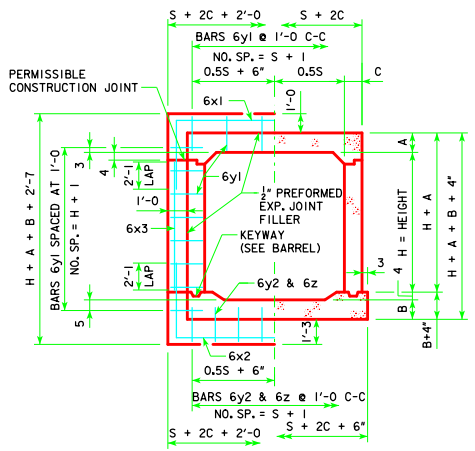
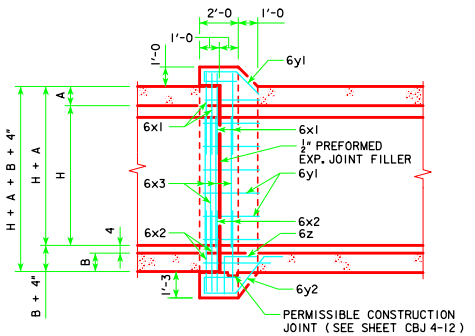


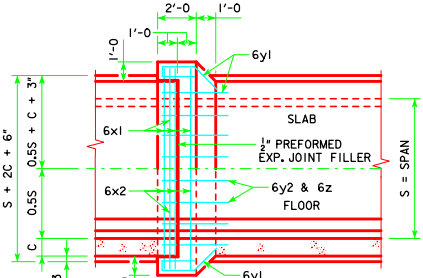
REVISED 07-13 - THE #9 BARS WERE ADDED TO NOTE NUMBER 6.
 ENGLISH DESIGNATIONS IN ALL CAPS. DRAWN BY: CBJ 2-12 - THIS SHEET. ISSUED 04-12.



JOINT DETAIL SECTION THRU BARREL



LONGITUDINAL SECTION

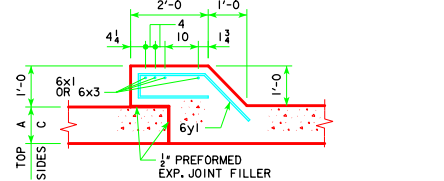


PLAN VIEW

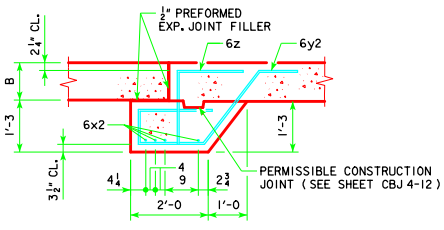
ESTIMATE OF QUANTITIES - ONE JOINT - 6' SPAN											
BILL OF REINFORCING STEEL		6' x 3'		6' x 4'		6' x 5'		6' x 6'		6' x 7'	
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT
6x1	SLAB & WALLS		4	17'-9"	107	4	17'-9"	107	4	17'-9"	107
6x2	FLOOR & WALLS		4	18'-3"	110	4	20'-3"	122	4	22'-3"	134
6x3	WALLS		--	--	--	--	--	--	8	5'-5"	65
6y1	TOP & SIDES		18	6'-2"	167	20	6'-2"	185	22	6'-2"	204
6y2	BOTTOM		8	7'-5"	89	8	7'-5"	89	8	7'-5"	89
6z	BOTTOM & FLOOR		8	3'-2"	38	8	3'-2"	38	8	3'-2"	38
TOTAL WEIGHT (LB)					511			541			572
TOTAL CONCRETE (CY)					2.8			3.0			3.2

ESTIMATE OF QUANTITIES - ONE JOINT - 8' SPAN											
BILL OF REINFORCING STEEL		8' x 4'		8' x 5'		8' x 6'		8' x 7'		8' x 8'	
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT
6x1	SLAB & WALLS		4	19'-9"	119	4	19'-9"	119	4	19'-9"	119
6x2	FLOOR & WALLS		4	22'-3"	134	4	24'-3"	146	4	19'-11"	120
6x3	WALLS		--	--	--	8	5'-5"	65	8	6'-5"	77
6y1	TOP & SIDES		22	6'-2"	204	24	6'-2"	222	26	6'-2"	241
6y2	BOTTOM		10	7'-7"	114	10	7'-7"	114	10	7'-8"	115
6z	BOTTOM & FLOOR		10	3'-2"	48	10	3'-2"	48	10	3'-2"	48
TOTAL WEIGHT (LB)					619			649			707
TOTAL CONCRETE (CY)					3.5			3.6			3.8

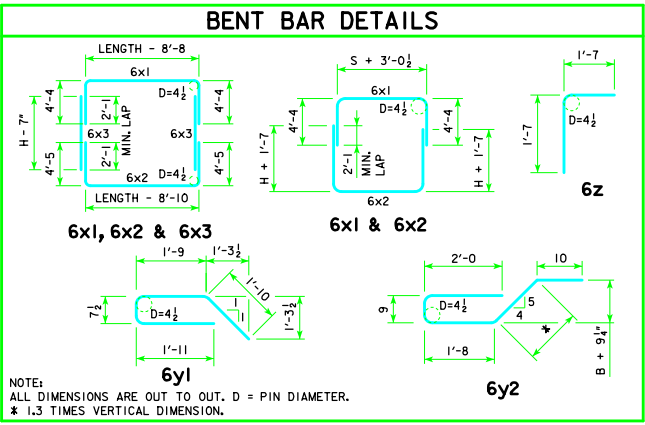
CONCRETE PLACEMENT					
BARREL SIZE	BARREL DIMENSION			BELL JOINT QUANTITIES (CY)	
	A	B	C	FOOTINGS	WALLS
6' x 3'	8	10	9	1.285	0.486
6' x 4'	8	10	9	1.285	0.668
6' x 5'	8	10	9	1.285	0.850
6' x 6'	8	10	9	1.285	1.032
6' x 7'	8	10	9	1.285	1.214
6' x 8'	8	10	9.5	1.294	1.396
8' x 4'	10	12	9	1.544	0.668
8' x 5'	10	12	9	1.544	0.850
8' x 6'	10	12	9	1.544	1.032
8' x 7'	10	12	9	1.544	1.214
8' x 8'	10	12.5	9.5	1.561	1.396
8' x 9'	10	12.5	11	1.589	1.578
8' x 10'	10	12.5	12	1.608	1.760



TOP & SIDES - BARS 6y1



BOTTOM - BARS 6y2 & 6z



NOTE:
 ALL DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.
 * 1.3 TIMES VERTICAL DIMENSION.

NOTES:

- DIMENSIONS AND QUANTITIES SHOWN ARE BASED ON SLAB, FLOOR, AND WALL THICKNESSES (A, B, AND C, RESPECTIVELY). VALUES FOR THESE DIMENSIONS, UNDER VARYING FILL CONDITIONS, CAN BE FOUND ON THE RCBC CULVERT BARREL DETAIL SHEETS.
- CHANGE LENGTHS OF BARS 6x1, 6x2, 6z, AND ADJUST REINFORCING STEEL AND CONCRETE QUANTITIES ACCORDINGLY FOR SLAB, WALL, AND FLOOR THICKNESSES OTHER THAN SHOWN.
- ALL BAR LENGTHS ARE ESTIMATED WITH A 2" CLEARANCE FROM CONCRETE EDGE TO OUTSIDE OF BAR, EXCEPT AS NOTED.
- MATERIAL AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS OF I.D.O.T.
- SEE SHEET RCBC G1-12 FOR GENERAL INFORMATION, SPECIFICATIONS, AND DESIGN STRESSES.
- BARREL FLOOR BARS m1 & m9 ARE TO BE SHORTENED 6" IN LENGTH AT BELL JOINTS.

LATEST REVISION DATE 07-13 APPROVED BY BRIDGE ENGINEER 	 Iowa Department of Transportation Highway Division
	STANDARD DESIGN SINGLE REINFORCED CONCRETE BOX CULVERTS APRIL, 2012
	CULVERT BELL JOINTS CBJ 2-12 6' & 8' SPANS