ORIGINATION FORM

Proposed Revisions to a Standard Plans Index

(Please provide all information – Incomplete forms will be returned)

Contact Information:

Date: September 5, 2017
Originator: **Richard Stepp**
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Standard Plans:

Index Number: **219**
Sheet Number (s): 1,2
Index Title: Concrete Barrier Wall Inlet

Summary of the changes:

1. Update concrete sections and reinforcing steel for new Single-Slope Barrier. Clarify drawing labels.
2. Replace 18" wide Drainage Slot with 3 qty. PVC Pipes to improve concrete and reinforcing steel continuity.
3. Remove upstream throat.
4. Change Index name to "Curb & Gutter Barrier Inlet" to better describe function with new Concrete Barrier Index

Commentary / Background:

This is part of the Index redevelopment project for Single-Slope Concrete Barrier and Pier Protection Barrier.

Other Affected Offices / Documents: (Provide name of responsible personnel)

Yes	No		
☑	☐	Other Standard Plans –	Richard Stepp
☐	☑	FDOT Design Manual –	
☐	☑	Basis of Estimates Manual –	
☐	☑	Standard Specifications –	
☐	☑	Approved Product List –	
☐	☑	Construction –	
☐	☑	Maintenance –	

Origination Package Includes: (Email or hand deliver package to Derwood Sheppard)

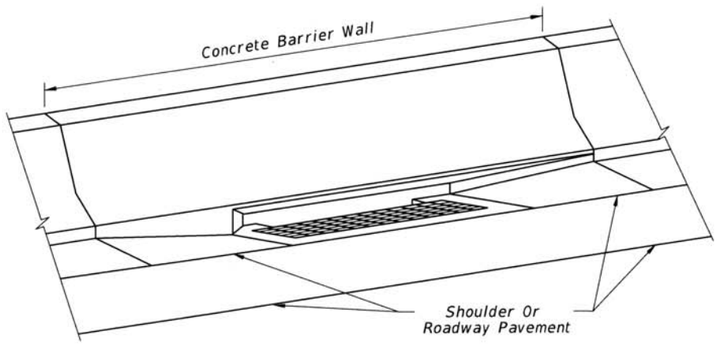
Yes	N/A	
☑	☐	Redline Mark-ups
☐	☑	Proposed Standard Plan Instructions (SPI)
☐	☑	Revised SPI
☐	☑	Other Support Documents

Implementation:

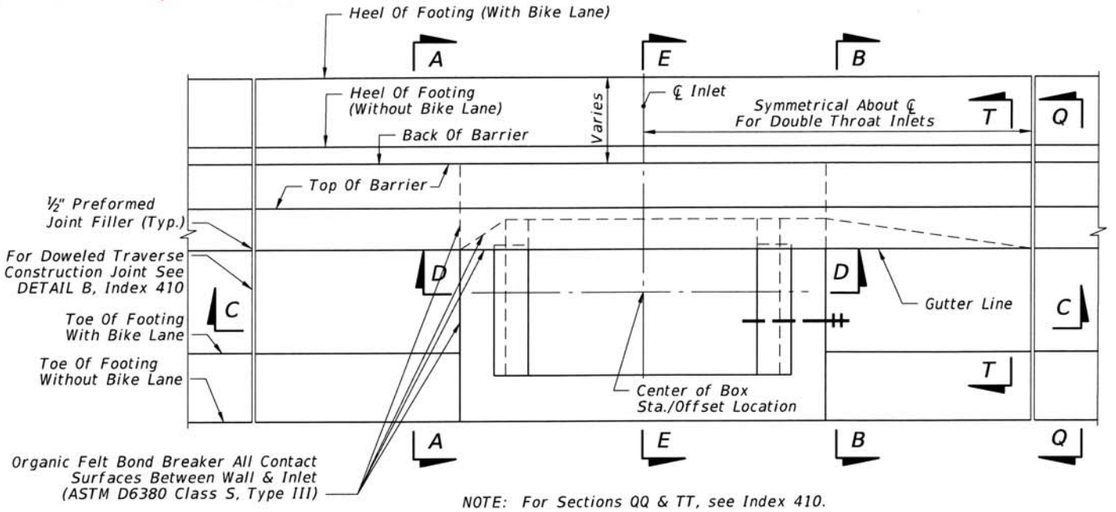
☐ Design Bulletin (Interim) ☐ DCE Memo ☐ Program Mgmt. Bulletin ☑ FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form

* Revised all details ... Plan, Elevation, Sections, Isometric for single-slope...

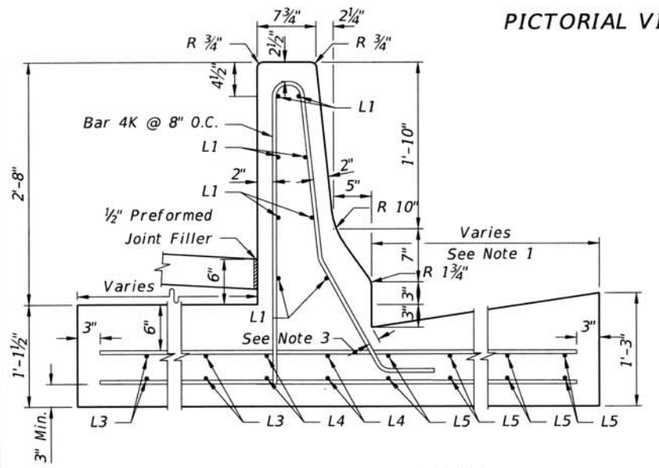


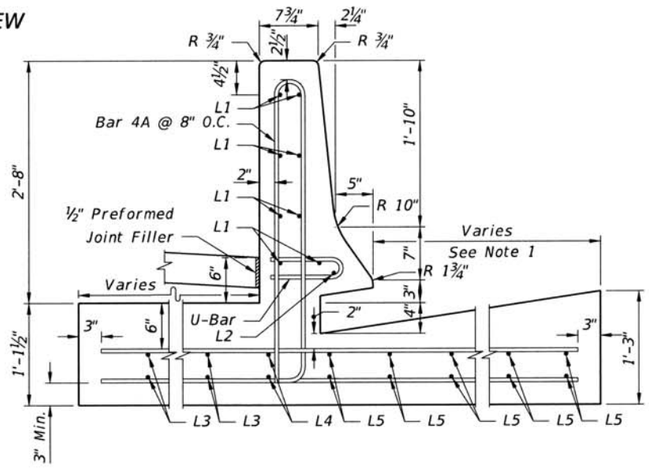
PICTORIAL VIEW

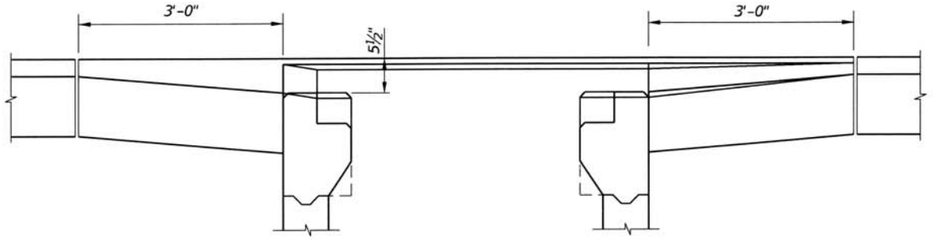


NOTE: For Sections QQ & TT, see Index 410.

PLAN VIEW







NOTES:
1. Distance = 1'-6" With Bike Lane, Or 2'-6" Without Bike Lane.
2. For Double Throat Inlet, Section BB replaces Section AA.
3. Field Bend Bar 4K To Maintain 2" Minimum Concrete Cover.

SECTION AA

SECTION BB

SECTION CC

GENERAL NOTES

1. This inlet to be used in conjunction with Concrete Barrier Wall, Curb and Gutter, Index No. 410. The inlet is suitable for bicycle and occasional pedestrian traffic with extended crossbar or bar stub (see INSETS B & B ALTERNATE). Inlet should not be placed in a pedestrian way.
2. All reinforcing is Grade 60 bars. For equivalent area of welded wire fabric for inlet, see Index 201. Reinforcing shall have 2" min. cover unless otherwise shown. Bars shall be trimmed or bent to provide 1½" clearance around pipe openings. Cost for additional reinforcing in barrier wall to be included in cost of concrete barrier wall.
3. Barrier wall shall be Class II Concrete, finished surface in accordance with General Note 1, Sheet 1, Index 410.
4. All exposed edges and corners shall be 3/4" chamfer or tooled to 1/4" radius.
5. A flat 18"x2½" drainage slot shall be constructed at the inlet centerline when the inlet is located in a curb sag. For drainage slot construction, no more than two bars shall be trimmed or deleted such as type: 4A, 4K, and U-Bar. On each side of drainage slots, vertical & horizontal bars shall be placed to provide 2" concrete cover.
6. Recommended maximum pipe sizes are 18" longitudinal and 30" transverse. For larger pipe, use Alternate B bottoms, Index 200.
7. Grates can be fabricated with reticuline bars or with either 1/2"∅ welded or 3/8"∅ electroforged cross bars and bearing bars as detailed on Sheet 3.
8. When Alternate G grate is specified in plans, the grate is to be hot-dip galvanized after fabrication according to Specification Section 962-9.
9. For Pay Item purposes, the depth of the barrier wall inlet shall be computed using the center of box grate elevation, less the flow line elevation of the lowest pipe flow line or to the top of the sump floor elevation.
10. All dimensions are for both precast and C-I-P inlets unless otherwise noted.
11. Inlets to be paid for under the contract unit price for Inlets, Barrier Wall, Rigid, Curb & Gutter, Each.
12. Concrete Barrier Wall to be paid for under the contract unit price for Shoulder Concrete Barrier Wall, Rigid-Curb & Gutter, LF.

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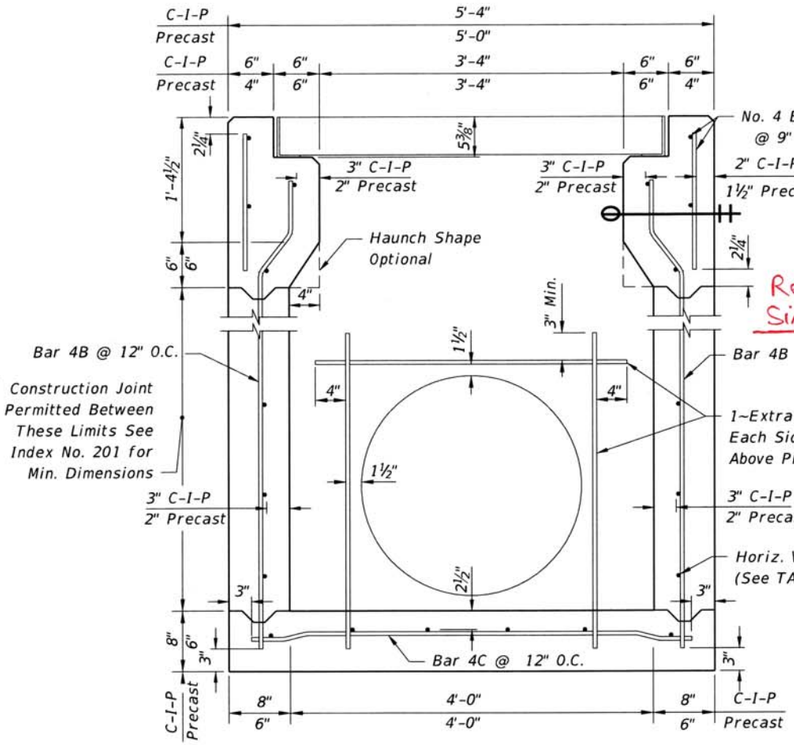
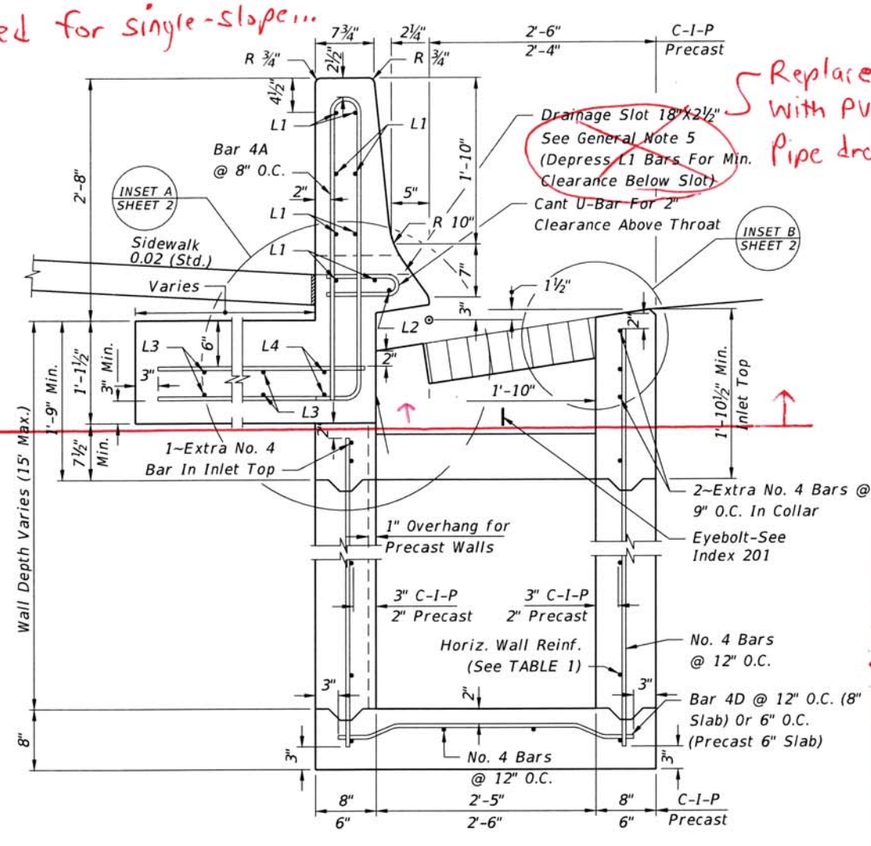
LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2017-18 DESIGN STANDARDS	CURB AND GUTTER BARRIER ~~CONCRETE BARRIER WALL~~ INLET 425-032	INDEX NO. ~~219~~	SHEET NO.
11/01/16						1 of 3

* Revised for single-slope...

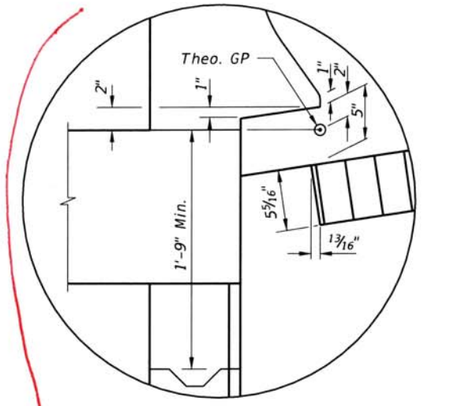


(18" Dia. Pipe Opening Shown)
SECTION DD

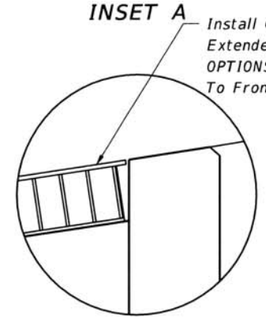
Revised for Single-slope



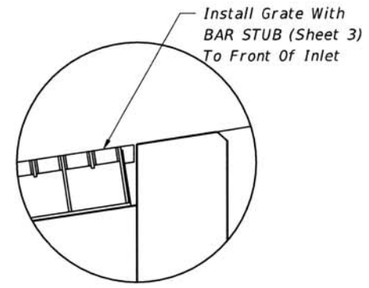
(Pipe Opening Not Shown)
SECTION EE



INSET A

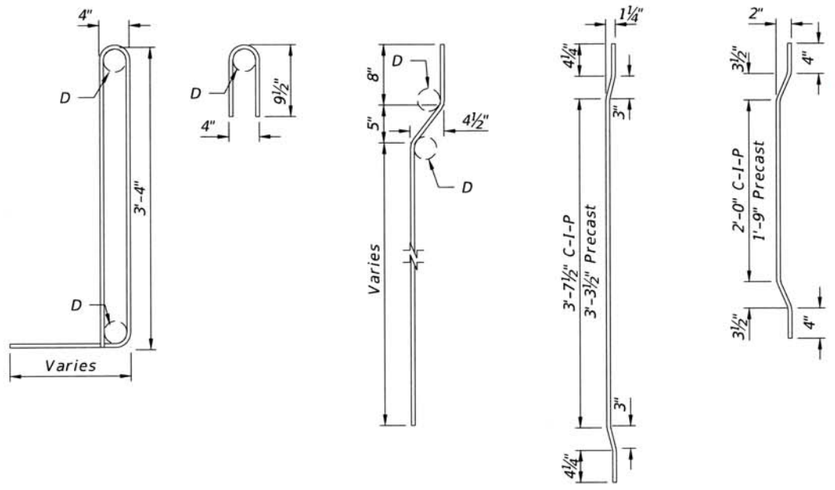


INSET B



INSET B (ALTERNATE)

Updated and Clarified labels



BAR BENDING DIAGRAMS

Updated all bars and notes for Single-slope.
Added note for 3½"ϕ PVC drainage system

REINFORCING NOTES:
1. Bars L1: Length 11'-1", Straight @ 8" O.C.
2. Bars L2: Length: 8'-4" (Single Throat) 11'-0" (Double Throat) @ 8" O.C.
3. Bars L3 & L4: Length 11'-1" Field Bend For 4" Drop (Top Bars) 3" Drop (Bottom Bars) @ 8" O.C.
4. Bars L5: Length 2'-8" Field Bend For Drop Same As L3 & L4 @ 8" O.C.
5. U Bars @ 8" O.C.

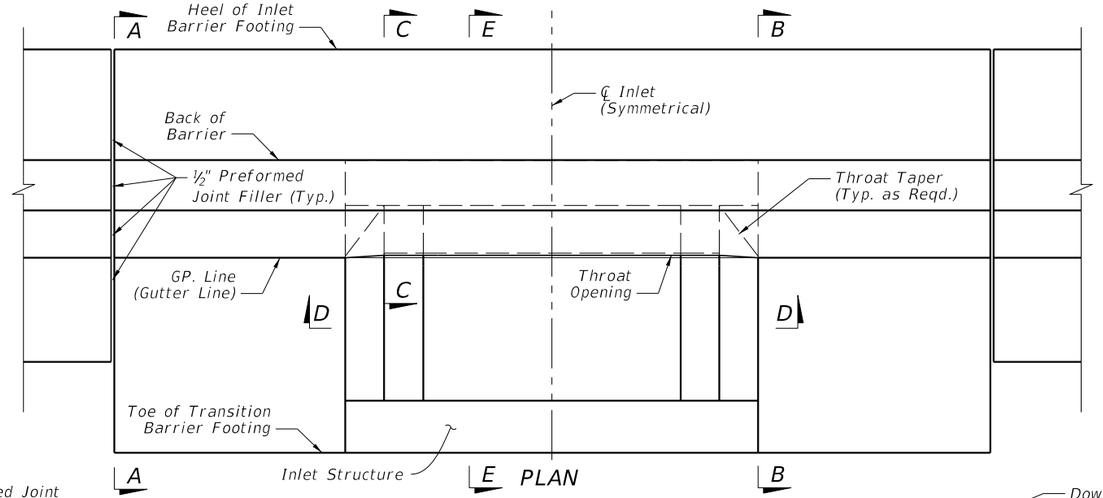
WALL DEPTH		SCHEDULE	AREA	MAX. SPACING	
C-I-P	PRECAST		(in.²/ft.)	BARS	WWR
0'-4'	0'-3'	A12	0.20	12"	8"
4'-9'	3'-6'	A6	0.20	6"	5"
9'-15'	6'-10'	B5.5	0.24	5½"	5"
	10'-15'	C6.5	0.37	6½"	6"

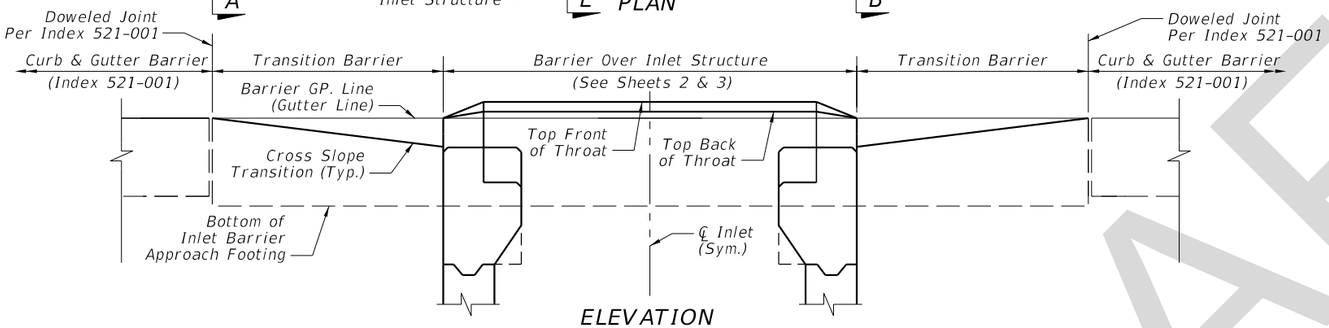
HORIZONTAL WALL REINFORCING SCHEDULE (TABLE 1)

NOTES:
1. For DOWELED TRANSVERSE CONSTRUCTION JOINT WHEN ABUTTING SEGMENT(S) LESS THAN 40' IN LENGTH, see DETAIL B, Index 410.
2. For Additional Information on "STANDARD BAR BENDING DETAILS," See Index 21300.

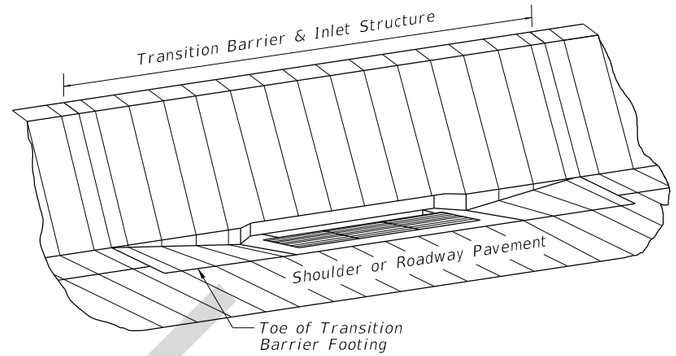
10/11/2016 10:24:26 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2017-18 DESIGN STANDARDS	CURB AND GUTTER BARRIER ~~CONCRETE BARRIER WALL~~ INLET 425-032	INDEX NO. ~~219~~	SHEET NO.
07/01/14						2 of 3

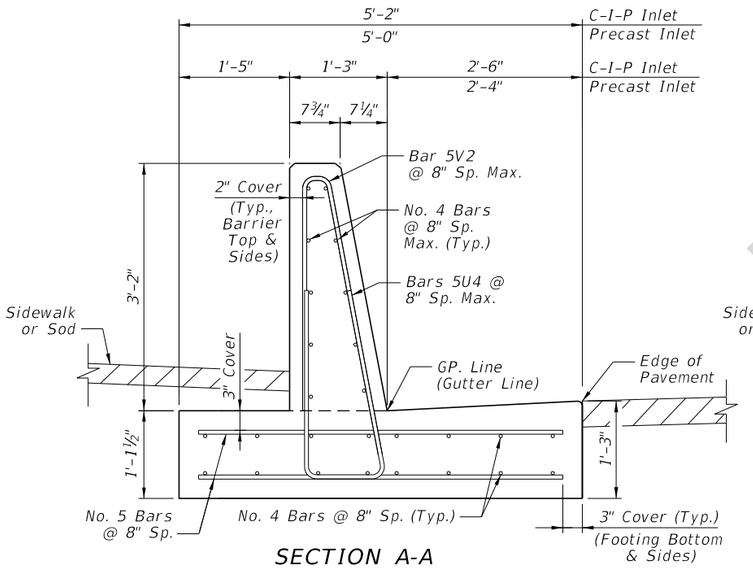




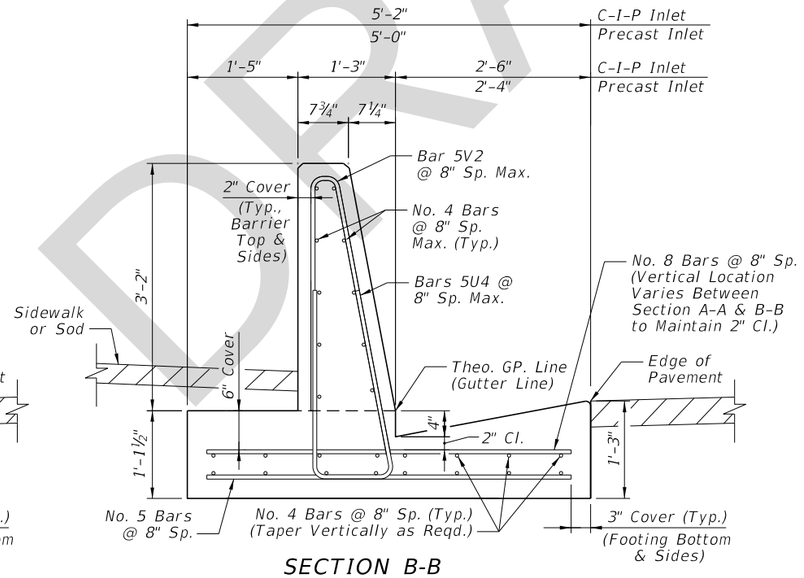
ELEVATION



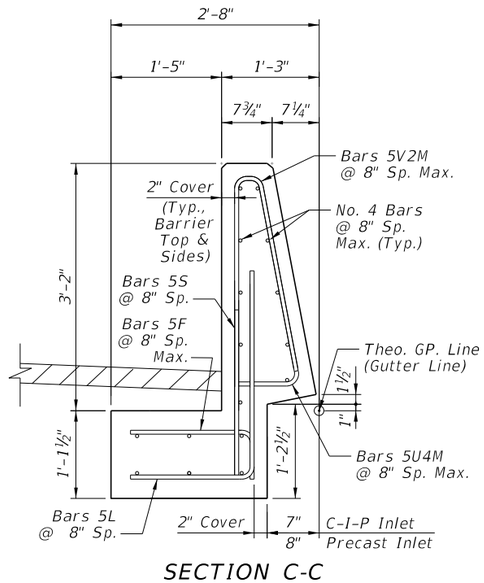
ISOMETRIC VIEW



SECTION A-A
TRANSITION BARRIER
BEGIN CROSS-SLOPE TRANSITION
(ALIGN WITH CURB GUTTER BARRIER, SEE INDEX 521-001)



SECTION B-B
TRANSITION BARRIER
END CROSS-SLOPE TRANSITION
(ALIGN WITH INLET BOX)



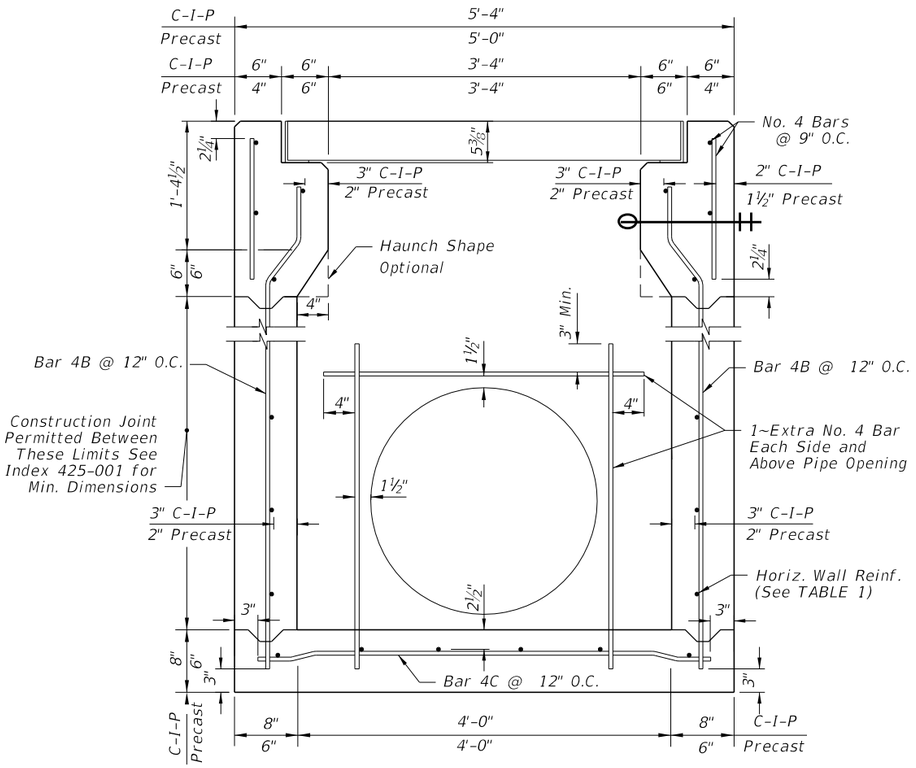
SECTION C-C
BARRIER OVER INLET STRUCTURE
(THROAT FULLY TRANSITIONED)

GENERAL NOTES:

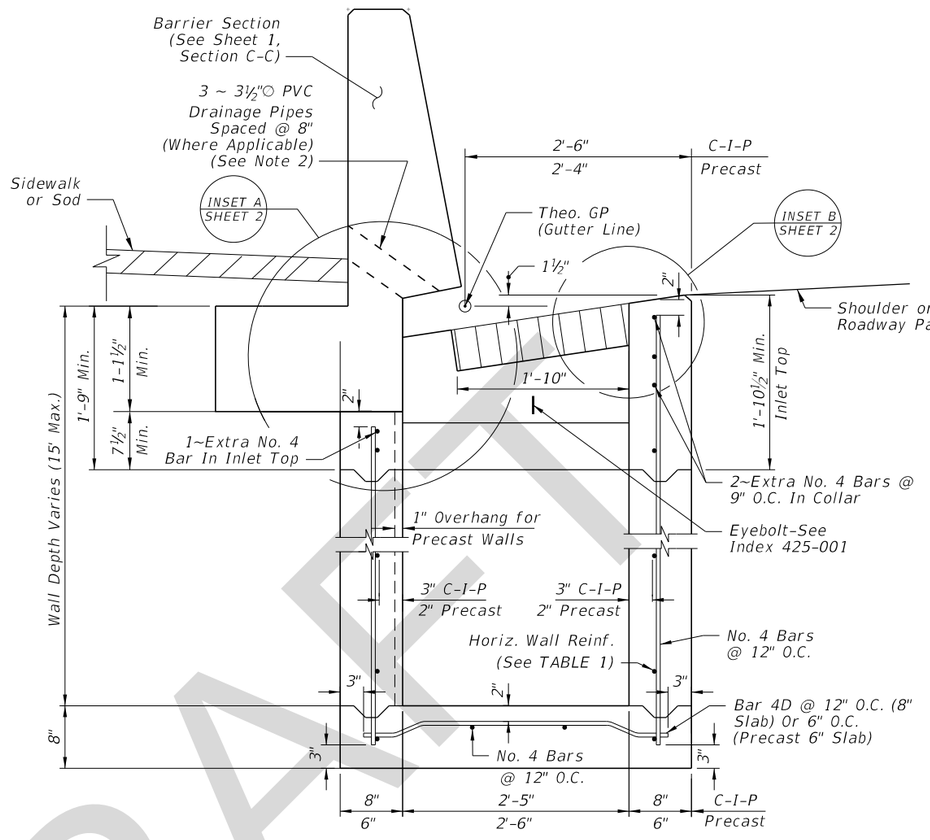
1. Where called for in the plans, use this inlet in conjunction with Curb and Gutter Barrier per Index 521-001. Construct Barrier Segments shown herein in accordance with requirements of Index 521-001, including connections to adjacent barrier segments using the Doweled Joint.
2. Reinforcing shown is grade 60 steel bars. For the equivalent area of welded wire reinforcement for the inlet, see Index 425-001. Reinforcing shall have 2" minimum cover unless otherwise shown. Trim or bend bars to provide 1½" clearance around pipe openings. The cost for additional reinforcing in the barrier is included in the cost of the concrete barrier.

   For Bar Bending Details of Bars 5V2 & 5U4, see Index 521-001. For all others, see Sheet 2 & 3.
3. All barrier is Class II or IV concrete per Index 521-001.
4. Apply a ¾" chamfer or ¼" radius to all exposed concrete edges.
5. For pipe connections to inlet structure bottoms, the recommended maximum pipe sizes are 18" longitudinal and 30" transverse. For larger pipe, use Alternate B bottoms, Index 425-010.
6. Grates may be fabricated with reticuline bars or with either ½"∅ welded or ⅜"∅ electroforged cross bars and bearing bars as detailed on Sheet 3.
7. When Alternate G grate is specified in the plans, the grate is to be hot-dip galvanized after fabrication, in accordance with Specification 962-9.
8. For Pay Item purposes, the depth of the barrier inlet shall be computed using the center of box grate elevation, minus either the flow line elevation of the lowest pipe flow line or the top of the sump floor elevation.
9. All dimensions are for both precast and cast in place (C-I-P) inlets unless otherwise indicated.
10. For inlets placed in areas of bicycle traffic, provide the extended crossbar or bar stub (See Insets "B" and "B ALTERNATE").
11. Inlets to be paid for under the contract unit price for Inlets, Barrier Rigid, Curb & Gutter, Each.
12. Concrete Barrier to be paid for under the contract unit price for Shoulder Concrete Barrier, Rigid-Curb & Gutter, LF.

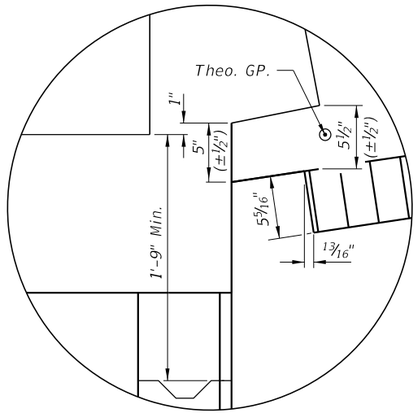
BARRIER SECTIONS



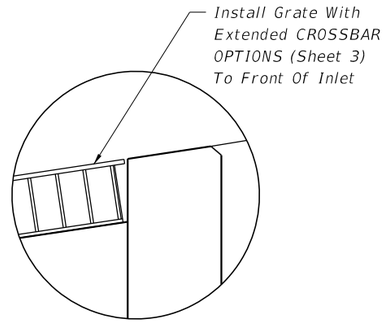
SECTION D-D
(18" Dia. Pipe Opening Shown)



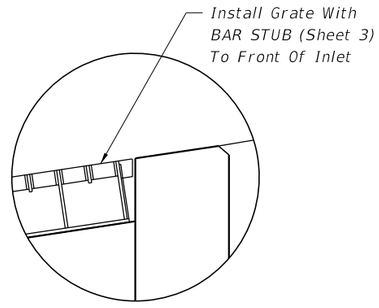
SECTION E-E
(Pipe Opening Not Shown)
(Barrier Reinforcing Steel Not Shown, See Sheet 1, Section C-C)



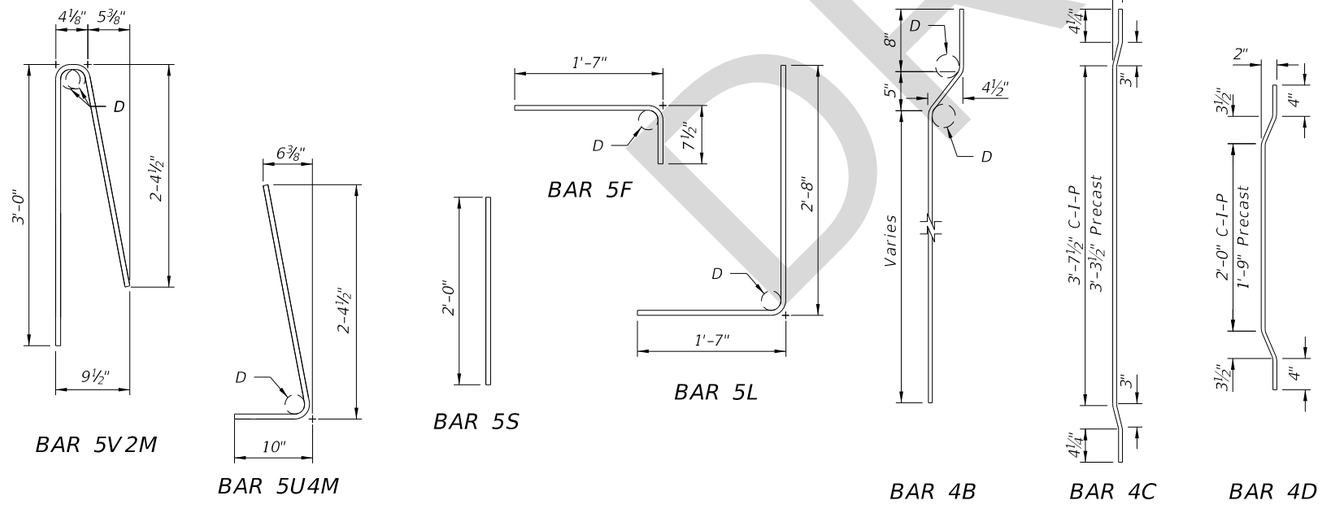
INSET A



INSET B
(See General Note 10)



INSET B ALTERNATE
(See General Note 10)



BAR BENDING DIAGRAMS

WALL DEPTH		SCHEDULE	AREA	MAX. SPACING	
C-I-P	PRECAST		(in.²/ft.)	BARS	WWR
0'-4'	0'-3'	A12	0.20	12"	8"
4'-9'	3'-6'	A6	0.20	6"	5"
9'-15'	6'-10'	B5.5	0.24	5½"	5"
	10'-15'	C6.5	0.37	6½"	6"

TABLE 1: HORIZONTAL WALL REINFORCING SCHEDULE

NOTES:

1. For Bar Bending Diagrams of Bars 5V2 & 5U4, See Index 521-001. Bars 5V2M, 5U4M, & 5S may be field cut from Bars 5V2 & 5U4.

2. Install PVC drainage pipes at the inlet centerline when the inlet is located in a sag curve or when drainage pipes are called for in the plans. Install a total of 3 ~ 3½" PVC Pipes longitudinally spaced at 8", with the center pipe as near to the inlet centerline as practical without conflicting with the steel reinforcing.