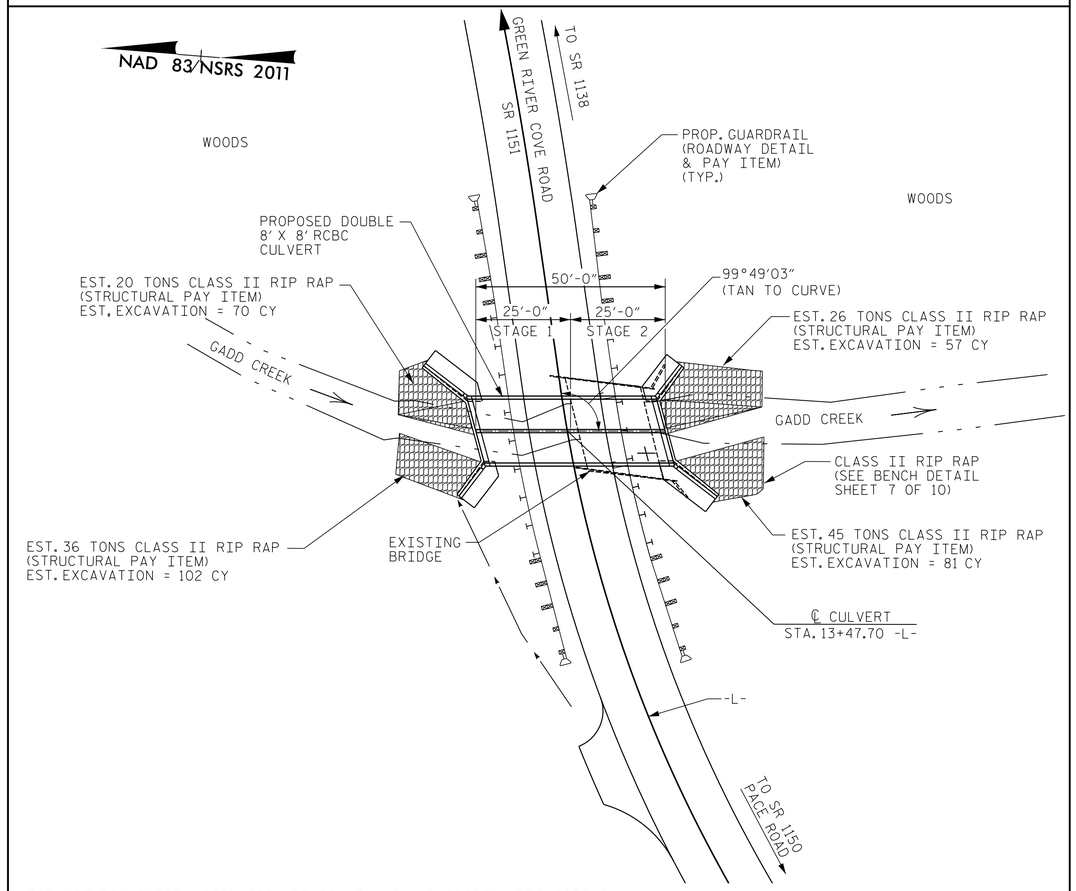
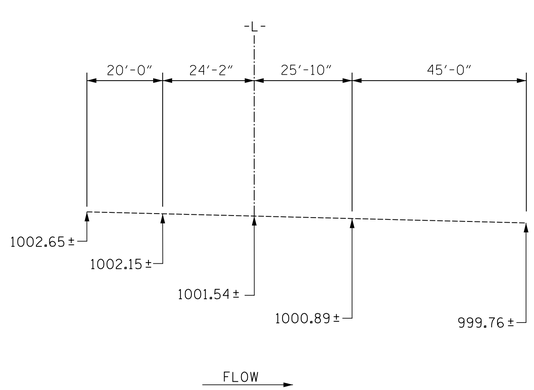
BM #1: RR SPIKE IN BASE OF OAK, 27.9' LEFT OF -L- STA. 13+44.63
N 576248.28, E 1018005.79, EL. 1016.49'



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH



PROFILE ALONG ℄ CULVERT

NOTES:

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

DESIGN FILL----------MAX. = 4.090' MIN. = 3.942'

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 (SEE ALSO "STAGING DIAGRAM", SHEET C-3):

1. FOR STAGE 1A, WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. THE REMAINING PORTIONS OF THE WALLS AND WINGS OF STAGE 1A, FULL HEIGHT, FOLLOWED BY ROOF SLAB AND HEADWALLS.
3. REPEAT SEQUENCE ABOVE FOR STAGES 1B, 2A, AND 2B.

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.

DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.

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 AS 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.

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

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

GRADE DATA

GRADE POINT ELEV. @ STA. 13+47.70 -L- = 1013.56±

BED ELEV. @ 13+47.70 -L- = 1001.54±

ROADWAY SLOPES 2:1

EXCAVATE ONE FOOT BELOW THE BOTTOM OF CULVERT AND WING FOOTING ELEVATIONS. REPLACE WITH FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH ARTICLE 414-4 OF THE STANDARD SPECIFICATIONS.

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.

AFTER SERVING AS A TEMPORARY STRUCTURE THE EXISTING STRUCTURE CONSISTING OF A SINGLE SPAN, 26.0 FOOT LONG AND 18'-7 7/16" WIDE BRIDGE WITH TIMBER FLOOR ON STEEL I-BEAMS ON TIMBER ABUTMENTS AND LOCATED AT THE PROPOSE 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.

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 THE STANDARD SPECIFICATIONS.

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 13+47.70 -L-.

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

HYDRAULIC DATA

DESIGN DISCHARGE	= 650 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 1008.30 FT
BASE DISCHARGE	= 950 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 1009.30 FT
DRAINAGE AREA	= 1.92 SQ.MI.
W.S. ELEVATION AT DATE OF SURVEY (4/17/2013)	= 1004.20 FT

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 1530 CFS
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING ELEVATION	= 1011.00 FT

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE			
BARREL @	1.90 CY/FT	95.2	C.Y.
WINGS ETC.		32.1	C.Y.
TOTAL		127.3	C.Y.
REINFORCING STEEL			
BARREL		15,162	LBS.
WINGS ETC.		2,118	LBS.
TOTAL		17,280	LBS.
CULVERT EXCAVATION		LUMP SUM	
FOUNDATION CONDITIONING MATERIAL		65	TONS
REMOVAL OF EXISTING STRUCTURE		LUMP SUM	
CHANNEL SUBSTRATE MATERIAL		72	TONS
RIP-RAP, CLASS II		127	TONS
ASBESTOS ASSESSMENT		LUMP SUM	

HORIZ. CURVE DATA

PI STA. = 14+65.33
Δ = 6° 17' 24.3"(LT)
D = 4° 53' 49.5"
L = 128.45'
T = 64.29'
R = 1,170.00'
SE = 0.04
RO = 34.5

PROJECT NO. 17BP.14.R.142

POLK COUNTY

STATION: 13+47.70 -L-

SHEET 1 OF 10 REPLACE BRIDGE No. 189

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 20777 ENGINEER HARDY L. WILLIS

DocuSigned by: Hardy Willis CC287FCFD223A... 3/28/2017

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DOUBLE 8 FT. X 8 FT. CONCRETE BOX CULVERT 105° SKEW

DRAWN BY: RWW	DATE: 3/2015	
CHECKED BY: HLW	DATE: 3/2015	
DES. EGR. OF RECORD: RTS	DATE: 3/2015	

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			10

STD. NO. CB222A

ADDED NOV.1990