

NOTES

- ASSUMED LIVE LOAD -----HS20-44 OR ALTERNATE LOADING.
- DESIGN FILL----- = 11.46'
- FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.
- 3" 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 4" OF VERTICAL WALLS.
  - 2.) THE REMAINING PORTIONS OF 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.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED AND FOR PROJECTS OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SAME SIZE AND LENGTH OF SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR 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.

IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY USE THE EXISTING WINGS AS TEMPORARY SHORING FOR THE CONSTRUCTION OF THE CULVERT EXTENSION. 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 1500 PSI.

- FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

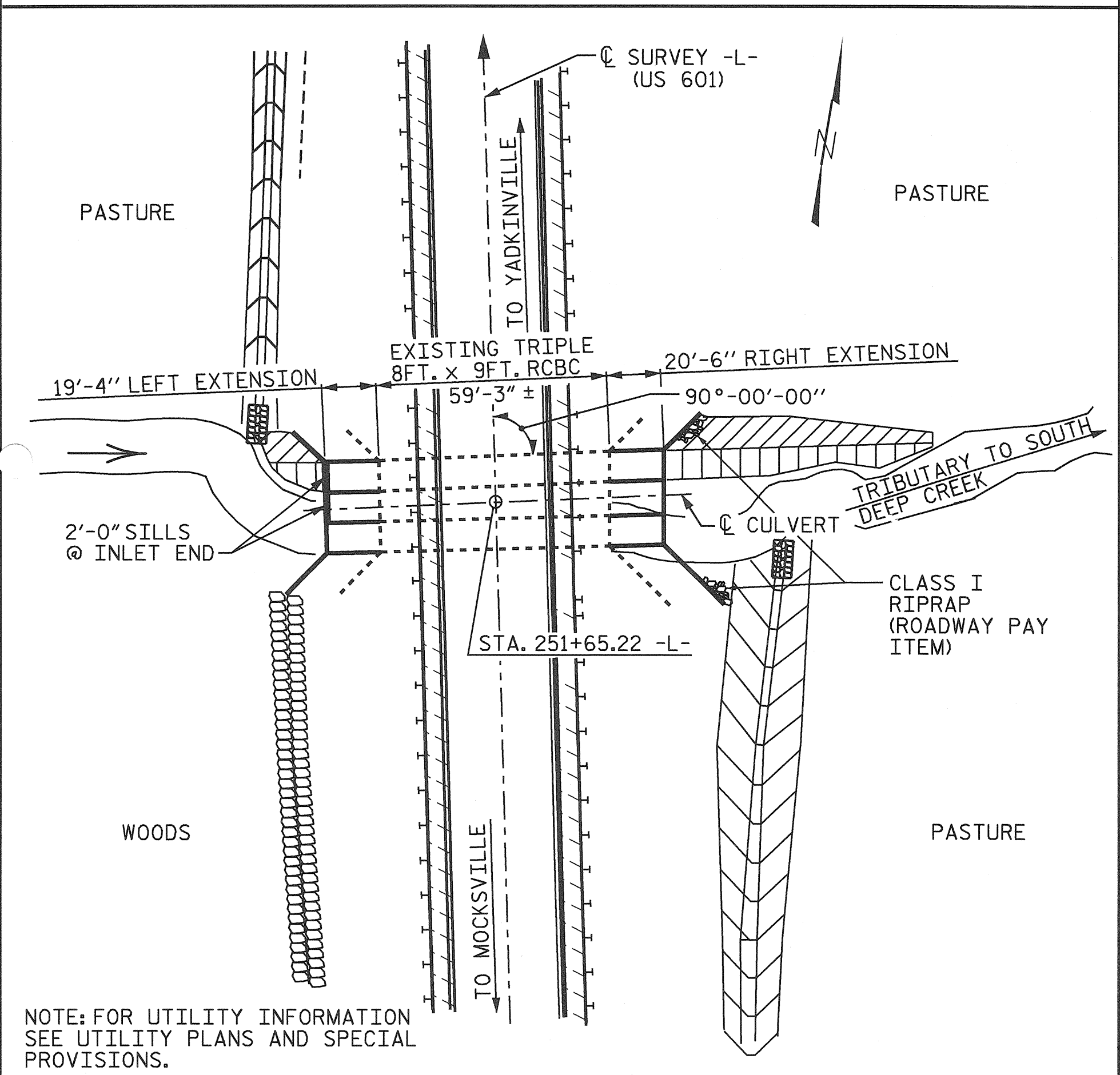
A 3 FEET STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES WILL BE PAID FOR BY THE CONTRACTOR.

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

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

TBM #12: STA. 243+50 -L-, 272' RT., CHISELED SQUARE IN NW CORNER OF CONC. PUMP STATION ELEV. 767.59



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

LEFT EXTENSION REINFORCING STEEL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A100	34	4	STR	26-3	596
A200	24	5	STR	26-3	657
A300	24	7	STR	26-3	1288
A400	24	6	STR	26-3	946
A1	48	6	6	5-11	427
A2	48	6	6	6-1	439
B1	40	4	STR	10-9	287
B2	48	4	STR	8-4	267
B3	80	4	STR	10-9	574
C1	106	4	STR	19-0	1345
D1	46	6	STR	2-6	173
D2	6	6	STR	2-10	26
G1	4	5	STR	26-4	110

REINFORCING STEEL LBS. 7,135

SPLICE LENGTHS CHART

BAR	SIZE	SPLICE LENGTH
A200	#5	1'-9"
A400	#6	2'-4"
B1	#4	1'-9"
B3	#4	1'-9"
C1	#4	1'-11"

LEFT EXTENSION QUANTITIES

CLASS A CONCRETE	
BARREL @ 3.123 CY/FT	60.4 C.Y.
SILLS	1.2 C.Y.
WING ETC.	15.8 C.Y.
TOTAL	77.4 C.Y.

REINFORCING STEEL	
BARREL	7,135 LBS.
WINGS ETC.	901 LBS.
TOTAL	8,036 LBS.

CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MAT'L	35 TONS

RIGHT EXTENSION REINFORCING STEEL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A100	36	4	STR	26-3	631
A200	25	5	STR	26-3	684
A300	25	7	STR	26-3	1341
A400	25	6	STR	26-3	986
A1	50	6	6	5-11	444
A2	50	6	6	6-1	457
B1	42	4	STR	10-9	302
B2	50	4	STR	8-4	278
B3	84	4	STR	10-9	603
C2	106	4	STR	20-2	1428
D1	46	6	STR	2-6	173
G1	4	5	STR	26-4	110

REINFORCING STEEL LBS. 7,437

SPLICE LENGTHS CHART

BAR	SIZE	SPLICE LENGTH
A200	#5	1'-9"
A400	#6	2'-4"
B1	#4	1'-9"
B3	#4	1'-9"
C2	#4	1'-11"

RIGHT EXTENSION QUANTITIES

CLASS A CONCRETE	
BARREL @ 3.123 CY/FT	64.0 C.Y.
WING ETC.	15.8 C.Y.
TOTAL	79.8 C.Y.

REINFORCING STEEL	
BARREL	7,437 LBS.
WINGS ETC.	902 LBS.
TOTAL	8,339 LBS.

CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MAT'L	39 TONS

HYDROGRAPHIC DATA

DESIGN DISCHARGE	1400 CFS
FREQUENCY OF DESIGN FLOOD	50 YRS.
DESIGN HIGH WATER ELEVATION	768.02
DRAINAGE AREA	3.62± SQ. MI.
BASIC DISCHARGE (Q100)	1700 CFS
BASIC HIGH WATER ELEVATION	769.26

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	2500 CFS
FREQUENCY OF OVERTOPPING FLOOD	>500 YR.
OVERTOPPING FLOOD ELEVATION	778.2

GRADE DATA

GRADE POINT ELEVATION @ STA. 251+65.22 -L- BED ELEVATION @ STA. 251+65.22 -L- ROADWAY SLOPE (RIGHT SIDE)	778.87
ROADWAY SLOPE (LEFT SIDE)	2:1
	757.55
	2:1

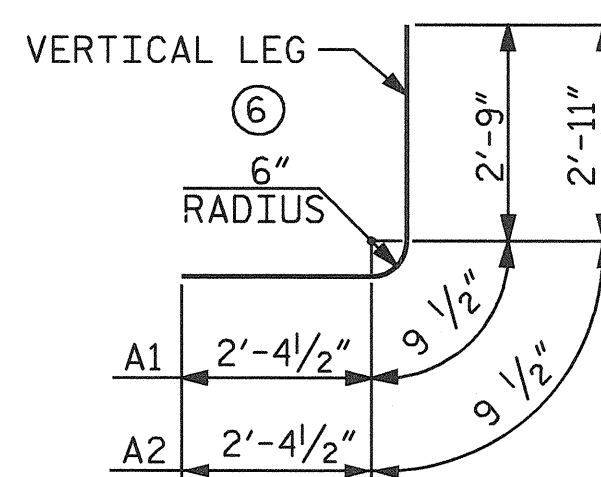
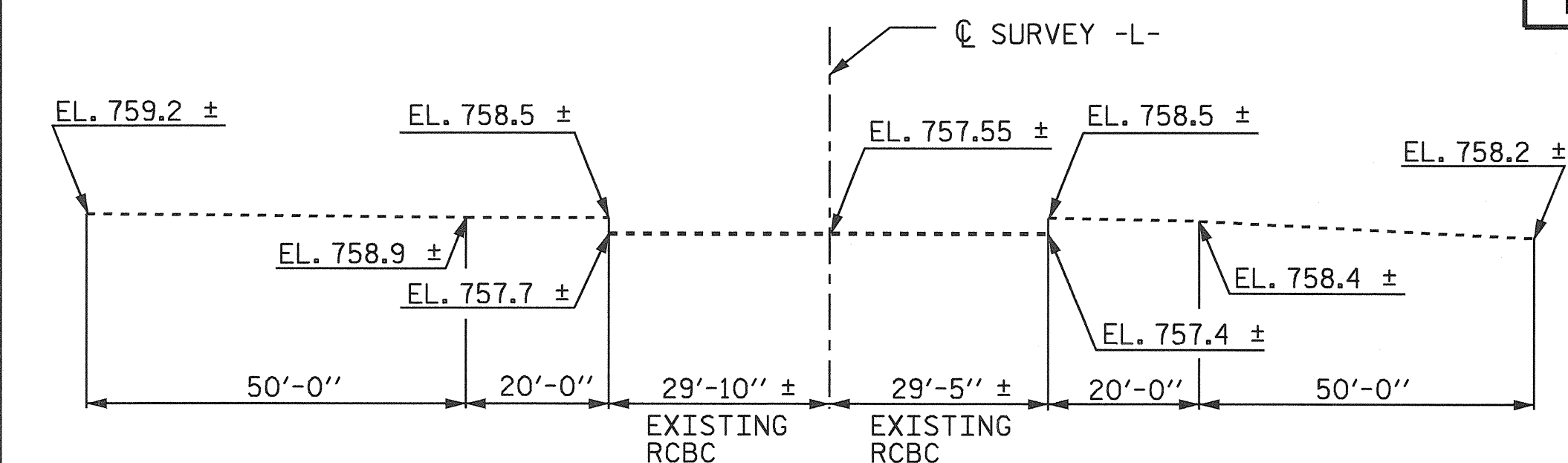
TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE	
LEFT EXTENSION	77.4 C.Y.
RIGHT EXTENSION	79.8 C.Y.
TOTAL	157.2 C.Y.

REINFORCING STEEL	
LEFT EXTENSION	8,036 LBS.
RIGHT EXTENSION	8,339 C.Y.
TOTAL	16,374 LBS.

FOUNDATION CONDITIONING MAT'L	
LEFT EXTENSION	35 TONS
RIGHT EXTENSION	39 TONS
TOTAL	74 TONS

CULVERT EXCAVATION	LUMP SUM
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BAR DIMENSIONS ARE OUT TO OUT

ASSEMBLED BY : DAN PLATICA DATE : 4/16/03  
 CHECKED BY : S.B. WILLIAMS DATE : 4/30/03  
 DRAWN BY : J.E. MANGUM DATE : 10/25/89  
 CHECKED BY : A.R. BISSETTE DATE : AUG. 1989

SPECIAL  
STANDARD

PROJECT NO. R-3427  
 YADKIN COUNTY  
 STATION: 251+65.22 -L-

SHEET 1 OF 4 BRIDGE NO. C36

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

TRIPLE 8 FT. X 9 FT.  
 CONCRETE BOX CULVERT  
 EXTENSION  
 90° SKEW



REVISIONS						SHEET NO. C-6
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 9
2			4			