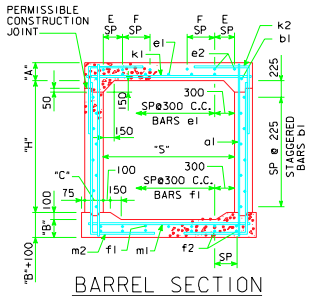
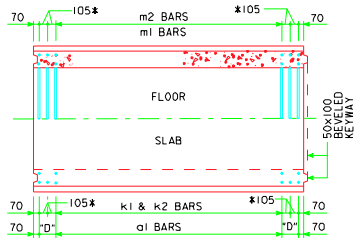
VARIABLE DIMENSIONS AND QUANTITIES FOR BARREL SECTIONS

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	1500	255	255	230	140	15	140	1980	15	225	14	15	300	4	15	300	450	5	15	300	6	15	410	4	20	280	1860	15	210	2010	15	182	1840	1250	590	15	182	2600	740	1860	0.580	0.624	0.643	1.846	207.2
300	1500	1500	255	255	230	180	15	180	1980	15	225	14	15	300	4	15	410	-	4	15	300	6	15	410	4	20	280	1860	15	210	2010	15	182	1310	720	590	15	182	2580	720	1860	0.580	0.624	0.643	1.846	186.2
600	1500	1500	205	255	230	180	15	180	1930	15	225	14	15	300	4	15	360	-	4	15	300	6	15	360	4	15	140	1860	15	280	2010	15	182	1200	610	590	15	182	2420	610	1810	0.482	0.624	0.643	1.748	181.2
900-2100	1500	1500	205	255	230	210	15	280	1930	15	225	14	15	300	4	15	330	-	4	15	300	6	15	330	4	15	210	1860	15	210	2010	15	140	1180	590	590	15	140	2400	590	1810	0.482	0.624	0.643	1.748	189.5
2400-3000	1500	1500	205	255	230	210	15	280	1930	15	225	14	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	2350	540	1810	0.482	0.624	0.643	1.748	181.2
3300-3900	1500	1500	205	255	230	210	15	280	1930	15	225	14	15	300	4	15	280	-	4	15	300	6	15	280	4	15	210	1860	15	182	2010	15	140	1130	540	590	15	140	2350	540	1810	0.482	0.624	0.643	1.748	188.4
4200-4800	1500	1500	205	255	230	140	15	140	1930	15	225	14	15	300	4	15	280	-	4	15	300	6	15	280	4	15	182	1860	15	140	2010	15	140	1130	540	590	15	140	2350	540	1810	0.482	0.624	0.643	1.748	211.5
5100-6000	1500	1500	205	255	230	140	15	140	1930	15	225	14	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	2350	540	1810	0.482	0.624	0.643	1.748	211.1
6300-7500	1500	1500	205	255	230	210	15	210	1930	15	225	14	15	300	4	15	280	-	4	15	300	6	15	280	4	15	182	1860	15	105	2010	15	105	1230	540	690	15	105	2350	540	1810	0.482	0.624	0.643	1.748	232.1
0	1500	1800	255	255	230	180	15	180	2280	15	225	16	15	300	4	15	300	450	5	15	300	6	15	410	4	20	280	1860	15	210	2010	15	182	1840	1250	590	15	182	2980	770	2160	0.580	0.624	0.781	1.984	211.7
300	1500	1800	255	255	230	180	15	180	2280	15	225	16	15	300	4	15	300	450	5	15	300	6	15	410	4	20	280	1860	15	210	2010	15	182	1840	1250	590	15	182	2900	740	2160	0.580	0.624	0.781	1.984	211.2
600	1500	1800	205	255	230	180	15	180	2230	15	225	16	15	300	4	15	410	-	4	15	300	6	15	410	4	15	140	1860	15	182	2010	15	182	1330	740	590	15	182	2780	670	2110	0.482	0.624	0.781	1.886	204.1
900-2100	1500	1800	205	255	230	210	15	280	2230	15	225	16	15	300	4	15	410	-	4	15	300	6	15	380	4	15	210	1860	15	210	2010	15	140	1280	690	590	15	140	2750	640	2110	0.482	0.624	0.781	1.886	200.3
2400-3000	1500	1800	205	255	230	210	15	280	2230	15	225	16	15	300	4	15	330	-	4	15	300	6	15	330	4	15	210	1860	15	210	2010	15	140	1180	590	590	15	140	2700	590	2110	0.482	0.624	0.781	1.886	196.9
3300-3900	1500	1800	205	255	230	180	15	180	2230	15	225	16	15	300	4	15	280	-	4	15	300	6	15	300	4	15	210	1860	15	182	2010	15	182	1130	540	590	15	182	2670	560	2110	0.482	0.624	0.781	1.886	191.9
4200-4800	1500	1800	205	255	230	140	15	140	2230	15	225	16	15	300	4	15	280	-	4	15	300	6	15	300	4	15	280	1860	15	140	2010	15	140	1130	540	590	15	140	2670	560	2110	0.482	0.624	0.781	1.886	229.2
5100-6000	1500	1800	205	255	230	140	15	140	2230	15	225	16	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	2650	540	2110	0.482	0.624	0.781	1.886	227.8
6300-7500	1500	1800	205	255	230	210	15	210	2230	15	225	16	15	300	4	15	280	-	4	15	300	6	15	280	4	15	182	1860	15	105	2010	15	105	1230	540	690	15	105	2650	540	2110	0.482	0.624	0.781	1.886	248.6

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

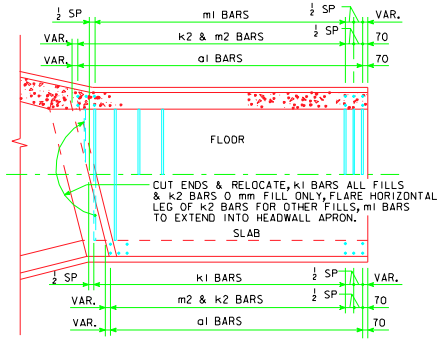


BARREL SECTION



STANDARD SECTION PLAN VIEW

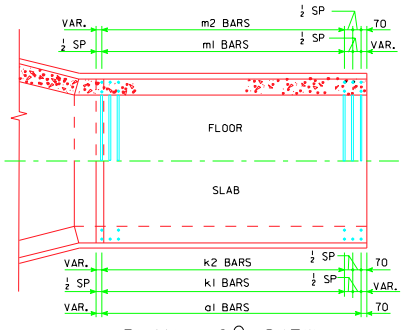
NOTE:
TYPICAL FOR LENGTHS OF 11 480 mm.
(KEYWAY IS TO BE OMITTED WHEN BELL JOINTS ARE USED)



PLAN - SKEW TYPICAL

(KEYWAY NOT SHOWN)

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

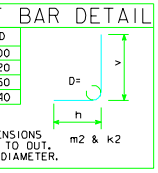


PLAN - 0° SKEW

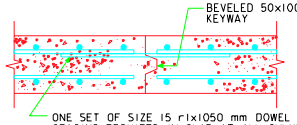
(KEYWAY NOT SHOWN)

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 = 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 :

STANDARD DESIGN

CULVERT BARREL DETAILS

FOR

REINFORCED CONCRETE BOX CULVERTS

PROJECT DEVELOPMENT DIVISION
IOWA DEPARTMENT OF TRANSPORTATION

JULY, 1995

MRCB-1500-2-95

RCB15M2.S01

XXXXXXXXXXSYSTEMTIME XXXXXXXUSERNAME XXXXXXXXXX