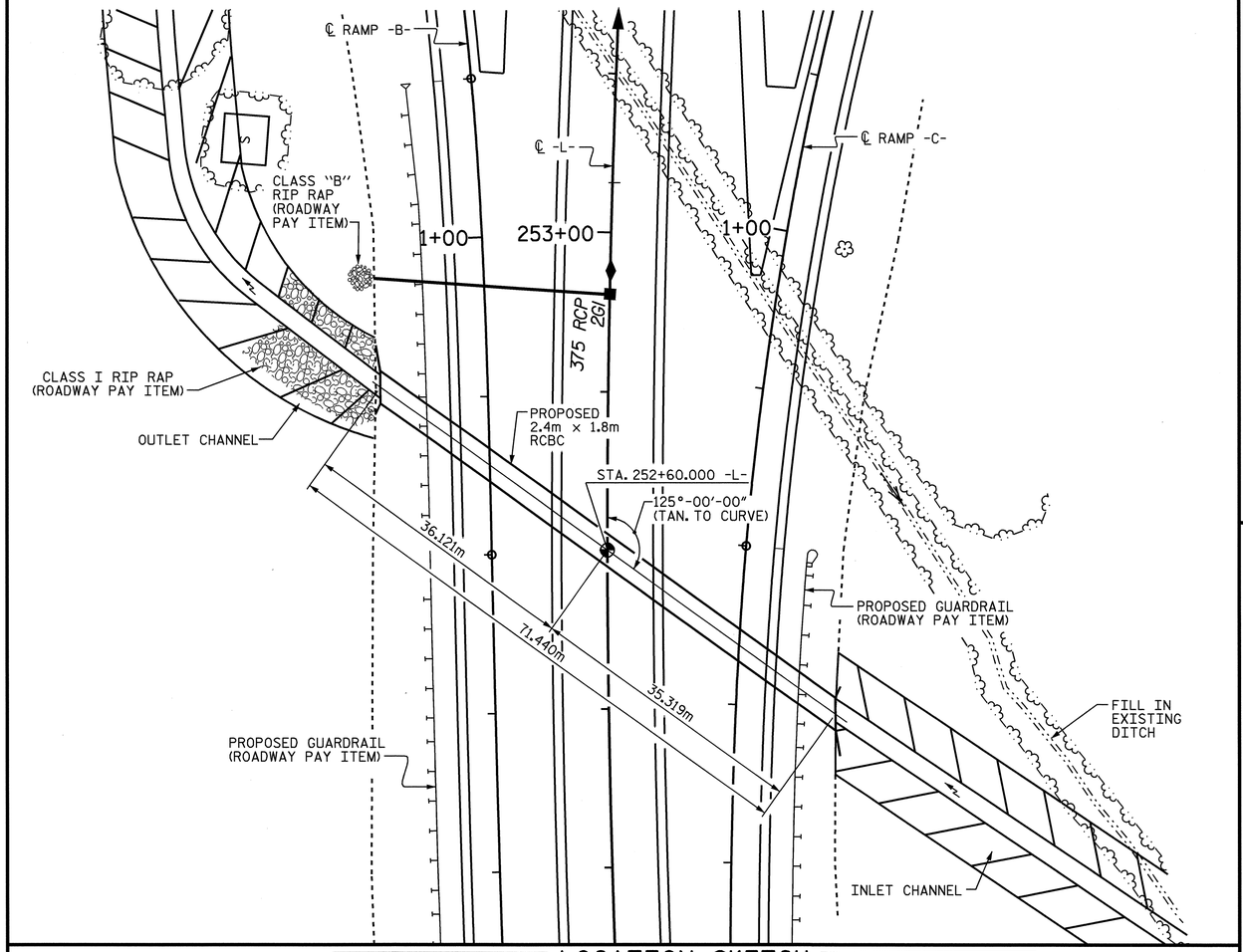
B.M. #2 SPIKE IN BASE OF 450mm PINE 121.6295m LT. OF STA. 250+81.730 -L- EL. 41.849



LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS

GRADE DATA

-0.3000%

STA. 250+36.00 -L-
EL. 44.192

ALONG ℄ -L-

ROADWAY DATA

@ STA. 252+60.000 -L-

GRADE POINT ELEVATION	= 43.510
BED ELEVATION	= 39.120
ROADWAY SLOPES	= 2:1

HYDRAULIC DATA

DESIGN DISCHARGE	= 9.50m^3/s
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 41.050
DRAINAGE AREA	= 4.40 sq. km
BASIC DISCHARGE (Q100)	= 11.50m^3/s
BASIC HIGH WATER ELEVATION	= 41.360

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 13.70m^3/s
FREQUENCY OF OVERTOPPING FLOOD	= 100 YRS. +
OVERTOPPING FLOOD ELEVATION	= 41.600

NOTES

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

DESIGN FILL ---------- 2.92m

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.

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

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

ALL ELEVATIONS ARE IN METERS.

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 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.

AT THE CONTRACTOR'S OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED BOX CULVERT, SEE SPECIAL PROVISIONS.

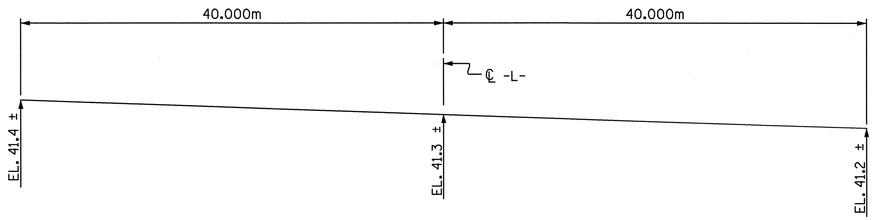
A 900mm STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

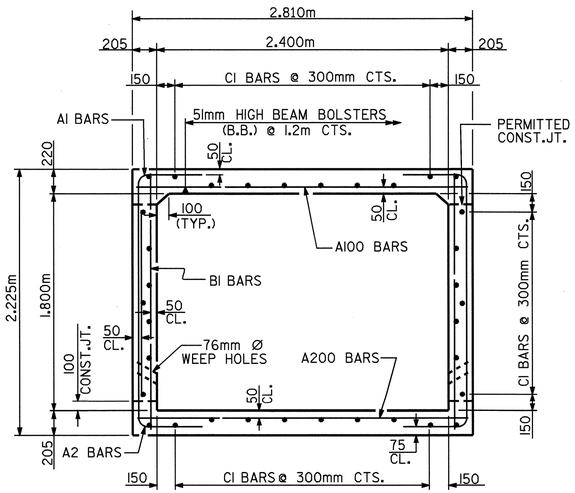
FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE			
BARREL @	1.92 m^3/m	137.2	m^3
WINGS ETC.		12.1	m^3
TOTAL		149.3	m^3
REINFORCING STEEL			
BARREL		12840	kg
WINGS ETC.		391	kg
TOTAL		13231	kg
CULVERT EXCAVATION ---------- LUMP SUM			
FOUNDATION COND. MAT'L -- 136.1 METRIC TONS			



PROFILE ALONG ℄ CULVERT



RIGHT ANGLE SECTION OF BARREL

THERE ARE 34 "C" BARS IN SECTION OF BARREL

METRIC

PROJECT NO. R-513C

ROBESON COUNTY

STATION: 252+60.000 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARREL STANDARD SINGLE 2.4m X 1.8m CONCRETE BOX CULVERT 125° SKEW

NORTH CAROLINA PROFESSIONAL SEAL 11259 ENGINEER DAVID R. ANDERSON 3-22-04

NORTH CAROLINA PROFESSIONAL SEAL 9804 ENGINEER ROY M. GIROLAMI 3-22-04

ASSEMBLED BY : T.A. WALTER	DATE : 12/21/00
CHECKED BY : S. RASHIDI	DATE : 11/10/03
DRAWN BY : EEM 6/97	
CHECKED BY : ARB 7/97	

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. C-1

TOTAL SHEETS 7

STD. No. CBII20SM

STR 8