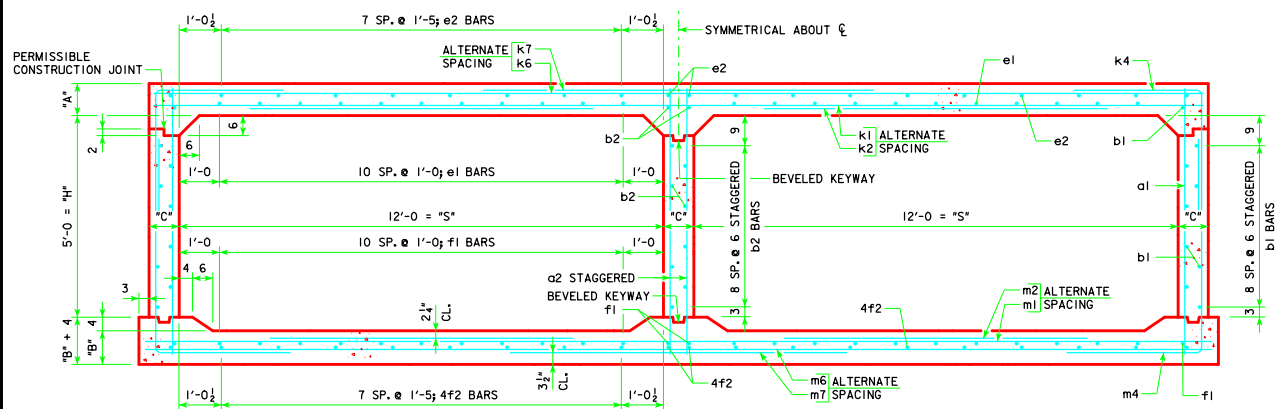
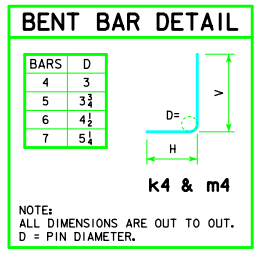


ENGLISH DESIGNED IN VERTICALS.DWG - TWRCB 12-5-12 - THIS SHEET ISSUED 04-12

VARIABLE DIMENSIONS AND QUANTITIES FOR TWIN 12 x 5 BARREL SECTIONS

DIMENSIONS													BAR LIST																																										
FILL	S	H	A	B	C	D	E	U	W	X	Z	a1		a2		b1		b2		e1		e2		f1		f2		k1		k2		k4		k6		k7		k9																	
SIZE	SP.	L	SIZE	SP.	L	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.	SIZE	SP.	NO.											
0	12	5	14.5	12	9	9	9	0'-0	7'-8	2'-6	5'-10	4	12	7'-1	7	9	7'-0	4	6	20	4	6	11	4	12	22	5	17	20	4	12	26	4	17	20	5	12	25'-11	5	12	12'-11	5	18	25'-11	7	18	15'-4	7	4.5	25'-11					
1	12	5	13.5	12	9	9	9	0'-0	7'-8	2'-7	5'-11	4	12	7'-0	6	9	7'-0	4	6	20	4	6	11	4	12	22	4	17	20	4	12	26	4	17	20	6	12	25'-11	5	12	12'-6	6	18	12'-6	6	18	15'-4	7	4.5	25'-11					
2	12	5	10	10	9	9	9	2'-0	6'-3	3'-0	4'-7	5	12	6'-7	7	9	6'-7	4	6	20	4	6	11	5	12	22	4	17	20	4	12	26	4	17	20	6	12	25'-11	5	12	10'-1	5	6	6'-9	3'-1	3'-0	5	12	25'-11	6	12	12'-6	6	4.5	25'-11
3	12	5	10.5	10	9	6	9	2'-3	5'-10	3'-0	4'-4	4	6	6'-7	6	9	6'-7	4	6	20	4	6	11	4	12	22	4	17	20	4	12	26	4	17	20	6	12	25'-11	5	12	9'-10	5	6	6'-2	3'-1	3'-1	4	12	25'-11	7	12	11'-8	7	4.5	25'-11
4	12	5	9.5	10	9	6	9	2'-9	4'-10	3'-3	4'-2	4	6	6'-6	6	9	6'-6	4	6	20	4	6	11	4	12	22	4	17	20	4	12	26	4	17	20	5	9	25'-11	4	9	8'-6	6	9	6'-8	3'-4	3'-4	5	9	25'-11	5	9	9'-8	5	4.5	25'-11
5-7	12	5	10	11	9	9	9	2'-1	4'-8	3'-3	4'-2	4	9	6'-8	6	9	6'-8	4	6	20	4	6	11	4	12	22	4	17	20	4	12	26	4	17	20	5	12	25'-11	5	12	9'-11	6	9	6'-4	3'-0	3'-4	5	12	25'-11	7	12	9'-4	7	4.5	25'-11
8-10	12	5	11.5	13	9	9	9	3'-1	4'-3	3'-2	4'-2	4	12	6'-11	6	9	6'-11	4	6	20	4	6	11	4	12	22	4	17	20	4	12	26	4	17	20	5	9	25'-11	4	9	8'-5	5	6	5'-7	2'-5	3'-2	5	9	25'-11	6	9	8'-6	6	4.5	25'-11
11-13	12	5	13	15	9	9	9	2'-10	4'-3	3'-0	4'-4	5	12	7'-3	6	9	7'-3	4	6	20	4	6	11	4	12	22	4	17	20	4	12	26	4	17	20	5	9	25'-11	4	9	9'-4	4	6	5'-8	2'-5	3'-3	4	9	25'-11	7	9	8'-6	7	4.5	25'-11
14-16	12	5	14.5	16.5	9	9	9	2'-5	4'-4	2'-5	4'-5	4	9	7'-6	6	9	7'-6	4	6	20	4	6	11	4	12	22	4	17	20	4	12	26	4	17	20	6	12	25'-11	5	12	10'-0	4	6	5'-9	2'-5	3'-4	5	12	25'-11	8	12	8'-8	8	4.5	25'-11
17-19	12	5	16	18	9	9	9	2'-2	4'-5	2'-1	4'-6	4	12	7'-9	6	9	7'-9	4	6	20	4	6	11	4	12	22	4	17	20	4	12	26	4	17	20	6	12	25'-11	5	12	10'-9	6	12	6'-4	2'-6	3'-10	5	9	25'-11	7	9	8'-10	7	4.5	25'-11
20-22	12	5	18	20	9	9	9	1'-8	4'-7	1'-7	4'-8	4	12	8'-1	6	9	8'-1	4	6	20	4	6	11	4	12	22	4	17	20	4	12	26	4	17	20	6	12	25'-11	5	12	11'-3	6	12	6'-7	2'-7	4'-0	5	9	25'-11	7	9	9'-2	7	4.5	25'-11
23-25	12	5	19.5	21.5	9.5	9	6	1'-5	4'-8	1'-6	4'-10	4	9	8'-4	5	6	8'-4	4	6	20	4	6	11	4	12	22	4	17	20	5	12	26	4	17	20	7	18	26'-0	7	18	11'-7	5	9	26'-0	7	9	9'-4	7	4.5	26'-0					

FILL	SIZE	BAR LIST																																				QUANTITIES				
		m1	m2	m4	H	V	m6	m7	m9	SLAB	FLOOR	WALLS	TOTAL	STEEL																												
0	5	12	26'-5	5	12	9'-0	6	9	10'-10	5'-5	5'-5	5	12	26'-5	5	12	11'-8	5	4.5	26'-5	1.232	1.050	0.382	2.664	366.29																	
1	5	12	26'-5	5	12	8'-11	7	12	9'-10	4'-5	5'-5	5	18	26'-5	7	18	11'-10	7	4.5	26'-5	1.151	1.050	0.382	2.583	350.76																	
2	5	9	26'-5	5	9	7'-11	5	6	8'-9	3'-6	5'-3	4	9	26'-5	6	9	9'-2	6	4.5	26'-5	0.867	0.885	0.382	2.134	396.61																	
3	5	9	26'-5	5	9	8'-0	5	6	8'-8	3'-5	5'-3	5	9	26'-5	6	9	8'-8	6	4.5	26'-5	0.907	0.885	0.382	2.174	394.45																	
4	6	12	26'-5	5	12	7'-6	6	9	8'-7	3'-4	5'-3	5	9	26'-5	6	9	8'-4	6	4.5	26'-5	0.826	0.885	0.382	2.093	388.82																	
5-7	6	12	26'-5	5	12	7'-8	6	9	8'-5	3'-1	5'-4	5	9	26'-5	6	9	8'-4	6	4.5	26'-5	0.867	0.967	0.382	2.216	378.21																	
8-10	5	9	26'-5	4	9	8'-4	5	6	8'-1	2'-7	5'-6	5	9	26'-5	6	9	8'-4	6	4.5	26'-5	0.989	1.132	0.382	2.503	375.00																	
11-13	6	12	26'-5	5	12	9'-2	4	6	8'-1	2'-5	5'-8	5	9	26'-5	6	9	8'-8	6	4.5	26'-5	1.110	1.297	0.382	2.789	366.55																	
14-16	6	12	26'-5	5	12	10'-4	4	6	8'-4	2'-6	5'-10	4	9	26'-5	7	9	8'-10	7	4.5	26'-5	1.232	1.421	0.382	3.035	377.29																	
17-19	7	18	26'-5	7	18	10'-11	6	12	8'-5	2'-6	5'-11	5	9	26'-5	7	9	9'-0	7	4.5	26'-5	1.353	1.545	0.382	3.280	413.21																	
20-22	7	18	26'-5	7	18	11'-5	6	12	8'-8	2'-7	6'-1	5	9	26'-5	7	9	9'-4	7	4.5	26'-5	1.515	1.710	0.382	3.607	419.92																	
23-25	7	18	26'-6	7	18	11'-7	5	12	8'-11	2'-8	6'-3	5	9	26'-6	7	9	9'-8	7	4.5	26'-6	1.646	1.844	0.403	3.893	427.97																	



TWIN 12 x 5 BARREL SECTION

- NOTES:**
1. DIMENSIONS LISTED ON THIS SHEET TO BE USED IN CONJUNCTION WITH SHEET TWRCB G2-12.
 2. DIMENSIONS "A", "B", "C", "U", "W", "X", AND "Z" LISTED IN THE BAR LIST ARE IN INCHES.

LATEST REVISION DATE	 <small>APPROVED BY BRIDGE ENGINEER</small>	 Iowa Department of Transportation <i>Highway Division</i> <small>STANDARD DESIGN</small> TWIN REINFORCED CONCRETE BOX CULVERTS <small>APRIL, 2012</small>
		CULVERT BARREL DETAILS <small>12 x 5 BARREL SECTIONS</small>
		TWRCB 12-5-12