

PROJECT: REFERENCE: U-5935

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

MULTI-USE PATH
SUBSURFACE INVESTIGATION

COUNTY WILSON
 PROJECT DESCRIPTION U.S. 301 ROADWAY AND
PEDESTRIAN IMPROVEMENTS

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5935	1	62

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF PREPARING THE SCOPE OF WORK TO BE INCLUDED IN THE REQUEST FOR PROPOSAL. 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.

SOIL AND ROCK BOUNDARIES WITHIN A BOREHOLE ARE BASED ON GEOTECHNICAL INTERPRETATION UNLESS ENCOUNTERED IN A SAMPLE. INTERPRETED BOUNDARIES MAY NOT NECESSARILY REFLECT ACTUAL SUBSURFACE CONDITIONS BETWEEN SAMPLED STRATA AND BOREHOLE INFORMATION MAY NOT NECESSARILY REFLECT ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS. 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:
- 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.
 - BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

M. RAWLS

G. GOSLIN

S. TIERNAN

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SUBMITTED BY S&ME, INC

DATE JUNE 2017



rkral@smeinc.com
 2017.06.09 15:59:
 12 -05'00'

SIGNATURE DATE

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

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

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION				GRADATION		ROCK DESCRIPTION		TERMS AND DEFINITIONS																																																																																																																																							
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6				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.		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: <div style="display: flex; align-items: flex-start; margin-top: 5px;"> <div style="width: 30px; height: 30px; border: 1px solid black; margin-right: 5px;"></div> <div style="font-size: 8px;">WEATHERED ROCK (WR)</div> </div> <div style="display: flex; align-items: flex-start; margin-top: 5px;"> <div style="width: 30px; height: 30px; border: 1px solid black; margin-right: 5px;"></div> <div style="font-size: 8px;">CRYSTALLINE ROCK (CR)</div> </div> <div style="display: flex; align-items: flex-start; margin-top: 5px;"> <div style="width: 30px; height: 30px; border: 1px solid black; margin-right: 5px;"></div> <div style="font-size: 8px;">NON-CRYSTALLINE ROCK (NCR)</div> </div> <div style="display: flex; align-items: flex-start; margin-top: 5px;"> <div style="width: 30px; height: 30px; border: 1px solid black; margin-right: 5px;"></div> <div style="font-size: 8px;">COASTAL PLAIN SEDIMENTARY ROCK (CP)</div> </div>		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.		COMPRESSION SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL > 50		PERCENTAGE OF MATERIAL <table style="width: 100%; font-size: 8px; border-collapse: collapse;"> <tr> <th style="width: 33%;">ORGANIC MATERIAL</th> <th style="width: 33%;">GRANULAR SOILS</th> <th style="width: 33%;">SILT - CLAY SOILS</th> <th style="width: 33%;">OTHER MATERIAL</th> </tr> <tr> <td>TRACE OF ORGANIC MATTER</td> <td>2 - 3%</td> <td>3 - 5%</td> <td>TRACE 1 - 10%</td> </tr> <tr> <td>LITTLE ORGANIC MATTER</td> <td>3 - 5%</td> <td>5 - 12%</td> <td>LITTLE 10 - 20%</td> </tr> <tr> <td>MODERATELY ORGANIC</td> <td>5 - 10%</td> <td>12 - 20%</td> <td>SOME 20 - 35%</td> </tr> <tr> <td>HIGHLY ORGANIC</td> <td>> 10%</td> <td>> 20%</td> <td>HIGHLY 35% AND ABOVE</td> </tr> </table>		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																																																																																																												
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SOIL LEGEND AND AASHTO CLASSIFICATION				GROUND WATER WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING STATIC WATER LEVEL AFTER 24 HOURS PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA SPRING OR SEEP				WEATHERING FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE. VERY SLIGHT (IV 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. <i>IF TESTED, WOULD YIELD SPT REFUSAL</i> SEVERE (SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. <i>IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF</i> VERY SEVERE (IV 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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i> COMPLETE ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.		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 DISLOADED 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 (ROQ) - 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 INTRODUCED ROCKS. SLICKENISE - 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 (SROQ) - 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.																																																																																																																																					
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Areas of Special Geotechnical Interest

The following existing subsurface conditions have been identified as areas of special interest for the project. These conditions and their impacts to the project are further discussed in the S&ME Roadway Subsurface Recommendations Report dated June 2017 and Recommendations Letter Report dated June 2017.

Highly Plastic Clays: Some soil samples selected for laboratory testing had plasticity indexes of greater than 15. Soils exhibiting plasticity indexes greater than 15 were encountered along the proposed alignment at the following locations:

<u>Line</u>	<u>Station (+/-)</u>	
-EY17-	10+85.52	to 45+29.59
-EY20-	8+50	to 10+25
-EY20-	11+25	to 12+25
-EY20-	15+25	to 34+75
-EY20-	46+00	to 49+25
-EY20-	54+25	to 56+75

A discussion of these plastic soils is located below in the section titled "Soil Properties."

Loose/Soft Soils: Loose/soft soils were encountered on the project and may impact subgrade or embankment construction. These soils were found at the following locations:

<u>Line</u>	<u>Station (+/-)</u>	
-EY17-	25+00	to 30+50
-EY20-	10+50	to 16+00

A discussion of these loose/soft soils is located below in the section titled "Soil Properties."

Groundwater: High groundwater tables, seasonal high groundwater, as well as potential perched groundwater above or within 6 feet of proposed grade were encountered at the following locations:

<u>Line</u>	<u>Station (+/-)</u>	
-EY17-	25+50	to 30+50
-EY17-	35+50	to 45+29.59
-EY20-	30+50	to 40+00

Physiography, Geology and Surface Water

The project site is located in the city of Wilson, Wilson County, North Carolina. The topography in the area is generally flat. The project area is generally along existing roadways in a commercialized area.

June 9, 2017

PROJECT: Mult-Use Path - Geotechnical Report - Inventory
 COUNTY: Wilson
 DESCRIPTION: US 301 Roadway and Pedestrian Improvements (Multi-Use Path) from the intersection of Lipscomb Rd and US 301 to the intersection of Ward Boulevard and Herring Avenue, and from the intersection of Ward Boulevard and Herring Avenue to the intersection of Herring Avenue and Firestone Parkway.
 SUBJECT: Geotechnical Report - Inventory

Project Description

The project is part of improvements to US 301 in Wilson County, North Carolina. A proposed multi-use path was investigated as part of this project. The multi-use path runs parallel to Ward Boulevard and Herring Avenue between the intersections of Lipscomb Rd and US 301 to the intersection of Ward Boulevard and Herring Avenue, and from the intersection of Ward Boulevard and Herring Avenue to the intersection of Herring Avenue and Firestone Parkway. The total length of the project is approximately 1.46 miles. Based on our review of the multi-use path cross sections, embankment fill heights, and cut depths in the order of 3 feet are proposed. The alignments investigated include -EY17- and -EY20-.

S&ME drilled a total of 18 soil test borings between March 10, 2017 and March 13, 2017 to explore the general subsurface conditions at the project site. The borings locations were selected and located in the field by S&ME personnel using a handheld Global Positioning System (GPS) unit.

A track-mounted Diedrich D-50 was used to advance the soil test borings for the project. Hollow-stem, continuous flight augering techniques were used. A Standard Penetration Test (SPT) was performed at designated intervals in the soil test borings in general accordance with ASTM D1586. SPTs are performed to provide an index for estimating soil strength and density and to provide samples for soil classification. SPTs were performed with a hydraulic automatic hammer (Autohammer). All boreholes were backfilled with soil cuttings after drilling was completed.

The following alignments were investigated for this project:

<u>Line</u>	<u>Station (+/-)</u>	
-EY17-	10+85.52	to 45+29.59
-EY20-	8+50	to 56+75

Geologically, the site is located within the Yorktown basal formation of the Coastal Plain Physiographic Province of North Carolina. Coastal Plain deposits generally consist of poorly consolidated sediments which include gravel, sands, silts, clays, limestones and other sedimentary rocks. The deposits of the Coastal Plain form a wedge shape block that increases in thickness from an edge along its northwestern border (Fall Line), to a thickness on the order to one-half mile along the coast.

The Coastal Plain deposits dip gently towards the sea, at a rate of a few feet per mile. In general, the older formations are found outcropping toward the inner edge of the Coastal Plain. Successively younger units are found outcropping closer to the sea. The older (deeper) Coastal Plain sediments date back to the Cretaceous period and are overlain by successively younger sediments of the Tertiary and Quaternary periods.

The Coastal Plain Physiographic Province can be physiographically divided into the Upper Coastal Plain subprovince and the Lower Coastal Plain subprovince. The Upper Coastal Plain is located between the Lower Coastal Plain and Piedmont formations and is topographically similar to the Piedmont. Unconsolidated wind-blown dune deposits are frequently located in the Upper Coastal Plain in close proximity to the Piedmont. The Lower Coastal Plain is located between the Upper Coastal Plain and the Atlantic Ocean. The Lower Coastal Plain consists of younger, less consolidated formations and typically has very gently sloping topography and a groundwater depth of less than 10 feet. The site in Wilson is located in the Upper Coastal Plain.

Near-surface and upper soils often consist of more recent undifferentiated deposits of inter-bedded sands, silts, and clays. Deeper deposits also consist of sands, silts, or clays but can be defined as particular formations with distinguishable characteristics and engineering properties.

Soil Properties

Generalized subsurface conditions for the project are described below. For more detailed soil descriptions and stratifications at a particular test location, the respective profile and cross section should be reviewed.

The soil test borings generally encountered roadway embankment material and Undivided Coastal Plain soils to the boring termination depths.

Roadway Embankment Soils: Roadway embankment soils were encountered in some soil test borings to depths ranging from 1.8 to 3.3 feet below the existing ground surface. The roadway embankment soils generally consisted of sandy clay (A-6) and silty and clayey sand (A-2-4 and A-2-6). Consistencies/relative densities ranging from stiff and loose to medium dense were recorded in the roadway embankment soils.

Undivided Coastal Plain Soils: Beneath the roadway embankment in a number of borings and from the ground surface in the remaining borings, Undivided Coastal Plain soils were encountered. The Undivided Coastal Plain soils generally consisted of sandy clay and clay (A-6, A-7-5, and A-7-6), sandy silts (A-4), clayey sands (A-2-6), and sand (A-3). Consistencies/relative densities ranging from soft to hard and loose to dense were recorded in Undivided Coastal Plain soils. The Undivided Coastal Plain soil samples selected for laboratory testing exhibit liquid limits ranging from 28 to 78 and plasticity indexes from 16 to 55.

Groundwater

Groundwater level measurements were attempted in the borings at the completion of drilling and after a period of 24 hours in select borings. Groundwater was typically less than 6 feet below existing grades in most borings throughout the project corridor. Areas that exhibit high groundwater (groundwater within 6 feet of proposed subgrade) are discussed in "Areas of Special Geotechnical Interest."

Fluctuations of groundwater levels can occur due to seasonal variations such as rainfall, runoff, and other factors not evident at the time of exploration. The possibility of groundwater fluctuations should be considered when developing the design and construction plans for this project.

Due to their relatively low permeability, or percolation rate, the surficial and near-surface clayey soils will impede the infiltration of rainwater. Therefore, after heavy rainfall ponded water may be perched on the clayey soil layers for extended periods of time.

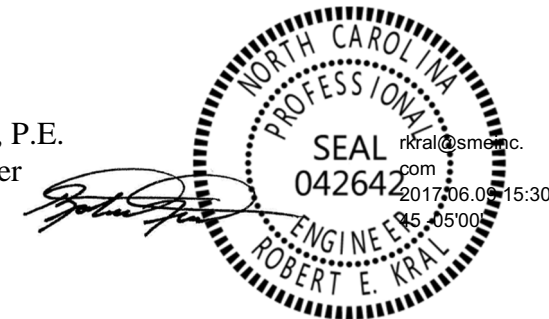
Closure

S&ME, Inc. appreciates the opportunity to provide our services on this project. Please contact us if you have any questions regarding this report or if we may be of further assistance.

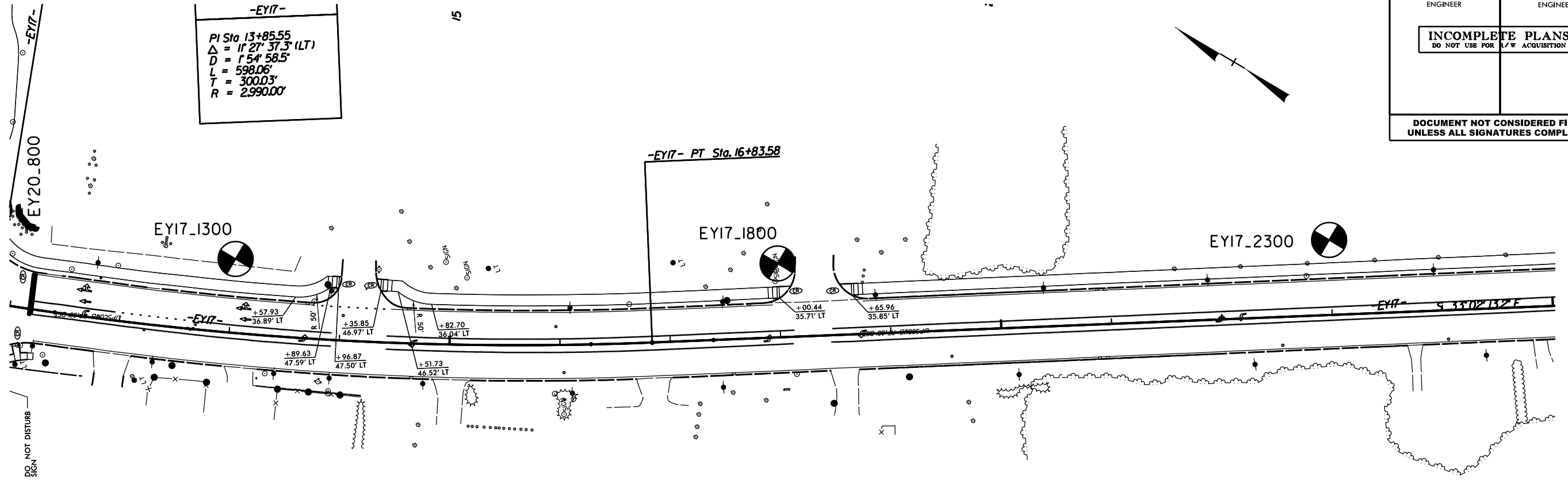
Sincerely,

S&ME, Inc.

Robert E. Kral, P.E.
Project Engineer



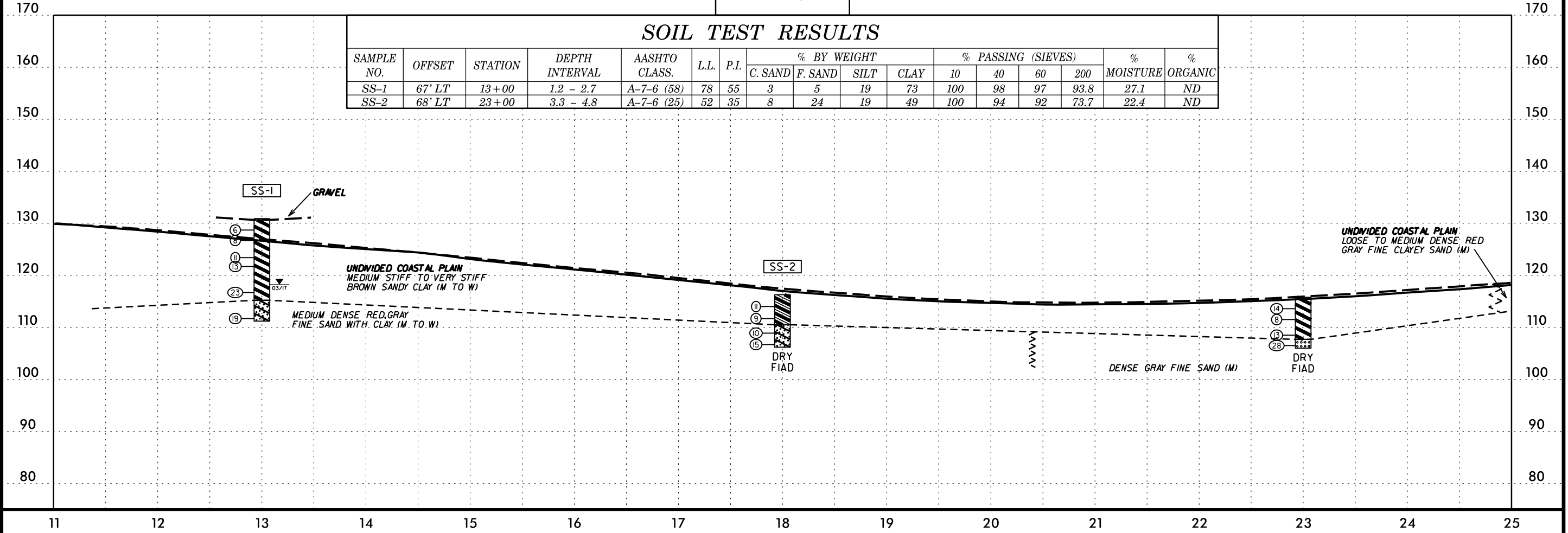
Mary Rawls
Mary Rawls, E.I.
Project Professional



EY17

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	60	200		
SS-1	67' LT	13+00	1.2 - 2.7	A-7-6 (58)	78	55	3	5	19	73	100	98	97	93.8	27.1	ND
SS-2	68' LT	23+00	3.3 - 4.8	A-7-6 (25)	52	35	8	24	19	49	100	94	92	73.7	22.4	ND

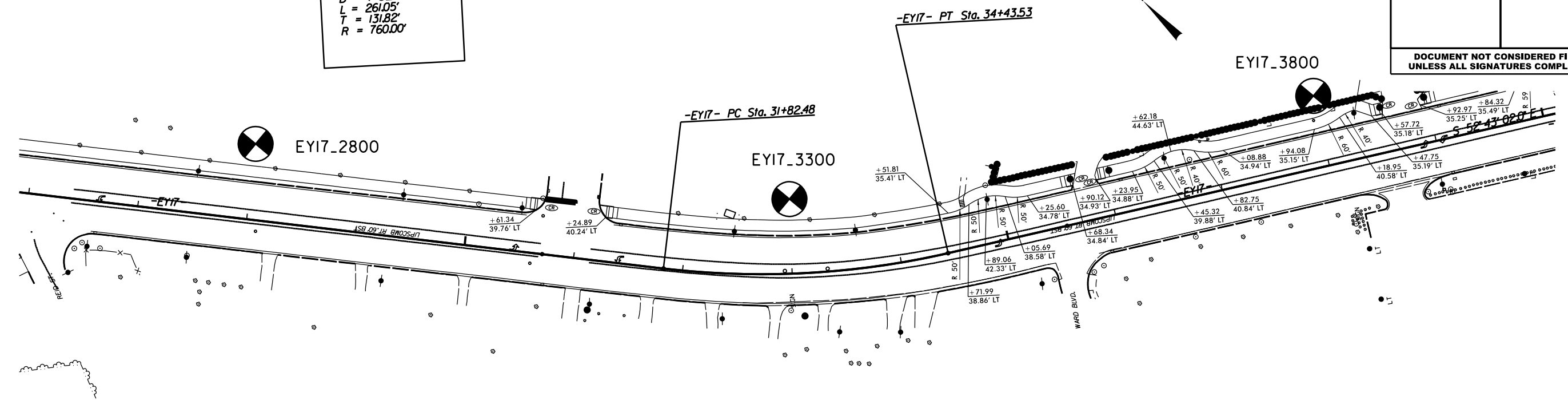


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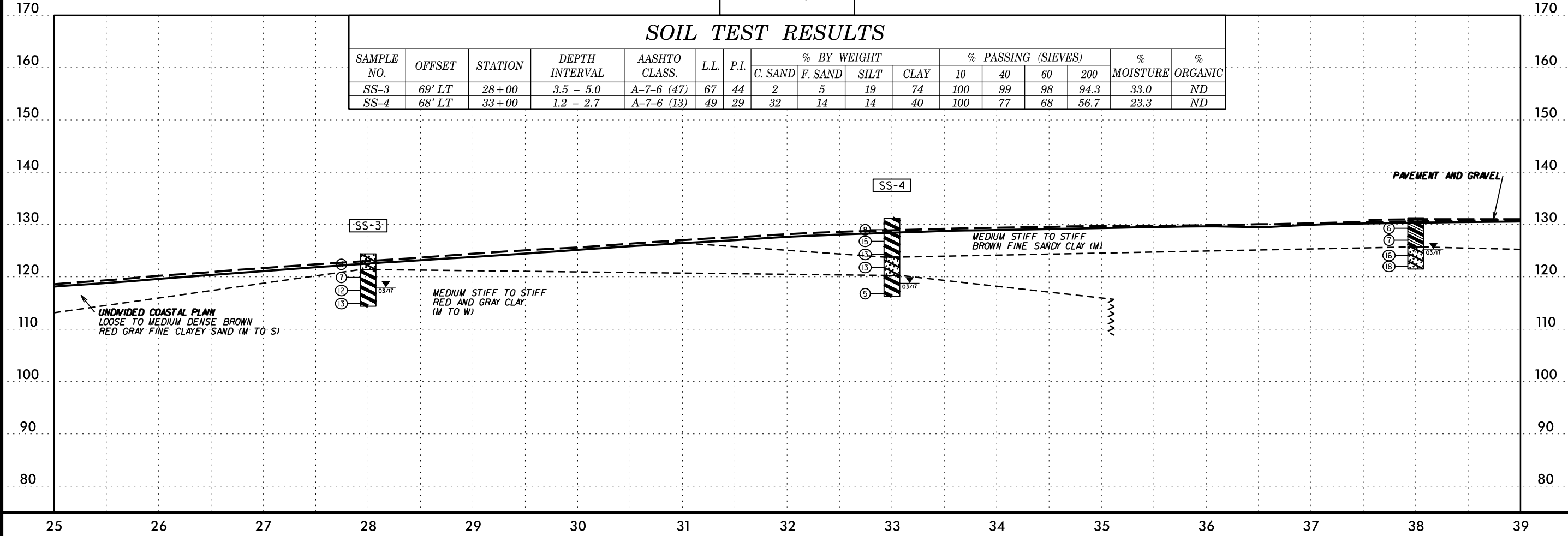
PI Sta 33+14.31
 $\Delta = 19^{\circ} 40' 48.8''$ (LT)
 $D = 7^{\circ} 32' 20.1''$
 $L = 261.05'$
 $T = 131.82'$
 $R = 760.00'$



EY17

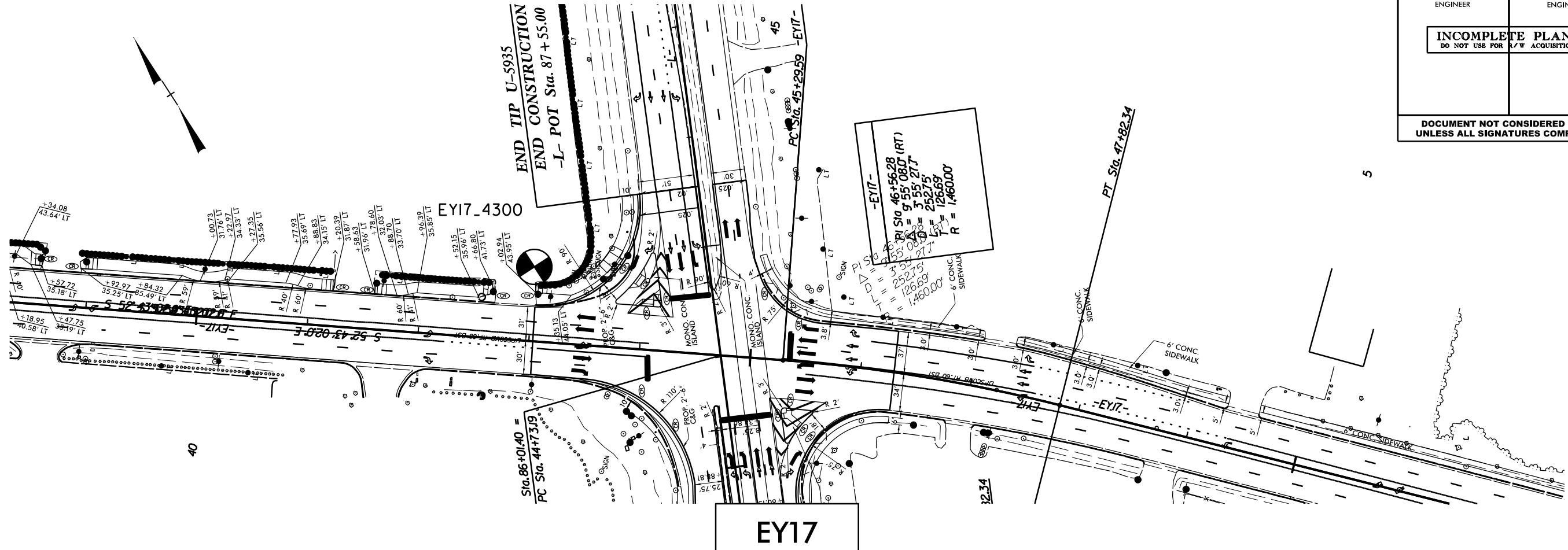
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SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)				% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	60	200		
SS-3	69' LT	28+00	3.5 - 5.0	A-7-6 (47)	67	44	2	5	19	74	100	99	98	94.3	33.0	ND
SS-4	68' LT	33+00	1.2 - 2.7	A-7-6 (13)	49	29	32	14	14	40	100	77	68	56.7	23.3	ND



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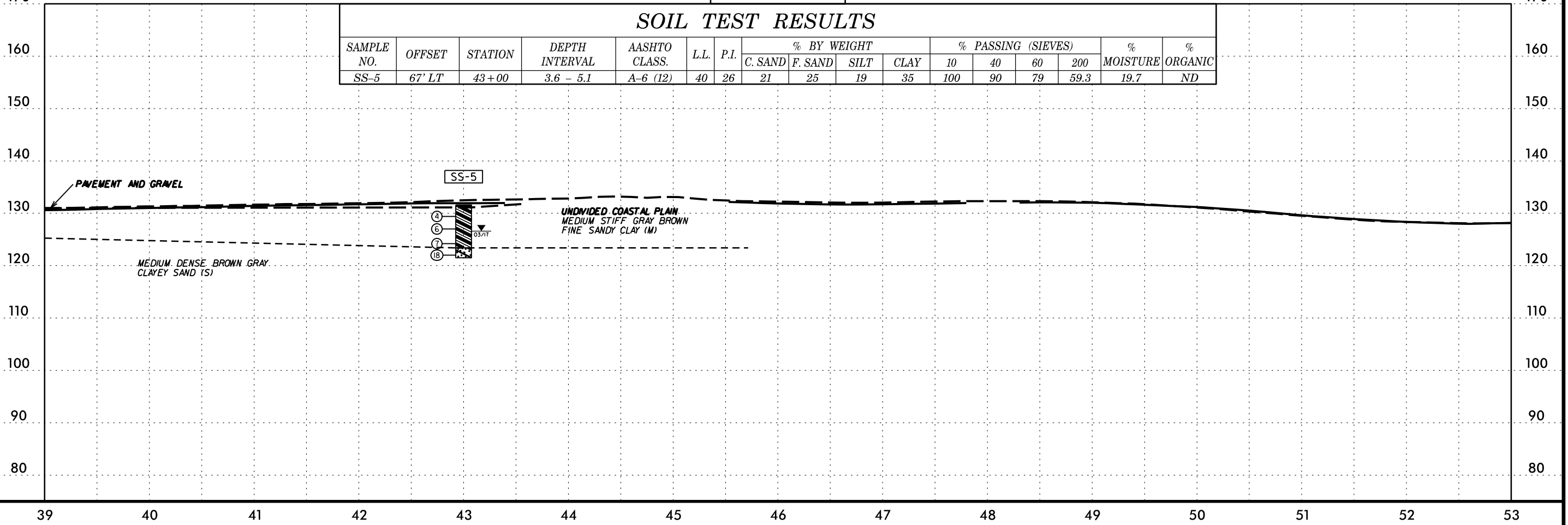
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SOIL TEST RESULTS

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							C. SAND	F. SAND	SILT	CLAY	10	40	60	200		
SS-5	67' LT	43+00	3.6 - 5.1	A-6 (12)	40	26	21	25	19	35	100	90	79	59.3	19.7	ND



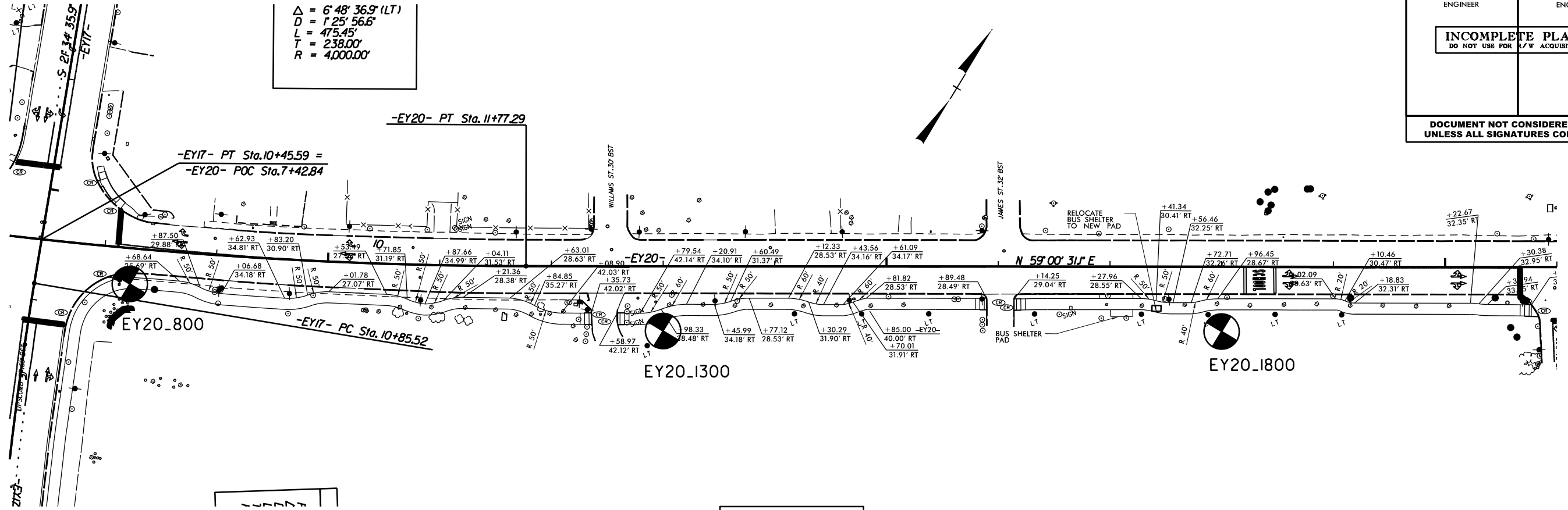
$$\Delta = 6' 48" 36.9' (LT)$$

$$D = 1' 25' 56.6"$$

$$L = 475.45'$$

$$T = 238.00'$$

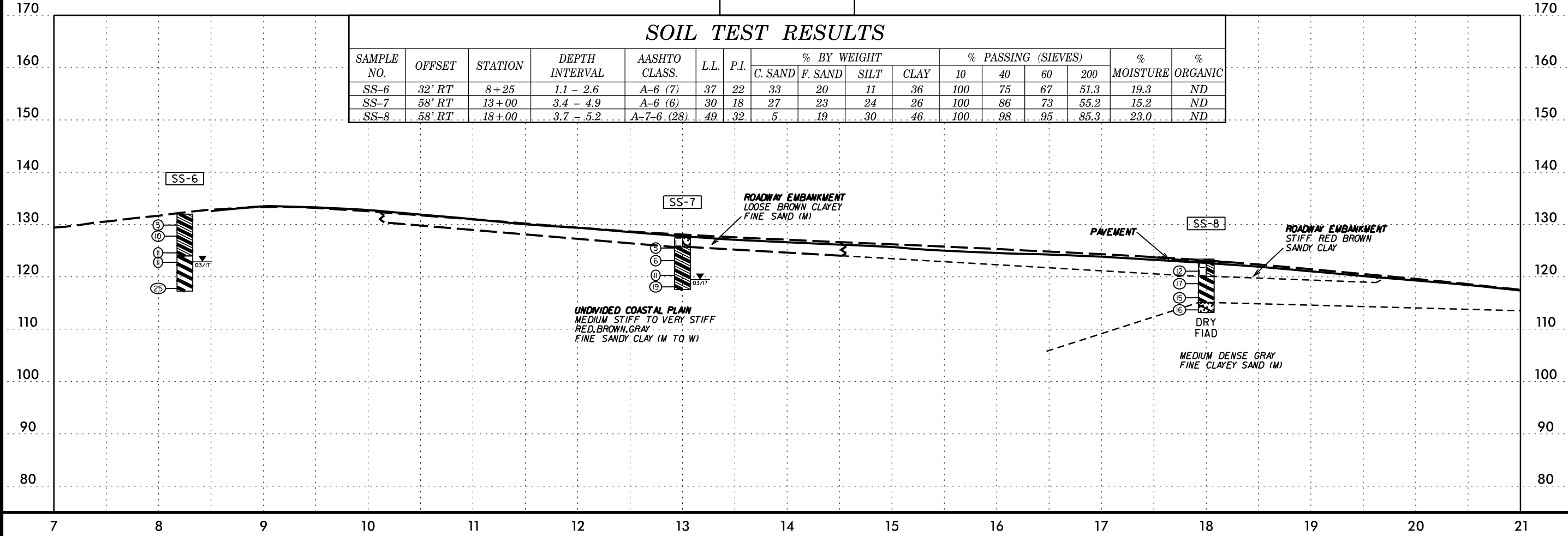
$$R = 4,000.00'$$



EY20

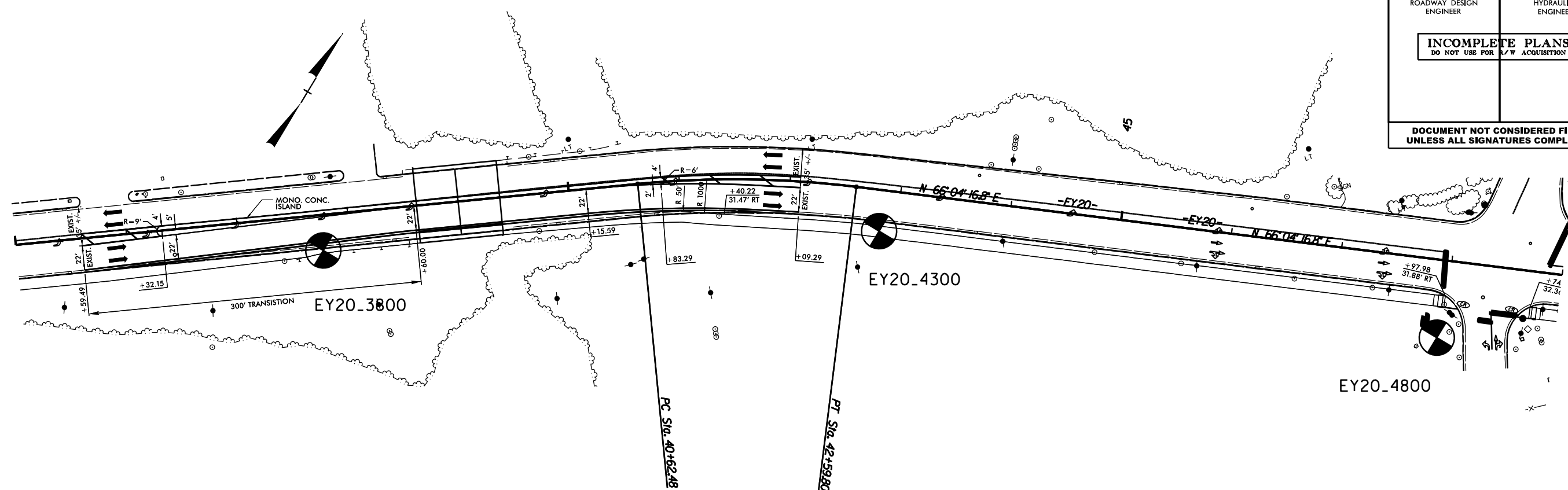
SOIL TEST RESULTS

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	60	200		
SS-6	32' RT	8+25	1.1 - 2.6	A-6 (7)	37	22	33	20	11	36	100	75	67	51.3	19.3	ND
SS-7	58' RT	13+00	3.4 - 4.9	A-6 (6)	30	18	27	23	24	26	100	86	73	55.2	15.2	ND
SS-8	58' RT	18+00	3.7 - 5.2	A-7-6 (28)	49	32	5	19	30	46	100	98	95	85.3	23.0	ND



REVISIONS

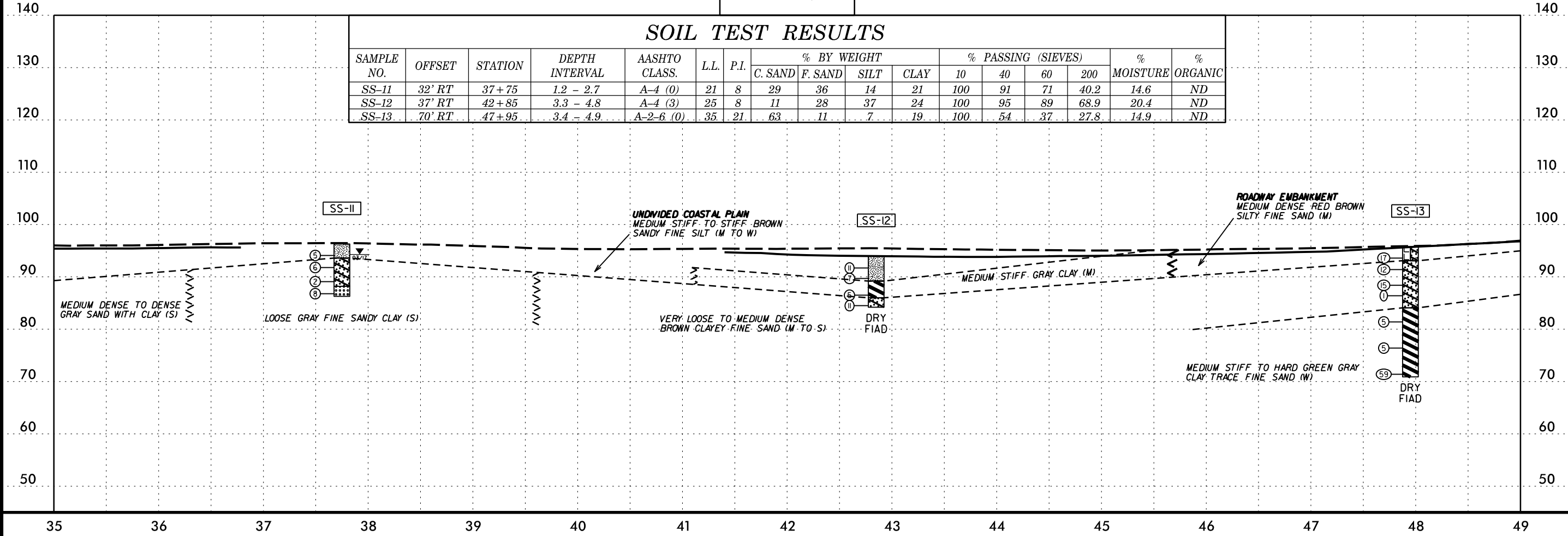
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EY20

SOIL TEST RESULTS

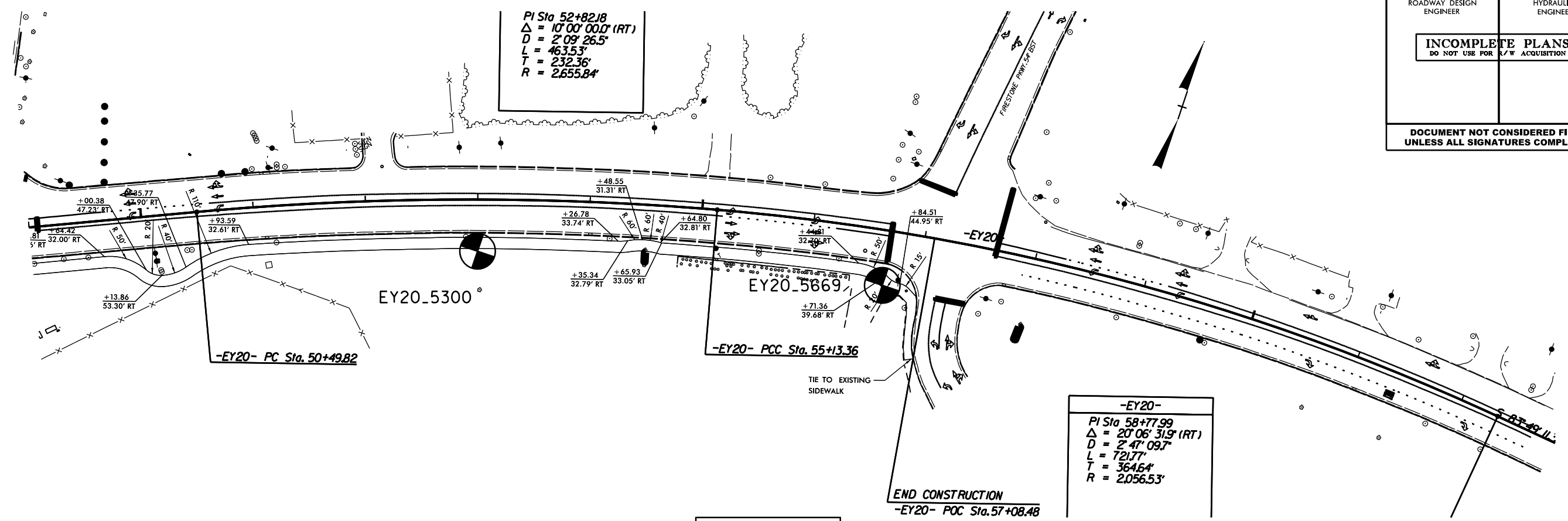
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)				% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	60	200		
SS-11	32' RT	37+75	1.2 - 2.7	A-4 (0)	21	8	29	36	14	21	100	91	71	40.2	14.6	ND
SS-12	37' RT	42+85	3.3 - 4.8	A-4 (3)	25	8	11	28	37	24	100	95	89	68.9	20.4	ND
SS-13	70' RT	47+95	3.4 - 4.9	A-2-6 (0)	35	21	63	11	7	19	100	54	37	27.8	14.9	ND



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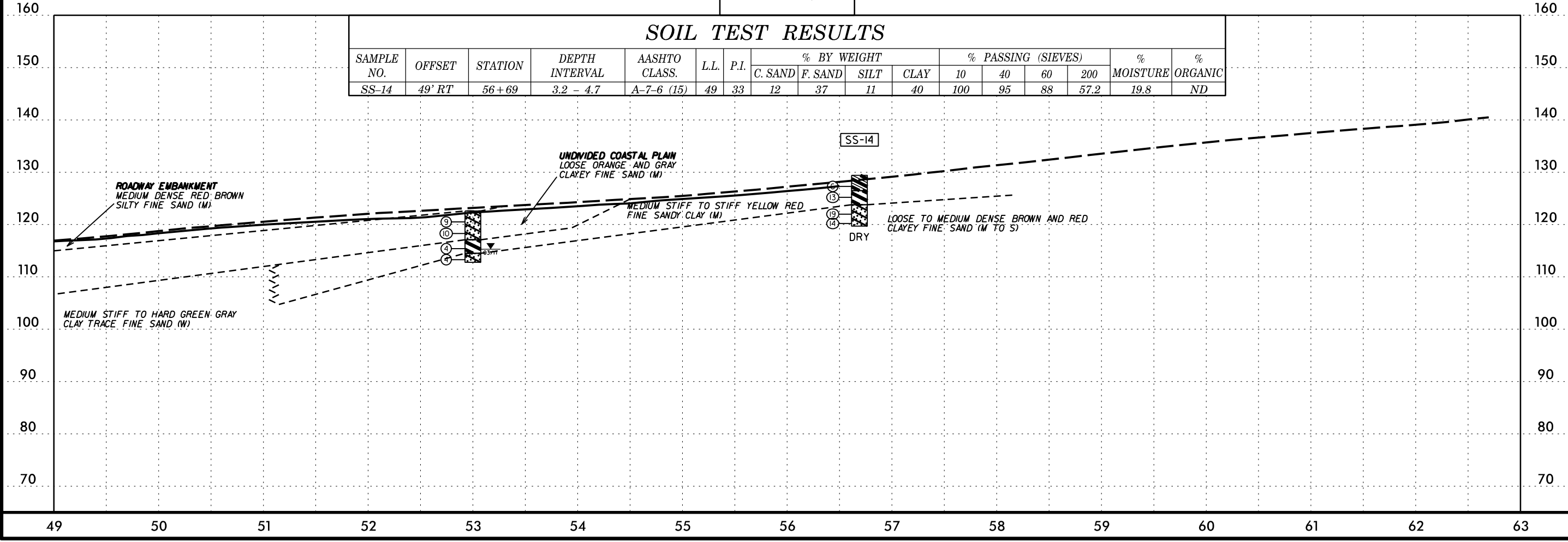


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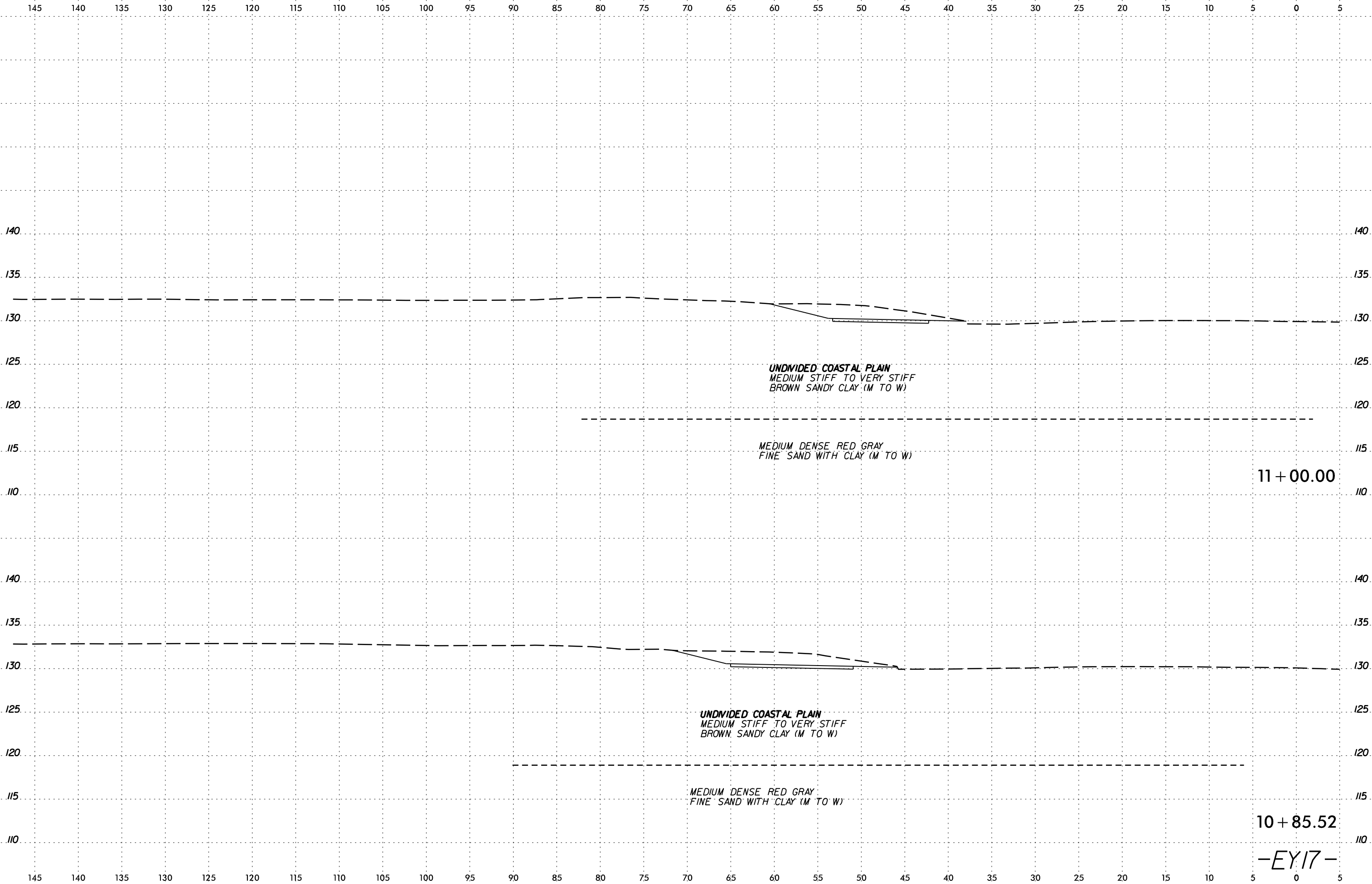
EY20

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	60	200		
SS-14	49' RT	56+69	3.2 - 4.7	A-7-6 (15)	49	33	12	37	11	40	100	95	88	57.2	19.8	ND



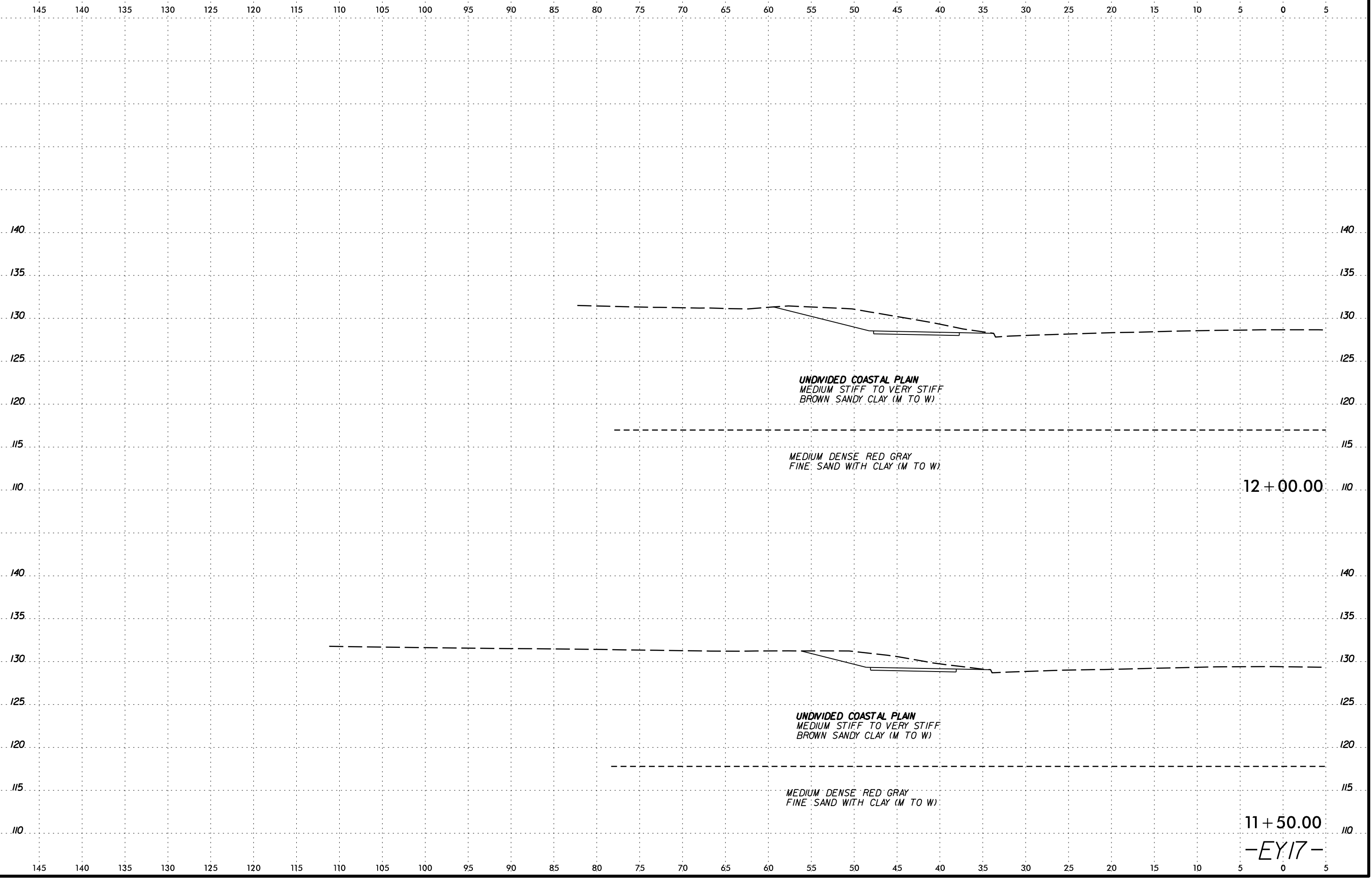
SYTIME



11 + 00.00

10 + 85.52

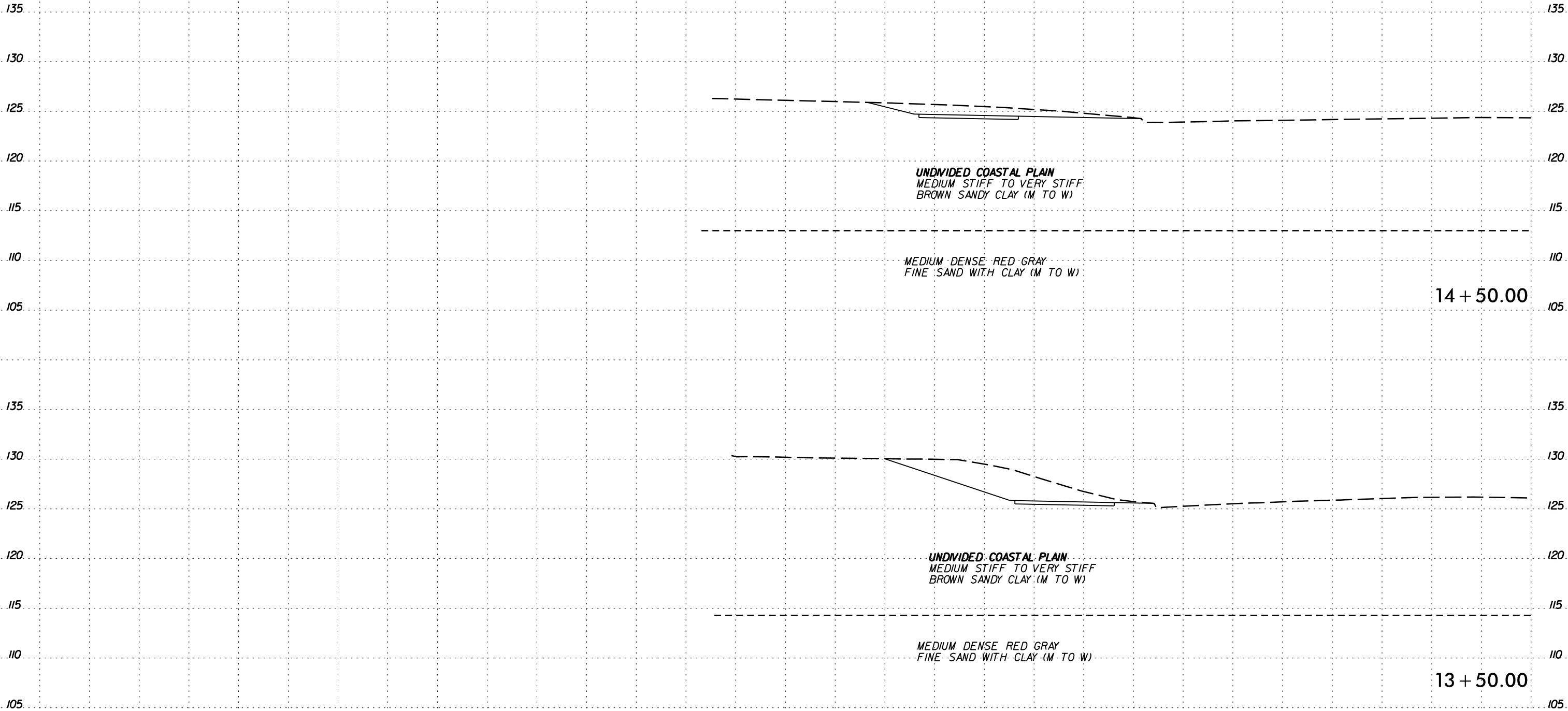
-EY17-



DATE: 6/23/16
DRAWN BY: [illegible]
CHECKED BY: [illegible]
SCALE: [illegible]

6/23/16

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

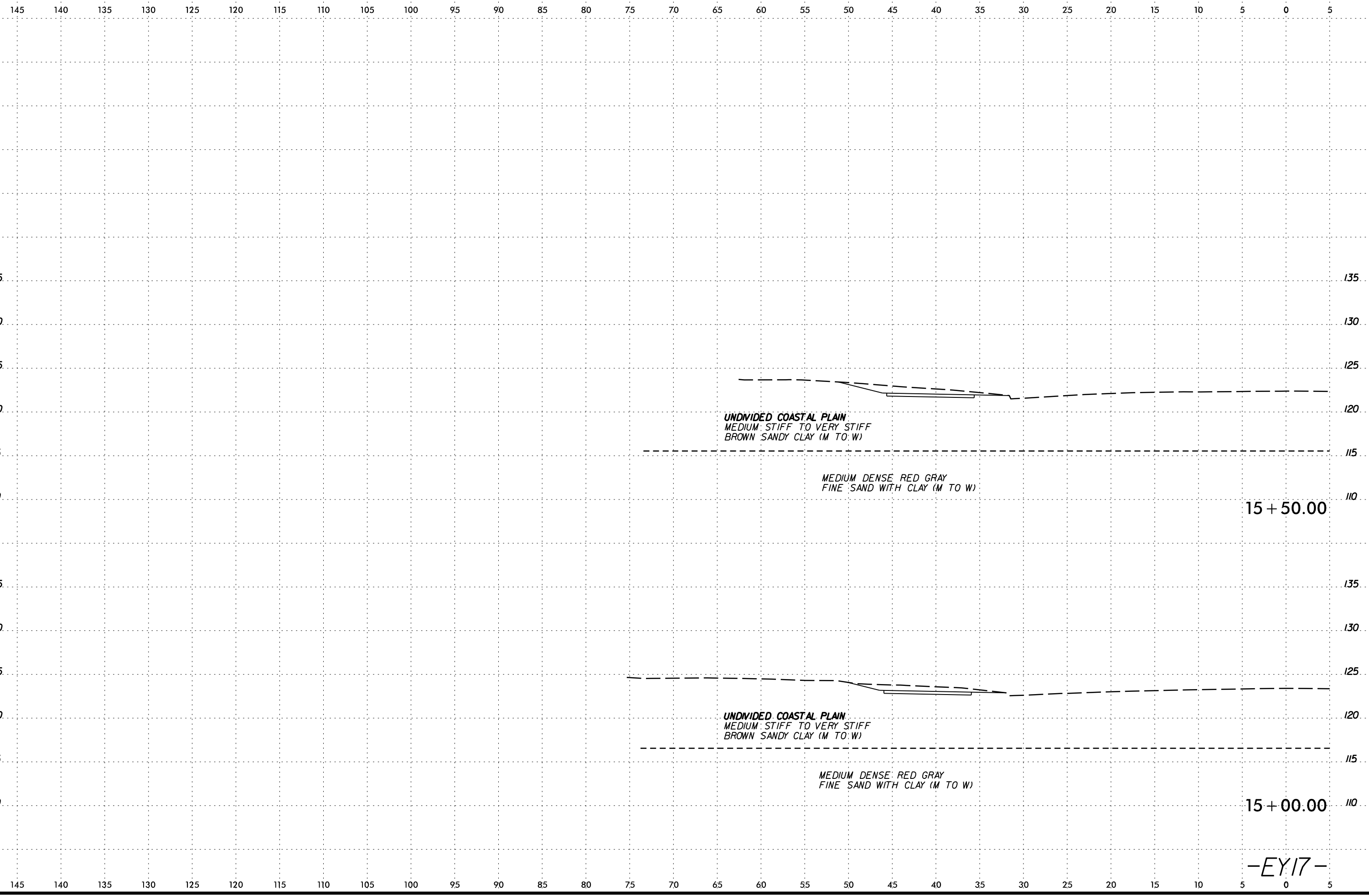


14 + 50.00

13 + 50.00

-EY17-

DATE: 6/23/16
DRAWN BY: J. J. BARNETT
CHECKED BY: J. J. BARNETT
SCALE: AS SHOWN
PROJECT: U-5935
SHEET: 13

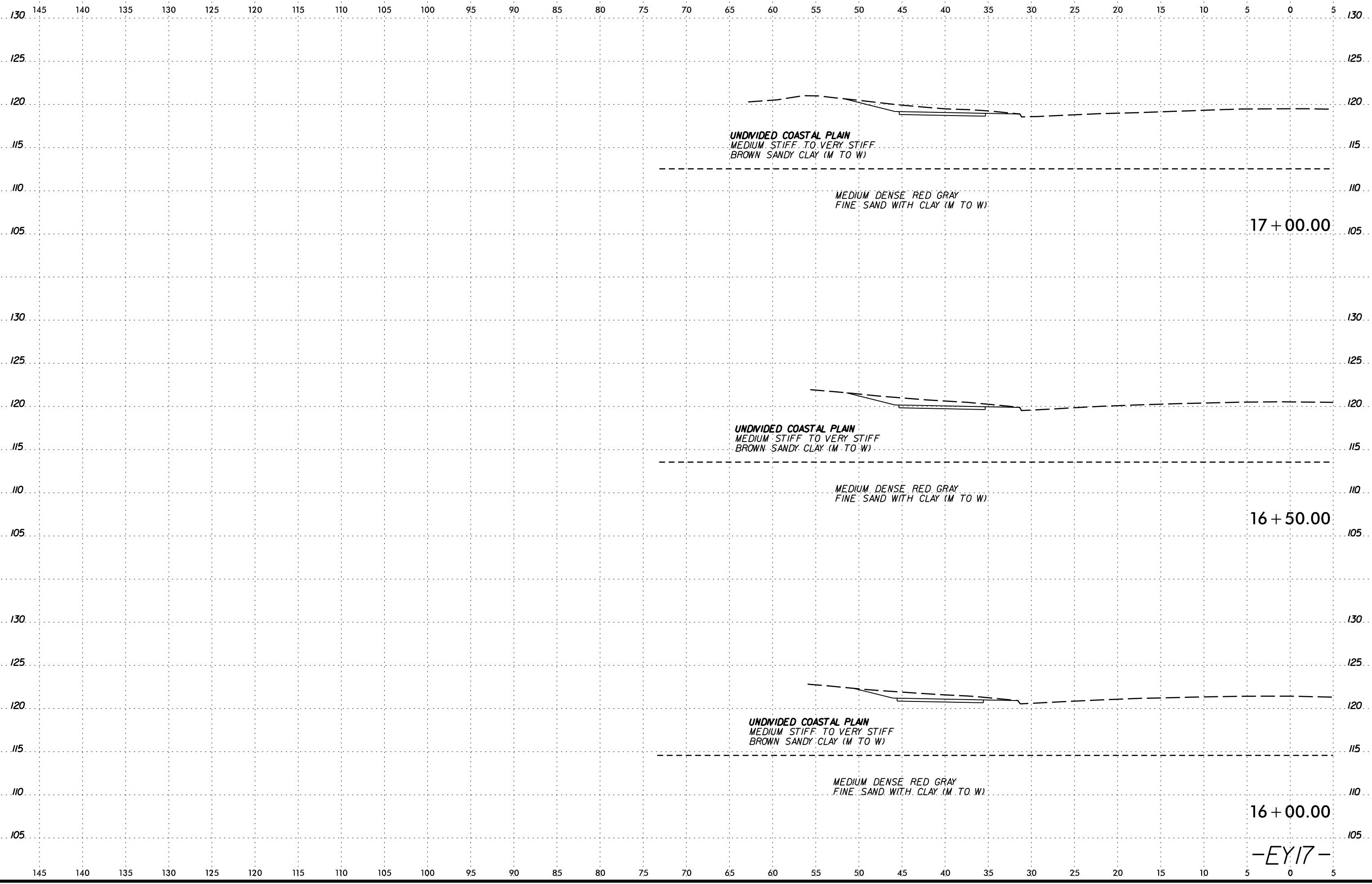


DATE: 6/23/16
DRAWN BY: [illegible]
CHECKED BY: [illegible]
SCALE: 1" = 10'

15 + 50.00

15 + 00.00

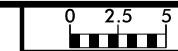
-EY17-



SYTIME
CON
ARRIVE
JUL
ARRIVE

16 + 00.00

-EY17-



145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

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	60	200		
SS-2	68' LT	23+00	3.3 - 4.8	A-7-6 (25)	52	35	8	24	19	49	100	94	92	73.7	22.4	ND

130 130

125 125

120 120

115 115

110 110

105 105

100 100

130 130

125 125

120 120

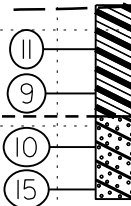
115 115

110 110

105 105

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

SS-2



UNDIVIDED COASTAL PLAIN
MEDIUM STIFF TO VERY STIFF
BROWN SANDY CLAY (M TO W)

MEDIUM DENSE RED GRAY
FINE SAND WITH CLAY (M TO W)

18 + 00.00

UNDIVIDED COASTAL PLAIN
MEDIUM STIFF TO VERY STIFF
BROWN SANDY CLAY (M TO W)

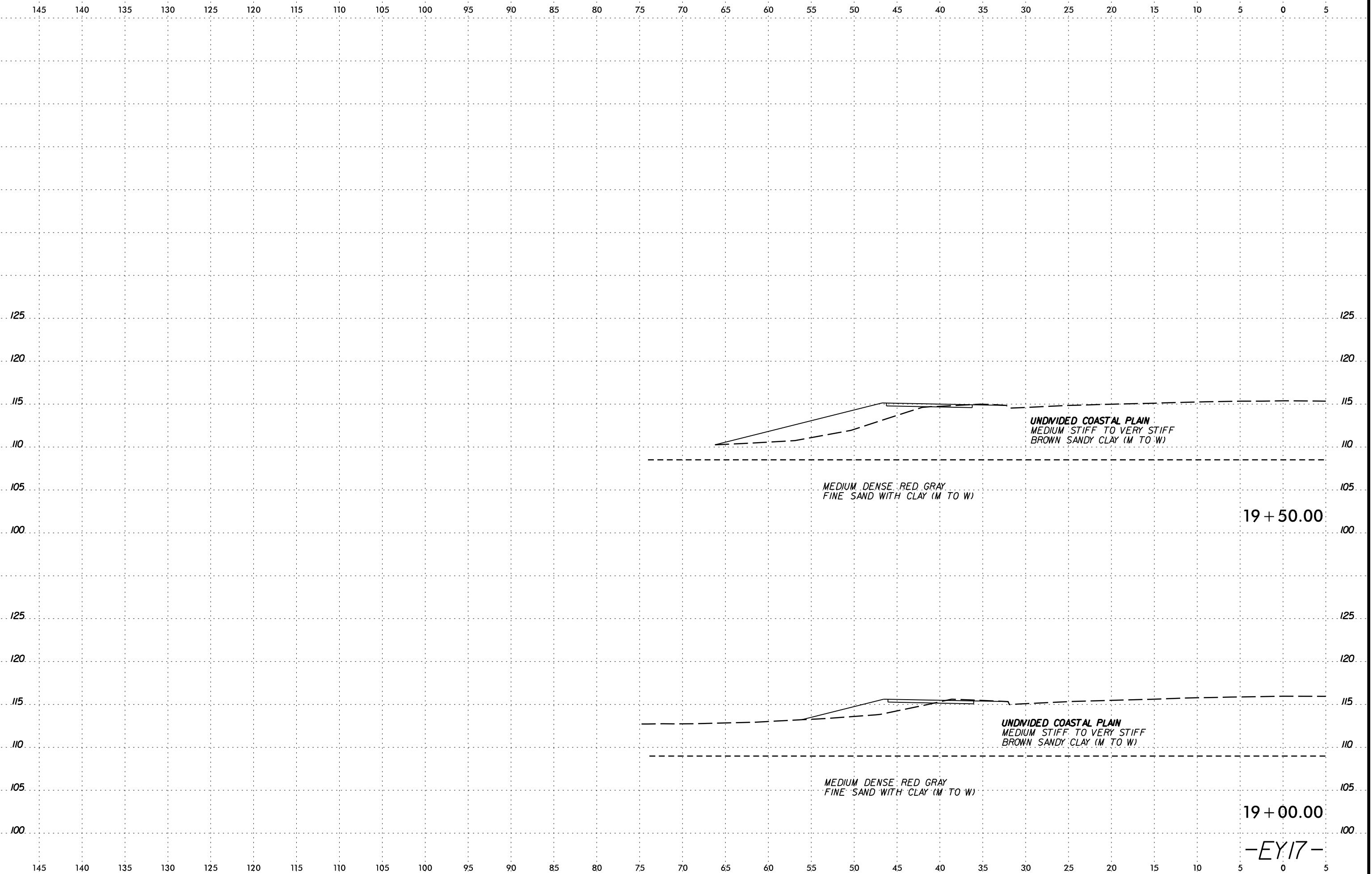
MEDIUM DENSE RED GRAY
FINE SAND WITH CLAY (M TO W)

17 + 50.00

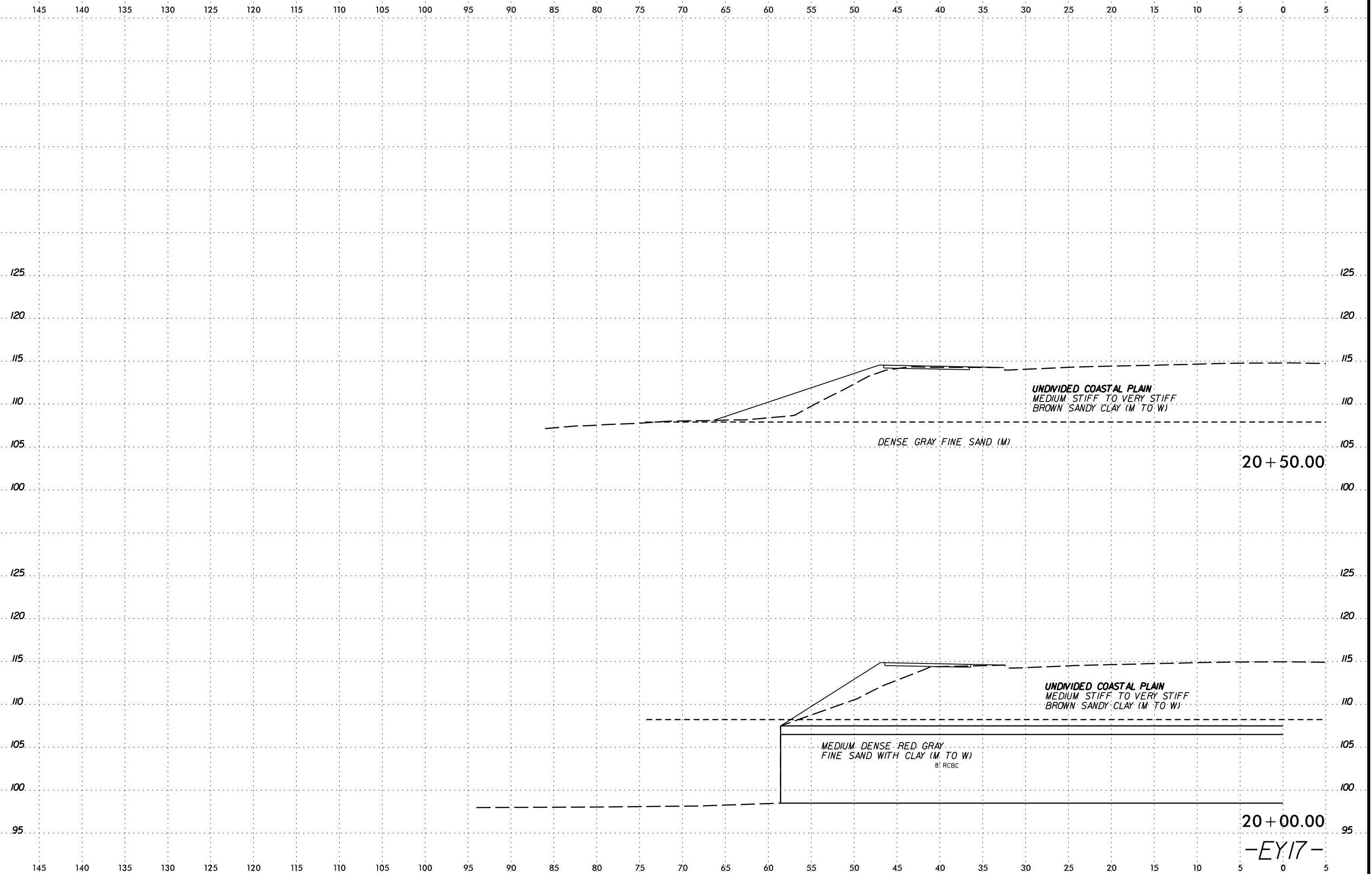
-EY17-

SYTIME
CON
ARRIVE

6/23/16
SECTION
UNDIVIDED COASTAL PLAIN
MEDIUM STIFF TO VERY STIFF
BROWN SANDY CLAY (M TO W)



6/23/16
SECTION
CORNER
STATION
MARK



20 + 50.00

20 + 00.00

-EY17-

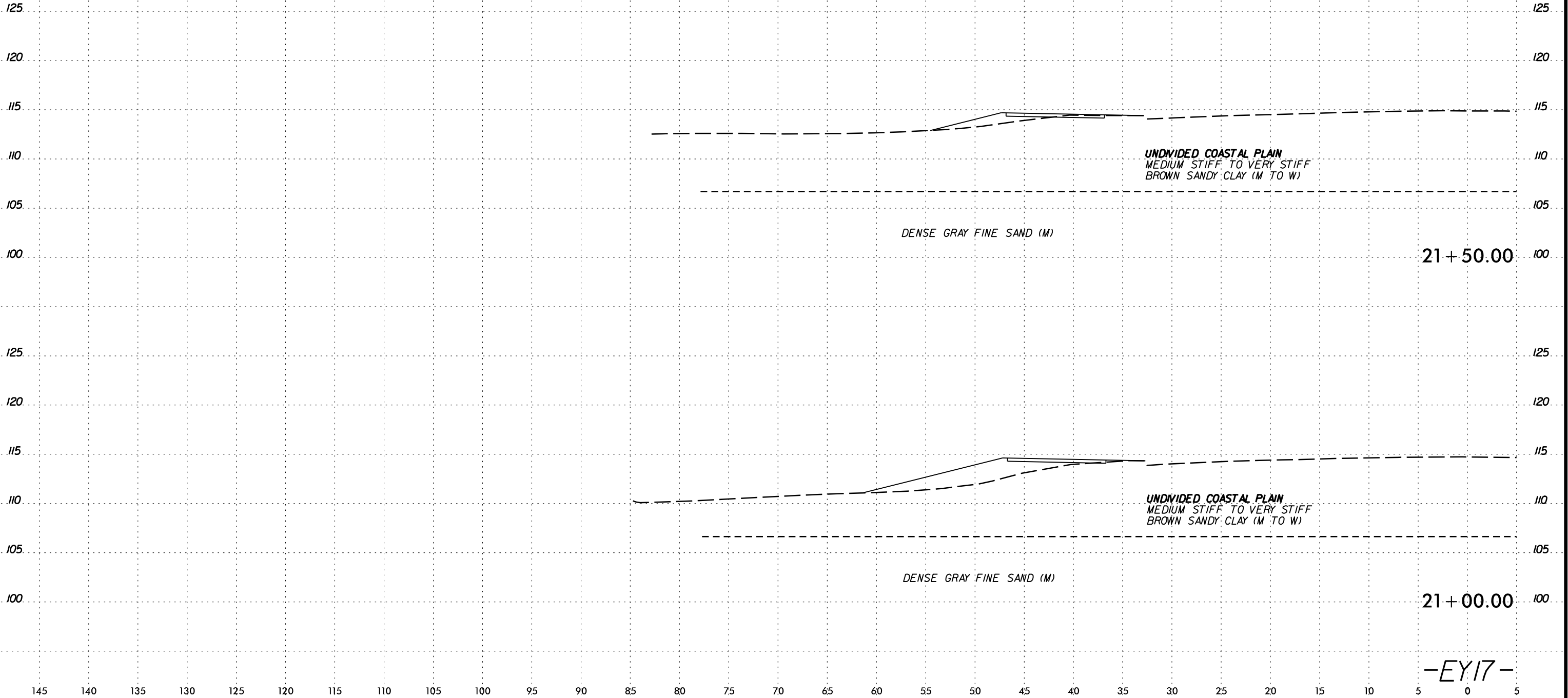
6/23/16



PROJ. REFERENCE NO.
U-5935

SHEET NO.
19

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5



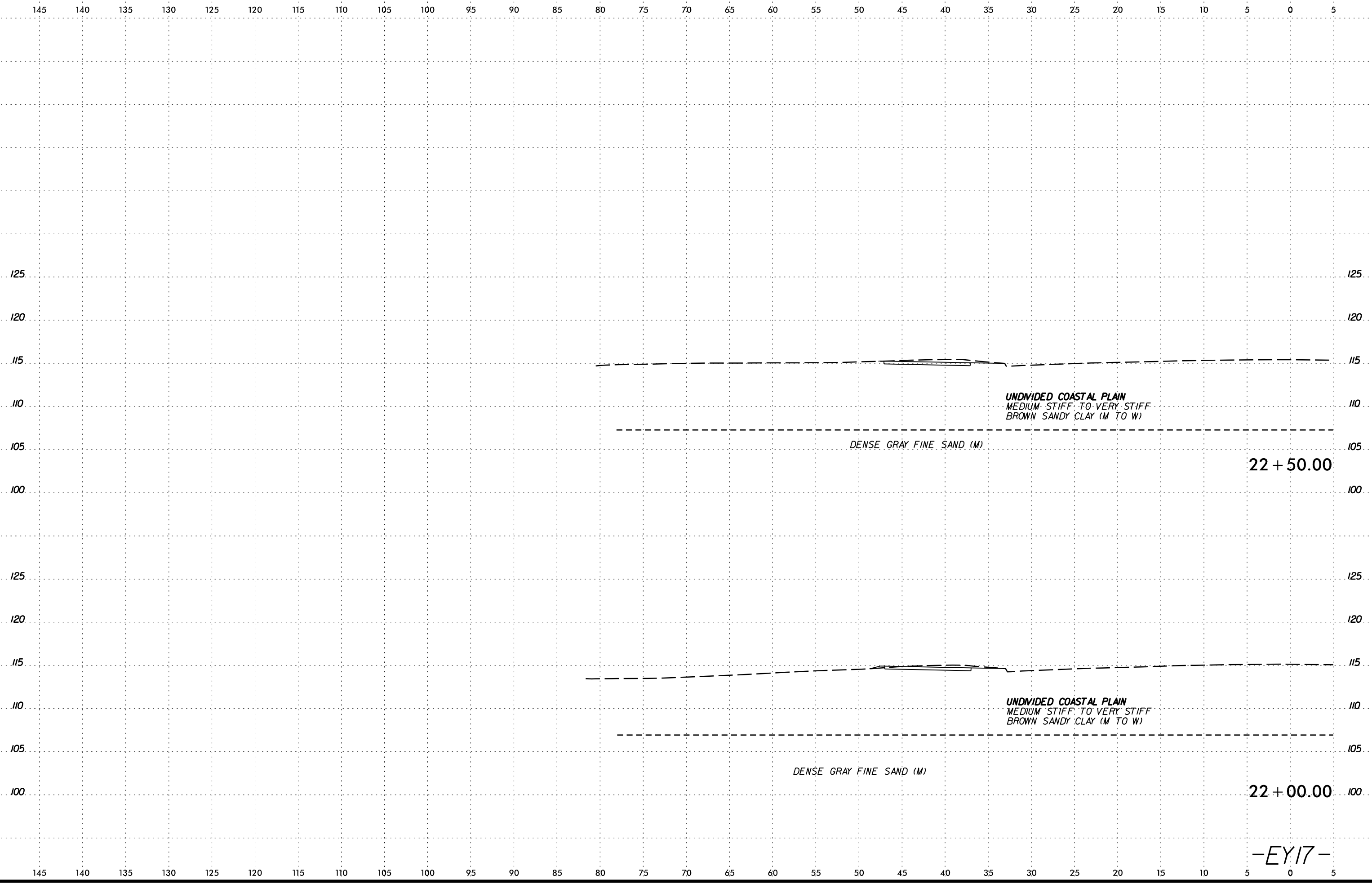
CONSTRUCTION
SHEET NO. 19

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

-EY17-

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	U-5935	20

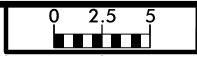


22 + 50.00

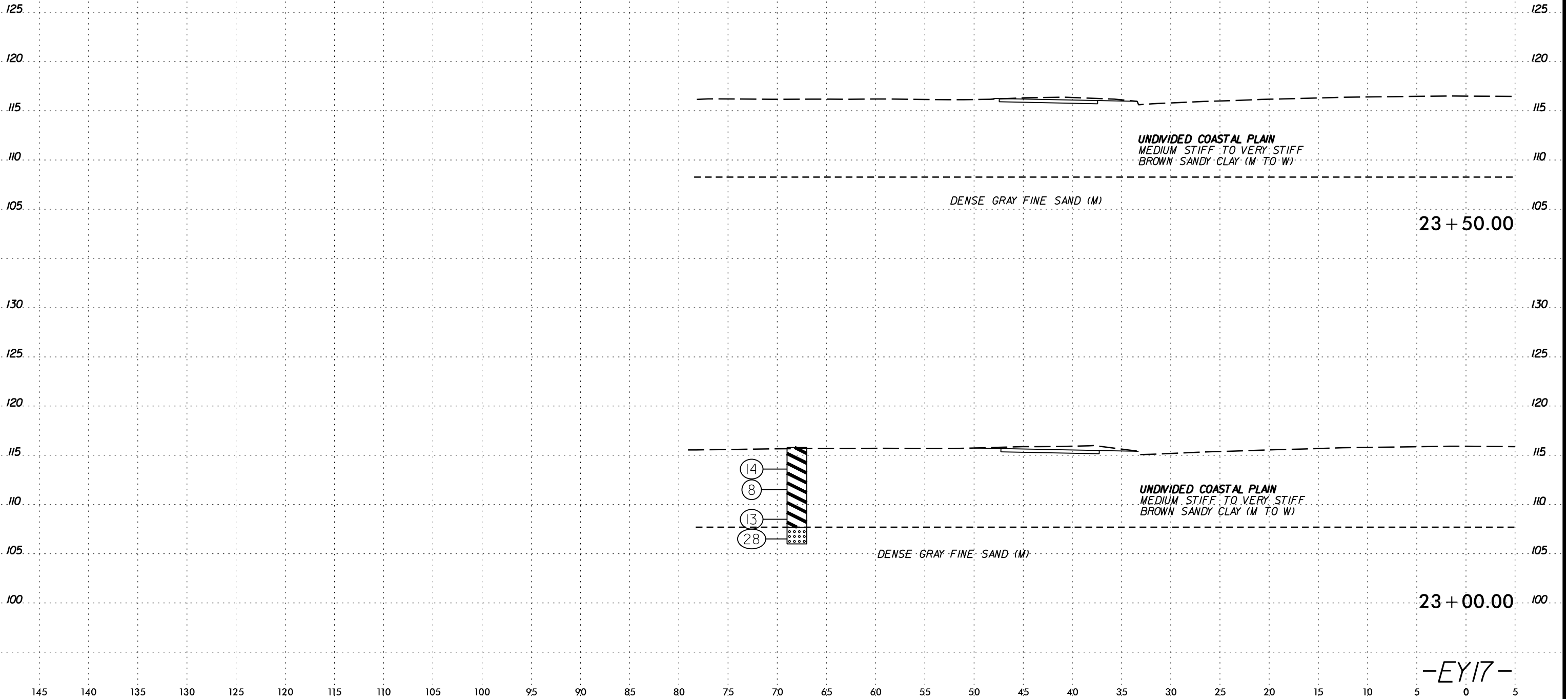
22 + 00.00

-EY17-

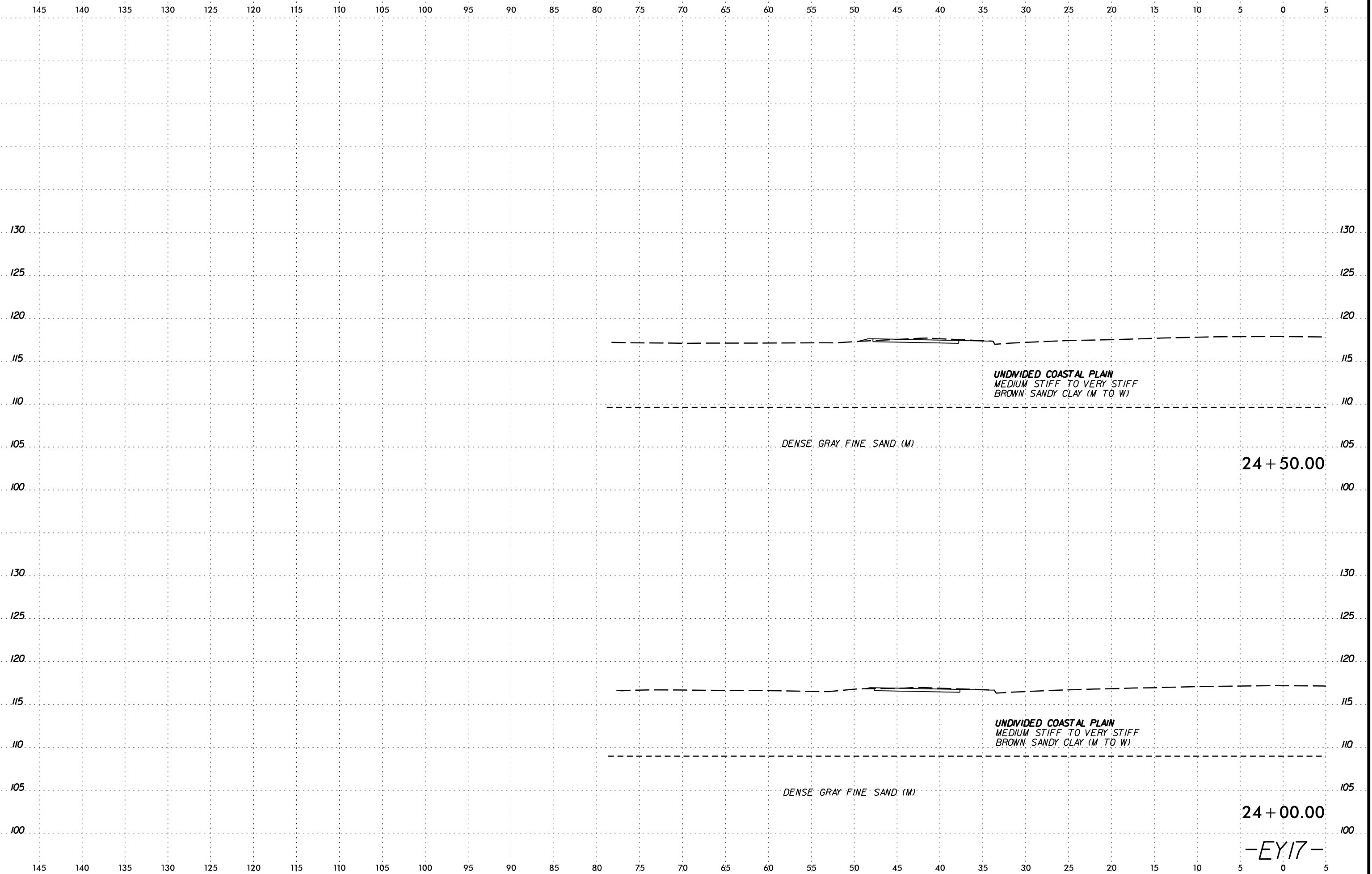
DATE: 6/23/16
DRAWN BY: J. J. BROWN
CHECKED BY: J. J. BROWN
SCALE: AS SHOWN
PROJECT: U-5935
SHEET: 20 OF 20



145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5



SCHEMATIC CROSS SECTION

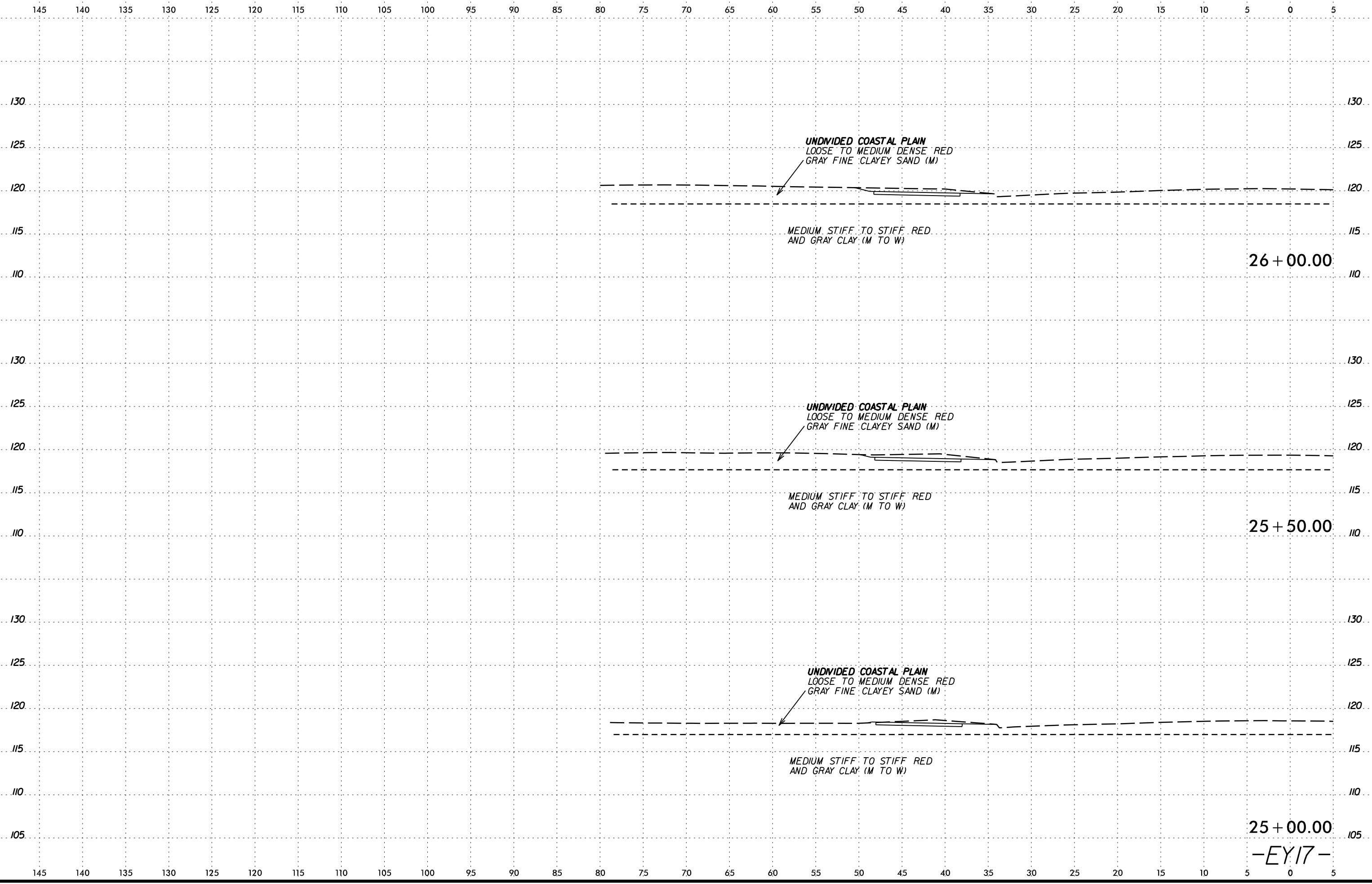


SYTIME 6/23/16

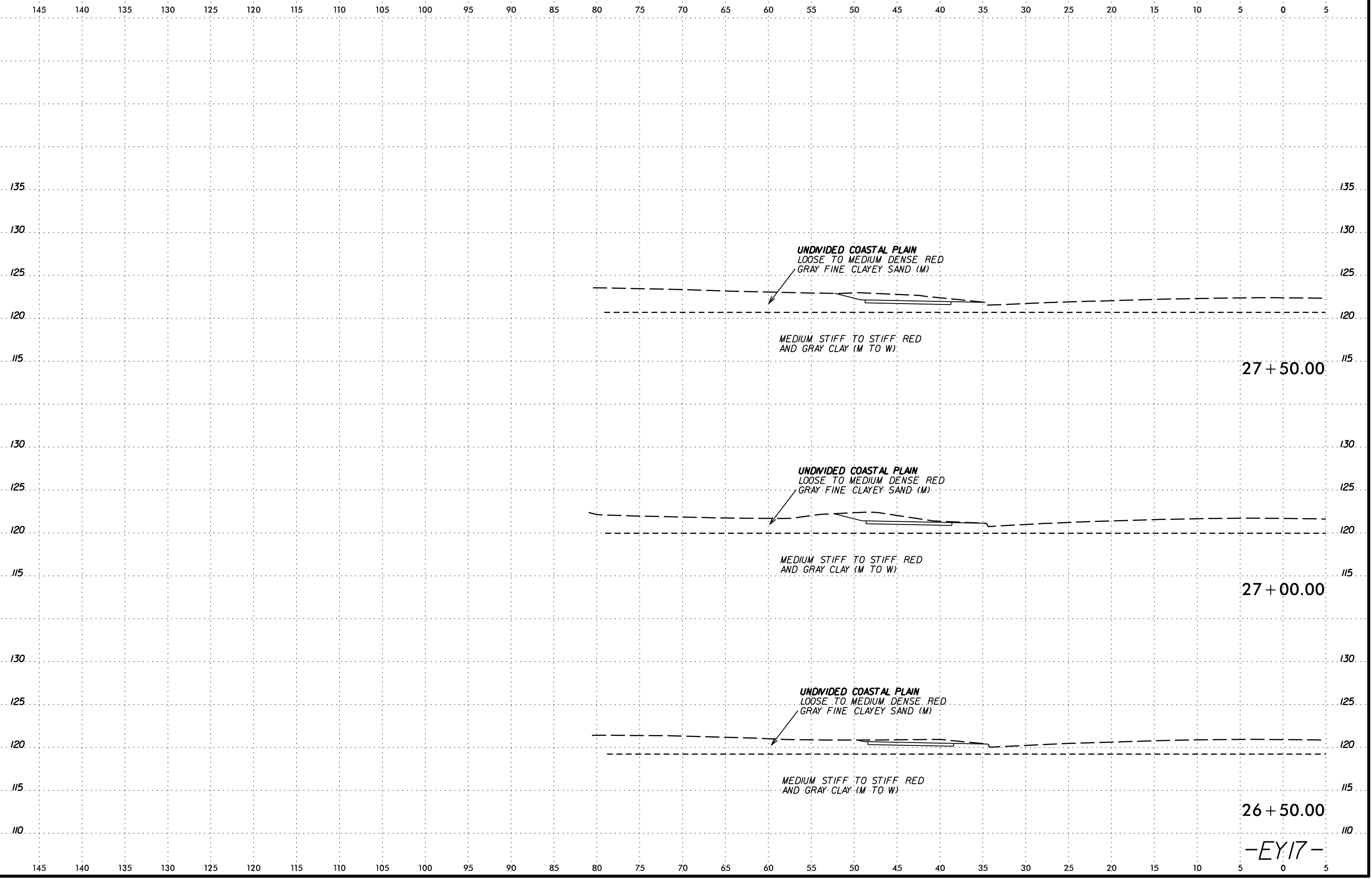
24 + 50.00

24 + 00.00

-EY17-

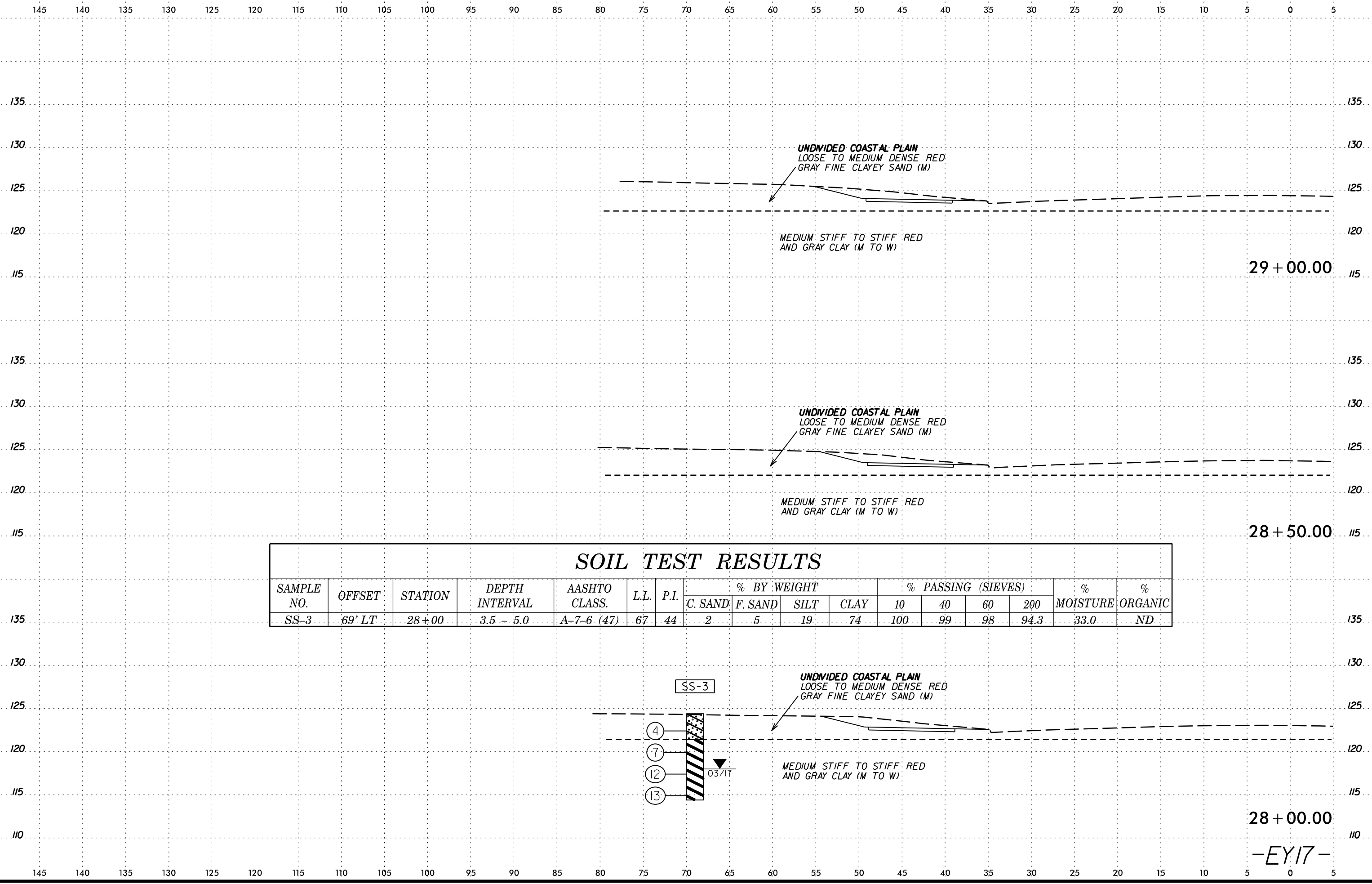


DATE: 6/23/16
DRAWN BY: [illegible]
CHECKED BY: [illegible]
SCALE: AS SHOWN
PROJECT: U-5935
SHEET: 23 OF 23



SYTIME CONSTRUCTION SERVICES

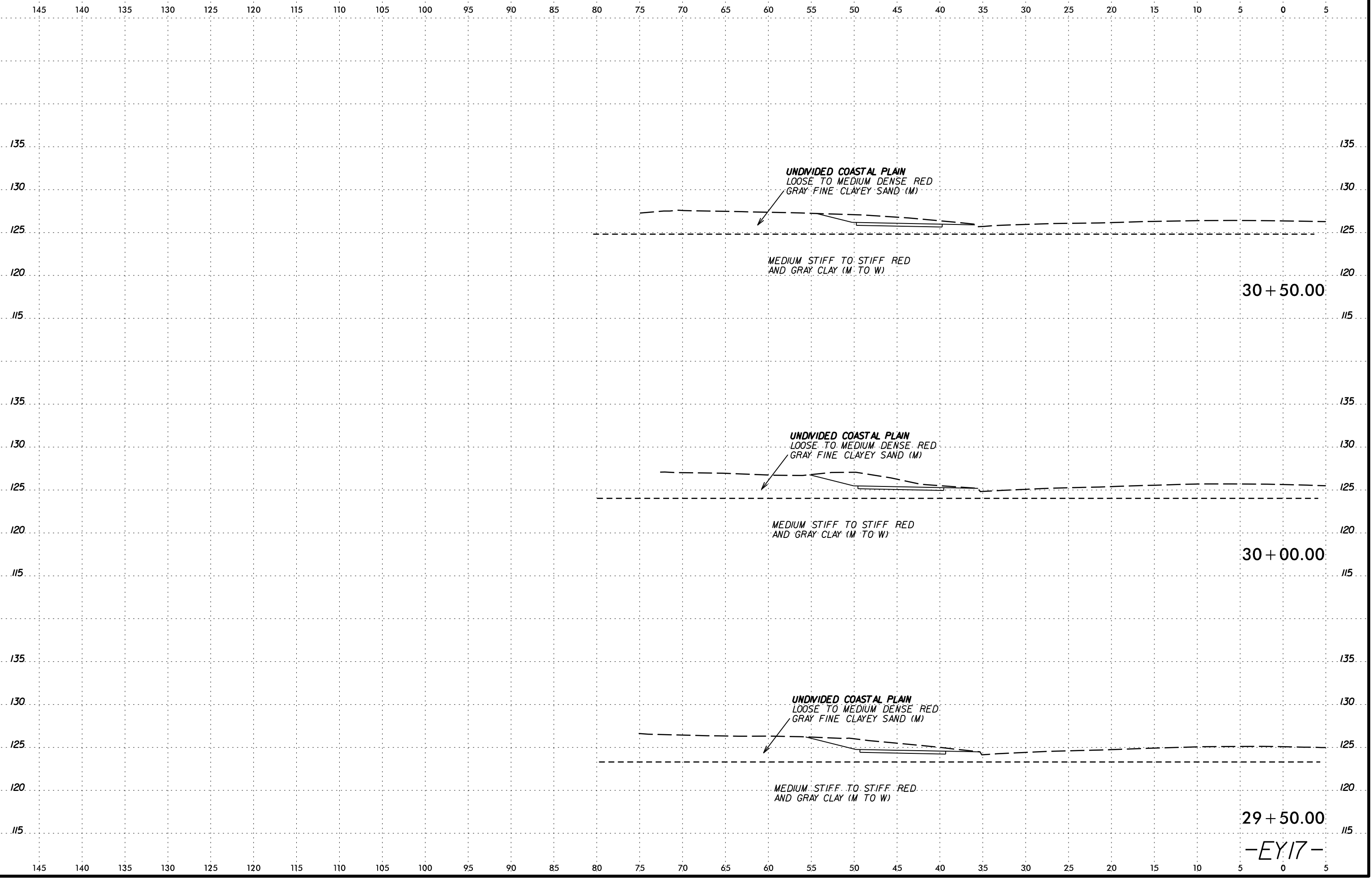
-EY17-



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	60	200		
SS-3	69' LT	28+00	3.5 - 5.0	A-7-6 (47)	67	44	2	5	19	74	100	99	98	94.3	33.0	ND

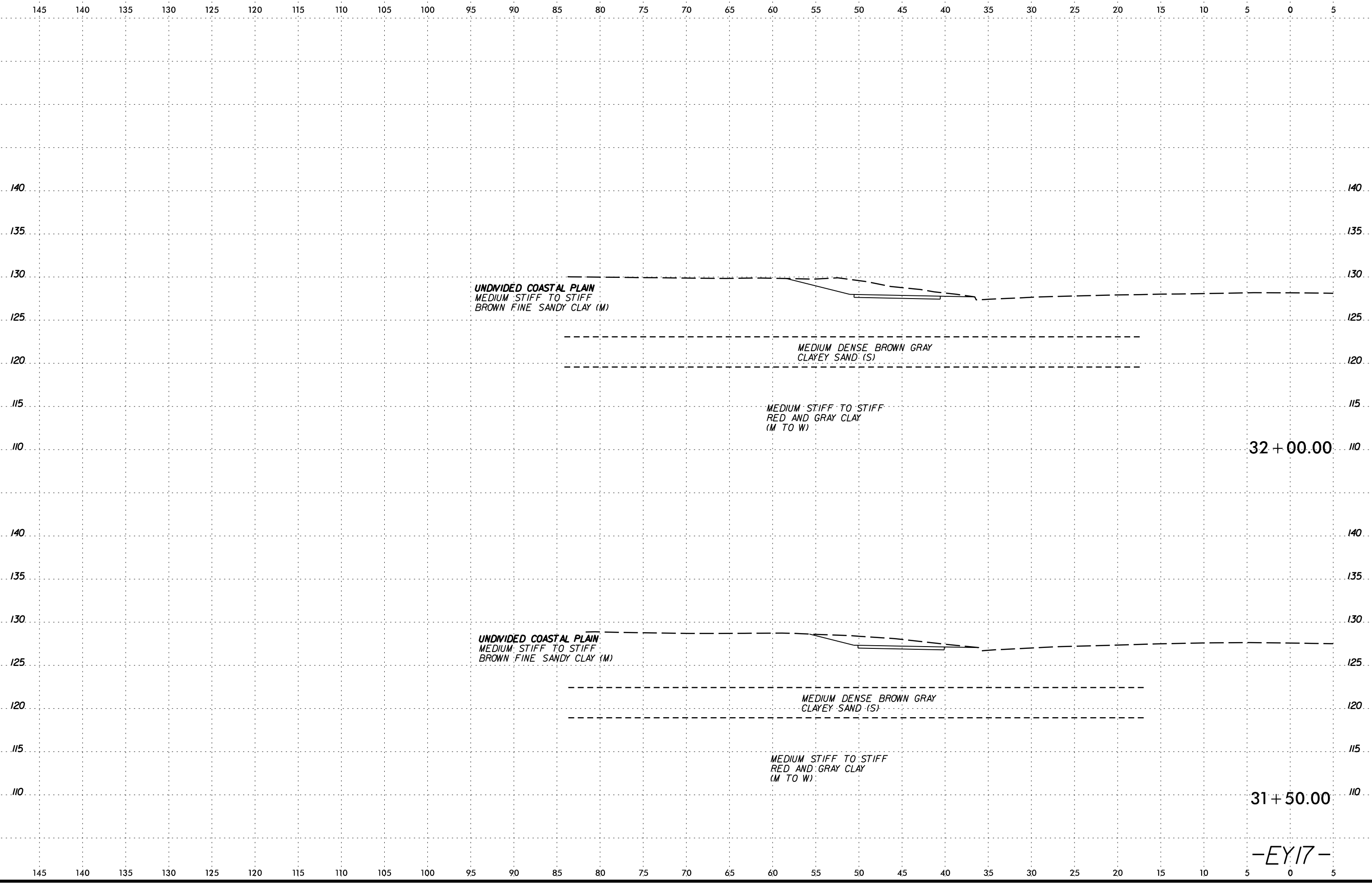
-EY17-



SYTIME
CON
SU
RRA

29 + 50.00

-EY17-

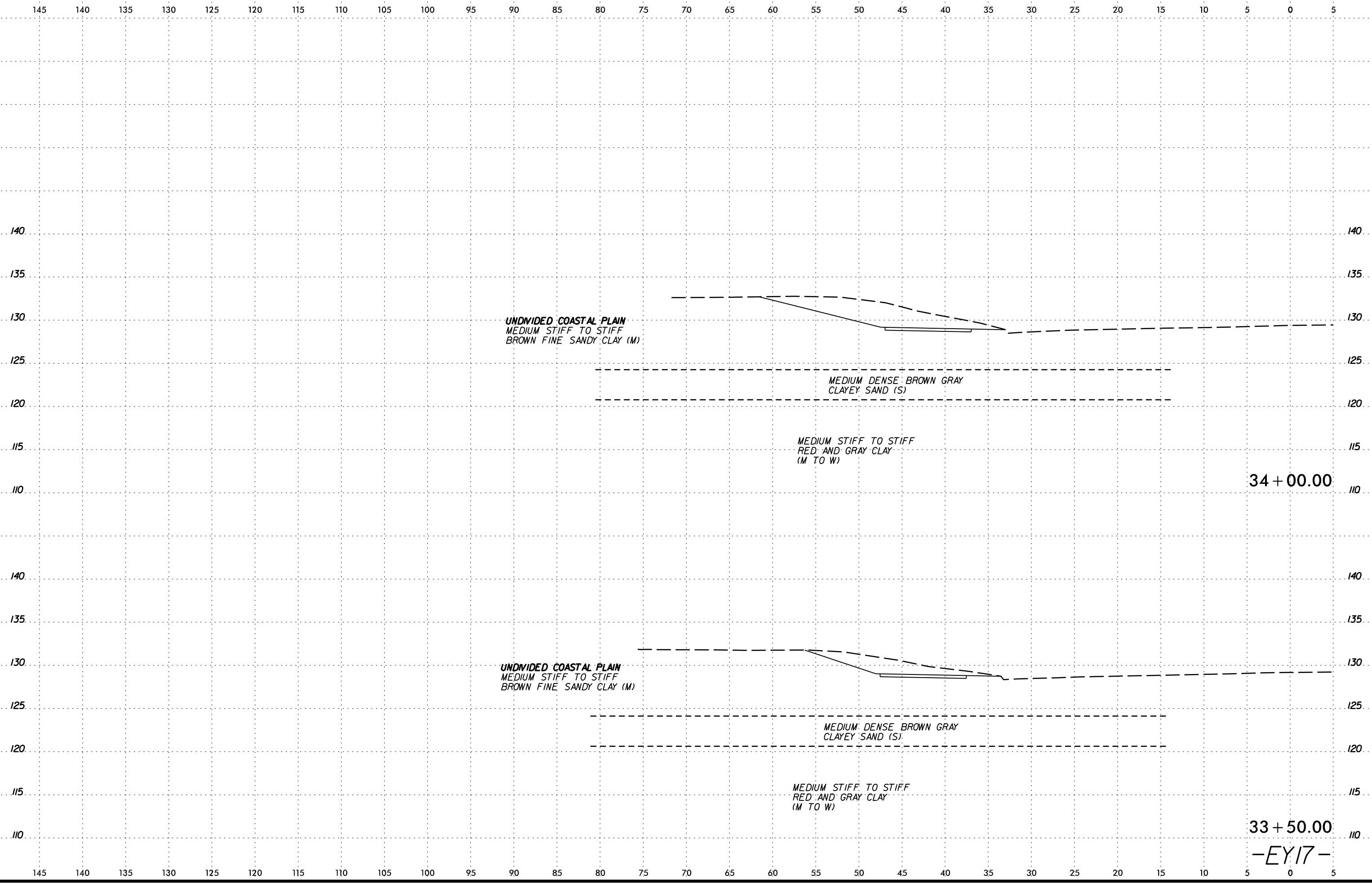


32 + 00.00

31 + 50.00

-EY17-

DATE: 6/23/16
DRAWN BY: [illegible]
CHECKED BY: [illegible]
SCALE: AS SHOWN
PROJECT: [illegible]



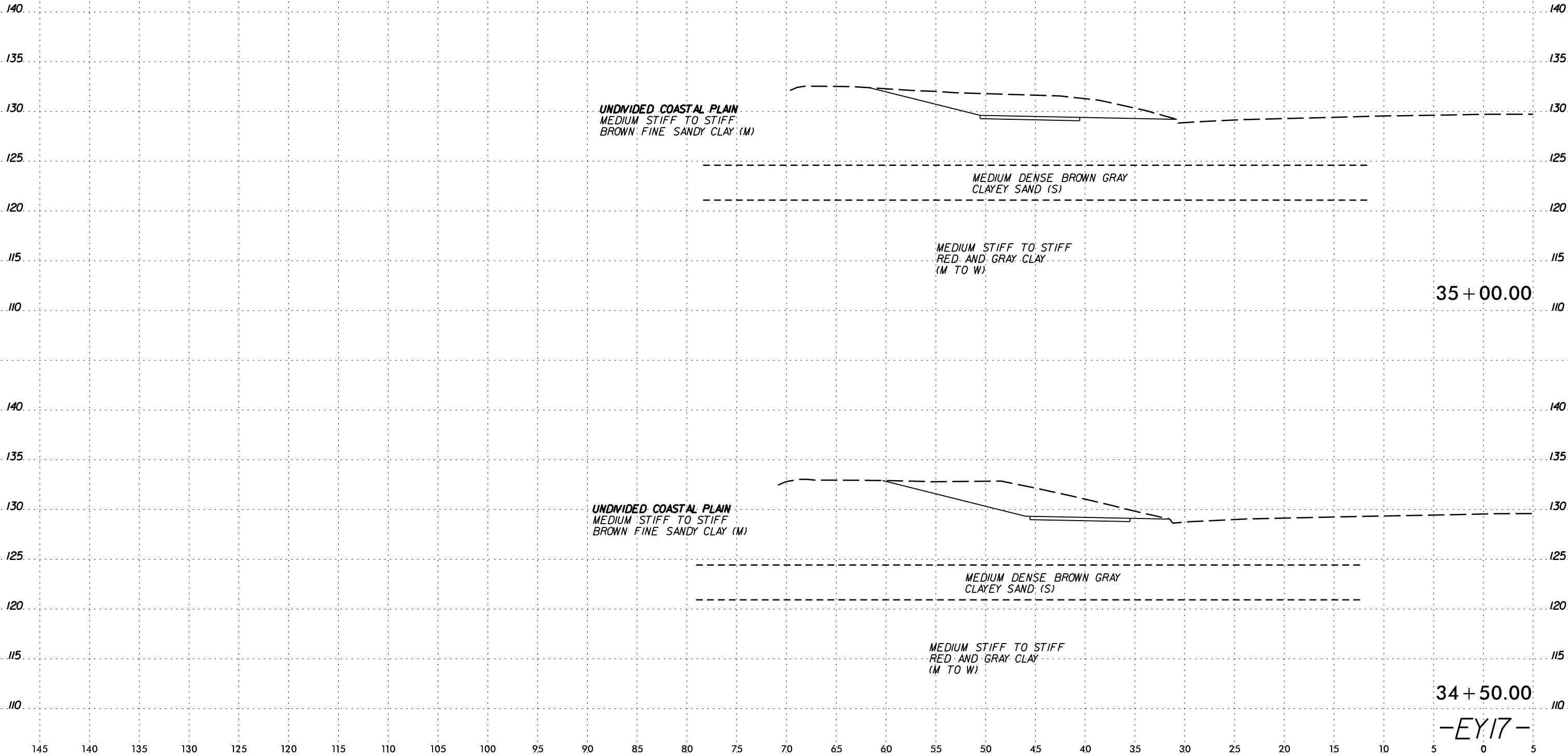
DATE: 6/23/16
DRAWN BY: [illegible]
CHECKED BY: [illegible]
SCALE: [illegible]

33 + 50.00

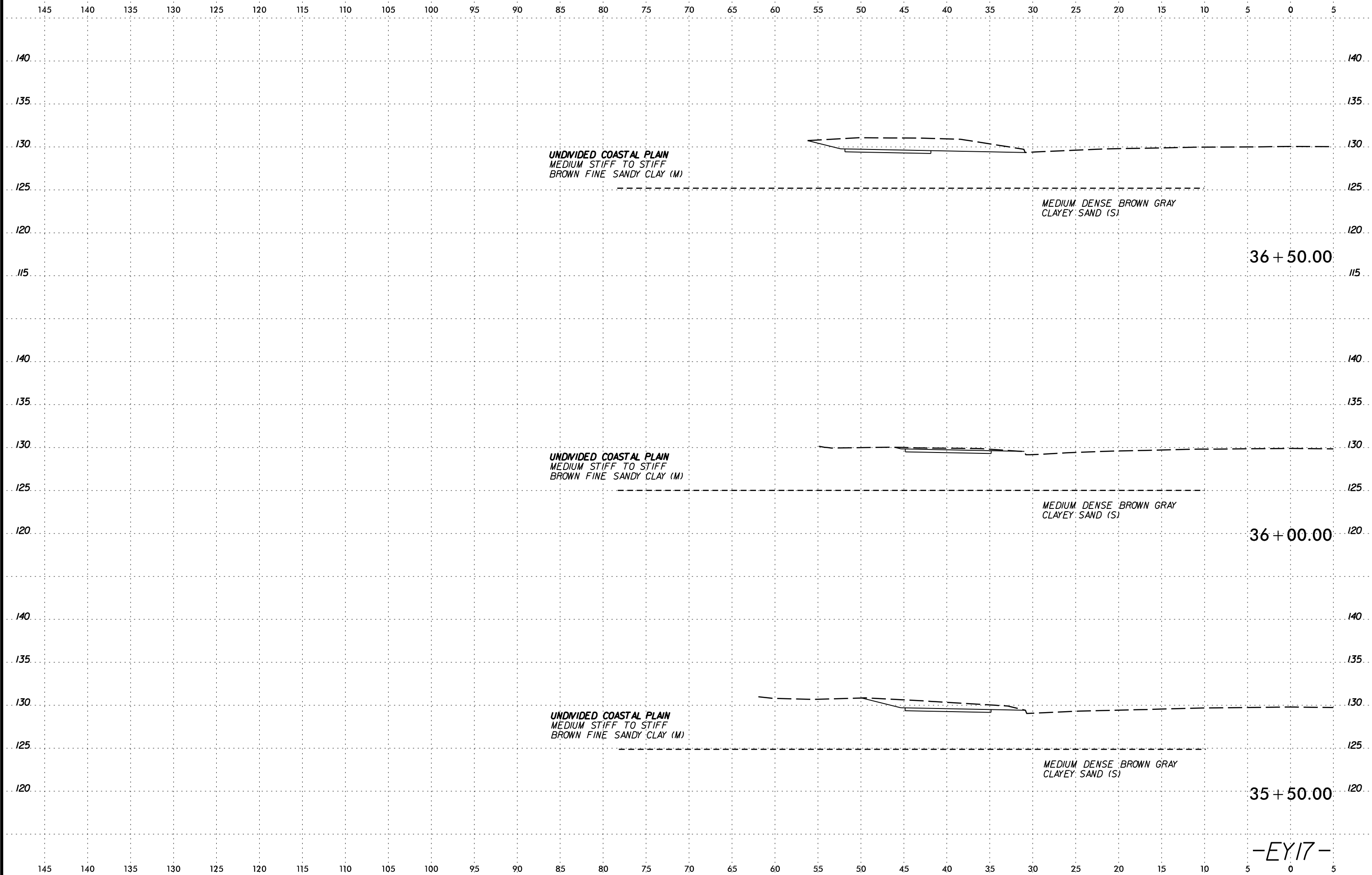
-EY17-



145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5



6/23/16



SYTIME
CON
JUL
ARRIVE

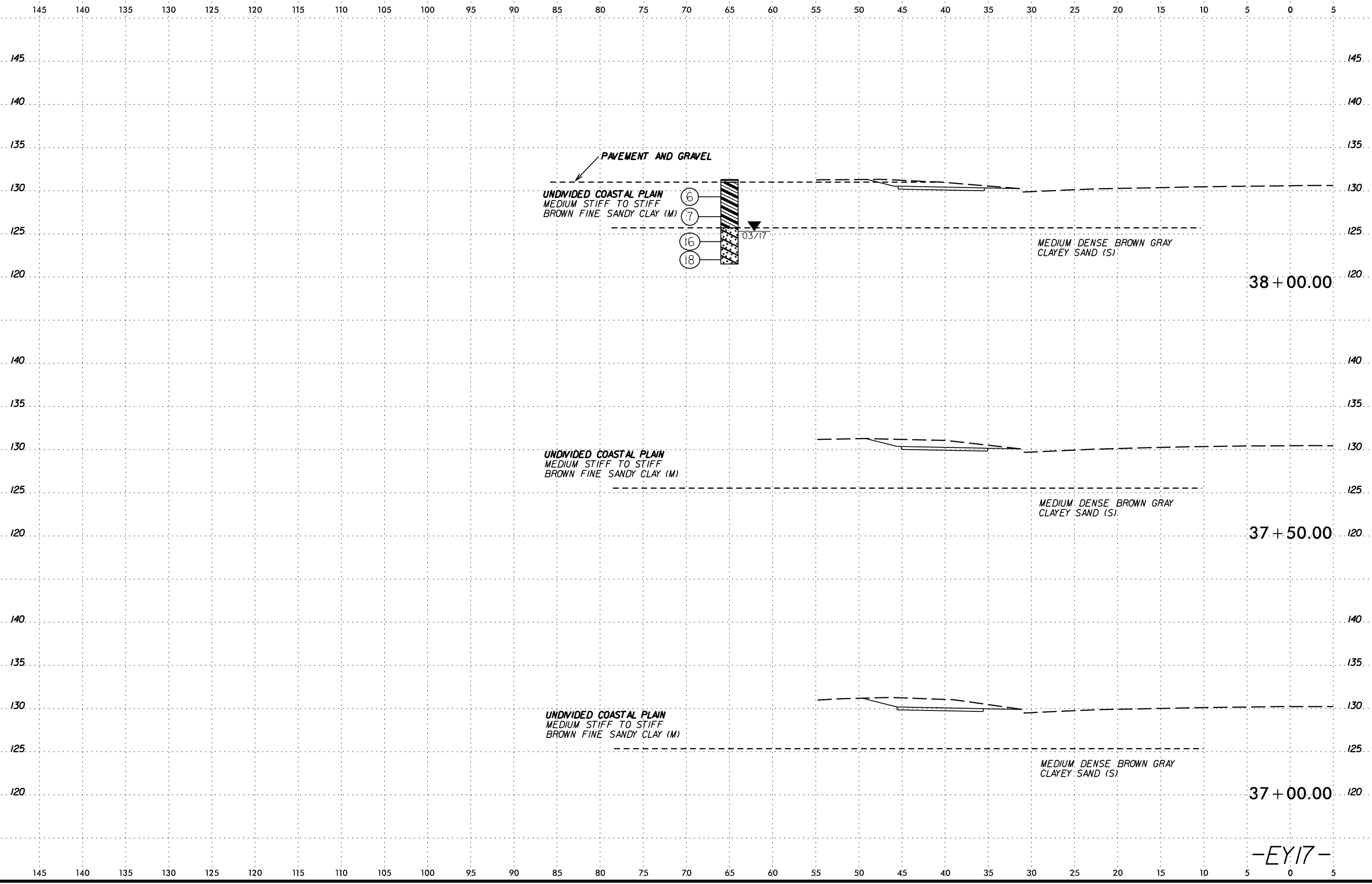
36 + 50.00

36 + 00.00

35 + 50.00

-EY17-

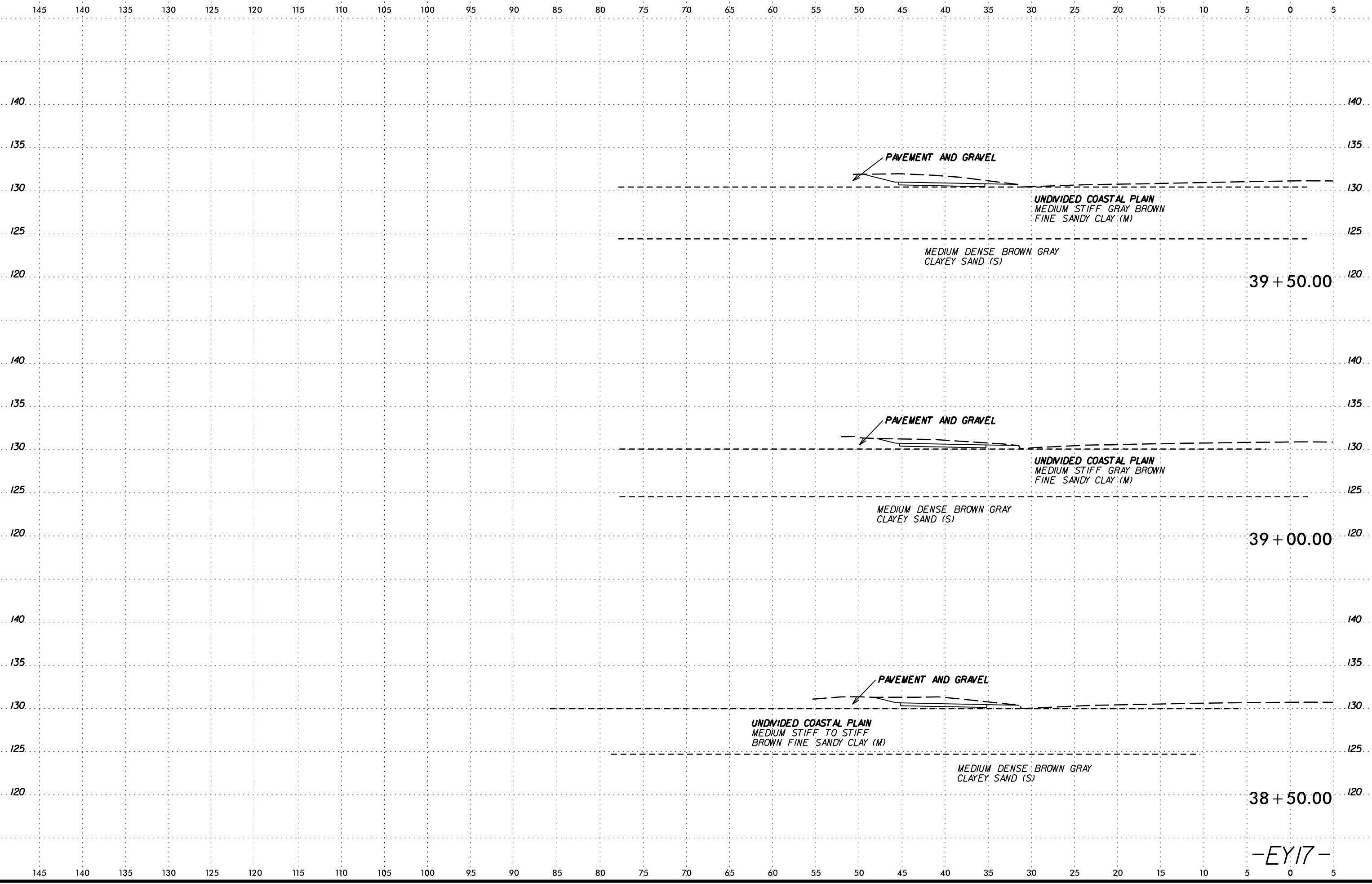
6/23/16



-EY17-

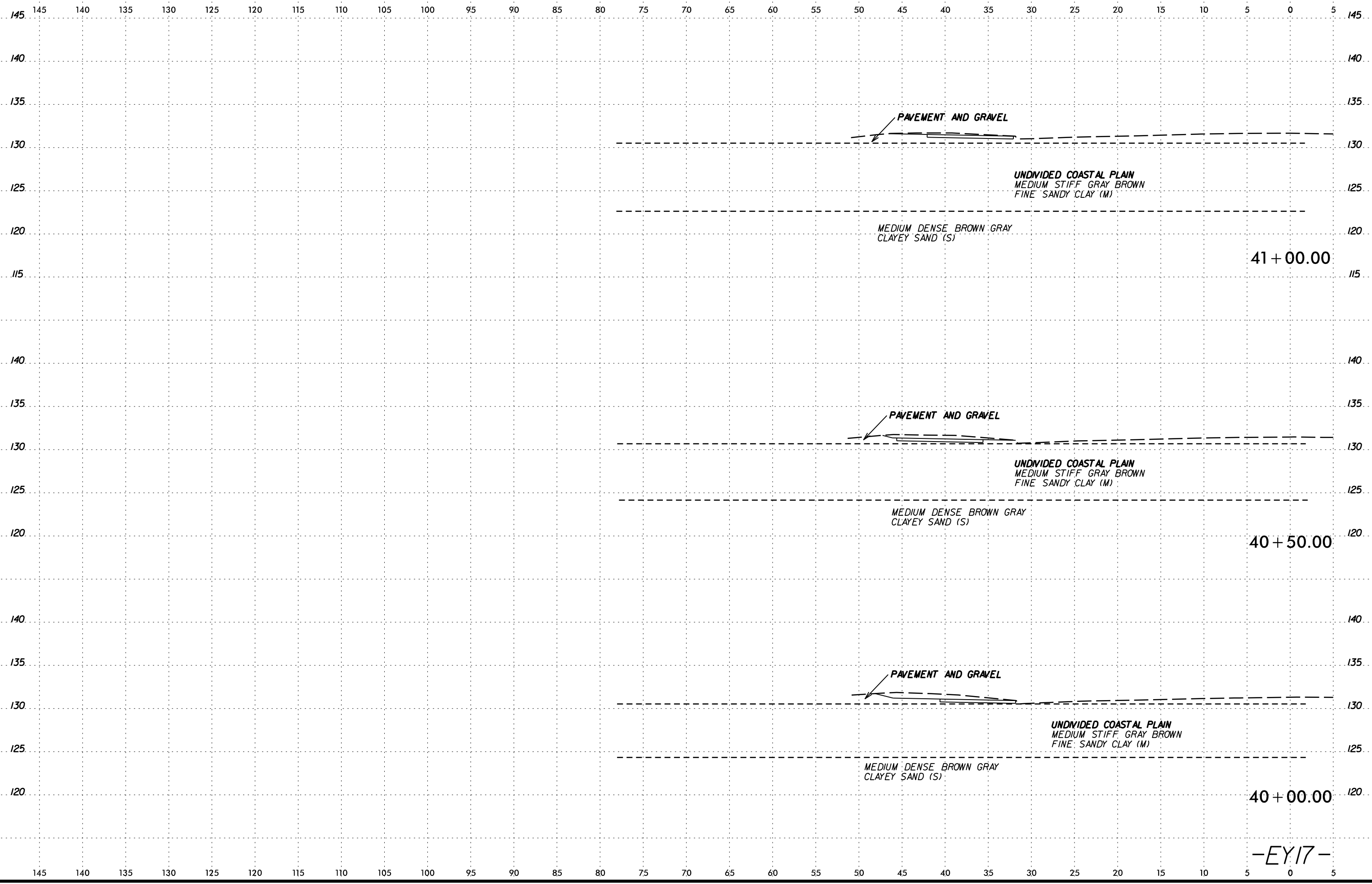
SYTIME
CON
JULY
ARRIVE

6/23/16



SYTIME
CON
ARRIVE
JULY

-EY17-

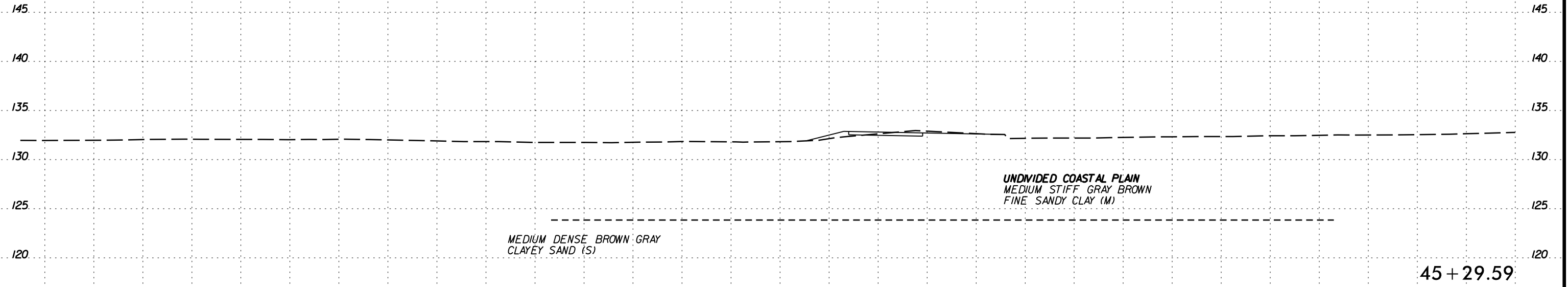


SYTIME
CON
JUL
ARRIVE

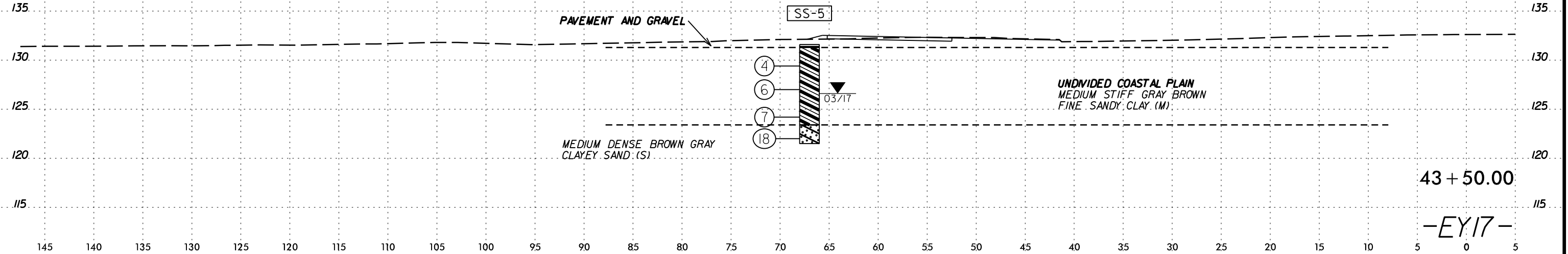
-EY17-

6/23/16

145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5

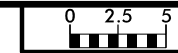


SOIL TEST RESULTS																	
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)				% MOISTURE	% ORGANIC	
							C. SAND	F. SAND	SILT	CLAY	10	40	60	200			
SS-5	67' LT	43+00	3.6 - 5.1	A-6 (12)	40	26	21	25	19	35	100	90	79	59.3	19.7	ND	



43 + 50.00
-EY17-

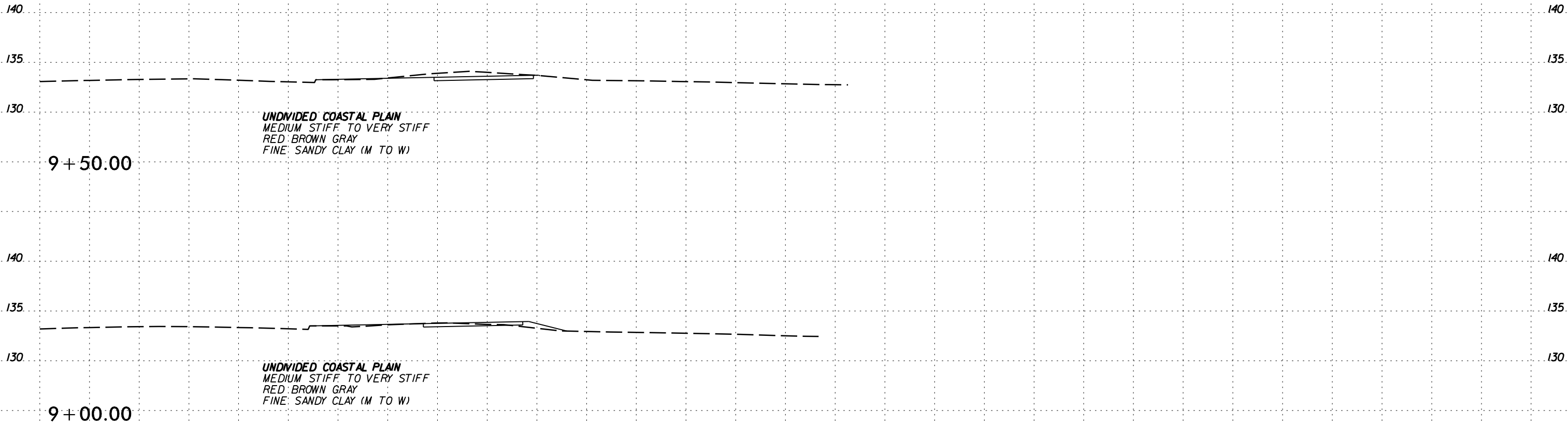
6/23/16



PROJ. REFERENCE NO.
U-5935

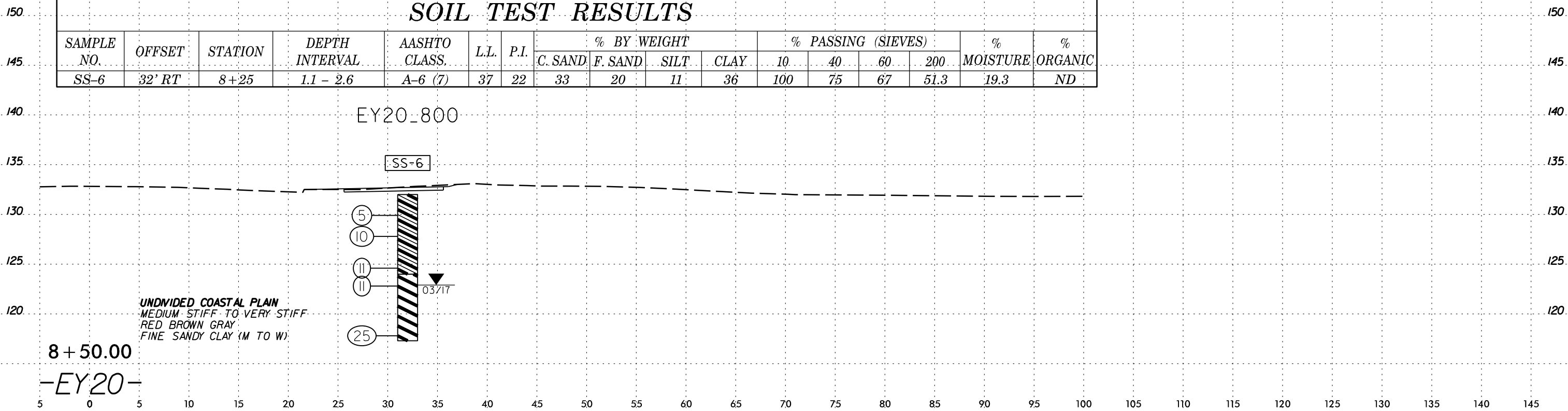
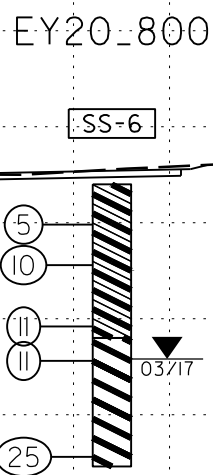
SHEET NO.
37

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145



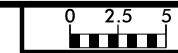
SOIL TEST RESULTS

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	60	200		
SS-6	32' RT	8+25	1.1 - 2.6	A-6 (7)	37	22	33	20	11	36	100	75	67	51.3	19.3	ND

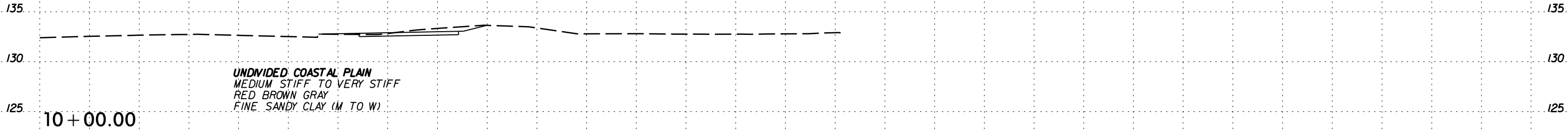
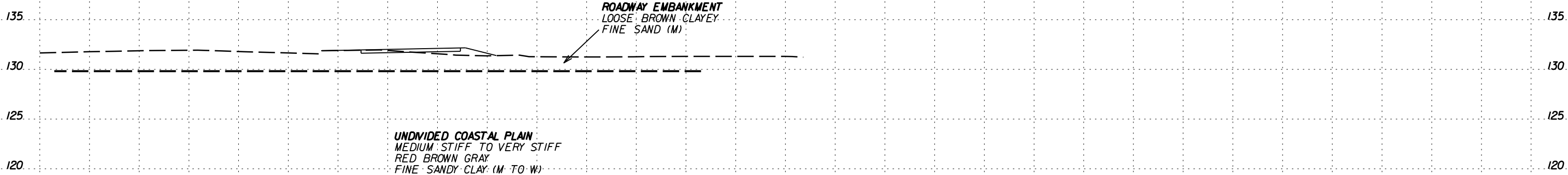
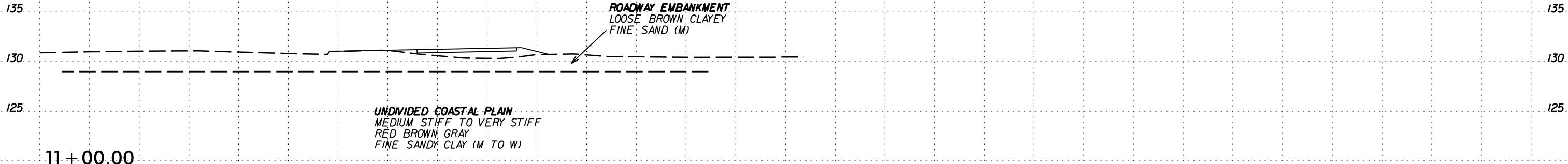


5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

DATE PLOTTED: 6/23/16
SCALE: 1" = 10'
DRAWN BY: J. J. BRYAN
CHECKED BY: J. J. BRYAN
APPROVED BY: J. J. BRYAN



5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145



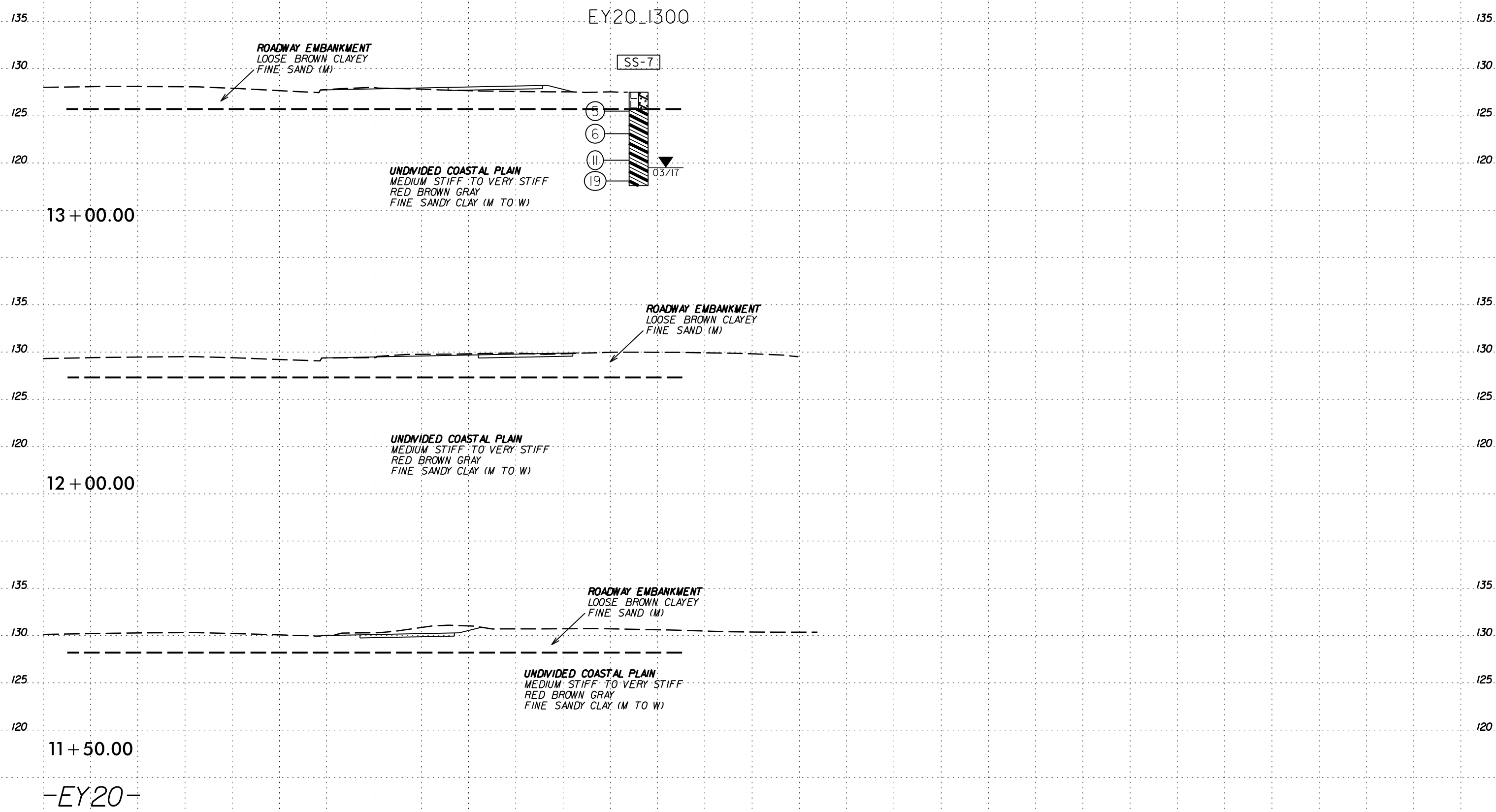
-EY 20-

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

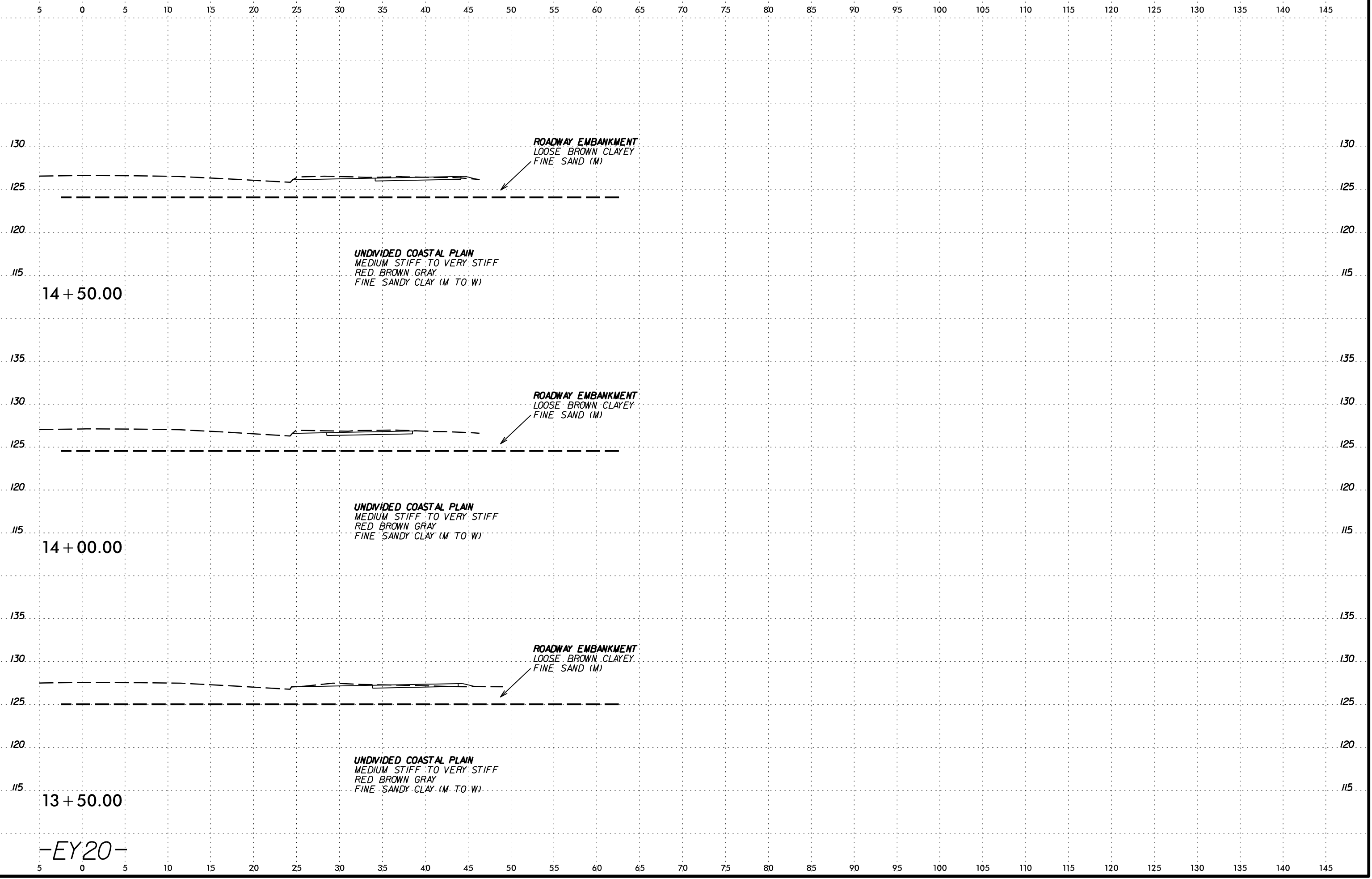
SYTIME
CON
JUL
ARRIVE

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	60	200		
SS-7	58' RT	13+00	3.4 - 4.9	A-6 (6)	30	18	27	23	24	26	100	86	73	55.2	15.2	ND



6/23/16
SECTION COUNCIL FOR
JULY



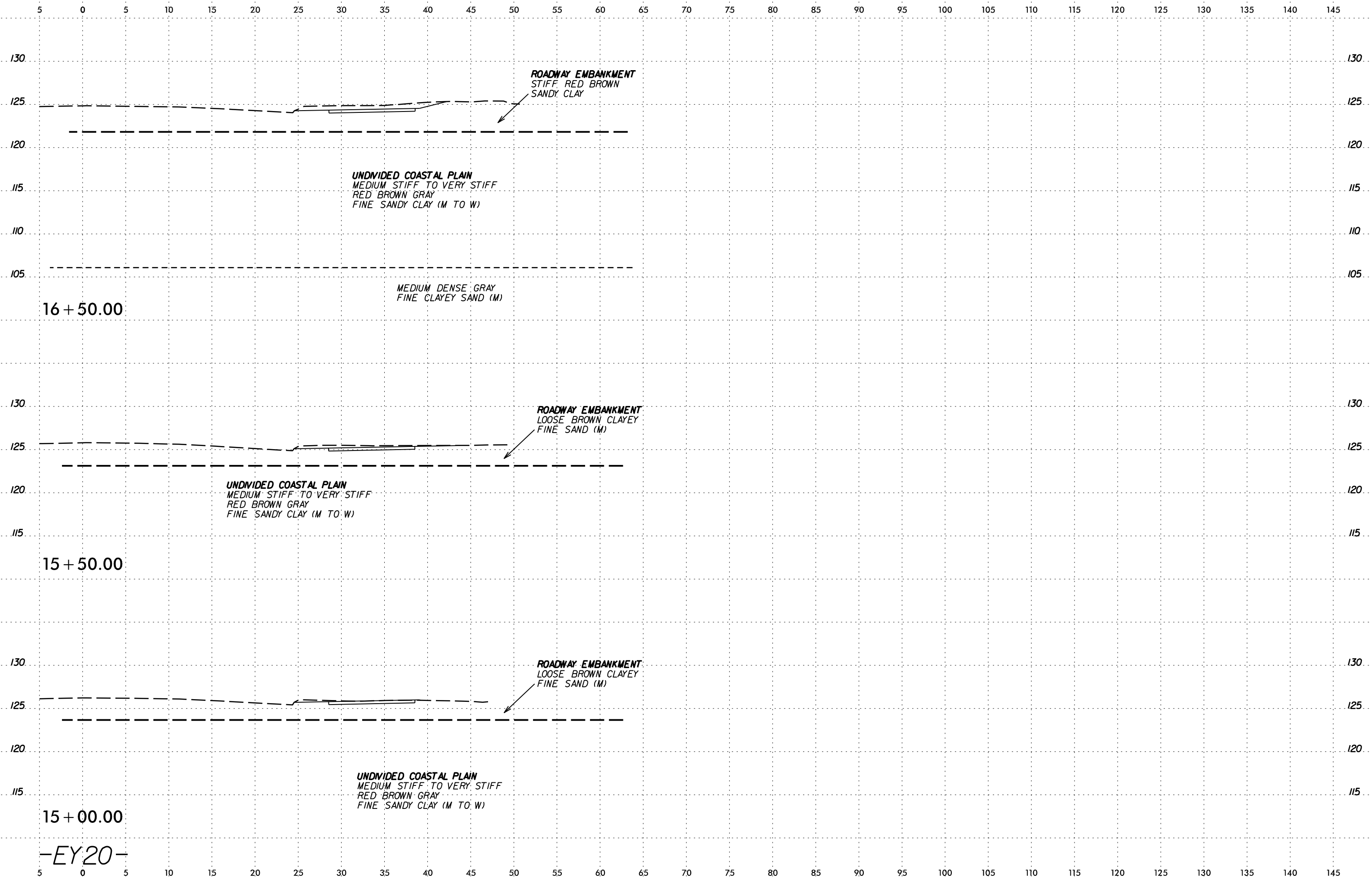
DATE: 6/23/16
 DRAWN BY: [illegible]
 CHECKED BY: [illegible]
 PROJECT: [illegible]

13+50.00

14+00.00

14+50.00

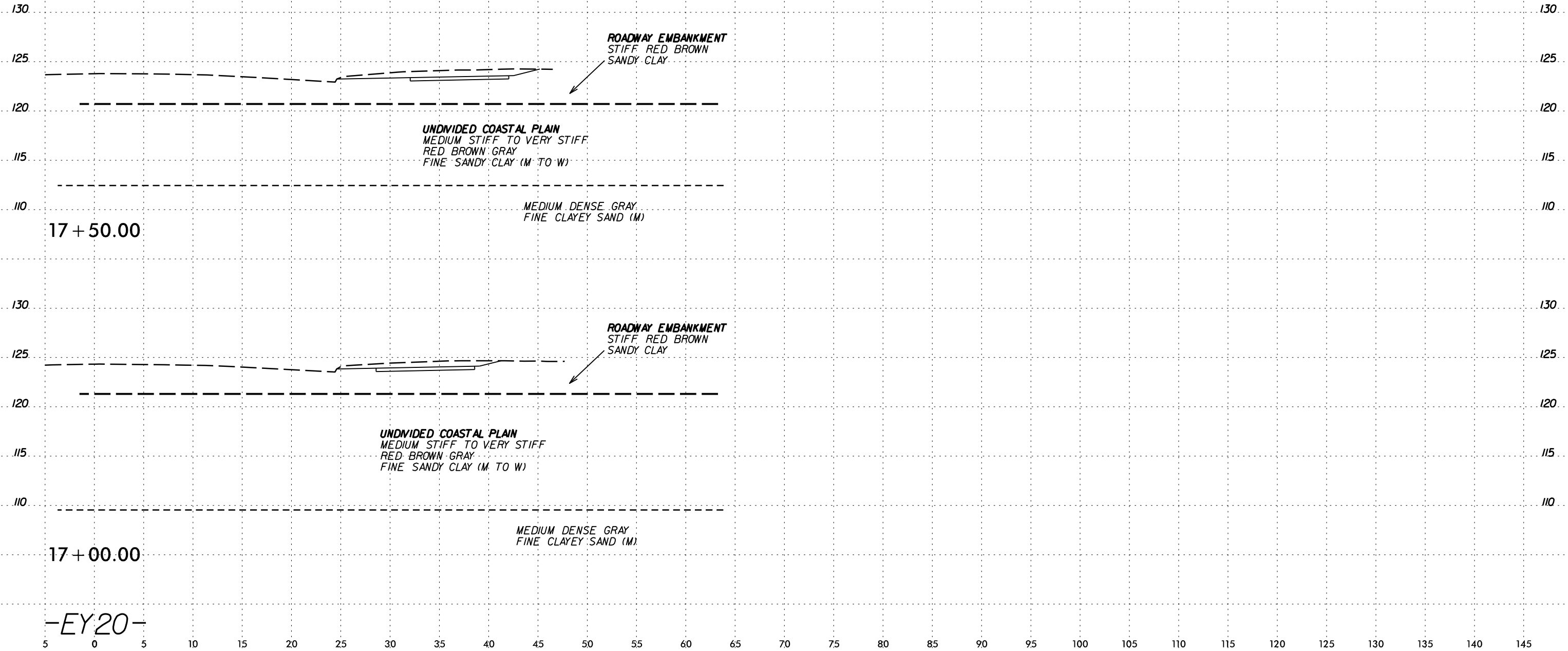
-EY20-



SYTIME
CON
JUL
RY

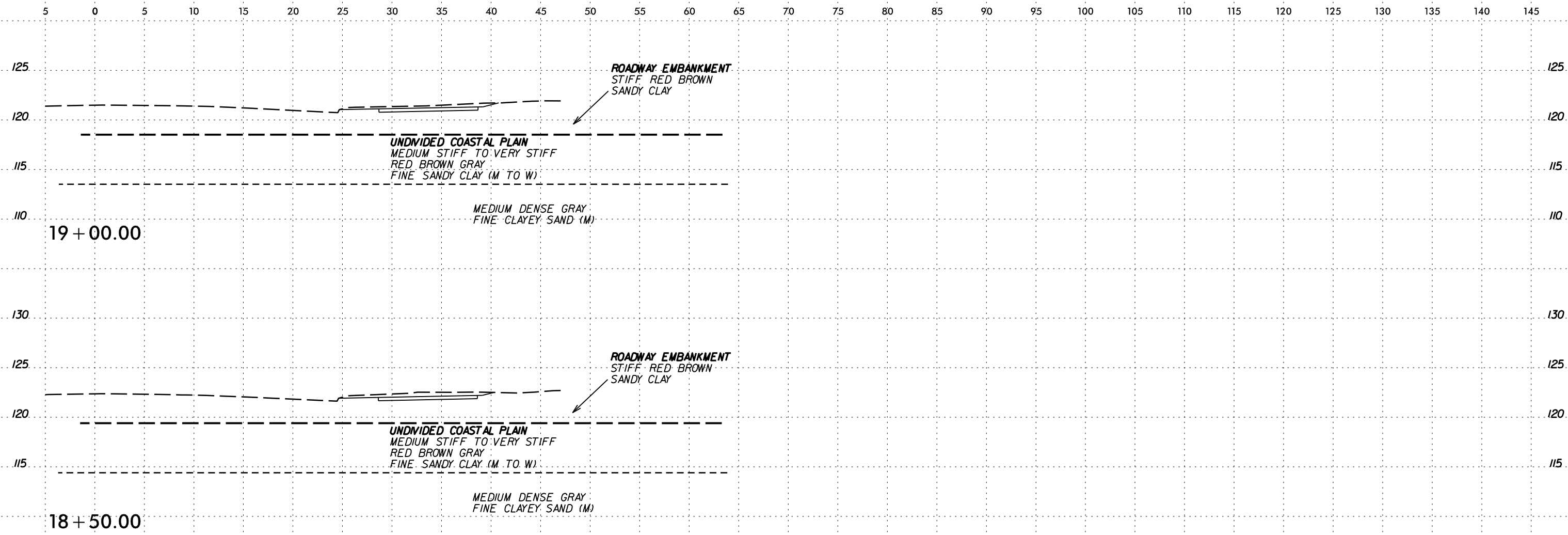
15+00.00
-EY20-

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145



5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

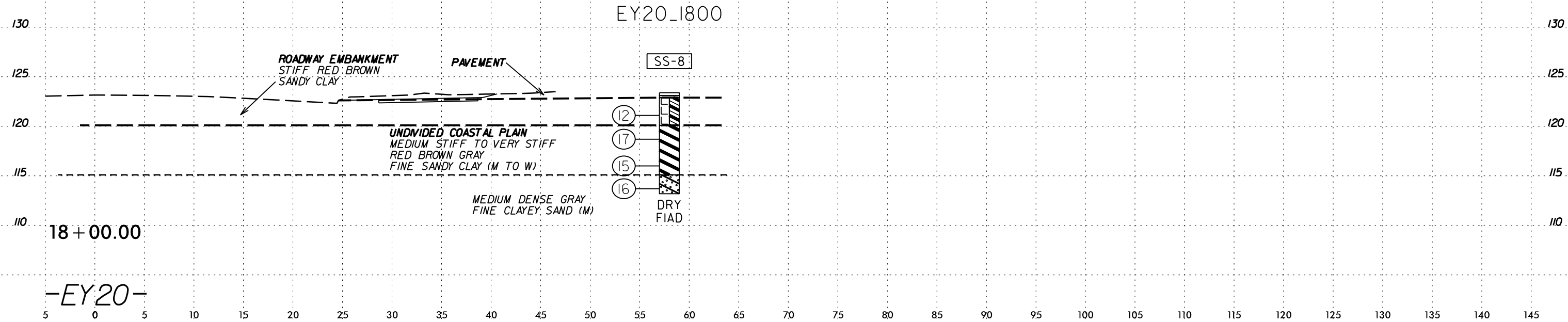
6/23/16
 17+50.00
 17+00.00
 -EY20-



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	60	200		
SS-8	58' RT	18+00	3.7 - 5.2	A-7-6 (28)	49	32	5	19	30	46	100	98	95	85.3	23.0	ND

EY20_1800



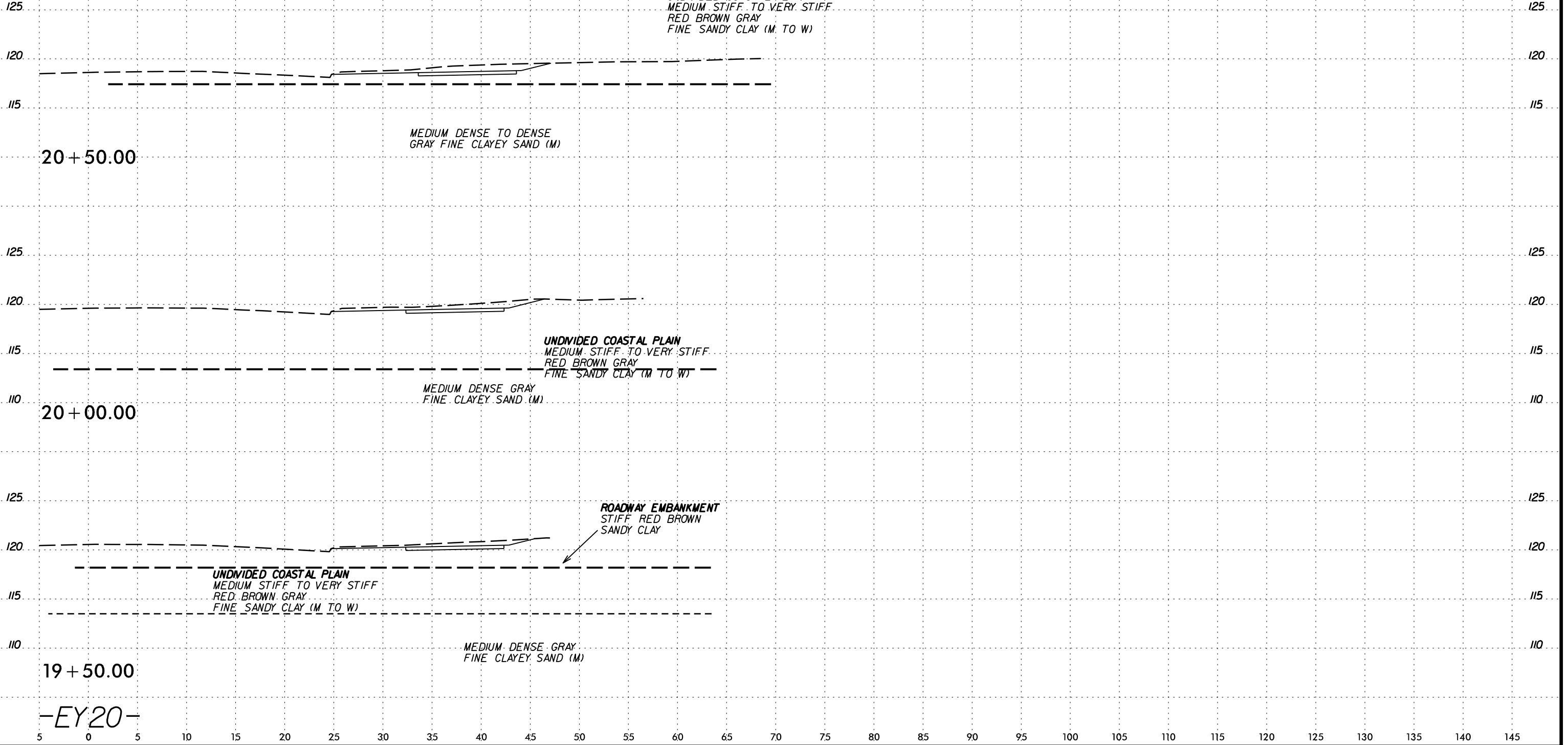
6/23/16



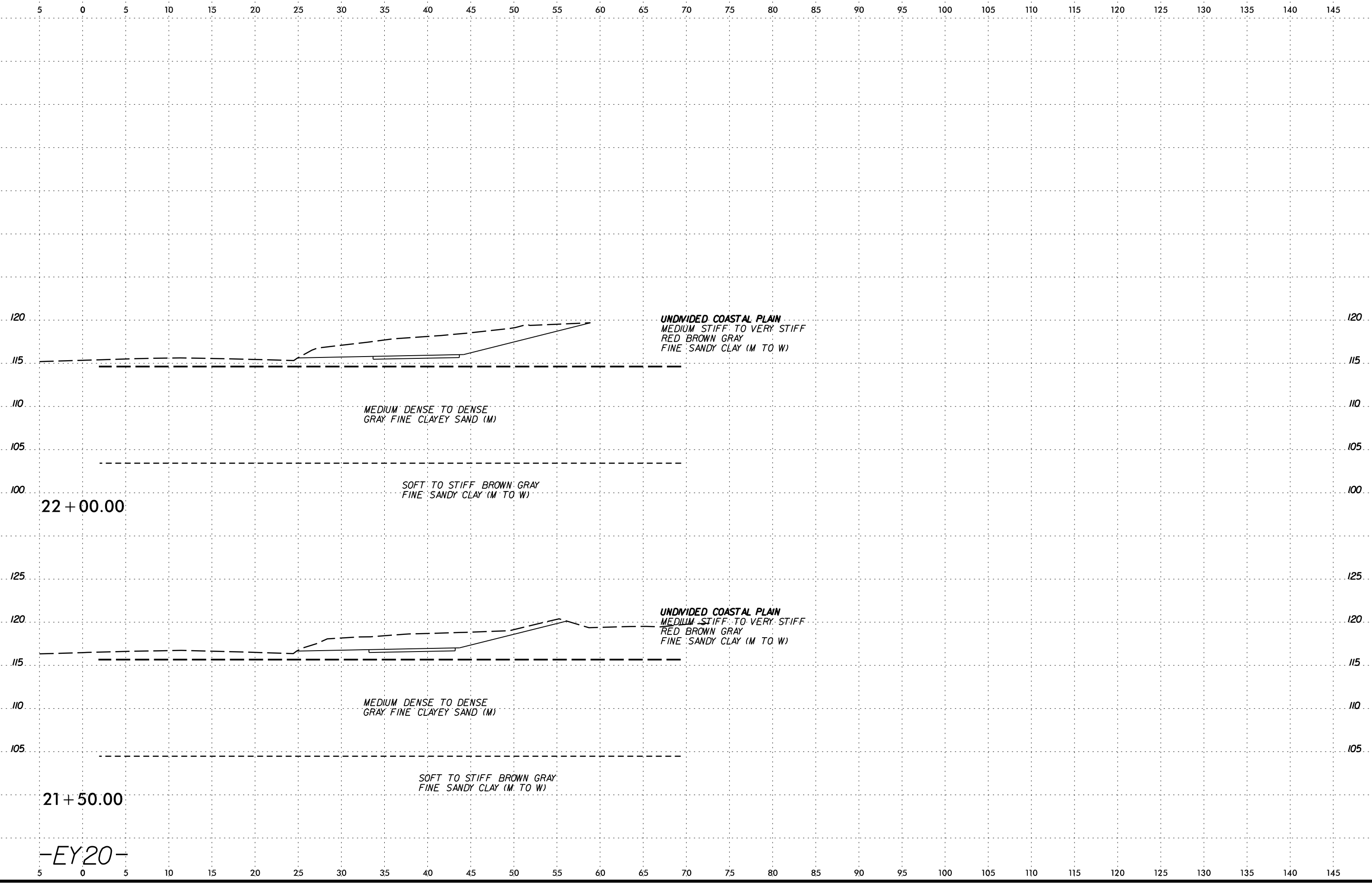
PROJ. REFERENCE NO.
U-5935

SHEET NO.
44

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145



SECTION
CUTLINE
CONTOUR
ELEVATION
STATIONING
DATE



SECTION 21+50.00 TO 22+00.00

22 + 00.00

21 + 50.00

-EY 20-

MEDIUM DENSE TO DENSE
GRAY FINE CLAYEY SAND (M)

SOFT TO STIFF BROWN GRAY
FINE SANDY CLAY (M TO W)

UNDIVIDED COASTAL PLAIN
MEDIUM STIFF TO VERY STIFF
RED BROWN GRAY
FINE SANDY CLAY (M TO W)

MEDIUM DENSE TO DENSE
GRAY FINE CLAYEY SAND (M)

SOFT TO STIFF BROWN GRAY
FINE SANDY CLAY (M TO W)

UNDIVIDED COASTAL PLAIN
MEDIUM STIFF TO VERY STIFF
RED BROWN GRAY
FINE SANDY CLAY (M TO W)

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

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	60	200		
SS-9	63' RT	23+00	3.7 - 5.2	A-7-6 (55)	76	47	1	0	21	78	100	100	99	99.1	37.1	ND
S-1	63' RT	23+00	0.0 - 3.0	A-6 (3)	28	16	33	26	17	24	100	81	67	45.9	15.4	ND

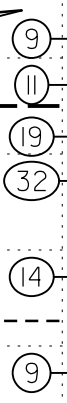
EY20_2300

SS-9
S-1

UNDIVIDED COASTAL PLAIN
MEDIUM STIFF TO VERY STIFF
RED BROWN GRAY
FINE SANDY CLAY (M TO W)

MEDIUM DENSE TO DENSE
GRAY FINE CLAYEY SAND (M)

SOFT TO STIFF BROWN GRAY
FINE SANDY CLAY (M TO W)



03/17

23 + 00.00

UNDIVIDED COASTAL PLAIN
MEDIUM STIFF TO VERY STIFF
RED BROWN GRAY
FINE SANDY CLAY (M TO W)

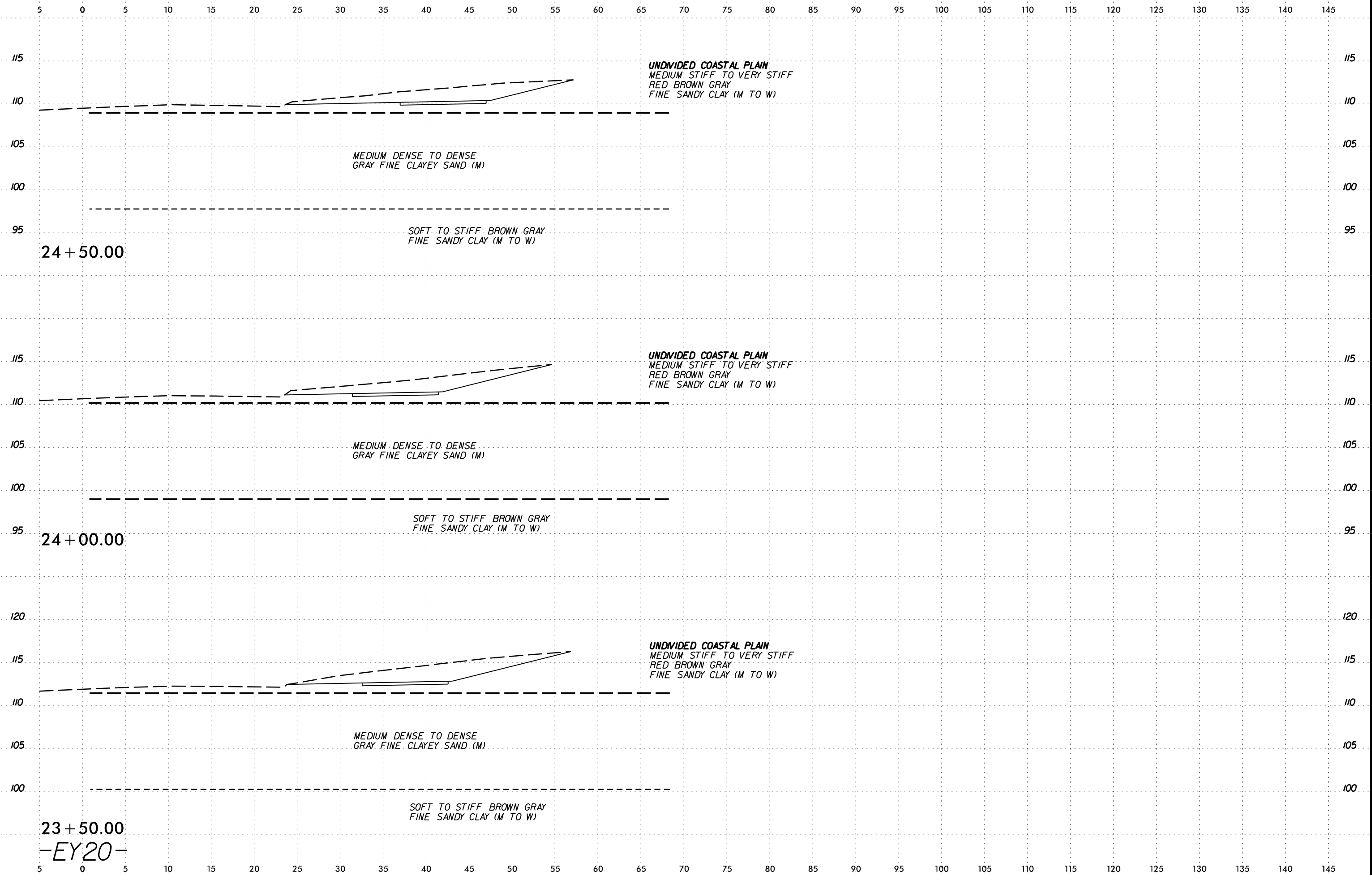
MEDIUM DENSE TO DENSE
GRAY FINE CLAYEY SAND (M)

SOFT TO STIFF BROWN GRAY
FINE SANDY CLAY (M TO W)

22 + 50.00

-EY20-

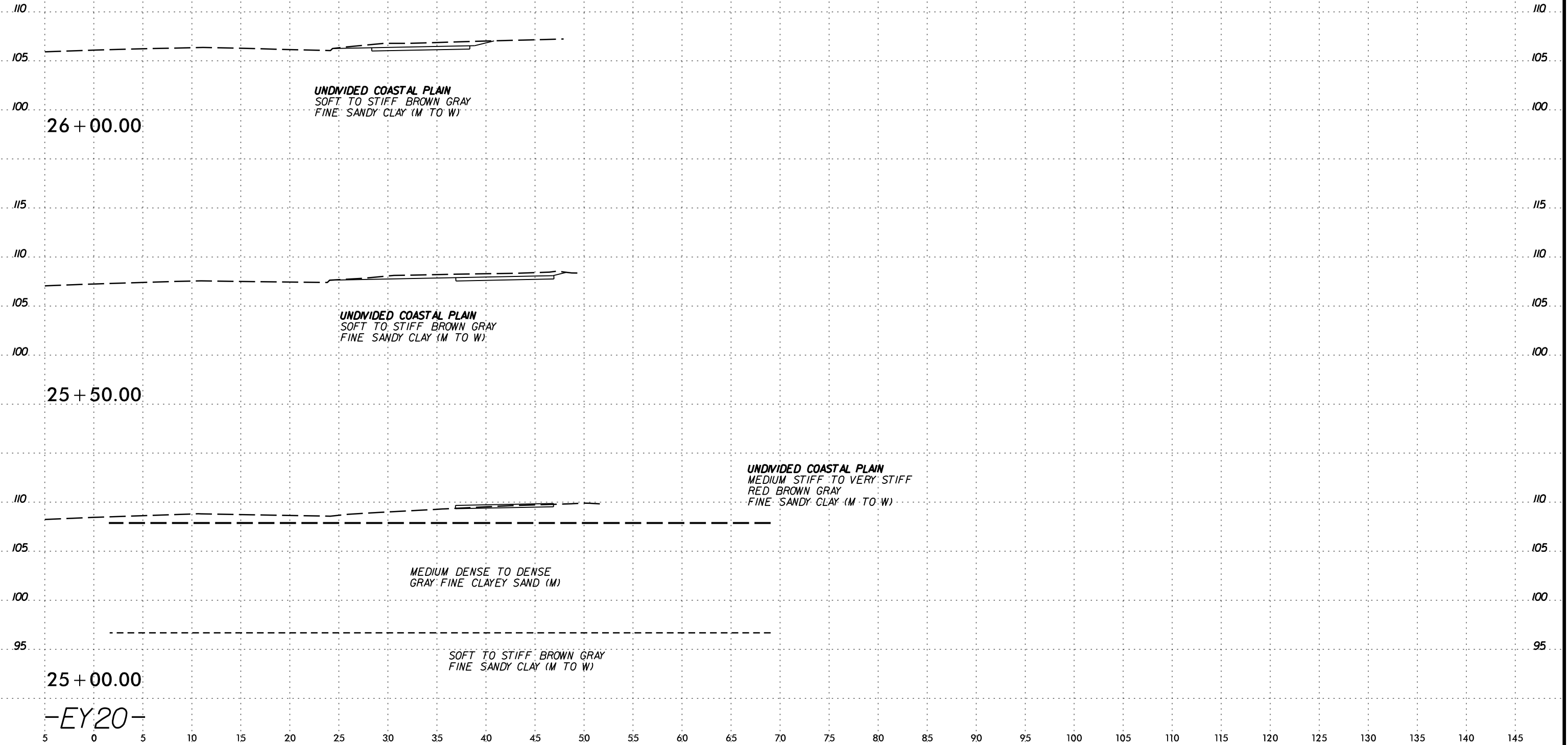
5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145



SECTION 23+50.00 TO 24+50.00
ELEVATION IN FEET

23+50.00
-EY 20-

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145



SYNTHETIC
 CONCRETE
 PAVEMENT
 SURFACE

-EY20-

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

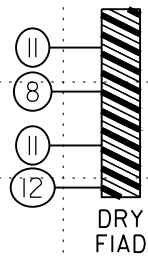
5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

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	60	200		
SS-10	58' RT	27+88	1.0 - 2.5	A-6 (5)	31	16	21	35	16	28	100	88	79	51.0	14.3	ND

EY20_2800

SS-10



UNDIVIDED COASTAL PLAIN
SOFT TO STIFF BROWN GRAY
FINE SANDY CLAY (M TO W)

28+00.00

UNDIVIDED COASTAL PLAIN
SOFT TO STIFF BROWN GRAY
FINE SANDY CLAY (M TO W)

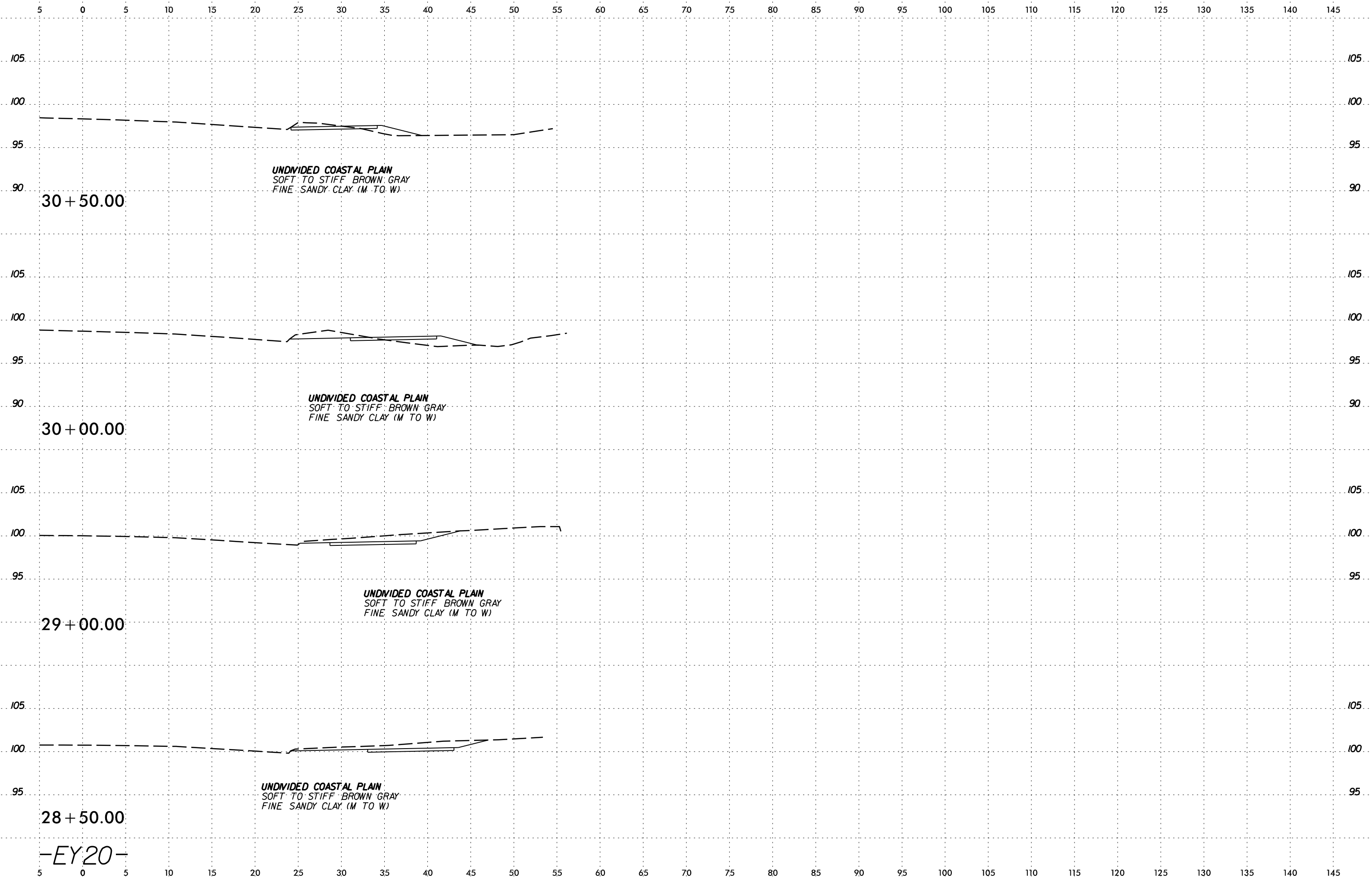
27+00.00

UNDIVIDED COASTAL PLAIN
SOFT TO STIFF BROWN GRAY
FINE SANDY CLAY (M TO W)

26+50.00

-EY20-

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

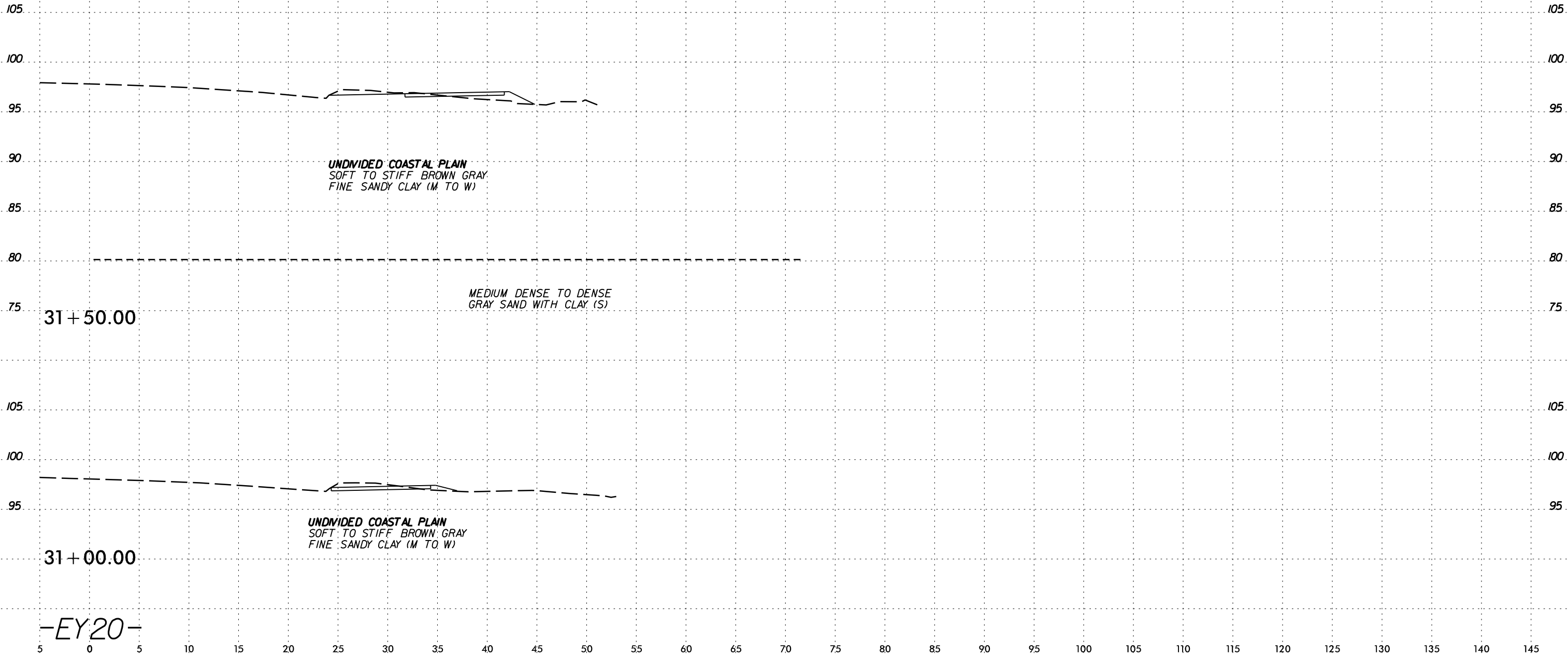


-EY 20-

DATE: 6/23/16
BY: [illegible]
CHECKED: [illegible]
SCALE: AS SHOWN



5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145



UNDIVIDED COASTAL PLAIN
SOFT TO STIFF BROWN GRAY
FINE SANDY CLAY (M TO W)

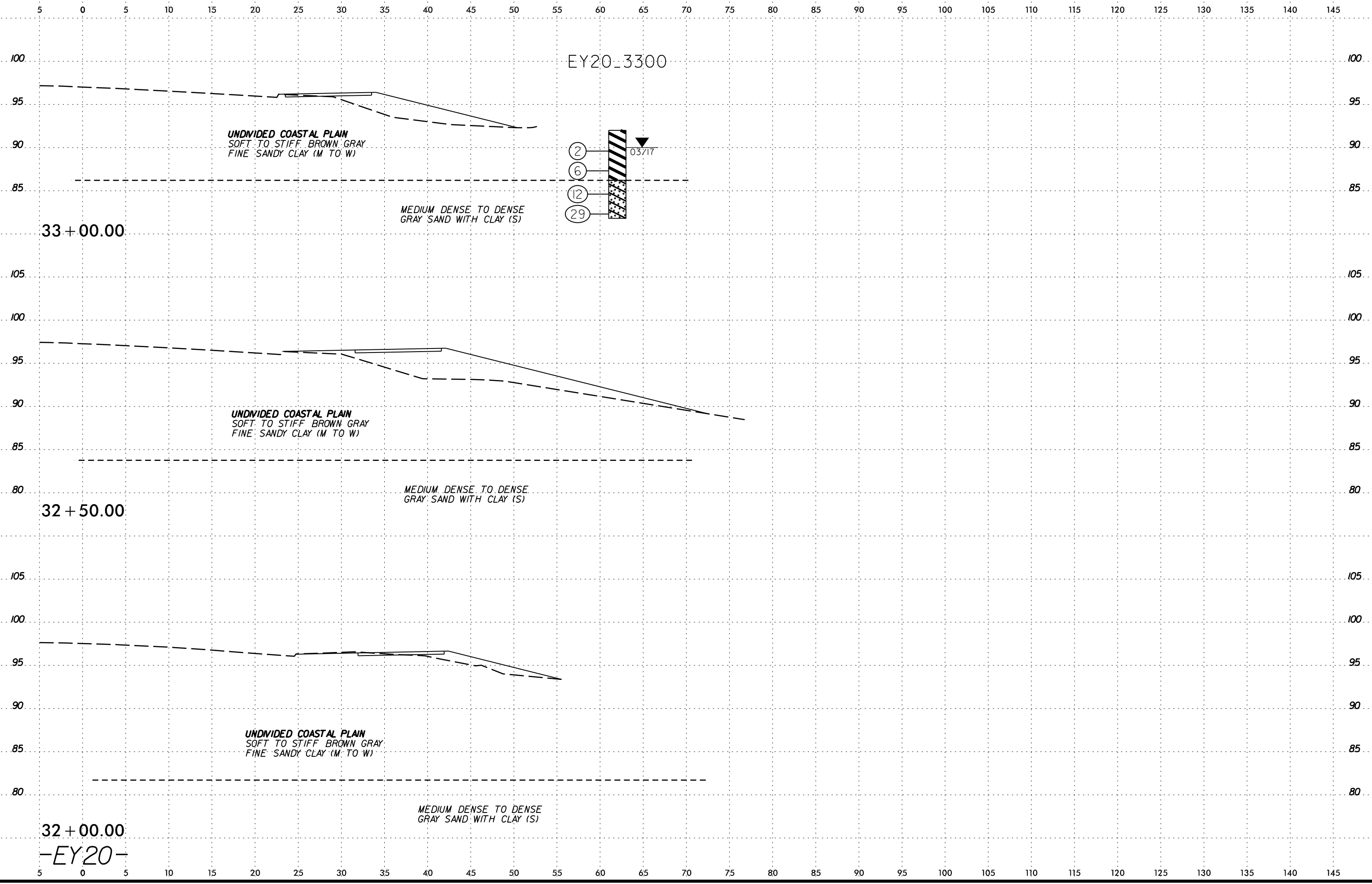
MEDIUM DENSE TO DENSE
GRAY SAND WITH CLAY (S)

UNDIVIDED COASTAL PLAIN
SOFT TO STIFF BROWN GRAY
FINE SANDY CLAY (M TO W)

31 + 50.00

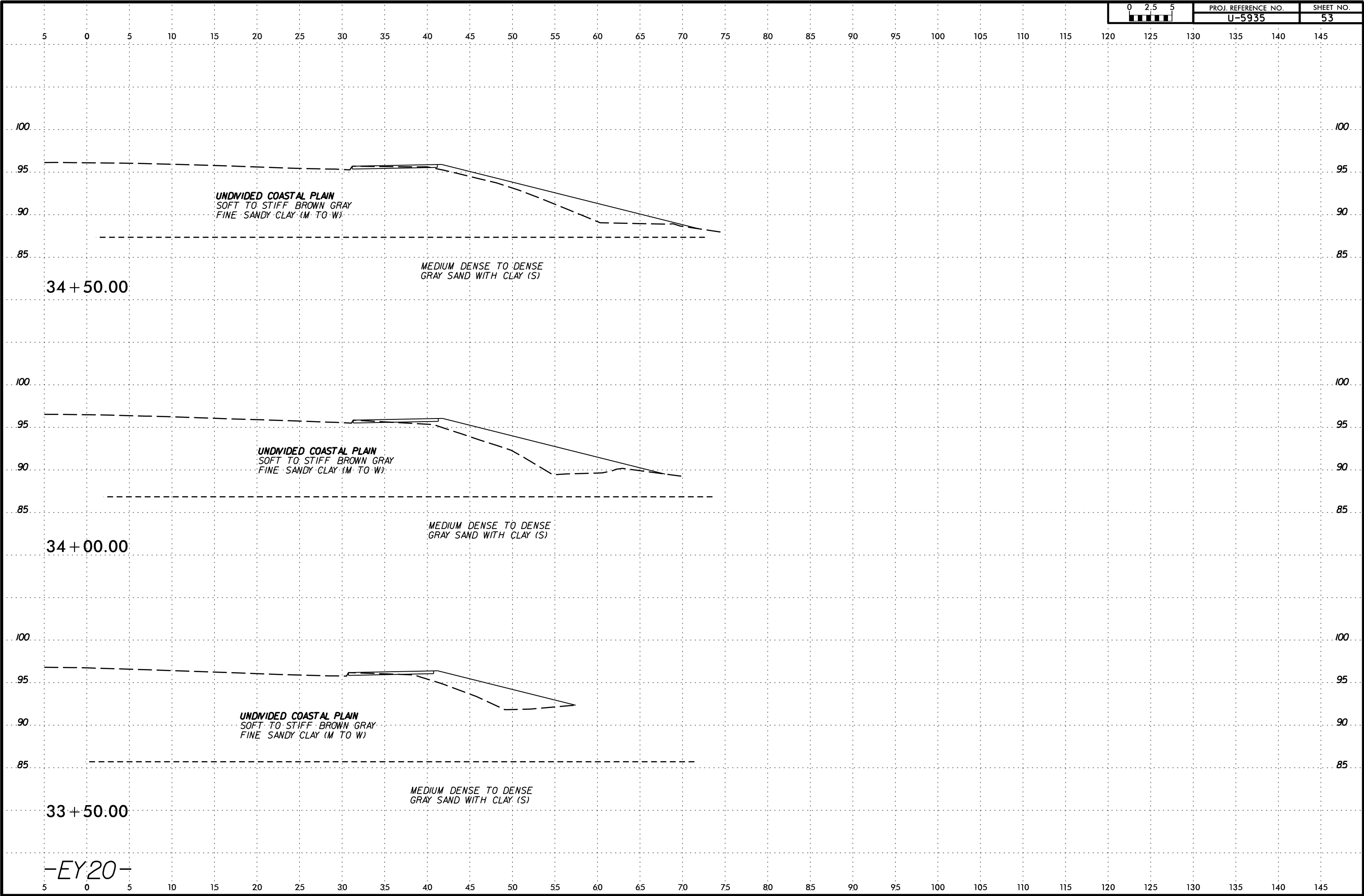
31 + 00.00

-EY 20-



SYTIME
CON
JUL
BRN

32+00.00
-EY20-



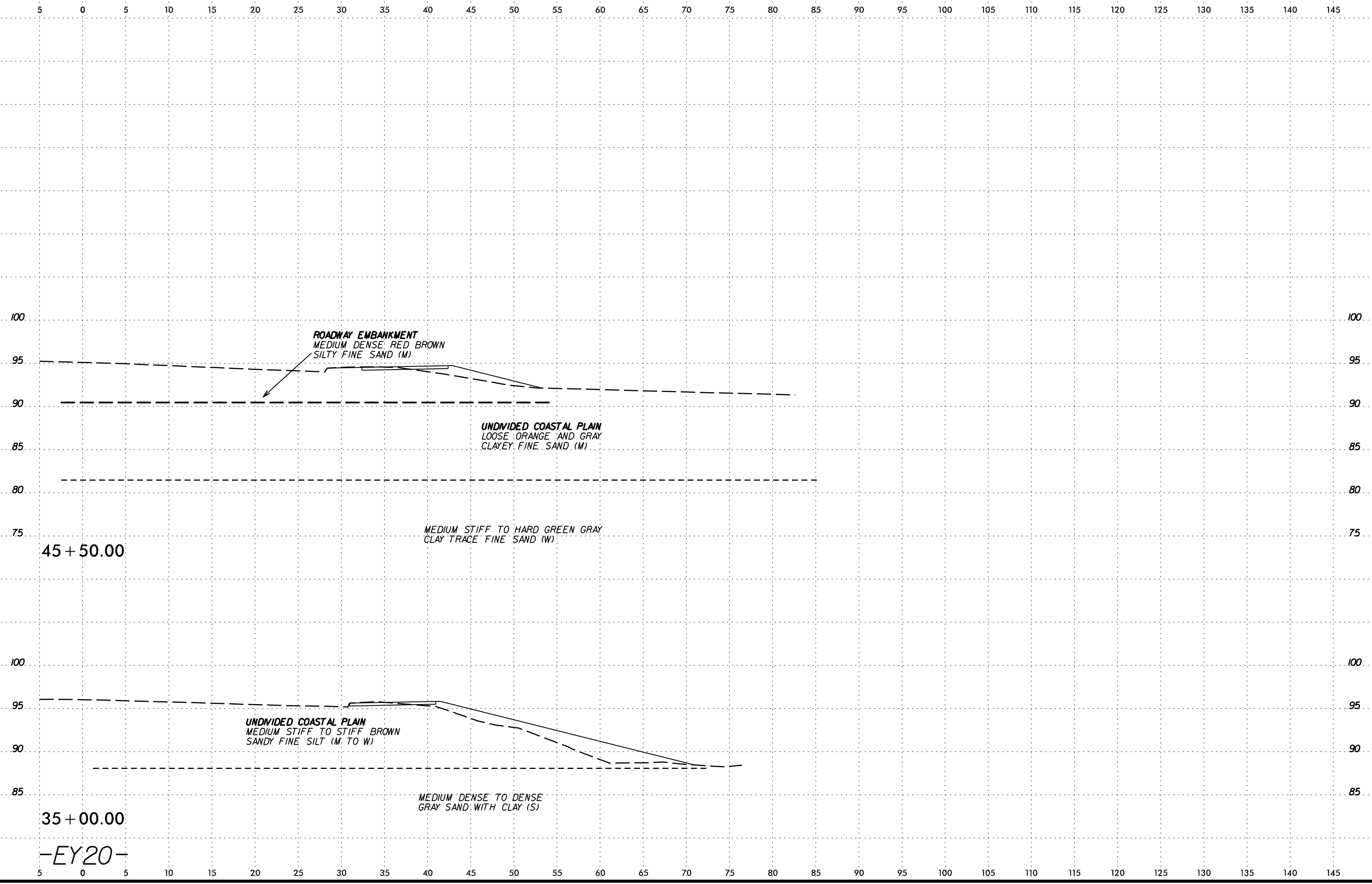
34 + 50.00

34 + 00.00

33 + 50.00

-EY20-

DATE: 6/23/16
BY: J. J. BRYAN
CHECKED: J. J. BRYAN
SCALE: AS SHOWN
SHEET NO.: 53
PROJECT: U-5935



DATE: 6/23/16
SCALE: AS SHOWN
PROJECT: U-5935
SHEET: 54

45 + 50.00

35 + 00.00

-EY 20-

ROADWAY EMBANKMENT
MEDIUM DENSE RED BROWN
SILTY FINE SAND (M)

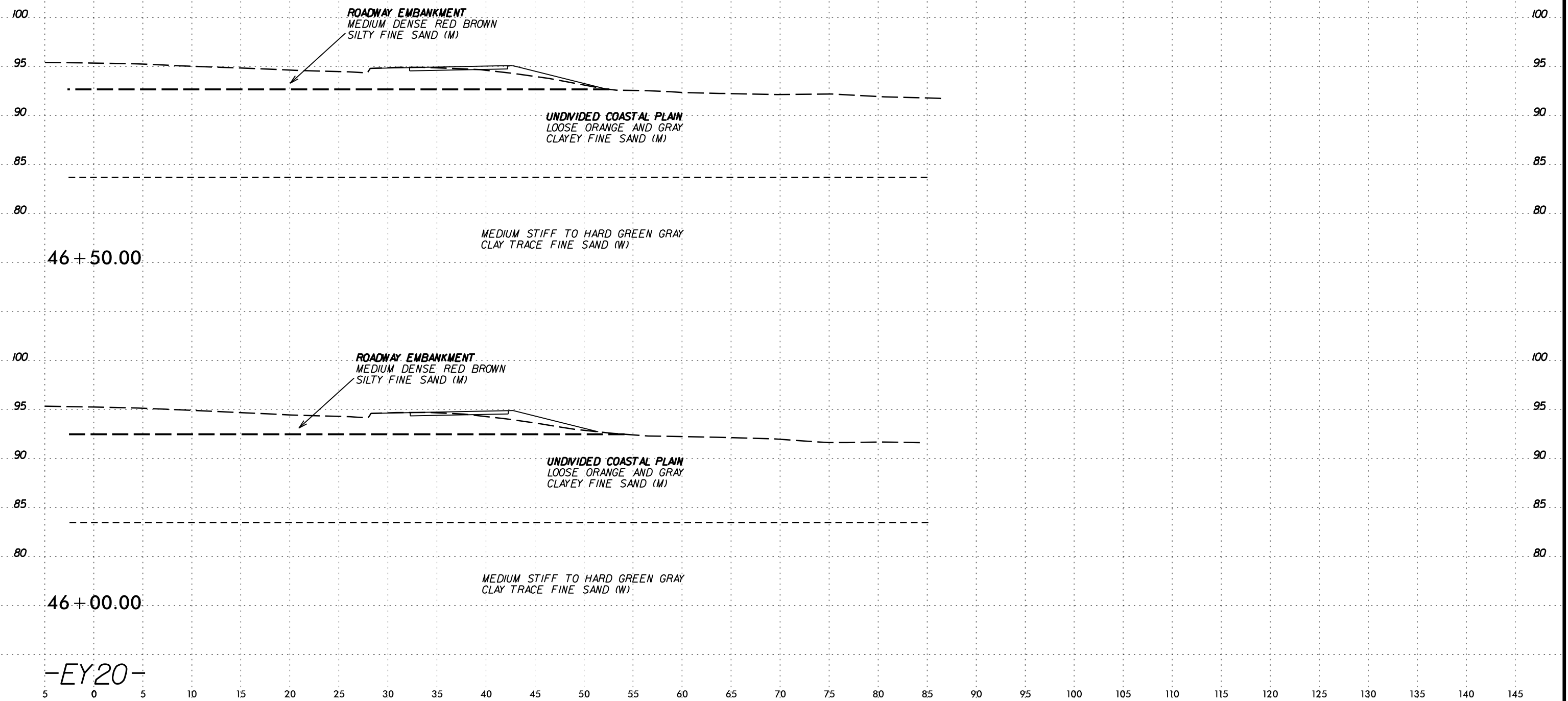
UNDIVIDED COASTAL PLAIN
LOOSE ORANGE AND GRAY
CLAYEY FINE SAND (M)

MEDIUM STIFF TO HARD GREEN GRAY
CLAY TRACE FINE SAND (W)

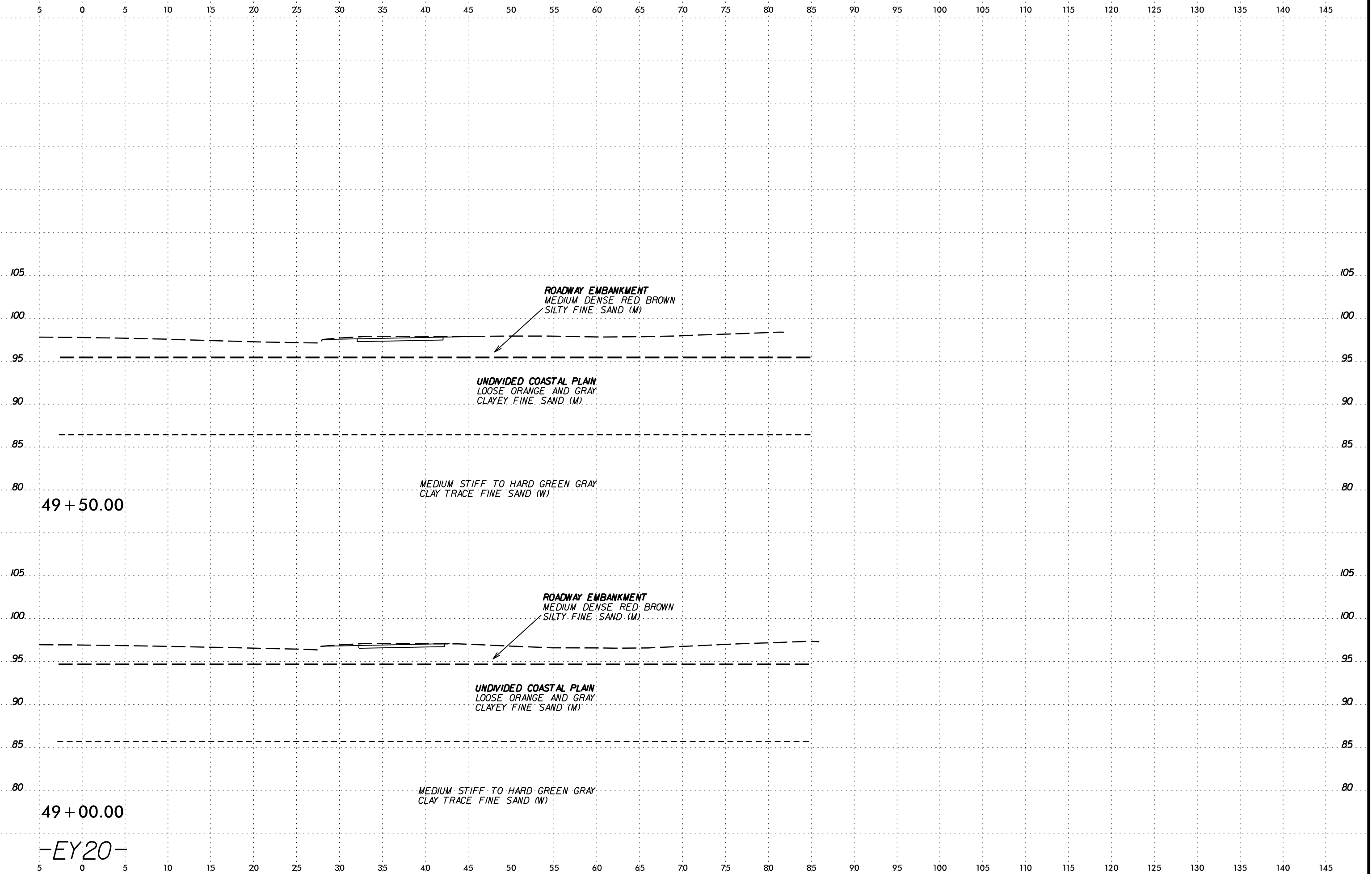
UNDIVIDED COASTAL PLAIN
MEDIUM STIFF TO STIFF BROWN
SANDY FINE SILT (M TO W)

MEDIUM DENSE TO DENSE
GRAY SAND WITH CLAY (S)

5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

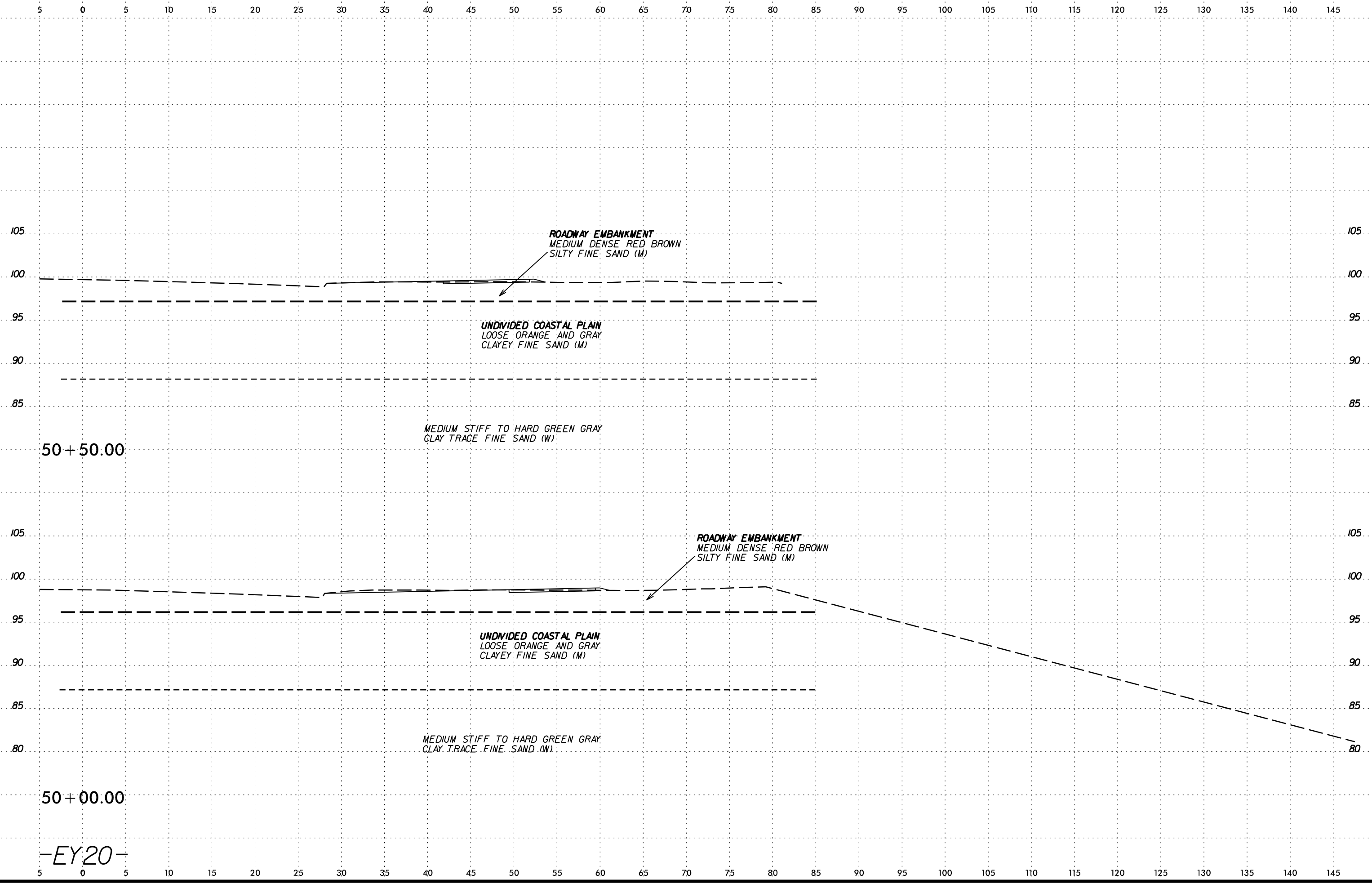


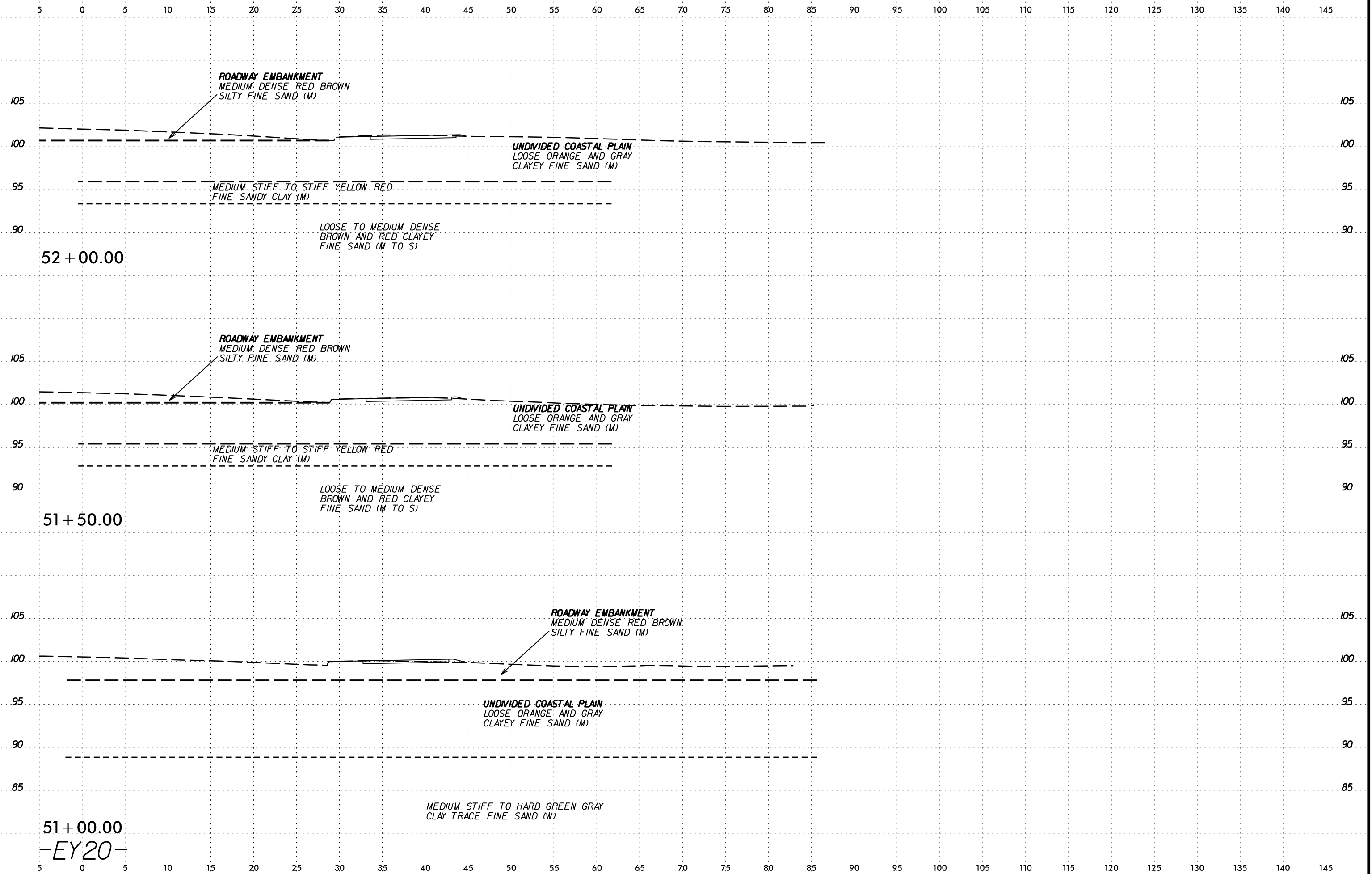
DATE: 6/23/16
 DRAWN BY: [illegible]
 CHECKED BY: [illegible]
 PROJECT: [illegible]
 SHEET: 55 OF 55



SECTION CUT FROM SURFACE TO SUBGRADE

-EY20-





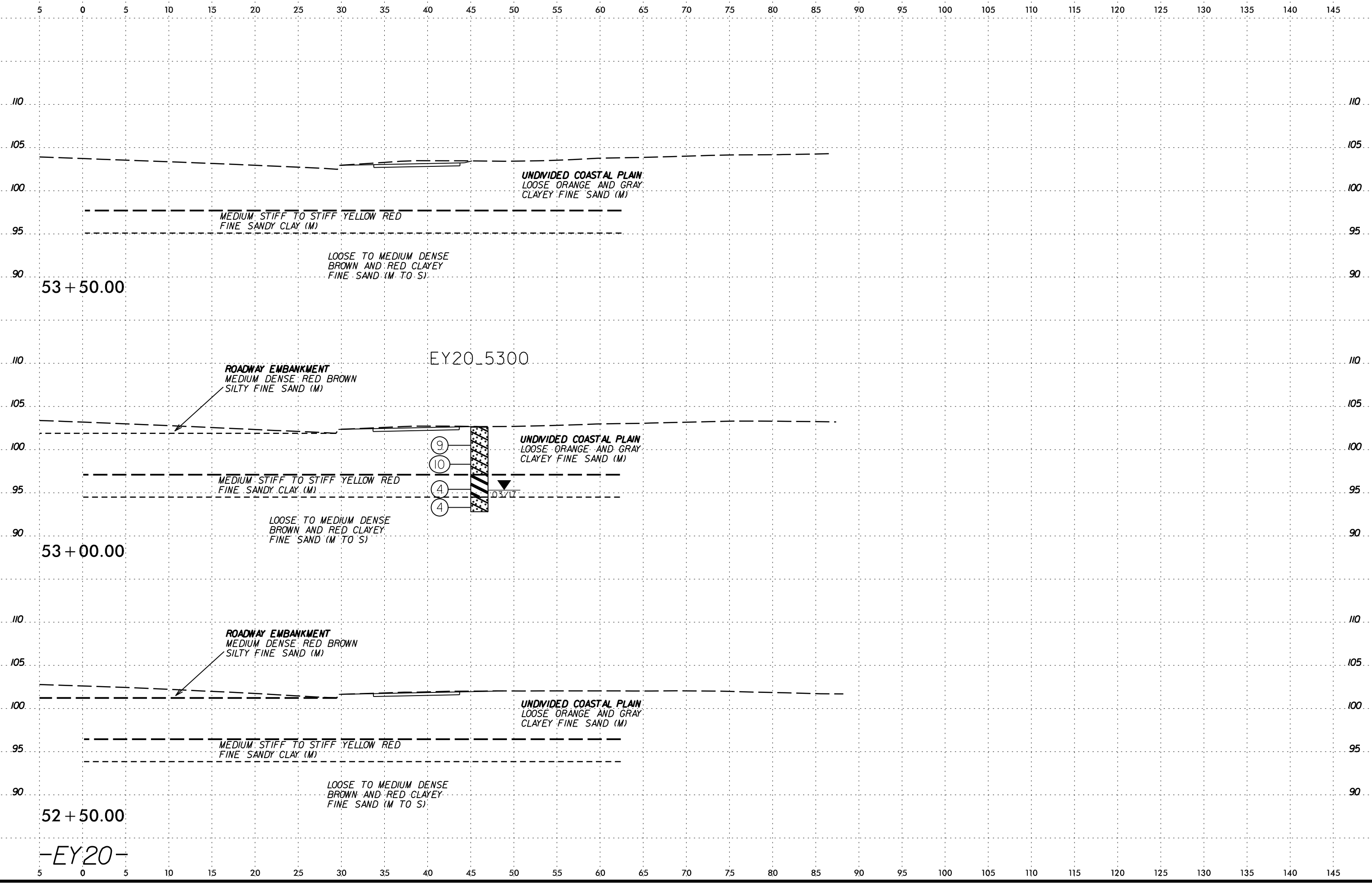
52 + 00.00

51 + 50.00

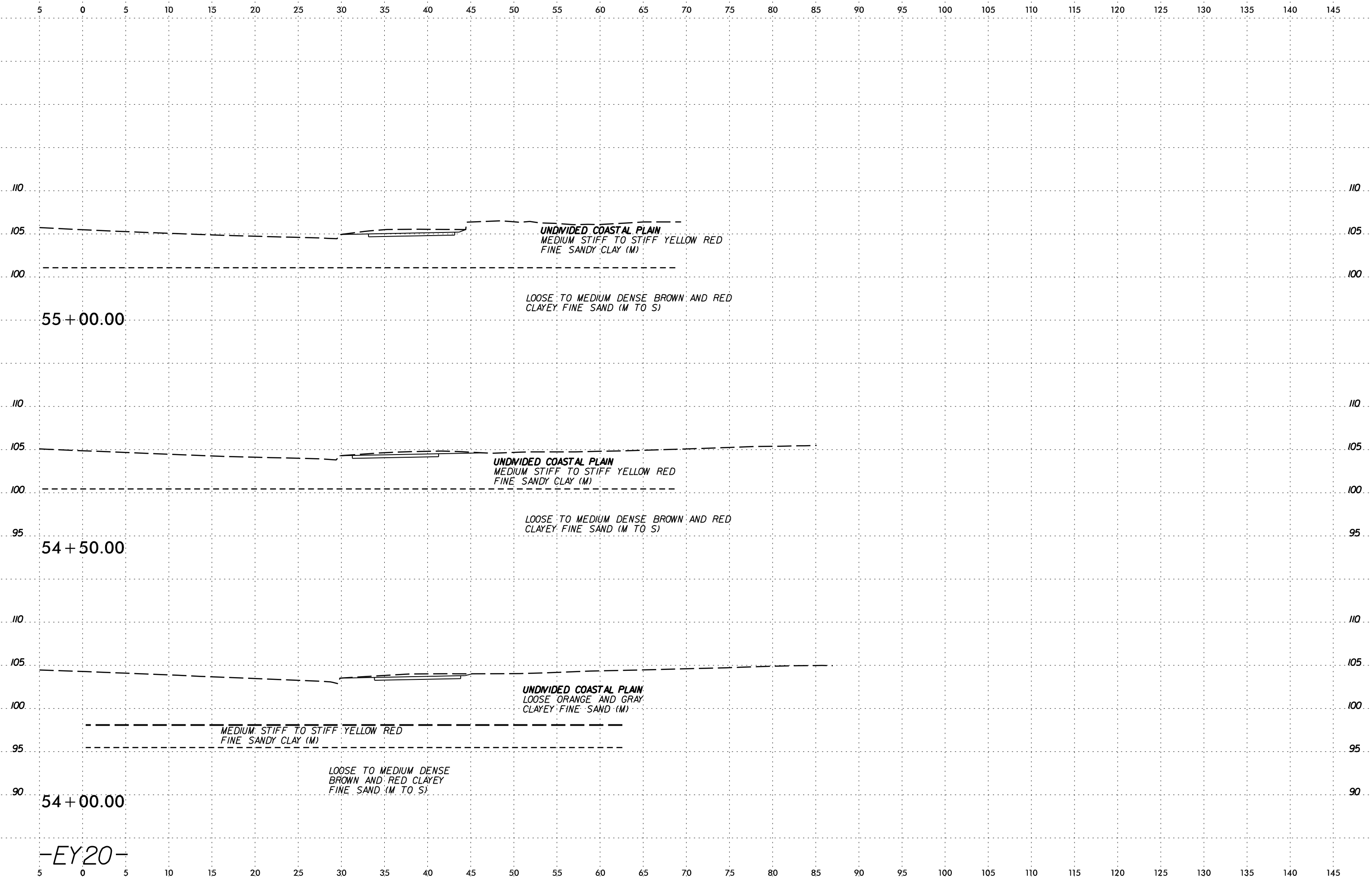
51 + 00.00

-EY 20-

DATE: 6/23/16
DRAWN BY: J. BRYAN
CHECKED BY: J. BRYAN
SCALE: AS SHOWN



DATE: 6/23/16
DRAWN BY: J. J. BRYAN
CHECKED BY: J. J. BRYAN
SCALE: AS SHOWN



SYTIME CONSTRUCTION SERVICES

54+00.00

54+50.00

55+00.00

-EY20-

6/23/16



PROJ. REFERENCE NO.
U-5935

SHEET NO.
62

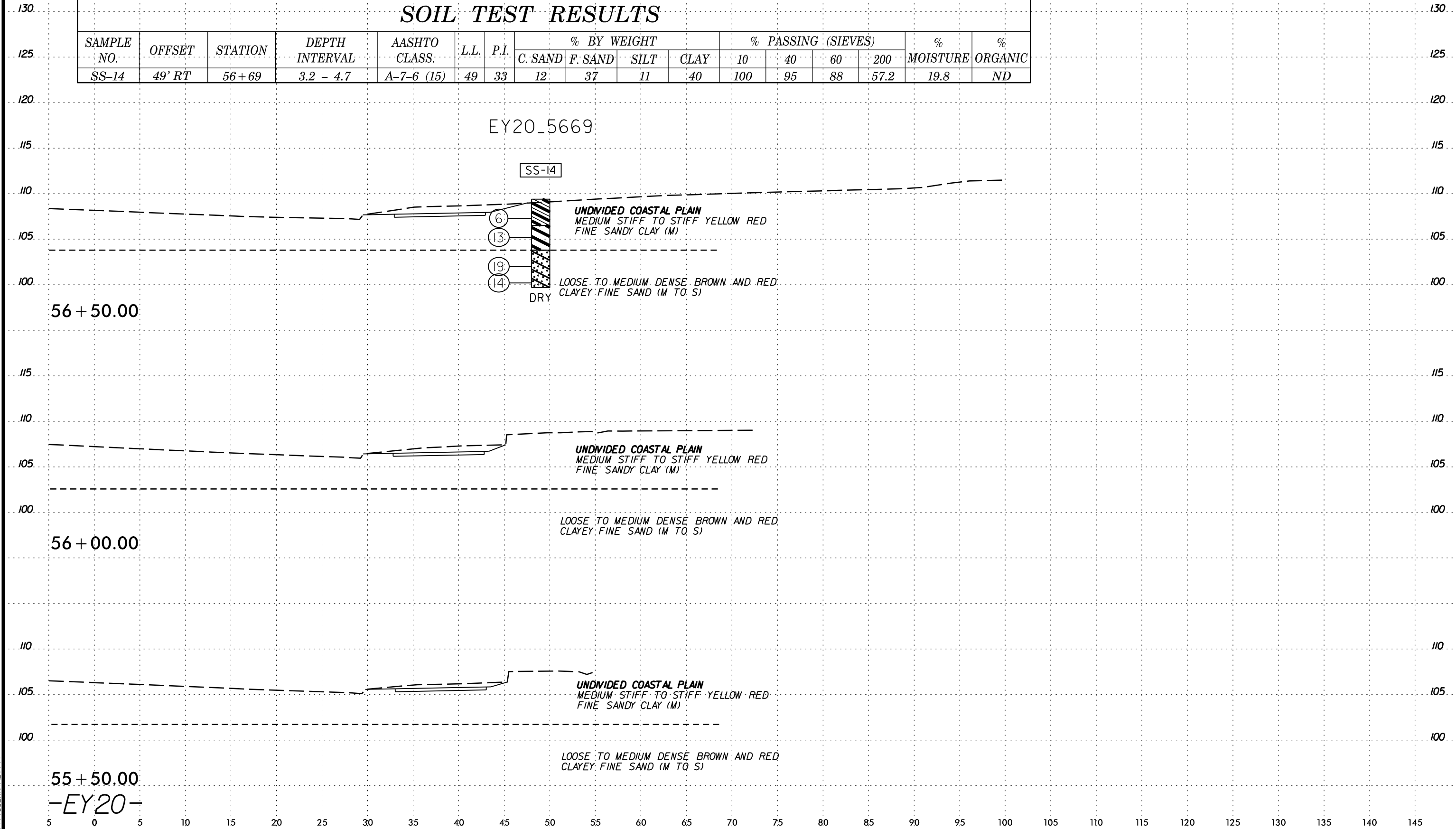
5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145

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	60	200		
SS-14	49' RT	56+69	3.2 - 4.7	A-7-6 (15)	49	33	12	37	11	40	100	95	88	57.2	19.8	ND

EY20_5669

SS-14



56 + 50.00

56 + 00.00

55 + 50.00

-EY20-

SYTIME
CON
JUL
ARRIVE