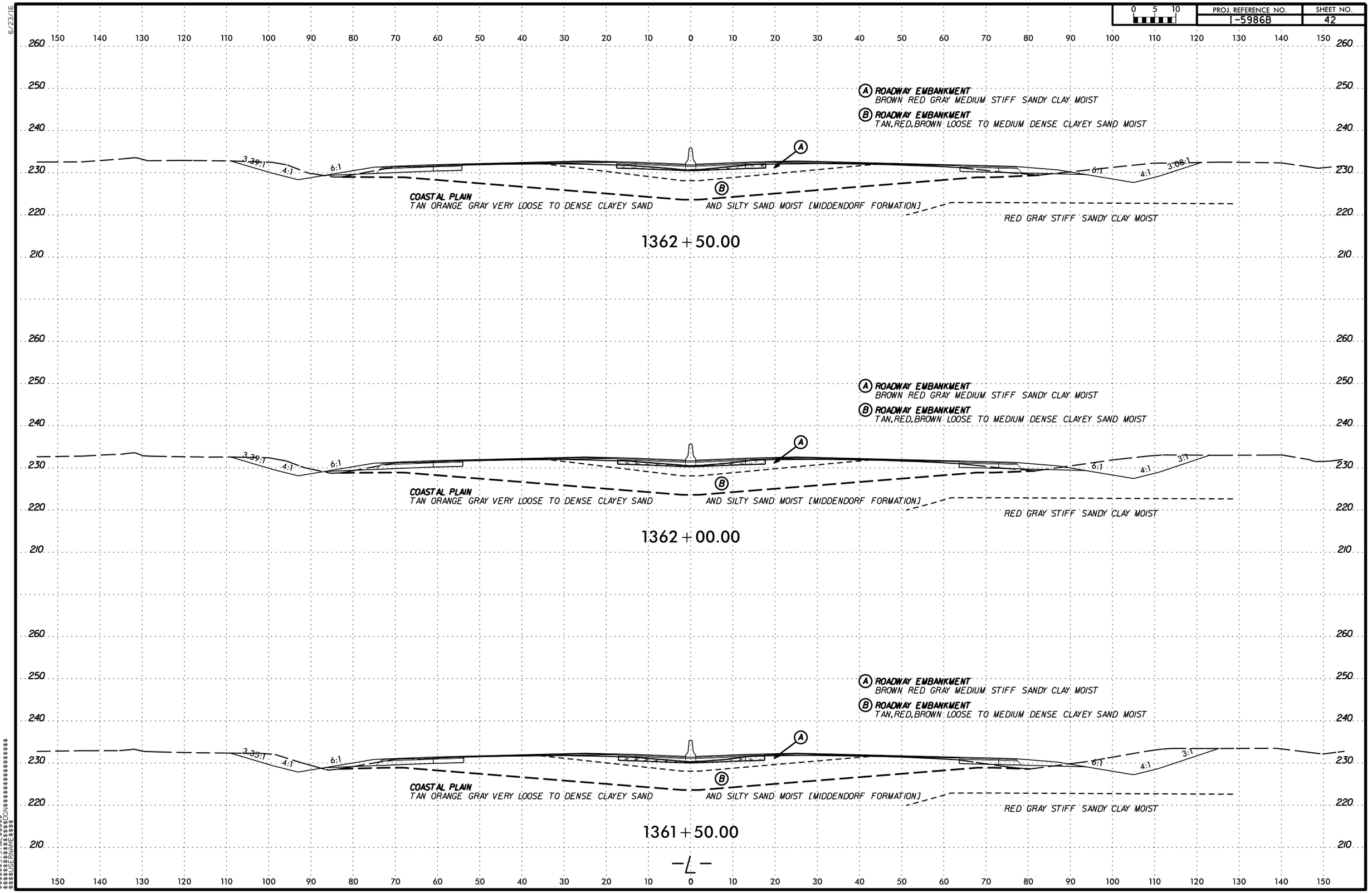
—L—

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

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

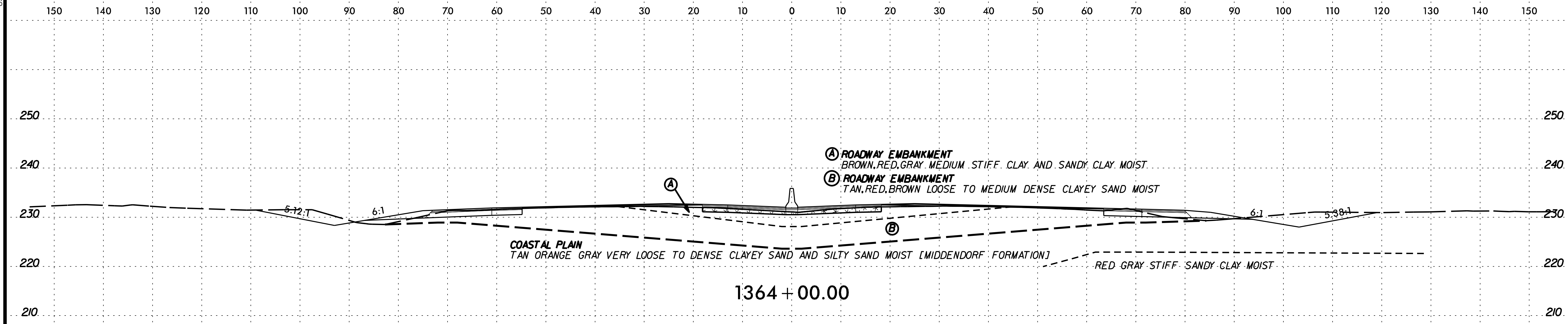
6/23/16

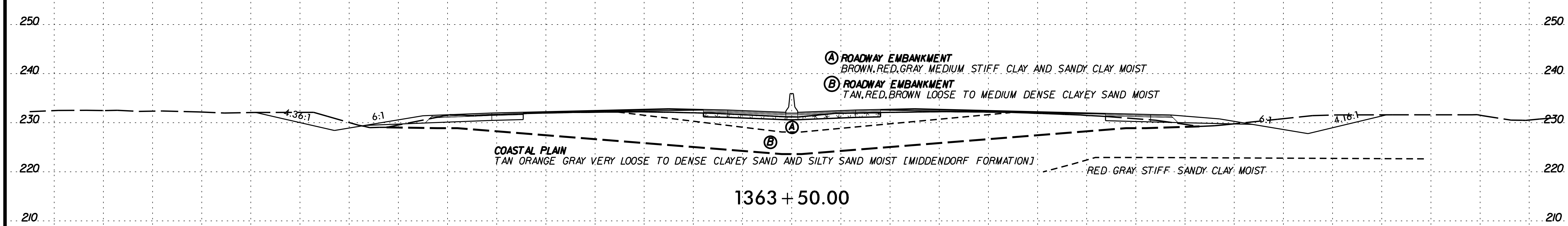
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	42



$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

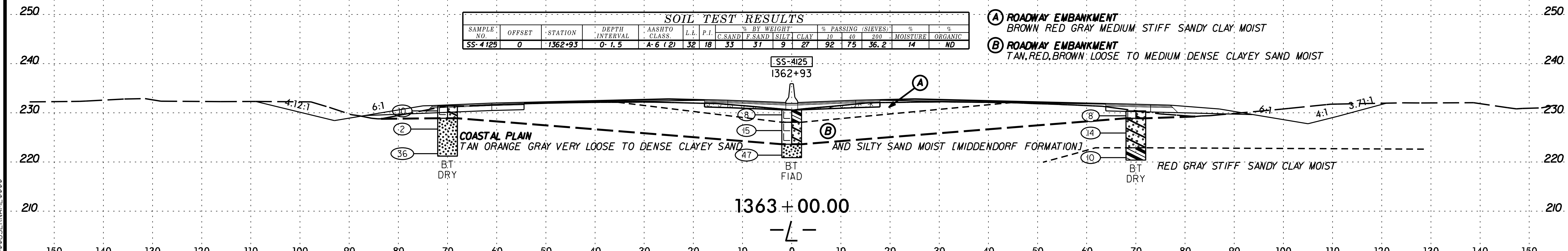
6/23/16

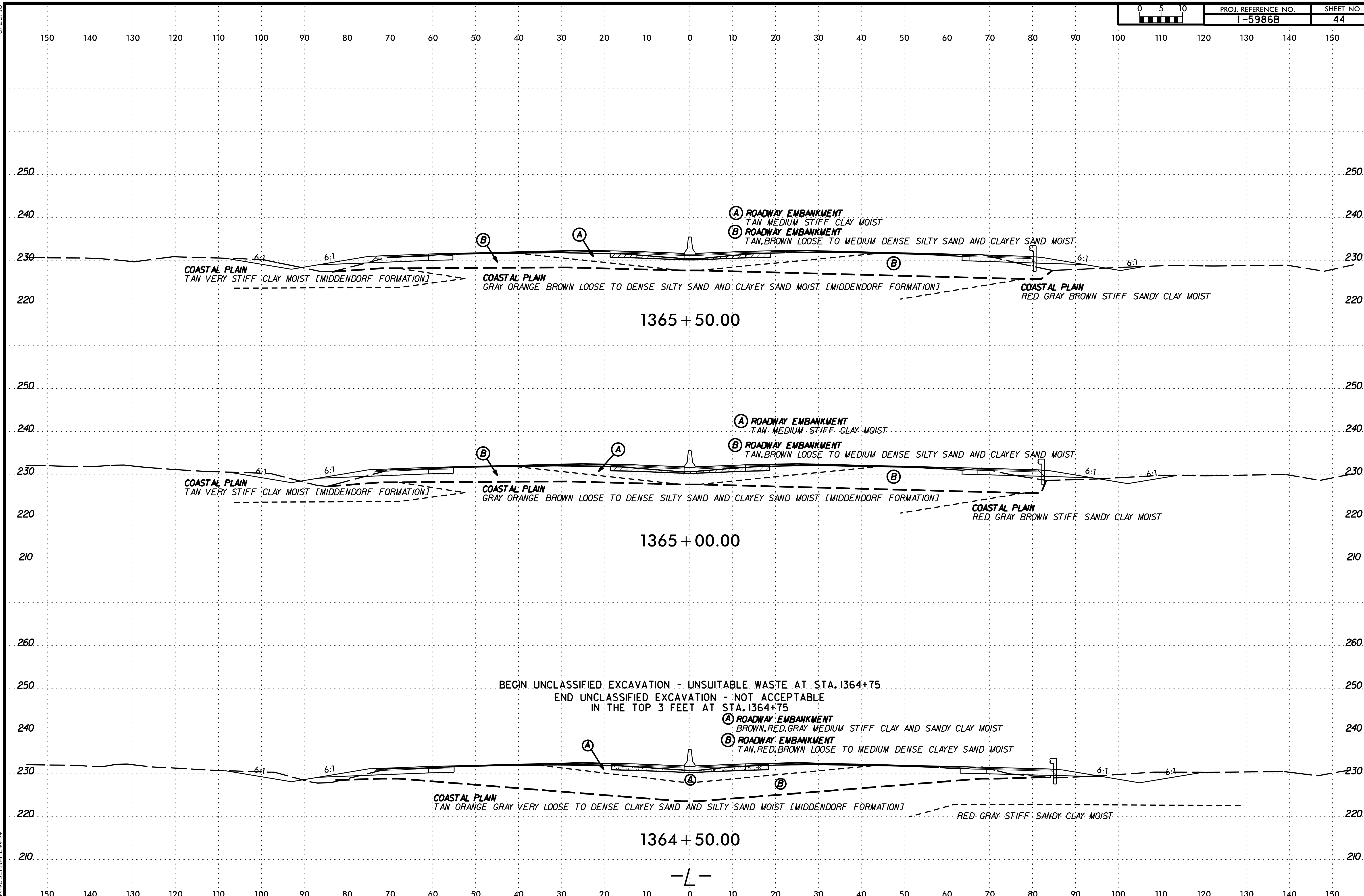

Ⓐ ROADWAY EMBANKMENT
BROWN,RED,GRAY MEDIUM STIFF CLAY AND SANDY CLAY MOIST
Ⓑ ROADWAY EMBANKMENT
TAN,RED,BROWN LOOSE TO MEDIUM DENSE CLAYEY SAND MOIST
5.12:1
6:1
6:1
5.38:1
COASTAL PLAIN
TAN ORANGE GRAY VERY LOOSE TO DENSE CLAYEY SAND AND SILTY SAND MOIST [MIDDENDORF FORMATION]
RED GRAY STIFF SANDY CLAY MOIST
1364+00.00


Ⓐ ROADWAY EMBANKMENT
BROWN,RED,GRAY MEDIUM STIFF CLAY AND SANDY CLAY MOIST
Ⓑ ROADWAY EMBANKMENT
TAN,RED,BROWN LOOSE TO MEDIUM DENSE CLAYEY SAND MOIST
4.36:1
6:1
6:1
4.16:1
COASTAL PLAIN
TAN ORANGE GRAY VERY LOOSE TO DENSE CLAYEY SAND AND SILTY SAND MOIST [MIDDENDORF FORMATION]
RED GRAY STIFF SANDY CLAY MOIST
1363+50.00

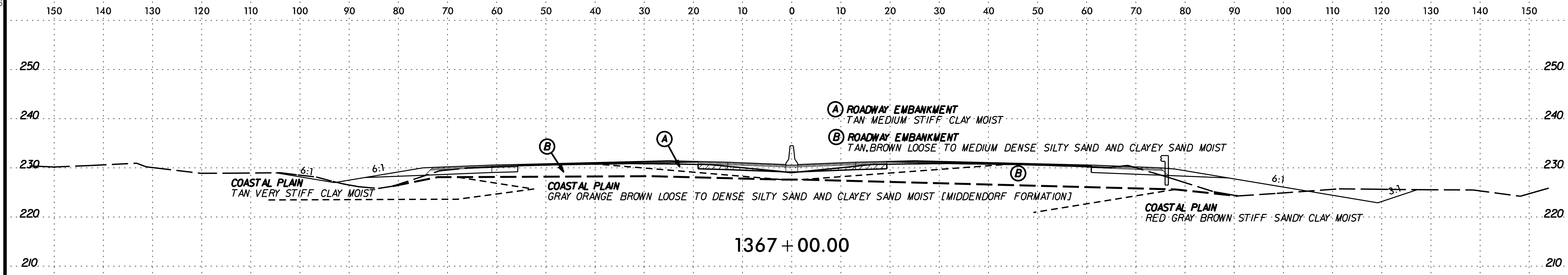
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-4125	0	1362+93	0-1.5	A-6 (2)	32	18	33	31	9	27	92	75	36.2	14	ND

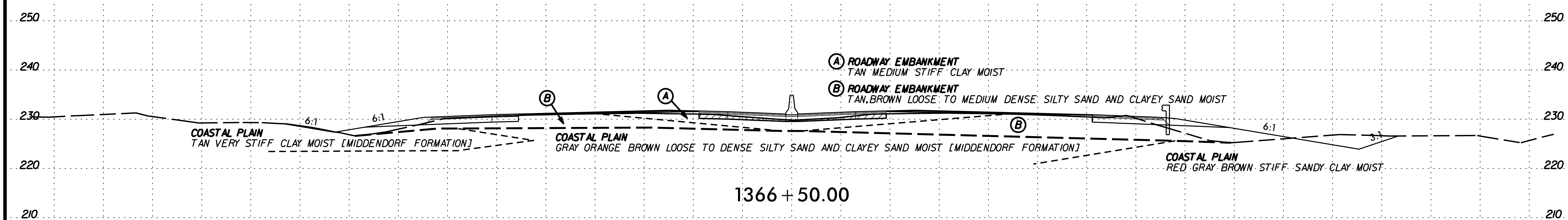

Ⓐ ROADWAY EMBANKMENT
BROWN RED GRAY MEDIUM STIFF SANDY CLAY MOIST
Ⓑ ROADWAY EMBANKMENT
TAN,RED,BROWN LOOSE TO MEDIUM DENSE CLAYEY SAND MOIST
SS-4125
1362+93
4.12:1
6:1
6:1
4:1
3.71:1
COASTAL PLAIN
TAN ORANGE GRAY VERY LOOSE TO DENSE CLAYEY SAND AND SILTY SAND MOIST [MIDDENDORF FORMATION]
RED GRAY STIFF SANDY CLAY MOIST
BT
DRY
BT
FIAD
BT
DRY
1363+00.00
-L-


6/23/16
0 5 10
PROJ. REFERENCE NO.
I-5986B
SHEET NO.
44
(A) ROADWAY EMBANKMENT
TAN MEDIUM STIFF CLAY MOIST
(B) ROADWAY EMBANKMENT
TAN,BROWN LOOSE TO MEDIUM DENSE SILTY SAND AND CLAYEY SAND MOIST
6:1
COASTAL PLAIN
TAN VERY STIFF CLAY MOIST [MIDDENDORF FORMATION]
COASTAL PLAIN
GRAY ORANGE BROWN LOOSE TO DENSE SILTY SAND AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]
COASTAL PLAIN
RED GRAY BROWN STIFF SANDY CLAY MOIST
1365+50.00
(A) ROADWAY EMBANKMENT
TAN MEDIUM STIFF CLAY MOIST
(B) ROADWAY EMBANKMENT
TAN,BROWN LOOSE TO MEDIUM DENSE SILTY SAND AND CLAYEY SAND MOIST
COASTAL PLAIN
TAN VERY STIFF CLAY MOIST [MIDDENDORF FORMATION]
COASTAL PLAIN
GRAY ORANGE BROWN LOOSE TO DENSE SILTY SAND AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]
COASTAL PLAIN
RED GRAY BROWN STIFF SANDY CLAY MOIST
1365+00.00
BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1364+75
END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1364+75
(A) ROADWAY EMBANKMENT
BROWN,RED,GRAY MEDIUM STIFF CLAY AND SANDY CLAY MOIST
(B) ROADWAY EMBANKMENT
TAN,RED,BROWN LOOSE TO MEDIUM DENSE CLAYEY SAND MOIST
COASTAL PLAIN
TAN ORANGE GRAY VERY LOOSE TO DENSE CLAYEY SAND AND SILTY SAND MOIST [MIDDENDORF FORMATION]
RED GRAY STIFF SANDY CLAY MOIST
1364+50.00
-L-
$$$$$$SYSTIME$$$$$
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	45



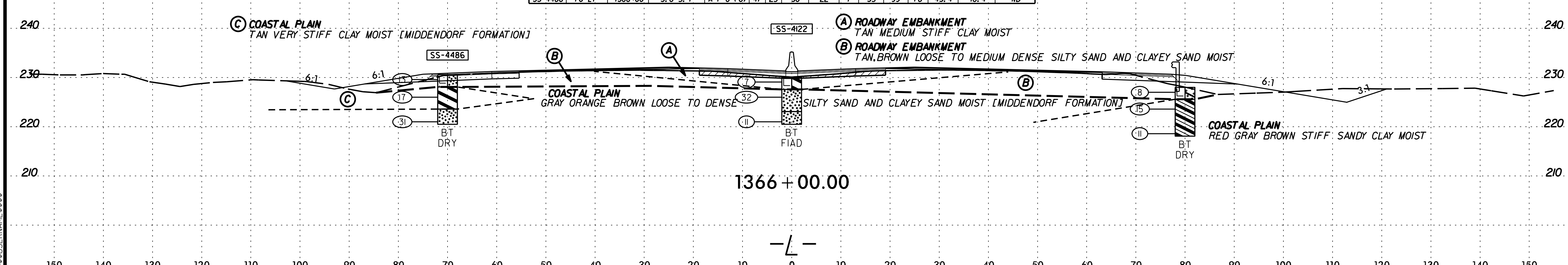
1367 + 00.00



1366 + 50.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-4122	0	1366+00	0-1.5	A-7-6 (6)	43	26	16	41	8	35	94	86	43.1	14.6	ND
SS-4486	70 LT	1366+00	3.6-5.1	A-7-6 (6)	47	25	36	22	7	35	99	78	43.4	16.4	ND



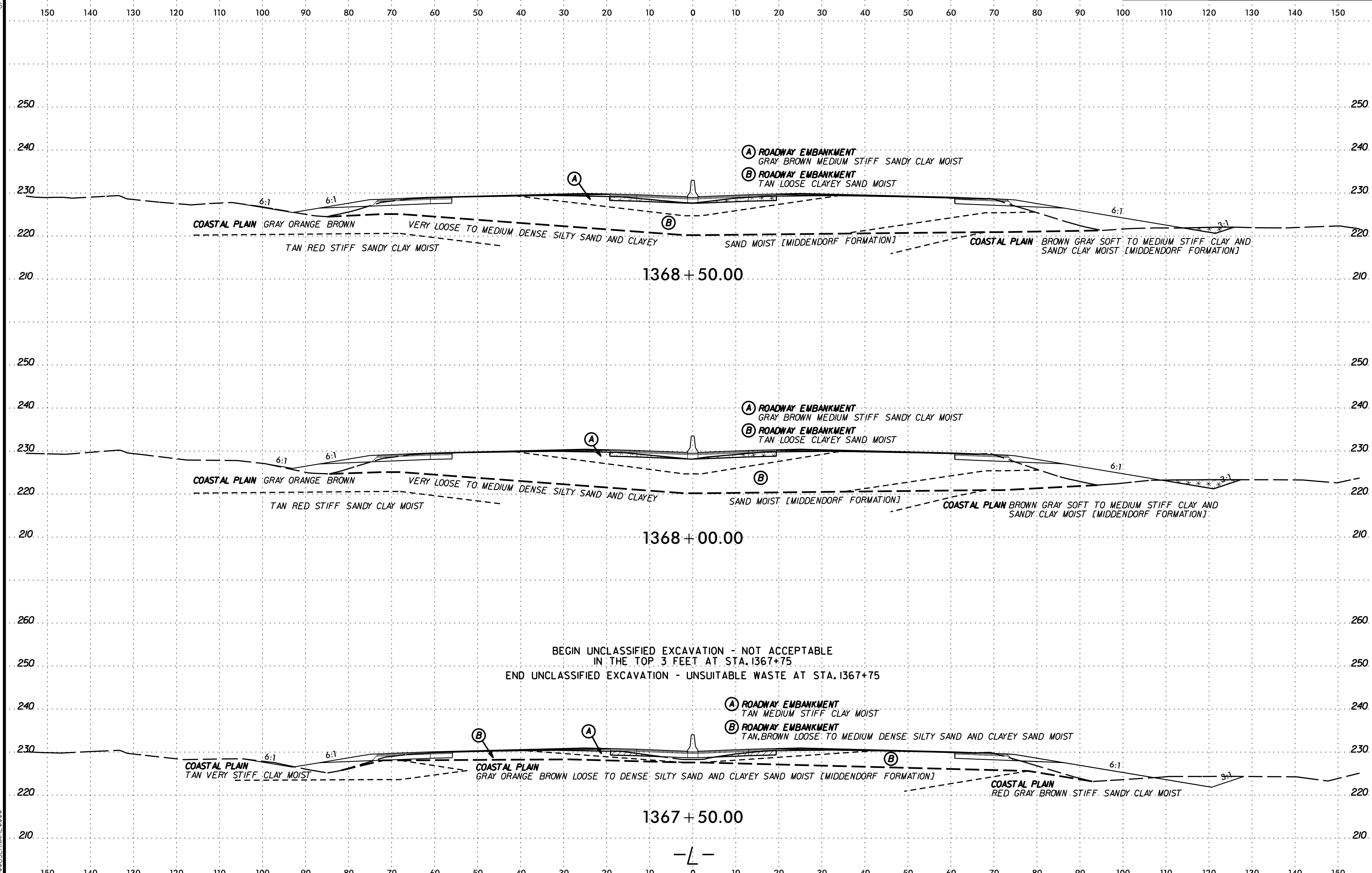
1366 + 00.00

-L-

$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	46



$$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	47

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

250 240 230 220 210

Ⓐ **ROADWAY EMBANKMENT**
GRAY BROWN MEDIUM STIFF SANDY CLAY MOIST
Ⓑ **ROADWAY EMBANKMENT**
TAN LOOSE CLAYEY SAND MOIST

4.45:1 6:1 3.50:1

COASTAL PLAIN GRAY ORANGE BROWN TAN RED STIFF SANDY CLAY MOIST

VERY LOOSE TO MEDIUM DENSE SILTY SAND AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN BROWN GRAY SOFT TO MEDIUM STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

1370+00.00

240 230 220 210

Ⓐ **ROADWAY EMBANKMENT**
GRAY BROWN MEDIUM STIFF SANDY CLAY MOIST
Ⓑ **ROADWAY EMBANKMENT**
TAN LOOSE CLAYEY SAND MOIST

4.58:1 6:1 3.80:1

COASTAL PLAIN GRAY ORANGE BROWN TAN RED STIFF SANDY CLAY MOIST

VERY LOOSE TO MEDIUM DENSE SILTY SAND AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN BROWN GRAY SOFT TO MEDIUM STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

1369+50.00

260 250 240 230 220 210

SOIL TEST RESULTS																
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			%	%
							C.SAND	F.SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-4119	0	1369+00	0-1.5	A-6 (3)	33	17	24	35	11	30	95	80	43.7	18.7	ND

SS-4119

Ⓐ **ROADWAY EMBANKMENT**
GRAY,BROWN SOFT TO MEDIUM STIFF SANDY CLAY MOIST
Ⓑ **ROADWAY EMBANKMENT**
BROWN,TAN LOOSE TO VERY LOOSE CLAYEY SAND MOIST

6:1 6:1 6:1 3.01:1

COASTAL PLAIN GRAY,BROWN TAN RED STIFF SANDY CLAY MOIST

(12) (7) (12) B-T DRY

VERY LOOSE TO MEDIUM DENSE SILTY SAND MOIST [MIDDENDORF FORMATION]

(7) (9) (19) B-T FIAD

COASTAL PLAIN

(3) (4) (7) B-T

08/18

BROWN GRAY SOFT TO MEDIUM STIFF CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

1369+00.00

—L—

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

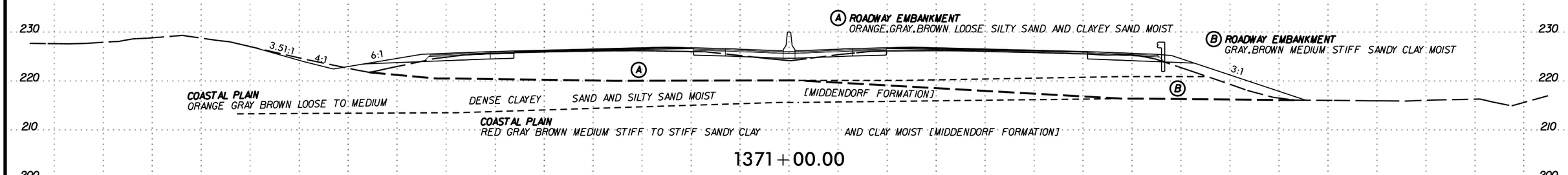
$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	48

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

240
230
220
210
200

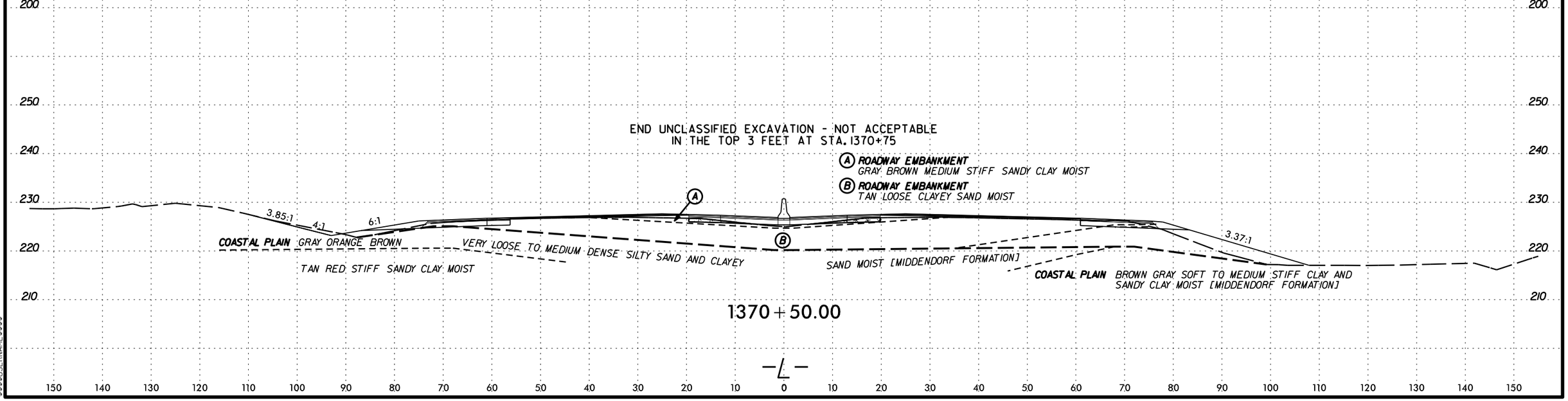


(A) ROADWAY EMBANKMENT
ORANGE,GRAY,BROWN LOOSE SILTY SAND AND CLAYEY SAND MOIST

(B) ROADWAY EMBANKMENT
GRAY,BROWN MEDIUM STIFF SANDY CLAY MOIST

1371+00.00

250
240
230
220
210



END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 1370+75

(A) ROADWAY EMBANKMENT
GRAY BROWN MEDIUM STIFF SANDY CLAY MOIST

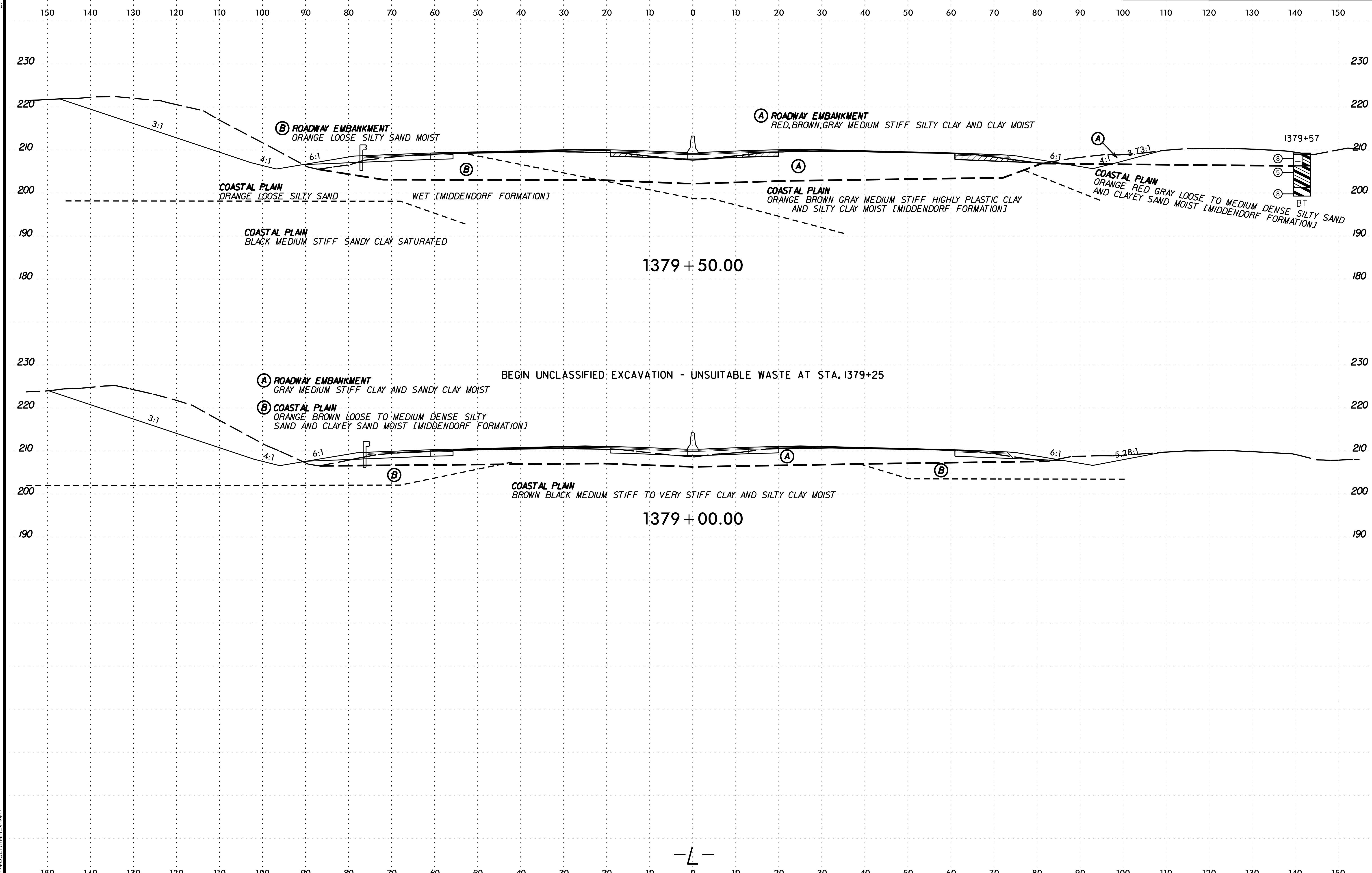
(B) ROADWAY EMBANKMENT
TAN LOOSE CLAYEY SAND MOIST

1370+50.00

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

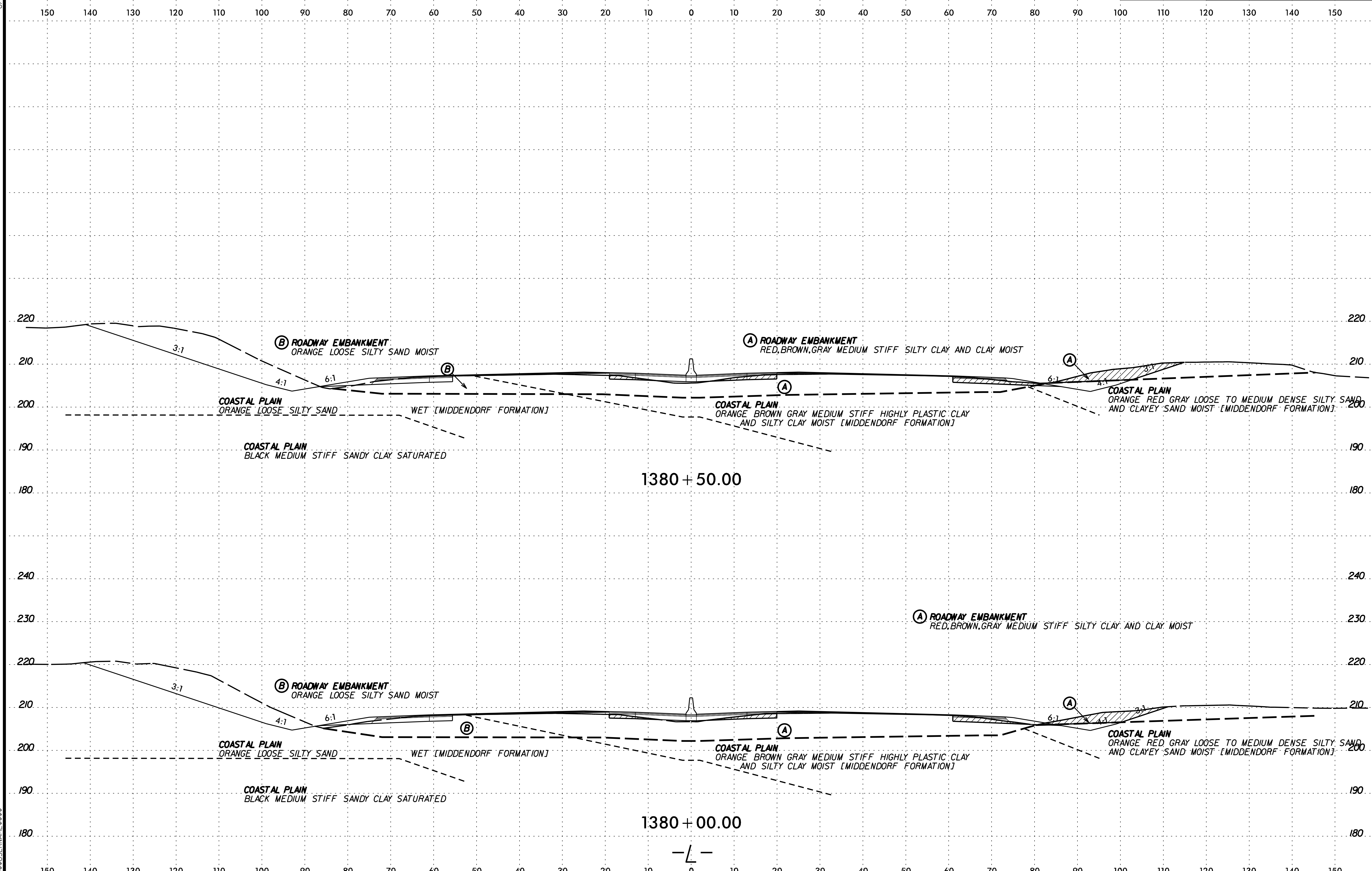
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

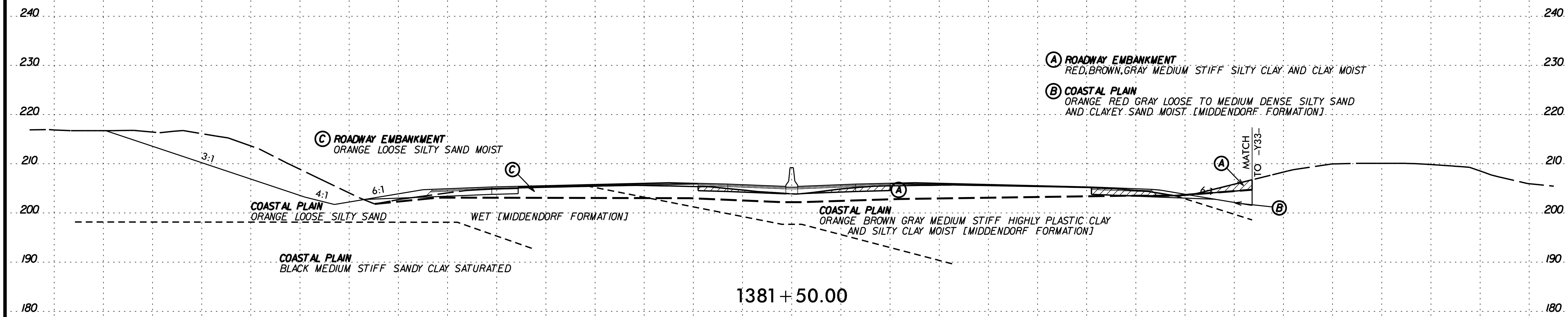
PROJ. REFERENCE NO.	SHEET NO.
I-5986B	49



6/23/16

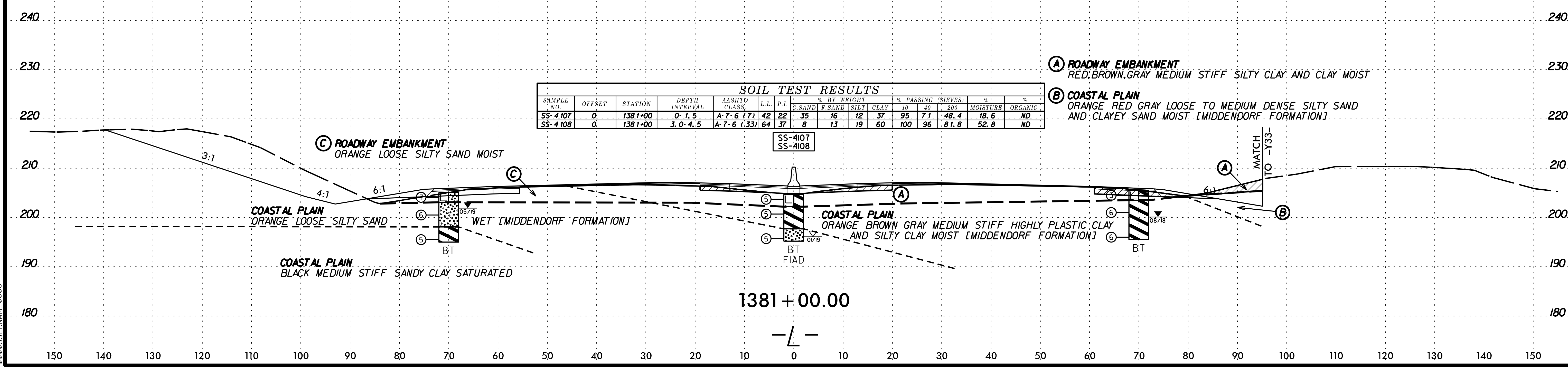
$$$$$SYSTIME$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$USERNAME$$$$


B ROADWAY EMBANKMENT
ORANGE LOOSE SILTY SAND MOIST
A ROADWAY EMBANKMENT
RED,BROWN,GRAY MEDIUM STIFF SILTY CLAY AND CLAY MOIST
3:1
4:1
6:1
COASTAL PLAIN
ORANGE LOOSE SILTY SAND
WET [MIDDENDORF FORMATION]
COASTAL PLAIN
ORANGE BROWN GRAY MEDIUM STIFF HIGHLY PLASTIC CLAY
AND SILTY CLAY MOIST [MIDDENDORF FORMATION]
COASTAL PLAIN
ORANGE RED GRAY LOOSE TO MEDIUM DENSE SILTY SAND
AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]
COASTAL PLAIN
BLACK MEDIUM STIFF SANDY CLAY SATURATED
1380 + 50.00
A ROADWAY EMBANKMENT
RED,BROWN,GRAY MEDIUM STIFF SILTY CLAY AND CLAY MOIST
B ROADWAY EMBANKMENT
ORANGE LOOSE SILTY SAND MOIST
COASTAL PLAIN
ORANGE LOOSE SILTY SAND
WET [MIDDENDORF FORMATION]
COASTAL PLAIN
ORANGE BROWN GRAY MEDIUM STIFF HIGHLY PLASTIC CLAY
AND SILTY CLAY MOIST [MIDDENDORF FORMATION]
COASTAL PLAIN
ORANGE RED GRAY LOOSE TO MEDIUM DENSE SILTY SAND
AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]
COASTAL PLAIN
BLACK MEDIUM STIFF SANDY CLAY SATURATED
1380 + 00.00
-L-



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-4107	0	1381+00	0-1.5	A-7-6 (7)	42	22	35	16	12	37	95	71	48.4	18.6	ND
SS-4108	0	1381+00	3.0-4.5	A-7-6 (33)	64	37	8	13	19	60	100	96	81.8	52.8	ND



6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	52

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

230 220 210 200 190 180

(A) **ROADWAY EMBANKMENT**
ORANGE LOOSE SILTY SAND MOIST

(B) **COASTAL PLAIN**
ORANGE LOOSE TO MEDIUM DENSE SILTY SAND MOIST TO WET [MIDDENDORF FORMATION]

(C) **ROADWAY EMBANKMENT**
GRAY SOFT SILTY CLAY MOIST

(D) **ROADWAY EMBANKMENT**
ORANGE MEDIUM DENSE CLAYEY SAND MOIST

3:1 4:1 6:1 6:1

MATCH TO -Y33-

1382+57

15 9 11 BT

COASTAL PLAIN
GRAY SOFT TO VERY STIFF HIGHLY PLASTIC CLAY AND SANDY CLAY MOIST TO WET [MIDDENDORF FORMATION]

1382+50.00

(A) **ROADWAY EMBANKMENT**
RED,BROWN,GRAY MEDIUM STIFF SILTY CLAY AND CLAY MOIST

(B) **COASTAL PLAIN**
ORANGE RED GRAY LOOSE TO MEDIUM DENSE SILTY SAND AND CLAYEY SAND MOIST [MIDDENDORF FORMATION]

(C) **ROADWAY EMBANKMENT**
ORANGE LOOSE SILTY SAND MOIST

END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA.1382+25

3:1 4:1 6:1 6:1

MATCH TO -Y33-

COASTAL PLAIN
ORANGE LOOSE SILTY SAND WET [MIDDENDORF FORMATION]

COASTAL PLAIN
ORANGE BROWN GRAY MEDIUM STIFF HIGHLY PLASTIC CLAY AND SILTY CLAY MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
BLACK MEDIUM STIFF SANDY CLAY SATURATED

1382+00.00

-L-

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	53

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
TAN DENSE CLAYEY SAND MOIST

B ROADWAY EMBANKMENT
ORANGE, RED AND GRAY LOOSE CLAYEY SAND MOIST

SP 107

C ALLUVIAL
BROWN AND GRAY, SOFT CLAYEY SILT, AND SILTY CLAY, MODERATE ORGANICS, WET TO SAT.

180
170
160
MATCH LINE 150' RIGHT

3:1

COASTAL PLAIN
GRAY, BROWN, RED, ORANGE SOFT TO STIFF SANDY CLAY AND SILTY CLAY, MOIST TO WET
[MIDDENDORF FORMATION]

210
200
190
180
170
160
150

A ARTIFICIAL FILL
TAN DENSE CLAYEY SAND MOIST

B ROADWAY EMBANKMENT
ORANGE, RED AND GRAY LOOSE CLAYEY SAND MOIST

C ALLUVIAL
BROWN AND GRAY, SOFT CLAYEY SILT, AND SILTY CLAY, MODERATE ORGANICS, WET TO SAT.

3:1

ROADWAY EMBANKMENT
TAN GRAY RED VERY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST TO WET

3:1

ROADWAY EMBANKMENT
BROWN STIFF SANDY CLAY MOIST

PAVEMENT

B

C

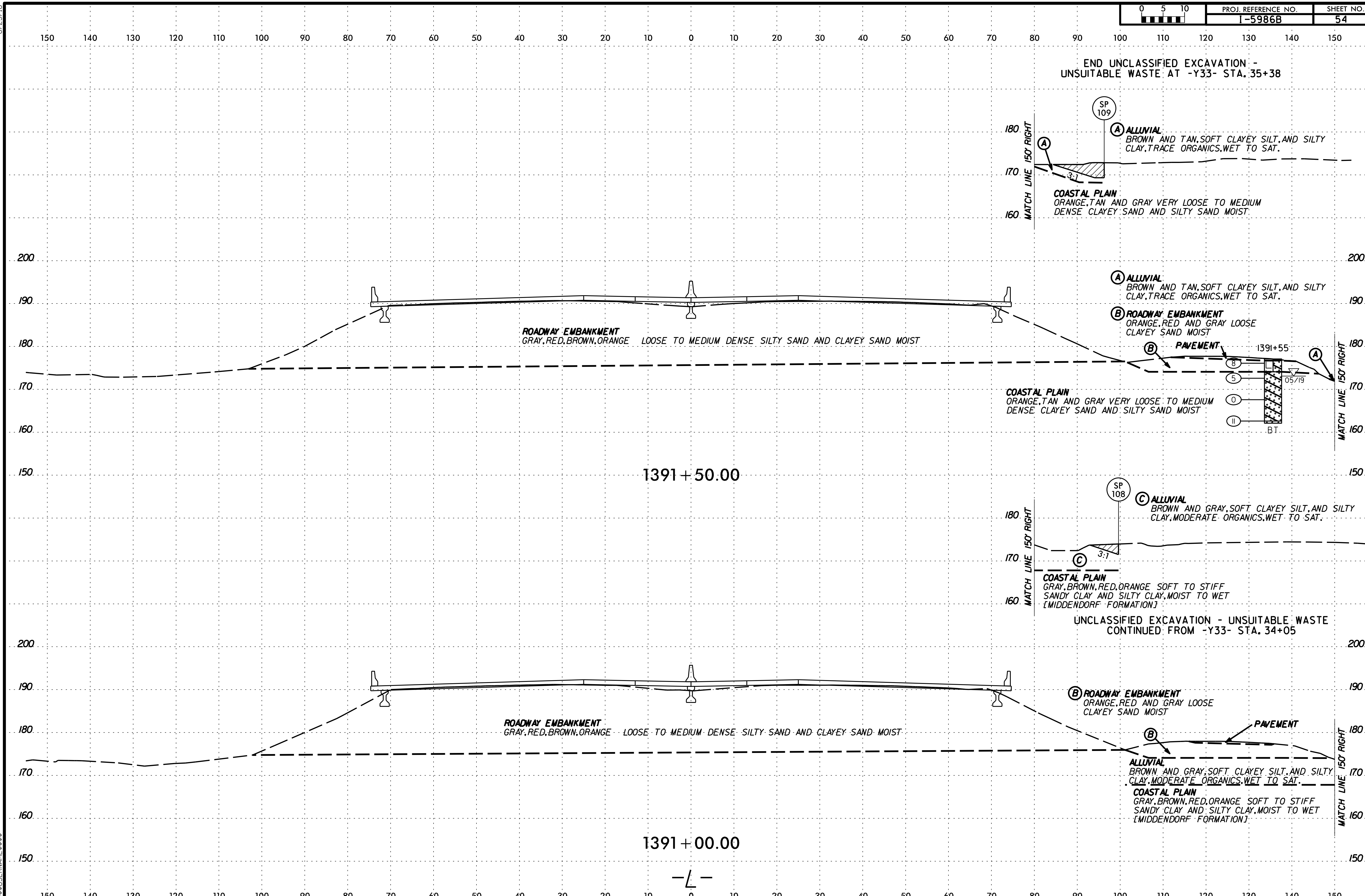
COASTAL PLAIN
GRAY, BROWN, RED, ORANGE SOFT TO STIFF SANDY CLAY AND SILTY CLAY, MOIST TO WET
[MIDDENDORF FORMATION]

MATCH LINE 150' RIGHT

1390 + 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

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

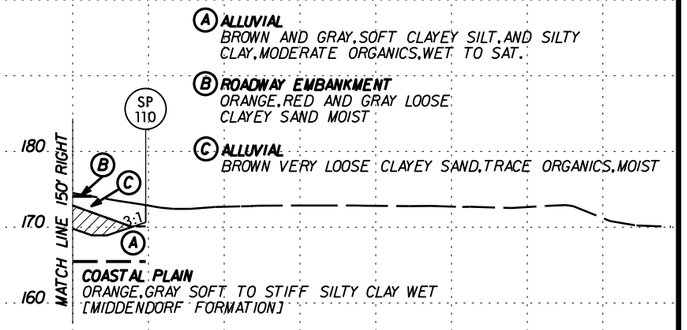


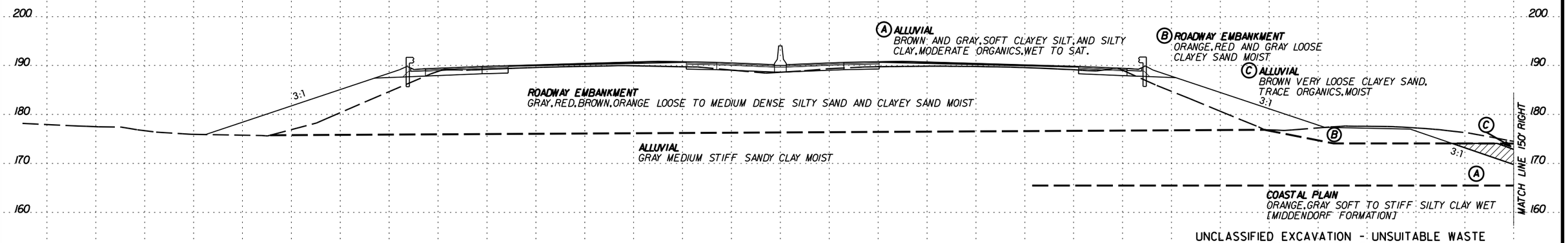
6/23/16
PROJ. REFERENCE NO.
I-5986B
SHEET NO.
54
0 5 10
END UNCLASSIFIED EXCAVATION -
UNSUITABLE WASTE AT -Y33- STA. 35+38
SP 109
A ALLUVIAL
BROWN AND TAN, SOFT CLAYEY SILT, AND SILTY CLAY, TRACE ORGANICS, WET TO SAT.
3:1
COASTAL PLAIN
ORANGE, TAN AND GRAY VERY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST
MATCH LINE 150' RIGHT
A ALLUVIAL
BROWN AND TAN, SOFT CLAYEY SILT, AND SILTY CLAY, TRACE ORGANICS, WET TO SAT.
B ROADWAY EMBANKMENT
ORANGE, RED AND GRAY LOOSE CLAYEY SAND MOIST
ROADWAY EMBANKMENT
GRAY, RED, BROWN, ORANGE LOOSE TO MEDIUM DENSE SILTY SAND AND CLAYEY SAND MOIST
PAVEMENT
1391+55
8
5
0
11
05/19
BT
COASTAL PLAIN
ORANGE, TAN AND GRAY VERY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST
1391+50.00
SP 108
C ALLUVIAL
BROWN AND GRAY, SOFT CLAYEY SILT, AND SILTY CLAY, MODERATE ORGANICS, WET TO SAT.
3:1
COASTAL PLAIN
GRAY, BROWN, RED, ORANGE SOFT TO STIFF SANDY CLAY AND SILTY CLAY, MOIST TO WET [MIDDENDORF FORMATION]
UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE
CONTINUED FROM -Y33- STA. 34+05
B ROADWAY EMBANKMENT
ORANGE, RED AND GRAY LOOSE CLAYEY SAND MOIST
PAVEMENT
ROADWAY EMBANKMENT
GRAY, RED, BROWN, ORANGE LOOSE TO MEDIUM DENSE SILTY SAND AND CLAYEY SAND MOIST
ALLUVIAL
BROWN AND GRAY, SOFT CLAYEY SILT, AND SILTY CLAY, MODERATE ORGANICS, WET TO SAT.
COASTAL PLAIN
GRAY, BROWN, RED, ORANGE SOFT TO STIFF SANDY CLAY AND SILTY CLAY, MOIST TO WET [MIDDENDORF FORMATION]
1391+00.00
-L-
$$$$$SYSTIME$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	55

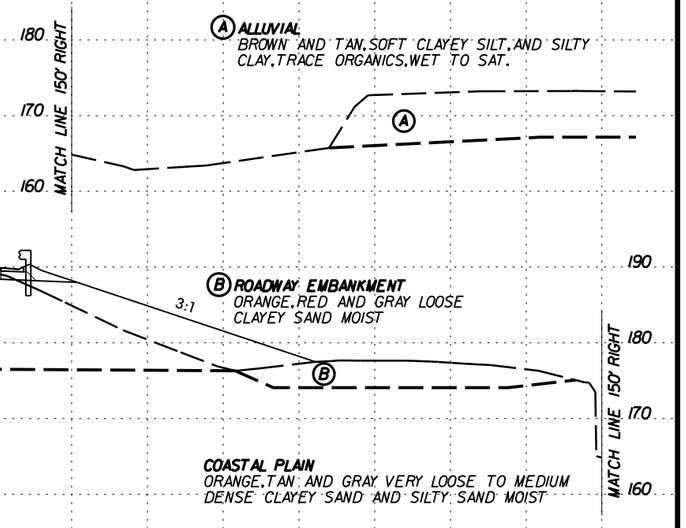
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150





UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE
BEGIN AT -Y33- STA. 35+88

1392+50.00

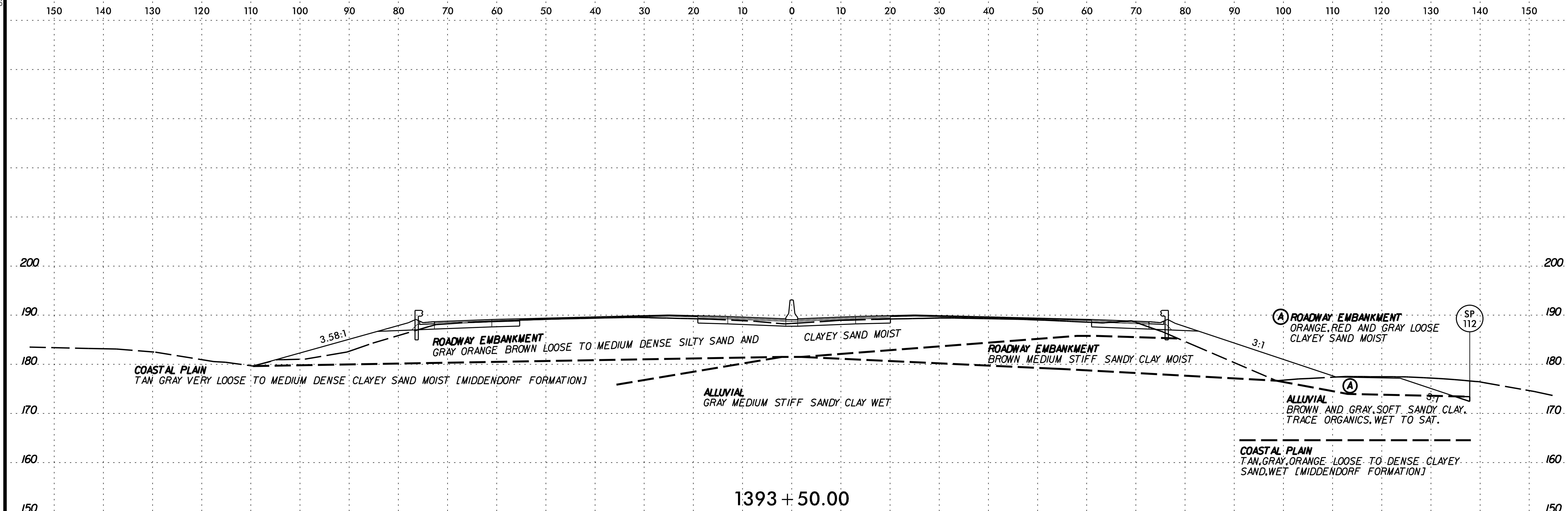


1392+00.00

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

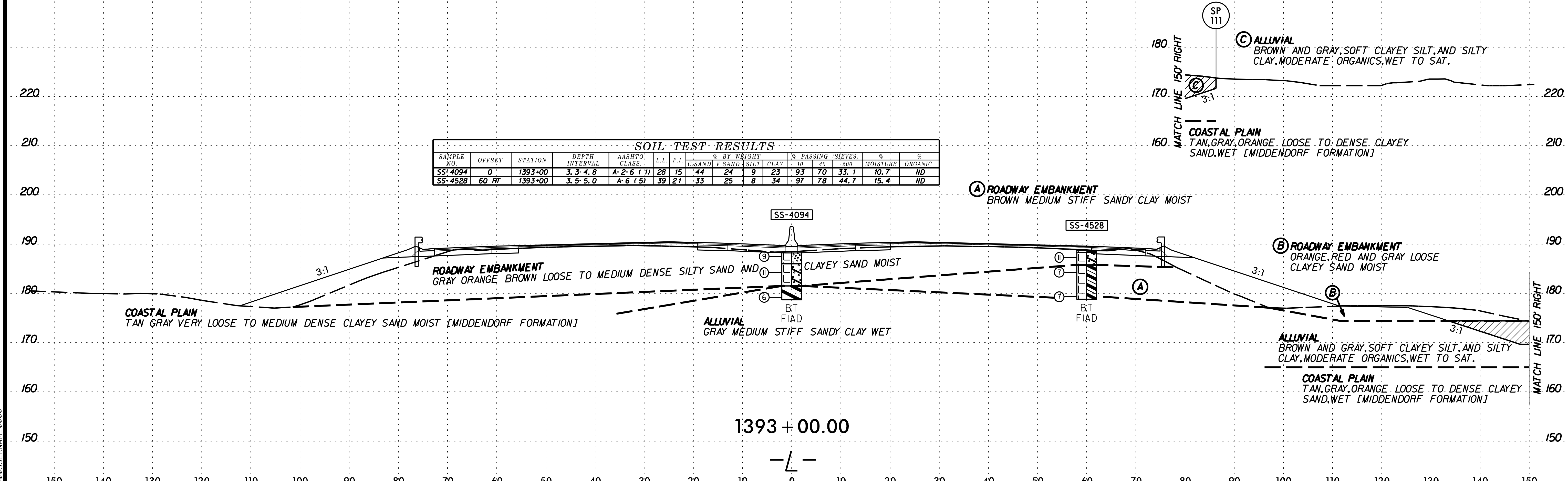
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	56

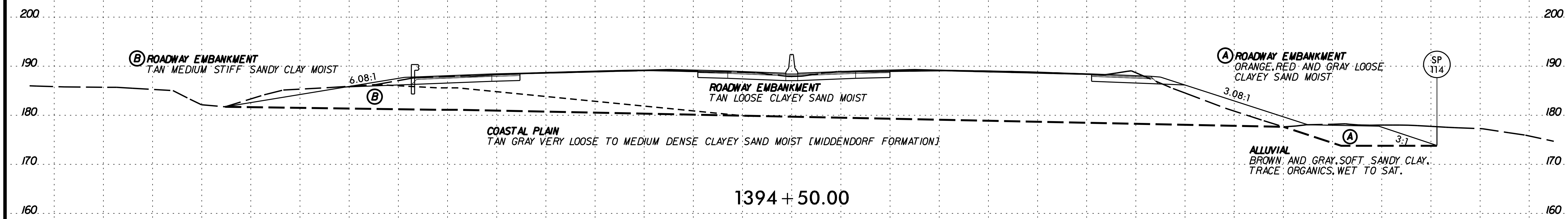


SOIL TEST RESULTS

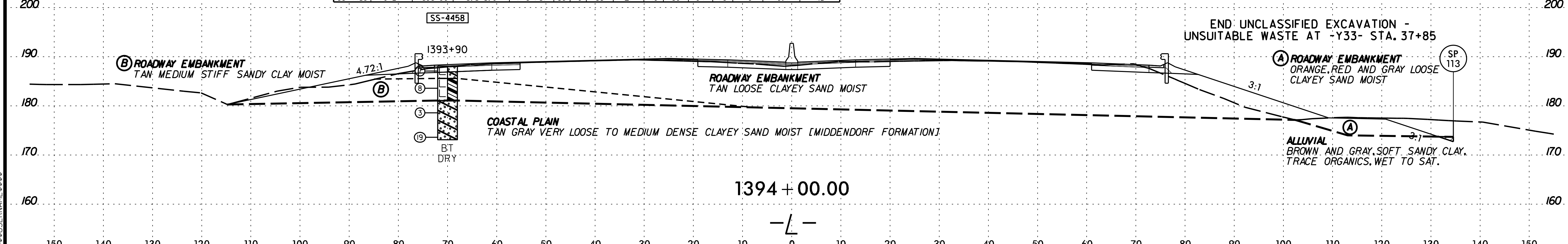
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-4094	0	1393+00	3.3-4.8	A-2-6 (1)	28	15	44	24	9	23	93	70	33.1	10.7	ND
SS-4528	60 RT	1393+00	3.5-5.0	A-6 (5)	39	21	33	25	8	34	97	78	44.7	15.4	ND



PROJ. REFERENCE NO.	SHEET NO.
I-5986B	57



SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-4458	70 LT	1393+90	3.5-5.0	A-6 (3)	36	19	33	27	10	30	94	76	40	19.7	ND



6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	58

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

210
200
190
180
170

COASTAL PLAIN
TAN LOOSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

3:1 4:1 6:1

(A) ROADWAY EMBANKMENT
RED GRAY LOOSE SILTY SAND MOIST

SP 133

–Y19RPCA–
12+01.87

SP 120

6:1

COASTAL PLAIN
RED TAN GRAY STIFF TO VERY STIFF CLAY, SILTY CLAY, AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

1397+50.00

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1397+25

(A) ROADWAY EMBANKMENT
RED GRAY ORANGE BROWN LOOSE TO MEDIUM DENSE CLAYEY SAND MOIST

SP 132

–Y19RPCA–
11+52.50

(B) ROADWAY EMBANKMENT AND PAVEMENT
ORANGE, BROWN LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST

(C) COASTAL PLAIN
TAN, GRAY, ORANGE VERY LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST TO WET [MIDDENDORF FORMATION]

SP 119

COASTAL PLAIN
TAN GRAY VERY LOOSE TO MEDIUM DENSE CLAYEY SAND, SILTY SAND, AND SAND MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
GRAY STIFF HIGHLY PLASTIC SILTY CLAY AND CLAY MOIST [MIDDENDORF FORMATION]

1397+00.00

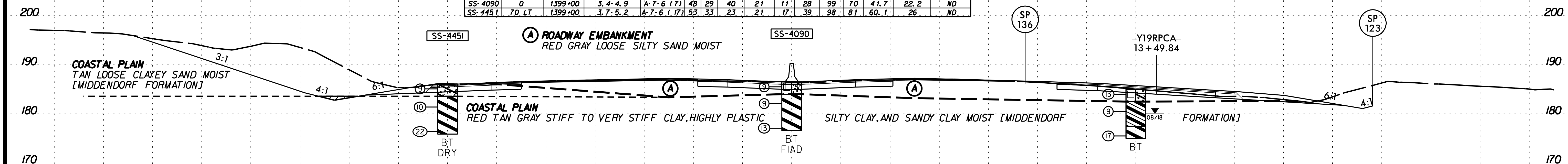
$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

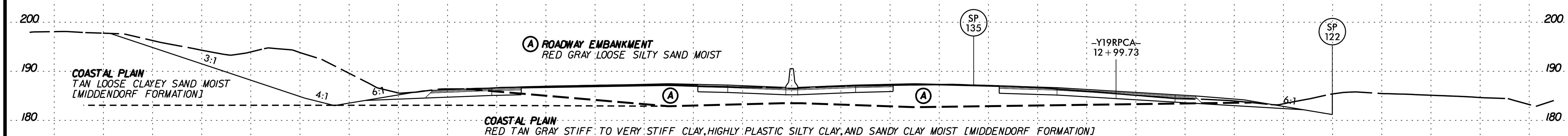
PROJ. REFERENCE NO.	SHEET NO.
I-5986B	59

6/23/16

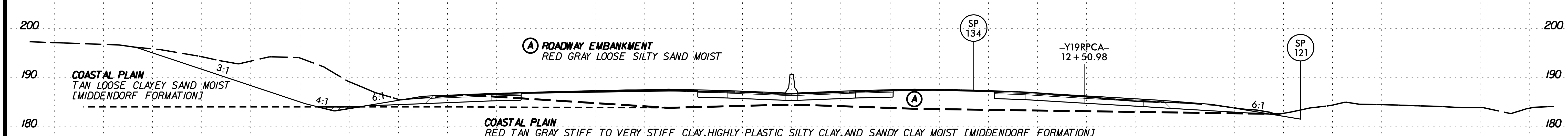
SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-4090	0	1399+00	3.4-4.9	A-7-6 (7)	48	29	40	21	11	28	99	70	41.7	22.2	ND
SS-4451	70 LT	1399+00	3.7-5.2	A-7-6 (17)	53	33	23	21	17	39	98	81	60.1	26	ND



1399+00.00



1398+50.00

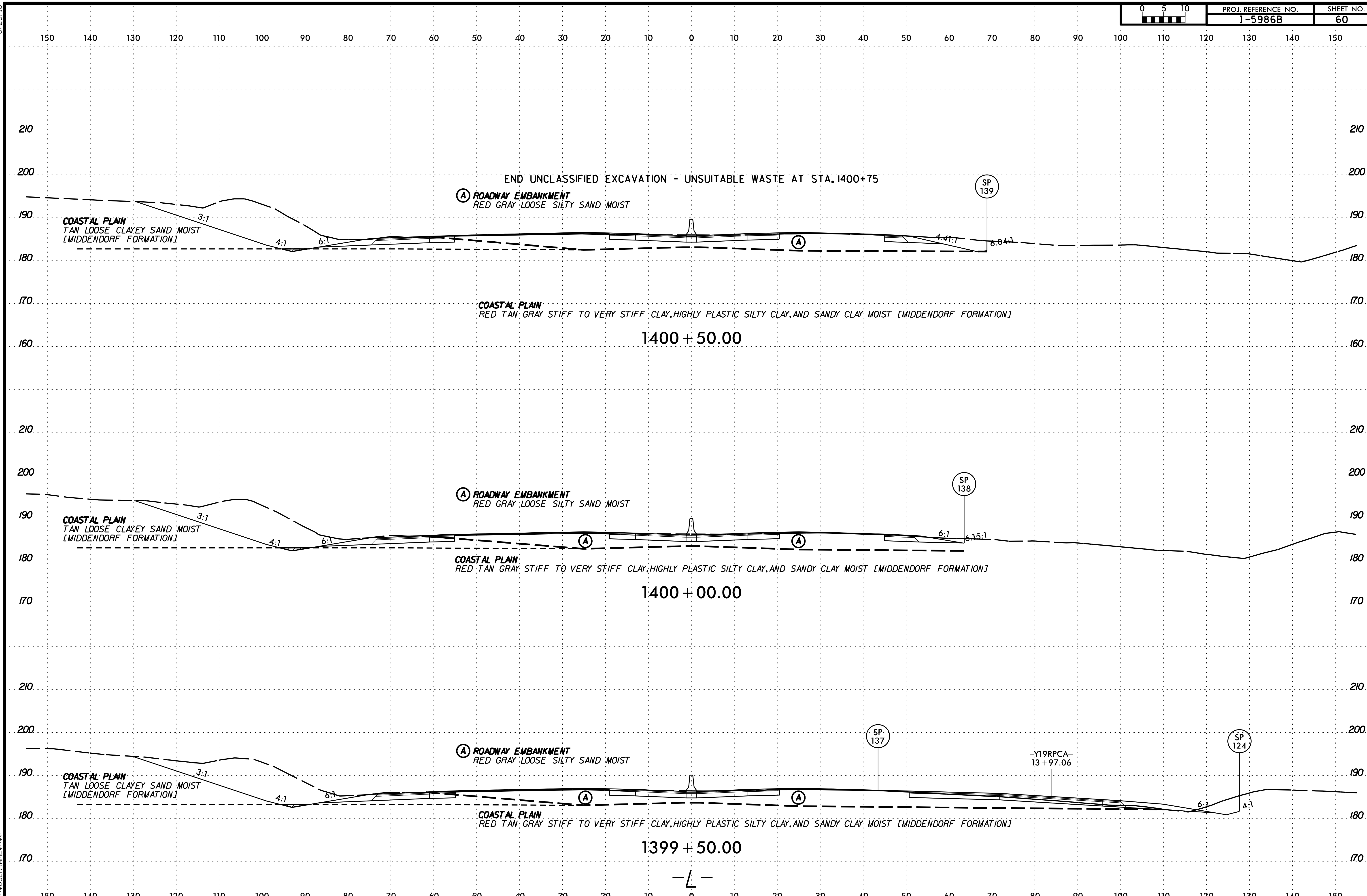


1398+00.00

-L-

$$$$$SYSTIME$$$$
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16



$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	61

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

210
200
190
180
170

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1403+25

SP 143
–Y19RPB–
30+52.08

Ⓐ **ROADWAY EMBANKMENT**
ORANGE GRAY LOOSE SILTY SAND MOIST

Ⓑ **ROADWAY EMBANKMENT**
BROWN MEDIUM STIFF SANDY CLAY MOIST

3:1
4:1
6:1
6:1
3:1

COASTAL PLAIN
TAN LOOSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
BROWN GRAY ORANGE MEDIUM STIFF TO VERY STIFF CLAY, SILTY CLAY, AND CLAY MOIST [MIDDENDORF FORMATION]

1403+00.00

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

210
200
190
180
170

SP 140

Ⓐ **ROADWAY EMBANKMENT**
ORANGE GRAY LOOSE SILTY SAND MOIST

3:1
4:1
6:1
7.61:1

COASTAL PLAIN
TAN LOOSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

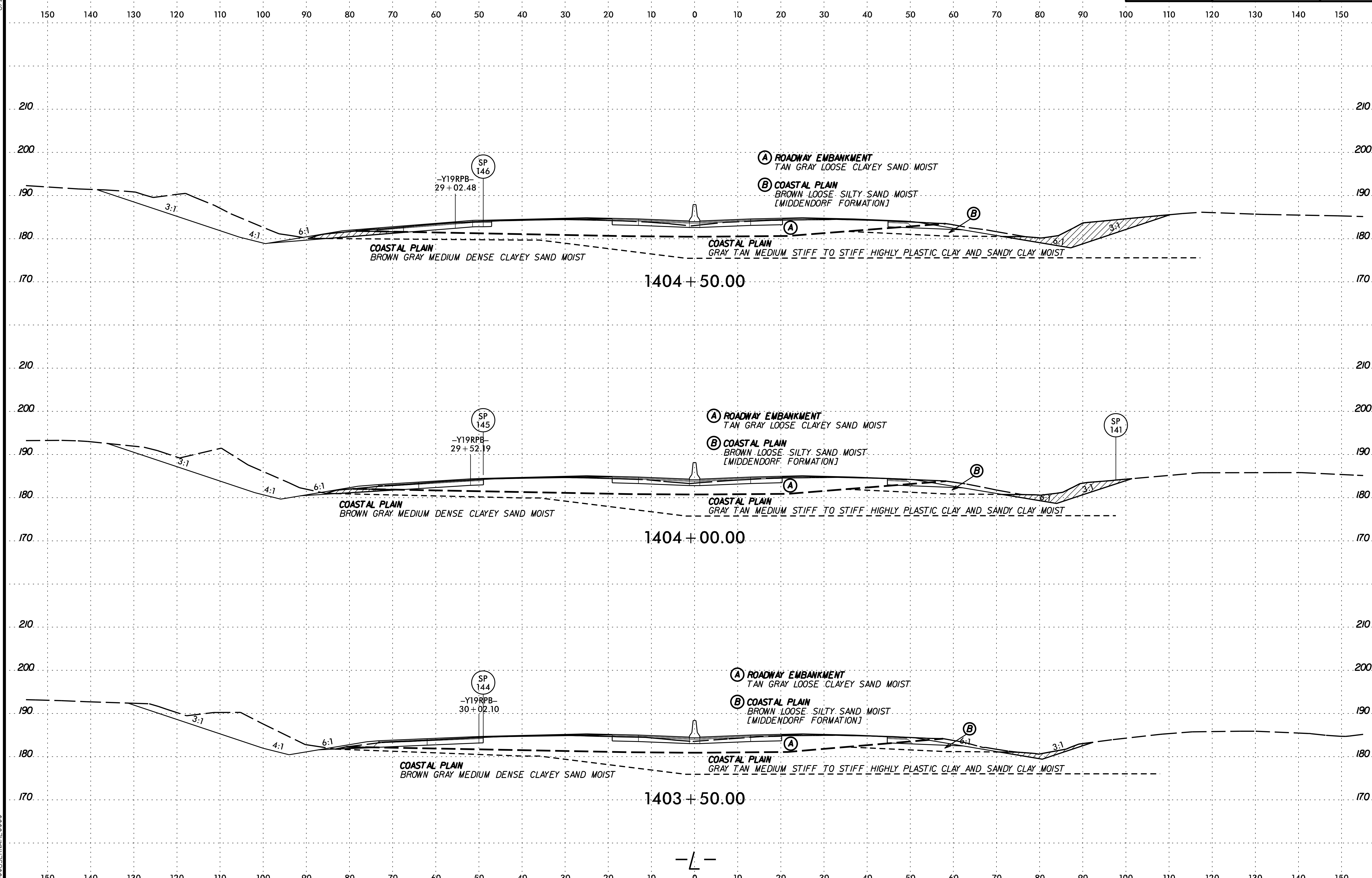
COASTAL PLAIN
BROWN GRAY ORANGE MEDIUM STIFF TO VERY STIFF CLAY, SILTY CLAY, AND CLAY MOIST [MIDDENDORF FORMATION]

1401+00.00

–L–

6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	62



$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	63

END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 1406+25

Ⓐ **ROADWAY EMBANKMENT**
TAN GRAY LOOSE CLAYEY SAND MOIST

Ⓑ **COASTAL PLAIN**
BROWN LOOSE SILTY SAND MOIST [MIDDENDORF FORMATION]

Ⓒ **COASTAL PLAIN**
GRAY TAN MEDIUM STIFF TO STIFF CLAY AND SANDY CLAY MOIST

SP 149

–Y19RPB–
27+56.26

3:1 4:1 6:1 6:1 3:1

COASTAL PLAIN
GRAY,BROWN MEDIUM DENSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

1406+00.00

SP 148

–Y19RPB–
28+04.37

3:1 4:1 6:1 6:1 3:1

COASTAL PLAIN
BROWN GRAY MEDIUM DENSE CLAYEY SAND MOIST

Ⓐ **ROADWAY EMBANKMENT**
TAN GRAY LOOSE CLAYEY SAND MOIST

Ⓑ **COASTAL PLAIN**
BROWN LOOSE SILTY SAND MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
GRAY TAN MEDIUM STIFF TO STIFF HIGHLY PLASTIC CLAY AND SANDY CLAY MOIST

1405+50.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-4534	0	1405+00	3.6-5.1	A-7-6 (33)	65	44	9	20	10	61	100	96	74.2	24.3	ND
SS-4445	38 LT	1405+00	3.6-4.6	A-7-6 (39)	68	46	6	21	21	52	100	97	79.8	28.7	ND

SP 147

–Y19RPB–
28+53.17

SS-4445

SS-4534

3:1 4:1 6:1

COASTAL PLAIN
BROWN GRAY MEDIUM DENSE CLAYEY SAND MOIST

6 15 24 BT DRY

6 11 19 BT FIAD

Ⓐ **ROADWAY EMBANKMENT**
TAN GRAY LOOSE CLAYEY SAND MOIST

Ⓑ **COASTAL PLAIN**
BROWN LOOSE SILTY SAND MOIST [MIDDENDORF FORMATION]

1404+91

COASTAL PLAIN
GRAY TAN MEDIUM STIFF TO STIFF HIGHLY PLASTIC CLAY AND SANDY CLAY MOIST

6 8 7 17 BT

DB/18

6:1 3:1

1405+00.00

–L–

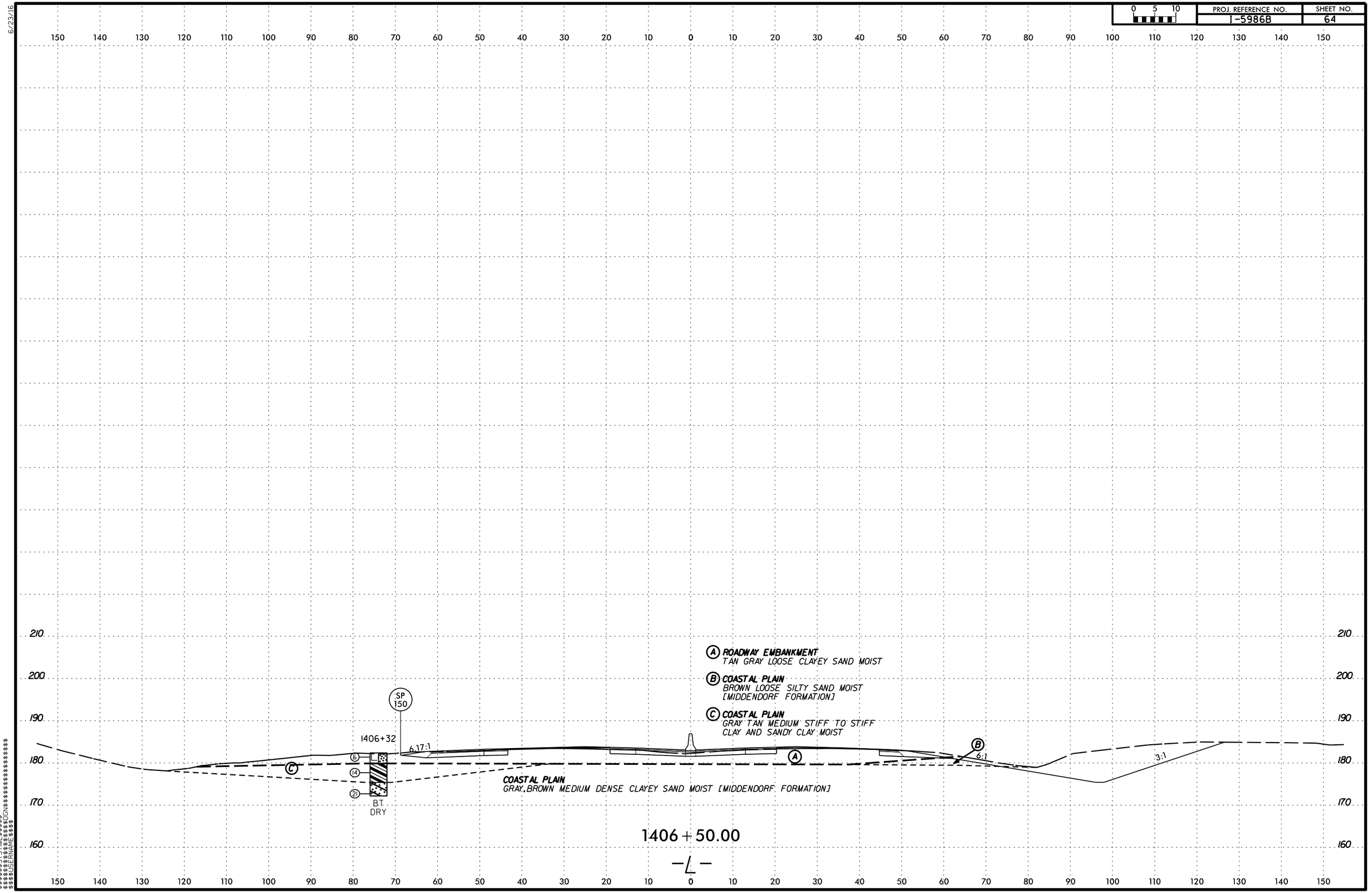
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

220 210 200 190 180 170 160

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	64



$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	65

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

210
200
190
180
170
160

SP 152

(A) **ROADWAY EMBANKMENT**
TAN GRAY LOOSE CLAYEY SAND MOIST

(B) **COASTAL PLAIN**
GRAY TAN MEDIUM STIFF TO STIFF CLAY AND SANDY CLAY MOIST

6:1

(A)

(B)

COASTAL PLAIN
GRAY,BROWN MEDIUM DENSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

26+06.04

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 25+81
BEGIN AGGREGATE SUBGRADE AT STA. 25+81

SP 153

(A) **ROADWAY EMBANKMENT**
TAN GRAY LOOSE CLAYEY SAND MOIST

(A)

COASTAL PLAIN
GRAY,BROWN MEDIUM DENSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

25+56.24

-Y19RPB-

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

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	66

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

210 200 190 180 170 160

SP 150

27+20

(A) **ROADWAY EMBANKMENT**
TAN GRAY LOOSE CLAYEY SAND MOIST

(B) **COASTAL PLAIN**
GRAY TAN MEDIUM STIFF TO STIFF CLAY AND SANDY CLAY MOIST

6
14
21

COASTAL PLAIN
GRAY,BROWN MEDIUM DENSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

BT. DRY.

27+04.14

SP 151

(A) **ROADWAY EMBANKMENT**
TAN GRAY LOOSE CLAYEY SAND MOIST

(B) **COASTAL PLAIN**
GRAY TAN MEDIUM STIFF TO STIFF CLAY AND SANDY CLAY MOIST

COASTAL PLAIN
GRAY,BROWN MEDIUM DENSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

26+55.04

210 200 190 180 170 160

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

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

-Y19RPB-

END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 27+80

END AGGREGATE SUBGRADE AT STA. 27+80

SP 149

(A) **ROADWAY EMBANKMENT**
TAN GRAY LOOSE CLAYEY SAND MOIST

(B) **COASTAL PLAIN**
GRAY TAN MEDIUM STIFF TO STIFF CLAY AND SANDY CLAY MOIST

(A)

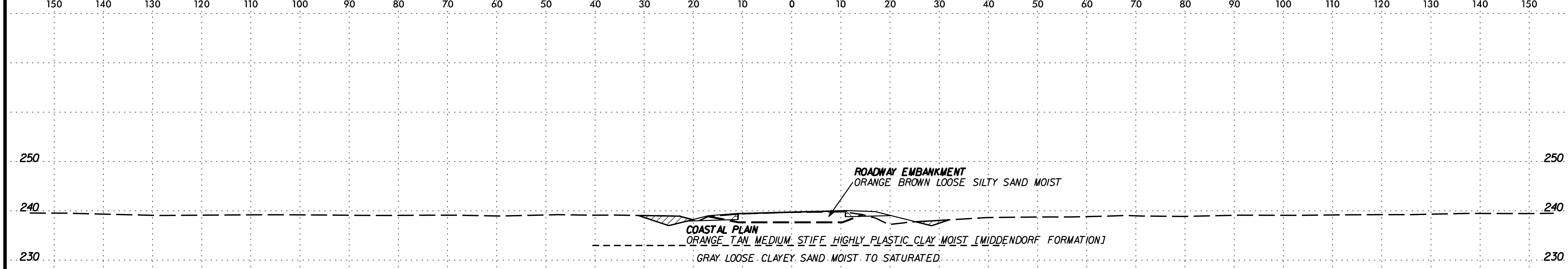
(B)

COASTAL PLAIN
GRAY,BROWN MEDIUM DENSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

27+56.26

6/23/16

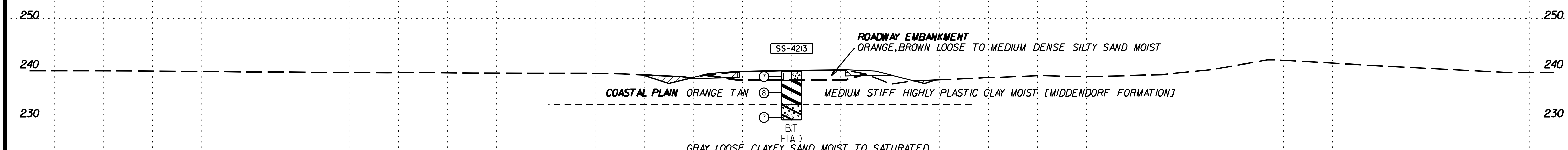
PROJ. REFERENCE NO.	SHEET NO.
I-5986B	68



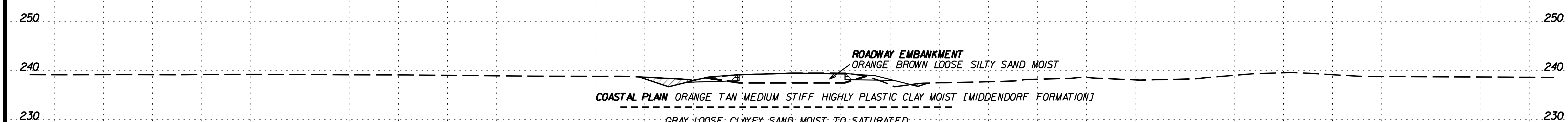
16+50.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-4213	0	16+00	3.6-5.1	A-7-6 (12)	52	33	35	15	7	43	98	75	50.8	20.9	ND



16+00.00



BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 15+75

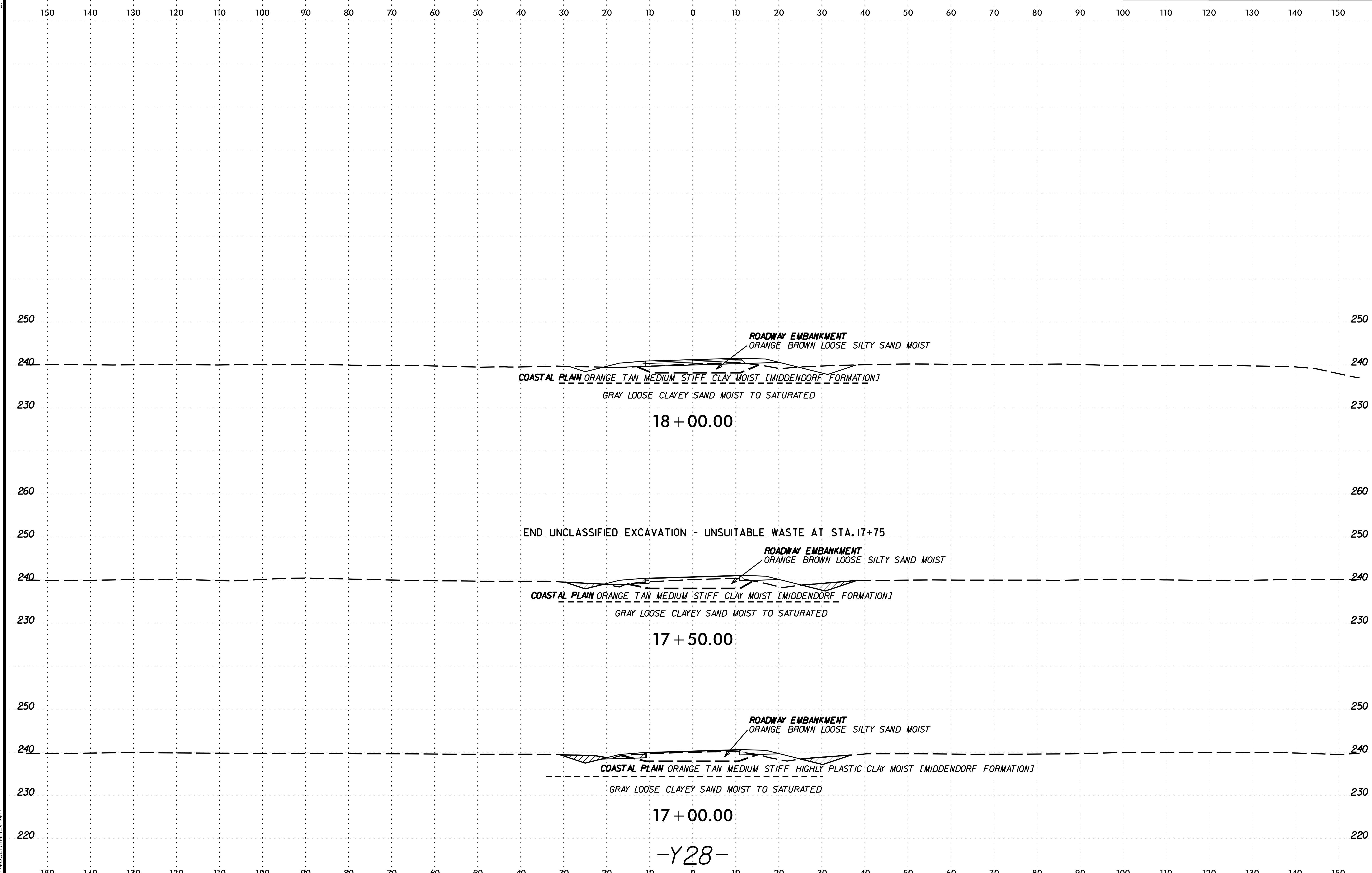
15+75.00

-Y28-

$$$$$SYSTIME$$$$ $$$$$$$$$DGN$$$$$$$$$$$$$$$$$ $$$USERNAME$$$$

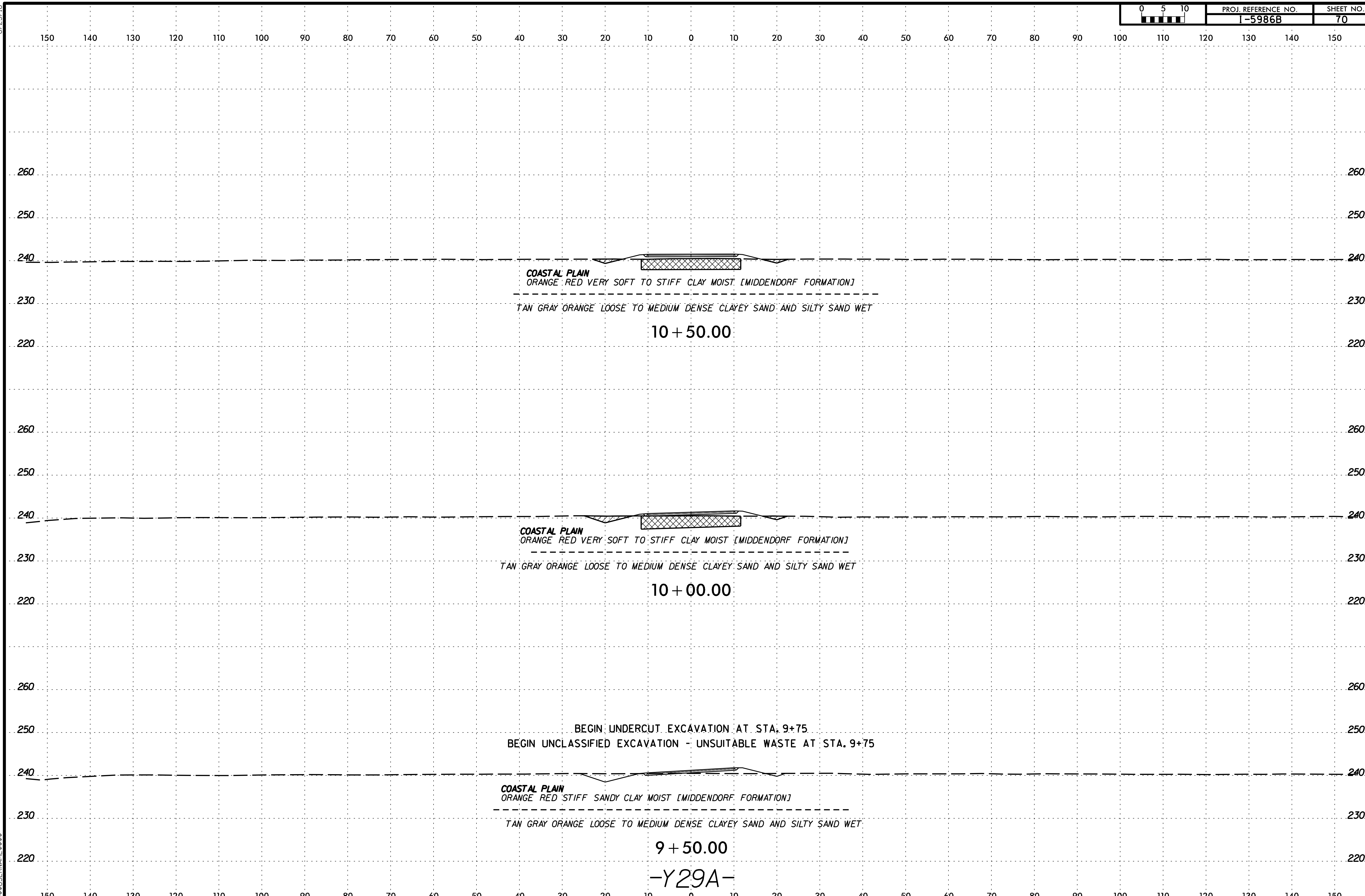
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	69



$$$$$SYSTIME$$$$ $$$$$$$$DGN$$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$

PROJ. REFERENCE NO. I-5986B
SHEET NO. 70



6/23/16
$$$$$SYSTIME$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	71

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

250 240 230 220 270 260 250 240 230 220 210 200 260 250 240 230 220

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) #10	#40	#200	% MOISTURE	% ORGANIC
SS-4335	119 LT	11+53	0-1.5	A-7-6 (11)	45	23	26	18	12	44	99	83	58.2	24.6	ND

SS-4335

11+53

2
13
9
18
20
14
9

05/19

BT

COASTAL PLAIN
ORANGE RED VERY SOFT TO STIFF CLAY MOIST [MIDDENDORF FORMATION]

TAN GRAY ORANGE LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND WET

12+00.00

COASTAL PLAIN
ORANGE RED VERY SOFT TO STIFF CLAY MOIST [MIDDENDORF FORMATION]

TAN GRAY ORANGE LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND WET

11+50.00

COASTAL PLAIN
ORANGE RED VERY SOFT TO STIFF CLAY MOIST [MIDDENDORF FORMATION]

TAN GRAY ORANGE LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND WET

11+00.00

-Y29A-

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	72

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

260
250
240
230
220

Ⓐ **COASTAL PLAIN**
BROWN,GRAY,ORANGE LOOSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

Ⓐ

ORANGE RED VERY SOFT TO STIFF CLAY MOIST

TAN GRAY ORANGE LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND WET

13+50.00

END UNDERCUT EXCAVATION AT STA.13+25
END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA.13+25

Ⓐ **COASTAL PLAIN**
BROWN,GRAY,ORANGE LOOSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

Ⓐ

ORANGE RED VERY SOFT TO STIFF CLAY MOIST

TAN GRAY ORANGE LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND WET

13+00.00

COASTAL PLAIN
ORANGE RED VERY SOFT TO STIFF CLAY MOIST [MIDDENDORF FORMATION]

TAN GRAY ORANGE LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND WET

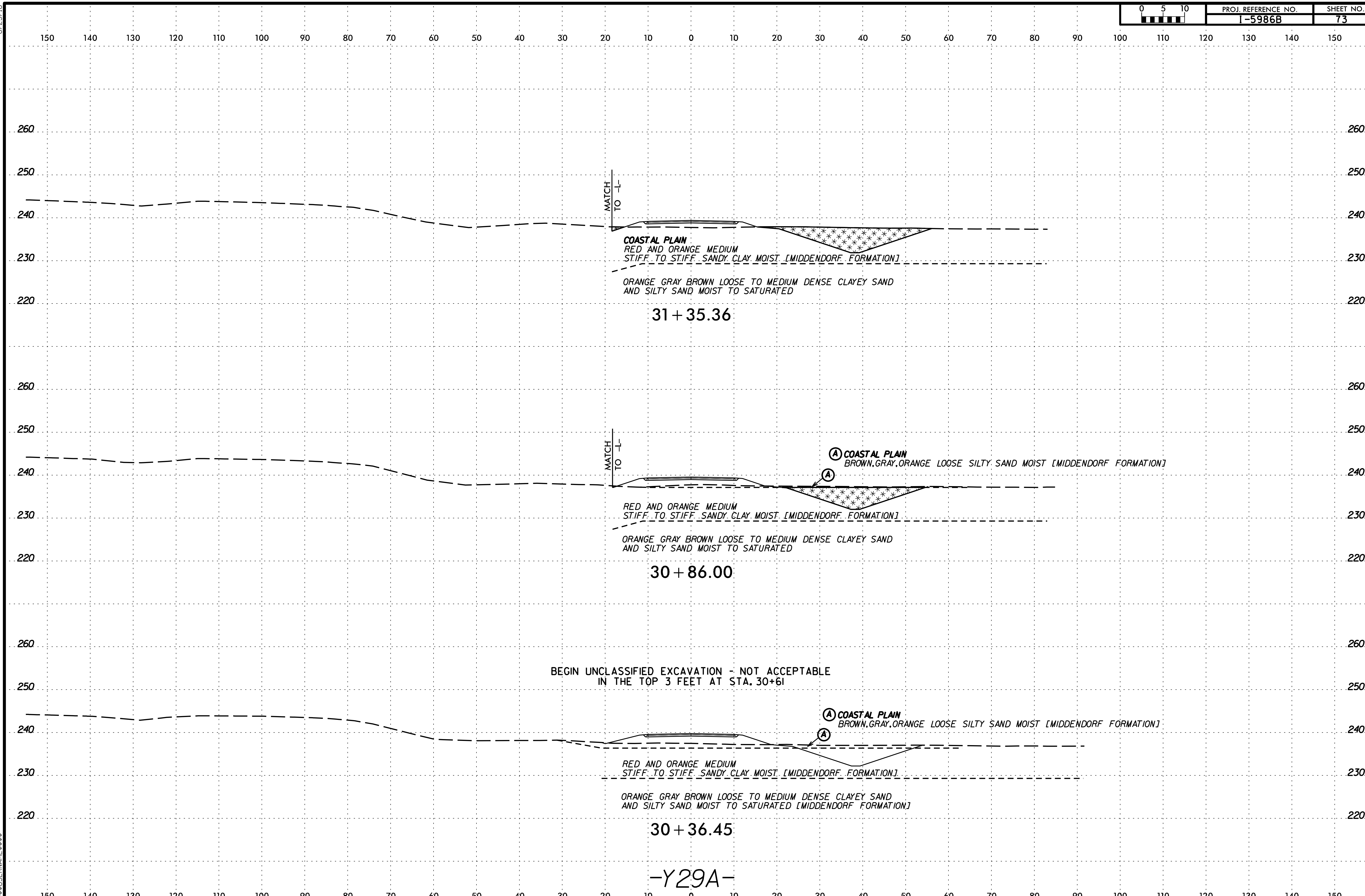
12+50.00

-Y29A-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

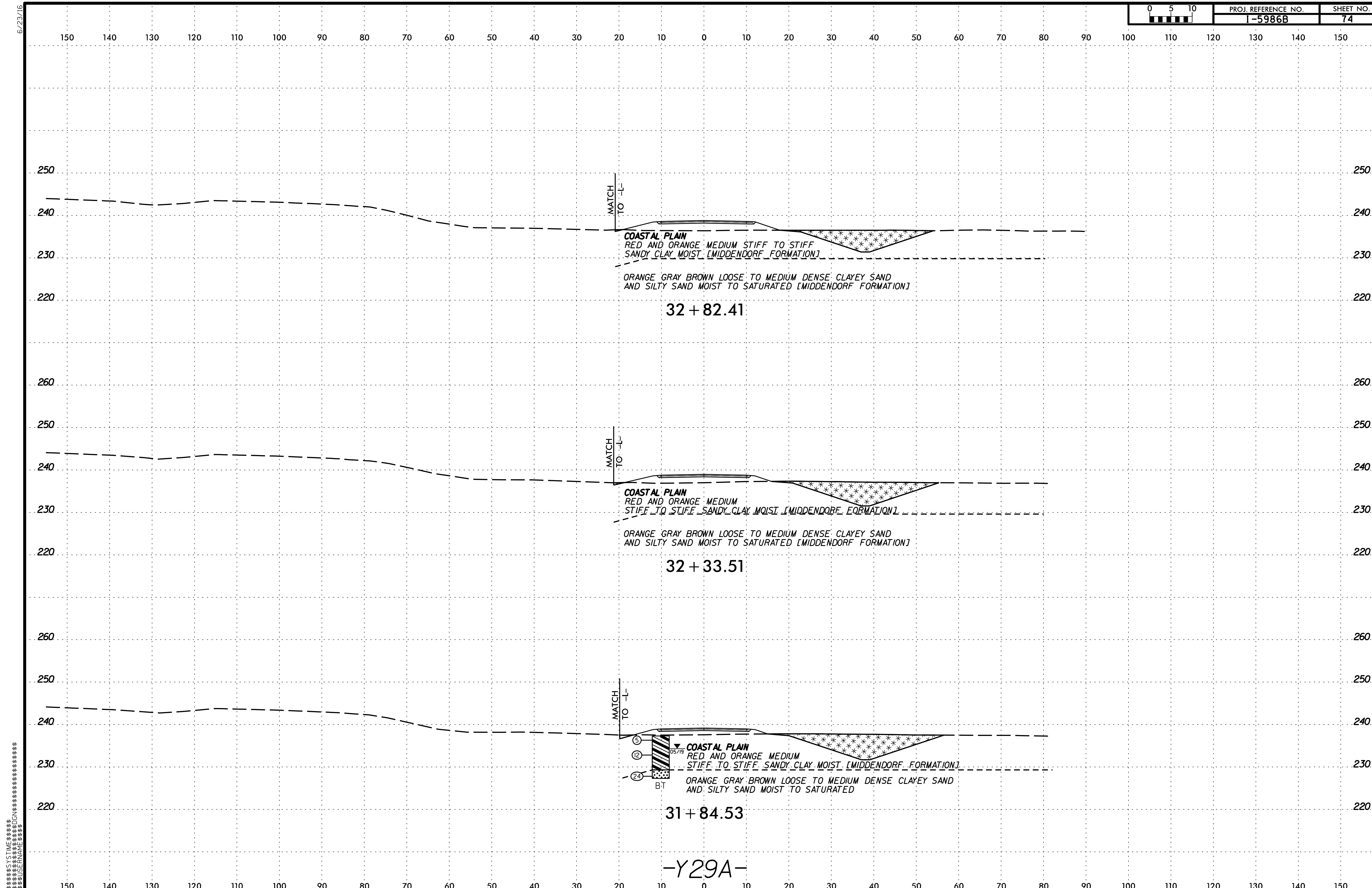
PROJ. REFERENCE NO.	SHEET NO.
I-5986B	73



$$$$$SYSTIME$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJ. REFERENCE NO. I-5986B

SHEET NO. 74



6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	75

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

250 240 230 220

COASTAL PLAIN
ORANGE GRAY BROWN LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST TO SATURATED [MIDDENDORF FORMATION]

34+29.08

END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 34+05

MATCH TO -L-

Ⓐ **COASTAL PLAIN**
RED AND ORANGE MEDIUM STIFF TO STIFF SANDY CLAY MOIST [MIDDENDORF FORMATION]

ORANGE GRAY BROWN LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST TO SATURATED [MIDDENDORF FORMATION]

33+80.19

MATCH TO -L-

Ⓐ **COASTAL PLAIN**
RED AND ORANGE MEDIUM STIFF TO STIFF SANDY CLAY MOIST [MIDDENDORF FORMATION]

ORANGE GRAY BROWN LOOSE TO MEDIUM DENSE CLAYEY SAND AND SILTY SAND MOIST TO SATURATED [MIDDENDORF FORMATION]

33+31.30

-Y29A-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

200
190
180
170
160

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 32+65
BEGIN UNDERCUT EXCAVATION FOR EMBANKMENT STABILITY AT STA. 32+65

(A) ROADWAY EMBANKMENT
ORANGE, RED, GRAY MEDIUM DENSE TO LOOSE CLAYEY SAND MOIST

PAVEMENT

SP 105

5.42:1

5:1

3:1

COASTAL PLAIN
GRAY, ORANGE SOFT TO STIFF SANDY CLAY MOIST TO WET
[MIDDENDORF FORMATION]

32+40.00

210
200
190
180
170
160

(A) ROADWAY EMBANKMENT
ORANGE, RED, GRAY MEDIUM DENSE TO LOOSE CLAYEY SAND MOIST

PAVEMENT

SP 104

5.69:1

5.75:1

3:1

8
8
5

05

BT-FIAD

COASTAL PLAIN
GRAY, ORANGE SOFT TO STIFF SANDY CLAY MOIST TO WET
[MIDDENDORF FORMATION]

31+85.00

-Y33-

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

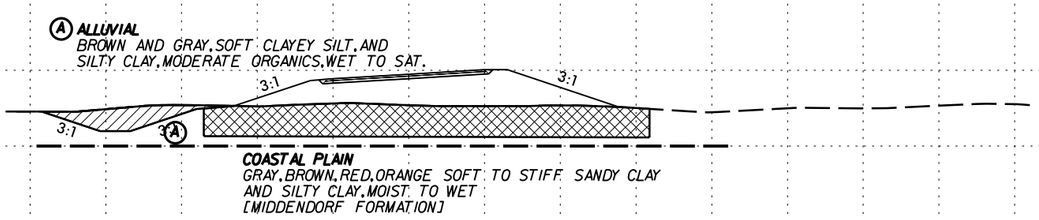
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	77

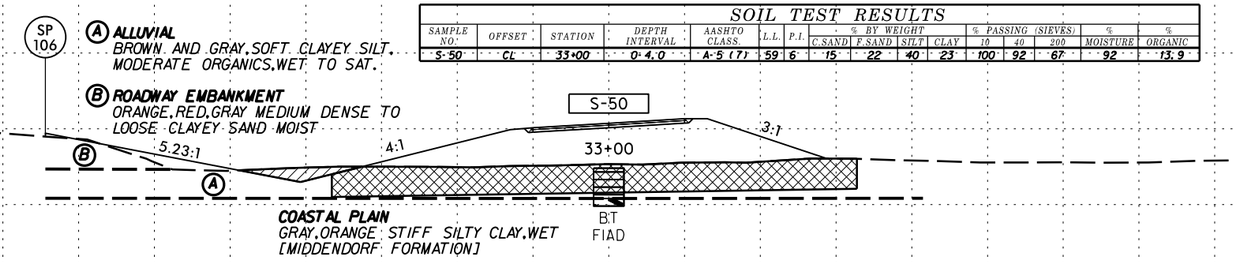
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

200 190 180 170 160



33 + 50.00

240 230 220 210 200 190 180 170 160



SOIL TEST RESULTS

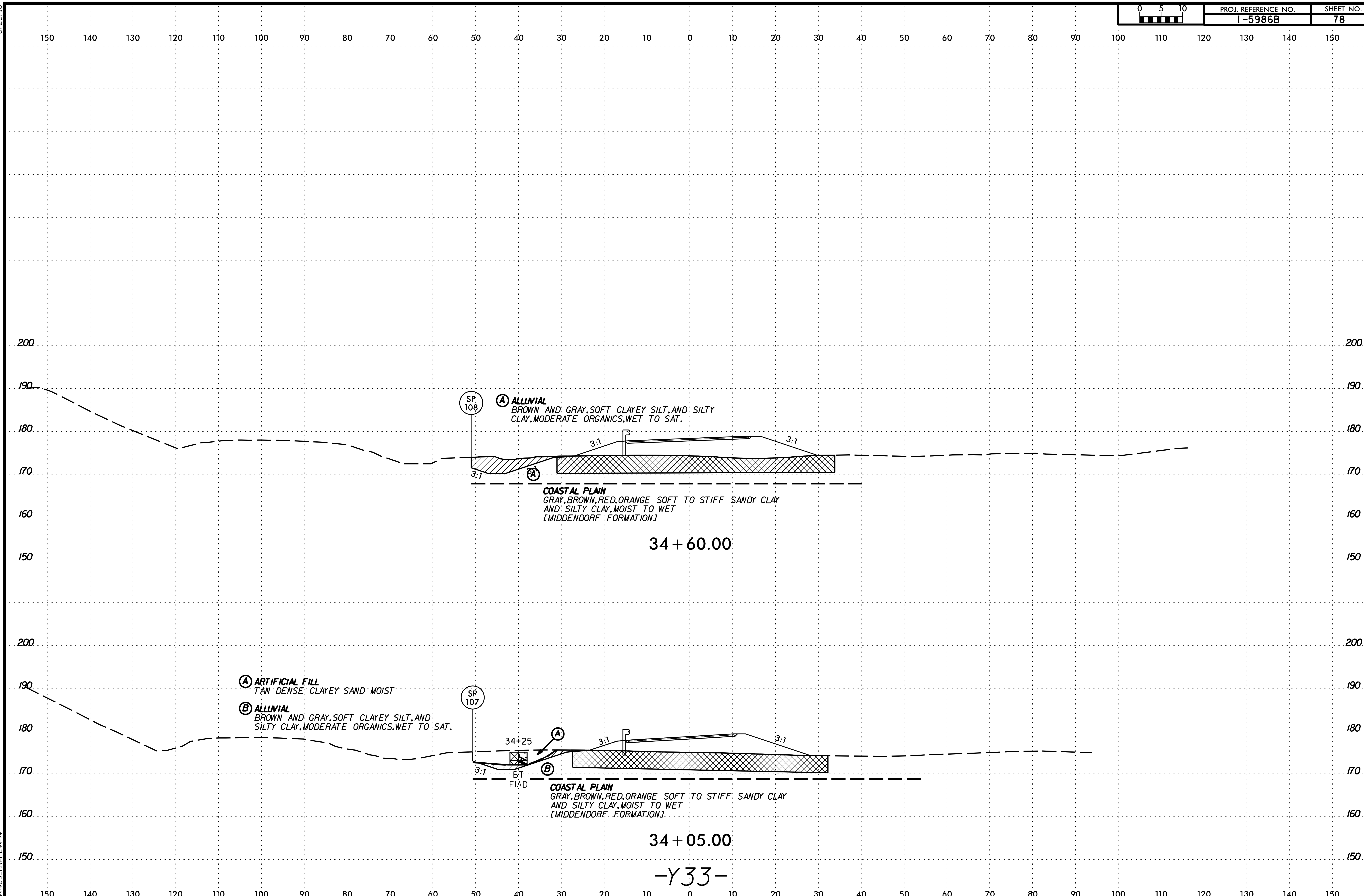
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			%	%
							C.SAND	F.SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
S-50	CL	33+00	0.0-4.0	A-5 (7)	59	6	15	22	40	23	100	92	67	92	13.9

32 + 90.00

-Y33-

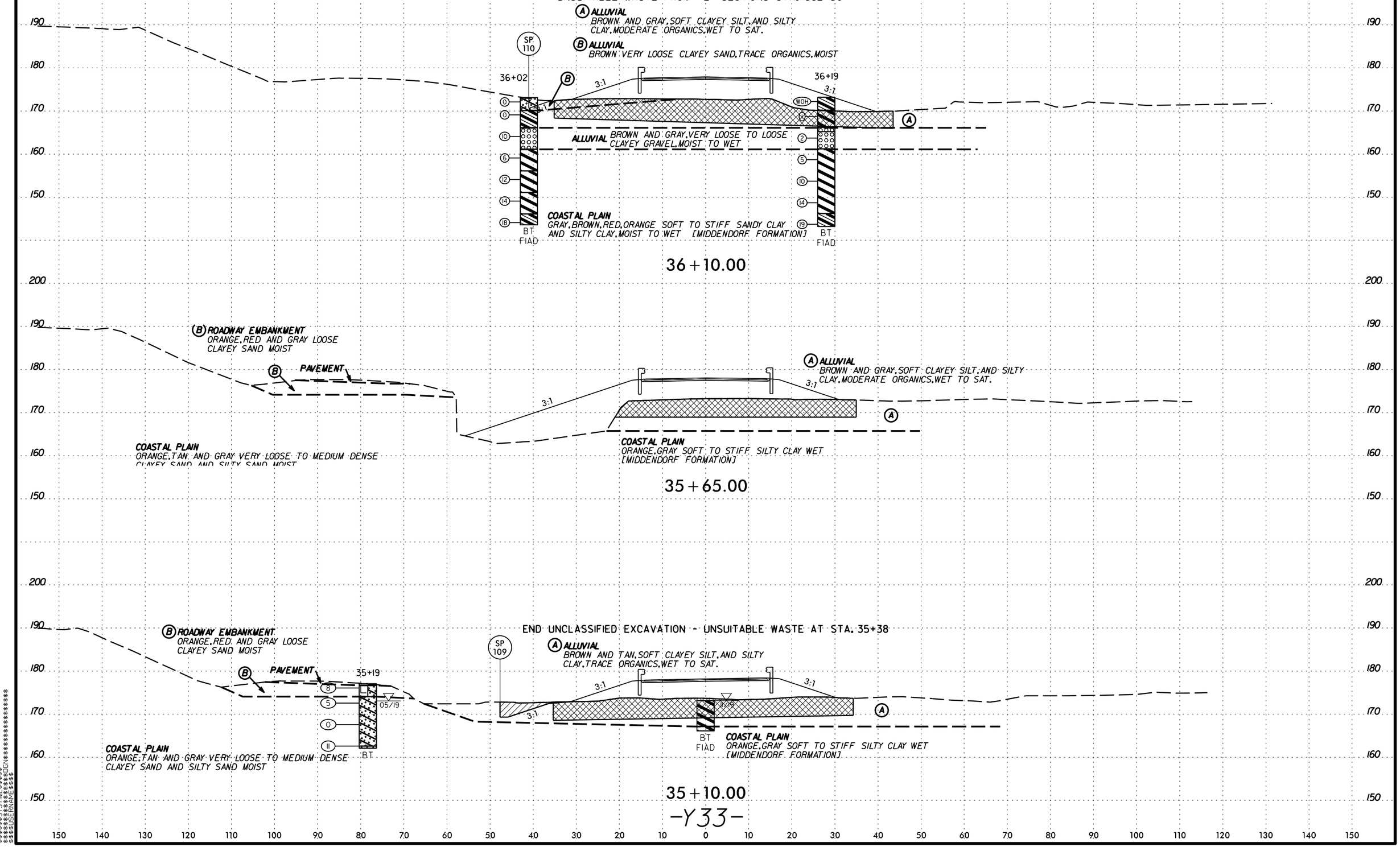
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$



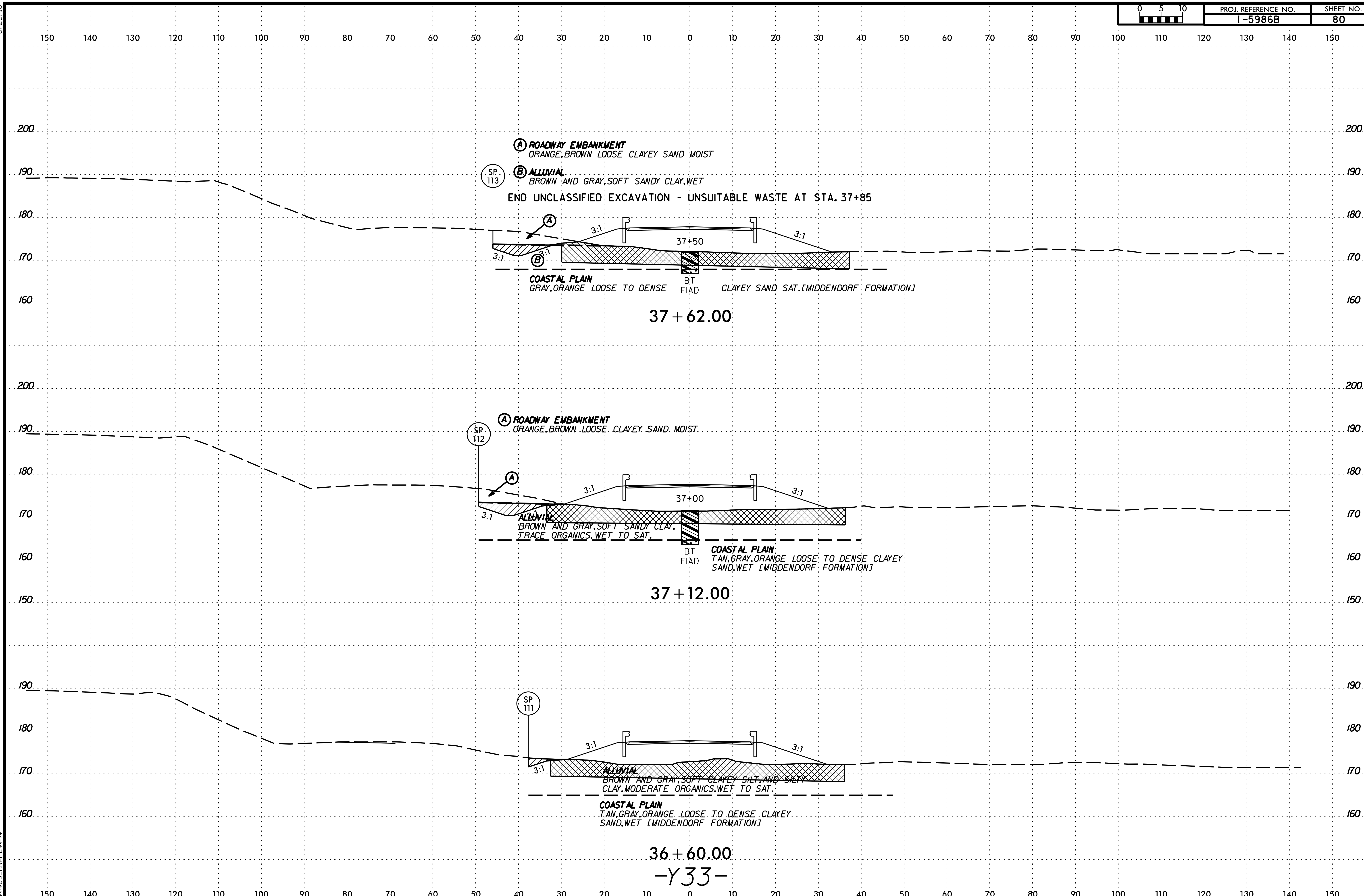
PROJ. REFERENCE NO.
I-5986B
SHEET NO.
78
0 5 10
6/23/16
SP 108
A ALLUVIAL
BROWN AND GRAY,SOFT CLAYEY SILT,AND SILTY CLAY,MODERATE ORGANICS,WET TO SAT.
COASTAL PLAIN
GRAY,BROWN,RED,ORANGE SOFT TO STIFF SANDY CLAY AND SILTY CLAY,MOIST TO WET
[MIDDENDORF FORMATION]
34+60.00
A ARTIFICIAL FILL
TAN DENSE CLAYEY SAND MOIST
B ALLUVIAL
BROWN AND GRAY,SOFT CLAYEY SILT,AND SILTY CLAY,MODERATE ORGANICS,WET TO SAT.
SP 107
34+25
BT
FIAD
COASTAL PLAIN
GRAY,BROWN,RED,ORANGE SOFT TO STIFF SANDY CLAY AND SILTY CLAY,MOIST TO WET
[MIDDENDORF FORMATION]
34+05.00
-Y33-

CONTINUE UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE FROM -L- SECTIONS STA. 1392+50



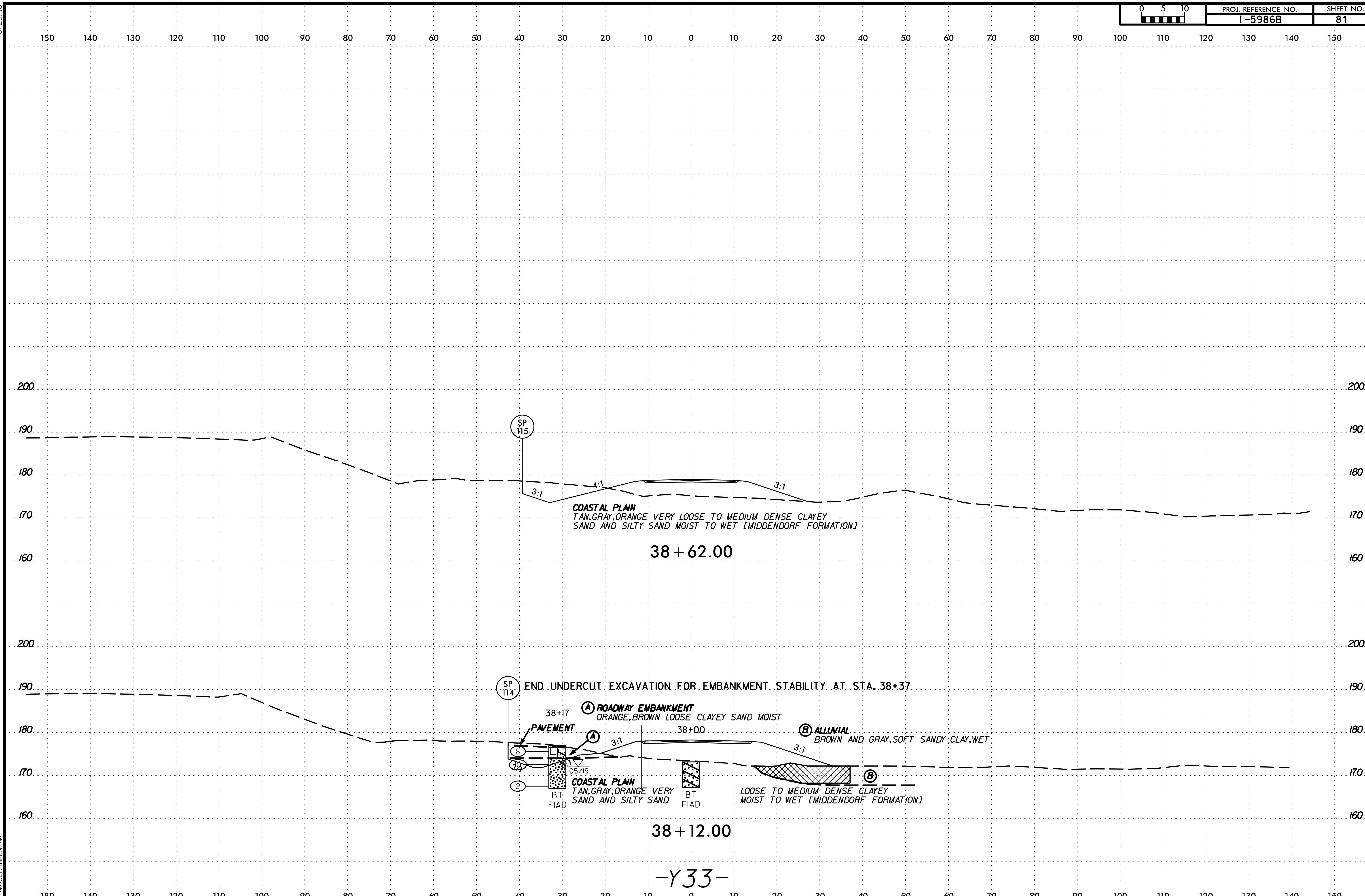
-Y33-

6/23/16



$$$$$SYSTIME$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

PROJ. REFERENCE NO. I-5986B | SHEET NO. 81



6/23/16

$$$$$SYSTIME$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	82

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

250 240 230 220

49+80

MATCH TO -L-

(A) ROADWAY EMBANKMENT
TAN LOOSE CLAYEY SAND MOIST

(6)
(19)
(19)
BT
DRY

COASTAL PLAIN
RED TAN BROWN STIFF TO HARD SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

TAN,RED MEDIUM DENSE CLAYEY SAND MOIST

49+80.43

260 250 240 230 220

(A) ROADWAY EMBANKMENT
TAN LOOSE CLAYEY SAND MOIST

MATCH TO -L-

COASTAL PLAIN
GRAY TAN STIFF TO VERY STIFF SILTY CLAY MOIST [MIDDENDORF FORMATION]

TAN,RED MEDIUM DENSE CLAYEY SAND MOIST

49+30.71

270 260 250 240 230 220 210

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 49+05

BEGIN UNDERCUT AT STA. 49+05

(A) ROADWAY EMBANKMENT
TAN LOOSE CLAYEY SAND MOIST

MATCH TO -L-

INTERSECTION SHEAR LINE

COASTAL PLAIN
GRAY,TAN,RED,ORANGE STIFF TO
VERY STIFF SILTY CLAY,SANDY CLAY
AND CLAY MOIST [MIDDENDORF FORMATION]

48+80.99

-SR17-

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

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	83

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

260
250
240
230
220

SP 2

Ⓐ **ROADWAY EMBANKMENT**
TAN LOOSE CLAYEY SAND MOIST

Ⓑ **COASTAL PLAIN**
ORANGE VERY STIFF HIGHLY PLASTIC SILTY CLAY MOIST [MIDDENDORF FORMATION]

Ⓐ

Ⓑ

6"

ORANGE TAN RED MEDIUM DENSE CLAYEY SAND MOIST

51+30.00

Ⓐ **ROADWAY EMBANKMENT**
TAN LOOSE CLAYEY SAND MOIST

Ⓑ **COASTAL PLAIN**
ORANGE VERY STIFF HIGHLY PLASTIC SILTY CLAY MOIST [MIDDENDORF FORMATION]

MATCH TO -L-

Ⓐ

50+99

Ⓑ

18

20

12

BT
DRY

ORANGE TAN RED MEDIUM DENSE CLAYEY SAND MOIST

50+79.88

Ⓐ **ROADWAY EMBANKMENT**
TAN LOOSE CLAYEY SAND MOIST

MATCH TO -L-

Ⓐ

COASTAL PLAIN
GRAY,TAN,RED,ORANGE STIFF TO VERY STIFF SILTY CLAY,SANDY CLAY AND CLAY MOIST [MIDDENDORF FORMATION]

RED TAN MEDIUM DENSE CLAYEY SAND MOIST

50+30.15

-SR17-

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	84

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

260 250 240 230 220 270

SP 5

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE CLAYEY SAND MOIST

6:1 4:1 4:1 3:1

RED BROWN LOOSE TO MEDIUM DENSE SILTY SAND MOIST [MIDDENDORF FORMATION]

52 + 81.00

END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE
IN THE TOP 3 FEET AT STA. 52+56
END UNDERCUT AT STATION 52+56

SP 4

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE CLAYEY SAND MOIST

Ⓑ COASTAL PLAIN
ORANGE VERY STIFF HIGHLY PLASTIC SILTY CLAY MOIST [MIDDENDORF FORMATION]

ORANGE TAN RED MEDIUM DENSE CLAYEY SAND MOIST

52 + 31.00

SP 3

Ⓐ ROADWAY EMBANKMENT
TAN LOOSE CLAYEY SAND MOIST

Ⓑ COASTAL PLAIN
ORANGE VERY STIFF HIGHLY PLASTIC SILTY CLAY MOIST [MIDDENDORF FORMATION]

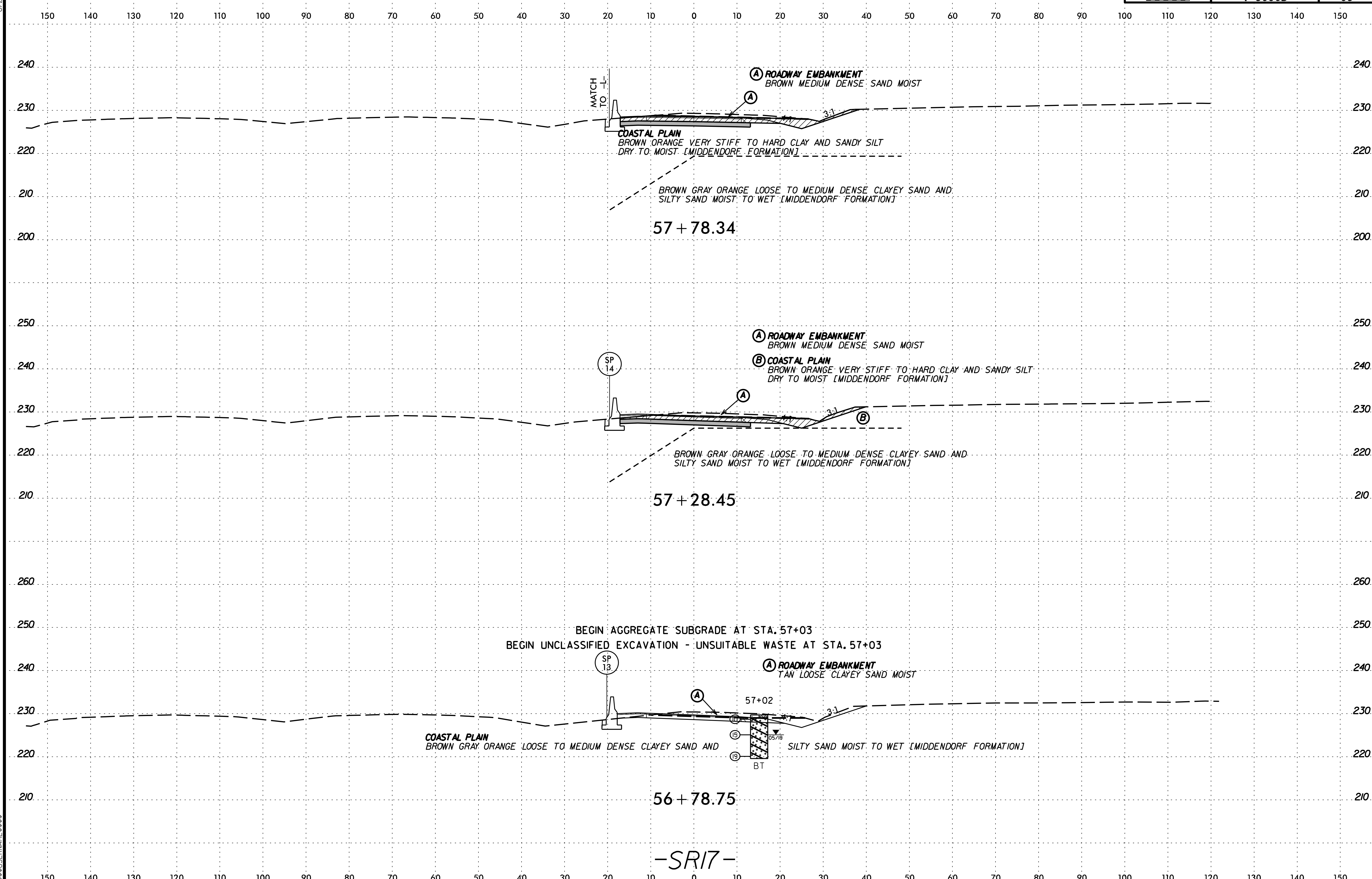
ORANGE TAN RED MEDIUM DENSE CLAYEY SAND MOIST

51 + 80.00

-SR17-

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	85



6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	86

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

250 240 230 220 210 260 250 240 230 220 210

MATCH TO -L-

Ⓐ **ROADWAY EMBANKMENT**
BROWN MEDIUM DENSE SAND MOIST

COASTAL PLAIN
BROWN ORANGE VERY STIFF TO HARD CLAY AND SANDY SILT
DRY TO MOIST [MIDDENDORF FORMATION]

59+28.34

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-7	25 LT	58+78	0.0- 1.5	A-7-6 (9)	51	23	33	14	7	46	98	76	52.6	17.9	ND

SS-7

MATCH TO -L-

16
34
47
BT
DRY

Ⓐ **ROADWAY EMBANKMENT**
RED LOOSE CLAYEY SAND MOIST

COASTAL PLAIN
BROWN ORANGE VERY STIFF TO HARD CLAY AND SANDY SILT
DRY TO MOIST [MIDDENDORF FORMATION]

58+78.34

MATCH TO -L-

Ⓐ **ROADWAY EMBANKMENT**
BROWN MEDIUM DENSE SAND MOIST

COASTAL PLAIN
BROWN ORANGE VERY STIFF TO HARD CLAY AND SANDY SILT
DRY TO MOIST [MIDDENDORF FORMATION]

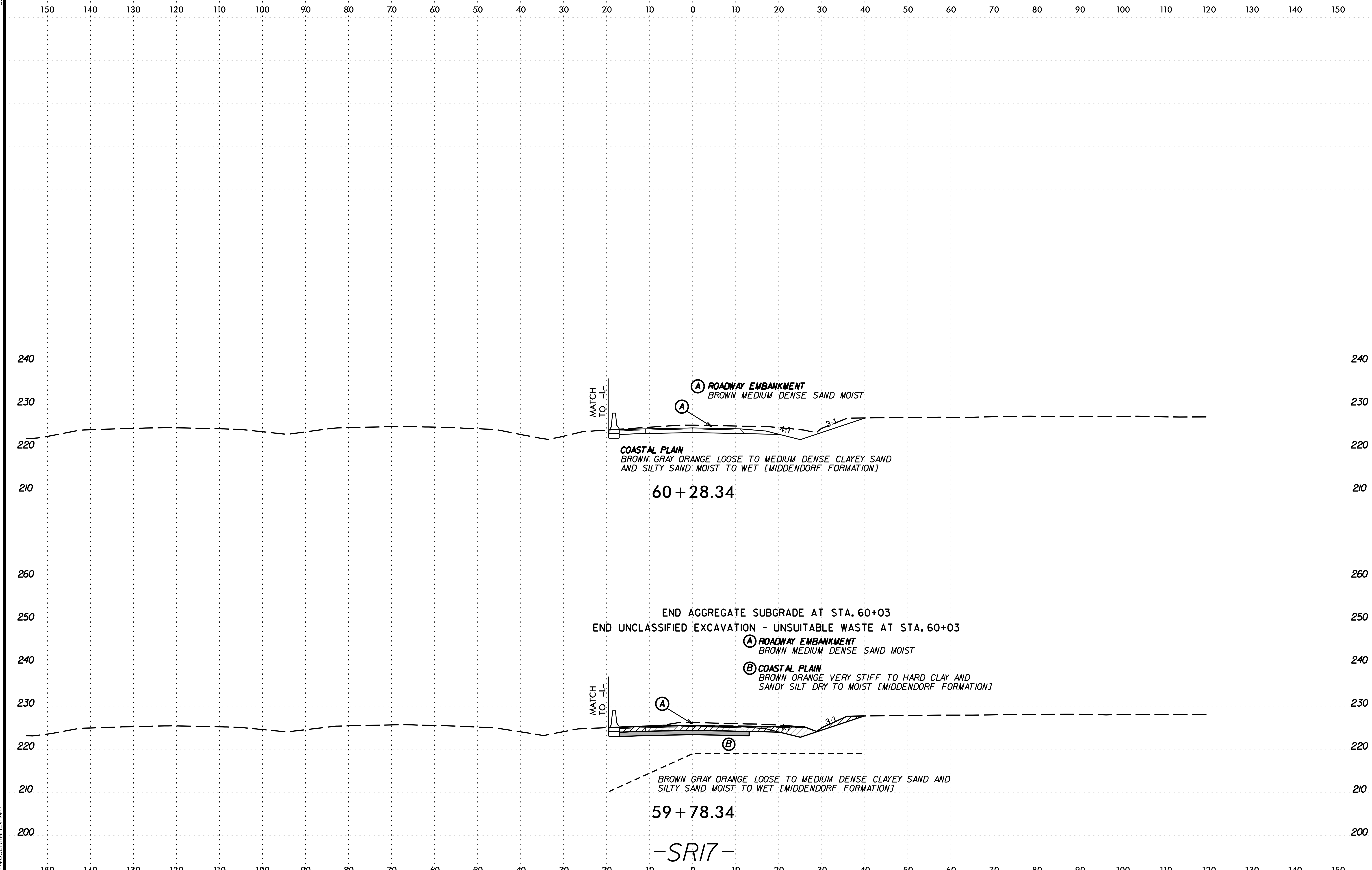
58+28.34

-SR17-

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	87



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$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
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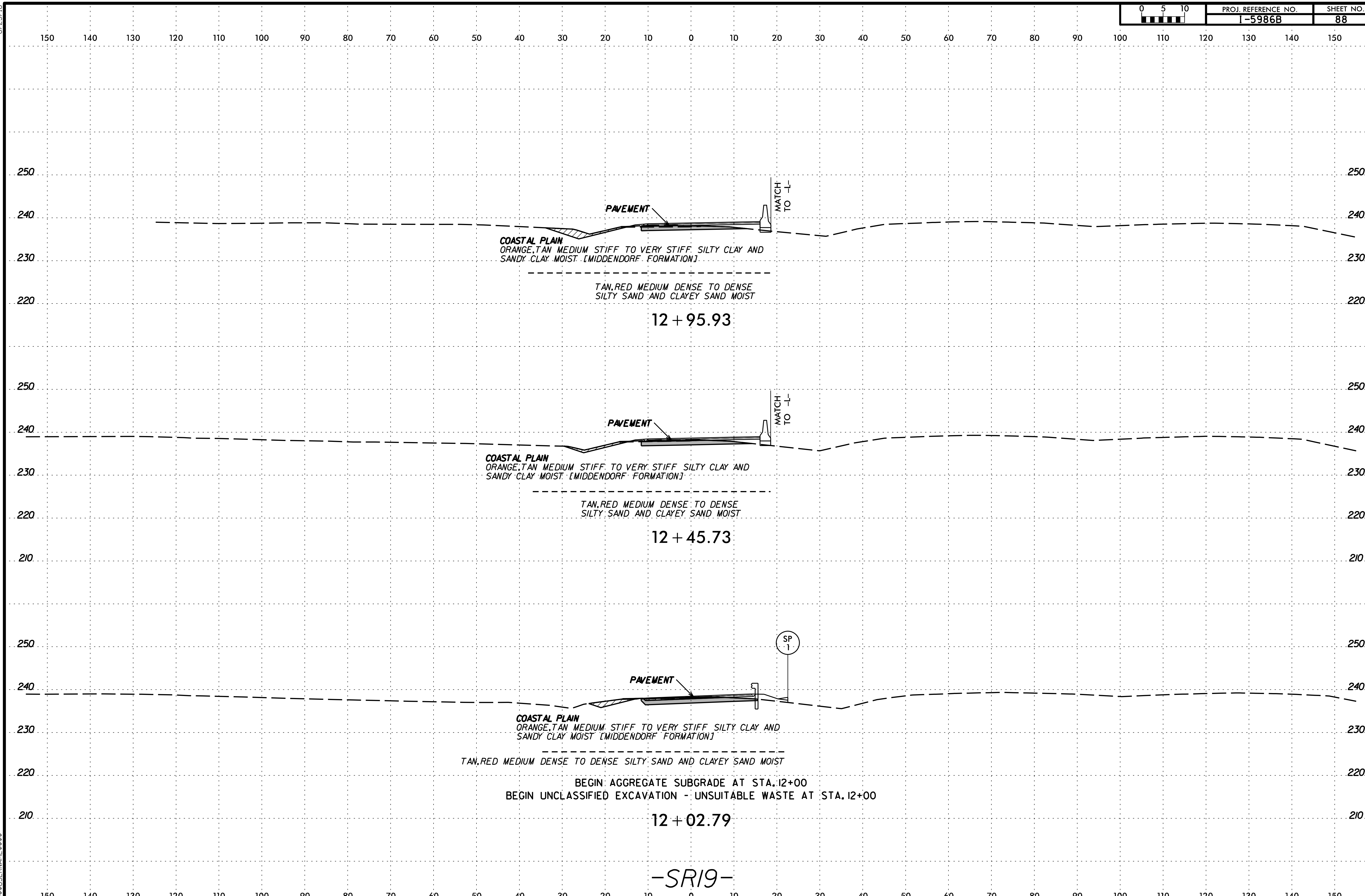
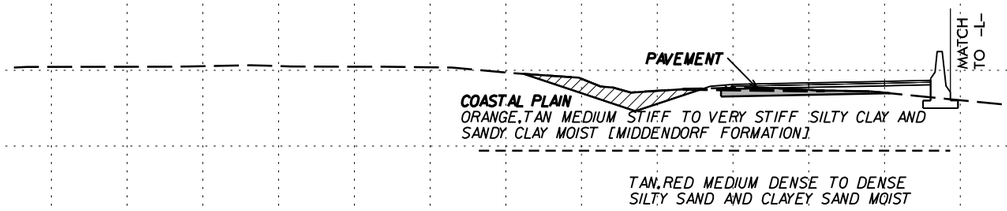

PROJ. REFERENCE NO.
I-5986B
SHEET NO.
88
PAVEMENT
MATCH TO -L-
COASTAL PLAIN
ORANGE,TAN MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]
TAN,RED MEDIUM DENSE TO DENSE SILTY SAND AND CLAYEY SAND MOIST
12 + 95.93
PAVEMENT
MATCH TO -L-
COASTAL PLAIN
ORANGE,TAN MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]
TAN,RED MEDIUM DENSE TO DENSE SILTY SAND AND CLAYEY SAND MOIST
12 + 45.73
SP 1
PAVEMENT
COASTAL PLAIN
ORANGE,TAN MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]
TAN,RED MEDIUM DENSE TO DENSE SILTY SAND AND CLAYEY SAND MOIST
BEGIN AGGREGATE SUBGRADE AT STA. 12+00
BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 12+00
12 + 02.79
-SR19-

6/23/16

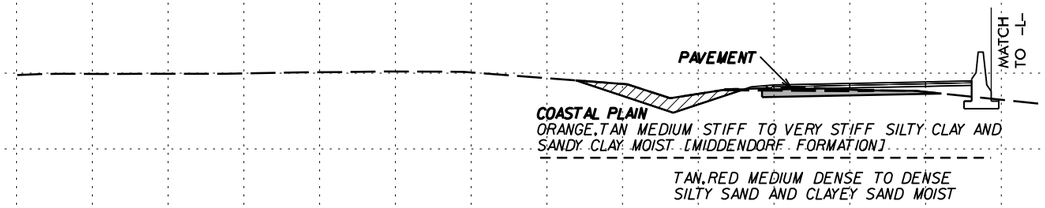
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	89

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

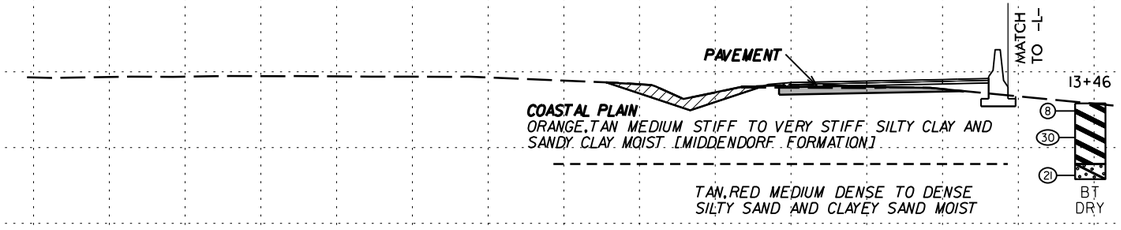
250
240
230
220



14+46.54



13+96.34



13+46.14

-SR19-

$$$$$$$$SYSTIME$$$$$$
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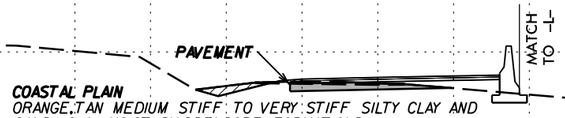
$$$$USERNAME$$$$

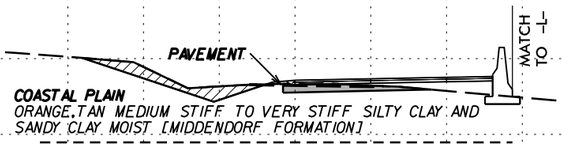
6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	90

END AGGREGATE SUBGRADE AT STA. 16+22
END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 16+22



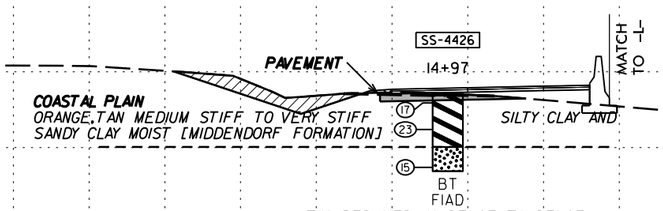
15+97.16



15+46.95

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-4426	3 LT	14+97	0.2-1.7	A-7-5 (11)	55	22	27	18	8	47	97	84	56.1	21.6	ND

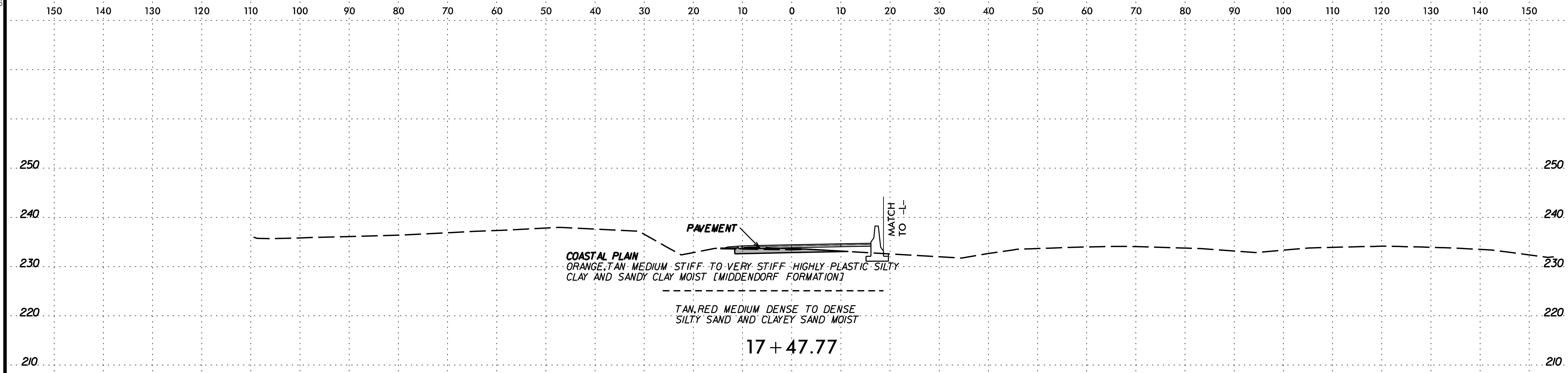


14+96.75

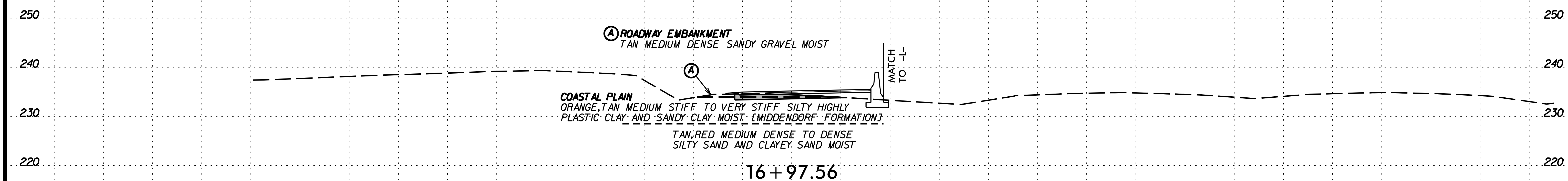
-SR19-

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	91



17+47.77

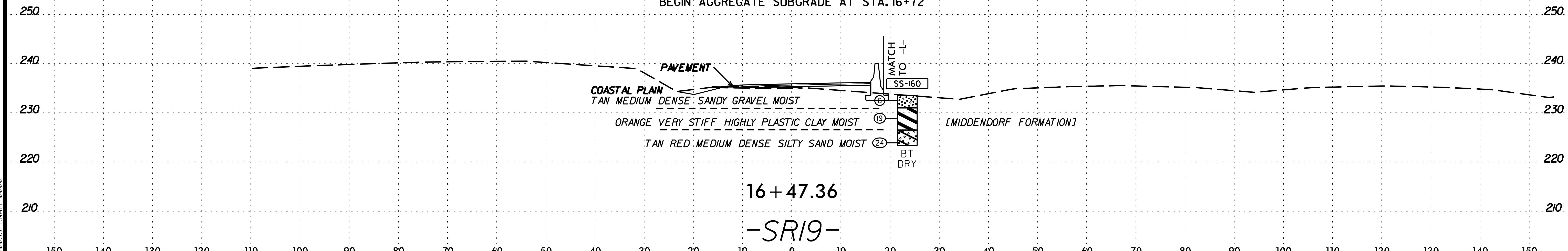


16+97.56

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-160	70 LT	1237+00	3.6-5.1	A-7-6 (29)	62	38	4	16	21	59	92	91	75.3	21.6	ND

BEGIN AGGREGATE SUBGRADE AT STA. 16+72



16+47.36

-SR19-

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	92

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

250
240
230
220
210

Ⓐ **ROADWAY EMBANKMENT**
TAN MEDIUM DENSE SANDY GRAVEL MOIST

MATCH TO ℄

COASTAL PLAIN
ORANGE,TAN MEDIUM STIFF TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

TAN,RED MEDIUM DENSE TO DENSE SILTY SAND AND CLAYEY SAND MOIST

18+98.38

Ⓐ **ROADWAY EMBANKMENT**
TAN MEDIUM DENSE SANDY GRAVEL MOIST

MATCH TO ℄

COASTAL PLAIN
ORANGE,TAN MEDIUM STIFF TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

TAN,RED MEDIUM DENSE TO DENSE SILTY SAND AND CLAYEY SAND MOIST

18+48.18

PAVEMENT

MATCH TO ℄

COASTAL PLAIN
ORANGE,TAN MEDIUM STIFF TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

TAN,RED MEDIUM DENSE TO DENSE SILTY SAND AND CLAYEY SAND MOIST

17+97.97

-SR19-

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

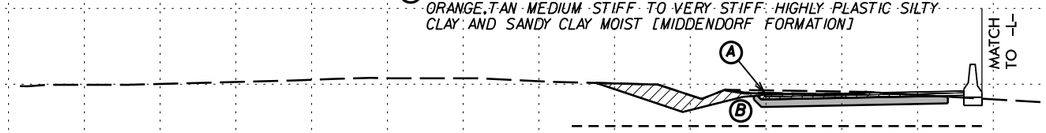
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	93

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

250 240 230 220 210

(A) ROADWAY EMBANKMENT
TAN MEDIUM DENSE SANDY GRAVEL MOIST

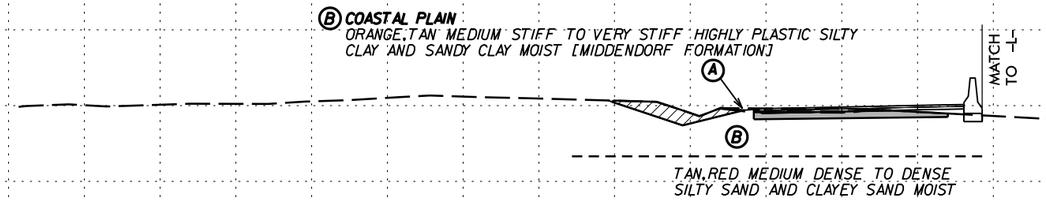
(B) COASTAL PLAIN
ORANGE,TAN MEDIUM STIFF TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]



20+48.68

(A) ROADWAY EMBANKMENT
TAN MEDIUM DENSE SANDY GRAVEL MOIST

(B) COASTAL PLAIN
ORANGE,TAN MEDIUM STIFF TO VERY STIFF HIGHLY PLASTIC SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]



19+98.68

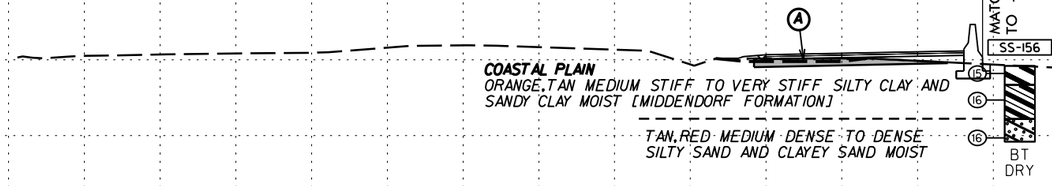
260 250 240 230 220 210

BEGIN UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 19+74

(A) ROADWAY EMBANKMENT
TAN MEDIUM DENSE SANDY GRAVEL MOIST

COASTAL PLAIN
ORANGE,TAN MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

TAN,RED MEDIUM DENSE TO DENSE
SILTY SAND AND CLAYEY SAND MOIST



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-156	24 RT	19+48	0.0-1.5	A-7-6 (7)	65	40	56	8	3	33	100	57	36.2	16.4	ND

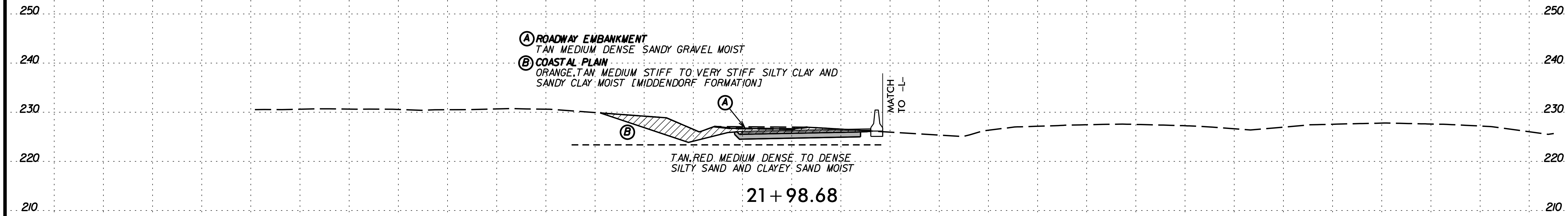
19+48.58

-SR19-

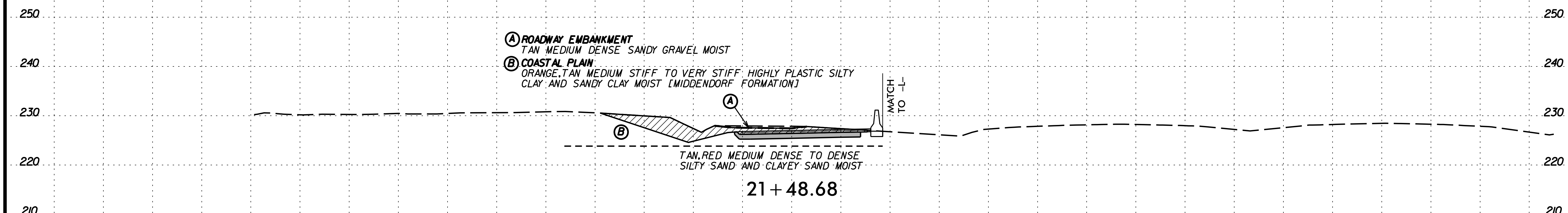
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

6/23/16



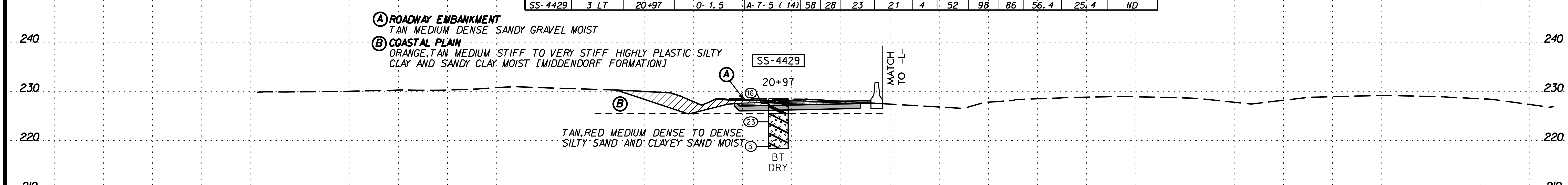
21+98.68



21+48.68

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-4429	3 LT	20+97	0-1.5	A-7-5 (14)	58	28	23	21	4	52	98	86	56.4	25.4	ND



20+98.68

-SR19-

$$$$SYSTIME$$$$ $$$$DGN$$$$ $$$$USERNAME$$$$

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

240 230 220 210

(A) **ROADWAY EMBANKMENT**
TAN MEDIUM DENSE SANDY GRAVEL MOIST

COASTAL PLAIN
TAN,RED DENSE CLAYEY SAND MOIST [MIDDENDORF FORMATION]

MATCH -L- TO

23+48.68

260 250 240 230 220 210

END AGGREGATE SUBGRADE AT STA. 23+24
END UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE AT STA. 23+24

(A) **ROADWAY EMBANKMENT**
TAN. MEDIUM DENSE. SANDY GRAVEL MOIST.

(B) **COASTAL PLAIN**
ORANGE,TAN MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

TAN,RED MEDIUM DENSE TO DENSE SILTY SAND AND CLAYEY SAND MOIST

MATCH -L- TO

22+98.68

250 240 230 220 210

(A) **ROADWAY EMBANKMENT**
TAN. MEDIUM DENSE. SANDY GRAVEL MOIST.

(B) **COASTAL PLAIN**
ORANGE,TAN MEDIUM STIFF TO VERY STIFF SILTY CLAY AND SANDY CLAY MOIST [MIDDENDORF FORMATION]

TAN,RED MEDIUM DENSE TO DENSE SILTY SAND AND CLAYEY SAND MOIST

SS-153
19
30
40
BT
DRY

MATCH -L- TO

22+48.68

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-153	24 RT	22+49	0.0-1.5	A-7-6 (21)	42	18	50	7	5	38	86	57	36.9	18.3	ND

250 240 230 220 210 200

-SR19-

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

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	9

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

220 210 200 190 180

–SR13–
39+01.47

0.020 0.020 4.80:1 3.07:1 6:1 0.025 0.025 0.025 0.025 7:1

197.65

ROADWAY EMBANKMENT
BROWN MEDIUM STIFF
SANDY CLAY MOIST

ROADWAY EMBANKMENT
BROWN MEDIUM STIFF
SANDY CLAY MOIST

COASTAL PLAIN
BROWN AND BLACK MEDIUM
STIFF SANDY SILT MOIST
[MIDDENDORF FORMATION]

COASTAL PLAIN
TAN MEDIUM STIFF
SANDY CLAY MOIST
[MIDDENDORF FORMATION]

COASTAL PLAIN
GRAY,BROWN,PINK,TAN
AND WHITE LOOSE TO VERY
DENSE CLAYEY SAND,SILTY
SAND AND SAND DRY TO WET
[MIDDENDORF FORMATION]

1076+50.00

BEGIN UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA. 1076+25

–SR13–
38+51.47

0.020 0.020 3.43:1 3.26:1 6:1 0.025 0.025 0.025 0.025 6:1

197.51

ROADWAY EMBANKMENT
BROWN LOOSE
SILTY SAND MOIST

ROADWAY EMBANKMENT
BROWN LOOSE
CLAYEY SAND MOIST

ORANGE,BLACK SOFT SANDY SILT WET WITH ORGANICS

COASTAL PLAIN
WHITE,TAN,ORANGE,GRAY,BROWN,AND BLACK LOOSE TO MEDIUM DENSE CLAYEY SAND,SILTY SAND AND SAND MOIST TO WET [MIDDENDORF FORMATION]

1076+00.00

–℄–

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	10

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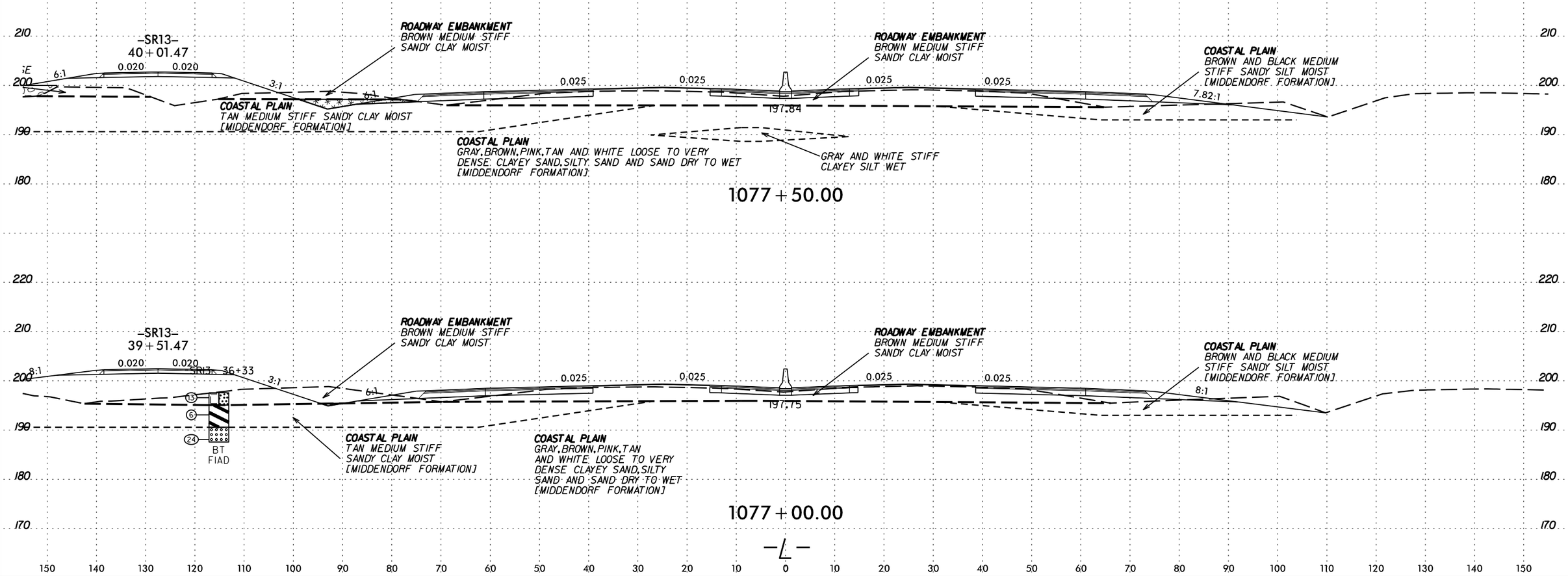
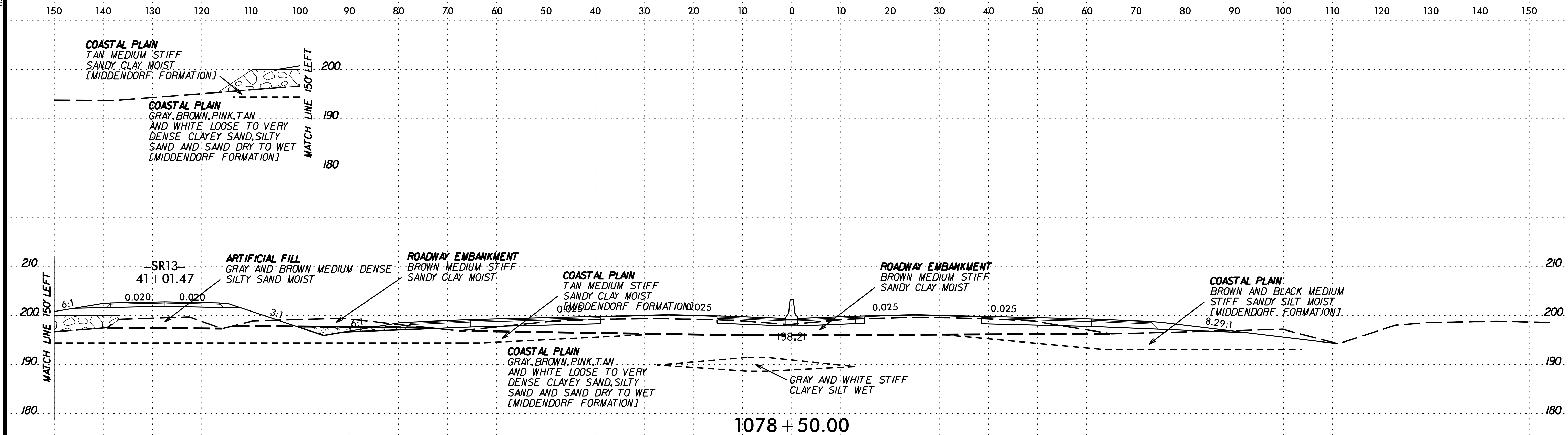
220 210 200 190 180



$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$$USERNAME$$$$

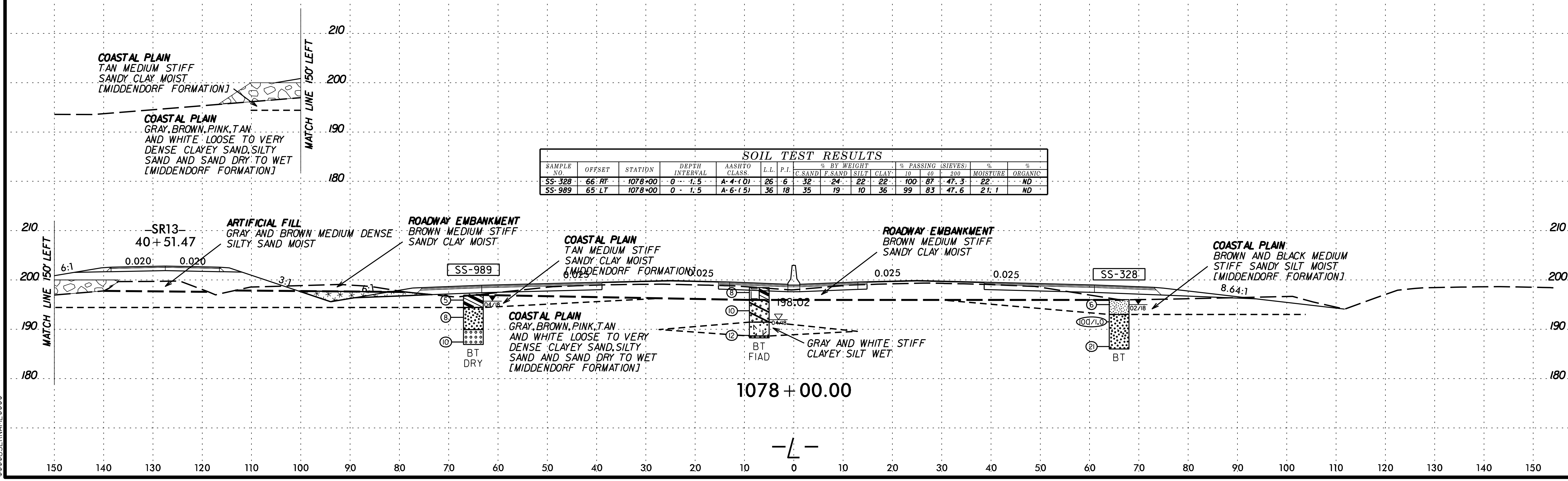
6/23/16

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	11



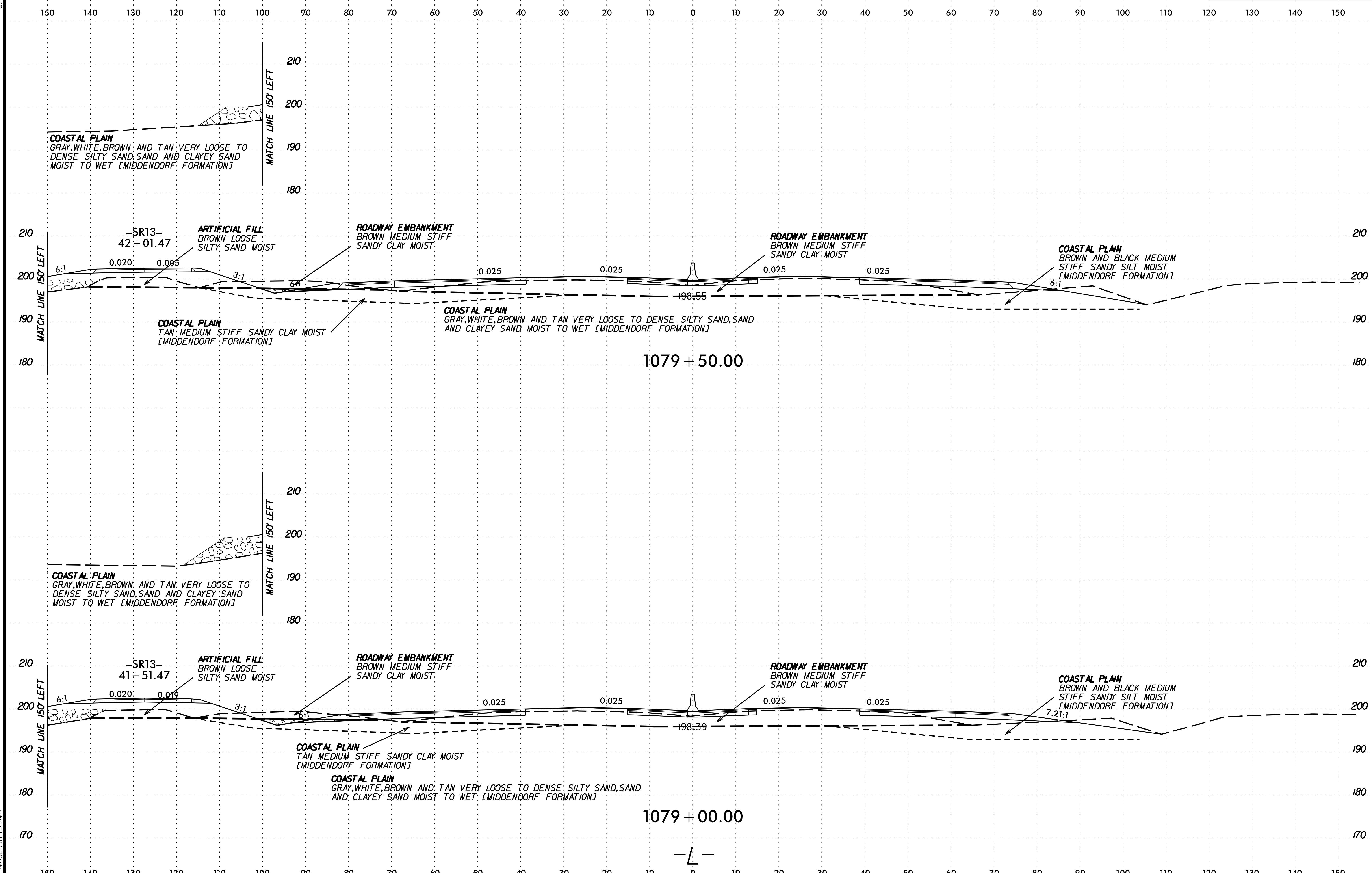
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-328	66 RT	1078+00	0 - 1.5	A-4-(0)	26	6	32	24	22	22	100	87	47.3	22	ND
SS-989	65 LT	1078+00	0 - 1.5	A-6-(5)	36	18	35	19	10	36	99	83	47.6	21.1	ND



$$$$$SYSTIME$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	12



6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	I-5986B	13

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

210
200
190
180

MATCH LINE 150' LEFT

COASTAL PLAIN
GRAY,WHITE,BROWN AND TAN VERY LOOSE TO DENSE SILTY SAND,SAND AND CLAYEY SAND MOIST TO WET [MIDDENDORF FORMATION]

ARTIFICIAL FILL
BROWN LOOSE SILTY SAND MOIST

ROADWAY EMBANKMENT
BROWN LOOSE CLAYEY SAND MOIST

–SR13–
43+00.70
-SR13- 42+83

0.052 0.052

6:1 3:1 4:1

10 17 4 11

BT
FIAD

0.025 0.025 0.025 0.025

199.41

ROADWAY EMBANKMENT
BROWN LOOSE CLAYEY SAND MOIST

6:1

COASTAL PLAIN
BROWN STIFF SANDY CLAY MOIST [MIDDENDORF FORMATION]

1080+50.00

MATCH LINE 150' LEFT

COASTAL PLAIN
GRAY,WHITE,BROWN AND TAN VERY LOOSE TO DENSE SILTY SAND,SAND AND CLAYEY SAND MOIST TO WET [MIDDENDORF FORMATION]

END UNCLASSIFIED EXCAVATION - NOT ACCEPTABLE IN THE TOP 3 FEET AT STA.1080+25

ARTIFICIAL FILL
BROWN LOOSE SILTY SAND MOIST

–SR13–
42+51.47

0.029 0.029

6:1 3:1 4:1

ROADWAY EMBANKMENT
BROWN LOOSE CLAYEY SAND MOIST

0.025 0.025 0.025 0.025

198.93

ROADWAY EMBANKMENT
BROWN LOOSE CLAYEY SAND MOIST

6:1

COASTAL PLAIN
BROWN STIFF SANDY CLAY MOIST [MIDDENDORF FORMATION]

COASTAL PLAIN
GRAY,WHITE,BROWN AND TAN VERY LOOSE TO DENSE SILTY SAND,SAND AND CLAYEY SAND MOIST TO WET [MIDDENDORF FORMATION]

1080+00.00

–L–

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	14

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1081+00.00

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

6/23/16

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
I-5986B	136

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

220
210
200
190
180

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44+50.00

220
210
200
190
180

44+00.00

-SR13-

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

$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$