

BAR TYPE
DIMENSIONS ARE OUT TO OUT

SPLICE LENGTH CHART

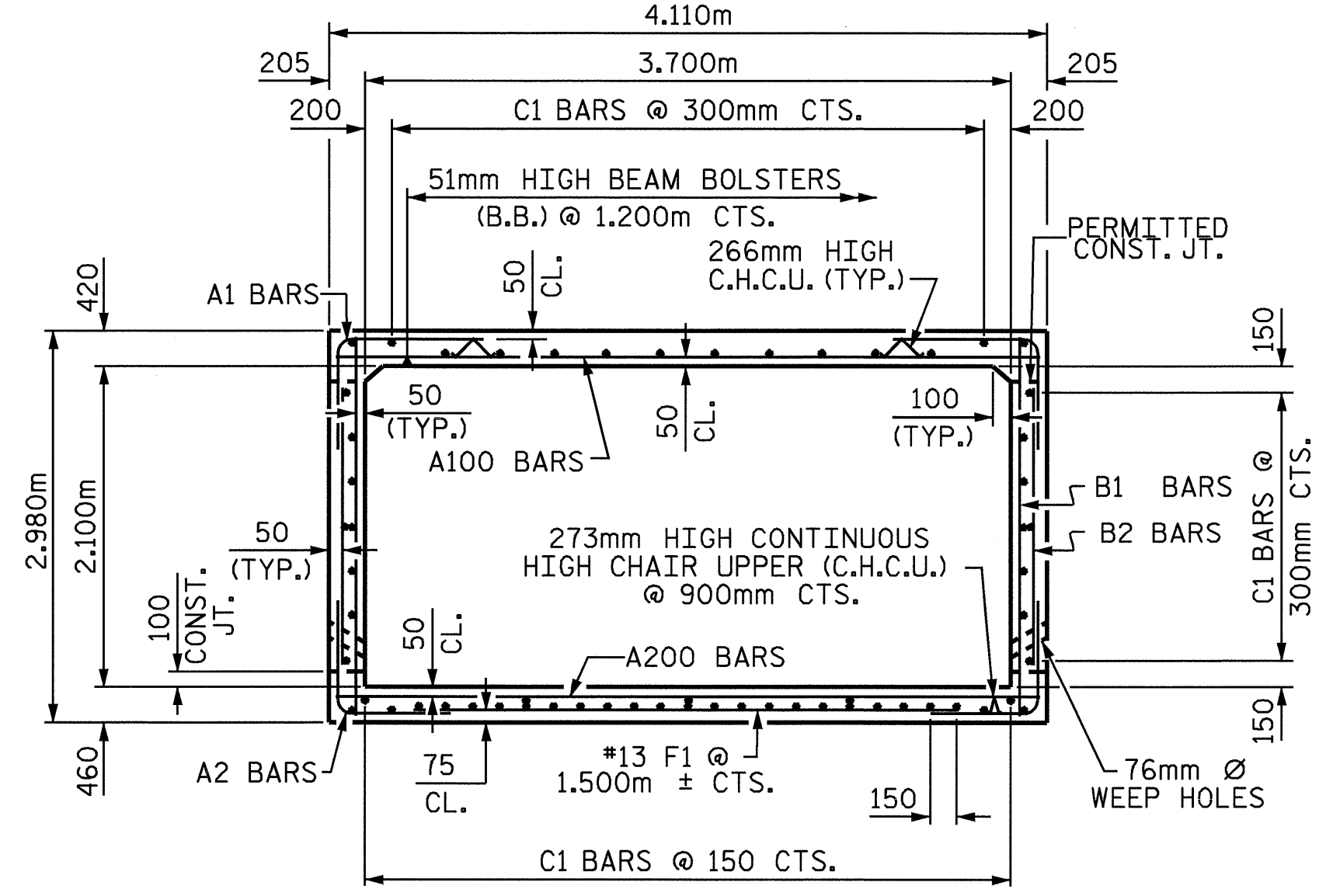
BAR	SIZE	LENGTH
B1	#13	540
C1	#13	590

BILL OF MATERIAL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	546	#22	6	3000	4983
A2	546	#22	6	2280	3787
A100	376	#29	STR	3960	7534
A101	4	#29	STR	2940	60
A102	4	#29	STR	2000	40
A103	4	#29	STR	1100	22
A200	376	#29	STR	3960	7534
A201	4	#29	STR	2940	60
A202	4	#29	STR	2000	40
A203	4	#29	STR	1100	22
B1	524	#13	STR	2820	1469
B2	546	#16	STR	1880	1593
C1	480	#13	STR	8680	4140
F1	43	#13	STR	2480	106
G1	4	#13	STR	4240	17
S2	12	#25	STR	4240	202
REINFORCING STEEL					= 31609 kg

NOTES

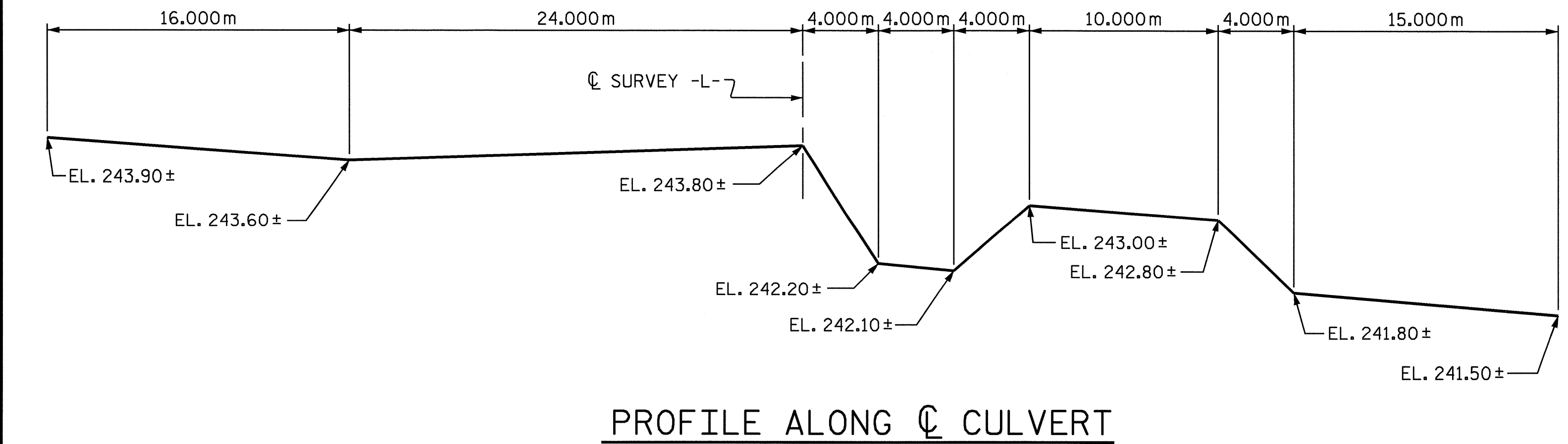
ASSUMED LIVE LOAD -----MS18 OR ALTERNATE LOADING.
 DESIGN FILL-----9.09m
 FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.
 76mm Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
 CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:
 1. WING FOOTINGS AND FLOOR SLAB INCLUDING 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.
 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 WALL ABOVE LOWER WALL COSTRUCTION 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.
 FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
 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 THE LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.
 FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
 NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.
 FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.



RIGHT ANGLE SECTION OF BARREL
THERE ARE 60 "C" BARS IN SECTION OF BARREL

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE	
BARREL @	4.47 m ³ /m 292.4 m ³
WINGS, ETC.	15.0 m ³
TOTAL	307.4 m³
REINFORCING STEEL	
BARREL	31609 kg
WINGS, ETC.	559 kg
TOTAL	32168 kg
CULVERT EXCAVATION	----- LUMP SUM
FOUNDATION COND. MAT'L	---- 182 METRIC TONS



PROFILE ALONG CULVERT

HYDRAULIC DATA

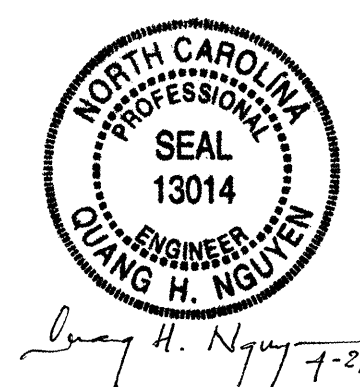
DESIGN DISCHARGE = 14.5 m³/s
 FREQUENCY OF DESIGN FLOOD = 50 YEARS
 DESIGN HIGH WATER ELEVATION = 244.62m
 DRAINAGE AREA = 0.62 SQ. km
 BASIC DISCHARGE (Q100) = 16.2m³/s
 BASIC HIGH WATER ELEVATION = 244.76m

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 68.0m³/s
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YEARS
 OVERTOPPING FLOOD ELEVATION = 253.03m

ROADWAY DATA

GRADE POINT ELEV. @ STATION 32+55.510 -L- = 253.052
 BED ELEV. @ STATION 32+55.510 -L- = 241.940
 ROADWAY SLOPES = 2:1



PROJECT NO. R-2911A
IREDELL COUNTY
 STATION: 32+55.510 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**SINGLE 3.7m X 2.1m
 CONCRETE BOX CULVERT
 70° SKEW**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			6

ASSEMBLED BY : CR LEWIS	DATE : 01-04
CHECKED BY : D. HODGE	DATE : 03-04
DRAWN BY : EEM 6/97	
CHECKED BY : ARB 7/97	