STATE	PROJECT NO.
MISS.	

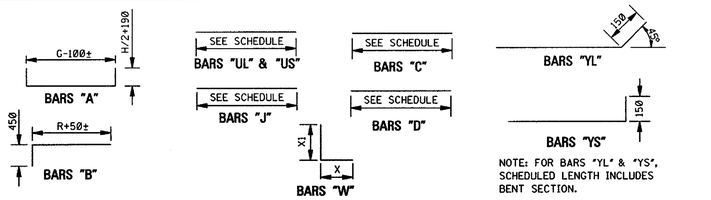
DIMENSIONS AND REINFORCING COMMON TO FLARED HEADWALLS FOR SINGLE, DOUBLE AND TRIPLE LINE PIPE CULVERTS

PIPE DIA	MIN THK *T*	DIMENSIONS C	H	R	S1	S2	U	W
375	57	175	725	1165	1495	1645	150	200
450	63	175	840	1350	1760	1910	150	250
600	75	175	1015	1725	2290	2440	150	300
750	88	175	1190	2025	2715	2865	150	375
900	100	190	1365	2365	3190	3340	150	425
1050	113	190	1540	2665	3615	3765	150	500
1200	125	190	1715	3000	4095	4245	150	565
1350	138	200	1890	3360	4515	4665	150	625
1500	150	200	2065	3675	5045	5195	150	675
1650	163	200	2275	4125	5670	5835	165	765
1800	175	200	2450	4425	6085	6260	175	825
2100	200	200	2800	5025	6905	7105	200	950
2400	225	200	3125	5775	7965	8165	200	1050
2700	250	200	3475	6400	8825	9050	225	1200

PIPE DIA	REINFORCING STEEL US NO	US LGTH	UL NO	UL LGTH	W1 S	L	NO	NO	SIZE	X	X1	LGTH	W2 S	L	NO	NO	SIZE	X	X1	LGTH	W3 S	L	NO	NO	SIZE	X	X1	LGTH	W4 S	L	NO	NO	SIZE	X	X1	LGTH
375	2	1175	2	1450	2	3			#13	325	500	825	3	3			#13	300	300	600																
450	2	1350	2	1700	2	3			#13	375	600	975	3	4			#13	300	300	600																
600	2	1725	2	2250	2	3			#13	500	775	1275	3	4			#13	400	475	875	2	1			#13	300	350	650								
750	2	2025	2	2675	2	3			#13	625	950	1575	3	4			#13	475	650	1125	3	3			#13	300	425	725								
900	2	2375	2	3150	2	3			#16	725	1125	1850	3	4			#13	600	825	1425	3	4			#13	350	525	875	1	1			#13	325	475	800
1050	2	2675	2	3575	2	3			#16	875	1300	2175	3	4			#13	675	1000	1675	3	5			#13	475	700	1175	2	1			#13	350	550	900
1200	2	3000	2	4050	2	3			#16	925	1450	2375	3	4			#16	800	1150	1950	3	5			#13	550	850	1400	3	2			#13	375	600	975
1350	2	3300	2	4475	2	3			#16	1050	1600	2650	3	4			#16	900	1300	2200	3	5			#13	675	1000	1675	4	4			#13	475	700	1175
1500	2	3675	2	5000	2	3			#16	1150	1775	2925	3	4			#16	1000	1475	2450	3	5			#16	750	1175	1925	4	4			#13	550	875	1425
1650	2	4125	2	5625	2	3			#19	1275	2000	3275	3	4			#16	1100	1700	2800	3	5			#16	950	1400	2350	4	4			#16	775	1100	1875
1800	2	4425	2	6025	2	3			#19	1425	2225	3650	3	4			#19	1250	1925	3175	3	5			#16	1050	1625	2675	4	4			#16	850	1325	2175
2100	2	5025	2	6850	2	3			#19	1625	2575	4200	3	4			#19	1550	2275	3825	3	5			#19	1350	1975	3325	4	4			#16	1125	1675	2800
2400	2	5775	2	7925	2	3			#22	1675	2850	4525	3	4			#22	1675	2550	4225	3	5			#19	1500	2250	3750	4	4			#16	1300	1950	3250
2700	2	6400	2	8775	3	4			#22	1925	3225	5150	4	5			#22	1925	2925	4850	3	5			#22	1750	2625	4375	3	4			#19	1550	2325	3875

PIPE DIA	W5 S	L	NO	NO	SIZE	X	X1	LGTH	W6 S	L	NO	NO	SIZE	X	X1	LGTH	W7 S	L	NO	NO	SIZE	X	X1	LGTH	W8 S	L	NO	NO	SIZE	X	X1	LGTH
375																																
450																																
600																																
750																																
900																																
1050																																
1200																																
1350																																
1500																																
1650																																
1800																																
2100																																
2400																																
2700																																

PIPE DIA	YS1 NO	LGTH	YS2 NO	LGTH	YS3 NO	LGTH	YS4 NO	LGTH	YS5 NO	LGTH	YS6 NO	LGTH	YS7 NO	LGTH	YS8 NO	LGTH	YL1 NO	LGTH	YL2 NO	LGTH	YL3 NO	LGTH	YL4 NO	LGTH	YL5 NO	LGTH	YL6 NO	LGTH	YL7 NO	LGTH	YL8 NO	LGTH
375	1	675	1	1350													1	1075	1	1800												
450	1	675	1	1550													1	1075	1	2050												
600	1	675	1	1575	1	1925											1	1075	1	2275	1	2575										
750	1	675	1	1575	1	2225											1	1075	1	2275	1	3000										
900	1	675	1	1575	1	2475	1	2550									1	1075	1	2275	2	3500										
1050	1	675	1	1575	1	2475	1	2850									1	1075	1	2275	1	3775	1	3925								
1200	1	675	1	1575	1	2475	1	3200									1	1075	1	2275	1	3775	2	4400								
1350	1	675	1	1575	1	2475	2	3500									1	1075	1	2275	1	3775	2	4825								
1500	1	675	1	1575	1	2475	1	3675	2	3875							1	1075	1	2275	1	3775	1	4975	2	5350						
1650	1	675	1	1575	1	2475	1	3675	3	4325							1	1075	1	2275	1	3775	1	4975	3	5975						
1800	1	700	1	1600	1	2500	1	3700	1	4600	2	4950					1	1100	1	2300	1	3800	1	5000	1	6200	2	6400				
2100	1	725	1	1625	1	2525	1	3725	1	4625	1	5375	2	5550			1	1125	1	2325	1	3825	1	5025	1	6225	3	7250				
2400	1	725	1	1625	1	2525	1	3725	1	4625	1	5375	3	6000			1	1125	1	2325	1	3825	1	5025	1	6225	1	7425	3	8325		
2700	1	750	1	1650	1	2550	1	3750	1	4650	1	5400	1	6525	3	6650	1	1225	1	2350	1	3850	1	5050	1	6175	1	7675	1	8800	3	9500



NOTE: FOR BARS "YL" & "YS", SCHEDULED LENGTH INCLUDES BENT SECTION.

BAR BENDING DETAILS

NOTE: WHENEVER THE COMPUTED LENGTH OF BAR EXCEEDS 9000 mm, THE SCHEDULED LENGTH INCLUDES A 300-mm LAP. ALL BARS ARE #13 EXCEPT BARS "W". SEE SCHEDULE FOR SIZE OF BARS "W". IN BAR DESIGNATIONS (e.g. "YS" & "YL"), S DENOTES SHORT WING AND L DENOTES LONG WING.

DIMENSIONS AND REINFORCING FOR FLARED HEADWALL FOR SINGLE LINE PIPE CULVERT

PIPE DIA	DIMENSIONS A	B	E	G	X	Y	Z	REINFORCING STEEL A NO	A LGTH	B NO	B LGTH	C NO	C LGTH	D NO	D LGTH	J1 NO	J1 LGTH	J2 NO	J2 LGTH	J3 NO	J3 LGTH	J4 NO	J4 LGTH	J5 NO	J5 LGTH	J6 NO	J6 LGTH	J7 NO	J7 LGTH	J8 NO	J8 LGTH	J9 NO	J9 LGTH	J10 NO	J10 LGTH	J11 NO	J11 LGTH	J12 NO	J12 LGTH	J13 NO	J13 LGTH	J14 NO	J14 LGTH	J15 NO	J15 LGTH	J16 NO	J16 LGTH	J17 NO	J17 LGTH	J18 NO	J18 LGTH	J19 NO	J19 LGTH	J20 NO	J20 LGTH	J21 NO	J21 LGTH	J22 NO	J22 LGTH	PAY QTY 1-HEADWALL CONC (m^3)	STEEL (kg)
375	-	-	-	1115	1915	750	-	4	2120	5	1665	2	800	2	550	1	1150	1	1450	1	1750	1	2050																																								0.71	43
450	-	-	-	1200	2185	835	-	4	2320	5	1850	2	900	2	600	1	1250	1	1550	1	1850	1	2150	1	2325																																						0.90	51
600	-	-	-	1400	2765	1040	-	4	2695	6	2225	2	1075	2	675	1	1450	1	1750	1	2050	1	2350	1	2650	1	2925																																				1.31	73
750	-	-	-	1615	3280	1255	-	4	3085	7	2525	2	1250	2	750	1	1675	1	1975	1	2275	1	2575	1	2875	1	3175	1	3425																																		1.75	92
900	-	-	-	1805	3805	1440	-	4	3450	7	2865	2	1425	2	825	1	1850	1	2150	1	2450	1	2750	1	3050	1	3350	1	3650	1	3950																																2.26	122
1050	-	-	-	2005	4305	1645	-	4	3825	8	3165	2	1600	2	900	1	2050	1	2350	1	2650	1	2950	1	3250	1	3550	1	3850	1	4150	1	4450																														2.81	146
1200	-	-	-	2205	4845	1845	-	4	4200	9	3500	2	1775	2	975	1	2250	1	2550	1	2850	1	3150	1	3450	1	3750	1	4050	1	4350	1	4650	1	4950	1	5000																										3.48	188
1350	-	-	-	2440	5375	2075	-	4	4610	9	3800	2	1950	2	1050	1	2475	1	2775	1	3075	1	3375	1	3675	1	3975	1	4275	1	4575	1	4875	1	5175	1	5475	1	5525																								4.16	218
1500	-	-	-	2640	5955	2280	-	4	4985	10	4175	2	2125	2	1125	1	2700	1	3000	1	3300	1	3600	1	3900	1	4200	1	4500	1	4800	1	5100	1	5400	1	5700	1	6000	1	6100																						5.00	269
1650	-	-	-	2875	6605	2480	-	4	5430	11	4625	2	2350	2	1275	1	2925	1	3225	1	3525	1	3825	1	4125	1	4425	1	4725	1	5025	1	5325	1	5625	1	5925	1	6225	1	6525	1	6775																				6.60	345
1800	-	-	-	3105	7110	2685	-	4	5835	11	4925	2	2550	2	1375	1	3150	1	3450	1	3750	1	4050	1	4350	1	4650	1	4950	1	5250	1	5550	1	5850	1	6150	1	6450	1	6750	1	7050	1	7275																		8.14	401
2100	950	5025	600	3570	8115	3090	-	4	6650	13	5525	2	2900	2	1575	1	3600	1	3900	1	4200	1	4500	1	4800	1	5100	1	5400	1	5700	1	6000	1	6300	1	6600	1	6900	1	7200	1	7500	1	7800	1	8100	1	8325												11.37	535
2400	1050	5775	600	3975	9265	3490	-	4	7380	15	6275	2	3225	2	1725	1	4025	1	4325	1	4625	1	4925	1	5225	1	5525	1	5825	1	6125	1	6425	1	6725	1	7025	1	7325	1	7625	1	7925	1	8225	1	8525	1	8825	1	9425	1	9725	1	9775						14.47	708
2700	1200	6400	600	4440	10295	3895	-	4	8195	16	6900	2	3600	2	1900	1	4500	1	4800	1	5100	1	5400	1	5700	1	6000	1	6300	1	6600	1	6900	1	7200	1	7500	1	7800	1	8100	1	8400	1	8700	1	9000	1	9600	1	9900	1	10200	1	10500	1	10800	1	10825	19.65	960

DIMENSIONS AND REINFORCING FOR FLARED HEADWALL FOR DOUBLE LINE PIPE CULVERT

PIPE DIA	DIMENSIONS A	B	E	G	X	Y	Z	REINFORCING STEEL A NO	A LGTH	B NO	B LGTH	C NO	C LGTH	D NO	D LGTH	J1 NO	J1 LGTH	J2 NO	J2 LGTH	J3 NO	J3 LGTH	J4 NO	J4 LGTH	J5 NO	J5 LGTH	J6 NO	J6 LGTH	J7 NO	J7 LGTH	J8 NO	J8 LGTH	J9 NO	J9 LGTH	J10 NO	J10 LGTH	J11 NO	J11 LGTH	J12 NO	J12 LGTH	J13 NO	J13 LGTH	J14 NO	J14 LGTH	J15 NO	J15 LGTH	J16 NO	J16 LGTH	J17 NO	J17 LGTH	J18 NO	J18 LGTH	J19 NO	J19 LGTH	J20 NO	J20 LGTH	J21 NO	J21 LGTH	J22 NO	J22 LGTH	PAY QTY 1-HEADWALL CONC (m^3)	STEEL (kg)
375	-	-	-	2005	2805	1645	300	4	3010	8	1665	3	800	4	550	1	2050	1	2350	1	2650	1	2950																																								1.01	57
450	-	-	-	2180	3165	1815	300	4	3300	8	1850	3	900	4	600	1	2225	1	2525	1	2825	1	3125	1	3325																																								1.27	67
600	-	-	-	2585	3945	2220	300	4	3880	10	2225	3	1075	4	675	1	2625	1	2925	1	3225	1	3525	1	3825	1	4100																																								1.83	96
750	-	-	-	3105	4765	2740	375	4	4575	11	2525	4	1250	4	750	1	3150	1	3450	1	3750	1	4050	1	4350	1	4650	1	4925																																						2.49	122
900	-	-	-	3565	5565	3200	450	4	5210	13	2865	4	1425	4	825	1	3600	1	3900	1	4200	1	4500	1	4800	1	5100	1	5400	1	5700																																				3.24	164
1050	-	-	-	4055	6355	3695	525	4	5875	15	3165	4	1600	4	900	1	4100	1	4400	1	4700	1	5000	1	5300	1	5600	1	5900	1	6200	1	6500																																		4.08	199
1200	-	-	-	4545	7185	4185	600	4	6540	16	3500	4	1775	4	975	1	4600	1	4900	1	5200	1	5500	1	5800	1	6100	1	6400	1	6700	1	7000	1	7300	1	7350																														5.07	252
1350	-	-	-	5095	8030	4730	675	4	7265	18	3800	5	1950	4	1050	1	5150	1	5450	1	5750	1	6050	1	6350	1	6650	1	6950	1	7250	1	7550	1	7850	1	8150	1	8175																												6.11	302
1500	-	-	-	5585	8895	5220	750	4	7930	20	4175	5	2125	4	1125	1	5625	1	5925	1	6225	1	6525	1	6825	1	7125	1	7425	1	7725	1	8025	1	8325	1	8625	1	8925	1	9350																										7.36	370
1650	-	-	-	6105	9840	5715	825	4	8660	21	4625	5	2350	4	1275	1	6150	1	6450	1	6750	1	7050	1	7350	1	7650	1	7950	1	8250	1	8550	1	8850	1	9450	1	9750	1	10050	1	10300																								9.69	460
1800	-	-	-	6630	10630	6205	900	4	9660	23	4925	6	2550	4	1375	1	6675	1	6975	1	7275	1	7575	1	7875	1	8175	1	8475	1	8775	1	9375	1	9675	1	9975	1	10275	1	10575	1	10875	1	11075																				11.98	542
2100	950	9125	4700	7670	12215	7190	1050	4	11050	27	5525	6	2900	4	1575	1	7725	1	8025	1	8325	1	8625	1	8925	1	9525	1	9825	1	10125	1	10425	1	10725	1	11025	1	11325	1	11625	1	11925	1	12225	1	12525	1	12700												16.26	717
2400	1050	10450	5275	8650	13940	8165	1200	4	12355	30	6275	7	3225	4	1725	1	8700	1	9000	1	9600	1	9900	1	10200	1	10500	1	10800	1	11100	1	11400	1	11700	1	12000	1	12300	1	12600	1	12900	1	13200	1	13500	1	13800	1	14100	1	14400	1	14450						20.73	938
2700	1200	11650	5850	9690	15550	9150	1350	4	13745	34	6900	7	3600	4	1900	1	10050	1	10350	1	10650	1	10950	1	11250	1	11550	1	11850	1	12150	1	12450	1	12750	1	13050	1	13350	1	13650	1	13950	1	14250	1	14550	1	14850	1	15150	1	15450	1	15750	1	16050	1	16075	27.83	1247

DIMENSIONS AND REINFORCING FOR FLARED HEADWALL FOR TRIPLE LINE PIPE CULVERT

PIPE DIA	DIMENSIONS A	B	E	G	X	Y	Z	REINFORCING STEEL A NO	A LGTH	B NO	B LGTH	C NO	C LGTH	D NO	D LGTH	J1 NO	J1 LGTH	J2 NO	J2 LGTH	J3 NO	J3 LGTH	J4 NO	J4 LGTH	J5 NO	J5 LGTH	J6 NO	J6 LGTH	J7 NO	J7 LGTH	J8 NO	J8 LGTH	J9 NO	J9 LGTH	J10 NO	J10 LGTH	J11 NO	J11 LGTH	J12 NO	J12 LGTH	J13 NO	J13 LGTH	J14 NO	J14 LGTH	J15 NO	J15 LGTH	J16 NO	J16 LGTH	J17 NO	J17 LGTH	J18 NO	J18 LGTH	J19 NO	J19 LGTH	J20 NO	J20 LGTH	J21 NO	J21 LGTH	J22 NO	J22 LGTH	PAY QTY 1-HEADWALL CONC (m^3)	STEEL (kg)
375	-	-	-	2900	3700	2540	300	4	3905	11	1665	4	800	6	550	1	2950	1	3250	1	3550	1	3850																																								1.31	71
450	-	-	-	3160	4150	2800	300	4	4280	12	1850	4	900	6	600	1	3200	1	3500	1	3800	1	4100	1	4300																																								1.63	85
600	-	-	-	3765	5130	3405	300	4	5060	14	2225	4	1075	6	675	1	3825	1	4125	1	4425	1	4725	1	5025	1	5275																																								2.35	119
750	-	-	-	4590	6250	4225	375	4	6060	16	2525	6	1250	6	750	1	4650	1	4950	1	5250	1	5550	1	5850	1	6150	1	6400																																						3.22	155
900	-	-	-	5325	7325	4965	450	4	6970	19	2865	6	1425	6	825	1	5375	1	5675	1	5975	1	6275	1	6575	1	6875	1	7175	1	7475																																				4.23	207
1050	-	-	-	6105	8405	5745	525	4	7925	21	3165	6	1600	6	900	1	6150	1	6450	1	6750	1	7050	1	7350	1	7650	1	7950	1	8250	1	8550																																		5.34	250
1200	-	-	-	6885	9520	6520	600	4	8880	24	3500	6	1775	6	975	1	6950	1	7250	1	7550	1	7850	1	8150	1	8450	1	8750	1	9350	1	9650	1	9950	1	9975																														6.65	322
1350	-	-	-	7750	10690	7390	675	4	10220	27	3800	8	1950	6	1050	1	7800	1	8100	1	8400	1	8700	1	9000	1	9600	1	9900	1	10200	1	10500	1	10800	1	11100	1	11150																														8.06	390
1500	-	-	-	8530	11845	8170	750	4	11175	29	4175	8	2125	6	1125	1	8575	1	8875	1	9475	1	9775	1	10075	1	10375	1	10675	1	10975	1	11275	1	11575	1	11875	1	12175	1	12300																												9.72	470
1650	-	-	-	9340	13070	8945	825	4	12195	32	4625	8	2350	6	1275	1	9700	1	10000	1	10300	1	10600	1	10900	1	11200	1	11500	1	11800	1	12100	1	12400	1	12700	1	13000	1	13300	1	13525																								12.78	582
1800	-	-	-	10150	14150	9725	900	4	13180	35	4925	10	2550	6	1375	1	10500	1	10800	1	11100	1	11400	1	11700	1	12000	1	12300	1	12600	1	12900	1	13200	1	13500	1	13800	1	14100	1	14400	1	14625																						15.81	683
2100	950	13225	8800	11770	16310	11285	1050	4	15150	40	5525	10	2900	6	1575	1	12125	1	12425	1	12725	1	13025	1	13325	1	13625	1	13925	1	14225	1	14525	1	14825	1	15125	1	15425	1	15725	1	16025	1	16325	1	16625	1	16800														21.16	890
2400	1050	15125	9950	13330	18620	12845	1200	4	17035	45	6275	14	3225	6	1725	1	13675	1	13975	1	14275	1	14575	1	14875	1	15175	1	15475	1	15775	1	16075	1	16375	1	16675	1	16975	1	17275	1	17575	1	17875	1	18475	1	18775	1	19075	1	19375	1	19425						26.97	1171
2700	1200	16900	11100	14945	20800	14400	1350	4	19300	50	6900	14	3600	6	1900	1