

Estimate of Quantities - Flume Bell Joints

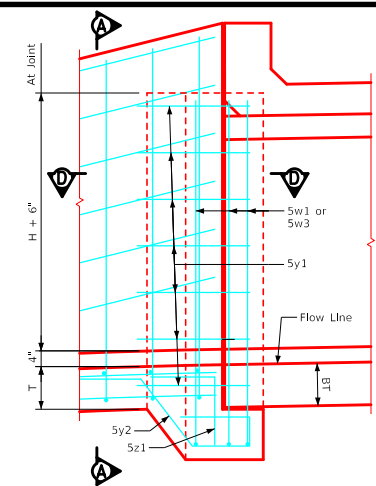
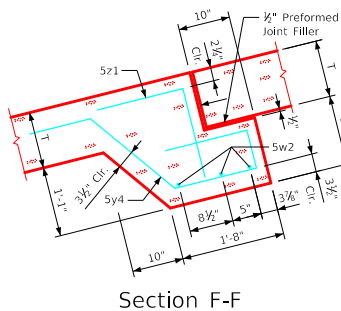
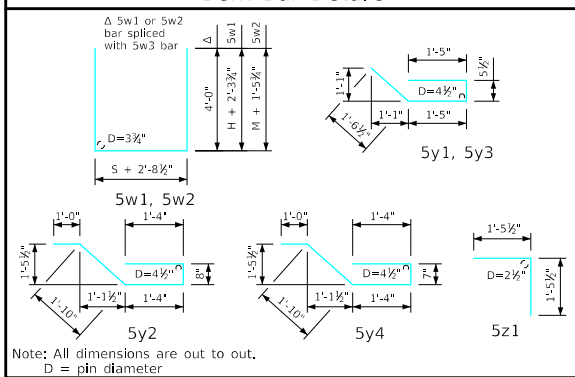
Junction Bell Joint		3' x 3'			4' x 4'			5' x 3'			5' x 4'			5' x 5'			5' x 6'			
Bar	Location	Shape	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight
5w1	Walls & Floor		3	16'-4"	51	3	14'-9"	46	3	18'-4"	57	3	15'-9"	49	3	15'-9"	49	3	15'-9"	49
5w3	Walls Vert.	--	--	--	--	6	4'-4"	27	--	--	--	6	4'-4"	27	6	5'-4"	33	6	6'-4"	40
5y1	Walls Horiz.		10	4'-10"	50	12	4'-10"	60	10	4'-10"	50	12	4'-10"	60	14	4'-10"	71	16	4'-10"	81
5y2	Floor Vert.	--	5	6'-2"	32	6	6'-2"	39	7	6'-2"	45	7	6'-2"	45	7	6'-2"	45	7	6'-2"	45
5z1	Floor Vert.		5	2'-11"	15	6	2'-11"	18	7	2'-11"	21	7	2'-11"	21	7	2'-11"	21	7	2'-11"	21
Total Weight (LB)			148			190			173			202			219			236		
Concrete (CY)		Footing			0.7			0.8			0.8			0.8			0.8			
		Walls			0.4			0.6			0.4			0.6			0.7			
		Total			1.1			1.4			1.2			1.4			1.5			
Chute Bell Joint		3' x 3'			4' x 4'			5' x 3'			5' x 4'			5' x 5'			5' x 6'			
Bar	Location	Shape	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight
5w2	Walls & Floor		3	13'-2"	41	3	15'-8"	49	3	15'-2"	47	3	16'-8"	52	3	18'-2"	57	3	19'-8"	62
5y3	Walls Horiz.		8	4'-10"	40	8	4'-10"	40	8	4'-10"	40	8	4'-10"	40	10	4'-10"	50	12	4'-10"	60
5y4	Floor Vert.	--	5	6'-1"	32	6	6'-1"	38	7	6'-1"	44	7	6'-1"	44	7	6'-1"	44	7	6'-1"	44
5z1	Floor Vert.		5	2'-11"	15	6	2'-11"	18	7	2'-11"	21	7	2'-11"	21	7	2'-11"	21	7	2'-11"	21
Total Weight (LB)			128			145			152			157			172			187		
Concrete (CY)		Footing			0.7			0.7			0.8			0.8			0.8			
		Walls			0.2			0.3			0.2			0.3			0.4			
		Total			0.9			1.0			1.0			1.2			1.3			

Barrel & Chute Dimensions

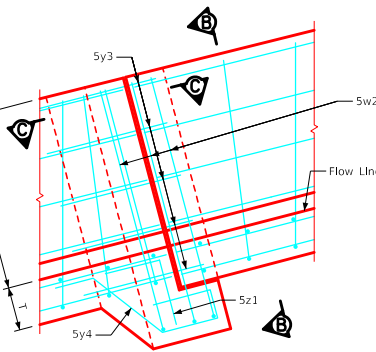
S x H	M	T	U	BT	BU
3' x 3'	2'-3"	11"	9"	10"	9"
4' x 4'	3'-0"	11"	9"	10"	9"
5' x 3'	2'-3"	11"	9"	10"	9"
5' x 4'	3'-0"	11"	9"	10"	9"
5' x 5'	3'-9"	11"	9"	10"	9"
5' x 6'	4'-6"	11"	9"	10"	9"

S = Culvert Span
H = Culvert Height

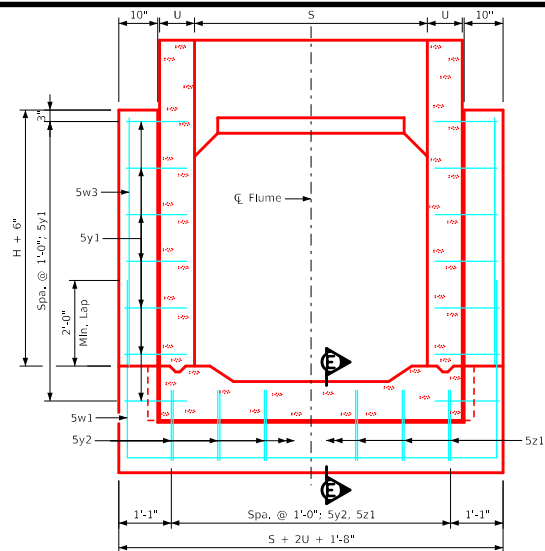
Bent Bar Details



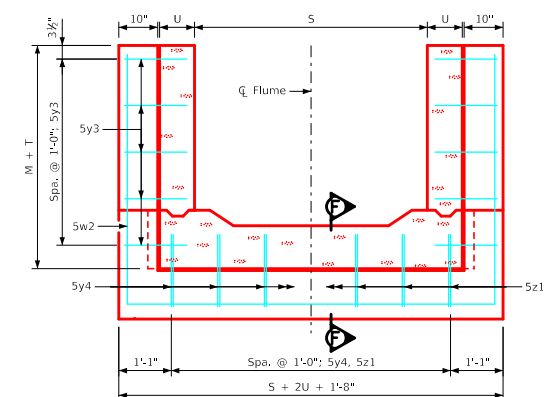
Part Elevation - Junction Bell Jt.



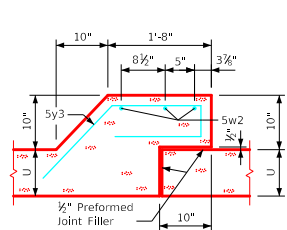
Part Elevation - Chute Bell Jt.



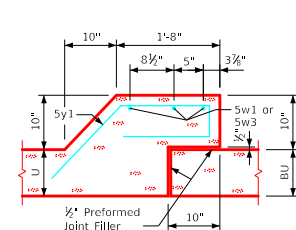
Section A-A



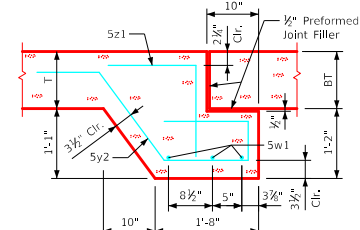
Section B-B



Section C-C



Section D-D



Section E-E

Notes:

- Dimensions and quantities shown based on "U" flume walls, "BU" barrel walls, "T" flume floor and "BT" barrel floor thicknesses.
- Change lengths of bars 5w1 and adjust reinforcing steel and concrete quantities accordingly for wall and floor thicknesses other than shown.
- Floor bars m1 are to be shortened 6" at bell joints.
- See Sheet RCF 01-20 for general information.

LATEST REVISION DATE
APPROVED BY BRIDGE ENGINEER



Standard Design
Single Reinforced Concrete
Box Culverts
December, 2020

Flume Bell Joint
Details

FBJ 01-20

3'-0", 4'-0" & 5'-0" Spans

ENGLISHIGNEDFLUMES.DGN - FBI 01-20 - THIS SHEET ISSUED 12-2020.