

LOCATION SKETCH

ROADWAY DATA

GRADE PT. EL. @ STA. 59+43.00-L- = 1081.69
 BED EL. @ STA. 59+43.00-L- = 1047.52
 ROADWAY SLOPES @ STA. 59+43.00-L- = 2:1

HYDRAULIC DATA

DESIGN DISCHARGE = 200 C.F.S.
 FREQUENCY OF DESIGN FLOOD = 50 YR.
 DESIGN HIGH WATER ELEVATION = 1059.90
 DRAINAGE AREA = 263 AC
 BASE DISCHARGE (Q100) = 240 C.F.S.
 BASE HIGH WATER ELEVATION = 1060.50

OVERTOPPING FLOOD DATA

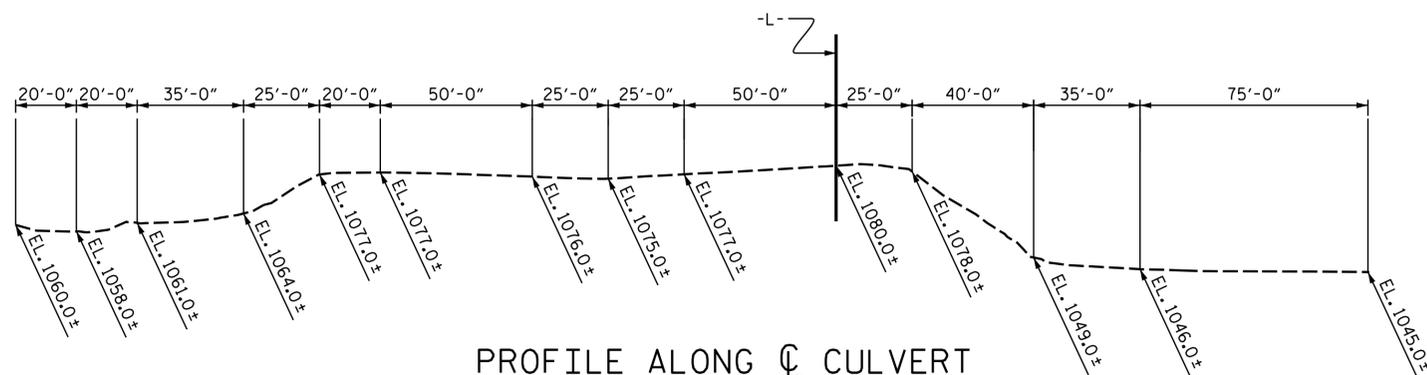
* OVERTOPPING DISCHARGE = 940
 FREQUENCY OF OVERTOPPING FLOOD = 100+ YR.
 OVERTOPPING FLOOD ELEVATION = 1074.00

* OVERTOPPING AT STA. 12+49.00-Y8- (SR 1971)

TOTAL STRUCTURE QUANTITIES

STAGE I		STAGE I	
CLASS A CONCRETE		REINFORCING STEEL	
BARREL @ 1.314 C.Y./FT.	132.4 C.Y.	BARREL	17160 LBS.
WINGS, ETC.	12.2 C.Y.	WINGS, ETC.	774 LBS.
SILLS	2.1 C.Y.		
TOTAL	146.7 C.Y.	TOTAL	17934 LBS.
STAGE II		STAGE II	
CLASS A CONCRETE		REINFORCING STEEL	
BARREL @ 1.314 C.Y./FT.	322.9 C.Y.	BARREL	41551 LBS.
WINGS, ETC.	11.6 C.Y.	WINGS, ETC.	721 LBS.
SILLS	4.1 C.Y.		
TOTAL	338.6 C.Y.	TOTAL	42272 LBS.
TOTAL CLASS A CONCRETE	485.3 C.Y.	TOTAL REINFORCING STEEL	60206 LBS.

CULVERT EXCAVATION LUMP SUM	
FOUNDATION CONDITIONING MATERIAL	
STAGE I	96 TONS
STAGE II	234 TONS
TOTAL	330 TONS



PROFILE ALONG CULVERT

DRAWN BY: H. I. BARBOUR DATE: 6-17-14
 CHECKED BY: S. B. WILLIAMS DATE: 12-14

NOTES

- ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
- DESIGN FILL-----30.4 FT. MAX
- FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
- 3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- CONCRETE IN CULVERT TO BE POURED IN THE FOLLOWING ORDER:
 1. WING FOOTINGS, FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
 2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB, HEADWALL AND LOW FILL SILL.
- DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEETS.
- 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.
- 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.

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

THE TWO 15" DIA. PIPES AND THE 18" DIA. PIPE THROUGH THE SIDEWALL OF THE CULVERT SHALL BE LOCATED BY THE ENGINEER. THE REINFORCING STEEL SHALL BE FIELD BENT AS NECESSARY TO CLEAR PIPE.

FOR CONSTRUCTION SEQUENCE, SEE EROSION CONTROL PLANS.

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

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

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.

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

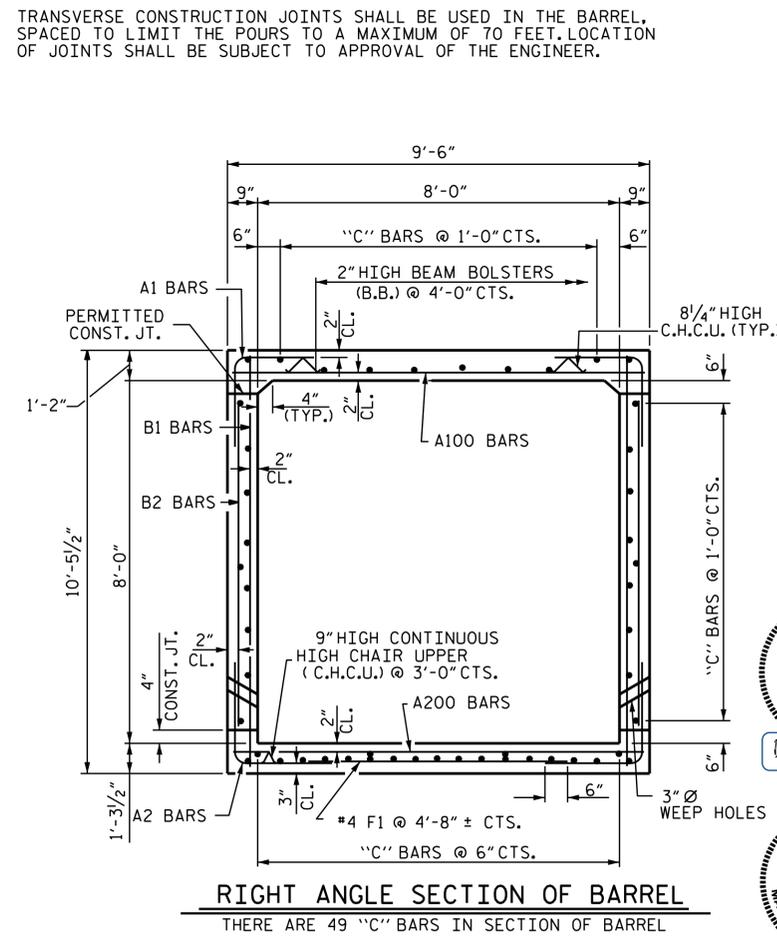
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

TEMPORARY SHORING WILL BE REQUIRED IN THE AREA INDICATED IN THE LOCATION SKETCH.

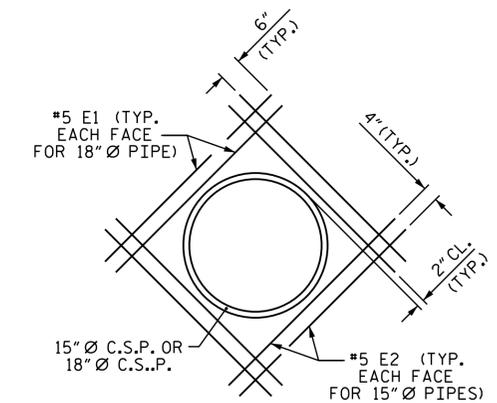
FOR LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.

FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

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



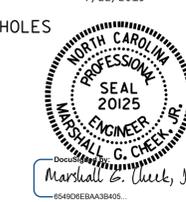
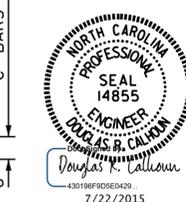
RIGHT ANGLE SECTION OF BARREL
 THERE ARE 49 "C" BARS IN SECTION OF BARREL



DETAIL OF REINFORCING AROUND 15" Ø AND 18" Ø PIPES

PROJECT NO. R-2603
 WILKES COUNTY
 STATION: 59+43.00 -L-

SHEET 1 OF 10



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SINGLE
 8 FT. X 8 FT.
 CONCRETE BOX CULVERT

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