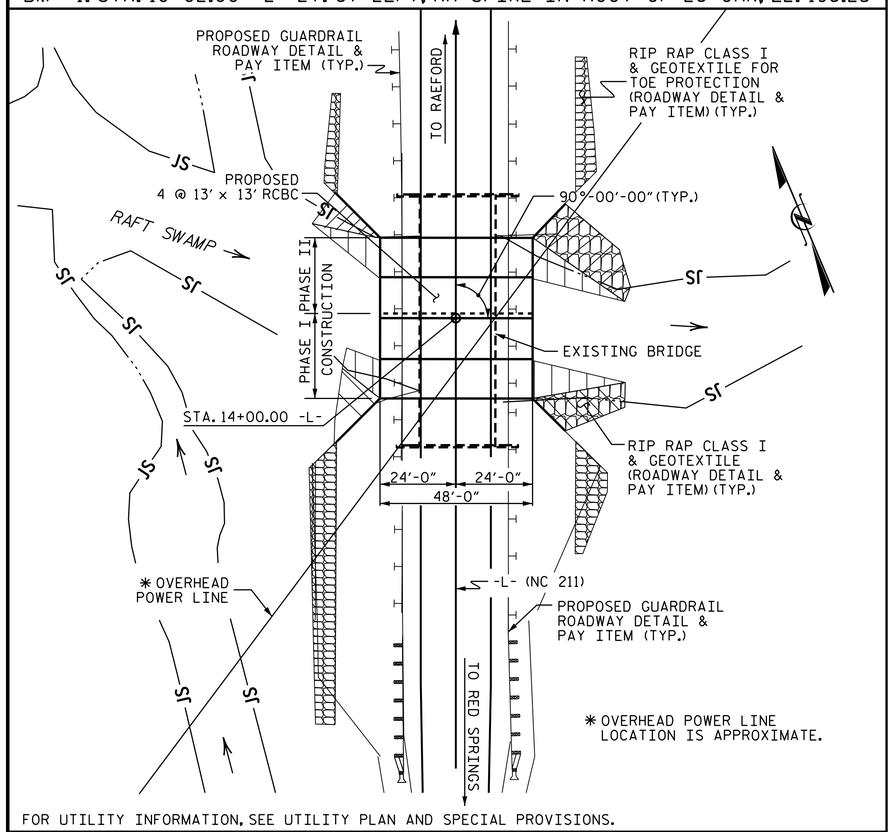
F. A. PROJECT NO. BRSTP-0211(24)

BM #1: STA. 10+02.00 -L- LT. 67' LEFT; RR SPIKE IN ROOT OF 26" OAK, EL. 196.25'



FOR UTILITY INFORMATION, SEE UTILITY PLAN AND SPECIAL PROVISIONS.

LOCATION SKETCH

THE CONTRACTOR SHALL NOT BEGIN WORK TO REPLACE BRIDGE #4 OR DETOUR TRAFFIC ONTO SR 1459 AND SR 1105 UNTIL THE POSTING OF EXISTING BRIDGE #100 HAS BEEN REMOVED. FOR "REMOVAL OF POSTING OF EXISTING BRIDGE #100", SEE SPECIAL PROVISIONS.

ROADWAY DATA

GRADE PT. EL. @ STA. 14+00.00 -L-	= 203.7'
BED ELEV. @ STA. 14+00.00 -L-	= 187.2'
ROADWAY SLOPE	= 2 : 1

HYDRAULIC DATA

DESIGN DISCHARGE	= 3127 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 200.4'
DRAINAGE AREA	= 35.7 SQ. MI.
BASE DISCHARGE (Q100)	= 3918 CFS
BASE HIGH WATER ELEVATION	= 201.58'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 4500 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 100+ YRS.
OVERTOPPING FLOOD ELEVATION	= SAG (203.7')

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE		
PHASE I	121.9	C.Y.
PHASE II	102.4	C.Y.
PHASE III	140.8	C.Y.
TOTAL	365.1	C.Y.
REINFORCING STEEL		
PHASE I	17,749	LBS.
PHASE II	14,514	LBS.
PHASE III	14,288	LBS.
TOTAL	46,550	LBS.
FOUNDATION COND. MAT'L		
PHASE I	105	TONS
PHASE II	96	TONS
TOTAL	201	TONS
CULVERT EXCAVATION	LUMP SUM	
REMOVAL OF EXISTING STRUCTURE	LUMP SUM	

NOTES

ASSUMED LIVE LOAD ----------HL-93 OR ALTERNATE LOADING.

DESIGN FILL----------3.54'.

FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTE SHEET.

3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:

PHASE I - PARTIAL BARRELS 3 AND 4 (SOUTHERNMOST)

1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. THE REMAINING PORTIONS OF THE WALLS, AND WING FULL HEIGHT.

PHASE II - PARTIAL BARRELS 1 AND 2 (NORTHERNMOST)

1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF EXTERIOR WALL.
2. THE REMAINING PORTION OF THE WALLS AND WING FULL HEIGHT.

PHASE II SHALL NOT BE STARTED UNTIL PHASE I IS COMPLETE.

PHASE III

1. ROOF SLAB INCLUDING REMAINING PORTION OF WALLS AND HEADWALLS.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

THE UNDERCUT SHOWN IN THE ROADWAY CROSS SECTIONS FALLS WITHIN THE LIMIT OF THE CULVERT EXCAVATION.

STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR WALLS ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF STANDARD SPECIFICATIONS.

THE EXISTING STRUCTURE CONSISTING OF 5 SPAN, 1@ 17'-10", 3@ 17'-0", 1@ 17'-10"; 26'-0" CLEAR ROADWAY WIDTH AND CONCRETE DECK ON TIMBER JOISTS WITH A 2" AWS; END BENTS AND INTERIOR BENTS CONSISTING OF CONCRETE CAPS ON TIMBER PILES AND LOCATED AT THE PROPOSED STRUCTURE SITE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED BELOW THE LEGAL LOAD LIMIT.

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 CONTRACTOR'S ATTENTION IS DRAWN TO THE FACT THAT A 115,000 VOLT OVERHEAD TRANSMISSION LINE CROSSES THE AREA OF THE PROPOSED CULVERT. FOR RESTRICTIONS AND DETAILS, SEE SPECIAL PROVISION ENTITLED "CONSTRUCTABILITY IN PROXIMITY OF OVERHEAD POWER LINES".

A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

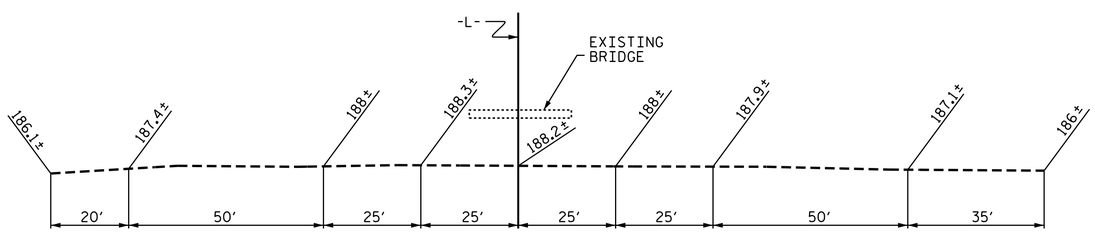
FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.



PROFILE ALONG ℄ CULVERT

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

NORTH CAROLINA PROFESSIONAL SEAL 022506 ENGINEER JESSE McARTHUR BAILEY

DocuSigned by: J. M. Bailey 9026554D952B471... 1/2/2015

NORTH CAROLINA PROFESSIONAL SEAL 16301 ENGINEER TING HSIUNG FANG

DocuSigned by: Ting H. Fang E72088400977435... 1/2/2015

PROJECT NO. B-5127

HOKE COUNTY

STATION: 14+00.00 -L-

SHEET 1 OF 8 REPLACES BRIDGE No. 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

QUADRUPLE 13 FT. X 13 FT. CONCRETE BOX CULVERT

90° SKEW

REVISIONS								SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:			C-1
1			3					TOTAL SHEETS
2			4					8

ASSEMBLED BY :	E.I. OMILE	DATE :	4/13
CHECKED BY :	S.L. WANCE	DATE :	5/13
DESIGN ENGINEER OF RECORD :	E.I. OMILE	DATE :	11/5/14
DRAWN BY :	A.R. BISSETTE	DATE :	JULY, 1990
CHECKED BY :	D. A. GLADDEN	DATE :	JULY, 1990

SPECIAL STANDARD

ADDED NOVEMBER 1990