
ORIGINATION FORM

Proposed Revisions to a Standard Plans Index
(Please provide all information — Incomplete forms will be returned)

Contact Information:

Date: November 1, 2019

Originator: Rick Jenkins

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Standard Plans:

Index Number: 425-055

Sheet Number (s): ALL

Index Title: Ditch Bottom Inlet Type K

Summary of the changes:

Reorganized Index, Added additional Sheets.

Sheet 1: General Notes and Overview

Sheet 2: Inlet Lengths Less Than or Equal to 9'

Sheet 3: Inlet Lengths Greater Than or Equal to 9'

Sheet 4: Steel Grate Details

Commentary / Background:

Reorganized Details and Sheets to declutter Index. Moved information from detail callouts to Notes in order to decrease clutter of the drawing. Moved design information to SPI.

Other Affected Offices / Documents: (Provide name of person contacted)

- | Yes | No | |
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| <input type="checkbox"/> | <input type="checkbox"/> | FDOT Design Manual – |
| <input type="checkbox"/> | <input type="checkbox"/> | Basis of Estimates Manual – |
| <input type="checkbox"/> | <input type="checkbox"/> | Standard Specifications – |
| <input type="checkbox"/> | <input type="checkbox"/> | Approved Product List – |
| <input type="checkbox"/> | <input type="checkbox"/> | Construction – |
| <input type="checkbox"/> | <input type="checkbox"/> | Maintenance – |

Origination Package Includes:

(Email or hand deliver package to Rick Jenkins)

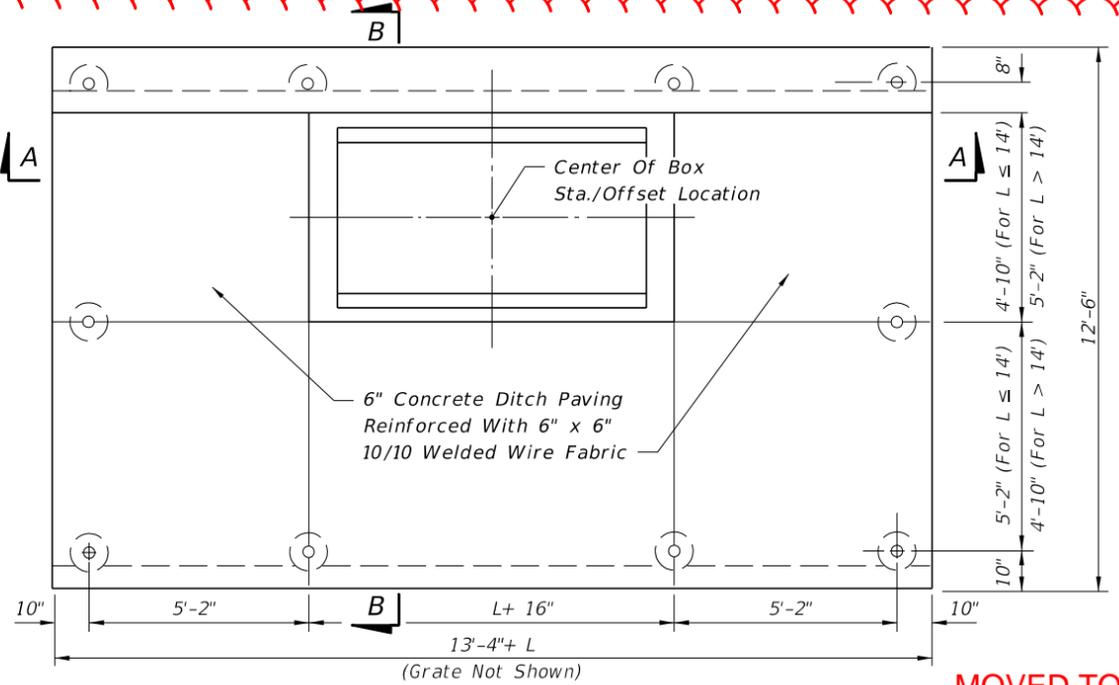
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| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Proposed Standard Plan Instruction (SPI) |
| <input type="checkbox"/> | <input type="checkbox"/> | Revised SPI |
| <input type="checkbox"/> | <input type="checkbox"/> | Other Support Documents |

Implementation:

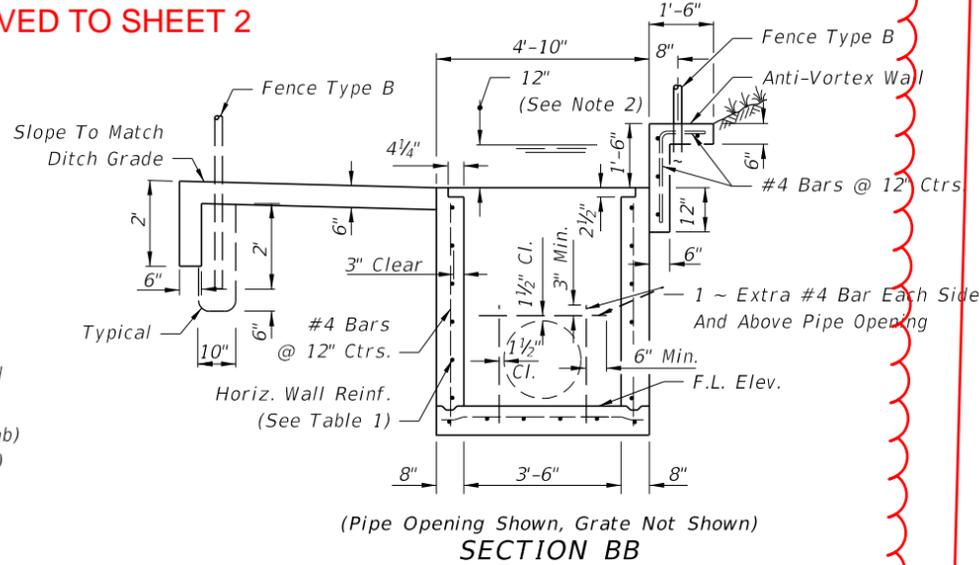
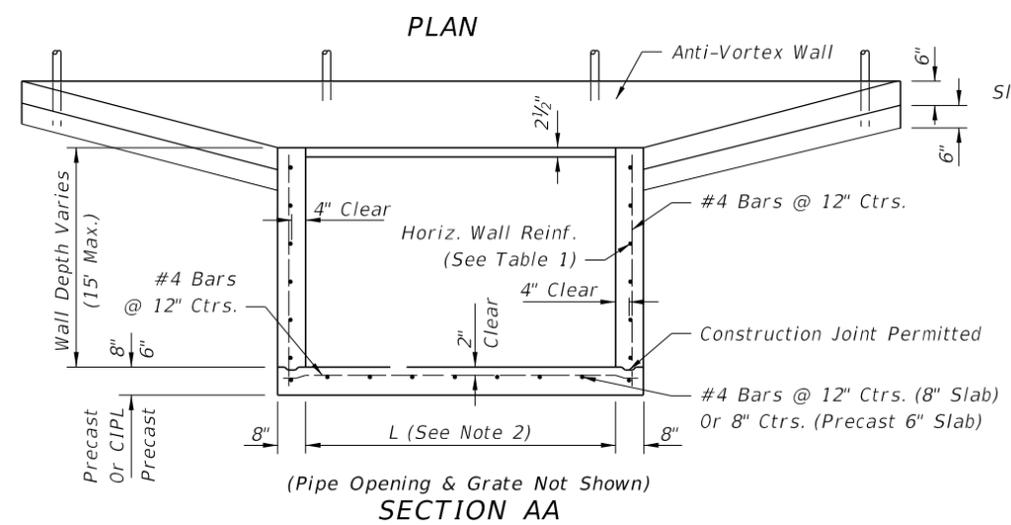
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| <input type="checkbox"/> | DCE Memo |
| <input type="checkbox"/> | Program Mgmt. Bulletin |
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Contact the Roadway Design Office for assistance in completing this form

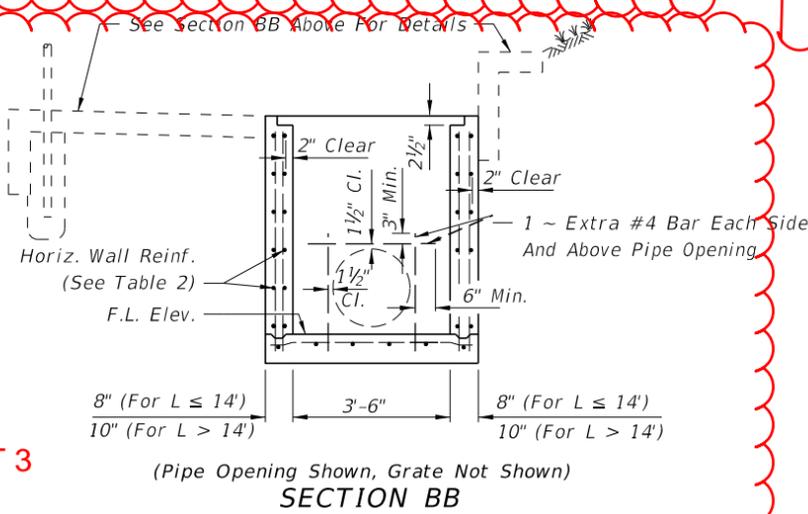
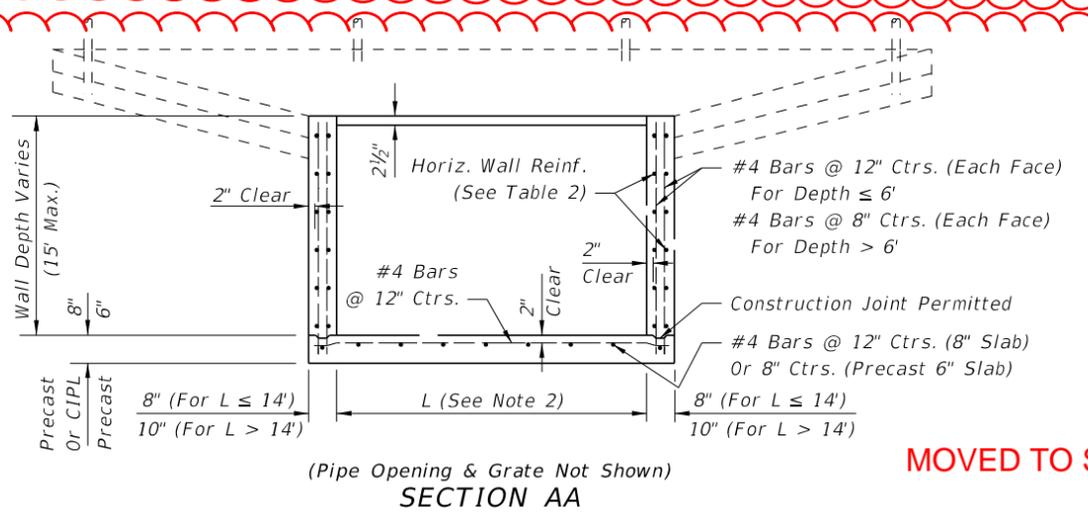
NEW SHEET 1
GENERAL NOTE AND OVERVIEW



MOVED TO SHEET 2



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



MOVED TO SHEET 3

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

MOVED TO SHEET 1

GENERAL NOTES

- This inlet is to be used at locations having high flow rates, usually where an endwall could not be utilized without hazardous intake.
- 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.
- This inlet is not intended for use with Index 425-010 structure bottoms.
- All exposed edges and corners shall be 3/4" chamfer or tooled to 1/4" radius.
- Inlet and anti-vortex wall to be Class II Concrete.
- All reinforcing is Grade 60 with 2" min. cover unless otherwise noted. See Index 425-001 for equivalent area of welded wire fabric (WWF). Bars to be cut or bent for 1 1/2" clearance around pipe opening. Bend top and corner bars to clear anchor holes.
- 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.
- 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.
- Fence enclosure shall be Fence Type B (Index 550-002). All posts to be set in concrete. A minimum of 10 posts required. Corner and approach side posts to be 3" nominal diameter.
- 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.
- 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.

SPI

SPI/Spec

Renumbered

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LAST REVISION	DESCRIPTION
11/01/17	
11/01/20	

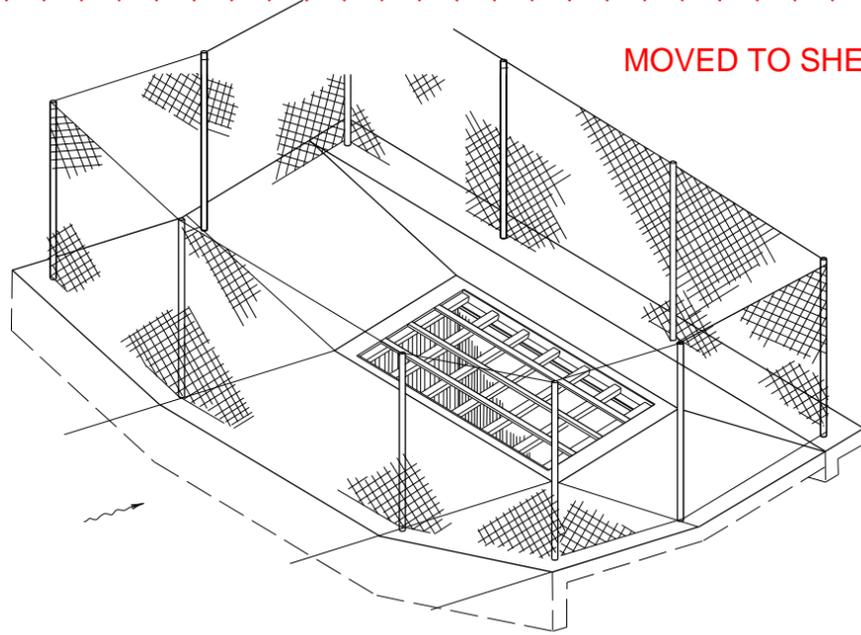
FY 2019-20

 STANDARD PLANS

DITCH BOTTOM INLET TYPE K

INDEX	SHEET
425-055	1 of 2

MOVED TO SHEET 1



ISOMETRIC OF INLET FENCE ENCLOSURE

HORIZONTAL WALL REINFORCING SCHEDULES

WALL DEPTH	SCH.	AREA (in ² /ft)	MAX. SPACING BARS	WWF	WALL DEPTH	SCH.	AREA (in ² /ft)	MAX. SPACING BARS	WWF
SIZE: L = 5'-0"					SIZE: L = 9'-0"				
0'-5'	A12	0.20	12"	8"	0'-4'	A12	0.20	12"	8"
5'-8'	A6	0.20	6"	5"	4'-6'	A6	0.20	6"	5"
8'-15'	B5.5	0.24	5½"	5"	6'-8'	B5.5	0.24	5½"	5"
SIZE: L = 6'-0"					SIZE: L = 10'-0"				
0'-4'	A12	0.20	12"	8"	0'-3'	A12	0.20	12"	8"
4'-6'	B5.5	0.24	5½"	5"	3'-5'	A6	0.20	6"	5"
6'-9'	C6.5	0.37	6½"	6"	5'-8'	C6.5	0.37	6½"	6"
9'-15'	C3.5	0.37	3½"	3"	8'-15'	C6.5	0.37	3½"	3"
SIZE: L = 7'-0"					SIZE: L = 12'-0"				
0'-4'	B5.5	0.24	5½"	5"	0'-4'	B5.5	0.24	5½"	5"
4'-7'	C6.5	0.37	6½"	6"	4'-6'	C6.5	0.37	6½"	6"
7'-15'	D4.5	0.53	4½"	4"	6'-15'	D4.5	0.53	4½"	4"
SIZE: L = 8'-0"					SIZE: L = 14'-0"				
0'-3'	B5.5	0.24	5½"	5"	0'-4'	C6.5	0.37	6½"	6"
3'-5'	C6.5	0.37	6½"	6"	4'-7'	D4.5	0.53	4½"	4"
5'-9'	D4.5	0.53	4½"	4"	7'-15'	E5	0.73	5"	4"
9'-15'	E5	0.73	5"	4"	SIZE: L = 16'-0" x 10" WALL THICK				
SIZE: L = 9'-0"					0'-4'	C6.5	0.37	6½"	6"
0'-4'	C6.5	0.37	6½"	6"	4'-8'	D4.5	0.53	4½"	4"
4'-7'	D4.5	0.53	4½"	4"	8'-15'	E5	0.73	5"	4"
7'-15'	E3	0.73	3"	3"	SIZE: L = 18'-0" x 10" WALL THICK				
SIZE: L = 16'-0" x 10" WALL THICK					0'-3'	C6.5	0.37	6½"	6"
0'-4'	C6.5	0.37	6½"	6"	3'-5'	D4.5	0.53	4½"	4"
4'-8'	D4.5	0.53	4½"	4"	5'-8'	E5	0.73	5"	4"
8'-15'	E5	0.73	5"	4"	8'-15'	F5	1.06	5"	4"
SIZE: L = 18'-0" x 10" WALL THICK					DOUBLE LAYER REINFORCING (TABLE 2)				
0'-3'	C6.5	0.37	6½"	6"	MOVED TO SHEET 3				
3'-5'	D4.5	0.53	4½"	4"					
5'-8'	E5	0.73	5"	4"					
8'-15'	F5	1.06	5"	4"					

SINGLE LAYER REINFORCING (TABLE 1)

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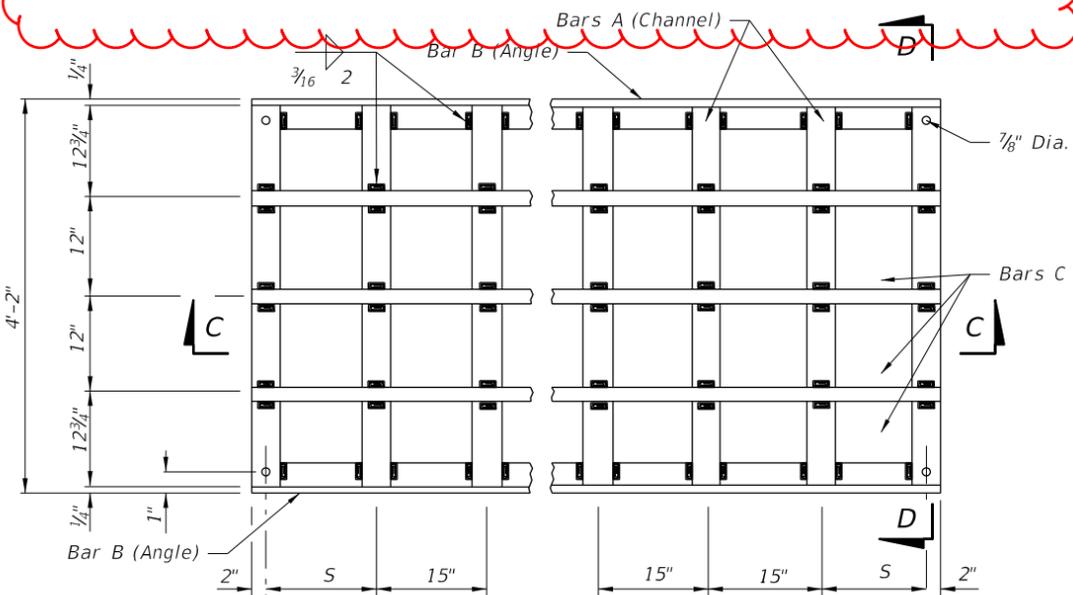
DOUBLE LAYER REINFORCING (TABLE 2)

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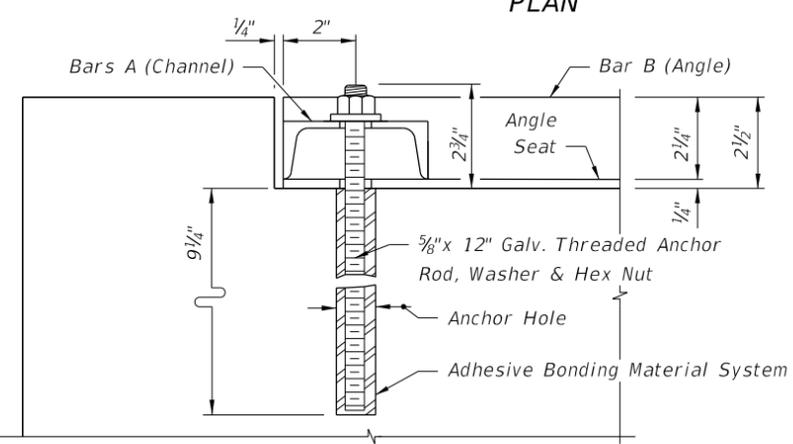
GRATE QUANTITIES

PIPE SIZE	L	S	BILL OF STEEL			STEEL WEIGHT		
			BAR	No. REQD.	LENGTH	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	45	51
			B	2	4'-11½"			
			C	3	4'-11½"			
42" & 48"	6'-0"	11¼"	A	6	4'-1½"	134	54	61
			B	2	5'-11½"			
			C	3	5'-11½"			
54" & 60"	7'-0"	9¾"	A	7	4'-1½"	156	63	71
			B	2	6'-11½"			
			C	3	6'-11½"			
66" & 72"	8'-0"	8¼"	A	8	4'-1½"	178	72	81
			B	2	7'-11½"			
			C	3	7'-11½"			
84"	9'-0"	14¼"	A	8	4'-1½"	178	81	91
			B	2	8'-11½"			
			C	3	8'-11½"			
SPECIAL	10'-0"	12¾"	A	9	4'-1½"	201	90	102
			B	2	9'-11½"			
			C	3	9'-11½"			
SPECIAL	12'-0"	9¾"	A	11	4'-1½"	245	108	122
			B	2	11'-11½"			
			C	3	11'-11½"			
SPECIAL	14'-0"	14¼"	A	12	4'-1½"	267	126	142
			B	2	13'-11½"			
			C	3	13'-11½"			
SPECIAL	16'-0"	11¼"	A	14	4'-1½"	312	144	163
			B	2	15'-11½"			
			C	3	15'-11½"			
SPECIAL	18'-0"	8¼"	A	16	4'-1½"	356	162	183
			B	2	17'-11½"			
			C	3	17'-11½"			

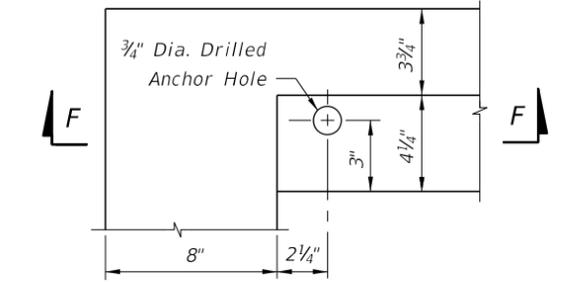
Table Notes:
See Sheet 1 for dimension "L" location.
See steel grate Plan View for dimension "S" location.



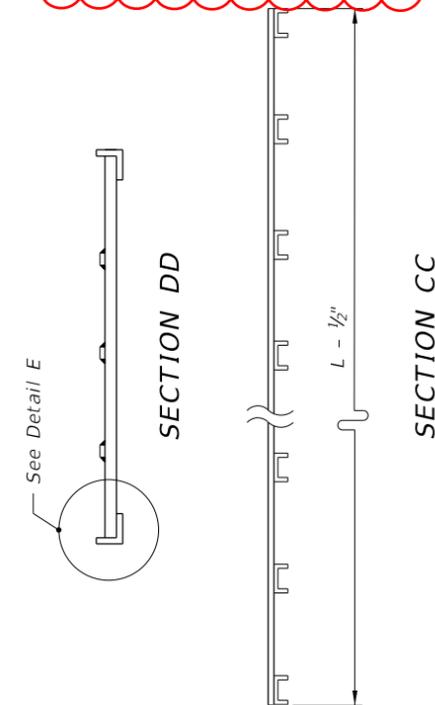
PLAN



SECTION FF

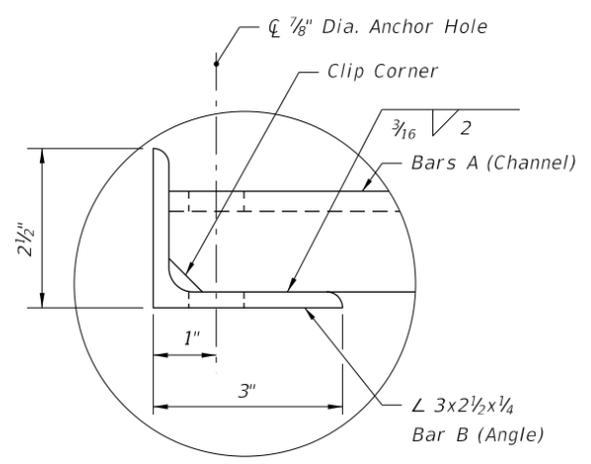


GRATE SEAT AND ANCHOR HOLE PLAN



SECTION DD

SECTION CC



DETAIL E

STEEL GRATE

NEW SHEET 4

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FDOT FY 2019-20 STANDARD PLANS

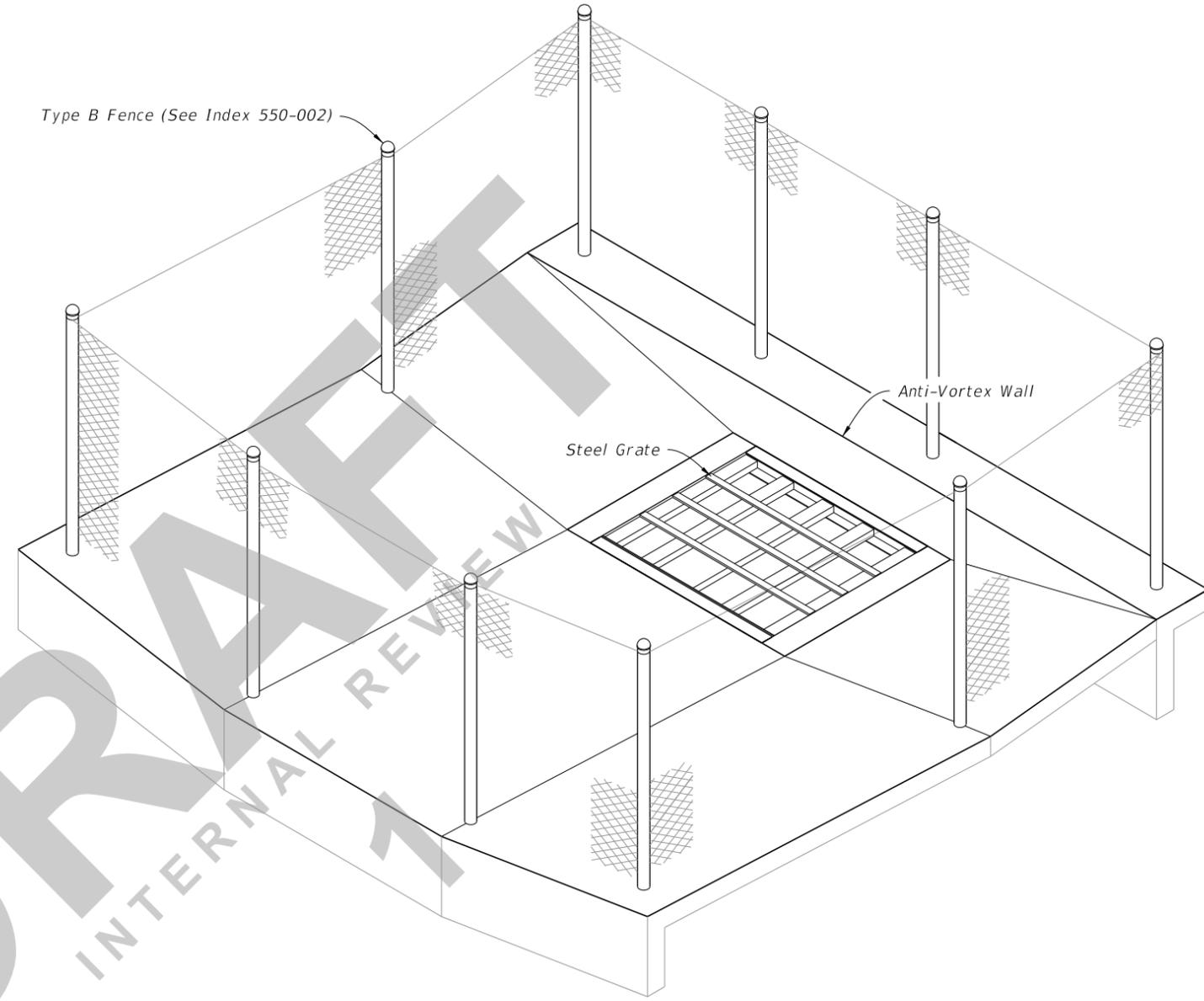
DITCH BOTTOM INLET TYPE K

INDEX	SHEET
425-055	2 of 2

NEW SHEET 4
STEEL GRATE DETAILS

GENERAL NOTES:

1. Work this Index with Index 425-001 and Index 550-002.
2. Chamfer all exposed edges and corners $\frac{3}{4}$ " or tooled to $\frac{1}{4}$ " radius.
3. Use Class II concrete for inlet and anti-vortex wall.
4. Use Grade 60 reinforcing bars with 2" minimum cover unless otherwise noted. See Index 425-001 for equivalent area of welded wire reinforcing (WWR). Cut or bend bars for 1 $\frac{1}{2}$ " clearance around pipe opening. Bend top and corner bars to clear anchor holes.
5. 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.
6. Channels and bars for grate are ASTM A242/A242M, A572/A572M or A588/A588M, Grade 50 steel, and galvanized in accordance with Specification 975.
7. Use Fence Type B for fence enclosure (Index 550-002). Install all posts in concrete. A minimum of 10 posts required. Use 3" nominal diameter posts for corner and approach side posts.
8. Anchor Bolts are ASTM F1554 Grade 36 fully threaded headless bolts, installed in accordance with Specifications 416 and 937. Nuts are ASTM A563 or A194 and washers are ASTM F436 or Type A plain washers. Galvanize all nuts, bolts and washers.
9. Quantities are for informational and estimating purposes only.



=====**INLET FENCE ENCLOSURE**=====

TABLE OF CONTENTS:

Sheet	Description
1	General Notes and Contents
2	Inlet lengths (L) Less Than or Equal to 9'
3	Inlet lengths (L) Greater Than or Equal to 9'
4	Steel Grate Details

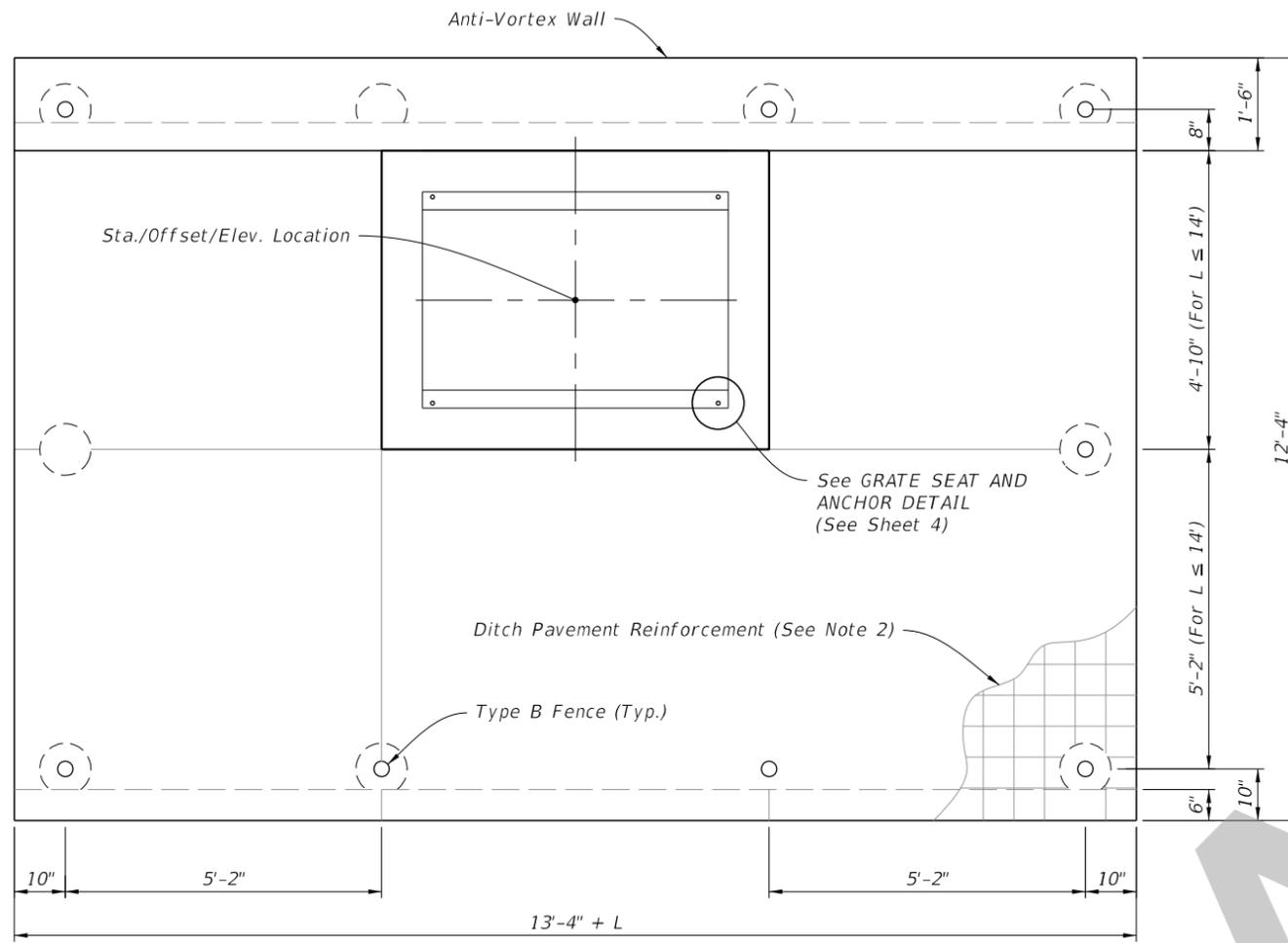
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**FY 2021-22
STANDARD PLANS**

DITCH BOTTOM INLET TYPE K

INDEX 425-055	SHEET 1 of 4
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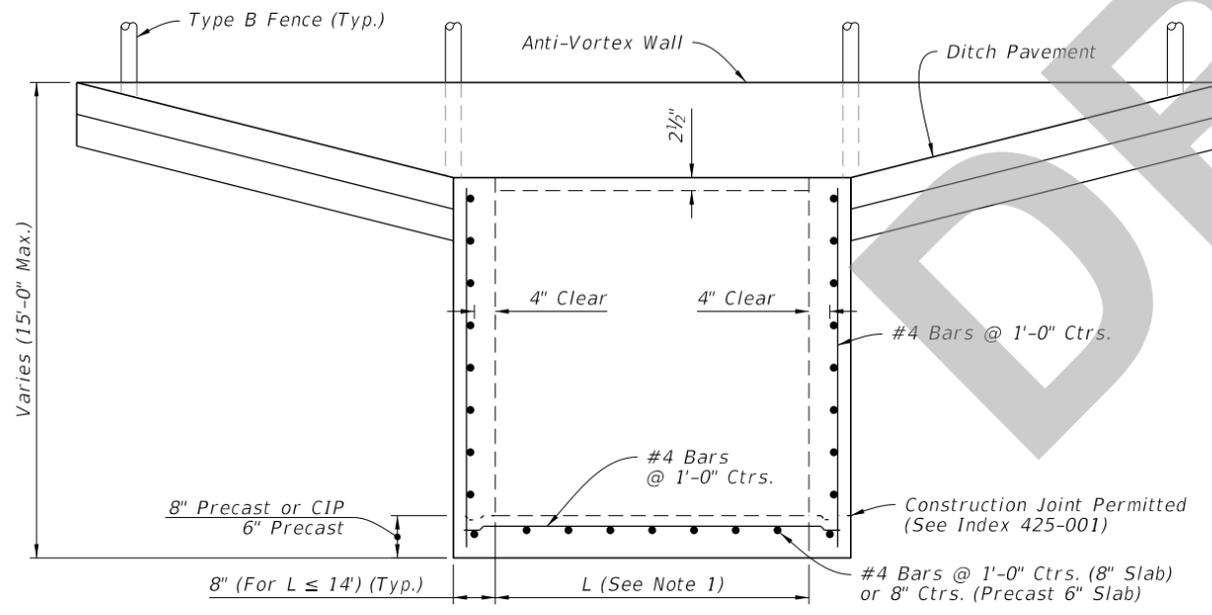
PLAN

TABLE 1
SINGLE LAYER REINFORCING
Horizontal Wall Reinforcing Schedules

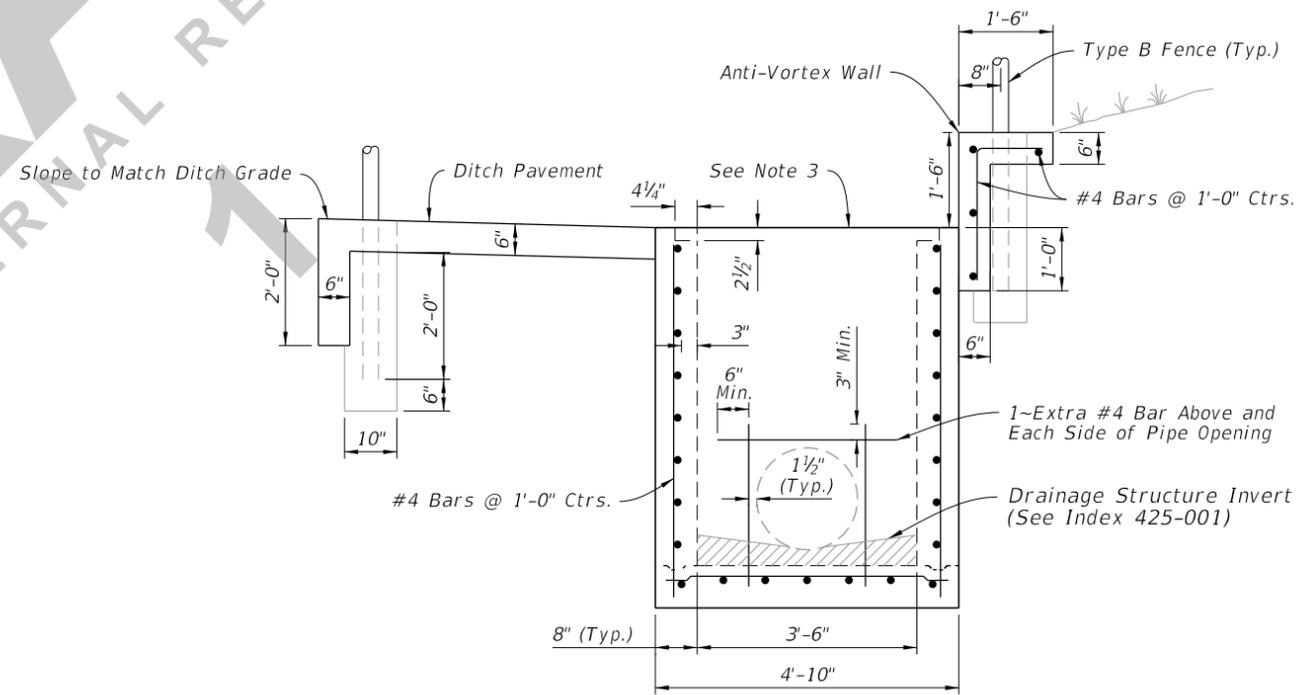
WALL DEPTH	SCH.	AREA (in ² /ft)	MAX. SPACING	
			BAR	WWR
SIZE: L = 5'-0"				
0'-5'	A12	0.20	12"	8"
5'-8'	A6	0.20	6"	5"
8'-15'	B5.5	0.24	5½"	5"
SIZE: L = 6'-0"				
0'-4'	A12	0.20	12"	8"
4'-6'	B5.5	0.24	5½"	5"
6'-9'	C6.5	0.37	6½"	6"
9'-15'	C3.5	0.37	3½"	3"
SIZE: L = 7'-0"				
0'-4'	B5.5	0.24	5½"	5"
4'-7'	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"

NOTES:

1. See Plans for Inlet length (L).
2. Use 6"x6" 10/10 welded wire reinforcing.
3. Grate not shown.
4. Pipe opening not shown.



(See Note 4)
FRONT ELEVATION

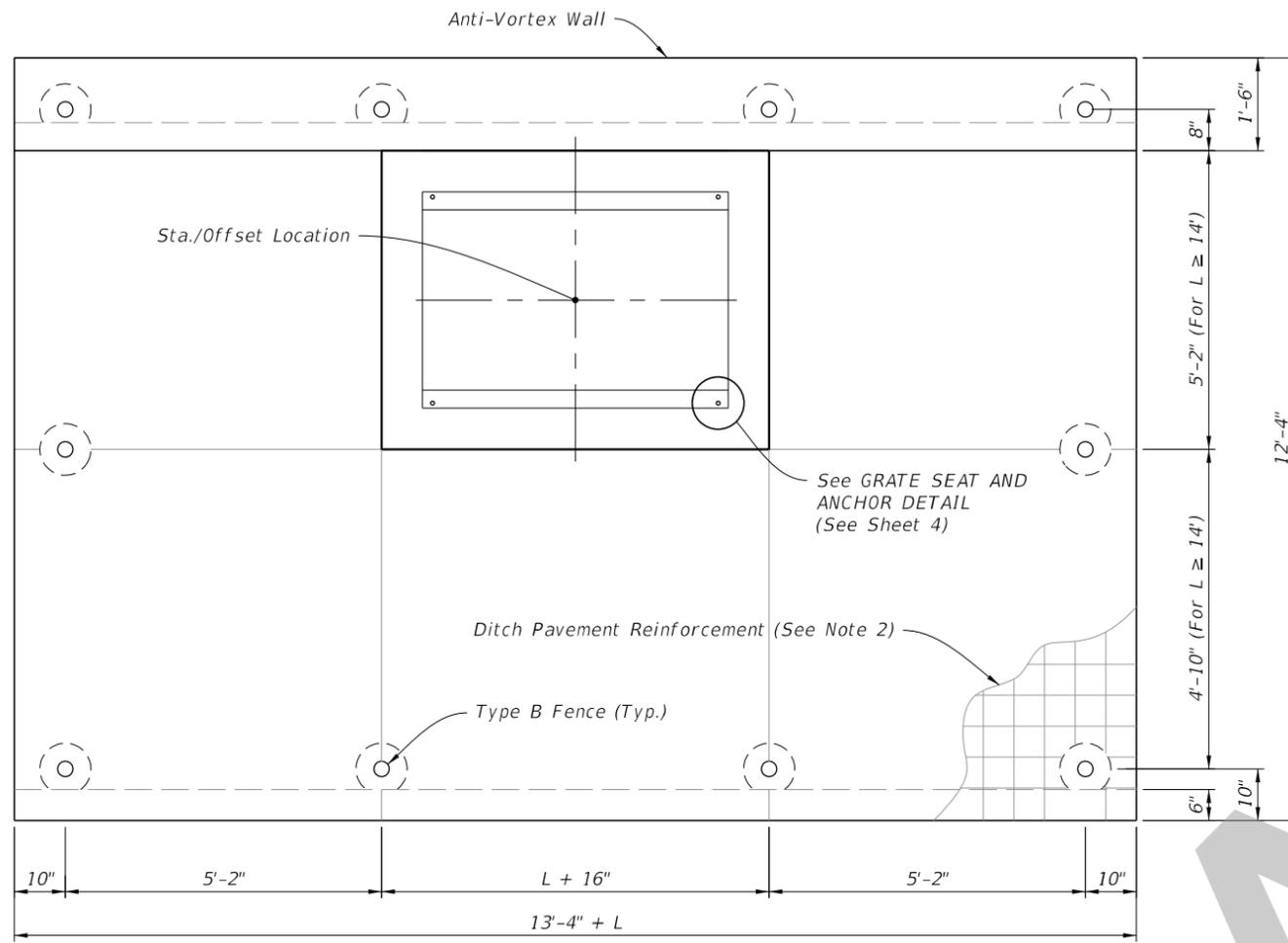


SIDE ELEVATION

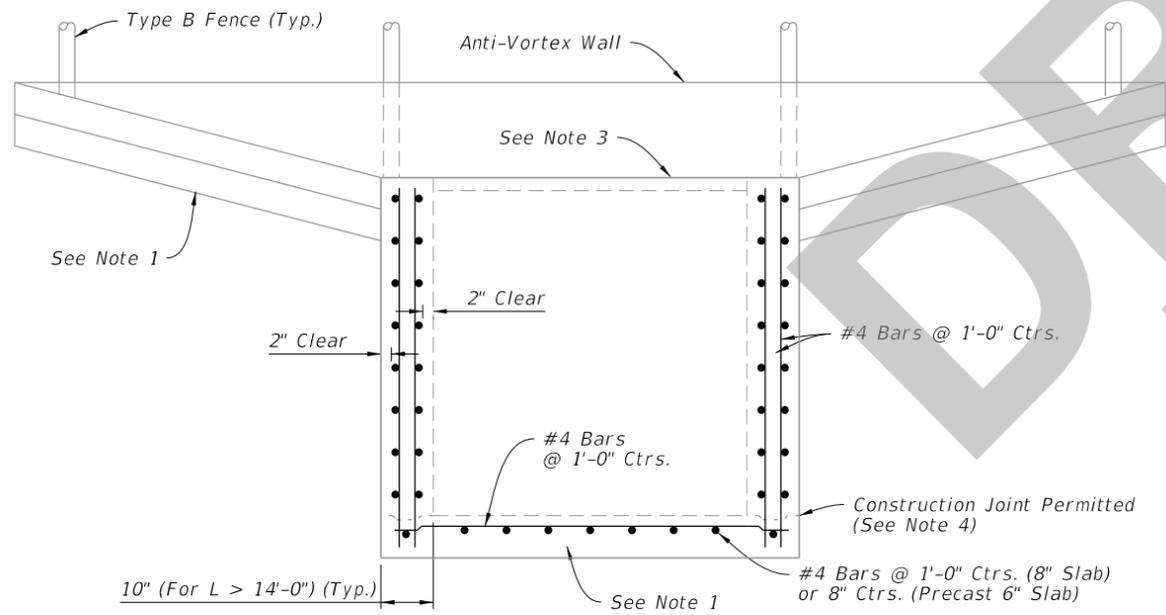
INLET LENGTHS (L) LESS THAN OR EQUAL TO 9'

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LAST REVISION 11/01/20	DESCRIPTION:		FY 2021-22 STANDARD PLANS	DITCH BOTTOM INLET TYPE K	INDEX	SHEET
					425-055	2 of 4



PLAN



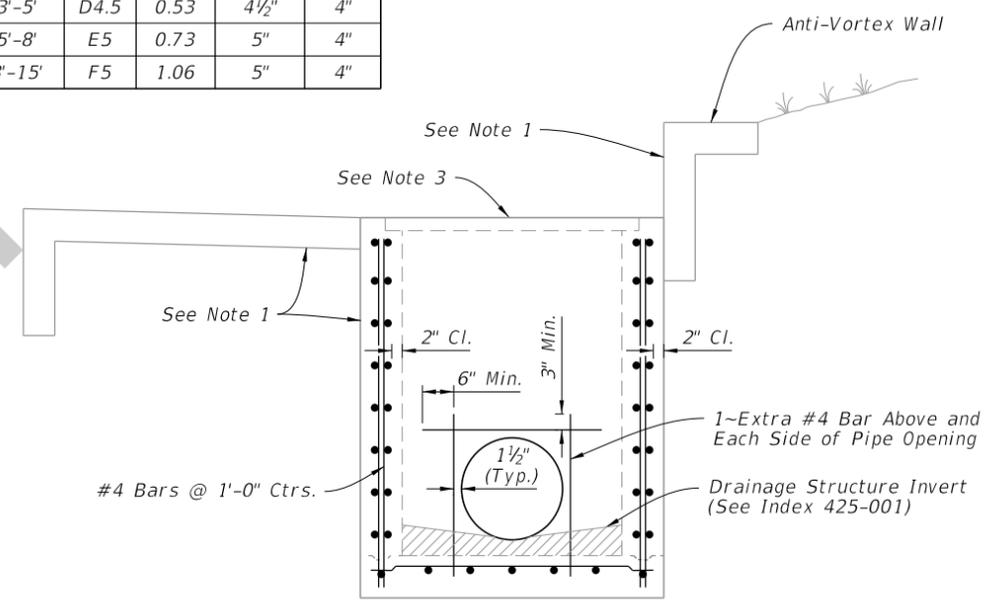
(See Note 5)
FRONT ELEVATION

TABLE 2
DOUBLE LAYER REINFORCING
Horizontal Wall Reinforcing Schedules

WALL DEPTH	SCH.	AREA (in ² /ft)	MAX. SPACING	
			BARS	WWR
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"

NOTE:

1. See Sheet 2 for dimension details.
2. Use 6"x6" 10/10 welded wire reinforcing.
3. Grate not shown.
4. See Index 425-001 for construction joint details.
5. Pipe Opening and Concrete Ditch Pavement not shown.

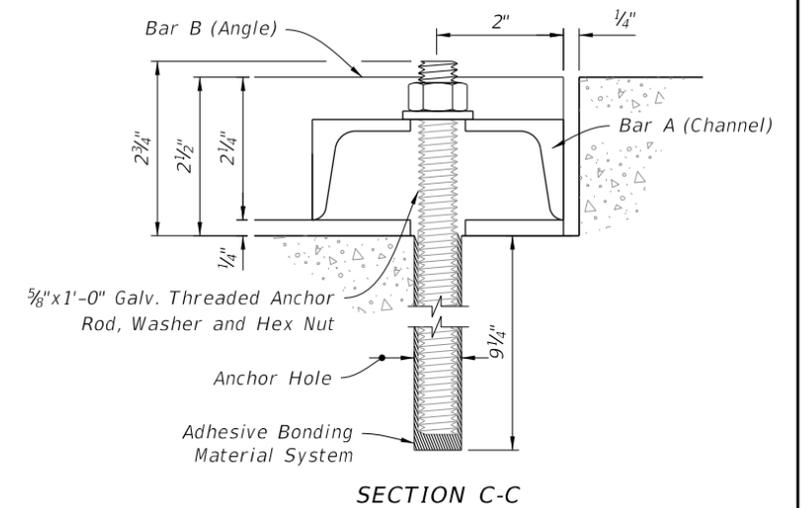
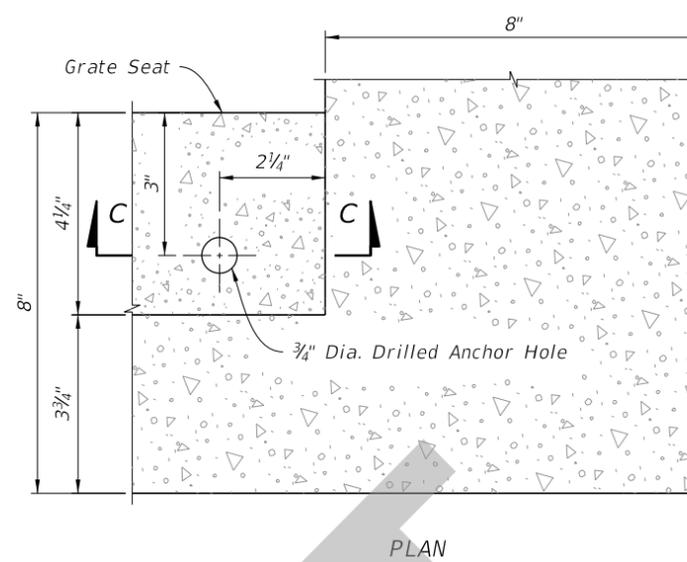
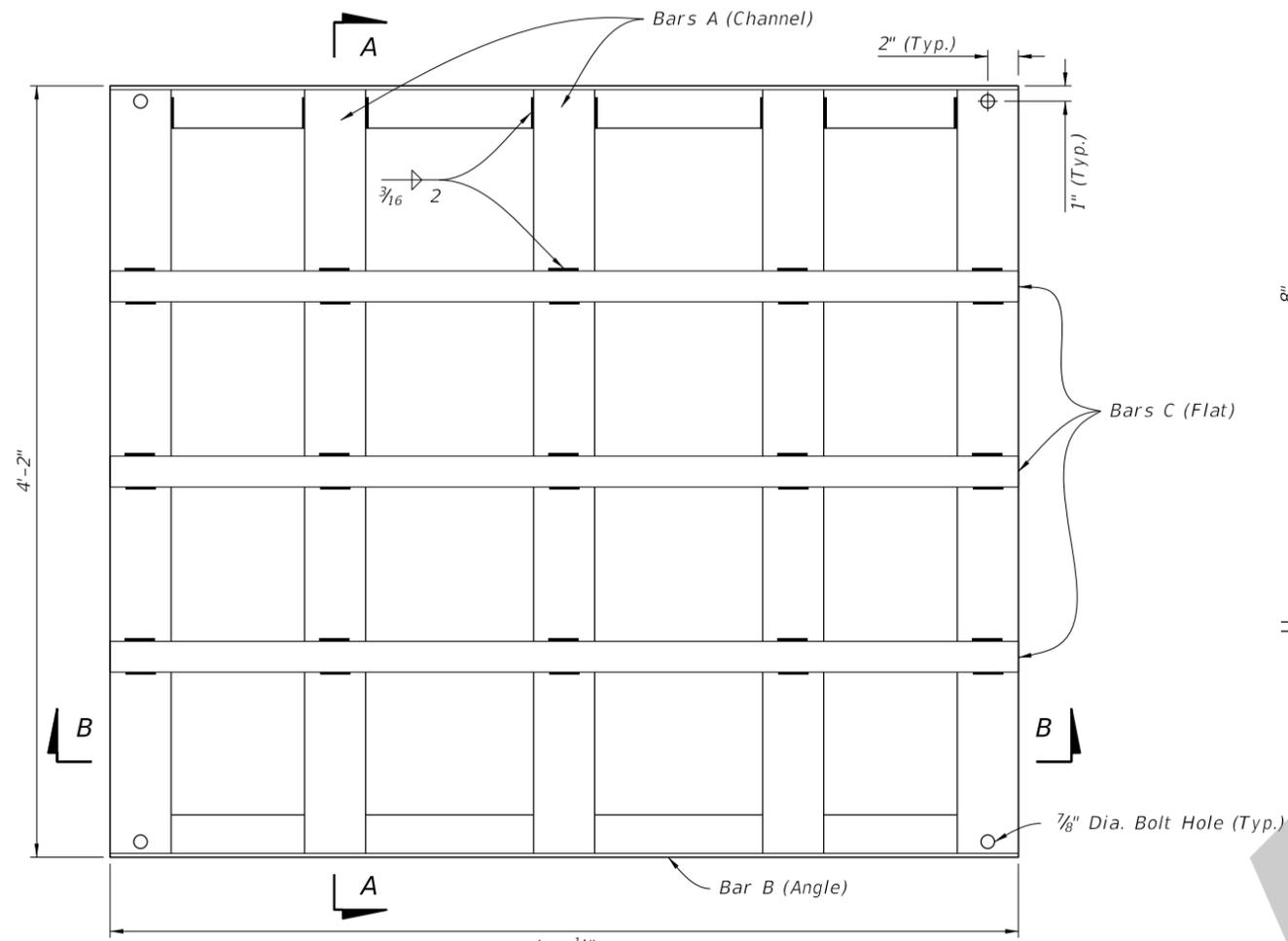


SIDE ELEVATION

INLET LENGTHS (L) GREATER THAN OR EQUAL TO 9'

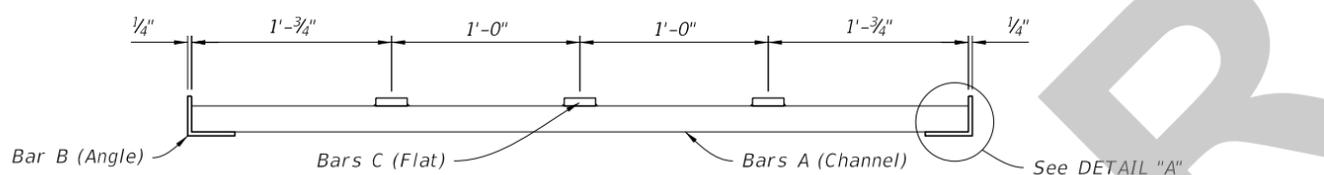
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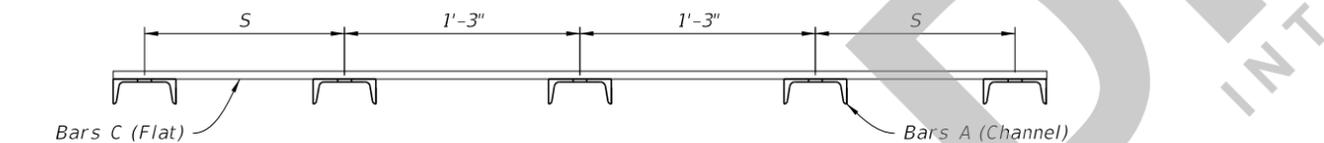


GRATE SEAT AND ANCHOR DETAILS

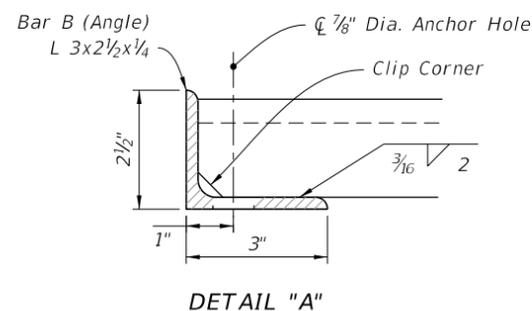
PLAN



SECTION A-A



SECTION B-B



DETAIL "A"

- NOTES:**
1. See Sheet 2 for dimension "L" location.
 2. See Section B-B for dimension "S" location.

PIPE SIZE	L See Note 1	S	BILL OF STEEL			STEEL WEIGHT		
			BAR	No. REQD.	LENGTH	CHANNEL 4" x 5.4 lb	ANGLE 3" x 2 1/2" x 1/4" (4.5 lb/ft)	FLAT 2" x 1/2" (3.4 lb/ft)
30" x 36"	5'-0"	12 3/4"	A	5	4'-1 1/2"	111	45	51
			B	2	4'-11 1/2"			
			C	3	4'-11 1/2"			
42" x 48"	6'-0"	11 1/4"	A	6	4'-1 1/2"	134	54	61
			B	2	5'-11 1/2"			
			C	3	5'-11 1/2"			
54" x 60"	7'-0"	9 3/4"	A	7	4'-1 1/2"	156	63	71
			B	2	6'-11 1/2"			
			C	3	6'-11 1/2"			
66" x 72"	8'-0"	8 1/4"	A	8	4'-1 1/2"	178	72	81
			B	2	7'-11 1/2"			
			C	3	7'-11 1/2"			
84"	9'-0"	14 1/4"	A	8	4'-1 1/2"	178	81	91
			B	2	8'-11 1/2"			
			C	3	8'-11 1/2"			
SPECIAL	10'-0"	12 3/4"	A	9	4'-1 1/2"	201	90	102
			B	2	9'-11 1/2"			
			C	3	9'-11 1/2"			
SPECIAL	12'-0"	9 3/4"	A	11	4'-1 1/2"	245	108	122
			B	2	11'-11 1/2"			
			C	3	11'-11 1/2"			
SPECIAL	14'-0"	14 1/4"	A	12	4'-1 1/2"	267	126	142
			B	2	13'-11 1/2"			
			C	3	13'-11 1/2"			
SPECIAL	16'-0"	11 1/4"	A	14	4'-1 1/2"	312	144	163
			B	2	15'-11 1/2"			
			C	3	15'-11 1/2"			
SPECIAL	18'-0"	8 1/4"	A	16	4'-1 1/2"	356	162	183
			B	2	17'-11 1/2"			
			C	3	17'-11 1/2"			

STEEL GRATE DETAILS

7/29/2020 6:52:40 AM

LAST REVISION
11/01/20

REVISION DESCRIPTION:



FY 2021-22
STANDARD PLANS

DITCH BOTTOM INLET TYPE K

INDEX
425-055

SHEET
4 of 4