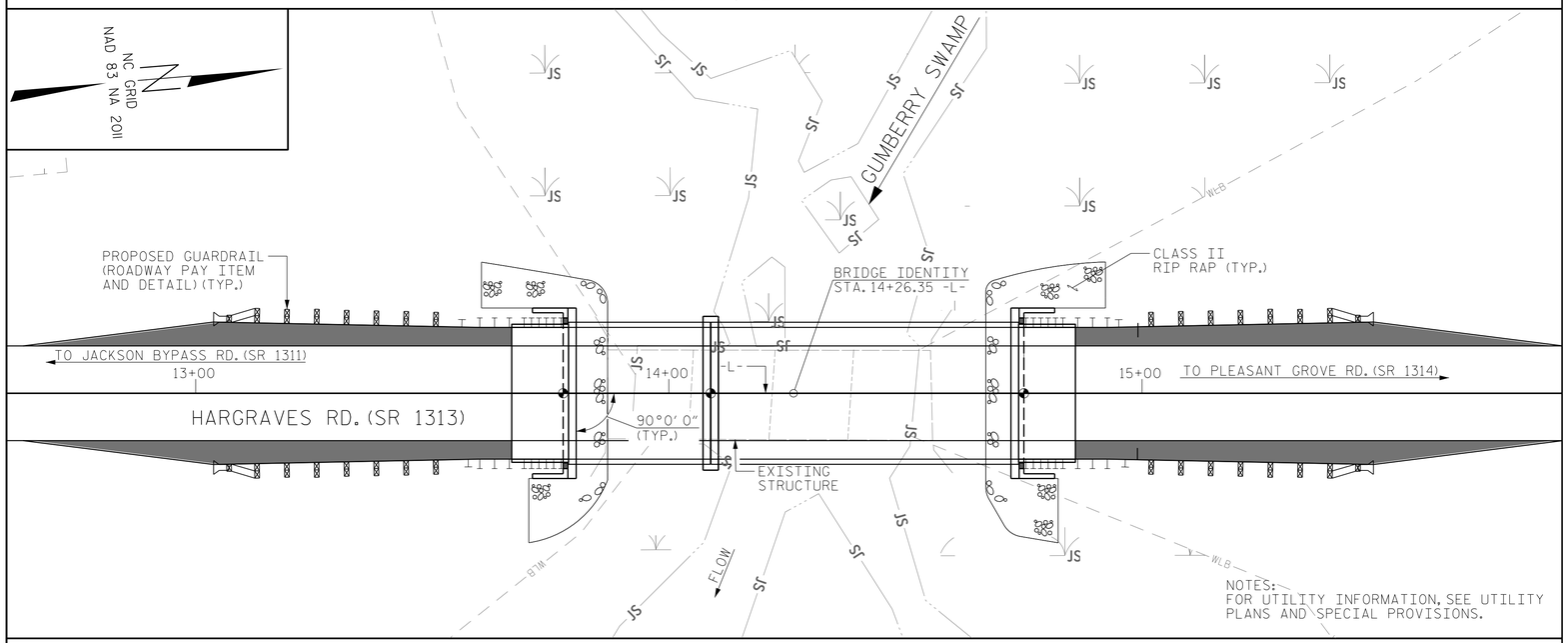
BM#10: "RR" SPIKE IN 18" OAK, -L- STA. 11+53.19, 55.11' RT; EL. 106.01'



LOCATION SKETCH

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	ASBESTOS ASSESEMENT	PDA TESTING	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES	PILE DRIVING EQUIPMENT SETUP FOR HP 14 X 73 GALVANIZED STEEL PILES	HP 12 X 53 STEEL PILES		HP 14 X 73 GALVANIZED STEEL PILES		PILE REDRIVES	VERTICAL CONCRETE BARRIER RAIL
	LUMP SUM	LUMP SUM	EA.	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	EA.	EA.	No.	LIN. FT.	No.	LIN. FT.	EA.	LIN. FT.
SUPERSTRUCTURE															190.5
END BENT No. 1					13.0		1965	5		5	400			5	
BENT No. 1					10.8		2090		7			7	665	7	
END BENT No. 2					13.2		1965	5		5	425			5	
TOTAL	LUMP SUM	LUMP SUM	2	LUMP SUM	37.0	LUMP SUM	6020	10	7	10	825	7	665	17	190.5

	RIP RAP CLASS II (2'-0") THICK	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0"X 1-9" PRESTRESSED CONCRETE CORED SLAB		3'-0"X 2-0" PRESTRESSED CONCRETE CORED SLAB		FIBER OPTIC CONDUIT SYSTEM
	TONS.	SQ. YDS.	LUMP SUM	No.	LIN. FT.	No.	LIN. FT.	LIN. FT.
SUPERSTRUCTURE			LUMP SUM	10	300	10	650	186
END BENT No. 1	65	72						
BENT No. 1								
END BENT No. 2	62	69						
TOTAL	127	141	LUMP SUM	10	300	10	650	186

FOUNDATION NOTES:

1. FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
2. PILES AT END BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 65 TONS PER PILE.
3. PILES AT BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 120 TONS PER PILE.
4. PILES AT END BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 95 TONS PER PILE.
5. DRIVE PILES AT END BENT NO. 1 TO A REQUIRED DRIVING RESISTANCE OF 110 TONS PER PILE.
6. DRIVE PILES BENT NO. 1 TO A REQUIRED DRIVING RESISTANCE OF 205 TONS PER PILE. THIS REQUIRED DRIVING RESISTANCE INCLUDES ADDITIONAL RESISTANCE FOR SCOUR.
7. DRIVE PILES AT END BENT NO. 2 TO A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE.
8. INSTALL PILES AT END BENT NO. 1 AND END BENT NO. 2 TO A TIP ELEVATION NO HIGHER THAN 68.0 FT.
9. THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 IS ELEVATION 90.0 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
10. TESTING PILES WITH THE PDA DURING DRIVING, RESTRIKING, OR REDRIVING MAY BE REQUIRED. THE ENGINEER WILL DETERMINE THE NEED FOR PDA TESTING. FOR PDA TESTING, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
11. PILES AT ALL BENTS MAY REQUIRE PILE REDRIVES. IF ENGINEER DETERMINES TO USE PILE REDRIVES THE TIME TO WAIT SHOULD BE A MINIMUM OF 18 HOURS.

GENERAL NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

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

THIS BRIDGE IS IN SEISMIC ZONE 1.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE "STANDARD NOTES" SHEET.

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

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET S-1 SHALL BE EXCAVATED FOR A DISTANCE OF 30 FEET EACH SIDE OF THE CENTERLINE OF 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 FOUR SPANS (1 @ 17'-6", 1 @ 16'-0", 1 @ 17'-8", 1 @ 16'-8"), WITH A CLEAR ROADWAY WIDTH OF NINETEEN FEET, HAVING A TIMBER DECK ON TIMBER CAPS AND TIMBER PILES SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING THE 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.

REMOVALOF 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. EXISTING AND REMNANT PILES SHALL BE REMOVED BY PULLING THE PILES OUT OF THE GROUND COMPLETELY, IF POSSIBLE. ALTERNATIVELY, EXISTING AND REMNANT PILES SHALL BE REMOVED/CUT TO THE MUDLINE.

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 SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE REPLACED BY SPLICED BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

FOR INTERIOR BENT 1, ONLY PARTIAL GALVANIZING OF THE PILES IS REQUIRED. SEE INTERIOR BENT SHEET(S) FOR REQUIRED GALVANIZING LENGTHS. PAYMENT FOR PARTIALLY GALVANIZED PILES WILL BE MADE UNDER THE CONTRACT UNTI PRICE FOR GALVANIZED STEEL PILES.

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

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

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

FOR FIBER OPTIC CONDUIT SYSTEM, SEE SPECIAL PROVISIONS.

HYDRAULIC DATA

DESIGN DISCHARGE	600 CFS
FREQUENCY OF DESIGN FLOOD	25 YRS.
DESIGN HIGH WATER ELEVATION	102.1'
DRAINAGE AREA	4.5 SQ.MI.
BASE DISCHARGE (Q100)	950 CFS
BASE HIGH WATER ELEVATION	102.9'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	2525 CFS
FREQUENCY OF OVERTOPPING FLOOD	500+ YRS.
OVERTOPPING FLOOD ELEVATION	105.4'
SAG STA.	16+90 -L-

SAMPLE BAR REPLACEMENT

SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE:
SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND f_y = 60ksi.

DocuSigned by: Jacob H. Duke
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043777 JACOB H. DUKE
2/21/2020

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NC FIRM LICENSE: C-1506

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. BR-0117
NORTHAMPTON COUNTY
STATION: 14+26.35 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE ON SR 1313 OVER GUMBERRY SWAMP BETWEEN BLACKWELL-STEPHENSON RD & NC HWY 186

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

DRAWN BY : DIEGO A. AGUIRRE DATE : 01/2020
CHECKED BY : FIDEL L. FLORES DATE : 01/2020
DESIGN ENGINEER OF RECORD: JACOB H. DUKE 01/2020

2/21/2020
BR-0117_SMU_GD02_650052.dgn
jduke