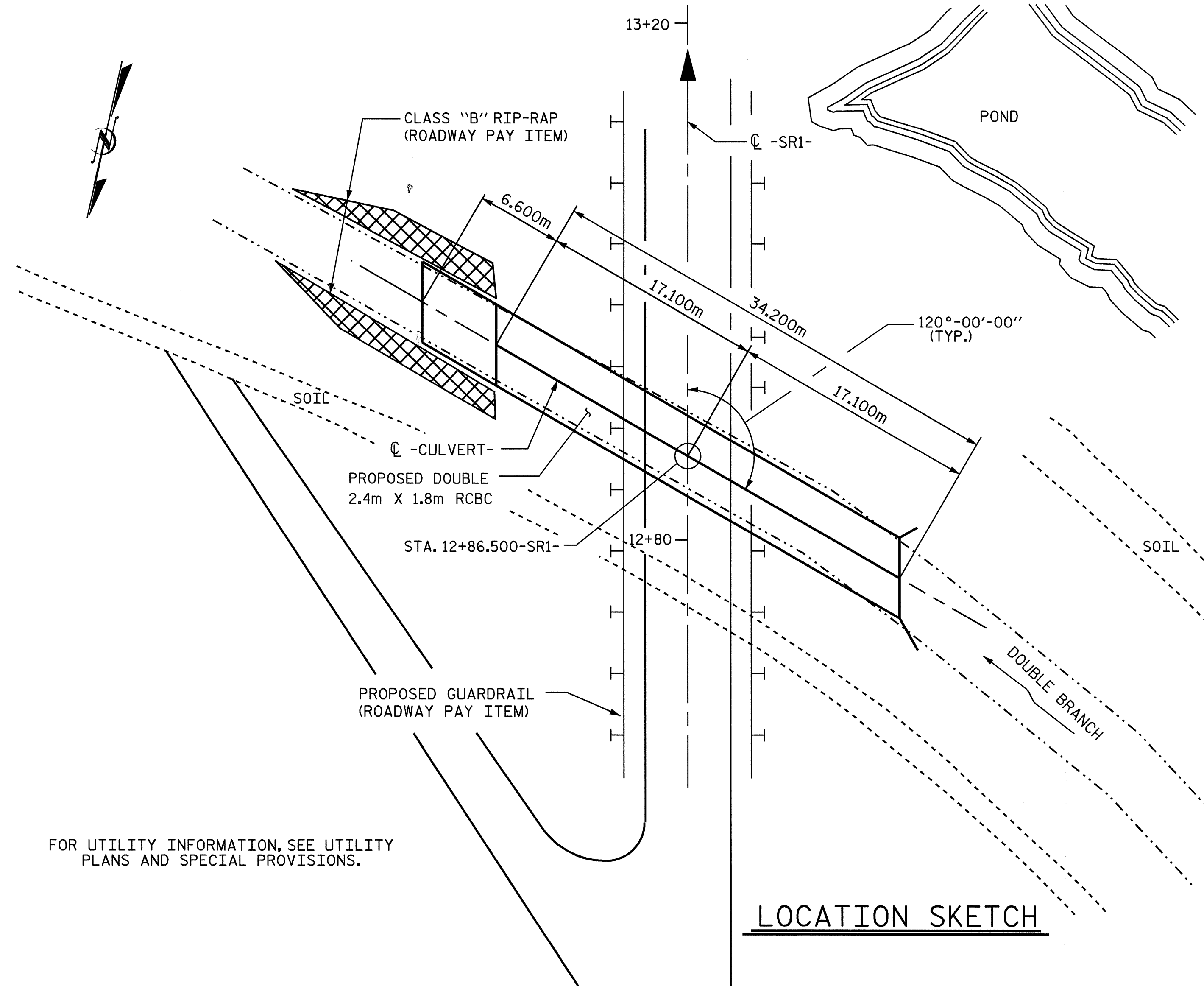


BENCHMARK: BM #5 RR SPIKE IN BASE OF 900mm TWIN OAK, 30.2m RT. OF STA. 10+27 -BY1- , ELV. 48.634m



ROADWAY DATA

GRADE POINT ELEV. @ STA. 12+86.500 -SR1- = 50.170
 BED ELEVATION @ STA. 12+86.500 -SR1- = 44.670
 ROADWAY SLOPES = 3:1

HYDRAULIC DATA

DESIGN DISCHARGE = 9.9 m³/s
 FREQUENCY OF DESIGN FLOOD = 50 YEARS
 DESIGN HIGH WATER ELEVATION = 46.790
 DRAINAGE AREA = 6.6 SQ.Km
 BASIC DISCHARGE (Q100) = 12.5 m³/s
 BASIC HIGH WATER ELEVATION = 47.110

OVERTOPPING FLOOD DATA

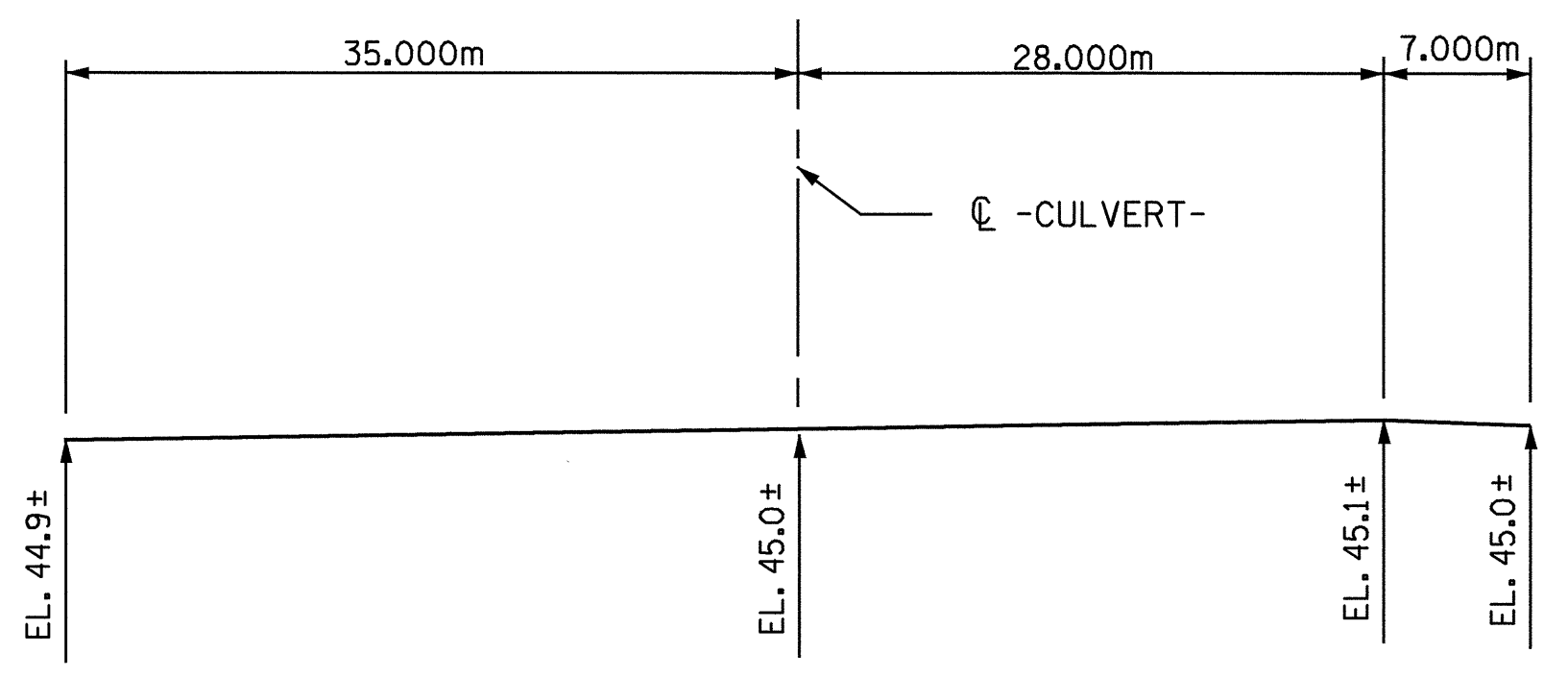
OVERTOPPING DISCHARGE = 23.6m³/s
 FREQUENCY OF OVERTOPPING FLOOD = 500 (+) YEARS
 OVERTOPPING FLOOD ELEVATION = 48.440

NOTES

- ASSUMED LIVE LOAD -----MS18 OR ALTERNATE LOADING.
- DESIGN FILL-----3.700m
- FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.
- 76mm 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 100mm 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 21.0m. 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 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.
- A 900mm 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.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- ALL ELEVATIONS ARE IN METERS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- TOP OF BOTTOM SLAB IS TO BE BURIED 305mm BELOW STREAM BED.
- 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 WILL BE PAID FOR BY THE CONTRACTOR.
- NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

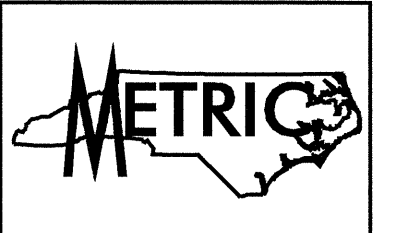
FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH



PROFILE ALONG CULVERT

TOTAL STRUCTURE QUANTITIES	
CLASS A CONCRETE	
BARREL & OUTLET WINGS	149.5 m ³
INLET WINGS ETC.	10.8 m ³
TOTAL	160.3 m ³
REINFORCING STEEL	
BARREL & OUTLET WINGS	15,143 kg
INLET WINGS ETC.	303 kg
TOTAL	15,446 kg
CULVERT EXCAVATION	LUMP SUM
FOUNDATION COND. MAT'L	160 METRIC TONS



PROJECT NO. R-513BA
ROBESON COUNTY
 STATION: 12+86.500 -SR1-

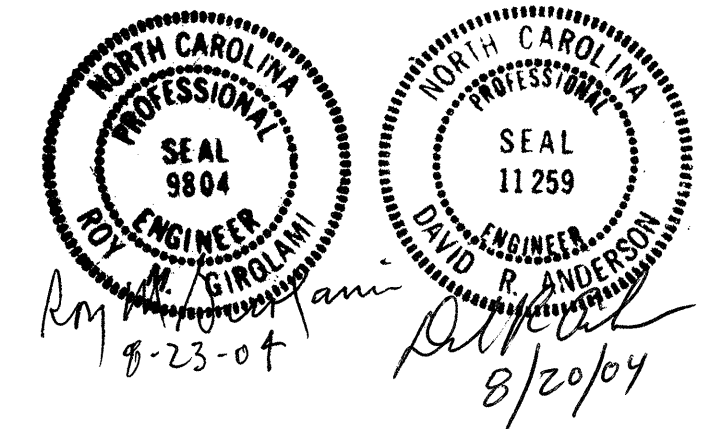
SHEET 1 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

DOUBLE 2.400m X 1.800m
 CONCRETE BOX CULVERT

SKEW 120°

1994



ASSEMBLED BY : N. Q. TRAN DATE : 2-13-03
 CHECKED BY : SWANCOPE DATE : 08-04-04
 DRAWN BY : EEM 6/97
 CHECKED BY : ARB 7/97

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-15
1			3			TOTAL SHEETS
2			4			24