

REFERENCE: U-6020

PROJECT: 47165

SEE SHEET 3 FOR PLAN SHEET LAYOUT
AT TIME OF INVESTIGATION

CONTENTS

CROSS SECTIONS

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-L-	10+50 - 13+50	4-7
-YI-	16+50 - 19+00	8-10

APPENDICES

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

ROADWAY

SUBSURFACE INVESTIGATION

COUNTY GRANVILLE
PROJECT DESCRIPTION REALIGNMENT OF SR 1215
(WEST LYON STATION ROAD) AT NC 56 (EAST
C STREET) IN BUTNER

RECOMMENDATIONS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6020	1	12

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 1919 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

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

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

NOTES:

- 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

BRIDGER DRILLING

P. DONNELLY, E.I.

T. DOWELL, E.I.

M. CASSIDY

M. BREWER

INVESTIGATED BY ECS SOUTHEAST, LLP

DRAWN BY M. BREWER, P.E.

CHECKED BY M. WALKO, P.E.

SUBMITTED BY ECS SOUTHEAST, LLP

DATE MARCH 2018

Prepared in the Office of:



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ENGINEERING
FIRM # F-1078



D. Matthew Brewer

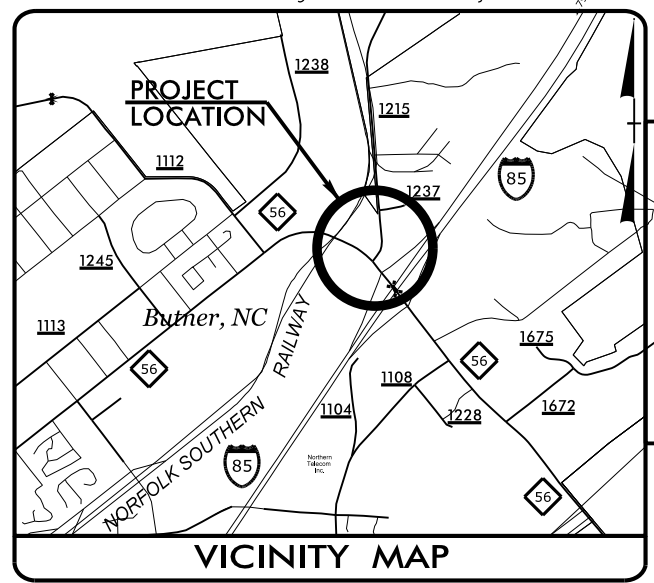
SIGNATURE DATE

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

30-MAR-2018 14:31 I:\ZGEO\TECH\02-PROJECTS\12000-12999\12400\12410 - U-6020 1/2 SR 1215NC 56 Realign Intersection\CADD_GEO\TECH\PlanProf\U6020_rdy_tsh.dgn
 09/08/99

CONTRACT: U-6020

See Sheet 1A For Index of Sheets
 See Sheet 1B For Conventional Plan Sheet Symbols
 See Sheet 1C-1 Through 1C-? For Survey Control Sheets



25% APPROVED PLANS

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

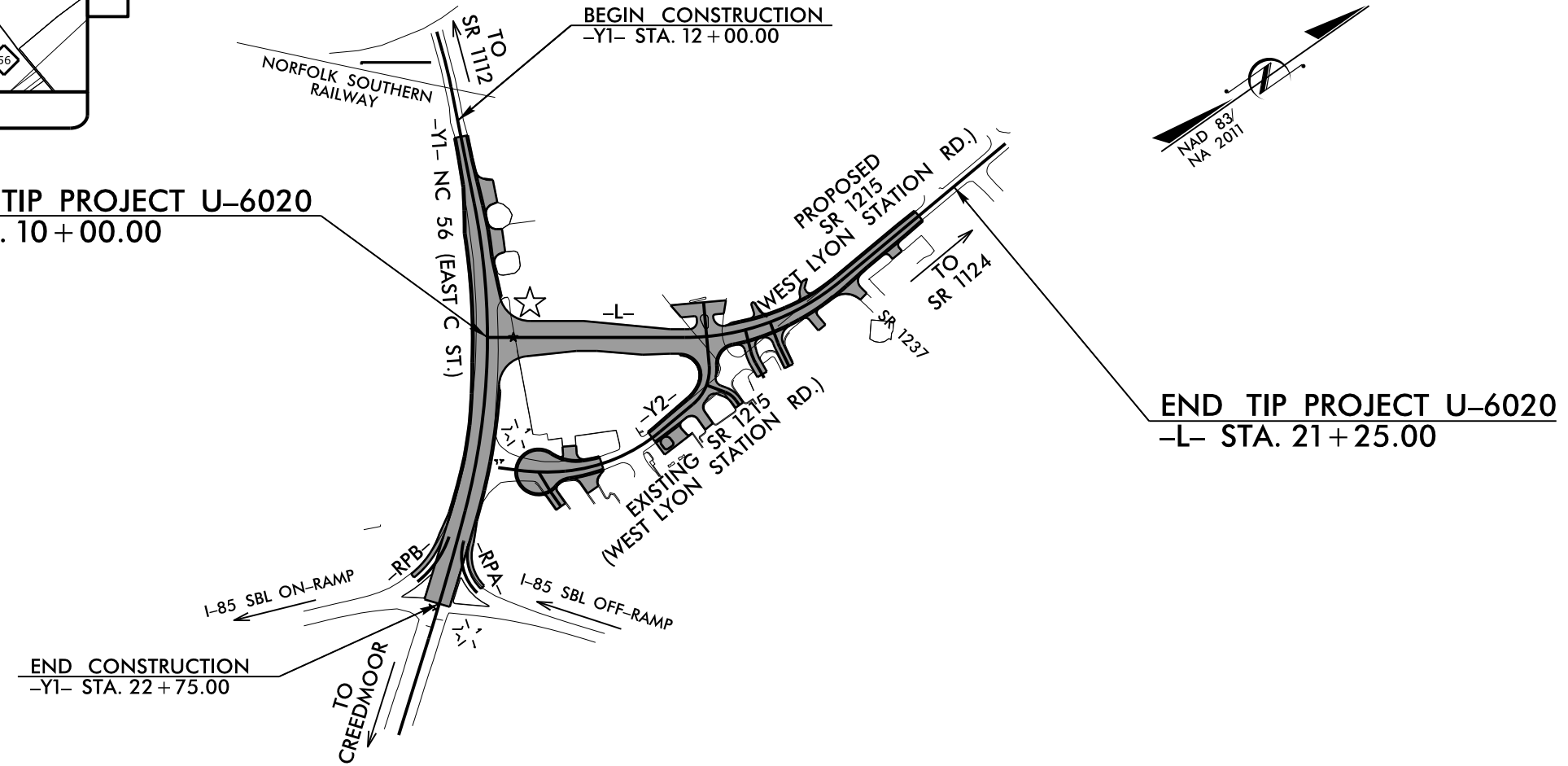
GRANVILLE COUNTY

LOCATION: REALIGNMENT OF SR 1215 (WEST LYON STATION ROAD) AT NC 56 (EAST C STREET) IN BUTNER

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6020	3	12
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
47165.1.1		PE	

BEGIN TIP PROJECT U-6020
 -L- STA. 10 + 00.00

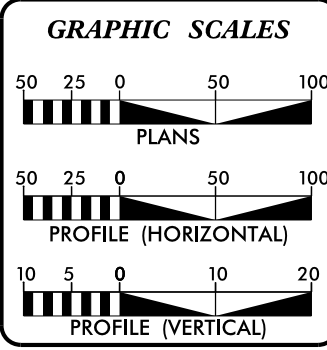


END TIP PROJECT U-6020
 -L- STA. 21 + 25.00

- ★ PROPOSED SIGNAL
- ☆ EXISTING SIGNAL

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ____.
 THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF BUTNER.

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



DESIGN DATA

ADT 2020 =	8760
ADT 2040 =	13400
K =	? %
D =	? %
T =	? % *
V =	40 MPH
* (TTST ?% + DUAL ?%)	
FUNC CLASS =	MINOR COLLECTOR
REGIONAL TIER DESIGN	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-6020	= 0.213 mile +/-
TOTAL LENGTH TIP PROJECT U-6020	= 0.213 mile +/-

Prepared For:

DIVISION OF HIGHWAYS
 1000 Birch Ridge Dr., Raleigh NC, 27610

By:

 TGS ENGINEERS 706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603	PH (919) 773-8887 CORP. LICENSE NO.: C-0275
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2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 10, 2018

LETTING DATE:
SEPTEMBER 17, 2019

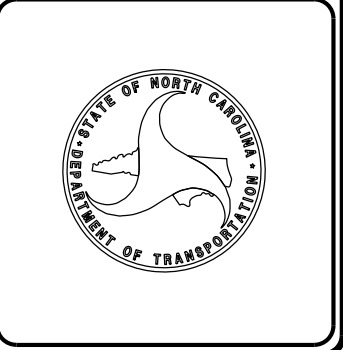
V. MARCUS LOWERY, PE PROJECT ENGINEER	TRAVIS COOK, PE PROJECT DESIGN ENGINEER
BEN UPSHAW, PE NCDOT CONTACT	

HYDRAULICS ENGINEER

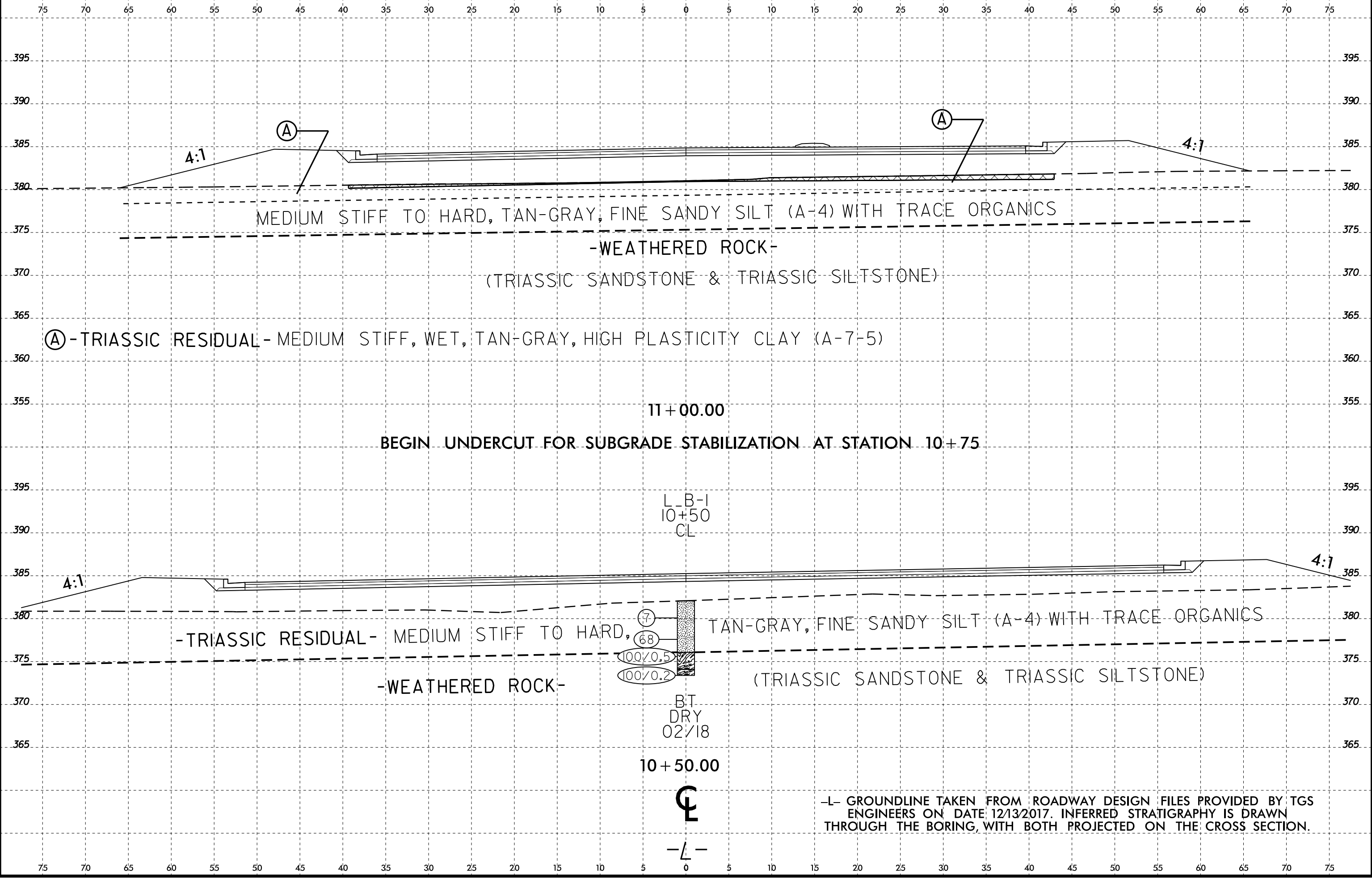
SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



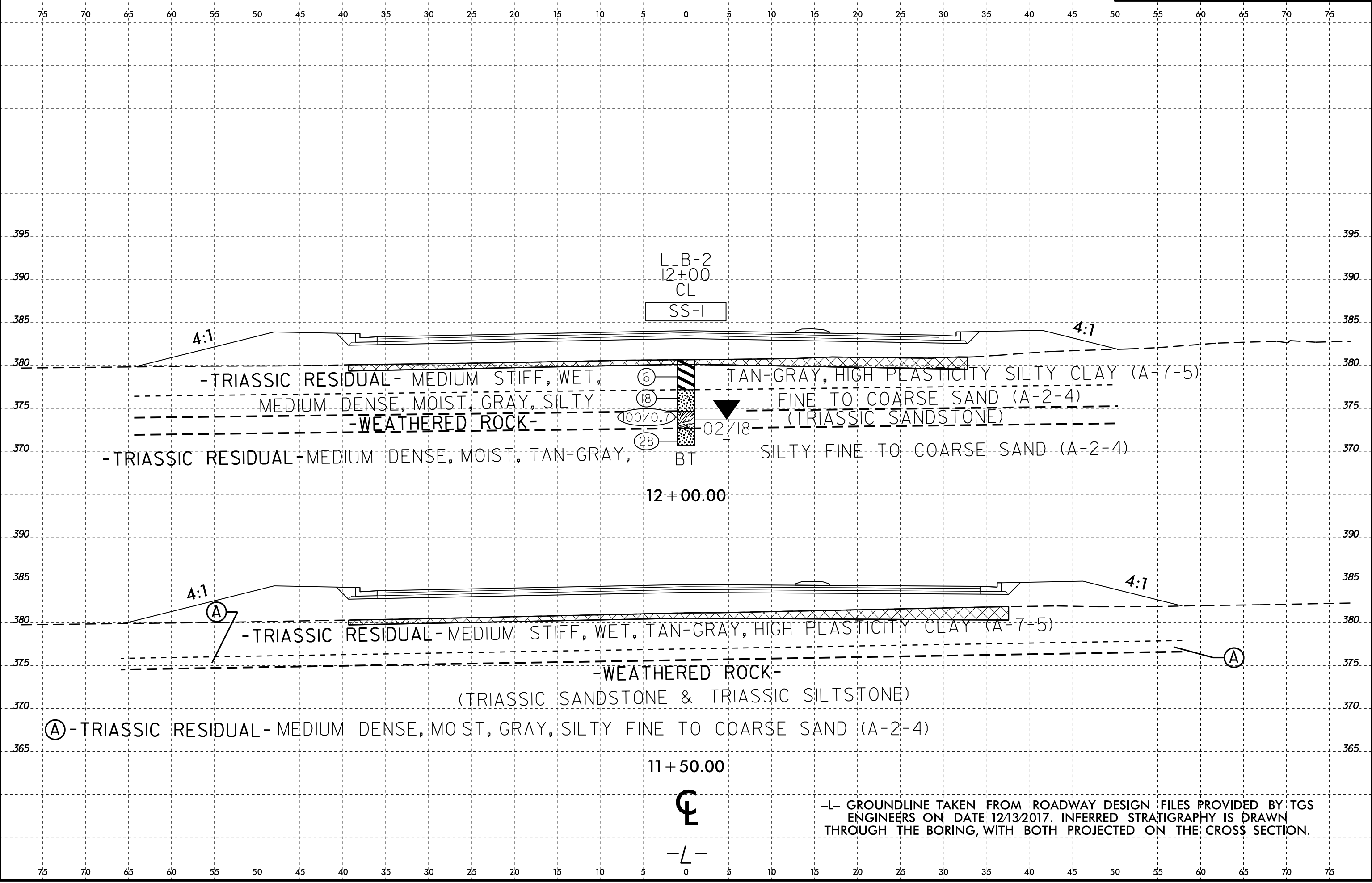
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PROJECT AT EBS\SSC\XRF



PROJ. REFERENCE NO.	SHEET NO.
U-6020	5



L-B-2
12+00
CL
SS-1

6
18
100/0.7
28
BT

12 + 00.00

4:1

4:1

4:1

4:1

(A) - TRIASSIC RESIDUAL - MEDIUM DENSE, MOIST, GRAY, SILTY FINE TO COARSE SAND (A-2-4)

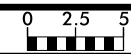
11 + 50.00

CL

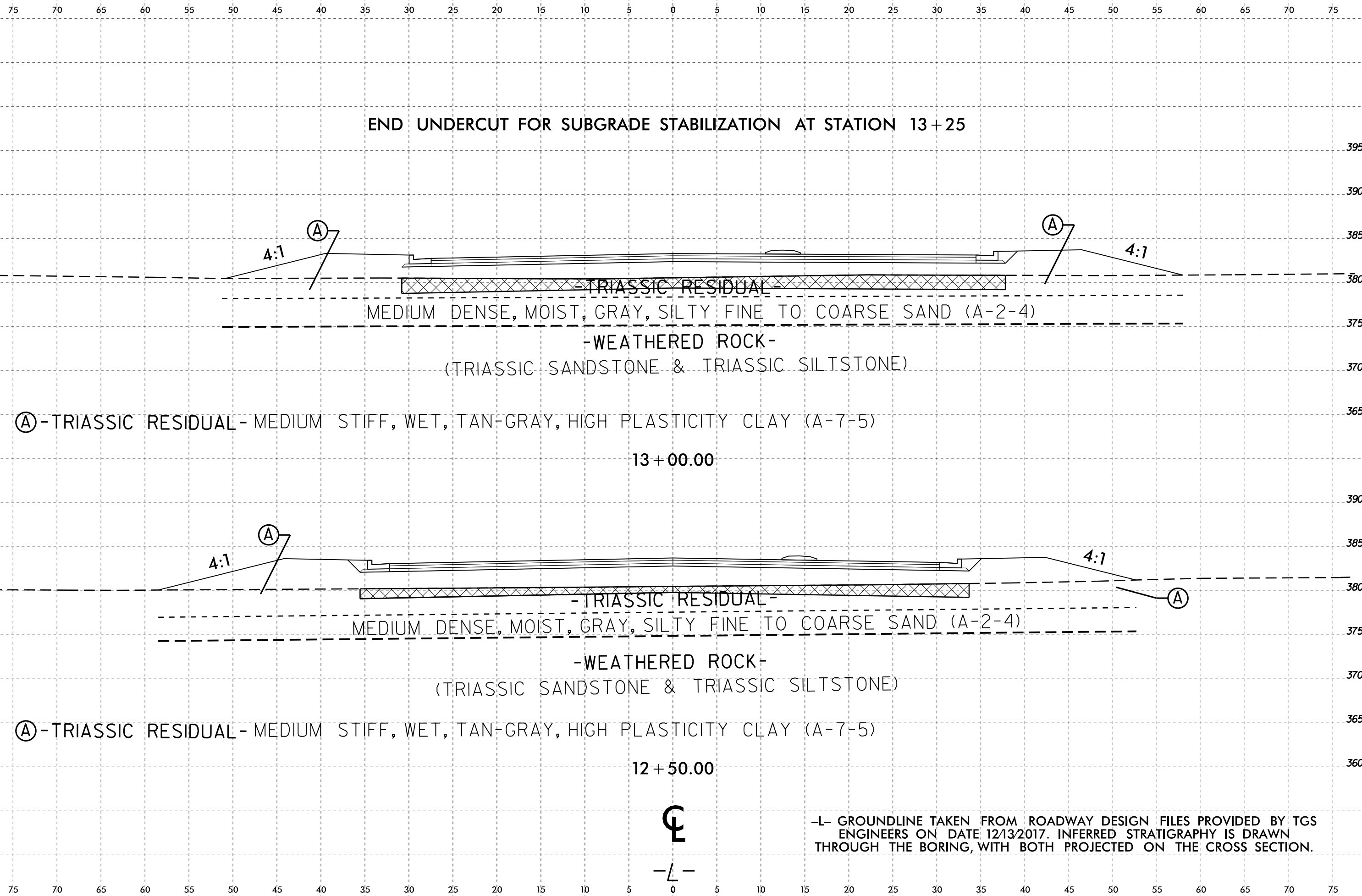
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-L- GROUNDLINE TAKEN FROM ROADWAY DESIGN FILES PROVIDED BY TGS ENGINEERS ON DATE 12/13/2017. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING, WITH BOTH PROJECTED ON THE CROSS SECTION.

6/23/16
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DRAWN BY: JAY/SBD

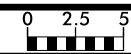


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U-6020	6

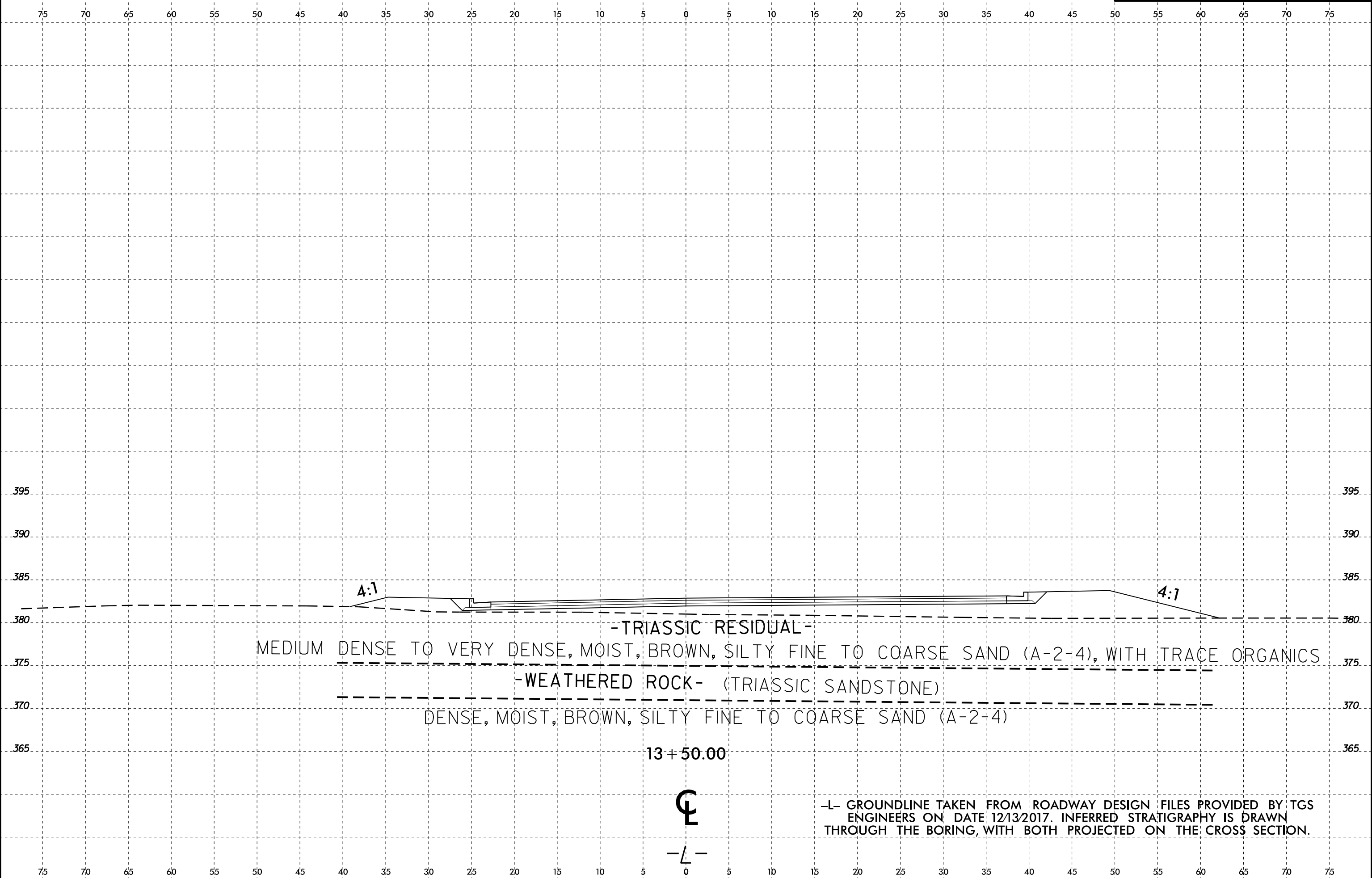


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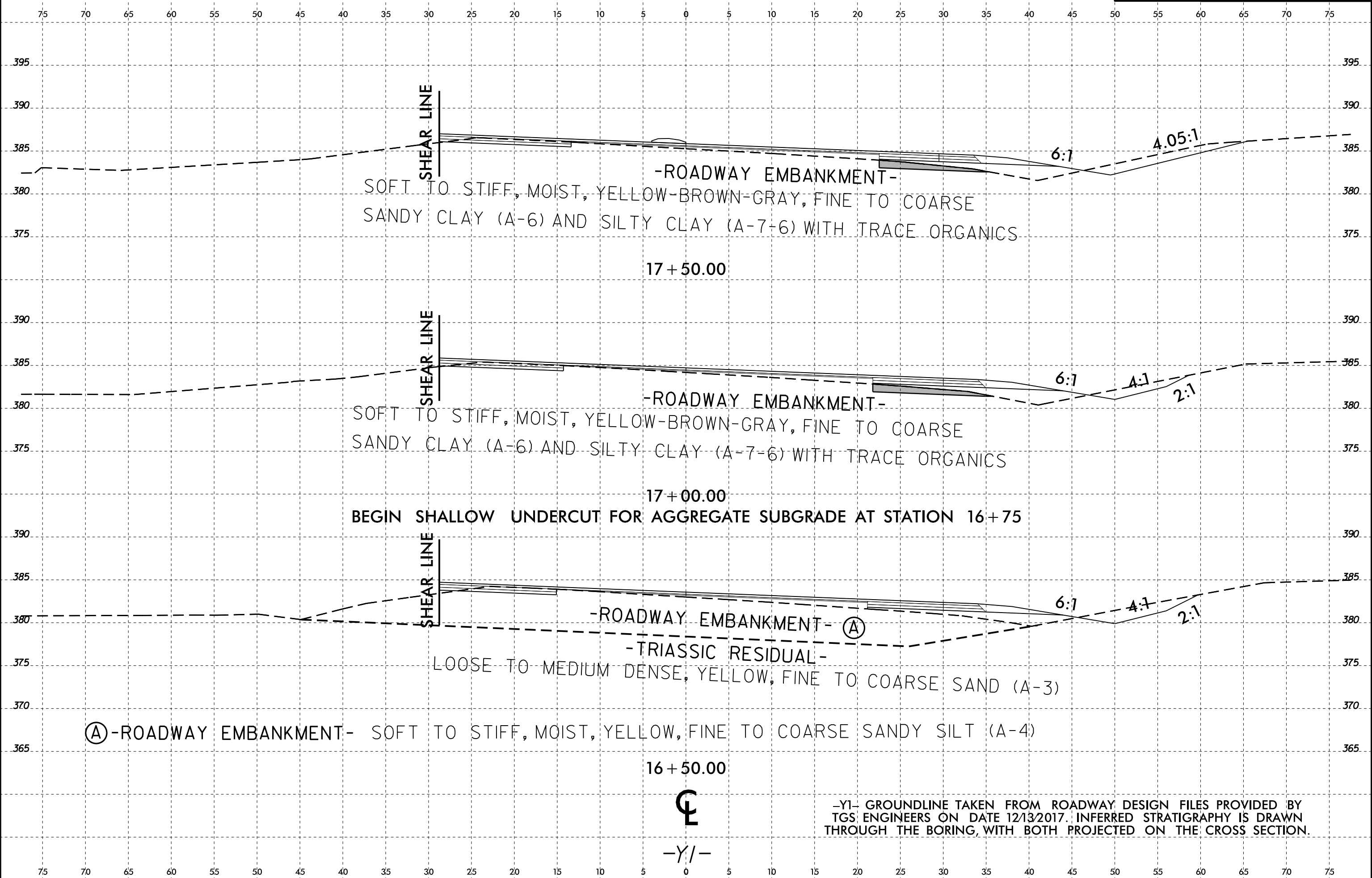
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DRAWN BY: JES



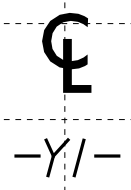
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PROJECT AT EBS-DSS1\X7380

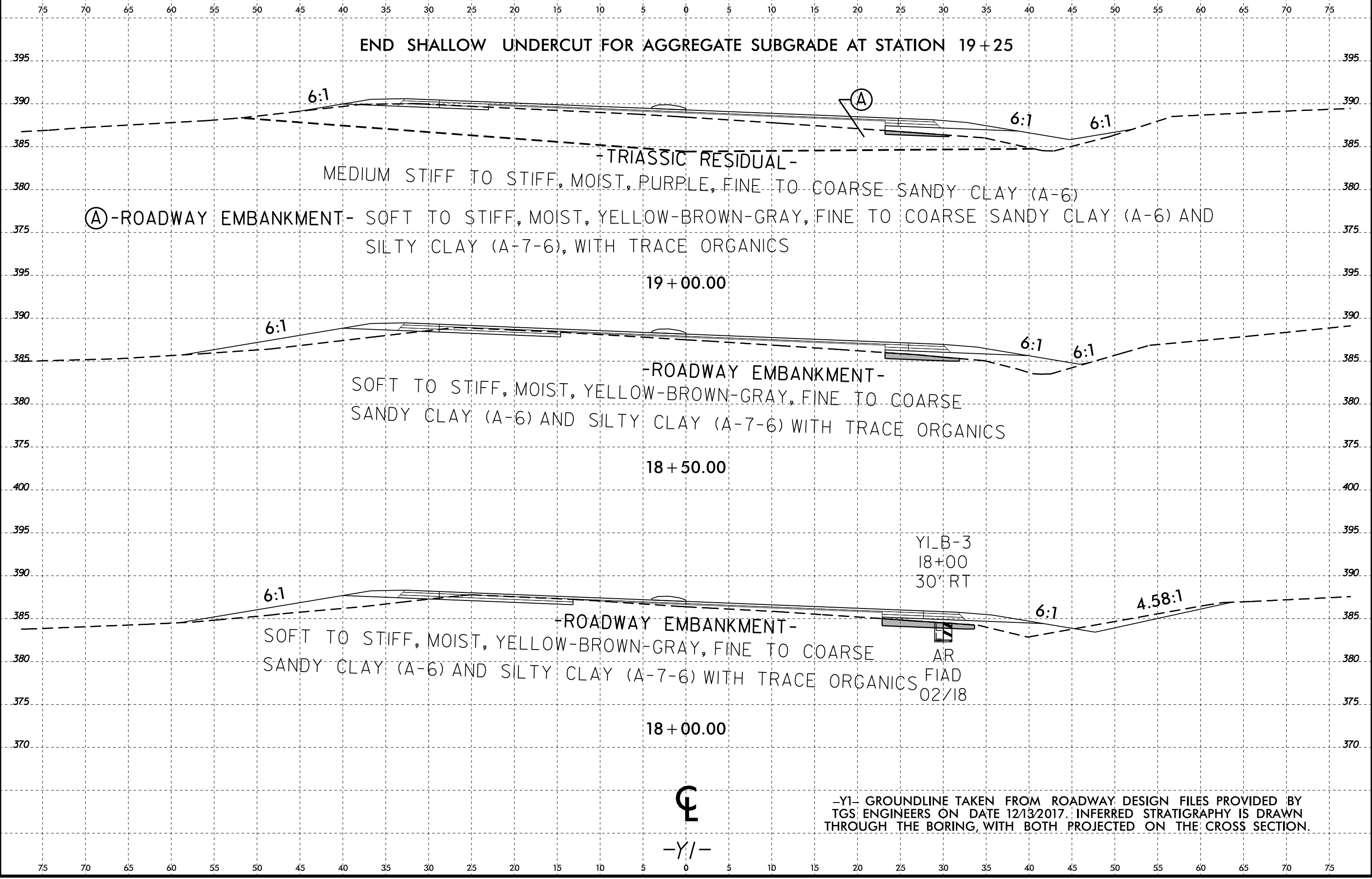


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DRAWN BY: JAY/SBD

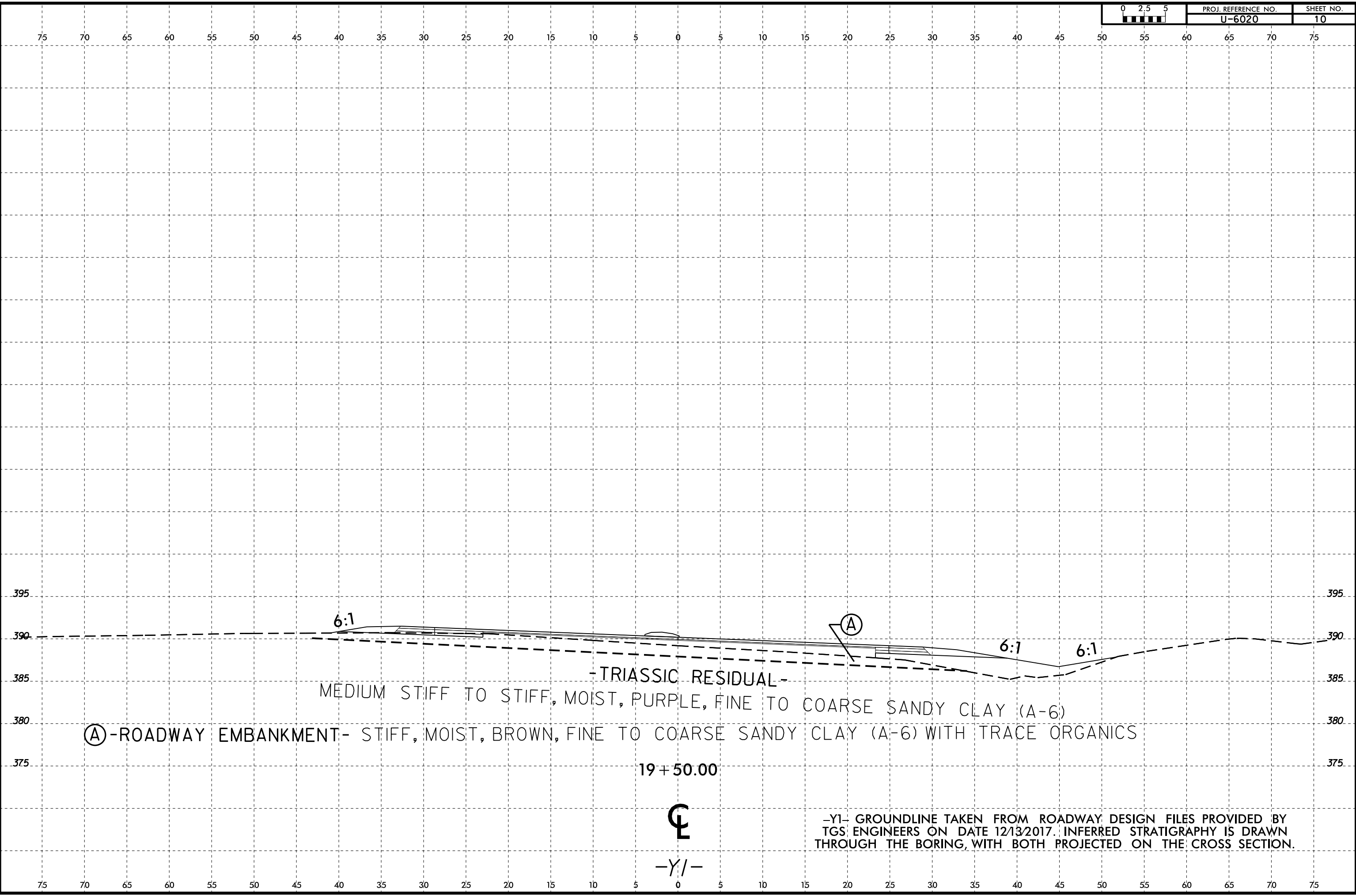
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DRAWN BY: JES-DSS/AY/SBD



PROJ. REFERENCE NO.	SHEET NO.
U-6020	10



① - ROADWAY EMBANKMENT - STIFF, MOIST, BROWN, FINE TO COARSE SANDY CLAY (A-6) WITH TRACE ORGANICS

- TRIASSIC RESIDUAL -
MEDIUM STIFF TO STIFF, MOIST, PURPLE, FINE TO COARSE SANDY CLAY (A-6)

19+50.00



-Y1-

-Y1- GROUNDLINE TAKEN FROM ROADWAY DESIGN FILES PROVIDED BY TGS ENGINEERS ON DATE 12/13/2017. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING, WITH BOTH PROJECTED ON THE CROSS SECTION.

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
APPENDIX A
LABORATORY TEST RESULTS

REFERENCE: U-6020

PROJECT: 47165

Prepared in the Office of:



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NC REGISTERED
ENGINEERING
FIRM # F-1078

SOIL TEST RESULTS

<i>BORING NO.</i>	<i>SAMPLE NO.</i>	<i>OFFSET</i>	<i>STATION</i>	<i>DEPTH INTERVAL</i>	<i>AASHTO CLASS.</i>	<i>L.L.</i>	<i>P.I.</i>	<i>% BY WEIGHT</i>				<i>% PASSING (SIEVES)</i>			<i>% MOISTURE</i>	<i>% ORGANIC</i>
								<i>C. SAND</i>	<i>F. SAND</i>	<i>SILT</i>	<i>CLAY</i>	<i>10</i>	<i>40</i>	<i>200</i>		
<i>L B-2</i>	<i>SS-1</i>	<i>CL</i>	<i>12+00</i>	<i>1.0 - 2.5'</i>	<i>A-7-5(40)</i>	<i>86</i>	<i>52</i>	<i>19.2</i>	<i>10.6</i>	<i>9.8</i>	<i>60.5</i>	<i>99.2</i>	<i>85.4</i>	<i>71.8</i>	<i>30.9</i>	<i>-</i>
<i>L B-5</i>	<i>S-2</i>	<i>20' RT</i>	<i>17+81</i>	<i>1.0 - 2.0'</i>	<i>A-6(1)</i>	<i>35</i>	<i>11</i>	<i>39.4</i>	<i>18.2</i>	<i>14.8</i>	<i>27.6</i>	<i>90.6</i>	<i>61.9</i>	<i>42.5</i>	<i>19.7</i>	<i>-</i>

LAB TECHNICIAN: MELODY BREWER

NCDOT CERTIFICATION NO. 134-02-0416