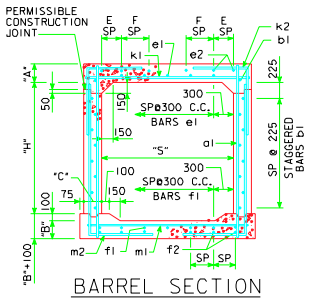
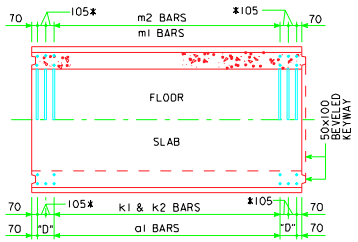
VARIABLE DIMENSIONS AND QUANTITIES FOR BARREL SECTIONS

DIMENSIONS							DIMENSIONS																																			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	1800	1800	255	255	230	140	15	140	2280	15	225	16	15	300	5	15	230	460	6	15	300	7	15	410	4	15	182	2160	15	280	2310	15	140	1990	1400	590	15	140	2980	820	2160	0.656	0.701	0.781	2.137	256.3
300	1800	1800	270	255	230	140	15	140	2300	15	225	16	15	300	5	15	380	360	6	15	300	7	15	410	4	15	182	2160	15	280	2310	15	140	1460	870	590	15	140	2950	790	2160	0.690	0.701	0.781	2.171	244.0
600	1800	1800	205	255	230	140	15	140	2230	15	225	16	15	300	5	15	410	-	4	15	300	7	15	410	4	15	182	2160	15	140	2310	15	140	1280	690	590	15	140	2800	690	2110	0.543	0.701	0.781	2.024	244.1
900-2100	1800	1800	205	255	230	180	15	180	2230	15	225	16	15	300	5	15	380	-	4	15	300	7	15	380	4	15	280	2160	15	280	2310	15	182	1230	640	590	15	182	2750	640	2110	0.543	0.701	0.781	2.024	192.8
2400-3000	1800	1800	205	255	230	140	15	140	2230	15	225	16	15	300	5	15	300	-	4	15	300	7	15	330	4	15	280	2160	15	140	2310	15	140	1150	560	590	15	140	2700	590	2110	0.543	0.701	0.781	2.024	232.7
3300-3900	1800	1800	205	255	230	140	15	140	2230	15	225	16	15	300	5	15	300	-	4	15	300	7	15	330	4	15	140	2160	15	182	2310	15	140	1150	560	590	15	140	2700	590	2110	0.543	0.701	0.781	2.024	238.6
4200-4800	1800	1800	205	255	230	210	15	210	2230	15	225	16	15	300	5	15	360	-	4	15	300	7	15	360	4	15	182	2160	15	182	2310	15	182	1300	610	590	15	182	2720	610	2110	0.543	0.701	0.781	2.024	200.8
5100-6000	1800	1800	205	255	230	210	15	210	2230	15	225	16	15	300	5	15	300	-	4	15	300	7	15	300	4	15	105	2160	15	140	2310	15	105	1250	560	590	15	105	2670	560	2110	0.543	0.701	0.781	2.024	264.9
6300-7500	1800	1800	205	255	230	140	15	140	2230	15	225	16	15	300	5	15	330	-	4	15	300	7	15	360	4	20	182	2160	25	210	2310	15	182	1280	590	590	15	182	2720	610	2110	0.543	0.701	0.781	2.024	251.0
0	1800	2400	255	255	230	140	15	140	2880	15	225	22	15	300	5	15	230	460	6	15	300	7	15	380	6	15	105	2160	15	280	2310	15	140	1990	1400	590	15	140	3820	1050	2770	0.656	0.701	1.057	2.413	314.3
300	1800	2400	270	255	230	140	15	140	2900	15	225	22	15	300	5	15	230	460	6	15	300	7	15	300	6	15	182	2160	15	182	2310	15	140	1990	1400	590	15	140	3640	870	2770	0.690	0.701	1.057	2.447	304.2
600	1800	2400	205	255	230	140	15	140	2830	15	225	22	15	300	5	15	230	460	6	15	300	7	15	280	6	15	182	2160	15	140	2310	15	140	1990	1400	590	15	140	3560	840	2720	0.543	0.701	1.057	2.300	306.5
900-2100	1800	2400	205	255	230	140	15	140	2830	15	225	22	15	300	5	15	360	360	6	15	300	7	15	410	4	15	280	2160	15	182	2310	15	140	1560	970	590	15	140	3540	820	2720	0.543	0.701	1.057	2.300	281.3
2400-3000	1800	2400	205	255	230	140	15	140	2830	15	225	22	15	300	5	15	410	-	4	15	300	7	15	410	4	15	210	2160	15	182	2310	15	140	1310	720	590	15	140	3440	720	2720	0.543	0.701	1.057	2.300	274.1
3300-3900	1800	2400	205	255	230	210	15	210	2830	15	225	22	15	300	5	15	380	-	4	15	300	7	15	380	4	15	182	2160	15	140	2310	15	105	1330	640	690	15	105	3360	640	2720	0.543	0.701	1.057	2.300	293.2
4200-4800	1800	2400	205	255	230	210	15	210	2830	15	225	22	15	300	5	15	380	-	4	15	300	7	15	380	4	15	140	2160	15	182	2310	15	105	1330	640	690	15	105	3360	640	2720	0.543	0.701	1.057	2.300	292.9
5100-6000	1800	2400	205	255	230	140	15	140	2830	15	225	22	15	300	5	15	380	-	4	15	300	7	15	380	4	15	182	2160	15	140	2310	15	105	1330	640	690	15	105	3360	640	2720	0.543	0.701	1.057	2.300	314.1
6300-7500	1800	2400	205	255	230	140	15	140	2830	15	225	22	15	300	5	15	380	-	4	15	300	7	15	380	4	15	140	2160	20	182	2310	15	105	1330	640	690	15	105	3360	640	2720	0.543	0.701	1.057	2.300	324.0

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

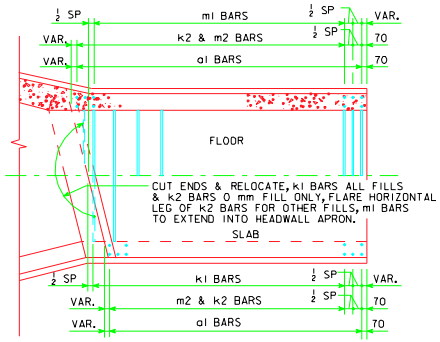


BARREL SECTION



STANDARD SECTION PLAN VIEW

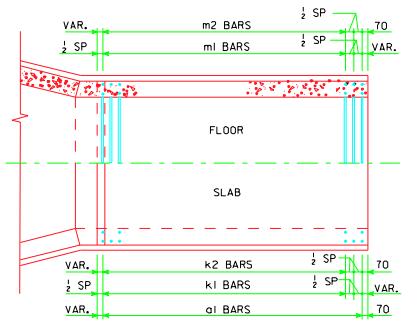
NOTE:
TYPICAL FOR LENGTHS OF 11 480 mm.
(KEYWAY IS TO BE OMITTED WHEN BELL JOINTS ARE USED)



PLAN - SKEW TYPICAL

(KEYWAY NOT SHOWN)

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

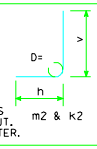


PLAN - 0° SKEW

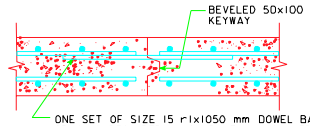
(KEYWAY NOT SHOWN)

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 = 7, TOTAL MASS = 12 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 : William A. Kendzierski

STANDARD DESIGN

CULVERT BARREL DETAILS

FOR

REINFORCED CONCRETE BOX CULVERTS

PROJECT DEVELOPMENT DIVISION
IOWA DEPARTMENT OF TRANSPORTATION

JULY, 1995

MRCB-1800-2-95

RCBIBM2.SOI

XXXXXXXXXXSYSTEMTIME XXXXXXXUSERNAME XXXXXXXXXX