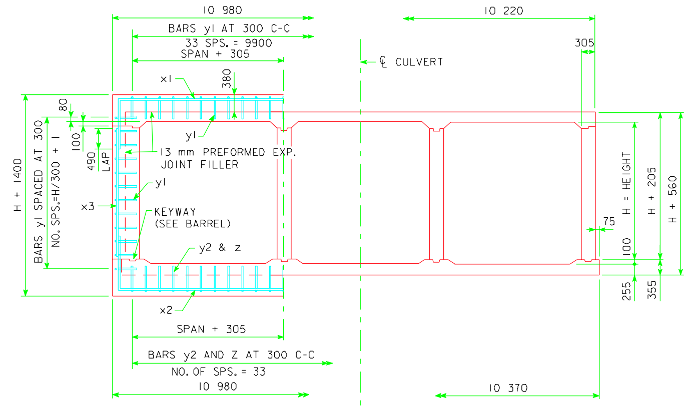
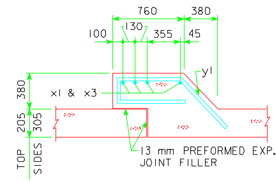
REVISED 04-02 - ADDED PERMISSIBLE CULVERT BELL JOINT. ADDED x3 BARS TO DETAILS AND BAR LIST.
TRCBJIM.SOI



JOINT DETAIL
SECTION THRU BARREL

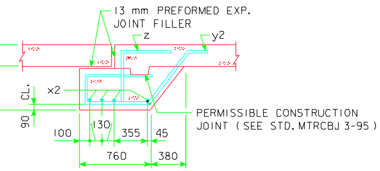
ESTIMATE OF QUANTITIES - ONE JOINT - 3000 mm SPAN

BILL OF REINFORCING STEEL				3000 x 2400			3000 x 3000			3000 x 3600		
MARK	SIZE	LOCATION	SHAPE	NO.	LENGTH	MASS	NO.	LENGTH	MASS	NO.	LENGTH	MASS
x1	20	SLAB AND WALLS		4	13 940	131	4	13 940	131	4	13 940	131
x2	20	FLOOR AND WALLS		4	13 940	131	4	13 940	131	4	13 940	131
x3	20	WALLS		8	1500	28	8	2100	40	8	2700	51
y1	20	TOP AND SIDES		52	2390	293	56	2390	315	60	2390	338
y2	20	BOTTOM		34	2710	217	34	2710	217	34	2710	217
z	20	BOTTOM AND FLOOR		34	1000	80	34	1000	80	34	1000	80
TOTAL MASS						880 kg			914 kg			948 kg
TOTAL CONCRETE				10.7 m^3			11.1 m^3			11.6 m^3		



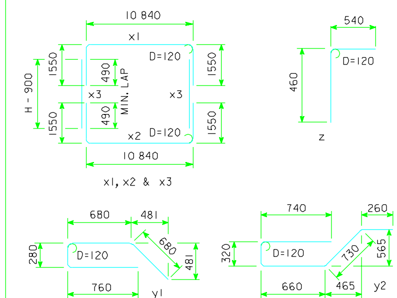
A = SLAB THICKNESS
B = FLOOR THICKNESS
C = WALL THICKNESS

TOP AND SIDES - BAR y1



BOTTOM BARS - y2 & z

BENT BAR DETAILS



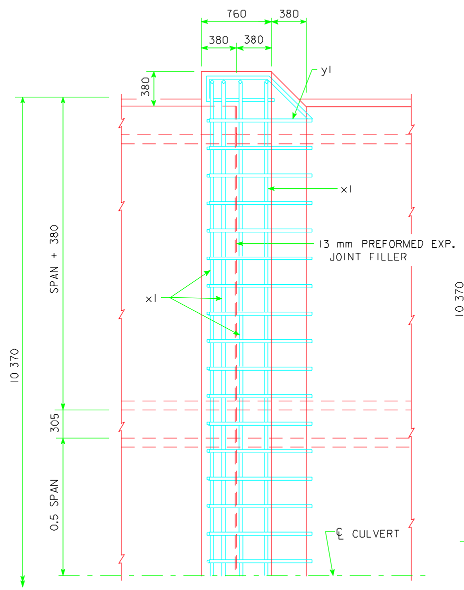
ALL DIMENSIONS ARE OUT TO OUT. D=PIN DIAMETER.

CONCRETE PLACEMENT

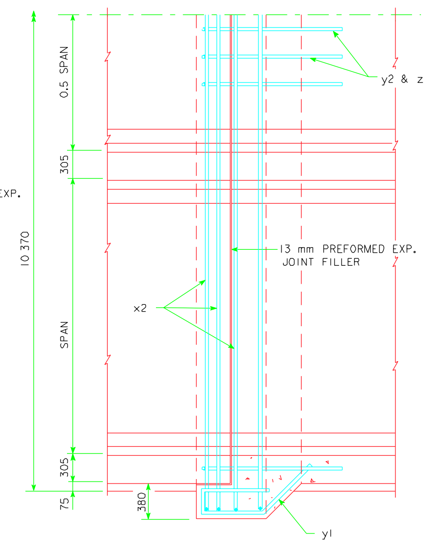
SIZE	FOOTING	WALLS	SLAB
3000x2400	4.92	1.60	4.16
3000x3000	4.92	2.02	4.16
3000x3600	4.92	2.46	4.16

NOTES:

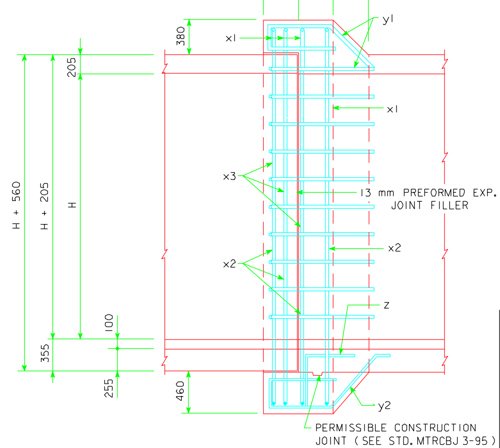
1. DIMENSIONS AND QUANTITIES SHOWN ARE BASED ON SLAB THICKNESS OF 205 mm, WALL = 305 mm, AND FLOOR = 255 mm.
2. CHANGE LENGTHS OF BARS x1, x2, z, AND ADJUST REINFORCING STEEL AND CONCRETE QUANTITIES ACCORDINGLY FOR SLAB, WALL AND FLOOR THICKNESSES OTHER THAN SHOWN.
3. ALL BAR LENGTHS ARE ESTIMATED WITH A 50 mm CLEARANCE FROM CONCRETE EDGE TO OUTSIDE OF BAR, EXCEPT AS NOTED.
4. MATERIAL AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS OF I.D.O.T.
5. SEE SHEET MTRRCB-GI-94 FOR GENERAL INFORMATION, SPECIFICATIONS AND DESIGN STRESSES.
6. BARS x1 AND x2 MAY BE FURNISHED IN TWO EQUAL LENGTHS ADDING 490 mm TO THE OVERALL LENGTH FOR LAP. THE ABOVE IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE CONTRACTING AUTHORITY.



PLAN VIEW - SLAB



PLAN VIEW - FLOOR



LONGITUDINAL SECTION

LATEST REVISION DATE : 04-02	APPROVED BY : [signature]	STANDARD DESIGN CULVERT BELL JOINTS 3000 mm SPANS FOR TRIPLE REINFORCED CONCRETE BOX CULVERTS PROJECT DEVELOPMENT DIVISION IOWA DEPARTMENT OF TRANSPORTATION DECEMBER, 1994 MTRCBJ 1-94

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