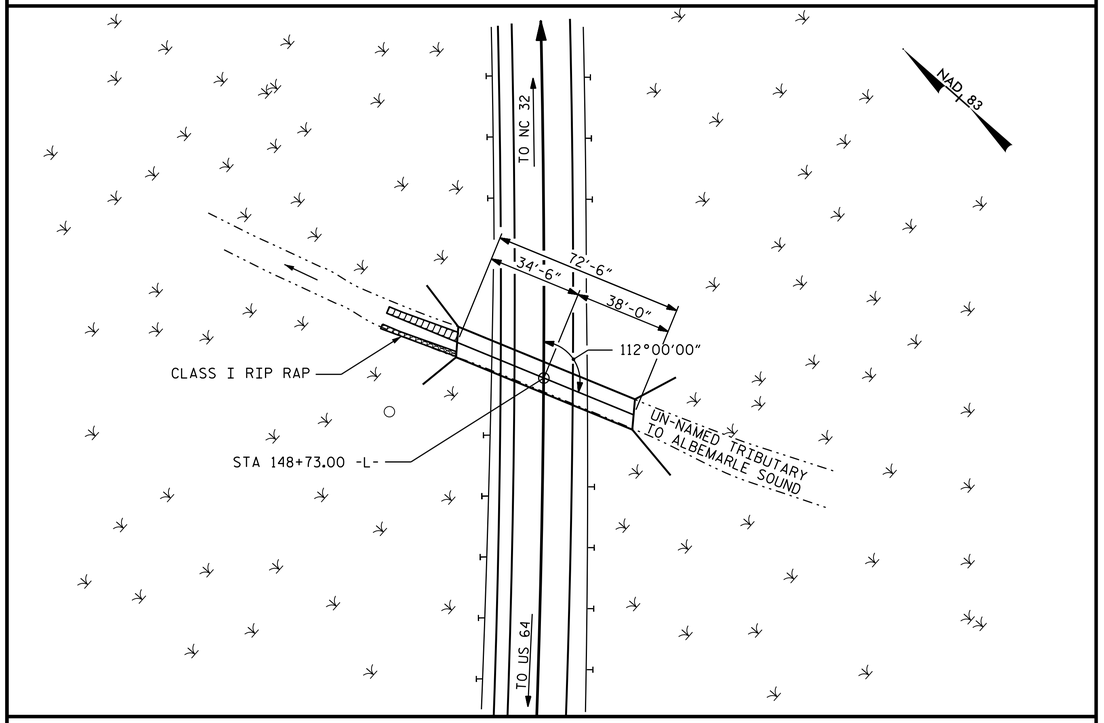
F. A. PROJECT NO. STP-000S(252)

BM#15-RR SPIKE IN 36" GUM; STA. 158+84.19 -L-, 101.69' RT, EL. 11.57



LOCATION SKETCH

ROADWAY DATA

GRADE POINT ELEV. @ STA. 148+73.00 -L-	= 11.34
BED ELEV. @ STA. 148+73.00 -L-	= -0.80
ROADWAY SLOPES	= 3:1

HYDRAULIC DATA

DESIGN DISCHARGE	= 290 CFS.
FEQUENCY OF DESIGN FLOOD	= 25 YEARS
DESIGN HIGH WATER ELEVATION	= 4.7
DRAINAGE AREA	= 1.3 SQ. MI.
BASE DISCHARGE (Q100)	= 490 CFS.
BASE HIGH WATER ELEVATION	= 5.6

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 640+ CFS.
FEQUENCY OF OVERTOPPING FLOOD	= 500 YRS+.
OVERTOPPING FLOOD ELEVATION	= 10.6

NOTES

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

DESIGN FILL----------5.50 FT

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:

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

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

TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 70 FT. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL 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.

AT THE CONTRACTOR'S OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

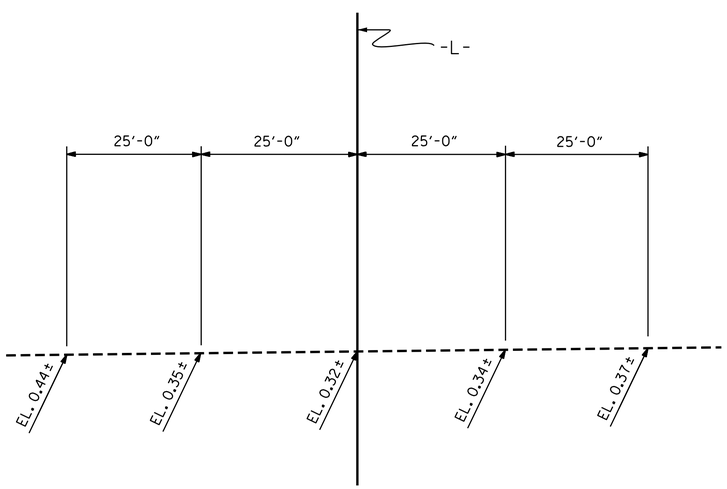
THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE 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.

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.



PROFILE ALONG ℄ CULVERT

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE			
BARREL @ 1.091 CY/FT	79.1	C.Y.	
WING ETC.	30.9	C.Y.	
TOTAL	110.0	C.Y.	
REINFORCING STEEL			
BARREL	16,733	LBS.	
WINGS ETC.	1,812	LBS.	
TOTAL	18,545	LBS.	
FOUNDATION COND. MAT'L		68 TONS	
CULVERT EXCAVATION		LUMPSUM	

PROJECT NO. R-3620

WASHINGTON COUNTY

STATION: 148+73.00 -L-

SHEET 1 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARREL STANDARD
SINGLE 12 FT. X 7 FT.
CONCRETE BOX CULVERT
112° SKEW

5/1/2014

NORTH CAROLINA PROFESSIONAL SEAL 025516 ENGINEER EMILY E. MURRAY

DocuSigned by: Emily Murray CAEB97AEDC584E0...

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			5

STR. #1 STD. NO. CB221A

ASSEMBLED BY : N. D'Aiuto DATE : 2/13/13
CHECKED BY : M.AHMED DATE : 3/12/13

DRAWN BY : R. WRIGHT DATE : AUG. 1989
CHECKED BY : C.R.K. DATE : AUG. 1989

REVISED 11-13-91 BY E.L.R. CHECKED BY G.R.P.
ADDED 8-22-89

01-MAY-2014 09:16
R:\Structures\Plans\Final Plans\R3620_SD_CD.dgn
emurray