r:\dgn\metric\stdplansVrcb\rcb-90m1m.dgn

11-MAY-1999 14:52

Dimensions

Clear Opening		Barrel						Headwall						
	No.	T	N	E	B	J	F	G	H	L	P	M
mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
900	900	240	200	300	180	900	260	1380	1440	2880	2680	9960
	2											9600
	3											12 160
	4											11 060
	5											8860
	6											7760
1200	1200	250	200	350	180	1050	260	1580	1750	3500	3300	12 400
	2											11 000
	3											13 800
	4											15 200
	5											12 400
	6											11 440
1500	1500	260	200	400	200	1200	260	1800	2060	4120	3920	14 840
	2											13 140
	3											16 540
	4											18 240
	5											15 240
	6											13 240
1800	1800	260	200	450	200	1300	260	1950	2360	4720	4520	17 240
	2											19 240
	3											15 240
	4											21 240
	5											
	6											

Quantities

Clear Opening		Per 0.5m of Barrel		13.0m Culvert*		Headwall **	
	No.	Steel	Concrete	Steel	Concrete	Steel	Concrete
mm	mm	kg	m3	kg	m3	kg	m3
900	900	82.83	0.85	2934	31.50	390	5.20
	2	82.83	0.85	2934	31.50	390	5.20
	3	121.44	1.20	4011	40.71	427	5.64
	4	160.05	1.55	5090	49.91	464	6.08
	5	198.67	1.91	6169	59.11	502	6.53
	6	237.28	2.26	7246	68.32	538	6.97
1200	1200	95.46	1.11	3515	38.37	517	7.15
	2	95.46	1.11	3515	38.37	517	7.15
	3	139.37	1.58	4744	50.59	560	7.72
	4	183.27	2.05	5974	62.81	605	8.29
	5	227.17	2.52	7205	75.03	649	8.86
	6	271.08	2.99	8433	87.25	692	9.43
1500	1500	111.17	1.39	4004	45.54	557	9.69
	2	111.17	1.39	4004	45.54	557	9.69
	3	159.96	1.98	5373	60.93	607	10.39
	4	208.75	2.57	6744	76.33	658	11.09
	5	257.54	3.16	8114	91.72	709	11.79
	6	310.63	3.75	9600	107.11	762	12.49
1800	1800	142.95	1.63	5182	51.94	733	12.09
	2	142.95	1.63	5182	51.94	733	12.09
	3	204.27	2.33	6899	70.14	794	12.92
	4	265.58	3.03	8618	88.34	857	13.75
	5	332.99	3.73	10 503	106.54	923	14.57
	6	400.40	4.43	12 400	124.74	995	15.40

*Quantity Includes 2 Headwalls

**Quantity for 1 Headwall

All dimensions are in millimeters (mm) unless otherwise noted.

Barrel Reinforcement (Per 13.0 M Culvert)

Clear Opening		Bars A			Bars B		*15 Bars G		*15 Bars H		*15 Bars K		*15 Bars K1		*10 Bars C*	
	No.	Spacing	Size	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	Spacing	No.	Length
mm	mm	mm	mm		mm		mm		mm		mm		mm	mm		mm
900	900	300	15	46	2300	15	4415	46	184	15	4670	46	1695	210	14 070	44
	2				2300		4415		184		4670		1695			44
	3				3400		5515		276		5770		2000			62
	4				4500		6615		368		6870		2276			80
	5				5600		7715		460		7970		2552			98
	6				6700		8815		552		9070		2828			116
1200	1200	300	15	46	2900	15	5635	46	184	15	5290	46	2005	240	14 070	92
	2				2900		5635		184		5290		2005			92
	3				4300		7035		276		6690		2276			184
	4				5700		8435		368		8090		2552			276
	5				7100		9835		460		9490		2828			368
	6				8500		11 235		552		10 890		3105			460
1500	1500	300	15	46	3500	15	5450	46	184	15	5910	46	2315	260	14 070	92
	2				3500		5450		184		5910		2315			92
	3				5200		7150		276		7610		2528			184
	4				6900		8850		368		9310		2745			276
	5				8600		10 550		460		11 010		2960			368
	6				10 300		13 060°		552		13 520°		3175			460
1800	1800	300	20	46	4100	20	6420	46	184	20	6510	46	2615	260	14 070	92
	2				4100		6420		184		6510		2615			92
	3				6100		8420		276		8510		2828			184
	4				8100		10 420		368		10 510		2945			276
	5				10 100		13 410°		460		13 320°		3160			368
	6				12 910°		15 410°		552		15 320°		3375			460

° Includes 1 - 810 mm lap splice for # 15 Bars
Includes 1 - 990 mm lap splice for # 20 Bars

* Includes 1 - 570 mm lap splice

Headwall Reinforcement (Per Headwall)

Clear Opening		*15 Bars E		*15 Bars O		*10 Bars O1		*10 Bars T		*10 Bars T1		*10 Bars T2		*15 Bars P		*15 Bars P1		*10 Bars J		*10 Bars J1		*15 Bars M		*10 Bars N		*20 Bars X**	
	No.	No.	Spc.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	Spc.	No.	Length
mm	mm			mm		mm		mm		mm		mm		mm		mm		mm		mm		mm		mm			mm
900	900	18	310	1555	1190	1750	490	8	1790	8	690	4	1790	300	10	690	300	12	1790	280	10	690	280	4	770	280	22	600
	2												2900												3880	9		
	3												4000												4980	12		
	4												5100												6080	16		
	5												6200												7180	20		
	6												7300												8280	23		
1200	1200	22	310	1605	1500	1950	480	8	2410	8	690	4	2410	280	12	690	280	14	2410	290	12	690	290	4	770	290	26	600
	2												3500												4480	11		
	3												4900												5880	15		
	4												6300												7280	20		
	5												7700												8680	25		
	6												9100												10 080	29		
1500	1500	26	310	1675	1810	2170	470	8	3030	8	690	4	3030	270	14	690	270	18	3030	250	16	690	250	4	770	250	32	600
	2												4100												5080	13		
	3												5800												6780	18		
	4												7500												8480	24		
	5												9200												10 180	30		
	6												10 900												11 880	35		
1800	1800	34	270	1725	2110	2320	470	8	3630	8	690	4	3630	260	16	690	260	20	3630	255	18	690	255	4	770	255	34	600
	2												4700												5680	15		
	3												6700												7680	21		
	4												8700												9680	28		
	5												10 700												11 680	35		
	6												13 270°												14 490*	41		

° Includes 1 - 570 mm lap splice

** Bars to be smooth and greased for 300 mm of length
* Includes 1 - 810 mm lap splice

DESIGNED	BADEAUX ENG. INC.				
CHECKED					
DETAILED	T. BAKER SMITH				
CHECKED					
DATE					
SHEET	2 OF 2				

HYDRAULICS SECTION

		APPROVED	BY

REVISION DESCRIPTION

APPROVED BY CHIEF ENGINEER: Original Signed by Chief Engineer — DATE: 5-24-99

REINFORCED CONCRETE BOX CULVERTS 900, 1200, 1500 & 1800 mm MULTIPLE BARRELS - 90 DEGREE

STANDARD PLAN: RCB-90M1M

STATE OF LOUISIANA — DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT — botp

SHEET NUMBER		
PARISH		
FEDERAL PROJECT		
STATE PROJECT		