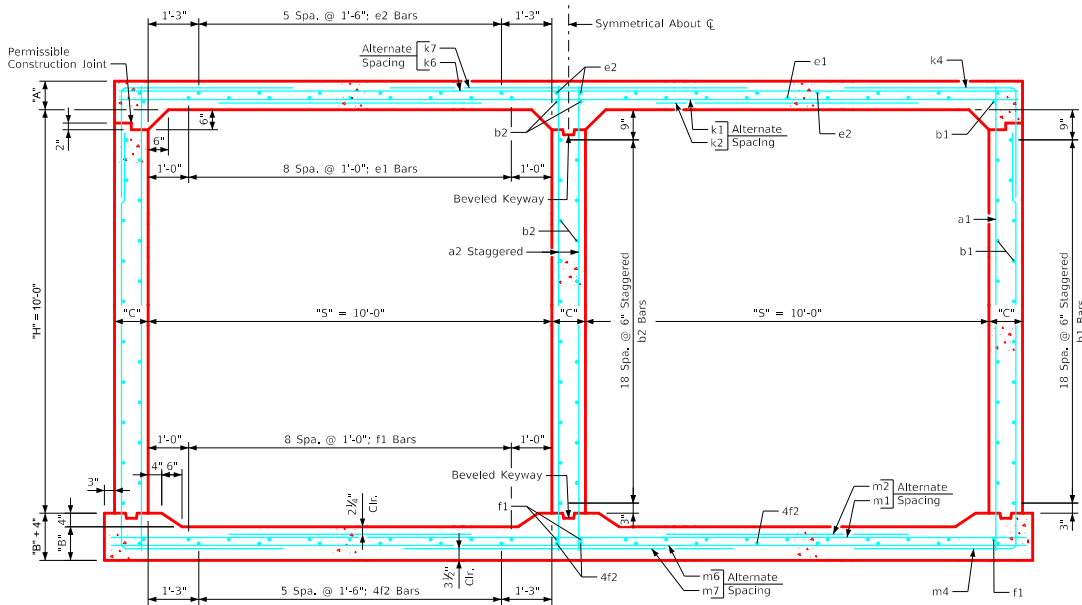


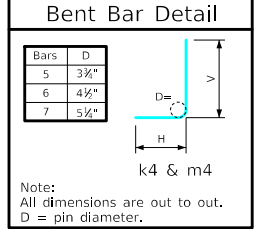
Variable Dimensions and Quantities for Twin 10' x 10' Barrel Sections

Dimensions													Bar List																																										
Fill	S	H	A	B	C	D	E	U	W	X	Z	a1			a2			b1			b2			e1			e2			f1			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.	Size	Sp.	No.								
0	10	10	13	12	10	9	9	0'-0	6'-3	1'-8	6'-3	4	12	12'-0	7	9	12'-0	4	6	40	4	6	21	4	12	18	4	18	16	4	12	22	4	18	16	6	18	22'-2	5	18	11'-1	6	12	10'-4	6'-5	3'-11	4	12	22'-2	4	12	12'-6	4	4.5	22'-2
1	10	10	12.5	11.5	10	9	9	0'-6	6'-5	2'-1	6'-3	4	12	11'-11	7	9	11'-11	4	6	40	4	6	21	4	12	18	4	18	16	4	12	22	4	18	16	6	18	22'-2	5	18	10'-7	5	18	10'-1	6'-8	3'-5	5	18	22'-2	5	18	12'-10	5	4.5	22'-2
2	10	10	9	10	10	9	9	1'-10	6'-5	2'-8	4'-7	4	12	11'-6	7	9	11'-6	4	6	40	4	6	21	5	12	18	4	18	16	4	12	22	4	18	16	5	9	22'-2	4	9	8'-1	5	6	9'-10	6'-8	3'-2	5	12	22'-2	5	12	12'-10	5	4.5	22'-2
3	10	10	8	10	10	9	9	1'-10	4'-9	2'-2	3'-10	4	12	11'-5	7	9	11'-5	4	6	40	4	6	21	4	12	18	4	18	16	4	12	22	4	18	16	5	12	22'-2	5	12	8'-2	5	6	7'-7	4'-6	3'-1	4	12	22'-2	6	12	9'-6	6	4.5	22'-2
4	10	10	8	10	10	9	9	2'-1	4'-2	2'-2	3'-7	4	12	11'-5	7	9	11'-5	4	6	40	4	6	21	4	12	18	4	18	16	4	12	22	4	18	16	5	12	22'-2	5	12	7'-10	5	6	7'-2	4'-2	3'-1	4	12	22'-2	6	12	8'-4	6	4.5	22'-2
5-7	10	10	8	10	10	9	9	2'-3	3'-11	3'-2	3'-9	4	12	11'-5	7	9	11'-5	4	6	40	4	6	21	4	12	18	4	18	16	4	12	22	4	18	16	5	12	22'-2	5	12	7'-4	5	6	7'-1	4'-0	3'-1	5	12	22'-2	6	12	7'-10	6	4.5	22'-2
8-10	10	10	9	11.5	10	9	9	2'-2	3'-9	2'-1	3'-5	4	12	11'-7	7	9	11'-7	4	6	40	4	6	21	4	12	18	4	18	16	4	12	22	4	18	16	5	12	22'-2	5	12	7'-7	6	9	7'-8	3'-10	3'-10	4	12	22'-2	7	12	7'-6	7	4.5	22'-2
11-13	10	10	11	13.5	10	9	9	1'-10	3'-6	2'-0	3'-7	4	9	11'-11	7	9	11'-11	4	6	40	4	6	21	4	12	18	4	18	16	4	12	22	4	18	16	6	18	22'-2	6	18	8'-8	6	9	7'-6	3'-9	3'-9	5	9	22'-2	5	9	7'-0	5	4.5	22'-2
14-16	10	10	12.5	15	10.5	9	9	1'-10	3'-7	1'-11	3'-9	4	9	12'-2	7	9	12'-2	4	6	40	4	6	21	4	12	18	4	18	16	4	12	22	4	18	16	6	18	22'-3	6	18	8'-10	5	6	7'-4	3'-8	3'-8	4	9	22'-3	6	9	7'-2	6	4.5	22'-3
17-19	10	10	14	16	11	6	9	1'-6	3'-9	2'-2	3'-10	4	6	12'-5	7	9	12'-5	4	6	40	4	6	21	4	12	18	4	18	16	4	12	22	4	18	16	6	18	22'-5	6	18	9'-8	6	9	8'-0	4'-0	4'-0	4	9	22'-5	6	9	7'-6	6	4.5	22'-5
20-22	10	10	14.5	17	11.5	9	9	1'-7	3'-9	1'-11	3'-11	4	9	12'-6	7	9	12'-6	4	6	40	4	6	21	4	12	18	4	18	16	4	12	22	4	18	16	5	12	22'-6	5	12	9'-7	5	6	7'-4	3'-8	3'-8	5	12	22'-6	7	12	7'-6	7	4.5	22'-6
23-25	10	10	16.5	18	12	6	9	1'-1	3'-11	1'-7	4'-0	4	6	12'-9	7	9	12'-9	4	6	40	4	6	21	4	12	18	4	18	16	4	12	22	4	18	16	5	12	22'-8	6	9	7'-11	3'-8	4'-3	4	9	22'-8	6	9	7'-10	6	4.5	22'-8			

Fill	Bar List																											Quantities				
	m1			m2			m4			m6			m7			m9			Slab	Floor	Concrete (CY/Ft)	Walls	Total	Steel (LB/Ft)								
0	6	18	22'-8	6	18	8'-10	7	12	16'-10	6'-5	10'-5	4	9	22'-8	4	9	12'-6	4	4.5	22'-8	0.964	0.914	0.887	2.765	383.53							
1	5	12	22'-8	5	12	8'-1	5	6	16'-10	6'-5	10'-5	4	9	22'-8	4	9	12'-6	4	4.5	22'-8	0.939	0.878	0.887	2.694	389.50							
2	5	9	22'-8	4	9	6'-8	5	6	14'-11	4'-8	10'-3	5	18	22'-8	8	18	9'-2	8	4.5	22'-8	0.686	0.772	0.887	2.345	411.76							
3	5	12	22'-8	5	12	7'-8	5	6	14'-5	4'-2	10'-3	4	9	22'-8	5	9	7'-8	5	4.5	22'-8	0.616	0.772	0.887	2.275	373.37							
4	5	12	22'-8	5	12	7'-7	5	6	14'-3	4'-0	10'-3	4	9	22'-8	5	9	7'-2	5	4.5	22'-8	0.616	0.772	0.887	2.275	368.11							
5-7	5	9	22'-8	4	9	5'-8	5	6	14'-1	3'-10	10'-3	4	12	22'-8	7	12	7'-6	7	4.5	22'-8	0.616	0.772	0.887	2.275	377.79							
8-10	5	12	22'-8	5	12	8'-2	6	9	14'-3	3'-10	10'-5	5	9	22'-8	5	9	6'-10	5	4.5	22'-8	0.686	0.878	0.887	2.451	384.82							
11-13	5	12	22'-8	5	12	8'-5	6	9	14'-4	3'-9	10'-7	5	9	22'-8	5	9	7'-2	5	4.5	22'-8	0.825	1.020	0.887	2.732	401.47							
14-16	5	12	22'-9	5	12	9'-0	5	6	14'-5	3'-9	10'-8	4	9	22'-9	6	9	7'-6	6	4.5	22'-8	0.936	1.132	0.934	3.002	394.61							
17-19	5	9	22'-11	4	9	8'-5	6	9	14'-6	3'-9	10'-9	5	12	22'-11	7	12	7'-8	7	4.5	22'-11	1.048	1.211	0.978	3.237	421.32							
20-22	5	9	23'-0	4	9	8'-11	5	6	14'-8	3'-10	10'-10	5	12	23'-0	7	12	7'-10	7	4.5	23'-0	1.091	1.291	1.022	3.404	416.24							
23-25	5	9	23'-2	4	9	9'-9	6	9	14'-8	3'-9	10'-11	5	9	23'-2	6	9	8'-0	6	4.5	23'-2	1.240	1.372	1.067	3.679	435.63							



Twin 10' x 10' Barrel Section



- Notes:**
- Dimensions listed on this sheet to be used in conjunction with Sheet TWRCB G3-20.
 - Fill, dimensions "S" and "H" are in feet.
 - Dimensions "A", "B", "C", "D", and "Sp." listed in the bar list are in inches.
 - Dimensions "L", "H", "V" are in feet and inches.

LATEST REVISION DATE	 APPROVED BY BRIDGE ENGINEER	IOWADOT Highway Division Standard Design Twin Reinforced Concrete Box Culverts July, 2020	
		Culvert Barrel Details	TWRCB 10-10-20
		10' x 10' Barrel Sections	

ENGLISHRFD\DESIGNEDTWINCULVERTS.DGN - TWRCB 10-10-20 - THIS SHEET ISSUED 07-2020.