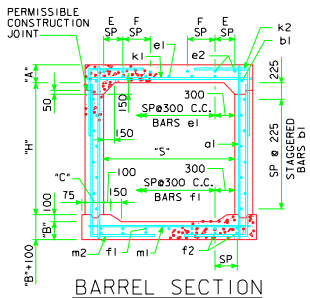
VARIABLE DIMENSIONS AND QUANTITIES FOR BARREL SECTIONS

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	1500	900	255	255	230	140	15	140	1380	15	225	8	15	300	4	15	360	390	5	15	300	6	15	410	4	15	140	1860	15	210	2010	15	182	1840	1250	590	15	182	1990	740	1250	0.580	0.624	0.367	1.570	177.9
300	1500	900	255	255	230	180	15	180	1380	15	225	8	15	300	4	15	330	-	4	15	300	6	15	410	4	15	210	1860	15	210	2010	15	182	1180	590	590	15	182	1970	720	1250	0.580	0.624	0.367	1.570	150.9
600	1500	900	205	255	230	210	15	280	1330	15	225	8	15	300	4	15	300	-	4	15	300	6	15	330	4	15	140	1860	15	280	2010	15	140	1150	560	590	15	140	1790	590	1200	0.482	0.624	0.367	1.472	155.8
900-2100	1500	900	205	255	230	210	15	280	1330	15	225	8	15	300	4	15	280	-	4	15	300	6	15	300	4	15	210	1860	15	210	2010	15	140	1130	540	590	15	140	1760	560	1200	0.482	0.624	0.367	1.472	151.6
2400-3000	1500	900	205	255	230	210	15	280	1330	15	225	8	15	300	4	15	280	-	4	15	300	6	15	280	4	15	210	1860	15	210	2010	15	280	1230	540	690	15	280	1740	540	1200	0.482	0.624	0.367	1.472	121.7
3300-3900	1500	900	205	255	230	210	15	280	1330	15	225	8	15	300	4	15	280	-	4	15	300	6	15	280	4	15	210	1860	15	182	2010	15	280	1230	540	690	15	280	1740	540	1200	0.482	0.624	0.367	1.472	128.9
4200-4800	1500	900	205	255	230	180	15	180	1330	15	225	8	15	300	4	15	280	-	4	15	300	6	15	280	4	15	182	1860	15	140	2010	15	182	1130	540	590	15	182	1740	540	1200	0.482	0.624	0.367	1.472	154.2
5100-6000	1500	900	205	255	230	140	15	140	1330	15	225	8	15	300	4	15	280	-	4	15	300	6	15	280	4	15	140	1860	15	182	2010	15	140	1130	540	590	15	140	1740	540	1200	0.482	0.624	0.367	1.472	174.5
6300-7500	1500	900	205	255	230	140	15	140	1330	15	225	8	15	300	4	15	280	-	4	15	300	6	15	280	4	15	182	1860	15	105	2010	15	140	1130	540	590	15	140	1740	540	1200	0.482	0.624	0.367	1.472	181.9
0	1500	1200	255	255	230	140	15	140	1680	15	225	12	15	300	4	15	410	340	5	15	300	6	15	410	4	15	210	1860	15	210	2010	15	182	1840	1250	590	15	182	2290	740	1550	0.580	0.624	0.505	1.708	189.6
300	1500	1200	255	255	230	180	15	180	1680	15	225	12	15	300	4	15	360	-	4	15	300	6	15	410	4	20	280	1860	15	210	2010	15	182	1200	610	590	15	182	2270	720	1550	0.580	0.624	0.505	1.708	170.3
600	1500	1200	205	255	230	180	15	180	1630	15	225	12	15	300	4	15	300	-	4	15	300	6	15	330	4	15	140	1860	15	280	2010	15	182	1150	560	590	15	182	2090	590	1500	0.482	0.624	0.505	1.610	166.1
900-2100	1500	1200	205	255	230	210	15	280	1630	15	225	12	15	300	4	15	300	-	4	15	300	6	15	300	4	15	210	1860	15	210	2010	15	140	1150	560	590	15	140	2060	560	1500	0.482	0.624	0.505	1.610	168.5
2400-3000	1500	1200	205	255	230	210	15	280	1630	15	225	12	15	300	4	15	280	-	4	15	300	6	15	280	4	15	210	1860	15	210	2010	15	140	1130	540	590	15	140	2040	540	1500	0.482	0.624	0.505	1.610	167.6
3300-3900	1500	1200	205	255	230	210	15	280	1630	15	225	12	15	300	4	15	280	-	4	15	300	6	15	280	4	15	210	1860	15	280	2010	15	140	1130	540	590	15	140	2040	540	1500	0.482	0.624	0.505	1.610	164.1
4200-4800	1500	1200	205	255	230	180	15	180	1630	15	225	12	15	300	4	15	280	-	4	15	300	6	15	280	4	15	280	1860	15	140	2010	15	182	1130	540	590	15	182	2040	540	1500	0.482	0.624	0.505	1.610	165.6
5100-6000	1500	1200	205	255	230	140	15	140	1630	15	225	12	15	300	4	15	280	-	4	15	300	6	15	280	4	15	140	1860	15	182	2010	15	140	1130	540	590	15	140	2040	540	1500	0.482	0.624	0.505	1.610	194.3
6300-7500	1500	1200	205	255	230	140	15	140	1630	15	225	12	15	300	4	15	280	-	4	15	300	6	15	280	4	15	182	1860	15	105	2010	15	140	1130	540	590	15	140	2040	540	1500	0.482	0.624	0.505	1.610	201.7

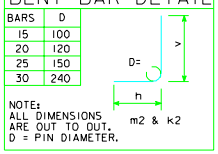
* THESE DIMENSIONS ARE CORRECT FOR 11 480 mm LONG STANDARD SECTIONS ONLY. DIMENSIONS MUST BE RECALCULATED FOR ALL OTHER SECTION LENGTHS.



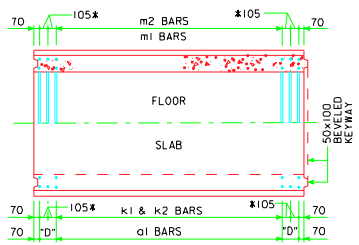
BARREL SECTION

BENT BAR DETAIL

BARS	D
15	100
20	120
25	150
30	240

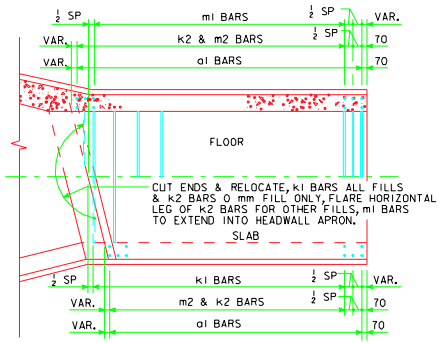


NOTE:
ALL DIMENSIONS ARE OUT TO OUT.
D = PIN DIAMETER.



STANDARD SECTION PLAN VIEW

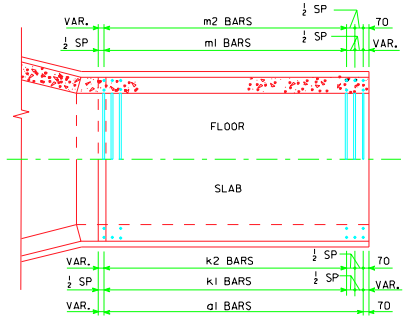
NOTE:
TYPICAL FOR LENGTHS OF 11 480 mm.
(KEYWAY IS TO BE OMITTED WHEN BELL JOINTS ARE USED)



PLAN - SKEW TYPICAL

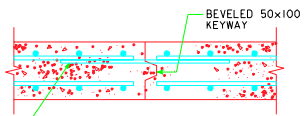
(KEYWAY NOT SHOWN)

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



PLAN - 0° SKEW

(KEYWAY NOT SHOWN)



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 = 6, TOTAL MASS = 10 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. Kneupper

STANDARD DESIGN

CULVERT BARREL DETAILS

FOR

REINFORCED CONCRETE BOX CULVERTS

PROJECT DEVELOPMENT DIVISION
IOWA DEPARTMENT OF TRANSPORTATION

JULY, 1995

MRCB-1500-1-95

RCB15M1.501

XXXXXXXXXXSYSTEMTIME XXXXXXXXUSERNAME XXXXXXXXXX