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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.	B-4932	1	8

CONTENTS

LINE	STATION	PLAN	PROFILE
-L-	12+00 to 38+10	4, 5	6
-DRW1-	10+00 to 13+68	5	7
-DRW2-	10+00 to 10+80	5	7

**ROADWAY
SUBSURFACE INVESTIGATION**

COUNTY EDGEcombe
PROJECT DESCRIPTION BRIDGE NO. 28 ON NC 42
OVER TAR RIVER

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 DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

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

REFERENCE: B-4932

PROJECT: 40137

PERSONNEL



STEWART

N. MOHS, LG

TRIGON

R. TOOTHMAN

W. ALLEN

INVESTIGATED BY N. MOHS, LG

DRAWN BY N. MOHS, LG

CHECKED BY D. BROWN, PE

SUBMITTED BY N. MOHS, LG

DATE AUGUST 2016



DocuSigned by:

Nathan Daniel Mohs 8/30/2016

95B46AF191F2448

SIGNATURE

DATE

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

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

Table with multiple columns: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, TERMS AND DEFINITIONS, SOIL LEGEND AND AASHTO CLASSIFICATION, MINERALOGICAL COMPOSITION, COMPRESSION, PERCENTAGE OF MATERIAL, GROUND WATER, MISCELLANEOUS SYMBOLS, RECOMMENDATION SYMBOLS, ABBREVIATIONS, EQUIPMENT USED ON SUBJECT PROJECT, FRACTURE SPACING, BEDDING, INDURATION, PLASTICITY, COLOR. Includes various charts, diagrams, and classification tables.

09/08/19

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

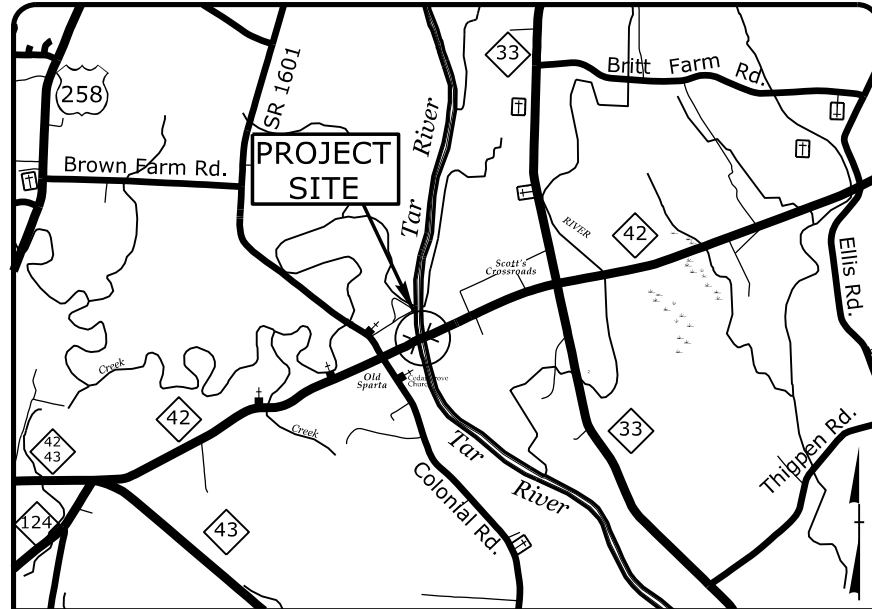
EDGEcombe COUNTY

LOCATION: BRIDGE NO. 28 OVER TAR RIVER ON NC 42

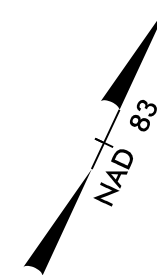
TYPE OF WORK: GRADING, PAVING, DRAINAGE, TEMPORARY SIGNALS
AND STRUCTURE

25% PRELIMINARY PLANS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4932	3	8
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40137.1.1	BRSTP-0042(19)	PE	

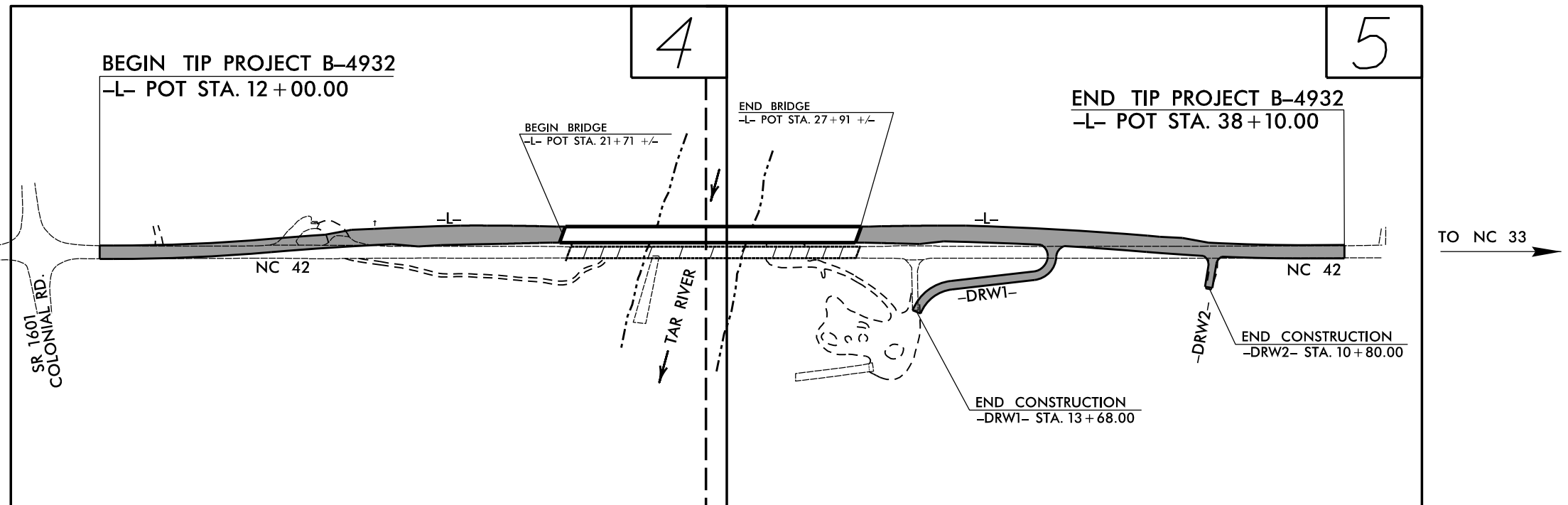


VICINITY MAP
NOT TO SCALE



TIP PROJECT: B-4932

CONTRACT:



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

INCOMPLETE PLANS
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<p>GRAPHIC SCALES</p> <p>50 25 0 50 100 PLANS</p> <p>50 25 0 50 100 PROFILE (HORIZONTAL)</p> <p>10 5 0 10 20 PROFILE (VERTICAL)</p>	<p>DESIGN DATA</p> <p>ADT 2017 = 2410 ADT 2037 = 3180 K = 9 % D = 60 % T = 32 % * V = 60 MPH * TTST = 22% DUAL 10% FUNC CLASS = MAJOR COLLECTOR REGIONAL TIER</p>	<p>PROJECT LENGTH</p> <p>LENGTH ROADWAY TIP PROJECT B-4932 = 0.377 MI. LENGTH STRUCTURE TIP PROJECT B-4932 = 0.117 MI. TOTAL LENGTH OF TIP PROJECT B-4932 = 0.494 MI.</p>	<p>Prepared for the North Carolina Department of Transportation In the Office of:</p> <p>vhb 4000 WestChase Boulevard, Suite 530 Raleigh, NC 27607 NC License No. C-2705</p> <p>SUNGATE DESIGN GROUP, P.A. 414 JONES FRANKLIN ROAD 1000 WEST GARDNER AVENUE DURHAM, NC 27604 NC License No. C-2705</p> <p>2012 STANDARD SPECIFICATIONS RIGHT OF WAY DATE: JIMMY GOODNIGHT, PE DECEMBER 16, 2016 PROJECT ENGINEER LETTING DATE: JERRY JAVELLANA, PE JUNE 20, 2017 PROJECT DESIGN ENGINEER NCDOT CONTACT: REKHA PATEL, PE PROJECT ENGINEER-ROADWAY DESIGN</p>	<p>HYDRAULICS ENGINEER</p> <p>SIGNATURE: _____ P.E.</p> <p>ROADWAY DESIGN ENGINEER</p> <p>SIGNATURE: _____ P.E.</p>	
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August 25, 2016

STATE PROJECT: 40137.1.1 (B-4932)
 F.A. PROJECT: BRSTP-0042(19)
 COUNTY: Edgecombe
 DESCRIPTION: Bridge No. 28 on NC 42 over Tar River
 SUBJECT: Geotechnical Report – Inventory

Project Description

This project consists of the construction of new two-lane roadway alignment (-L-) to the north of NC 42 for accommodation of a new bridge over the Tar River. New embankments will be built up to 30 feet. Two new driveways (-DRW1- and -DRW2-) will be built for access to an existing boat ramp on the Tar River and property access. The project begins 200 feet east of SR 1601 (Colonial Road) and continues for 0.5 miles east.

The geotechnical field investigation was conducted in July of 2016. The drilling investigation was conducted by Trigon Exploration based in Greensboro, North Carolina, and overseen by Stewart personnel. An ATV-mounted CME-55 drill machine with an automatic hammer was used during the investigation. Eight soil test borings with Standard Penetration Tests (SPT), and three hand auger borings were performed at selected sites along the alignment to evaluate subsurface conditions. Representative soil samples were collected in the field for visual classification. Nine representative soil samples were sent to Geotechnics in Raleigh, NC for laboratory testing to establish various engineering properties.

The following alignments, totaling 0.6 miles were investigated:

<u>Alignment</u>	<u>Stations</u>
-L-	12+00 to 38+10
-DRW1-	10+00 to 13+68
-DRW2-	10+00 to 10+80

Physiography & Geology

The project is located in the nearly flat terrain of Edgecombe County. The surrounding land is primarily wooded and farmland. An erosional scarp is present near -L- Station 19+00, marking the boundary between Coastal Plain Soils and the Tar River floodplain to the east. Geologically, the site is underlain by Coastal Plain deposits of the Cape Fear Formation. These sediments were deposited in marine deltaic and coastal environments during multiple transgression/regression cycles of the Atlantic Ocean.

Areas of Special Geotechnical Interest

- Highly Plastic Soils – Soils with plasticity indexes (PI) of 20 or greater were encountered in the following borings:

<u>Alignment</u>	<u>Station & Offset (ft)</u>
-L-	19+36, 20 LT
-L-	21+00, 22 LT
-L-	27+76, CL
-L-	34+00, 23 LT

Soil Properties

Soils encountered at the site include roadway embankment, alluvial, and Coastal Plain soils. The roadway embankment consists of moist, loose, silty sand (A-2-4). This material is associated with the driveway to the NC 42 boat ramp, and the existing driveway at -DRW2-. Roadway embankment is also present immediately below existing NC 42. Alluvial soils were encountered along most of the proposed alignment. These soils consist of moist to saturated, silty sand (A-2-4) and coarse sand (A-1-b), as well as moist, soft, sandy clay (A-6). Alluvial soils in the vicinity of the project are related to the Tar River and its tributaries. Coastal Plain soils are ancient sediments deposited by the Atlantic Ocean. These soils include moist to saturated, loose to dense, silty sand (A-2-4), clayey sand (A-2-6), and coarse sand (A-1-b), as well as moist, stiff to hard, sandy clay (A-6) and silty clay (A-7).

Groundwater

Groundwater was encountered in several borings along the proposed alignment. Depths to groundwater ranged from approximately 0.9 feet to 8.1 feet below the current ground surface. Groundwater is not expected to impact construction of the slopes.

Wells

A water well and three monitoring wells are shown on the plans. The monitoring wells are located on the NC 42 Boat Ramp property and are labeled as "Old Sparta Station" with Site ID: K26M. The wells are noted on the plans at the following locations:



<u>Well Type</u>	<u>Alignment</u>	<u>Station & Offset (ft)</u>
Water well (abandoned?)	-L-	16+18, 96 LT
3 Monitoring Wells	-DRW1-	11+00, 69 LT

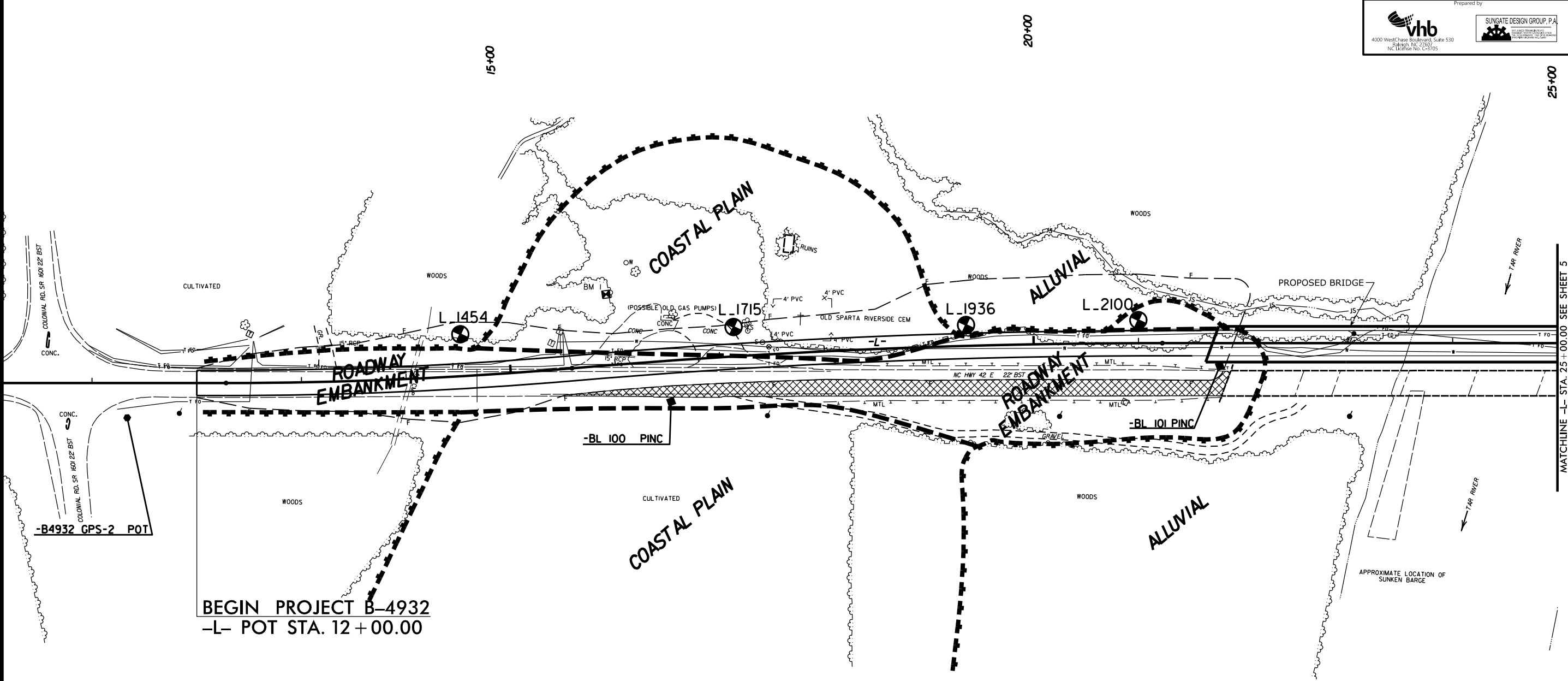
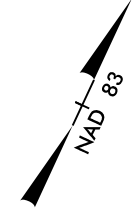
Cemetery

The Old Sparta Riverside Cemetery is located left of -L- Station 17+50 to 18+10. The cemetery will be impacted by the project.

8/17/99

REVISIONS

PROJECT REFERENCE NO. B-4932		SHEET NO. 4
RW SHEET NO.		HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER		
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
Prepared by:		
 4000 West Chase Boulevard, Suite 530 Raleigh, NC 27607 NC License No. C-3705		 SUNGATE DESIGN GROUP, P.A. 2201-B West Gate Road Cary, NC 27513 NC License No. C-3705



BEGIN PROJECT B-4932
 -L- POT STA. 12+00.00



-B4932 GPS-2 POT

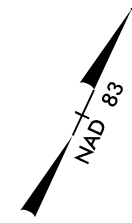
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-BL 101 PINC

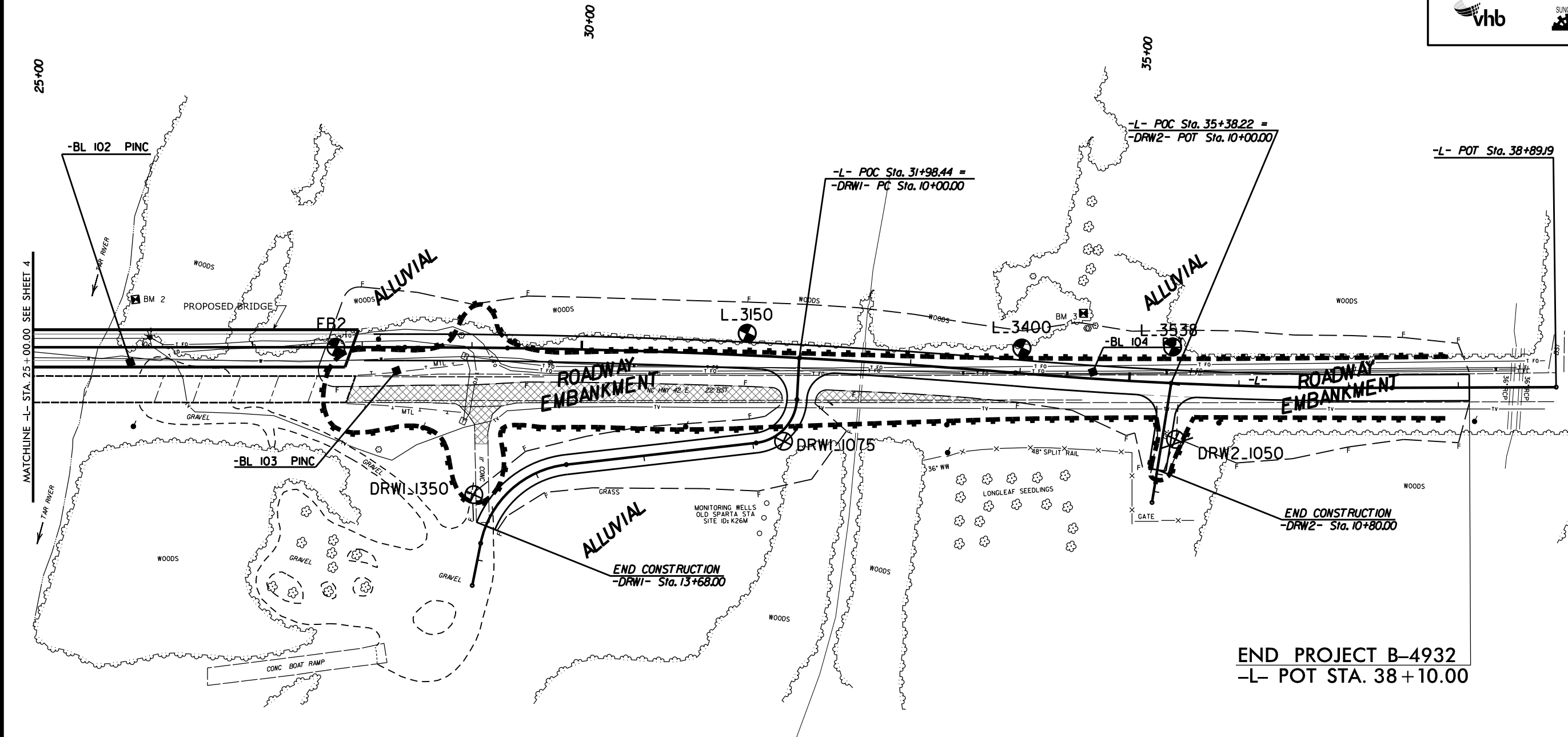
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MATCHLINE -L- STA. 25+00.00 SEE SHEET 5

PROJECT REFERENCE NO. B-4932	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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REVISIONS



MATCHLINE -L- STA. 25+00.00 SEE SHEET 4

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5/28/99

- (A) ALLUVIAL, GRAY AND BROWN, LOOSE, MOIST TO WET, SILTY SAND
- (B) ALLUVIAL, GRAY, SOFT, MOIST, SANDY CLAY WITH TRACE ORGANICS
- (C) ALLUVIAL, GRAY, VERY LOOSE, SATURATED, COARSE SAND

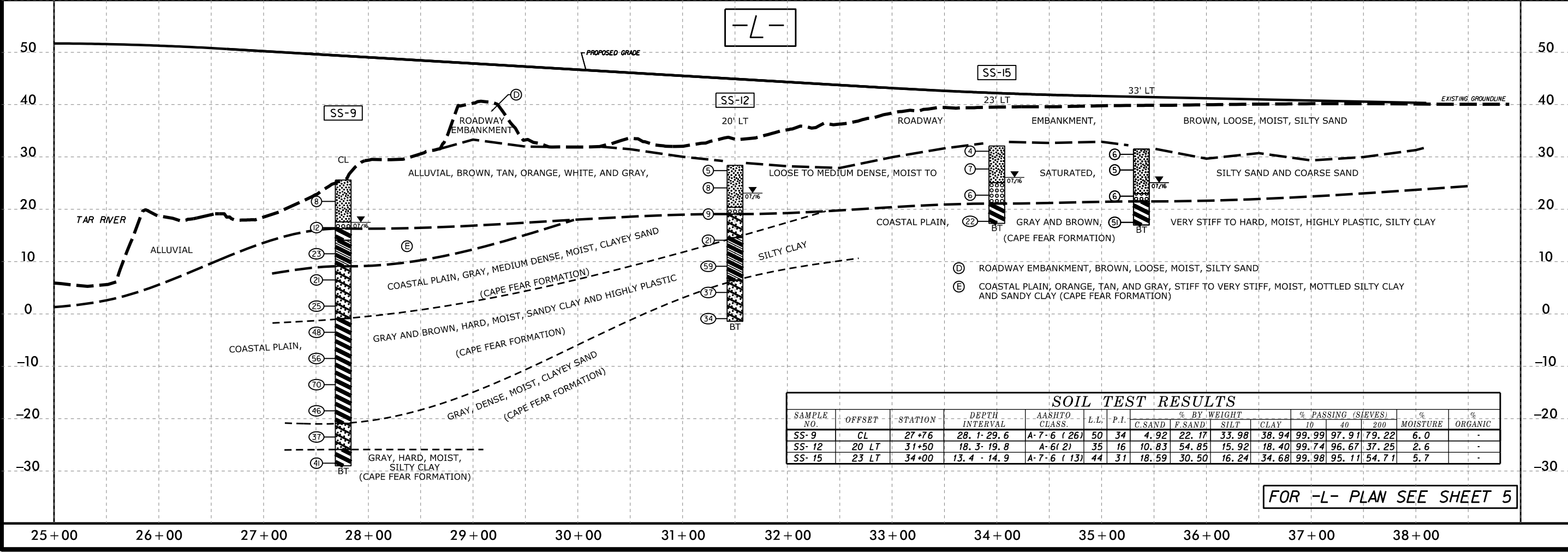
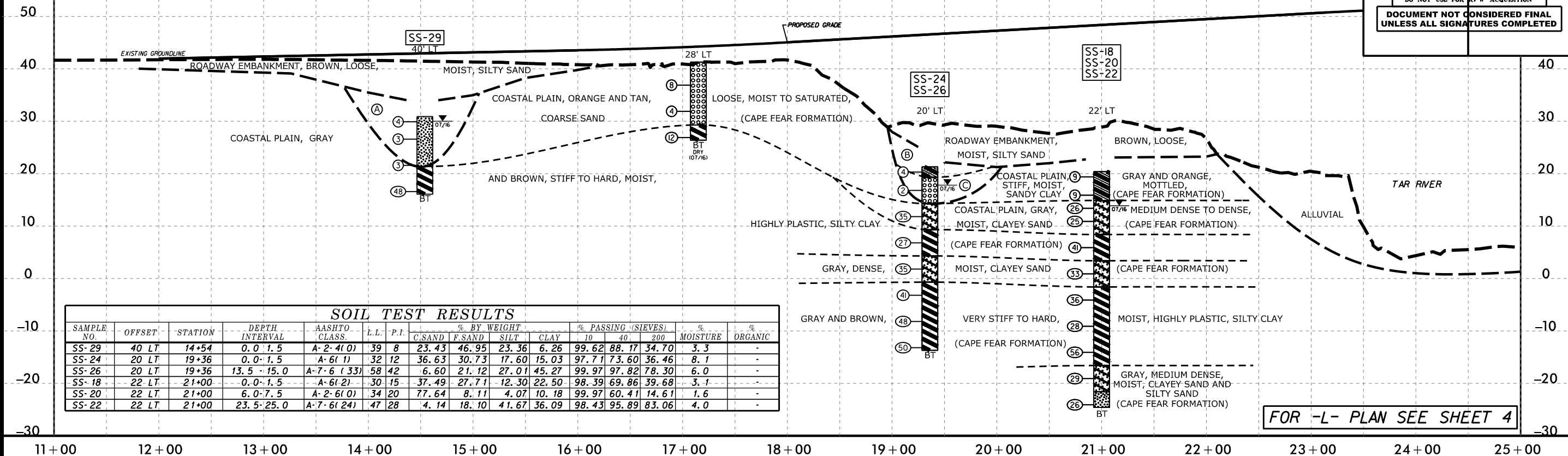
vhb

SUNGATE DESIGN GROUP, P.A.

PROJECT REFERENCE NO. B-4932	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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5/28/99

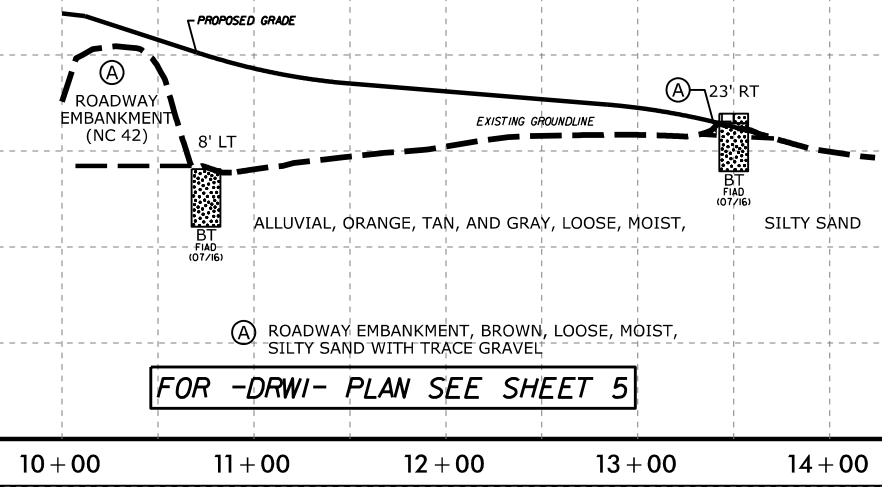
-DRWI-

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PROJECT REFERENCE NO. B-4932	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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-DRW2-

SYTIME
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