

B.M. : NO. 206 IP & CAP STA. 28+40.975 -LBL-, EL. 662.383m DATUM : NGVD 29

F.A. PROJECT NO. STP-146 (3)

NOTES

- ASSUMED LIVE LOAD = MS 18 OR ALTERNATE LOADING.
 DESIGN FILL ----- 4.860m
 FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.
 76mm² \emptyset 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.
 THIS BARREL STANDARD TO BE USED ONLY ON CULVERTS ON 120° SKEW AND TO BE USED WITH STANDARD WING SHEET WITH THE SAME SKEW AND VERTICAL CLEARANCE.
 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.
 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.
 ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 ALL ELEVATIONS ARE IN METERS.
 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.
 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.
 FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.
 FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
 FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

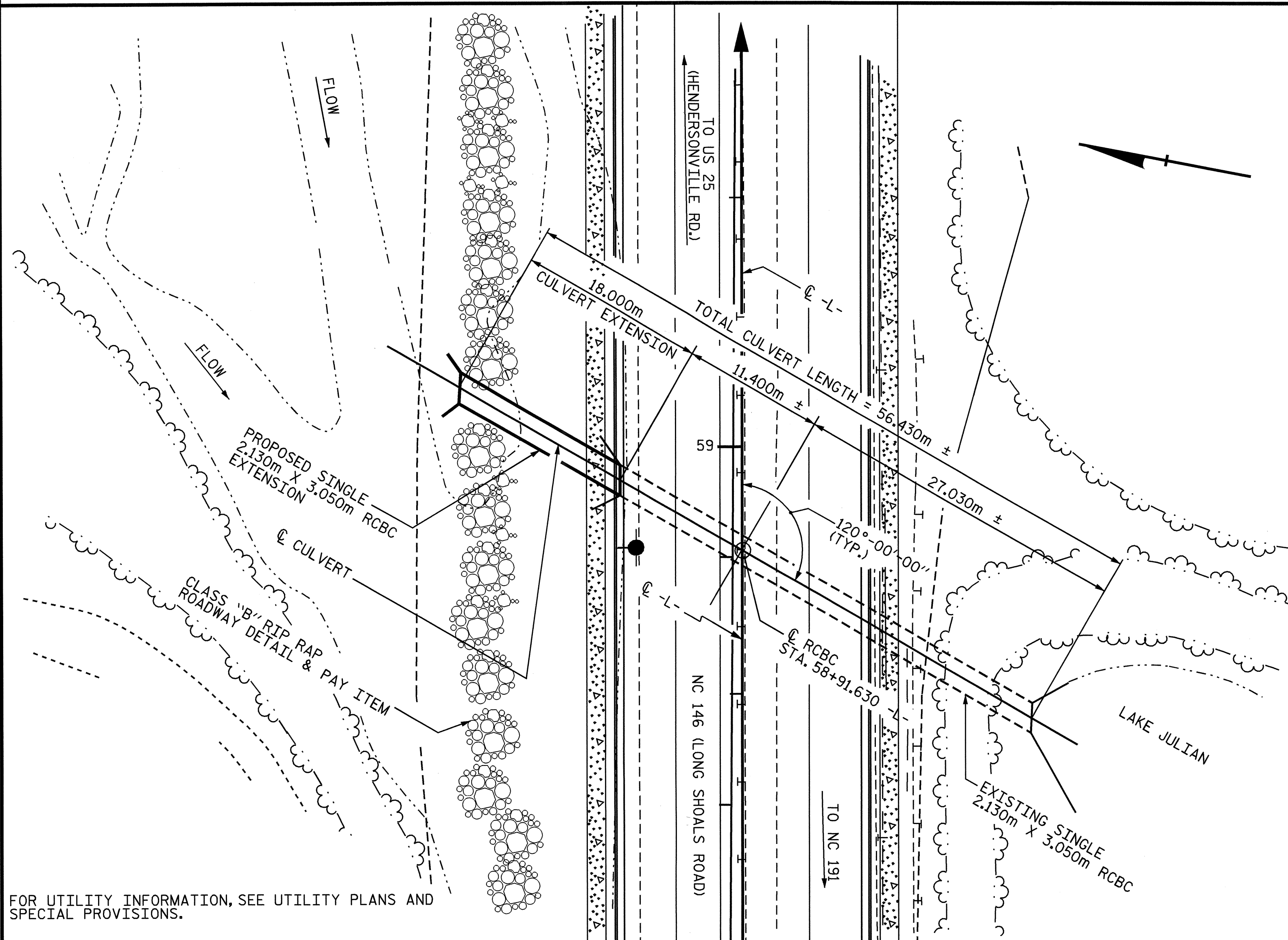
HYDRAULIC DATA

DESIGN DISCHARGE = ----- 26.000 m³/sec.
 FREQUENCY OF DESIGN FLOOD = ----- 50 YRS.
 DESIGN HIGH WATER ELEVATION = ----- 659.900
 DRAINAGE AREA = ----- 2.380 Sq. Km.
 BASIC DISCHARGE (Q100) = ----- 29.5 m³/sec.
 BASIC HIGH WATER ELEVATION = ----- 660.230

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE ----- 51.000 m³/sec.
 FREQUENCY OF OVERTOPPING FLOOD ----- 500 YRS. +
 OVERTOPPING FLOOD ELEVATION ----- 663.200

GRADE POINT ELEVATION @ STA. 58+91.630 -L- = 663.316
 BED ELEVATION @ STA. 58+91.630 -L- = 655.410
 ROADWAY SLOPE = 2 : 1

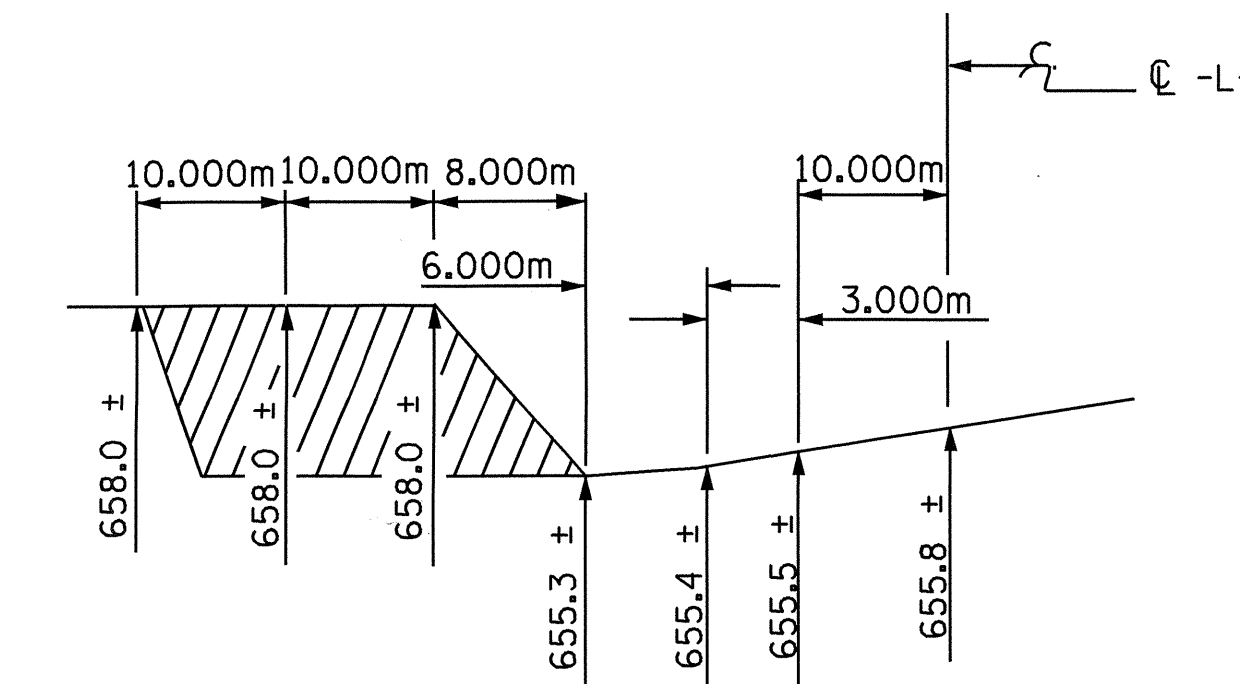


FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

TOTAL STRUCTURE QUANTITIES

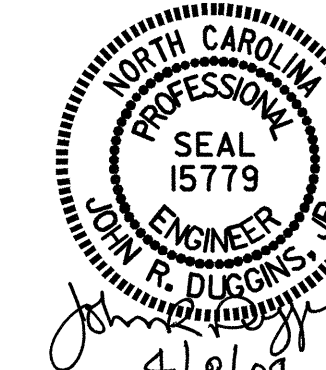
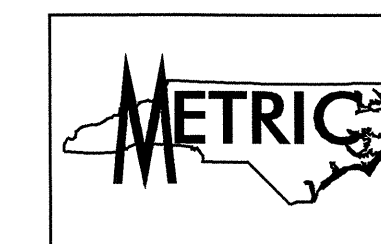
CLASS A CONCRETE	
BARREL @ 2.330 m ³ /m	41.9 m ³
WINGS ETC.	14.0 m ³
TOTAL	55.9 m ³
REINFORCING STEEL	
BARREL	3446 kg
WINGS ETC.	642 kg
TOTAL	4088 kg
CULVERT EXCAVATION	----- LUMP SUM
FOUNDATION COND. MAT'L	--- 31 METRIC TONS



CULVERT EXCAVATION

PROFILE ALONG CULVERT

DRAWN BY : M.E. POOLE DATE : 04/03
 CHECKED BY : J.L. LAMBERT DATE : 06/03



PROJECT NO. R-2813C
 BUNCOMBE COUNTY
 STATION: 58+91.630 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SINGLE
 2.130m X 3.050m
 CONCRETE BOX CULVERT
 EXTENSION
 120° SKEW

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