



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

ROY COOPER  
GOVERNOR

JAMES H. TROGDON, III  
SECRETARY

January 4, 2018

**Addendum No. 1**

RE: Contract # C203987

WBS # 40110.3.1

F. A. # BRZ-1616(10)

**Durham County (B-4943)**

Bridge #20 Over Dial Creek On SR-1616

**January 16, 2018 Letting**

To Whom It May Concern:

Reference is made to the plans furnished to you on this project.

The following revisions have been made to the Structure plans:

Sheet No.	Revisions
S-1	Revised to remove the Temporary Shoring
S-3	Revised to remove the note concerning Temporary Shoring

Please void the above listed sheets in your plans and staple the revised sheets thereto.

The contract will be prepared accordingly.

Sincerely,

DocuSigned by:  
*Ronald E. Davenport, Jr.*  
F81B6038A47A442...  
Ronald E. Davenport, Jr., PE  
State Contract Officer

Mailing Address:  
NC DEPARTMENT OF TRANSPORTATION  
CONTRACT STANDARDS AND DEVELOPMENT  
1591 MAIL SERVICE CENTER  
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900  
Fax: (919) 250-4127  
Customer Service: 1-877-368-4968

Website: [www.ncdot.gov](http://www.ncdot.gov)

Location:  
1020 BIRCH RIDGE DR.  
RALEIGH, NC 27610

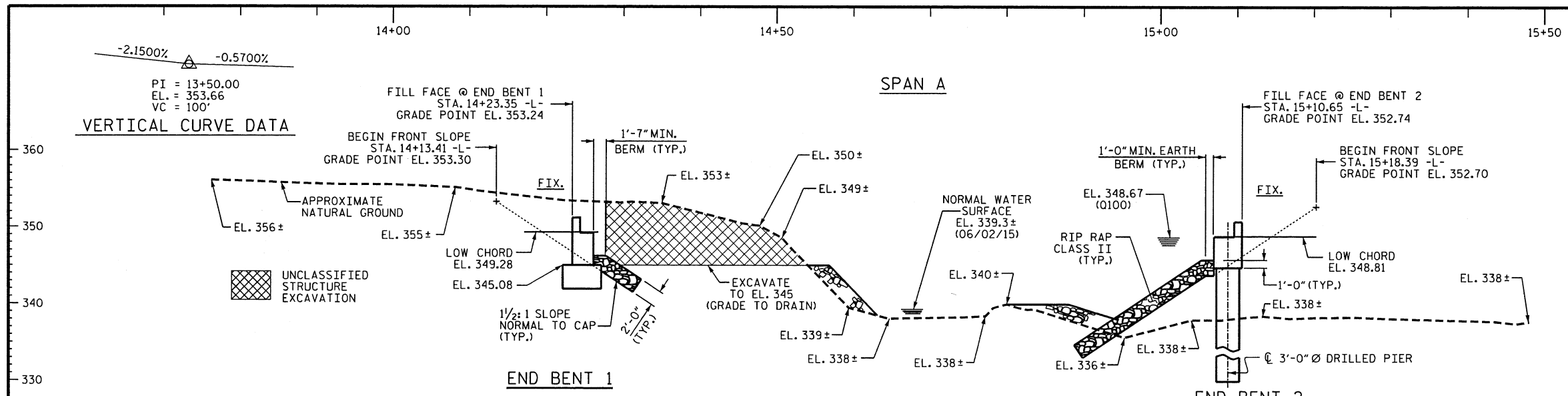
B-4943 (C203987)

Durham County

RED/jag  
Attachments

cc: Mr. Lamar Sylvester, PE  
Mr. Joey Hopkinsw PE  
Mr. Chris Werner, PE  
Mr. Jon Weathersby, PE  
Mr. Ken Kennedy, PE  
Ms. Lori Strickland  
Project File (2)

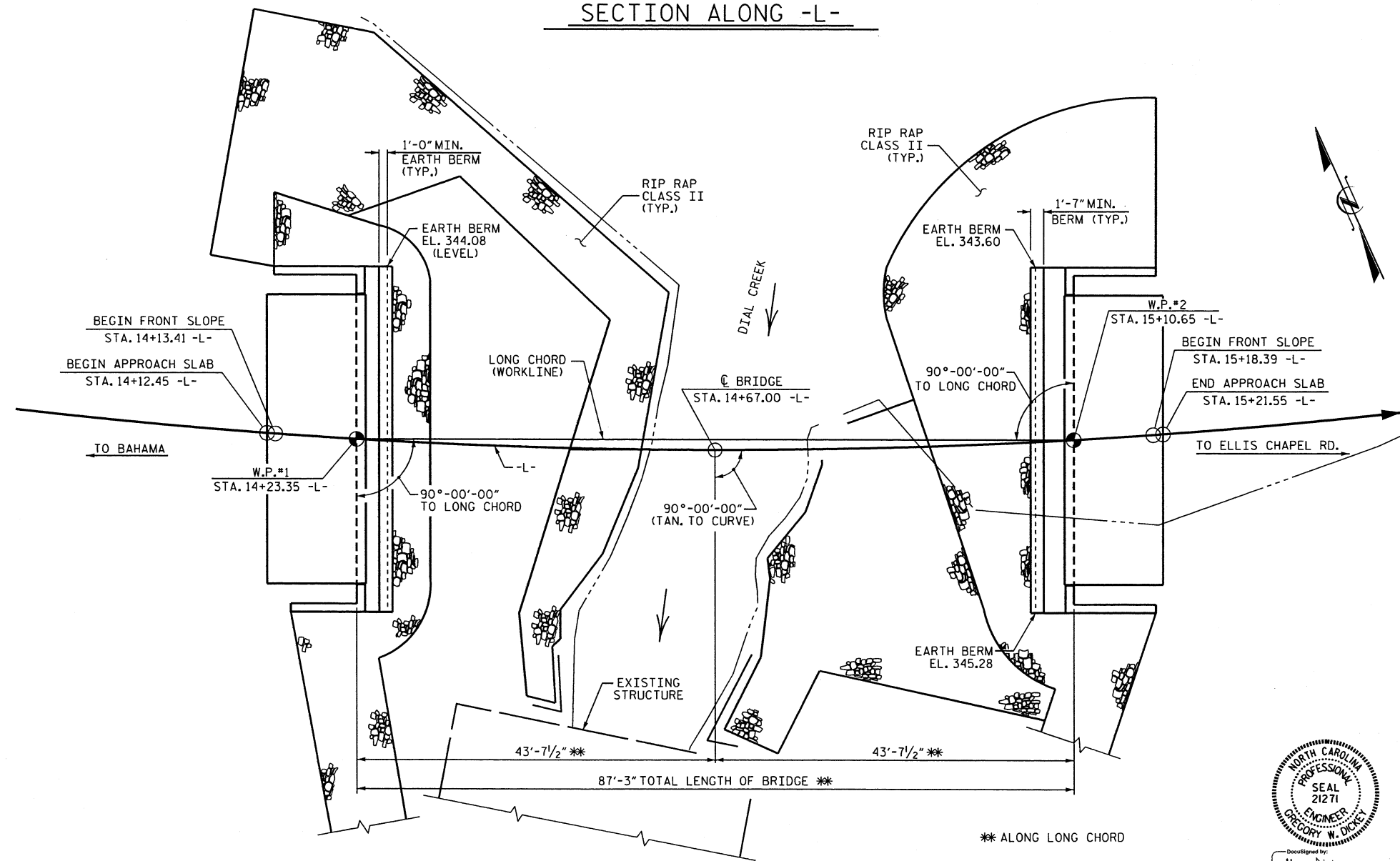
Mr. Ray Arnold, PE  
Ms. Theresa Canales, PE  
Mr. Mike Gwyn  
Ms. Jaci Kincaid  
Ms. Penny Higgins  
Mr. Mitchell Dixon



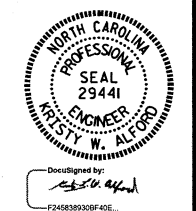
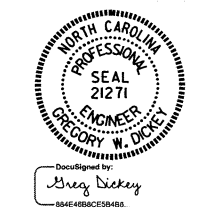
**HORIZONTAL CURVE DATA**  
 P.I. STA. = 15+20.36  
 $\Delta = 50^\circ-18'-52.0"$  (LT.)  
 L = 658.61'  
 T = 352.24'  
 R = 750.00'  
 SE = 4%

**HYDRAULIC DATA**  
 DESIGN DISCHARGE = 1,400 CFS  
 FREQUENCY OF DESIGN FLOOD = 25 YRS.  
 DESIGN HIGH WATER ELEVATION = 346.7  
 DRAINAGE AREA = 4.97 SQ. MI.  
 BASE DISCHARGE (0100) = 2,000 CFS  
 BASE HIGH WATER ELEVATION = 348.67

**OVERTOPPING FLOOD DATA**  
 OVERTOPPING DISCHARGE = 4,349 CFS  
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YRS.  
 OVERTOPPING FLOOD ELEVATION = 352.91 \*  
 \* SAG STA. 15+74 -L-



**PLAN**  
 FOOTING AND DRILLED PIERS NOT SHOWN FOR CLARITY



PROJECT NO. B-4943  
 DURHAM COUNTY  
 STATION: 14+67.00 -L-  
 SHEET 1 OF 3    REPLACES BRIDGE NO. 20

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

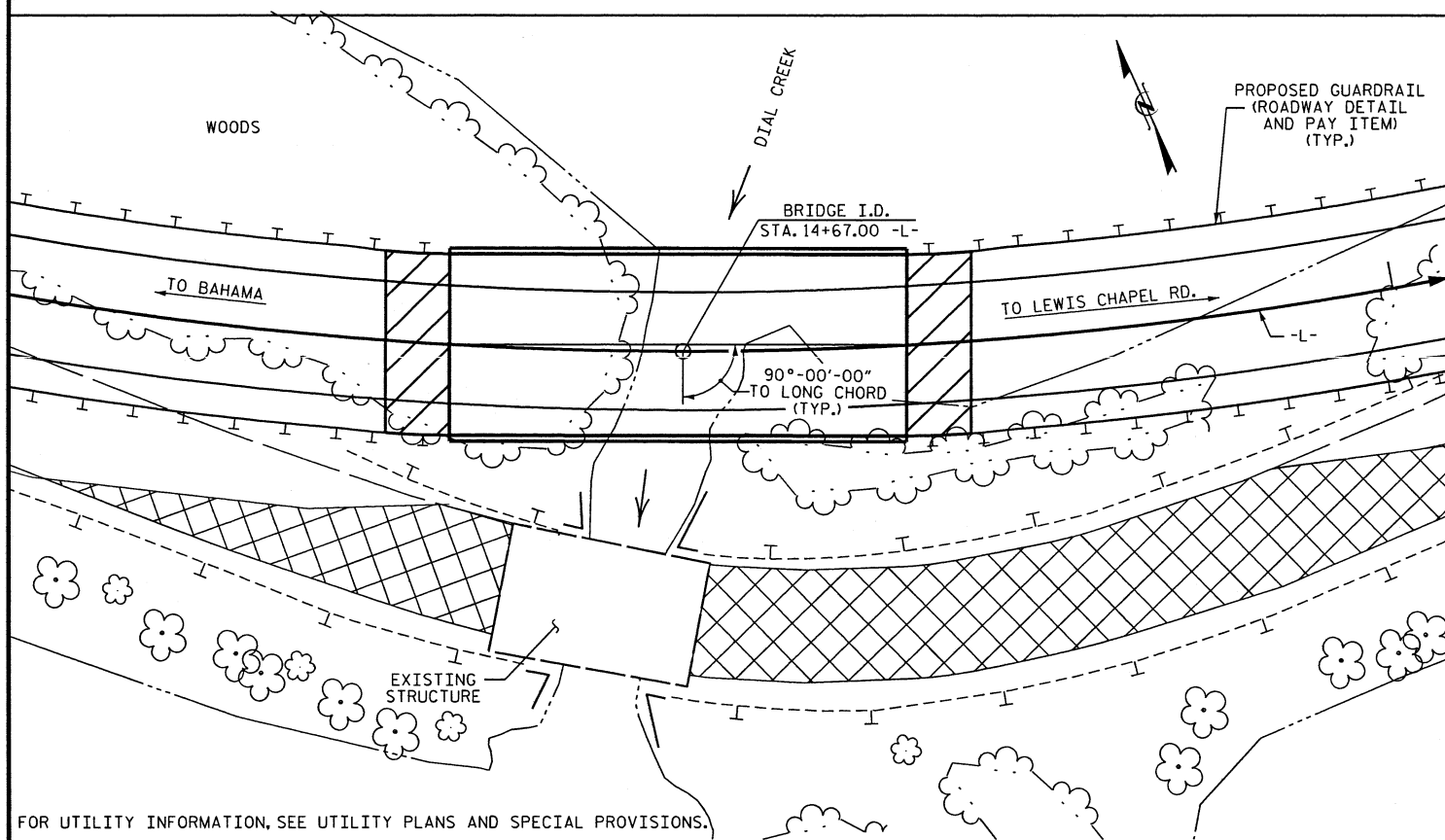
**GENERAL DRAWING**  
 BRIDGE OVER DIAL CREEK  
 ON SR 1616 BETWEEN  
 SR 1613 & SR 1607

DRAWN BY: R.L. CHESSON    DATE: 2017MAR03  
 CHECKED BY: J.D. HAWK    DATE: 3/14/17

REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BM #50: RR SPIKE IN 18" GUM TREE STA. 13+15 -L-, 37.5' RT. EL. = 351.65



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

**LOCATION SKETCH**

**NOTES :**

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

THE EXISTING STRUCTURE CONSISTING OF 1-27'-4 1/2" SPAN WITH A CLEAR ROADWAY WIDTH OF 24'-7" ON A TIMBER FLOOR WITH STEEL I-BEAMS ON REINFORCED CONCRETE ABUTMENT END BENTS AND STEEL CAPS WITH STEEL PILE CRUTCH BENTS AND LOCATED 20' DOWNSTREAM FROM THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING CONCRETE ABUTMENTS AND WING WALLS SHALL BE RETAINED BELOW ELEVATION 345.5 (END BENT 1) AND ELEVATION 346.0 (END BENT 2). THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET S-1 SHALL BE EXCAVATED FOR A DISTANCE OF 30.0 FT. LEFT AND 55.0 FT. RIGHT OF CENTERLINE ROADWAY AT END BENT 1 AND AT EXISTING END BENT 2 AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18-EVALUATING SCOUR AT BRIDGES."

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 14+67.00 -L-."

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

THE SPREAD FOOTINGS AT END BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 5 TSF. CHECK FIELD CONDITIONS FOR THE REQUIRED RESISTANCE OF 11 TSF JUST BEFORE PLACING CONCRETE.

CARRY IN SPREAD FOOTINGS AT END BENT NO. 1 AT LEAST 12" INTO ROCK WITH MINIMUM THICKNESS AS SHOWN ON THE PLANS.

FOR BLASTING ADJACENT TO HIGHWAY STRUCTURES, SEE ARTICLE 410-9 OF THE STANDARD SPECIFICATIONS.

FOR DRILLED PIERS, SEE GEOTECHNICAL SPECIAL PROVISIONS AND SECTION 411 OF THE STANDARD SPECIFICATIONS.

DRILLED PIERS AT END BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 395 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 100 TSF.

PERMANENT STEEL CASINGS ARE REQUIRED FOR DRILLED PIERS AT END BENT NO. 2. DO NOT EXTEND PERMANENT CASTINGS BELOW ELEVATION 327 FT. WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

INSTALL DRILLED PIERS AT END BENT NO. 2 TO A TIP ELEVATION NO HIGHER THAN 322 FT WITH THE REQUIRED TIP RESISTANCE.

DO NOT USE SLURRY CONSTRUCTION FOR DRILLED PIERS AT END BENT NO. 2.

SID INSPECTIONS MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS. FOR SID INSPECTIONS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

CSL TUBES AND TESTING ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. FOR CSL TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

OBSERVE A TWO MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT, END BENT AND REINFORCED BRIDGE APPROACH FILL, IF APPLICABLE, BEFORE BEGINNING APPROACH SLAB CONSTRUCTION AT END BENT NO. 2. FOR BRIDGE WAITING PERIODS, SEE ROADWAY PLANS AND SPECIAL PROVISIONS.

FOR ASBESTOS ASSESSMENT FOR DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

**TOTAL BILL OF MATERIAL**

	REMOVAL OF EXISTING STRUCTURE	FOUNDATION EXCAVATION FOR END BENT	3'-0" Ø DRILLED PIER IN SOIL	3'-0" Ø DRILLED PIER NOT IN SOIL	PERMANENT STEEL CASING FOR 3'-0" Ø DRILLED PIER	SID INSPECTION	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION	CONCRETE WEARING SURFACE	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL
	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	LUMP SUM	CU.YDS.	SO. FT.	CU.YDS.	LUMP SUM	LBS.	LBS.
SUPERSTRUCTURE									2,875.8	3,298		LUMP SUM		
END BENT No. 1		LUMP SUM									54.4		6,835	
END BENT No. 2			46.3	24.0	55.3	1					31.9		9,288	1,223
TOTAL	LUMP SUM	LUMP SUM	46.3	24.0	55.3	1	1	LUMP SUM	2,875.8	3,298	86.3	LUMP SUM	16,123	1,223

**TOTAL BILL OF MATERIAL**

	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" x 2'-9" PRESTRESSED CONCRETE BOX BEAMS	ASBESTOS ASSESSMENT
	LIN. FT.	TONS	SO. YDS.	LUMP SUM	No.	LIN. FT.
SUPERSTRUCTURE	170.0			LUMP SUM	12	1,020.00
END BENT No. 1		340	380			
END BENT No. 2		615	685			
TOTAL	170.0	955	1,065	LUMP SUM	12	1,020.00

DRAWN BY : R. L. CHESSON DATE : 2017MAR03  
 CHECKED BY : J. D. HAWK DATE : 3/14/17

03-JAN-2018 08:44  
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 kalford

PROJECT NO. B-4943  
 DURHAM COUNTY  
 STATION: 14+67.00 -L-

SHEET 3 OF 3



DocuSigned by:  
 Kristy W. Alford  
 1/3/2018

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**GENERAL DRAWING**

BRIDGE OVER DIAL CREEK  
 ON SR 1616 BETWEEN  
 SR 1613 & SR 1607

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			19

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