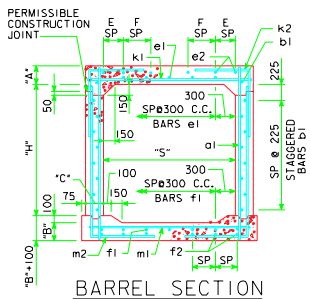
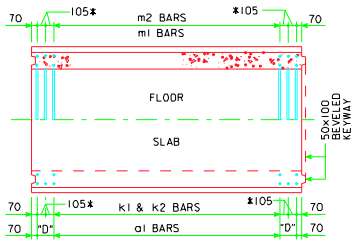
VARIABLE DIMENSIONS AND QUANTITIES FOR BARREL SECTIONS

DIMENSIONS							BAR LIST																																	QUANTITIES				
							a1			b1			e1			e2				f1			f2			k1			m1			k2				m2				CONCRETE m³/m				STEEL
																SPACING																											
FILL	S	H	A	B	C	*D	SIZE	SP	L	SIZE	SP	NO.	SIZE	SP	NO.	SIZE	E	F	NO.	SIZE	SP	NO.	SIZE	SP	NO.	SIZE	SP	L	SIZE	SP	L	SIZE	SP	L	h	v	SIZE	SP	L	h	v	SLAB	FLOOR	WALLS	TOTAL	kg/m
0	3600	1800	270	280	230	140	15	140	2320	15	225	16	15	300	11	15	360	360	11	15	300	13	15	360	8	25	280	3960	15	182	4110	15	182	2990	2800	690	15	182	3520	1330	2190	1.176	1.265	0.781	3.222	355.8
300	3600	1800	295	295	230	140	15	140	2360	15	225	16	15	300	11	15	300	300	6	15	300	13	15	410	6	25	280	3960	15	105	4110	15	105	1580	890	690	15	105	3440	1200	2240	1.278	1.328	0.781	3.386	404.4
600	3600	1800	245	255	230	140	15	140	2270	15	225	16	15	300	11	15	360	360	6	15	300	13	15	410	6	25	182	3960	25	210	4110	20	182	1790	1000	790	20	182	3260	1120	2140	1.075	1.160	0.781	3.015	434.7
900-2100	3600	1800	205	255	230	210	15	210	2230	15	225	16	15	300	11	15	380	380	6	15	300	13	15	380	6	25	210	3960	20	140	4110	25	280	2300	1020	1280	25	280	3130	1020	2110	0.912	1.160	0.781	2.852	425.1
2400-3000	3600	1800	230	280	230	140	15	140	2280	15	225	16	15	300	11	15	300	300	6	15	300	13	15	300	6	25	182	3960	20	105	4110	15	105	1690	870	820	15	105	3050	890	2160	1.014	1.265	0.781	3.059	453.3
3300-3900	3600	1800	245	305	230	140	15	140	2320	15	225	16	15	300	11	15	410	-	4	15	300	13	15	410	4	20	105	3960	20	105	4110	15	105	1640	820	820	15	105	2980	790	2190	1.075	1.370	0.781	3.225	444.9
4200-4800	3600	1800	280	345	230	140	15	140	2400	15	225	16	15	300	11	15	410	-	4	15	300	13	15	410	4	25	140	3960	25	140	4110	15	105	1560	740	820	15	105	2990	720	2270	1.217	1.538	0.781	3.536	493.3
5100-6000	3600	1800	330	395	230	140	15	140	2500	15	225	16	15	300	11	15	410	-	4	15	300	13	15	410	4	25	140	3960	25	140	4110	20	140	1480	690	790	20	140	3060	690	2370	1.420	1.749	0.781	3.949	514.4
6300-7500	3600	1800	380	445	230	140	15	140	2600	15	225	16	15	300	11	15	410	-	4	15	300	13	15	410	4	25	140	3960	25	140	4110	20	140	1510	720	790	20	140	3160	690	2470	1.623	1.959	0.781	4.363	521.1
0	3600	2400	270	280	230	140	15	140	2920	15	225	22	15	300	11	15	360	360	11	15	300	13	15	360	8	25	280	3960	15	105	4110	15	105	2990	2800	690	15	105	4130	1330	2800	1.176	1.265	1.057	3.498	499.8
300	3600	2400	295	305	230	140	15	140	2970	15	225	22	15	300	11	15	360	360	6	15	300	13	15	410	6	25	280	3960	20	210	4110	15	105	1660	970	690	15	105	4050	1200	2850	1.278	1.370	1.057	3.704	434.8
600	3600	2400	245	255	230	140	15	140	2870	15	225	22	15	300	11	15	380	380	6	15	300	13	15	410	6	25	210	3960	20	140	4110	20	182	1810	1020	790	20	182	3870	1120	2750	1.075	1.160	1.057	3.291	453.3
900-2100	3600	2400	205	255	230	210	15	210	2830	15	225	22	15	300	11	15	360	360	6	15	300	13	15	360	6	20	140	3960	25	210	4110	25	210	1990	970	1020	25	210	3720	1000	2720	0.912	1.160	1.057	3.128	503.0
2400-3000	3600	2400	230	280	230	140	15	140	2880	15	225	22	15	300	11	15	300	300	6	15	300	13	15	300	6	25	210	3960	20	105	4110	15	105	1690	870	820	15	105	3660	890	2770	1.014	1.265	1.057	3.335	483.5
3300-3900	3600	2400	245	305	230	210	15	210	2920	15	225	22	15	300	11	15	280	280	6	15	300	13	15	280	6	20	105	3960	25	182	4110	25	182	1860	840	1020	25	182	3640	840	2800	1.075	1.370	1.057	3.501	558.6
4200-4800	3600	2400	280	345	230	210	15	210	3000	15	225	22	15	300	11	15	410	-	4	15	300	13	15	410	4	25	182	3960	25	140	4110	25	182	1790	770	1020	25	182	3650	770	2880	1.217	1.538	1.057	3.812	575.7
5100-6000	3600	2400	330	395	230	140	15	140	3100	15	225	22	15	300	11	15	410	-	4	15	300	13	15	410	4	25	140	3960	25	140	4110	25	182	1740	720	1020	25	182	3700	720	2980	1.420	1.749	1.057	4.225	624.4
6300-7500	3600	2400	380	445	230	210	15	210	3200	15	225	22	15	300	11	15	280	280	6	15	300	13	15	410	4	25	140	3960	25	140	4110	20	105	1780	840	940	20	105	3820	740	3080	1.623	1.959	1.057	4.639	614.8

* THESE DIMENSIONS ARE CORRECT FOR 11 480 mm LONG STANDARD SECTIONS ONLY. DIMENSIONS MUST BE RECALCULATED FOR ALL OTHER SECTION LENGTHS.

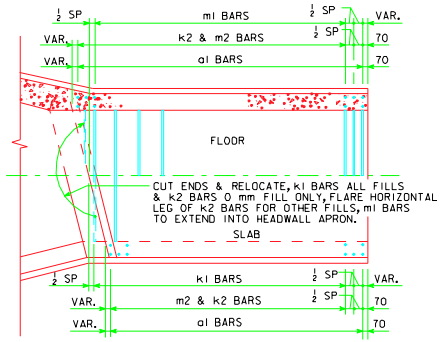


BARREL SECTION



STANDARD SECTION PLAN VIEW

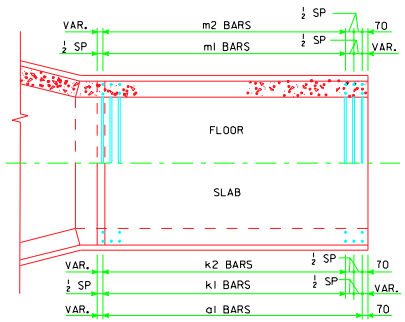
NOTE:
TYPICAL FOR LENGTHS OF 11 480 mm.
(KEYWAY IS TO BE OMITTED WHEN BELL JOINTS ARE USED)



PLAN - SKEW TYPICAL

(KEYWAY NOT SHOWN)

NOTE:
ALL LONGITUDINAL BARREL STEEL SHALL EXTEND AT LEAST TO THE BACKFACE OF PARAPET.

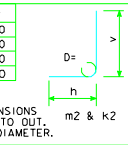


PLAN - 0° SKEW

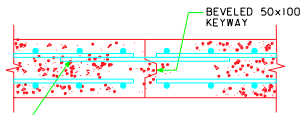
(KEYWAY NOT SHOWN)

BENT BAR DETAIL

BARS	D
15	100
20	120
25	150
30	240



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



ONE SET OF SIZE 15 r1x1050 mm DOWEL BARS @ 300 mm SPACING REQUIRED IN SLAB AT ALL CULVERT BARREL JOINTS, EXCEPT JOINTS WITH BELL JOINTS.
r1 BARS REQUIRED = 13, TOTAL MASS = 22 kg.

TOP SLAB CONSTRUCTION JOINT DETAIL

NOTES:

1. SEE SHEET MRCB-G1-95 FOR GENERAL INFORMATION, SPECIFICATIONS, AND DESIGN STRESSES.

LATEST REVISION DATE :

APPROVED BY :

STANDARD DESIGN

CULVERT BARREL DETAILS

FOR

REINFORCED CONCRETE BOX CULVERTS

PROJECT DEVELOPMENT DIVISION
IOWA DEPARTMENT OF TRANSPORTATION

JULY, 1995

MRCB-3600-1-95

RCB36M1.SOI

XXXXXXXXXXSYSTEMTIME XXXXXXXUSERNAME XXXXXXXXXX