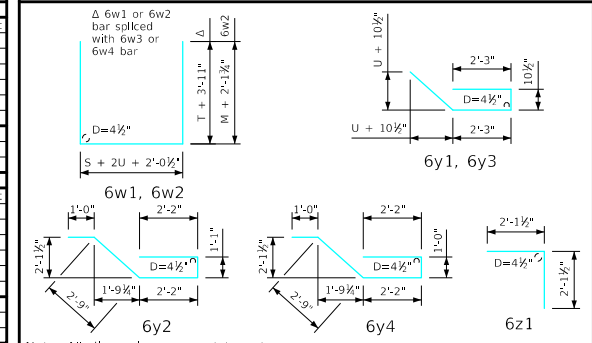


Estimate of Quantities - Flume Bell Joints

		12' x 4'		12' x 5'		12' x 6'		12' x 7'		12' x 8'		12' x 9'		12' x 10'		12' x 11'		12' x 12'											
Bar	Location	Shape	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight									
6w1	Walls & Floor		4	25'-9"	155	4	25'-9"	155	4	25'-9"	155	4	25'-11"	156	4	25'-11"	156	4	26'-1"	157	4	26'-3"	158						
6w3	Walls Vert.		8	4'-4"	52	8	5'-4"	64	8	6'-4"	76	8	7'-4"	88	8	8'-4"	100	8	9'-4"	112	8	10'-4"	124	8	11'-4"	136	8	12'-4"	148
6y1	Walls Horiz.		12	7'-8"	138	14	7'-8"	161	16	7'-8"	184	18	7'-8"	207	20	7'-10"	235	22	7'-10"	259	24	7'-10"	282	26	7'-11"	309	28	8'-1"	340
6y2	Floor Vert.		14	9'-2"	193	14	9'-2"	193	14	9'-2"	193	14	9'-2"	193	14	9'-2"	193	14	9'-2"	193	14	9'-2"	193	14	9'-2"	193	14	9'-2"	193
6z1	Floor Vert.		14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89
Total Weight (LB)				627		662		697		732		773		809		844		884		928									
Concrete (CY)																													
Footings				3.3		3.3		3.3		3.3		3.3		3.3		3.3		3.3		3.4									
Walls				1.3		1.6		1.9		2.1		2.4		2.7		3.0		3.3		3.6									
Total				4.6		4.9		5.2		5.4		5.7		6.0		6.3		6.6		7.0									

		12' x 4'		12' x 5'		12' x 6'		12' x 7'		12' x 8'		12' x 9'		12' x 10'		12' x 11'		12' x 12'											
Bar	Location	Shape	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight									
6w2	Walls & Floor		4	25'-10"	155	4	27'-4"	164	4	25'-9"	155	4	25'-9"	155	4	25'-11"	156	4	25'-11"	156	4	26'-1"	157	4	26'-3"	158			
6w4	Walls Vert.		--	--	--	--	--	--	8	4'-0"	48	8	4'-9"	57	8	5'-6"	66	8	6'-3"	75	8	7'-0"	84	8	7'-9"	93	8	8'-6"	102
6y3	Walls Horiz.		8	7'-8"	92	10	7'-8"	115	12	7'-8"	138	12	7'-8"	158	14	7'-10"	188	16	7'-10"	212	18	7'-10"	235	20	8'-1"	263	22	8'-1"	293
6y4	Floor Vert.		14	9'-1"	191	14	9'-1"	191	14	9'-1"	191	14	9'-1"	191	14	9'-1"	191	14	9'-1"	191	14	9'-1"	191	14	9'-1"	191	14	9'-1"	191
6z1	Floor Vert.		14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89	14	4'-3"	89
Total Weight (LB)				527		559		621		630		667		699		732		744		783									
Concrete (CY)																													
Footings				3.2		3.2		3.2		3.2		3.2		3.2		3.2		3.3		3.3									
Walls				0.8		1.0		1.2		1.4		1.6		1.8		2.0		2.3		2.5									
Total				4.0		4.2		4.4		4.6		4.8		5.0		5.2		5.6		5.8									

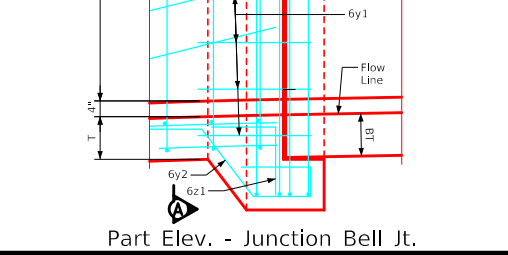
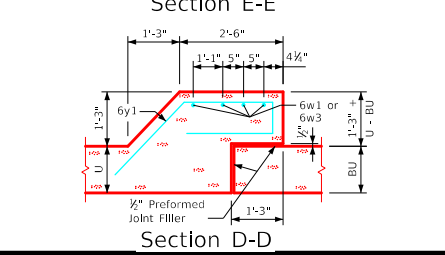
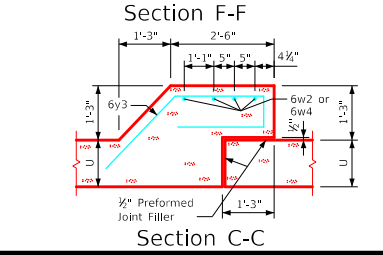
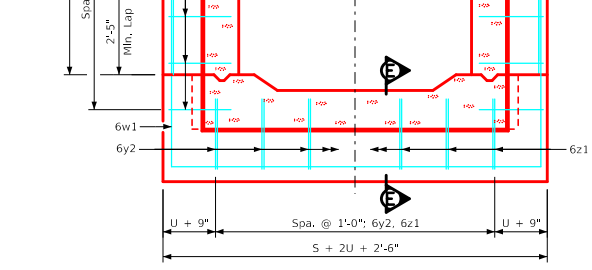
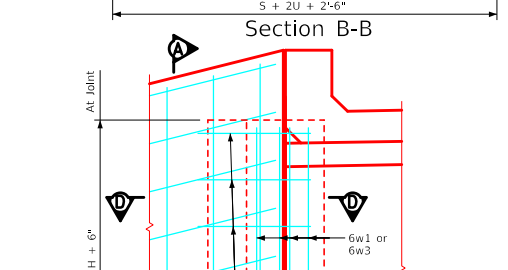
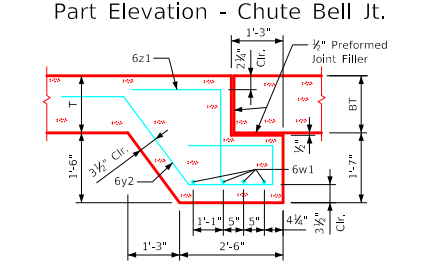
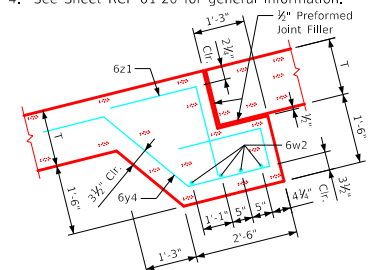
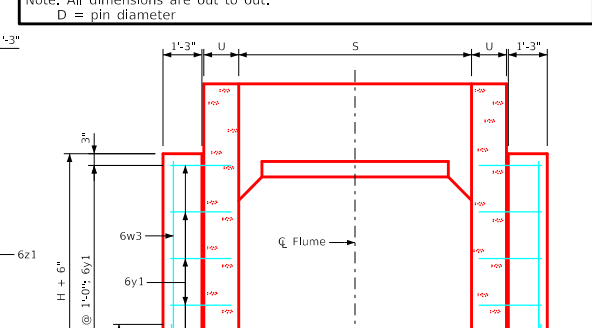
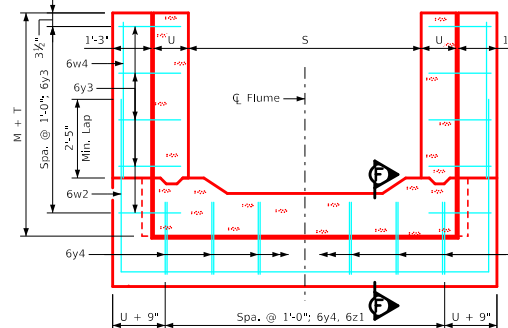
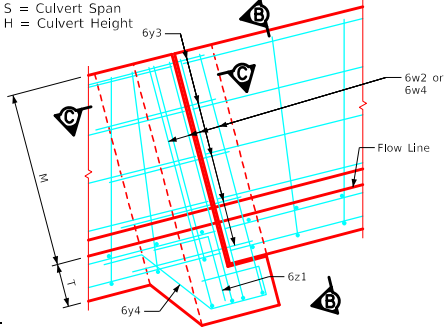
Bent Bar Details



Barrel & Chute Dimensions

S x H	M	T	U	BT	BU
12' x 4'	3'-0"	1'-2"	9"	1'-1"	9"
12' x 5'	3'-9"	1'-2"	9"	1'-1"	9"
12' x 6'	4'-6"	1'-2"	9"	1'-1"	9"
12' x 7'	5'-3"	1'-2"	9"	1'-1"	9"
12' x 8'	6'-0"	1'-2"	10"	1'-1"	9"
12' x 9'	6'-9"	1'-2"	10"	1'-1"	9"
12' x 10'	7'-6"	1'-2"	10"	1'-1"	10"
12' x 11'	8'-3"	1'-2"	11"	1'-1"	11"
12' x 12'	9'-0"	1'-2"	1'-0"	1'-1"	1'-0"

- 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 6w1 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 12'-0" Span	FBJ 05-20

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