

REFERENCE: R-5311A

PROJECT: 45449

SEE SHEET 3 FOR PLAN SHEET LAYOUT  
AT TIME OF INVESTIGATION

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5311A	1	137

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**CROSS SECTIONS**

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**ROADWAY**  
**SUBSURFACE INVESTIGATION**

COUNTY HERTFORD  
PROJECT DESCRIPTION WEST OF MODLIN ROAD TO EAST OF  
NC 11 / SR 1213 (OLD NC 11 ROAD).

**INVENTORY**

**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 CONTRACTOR 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

B. KEANEY

C. JONES

C. MYERS

B. HOWEY

R. DeLOST

M. COOGAN

M. MORGAN

HDR ENGINEERING, INC.

INVESTIGATED BY HDR-ICA, MAD, INC

DRAWN BY CGM

CHECKED BY BDK

SUBMITTED BY HDR ENGINEERING, INC.

DATE 9/2016



DocuSigned by:

Brian D Keaney

10/31/2016

79CD97E4882C436

SIGNATURE

DATE

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

SIGNATURE

DATE

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

Table containing sections for SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, TERMS AND DEFINITIONS, SOIL LEGEND AND AASHTO CLASSIFICATION, CONSISTENCY OR DENSENESS, TEXTURE OR GRAIN SIZE, SOIL MOISTURE - CORRELATION OF TERMS, PLASTICITY, COLOR, MISCELLANEOUS SYMBOLS, RECOMMENDATION SYMBOLS, ABBREVIATIONS, EQUIPMENT USED ON SUBJECT PROJECT, FRACTURE SPACING, BEDDING, INDURATION, and BENCH MARK.

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

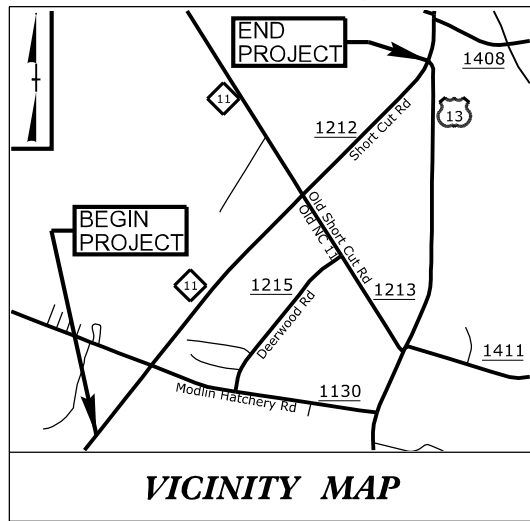
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5311A	3	137
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45449.1.2	NHF-0013(37)	P.E.	

**HERTFORD COUNTY**

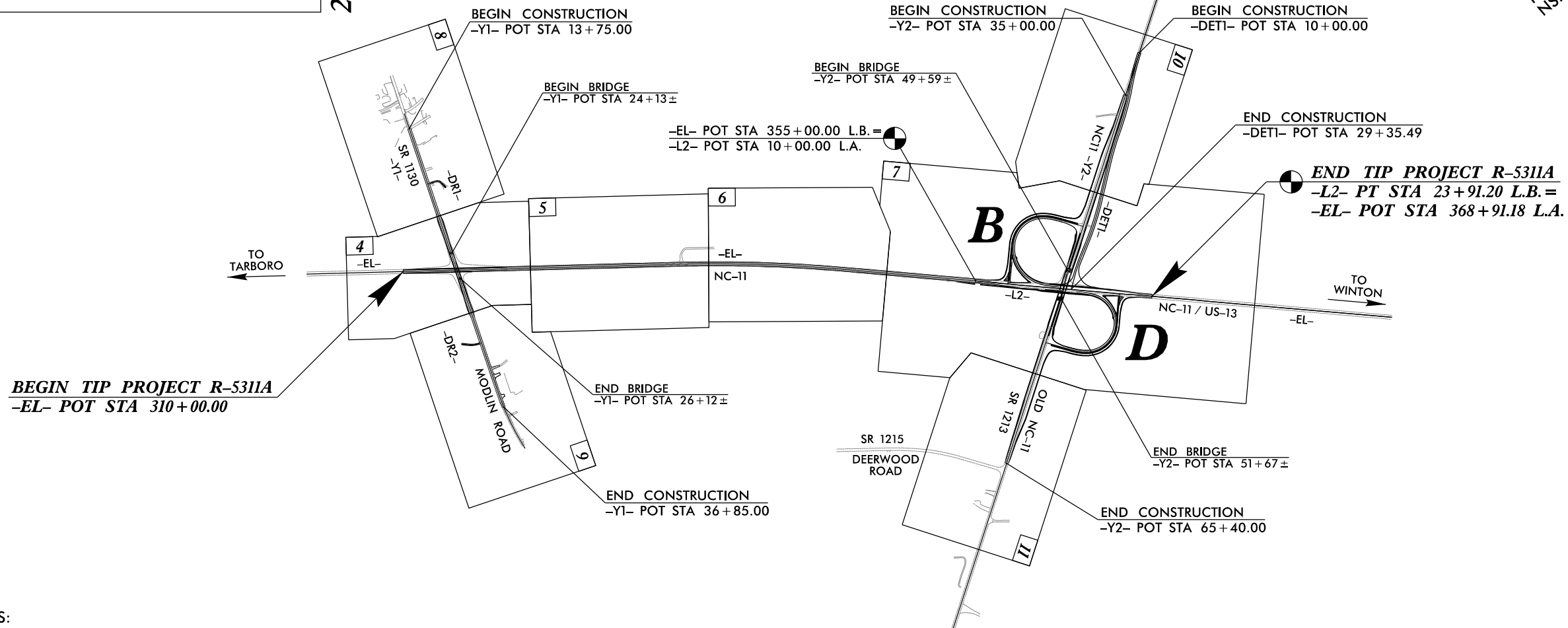
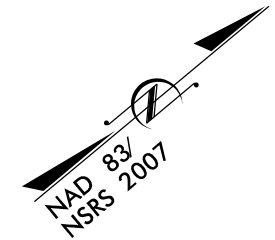
**LOCATION: WEST OF MODLIN ROAD TO EAST OF NC 11/SR 1213 (OLD NC 11 ROAD). CONSTRUCT GRADE SEPARATION AT SR 1130 (MODLIN ROAD) AND INTERCHANGE AT OLD NC 11/SR 1213 (OLD NC 11 ROAD).**  
**TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURES**

**TIP PROJECT: R-5311A**



VICINITY MAP

**25% PLANS**



**NOTES:**

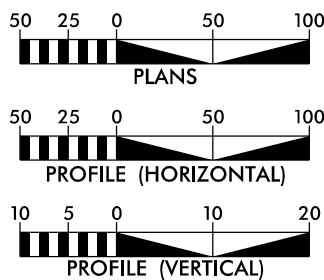
THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD \_\_\_\_\_.

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

**GRAPHIC SCALES**



**DESIGN DATA**

ADT (2017) = 7,500  
ADT (2036) = 10,830  
K = 10 %  
D = 55 %  
T = 26 % \*  
V = 60 MPH  
\* TTST = 22% DUAL 4%  
FUNC CLASS = ARTERIAL REGIONAL TIER

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT R-5311A = 1.116 MILES  
TOTAL LENGTH TIP PROJECT R-5311A = 1.116 MILES

Prepared for the  
North Carolina Department  
of Transportation  
In the office of:



2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

JUNE 17, 2016

LETTING DATE:

JUNE 20, 2017

DAVID C. WALLER, PE  
PROJECT ENGINEER

DENA SNEAD, PE  
PROJECT DESIGN ENGINEER

GARY LOVERING, PE  
ROADWAY DESIGN - PROJECT ENGINEER

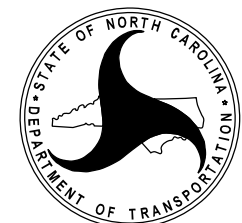
HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

DIVISION OF HIGHWAYS



STATE OF NORTH CAROLINA

\$DATE\$\$\$\$USER\$\$\$\$\$

**CONTRACT:**



September 22, 2016

**STATE PROJECT:** 45449.1.2  
**TIP NUMBER:** R-5311A  
**F.A. PROJECT:** NHF-0013(37)  
**COUNTY:** Hertford  
**DESCRIPTION:** West of Modlin Road to East of NC 11 / SR 1213 (Old NC 11 Road)  
**SUBJECT:** Geotechnical Roadway Inventory Report

**PROJECT DESCRIPTION**

The R-5311A project is an existing alignment designed to help increase the flow of traffic around the town of Ahoskie in eastern North Carolina. The R-5311A project consists of improving the current NC 11 / SR 1213 roadway by resurfacing the current NC 11 from west of Modlin Road to just east of the intersection of SR 1213 (Old NC 11) over existing NC 11. It also includes bridges at the Y lines and associated embankment fill. The bridge at -Y2- involves a new interchange with two loops with small ramp tie ins. The project length is approximately 1.1 miles along NC 11 (-EL-).

The field investigation was conducted in August 2015, using two CME-45C track rigs with automatic hammers. Standard Penetration Tests (SPT) were performed at selected locations. Representative soil samples were collected and forwarded to an approved NCDOT M&T testing facility for soil quality analysis, moisture content, and AASHTO classification. All available test locations are plotted on the plan view and also appear projected into the profiles and selected cross sections.

**The following alignments, totaling approximately 3 miles, were investigated**

Line	Station			Length (ft)
-EL-	310+00	to	355+00	4500
-L2-	10+00	to	23+91	1,391
-Y1-	13+75	to	36+85	2,310
-Y2-	35+00	to	65+40	3,040
-Y2LPB-	10+00	to	22+16	1,216
-Y2LPD-	10+00	to	21+11	1,111
-DR1-	10+00	to	11+50	150
-DR2-	10+00	to	11+45	145
-DET1-	10+00	To	29+11	1,911
			Total =	15,774 (~3 miles)

Note the original project was longer and involved widening of NC 11. Our investigation was based on that proposed plan set and HDR investigated the site before the updated plans were presented that only involve resurfacing of NC 11. However, the additional borings outside of this revised project scope are presented as boring logs at the end of this Inventory.

**PHYSIOGRAPHY AND GEOLOGY**

**Physiography and Geography**

The project is located in the Coastal Plain Physiographic Province. Geologically, it is located in an area mapped as Tertiary Age deposits of the Yorktown Formation described as fossiliferous clay with varying amounts of fine grained sand. The topography is flat and the drainage from the area is very poor. The soils along the project were deposited during periods of fluctuating shoreline.

**Soil Properties**

Soils encountered on the project site include roadway embankment, artificial fill, and Undivided Coastal Plain sediments.

Roadway embankment soils are present in borings advanced on the shoulders of the existing roadways and typically consists of fine to coarse sand, clayey sand (A-3, A-2-4, A-2-6/7) and silt (A-4). These soils fluctuate from dry to wet in moisture content and range in thickness from a few feet to approximately 7 feet.

Artificial fill soils are present in the upper few feet along existing driveway alignment -DR1- and consist of fine sand (A-2-4).

The Undivided Coastal Plain deposits are present at all boring locations and consist of fine to coarse sand and clayey sand (A-1-b, A-3, A-2-4, A-2-6/7), clay (A-6, A-7-6), and silt (A-4). The consistency of the sands is generally loose to medium dense while the consistency of the clays and silts is generally medium stiff to stiff. The moisture content of the soils in this region vary from dry to saturated.

**Groundwater**

Groundwater was encountered from the surface to 11 feet below grade, with an average depth of 5 feet below the existing ground surface in the borings advanced at the site. Based on the proposed grades, no special ditches for groundwater are anticipated.

**Areas of Special Geotechnical Interest**

Much of the main alignment (-EL-) for the project calls for resurfacing of the existing pavement. No construction is expected to occur beneath this section of roadway. Along proposed sections of roadway,

particularly ditch lines, cohesive soils were found in shallow subsurface areas of the project. Table 1 below shows the locations where this material is found along the project.

**Table 1 – Highly Plastic Material along Project**

Alignment	Begin Station	End Station
-Y1-	13+75	23+50
-Y1-	14+00	24+00
-Y1-	26+50	36+50
-Y1-	34+00	36+50

Material cohesive in nature was also found within 3 feet of the proposed roadway surface along stations found in Table 2. These soils are known to cause problems such as shrink and swell of the roadway subgrade leading to cracking and heaving of the pavement surface. See the recommendations report for further information.

**Table 2 – Potential for Moderately to Highly Plastic Soil Subgrades**

Alignment	Begin Station	End Station
-Y2-	35+00	39+00
-Y2LPB-	12+54	13+52
Y2LPD-	12+45	13+40

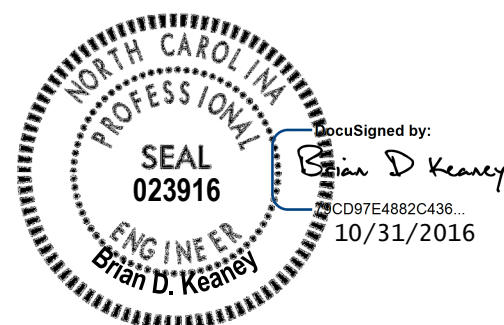
**Geotechnical Testing**

The following undisturbed samples were obtained to determine engineering properties of the soil:

Boring	Sample No.	Depth (ft)	Tests
EL_31452L	ST-1	41.5' – 43.5'	Consolidation, Class, Moisture
L2_1791L	ST-2	50.0' – 52.0'	Consolidation, Class, Moisture
L2_1894L	ST-6	14.2' – 16.2'	CU, Class, Moisture
Y1_2375R	ST-3	11.0' – 13.0'	Consolidation, Class, Moisture
Y2LPD_2084L	ST-5	19.0' – 21.0'	CU, Class, Moisture
Y2LPD_2084L	ST-7	34.0' – 36.0'	Class, Moisture
Y2LPD_2169L	ST-4	19.8' – 21.8'	Class, Moisture

Sincerely,  
HDR ENGINEERING, INC.

Brian D. Keane, PE  
Geotechnical Project Manager

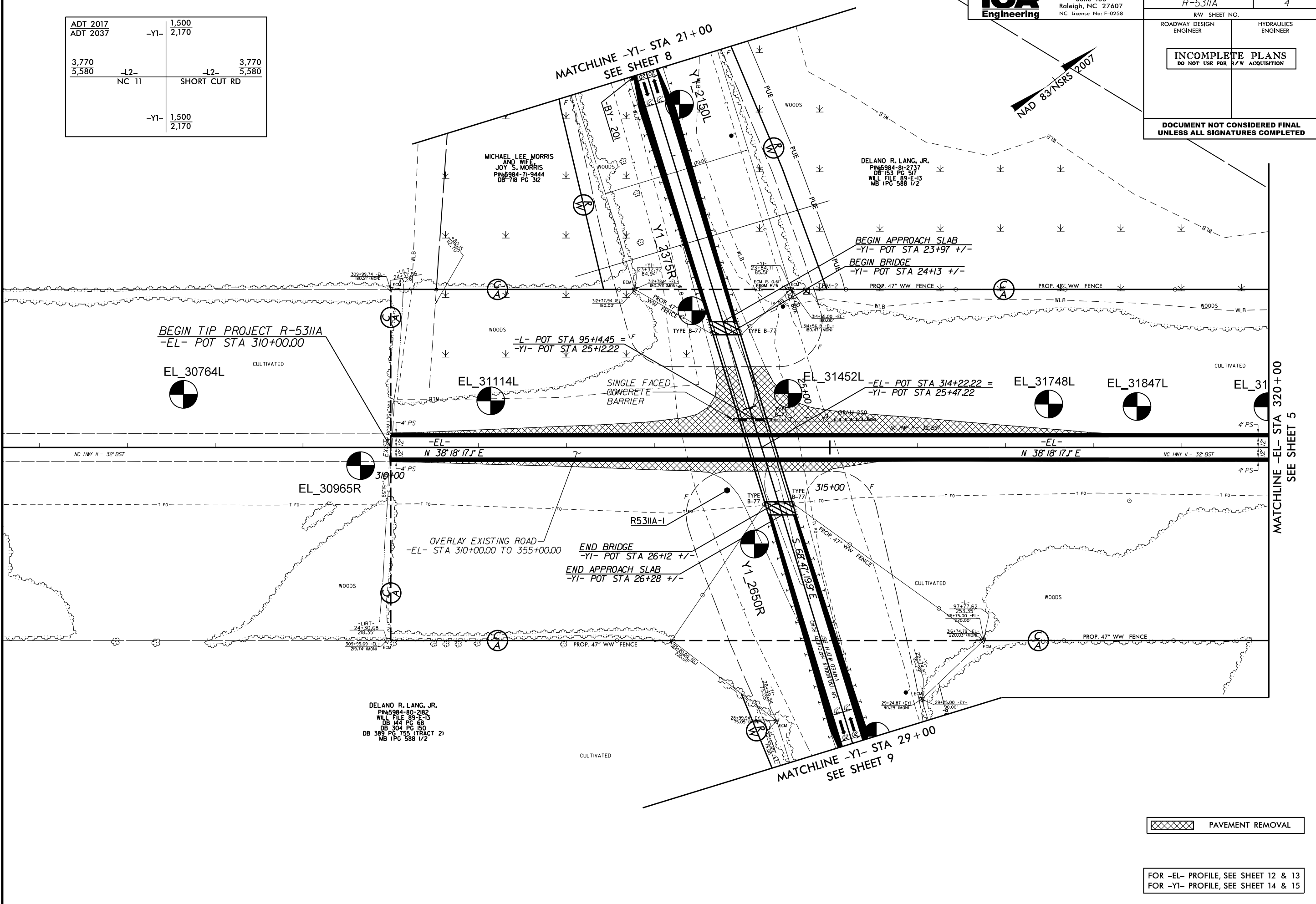




5121 Kingdom Way,  
Suite 100  
Raleigh, NC 27607  
NC License No: F-0258

PROJECT REFERENCE NO. <b>R-5311A</b>	SHEET NO. <b>4</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

ADT 2017	1,500
ADT 2037	2,170
3,770	3,770
5,580	5,580
-L2-	-L2-
NC 11	SHORT CUT RD
-Y1-	1,500
	2,170



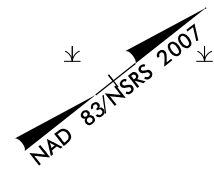
PAVEMENT REMOVAL

FOR -EL- PROFILE, SEE SHEET 12 & 13  
FOR -Y1- PROFILE, SEE SHEET 14 & 15

6/3/2016  
FILE USER NAME: sss

-EL-

PIs Sta 331+87.41	PI Sta 338+07.68	PIs Sta 344+27.08
$\theta_s = 0^\circ 30' 00.0''$	$\Delta = 5^\circ 31' 54.0''$ (RT)	$\theta_s = 0^\circ 30' 00.0''$
$L_s = 200.00'$	$D = 0^\circ 30' 00.0''$	$L_s = 200.00'$
$LT = 133.33'$	$L = 1106.33'$	$LT = 133.33'$
$ST = 66.67'$	$T = 553.60'$	$ST = 66.67'$
	$R = 11,459.16'$	

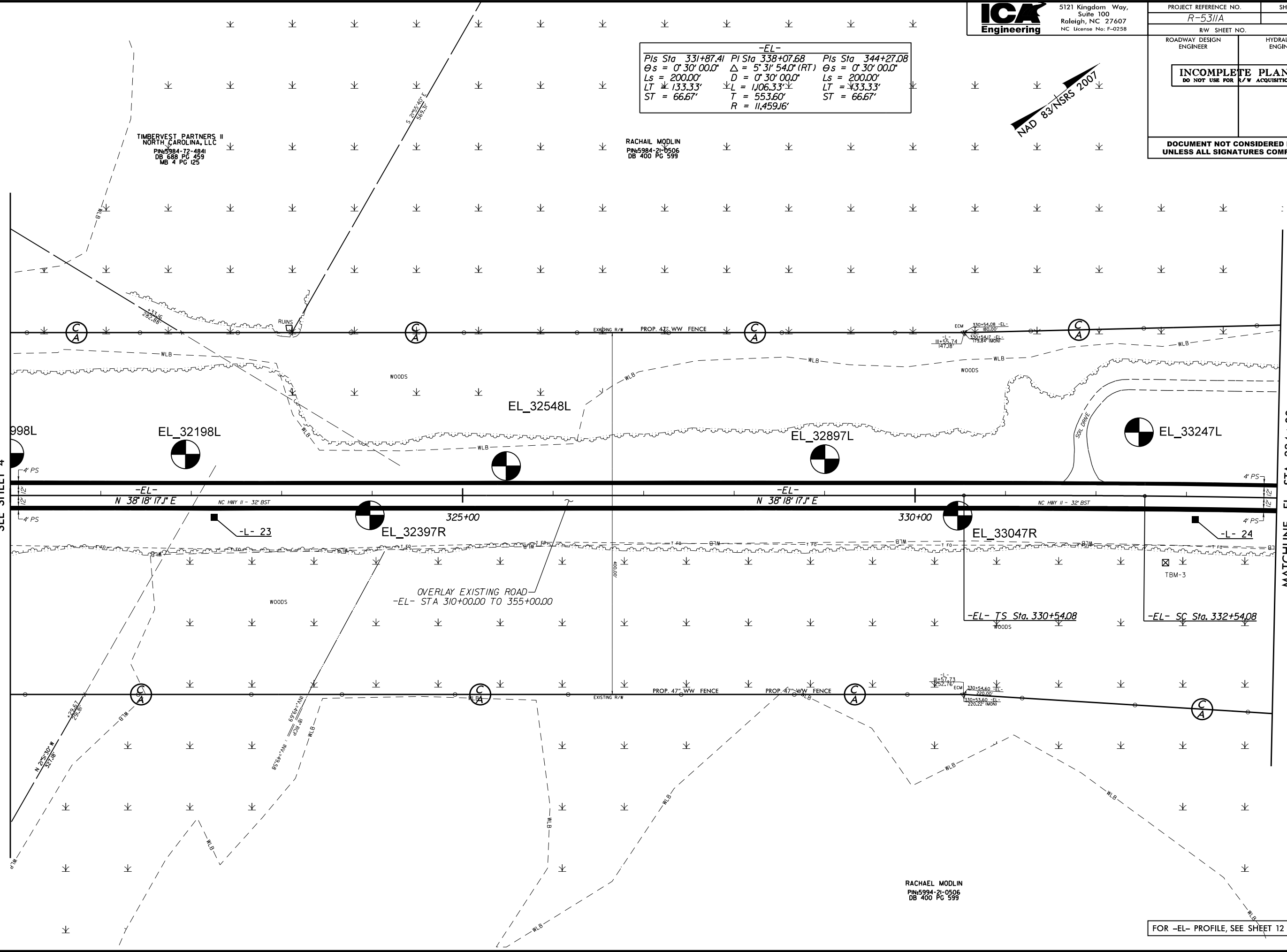


TIMBERVEST PARTNERS II  
 NORTH CAROLINA, LLC  
 PIN: 5984-72-4841  
 DB 688 PG 459  
 MB 4 PG 125

RACHAIL MODLIN  
 PIN: 5984-21-0506  
 DB 400 PG 599

MATCHLINE -EL- STA 320+00  
SEE SHEET 4

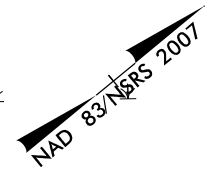
MATCHLINE -EL- STA 334+00  
SEE SHEET 6



\$DATE\$  
 \$FILE\$  
 \$USER\$

RACHAEL MODLIN  
 PIN: 5994-21-0506  
 DB 400 PG 599

FOR -EL- PROFILE, SEE SHEET 12 & 13



-EL-

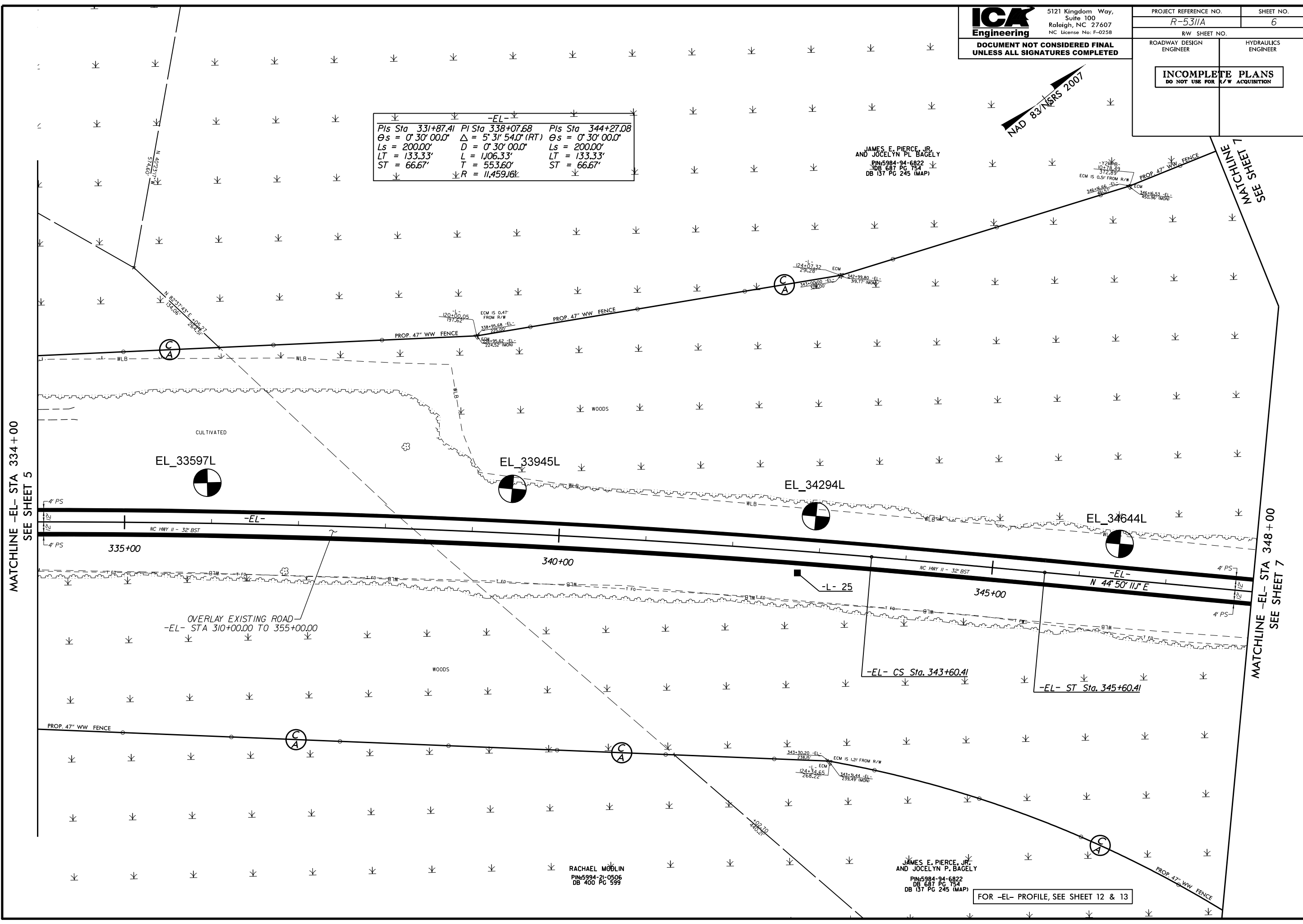
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$L_s = 200.00'$	$D = 0^\circ 30' 00.0''$	$L_s = 200.00'$
$LT = 133.33'$	$L = 1406.33'$	$LT = 133.33'$
$ST = 66.67'$	$T = 553.60'$	$ST = 66.67'$
$R = 11,459.64'$		

JAMES E. PIERCE, JR.  
 AND JOCELYN P. BAGELY  
 PIN 5984-94-6822  
 DB 687 PG 754  
 DB 137 PG 245 (MAP)

MATCHLINE -EL- STA 334+00  
SEE SHEET 5

MATCHLINE -EL- STA 348+00  
SEE SHEET 7

\$DATE\$  
\$FILE\$  
\$USER\$

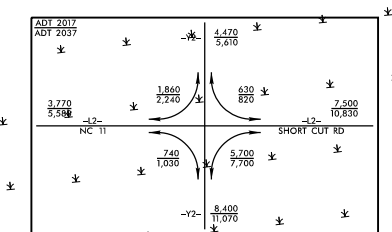
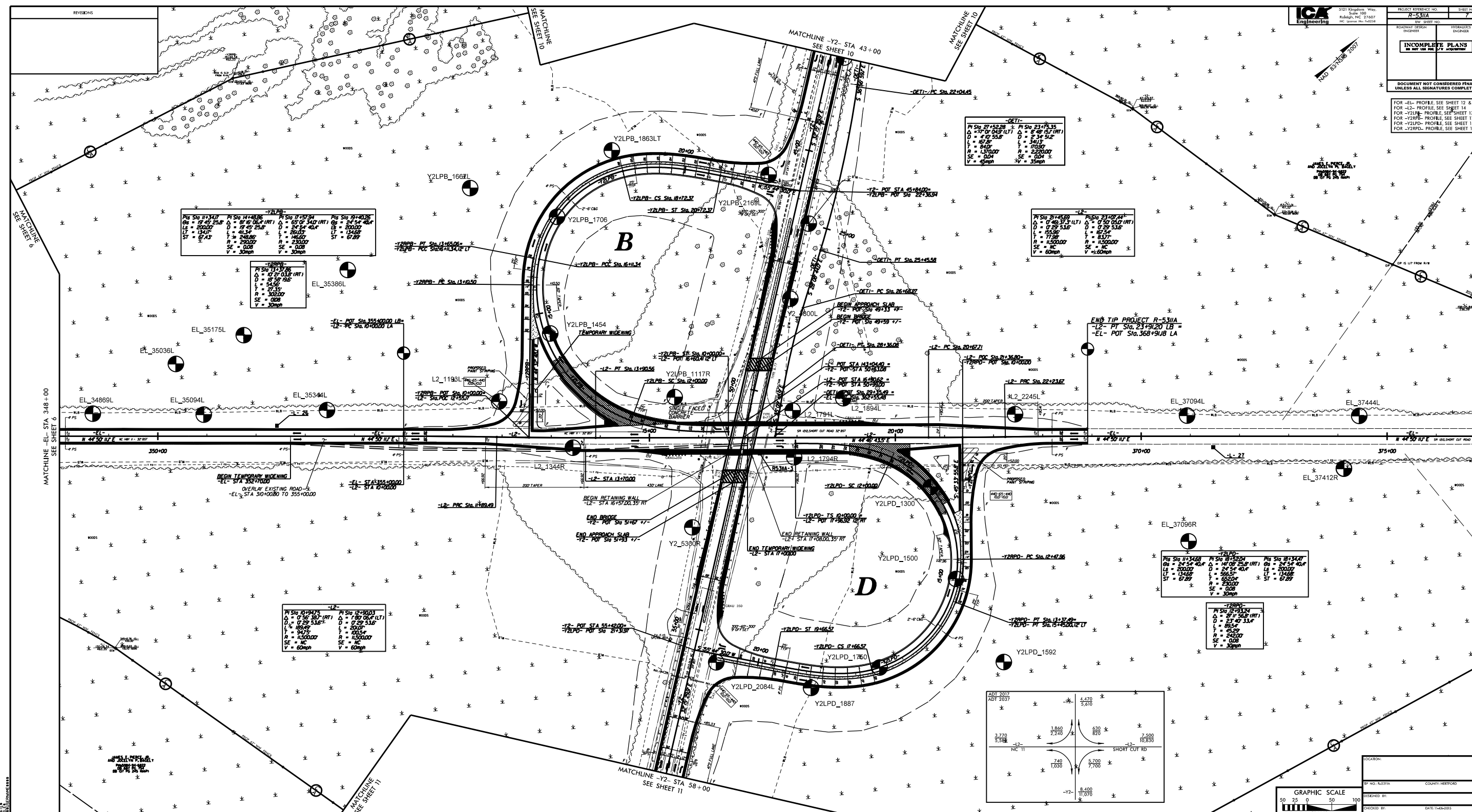


RACHAEL MOULIN  
 PIN 5994-21-0506  
 DB 400 PG 599

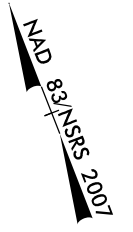
JAMES E. PIERCE, JR.  
 AND JOCELYN P. BAGELY  
 PIN 5984-94-6822  
 DB 687 PG 754  
 DB 137 PG 245 (MAP)

FOR -EL- PROFILE, SEE SHEET 12 & 13

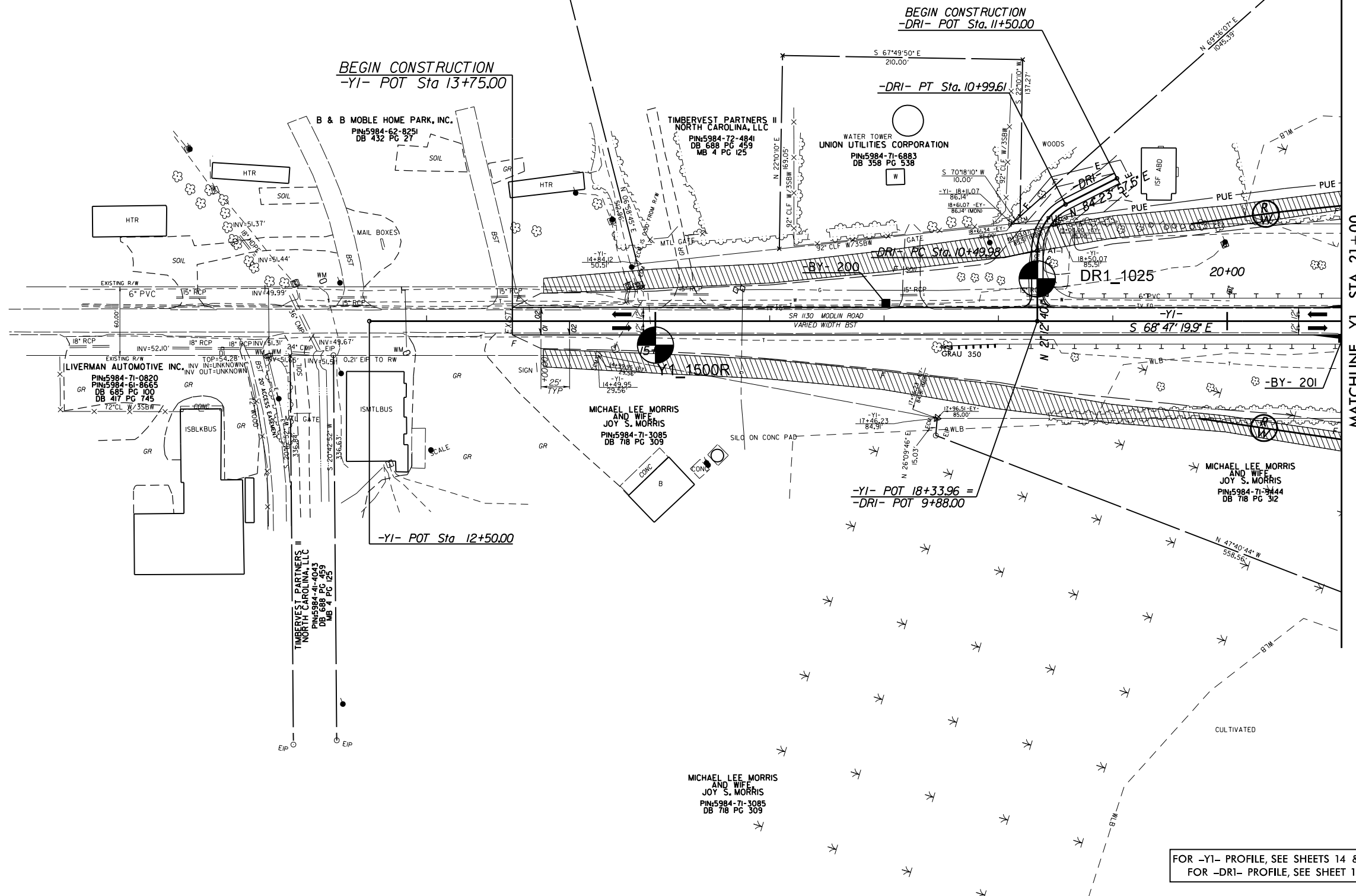




PROJECT REFERENCE NO. <i>R-531/A</i>	SHEET NO. <i>8</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



**-DRI-**  
 PI Sta 10+77.66  
 $\Delta = 63^\circ 11' 17.5" (RT)$   
 $D = 127' 19" 26.2"$   
 $L = 49.63'$   
 $T = 27.68'$   
 $R = 45.00'$   
 SE = NC

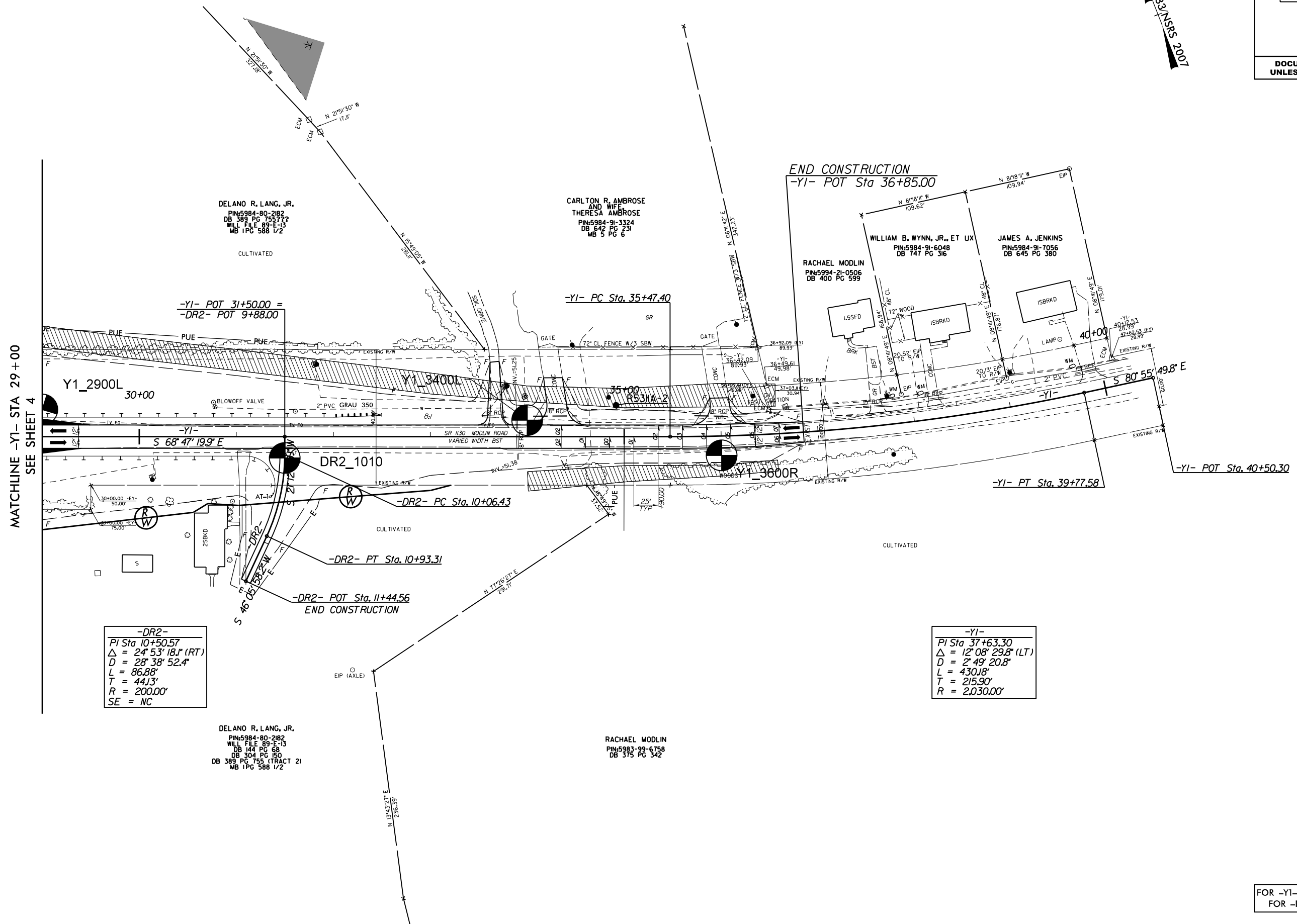
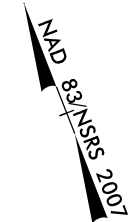


MATCHLINE -YI- STA 21+00  
SEE SHEET 4

FOR -YI- PROFILE, SEE SHEETS 14 & 15  
 FOR -DRI- PROFILE, SEE SHEET 19

\$\$\$DATE\$\$\$\$\$\$\$  
 \$\$\$FILE\$\$\$\$\$\$\$  
 \$\$\$USERNAME\$\$\$\$\$\$\$

PROJECT REFERENCE NO. <i>R-531/A</i>	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -Y1- STA 29+00  
SEE SHEET 4

**-DR2-**  
PI Sta 10+50.57  
 $\Delta = 24' 53' 18.1''$  (RT)  
D = 28' 38' 52.4"  
L = 86.88'  
T = 44.13'  
R = 200.00'  
SE = NC

**-Y1-**  
PI Sta 37+63.30  
 $\Delta = 12' 08' 29.8''$  (LT)  
D = 2' 49' 20.8"  
L = 430.18'  
T = 215.90'  
R = 2.030.00'

\$\$\$DATE\$\$\$\$\$  
\$\$\$FILE\$\$\$\$\$  
\$\$\$USERNAME\$\$\$\$\$

FOR -Y1- PROFILE, SEE SHEETS 14 & 15  
FOR -DR2- PROFILE, SEE SHEET 19

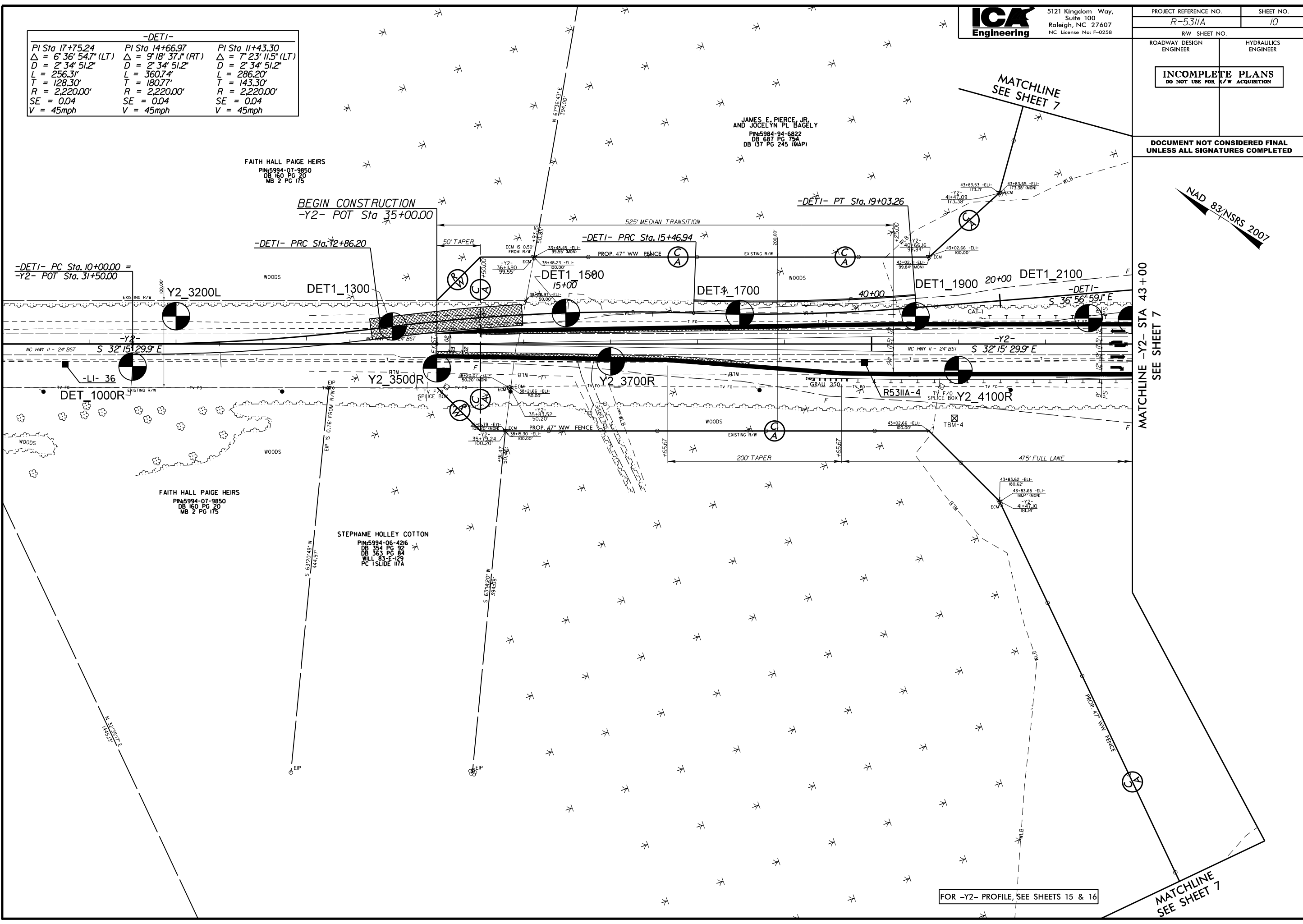
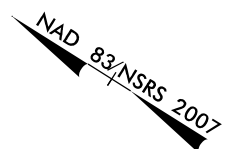
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

-DET1-		
PI Sta 17+75.24	PI Sta 14+66.97	PI Sta 11+43.30
$\Delta = 6^{\circ} 36' 54.7" (LT)$	$\Delta = 9^{\circ} 18' 37.1" (RT)$	$\Delta = 7^{\circ} 23' 11.5" (LT)$
$D = 2^{\circ} 34' 51.2"$	$D = 2^{\circ} 34' 51.2"$	$D = 2^{\circ} 34' 51.2"$
$L = 256.31'$	$L = 360.74'$	$L = 286.20'$
$T = 128.30'$	$T = 180.77'$	$T = 143.30'$
$R = 2,220.00'$	$R = 2,220.00'$	$R = 2,220.00'$
$SE = 0.04$	$SE = 0.04$	$SE = 0.04$
$V = 45\text{mph}$	$V = 45\text{mph}$	$V = 45\text{mph}$

JAMES E. PIERCE, JR.  
 AND JOCELYN PL BAGELY  
 PIN: 5984-94-6822  
 DB 687 PG 75A  
 DB 137 PG 245 (MAP)

FAITH HALL PAIGE HEIRS  
 PIN: 5994-07-9850  
 DB 160 PG 20  
 MB 2 PG 175

STEPHANIE HOLLEY COTTON  
 PIN: 5994-06-4216  
 DB 324 PG 92  
 DB 363 PG 84  
 WILL 831-F-129  
 PC TSLIDE 117A



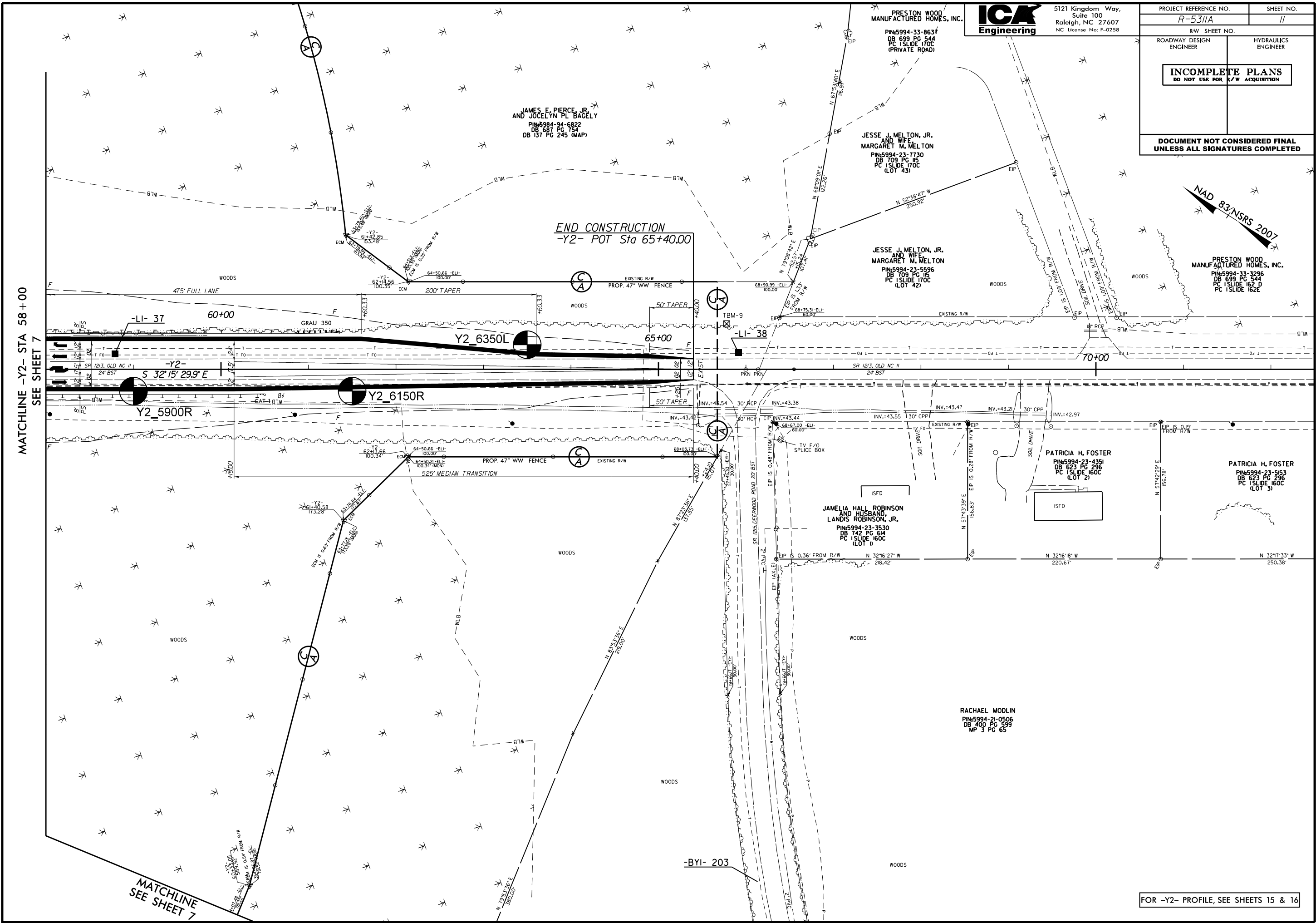
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 \$USER\$

FOR -Y2- PROFILE, SEE SHEETS 15 & 16

MATCHLINE  
SEE SHEET 7

PROJECT REFERENCE NO. R-531/A	SHEET NO. 11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

**ICA Engineering**  
5121 Kingdom Way,  
Suite 100  
Raleigh, NC 27607  
NC License No: F-0258



MATCHLINE -Y2- STA 58+00  
SEE SHEET 7

MATCHLINE  
SEE SHEET 7

FOR -Y2- PROFILE, SEE SHEETS 15 & 16

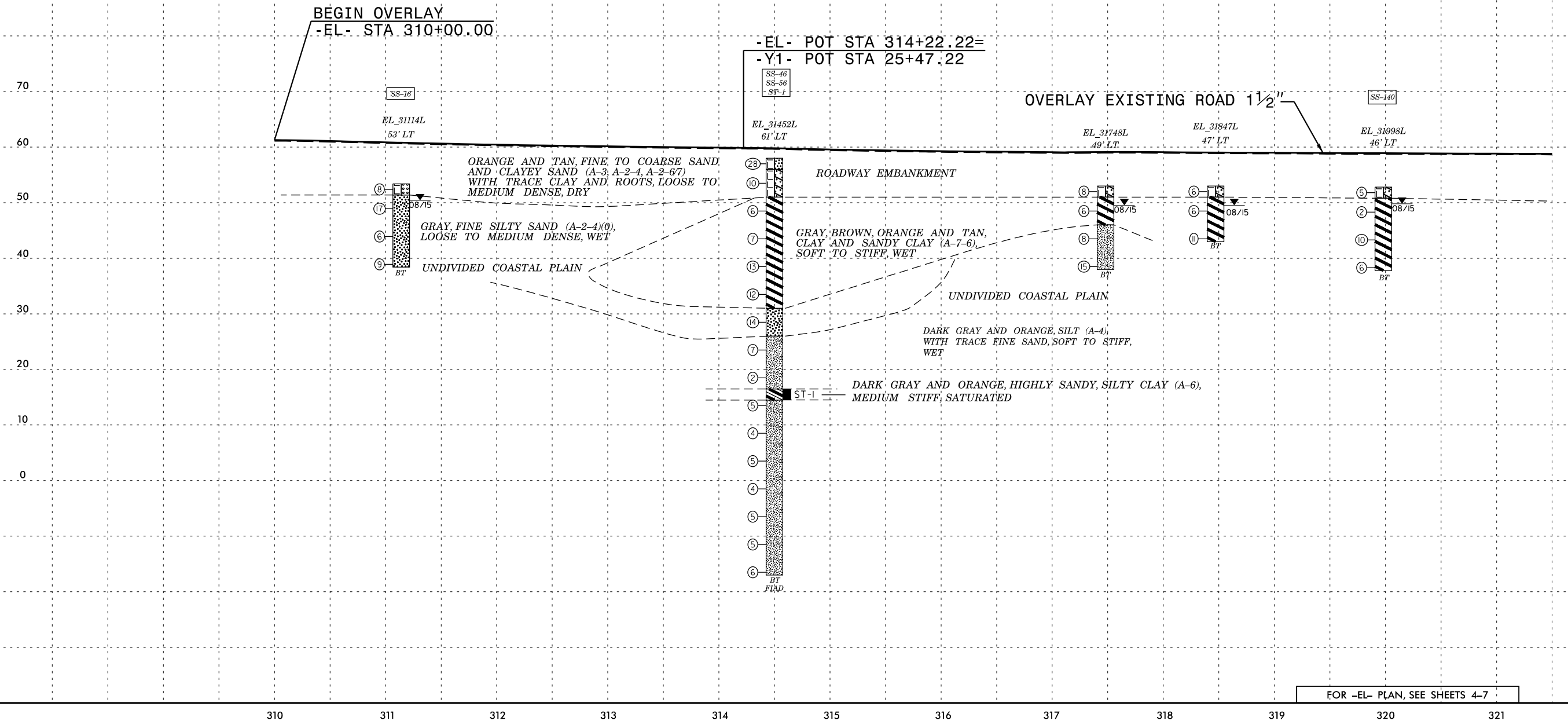
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\$\$\$FILE\$\$\$  
\$\$\$USERNAME\$\$\$

5/14/99  
 C:\PROJECTS\5311\5311.DWG  
 PLOT DATE: 08/15/99  
 PLOT TIME: 10:00 AM  
 PLOT SCALE: 1"=40'  
 PLOT SHEET: 12 OF 12  
 PLOT BY: JMM  
 PLOT CHECK: JMM  
 PLOT APPROVAL: JMM

-EL-

PROJECT REFERENCE NO. <b>R-5311A</b>	SHEET NO. <b>12</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> <b>UNLESS ALL SIGNATURES COMPLETED</b>	

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-16	53' LT	311+14	8.5'-10.0'	A-2-4(0)	27	NP	30.6	56.3	3.1	9.9	99.9	90.4	16.0	26	
SS-46	61' LT	314+52	18.5'-20.0'	A-7-6(13)	42	23	13.7	24	22	40.1	99.8	94.2	66.5	27	
SS-56	61' LT	314+52	68.5'-70.0'	A-4(4)	33	8	1.8	50.5	35.4	12.2	99.9	98.3	65.9	39	
ST-1	61' LT	314+52	41.5'-43.5'	A-6(8)	39	13	0	47.3	33.6	19.1	100.0	100.0	67.6	45	
SS-140	46' LT	319+98	3.5'-5.0'	A-7-6(32)	56	31	0.4	12	31.1	56.5	100.0	99.8	92.1	36	



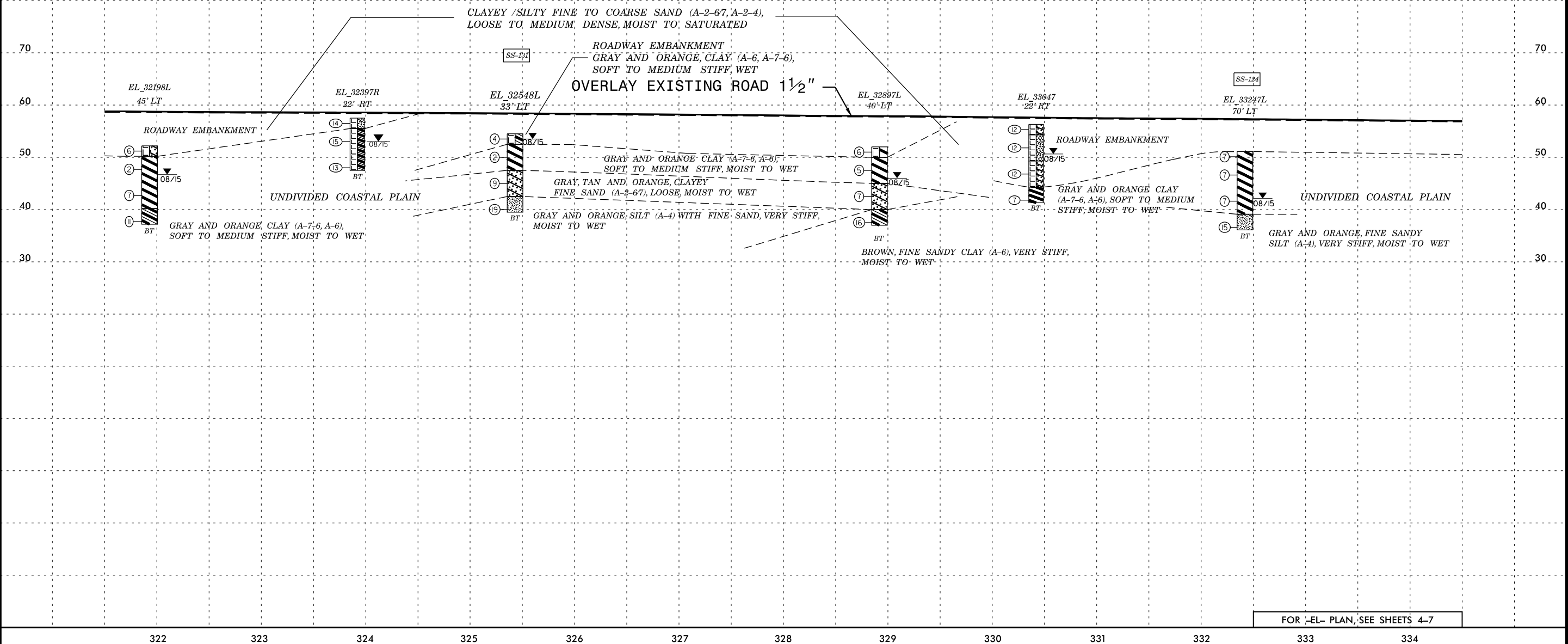
FOR -EL- PLAN, SEE SHEETS 4-7

5/14/99

-EL-

PROJECT REFERENCE NO. R-5311A	SHEET NO. 13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-131	33' LT	325+48	0.0'-1.5'	A-6(12)	36	14	3.5	15	48.1	33.4	100.0	98.7	85.8	29	
SS-124	70' LT	332+47	8.5'-10.0'	A-7-6(27)	50	30	3	14.4	41.4	41.2	100.0	98.0	86.3	28	

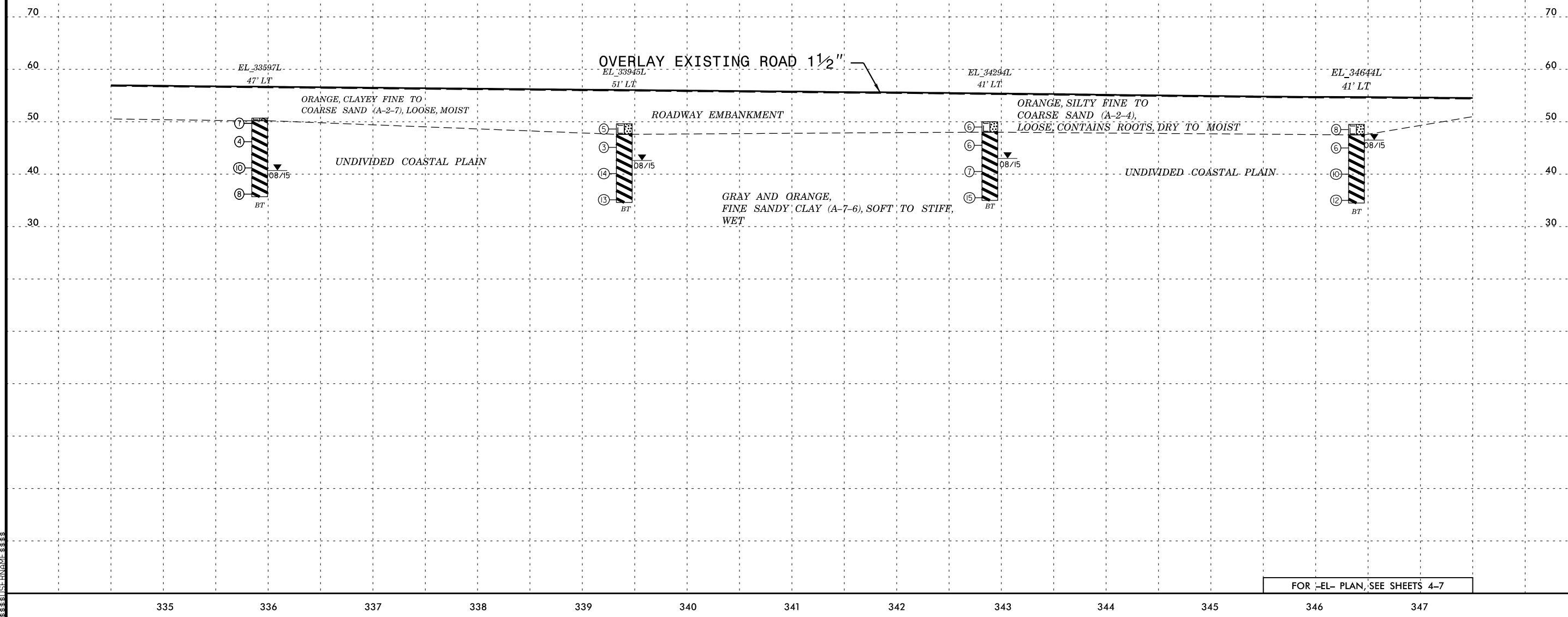


FOR -EL- PLAN, SEE SHEETS 4-7

5/14/99

-EL-

PROJECT REFERENCE NO. <i>R-5311A</i>	SHEET NO. <i>14</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



FOR -EL- PLAN, SEE SHEETS 4-7

CONSTRUCTION

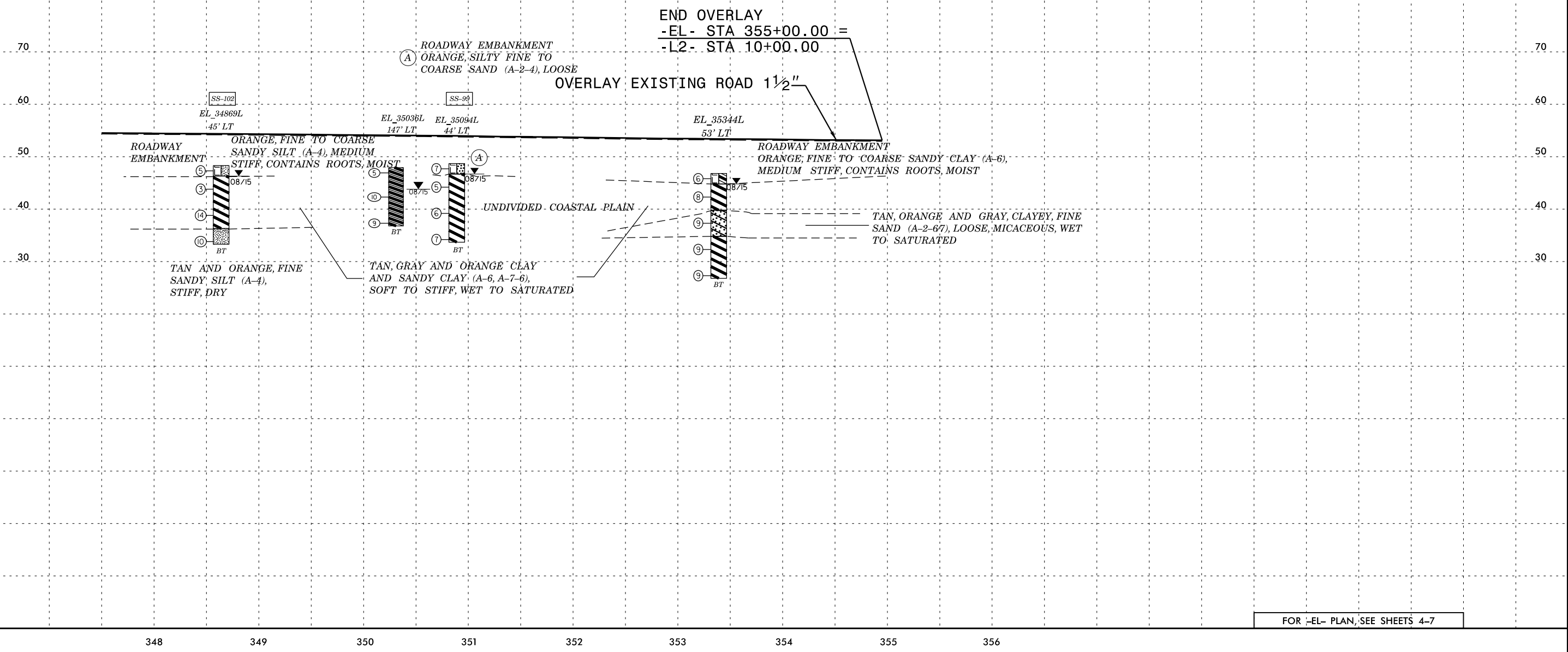


5/14/99

-EL-

PROJECT REFERENCE NO. <i>R-5311A</i>	SHEET NO. <i>15</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

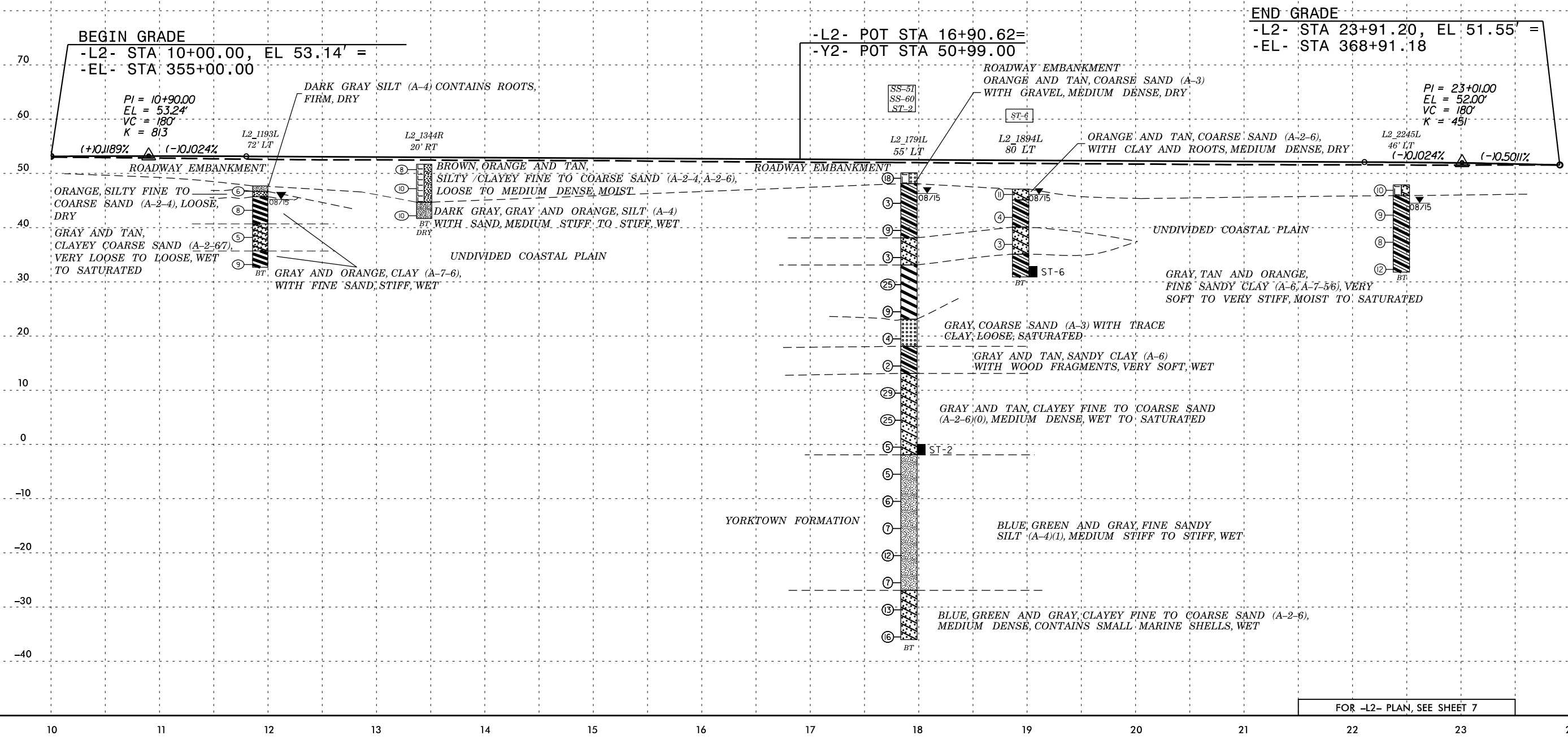
<b>SOIL TEST RESULTS</b>															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-102	45' LT	348+69	0.0'-1.5'	A-4(0)	29	9	33.7	33.2	10.8	21.4	100.0	80.4	38.4	23	
SS-99	44' LT	350+94	3.5'-5.0'	A-7-6(35)	59	34	5.1	6	33.3	55.6	100.0	97.1	90.8	26	



FOR -EL- PLAN, SEE SHEETS 4-7

### 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-51	55' LT	17+91	19.6'-21.1'	A-7-5(12)	47	17	15.4	24.4	52.1	8.1	100.0	89.2	68.8	28	
SS-60	55' LT	17+91	64.4'-66.1'	A-4(1)	29	7	7.8	56.9	26.1	9.2	100.0	98.9	48.7	42	
ST-2	55' LT	17+88	50.0'-52.0'	A-2-6(0)	31	15	75.8	11.1	5.0	8.1	98.8	31.7	14.6	37	
ST-6	80' LT	18+94	14.2'-16.2'	A-6(3)	32	17	38.5	20.7	13.9	26.9	99.5	84.4	44.1	36	



FOR -L2- PLAN, SEE SHEET 7

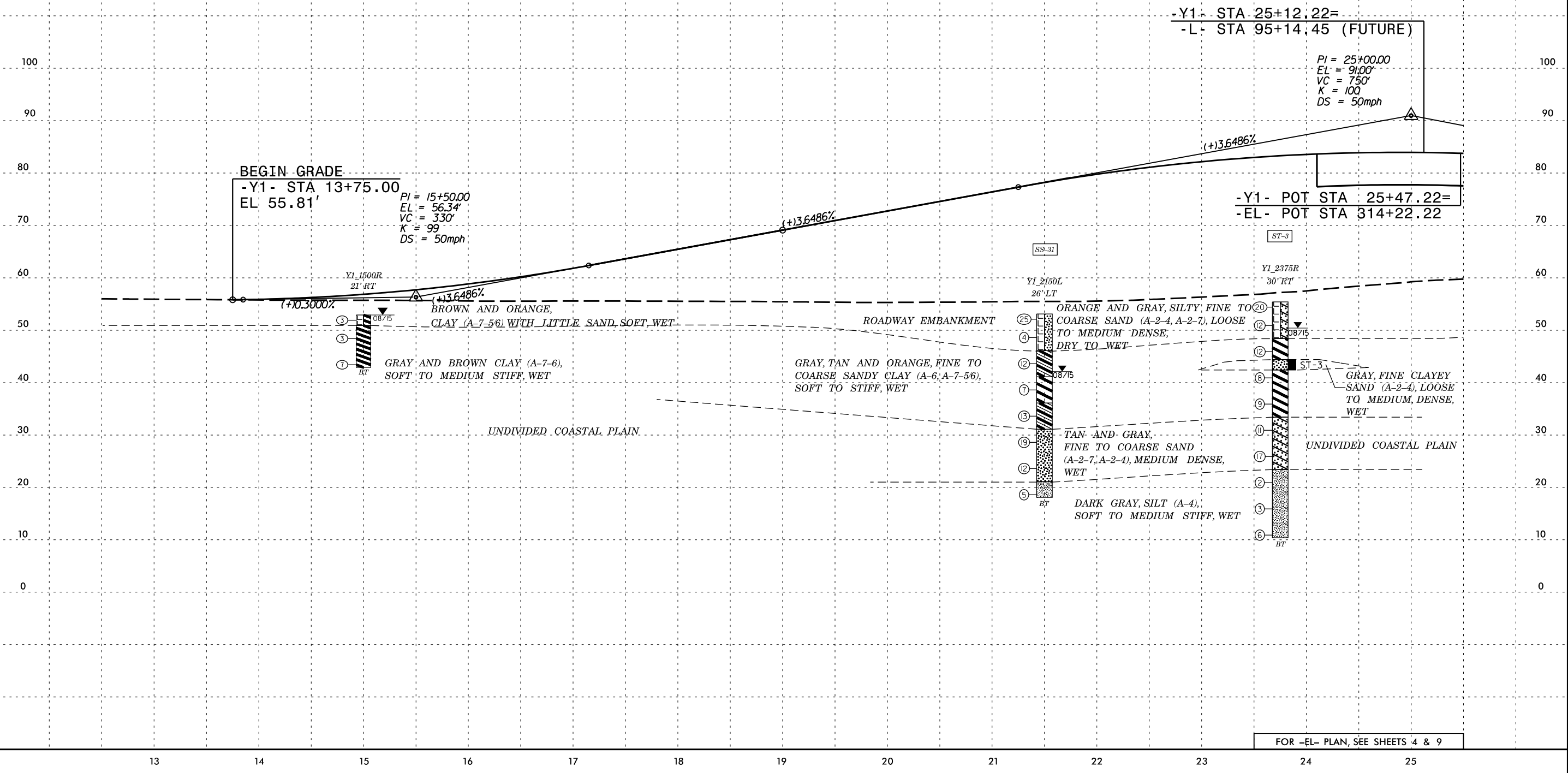
5/14/99

5/14/99

-Y1-

PROJECT REFERENCE NO. <b>R-5311A</b>	SHEET NO. <b>17</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS	
DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10'	40'	200'		
SS-31	26' LT	21+50	23.5'-25.0'	A-2-4(0)	20	NP	66.8	24	5.4	2.5	98.7	62.4	10.0	18	
ST-3	30' RT	23+75	11.0'-13.0'	A-2-4(0)	27	8	5.0	69.0	12.6	13.4	100.0	99.6	35.1	24	

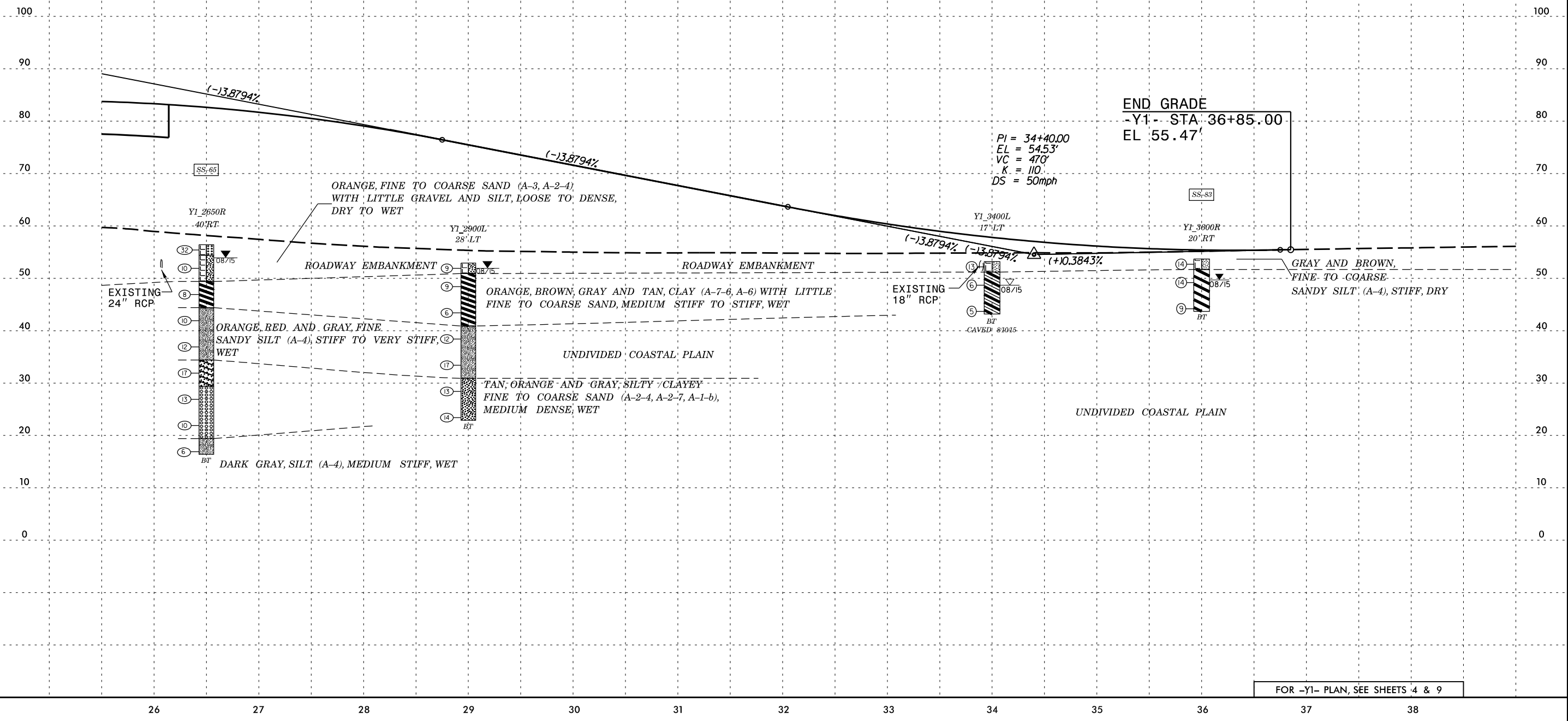


5/14/99

-Y1-

PROJECT REFERENCE NO. <i>R-5311A</i>	SHEET NO. <i>18</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

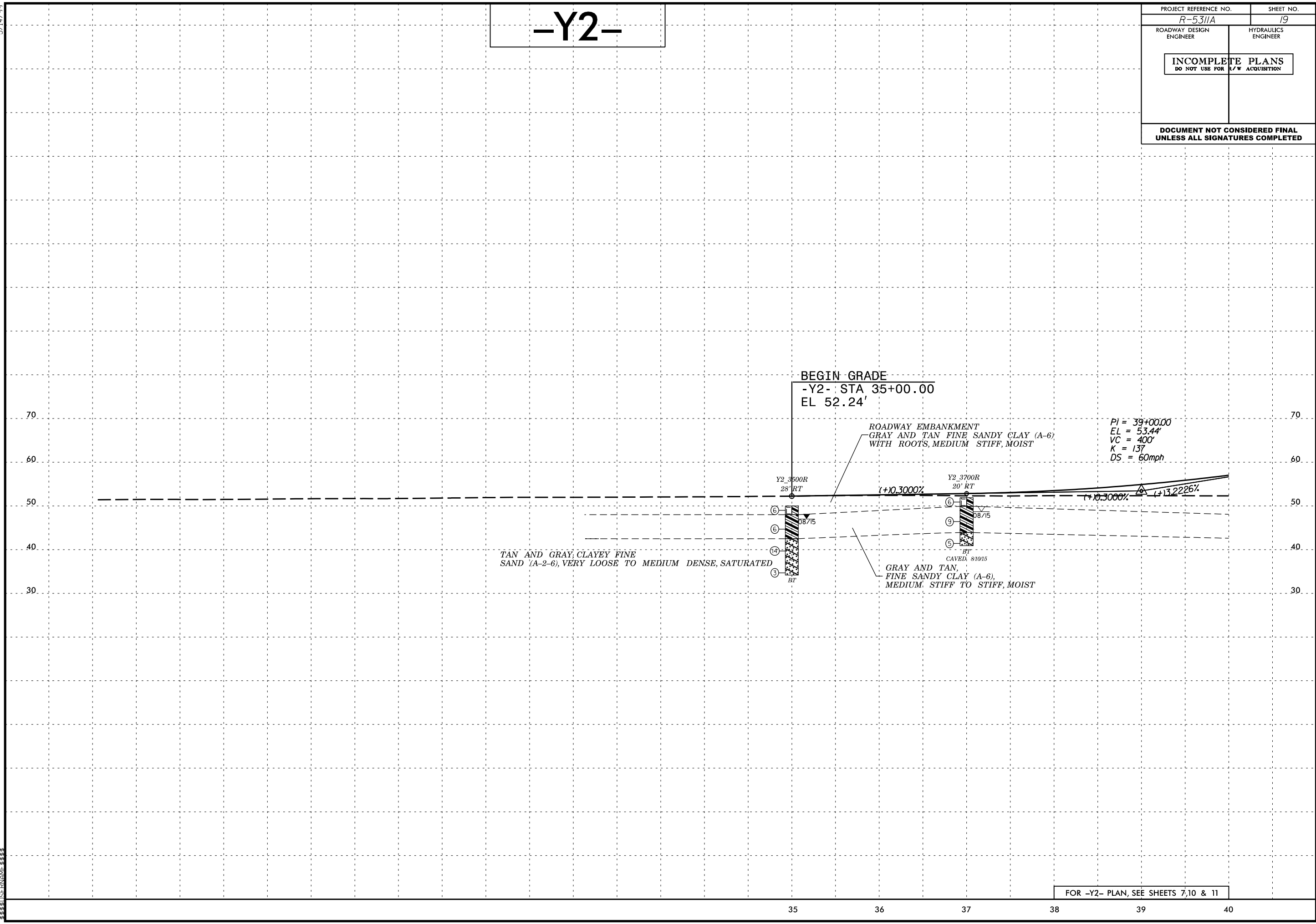
SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-65	40' RT	26+50	33.5'-35.0'	A-1-b(0)	22	NP	58.5	15.5	5.2	2	81.2	40.3	8.9	18	
SS-83	20' RT	36+00	3.5'-5.0'	A-7-6(32)	57	34	.04	79.8	30.1	49.7	100.0	99.9	87.2	26	



FOR -Y1- PLAN, SEE SHEETS 14 & 9

-Y2-

PROJECT REFERENCE NO. R-5311A	SHEET NO. 19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



PI = 39+00.00  
 EL = 53.44'  
 VC = 400'  
 K = 137  
 DS = 60mph

BEGIN GRADE  
 -Y2- STA 35+00.00  
 EL 52.24'

ROADWAY EMBANKMENT  
 GRAY AND TAN FINE SANDY CLAY (A-6)  
 WITH ROOTS, MEDIUM STIFF, MOIST

TAN AND GRAY, CLAYEY FINE  
 SAND (A-2-6), VERY LOOSE TO MEDIUM DENSE, SATURATED

GRAY AND TAN,  
 FINE SANDY CLAY (A-6).  
 MEDIUM STIFF TO STIFF, MOIST

FOR -Y2- PLAN, SEE SHEETS 7, 10 & 11

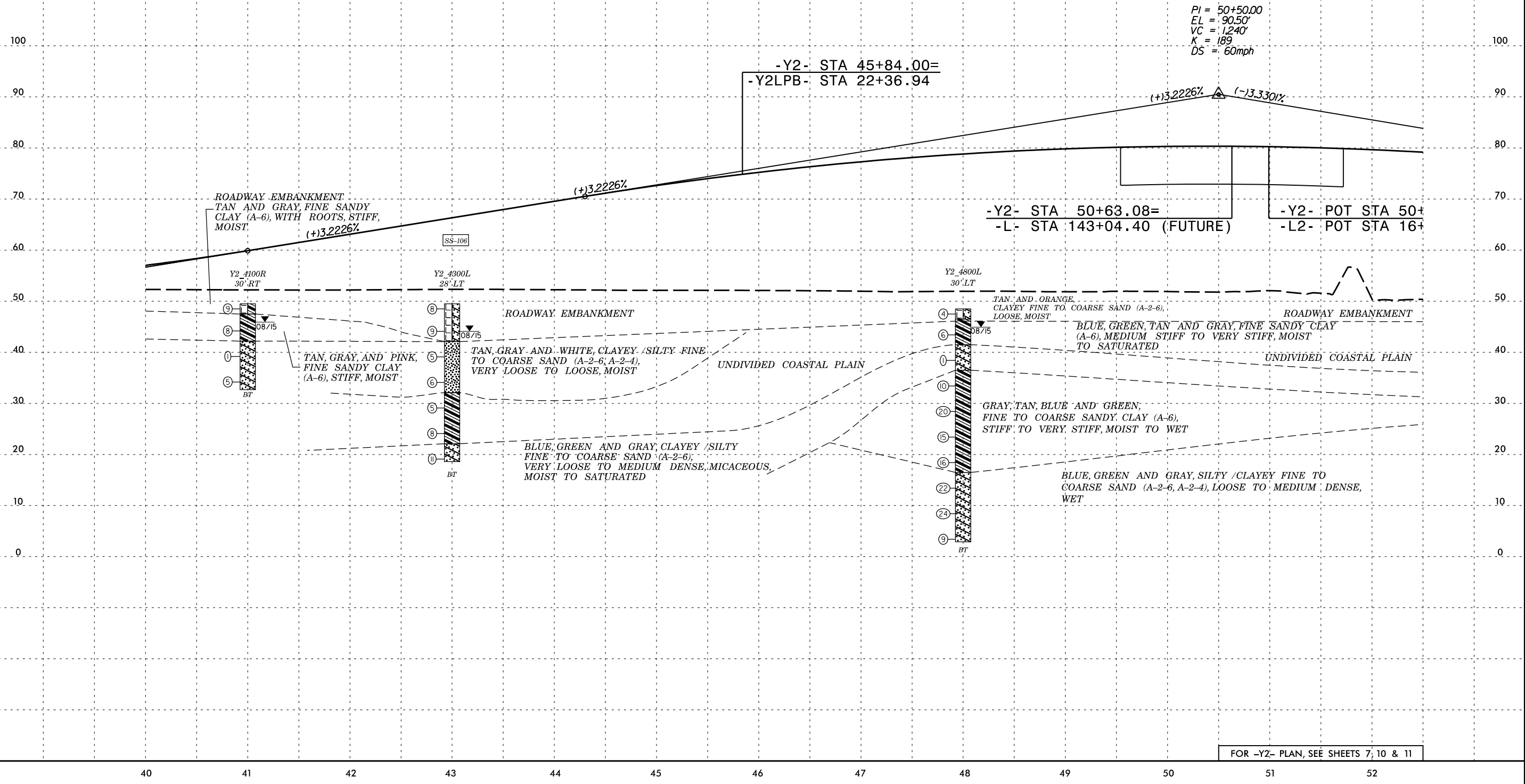
5/14/99

CONSTRUCTION

# -Y2-

PROJECT REFERENCE NO. <b>R-5311A</b>	SHEET NO. <b>20</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-106	28' LT	43+00	14.4'-15.9'	A-2-4(0)	21	NP	60.4	26.3	7.2	6	99.9	84.0	15.4	21	



FOR -Y2- PLAN, SEE SHEETS 7, 10 & 11

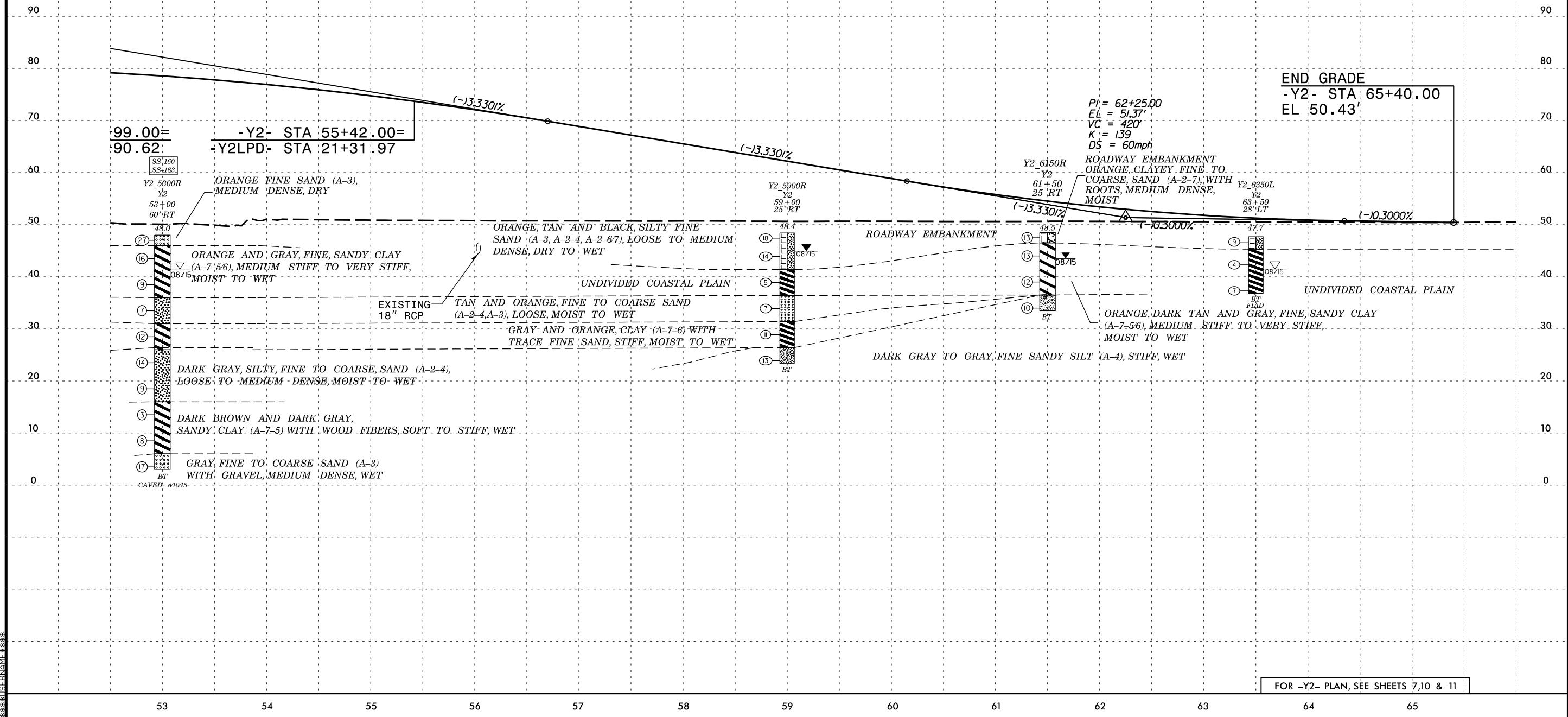
5/14/99  
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 PLOT DATE: 08/15/99  
 PLOT TIME: 10:00 AM  
 PLOT BY: JMM  
 PLOT DEVICE: HPGL

5/14/99

**-Y2-**

PROJECT REFERENCE NO. <i>R-5311A</i>	SHEET NO. <i>21</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

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	60' RT	53+00	13.5'-15.0'	A-2-4(0)	18	NP	36.2	42.8	11	10	100.0	63.8	25.3	24	
SS-163	60' RT	53+00	33.5'-35.0'	A-7-5(24)	62	28	20.3	4.5	59.8	15.4	100.0	82.1	76.0	76	

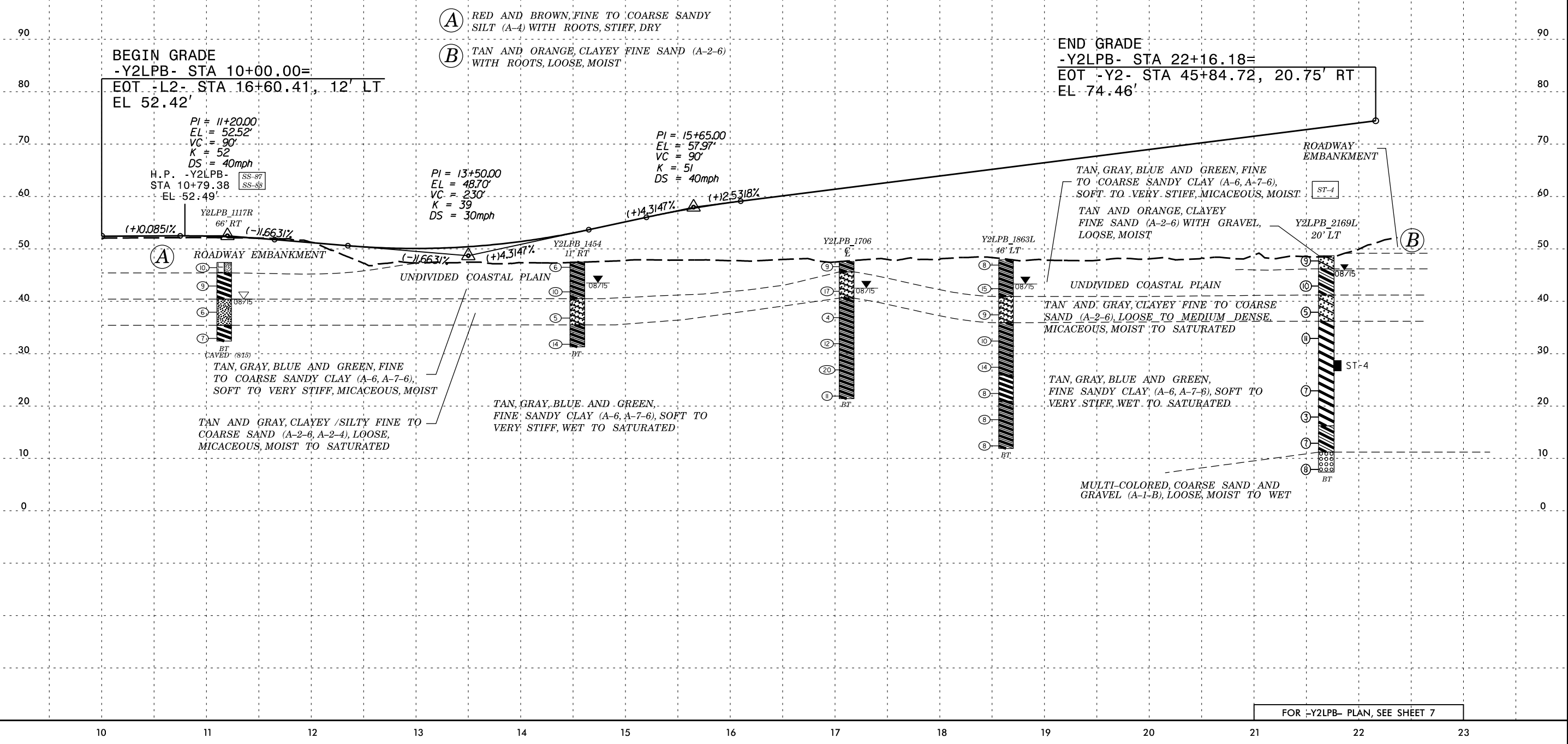


FOR -Y2- PLAN, SEE SHEETS 7, 10 & 11

5/14/99  
 CONTRACT NO. 98-0010  
 PROJECT NO. 100-1000  
 SHEET NO. 22  
 ROADWAY DESIGN ENGINEER  
 HYDRAULICS ENGINEER  
 INCOMPLETE PLANS  
 DO NOT USE FOR R/W ACQUISITION  
 DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED  
 FOR -Y2LPB- PLAN, SEE SHEET 7

# -Y2LPB-

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-87	66' RT	11+17	8.5'-10.0'	A-2-4(0)	20	NP	1.4	73.9	17.0	1.8	100.0	98.6	24.7	27	
SS-88	66' RT	11+17	13.5'-15.0'	A-7-6(40)	65	38	1.0	7.8	46.3	10.4	100.0	98.9	91.1	34	
ST-4	20' LT	21+69	19.8'-21.8'	A-7-6(33)	63	35	4.2	16.4	38.8	40.6	100.0	99.0	83.4	33	

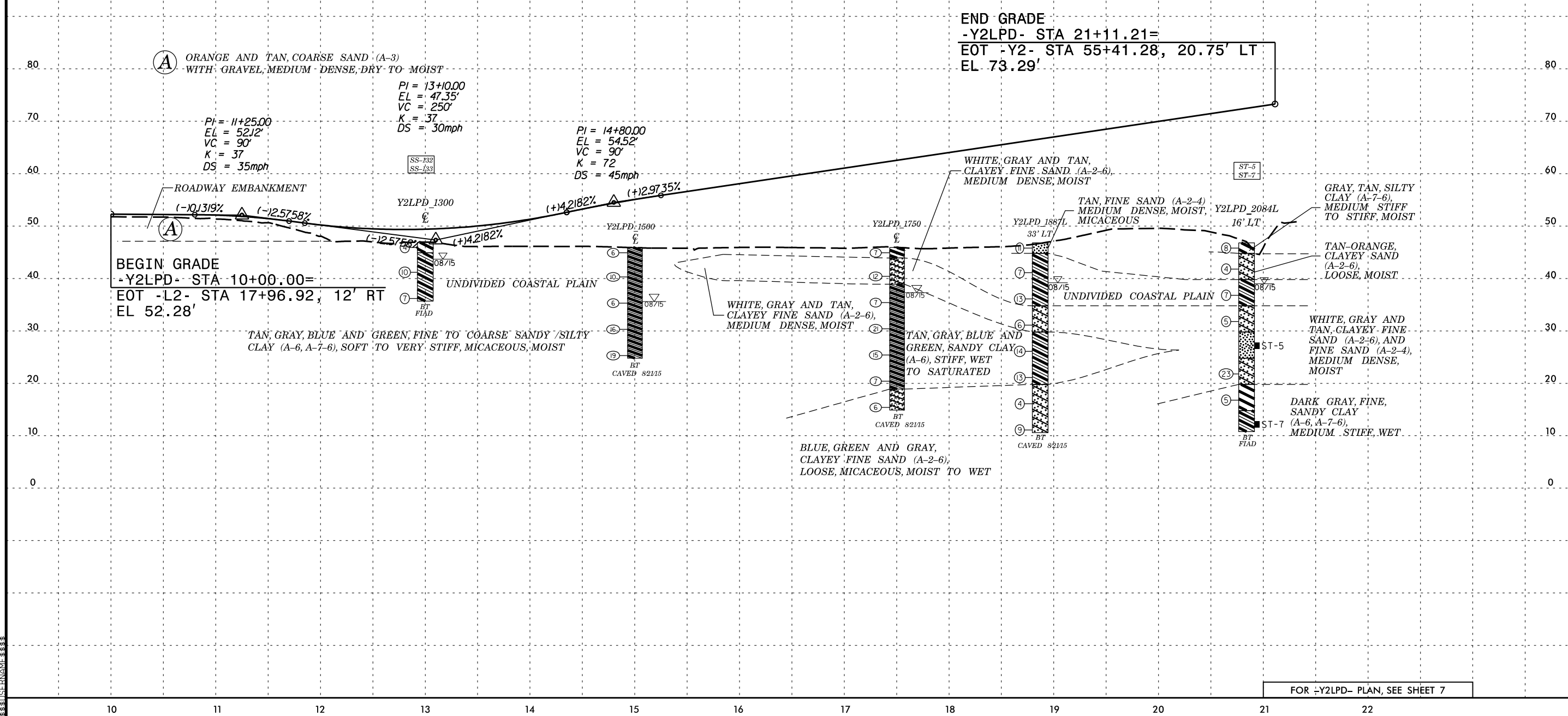




# -Y2LPD-

PROJECT REFERENCE NO. <i>R-5311A</i>	SHEET NO. <i>23</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-132	CL	13+00	0.0'-1.5'	A-7-6(14)	41	20	8	19.8	33.6	38.6	100.0	97.6	75.8	37	
SS-133	CL	13+00	4.7'-6.2'	A-6(1)	29	11	23.5	41	19.1	16.4	100.0	95.7	41.5	28	
ST-5	16' LT	20+84	19.0'-21.0'	A-2-4(0)	NP	NP	9.9	79.7	6.2	4.2	100.0	99.8	12.8	29	
ST-7	16' LT	20+84	34.0'-36.0'	A-6(10)	34	15	3.6	30.1	33.7	32.6	99.9	98.8	75.9	27	



FOR -Y2LPD- PLAN, SEE SHEET 7

5/14/99

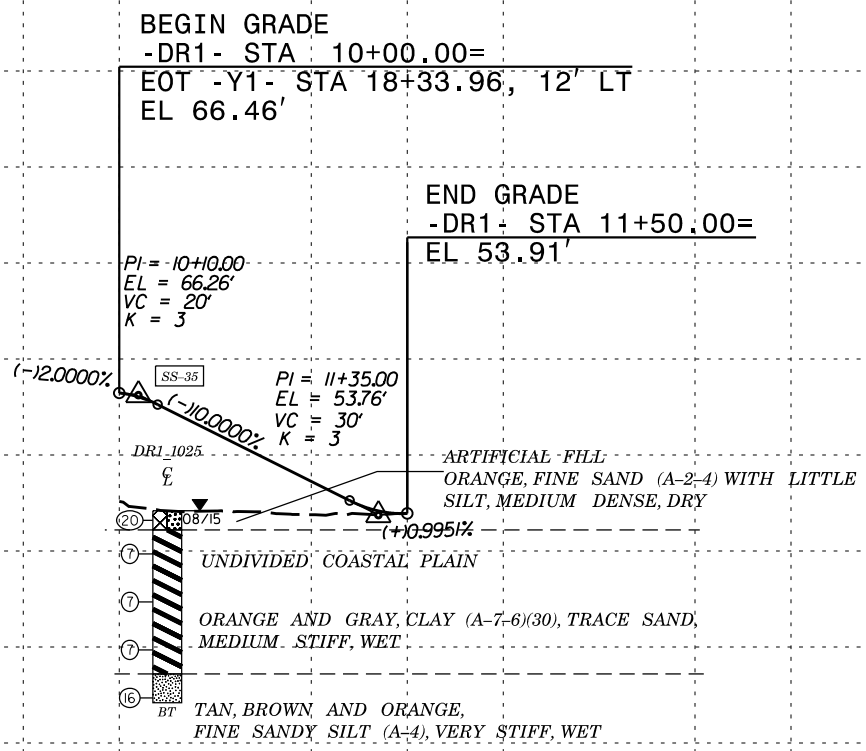
5/14/99

-DR1-

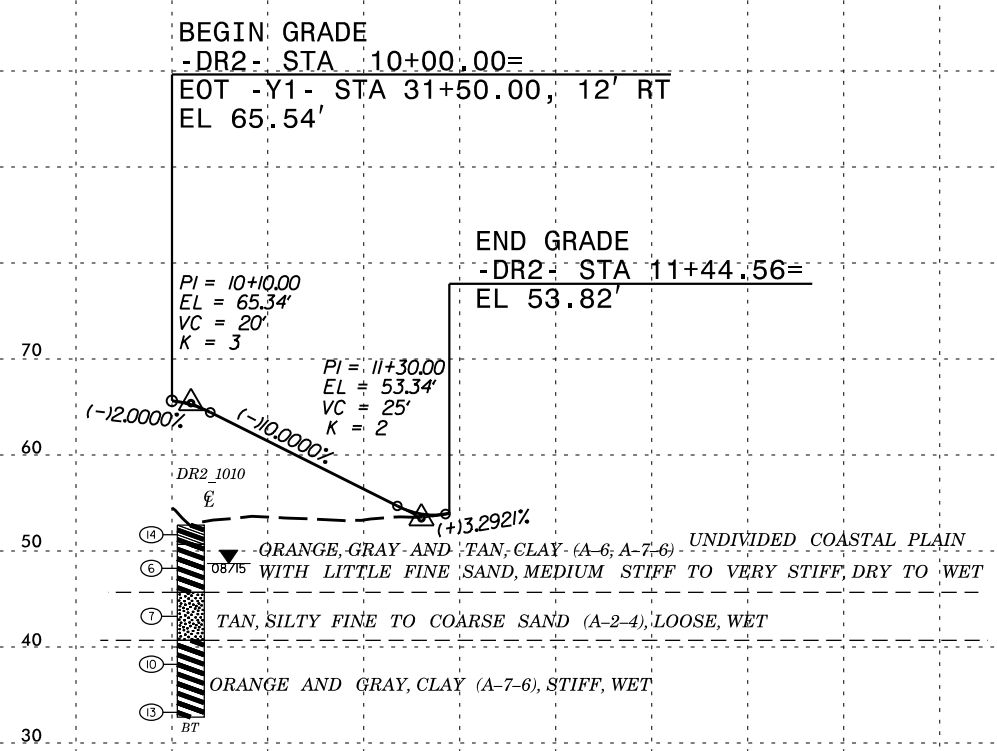
-DR2-

PROJECT REFERENCE NO. <i>R-5311A</i>	SHEET NO. <i>24</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-35	CL	10+25	3.5'-5.0'	A-7-6(30)	61	33	0.6	24.1	27.9	47.3	99.9	99.7	83.5	32	



FOR -DR1- PLAN, SEE SHEET 8



FOR -DR2- PLAN, SEE SHEET 9

10                      11                      12

10                      11                      12

5/14/99

# -DET1-

PROJECT REFERENCE NO. <i>R-5311A</i>	SHEET NO. <i>25</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

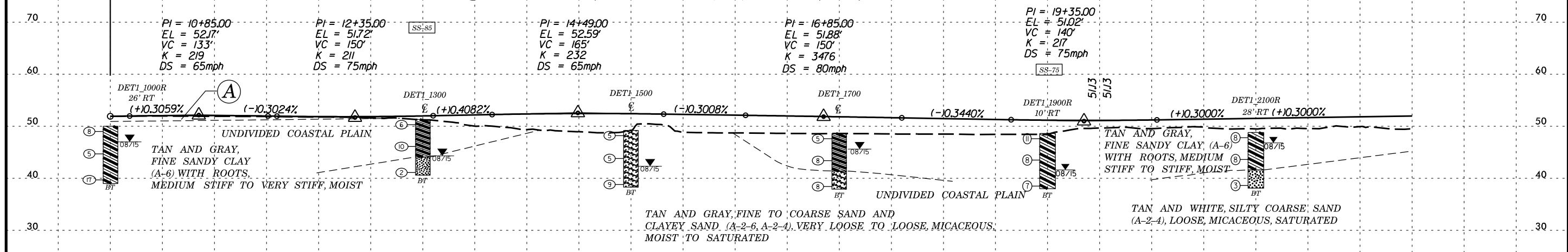
SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-85	CL	13+00	9.2'-10.7'	A-2-4(0)	25	NP	1.1	81	7.7	10	99.8	99.6	23.1	30	
SS-75	CL	19+00	4.1'-5.6'	A-6(3)	35	17	4.9	58	9.2	27.9	100.0	99.9	42.4	21	

**BEGIN GRADE**  
 -DET1- STA 10+00.00=  
 -Y2- STA 31+50.00, EL 51.91'

$PI = 10+85.00$   
 $EL = 52.17'$   
 $VC = 133'$   
 $K = 219$   
 $DS = 65mph$

$PI = 12+35.00$   
 $EL = 51.72'$   
 $VC = 150'$   
 $K = 211$   
 $DS = 75mph$

**(A) ROADWAY EMBANKMENT**  
 TAN AND ORANGE, CLAYEY FINE SAND (A-2-6) WITH ROOTS, LOOSE, MOIST



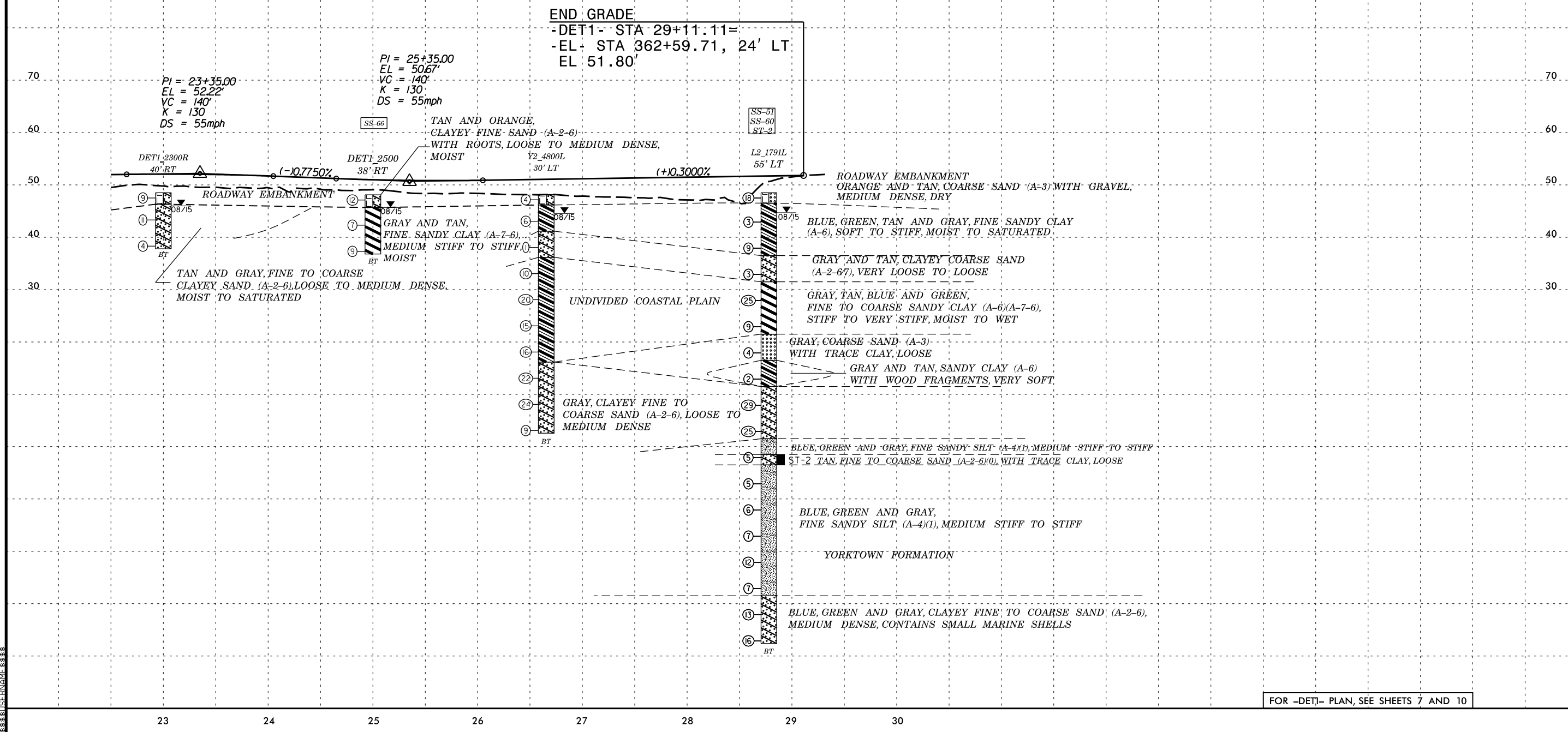
FOR -DET1- PLAN, SEE SHEETS 7 AND 10

5/14/99  
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 PLOT DATE: 5/14/99  
 PLOT TIME: 10:00 AM  
 PLOT SCALE: 1"=40'  
 PLOT SHEET: 26  
 PLOT TOTAL SHEETS: 10  
 PLOT BY: JMM  
 PLOT CHECKED BY: JMM  
 PLOT APPROVED BY: JMM

# -DET1-

PROJECT REFERENCE NO. <i>R-5311A</i>	SHEET NO. <i>26</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

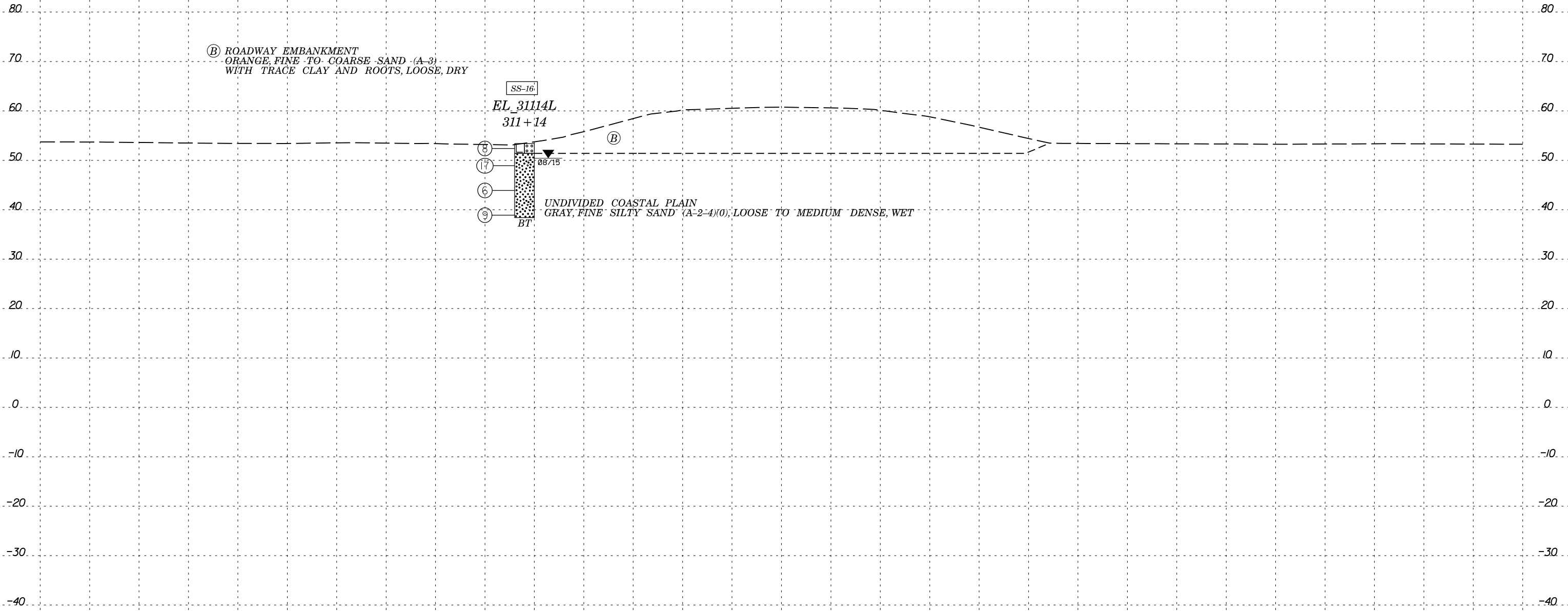
SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	LL	PI	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	#10	#40	#200		
SS-51	-55	17+91	19.6'-21.1'	A-7-5(12)	47	17	15.4	24.4	52.1	8.1	100.0	89.2	68.8	28	
ST-2	-55	17+91	50'-52'	A-2-6(0)	31	15	75.8	11.1	5.0	8.2	98.8	31.7	14.6	37	
SS-60	-55	17+91	64.4'-66.1'	A-4(1)	29	7	7.8	56.9	26.1	9.2	100.0	98.9	48.7	42	
SS-66	CL	25+00	4.8'-6.3'	A-7-6(26)	57	30	1.6	23.1	25.8	49.3	99.8	99.3	81.0	33	



FOR -DET1- PLAN, SEE SHEETS 7 AND 10

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.	LL	PI	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-16	53' LT	311+14	8.5'-10.0'	A-2-A(0)	27	NP	30.6	56.3	3.1	9.9	99.9	90.4	16.0	26	



VERTICAL SCALE IN FEET  
HORIZONTAL SCALE IN FEET

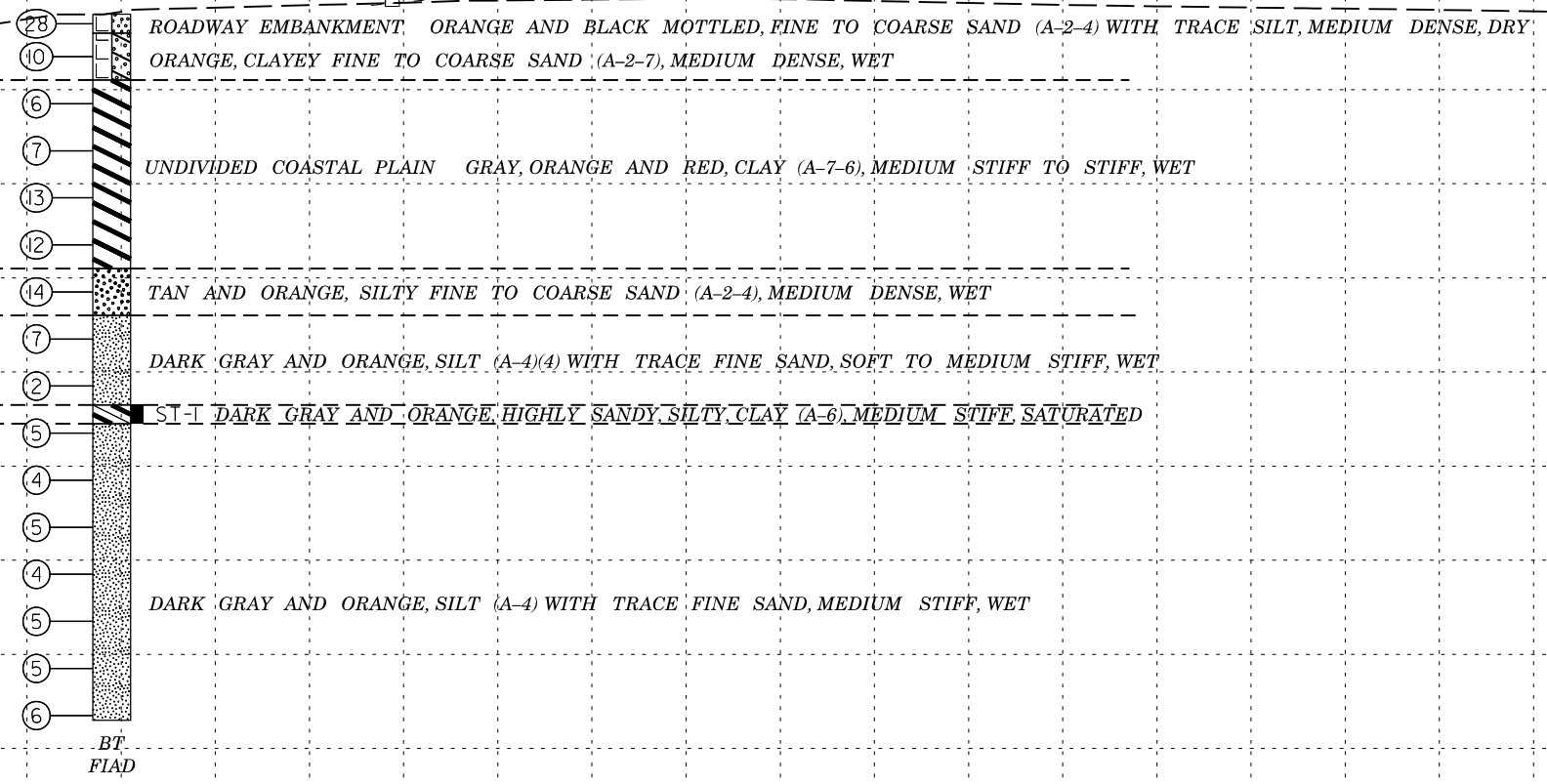
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

### SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	.10	.40	200		
SS-46	6' LT.	314+52	18.5'-20.0'	A-7-6(13)	42	23	13.7	24	22	40.1	99.8	94.2	66.5	27	
SS-56	6' LT.	314+52	68.5'-70.0'	A-4(4)	33	8	1.8	50.5	35.4	12.2	99.9	98.3	65.9	39	
ST-1	6' LT.	314+52	41.5'-43.5'	A-6(8)	39	13	0	47.3	33.6	19.1	100.0	100.0	67.6	45	

STA 95+52.53  
FUTURE  
FREEWAY

SS-46  
SS-56  
ST-1  
EL 31452L  
314+52

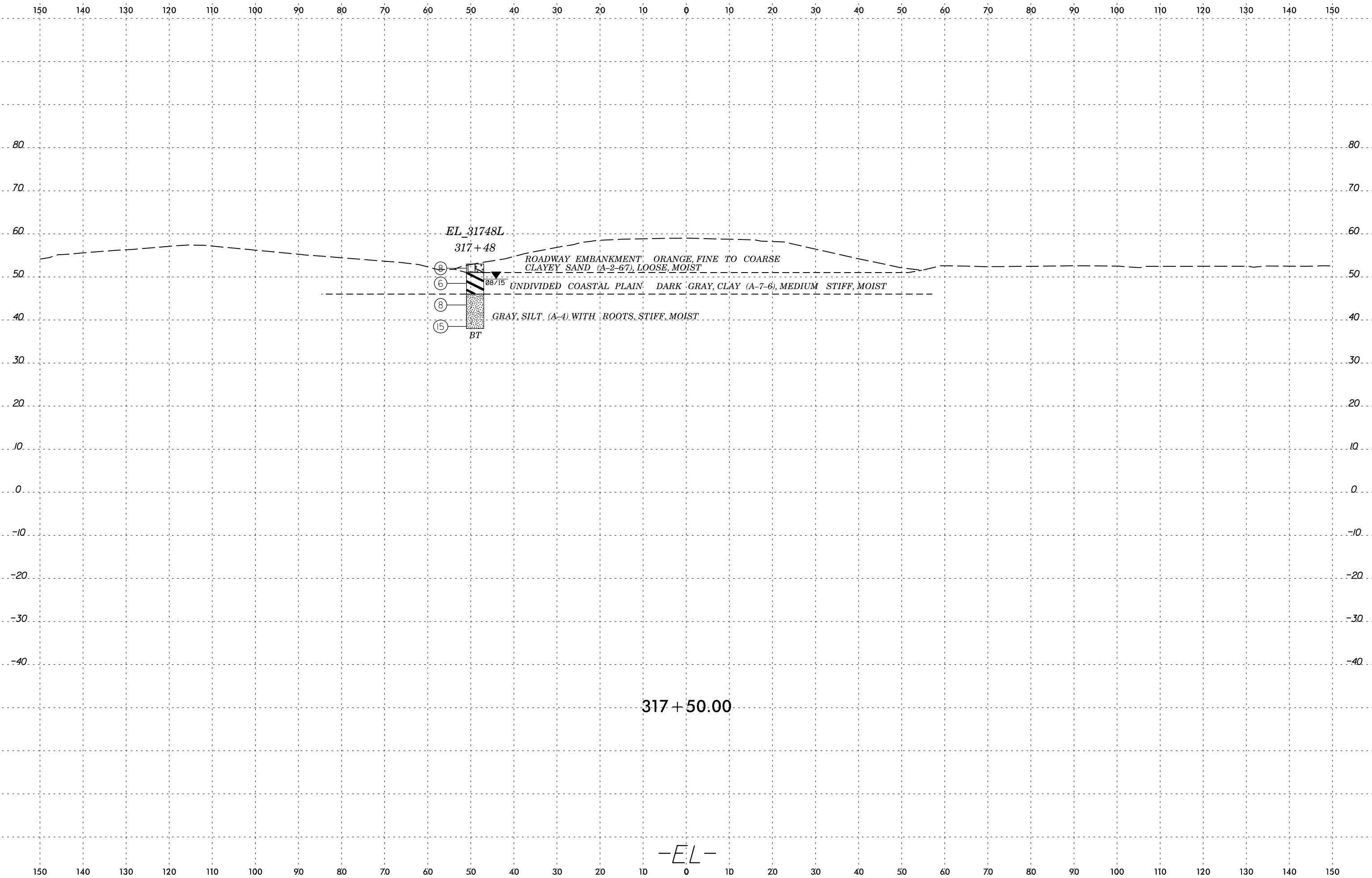


314+50.00

-EL-

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

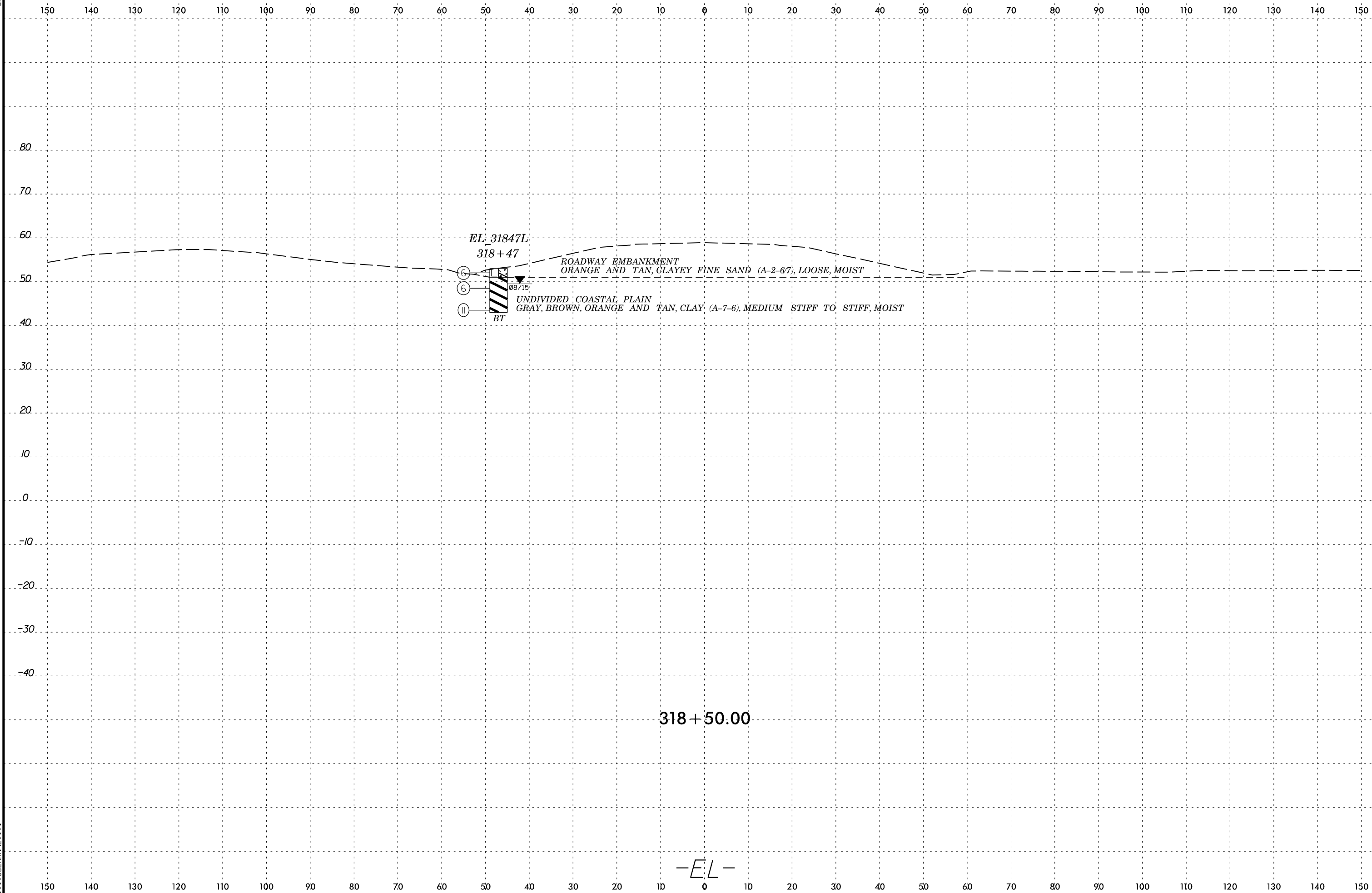
SYNTHETIC SECTION  
UNLESS OTHERWISE NOTED



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

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5311A	30



*EL 31847L*

*318 + 47*

*ROADWAY EMBANKMENT  
ORANGE AND TAN, CLAYEY FINE SAND (A-2-67), LOOSE, MOIST*

⑥

⑥

①①

*BT*

*UNDIVIDED COASTAL PLAIN  
GRAY, BROWN, ORANGE AND TAN, CLAY (A-7-6), MEDIUM STIFF TO STIFF, MOIST*

*08/15*

**318 + 50.00**

*-EL-*

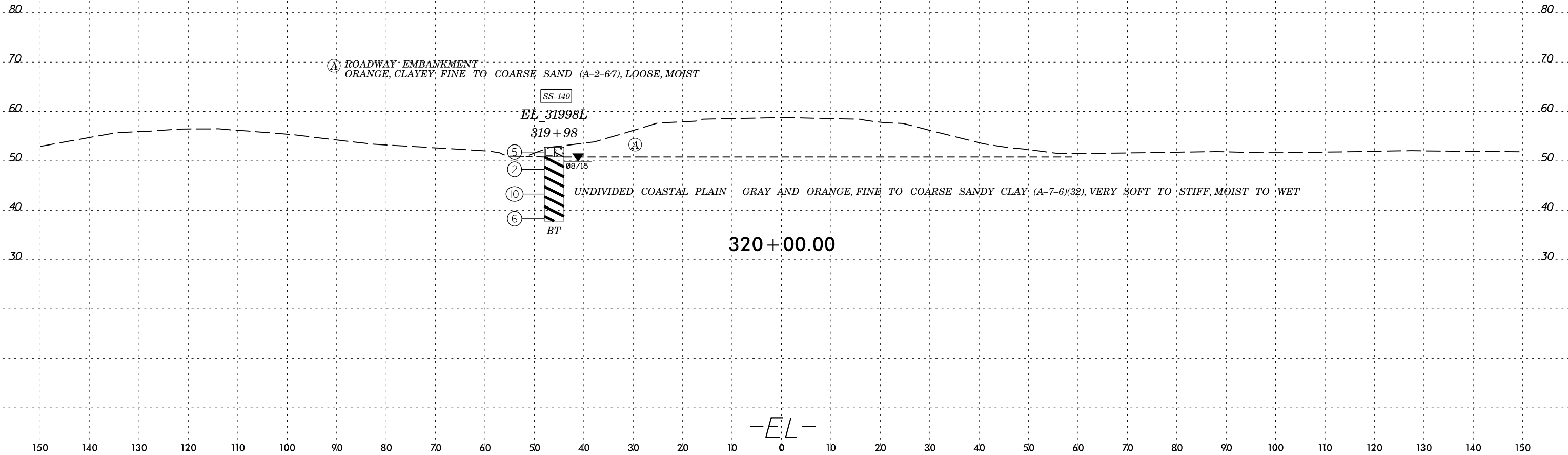
SECTION 6  
CONCRETE  
REINFORCED  
CANTONMENT  
ROADWAY



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

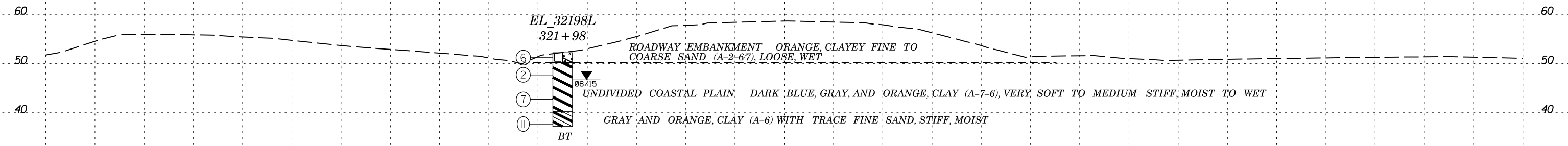
### SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	#10	#40	#200		
SS-140	46' LT	319+98	3.5'-5.0'	A-7-6(32)	56	31	0.4	12	31.1	56.5	100.0	99.8	92.1	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



322+00.00

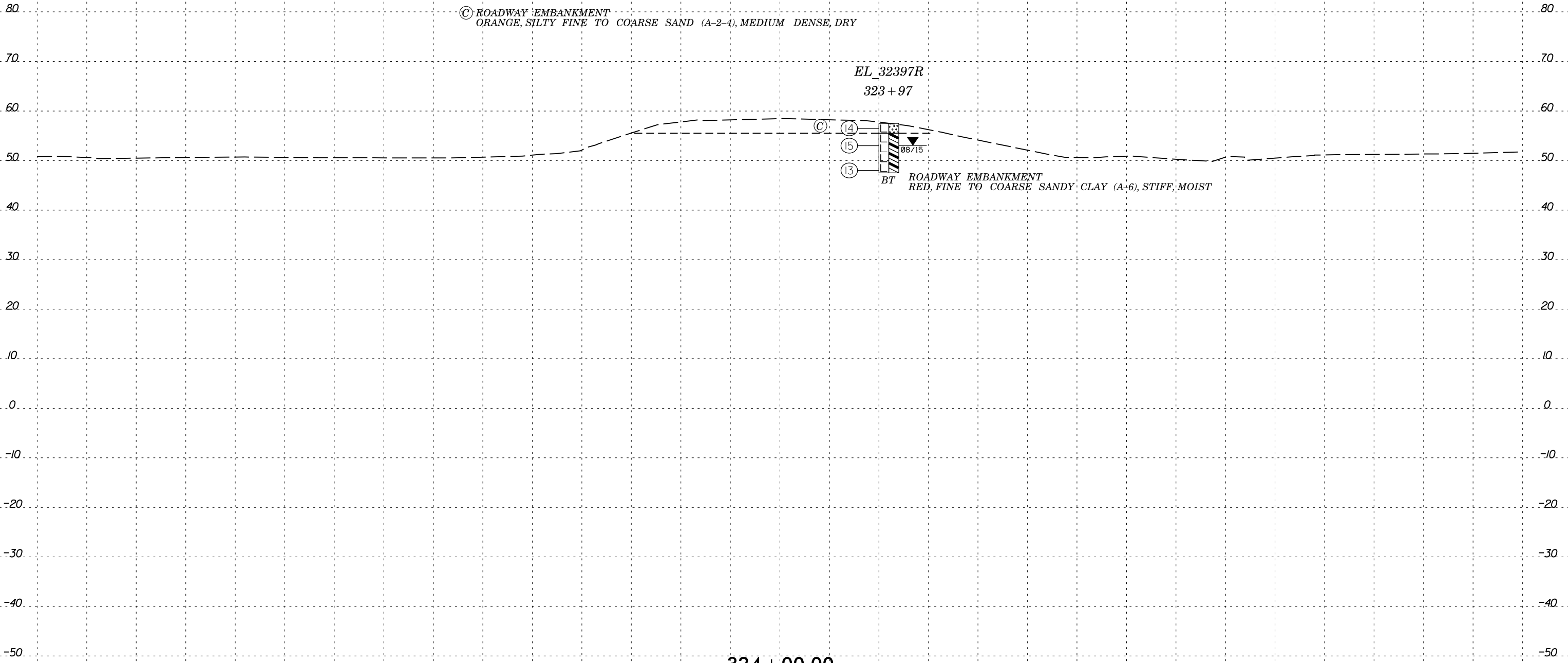
-EL-

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

SECTION 322+00.00  
CONSTRUCTION  
PLAN  
DATE 8/23/99  
BY JLD  
CHECKED BY JLD  
APPROVED BY JLD



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



Ⓢ ROADWAY EMBANKMENT  
ORANGE, SILTY FINE TO COARSE SAND (A-2-4), MEDIUM DENSE, DRY

EL\_32397R  
323+97

Ⓢ  
14  
15  
13

BT

08/15

ROADWAY EMBANKMENT  
RED, FINE TO COARSE SANDY CLAY (A-6), STIFF, MOIST

324+00.00

-EL-

SECTION  
CON  
PLAN  
DATE

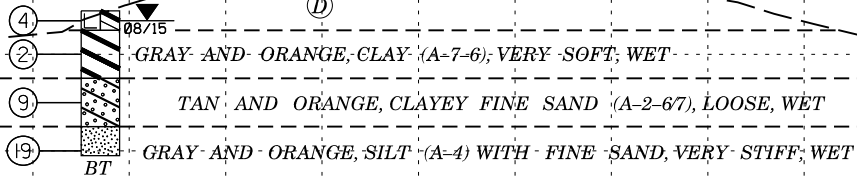
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

### SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-131	33' LT.	325+48	0'-1.5'	A-6(12)	36	14	3.5	15	48.1	33.4	100.0	98.7	85.8	29	

Ⓓ ROADWAY EMBANKMENT  
 GRAY AND ORANGE, CLAY (A-6)(12) WITH  
 LITTLE FINE SAND, SOFT, WET

SS-131  
 EL 32548L  
 325+48

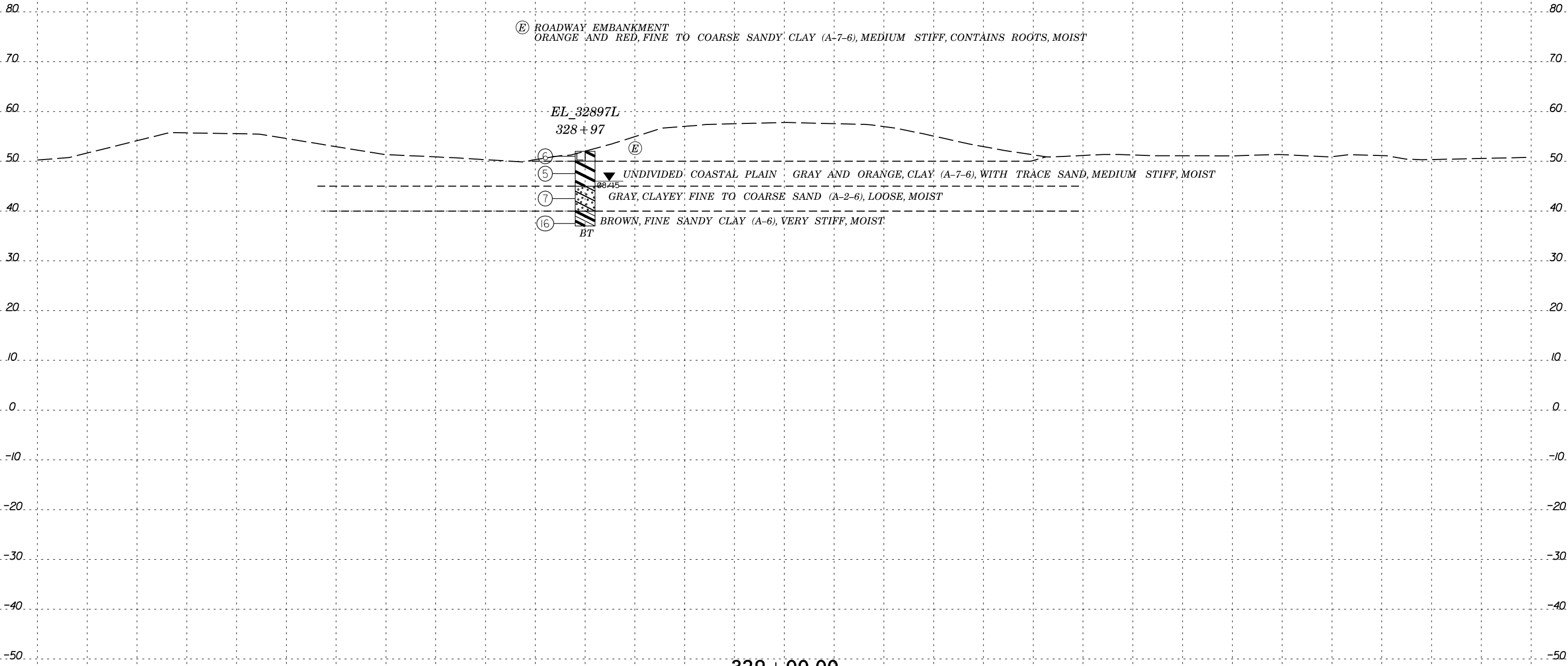


325+50.00

-EL-



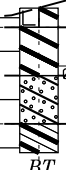
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



(E) ROADWAY EMBANKMENT  
ORANGE AND RED, FINE TO COARSE SANDY CLAY (A-7-6), MEDIUM STIFF, CONTAINS ROOTS, MOIST

EL. 32897L  
328 + 97

- (6)
- (5)
- (7)
- (16)



BT

UNDIVIDED COASTAL PLAIN GRAY AND ORANGE, CLAY (A-7-6), WITH TRACE SAND, MEDIUM STIFF, MOIST

GRAY, CLAYEY FINE TO COARSE SAND (A-2-6), LOOSE, MOIST

BROWN, FINE SANDY CLAY (A-6), VERY STIFF, MOIST

329 + 00.00

-EL-

SECTION 66  
CONCRETE  
REINFORCED  
CANTONMENT  
DRAINAGE

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



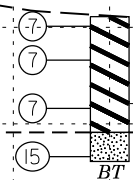
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SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-124	70' LT	332+47	8.5'-10.0'	A-7-6(27)	50	30	3	14.4	41.4	41.2	100.0	98.0	86.3	28	

SS-124

EL 33247L  
332+47

ROADWAY EMBANKMENT ORANGE,  
CLAYEY FINE TO MEDIUM SAND (A-2-67), MEDIUM DENSE, MOIST



UNDIVIDED COASTAL PLAIN ORANGE, TAN AND GRAY,  
FINE TO COARSE SANDY CLAY (A-7-6(27), MEDIUM STIFF, MOIST

GRAY AND ORANGE, FINE SANDY SILT (A-4), VERY STIFF, MOIST

332+50.00

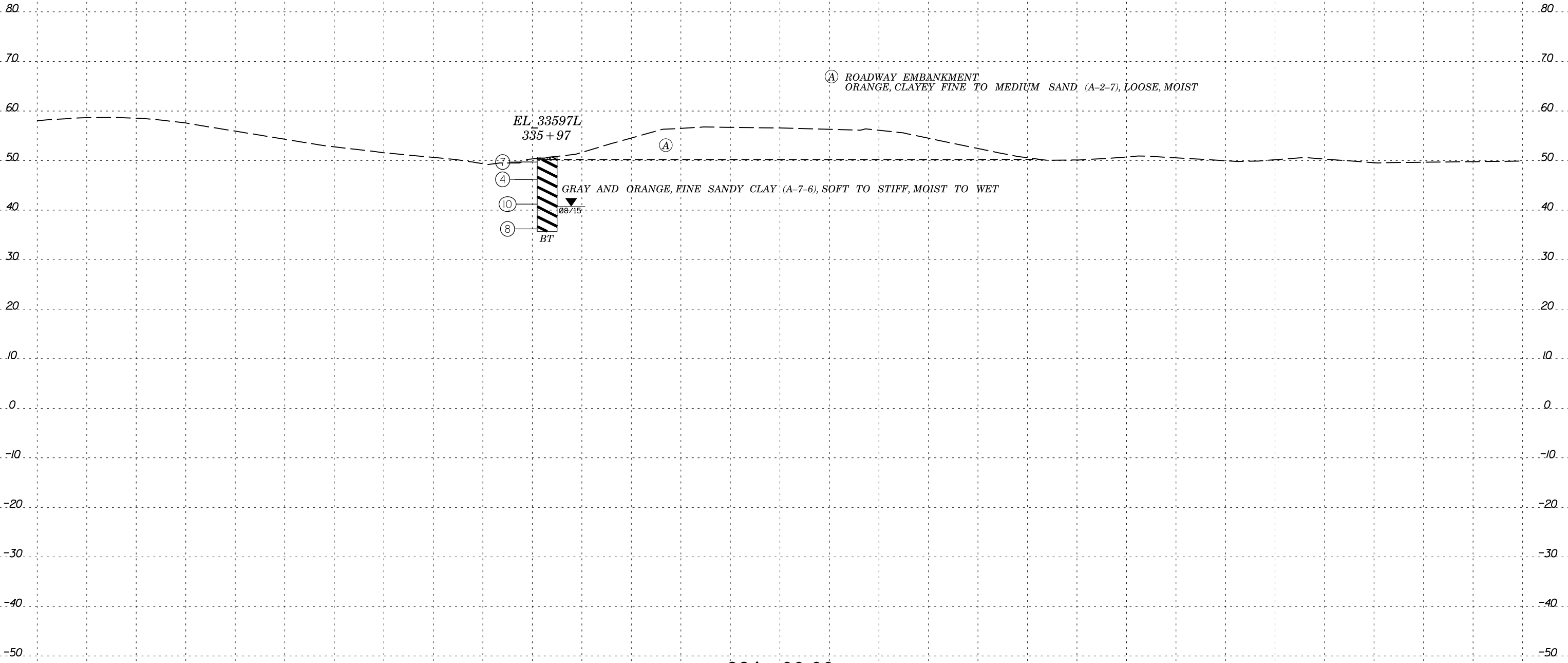
-EL-

ACTIVE CONSTRUCTION

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



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



EL. 33597L  
335+97

- 7
  - 4
  - 10
  - 8
- BT

GRAY AND ORANGE, FINE SANDY CLAY (A-7-6), SOFT TO STIFF, MOIST TO WET

(A) ROADWAY EMBANKMENT  
ORANGE, CLAYEY FINE TO MEDIUM SAND (A-2-7), LOOSE, MOIST

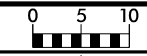
336+00.00

-EL-

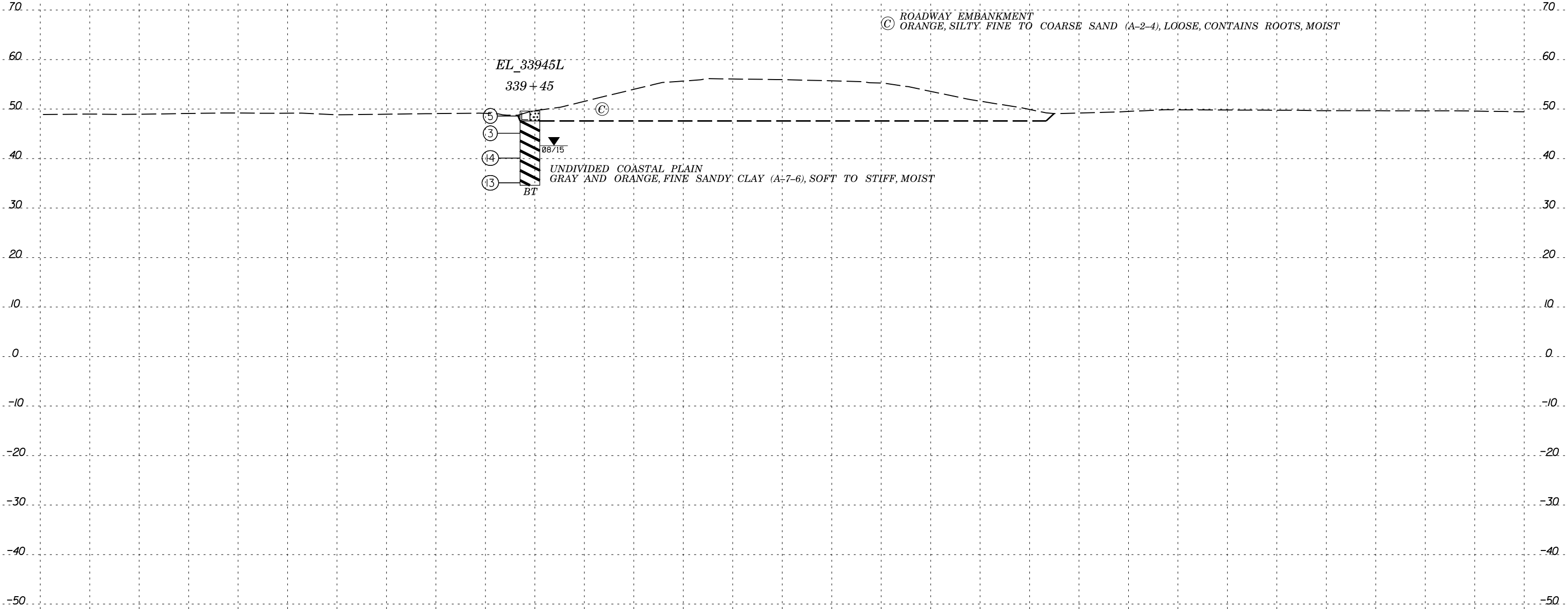
SECTION \$\$\$\$\$\$  
CONSTRUCTION \$\$\$\$\$\$  
DATE \$\$\$\$\$\$  
DRAWN \$\$\$\$\$\$  
CHECKED \$\$\$\$\$\$  
BY \$\$\$\$\$\$

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





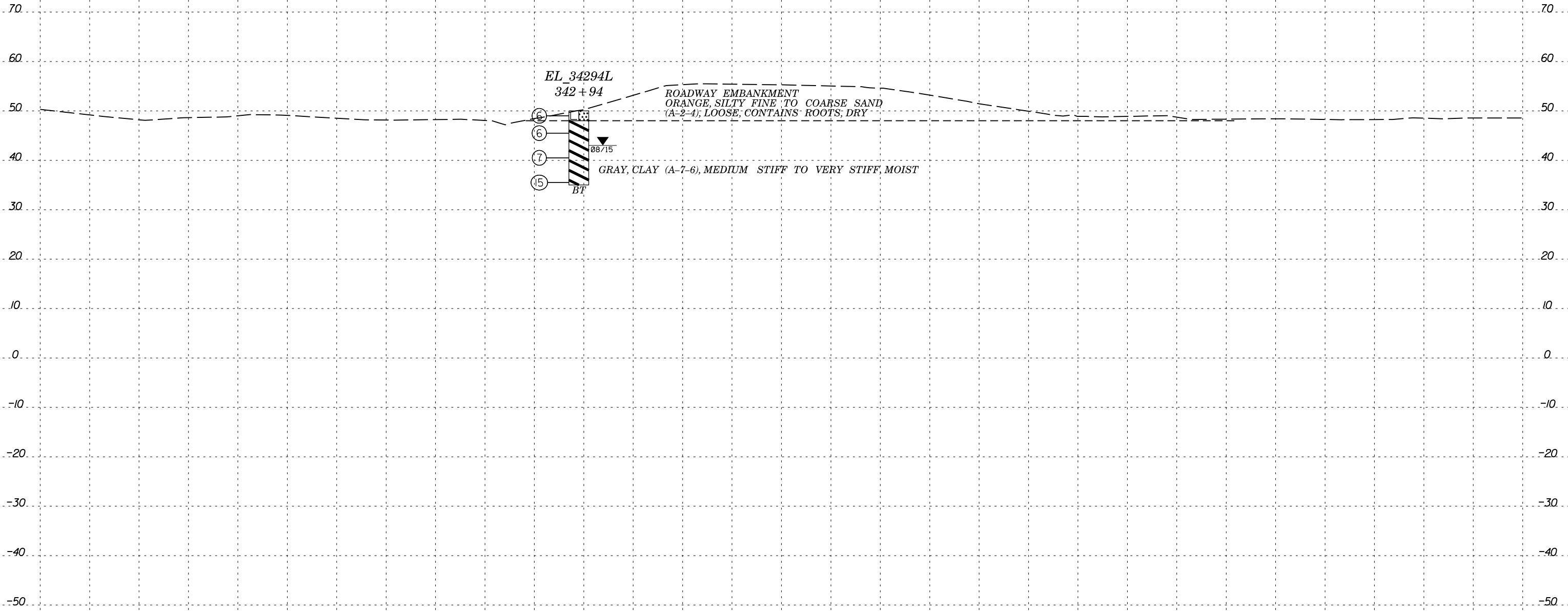
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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

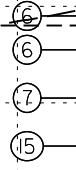


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



EL 34294L  
342 + 94

ROADWAY EMBANKMENT  
ORANGE, SILTY FINE TO COARSE SAND  
(A-2-4); LOOSE, CONTAINS ROOTS; DRY



08/15

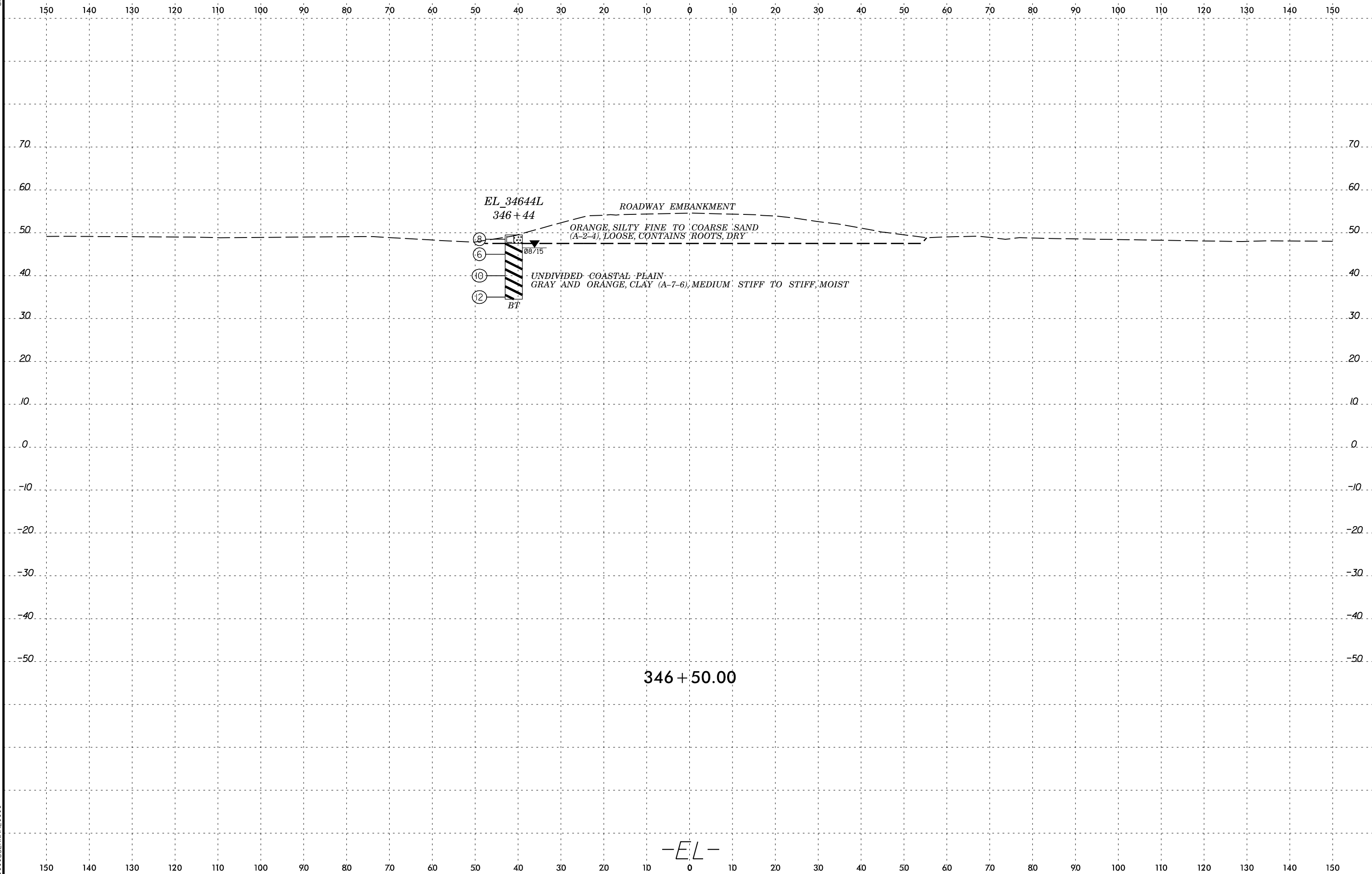
GRAY, CLAY (A-7-6), MEDIUM STIFF TO VERY STIFF, MOIST

343 + 00.00

-EL-

SECTION \$\$\$\$\$\$  
CONSTRUCTION \$\$\$\$\$\$  
DATE \$\$\$\$\$\$  
DRAWN \$\$\$\$\$\$  
CHECKED \$\$\$\$\$\$  
BY \$\$\$\$\$\$

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



EL 34644L  
346 + 44

ROADWAY EMBANKMENT

ORANGE, SILTY FINE TO COARSE SAND  
(A-2-4), LOOSE, CONTAINS ROOTS, DRY

- 8
- 6
- 10
- 12

UNDIVIDED COASTAL PLAIN  
GRAY AND ORANGE, CLAY (A-7-6), MEDIUM STIFF TO STIFF, MOIST

BT

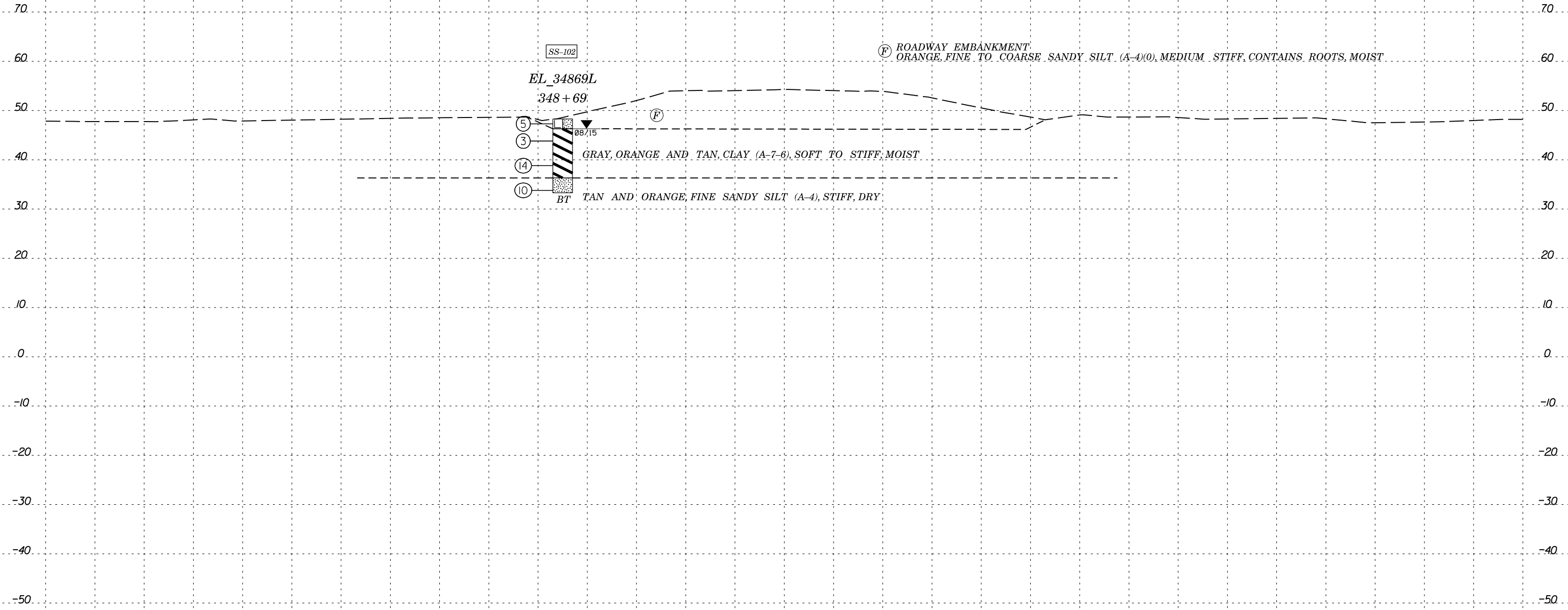
346 + 50.00

-EL-

SECTION CONDITION

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.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-102	9' LT	348+69	0.0'-1.5'	A-4(0)	29	9	33.7	33.2	10.8	21.4	100.0	80.4	38.4	23	



348+50.00

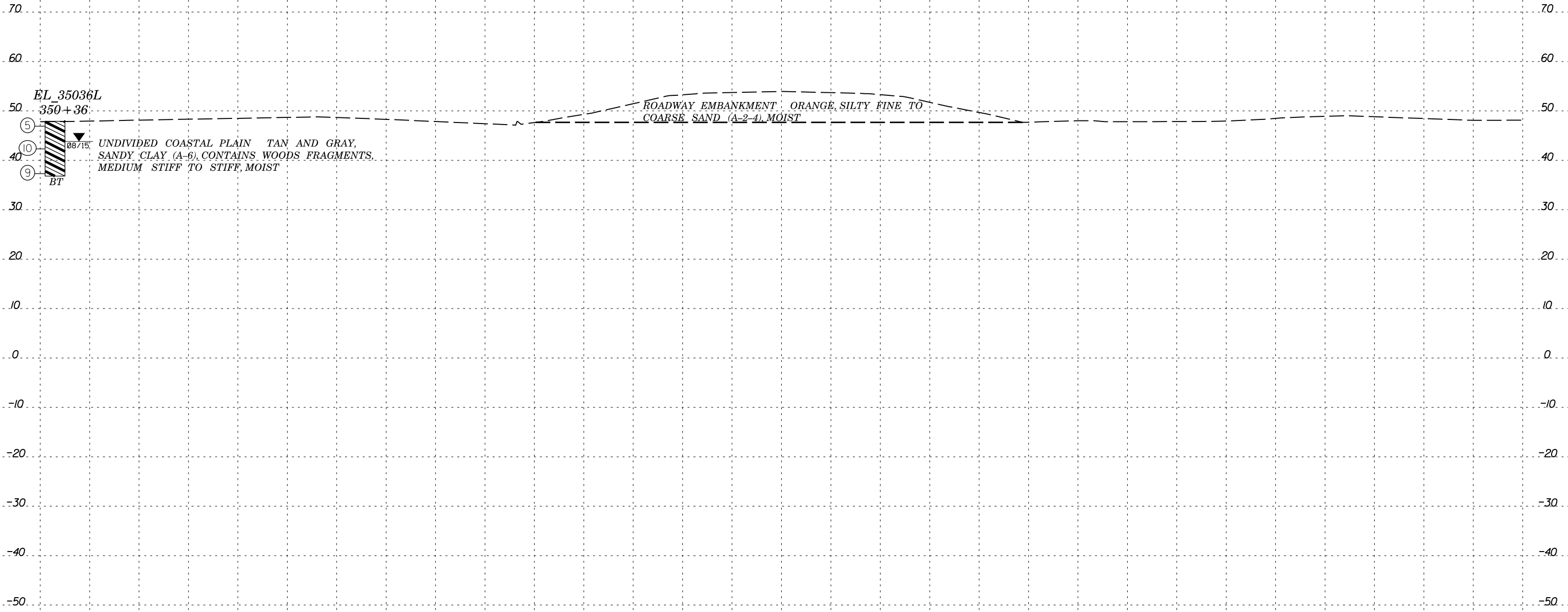
-EL-

SECTION \$\$\$\$\$\$  
DATE \$\$\$\$\$\$  
BY \$\$\$\$\$\$  
CHECKED \$\$\$\$\$\$  
APPROVED \$\$\$\$\$\$

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



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



EL 35036L

350+36

- 5
- 10
- 9

06/15

BT

UNDIVIDED COASTAL PLAIN TAN AND GRAY,  
SANDY CLAY (A-6), CONTAINS WOODS FRAGMENTS,  
MEDIUM STIFF TO STIFF, MOIST

ROADWAY EMBANKMENT ORANGE, SILTY FINE TO  
COARSE SAND (A-2-4), MOIST

350+50.00

-EL-

SECTION \$\$\$\$\$\$  
CON \$\$\$\$\$\$  
PLAN \$\$\$\$\$\$  
DATE \$\$\$\$\$\$

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

8/23/99



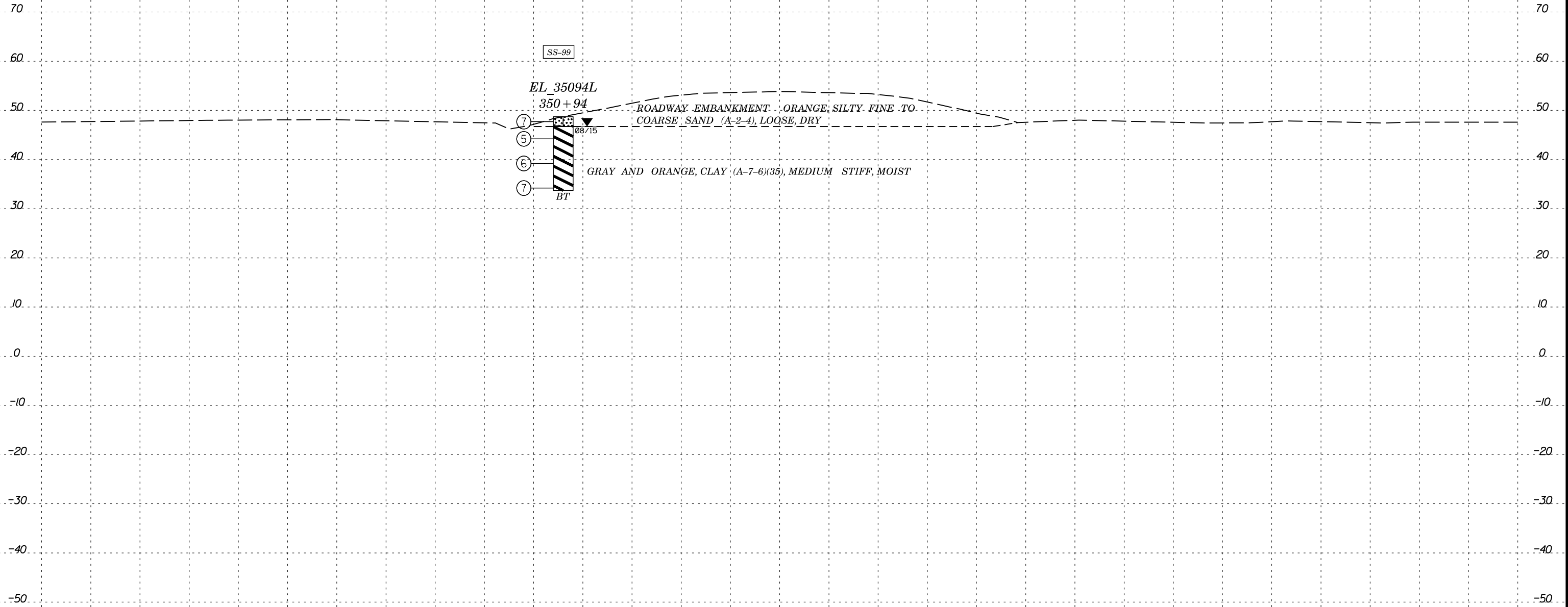
PROJ. REFERENCE NO.  
R-5311A

SHEET NO.  
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

### 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-99	44' LT	350+94	3.5'-5.0'	A-7-6(35)	59	34	5.1	6	33.3	55.6	100.0	97.1	90.8	26	



351 + 00.00

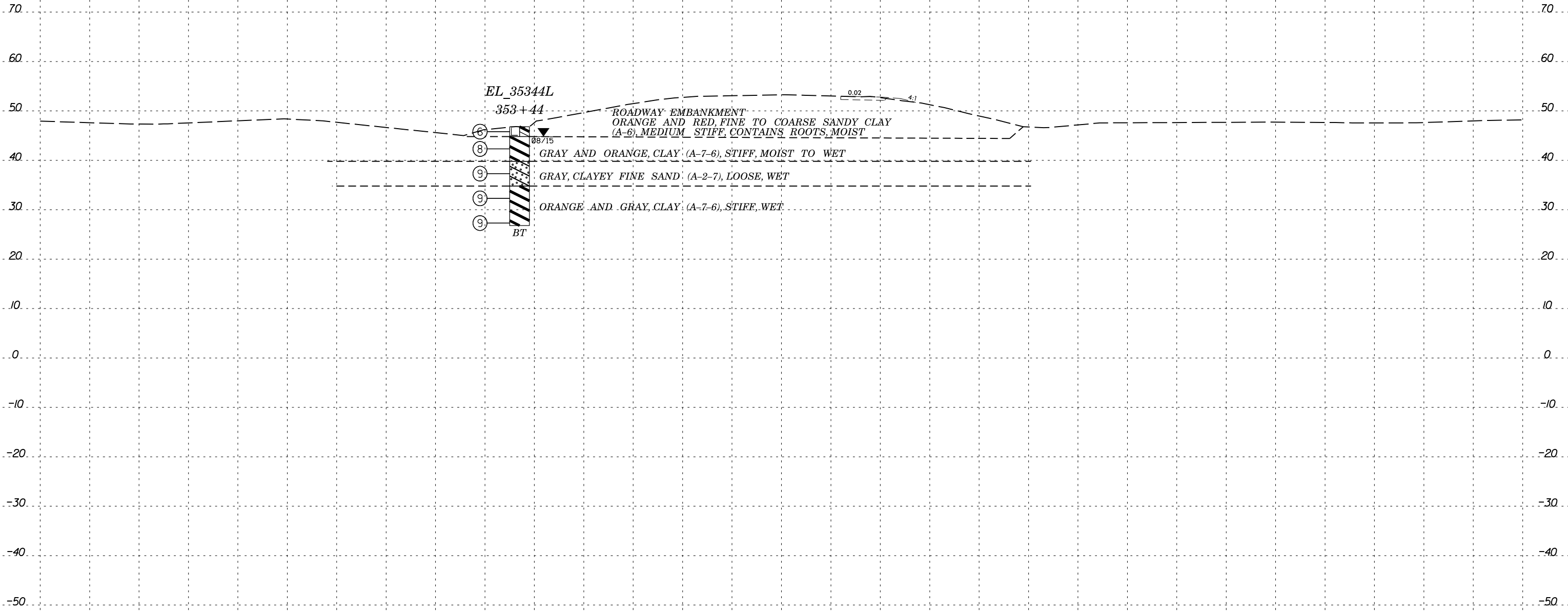
-E.L.-

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

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



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



EL\_35344L

353+44

08/15

- 6
- 8
- 9
- 9
- 9

BT

ROADWAY EMBANKMENT  
ORANGE AND RED, FINE TO COARSE SANDY CLAY  
(A-6), MEDIUM STIFF, CONTAINS ROOTS, MOIST

GRAY AND ORANGE, CLAY (A-7-6), STIFF, MOIST TO WET

GRAY, CLAYEY FINE SAND (A-2-7), LOOSE, WET

ORANGE AND GRAY, CLAY (A-7-6), STIFF, WET

0.02

4:1

353+50.00

-EL-

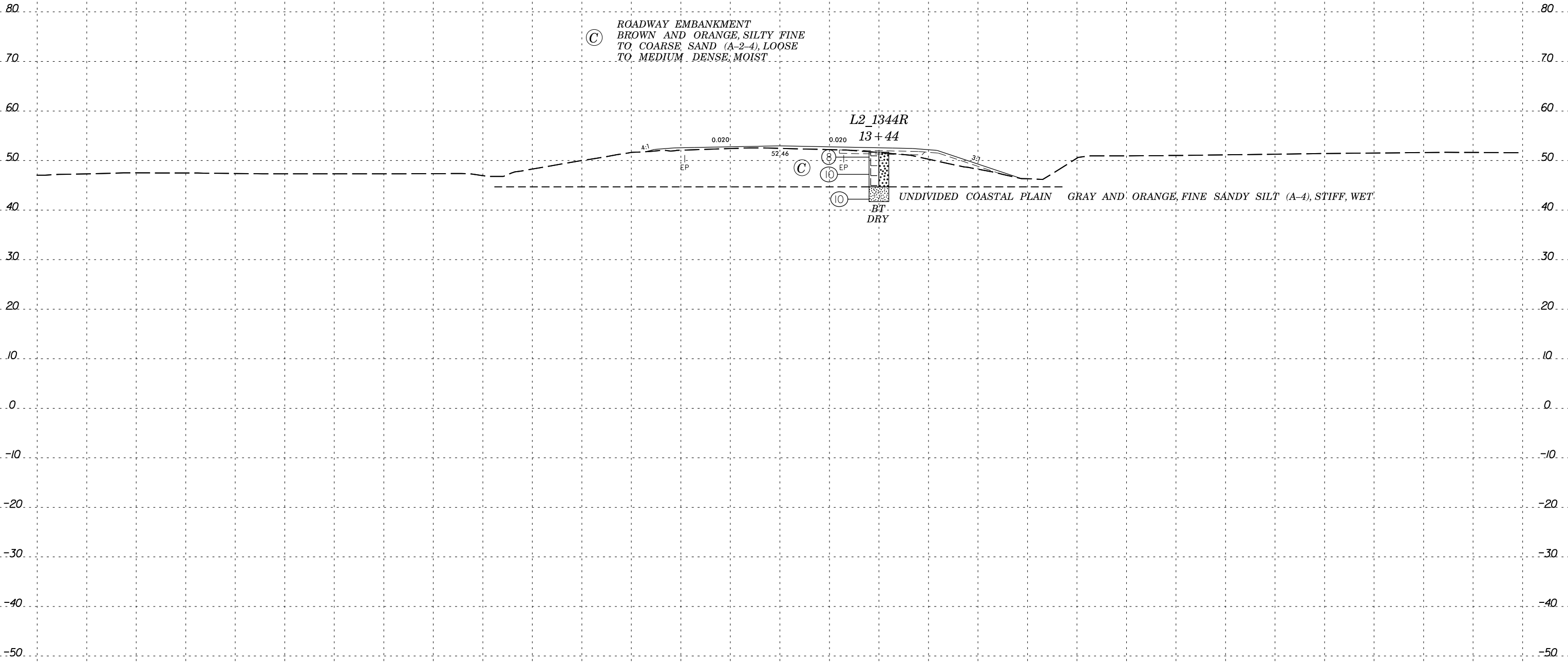
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SECTION CONDITION SURFACE DRIVEWAY





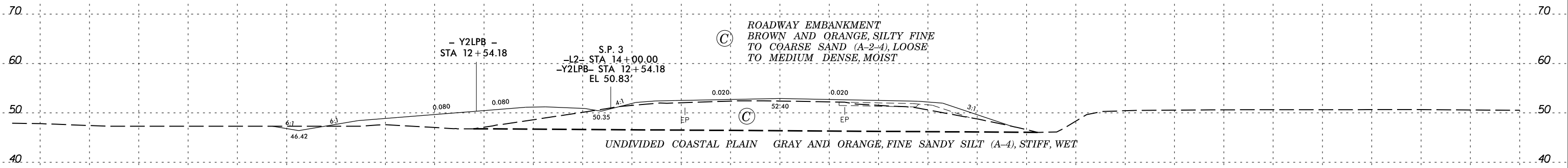
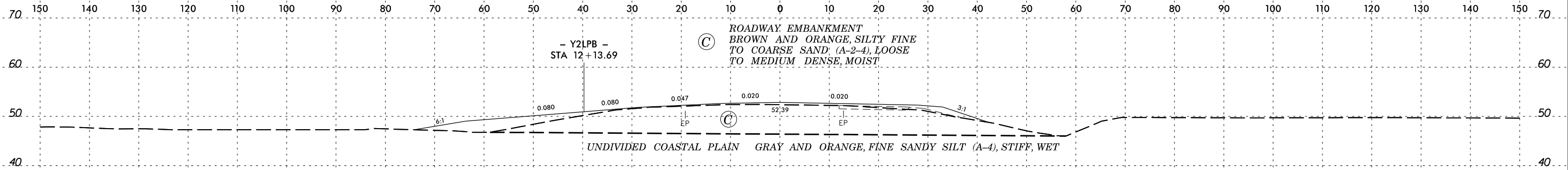
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



13 + 50.00

-L2-

SECTION \$\$\$\$\$\$  
DRAWN BY \$\$\$\$\$\$  
CHECKED BY \$\$\$\$\$\$  
DATE \$\$\$\$\$\$



-L2-

ACTIVE \$\$\$\$\$\$  
CONSTRUCTION \$\$\$\$\$\$  
REVISIONS \$\$\$\$\$\$  
DATE \$\$\$\$\$\$  
BY \$\$\$\$\$\$  
CHECKED \$\$\$\$\$\$  
DATE \$\$\$\$\$\$  
BY \$\$\$\$\$\$





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

### SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-51	55' LT	17+91	19.6'-21.1'	A-7-5(12)	47	17	15.4	24.4	52.1	8.1	100.0	89.2	68.8	28.	
SS-60	55' LT	17+91	64.4'-66.1'	A-4(1)	29	7	7.8	56.9	26.1	9.2	100.0	98.9	48.7	42.	
ST-2	55' LT	17+88	50.0'-52.0'	A-2-6(0)	31	15	75.8	11.1	5.0	8.0	98.8	31.7	14.6	37.	

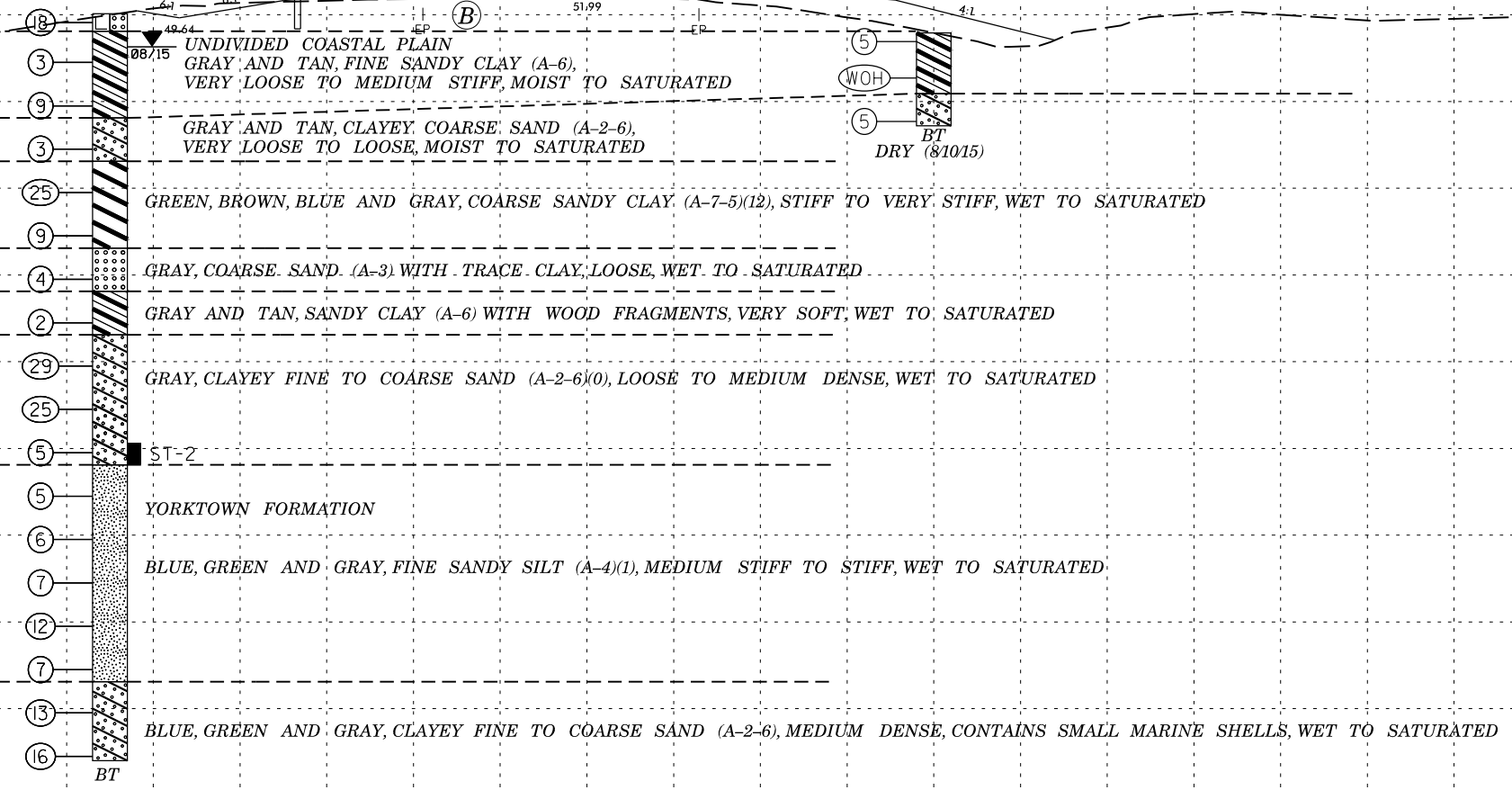
(B) ROADWAY EMBANKMENT  
ORANGE AND TAN, COARSE SAND (A-3)  
WITH GRAVEL, MEDIUM DENSE, DRY TO MOIST

SS-51  
SS-60  
ST-2

- Y2LPD -  
STA 10+03.08

L2\_1791L  
17+91

L2\_1794R  
17+94



18 + 00.00

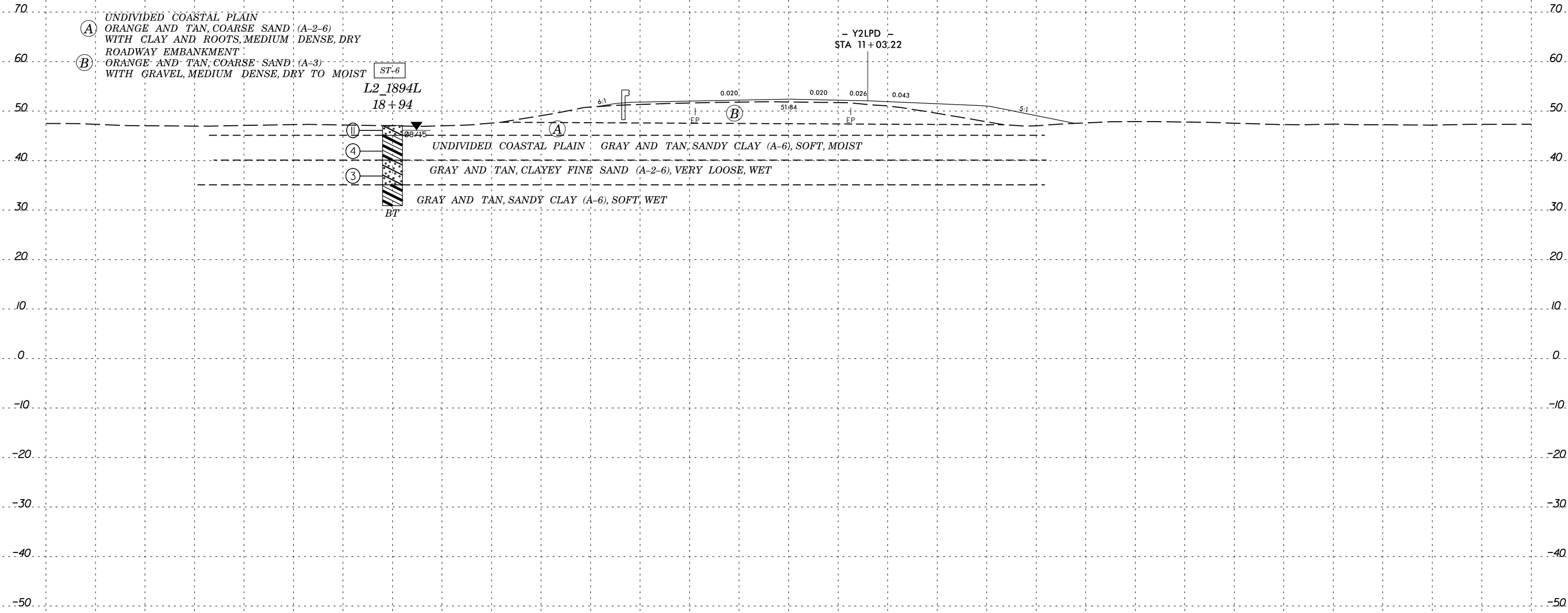
-L2-

SYNTHETIC  
REINFORCEMENT  
FIBER  
FABRIC  
REINFORCEMENT  
FABRIC

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

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

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		
ST-6	80' LT	18+94	14.2-16.2	A-6(3)	32	17	38.5	20.7	13.9	26.9	99.5	84.4	44.1	36	

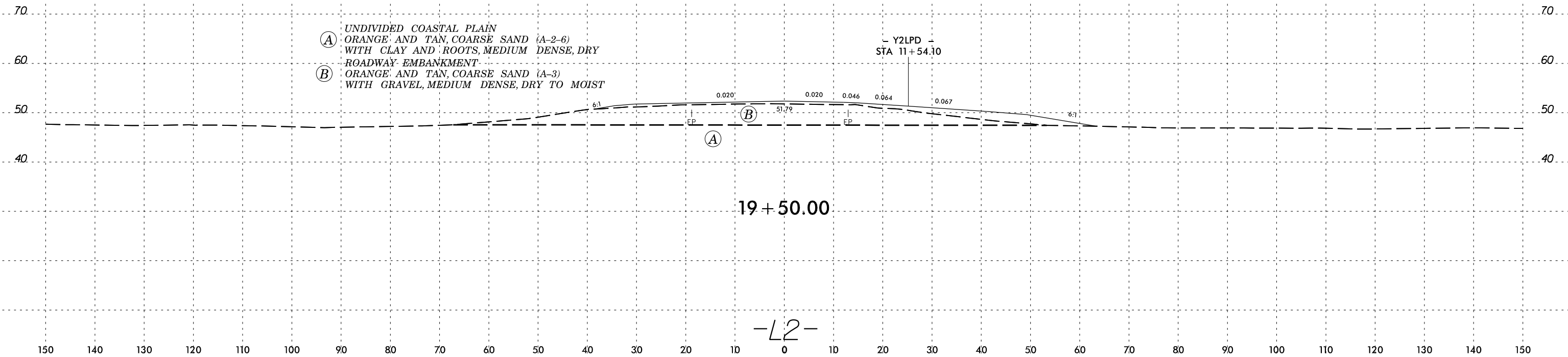
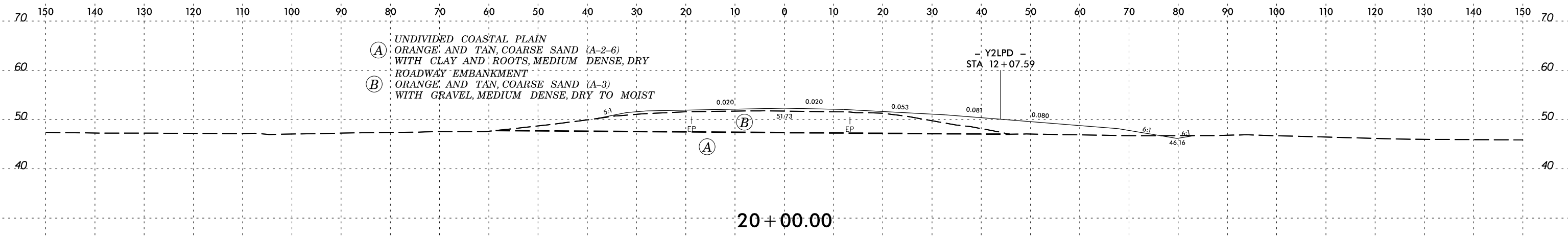


19 + 00.00

-L2-

SYNTHETIC \$\$\$\$\$\$

8/23/99



-L2-

ACTIVE CONDITION









8/23/99

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

(E) ROADWAY EMBANKMENT  
BROWN AND ORANGE, CLAY (A-7-56) WITH LITTLE SAND, WET

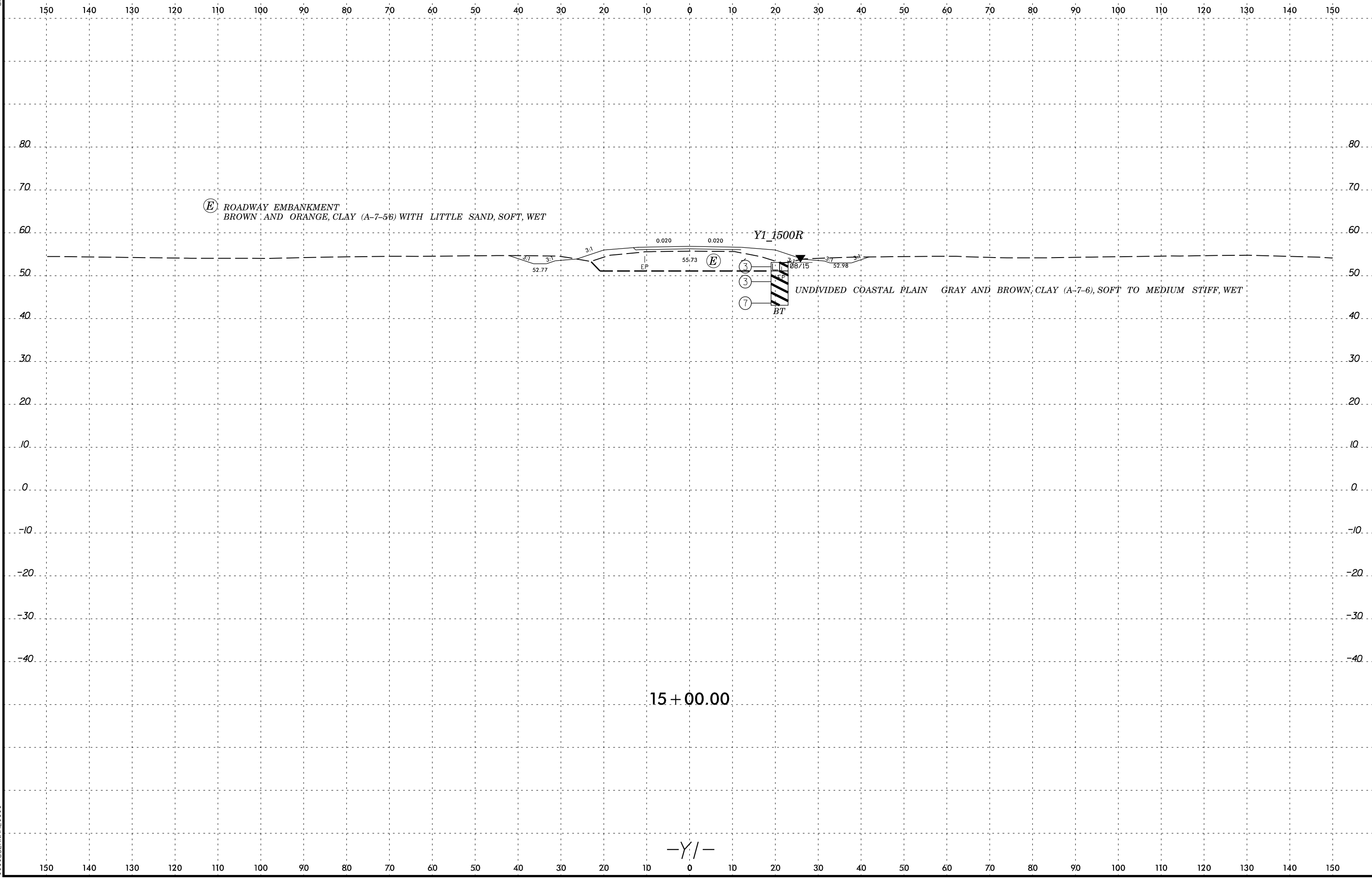
UNDIVIDED COASTAL PLAIN  
GRAY AND BROWN, CLAY (A-7-6), WET

14 + 50.00

-Y/ -

SECTION  
CON  
PL  
PR  
SU  
#

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



(E) ROADWAY EMBANKMENT  
 BROWN AND ORANGE, CLAY (A-7-56) WITH LITTLE SAND, SOFT, WET

Y1\_1500R

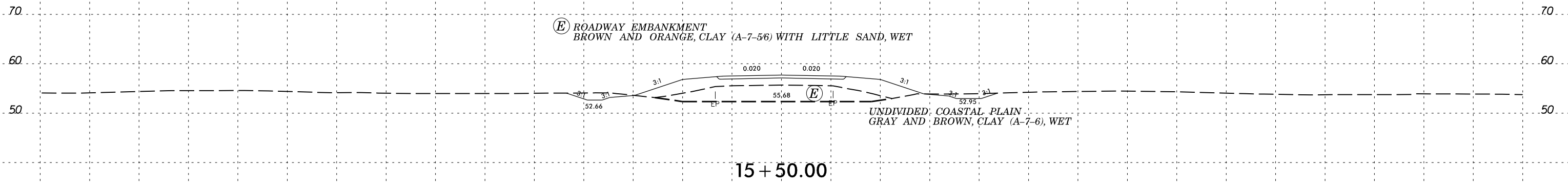
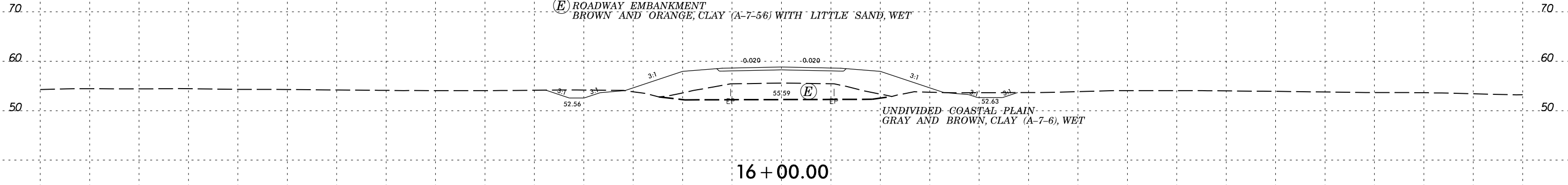
UNDIVIDED COASTAL PLAIN GRAY AND BROWN, CLAY (A-7-6), SOFT TO MEDIUM STIFF, WET

15+00.00

-Y/-

SECTION 15+00.00

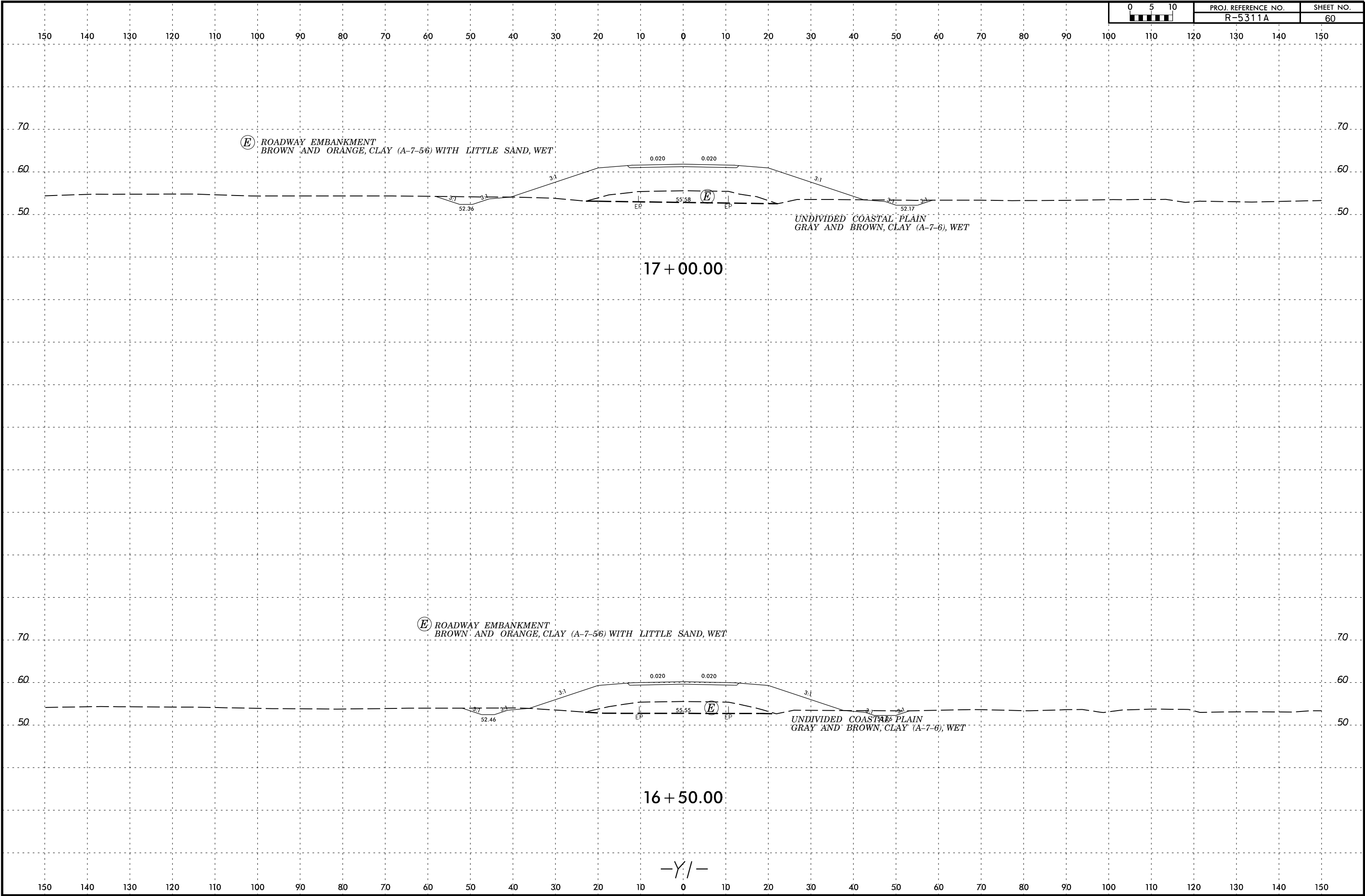
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



-Y/-

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

SECTION 15+50.00 TO 16+00.00



(E) ROADWAY EMBANKMENT  
BROWN AND ORANGE, CLAY (A-7-56) WITH LITTLE SAND, WET

UNDIVIDED COASTAL PLAIN  
GRAY AND BROWN, CLAY (A-7-6), WET

(E) ROADWAY EMBANKMENT  
BROWN AND ORANGE, CLAY (A-7-56) WITH LITTLE SAND, WET

UNDIVIDED COASTAL PLAIN  
GRAY AND BROWN, CLAY (A-7-6), WET

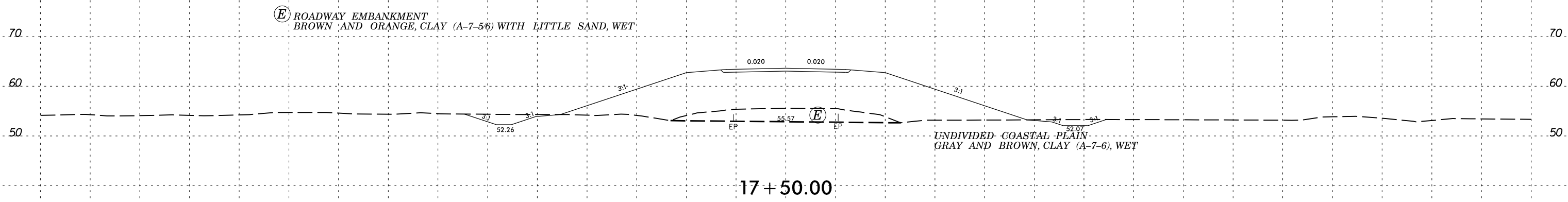
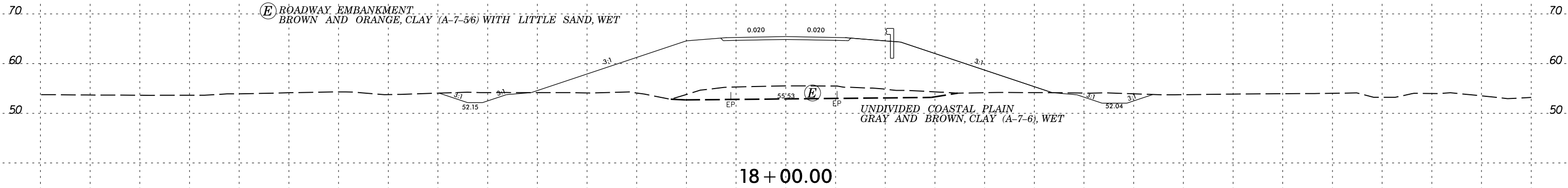
SECTION 16+50.00 TO 17+00.00

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
R-5311A	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



-Y/-

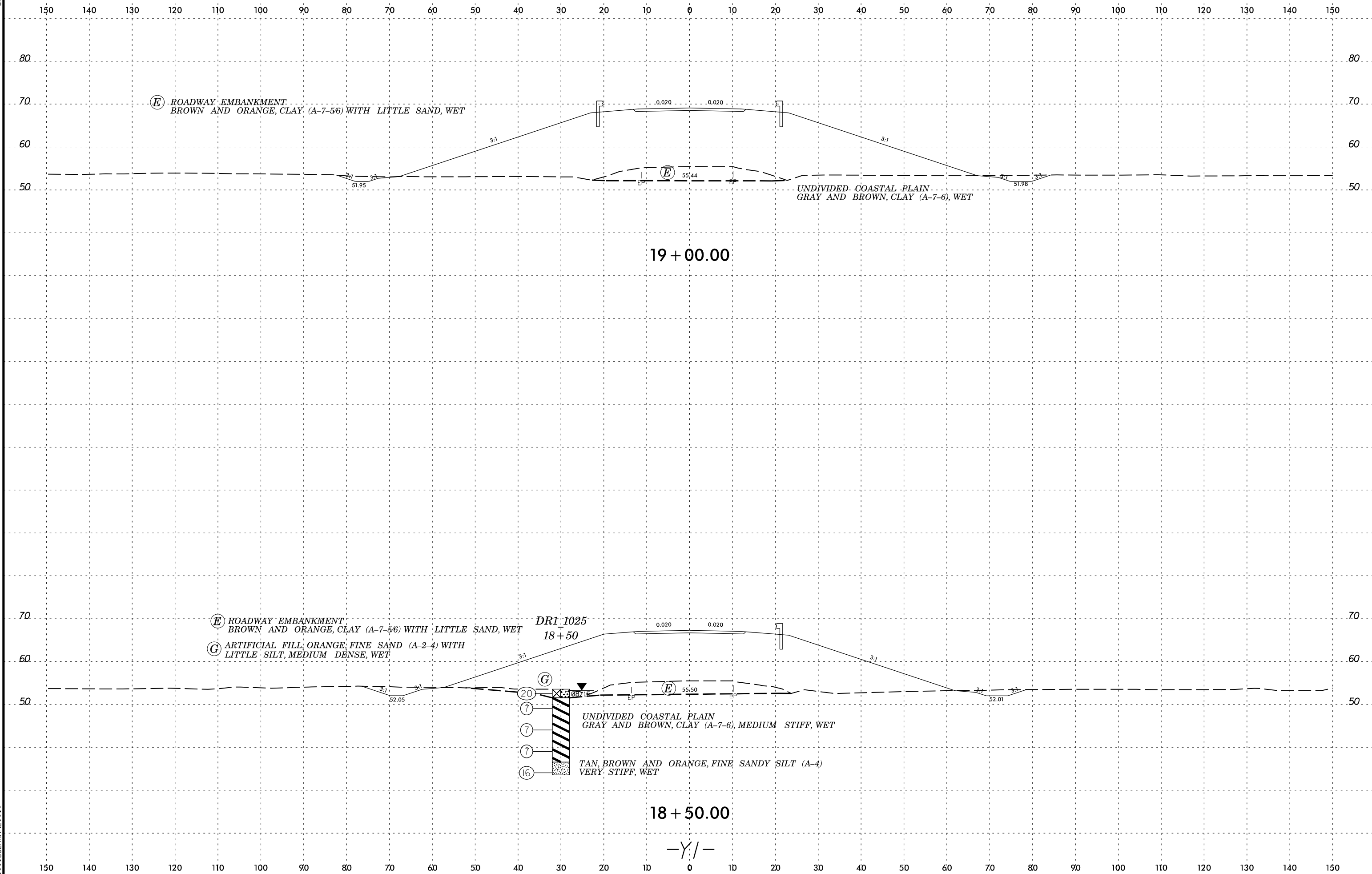
SECTION 17+50 TO 18+00

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

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
R-5311A	62



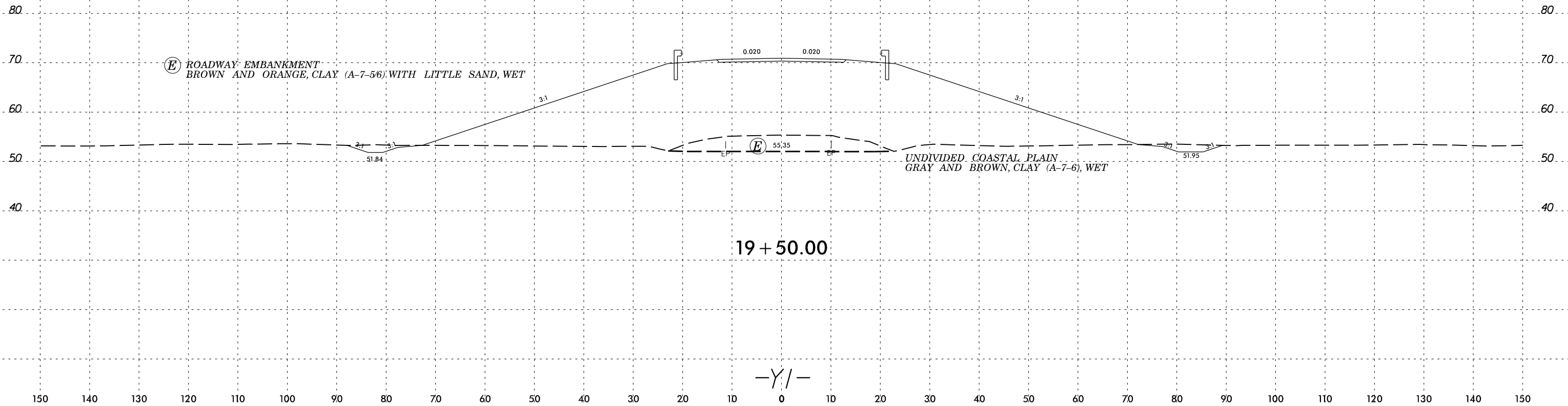
SECTION 18+50.00 TO 19+00.00

-Y/-



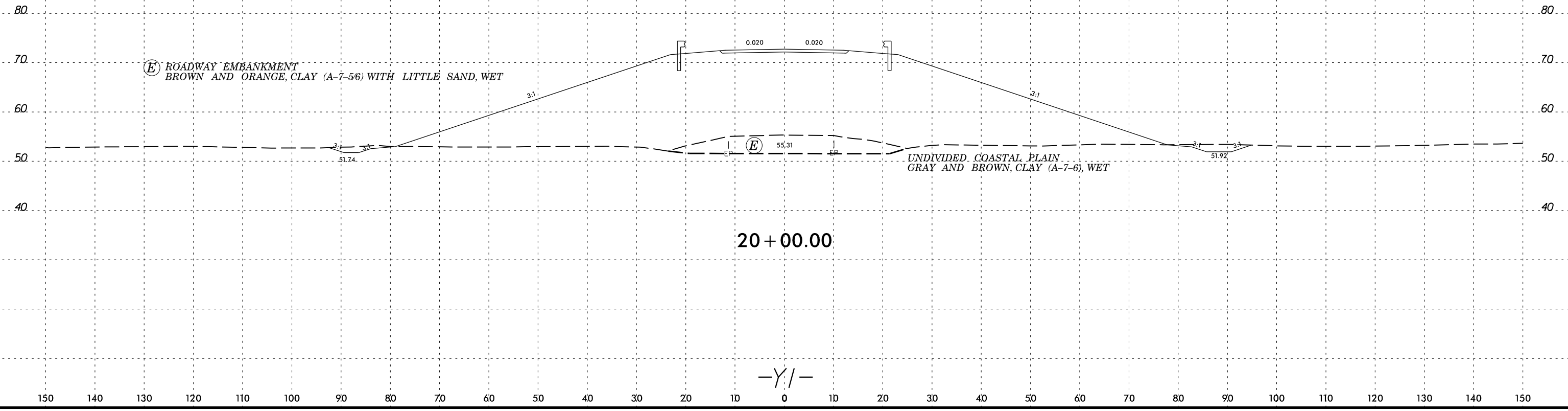


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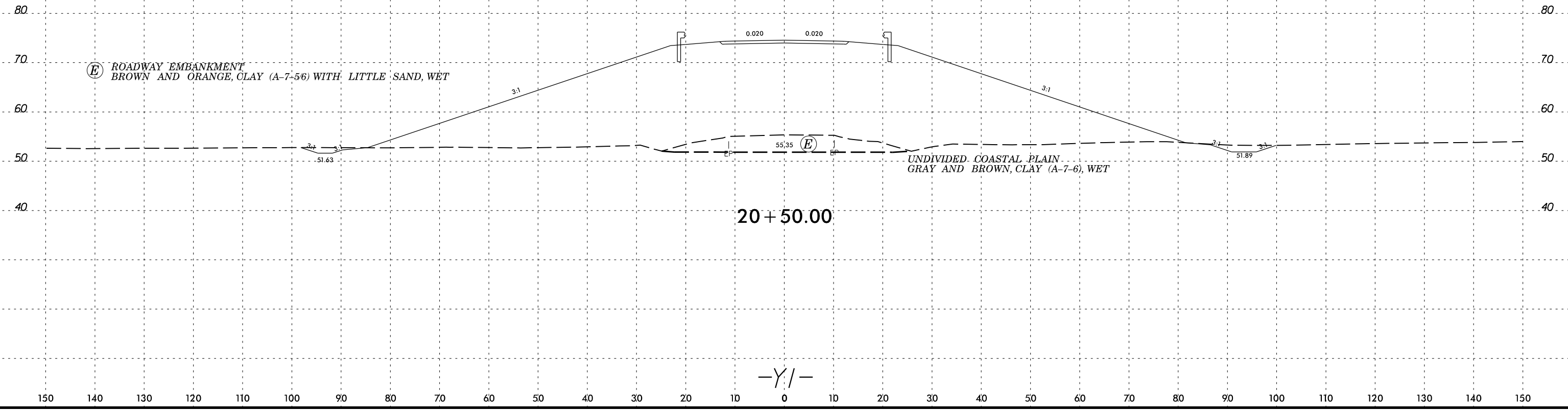
SECTION 19+50.00

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



SECTION

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



SECTION  
NO.  
DATE  
DRAWN  
CHECKED  
APPROVED

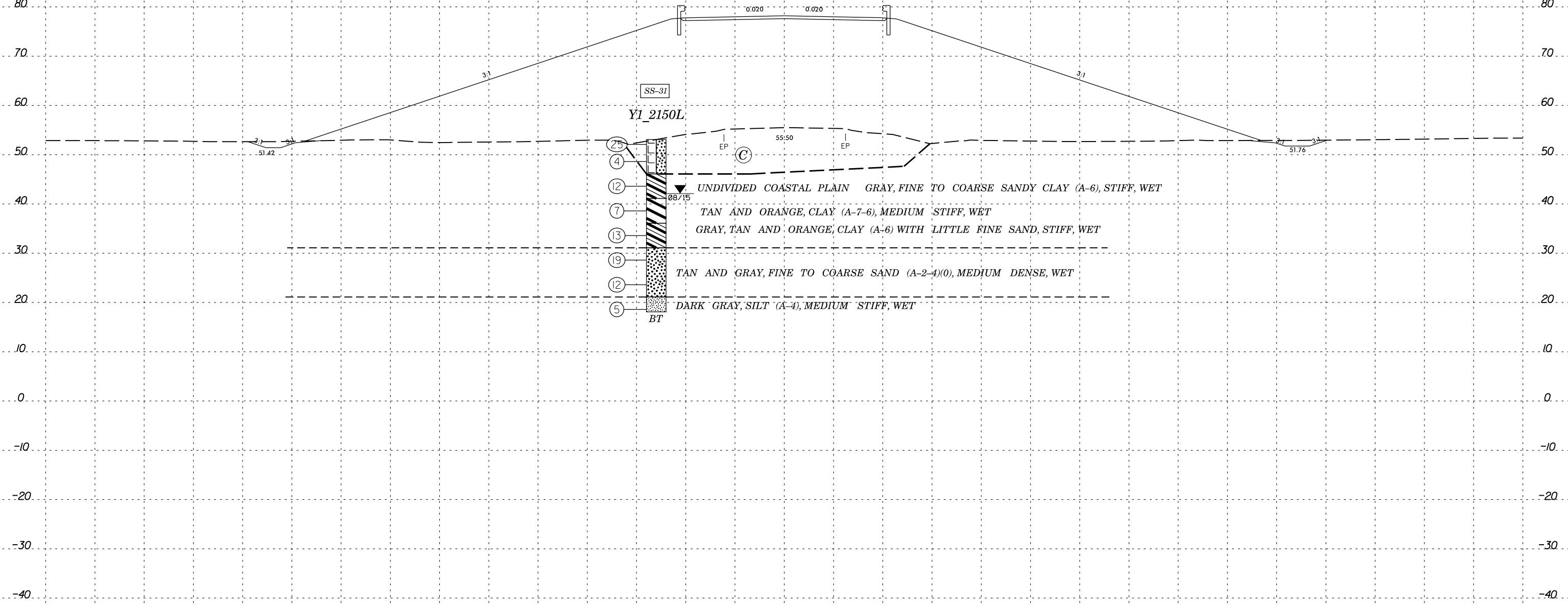


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

### SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-31	31' LT	21+50	23.5'-25.0'	A-2-4(0)	20	NP	66.8	24	5.4	2.5	98.7	62.4	10.0	18	

Ⓒ ROADWAY EMBANKMENT  
ORANGE AND GRAY, SILTY FINE TO COARSE SAND (A-2-4), LOOSE TO MEDIUM DENSE, DRY TO WET



21+50.00

-Y/-

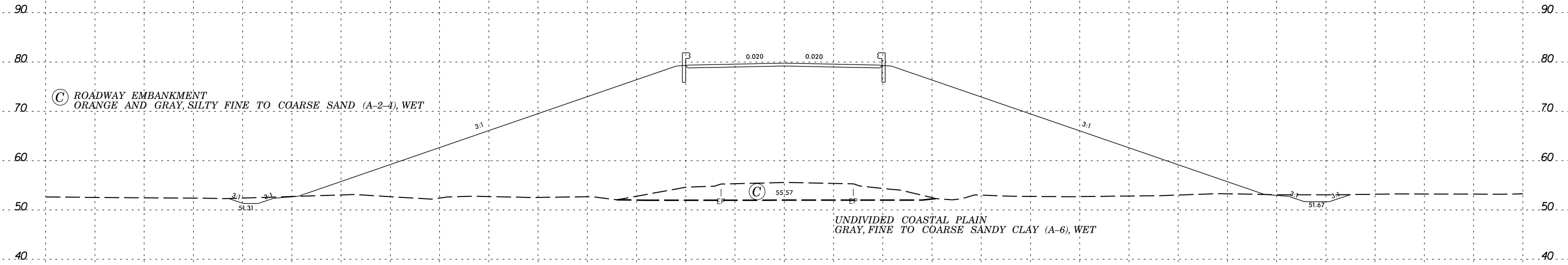
SYNOPSIS OF CONDITIONS

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



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

Ⓢ ROADWAY EMBANKMENT  
ORANGE AND GRAY, SILTY FINE TO COARSE SAND (A-2-4), WET



UNDIVIDED COASTAL PLAIN  
GRAY, FINE TO COARSE SANDY CLAY (A-6), WET

22 + 00.00

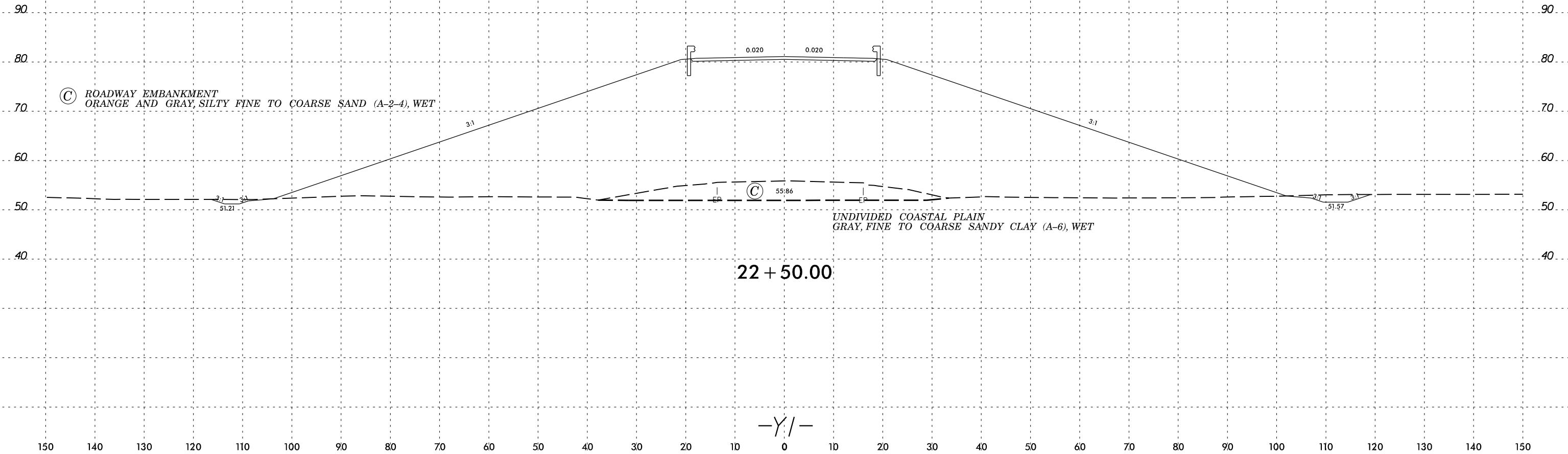
-Y/-

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

SECTION 22+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



Ⓢ ROADWAY EMBANKMENT  
ORANGE AND GRAY, SILTY FINE TO COARSE SAND (A-2-4), WET

UNDIVIDED COASTAL PLAIN  
GRAY, FINE TO COARSE SANDY CLAY (A-6), WET

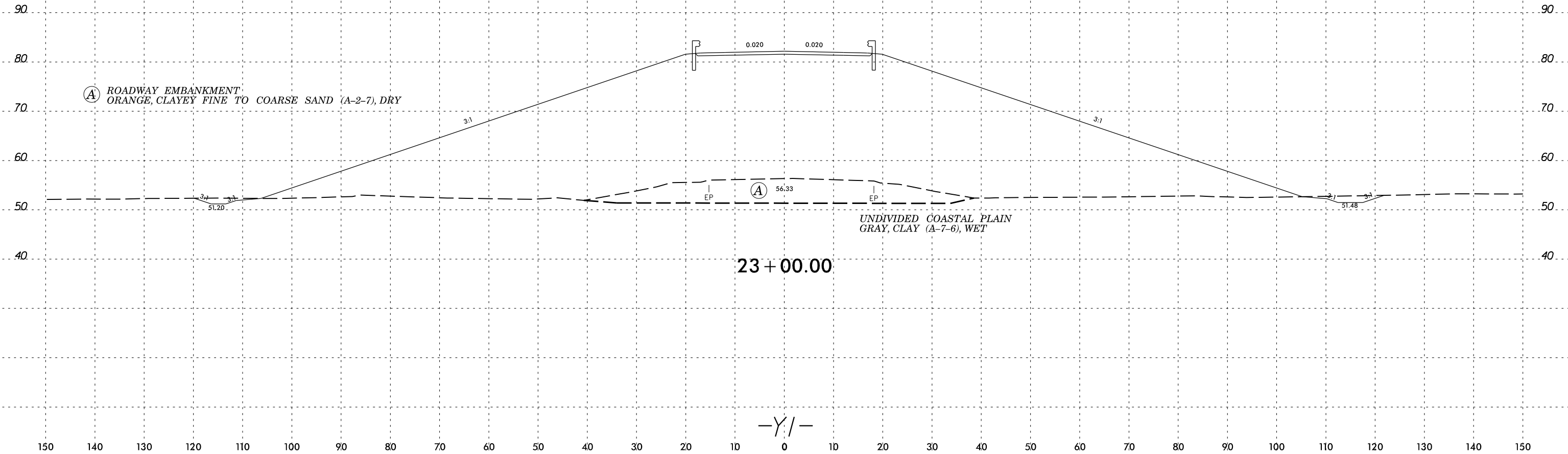
22 + 50.00

-Y/-

SECTION  
CONSTRUCTION  
DRAWING  
DATE  
8/23/99  
BY  
JUN  
CHECKED  
RAN  
SCALE  
AS SHOWN



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



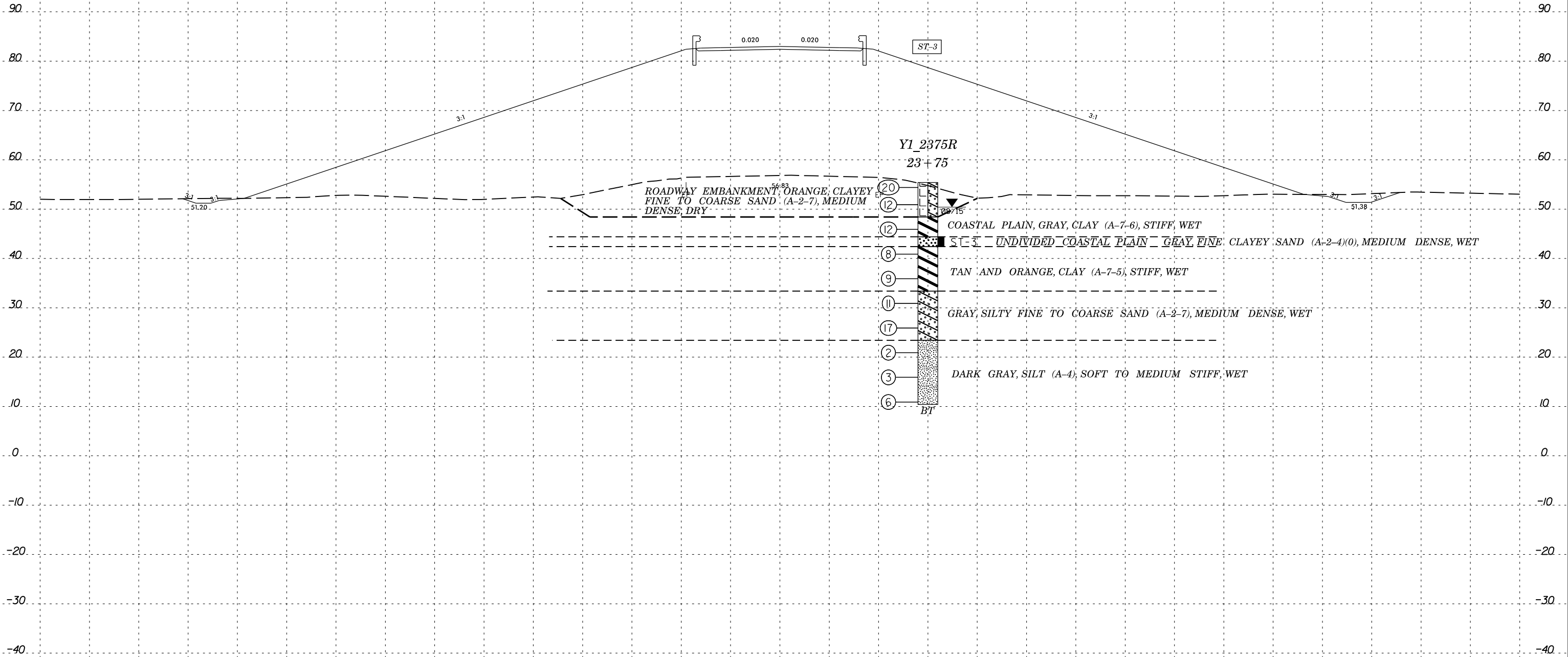
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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

### SOIL TEST RESULTS

SAMPLE NO.	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		
ST-3	30' RT	23+75	11.0'-13.0'	A-2-4(0)	27	8	5.0	69.0	12.6	13.4	100.0	99.6	35.1	24	



23+50.00

-Y/-

SECTION 11.000  
CONSTRUCTION  
PLAN  
DATE 8/23/99  
BY JLR/ML  
CHECKED BY JLR/ML  
APPROVED BY JLR/ML

8/23/99

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

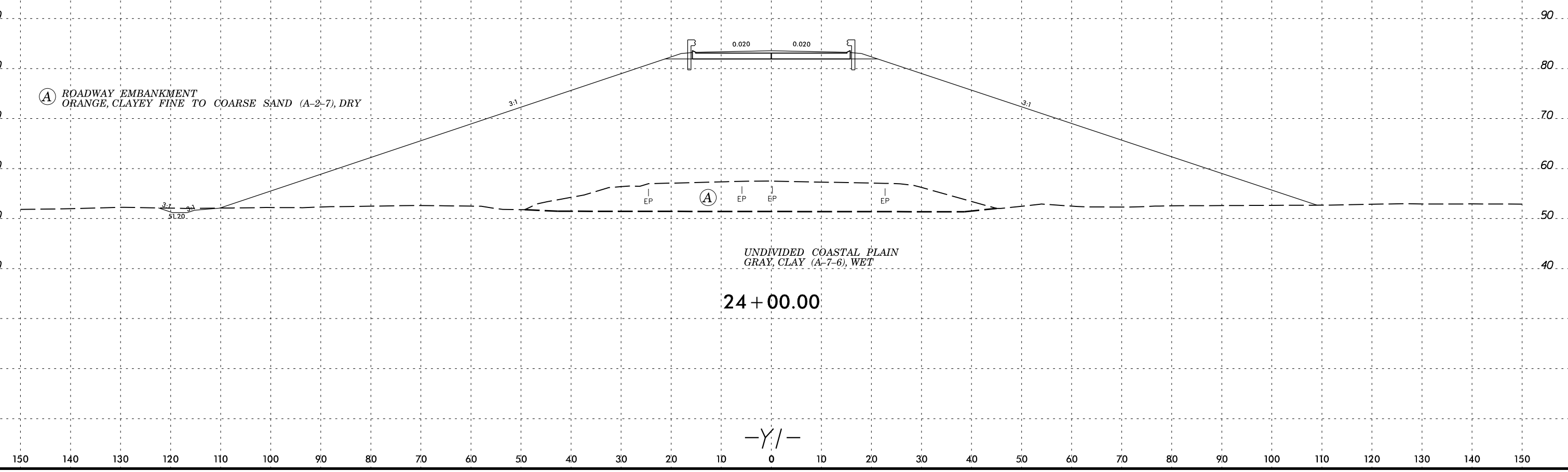
Ⓐ ROADWAY EMBANKMENT  
ORANGE, CLAYEY FINE TO COARSE SAND (A-2-7), DRY

UNDIVIDED COASTAL PLAIN  
GRAY, CLAY (A-7-6), WET

24 + 00.00

-Y/-

SECTION  
CONSTRUCTION  
PLANS  
DATE  
BY  
APP'D  
CHECKED  
SCALE

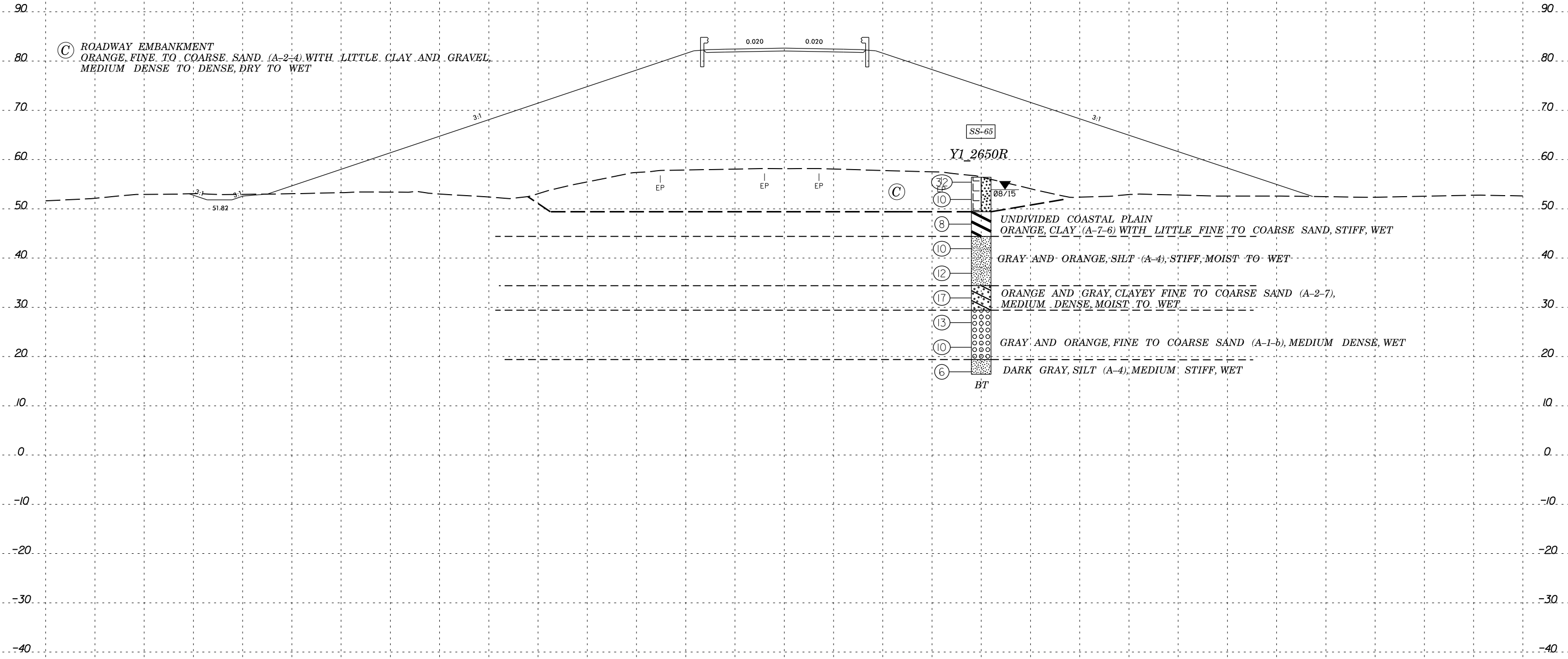


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

### SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-65	40' RT	26+50	33.5'-35.0'	A-1-b(0)	22	NP	58.5	15.5	5.2	2	81.2	40.3	8.9	18	

Ⓒ ROADWAY EMBANKMENT  
 ORANGE, FINE TO COARSE SAND (A-2-4) WITH LITTLE CLAY AND GRAVEL,  
 MEDIUM DENSE TO DENSE, DRY TO WET



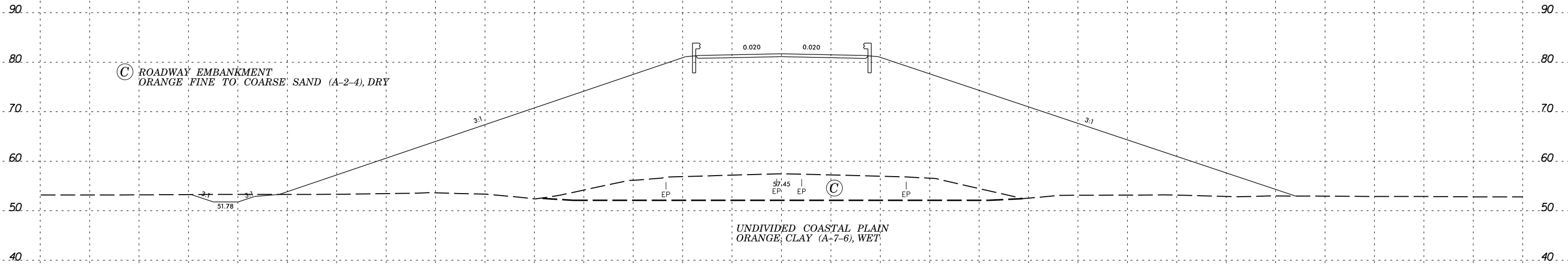
26+50.00

-Y/-

SYNOPSIS OF CONDITIONS

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

Ⓒ ROADWAY EMBANKMENT  
ORANGE FINE TO COARSE SAND (A-2-4), DRY



27 + 00.00

-Y/-

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

SECTION 27+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

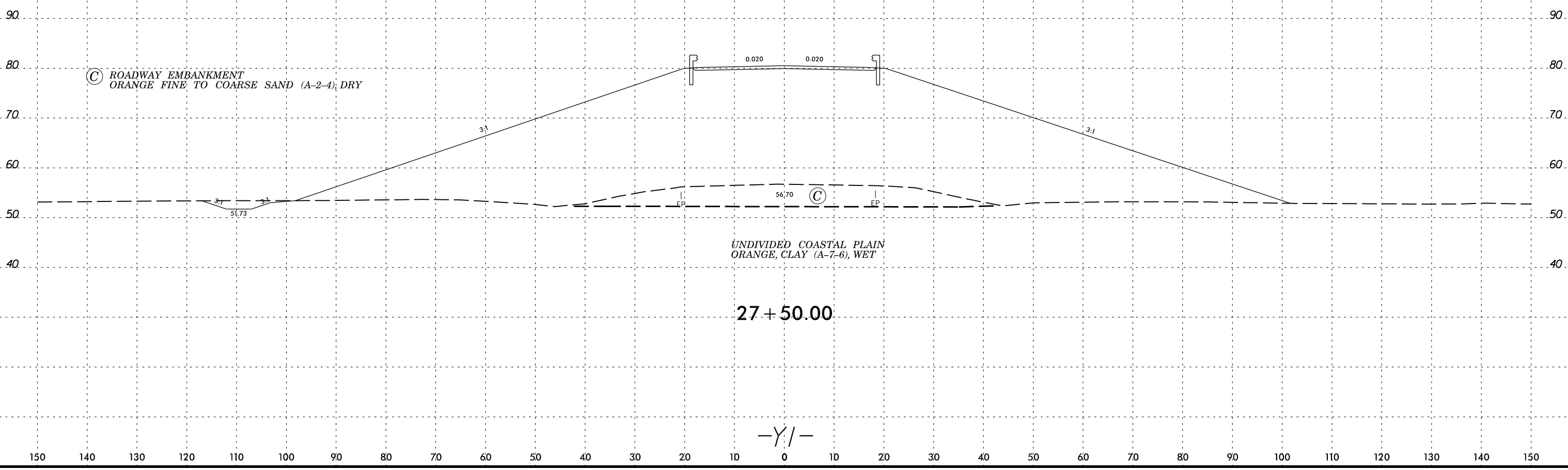
Ⓢ ROADWAY EMBANKMENT  
ORANGE FINE TO COARSE SAND (A-2-4), DRY

UNDIVIDED COASTAL PLAIN  
ORANGE, CLAY (A-7-6), WET

27 + 50.00

-Y/-

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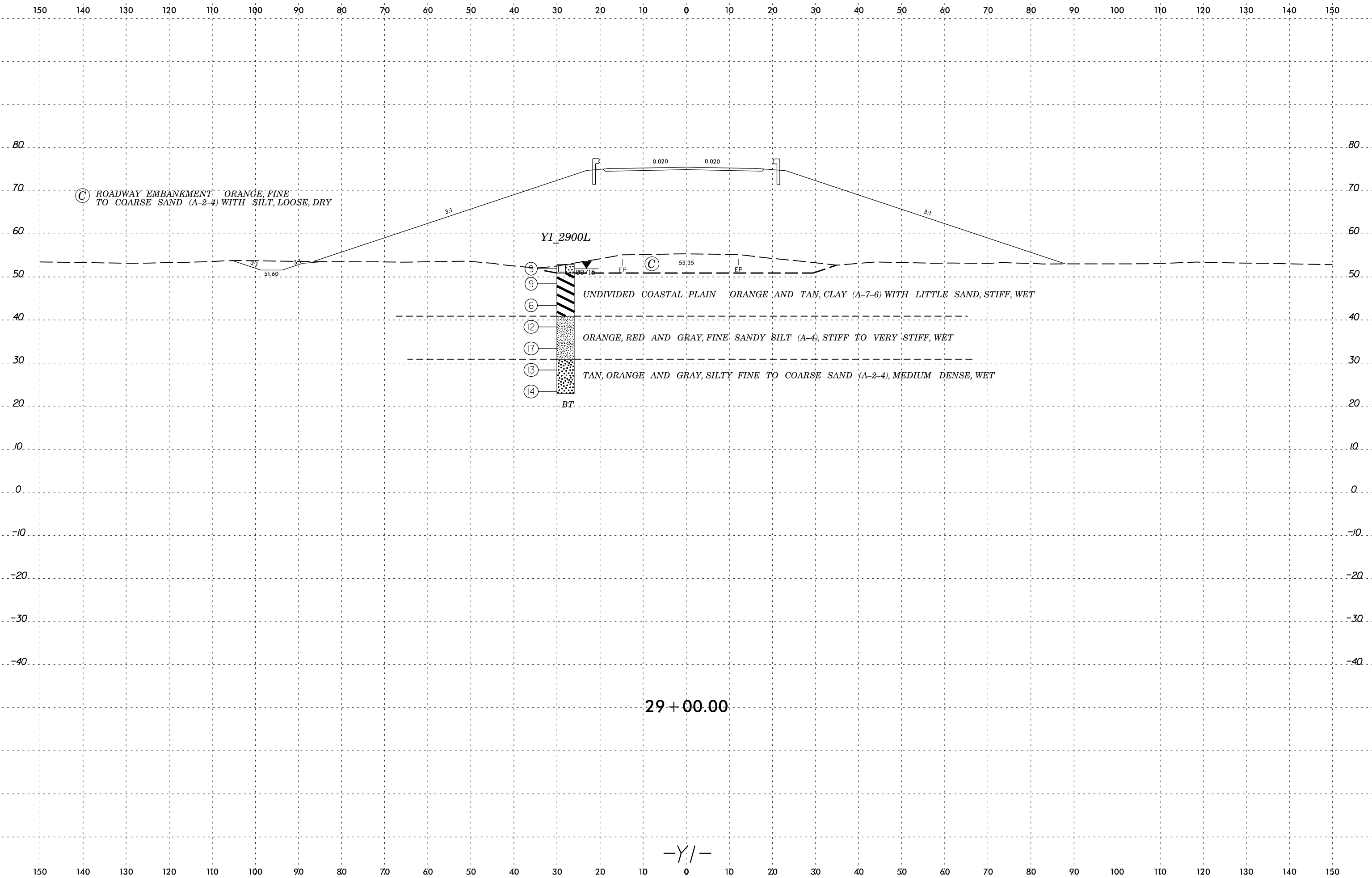


8/23/99



PROJ. REFERENCE NO.  
R-5311A

SHEET NO.  
78



Ⓢ ROADWAY EMBANKMENT ORANGE, FINE TO COARSE SAND (A-2-4) WITH SILT, LOOSE, DRY

YI 2900L

- ⑨
- ⑨
- ⑥
- ⑫
- ⑰
- ⑬
- ⑭

UNDIVIDED COASTAL PLAIN ORANGE AND TAN, CLAY (A-7-6) WITH LITTLE SAND, STIFF, WET

ORANGE, RED AND GRAY, FINE SANDY SILT (A-4), STIFF TO VERY STIFF, WET

TAN, ORANGE AND GRAY, SILTY FINE TO COARSE SAND (A-2-4), MEDIUM DENSE, WET

BT

29 + 00.00

-Y/-

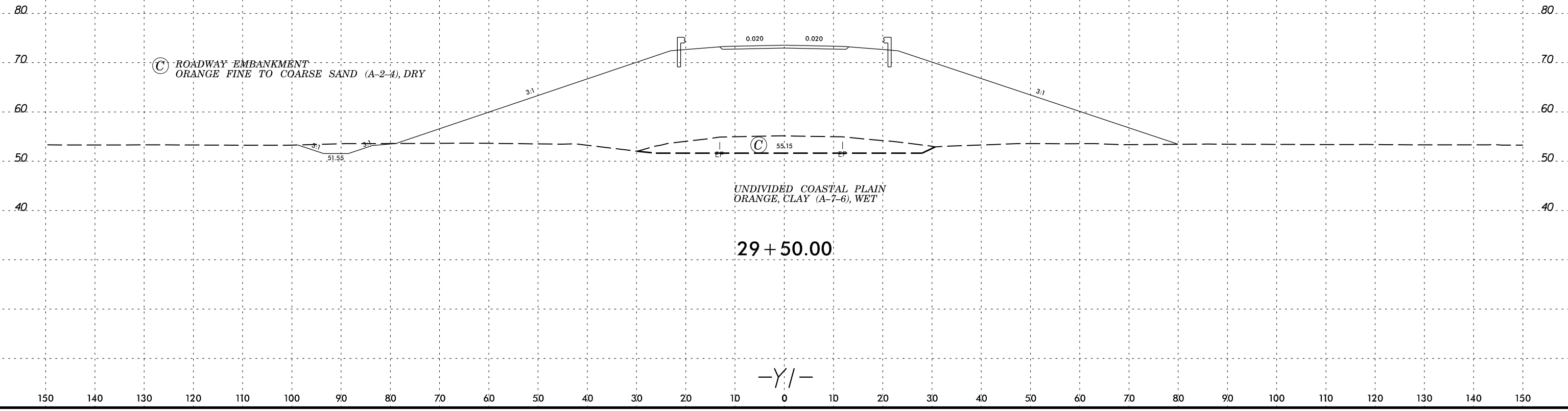
SECTION CONDITION



8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5311A	79

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

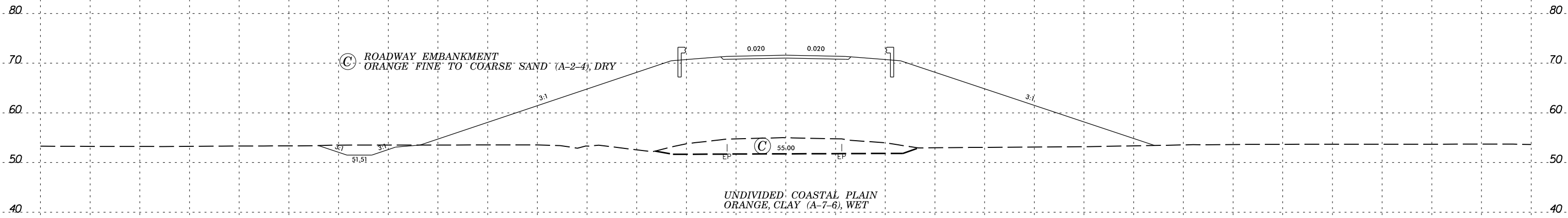


SECTION \$\$\$\$\$\$  
CONSTRUCTION \$\$\$\$\$\$  
PLANS \$\$\$\$\$\$  
PROFILES \$\$\$\$\$\$  
GENERAL NOTES \$\$\$\$\$\$  
APPENDICES \$\$\$\$\$\$  
INDEX \$\$\$\$\$\$

-Y/-

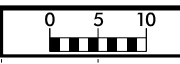


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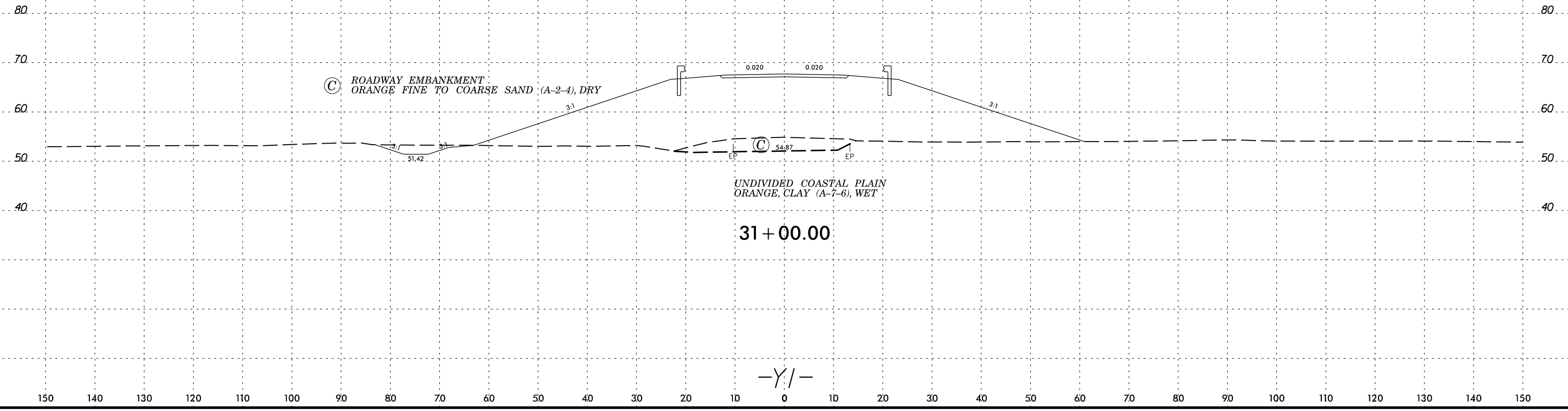


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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



Ⓢ ROADWAY EMBANKMENT  
ORANGE FINE TO COARSE SAND (A-2-4), DRY

UNDIVIDED COASTAL PLAIN  
ORANGE CLAY (A-7-6), WET

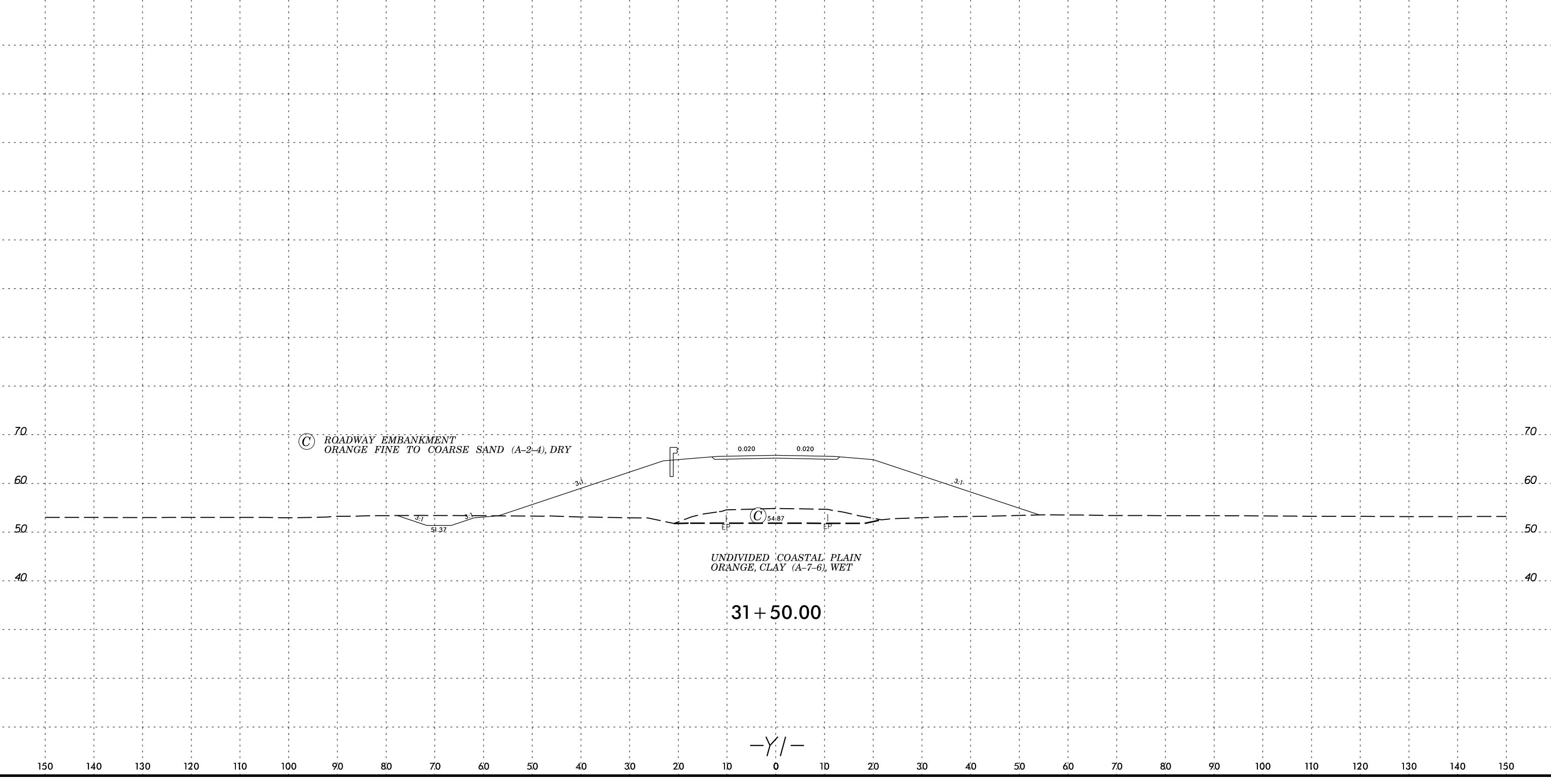
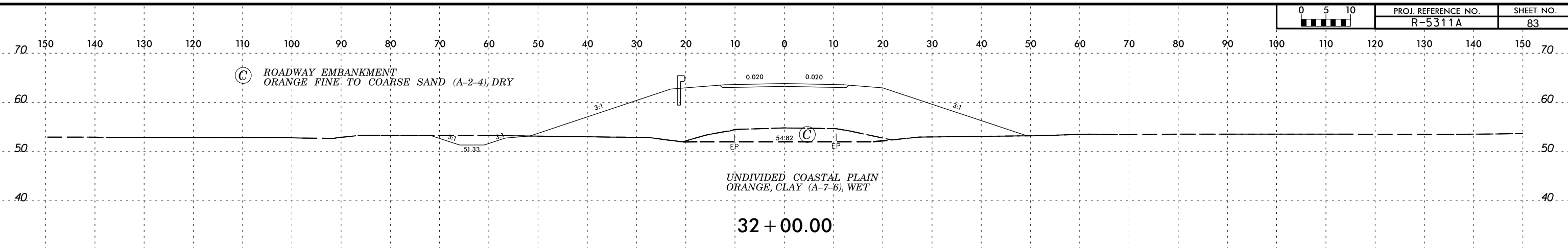
31 + 00.00

-Y/-

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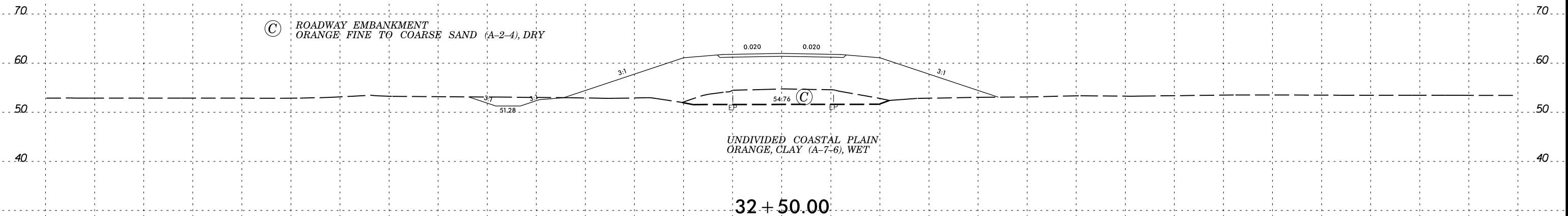
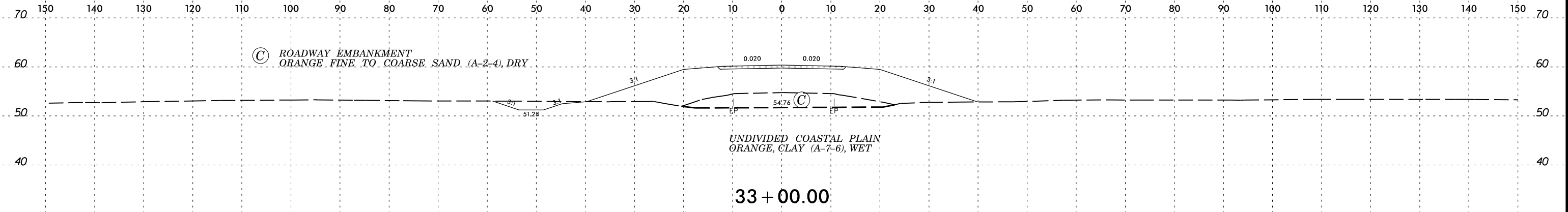
8/23/99

0 5 10	PROJ. REFERENCE NO. R-5311A	SHEET NO. 83
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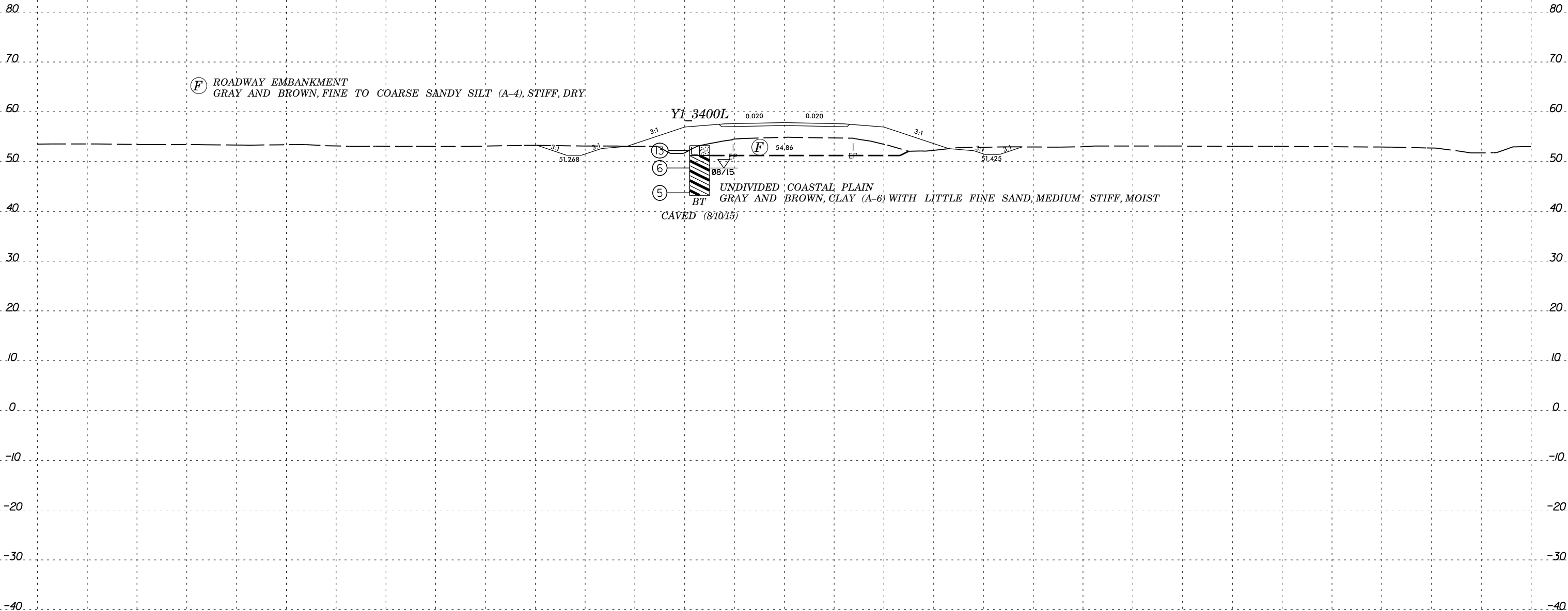
8/23/99



PROJ. REFERENCE NO.  
R-5311A

SHEET NO.  
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



(F) ROADWAY EMBANKMENT  
GRAY AND BROWN, FINE TO COARSE SANDY SILT (A-4), STIFF, DRY

Y1 3400L

- (5) BT
- (6)
- (7)

UNDIVIDED COASTAL PLAIN  
GRAY AND BROWN, CLAY (A-6) WITH LITTLE FINE SAND, MEDIUM STIFF, MOIST

CAVED (81015)

34 + 00.00

-Y/-

SECTION \$\$\$\$\$\$  
CONSTRUCTION \$\$\$\$\$\$  
PLANS \$\$\$\$\$\$  
PROFILES \$\$\$\$\$\$  
GENERAL \$\$\$\$\$\$  
NOTES \$\$\$\$\$\$

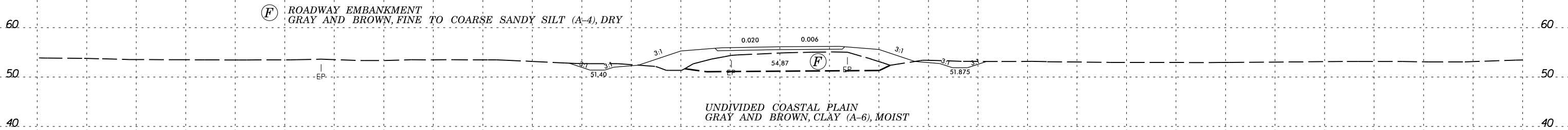
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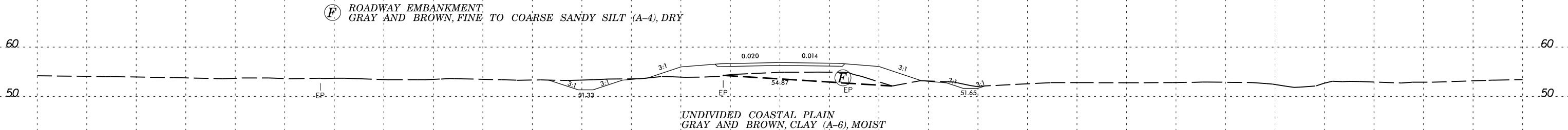
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5311A	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



35 + 00.00



34 + 50.00

-Y/-

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

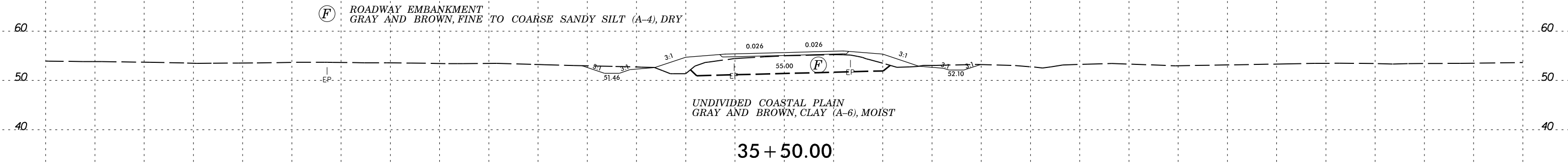
SECTION  
 CONSTRUCTION  
 PLANS  
 ROADWAY  
 EMBANKMENT  
 AND  
 UNDIVIDED  
 COASTAL  
 PLAIN

8/23/99



PROJ. REFERENCE NO. R-5311A	SHEET NO. 88
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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



(F) ROADWAY EMBANKMENT  
GRAY AND BROWN, FINE TO COARSE SANDY SILT (A-4), DRY

UNDIVIDED COASTAL PLAIN  
GRAY AND BROWN, CLAY (A-6), MOIST

35 + 50.00

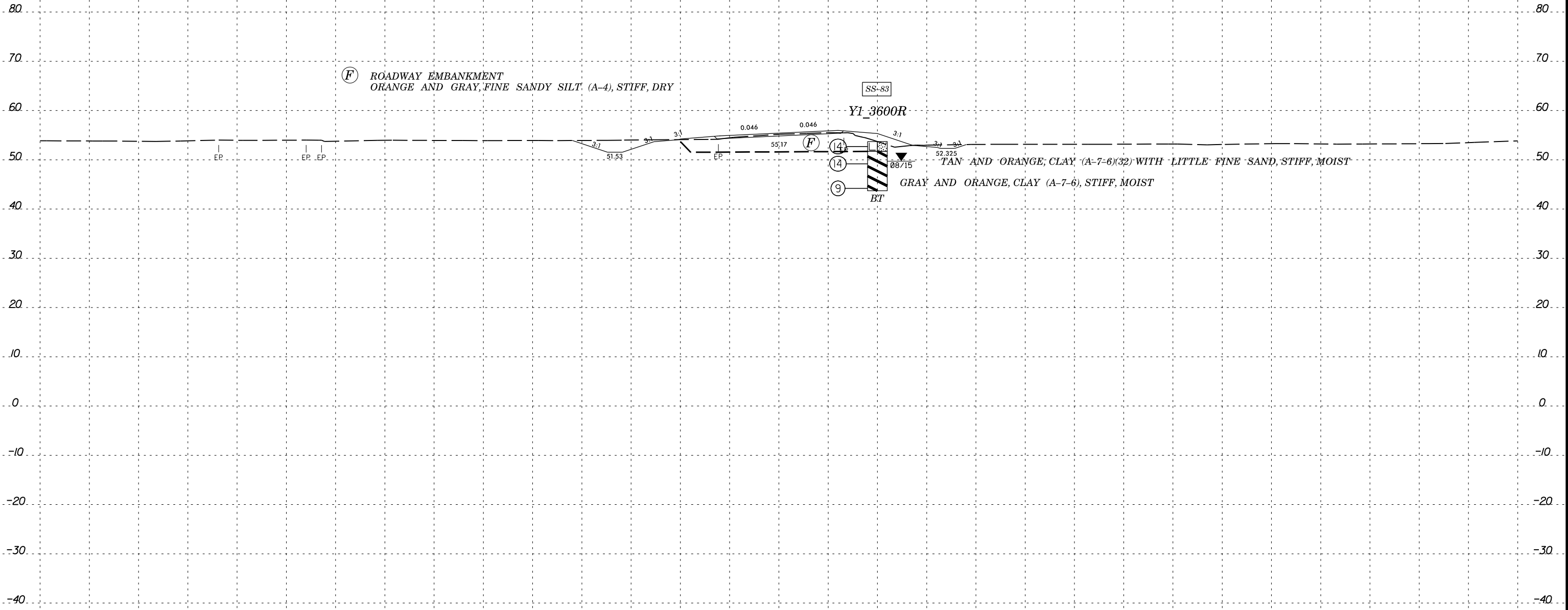
-Y/-

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

SECTION

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

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-83	20' RT	36+00	3.5'-5.0'	A-7-6(32)	57	34	0.4	19.8	30.1	49.7	100.0	99.9	87.2	26	



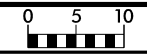
36 + 00.00

-Y/-

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

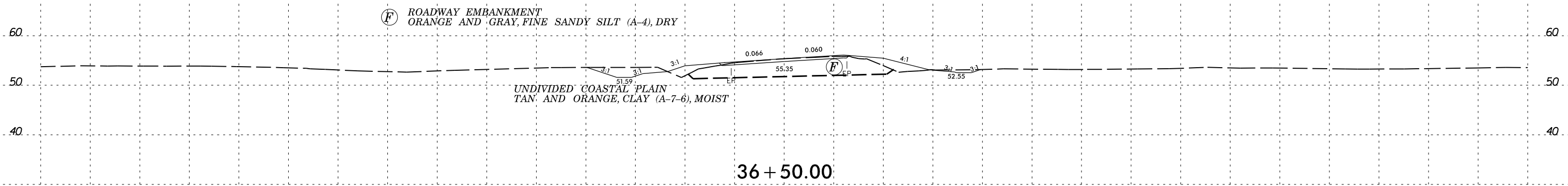
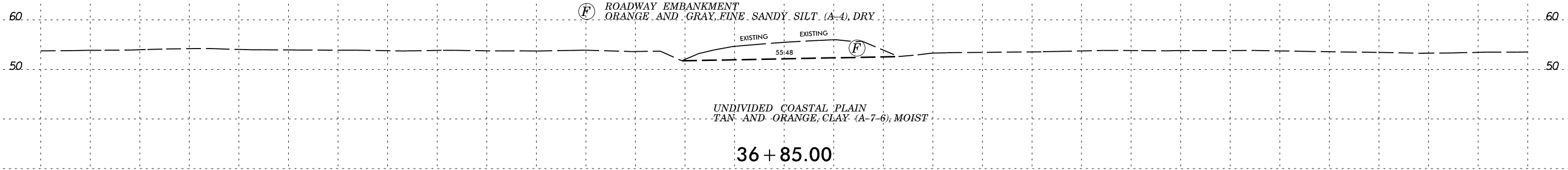
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

8/23/99



PROJ. REFERENCE NO. R-5311A	SHEET NO. 90
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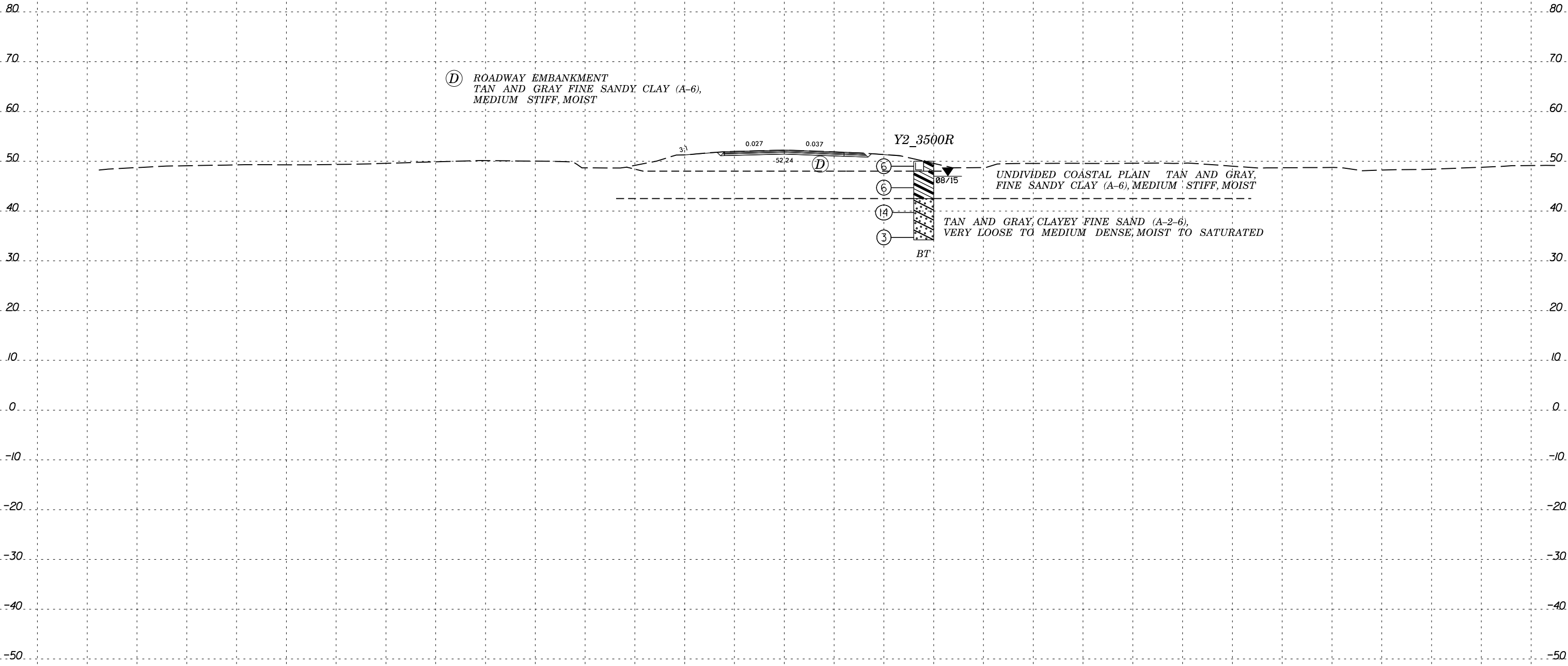


-Y/-

8/23/99

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

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



D ROADWAY EMBANKMENT  
TAN AND GRAY FINE SANDY CLAY (A-6),  
MEDIUM STIFF, MOIST

Y2\_3500R

UNDIVIDED COASTAL PLAIN TAN AND GRAY,  
FINE SANDY CLAY (A-6), MEDIUM STIFF, MOIST

TAN AND GRAY, CLAYEY FINE SAND (A-2-6),  
VERY LOOSE TO MEDIUM DENSE, MOIST TO SATURATED

BT

35 + 00.00

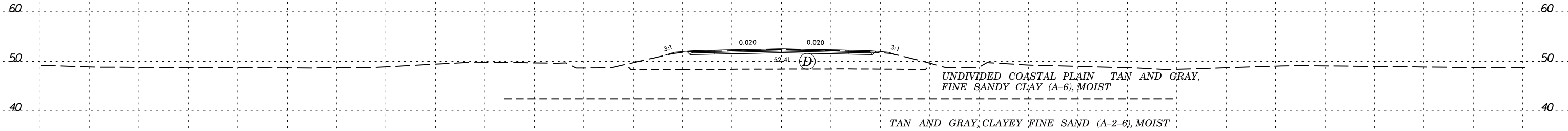
-Y2-

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

SECTION 35+00.00  
PLAN VIEW  
DATE 8/23/99

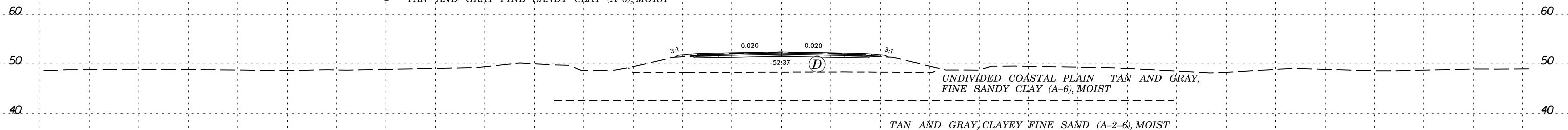
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ⓓ ROADWAY EMBANKMENT  
TAN AND GRAY FINE SANDY CLAY (A-6), MOIST



36 + 00.00

ⓓ ROADWAY EMBANKMENT  
TAN AND GRAY FINE SANDY CLAY (A-6), MOIST



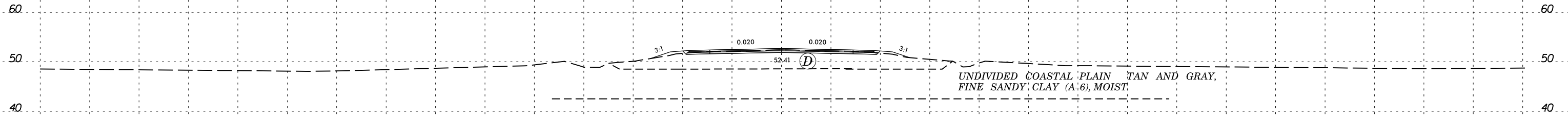
35 + 50.00

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



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

ⓓ ROADWAY EMBANKMENT  
TAN AND GRAY FINE SANDY CLAY (A-6), MOIST



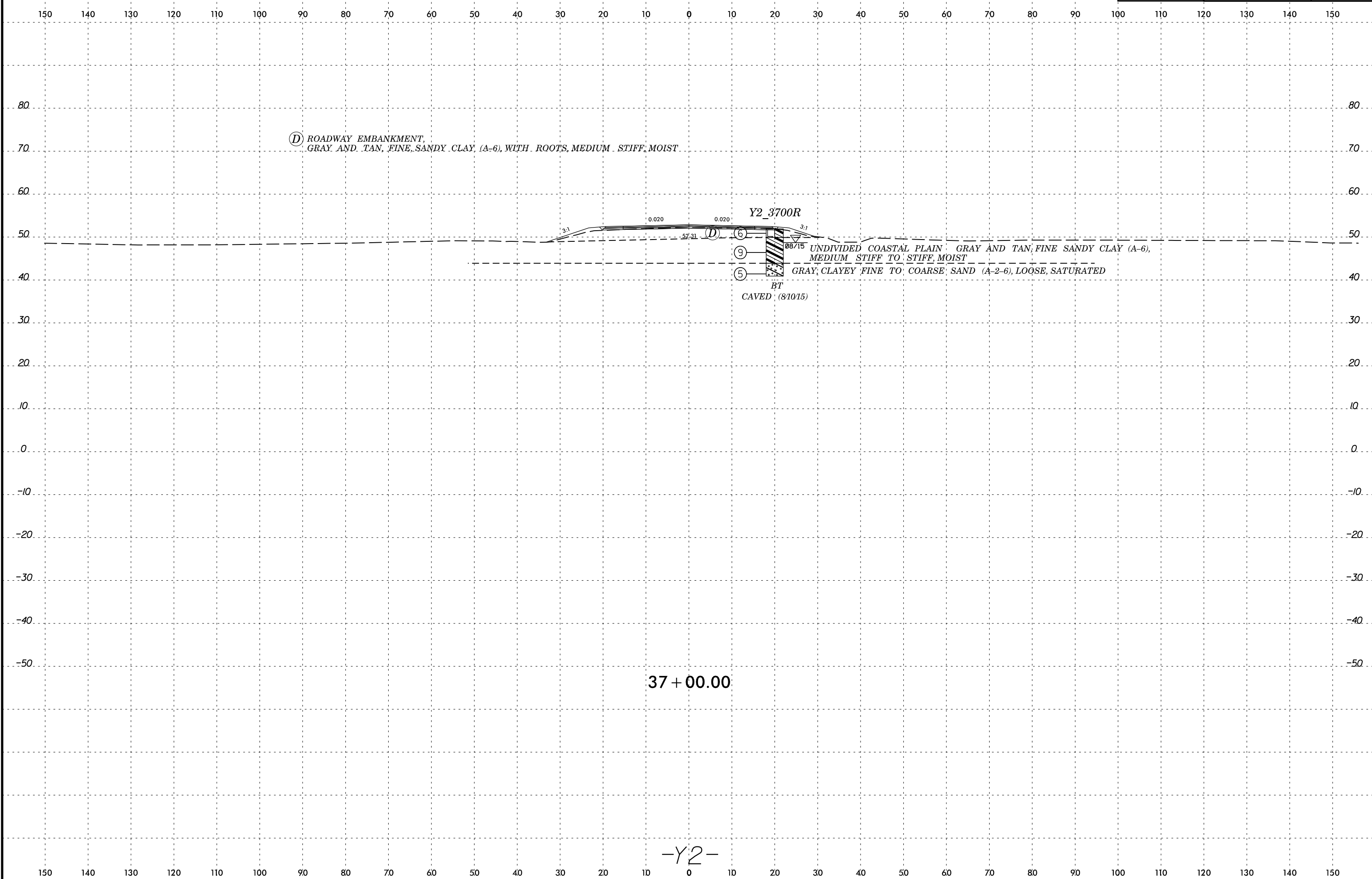
36 + 50.00

UNDIVIDED COASTAL PLAIN TAN AND GRAY,  
FINE SANDY CLAY (A-6), MOIST  
TAN AND GRAY, CLAYEY FINE SAND (A-2-6), MOIST

-Y2-

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

SECTION \$\$\$\$\$\$  
CONSTRUCTION \$\$\$\$\$\$  
DRAWING \$\$\$\$\$\$  
DATE \$\$\$\$\$\$



ⓓ ROADWAY EMBANKMENT,  
 GRAY AND TAN, FINE, SANDY CLAY (A-6), WITH ROOTS, MEDIUM STIFF, MOIST

Y2\_3700R

UNDIVIDED COASTAL PLAIN GRAY AND TAN, FINE SANDY CLAY (A-6),  
 MEDIUM STIFF TO STIFF, MOIST

GRAY, CLAYEY FINE TO COARSE SAND (A-2-6), LOOSE, SATURATED

BT  
 CAVED (81015)

37 + 00.00

-Y2-

CYCLINE SECTION

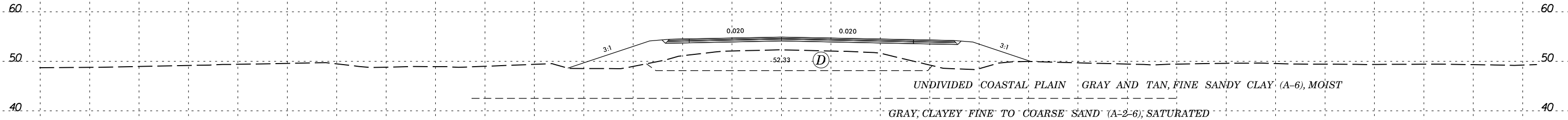






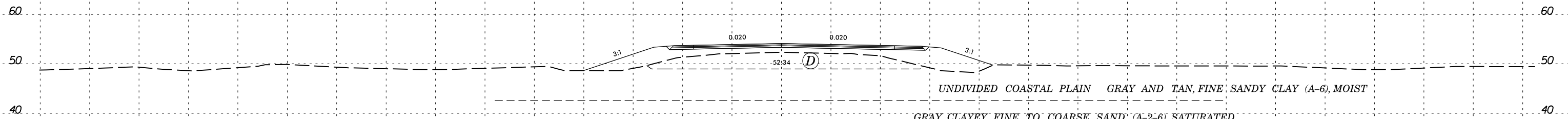
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

(D) ROADWAY EMBANKMENT.  
GRAY AND TAN, FINE, SANDY CLAY (A-6), WITH ROOTS, MOIST



39 + 00.00

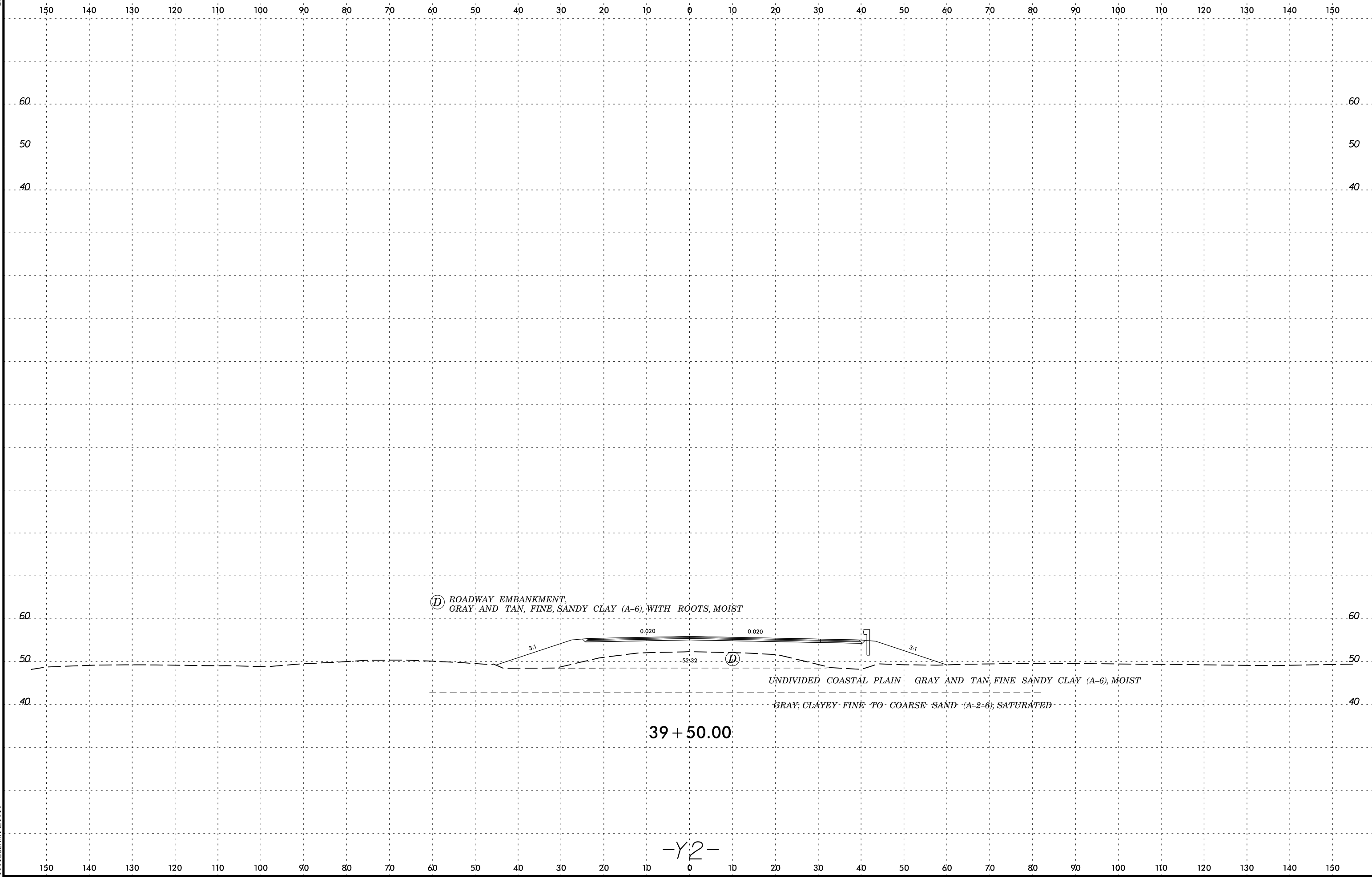
(D) ROADWAY EMBANKMENT.  
GRAY AND TAN, FINE, SANDY CLAY (A-6), WITH ROOTS, MOIST



38 + 50.00

SECTION 11.00  
CONCRETE  
REINFORCED  
CONCRETE  
STRUCTURES  
SECTION 11.00  
CONCRETE  
REINFORCED  
CONCRETE  
STRUCTURES

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



ⓓ ROADWAY EMBANKMENT,  
 GRAY AND TAN, FINE SANDY CLAY (A-6), WITH ROOTS, MOIST

UNDIVIDED COASTAL PLAIN GRAY AND TAN, FINE SANDY CLAY (A-6), MOIST

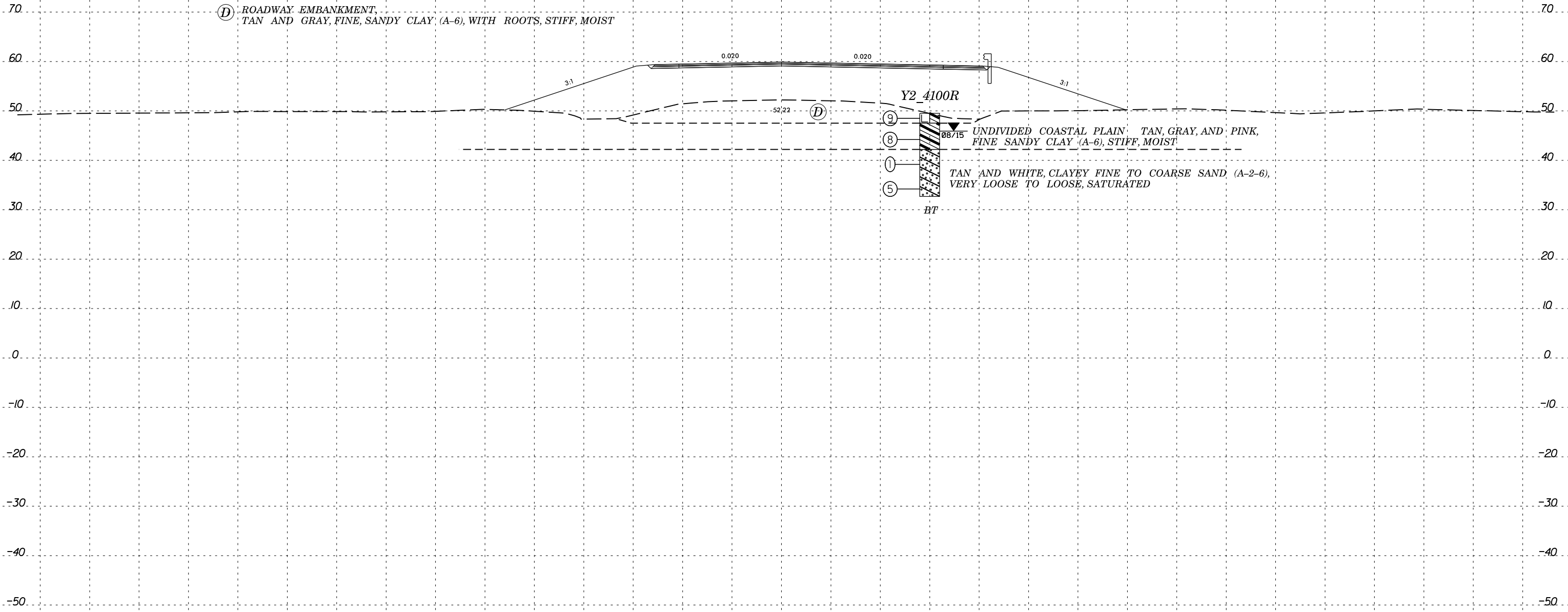
GRAY, CLAYEY FINE TO COARSE SAND (A-2-6), SATURATED

39 + 50.00

-Y2-

SECTION  
 10' 20' 30' 40' 50' 60'

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



ⓓ ROADWAY EMBANKMENT,  
TAN AND GRAY, FINE, SANDY CLAY, (A-6), WITH ROOTS, STIFF, MOIST

Y2 4100R

UNDIVIDED COASTAL PLAIN TAN, GRAY, AND PINK,  
FINE SANDY CLAY (A-6), STIFF, MOIST

TAN AND WHITE, CLAYEY FINE TO COARSE SAND (A-2-6),  
VERY LOOSE TO LOOSE, SATURATED

BT

41+00.00

-Y2-

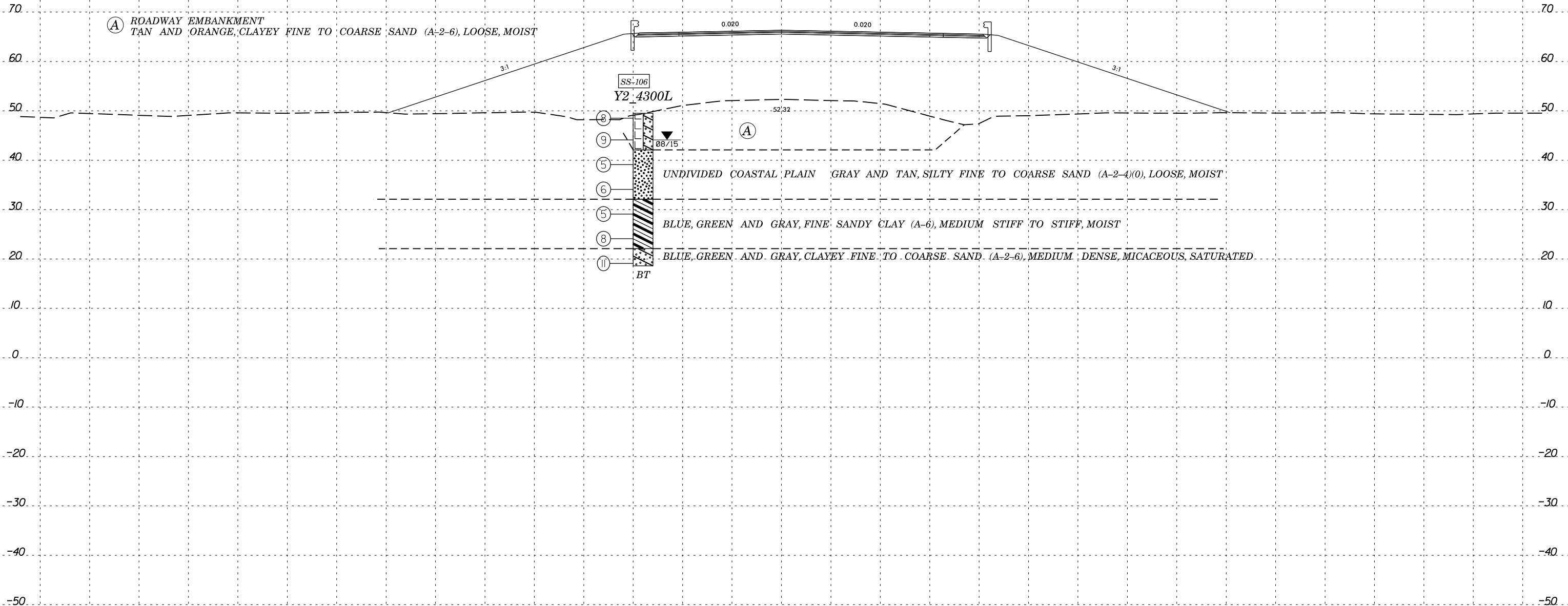
SECTION \$\$\$\$\$\$  
CONSTRUCTION \$\$\$\$\$\$  
REVISIONS \$\$\$\$\$\$  
DATE \$\$\$\$\$\$  
BY \$\$\$\$\$\$  
CHECKED \$\$\$\$\$\$  
DATE \$\$\$\$\$\$  
BY \$\$\$\$\$\$

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

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

### SOIL TEST RESULTS

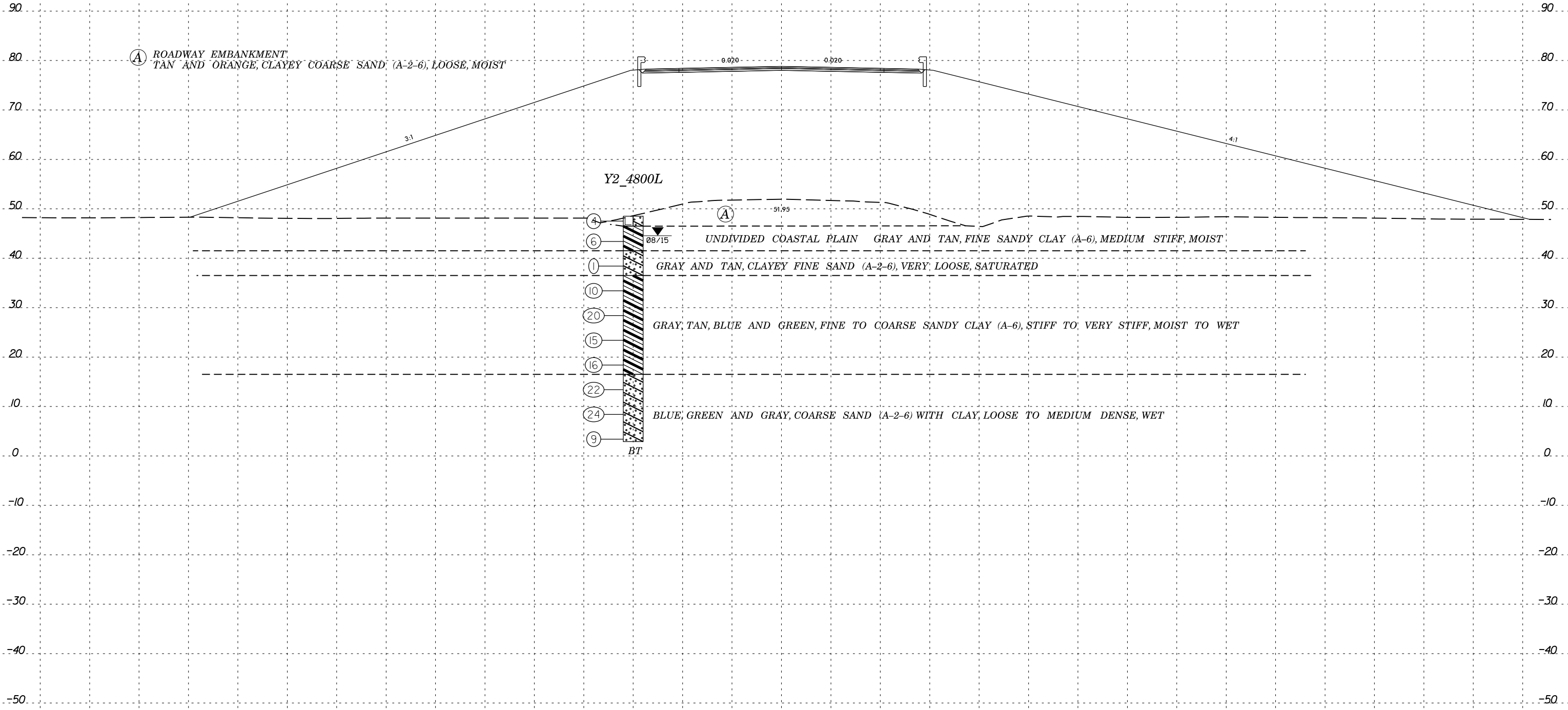
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-106	35' LT	43+00	14.4'-15.9'	A-2-4(0)	21	NP	60.4	26.3	7.2	6	99.9	84.0	15.4	21	



-Y2-

SYNOPSIS OF CONDITIONS

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

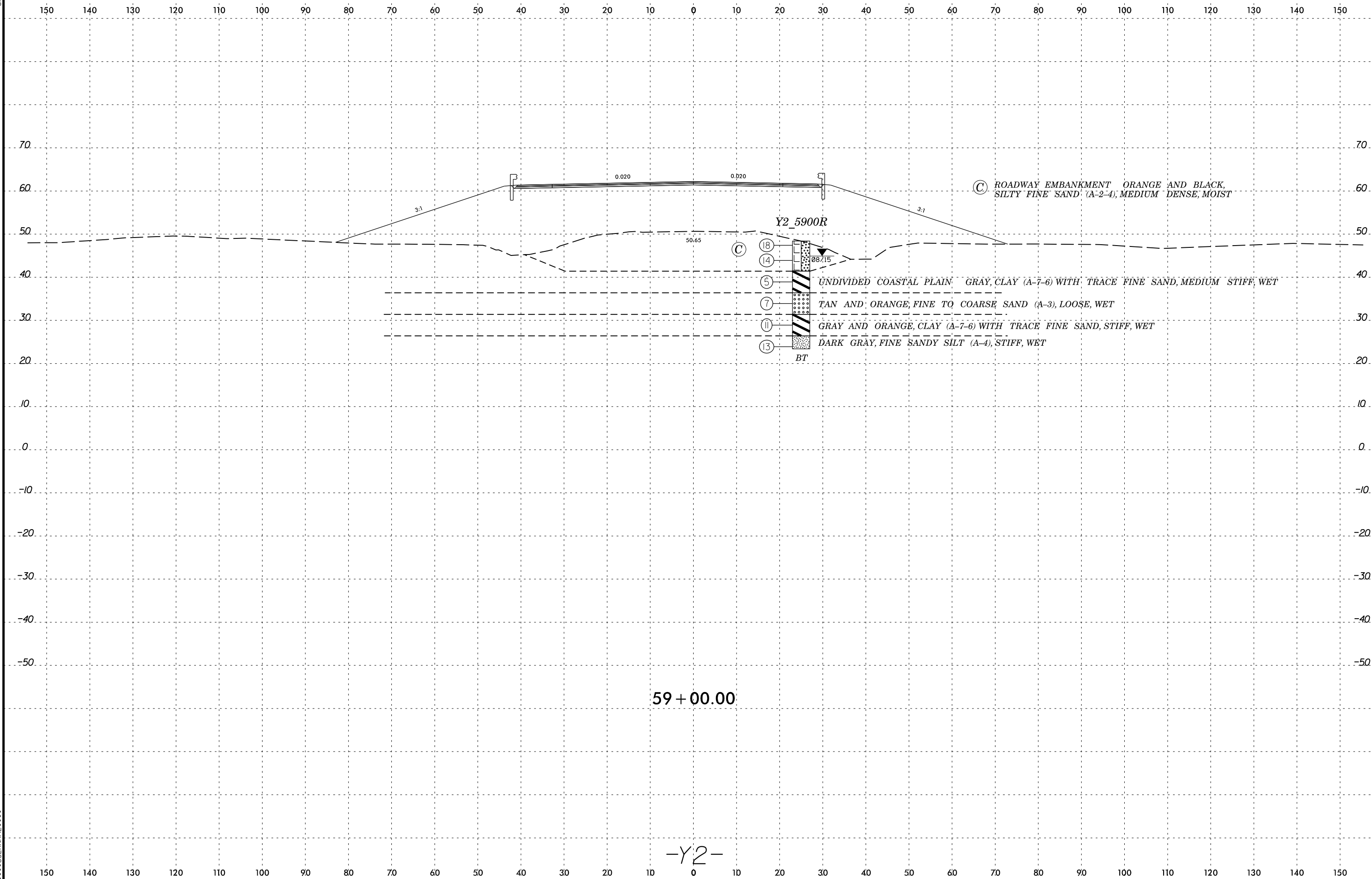


48 + 00.00

-Y2-

SYTIME  
CON  
PL  
RR  
SU  
DU  
PR  
AR  
AVE  
S





Ⓒ ROADWAY EMBANKMENT ORANGE AND BLACK, SILTY FINE SAND (A-2-4), MEDIUM DENSE, MOIST

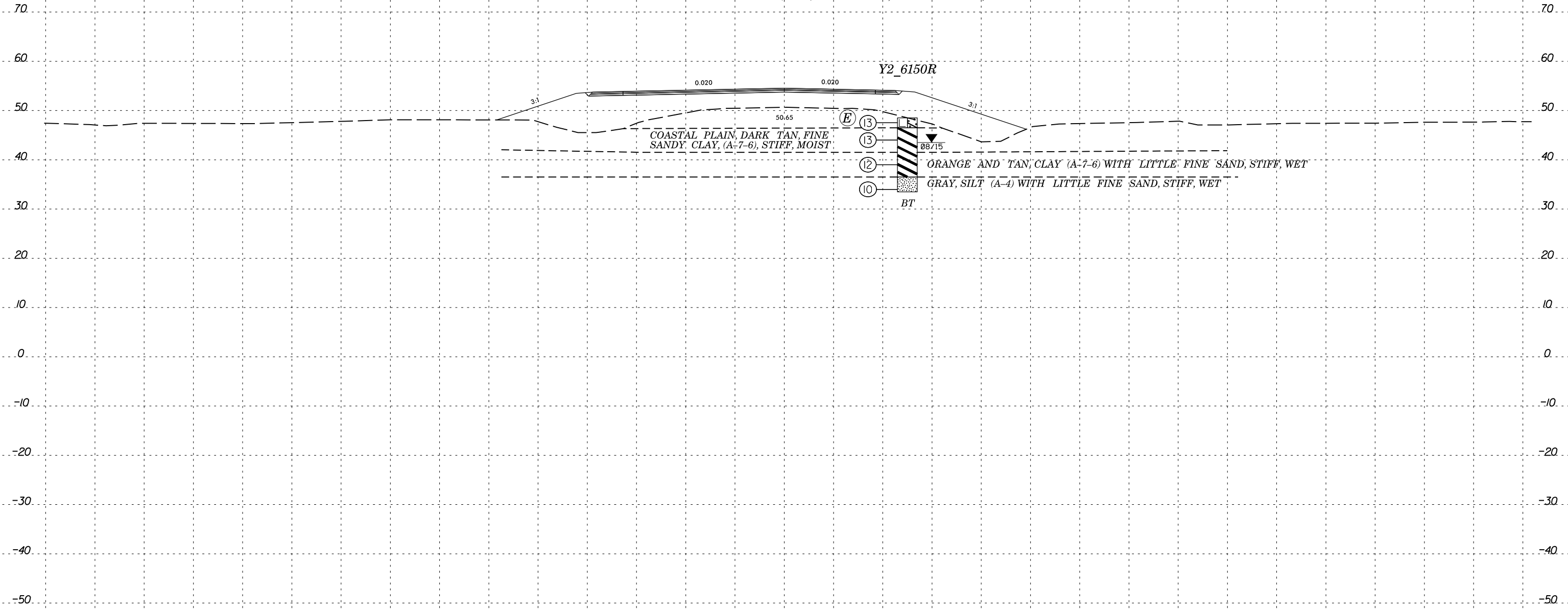
SECTION 100  
CONSTRUCTION  
DRAWING  
NO. 100  
DATE 8/23/99  
BY [signature]



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

(E) ROADWAY EMBANKMENT ORANGE,  
CLAYEY FINE TO COARSE SAND (A-2-7) WITH ROOTS, MEDIUM DENSE, MOIST

Y2\_6150R



61+50.00

-Y2-

SECTION \$\$\$\$\$\$  
CONSTRUCTION \$\$\$\$\$\$  
DATE \$\$\$\$\$\$  
DRAWN \$\$\$\$\$\$  
CHECKED \$\$\$\$\$\$  
BY \$\$\$\$\$\$

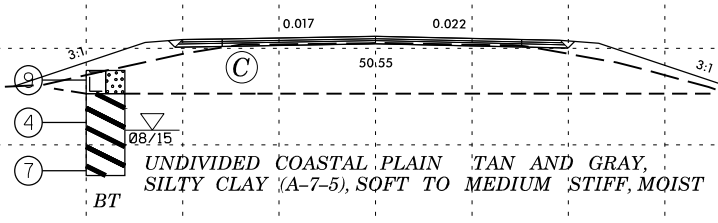
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8/23/99

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

Ⓒ ROADWAY EMBANKMENT TAN AND ORANGE, SILTY FINE SAND (A-2-4) WITH ROOTS, LOOSE, MOIST

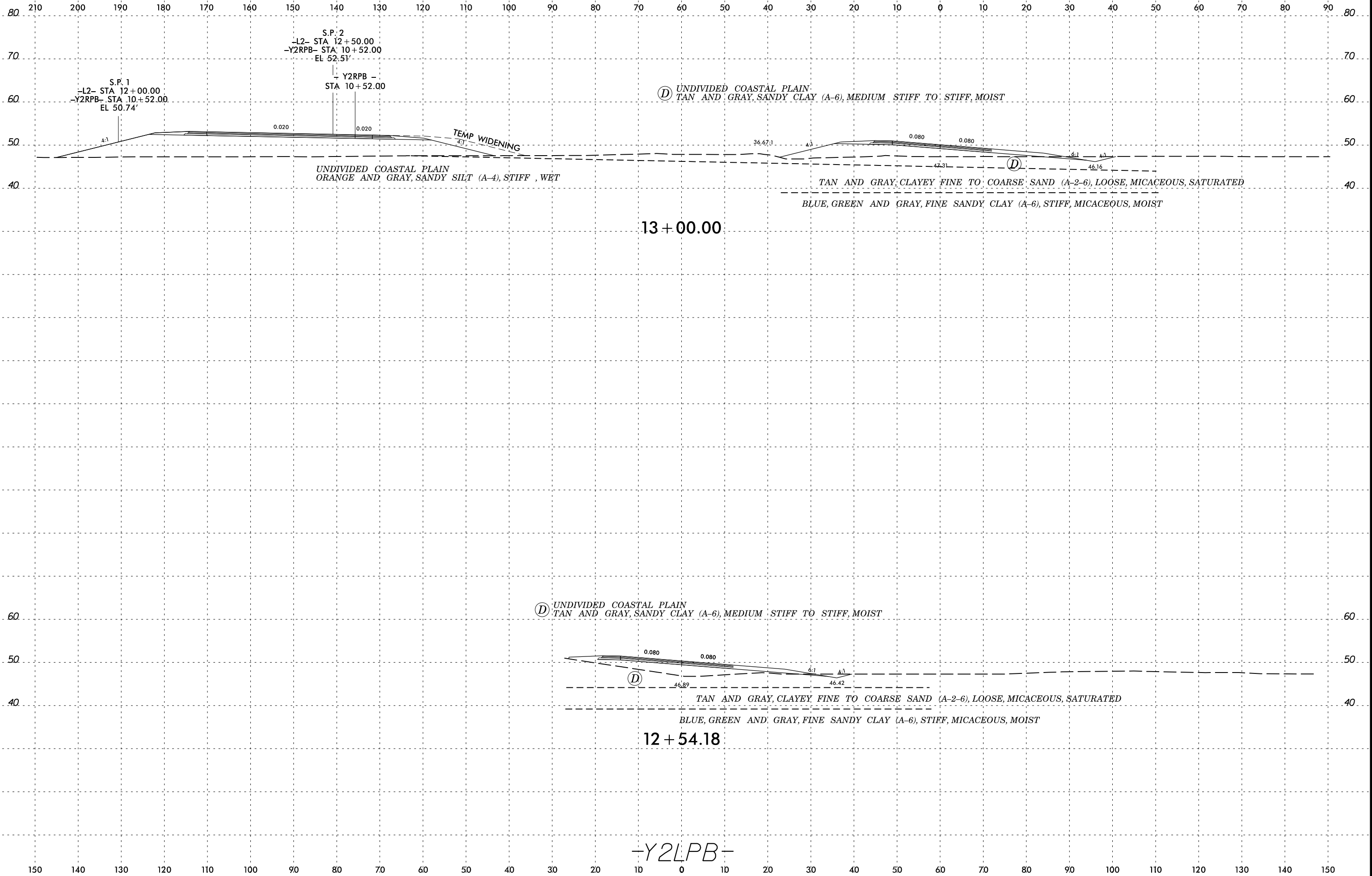
Y2 6350L



63 + 50.00

-Y2-

SECTION \$\$\$\$\$\$  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200



SECTION 66-11-0101  
SECTION 66-11-0102  
SECTION 66-11-0103  
SECTION 66-11-0104  
SECTION 66-11-0105  
SECTION 66-11-0106  
SECTION 66-11-0107  
SECTION 66-11-0108  
SECTION 66-11-0109  
SECTION 66-11-0110  
SECTION 66-11-0111  
SECTION 66-11-0112  
SECTION 66-11-0113  
SECTION 66-11-0114  
SECTION 66-11-0115  
SECTION 66-11-0116  
SECTION 66-11-0117  
SECTION 66-11-0118  
SECTION 66-11-0119  
SECTION 66-11-0120  
SECTION 66-11-0121  
SECTION 66-11-0122  
SECTION 66-11-0123  
SECTION 66-11-0124  
SECTION 66-11-0125  
SECTION 66-11-0126  
SECTION 66-11-0127  
SECTION 66-11-0128  
SECTION 66-11-0129  
SECTION 66-11-0130  
SECTION 66-11-0131  
SECTION 66-11-0132  
SECTION 66-11-0133  
SECTION 66-11-0134  
SECTION 66-11-0135  
SECTION 66-11-0136  
SECTION 66-11-0137  
SECTION 66-11-0138  
SECTION 66-11-0139  
SECTION 66-11-0140  
SECTION 66-11-0141  
SECTION 66-11-0142  
SECTION 66-11-0143  
SECTION 66-11-0144  
SECTION 66-11-0145  
SECTION 66-11-0146  
SECTION 66-11-0147  
SECTION 66-11-0148  
SECTION 66-11-0149  
SECTION 66-11-0150

-Y2LPB-

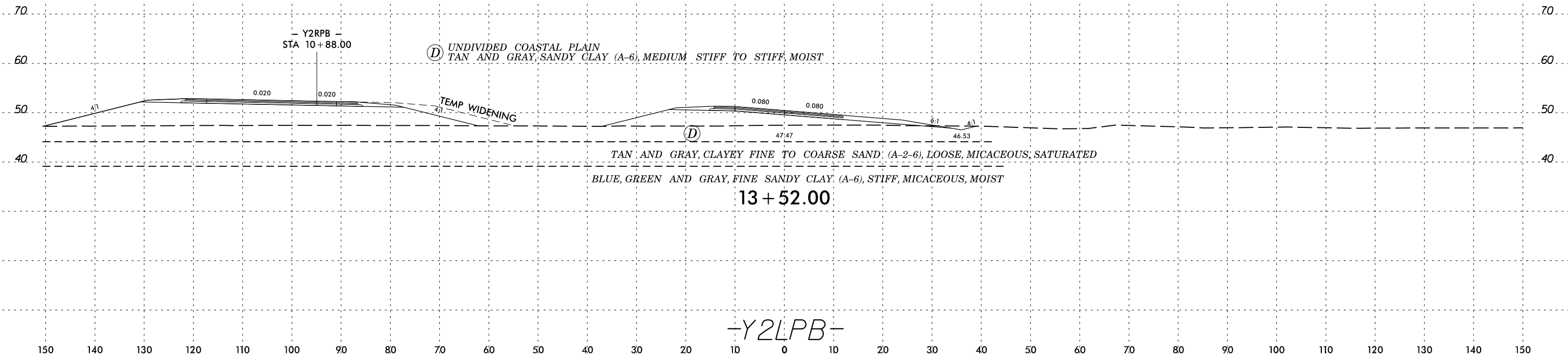
8/23/99



PROJ. REFERENCE NO.  
R-5311A

SHEET NO.  
106

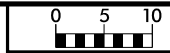
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SECTION 10+00 TO 10+00

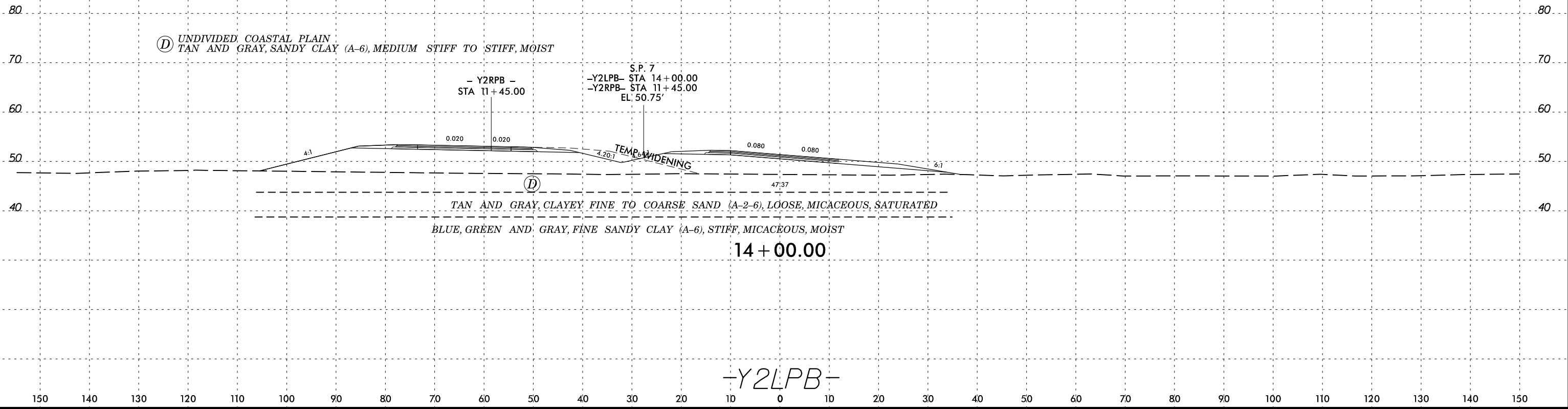
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
R-5311A	107

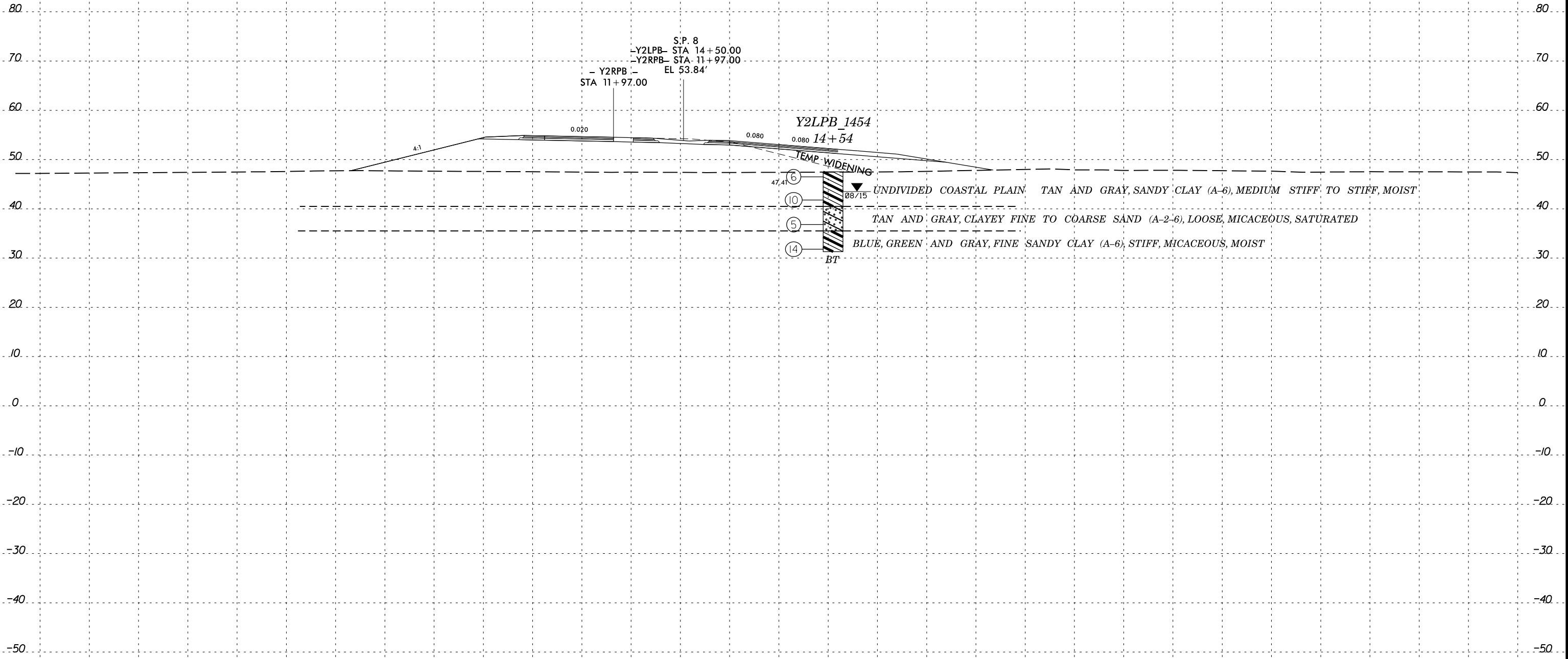
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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SECTION 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

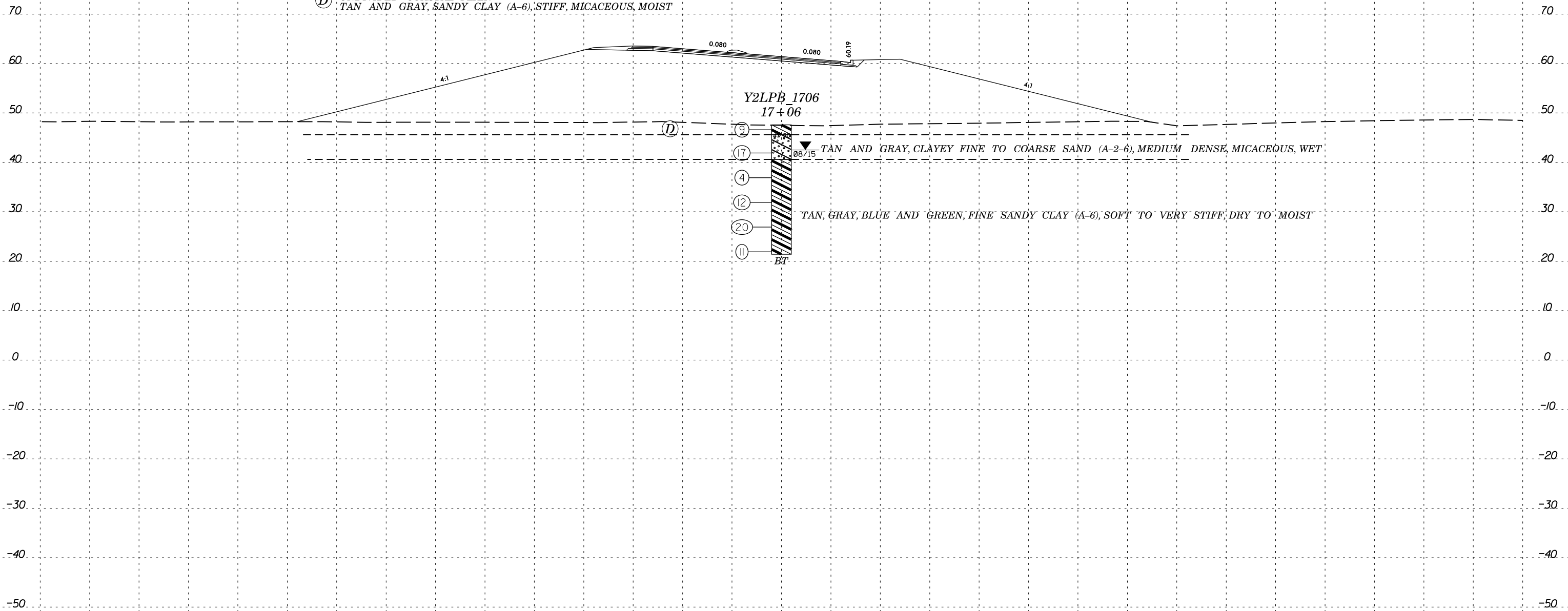


14 + 50.00

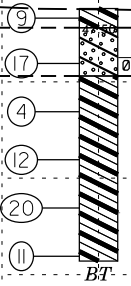
-Y2LPB-

SECTION 66-11-0101  
CONCRETE  
REINFORCED  
CONCRETE  
PAVEMENT  
STRUCTURE

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



Y2LPB 1706  
17+06



08/15 TAN AND GRAY, CLAYEY FINE TO COARSE SAND (A-2-6), MEDIUM DENSE, MICACEOUS, WET

TAN, GRAY, BLUE AND GREEN, FINE SANDY CLAY (A-6), SOFT TO VERY STIFF, DRY TO MOIST

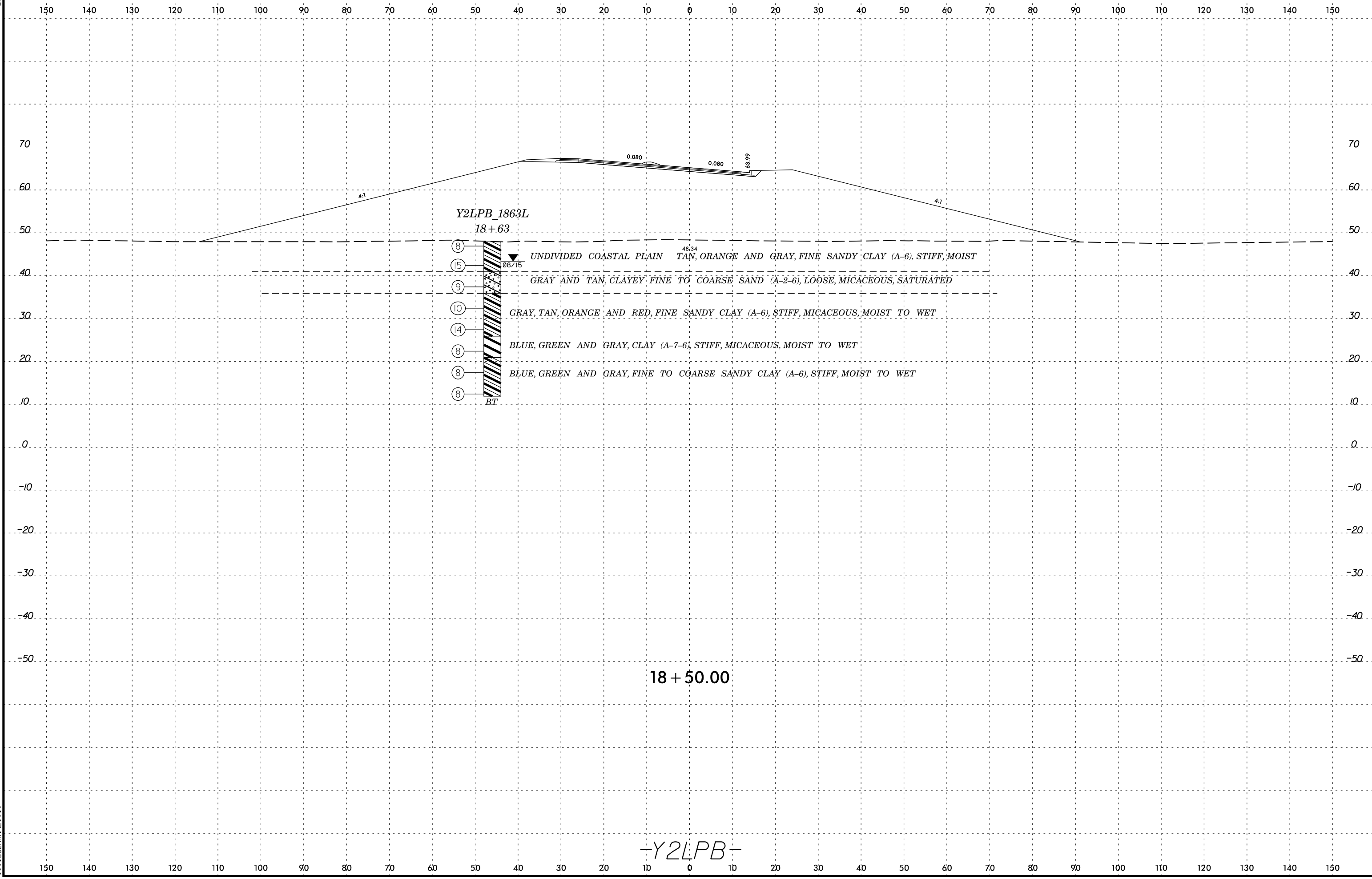
17+00.00

-Y2LPB-

SECTION 66  
CONCRETE  
REINFORCED  
CANTONMENT  
ROADWAY

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

8/23/99



SECTION

CONSTRUCTION

DATE

BY

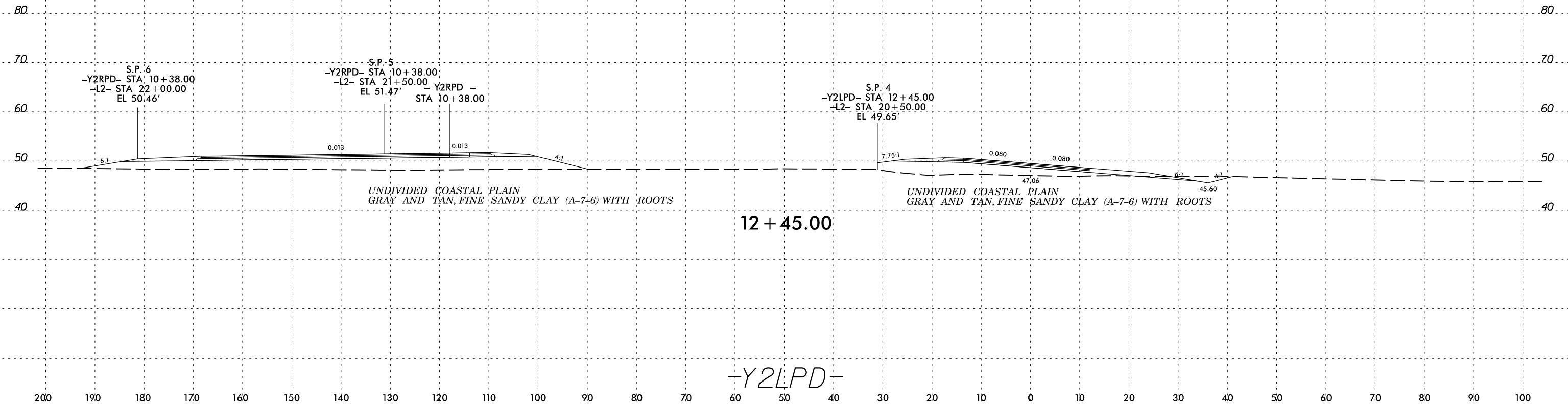
CHECKED

APPROVED

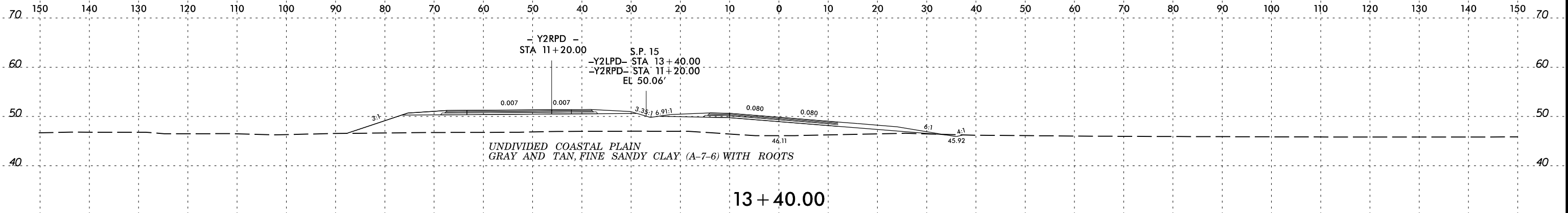




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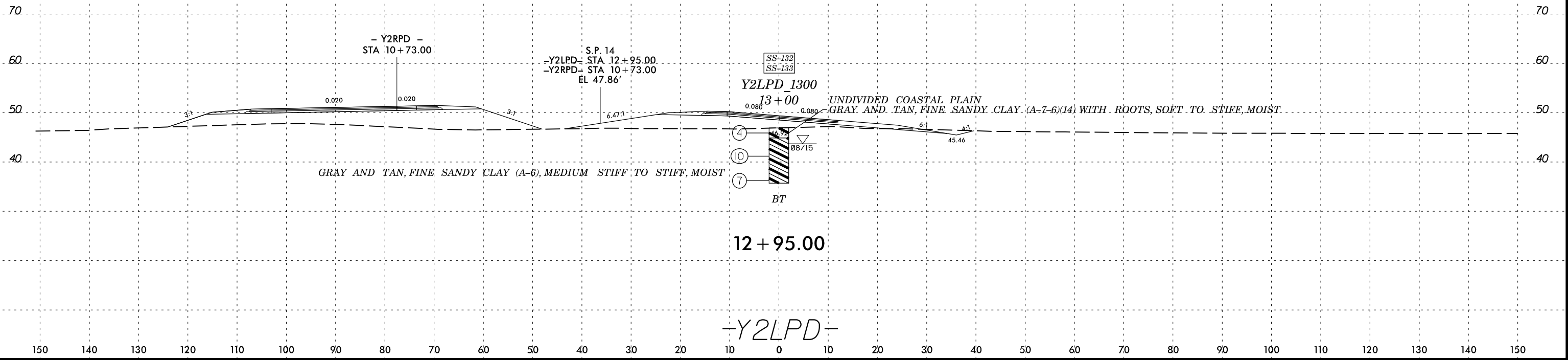


SECTION 111

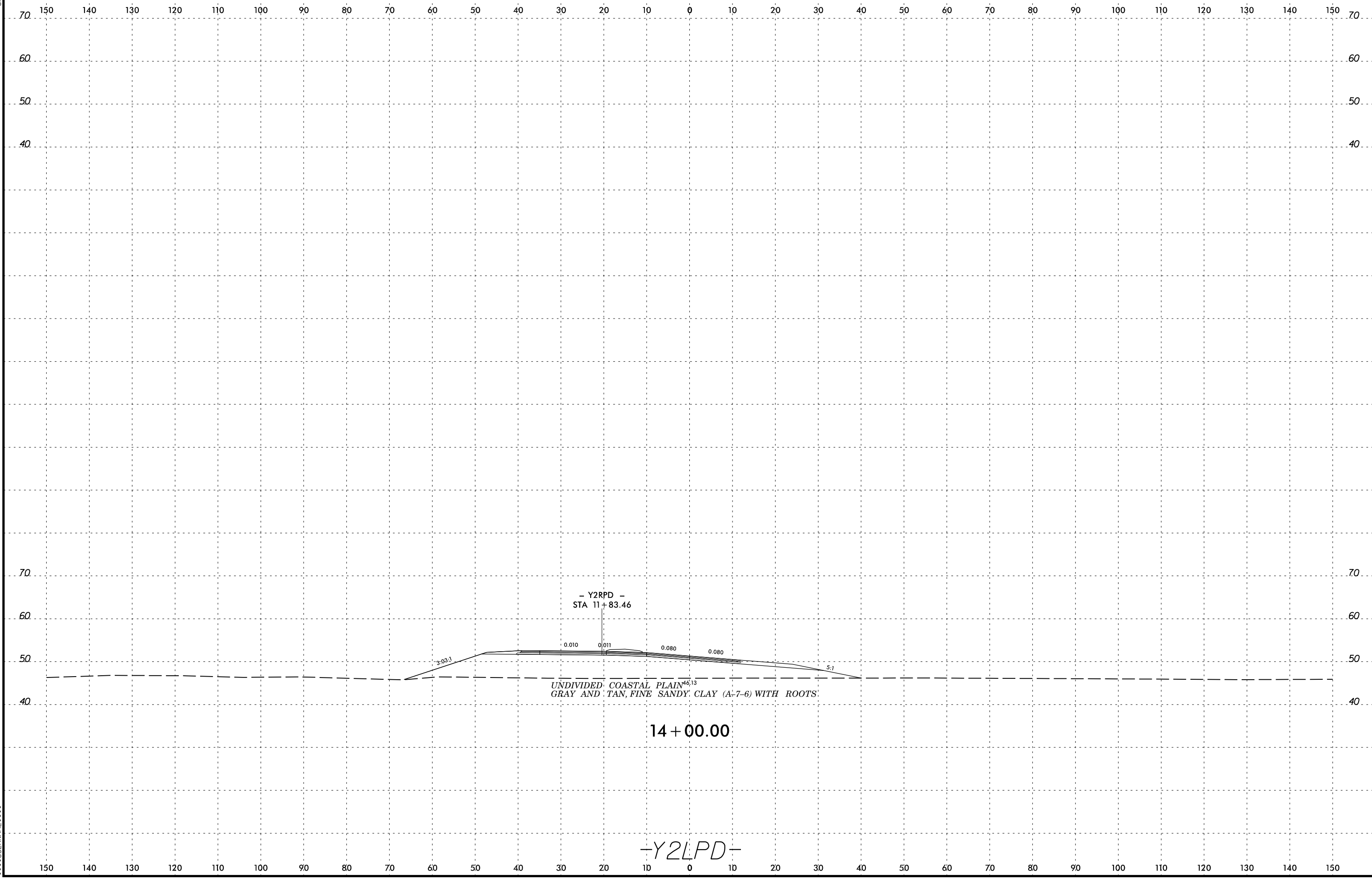


**SOIL TEST RESULTS**

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-132	CL	13+00	0.0'-1.5'	A-7-6(14)	41	20	8	19.8	33.6	38.6	100.0	97.6	75.8	37	
SS-133	CL	13+00	4.7'-6.2'	A-6(1)	29	11	23.5	41	19.1	16.4	100.0	95.7	41.5	28	



CONTRACT NO. 98-0000-0000-0000  
 SECTION 01000  
 DRAWING NO. 1000  
 SHEET NO. 112



- Y2RPD -  
STA 11+83.46

UNDIVIDED COASTAL PLAIN  
GRAY AND TAN, FINE SANDY CLAY (A-7-6) WITH ROOTS

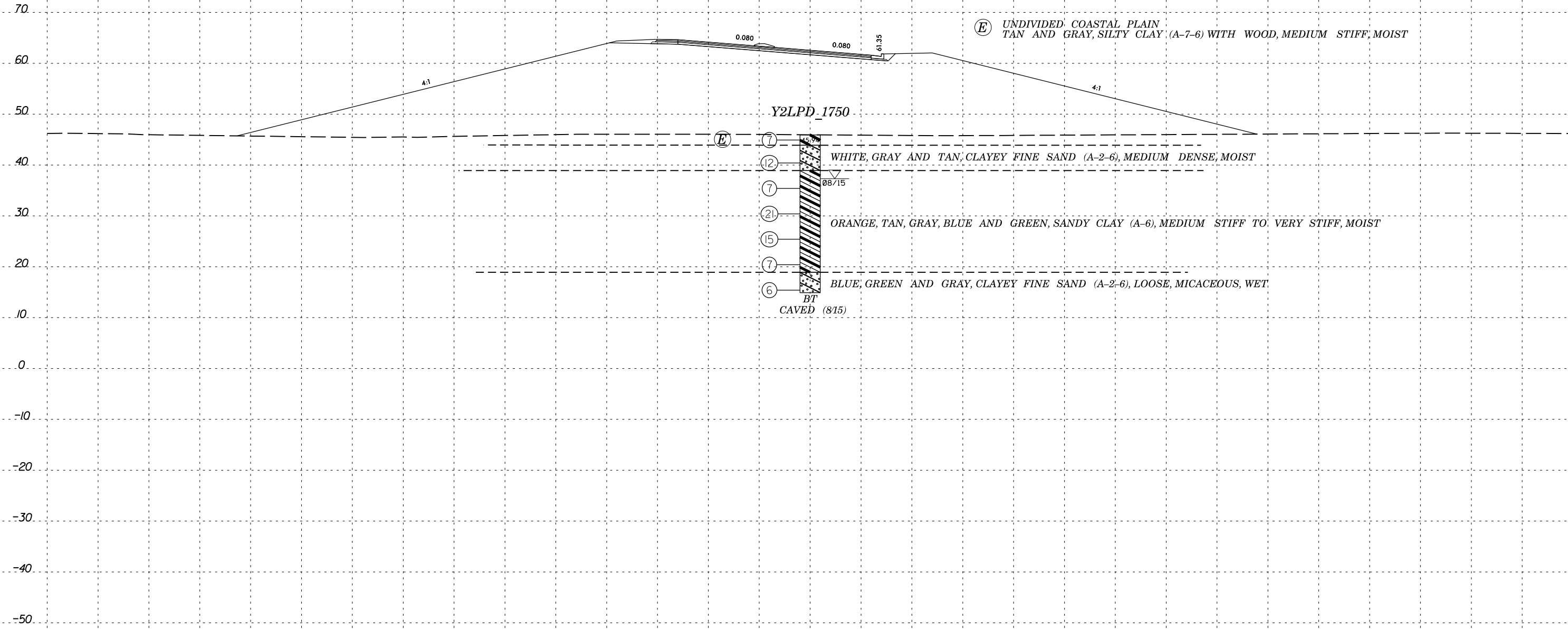
14 + 00.00

-Y2LPD-

SECTION \$\$\$\$\$\$  
CONSTRUCTION \$\$\$\$\$\$  
PLAN \$\$\$\$\$\$  
DATE \$\$\$\$\$\$



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



(E)

(E)

Y2LPD\_1750

(7)

(12)

(7)

(21)

(15)

(7)

(6)

BT

CAVED (815)

WHITE, GRAY AND TAN, CLAYEY FINE SAND (A-2-6), MEDIUM DENSE, MOIST

ORANGE, TAN, GRAY, BLUE AND GREEN, SANDY CLAY (A-6), MEDIUM STIFF TO VERY STIFF, MOIST

BLUE, GREEN AND GRAY, CLAYEY FINE SAND (A-2-6), LOOSE, MICACEOUS, WET

UNDIVIDED COASTAL PLAIN  
TAN AND GRAY, SILTY CLAY (A-7-6) WITH WOOD, MEDIUM STIFF, MOIST

17 + 50.00

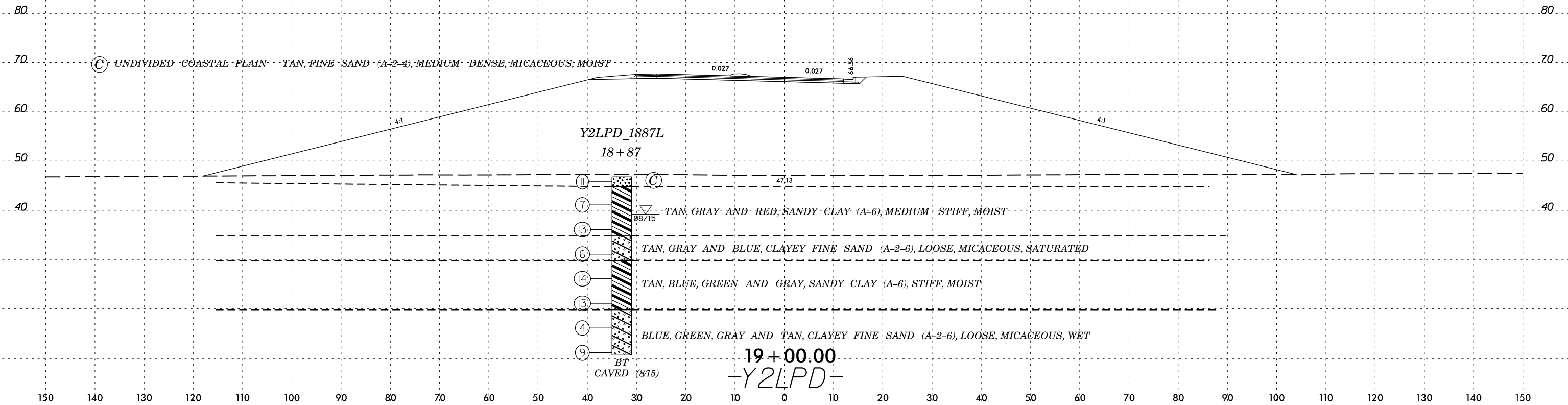
-Y2LPD-

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

SECTION 66  
CONCRETE  
REINFORCED  
PILES  
SHOWN  
ARE  
FOR  
REFERENCE  
ONLY  
AND  
DO NOT  
CONSTITUTE  
A  
WARRANTY  
OR  
GARANTEE  
OF  
ANY  
KIND  
BY  
THE  
ENGINEER  
OR  
OWNER



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



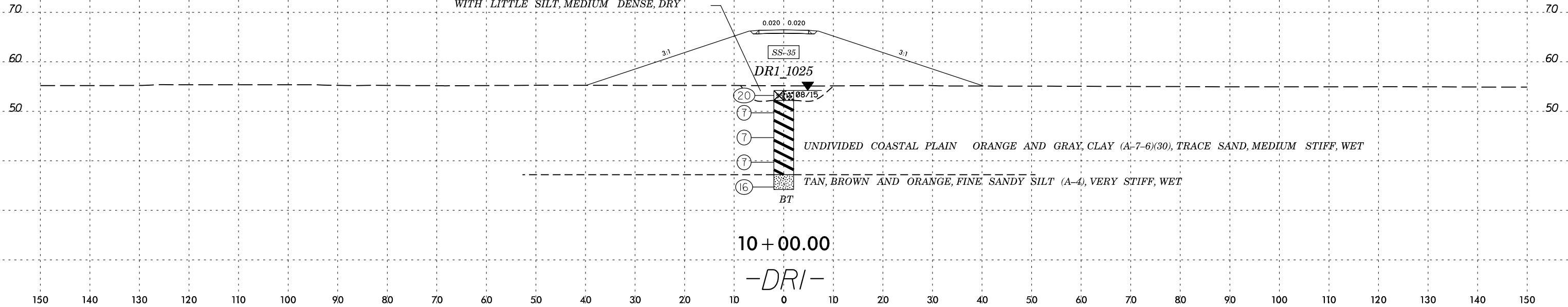
SYNTHETIC  
CONCRETE  
CURB  
RETAINING  
WALL

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

### SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-35	CL	10+25	3.5'-5.0'	A-7-6(30)	61	33	0.6	24.1	27.9	47.3	99.9	99.7	89.5	32	

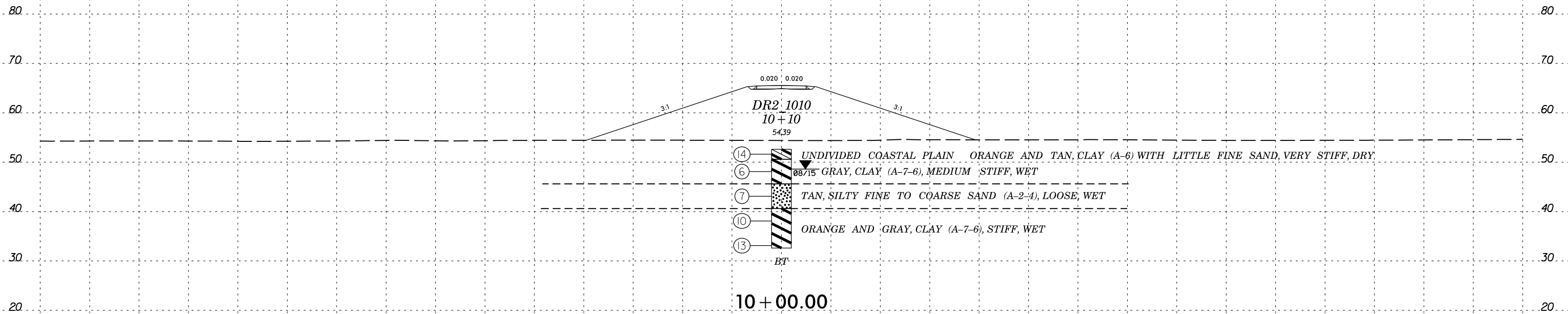
ARTIFICIAL FILL ORANGE, FINE SAND (A-2-4) WITH LITTLE SILT, MEDIUM DENSE, DRY



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



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



-DR2-

SECTION CONDITION  
UNDIVIDED COASTAL PLAIN  
ORANGE AND TAN, CLAY (A-6)  
WITH LITTLE FINE SAND, VERY  
STIFF, DRY

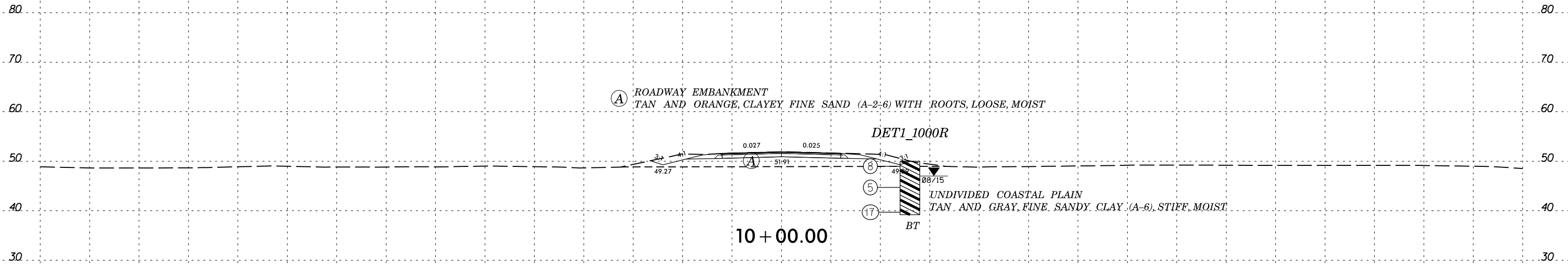




150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Ⓐ ROADWAY EMBANKMENT  
TAN AND ORANGE, CLAYEY FINE SAND (A-2-6) WITH ROOTS, LOOSE, MOIST

DET1\_1000R



UNDIVIDED COASTAL PLAIN  
TAN AND GRAY, FINE SANDY CLAY (A-6), STIFF, MOIST

BT

10 + 00.00

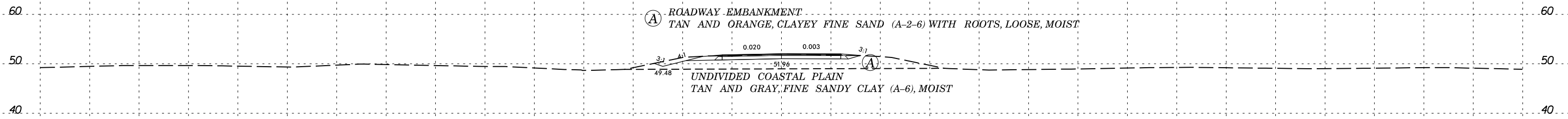
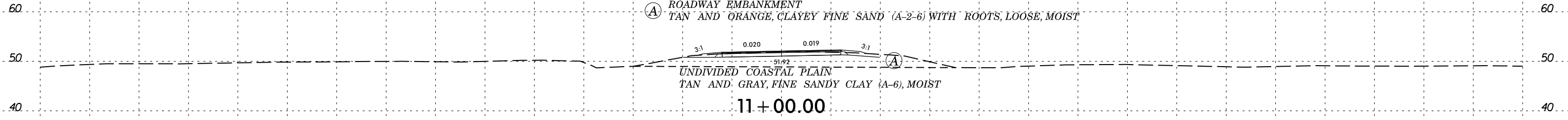
-DET1-

SECTION 1000 R  
CONSTRUCTION  
PLAN  
DATE 8/23/99

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



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



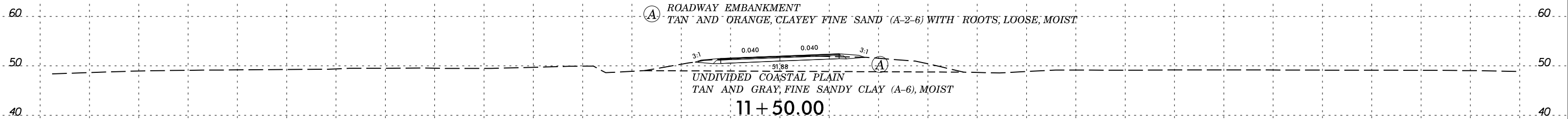
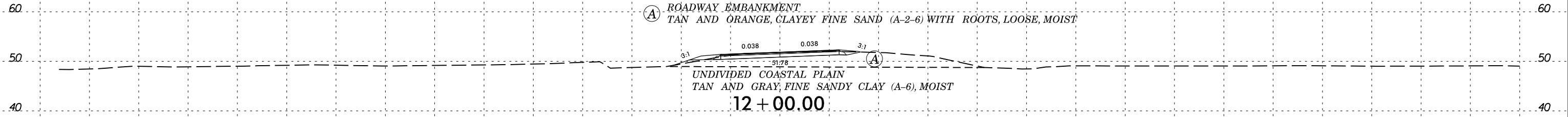
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

-DETI-

SECTION 66  
CONSTRUCTION  
DRAWING  
NO. 1000  
DATE 8/23/99



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



-DETI-

SECTION 11+50 TO 12+00

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





8/23/99

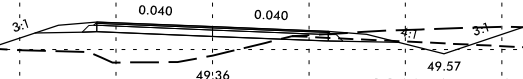


PROJ. REFERENCE NO.  
R-5311A

SHEET NO.  
124

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

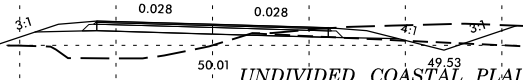
(A) ROADWAY EMBANKMENT  
TAN AND ORANGE, CLAYEY FINE SAND (A-2-6) WITH ROOTS, LOOSE, MOIST



UNDIVIDED COASTAL PLAIN  
TAN AND GRAY FINE SANDY CLAY (A-6), MOIST

14 + 00.00

(A) ROADWAY EMBANKMENT  
TAN AND ORANGE, CLAYEY FINE SAND (A-2-6) WITH ROOTS, LOOSE, MOIST



UNDIVIDED COASTAL PLAIN  
TAN AND GRAY FINE SANDY CLAY (A-6), MOIST

13 + 50.00

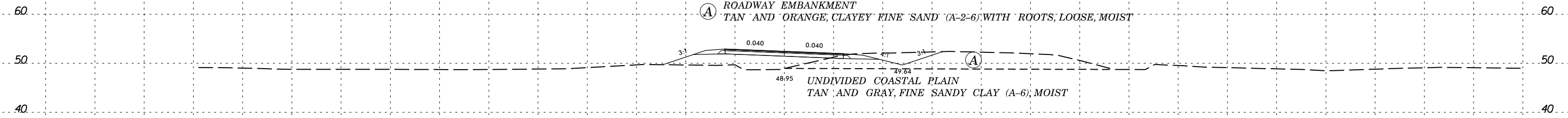
-DETI-

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

SECTION \$\$\$\$\$\$  
CONSTRUCTION \$\$\$\$\$\$  
PLAN \$\$\$\$\$\$  
PROPOSED \$\$\$\$\$\$  
EXISTING \$\$\$\$\$\$  
ADJUSTED \$\$\$\$\$\$  
REVISIONS \$\$\$\$\$\$



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



(A) ROADWAY EMBANKMENT  
TAN AND ORANGE, CLAYEY FINE SAND (A-2-6) WITH ROOTS, LOOSE, MOIST

UNDIVIDED COASTAL PLAIN  
TAN AND GRAY, FINE SANDY CLAY (A-6), MOIST

14 + 50.00

-DETI-

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

SECTION 14+50.00  
CONSTRUCTION  
PLAN  
DATE  
BY  
CHECKED  
APPROVED

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

(A) ROADWAY EMBANKMENT  
TAN AND ORANGE, CLAYEY FINE SAND (A-2-6) WITH ROOTS, LOOSE, MOIST

DET1 1500

0.040 0.040

3:1

3:1

(5)

(5)

(9)

49.23

08/15

BT

49.62

UNDIVIDED COASTAL PLAIN TAN AND GRAY,  
CLAYEY FINE TO COARSE SAND (A-2-6), LOOSE, MICACEOUS,  
MOIST TO SATURATED

70

60

50

40

30

20

10

0

-10

-20

-30

-40

-50

70

60

50

40

30

20

10

0

-10

-20

-30

-40

-50

15 + 00.00

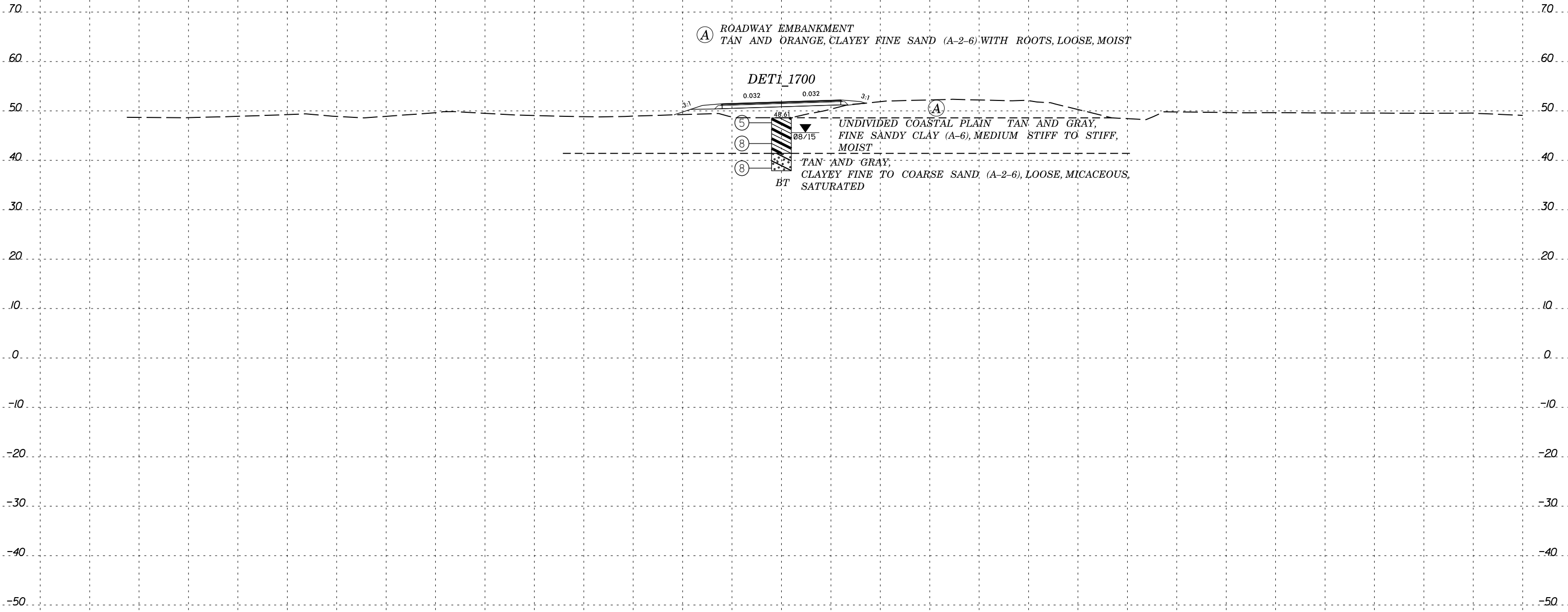
-DET1-

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

SECTION 15+00.00 TO 15+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



(A) ROADWAY EMBANKMENT  
TAN AND ORANGE, CLAYEY FINE SAND (A-2-6) WITH ROOTS, LOOSE, MOIST

DETI 1700

0.032 0.032

3:1

3:1

(5)

(8)

(8)

48/61

08/15

BT

UNDIVIDED COASTAL PLAIN TAN AND GRAY,  
FINE SANDY CLAY (A-6), MEDIUM STIFF TO STIFF,  
MOIST

TAN AND GRAY,  
CLAYEY FINE TO COARSE SAND, (A-2-6), LOOSE, MICACEOUS,  
SATURATED

17+00.00

-DETI-

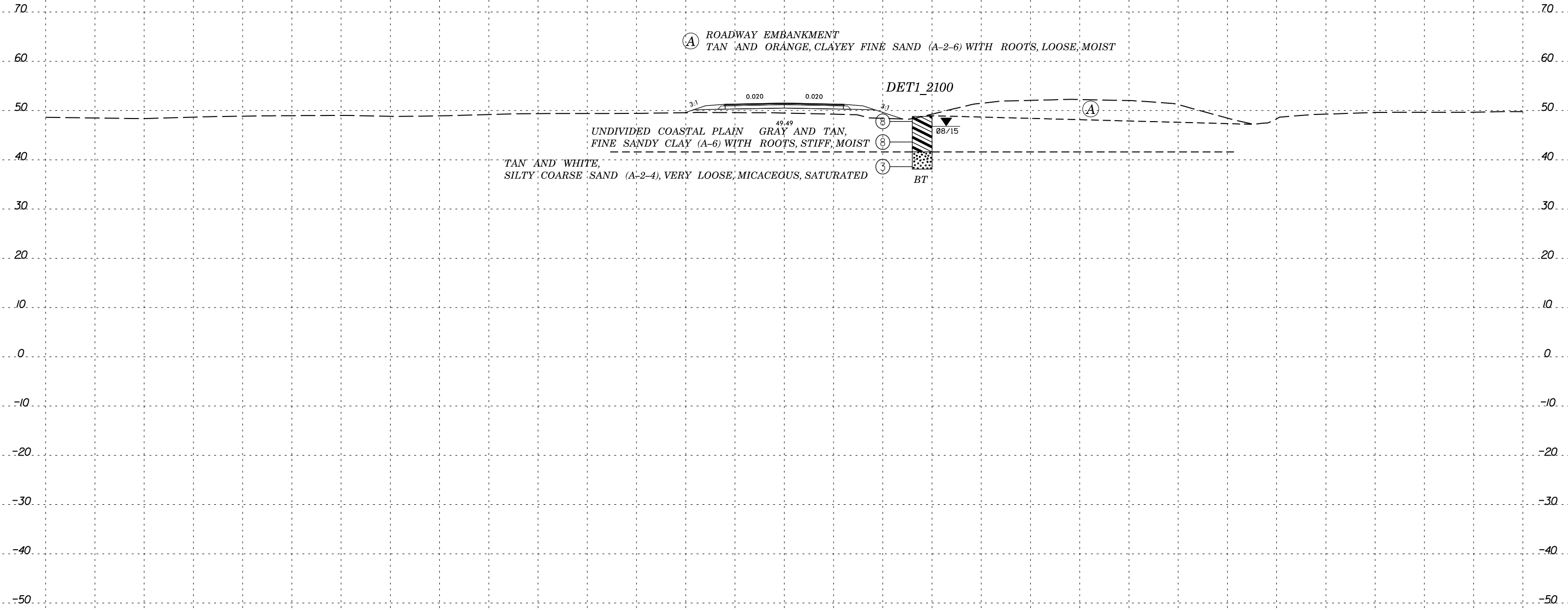
SECTION CONDITION  
REVISIONS  
DATE  
BY  
CHECKED  
DATE

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





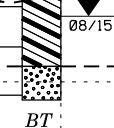
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



Ⓐ ROADWAY EMBANKMENT  
TAN AND ORANGE, CLAYEY FINE SAND (A-2-6) WITH ROOTS, LOOSE, MOIST

DET1\_2100

UNDIVIDED COASTAL PLAIN GRAY AND TAN,  
FINE SANDY CLAY (A-6) WITH ROOTS, STIFF, MOIST  
TAN AND WHITE,  
SILTY COARSE SAND (A-2-4), VERY LOOSE, MICACEOUS, SATURATED



21 + 00.00

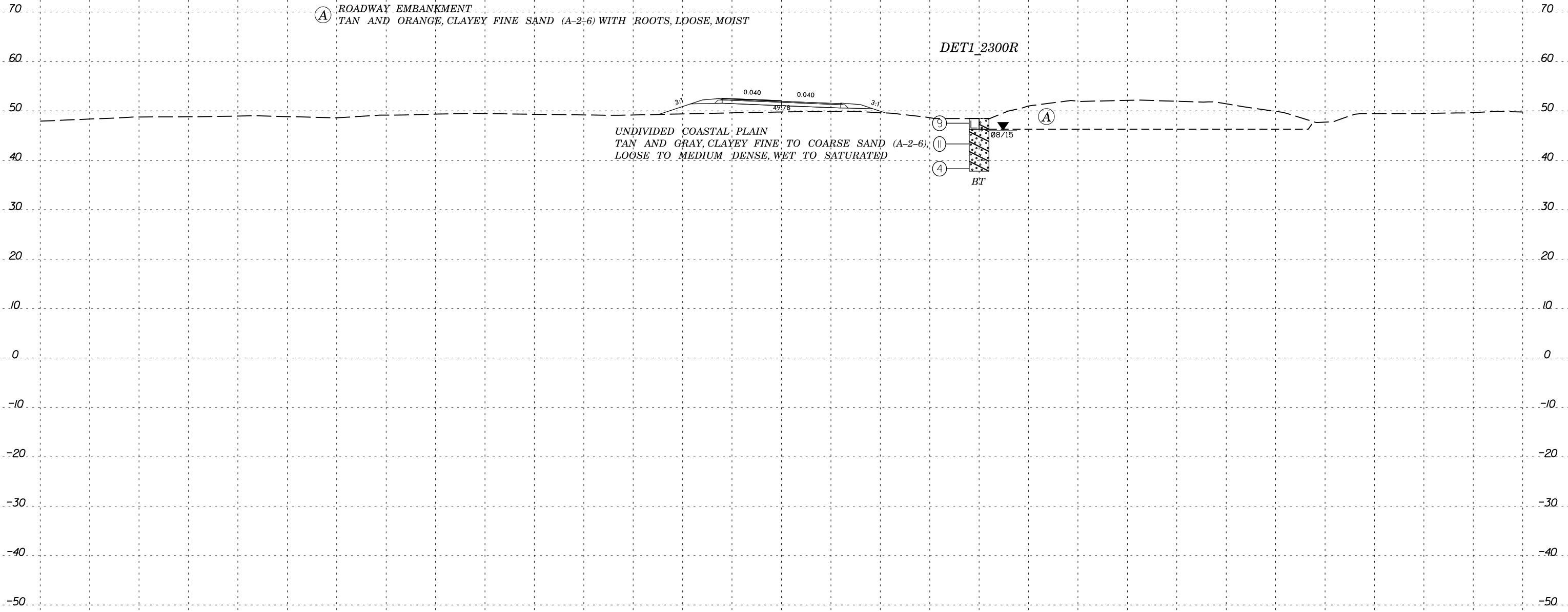
-DET1-

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

SECTION 66  
CONCRETE  
CURB  
AND  
GUTTER  
DETAIL  
SECTION  
66  
CONCRETE  
CURB  
AND  
GUTTER  
DETAIL  
SECTION  
66  
CONCRETE  
CURB  
AND  
GUTTER  
DETAIL



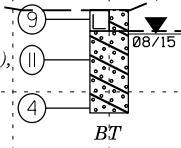
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



(A) ROADWAY EMBANKMENT  
TAN AND ORANGE, CLAYEY FINE SAND (A-2-6) WITH ROOTS, LOOSE, MOIST

DET1\_2300R

UNDIVIDED COASTAL PLAIN  
TAN AND GRAY, CLAYEY FINE TO COARSE SAND (A-2-6),  
LOOSE TO MEDIUM DENSE, WET TO SATURATED



23 + 00.00

-DET1-

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

SECTION 66  
CONSTRUCTION  
DRAWING  
NO. 66-110  
REVISED  
8/23/99

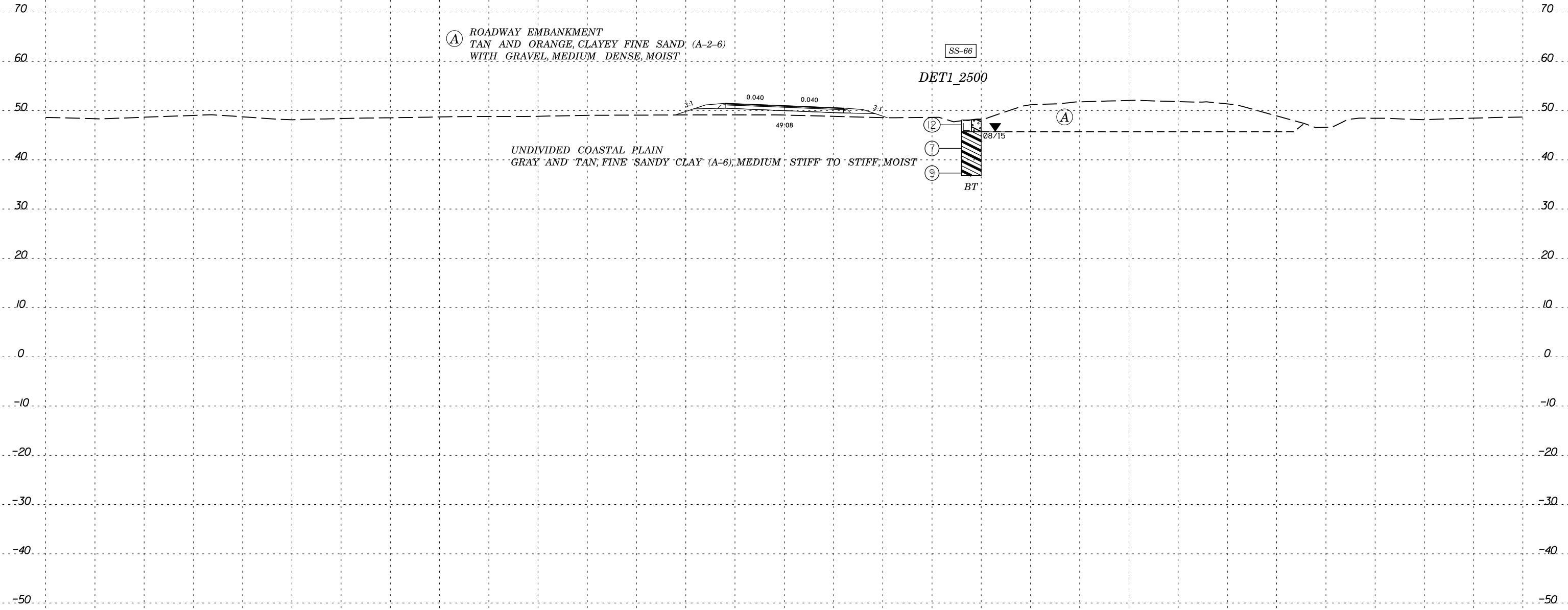
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-66	CL	25+00	4.8'-6.3'	A-7-6(26)	57	30	1.6	23.1	25.8	49.3	99.8	99.3	81.0	33	

(A) ROADWAY EMBANKMENT  
TAN AND ORANGE, CLAYEY FINE SAND (A-2-6)  
WITH GRAVEL, MEDIUM DENSE, MOIST

DET1\_2500



25 + 00.00

-DET1-

SECTION CONDITION SURROUNDING AREA

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

# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS 45449.1.2		TIP R-5311A		COUNTY HERTFORD		GEOLOGIST R. DeLost										
SITE DESCRIPTION US 13/NC 11 from NC 11/NC 561 Intersection near Ahoskie to US 13/158/NC 45 Intersection near Winton							GROUND WTR (ft)									
BORING NO. EL_37094L		STATION 370+94		OFFSET 42 ft LT		ALIGNMENT -EL-										
COLLAR ELEV. 48.7 ft		TOTAL DEPTH 16.0 ft		NORTHING 945,638		EASTING 2,592,178										
DRILL RIG/HAMMER EFF./DATE ICA0404 CME-45C 90% 08/25/2014			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER M. Morgan		START DATE 08/05/15		COMP. DATE 08/05/15		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
50	48.7	0.0	6	9	7									48.7	GROUND SURFACE	0.0
														46.7	ROADWAY EMBANKMENT Tan, orange and red, silty coarse SAND (A-2-4), medium dense	2.0
45	44.2	4.5	1	3	4									41.7	COASTAL PLAIN Gray and tan, fine sandy CLAY (A-6), medium stiff	7.0
40	39.2	9.5	3	3	3										Gray and tan, clayey fine SAND (A-2-6), loose to medium dense, slightly micaceous	
35	34.2	14.5	4	6	7									32.7	Boring Terminated at Elevation 32.7 ft IN SAND (COASTAL PLAIN)	16.0

WBS 45449.1.2		TIP R-5311A		COUNTY HERTFORD		GEOLOGIST R. DeLost										
SITE DESCRIPTION US 13/NC 11 from NC 11/NC 561 Intersection near Ahoskie to US 13/158/NC 45 Intersection near Winton							GROUND WTR (ft)									
BORING NO. EL_37096R		STATION 370+96		OFFSET 213 ft LT		ALIGNMENT -EL-										
COLLAR ELEV. 46.7 ft		TOTAL DEPTH 16.2 ft		NORTHING 945,460		EASTING 2,592,362										
DRILL RIG/HAMMER EFF./DATE ICA0404 CME-45C 90% 08/25/2014			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER M. Morgan		START DATE 08/18/15		COMP. DATE 08/18/15		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
50														46.7	GROUND SURFACE	0.0
														44.7	COASTAL PLAIN Tan and gray, sandy CLAY (A-6), stiff	2.0
45	46.7	0.0	3	4	4									39.7	Tan and gray, clayey fine SAND (A-2-6), medium dense	7.0
40	42.0	4.7	4	5	6										Tan, gray, blue and green, fine sandy CLAY (A-6), medium stiff to very stiff, micaceous	
35	37.0	9.7	3	3	4											
	32.0	14.7	5	7	10									30.5	Boring Terminated at Elevation 30.5 ft IN CLAY (COASTAL PLAIN)	16.2

# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS 45449.1.2		TIP R-5311A		COUNTY HERTFORD		GEOLOGIST R. DeLost									
SITE DESCRIPTION US 13/NC 11 from NC 11/NC 561 Intersection near Ahoskie to US 13/158/NC 45 Intersection near Winton							GROUND WTR (ft)								
BORING NO. EL_37412R		STATION 374+12		OFFSET 46 ft RT		ALIGNMENT -EL-									
COLLAR ELEV. 48.0 ft		TOTAL DEPTH 16.0 ft		NORTHING 945,788		EASTING 2,592,479									
DRILL RIG/HAMMER EFF./DATE ICA0404 CME-45C 90% 08/25/2014				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER M. Morgan		START DATE 08/09/15		COMP. DATE 08/09/15		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
50															
	48.0	0.0	2	3	5								M	48.0	0.0
45															
	43.5	4.5	5	6	7								M	41.0	7.0
40															
	38.5	9.5	3	3	4								22%	36.0	12.0
35															
	33.5	14.5	3	5	7								M	32.0	16.0
Boring Terminated at Elevation 32.0 ft IN CLAY (COASTAL PLAIN)															

WBS 45449.1.2		TIP R-5311A		COUNTY HERTFORD		GEOLOGIST R. DeLost									
SITE DESCRIPTION US 13/NC 11 from NC 11/NC 561 Intersection near Ahoskie to US 13/158/NC 45 Intersection near Winton							GROUND WTR (ft)								
BORING NO. EL_37444L		STATION 374+44		OFFSET 41 ft LT		ALIGNMENT -EL-									
COLLAR ELEV. 49.0 ft		TOTAL DEPTH 16.0 ft		NORTHING 945,886		EASTING 2,592,425									
DRILL RIG/HAMMER EFF./DATE ICA0404 CME-45C 90% 08/25/2014				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER M. Morgan		START DATE 08/05/15		COMP. DATE 08/05/15		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
50															
	49.0	0.0	4	5	4								D	49.0	0.0
45															
	44.5	4.5	3	5	8										
40															
	39.5	9.5	2	3	4								Sat.		
35															
	34.5	14.5	1	3	7								W	33.0	16.0
Boring Terminated at Elevation 33.0 ft IN SAND (COASTAL PLAIN)															

# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS 45449.1.2		TIP R-5311A		COUNTY HERTFORD		GEOLOGIST R. DeLost										
SITE DESCRIPTION US 13/NC 11 from NC 11/NC 561 Intersection near Ahoskie to US 13/158/NC 45 Intersection near Winton							GROUND WTR (ft)									
BORING NO. Y2_3200L		STATION 32+00		OFFSET 32 ft LT		ALIGNMENT -Y2-										
COLLAR ELEV. 48.9 ft		TOTAL DEPTH 11.0 ft		NORTHING 946,589		EASTING 2,590,587										
DRILL RIG/HAMMER EFF./DATE ICA0404 CME-45C 90% 08/25/2014			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER M. Morgan		START DATE 08/07/15		COMP. DATE 08/07/15		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
50	48.9	0.0	3	3	5									48.9	GROUND SURFACE	0.0
														46.4	ROADWAY EMBANKMENT Tan and orange, clayey fine SAND (A-2-6), loose, micaceous	2.5
45	44.4	4.5	1	2	1									41.4	COASTAL PLAIN Tan and gray, fine sandy CLAY (A-6), medium stiff	7.5
40	39.4	9.5	4	6	8									37.9	Tan and gray, clayey fine SAND (A-2-6), medium dense	11.0
															Boring Terminated at Elevation 37.9 ft IN SAND (COASTAL PLAIN)	

WBS 45449.1.2		TIP R-5311A		COUNTY HERTFORD		GEOLOGIST R. DeLost										
SITE DESCRIPTION US 13/NC 11 from NC 11/NC 561 Intersection near Ahoskie to US 13/158/NC 45 Intersection near Winton							GROUND WTR (ft)									
BORING NO. Y2LPB_1677L		STATION 16+77		OFFSET 182 ft LT		ALIGNMENT -Y2LPB-										
COLLAR ELEV. 48.7 ft		TOTAL DEPTH 31.3 ft		NORTHING 944,930		EASTING 2,590,822										
DRILL RIG/HAMMER EFF./DATE ICA0404 CME-45C 90% 08/25/2014			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER M. Morgan		START DATE 08/21/15		COMP. DATE 08/21/15		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
50	48.7	0.0	2	1	2									48.7	GROUND SURFACE	0.0
45	43.9	4.8	4	7	7											
40	38.9	9.8	2	3	3											
35	33.9	14.8	2	4	5											
30	28.9	19.8	4	9	10											
25	23.9	24.8	2	2	5											
20	18.9	29.8	2	2	3											
														25.4		23.3
														20.4	Blue, green and gray, fine to coarse SAND (A-2-6), loose, micaceous	28.3
														17.4	Blue, green and gray, sandy CLAY (A-6), medium stiff, micaceous	31.3
															Boring Terminated at Elevation 17.4 ft IN CLAY (COASTAL PLAIN)	



# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS 45449.1.2		TIP R-5311A		COUNTY HERTFORD		GEOLOGIST R. DeLost										
SITE DESCRIPTION US 13/NC 11 from NC 11/NC 561 Intersection near Ahoskie to US 13/158/NC 45 Intersection near Winton							GROUND WTR (ft)									
BORING NO. Y2LPD_1592L		STATION 15+92		OFFSET 155 ft LT		ALIGNMENT -Y2LPD-										
COLLAR ELEV. 46.6 ft		TOTAL DEPTH 31.2 ft		NORTHING 945,020		EASTING 2,592,271										
DRILL RIG/HAMMER EFF./DATE ICA0404 CME-45C 90% 08/25/2014				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER M. Morgan		START DATE 08/20/15		COMP. DATE 08/20/15		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			ELEV. (ft)	DEPTH (ft)		
50																
	46.6	0.0												46.6	GROUND SURFACE	0.0
45			3	3	5	8						M		44.6	COASTAL PLAIN Tan and gray, silty CLAY (A-7-6), stiff	2.0
	41.9	4.7														
40			3	6	7	13						M			Gray, clayey fine SAND (A-2-6), medium dense, micaceous	7.0
	36.9	9.7												39.6		
35			3	4	5	9						M			Tan, gray, blue and green, sandy CLAY (A-6), medium stiff to very stiff	
	31.9	14.7														
30			9	10	11	21						M				
	26.9	19.7														
25			4	6	7	13						M				
	21.9	24.7														
20			4	4	5	9						M				
	16.9	29.7														
			WOH	2	3	5						M		15.4	Boring Terminated at Elevation 15.4 ft IN CLAY (COASTAL PLAIN)	31.2

NCDOT BORE DOUBLE R-5311A ORIGINAL 20160331.GPJ NC\_DOT\_GDT 6/3/16