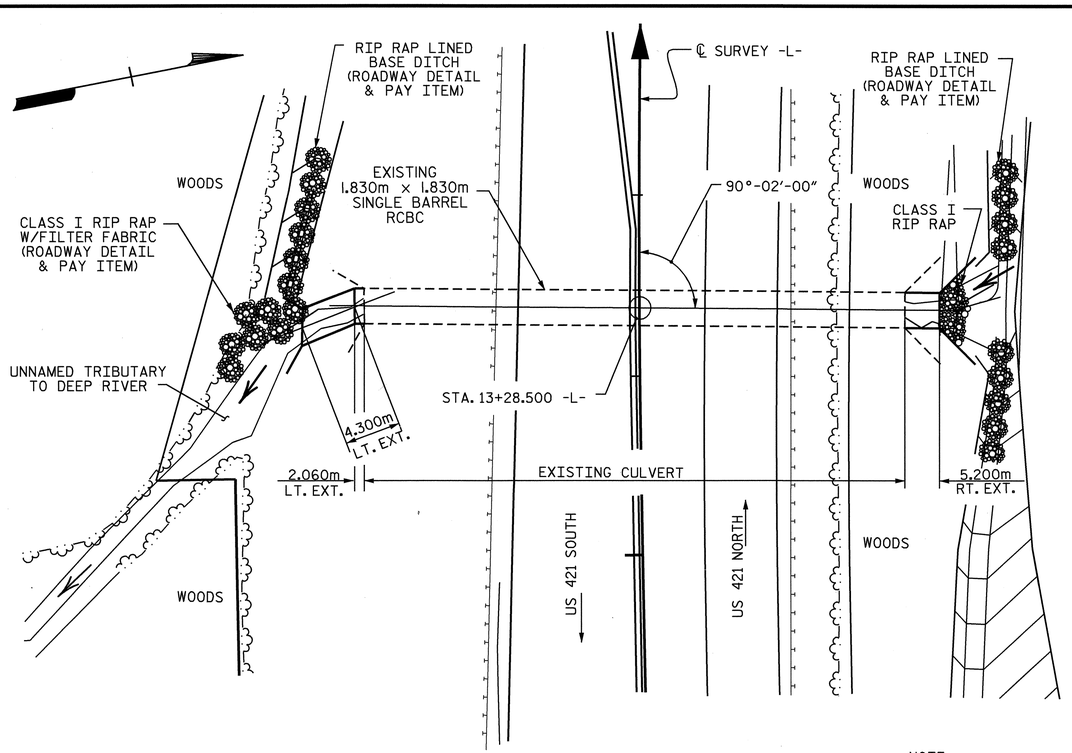
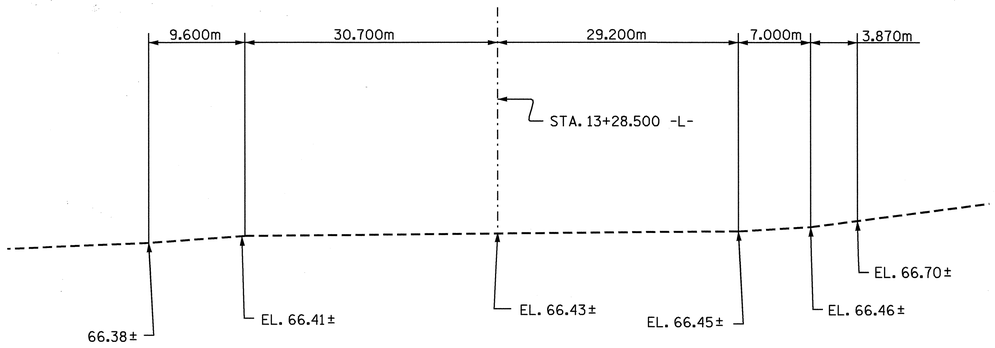
08-JUL-2004 12:31
w:\sdquadz\r2610\jlambert\Microstation\R2610_sd_cu_01.dgn
jlambert

BM #2 R/R SPIKE IN BASE OF POWER POLE 34.52m RIGHT OF STA. 11+57.020 -L- EL. 75.046 NAD 83



NOTE:
FOR UTILITY INFORMATION,
SEE UTILITY PLANS AND
SPECIAL PROVISIONS

LOCATION SKETCH



PROFILE ALONG ℄ CULVERT

ASSEMBLED BY : J. LAMBERT	DATE : 9/03
CHECKED BY : S. PEARCE	DATE : 11/03
DRAWN BY : EEM 6/97	
CHECKED BY : ARB 7/97	

GRADE DATA

GRADE POINT ELEVATION @
STA.13+28.500 -L- ----------= 77.928
BED ELEVATION @
STA. 13+28.500 -L- ---------- = 66.430
ROADWAY SLOPES ----------= 2:1

HYDRAULIC DATA

DESIGN DISCHARGE ----------= 8.7 c.m.s.
FREQUENCY OF DESIGN FLOOD = 50 YRS
DESIGN HIGH WATER ELEVATION= 68.53
DRAINAGE AREA ----------= 70.0 Ha
BASIC DISCHARGE (Q100)-------= 10.1 c.m.s.
BASIC HIGH WATER ELEVATION = 68.77

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE----------= 25.0 c.m.s.
FREQUENCY OF OVERTOPPING FLOOD = 500± YRS
OVERTOPPING FLOOD ELEVATION----= 74.88

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE
RIGHT EXTENSION
BARREL @ 2.00 m^3/m 11.0 m^3
WINGS ETC. 5.3 m^3
LEFT EXTENSION
BARREL @ 2.00 m^3/m 12.7 m^3
WINGS ETC. 5.9 m^3
TOTAL 34.9 m^3

REINFORCING STEEL
RIGHT EXTENSION
BARREL 896 kg
WINGS ETC. 174 kg
LEFT EXTENSION
BARREL 1154 kg
WINGS ETC. 199 kg
TOTAL 2423 kg

CLASS I RIP RAP ---------- 3 METRIC TONS
CULVERT EXCAVATION ---------- LUMP SUM
FOUNDATION COND. MAT'L ---- 18 METRIC TONS

NOTES

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

DESIGN FILL---------- 10.27m

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.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.

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 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.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

ALL ELEVATIONS ARE IN METERS.

FOR CULVERT DIVERSION DETAILS AND PAY ITEMS, SEE EROSION CONTROL PLANS.

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.

THE CONTRACTOR SHALL BACKFILL EXISTING SCOUR HOLE AT THE INLET END OF CULVERT WITH CLASS I RIP RAP TO INVERT ELEVATION OF THE NEW CULVERT OR AS DIRECTED BY THE ENGINEER.

METRIC

NORTH CAROLINA PROFESSIONAL SEAL 13014 ENGINEER QUANG H. NGUYEN
Quang H. Nguyen 7/8/04

NORTH CAROLINA PROFESSIONAL SEAL 15779 ENGINEER JOHN R. DUGGINS JR.
7/8/04

PROJECT NO. R-2610A
CHATHAM COUNTY
STATION: 13+28.500 -L-

SHEET 1 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SINGLE BARREL 1.830m X 1.830m CONCRETE BOX CULVERT EXTENSION 90°-02'-00" SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			18