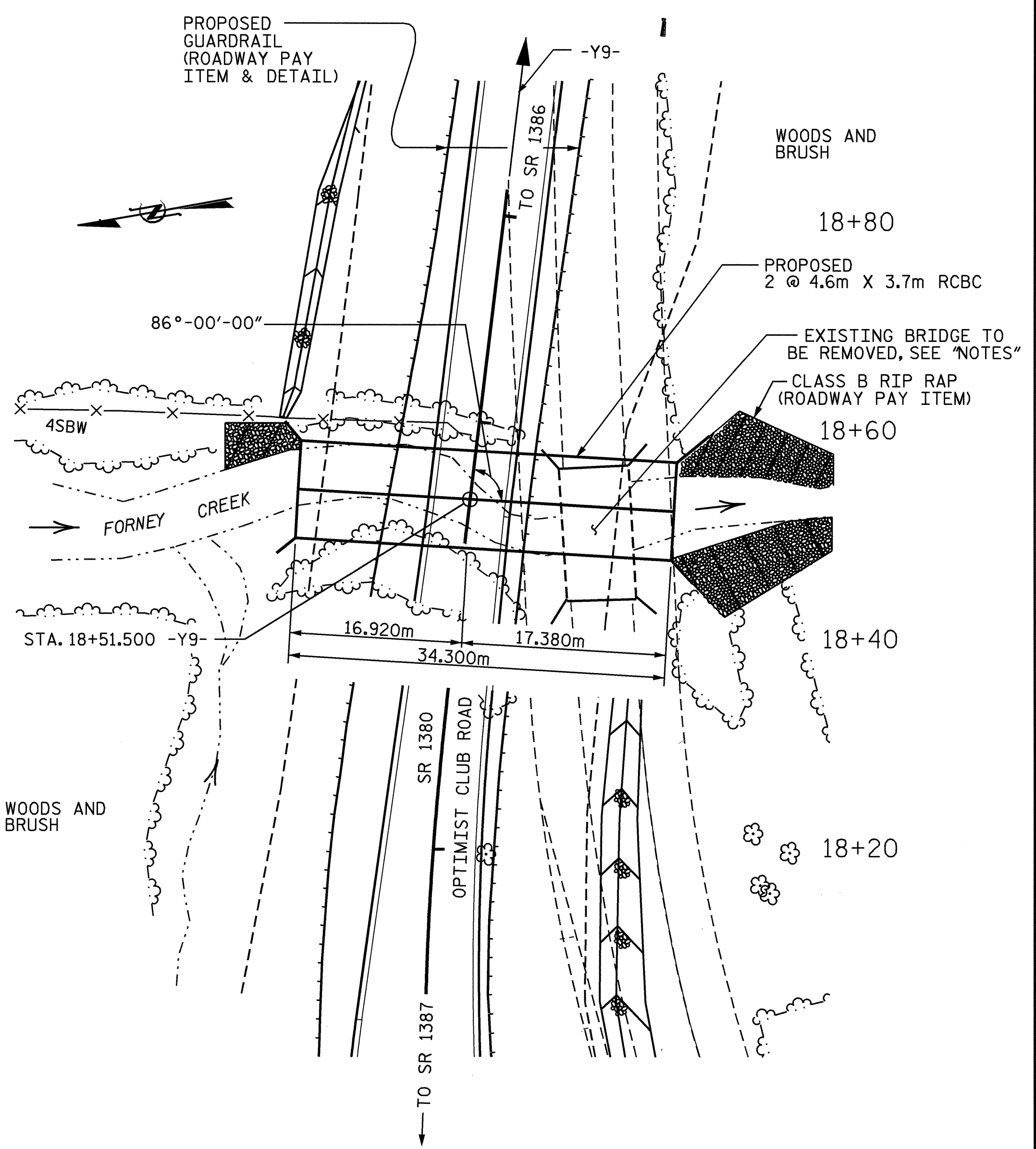


BM 9, 200mm NAIL IN BASE OF 600mm WHITE OAK 16m LT. OF -BY9- STATION 14+35.000 AND 14.475m LT. OF -Y9- STATION 19+23.667, ELEV. 221.336, DATUM NGVD 29



LOCATION SKETCH
FOR UTILITY INFORMATION SEE UTILITY PLANS AND SPECIAL PROVISIONS

ROADWAY DATA

GRADE POINT EL. @ STA. 18+51.500 -Y9- = 222.582
BED ELEVATION @ STA. 18+51.00 -Y9- = 215.971
ROADWAY SLOPES @ STA. 18+51.500 -Y9- = 2:1

HYDRAULIC DATA

DESIGN DISCHARGE = 62.9 m³/s
FREQUENCY OF DESIGN FLOOD = 50 Yrs.
DESIGN HIGH WATER ELEVATION = 219.92
DRAINAGE AREA = 11.060 sq. km.
BASIC DISCHARGE (Q100) = 76.5 m³/s
BASIC HIGH WATER ELEVATION = 220.25

OVERTOPPING FLOOD DATA

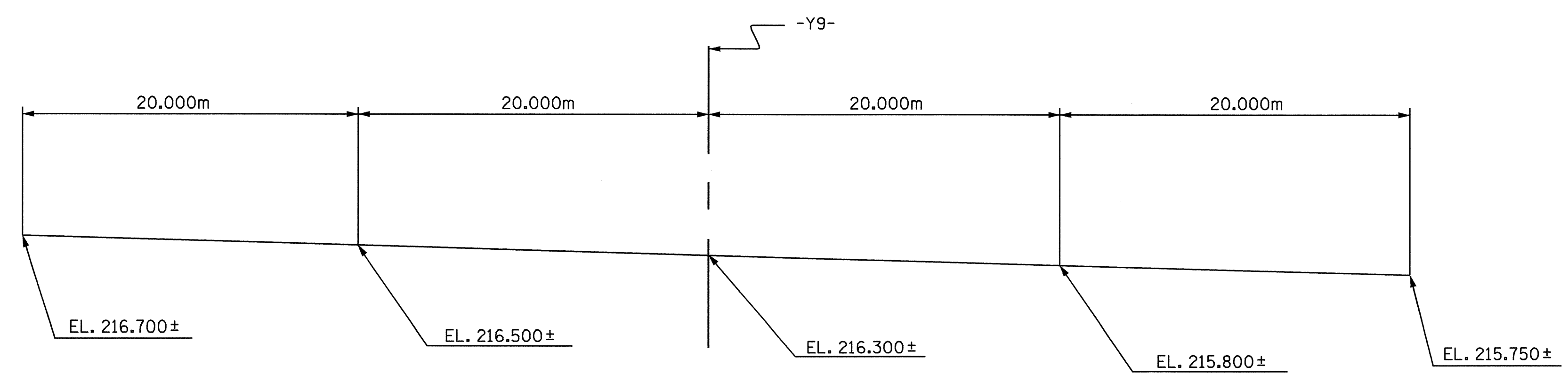
OVERTOPPING DISCHARGE = **
FREQUENCY OF OVERTOPPING FLOOD = 500+ YRS.
OVERTOPPING FLOOD ELEVATION = 222.422

** OVERTOPPING FLOOD IS GREATER THAN THE 500+ YR. EVENT

TOTAL STRUCTURE QUANTITIES	
CLASS A CONCRETE (Cu. Meters)	
STAGE 1 - BARREL @ 4.59 m ³ /m =	157.4
STAGE 2 - BARREL @ 3.42 m ³ /m =	117.3
STAGE 3 - BARREL @ 4.92 m ³ /m =	168.8
CONCRETE SILLS =	3.1
4 WINGS, 2 HEADWALLS, & 2 CURTAIN WALLS =	44.4
	TOTAL = 491.0
REINFORCING STEEL (kilograms)	
BARREL =	43221
4 WINGS, 2 HEADWALLS, & 2 CURTAIN WALLS =	1626
	TOTAL = 44847
CULVERT EXCAVATION =	LUMP SUM
FOUNDATION COND. MAT'L =	231 Metric Tons
REMOVAL OF EXISTING STRUCTURE =	LUMP SUM

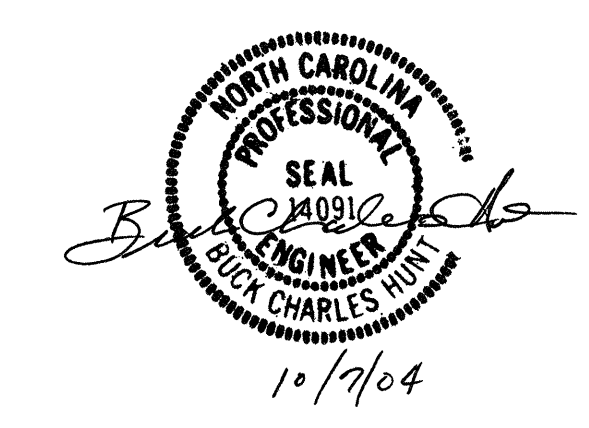
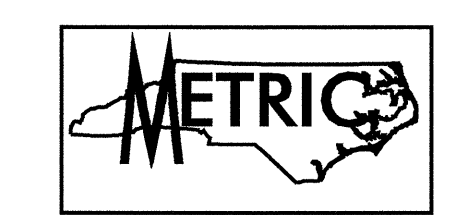
NOTES

ASSUMED LIVE LOAD ----- MS18 OR ALTERNATE LOADING
DESIGN FILL ----- 4.58m FOR -Y9-
FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET SNSM.
76mm Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
CONCRETE IN CULVERT TO BE POURED IN THE FOLLOWING ORDER:
1. WING FOOTINGS AND FLOOR SLAB (STAGE 1) INCLUDING 100mm OF VERTICAL WALLS.
2. THE REMAINING PORTIONS OF THE WALLS AND WINGS (STAGE 1) FULL HEIGHT.
3. WING FOOTINGS AND FLOOR SLAB (STAGE 2) INCLUDING 100mm OF VERTICAL WALL.
4. THE REMAINING PORTIONS OF THE WALL AND WINGS (STAGE 2) FULL HEIGHT.
5. 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 21.00m. 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 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.
THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 360,000kg OF REINFORCING STEEL, ONE 760mm SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 360,000kg OF REINFORCING STEEL, TWO 760mm 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.
FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
ALL ELEVATIONS ARE SHOWN IN METERS.
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 SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
DETAILED DRAWINGS FOR FALSEWORK AND FORMS FOR THIS DOUBLE 4.6m X 3.7m RCBC SHALL BE SUBMITTED. SEE SHEET SNSM.
THE EXISTING STRUCTURE LOCATED AT THE PROPOSED SITE SHALL BE REMOVED. THE EXISTING STRUCTURE CONSISTS OF ONE 14.0m SPAN CONSTRUCTED OF A TIMBER DECK ON STEEL I-BEAMS WITH A 7.2m CLEAR ROADWAY WIDTH SUPPORTED BY TIMBER CAP AND PILE END BENTS WITH TIMBER BULKHEADS. SEE SPECIAL PROVISION FOR REMOVAL OF EXISTING STRUCTURE AT STA. 18+51.500 -Y9-.
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 STA. 18+51.500 -Y9-."
NO PRECAST REINFORCED CONCRETE BOX CULVERT OPTION WILL BE ALLOWED.
THE CONTRACTOR SHALL EXCAVATE THE EXISTING STREAM BED MATERIAL AND STOCKPILE FOR PLACEMENT INTO THE PROPOSED CULVERT. BED MATERIAL SHALL BE PLACED TO THE TOP OF THE SILLS IN THE LOW FLOW BARREL. BED MATERIAL PLACED BETWEEN SILLS IN THE LOW FLOW BARREL SHALL PROVIDE A CONTINUOUS LOW FLOW CHANNEL BETWEEN THE LOWER SILLS. THE COST OF PLACING THE MATERIAL INTO THE PROPOSED BOX CULVERT SHALL BE INCLUDED IN PAY ITEM "CULVERT EXCAVATION". NO BED MATERIAL SHALL BE PLACED IN THE OTHER BARREL.



PROFILE ALONG CULVERT

DRAWN BY : KEITH D. LAYNE DATE : 10-05-04
CHECKED BY : B. C. HUNT DATE : 10-06-04



PROJECT NO. R-2206B
LINCOLN COUNTY
STATION: 18+51.500 -Y9-

SHEET 1 OF 5 REPLACES BRIDGE #5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**DOUBLE 4.6m X 3.7m
CONCRETE BOX CULVERT
90° SKEW**

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