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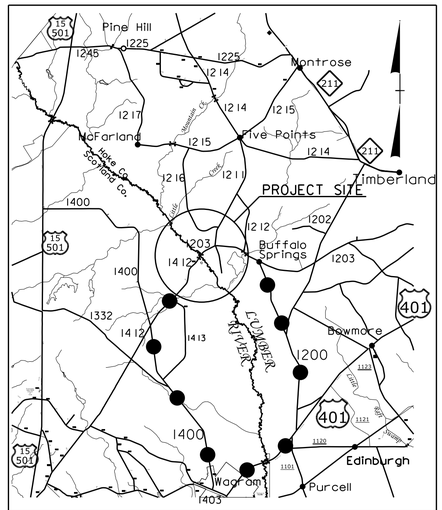
09/08/99

TIP PROJECT: B-4967

CONTRACT: C203750

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



VICINITY MAP

OFFSITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SCOTLAND & HOKE COUNTIES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4967	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
40158.1.1	BRZ-1203(2)	PE
40158.2.1	BRZ-1203(2)	R/W & UTILITIES
40158.3.1	BRZ-1203(2)	CONST.

LOCATION: BRIDGE NO. 8 OVER DROWNING CREEK ON SR 1412/SR 1203 (TURNPIKE ROAD)

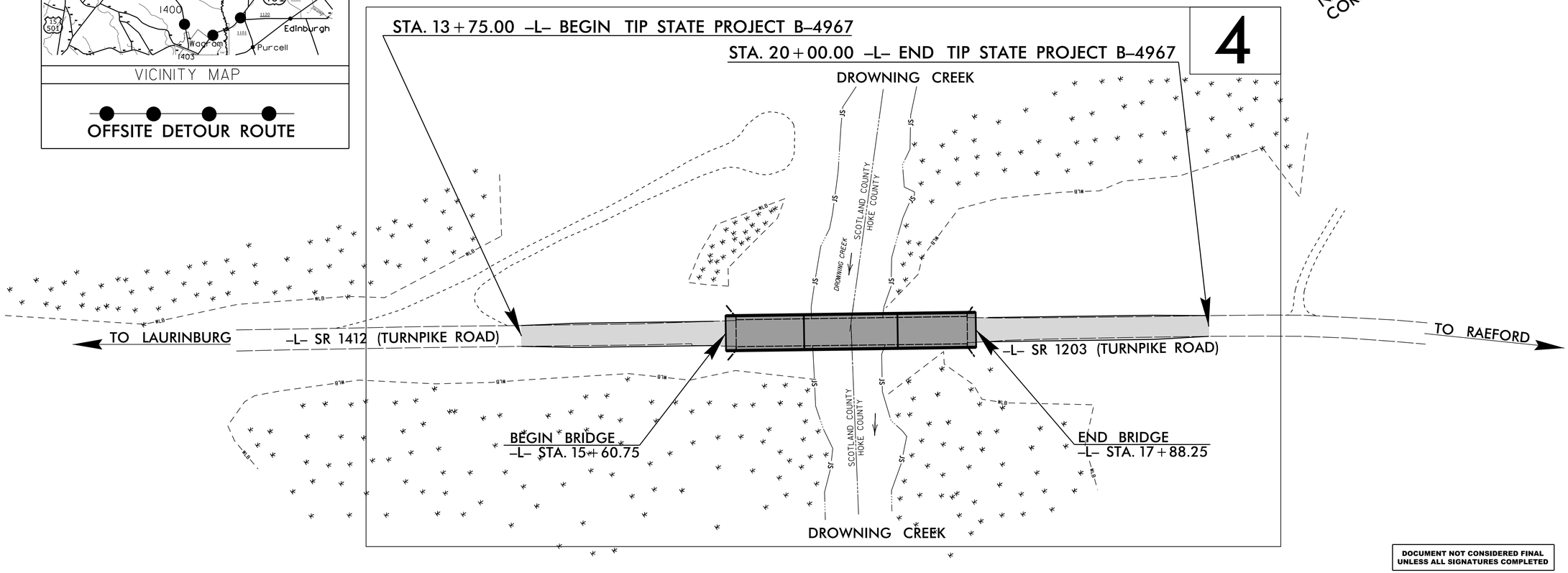
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

NAD 83/
CORS 96

STA. 13+75.00 –L– BEGIN TIP STATE PROJECT B-4967

STA. 20+00.00 –L– END TIP STATE PROJECT B-4967

4



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

20 10 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2016 = 748
ADT 2035 = 900
K = 10 %
D = 55 %
T = 6 % *
V = 60 MPH
* TTST = 2% DUAL = 4%

FUNC CLASS = RURAL LOCAL
"SUB-REGIONAL TIER"

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4967 = 0.075 MILES
LENGTH STRUCTURE TIP PROJECT B-4967 = 0.043 MILES
TOTAL LENGTH OF TIP PROJECT B-4967 = 0.118 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 29, 2015

LETTING DATE:
JUNE 21, 2016

JAMES A. SPEER, PE
PROJECT ENGINEER

DANIEL W. GARDNER, JR., PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
3/14/2016
DocuSigned by: Jason D Lawing
SIGNATURE:
NORTH CAROLINA PROFESSIONAL SEAL 032615 ENGINEER JASON D. LAWING P.E.

ROADWAY DESIGN ENGINEER
3/14/2016
DocuSigned by: Daniel W. Gardner, Jr.
SIGNATURE:
NORTH CAROLINA PROFESSIONAL SEAL 033871 ENGINEER DANIEL W. GARDNER JR. P.E.

STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION *

02-MAR-2016 07:07
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4967	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033871 ENGINEER DANIEL W. GARDNER, JR.

3/14/2016

DocuSigned by:
Daniel W. Gardner, Jr.
2F399F1E43CB4B0...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 10-31-2014

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

Power: Lumber River EMC

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01-17-2012
REV. 10-30-2012

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 4 - MAJOR STRUCTURES	
422.11	Reinforced Bridge Approach Fills - Sub Regional Tier
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets

04/06/15

PROJECT REFERENCE NO.	SHEET NO.
B-4967	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H–Frame Pole
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- U/G Telephone Cable LOS B (S.U.E.*) — T
- U/G Telephone Cable LOS C (S.U.E.*) — T
- U/G Telephone Cable LOS D (S.U.E.*) — T
- U/G Telephone Conduit LOS B (S.U.E.*) — TC
- U/G Telephone Conduit LOS C (S.U.E.*) — TC
- U/G Telephone Conduit LOS D (S.U.E.*) — TC
- U/G Fiber Optics Cable LOS B (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS C (S.U.E.*) — T FO
- U/G Fiber Optics Cable LOS D (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) — W
- U/G Water Line LOS C (S.U.E*) — W
- U/G Water Line LOS D (S.U.E*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

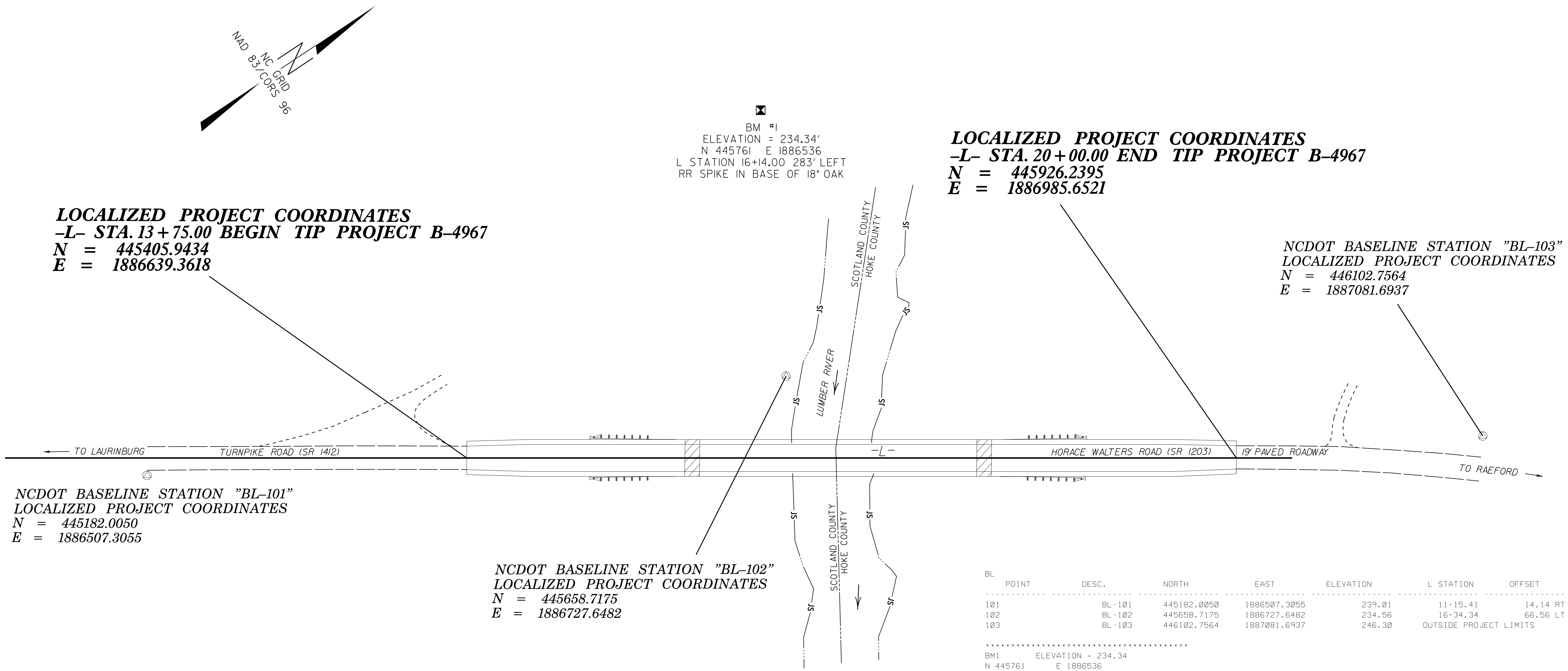
MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
B-4967	IC-1
Location and Surveys	

SURVEY CONTROL SHEET B-4967

FINAL



BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	445182.0050	1886507.3055	239.01	11+15.41	14.14 RT
102	BL-102	445658.7175	1886727.6482	234.56	16+34.34	66.56 LT
103	BL-103	446102.7564	1887081.6937	246.30	OUTSIDE PROJECT LIMITS	

****

BM1 ELEVATION = 234.34
N 445761 E 1886536
L STATION 16+14.00 283 LEFT
RR SPIKE IN BASE OF 18" OAK

****

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	445093.7657	1886431.5876
POT	20+45.33	445963.9728	1887010.7661

PERMANENT EASEMENT REBAR

ALIGN	STATION	OFFSET	NORTH	EAST
L	15+35.00	-60.00	445572.3830	1886678.0637
L	15+35.00	-30.00	445555.7611	1886703.0379
L	15+85.00	-60.00	445614.0067	1886705.7669
L	15+85.00	-30.00	445597.3848	1886730.7411
L	17+65.00	-50.00	445758.3113	1886813.8232
L	17+65.00	-30.00	445747.2301	1886830.4727
L	18+10.00	-50.00	445795.7727	1886838.7561
L	18+10.00	-30.00	445784.6914	1886855.4056
L	18+15.00	30.00	445755.6099	1886908.1244
L	18+15.00	55.00	445741.7583	1886928.9362
L	17+65.00	55.00	445700.1346	1886901.2330
L	17+65.00	30.00	445713.9862	1886880.4211
L	15+85.00	30.00	445564.1409	1886780.6895
L	15+85.00	57.00	445549.1812	1886803.1663
L	15+35.00	57.00	445507.5575	1886775.4631
L	15+35.00	30.00	445522.5172	1886752.9863

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4967-1"
WITH NAD 83/ CORS 96 STATE PLANE GRID COORDINATES OF NORTHING: 446559.274(ft) EASTING: 1887752.455(ft)
ELEVATION: 292.132(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998747093
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4967-1" TO -L- STATION 13+75.00 IS
S 43° 58' 58.4" W 1602.856'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD88

NOTE: DRAWING NOT TO SCALE

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:*
   HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B4967_LS_CONTROL.TXT

   SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

◎ *INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.*
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4967	2A-1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 033871 ENGINEER DANIEL W. GARDNER JR.
5/9/2018
DocuSigned by: Daniel W. Gardner, Jr.

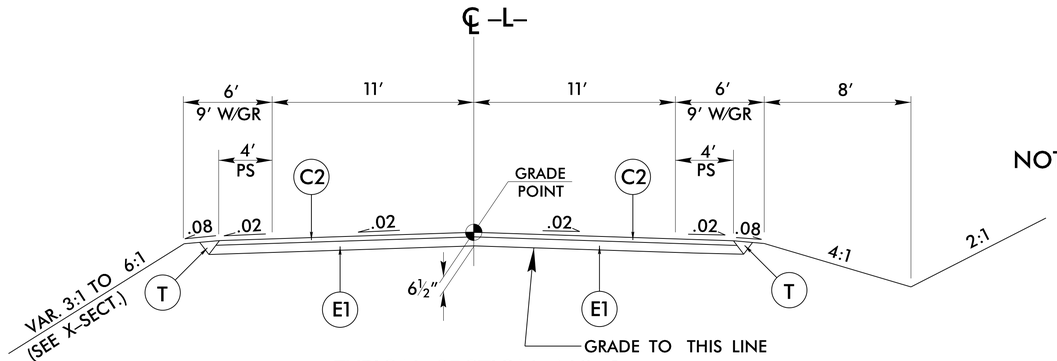
PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER CLARK S. MORRISON
5/9/2018
DocuSigned by: Clark S Morrison

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

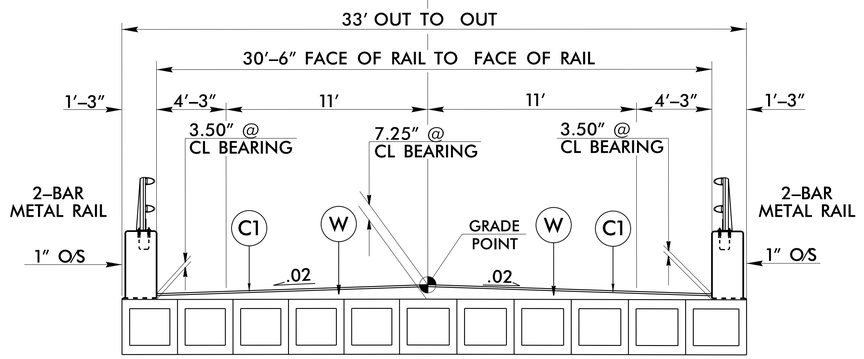
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT
W	ASPHALT WEDGING (SEE DETAIL)

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

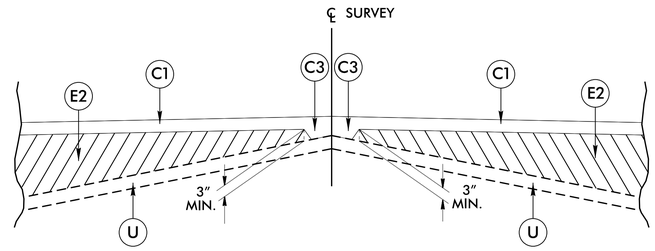


TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2

NOTE: SR 1412/SR 1203 (TURNPIKE ROAD) IS A STATE DESIGNATED BICYCLE ROUTE #1, (CAROLINA CONNECTION)



Detail Showing Method of Wedging

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1 FROM –L– STA. 13+75.00 TO 14+25.00

USE TYPICAL SECTION NO. 1 AS FOLLOWS
–L– STA. 14+25.00 TO STA. 15+60.75 (BEGIN BRIDGE)
–L– STA. 17+88.25 (END BRIDGE) TO STA. 19+50.00

NOTE: TRANSITION FROM TYPICAL SECTION NO. 1 TO EXISTING FROM –L– STA. 19+50.00 TO 20+00.00

USE TYPICAL SECTION NO. 2 AS FOLLOWS
–L– STA. 15+60.75 (BEGIN BRIDGE) TO STA. 17+88.25 (END BRIDGE)

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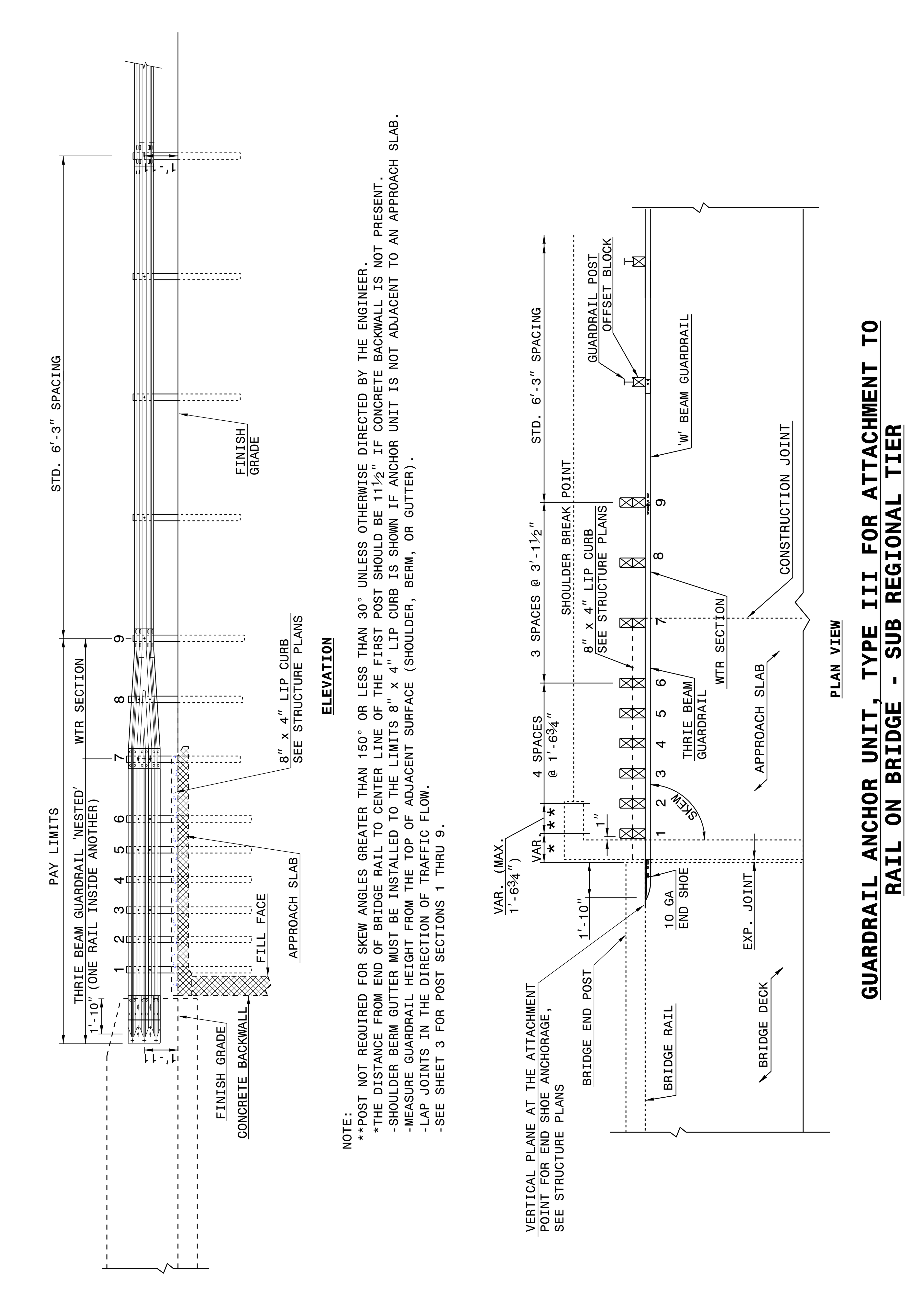
PROJECT REFERENCE NO.	SHEET NO.
B-4967	2C-1

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER
SHEET 2 OF 7 862d03

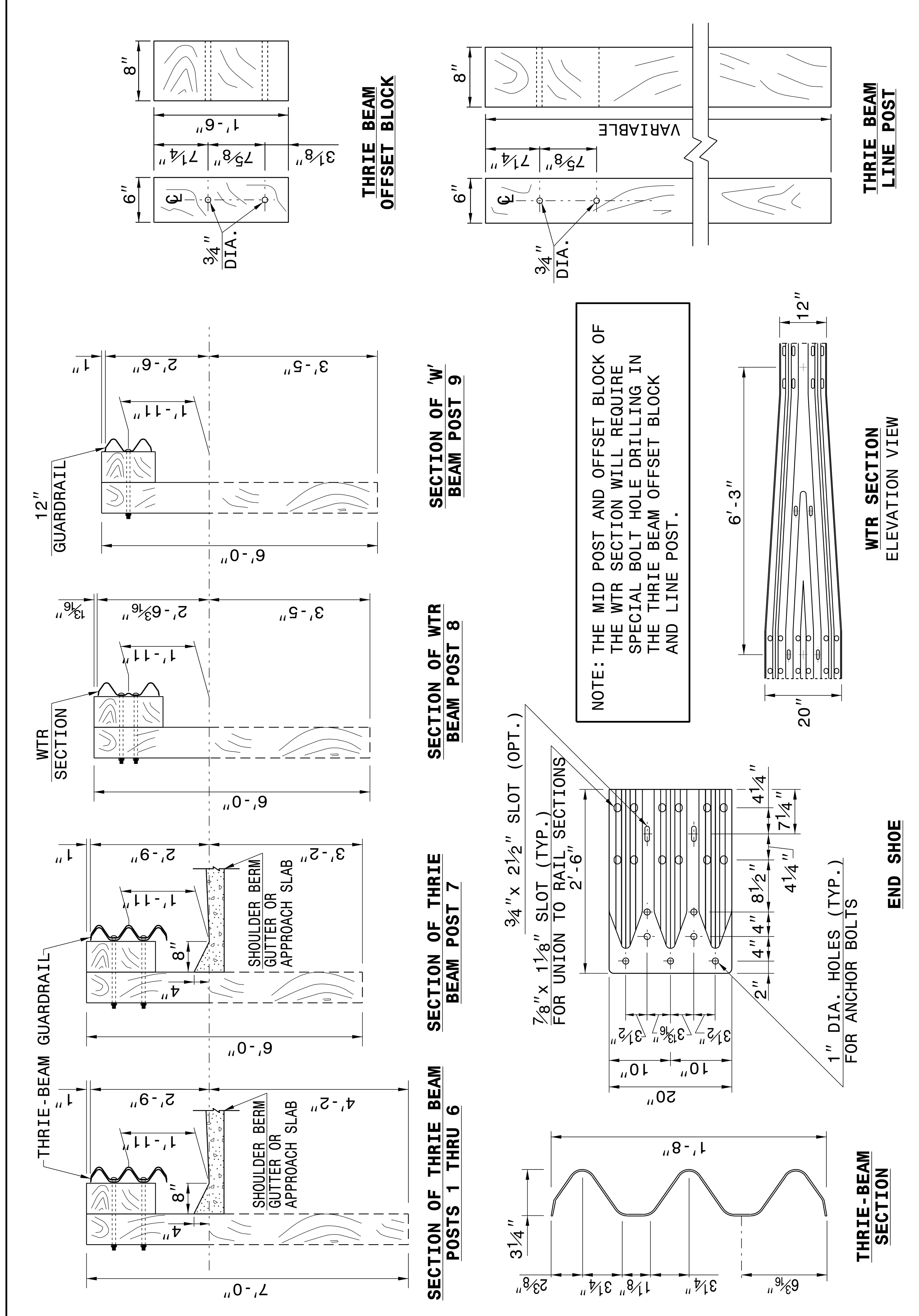


STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III
SHEET 3 OF 7 862d03



STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7
862d03

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

3/14/2016

DocuSigned by: Joel Howerton

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J HOWERTON DATE: 06-22-12
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

COMPUTED BY: JBG DATE: 12/10/14
CHECKED BY: L. JAH DATE: 12/15/2015

PROJECT NO.	SHEET NO.
B-4967	3B-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK
IN CUBIC YARDS

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
SUMMARY NO. 1					
-L- 13+75.00	-L- 15+60.75 (BB)	48	324	276	
SUMMARY NO. 1 TOTAL		48	324	276	
SUMMARY NO. 2					
-L- 17+88.25 (EB)	-L- 20+00.00	66	104	38	
SUMMARY NO. 2 TOTAL		66	104	38	
SUMMARY TOTALS:		114	428	314	
PROJECT TOTALS:		114	428	314	
EST 5% TO REPLACE TOP SOIL ON BORROW PIT				16	
GRAND TOTALS:		114	428	330	
SAY:		150		375	
EST. UNDERCUT CONTINGENCY = 200 CY					
EST. SELECT GRANULAR MATERIAL = 200 CY					

Note: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

Note: Approximate quantities only. Unclassified Excavation,Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Asphalt Pavement will be paid for at the contract lump sum price for grading.

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL

GUARDRAIL SUMMARY

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS							IMPACT ATTENUATOR TYPE 350		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END			GRAU 350					TYPE III	G	NG				
-L-	14+85.75	15+60.75	LT	75				15+60.75	4.25	9		56.25		1.125			1					1						
-L-	17+88.25	18+63.25	LT	75			17+88.25		4.25	9	56.25		1.125				1					1						
-L-	14+85.75	15+60.75	RT	75			15+60.75		4.25	9	56.25		1.125				1					1						
-L-	17+88.25	18+63.25	RT	75				17+88.25	4.25	9		56.25		1.125			1					1						
			SUB-TOTAL	300													4					4						
		LESS DEDUCTIONS FOR ANCHORS																										
		GRAU-350 4 @ 50 =		-200																								
		TYPE III 4 @ 18.75 =		-75																								
ADDITIONAL GUARDRAIL POSTS = 5 EA.			PROJECT TOTAL	25													4					4						
			SAY	50																								

SHOULDER BERM GUTTER SUMMARY

LINE	Station	Station	LENGTH
-L- LT.	15+37.00	15+49.75	12.75
-L- RT.	15+37.00	15+49.75	12.75
-L- LT.	17+99.25	18+12.00	12.75
-L- RT.	17+99.25	18+12.00	12.75
		TOTAL:	51.00
		SAY:	55

PAVEMENT REMOVAL SUMMARY
IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-L-	13+75	15+70	CL	429.97			
-L-	17+80	20+00	CL	475.78			
		TOTAL:		905.75			
		SAY:		925			

RD266182

COMPUTED BY: VWB DATE: 07/09/2014

CHECKED BY: L. JAH DATE: 12/9/20185

PROJECT NO.	SHEET NO.
B-4967	3D-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".**

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

LINE & STATION	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 15	DO NOT USE RCP	QUANTITIES FOR DRAINAGE STRUCTURES 0' THRU 5' EACH	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	T.B.D.I. STD. 840.35	15" DRAINAGE PIPE ELBOW	REMARKS
L 18+05	14	LT	0401		242.3						1	1	1		
			0401	0408		239.3	236.6		24	X				2	
L 18+05	14	RT	0402		242.3						1	1	1		
			0402	0403		239.3	234.8		28	X				2	
L 15+44	14	LT	0404		241.9						1	1	1		
			0404	0407		238.9	233.4		32	X				2	
L 15+44	14	RT	0405		241.9						1	1	1		
			0405	0406		238.9	233.1		32	X				2	
SHEET TOTALS									116		4	4	4	8	
PROJECT TOTALS									116		4	4	4	8	

Other column headings on the form (no entries): SIZE; THICKNESS OR GAUGE; Drainage Pipe sizes 12, 18, 24, 30, 36, 42, 48; DO NOT USE CSP; DO NOT USE CAAP; DO NOT USE HDPE; DO NOT USE PVC; C. S. PIPE 12 (.064), 15 (.064), 18 (.064), 24 (.064), 30 (.079), 36 (.079), 42 (.109), 48 (.109); R. C. PIPE CLASS III 12, 15, 18, 24, 30, 36, 42, 48; R. C. PIPE CLASS IV 12, 15, 18, 24, 30, 36, 42, 48; 15" SIDE DRAIN PIPE; 18" SIDE DRAIN PIPE; 24" SIDE DRAIN PIPE; ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY; REINFORCED ENDWALLS CY; DRAINAGE STRUCTURE MASONRY CY; QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) A: 5' THRU 10' LIN. FT., B: 10' AND ABOVE LIN. FT.; C.B. STD. 840.01 OR STD. 840.02; FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E, F, G; CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06; C.B. STD. 852.05.

ABBREVIATIONS
- **C.A.A.** CORRUGATED ALUMINIUM ALLOY
- **C.B.** CATCH BASIN
- **C.S.** CORRUGATED STEEL
- **D.I.** DROP INLET
- **G.D.I.** GRATED DROP INLET
- **H.D.P.E.** HIGH DENSITY POLYETHYLENE
- **J.B.** JUNCTION BOX
- **M.H.** MANHOLE
- **N.S.** NARROW SLOT
- **P.V.C.** POLYVINYL CHLORIDE
- **R.C.** REINFORCED CONCRETE
- **T.B.D.I.** TRAFFIC BEARING DROP INLET
- **T.B.J.B.** TRAFFIC BEARING JUNCTION BOX
- **W.S.** WIDE SLOT

5/14/99

COMPUTED BY: L. JAH DATE: 2/18/2016
CHECKED BY: DWG DATE: 3/2/2016

PROJECT REFERENCE NO.	SHEET NO.
B-4967	3G-1

(2-16-16)
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	STATION	STATION	Aggregate Type* ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization
	CONTINGENCY (GEOTECH)				100	200	200		
				TOTAL CY/TONS/SY:	100	200	200**		

*ASU = Aggregate Subgrade
*AST = Aggregate Stabilization

** Total square yards of Geotextile for Soil Stabilization is only the estimated quantit for ASU/AST and may only represent a portion of the geotextile quantity shown in the item Sheets of the Proposal.

02-MAR-2016 07:37
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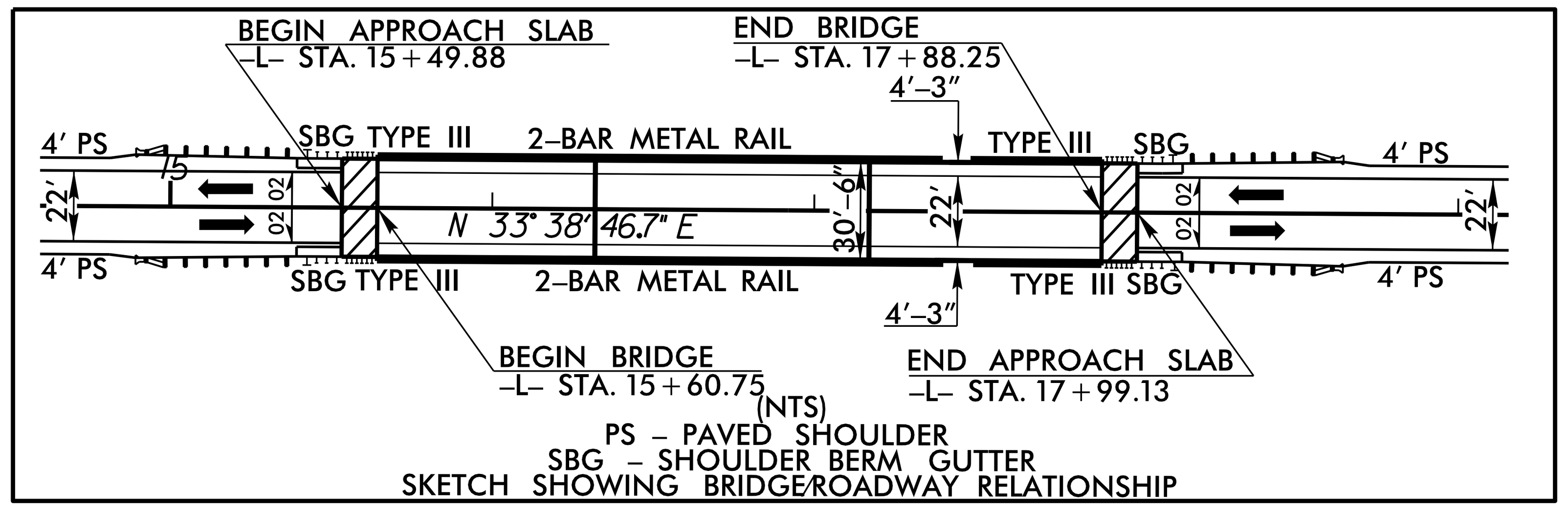
$$$$Initials$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4967	4
RW SHEET NO.	

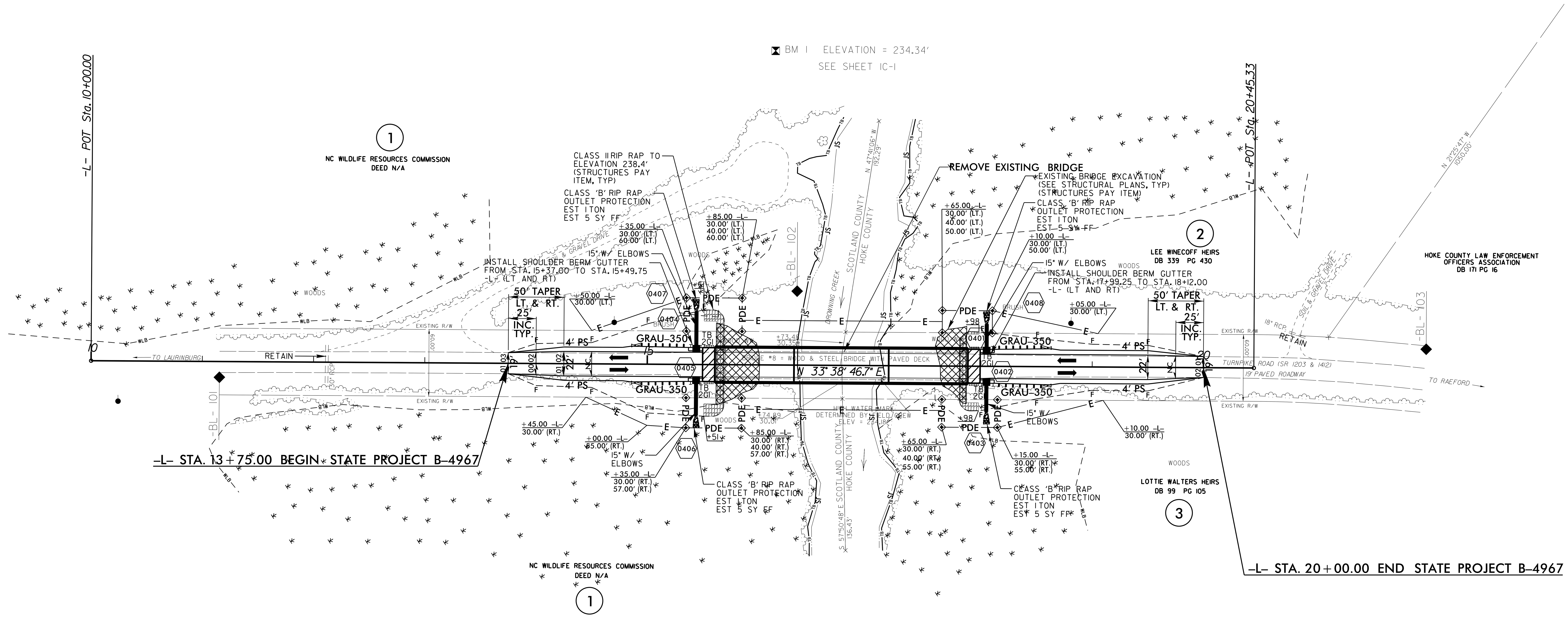
ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033871 DANIEL W. GARDNER, JR. — 5/10/... DocuSigned by: Daniel W. Gardner, Jr.

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032615 JASON D. LAWING — 5/9/... DocuSigned by: Jason D Lawing

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



BEGIN APPROACH SLAB
-L- STA. 15+49.88
END BRIDGE
-L- STA. 17+88.25
4'-3"
4' PS
SBG TYPE III
2-BAR METAL RAIL
TYPE III SBG
N 33° 38' 46.7" E
30'-6"
22'
SBG TYPE III
2-BAR METAL RAIL
TYPE III SBG
4' PS
BEGIN BRIDGE
-L- STA. 15+60.75
END APPROACH SLAB
-L- STA. 17+99.13
(NTS)
PS - PAVED SHOULDER
SBG - SHOULDER BERM GUTTER
SKETCH SHOWING BRIDGE/ROADWAY RELATIONSHIP



NAD 83 CORS 96
BM I ELEVATION = 234.34'
SEE SHEET IC-1
-L- POT Sta. 10+00.00
-L- POT Sta. 20+45.33
NC WILDLIFE RESOURCES COMMISSION
DEED N/A
LEE WINECOFF HEIRS
DB 339 PG 430
HOKE COUNTY LAW ENFORCEMENT OFFICERS ASSOCIATION
DB 171 PG 16
LOTTIE WALTERS HEIRS
DB 99 PG 105
CLASS II RIP RAP TO ELEVATION 238.4' (STRUCTURES PAY ITEM, TYP)
CLASS 'B' RIP RAP OUTLET PROTECTION EST 1 TON EST 5 SY FF
INSTALL SHOULDER BERM GUTTER FROM STA. 15+37.00 TO STA. 15+49.75 -L- (LT AND RT)
15" W/ ELBOWS
REMOVE EXISTING BRIDGE
EXISTING BRIDGE EXCAVATION (SEE STRUCTURAL PLANS, TYP) (STRUCTURES PAY ITEM)
INSTALL SHOULDER BERM GUTTER FROM STA. 17+99.25 TO STA. 18+12.00 -L- (LT AND RT)
50' TAPER LT. & RT.
25' INC. TYP.
GRAU-350
4' PS
RETAIN
TO LAURINBURG
TO RAEFORD
TURNPIKE ROAD (SR 1203 & 1412)
19' PAVED ROADWAY
DROWNING CREEK
SCOTLAND COUNTY
HOKE COUNTY
N 33° 38' 46.7" E
-BL- 101
-BL- 102
-BL- 103
-L- STA. 13+75.00 BEGIN STATE PROJECT B-4967
-L- STA. 20+00.00 END STATE PROJECT B-4967

NOTE: PAVED SHOULDER TRANSITION FROM -L- STA. 13+75.00 TO STA. 14+25.00 AND -L- STA. 19+50.00 TO STA. 20+00.00

SEE SHEET 5 FOR -L- PROFILE
SEE SHEET S-1 THRU S-20 FOR STRUCTURE PLANS

REVISIONS

09-MAY-2016 09:53
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PROJECT REFERENCE NO.	SHEET NO.
B-4967	5

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033871 DANIEL W. GARDNER, JR.
3/14/2016
DocuSigned by: Daniel W. Gardner, Jr.
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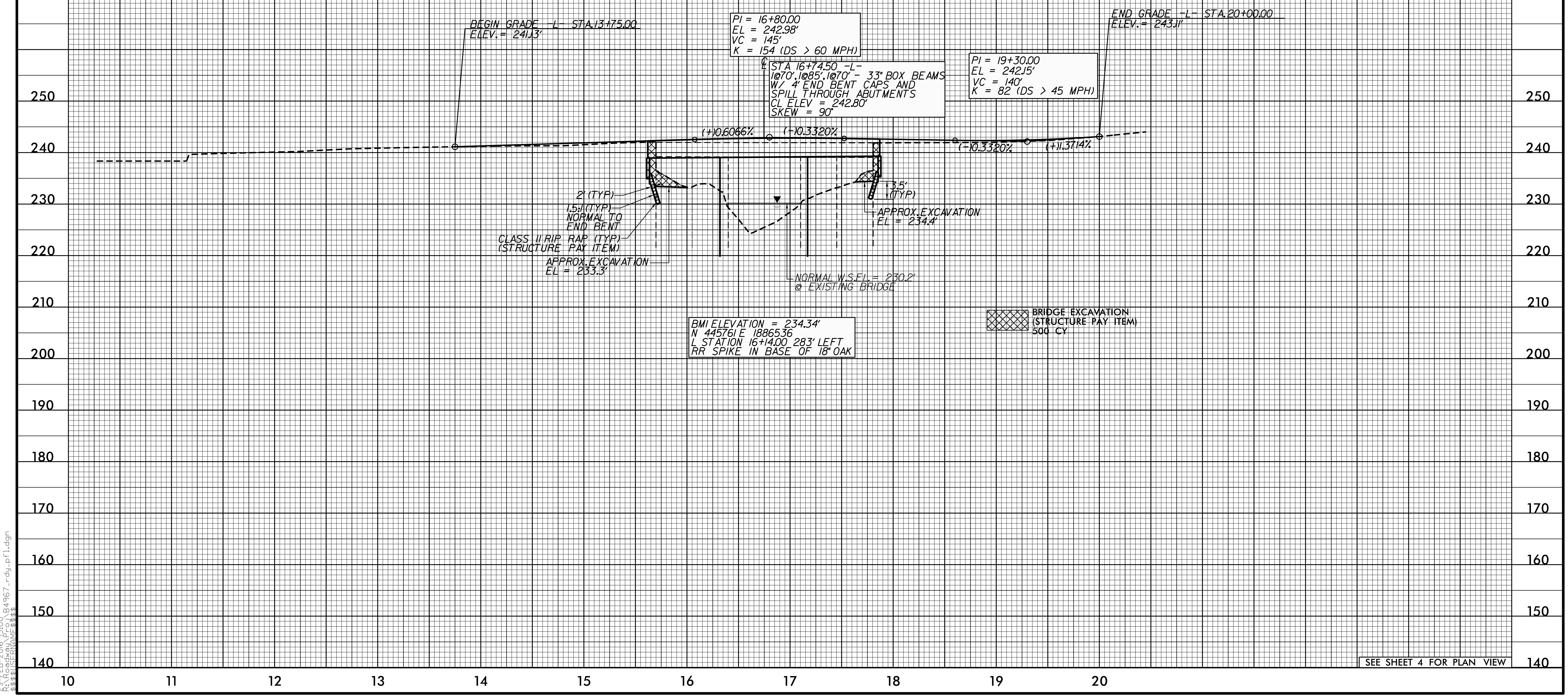
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032615 JASON D. LAWING
3/14/2016
DocuSigned by: Jason D Lawing
B53ABA2D65E1407...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	3800	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	237.4	FT
BASE DISCHARGE	=	4900	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	238.36	FT
OVERTOPPING DISCHARGE	=	5800	CFS
OVERTOPPING FREQUENCY	=	< 500	YRS
OVERTOPPING ELEVATION	=	238.60	FT
DATE OF SURVEY	=	06/26/2014	
W.S.ELEVATION AT DATE OF SURVEY	=	230.2	FT



SEE SHEET 4 FOR PLAN VIEW

5/14/99
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