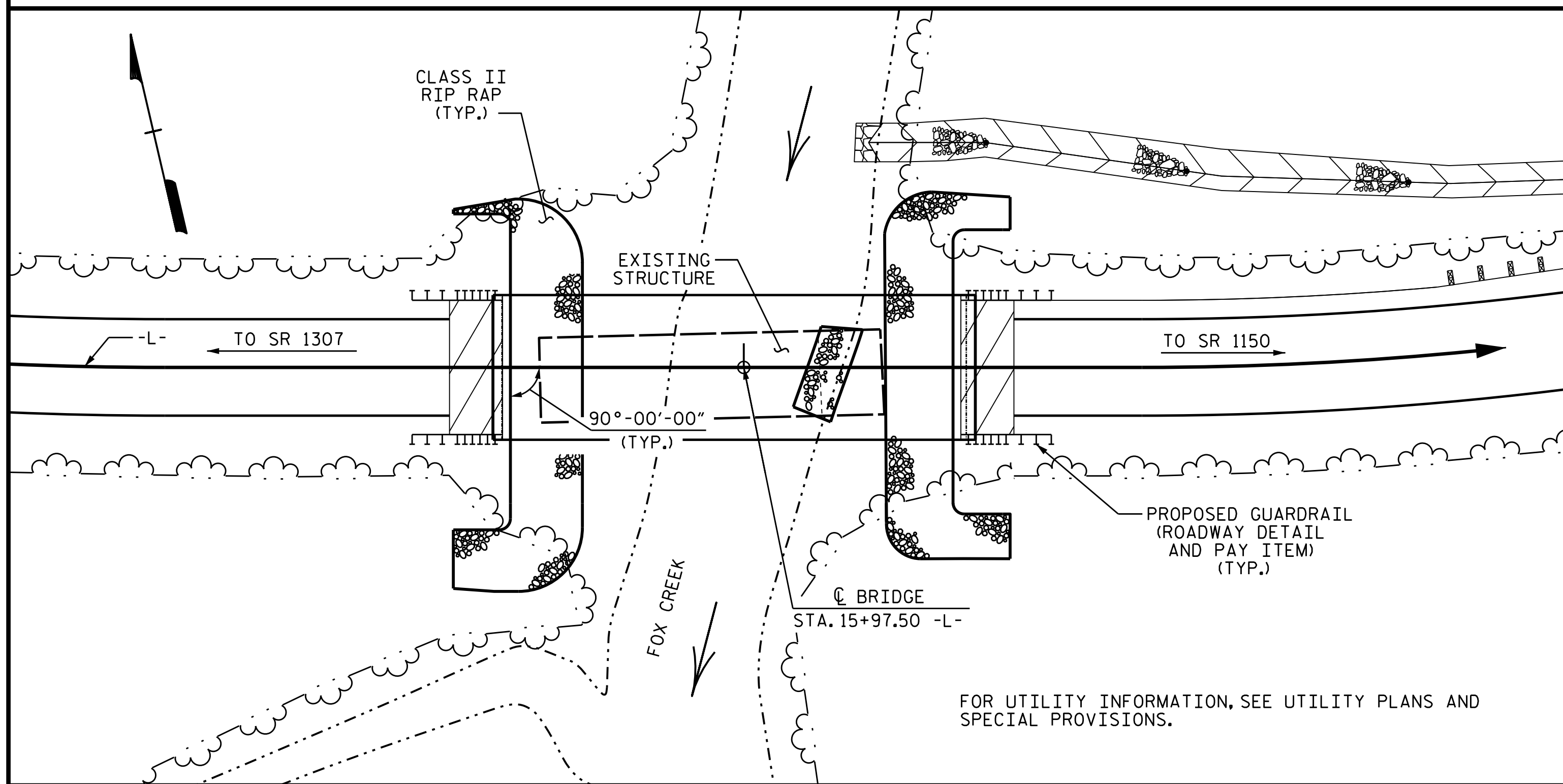


BENCH MARK NO. 50: RR SPIKE SET IN 30" GUM, STA. 17+05 -L-, 29' RIGHT, ELEV. 446.1'



LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE = 2,000 C.F.S  
 FREQUENCY OF DESIGN FLOOD = 25 YRS.  
 DESIGN HIGH WATER ELEVATION = 445.40'  
 DRAINAGE AREA = 8.5 SQ. MI  
 BASE DISCHARGE (Q100) = 2,800 C.F.S.  
 BASE HIGH WATER ELEVATION = 446.51'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 3,700+ C.F.S.  
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YRS.  
 OVERTOPPING FLOOD ELEVATION = 453.5' @ STA. 16+84 -L-

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.  
 THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.  
 THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.  
 FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.  
 FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.  
 FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.  
 FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.  
 FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.  
 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.  
 THE TEMPORARY DEWATERING AREA SHALL ALLOW FOR THE EXISTING BENT TO BE REMOVED IN THE DRY. THE TEMPORARY DEWATERING MAY BE ACCOMPLISHED USING A TEMPORARY ROCK CAUSEWAY OR SANDBAGS. A COFFERDAM SHALL NOT BE ALLOWED. SHOULD THE TEMPORARY DEWATERING AREA UTILIZE A ROCK CAUSEWAY, AT THE CONTRACTOR'S OPTION, AND UPON REMOVAL OF THE CAUSEWAY, THE CLASS II RIP RAP USED IN THE CAUSEWAY MAY BE PLACED AS RIP RAP SLOPE PROTECTION. SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 15+97.50 -L-.

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 15+97.50 -L-."

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET S-1 SHALL BE EXCAVATED FOR A DISTANCE OF 30 FT EACH SIDE OF CENTERLINE ROADWAY 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.

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

THE EXISTING STRUCTURE CONSISTING OF 3 SPANS, 1 AT 16', 1 AT 40', AND 1 AT 16' WITH A CLEAR ROADWAY OF 19'-0" WITH A TIMBER FLOOR ON I-BEAMS ON TIMBER CAP AND TIMBER PILES AT END BENTS AND BENTS WITH A CONCRETE SILL AT BENT 2 AND LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT. FOR REMOVAL OF EXISTING STRUCTURE AT STA. 15+97.50 -L-, SEE SPECIAL PROVISIONS.

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.

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 CONTRACTOR SHALL COMPLETELY REMOVE THE EXISTING FOOTING NEAR THE EAST BANK. THE AREA AROUND THE EXISTING FOOTING SHALL BE DE-WATERED OR PROTECTED WITH A TEMPORARY ROCK CAUSEWAY.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

FOR PILES, SEE GEOTECHNICAL SPECIAL PROVISIONS AND SECTION 450 OF THE STANDARD SPECIFICATIONS.

PILES AT END BENT 1 AND END BENT 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 135 TONS PER PILE.

DRIVE PILES AT END BENT 1 AND END BENT 2 TO A REQUIRED DRIVING RESISTANCE OF 225 TONS PER PILE.

STEEL H PILE POINTS ARE REQUIRED FOR STEEL H PILES AT END BENT 2. FOR STEEL PILE POINTS, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

OBSERVE A 2 MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT TO WITHIN 2 FT. OF THE FINISHED GRADE BEFORE BEGINNING END BENT CONSTRUCTION AT END BENT 2. FOR BRIDGE WAITING PERIODS, SEE ROADWAY PLANS AND SPECIAL PROVISIONS.

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

TOTAL BILL OF MATERIAL

|                | CONSTRUCTION, MAINTENANCE, AND REMOVAL OF TEMP. ACCESS | REMOVAL OF EXISTING STRUCTURE | UNCLASSIFIED STRUCTURE EXCAVATION | CLASS A CONCRETE | BRIDGE APPROACH SLABS | REINFORCING STEEL | HP 12 X 53 STEEL PILES |          | STEEL PILE POINTS | VERTICAL CONCRETE BARRIER RAIL | RIP RAP CLASS II (2'-0" THICK) | GEOTEXTILE FOR DRAINAGE | ELASTOMERIC BEARINGS | 3'-0" x 3'-3" PRESTRESSED CONCRETE BOX BEAMS |          | ASBESTOS ASSESSMENT |
|----------------|--|-------------------------------|-----------------------------------|------------------|-----------------------|-------------------|------------------------|----------|-------------------|--------------------------------|--------------------------------|-------------------------|----------------------|--|----------|---------------------|
|                |  |                               |                                   |                  |                       |                   | NO.                    | LIN. FT. |                   |                                |                                |                         |                      | NO.  | LIN. FT. |                     |
|                | LUMP SUM   | LUMP SUM                      | LUMP SUM                          | CU. YARDS        | LUMP SUM              | LBS.              |                        |          | EACH              | LIN. FT.                       | TONS                           | SO. YD.                 | LUMP SUM             |  |          | LUMP SUM            |
| SUPERSTRUCTURE |  |                               |                                   |                  | LUMP SUM              |                   |                        |          |                   | 190.00                         |                                |                         | LUMP SUM             | 10   | 950.00   | LUMP SUM            |
| END BENT 1     |  |                               |                                   | 27.1             |                       | 4372              | 5                      | 190      |                   |                                | 160                            | 180                     |                      |  |          |                     |
| END BENT 2     |  |                               |                                   | 27.1             |                       | 4372              | 5                      | 90       | 5                 |                                | 160                            | 180                     |                      |  |          |                     |
| TOTAL          | LUMP SUM   | LUMP SUM                      | LUMP SUM                          | 54.2             | LUMP SUM              | 8744              | 10                     | 280      | 5                 | 190.00                         | 320                            | 360                     | LUMP SUM             | 10   | 950.00   | LUMP SUM            |

PROJECT NO. B-5157  
GRANVILLE COUNTY  
 STATION: 15+97.50 -L-

SHEET 2 OF 2



DocuSigned by:  
 Kristy W. Alford  
 F2438380306F40E...  
 2/23/2016

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

GENERAL DRAWING  
 FOR BRIDGE OVER FOX  
 CREEK ON SR 1304  
 (SUNSET ROAD)  
 BETWEEN SR 1307 AND SR 1150

| REVISIONS |     |       |     |     |       | SHEET NO.    |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO.       | BY: | DATE: | NO. | BY: | DATE: | S-2          |
| 1         |     |       | 3   |     |       | TOTAL SHEETS |
| 2         |     |       | 4   |     |       | 15           |

DRAWN BY : K.W. ALFORD DATE : 12/2015  
 CHECKED BY : J.P. ADAMS DATE : 12/2015

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED