
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

Phone: (850) 414-4355

Email: Rick.Jenkins@dot.state.fl.us

Standard Plans:

Index Number: 425-051

Sheet Number (s): ALL

Index Title: Ditch Bottom Inlet Type B

Summary of the changes:

Reorganized Index, Added additional Sheets.

Sheet 1: General Notes

Sheet 2: Dimensional, Reinforcement, and Grate Details

Sheet 3: Traversable Tops Details

Sheet 4: Concrete Ditch Pavement and Sodded Area Details

Sheet 5: Alternate A structure Bottom - Top Slab Details

Changed Intermediate Bars for Grate to all Bearing Bars.

Deleted "INLET WITH STRUCTURE BOTTOM" Detail and referenced 425-010.

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.

Grate change consistent with 425-040. Removed reference to 425-051 for Grate and included detail of the grate specific to this Index. Changing the Grate to all Bearing Bars provides a grate that can handle HL-93 loading.

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

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Other Standard Plans –
<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)

Yes	N/A	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Redline Mark-ups
<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

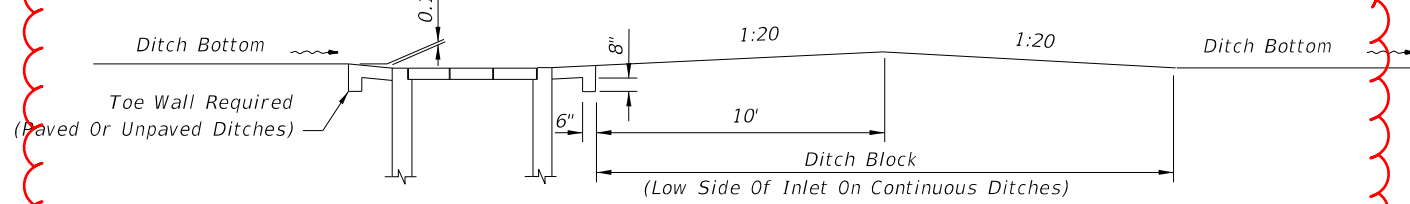
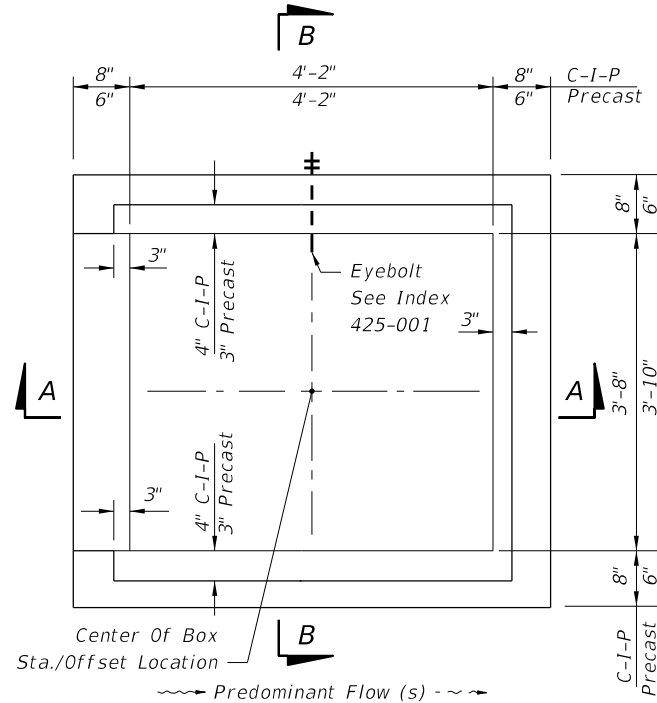
Implementation:

- Design Bulletin (Interim)
- DCE Memo
- Program Mgmt. Bulletin
- FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form

NEW SHEET

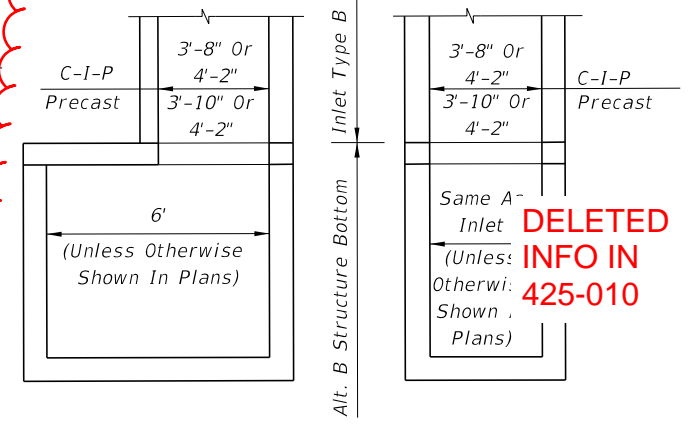
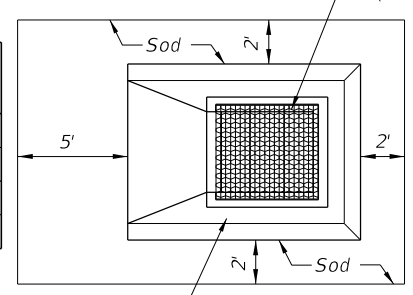
GENERAL NOTES AND OVERVIEW



MOVED TO SHEET 4

**TABLE 3
ESTIMATED QUANTITIES
For Informational Purposes Only**

SLOT TYPE	PAVEMENT		SOD SY
	SY	CY	
Single Slot	6.2	0.9	14
Double Slot	8.1	1.1	19

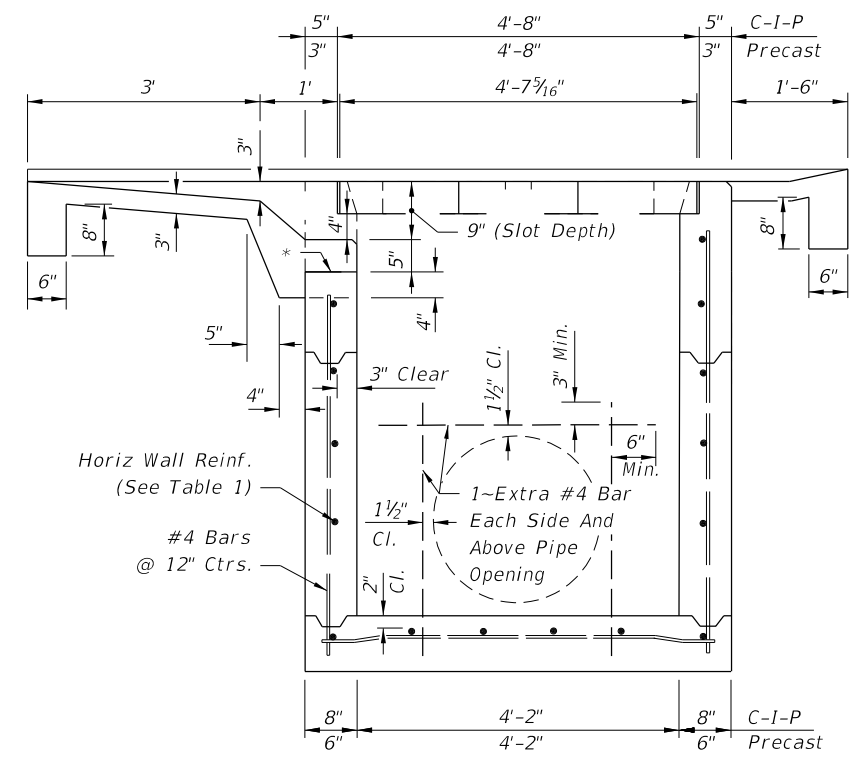


NOTE: Alt. B Structure Bottom Only. See Index 425-010 for structure bottom details and pipe opening reinforcement.

RECOMMENDED MAXIMUM PIPE SIZES

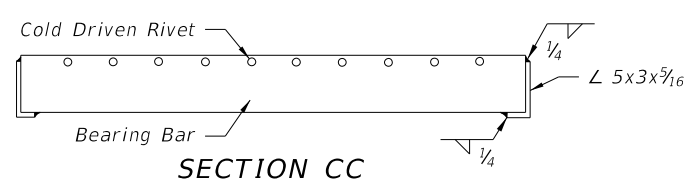
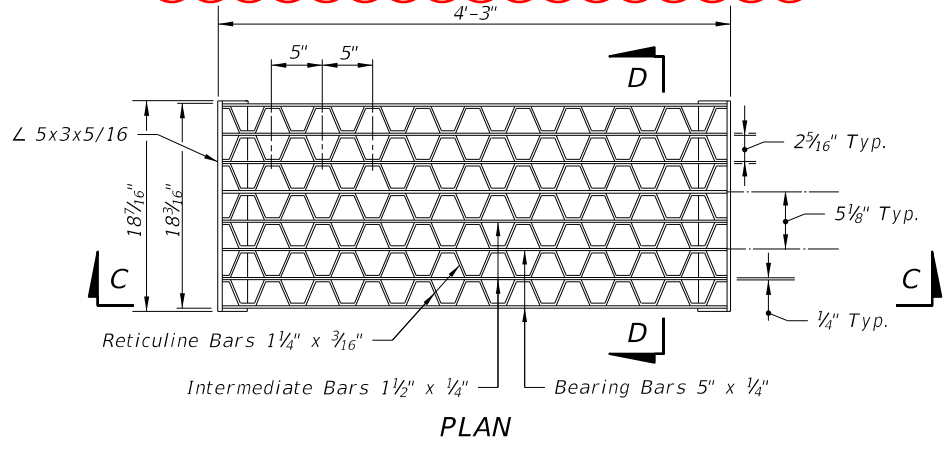
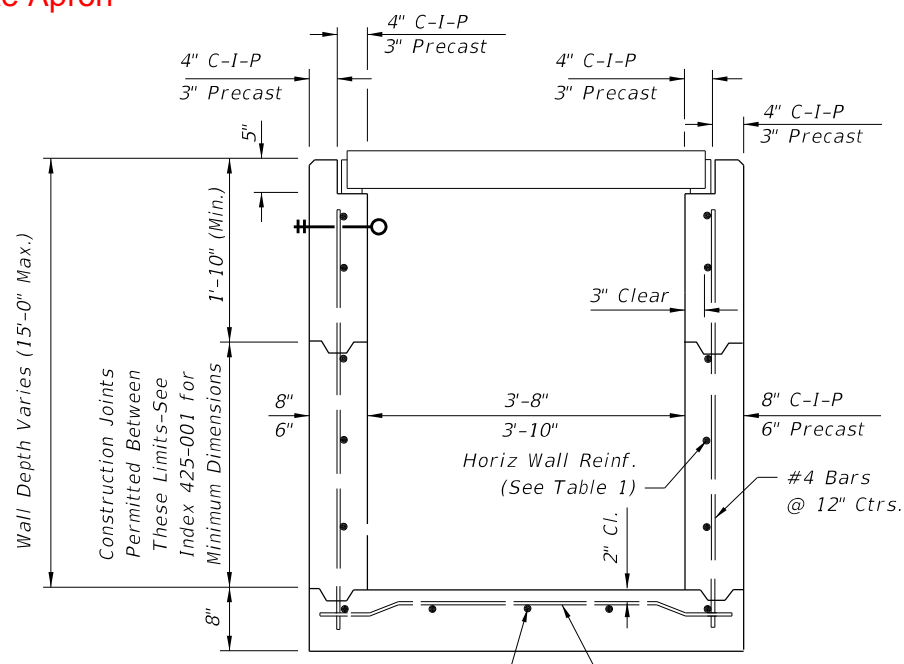
INLET INSIDE WIDTH	PIPE SIZE
3'-8"	30"
4'-2"	36"

Note: Recommended sizes are for concrete pipe. Sizes for other materials should be specified for fit in accordance with manufacturer's requirements. For larger pipe see bottom detail above and Index 425-010.

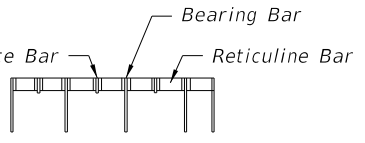


HORIZONTAL WALL REINFORCING SCHEDULE (TABLE 1)

WALL DEPTH	SCHEDULE	AREA (in. ² /ft.)	MAX. SPACING	
			BARS	WWF
0' - 5'	A12	0.20	12"	8"
5' - 9'	A6	0.20	6"	5"
9' - 13'	B5.5	0.24	5 1/2"	5"
13' - 15'	Special	0.267	5"	4"



Updated Grate to all Bearing Bars, no Intermediate Bars. STEEL GRATE



RENUMBERED

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GENERAL NOTES

- The general purpose of the inlet top designs are:
 - For ditches, medians or other areas subject to heavy wheel loads. This inlet may be placed in areas subject to occasional pedestrian traffic such as landscaped areas and pavement areas where pedestrians can walk around the inlet. Inlet not suitable for bicycle traffic.
 - Provide full grate and horizontal slot designs for new construction. **SPI**
 - Provide full grate and horizontal slot designs for replacing the vertical slot tops on existing Inlets Type B and Type X that are in locations subject to occasional pedestrian traffic.
- All reinforcing is Grade 60 bars with 2" min. cover unless otherwise noted. See Index 425-001 for equivalent area of welded wire fabric. Bars to be cut or bent for min. 1½" clearance around pipe.
- All exposed edges and corners shall be ¾" chamfer or tooled to ¼" radius.

4. When Alternate G grates are specified in the plans, the grates are to be hot-dip galvanized after fabrication. **Already in Spec**

5. Cost for constructing traversable tops on new inlet boxes shall be included in the contract unit price for Inlets (DT BOT) (Type B), EA., and shall include the cost for surrounding concrete inlet pavement. Existing Inlets Type B and Inlets Type X that are converted to traversable inlet tops shall be paid for under the contract unit price for Inlets (DT BOT) (Type B) (Partial), EA. Unit price and payment shall be full compensation for inlet conversion and shall include the removal and disposal of any existing concrete inlet pavement; the removal and stockpiling or disposal of sufficient material from the existing inlet box to facilitate construction of the required inlet top; construction of the required inlet conversion; backfill construction; construction of concrete inlet pavement; reusing, supplementing, transferring or replacing grates as required by plans or as directed by the Engineer; any required earthwork for ditch restoration within 30' of the inlet; and, restoration of disturbed turf. **SPI/Spec**

6. Ditch pavement shall be paid for, separate from the inlet and concrete inlet pavement, by pavement types and units as called for in the plans.

7. Sod will be paid for under the contract unit price for Performance Turf, SY.

8. For supplementary details see Index 425-001.

9. All dimensions are for both precast and cast-in-place inlets unless otherwise noted.

DESIGN NOTES

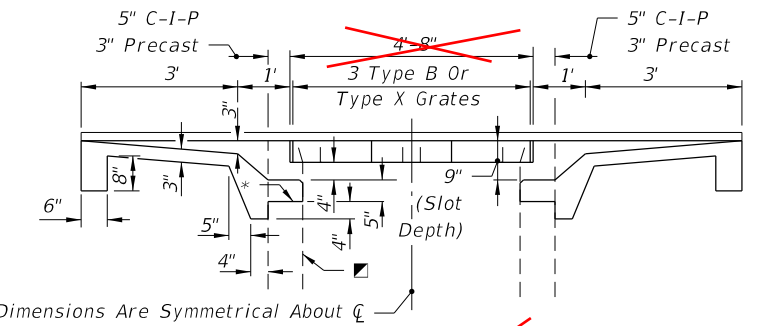
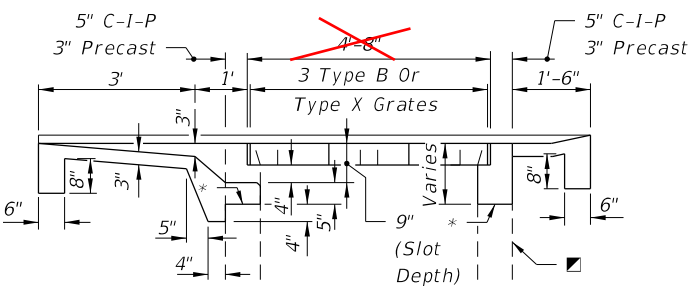
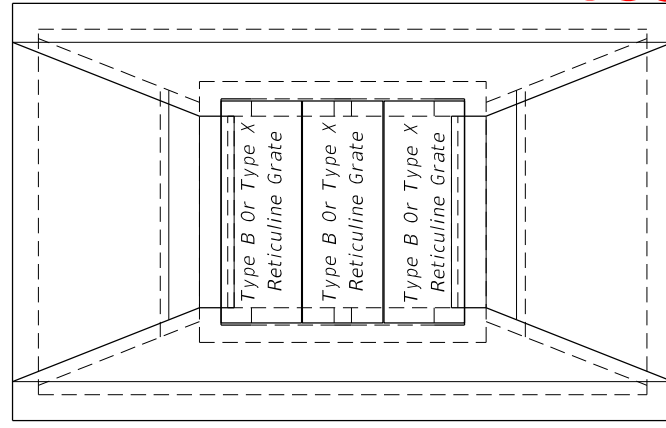
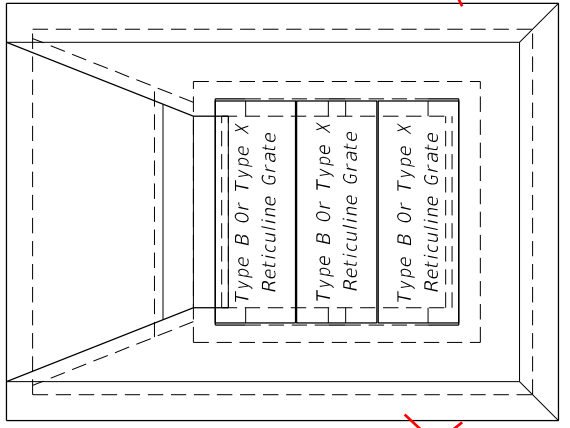
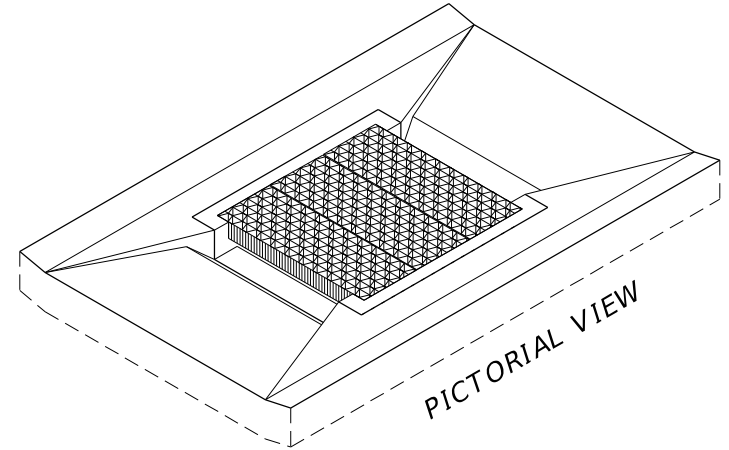
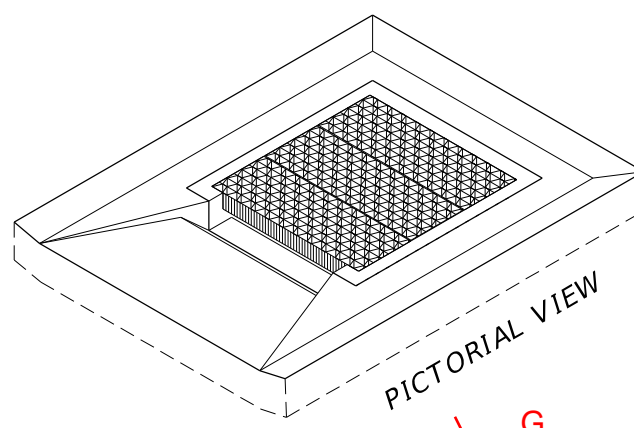
- The type of top (single or double slots) depends on the approach ditch configuration and the hydraulic requirements of the site. The designer will stipulate in the plans the type of top to be constructed at each individual inlet location.
- On existing inlets, conversion grates shall be constructed at the original grate elevations unless other elevations are called for in the plans. When plans call for the inlet top to be constructed to support storm water detention, details for ditch modifications and underdrains shall be shown in the plans.

SPI

MAINTENANCE NOTES

- Traversable inlet tops that are constructed by maintenance contract or by maintenance forces may reuse the existing grates that are determined by the Maintenance Engineer to be functionally sound, and their reuse is so directed by the Maintenance Engineer. Existing grates approved for reuse and new grates may be mixed, matched or replaced as directed by the Maintenance Engineer.

MOVED TO SHEET 1

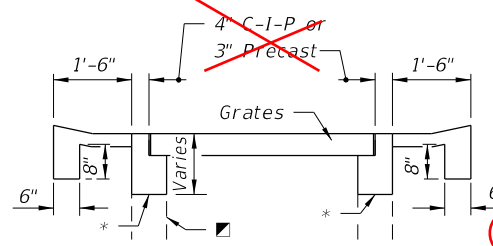


SECTION AA E-E SINGLE SLOT

SECTION CC F-F DOUBLE SLOT

■ Inlet Box (Line Type Indicates Existing Box To Facilitate Depiction Of Partial Construction On Existing Inlets)

* On new boxes the traversable top may be cast as a monolithic unit or cast in segments, and the location of this line may be lower to facilitate handling and placement; however, the slot depth is to remain at 9 inches. See Index 425-001 for top to wall connection. For converting to traversable tops on existing inlets remove concrete to this line and expose the existing reinforcement. Reshape or splice in reinforcement to penetrate the rim and returns of the grate seat, and bend the reinforcement into the slot shelf to extend into the abutting throat pavement.

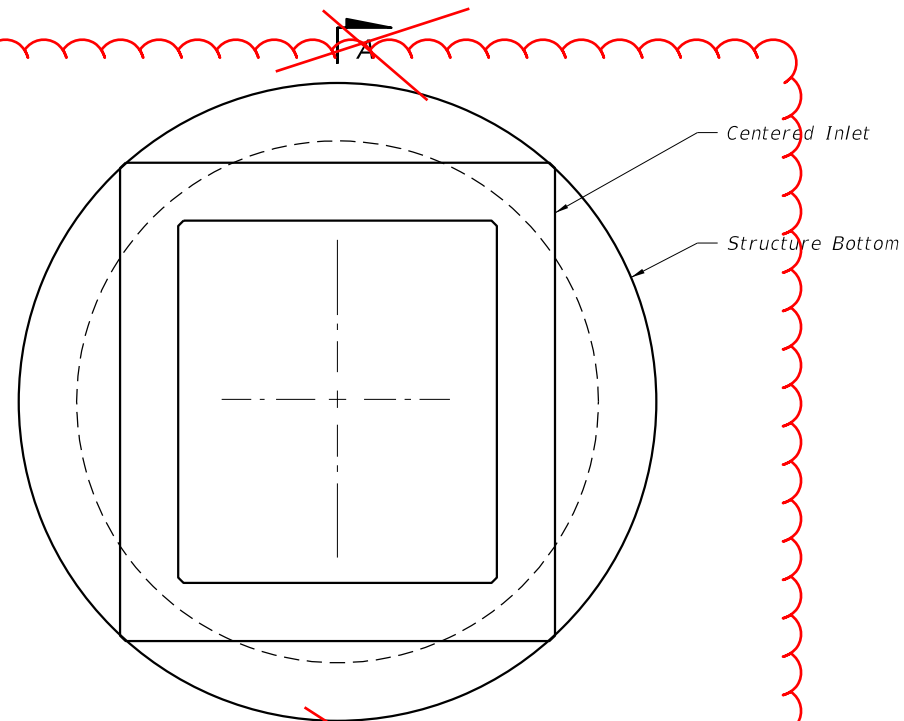


SECTION BB G-G

TRAVERSABLE TOPS FOR INLETS TYPE B AND FOR CONVERSIONS OF EXISTING INLETS TYPE B AND TYPE X ADDED AS A NOTE FOR CLARIFICATION (Type X)

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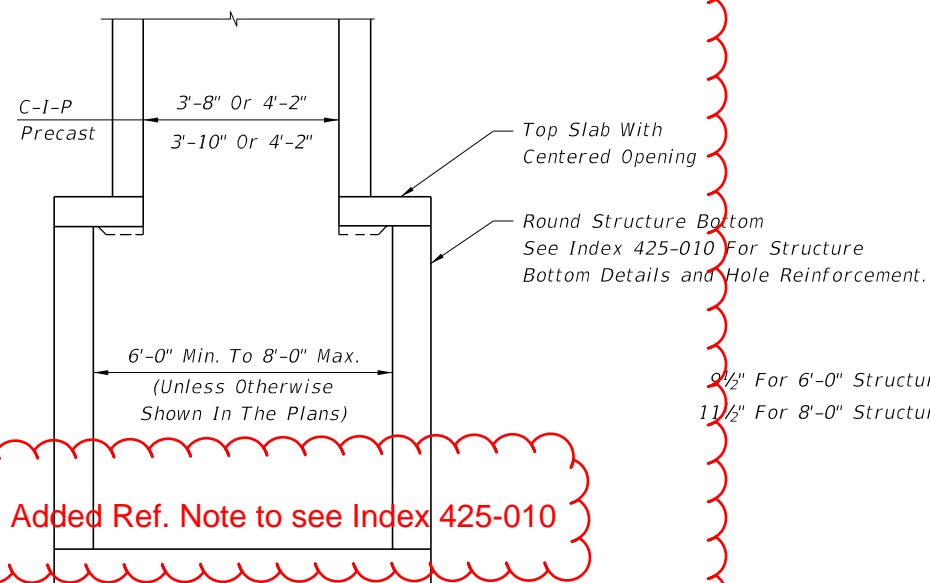
LAST REVISION 11/01/17	DESCRIPTION: 11/01/20	FDOT FY 2019-20 STANDARD PLANS	DITCH BOTTOM INLET TYPE B RENUMBERED	INDEX 425-051	SHEET 2 of 3
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~~SECTION A-A~~
REPLACED WITH ISOMETRIC
 TOP VIEW

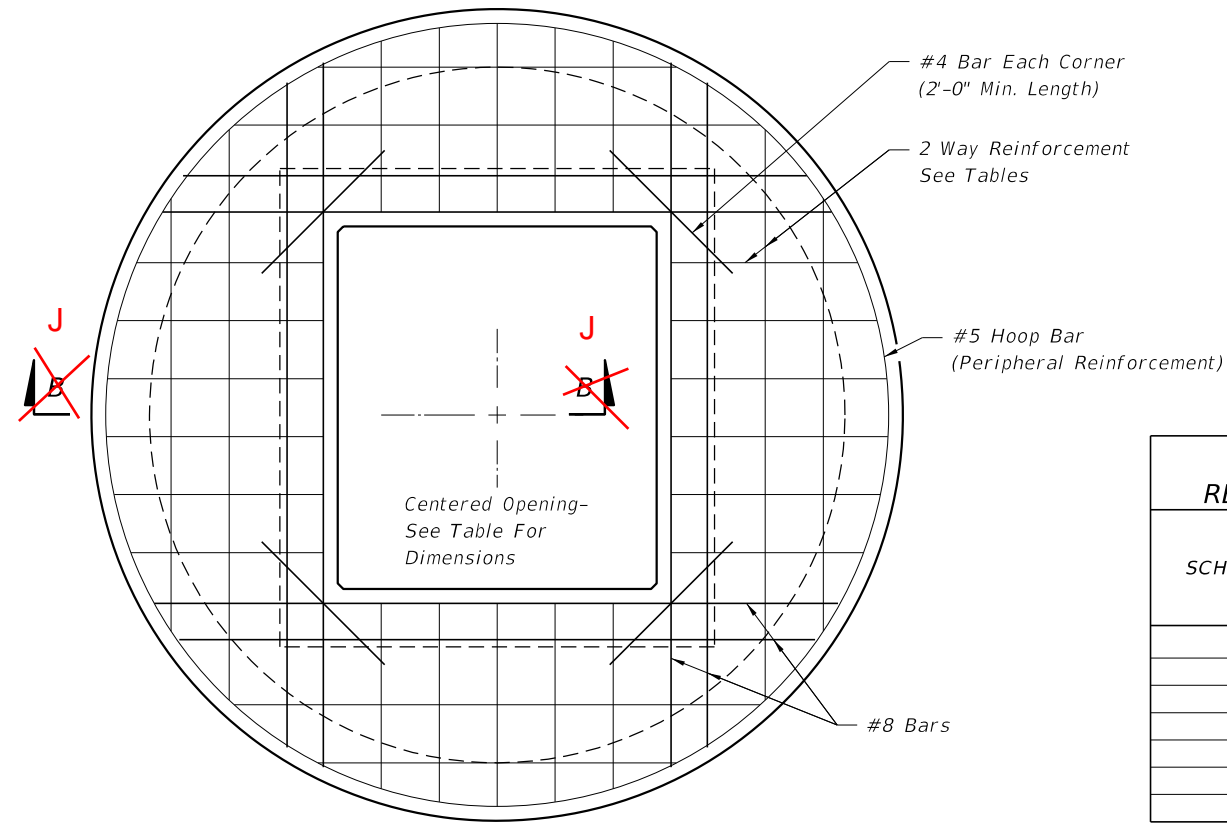
TABLE 3

DIAMETER	OPENING SIZE	
	MIN.	MAX.
6'-0" to 8'-0"	3'-8" x 4'-2"	3'-10" x 4'-2"



SECTION AA

Added Ref. Note to see Index 425-010



TOP SLAB REINFORCING DIAGRAM

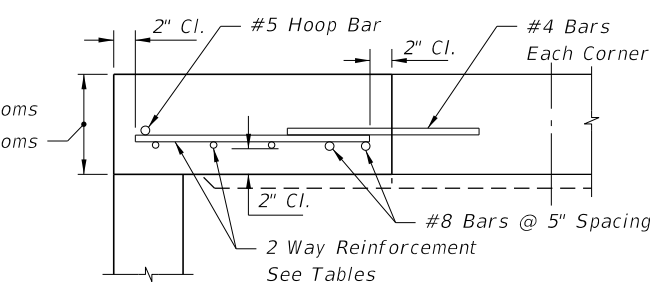
TABLE 4

TOP SLAB REINFORCING SCHEDULE	
SCHEDULE	GRADE 60 (BAR) OR 65 KSI & 70 KSI (WIRE FABRIC) In ² /ft.
A	0.20
B	0.24
C	0.37
D	0.53
E	0.73
F	1.06
G	1.45

TABLE 5

TOP SLAB WITH CENTERED OPENING		
SLAB DEPTH	SLAB THICKNESS	REINFORCING (2 WAYS) SCHEDULE
SIZE: 6'-0"		
0.5' < 8'	9½"	B
8' < 18"	9½"	C
18' < 30'	9½"	D
30' < 37'	9½"	E
37'-40'	9½"	G
SIZE: 8'-0"		
≥0.5' < 9'	11½"	C
9' < 15'	11½"	D
15' < 23'	11½"	E
23' < 33'	11½"	E
33'-40'	11½"	G

Structure →



~~SECTION J-J~~
 SECTION J-J

RENUMBERED →

ALT. A STRUCTURE BOTTOM FOR INLET TYPE B

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LAST REVISION	DESCRIPTION:
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DITCH BOTTOM INLET TYPE B

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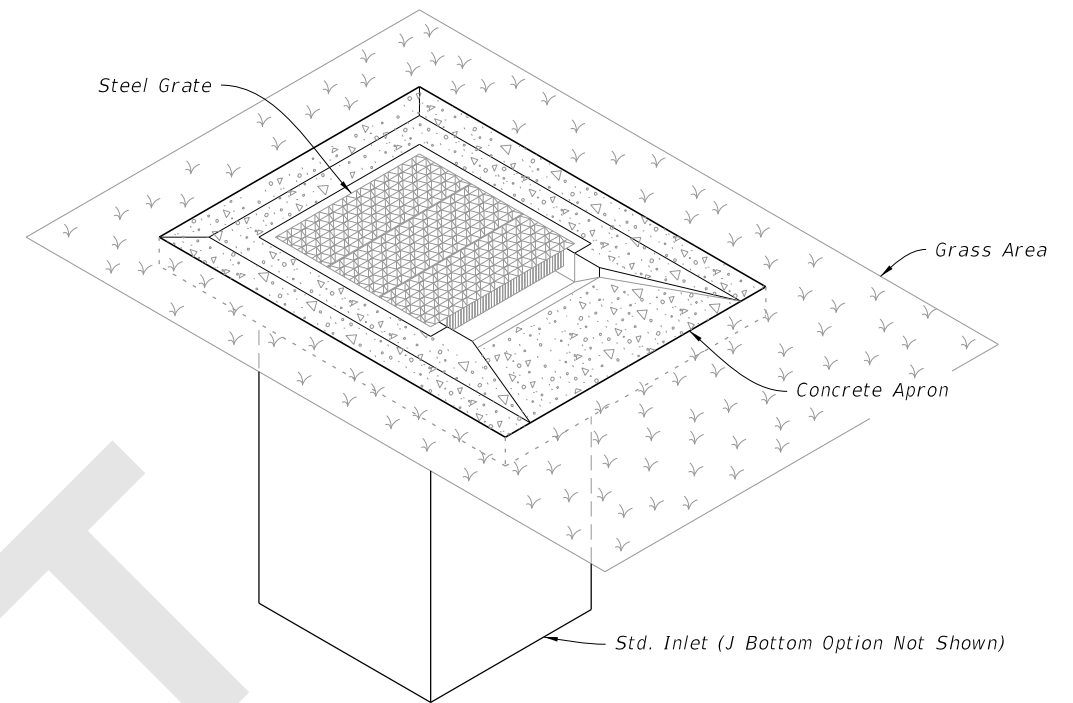
NEW SHEET

ALTERNATE A STRUCTURE BOTTOM SLAB DETAILS

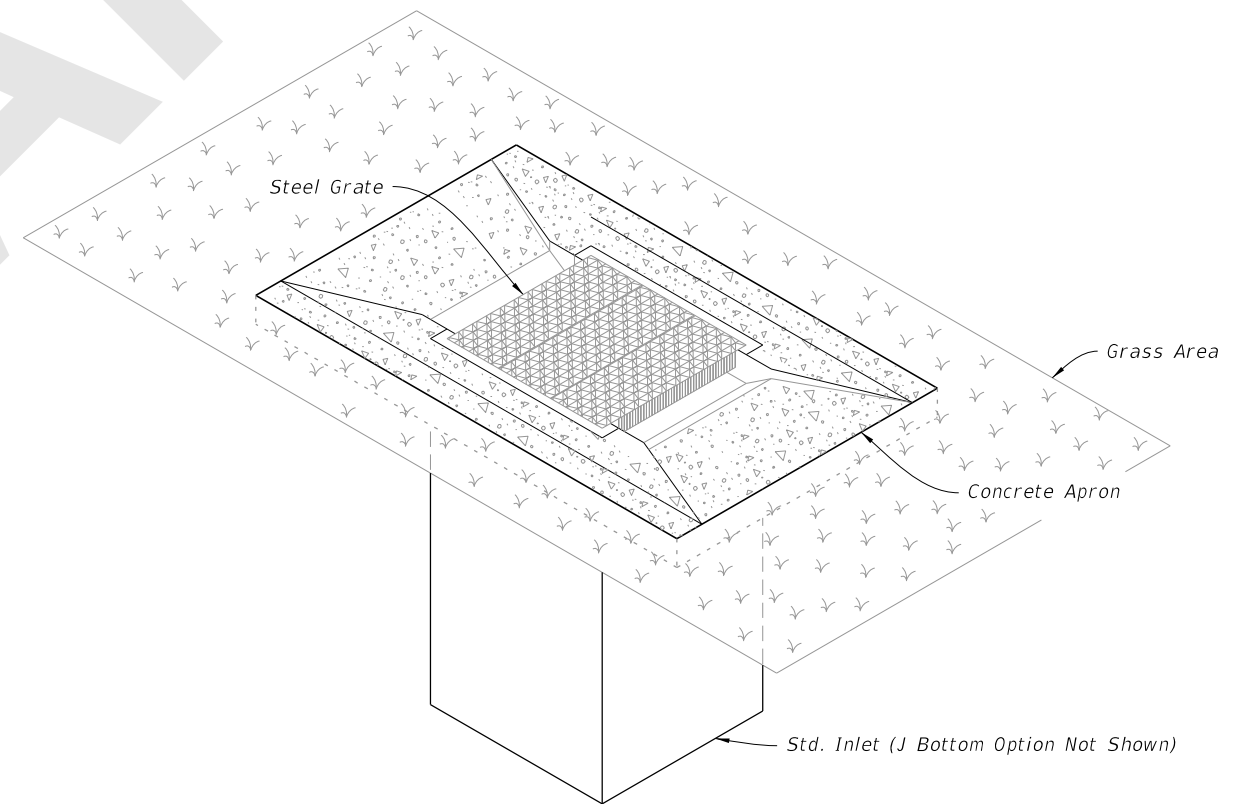
GENERAL NOTES:

1. Work this Index with Index 425-001 and Index 425-010.
2. All reinforcing is Grade 60 bars with 2" minimum cover unless otherwise noted. See Index 425-001 for equivalent area of welded wire fabric. Bars to be cut or bent for min. 1½" clearance around pipe.
3. Chamfer all exposed edges and corners ¾" or tooled to ¼" radius.
4. Dimensions are for both precast and cast-in-place inlets unless otherwise noted.
5. Quantities are for informational and estimating purposes only.

TABLE OF CONTENTS:	
Sheet	Description
1	General Notes and Contents
2	Dimensional, Reinforcement, and Grate Details
3	Traversable Top Details
4	Concrete Apron and Sodded Area Details
5	Alternate A Structure Bottom - Top Slab Details



SINGLE SLOT INLET
(Pipe Connection Not Shown)



DOUBLE SLOT INLET
(Pipe Connection Not Shown)

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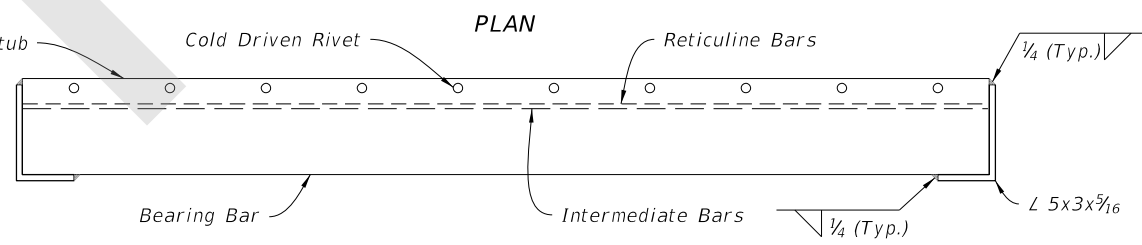
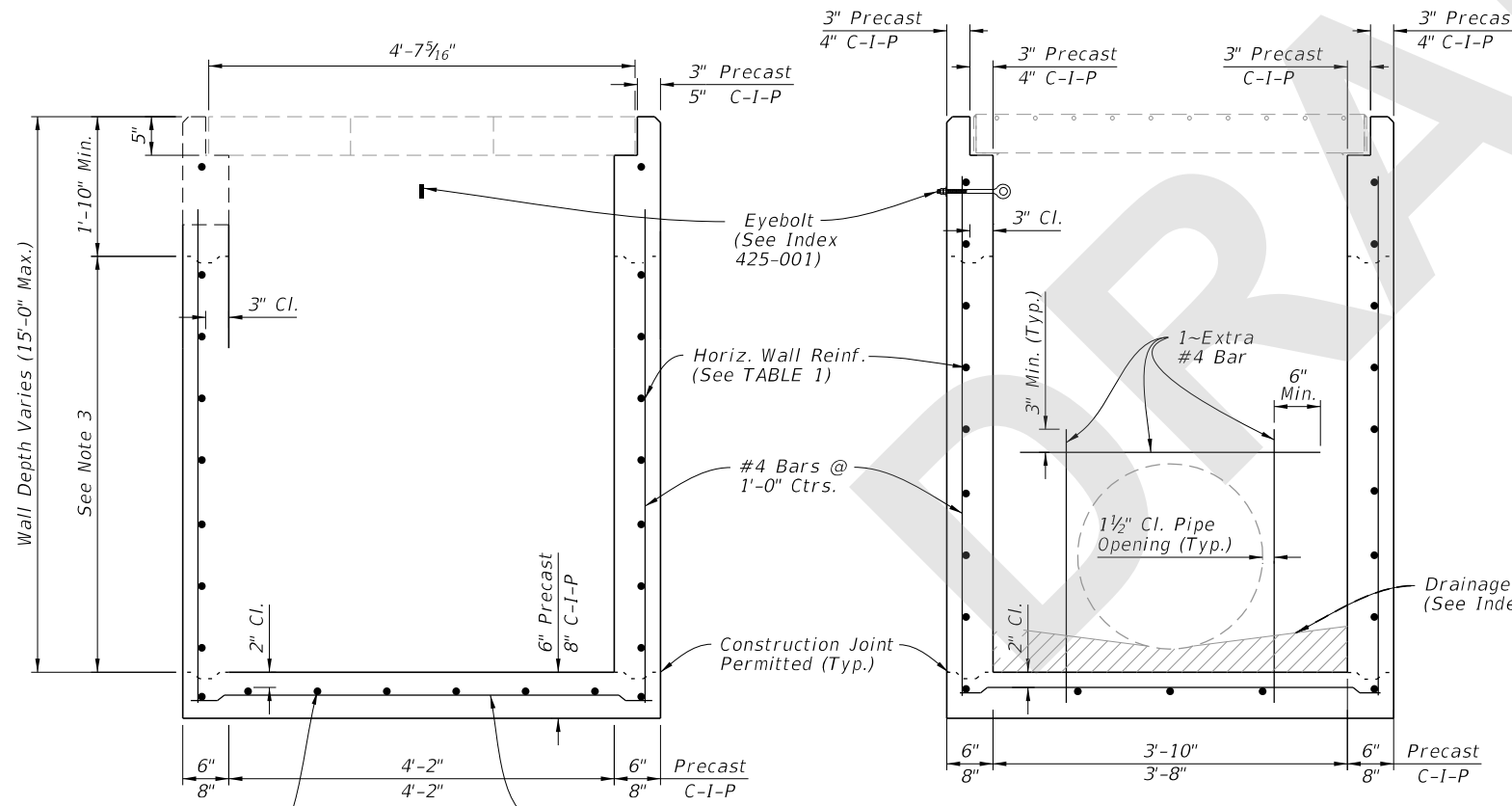
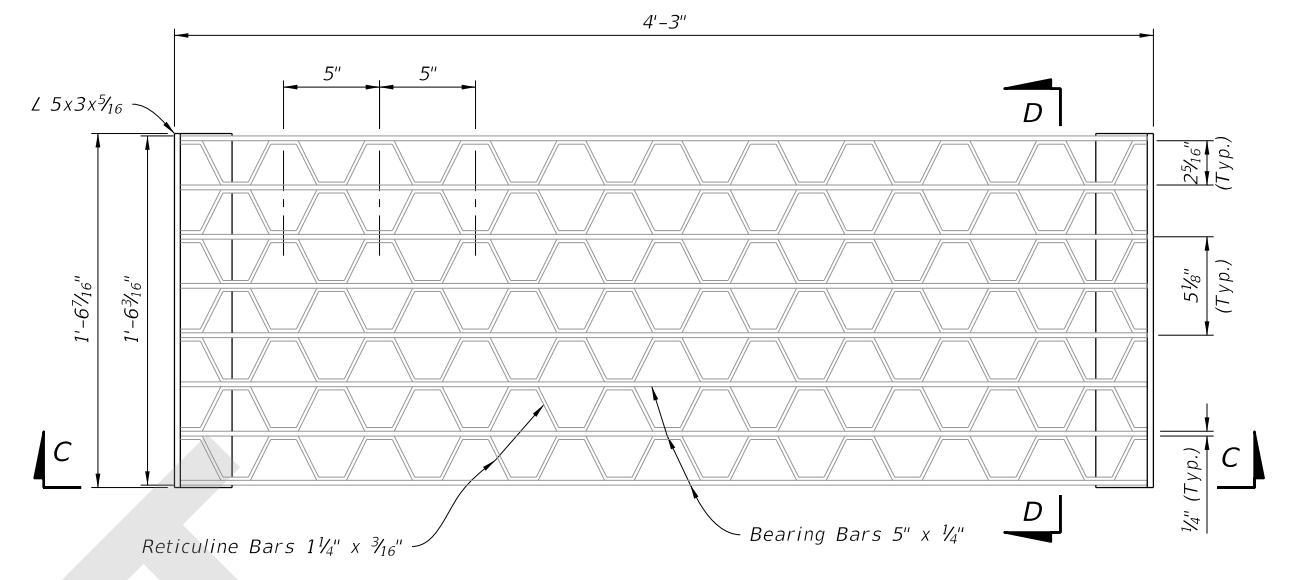
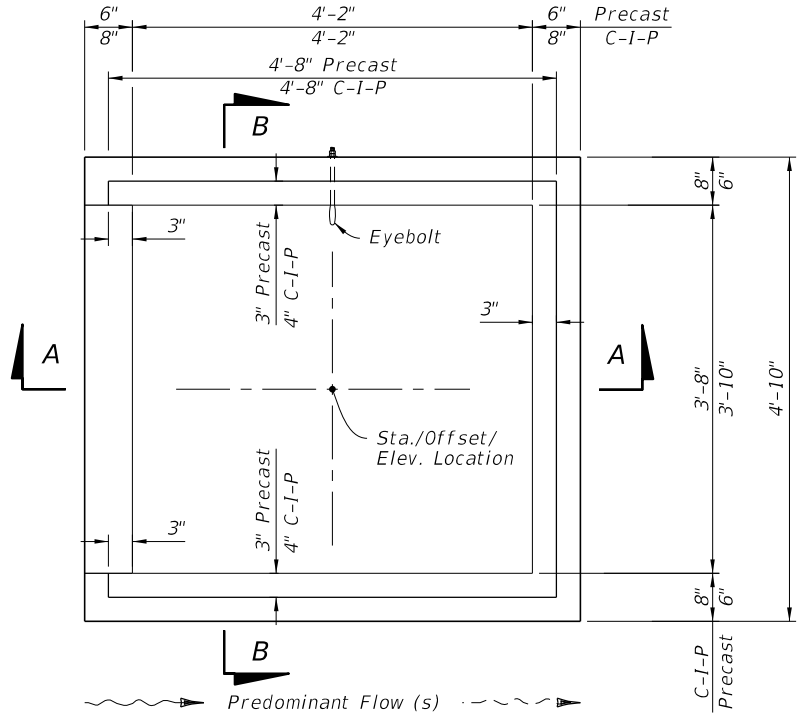


TABLE 1
HORIZONTAL WALL REINFORCING SCHEDULE

WALL DEPTH	SCHEDULE	AREA (in. ² /ft.)	MAX. SPACING	
			BARS	WWR
0' - 5'	A12	0.200	12"	8"
5' - 9'	A6	0.200	6"	5"
9' - 13'	B5.5	0.240	5 1/2"	5"
13' - 15'	Special	0.267	5"	4"

- NOTES:**
1. Plan View; grate, apron, slots and sod not shown.
 2. See Sheet 3 for apron and traversable slot details.
 3. Construction joints permitted between these limits. See Index 425-001 for minimum dimensions.

DIMENSIONAL AND REINFORCEMENT DETAILS

DIMENSIONAL, REINFORCEMENT, AND GRATE DETAILS

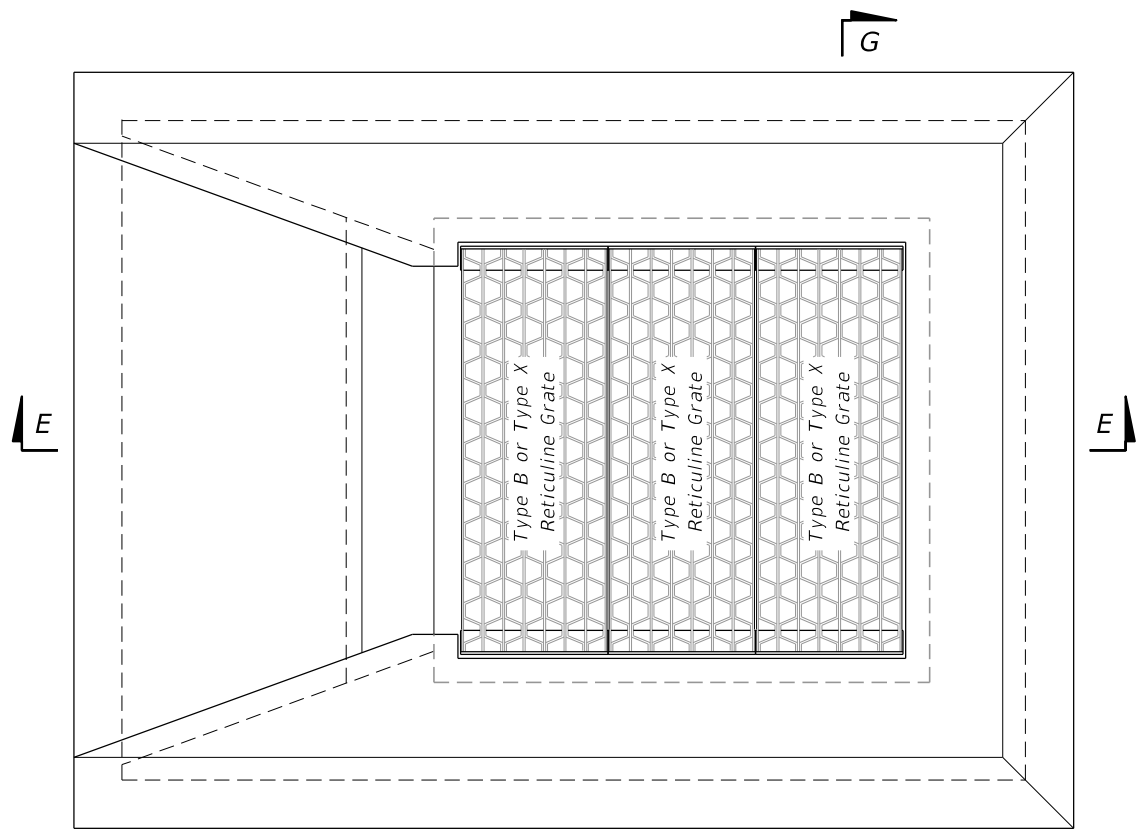
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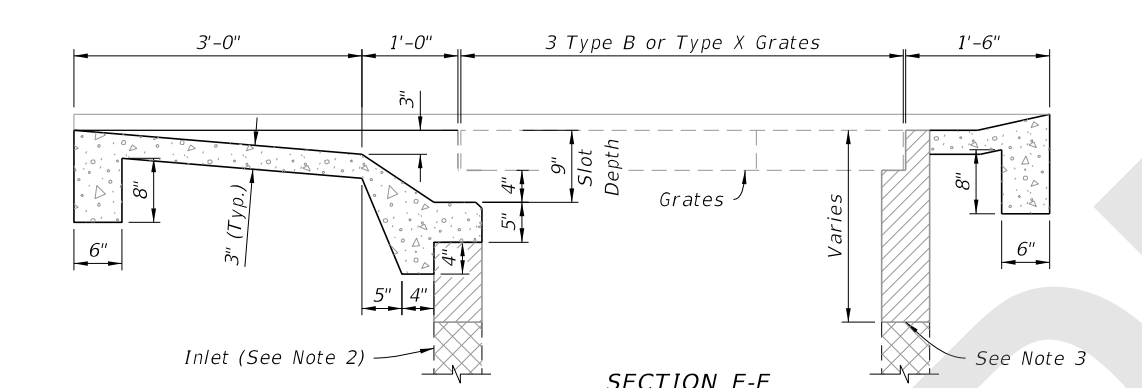
FDOT
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DITCH BOTTOM INLET TYPE B

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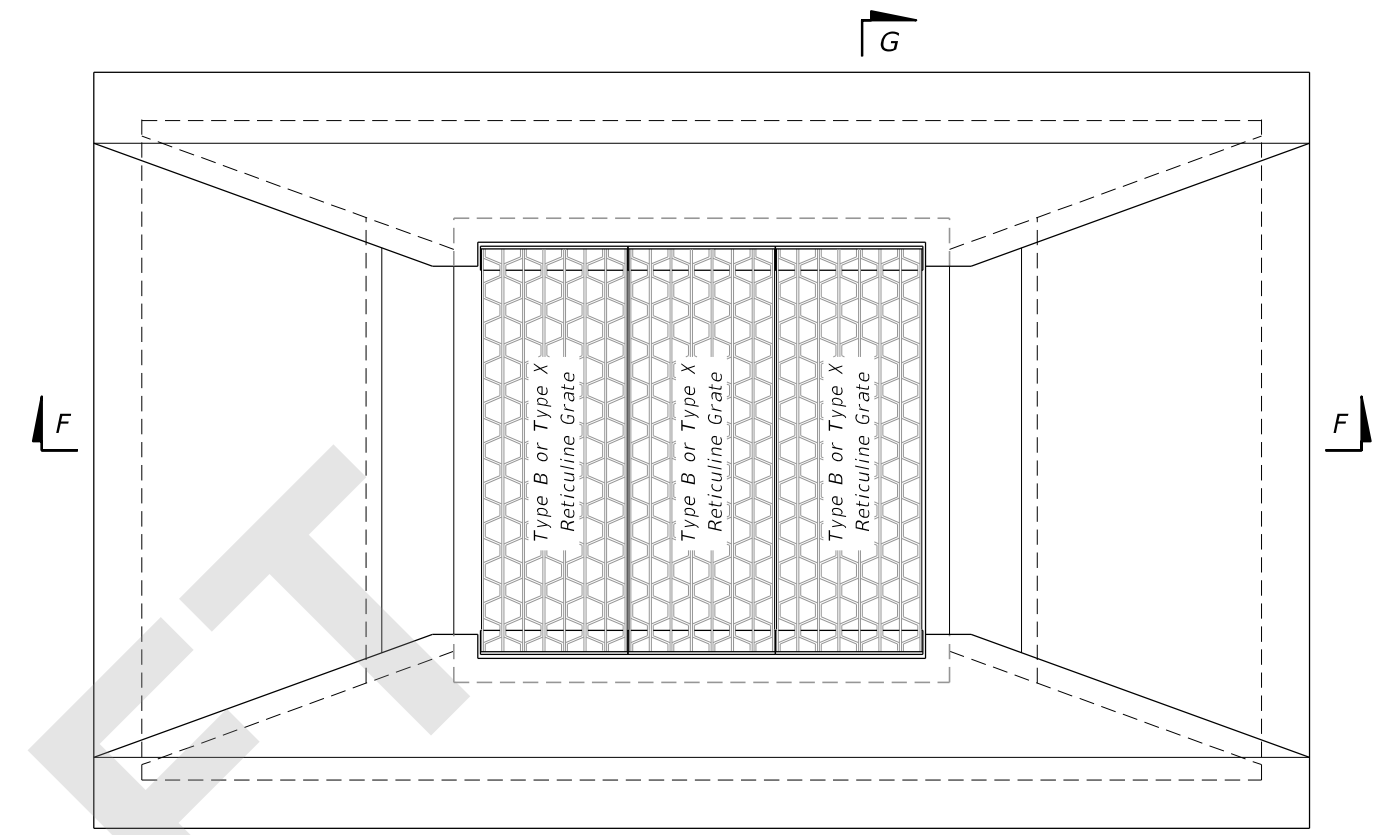


PLAN

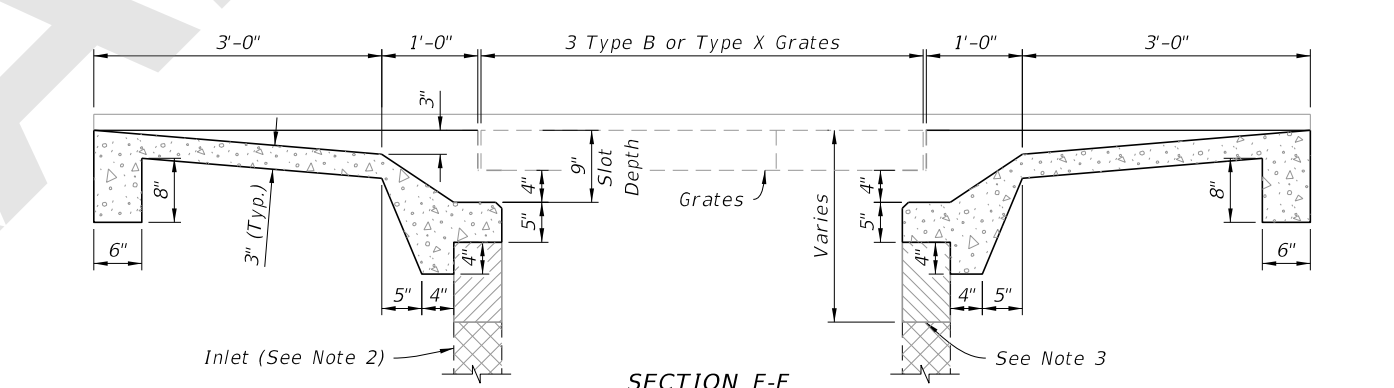


SECTION E-E

SINGLE SLOT

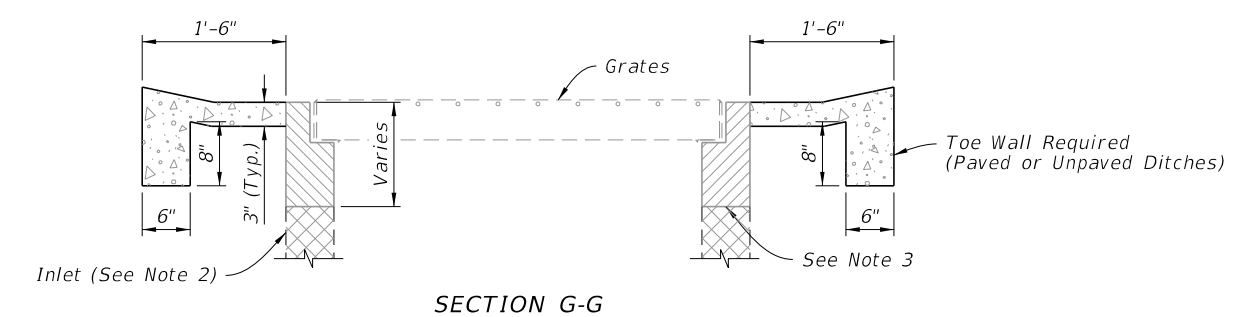


PLAN



SECTION F-F

DOUBLE SLOT



SECTION G-G

NOTES:

1. These traversable tops are for new or existing Type B Inlets and for conversion of existing Type X Inlets.
2. Inlet box (line type indicates existing box to facilitate depiction of partial construction on existing inlets)
3. On new boxes the traversable top may be cast as a monolithic unit or cast in segments, and the location of this line may be lower to facilitate handling and placement; however, the slot depth is to remain at 9 inches. See Index 425-001 for top to wall connection. For converting to traversable tops on existing inlets remove concrete to this line and expose the existing reinforcement. Reshape or splice in reinforcement to penetrate the rim and returns of the grate seat, and bend the reinforcement into the slot shelf to extend into the abutting throat pavement.
4. See Sheet 2 for Precast and C-I-P dimensions.

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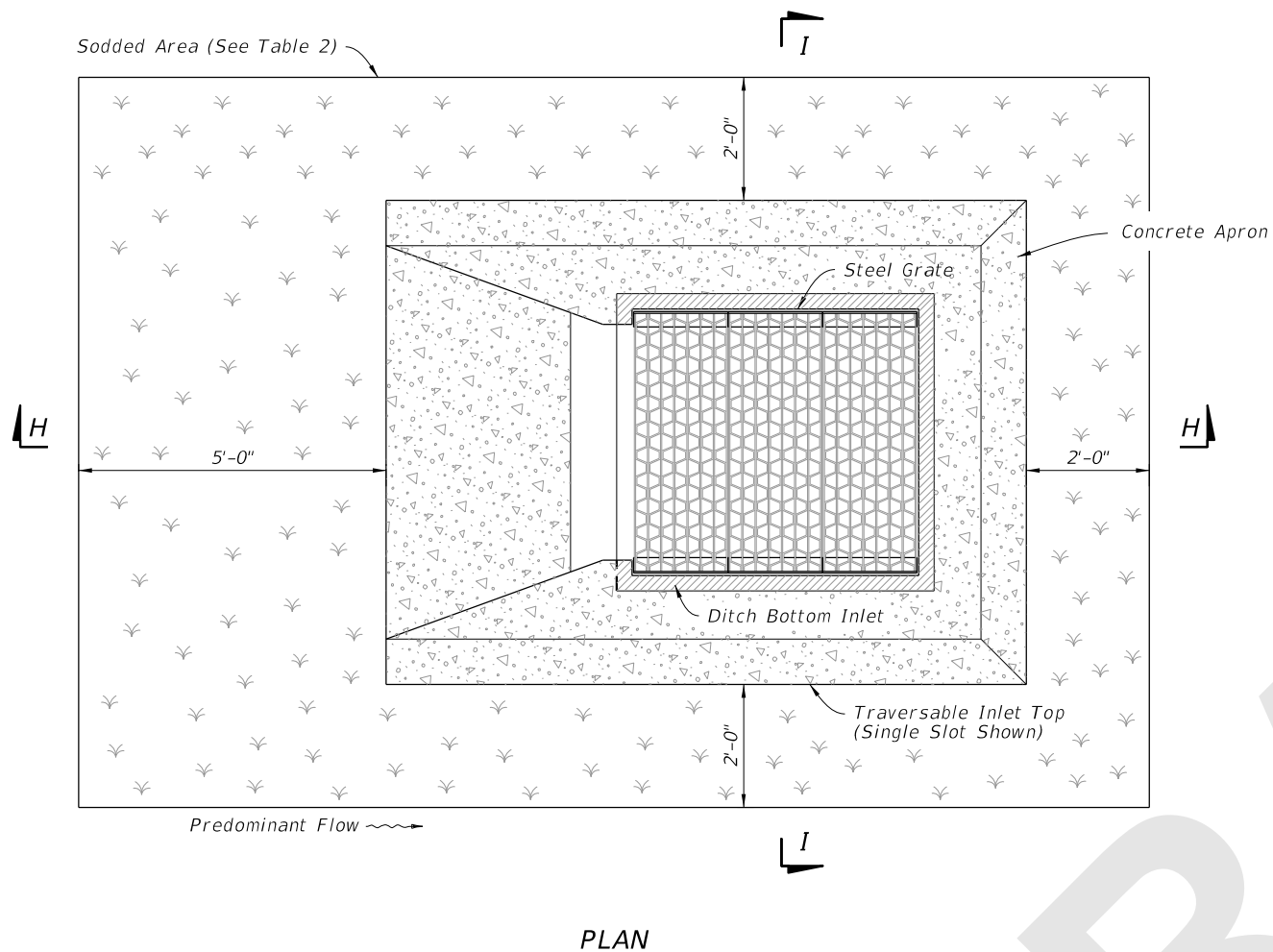
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DITCH BOTTOM INLET TYPE B

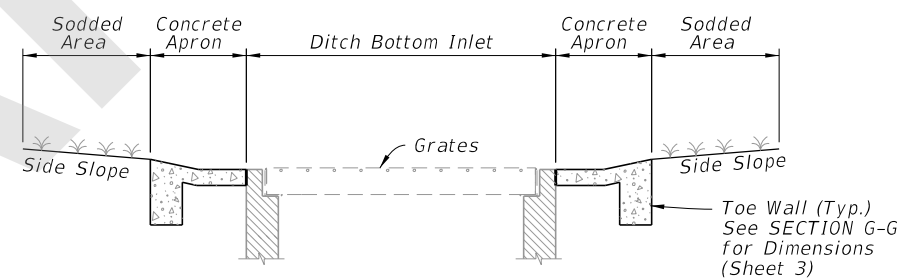
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TRAVERSABLE TOP DETAILS

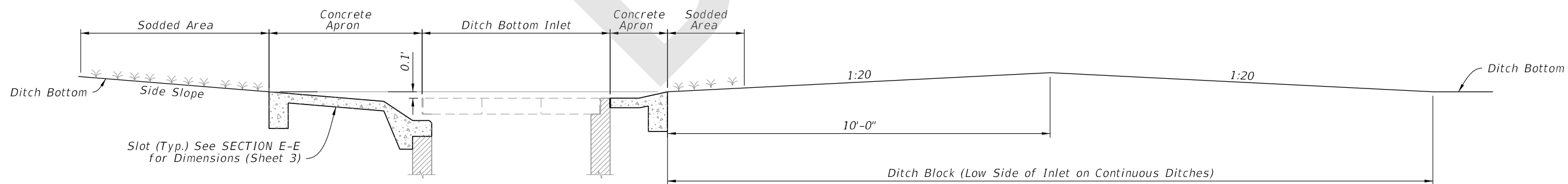
Sodded Area (See Table 2)



SLOT TYPE	Concrete Apron		SOD
	SY	CY	SY
Single	6.2	0.9	14
Double	8.1	1.1	19



SECTION I-I



SECTION H-H AND DITCH BLOCK

CONCRETE APRON PAVEMENT AND SODDED AREA DETAILS

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LAST REVISION	DESCRIPTION:
11/01/20	

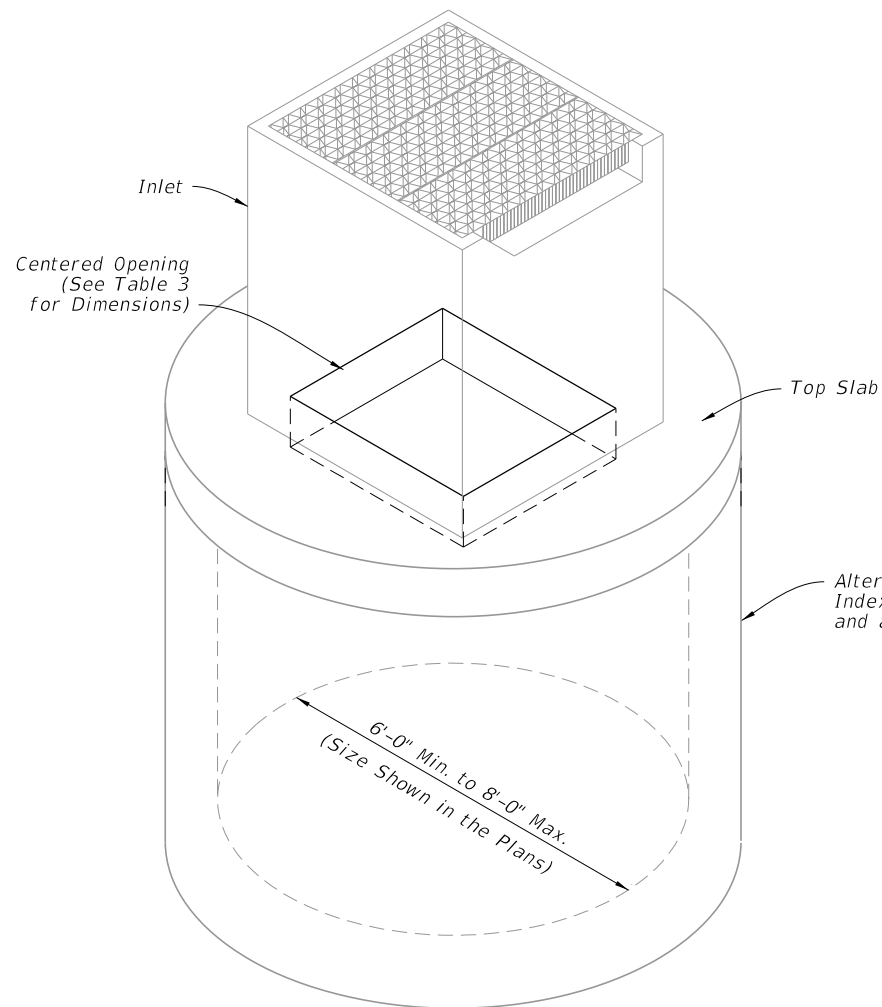


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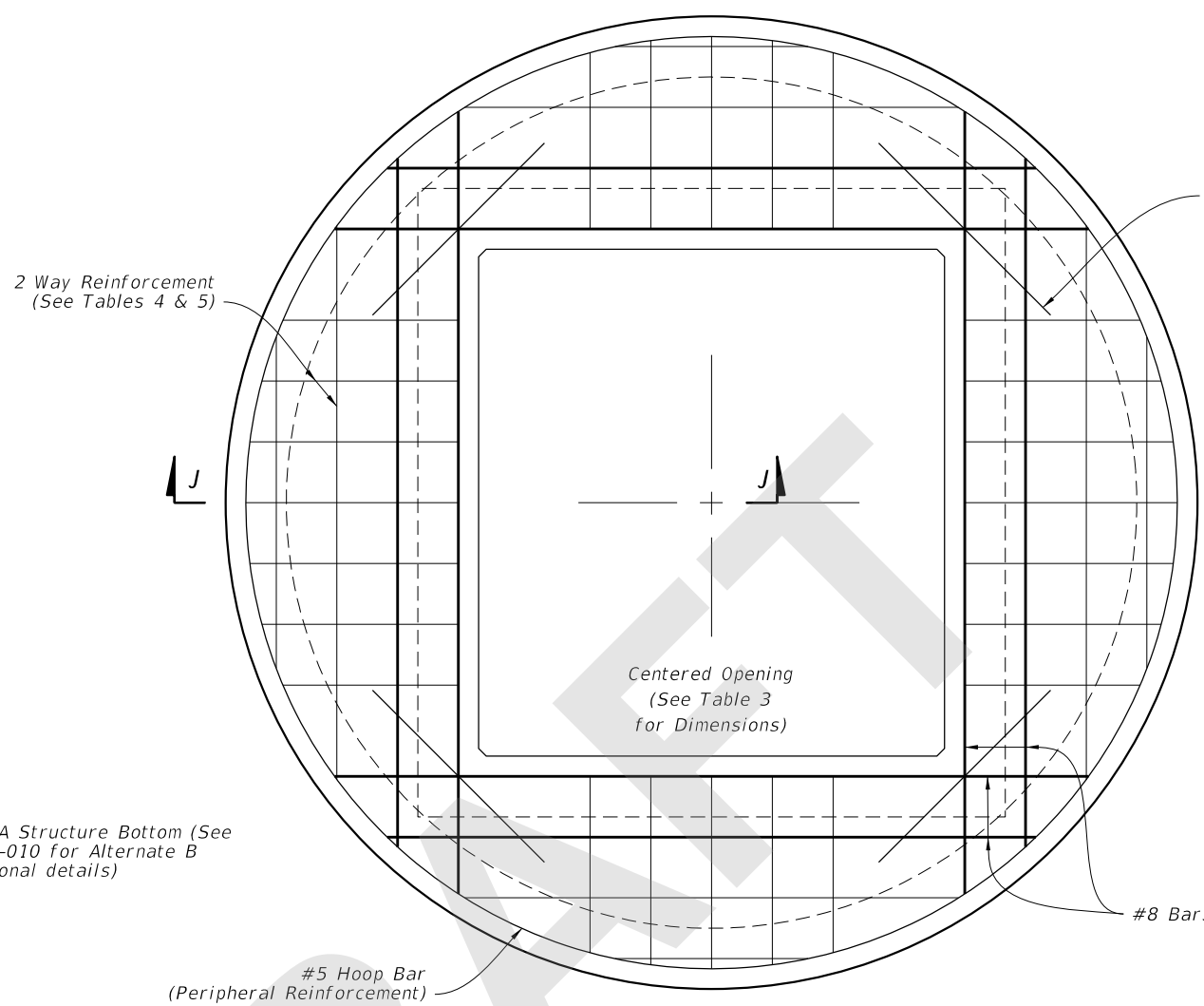
DITCH BOTTOM INLET TYPE B

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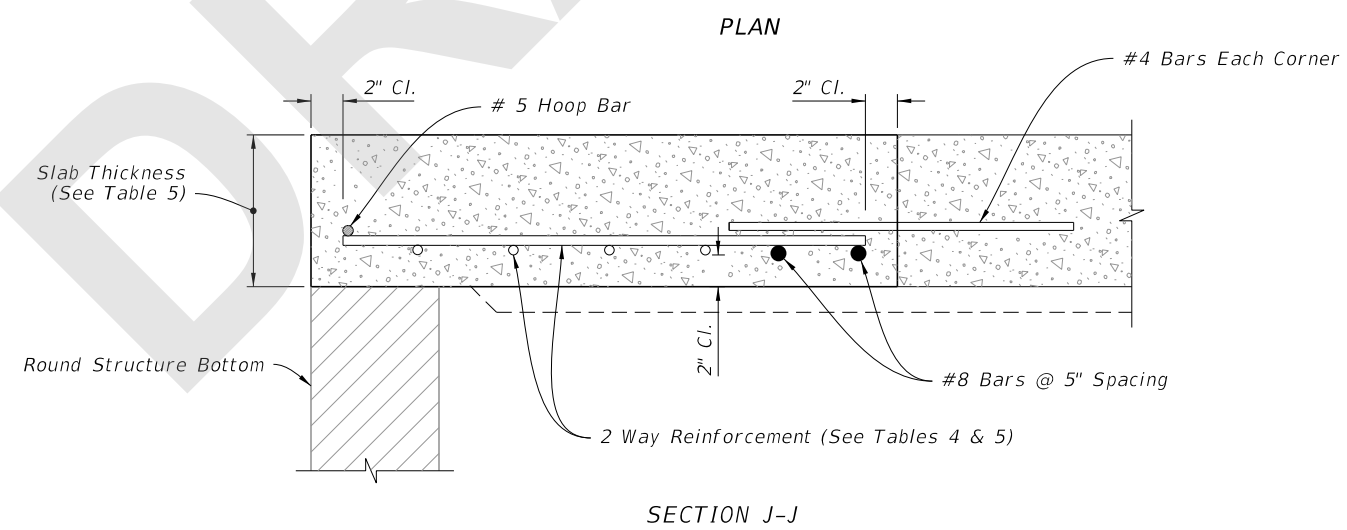


DIAMETER	OPENING SIZE	
	Min.	Max.
6'-0" to 8'-0"	3'-8" x 4'-2"	3'-10" x 4'-2"



SCHEDULE	GRADE 60 (BAR) OR 65 KSI & 70 KSI (WIRE FABRIC) In. ² /ft.
A	0.20
B	0.24
C	0.37
D	0.53
E	0.73
F	1.06
G	1.45

STRUCTURE DEPTH	SLAB THICKNESS	REINFORCING (2 WAY) SCHEDULE
SIZE: 6'-0"		
0.5' < 8'	9 1/2"	B
8' < 18'	9 1/2"	C
18' < 30'	9 1/2"	D
30' < 37'	9 1/2"	E
37' - 40'	9 1/2"	G
SIZE: 8'-0"		
≥ 0.5' < 9'	11 1/2"	C
9' < 15'	11 1/2"	D
15' < 23'	11 1/2"	E
23' < 33'	11 1/2"	E
33' - 40'	11 1/2"	G



ISOMETRIC VIEW

TOP SLAB REINFORCMENT DETAILS

ALTERNATE A STRUCTURE BOTTOM - TOP SLAB DETAILS

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DITCH BOTTOM INLET TYPE B

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