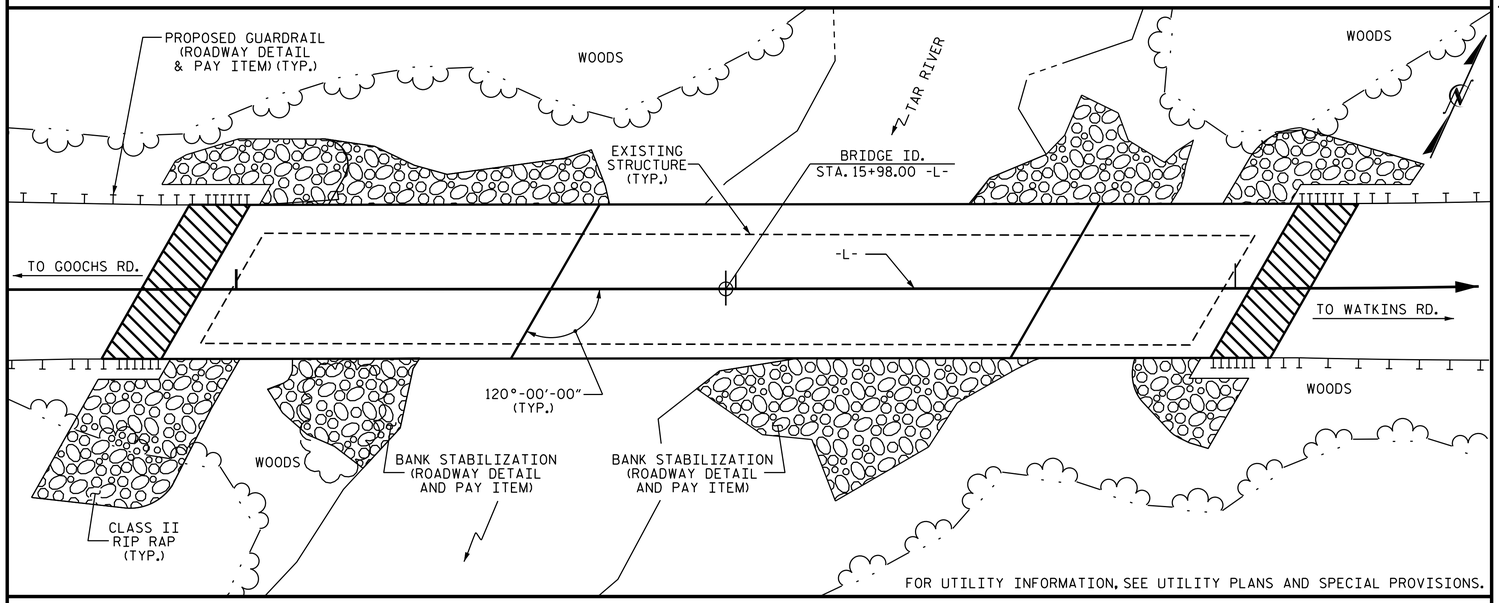
BENCHMARK #2: RAILROAD SPIKE IN 18-INCH ELM; STA. 14+30.00 -L-, 125' RT. ELEV. 381.99



LOCATION SKETCH

TOTAL BILL OF MATERIAL

	CONSTRUCTION, MAINTENANCE & REMOVAL OF TEMPORARY ACCESS	REMOVAL OF EXISTING STRUCTURE	ASBESTOS ASSESSMENT	3'-6" Ø DRILLED PIERS IN SOIL	3'-6" Ø DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 3'-6" Ø DRILLED PIER	SID INSPECTIONS	SPT TESTING	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE
	LUMP SUM	LUMP SUM	LUMP SUM	LIN.FT.	LIN.FT.	LIN.FT.	EACH	EACH	EACH	LUMP SUM	CU. YDS.
SUPERSTRUCTURE	LUMP SUM	LUMP SUM	LUMP SUM							LUMP SUM	
END BENT 1											32.1
BENT 1				40	30	52					33.4
BENT 2				64	18			3			29.0
END BENT 2											32.1
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	104	48	52	1	3	1	LUMP SUM	126.6

TOTAL BILL OF MATERIAL

	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES	HP 12 X 53 STEEL PILES		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	
	LUMP SUM	LBS.	LBS.	EA.	NO.	LIN.FT.	LIN.FT.	TONS	SQ.YDS.	LUMP SUM	NO.	LIN.FT.
SUPERSTRUCTURE	LUMP SUM						420.0			LUMP SUM	33	2,310.0
END BENT 1		4,962		7	7	195		140	155			
BENT 1		12,191	2,362									
BENT 2		10,771	2,240									
END BENT 2		4,962		7	7	160		180	200			
TOTAL	LUMP SUM	32,886	4,602	14	14	355	420.0	320	355	LUMP SUM	33	2,310.0

DRAWN BY : M.K. BEARD DATE : 2/6/18
CHECKED BY : K.W. ALFORD DATE : 2/7/18

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kalford

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.

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 OR BANK STABILIZATION. SEE SPECIAL PROVISONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STA. 15+98.00 -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 STA. 15+98.00 -L-."

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET S-1 SHALL BE EXCAVATED FOR A DISTANCE OF 45 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.

THE EXISTING STRUCTURE CONSISTING OF 5 SPANS: 1 @ 40'-4", 3 @ 40'-0" AND 1 @ 40'-4" WITH A CLEAR ROADWAY WIDTH OF 21'-11" ON A RC FLOOR ON I-BEAMS WITH 5" AWS ON END BENTS AND BENTS CONSISTING OF RC CAPS ON TIMBER PILES AND RC POST AND BEAM SHALL BE REMOVED. SUBSTRUCTURE OF THE EXISTING BRIDGE SHALL BE REMOVED IN ITS ENTIRETY.

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.

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

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIERS IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 1 FT. BELOW THE GROUND LINE.

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

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

ONLY ONE CAUSEWAY SHALL BE INSTALLED IN THE WATERWAY AT ANY GIVEN TIME. AT NO TIME SHALL MORE THAN HALF OF THE STREAM BE BLOCKED BY THE TEMPORARY CAUSEWAY.

HYDRAULIC DATA

DESIGN DISCHARGE = 9300 CFS
FREQUENCY OF DESIGN FLOOD = 25 YEARS
DESIGN HIGH WATER ELEVATION = 386.4
DRAINAGE AREA = 104.6 SQ.MI.
BASE DISCHARGE (0100) = 13600 CFS
BASE HIGH WATER ELEVATION = 388.6

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 11000 CFS
FREQUENCY OF OVERTOPPING FLOOD = 50 YR.
OVERTOPPING FLOOD ELEVATION = 387.3
℄ OF ROADWAY AT SAG STA. 21+19.00 -L-

NORTH CAROLINA PROFESSIONAL SEAL 29441 ENGINEER KRISTY W. ALFORD
DocuSigned by: F2458389308F40E...
3/19/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. B-5320
GRANVILLE COUNTY
STATION: 15+98.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER TAR RIVER ON SR 1139 (ENON RD.) BETWEEN SR 1150 (GOOCHS MILL RD.) & SR 1156 (WATKINS RD.)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			26