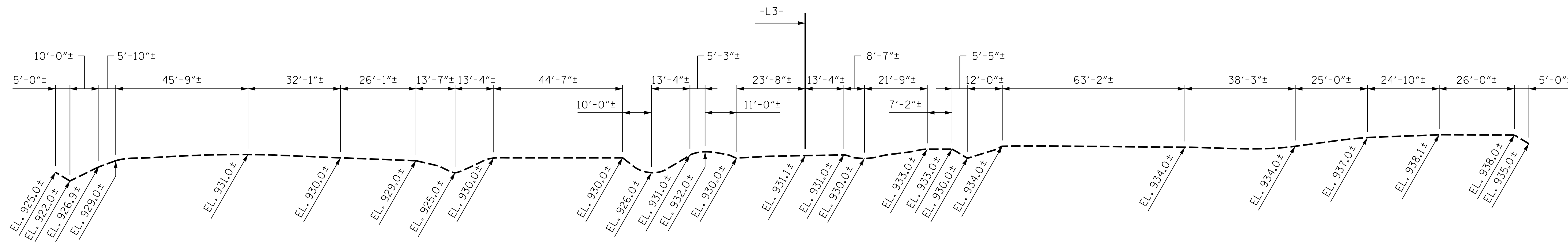


LOCATION SKETCH



PROFILE ALONG CULVERT

ROADWAY DATA

GRADE PT. EL. @ STA. 797+66.00 -L3- = 1,020.80
 BED EL. @ STA. 797+66.00 -L3- = 927.10
 ROADWAY SLOPES @ STA. 797+66.00 -L3- = 2:1

HYDRAULIC DATA

DESIGN DISCHARGE = 170 C.F.S.
 FREQUENCY OF DESIGN FLOOD = 50 YR.
 DESIGN HIGH WATER ELEVATION = 937.3
 DRAINAGE AREA = 105 AC
 BASE DISCHARGE (Q100) = 220 C.F.S.
 BASE HIGH WATER ELEVATION = 938.6

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 1,270 C.F.S.
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YR.
 OVERTOPPING FLOOD ELEVATION = 996.9

TOTAL STRUCTURE QUANTITIES

CULVERT EXCAVATION _____ LUMP SUM

FOUNDATION COND. MATERIAL _____ 573 TONS

CLASS A CONCRETE
 BARREL @ 3.91 CY/FT _____ 1,815.5 C.Y.
 WING ETC. _____ 20.0 C.Y.
 BAFFLES / SILLS ETC. _____ 15.0 C.Y.
 TOTAL _____ 1,851 C.Y.

REINFORCING STEEL
 BARREL _____ 253,766 LBS.
 WING ETC. _____ 1,151 LBS.
 TOTAL _____ 254,917 LBS.

NOTES:

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

DESIGN FILL ----- 88.0 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, SILLS, AND WING WALLS 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.

THE 18"Ø AND 15"Ø PIPES THROUGH THE SIDEWALLS OF THE CULVERT SHALL BE LOCATED BY THE ENGINEER. THE REINFORCING STEEL SHALL BE FIELD BENT AS NECESSARY TO CLEAR PIPE. SEE ROADWAY PLAN SHEET FOR LOCATIONS.

DETAILED DRAWINGS FOR FALSEWORK AND FORMS FOR THIS CULVERT SHALL BE SUBMITTED. SEE SHEET SN.

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.

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

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

BACKFILL BARREL WITH NATIVE BED MATERIAL. NATIVE BED MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE STREAM BED OR FLOODPLAIN AT THE PROJECT SITE DURING CULVERT CONSTRUCTION. ONLY MATERIAL THAT IS EXCAVATED FROM THE STREAM BED MAY BE USED TO LINE THE CULVERT BARREL. NATIVE MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.

THE ENTIRE COST OF WORK REQUIRED TO PLACE NATIVE BED MATERIAL AS SHOWN ON THE PLANS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE BID FOR CULVERT EXCAVATION.

FOR BOX CULVERT EXCAVATION, SEE SECTION 414 OF THE STANDARD SPECIFICATIONS.

THE REINFORCED CONCRETE BOX CULVERT SHALL BE PLACED ON THE STANDARD 1.0 FOOT BLANKET OF FOUNDATION CONDITIONING MATERIAL.

UNDERCUT SOFT/VERY LOOSE SOILS THAT MAY BE ENCOUNTERED BENEATH THE BOTTOM OF THE FOUNDATION CONDITIONING MATERIAL. BACKFILL UNDERCUT AREAS WITH FOUNDATION CONDITIONING MATERIAL. IF MORE THAN 1 FT. UNDERCUT IS REQUIRED, CONTACT THE OPERATIONS ENGINEER FOR APPROVAL.

THE REINFORCED CONCRETE BOX CULVERT SHALL BE CONSTRUCTED WITH 12 INCHES OF CAMBER TO ACCOUNT FOR ANTICIPATED SETTLEMENT.

PROJECT NO. R-2233BB
RUTHERFORD COUNTY
 STATION: 797+66.00 -L3-

SHEET 1 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SINGLE 10 FT. X 7 FT.
 CONCRETE BOX CULVERT
 91°-00'-00" SKEW

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

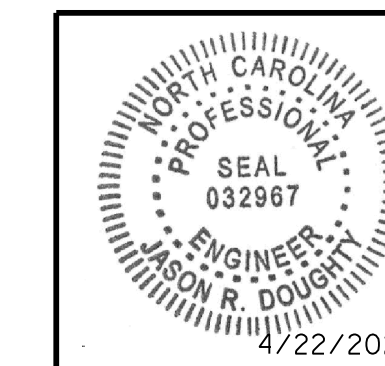
SHEET NO.

C1-1
 TOTAL SHEETS
 5



333 FAYETTEVILLE STREET, SUITE 500
 RALEIGH, NC 27601
 NC LICENSE NO. C-2979

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 Jason R. Doughty
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