

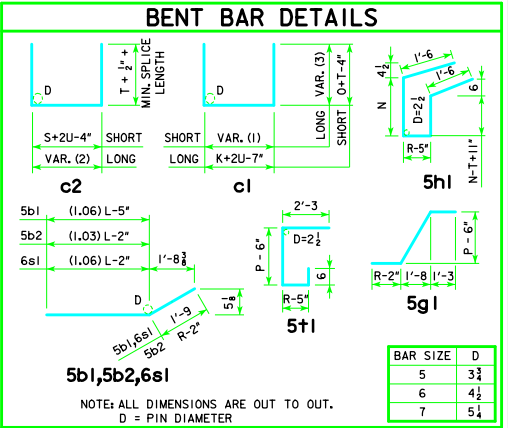
ESTIMATE OF QUANTITIES - FLUME BASIN

BILL OF REINFORCING STEEL			12' x 4'			12' x 5'			12' x 6'			12' x 7'			12' x 8'			12' x 9'			12' x 10'			12' x 11'			12' x 12'												
BAR	LOCATION	SHAPE	SIZE	NO.	LENGTH	WEIGHT	SIZE	NO.	LENGTH	WEIGHT	SIZE	NO.	LENGTH	WEIGHT	SIZE	NO.	LENGTH	WEIGHT	SIZE	NO.	LENGTH	WEIGHT	SIZE	NO.	LENGTH	WEIGHT	SIZE	NO.	LENGTH	WEIGHT									
5a1	WALLS - VERT. - F.F.	U	5	30	2'-8 1/2"-2	138	5	32	3'-5 1/2"-2	177	5	34	4'-3 1/8"-2	220	5	36	5'-0 1/4"-3	268	5	38	5'-9 1/10"-3	317	5	40	6'-6 1/11"-3	370	5	42	7'-4 1/2"-3	429	5	44	8'-1 1/13"-4	491	5	46	8'-10 1/4"-4	556	
5b1	WALLS - LONGIT. - F.F. & B.F.	U	5	12	16'-2	202	5	16	17'-3	288	5	20	18'-4	382	5	20	19'-4	403	5	24	20'-5	511	5	28	21'-6	628	5	32	22'-6	751	5	32	23'-7	787	5	36	24'-8	926	
5b2	WALLS - LONGIT. - F.F. & B.F.	U	5	4	15'-1	63	5	4	16'-1	67	5	4	17'-5	73	5	8	18'-5	154	5	8	19'-5	162	5	8	20'-6	171	5	8	21'-6	179	5	12	22'-7	283	5	12	23'-7	295	
c1	WALLS - VERT. - B.F.	U	5	27	25'-3 1/2"-6	715	5	21	27'-3 1/2"-7	601	5	15	29'-5 1/2"-8	462	5	9	31'-5 3/11"-8	296	5	3	33'-7 1/31"-10	105	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
c2	WALLS - VERT. - B.F.	U	5	2	19'-11 1/2"-2	42	5	10	19'-11 1/2"-2	219	5	18	19'-11 1/2"-2	414	5	26	19'-11 1/2"-2	625	5	34	20'-1 1/28"-4	858	5	39	20'-1 1/28"-7	1010	6	41	20'-1 1/30"-11	1596	7	43	22'-9 1/33"-3	2461	7	45	22'-11 1/33"-11	2614	
c3	WALLS - VERT. - B.F.	U	5	4	4'-10 1/2"-0	21	5	20	4'-10 1/2"-0	113	5	36	4'-11 1/8"-1	224	5	52	4'-11 1/8"-1	353	5	68	4'-11 1/8"-1	496	5	78	5'-4 1/10"-1	627	6	82	6'-2 1/11"-1	1062	7	86	6'-11 1/12"-2	1677	7	90	7'-8 1/31"-2	1916	
6f1	FLOOR - LONGIT. - TOP	U	6	20	14'-8	441	6	21	15'-8	494	6	21	16'-11	534	6	22	17'-11	592	6	22	18'-11	625	6	23	19'-11	688	6	23	20'-11	723	6	24	21'-11	790	6	24	22'-11	826	
5f2	FLOOR - LONGIT. - BOTT.	U	5	20	14'-8	306	5	21	15'-8	343	5	21	16'-11	371	5	22	17'-11	411	5	22	18'-11	434	5	23	19'-11	478	5	23	20'-11	502	5	24	21'-11	549	5	24	22'-11	574	
5g1	CURTAIN BRACKET - VERT.	U	5	4	5'-6	23	5	4	5'-6	23	5	4	5'-9	24	5	4	6'-0	25	5	4	6'-3	26	5	4	6'-5	27	5	4	6'-8	28	5	4	7'-2	29	5	4	7'-2	30	
5h1	BASIN BACKWALL - VERT.	U	5	14	7'-10	114	5	14	8'-4	122	5	14	9'-1	133	5	14	9'-7	140	5	14	10'-1	147	5	14	10'-7	155	5	14	11'-1	162	5	14	11'-7	169	5	15	12'-1	189	
6m1	FLOOR TRANS. - TOP	U	6	15	13'-8 1/2"-5	384	6	16	13'-8 1/2"-11	416	6	17	13'-8 1/2"-11	448	6	18	13'-10 1/22"-7	520	6	20	13'-10 1/22"-1	554	6	21	13'-10 1/22"-7	590	6	22	14'-0 1/24"-3	632	6	23	14'-2 1/24"-11	675	6	23	14'-9 1/25"-0	715	
6p1	CURTAIN - TRANS.	U	6	2	20'-4 1/2"-6	61	6	2	20'-10 1/21"-0	63	6	2	21'-3 1/21"-6	64	6	2	21'-9 1/22"-0	66	6	2	22'-5 1/22"-8	68	6	2	22'-11 1/23"-2	69	6	2	23'-5 1/23"-8	71	6	2	24'-1 1/24"-4	73	6	2	24'-9 1/25"-0	75	
6s1	WALL - TOP SLOPE	U	6	4	16'-5	99	6	4	17'-6	105	6	4	18'-7	112	6	4	19'-7	118	6	4	20'-8	124	6	4	21'-9	131	6	4	22'-9	137	6	4	23'-10	143	6	4	24'-11	150	
5t1	CURTAIN - VERT.	U	5	16	6'-4	106	5	17	6'-4	112	5	17	6'-7	117	5	17	6'-10	121	5	18	7'-1	133	5	18	7'-4	138	5	19	7'-7	150	5	19	7'-10	155	5	20	8'-1	169	
TOTAL WEIGHT (LB)						2715				3143				3578				4053				4526				5046				6380				8239				8995	
CONCRETE (CY)	FOOTING				14.7				15.7				16.7				18.1				19.6				21.1				22.3				24.2			26.0			
	WALLS				2.6				3.6				4.7				5.7				7.9				9.4				11.0			14.1			17.6				
	TOTAL				17.3				19.3				21.4				23.8				27.5				30.5				33.3			38.3			43.6				

VARIABLE DIMENSIONS	
VARIABLE (1)	$K+2U-4^*(\frac{K-S}{No. of cl + c2 - 1})$
VARIABLE (2)	$S+2U-4^*(\frac{K-S}{No. of cl + c2 - 1})$
VARIABLE (3)	$O+T-4^*(\frac{N+V-O}{No. of cl + c2 - 1})$

TABLE OF FLUME BASIN DIMENSIONS												
S x H	K	L	M	N	O	P	R	T	U	V		
12' x 4'	19'-0	14'-0	3'-0	2'-3	1'-0	3'-6	1'-0	1'-2	0'-9	3'-1 1/2		
12' x 5'	19'-6	15'-0	3'-9	2'-6	2'-7	3'-6	1'-0	1'-2	0'-9	3'-10 3/8		
12' x 6'	20'-0	16'-0	4'-6	2'-9	3'-5	3'-6	1'-3	1'-2	0'-9	4'-7 5/8		
12' x 7'	20'-6	17'-0	5'-3	3'-0	4'-2	3'-9	1'-3	1'-2	0'-9	5'-5		
12' x 8'	21'-0	18'-0	6'-0	3'-3	4'-11	4'-0	1'-3	1'-2	0'-10	6'-2 1/4		
12' x 9'	21'-6	19'-0	6'-9	3'-6	5'-8	4'-3	1'-3	1'-2	0'-10	6'-11 1/2		
12' x 10'	22'-0	20'-0	7'-6	3'-9	6'-6	4'-6	1'-3	1'-2	0'-10	7'-8 3/4		
12' x 11'	22'-6	21'-0	8'-3	4'-0	7'-3	4'-9	1'-3	1'-2	0'-11	8'-6		
12' x 12'	23'-0	22'-0	9'-0	4'-3	8'-0	5'-0	1'-3	1'-2	1'-0	9'-3 3/4		

S = CULVERT SPAN
H = CULVERT HEIGHT



ENGLISH SIGNING LINES.DGN -- RCFB-06-12 -- THIS SHEET ISSUED 04-12

LATEST REVISION DATE

Iowa Department of Transportation
Highway Division

STANDARD DESIGN

REINFORCED CONCRETE
BOX CULVERTS

APRIL, 2012

APPROVED BY BRIDGE ENGINEER

FLUME BASIN
DETAILS

12' SPAN

RCFB-06-12

NOTE:
SEE STANDARD SHEET RCF-07-12 FOR FLUME BASIN
DETAILS AND NOTES.