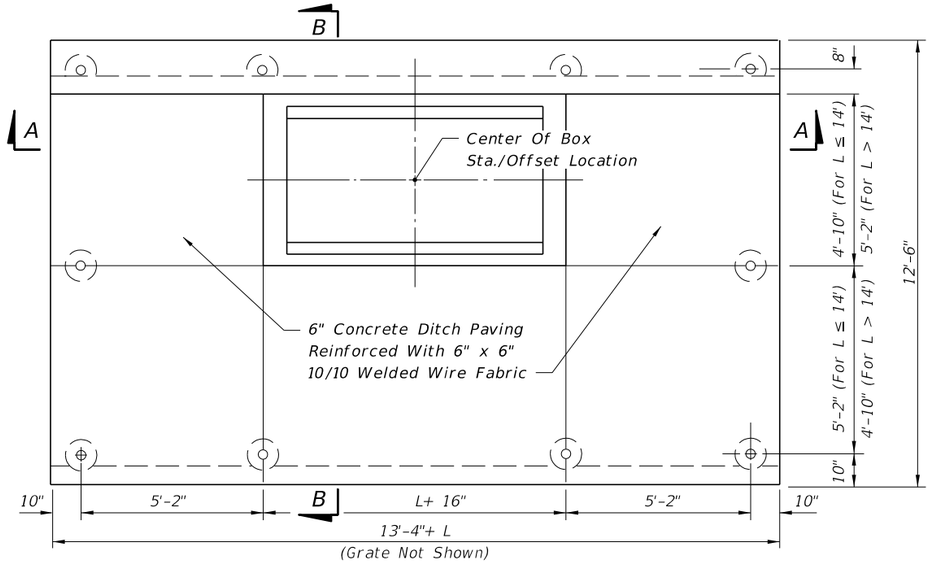
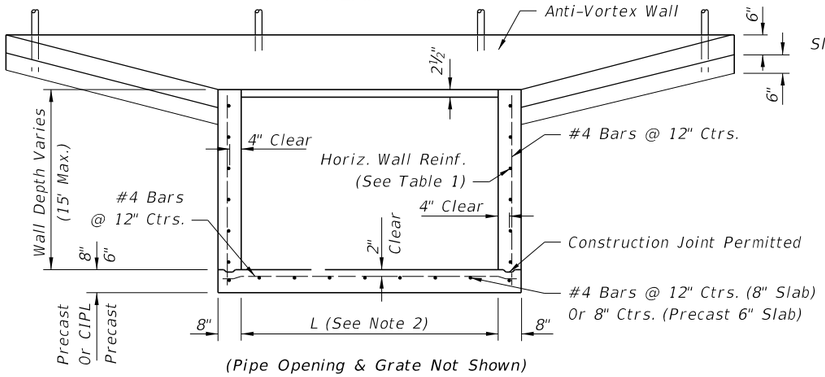
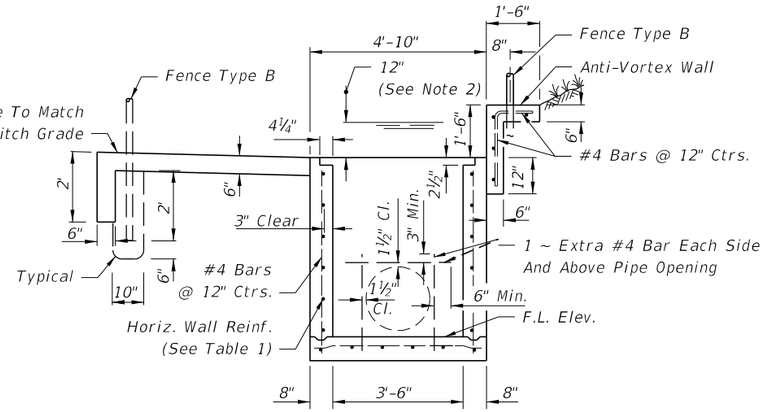


PLAN



(Pipe Opening & Grate Not Shown)

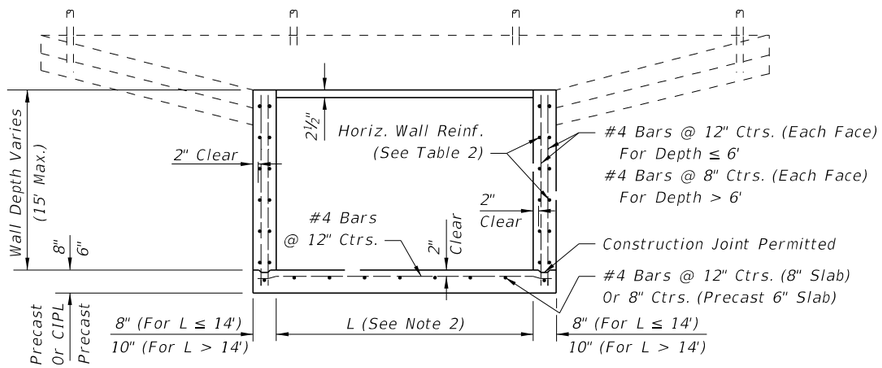
SECTION AA



(Pipe Opening Shown, Grate Not Shown)

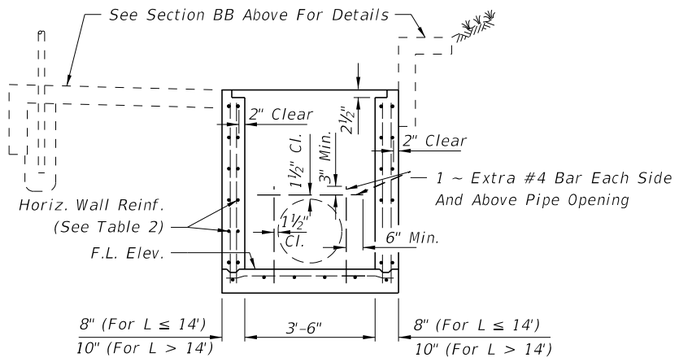
SECTION BB

INLET LENGTHS (L) LESS THAN OR EQUAL TO 9' (SINGLE LAYER WALL REINFORCING)



(Pipe Opening & Grate Not Shown)

SECTION AA



(Pipe Opening Shown, Grate Not Shown)

SECTION BB

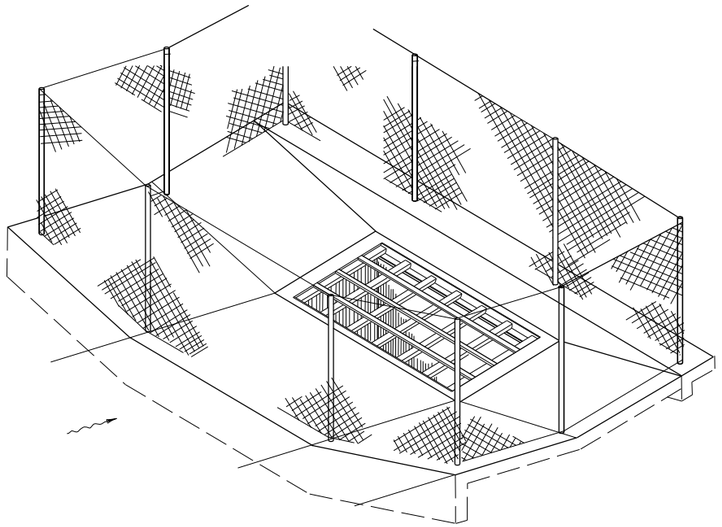
INLET LENGTHS (L) GREATER THAN OR EQUAL TO 9' (DOUBLE LAYER WALL REINFORCING)

GENERAL NOTES

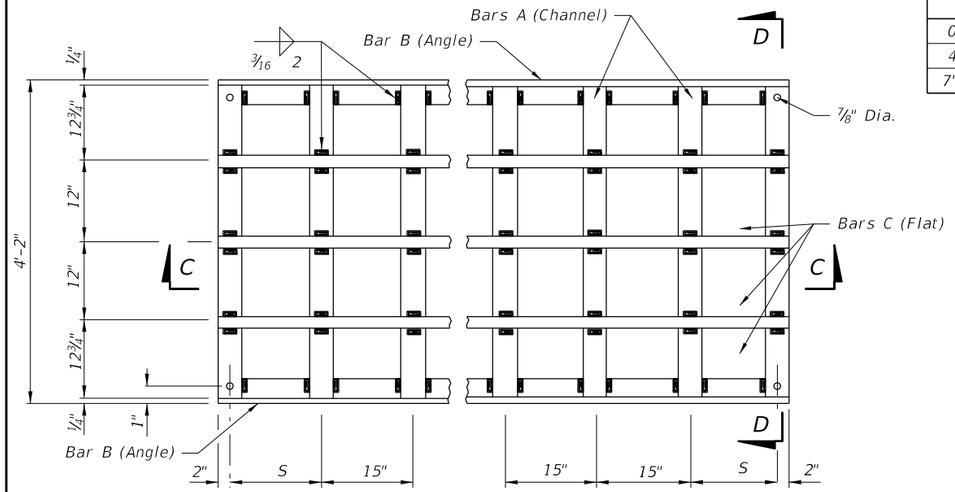
1. This inlet is to be used at locations having high flow rates, usually where an endwall could not be utilized without hazardous intake.
2. Inlet length (L) shall be set by the designer for the greater of either culvert requirement or inlet pool not to exceed 12" depth. Structures over 6 feet in depth are to be checked for flotation by the designer of project drainage.
3. This inlet is not intended for use with Index 200 structure bottoms.
4. All exposed edges and corners shall be ¾" chamfer or tooled to ¼" radius.
5. Inlet and anti-vortex wall to be Class II Concrete.
6. All reinforcing is Grade 60 with 2" min. cover unless otherwise noted. See Index No. 201 for equivalent area of welded wire fabric (WWF). Bars to be cut or bent for 1½" clearance around pipe opening. Bend top and corner bars to clear anchor holes.
7. Channel section C 3x6 at 14" max. bar spacing may be used as an alternate for the C 4x5.4 channel at 15" bar spacing.
8. Channels and bars for grate shall be ASTM A242/A242M, A572/A572M or A588/A588M, Grade 50 steel, and galvanized in accordance with Specification Section 975.
9. Fence enclosure shall be Fence Type B (Index No. 802). All posts to be set in concrete. A minimum of 10 posts required. Corner and approach side posts to be 3" nominal diameter.
10. Cost of ditch paving, anti-vortex wall, grate, concrete, reinforcing steel and fence enclosure to be included in the cost of inlet. Inlet to be paid for under the contract unit price for Inlets (DT Bot) (Type K), Each.
11. Anchor Bolts shall be ASTM F1554 Grade 36 fully threaded headless bolts, installed in accordance with Specification Sections 416 and 937. Nuts shall be ASTM A563 or A194 and washers shall be ASTM F436 or Type A plain washers. All nuts, bolts and washers shall be galvanized.

10/11/2016 10:28:57 AM

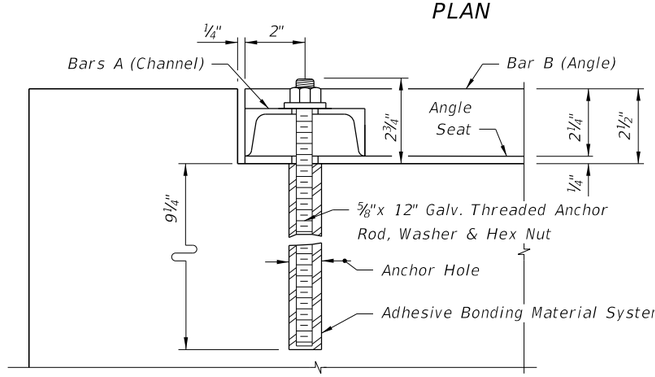
LAST REVISION	REVISION	DESCRIPTION:			
11/01/16			FDOT FY 2017-18 DESIGN STANDARDS	DITCH BOTTOM INLET TYPE K	INDEX NO. 235 / SHEET NO. 1 of 2



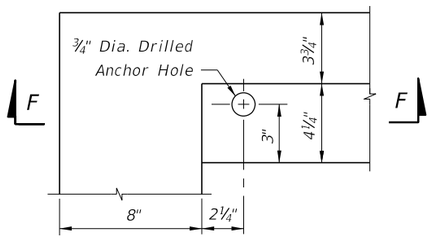
ISOMETRIC OF INLET FENCE ENCLOSURE



PLAN



SECTION FF



GRATE SEAT AND ANCHOR HOLE PLAN

STEEL GRATE

HORIZONTAL WALL REINFORCING SCHEDULES

WALL DEPTH	SCH.	AREA (in²/ft)	MAX. SPACING BARS	MAX. SPACING WWF
SIZE: L = 5'-0"				
0'–5'	A12	0.20	12"	8"
5'–8'	A6	0.20	6"	5"
8'–15'	B5.5	0.24	5½"	5"
SIZE: L = 6'-0"				
0'–4'	A12	0.20	12"	8"
4'–6'	B5.5	0.24	5½"	5"
6'–9'	C6.5	0.37	6½"	6"
9'–15'	C3.5	0.37	3½"	3"
SIZE: L = 7'-0"				
0'–4'	B5.5	0.24	5½"	5"
4'–7'	C6.5	0.37	6½"	6"
7'–15'	D4.5	0.53	4½"	4"
SIZE: L = 8'-0"				
0'–3'	B5.5	0.24	5½"	5"
3'–5'	C6.5	0.37	6½"	6"
5'–9'	D4.5	0.53	4½"	4"
9'–15'	E5	0.73	5"	4"
SIZE: L = 9'-0"				
0'–4'	C6.5	0.37	6½"	6"
4'–7'	D4.5	0.53	4½"	4"
7'–15'	E3	0.73	3"	3"

SINGLE LAYER REINFORCING (TABLE 1)

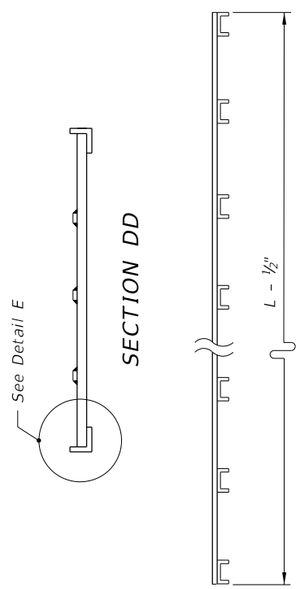
WALL DEPTH	SCH.	AREA (in²/ft)	MAX. SPACING BARS	MAX. SPACING WWF
SIZE: L = 9'-0"				
0'–4'	A12	0.20	12"	8"
4'–6'	A6	0.20	6"	5"
6'–8'	B5.5	0.24	5½"	5"
8'–15'	C6.5	0.37	6½"	6"
SIZE: L = 10'-0"				
0'–3'	A12	0.20	12"	8"
3'–5'	A6	0.20	6"	5"
5'–8'	C6.5	0.37	6½"	6"
8'–15'	C3.5	0.37	3½"	3"
SIZE: L = 12'-0"				
0'–4'	B5.5	0.24	5½"	5"
4'–6'	C6.5	0.37	6½"	6"
6'–15'	D4.5	0.53	4½"	4"
SIZE: L = 14'-0"				
0'–4'	C6.5	0.37	6½"	6"
4'–7'	D4.5	0.53	4½"	4"
7'–15'	E5	0.73	5"	4"
SIZE: L = 16'-0" x 10" WALL THICK				
0'–4'	C6.5	0.37	6½"	6"
4'–8'	D4.5	0.53	4½	4"
8'–15'	E5	0.73	5"	4"
SIZE: L = 18'-0" x 10" WALL THICK				
0'–3'	C6.5	0.37	6½"	6"
3'–5'	D4.5	0.53	4½"	4"
5'–8'	E5	0.73	5"	4"
8'–15'	F5	1.06	5"	4"

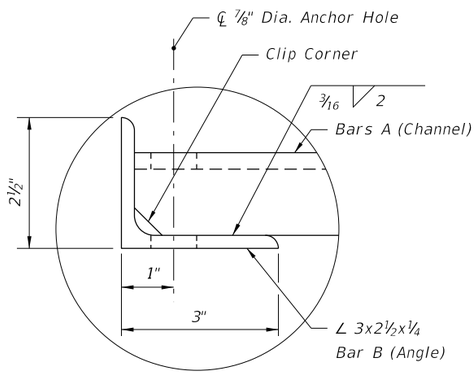
DOUBLE LAYER REINFORCING (TABLE 2)

GRATE QUANTITIES

PIPE SIZE	L	S	BILL OF STEEL BAR	No. REQD.	LENGTH	STEEL WEIGHT CHANNEL 4"x 5.4 lb	ANGLE 3"x 2½"x ¼" (4.5 lb/ft)	FLAT 2" x ½" (3.4 lb/ft)
30"&36"	5'–0"	12¾"	A	5	4'–1½"	111		
			B	2	4'–11½"		45	
			C	3	4'–11½"			51
42"&48"	6'–0"	11¼"	A	6	4'–1½"	134		
			B	2	5'–11½"		54	
			C	3	5'–11½"			61
54"&60"	7'–0"	9¾"	A	7	4'–1½"	156		
			B	2	6'–11½"		63	
			C	3	6'–11½"			71
66"&72"	8'–0"	8¼"	A	8	4'–1½"	178		
			B	2	7'–11½"		72	
			C	3	7'–11½"			81
84"	9'–0"	14¼"	A	8	4'–1½"	178		
			B	2	8'–11½"		81	
			C	3	8'–11½"			91
SPECIAL	10'–0"	12¾"	A	9	4'–1½"	201		
			B	2	9'–11½"		90	
			C	3	9'–11½"			102
SPECIAL	12'–0"	9¾"	A	11	4'–1½"	245		
			B	2	11'–11½"		108	
			C	3	11'–11½"			122
SPECIAL	14'–0"	14¼"	A	12	4'–1½"	267		
			B	2	13'–11½"		126	
			C	3	13'–11½"			142
SPECIAL	16'–0"	11¼"	A	14	4'–1½"	312		
			B	2	15'–11½"		144	
			C	3	15'–11½"			163
SPECIAL	18'–0"	8¼"	A	16	4'–1½"	356		
			B	2	17'–11½"		162	
			C	3	17'–11½"			183

Table Notes:
See Sheet No. 1 of 2 for dimension "L" location.
See steel grate Plan View for dimension "S" location.





DETAIL E

10/11/2016 10:29:01 AM

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/05			FY 2017-18 DESIGN STANDARDS	DITCH BOTTOM INLET TYPE K	235	2 of 2