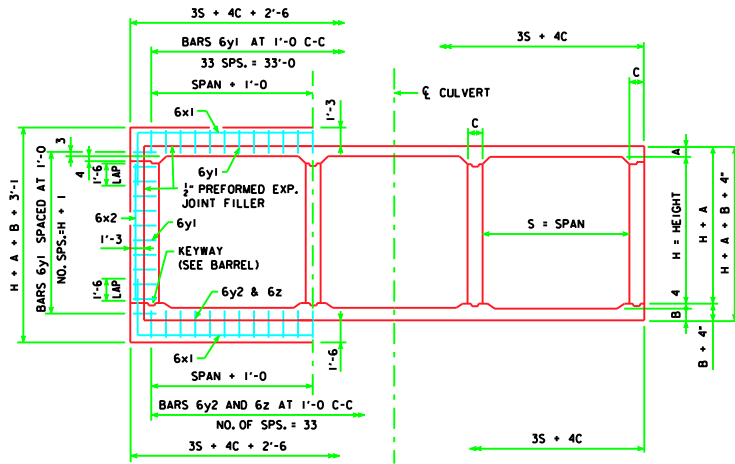
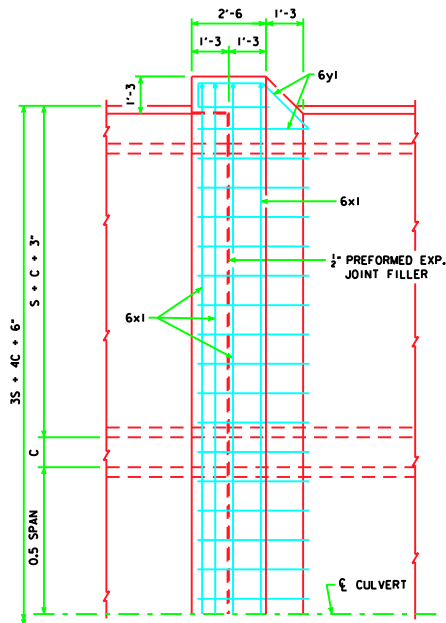


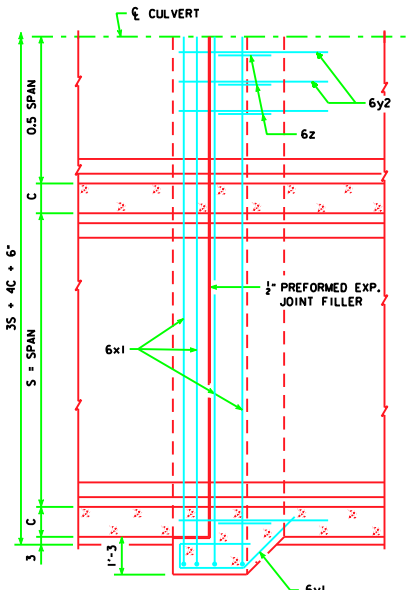
REVISED 04-07 - THE BAR LENGTHS OF 6x1 AND 6x2 BARS CHANGED. ADDED NOTE 7 TO BELL JOINTS NOTES. TRCBJ 2-01 - 09-01 THIS SHEET ISSUED.



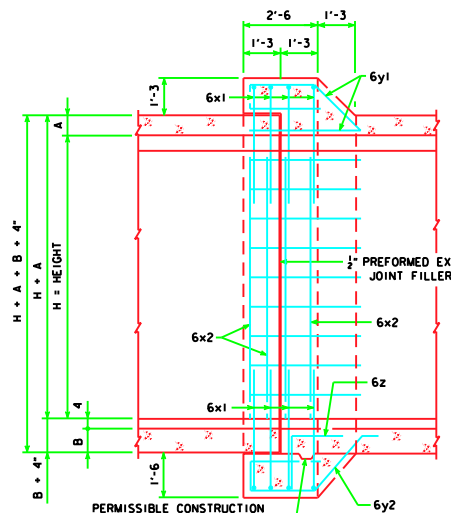
JOINT DETAIL SECTION THRU BARREL



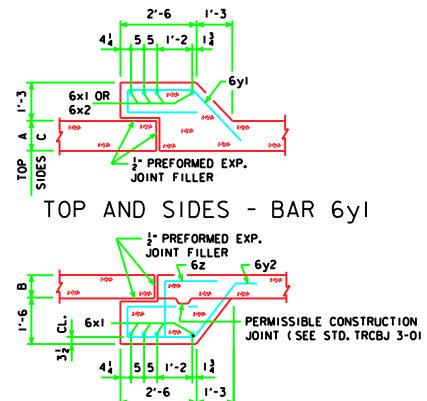
PLAN VIEW - SLAB



PLAN VIEW - FLOOR

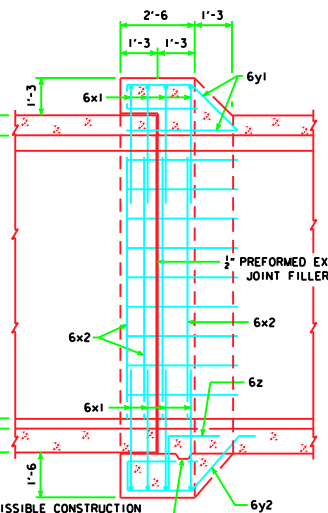


LONGITUDINAL SECTION



TOP AND SIDES - BAR 6y1

BOTTOM BARS - 6y2 & 6z

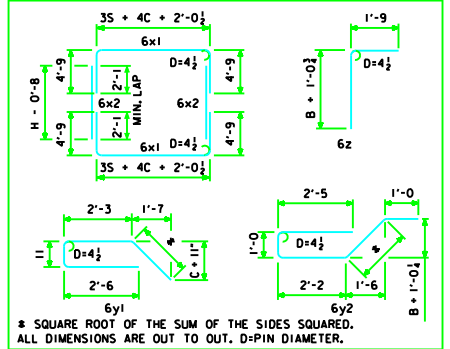


PERMISSIBLE CONSTRUCTION JOINT (SEE STD. TRCBJ 3-01)

ESTIMATE OF QUANTITIES - ONE JOINT - 12' SPAN

BILL OF REINFORCING STEEL		12' x 6'		12' x 8'		12' x 10'		12' x 12'			
MARK	LOCATION	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT
6x1	SLAB AND FLOOR		8	50'-7"	608	8	50'-7"	608	8	50'-11"	612
6x2	WALLS		8	5'-4"	64	8	7'-4"	88	8	9'-4"	112
6y1	TOP AND SIDES		56	8'-0"	673	60	8'-0"	721	64	8'-1"	777
6y2	BOTTOM AND FLOOR		40	9'-3"	556	40	9'-3"	556	40	9'-3"	556
6z	BOTTOM AND FLOOR		40	4'-0"	240	40	4'-0"	240	40	4'-0"	240
TOTAL WEIGHT (LBS.)					2141		2213		2297		2386
TOTAL CONCRETE - CU. YD.				15.676	CU. YD.	16.269	CU. YD.	16.954	CU. YD.	17.744	CU. YD.

BENT BAR DETAILS



\* SQUARE ROOT OF THE SUM OF THE SIDES SQUARED. ALL DIMENSIONS ARE OUT TO OUT. D=PIN DIAMETER.

CONCRETE PLACEMENT

BARREL SIZE	BARREL DIMEN.			BELL JOINT QUANTITIES (CU. YDS.)		
	A	B	C	FOOTING	WALLS	SLAB
12' x 6'	11 1/2	13 1/2	9	7.682	1.640	6.354
12' x 8'	11 1/2	14	9	7.697	2.218	6.354
12' x 10'	11 1/2	14	10	7.755	2.797	6.402
12' x 12'	11 1/2	14	12	7.870	3.376	6.498

BELL JOINT 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 TRRCB CULVERT BARREL DETAIL SHEETS.
- CHANGE LENGTHS OF BARS 6x1, 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 TRRCB-G1-01 FOR GENERAL INFORMATION, SPECIFICATIONS AND DESIGN STRESSES.
- BARS 6x1 MAY BE FURNISHED IN TWO EQUAL LENGTHS ADDING 2'-0" TO THE OVERALL LENGTH TO OBTAIN A 2'-0" MIN. LAP. THE ABOVE IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE CONTRACTING AUTHORITY.
- BARREL FLOOR BARS ARE TO BE SHORTENED 6" AT BELL JOINTS.

LATEST REVISION DATE : 04-07

APPROVED BY :

STANDARD DESIGN  
CULVERT BELL JOINTS - 12' SPANS  
FOR  
TRIPLE REINFORCED CONCRETE BOX CULVERTS

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION  
SEPT., 2001

TRCBJ 2-01