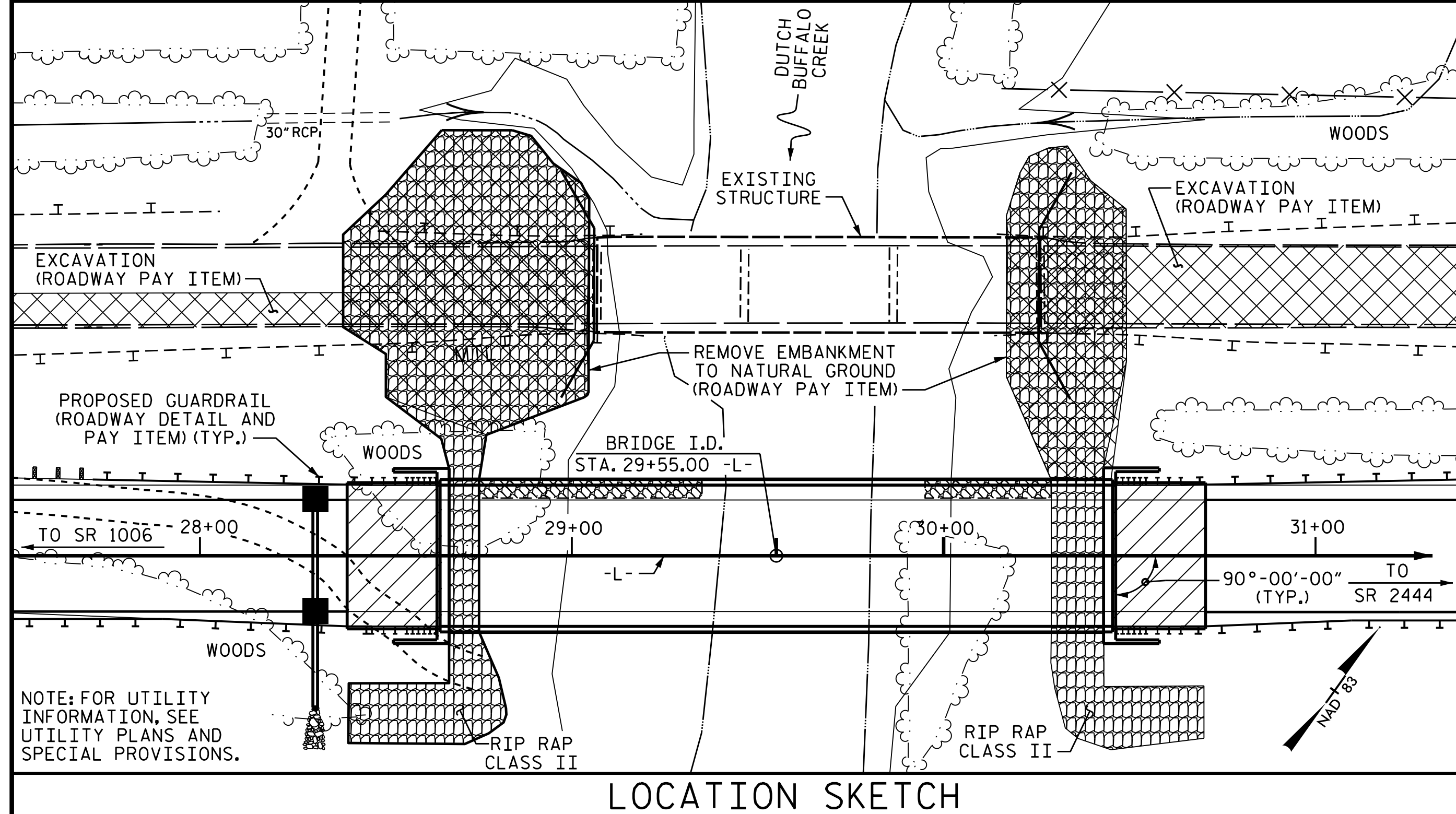


BENCHMARK #2: RR SPIKE IN BASE OF 30" OAK, 19' RT. OF STA. 30+29 -BL- EL. 557.26



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.
- FOR PLACING LOAD ON STRUCTURE MEMBERS, 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 SPICED 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.
- REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.
- 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 STA. 29+55.00 -L-.
- NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.
- THE CLASS AA CONCRETE IN THE BRIDGE DECK SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG AT THE SUBSTITUTION RATE SPECIFIED IN ARTICLE 1024-1 AND IN ACCORDANCE WITH ARTICLES 1024-5 AND 1024-6 OF THE STANDARD SPECIFICATIONS. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.
- THE EXISTING STRUCTURE CONSISTING OF 3 SPANS (1 @ 39.5', 1 @ 40.0' AND 1 @ 39.5') WITH REINFORCED CONCRETE DECK GIRDERS WITH A CLEAR ROADWAY WIDTH OF 26.0' ON FULL HEIGHT REINFORCED CONCRETE ABUTMENTS AND REINFORCED CONCRETE POST AND WEB INTERIOR BENTS AND LOCATED UPSTREAM FROM 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 POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.
- 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 STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18-EVALUATING SCOUR AT BRIDGES".
- FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.
- FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

	CONSTRUCTION, MAINTENANCE & REMOVAL OF TEMP. ACCESS	REMOVAL OF EXISTING STRUCTURE	3'-0" DIA. DRILLED PIERS IN SOIL	3'-0" DIA. DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 3'-0" DIA. DRILLED PIER	PDA TESTING	SID INSPECTIONS	SPT TESTING	CSL TESTING	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE
	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH	SO. FT.	SO. FT.	CU. YDS.
SUPERSTRUCTURE										7,853	8,433	
END BENT 1												34.4
BENT 1			12.8	39.0	11.0							21.0
BENT 2			2.8	49.0	11.0							21.1
END BENT 2												34.4
TOTAL	LUMP SUM	LUMP SUM	15.6	87.0	22.0	1	1	1	1	7,853	8,433	110.9

	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	45" PRESTRESSED CONCRETE GIRDERS	HP 12x53 STEEL PILES	STEEL PILE POINTS	CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	ASBESTOS ACCESSMENT
	LUMP SUM	LBS.	LBS.	NO. LIN. FT.	NO. LIN. FT.	EACH	LIN. FT.	TON	SO. YDS.	LUMP SUM	LUMP SUM
SUPERSTRUCTURE				15 895.00			359.83			LUMP SUM	
END BENT 1		4,188			8 120	8		665	745		
BENT 1		6,820	1,386								
BENT 2		6,850	1,386								
END BENT 2		4,188			8 120	8		370	415		
TOTAL	LUMP SUM	22,046	2,772	15 895.00	16 240	16	359.83	1,035	1,160	LUMP SUM	LUMP SUM

HYDRAULIC DATA

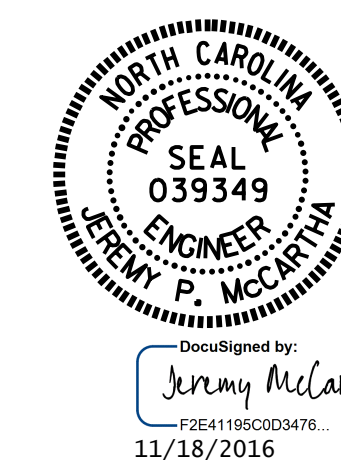
DESIGN DISCHARGE \_\_\_\_\_ = 6,400 C.F.S.  
 FREQUENCY OF DESIGN FLOOD \_\_\_\_\_ = 50 YR.  
 DESIGN HIGH WATER ELEVATION \_\_\_\_\_ = 537.8  
 DRAINAGE AREA \_\_\_\_\_ = 44.2 SQ.MI.  
 BASE DISCHARGE (Q100) \_\_\_\_\_ = 7,980 C.F.S.  
 BASE HIGH WATER ELEVATION \_\_\_\_\_ = 538.88

OVERTOPPING DATA

OVERTOPPING DISCHARGE \_\_\_\_\_ = 22,416 C.F.S.  
 FREQUENCY OF OVERTOPPING FLOOD \_\_\_\_\_ = 500 YR.+  
 OVERTOPPING FLOOD ELEVATION \_\_\_\_\_ = 546.63

PROJECT NO. B-5548  
CABARRUS COUNTY  
 STATION: 29+55.00 -L-

SHEET 4 OF 4



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

GENERAL DRAWING  
 FOR BRIDGE OVER  
 DUTCH BUFFALO CREEK  
 ON NC 49 BETWEEN  
 SR 1006 AND SR 2444

DRAWN BY : K. D. LAYNE DATE : 4/21/16  
 CHECKED BY : V.A. PATEL DATE : 6/26/16  
 DESIGN ENGINEER OF RECORD: N'DAIUTO DATE : 3/1/16

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			30