

REVISED 1/88; BEND DIMENSIONS OF 1 BAR CHANGED.

REVISED 04-02 - CHANGED THE NUMBER OF #1 BARS FOR 2400 SPANS. CONCRETE QUANTITIES ADJUSTED.
 F:\M453650.D

BILL OF REINF. FOR ONE HEADWALL 45° SKEW CULVERT SPAN X CULVERT HEIGHT

LOCATION	SHAPE	SIZE	MARK	2400x3000				2400x2400				2400x1800				2400x1500				2400x1200				MARK			
				NO.	LENGTH	MASS		NO.	LENGTH	MASS		NO.	LENGTH	MASS		NO.	LENGTH	MASS		NO.	LENGTH	MASS			NO.	LENGTH	MASS
FENCE ANCHOR	ΔΔ			2	930	3		2	930	3		2	930	3		2	930	3		2	930	3		2	930	3	f a
WINGWALL, BFH	L	15	b1	1	18 900	30	1	15 430	24	1	11 900	19	1	10 180	16	1	8 400	13	1	6 400	10	1	4 800	8	1	b1	
WINGWALL, BFH	S	15	b2	1	11 700	18	1	9 600	15	1	7 500	12	1	6 450	10	1	5 400	8	1	4 500	7	1	3 600	6	1	b2	
WINGWALL BFH	L	15	b3	8	5700 (LENGTH VARIES)	153	8	5700 (LENGTH VARIES)	14 450	97	4	5700 (LENGTH VARIES)	52	8	5700 (LENGTH VARIES)	35	2	5700 (LENGTH VARIES)	21	2	5700 (LENGTH VARIES)	12	2	5700 (LENGTH VARIES)	6	2	b3
WINGWALL BFH	S	15	b4	8	3780 (LENGTH VARIES)	94	8	3780 (LENGTH VARIES)	60	34	4	3780 (LENGTH VARIES)	34	8	3780 (LENGTH VARIES)	23	2	3780 (LENGTH VARIES)	14	2	3780 (LENGTH VARIES)	8	2	3780 (LENGTH VARIES)	4	2	b4
WINGWALL FFH	L	15	b5	1	18 900	30	1	15 430	24	1	11 900	19	1	10 180	16	1	8 400	13	1	6 400	10	1	4 800	8	1	b5	
WINGWALL FFH	S	15	b6	1	11 700	18	1	9 600	15	1	7 500	12	1	6 450	10	1	5 400	8	1	4 500	7	1	3 600	6	1	b6	
WINGWALL FFH	L	15	b7	9	3780 (LENGTH VARIES)	159	9	3780 (LENGTH VARIES)	103	59	5	3780 (LENGTH VARIES)	59	9	3780 (LENGTH VARIES)	41	3	3780 (LENGTH VARIES)	27	3	3780 (LENGTH VARIES)	14	3	3780 (LENGTH VARIES)	7	3	b7
WINGWALL FFH	S	15	b8	9	2730 (LENGTH VARIES)	98	7	2730 (LENGTH VARIES)	65	38	4	2730 (LENGTH VARIES)	38	9	2730 (LENGTH VARIES)	27	3	2730 (LENGTH VARIES)	18	3	2730 (LENGTH VARIES)	11	3	2730 (LENGTH VARIES)	5	3	b8
WINGWALL FFV	L	15	c1	60	760 (LENGTH VARIES)	214	49	760 (LENGTH VARIES)	158	37	760 (LENGTH VARIES)	98	3	760 (LENGTH VARIES)	74	25	760 (LENGTH VARIES)	45	2	760 (LENGTH VARIES)	22	2	760 (LENGTH VARIES)	10	2	c1	
WINGWALL FFV	S	15	c2	36	770 (LENGTH VARIES)	128	29	770 (LENGTH VARIES)	90	22	770 (LENGTH VARIES)	58	19	770 (LENGTH VARIES)	46	15	770 (LENGTH VARIES)	32	15	770 (LENGTH VARIES)	19	15	770 (LENGTH VARIES)	11	15	c2	
WINGWALL FFV	L	15	c3	2	3700	12	2	3100	10	2	2500	8	2	2200	7	2	1900	6	2	1600	5	2	1300	4	2	c3	
WINGWALL FFV	S	15	c3	2	3700	12	2	3100	10	2	2500	8	2	2200	7	2	1900	6	2	1600	5	2	1300	4	2	c3	
WINGWALL BFV	L	15	c4	15	760 (LENGTH VARIES)	26	15	760 (LENGTH VARIES)	15	760 (LENGTH VARIES)	26	15	760 (LENGTH VARIES)	15	760 (LENGTH VARIES)	26	15	760 (LENGTH VARIES)	26	15	760 (LENGTH VARIES)	26	15	760 (LENGTH VARIES)	26	15	c4
WINGWALL BFV	S	15	c5	4	770 (LENGTH VARIES)	6	4	770 (LENGTH VARIES)	6	4	770 (LENGTH VARIES)	6	4	770 (LENGTH VARIES)	6	4	770 (LENGTH VARIES)	6	4	770 (LENGTH VARIES)	6	4	770 (LENGTH VARIES)	6	4	c5	
WINGWALL BFV	L	15	c5	34	2730 (LENGTH VARIES)	273	34	2730 (LENGTH VARIES)	191	22	2730 (LENGTH VARIES)	119	16	2730 (LENGTH VARIES)	78	10	2730 (LENGTH VARIES)	46	5	2730 (LENGTH VARIES)	22	5	2730 (LENGTH VARIES)	10	5	c6	
WINGWALL BFV	S	15	c7	32	2310 (LENGTH VARIES)	183	25	2310 (LENGTH VARIES)	131	18	2310 (LENGTH VARIES)	86	15	2310 (LENGTH VARIES)	69	11	2310 (LENGTH VARIES)	47	11	2310 (LENGTH VARIES)	22	11	2310 (LENGTH VARIES)	10	11	c7	
WINGWALL BFV	L	15	c8	30	3150 (LENGTH VARIES)	148	18	3150 (LENGTH VARIES)	89	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	c8	
WINGWALL BFV	S	15	c8	19	3150 (LENGTH VARIES)	94	12	3150 (LENGTH VARIES)	59	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	c8	
WINGWALL BFV	L	15	c9	1	4900	8	1	4900	7	1	5700	6	1	5400	5	1	5100	4	1	4800	3	1	4500	2	1	c9	
WINGWALL BFV	S	15	c9	2	4900	15	2	4300	14	2	3700	12	2	3400	11	2	3100	10	2	2800	9	2	2500	8	2	c9	
APRON, LONG BOT	L	15	d1	5	9970	78	5	8270	65	5	6580	52	5	5730	45	5	4880	38	4	4200	32	4	2700	22	4	d1	
APRON, LONG BOT L	L	15	d2	3	17 680	83	3	14 200	67	3	10 730	51	3	9000	42	3	7280	54	2	6000	42	2	3200	22	2	d2	
APRON, LONG BOT S	S	15	d3	3	10 700	50	3	8610	41	3	6540	31	3	5510	26	3	4480	21	3	3600	16	3	1300	9	3	d3	
APRON, LONG TOP	L	20	f1	8	9970	188	8	8270	156	8	6580	124	8	5730	108	8	4880	92	7	4200	71	7	2700	47	7	f1	
APRON, LONG TOP L	L	20	f2	14	570 (LENGTH VARIES)	149	11	570 (LENGTH VARIES)	96	8	780 (LENGTH VARIES)	55	7	530 (LENGTH VARIES)	39	5	280 (LENGTH VARIES)	26	5	230 (LENGTH VARIES)	14	5	180 (LENGTH VARIES)	8	5	f2	
APRON, LONG TOP S	S	20	f3	9	220 (LENGTH VARIES)	91	7	530 (LENGTH VARIES)	59	5	840 (LENGTH VARIES)	34	4	1000 (LENGTH VARIES)	24	3	750 (LENGTH VARIES)	16	3	600 (LENGTH VARIES)	10	3	450 (LENGTH VARIES)	5	3	f3	
APRON, LONG TOP L	L	20	f4	1	18 930	45	1	15 430	36	1	11 930	28	1	10 180	24	1	8 430	20	1	6 430	15	1	4 830	10	1	f4	
APRON, LONG TOP S	S	20	f5	1	11 700	28	1	9600	23	1	7500	18	1	6450	15	1	5400	13	1	4500	10	1	3600	7	1	f5	
PARAPET, VERT	L	15	j1	17	2040	54	17	2040	54	17	2040	54	17	2040	54	17	2040	54	17	2040	54	17	2040	54	17	j1	
PARAPET, HORIZ	L	25	j1	4	3970	62	4	3970	62	4	3900	61	4	3900	61	4	3900	61	4	3900	61	4	3900	61	4	j1	
APRON, TRANS TOP	L	20	m1	7	3040 (LENGTH VARIES)	53	7	3040 (LENGTH VARIES)	53	7	2980 (LENGTH VARIES)	52	7	2980 (LENGTH VARIES)	52	7	2980 (LENGTH VARIES)	52	7	2980 (LENGTH VARIES)	52	7	2980 (LENGTH VARIES)	52	7	m1	
APRON, TRANS TOP	S	20	m2	8	3430 (LENGTH VARIES)	324	20	4480 (LENGTH VARIES)	211	18	3680 (LENGTH VARIES)	124	5	3380 (LENGTH VARIES)	81	5	3380 (LENGTH VARIES)	42	5	3380 (LENGTH VARIES)	22	5	3380 (LENGTH VARIES)	10	5	m2	
APRON, TRANS TOP	L	20	m3	7	4270 (LENGTH VARIES)	70	7	3780 (LENGTH VARIES)	62	7	3380 (LENGTH VARIES)	56	7	3150 (LENGTH VARIES)	52	7	2920 (LENGTH VARIES)	48	7	2620 (LENGTH VARIES)	40	7	2320 (LENGTH VARIES)	32	7	m3	
APRON, TRANS BOT	L	20	m4	21	1150 (LENGTH VARIES)	215	17	1150 (LENGTH VARIES)	149	13	1150 (LENGTH VARIES)	94	11	1150 (LENGTH VARIES)	71	9	1150 (LENGTH VARIES)	52	9	1150 (LENGTH VARIES)	30	9	1150 (LENGTH VARIES)	16	9	m4	
CURTAIN, HORIZ	L	20	p1	4	3290	31	4	3290	31	4	3290	31	4	3290	31	4	3290	31	4	3290	31	4	3290	31	4	p1	
CURTAIN, HORIZ S	S	20	p2	4	10 840	102	4	8610	84	4	7040	56	4	5900	57	4	5150	49	4	4400	42	4	3650	35	4	p2	
CURTAIN, HORIZ L	L	20	p3	4	4090	39	4	3480	33	4	2870	27	4	2570	24	4	2260	21	4	1950	17	4	1640	13	4	p3	
WING SLOPE EF	L	20	s1	2	3720	18	2	3720	18	2	3720	18	2	3720	18	2	3720	18	2	3720	18	2	3720	18	2	s1	
WING SLOPE EF	S	20	s2	2	2760	13	2	2760	13	2	2760	13	2	2760	13	2	2760	13	2	2760	13	2	2760	13	2	s2	
WING SLOPE EF	L	20	s3	2	16 120	76	2	12 570	59	2	9020	42	2	7250	34	2	5470	26	2	4200	20	2	3450	16	2	s3	
WING SLOPE EF	S	20	s4	2	10 270	48	2	8080	38	2	5900	28	2	4810	28	2	3720	18	2	3720	18	2	3720	18	2	s4	
WING SLOPE FF L	L	20	s5	1	19 020	45	1	15 620	37	1	12 070	28	1	10 300	24	1	8530	20	1	7060	16	1	5590	12	1	s5	
WING SLOPE FF S	S	20	s6	1	12 080	30	1	9910	23	1	7710	18	1	6820	16	1	5580	13	1	4500	10	1	3500	7	1	s6	
CURTAIN, VERT	L	15	t1	38	2260	135	31	2110	103	24	1960	74	21	1960	65	17	1960	52	17	1960	52	17	1960	52	17	t1	
ESTIMATED QUANTITIES ONE HEADWALL				REINF STEEL	3749 kg		2765 kg		1848 kg		1509 kg		1193 kg														
				PARAPETA	1.4		1.4		1.3		1.3		1.3														
				WINGS	14.9		10.2		5.6		4.1		2.8														
				FOOTING	28.9		21.0		14.2		11.6		9.2														
					45.2 m ³		32.6 m ³		21.1 m ³		17.0																