VARIABLE DIMENSIONS AND QUANTITIES FOR TRIPLE 10 x 6 BARREL SECTIONS

REINFORCING BAR LIST

FILL	a1 SIZE	a1 SP	a1 LENGTH	a2 SIZE	a2 SP	a2 LENGTH	4b1 SIZE	4b1 SP	4b1 NO.	4b2 SIZE	4b2 SP	4b2 NO.	5e1 SIZE	5e1 SP	5e1 NO.	4e2 SIZE	4e2 SP	4e2 NO.	5e3 SIZE	5e3 SP	5e3 NO.	4e4 SIZE	4e4 SP	4e4 NO.
0	4	12	7'-8	5	4.5	7'-8	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
1	4	12	7'-8	5	4.5	7'-8	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
2	5	12	7'-6	5	4.5	7'-6	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
3-6	4	9	7'-5	5	4.5	7'-5	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
7-8	4	12	7'-5	4	4.5	7'-5	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
9-10	4	9	7'-5	4	4.5	7'-5	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
11-12	4	9	7'-7	4	4.5	7'-7	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
13-15	4	9	7'-9	4	4.5	7'-9	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
16-17	4	9	7'-11	4	4.5	7'-11	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
18-19	6	9	8'-1	4	4.5	8'-1	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
20-21	6	9	8'-2	4	4.5	8'-2	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
22-23	6	9	8'-5	4	4.5	8'-5	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8
24-25	6	9	8'-7	4	4.5	8'-7	4	9	16	4	9	18	5	12	18	4	18	16	5	12	9	4	18	8

FILL	4f1 SIZE	4f1 SP	4f1 NO.	4f2 SIZE	4f2 SP	4f2 NO.	4f3 SIZE	4f3 SP	4f3 NO.	4f4 SIZE	4f4 SP	4f4 NO.	k1 SIZE	k1 SP	k1 LENGTH	k2 SIZE	k2 SP	k2 LENGTH	k3 SIZE	k3 SP	k3 LENGTH	k4 SIZE	k4 SP	k4 LENGTH	k4 h	k4 v	k5 SIZE	k5 SP	k5 LENGTH	k5 h	k5 v
0	4	12	22	4	18	16	4	12	11	4	18	8	5	12	32'-8	5	12	8'-8	5	12	7'-6	5	12	4'-3	2'-0	2'-3	5	12	3'-11	1'-8	2'-3
1	4	12	22	4	18	16	4	12	11	4	18	8	5	12	32'-8	5	12	8'-5	5	12	7'-4	5	12	4'-3	2'-0	2'-3	5	12	3'-11	1'-8	2'-3
2	4	12	22	4	18	16	4	12	11	4	18	8	5	12	32'-8	6	12	8'-4	5	12	7'-0	5	12	4'-5	2'-2	2'-3	5	12	4'-0	1'-9	2'-3
3-6	4	12	22	4	18	16	4	12	11	4	18	8	4	12	32'-8	5	12	7'-7	5	12	7'-1	4	9	4'-6	2'-3	2'-3	4	9	4'-0	1'-9	2'-3
7-8	4	12	22	4	18	16	4	12	11	4	18	8	4	9	32'-8	4	9	6'-2	4	9	4'-8	5	12	4'-5	2'-2	2'-3	5	12	4'-0	1'-9	2'-3
9-10	4	12	22	4	18	16	4	12	11	4	18	8	5	12	32'-8	5	12	6'-5	4	12	4'-11	4	9	4'-7	1'-11	2'-8	5	9	4'-8	2'-0	2'-8
11-12	4	12	22	4	18	16	4	12	11	4	18	8	4	9	32'-8	5	9	7'-2	4	9	5'-4	4	9	4'-7	1'-11	2'-8	5	9	4'-8	2'-0	2'-8
13-15	4	12	22	4	18	16	4	12	11	4	18	8	6	15	32'-8	6	15	7'-1	4	15	4'-4	4	9	4'-10	2'-2	2'-8	5	9	4'-7	1'-11	2'-8
16-17	4	12	22	4	18	16	4	12	11	4	18	8	5	12	32'-8	6	12	7'-7	4	12	4'-10	4	9	5'-5	2'-9	2'-8	5	9	4'-7	1'-11	2'-8
18-19	4	12	22	4	18	16	4	12	11	4	18	8	5	12	32'-8	6	12	7'-8	4	12	4'-1	4	9	5'-1	2'-10	2'-3	4	9	3'-10	1'-7	2'-3
20-21	4	12	22	4	18	16	4	12	11	4	18	8	7	18	32'-8	7	18	7'-7	4	18	4'-0	4	9	5'-1	2'-10	2'-3	4	9	3'-10	1'-7	2'-3
22-23	4	12	22	4	18	16	4	12	11	4	18	8	5	12	32'-8	6	12	7'-10	4	12	4'-5	4	9	5'-3	3'-0	2'-3	4	9	3'-10	1'-7	2'-3
24-25	4	12	22	4	18	16	4	12	11	4	18	8	5	12	32'-8	6	12	8'-2	4	12	4'-7	4	9	5'-5	3'-2	2'-3	4	9	4'-3	2'-0	2'-3

REINFORCING BAR LIST

FILL	k6 SIZE	k6 SP	k6 LENGTH	k7 SIZE	k7 SP	k7 LENGTH	k9 SIZE	k9 SP	k9 LENGTH	m1 SIZE	m1 SP	m1 LENGTH	m2 SIZE	m2 SP	m2 LENGTH	m3 SIZE	m3 SP	m3 LENGTH
0	4	12	29'-8	4	12	5'-0	4	4.5	32'-8	4	12	33'-2	5	12	6'-11	4	12	6'-0
1	4	12	27'-7	4	12	4'-10	4	4.5	32'-8	4	12	33'-2	5	12	7'-0	4	12	6'-0
2	5	12	26'-10	5	12	4'-9	5	4.5	32'-8	5	12	33'-2	5	12	6'-5	4	12	4'-5
3-6	4	9	25'-6	4	9	4'-3	4	4.5	32'-8	4	12	33'-2	5	12	7'-0	4	12	5'-11
7-8	4	9	25'-0	5	9	4'-8	4	4.5	32'-8	5	12	33'-2	5	12	6'-5	4	12	4'-11
9-10	5	9	24'-11	5	9	4'-1	5	4.5	32'-8	4	9	33'-2	5	9	6'-11	4	9	5'-3
11-12	5	9	24'-11	5	9	4'-2	5	4.5	32'-8	5	12	33'-2	6	12	7'-4	4	12	4'-9
13-15	6	12	25'-0	6	12	4'-5	6	4.5	32'-8	5	12	33'-2	6	12	7'-5	4	12	4'-9
16-17	7	15	25'-1	7	15	4'-7	7	7.5	32'-8	5	9	33'-2	5	9	6'-10	4	9	4'-0
18-19	7	15	25'-1	7	15	4'-7	7	7.5	32'-8	5	9	33'-2	5	9	6'-10	4	9	4'-0
20-21	7	15	25'-1	7	15	4'-8	7	7.5	32'-8	5	9	33'-2	5	9	7'-1	—	—	—
22-23	7	15	25'-1	7	15	4'-7	7	7.5	32'-8	5	9	33'-2	5	9	7'-4	—	—	—
24-25	6	12	25'-0	6	12	4'-9	6	4.5	32'-8	5	9	33'-2	5	9	7'-6	—	—	—

FILL	m4 SIZE	m4 SP	m4 LENGTH	m4 h	m4 v	m5 SIZE	m5 SP	m5 LENGTH	m5 h	m5 v	m6 SIZE	m6 SP	m6 LENGTH	m7 SIZE	m7 SP	m7 LENGTH	m9 SIZE	m9 SP	m9 LENGTH
0	5	12	9'-2	2'-0	7'-2	5	12	8'-9	1'-7	7'-2	5	12	33'-2	5	12	3'-7	5	4.5	33'-2
1	5	12	9'-1	1'-11	7'-2	5	12	8'-9	1'-7	7'-2	5	12	25'-9	5	12	3'-10	5	4.5	33'-2
2	5	12	9'-0	2'-0	7'-0	5	12	8'-7	1'-7	7'-0	5	12	25'-10	6	12	4'-7	5	4.5	33'-2
3-6	4	9	8'-9	1'-10	6'-11	4	9	8'-6	1'-7	6'-11	5	12	25'-5	5	12	3'-10	5	4.5	33'-2
7-8	5	12	9'-0	2'-1	6'-11	5	12	8'-6	1'-7	6'-11	5	12	25'-4	6	12	4'-7	5	4.5	33'-2
9-10	4	9	9'-1	2'-2	6'-11	5	9	8'-9	1'-10	6'-11	6	12	25'-4	6	12	4'-3	6	4.5	33'-2
11-12	4	9	9'-3	2'-2	7'-1	5	9	8'-11	1'-10	7'-1	6	12	25'-3	6	12	4'-3	6	4.5	33'-2
13-15	4	9	9'-11	2'-8	7'-3	5	9	9'-1	1'-10	7'-3	7	15	25'-5	7	15	4'-7	7	7.5	33'-2
16-17	4	9	10'-2	2'-9	7'-5	5	9	9'-3	1'-10	7'-5	7	15	25'-4	7	15	4'-7	7	7.5	33'-2
18-19	4	9	10'-5	2'-10	7'-7	4	9	9'-2	1'-7	7'-7	7	18	25'-6	8	18	5'-3	7	4.5	33'-2
20-21	4	9	10'-7	2'-11	7'-8	4	9	9'-3	1'-7	7'-8	7	18	25'-6	8	18	5'-3	7	4.5	33'-2
22-23	4	9	10'-5	2'-6	7'-11	4	9	9'-6	1'-7	7'-11	6	12	25'-3	6	12	4'-6	6	4.5	33'-2
24-25	4	9	10'-8	2'-7	8'-1	4	9	9'-8	1'-7	8'-1	6	12	25'-3	6	12	4'-8	6	4.5	33'-2

DIMENSIONS

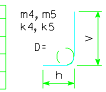
FILL	S	H	A	B	C	*D	*E	*F	*G	*J
0	10	6	11	10	9	9	4.5	9	12	12
1	10	6	11	10.5	9	9	4.5	9	12	12
2	10	6	9	10	9	9	4.5	9	12	12
3-6	10	6	8	10	9	9	4.5	4.5	12	12
7-8	10	6	8	10	9	9	4.5	9	12	12
9-10	10	6	8	10	9	9	4.5	4.5	12	12
11-12	10	6	9	11	9	9	4.5	4.5	12	12
13-15	10	6	10	12	9	9	7.5	4.5	12	18
16-17	10	6	11	13	9	9	4.5	4.5	18	18
18-19	10	6	12	14	9	9	4.5	4.5	18	12
20-21	10	6	12.5	15	9	9	4.5	4.5	18	12
22-23	10	6	14	16	9	9	4.5	4.5	18	12
24-25	10	6	15.5	17	9	9	4.5	4.5	12	12

DIMENSIONS

FILL	*K	*L	R	T	U	V	W	X	Y	Z
0	4.5	3	1'-7	1'-6	2'-6	8'-0	2'-4	2'-4	11'-3	1'-10
1	4.5	3	1'-9	1'-8	2'-5	5'-11	2'-5	2'-4	3'-10	1'-11
2	4.5	3	1'-10	1'-7	2'-5	5'-2	2'-8	3'-2	3'-11	2'-4
3-6	4.5	3	1'-10	1'-11	2'-2	3'-10	2'-5	2'-5	3'-6	1'-11
7-8	4.5	3	3'-1	2'-9	2'-4	3'-4	2'-7	2'-11	3'-5	2'-4
9-10	4.5	3	2'-11	2'-8	2'-1	3'-3	2'-5	2'-9	3'-5	2'-2
11-12	4.5	3	2'-9	2'-4	2'-1	3'-3	2'-3	3'-0	3'-4	2'-2
13-15	4.5	3	3'-3	2'-5	2'-3	3'-4	2'-4	3'-0	3'-6	2'-4
16-17	4.5	3	3'-0	2'-3	2'-4	3'-5	2'-8	3'-5	3'-5	2'-4
18-19	4.5	3	3'-4	2'-3	2'-4	3'-5	2'-8	3'-5	3'-7	2'-8
20-21	4.5	3	3'-5	2'-4	2'-4	3'-5	2'-7	—	3'-7	2'-8
22-23	4.5	3	3'-2	2'-3	2'-4	3'-5	2'-6	—	3'-4	2'-3
24-25	4.5	3	3'-1	2'-2	2'-5	3'-4	2'-5	—	3'-4	2'-4

BENT BAR DETAILS

BARS	D
4	3
5	3 3/4
6	4 1/2
7	5 1/4

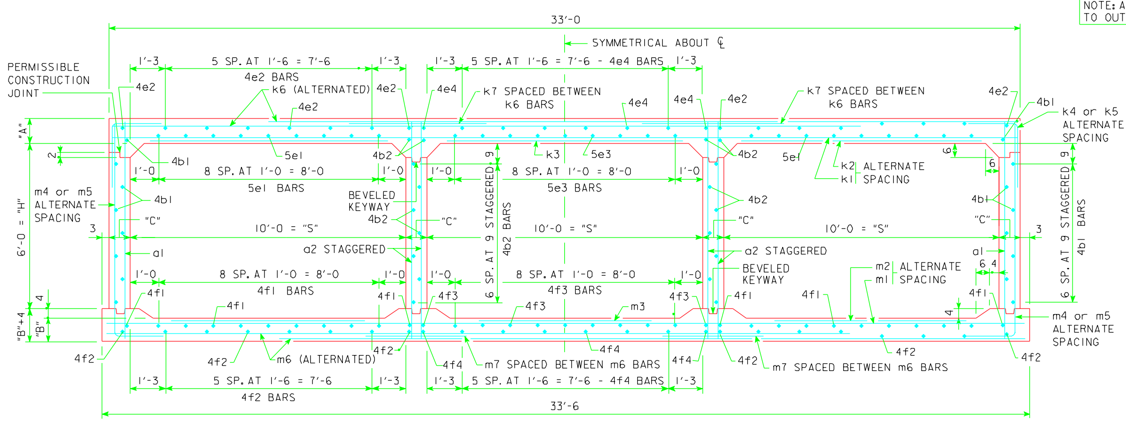


NOTE: ALL DIMENSIONS ARE OUT TO OUT D = PIN DIAMETER

* THESE DIMENSIONS ARE CORRECT FOR 38'-0 LONG STANDARD SECTIONS ONLY. DIMENSIONS MUST BE RECALCULATED FOR ALL OTHER SECTION LENGTHS.

QUANTITIES

FILL	CONCRETE CU YD/FT SLAB	FLOOR	WALL	TOTAL	STEEL LBS/FT
0	1.203	1.113	0.620	2.936	385.47
1	1.203	1.164	0.620	2.987	376.18
2	0.999	1.113	0.620	2.732	418.26
3-6	0.897	1.113	0.620	2.630	359.29
7-8	0.897	1.113	0.620	2.630	370.08
9-10	0.897	1.113	0.620	2.630	412.74
11-12	0.999	1.216	0.620	2.835	423.45
13-15	1.101	1.319	0.620	3.040	445.61
16-17	1.203	1.423	0.620	3.246	463.18
18-19	1.305	1.526	0.620	3.451	465.63
20-21	1.356	1.630	0.620	3.606	475.34
22-23	1.509	1.733	0.620	3.862	463.47
24-25	1.661	1.836	0.620	4.117	463.82



TRIPLE 10 x 6 BARREL SECTION

DIMENSIONS LISTED ON THIS SHEET TO BE USED IN CONJUNCTION WITH SHEET TRRCB 2-01.

LATEST REVISION DATE :

APPROVED BY :

STANDARD DESIGN

CULVERT BARREL DETAILS

FOR

TRIPLE REINFORCED CONCRETE BOX CULVERTS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

SEPT., 2001

TRRCB 10-6-01

TRB106.S01 - 09-01 THIS SHEET ISSUED.

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