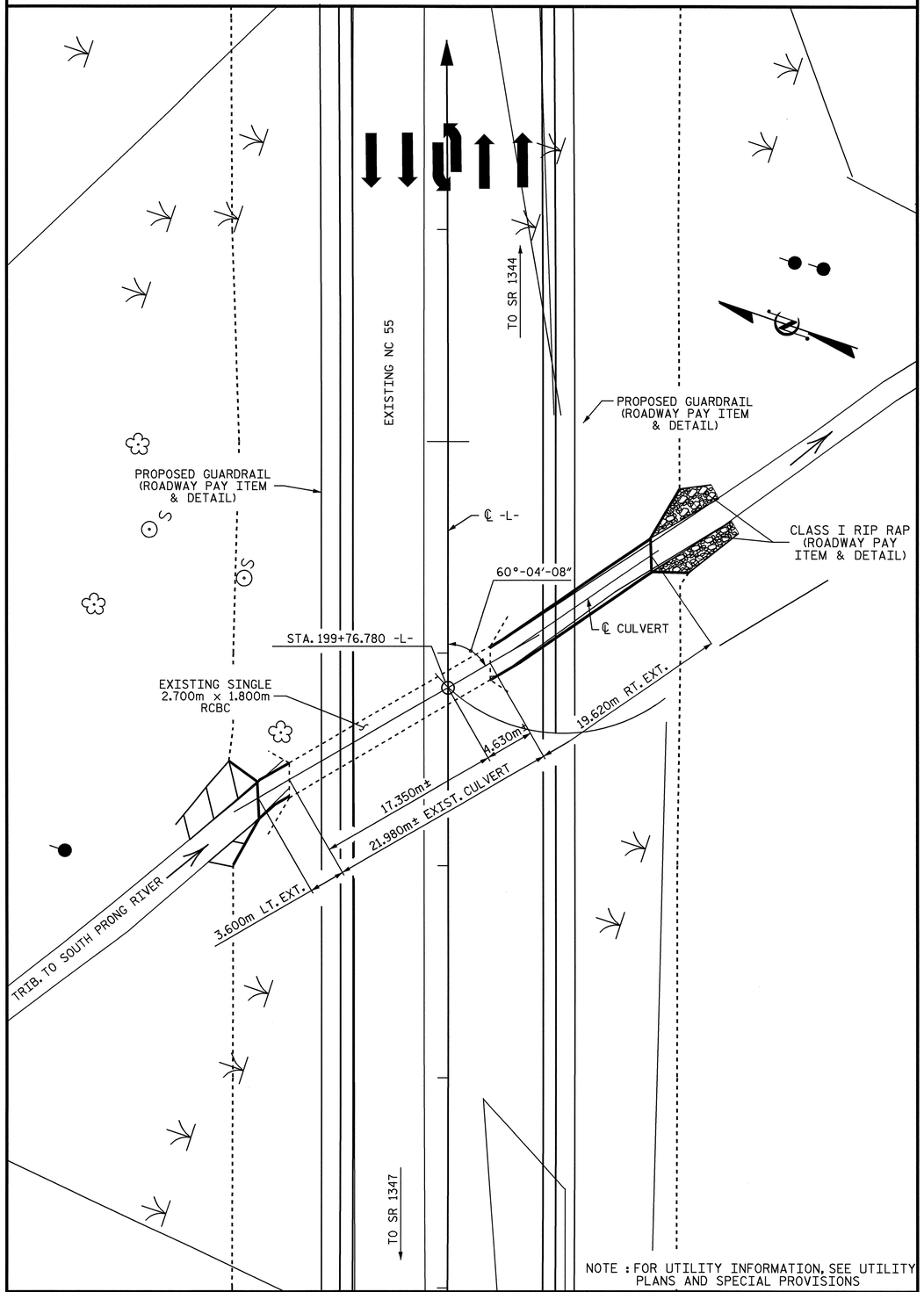
BENCH MARK #7 = NAIL IN PP, 35.829m RT. OF STA. 200+15.429 -L-, EL.= 1.726



LOCATION SKETCH

DRAWN BY : KEITH D. LAYNE DATE : 01-08-04
CHECKED BY : A. B. NAIK DATE : 2-25-04

23-SEP-2004 12:22
W:\squadg\R2539c\FINAL_PLANS\R2539C_sd_cu_02.dgn
wparker

ROADWAY DATA

GRADE PT. EL. @ STA. 199+76.780 -L- = 3.854
BED ELEV. @ STA. 199+76.780 -L- = 0.156
ROADWAY SLOPE (LEFT) = 4.82 : 1
ROADWAY SLOPE (RIGHT) = 3.31 : 1

HYDRAULIC DATA

DESIGN DISCHARGE = 9.7 m³/s
FREQUENCY OF DESIGN FLOOD = 50 Yrs.
DESIGN HIGH WATER ELEVATION = 1.79
DRAINAGE AREA = 2.31 Sq.Km.
BASIC DISCHARGE (Q100) = 12.4 m³/s
BASIC HIGH WATER ELEVATION = 2.18

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 20.6+ m³/s
FREQUENCY OF OVERTOPPING FLOOD = 500+ YRS.
OVERTOPPING FLOOD ELEVATION = 4.02

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE	
LEFT BARREL EXTENSION =	21.9 m³
RIGHT BARREL EXTENSION =	46.1 m³
TOTAL =	68.0 m³
EPOXY COATED REINFORCING STEEL	
LEFT BARREL EXTENSION =	1279 kgs
RIGHT BARREL EXTENSION =	3838 kgs
TOTAL =	5117 kgs
FOUNDATION COND. MAT'L	
LEFT BARREL EXTENSION =	10 metric tons
RIGHT BARREL EXTENSION =	40 metric tons
TOTAL =	50 metric tons
CULVERT EXCAVATION =	LUMP SUM

NOTES

ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE NOTED.

ALL ELEVATIONS ARE SHOWN IN METERS.

ASSUMED LIVE LOAD ---------- MS18 OR ALTERNATE LOADING.

DESIGN FILL---------- 1.910m FOR LT. EXT. AND 2.370m FOR RT. EXT.

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 CULVERTS TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS AND FLOOR SLAB INCLUDING 100mm OF 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.

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.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 360,000 kg OF REINFORCING STEEL, ONE 760mm SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 360,000 kg 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.

IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY USE THE EXISTING WINGS AS TEMPORARY SHORING FOR THE CONSTRUCTION OF THE CULVERT EXTENSIONS. IN THIS CASE, THE BOTTOM SLAB OF THE EXTENSION SHALL BE POURED AT LEAST 72 HOURS PRIOR TO CUTTING THE WINGS. THE WINGS MAY BE CUT EARLIER PROVIDED THE SLAB CONCRETE STRENGTH HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 10.3 MPa.

DOWELS SHALL BE USED TO CONNECT THE CULVERT EXTENSION TO THE EXISTING CULVERT AS SHOWN. FOR NOTE REGARDING SETTING OF DOWELS, SEE SHEET SNSM.

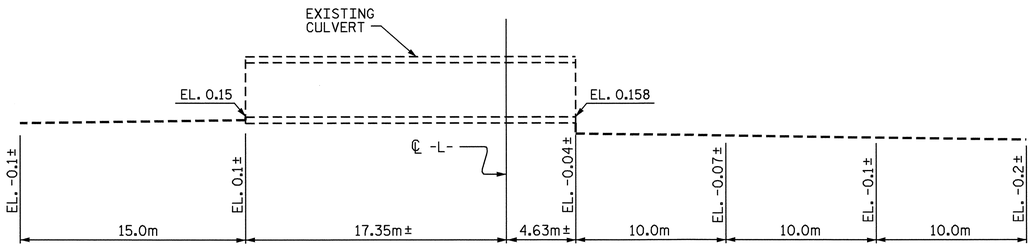
A 900mm STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

ALL REINFORCING STEEL AND BAR SUPPORTS SHALL BE EPOXY COATED.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.



PROFILE ALONG ℄ CULVERT

METRIC

PROJECT NO. R-2539C
PAMLICO COUNTY
STATION: 199+76.780 -L-

SHEET 1 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SINGLE 2.700m X 1.800m CONCRETE BOX CULVERT EXTENSIONS 60° SKEW

NORTH CAROLINA PROFESSIONAL SEAL 23926 ENGINEER BRIAN C. HANKS
9/27/04

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-10
1			3			TOTAL SHEETS
2			4			20

STR. #2