

REFERENCE: B-5352

PROJECT: 46066

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-5352	1	18

CONTENTS

LINE	STATION	PLAN	PROFILE
-L-	16+07 TO 28+18	4-5	N/A
-LDET-	12+08 TO 20+02	6-7	8

CROSS SECTIONS

LINE	STATION	SHEETS
-L-	21+25 TO 21+75	9-11
-L-	23+00 TO 23+50	12-14

APPENDICES

APPENDIX	TITLE	SHEETS
A	SOIL TEST RESULTS	15-16

**ROADWAY
SUBSURFACE INVESTIGATION**

COUNTY ROCKINGHAM
PROJECT DESCRIPTION REPLACE BRIDGE NO. 131 ON
US 220 BYPASS OVER NORFOLK SOUTHERN RR

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.

PERSONNEL

J. WHITT
J. DANIEL

INVESTIGATED BY J. WHITT
DRAWN BY T. WELLS
CHECKED BY M. BAHIRADHAN
SUBMITTED BY SCHNABEL
DATE APRIL 2016



DocuSigned by:
Mahalingam Bahiradhan 4/26/2016

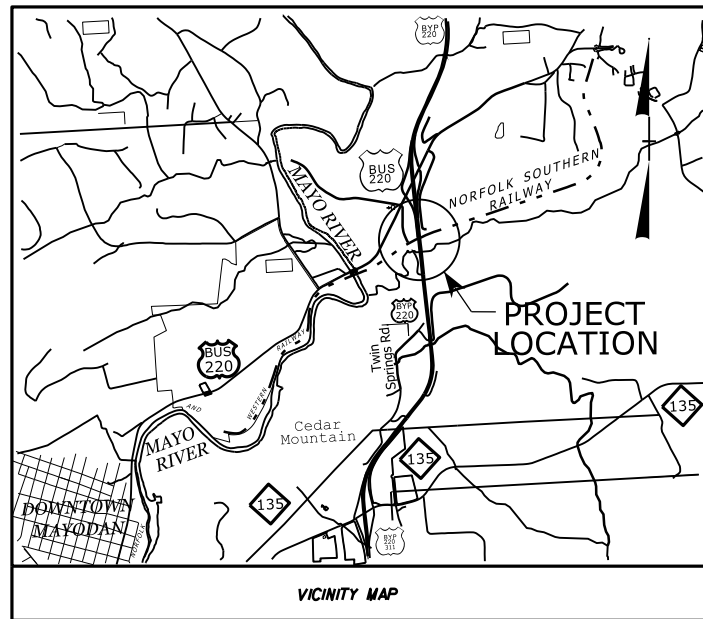
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**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

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

SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS																																																																																																																																																				
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 208, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i>	WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.	HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL, SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS: WEATHERED ROCK (WR) NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED. CRYSTALLINE ROCK (CR) FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC. NON-CRYSTALLINE ROCK (NCR) FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC. COASTAL PLAIN SEDIMENTARY ROCK (CP) COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOGGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLOYED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. 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TIP PROJECT: B-5352



REV 25% PLANS (11/23/15)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ROCKINGHAM COUNTY

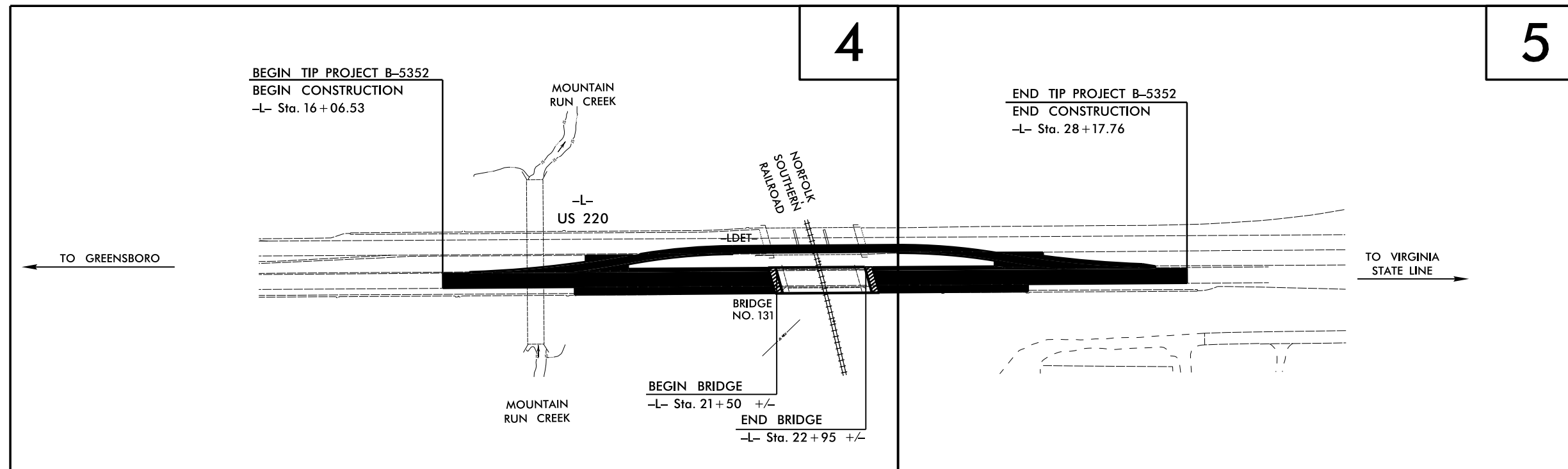
LOCATION: BRIDGE NO. 131 ON US 220 NBL OVER NORFOLK SOUTHERN RAILROAD

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5352	3	18
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46066.1.1	BRNHS-0220(67)	P.E.	

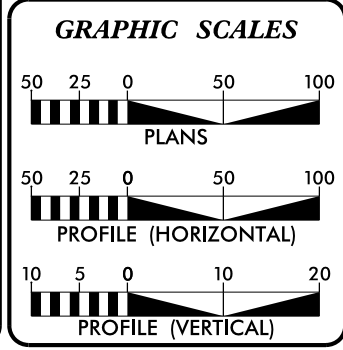
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ____

CONTRACT:



DESIGN DATA

ADT 2018	=	19336 VPD
ADT 2040	=	30100 VPD
DHV	=	11%
D	=	55%
T	=	23%*
V	=	65 MPH
V _{DET}	=	55 MPH
* TTST	=	14%
DUAL	=	9%
FUNC CLASS	=	RURAL ARTERIAL "STATEWIDE TIER"

PROJECT LENGTH

LENGTH ROADWAY F.A. PROJECT	=	0.202 MILES
LENGTH STRUCTURES F.A. PROJECT	=	0.027 MILES
TOTAL LENGTH STATE PROJECT	=	0.229 MILES

PLANS PREPARED FOR THE NCDOT BY:

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: AUGUST 19, 2016

LETTING DATE: AUGUST 21, 2018

JEFFREY W. MOORE, P.E.
PROJECT ENGINEER

CATHERINE A. MURRELL, P.E.
PROJECT DESIGN ENGINEER

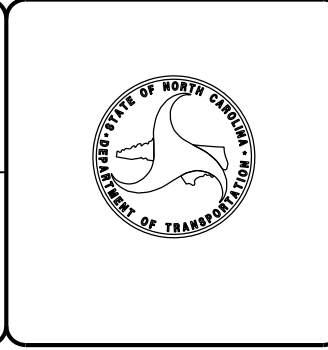
JAMES A. SPEER, P.E.
PROJECT ENGINEER
NCDOT ROADWAY DESIGN

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



\$DATE\$ \$FILE\$



SCHNABEL ENGINEERING SOUTH, P.C.

April 12, 2016

STATE PROJECT: 46066.1.1(B-5352)
 PROJECT ID: 27389
 COUNTY: Rockingham
 DESCRIPTION: Replace Bridge No. 131 on US 220 Bypass Over Southern Railroad
 SUBJECT: Geotechnical Report - Inventory

Project Description

The project consists of replacing the existing northbound bridge on US 220 Bypass and constructing a detour road in the median and onto the southbound lanes to maintain northbound traffic during replacement of existing northbound bridge over the railroad in Stoneville, NC. The length of the proposed detour road is about 785 feet. The proposed grades of the detour road will require fills on the order of 4 feet or less. Minor sliver fills are proposed to widen the existing northbound roadway embankment.

The geotechnical investigation was conducted in February 2016 utilizing hand augers and sounding rods, which were performed at specific locations to provide subsurface information for design and construction of the proposed roadways. Representative soil samples were collected and submitted to a NCDOT approved laboratory for testing.

The following alignments were investigated for this project totaling approximately 0.15 miles. Subsurface profiles and cross sections of these alignments are included in this report.

<u>Line</u>	<u>Station(±)</u>
-LDET-	10+45to 14+16
-LDET-	17+41to 21+57

Areas of Special Geotechnical Interest

1) Loose/soft alluvial soils were present at these locations.

<u>Line</u>	<u>Station(±)</u>	<u>offset</u>
-L-	21+00 to 22+00	125 ft. Rt.
-L-	23+75 to 24+75	107 ft. Rt.

2) Groundwater- The following interval was found to exhibit a high water table at the time of our subsurface exploration. However, it appears to be a perched condition related to a recent rainfall event.

<u>Line</u>	<u>Station(±)</u>
-LDET-	18+50 to 20+50

Physiography, Geology and Surface Water

The project is located in the central portion of the Piedmont Physiographic Province approximately 2 miles southwest of Stoneville in Rockingham County. Topography in the area outside of roadway embankment fills is generally flat with gently rolling hills. The existing roadway embankment is about 20 to 40 feet high. The median between the northbound and southbound lanes is slightly depressed to serve as a ditch line to carry the storm water runoff. The vicinity of the project area is heavily wooded to the east of the existing roadway with some commercial buildings located in the near vicinity of the project. Geologically underlying rock will likely be a Triassic rock of Dan River group.

Soils Properties

Soils encountered along the project corridor are separated into three categories based on their origin. They are roadway embankment, alluvial and residual soils.

Roadway embankment was present along the existing roadway within the project limits. These soils consist of gray sandy silty gravel (A-1), brown and red stiff to very stiff sandy silt (A-4) and clayey silt (A-5). The sandy silt (A-4) layer was non plastic.

Alluvial soils were present at the toe of the existing roadway embankment. Alluvial soils consist of brown, soft to stiff clay (A-7-6). The Plasticity Index (PI) value of the alluvial clay was 18.

Residual soils consist of brown very stiff clay (A-7), clayey silt (A-5), silt (A-4), silty sand (A-2-4) and clayey sand (A-2-6) and sandy silt (A-4).

Rock Properties

Weathered rock/rock was not encountered during the detour roadway investigation. Rock in the project site is a Triassic rock of Dan Rover Group (Stoneville Formation).

Groundwater

Groundwater data was collected during average or slightly above average rainfall conditions. Water levels across the project vary due to topographic relief and soil permeability. The groundwater was within 6 feet of the surface in one boring at Station -LDET- 19+50. (Please refer to the groundwater comment in the Special Interest section above). Since this water table was measured after a very recent rain event, this water table will likely be perched. Groundwater levels may fluctuate with seasonal precipitation.

Respectfully Submitted,
SCHNABEL ENGINEERING SOUTH, P.C.



DocuSigned by:

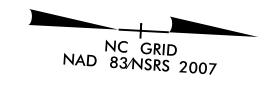
Mahalingam Bahiradhan 4/26/2016

Mahalingam Bahiradhan (Bahi), PE.
Senior Engineer

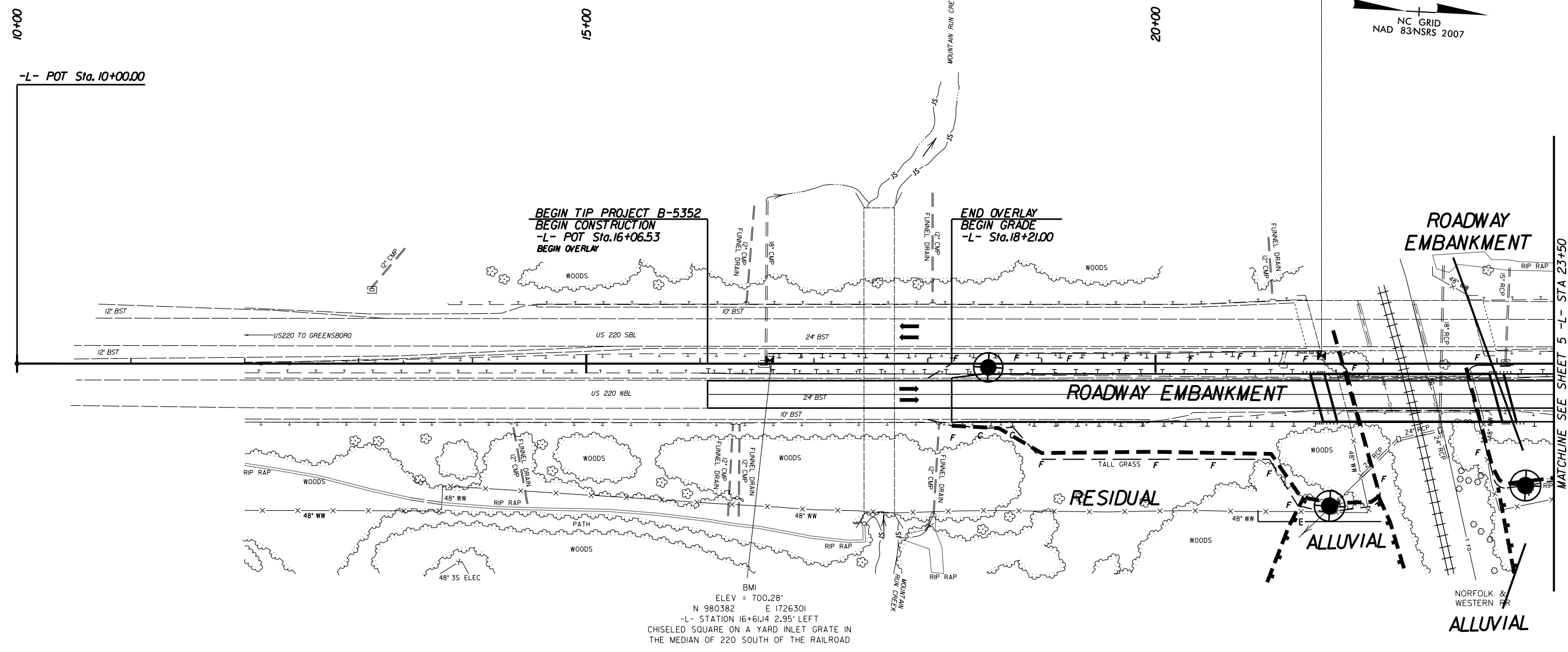
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

BM2
ELEV = 709.40'
N 980866 E 1726272
-L- STATION 21+45.89 6.97' LEFT
CHISELED SQUARE ON SE WW OF SBL BRIDGE



REVISIONS



BEGIN TIP PROJECT B-5352
BEGIN CONSTRUCTION
-L- POT Sta. 16+06.53
BEGIN OVERLAY

END OVERLAY
BEGIN GRADE
-L- Sta. 18+21.00

BM1
ELEV = 700.28'
N 980382 E 1726301
-L- STATION 16+61.14 2.95' LEFT
CHISELED SQUARE ON A YARD INLET GRATE IN
THE MEDIAN OF 220 SOUTH OF THE RAILROAD

\$DATE\$ \$FILE\$

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

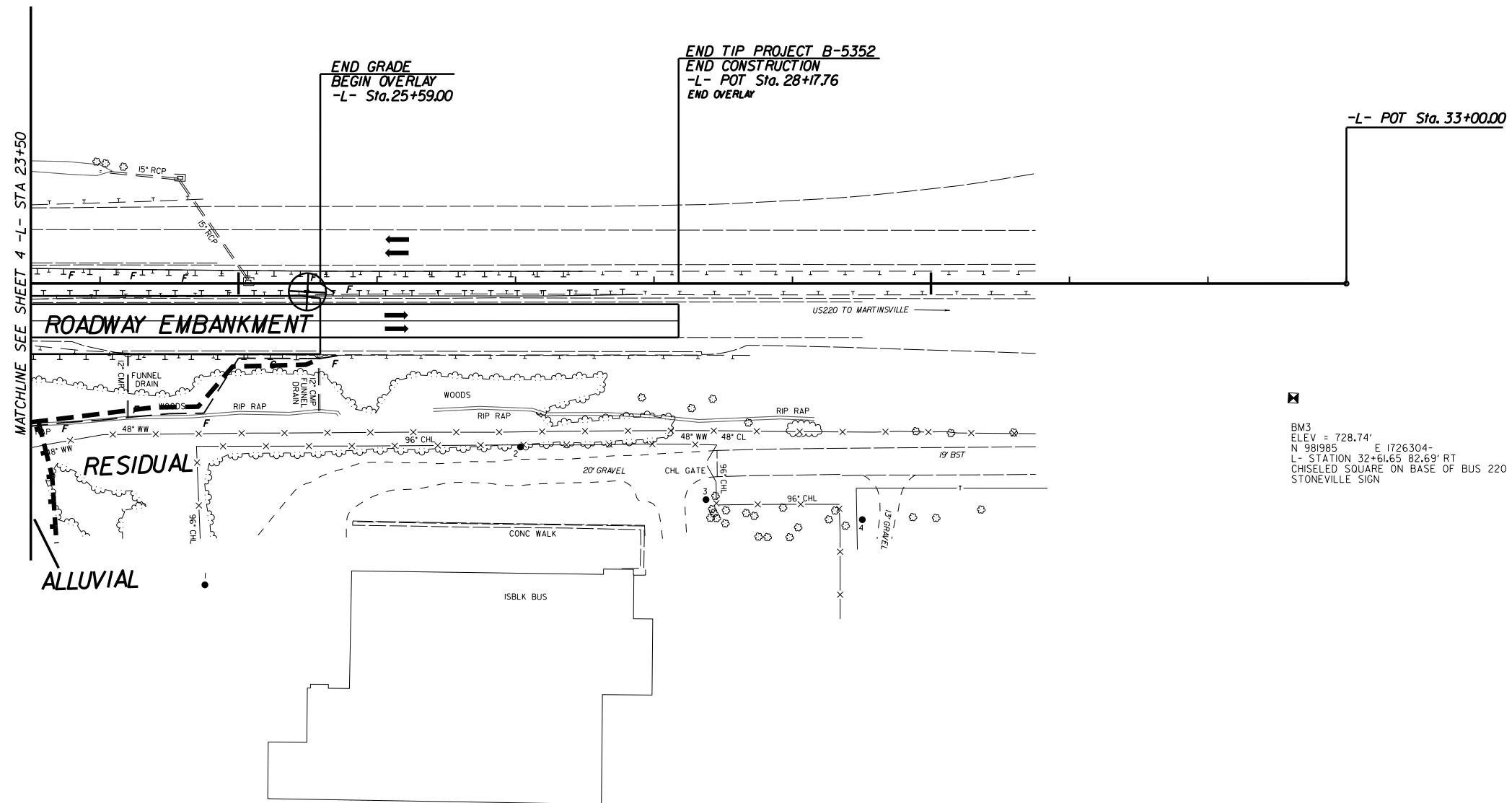
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REVISIONS

25+00

30+00



BM3
ELEV = 728.74'
N 981985 E 1726304-
L- STATION 32+61.65 82.69' RT
CHISELED SQUARE ON BASE OF BUS 220
STONEVILLE SIGN

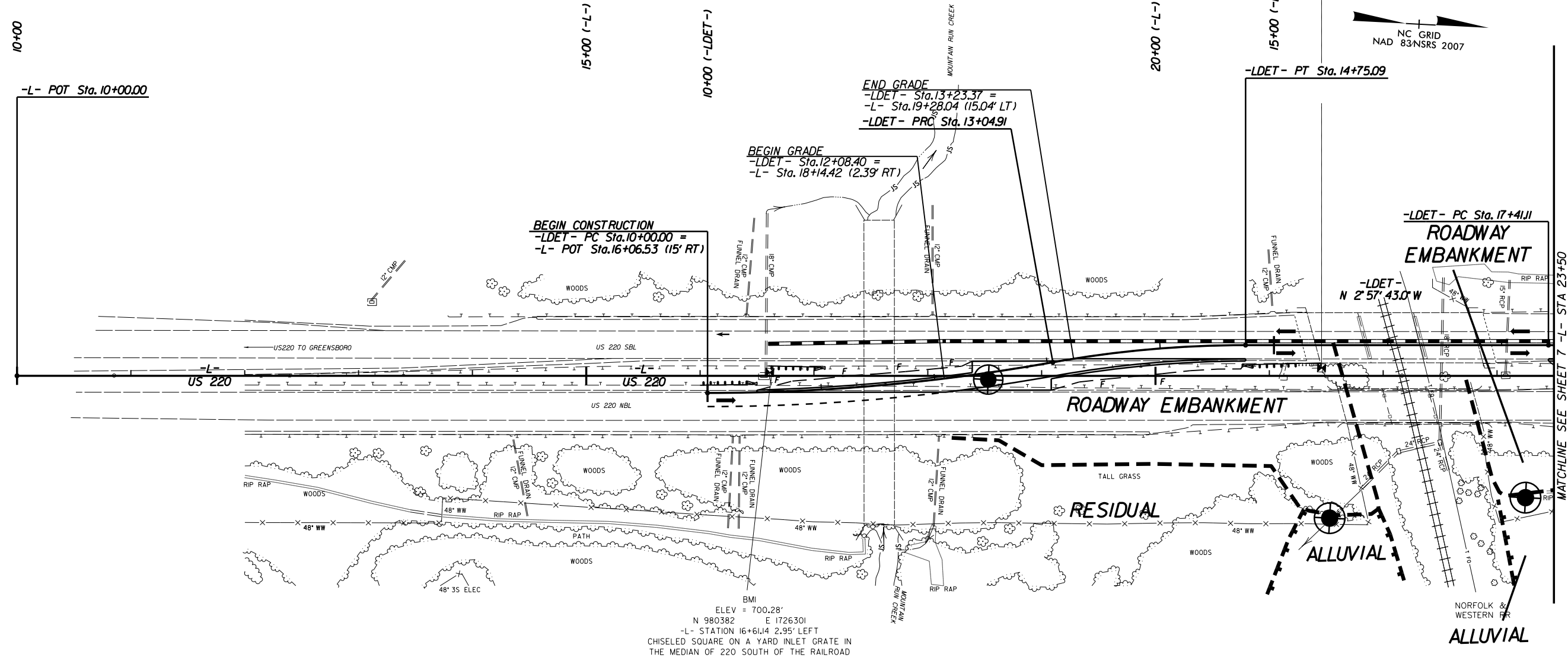
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PROJECT REFERENCE NO. B-5352	SHEET NO. 6
ROADWAY ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

BM2
ELEV = 709.40'
N 980866 E 1726272
-L- STATION 21+45.89 6.97' LEFT
CHISELED SQUARE ON SE WW OF SBL BRIDGE



REVISIONS



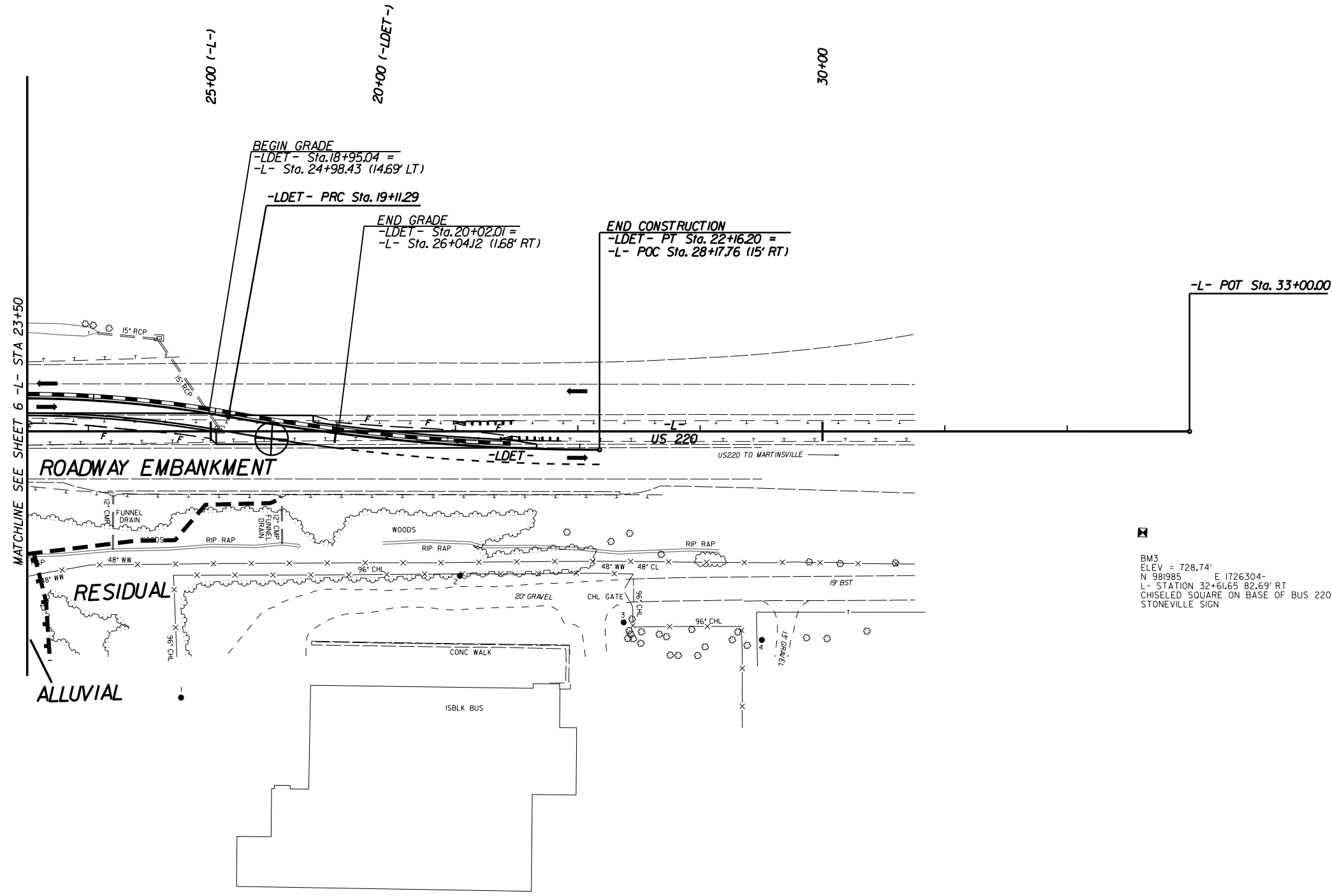
MATCHLINE SEE SHEET 7 -L- STA 23+50

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



REVISIONS

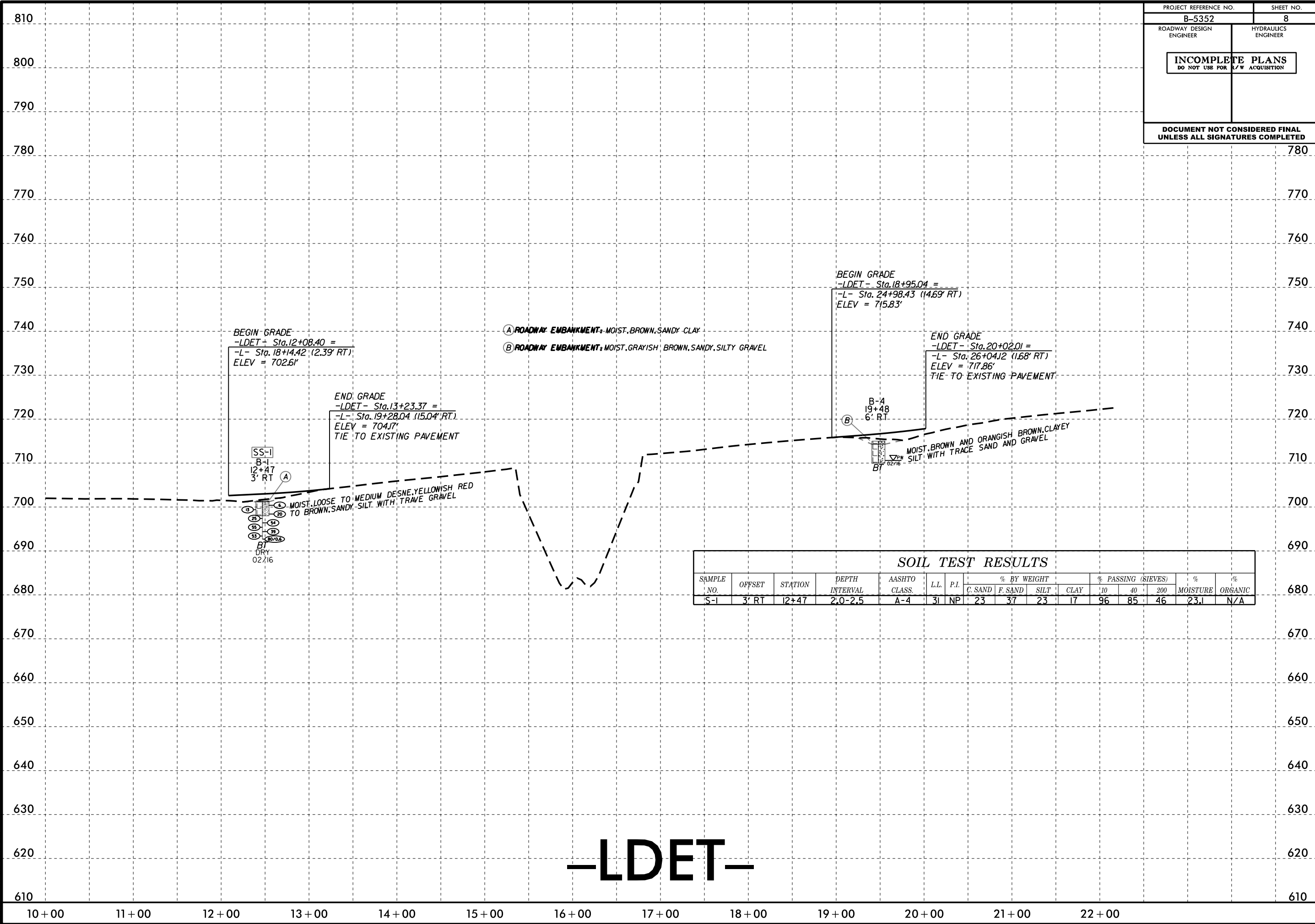


BM3
ELEV = 728.74'
N 981985 E 1726304-
L- STATION 32+61.65 82.69' RT
CHISELED SQUARE ON BASE OF BUS 220
STONEVILLE SIGN

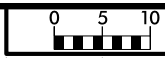
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PROJECT REFERENCE NO. B-5352	SHEET NO. 8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

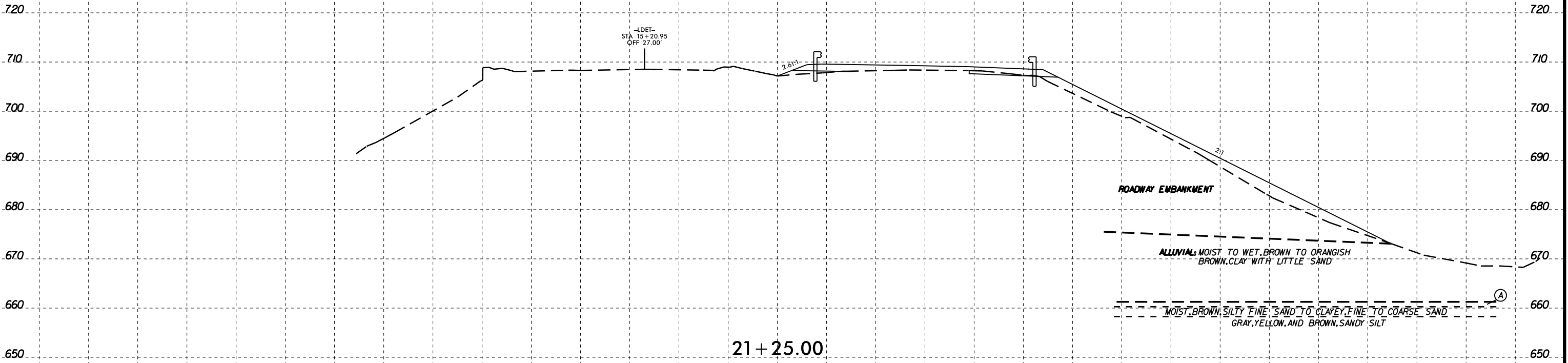


8/23/99



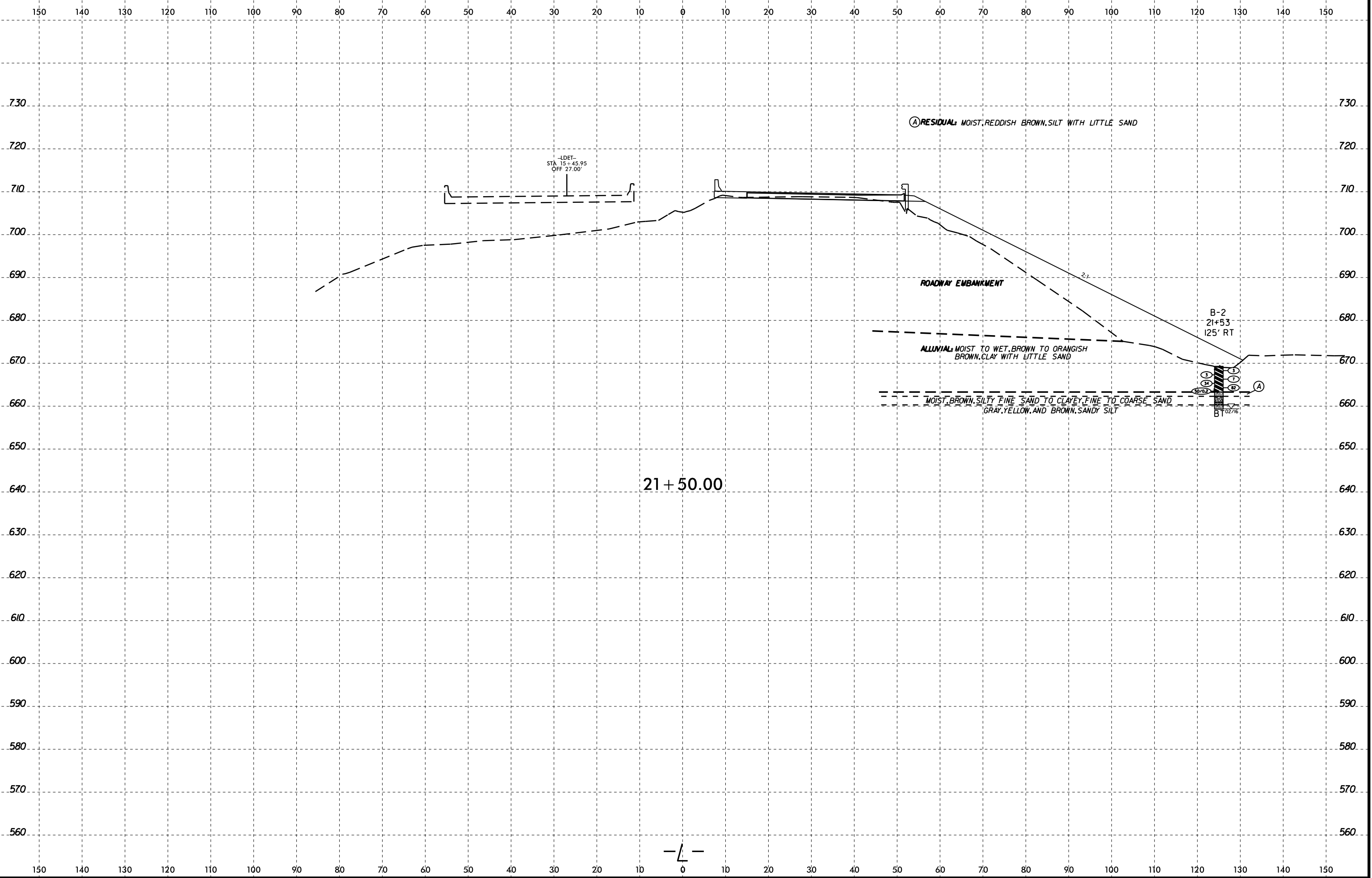
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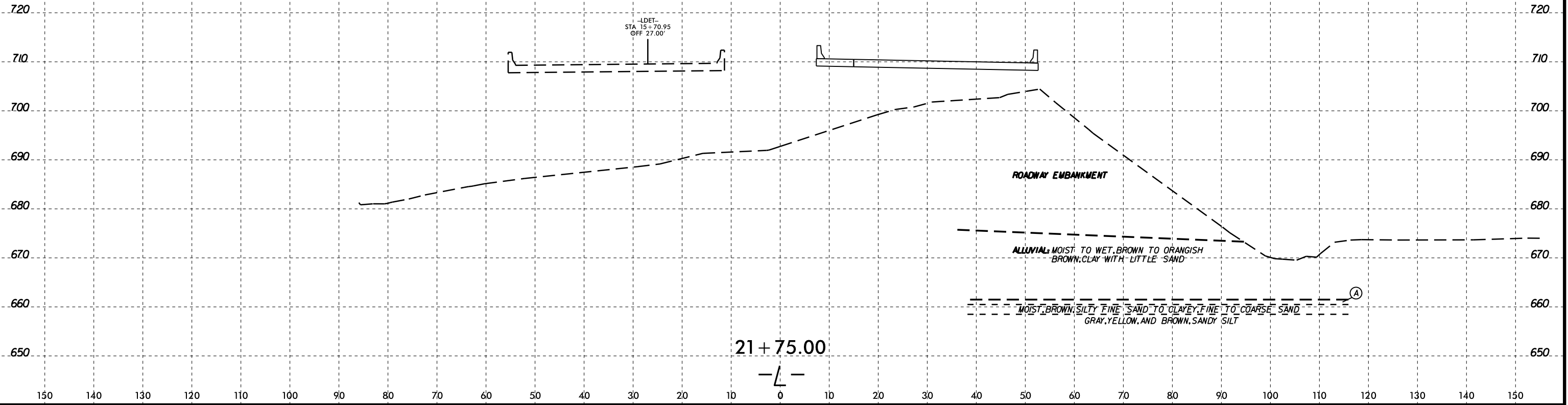
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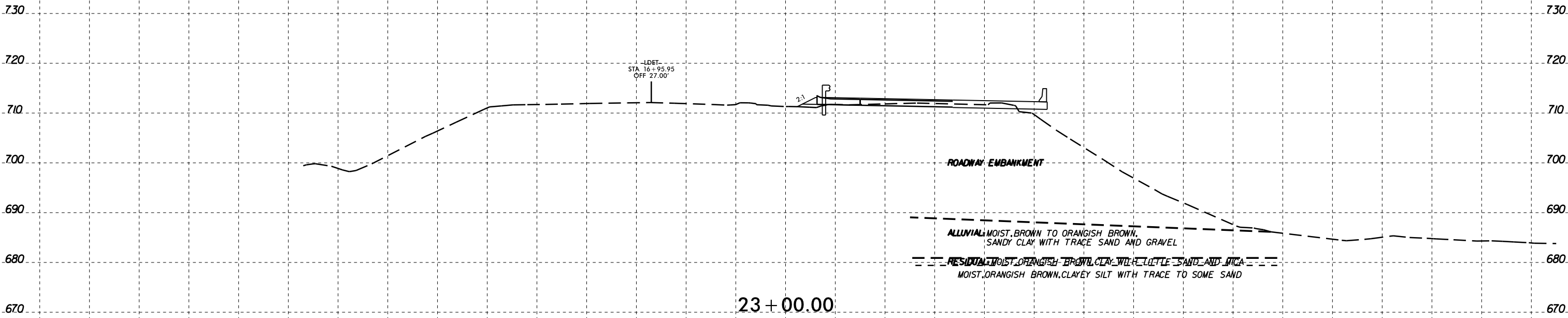
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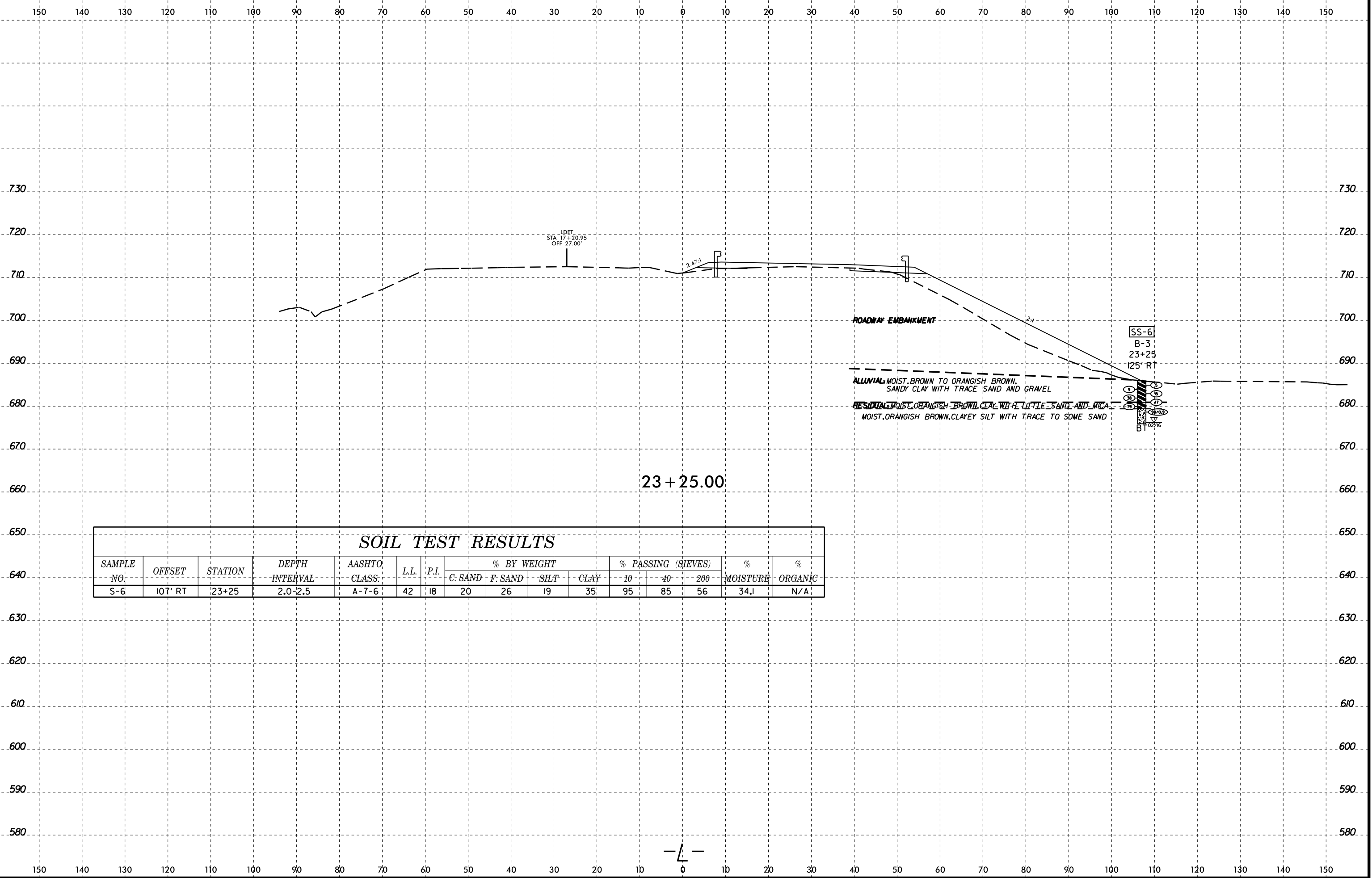
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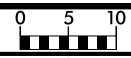


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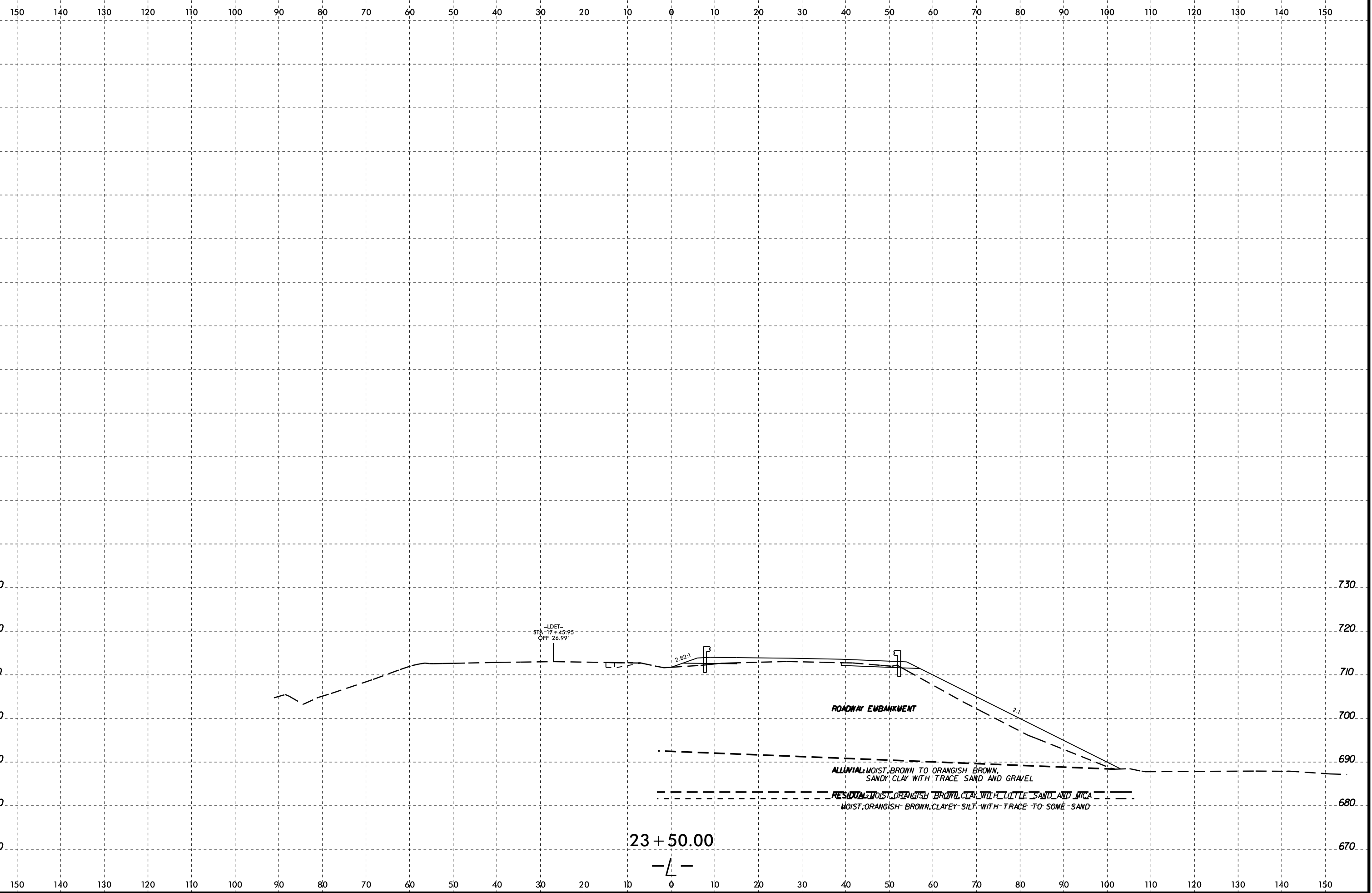
SOIL TEST RESULTS

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		
S-6	107' RT	23+25	2.0-2.5	A-7-6	42	18	20	26	19	35	95	85	56	34.1	N/A

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
B-5352	14



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

REFERENCE: B-5352

PROJECT: 46066

REPLACE BRIDGE NO. 131 ON US 220 BYPASS OVER NORFOLK SOUTHERN RAILROAD

SOIL TEST RESULTS

BORING NO.	SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL (FEET)	AASHTO CLASS.	LIQUID LIMIT	PLASTICITY INDEX	% BY WEIGHT					% PASSING (SIEVES)			% MOISTURE	% ORGANIC
								GRAVEL	C.SAND	F.SAND	SILT	CLAY	10	40	200		
-	S-1	12+50	CL	2.0 - 2.5	A-4	31.0	NP	0	23	37	23	17	96	85	46	23.1	-
-	S-6	23=25	107' RT.	2.0 - 2.5	A-7-6	42.0	18.0	0	20	26	19	35	95	85	56	34.1	-