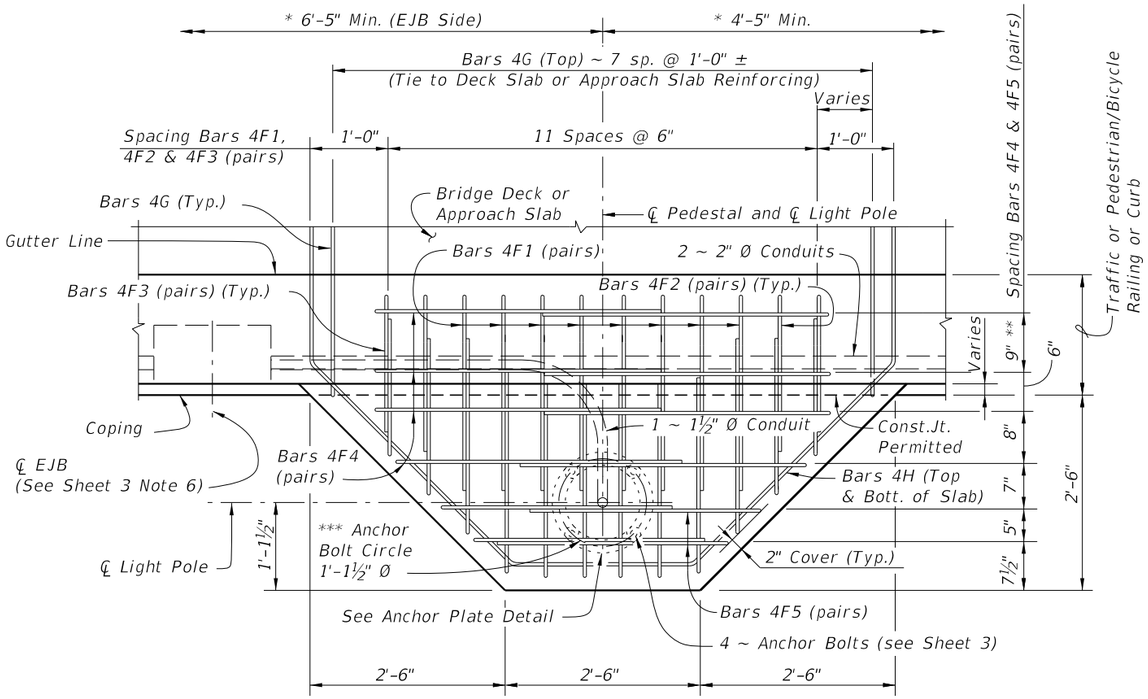
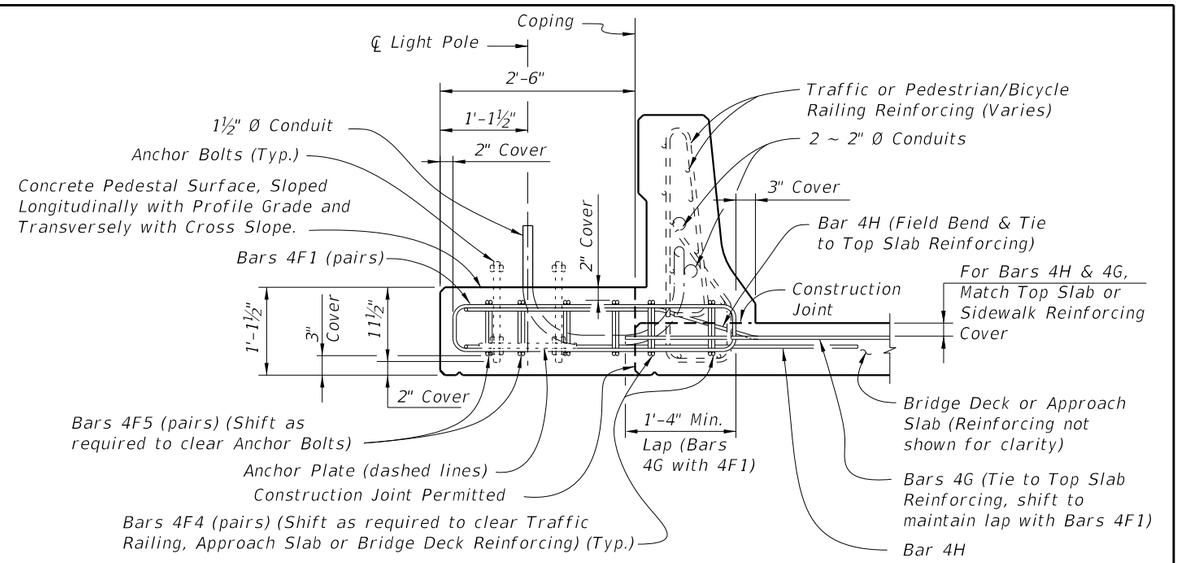
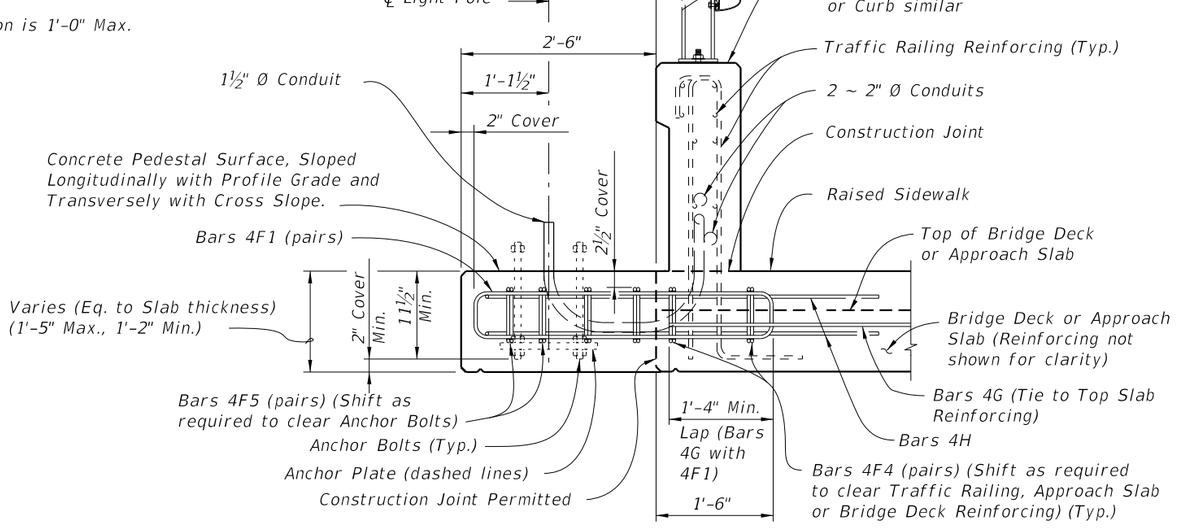


* Slip Forming Method of Construction requires the Engineer's approval within the limits shown.
** For Index No. 820 – Pedestrian/Bicycle Railing and concrete curb, this dimension is 3½". For raised sidewalks, this dimension is 1'-0" Max.
*** Anchor Bolt pattern orientation shall be as shown.



TYPICAL SECTION AT LIGHT POLE PEDESTAL FOR APPROACH SLAB OR BRIDGE DECK THICKNESS LESS THAN 1'-1½" AT COPING



TYPICAL SECTION AT LIGHT POLE PEDESTAL FOR APPROACH SLAB OR BRIDGE THICKNESS LESS THAN 1'-5½" AT COPING

CROSS REFERENCE:
For Detail "A", Anchor Plate Detail and Light Pole Pedestal Notes, see Sheet 3.

NOTE: Anchor Bolt, Nuts, Washers and Anchor Plate are dashed for clarity.

LIGHT POLE PEDESTAL FOR APPROACH SLAB OR BRIDGE DECK THICKNESS LESS THAN 1'-5½" AT COPING

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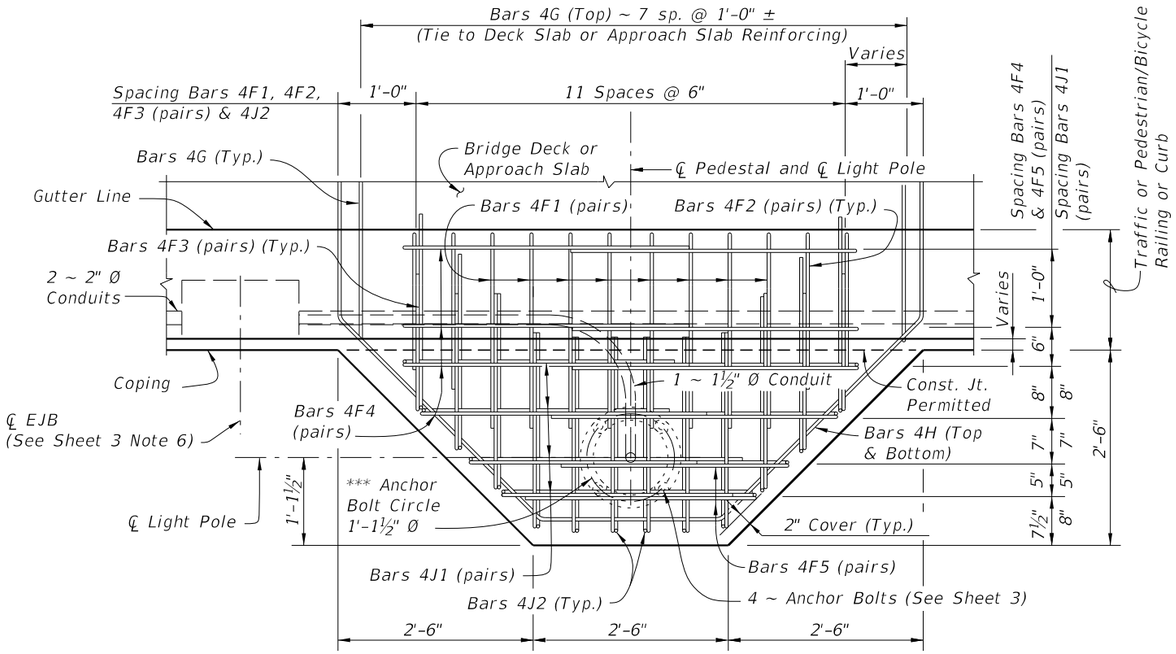
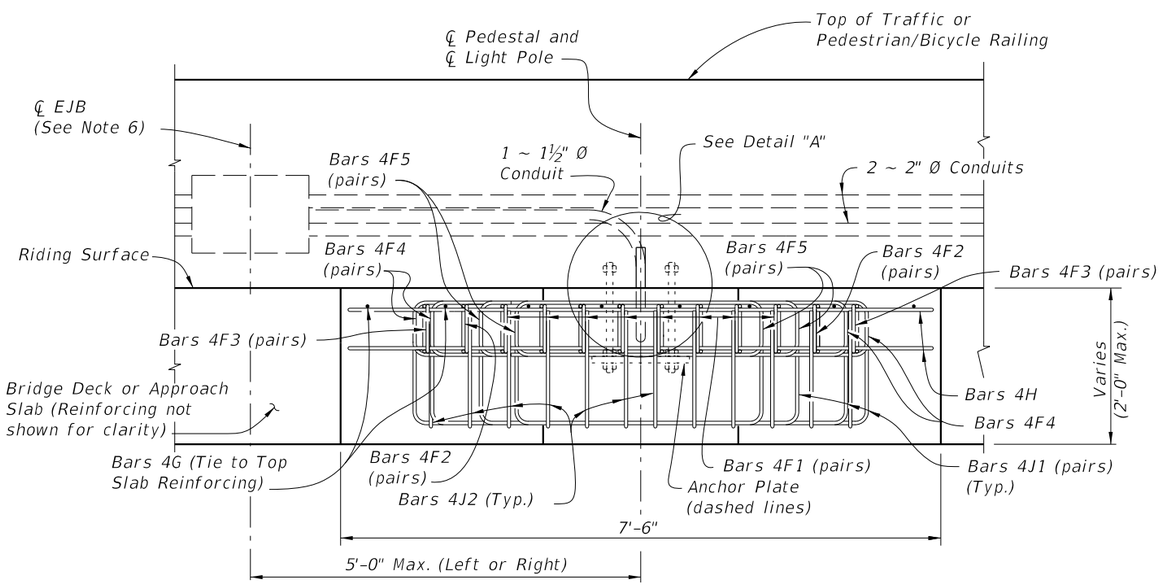
LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/15			FDOT FY 2017-18 DESIGN STANDARDS	LIGHT POLE PEDESTAL	21200	1 of 3

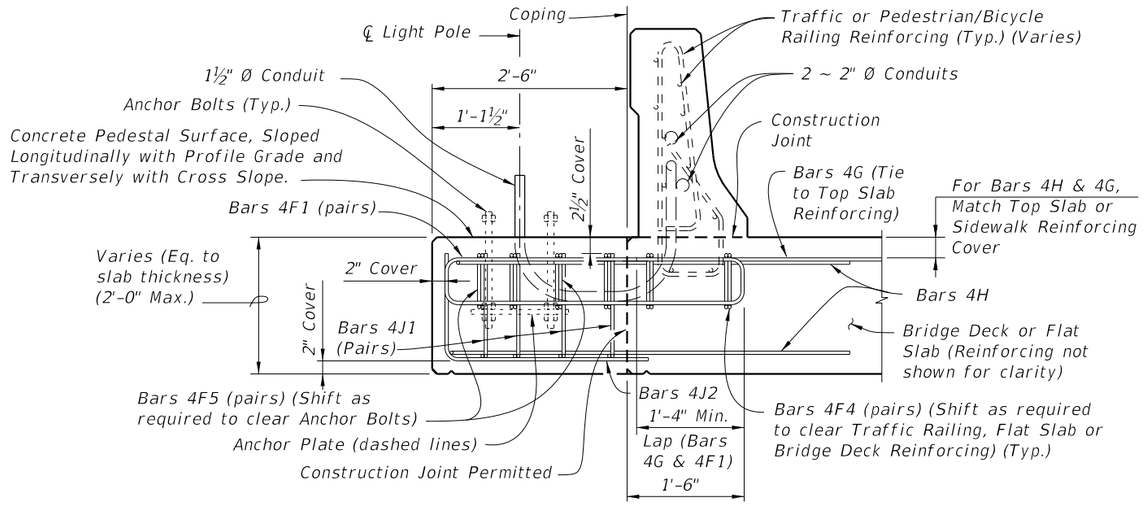


*** Anchor Bolt pattern orientation shall be as shown.

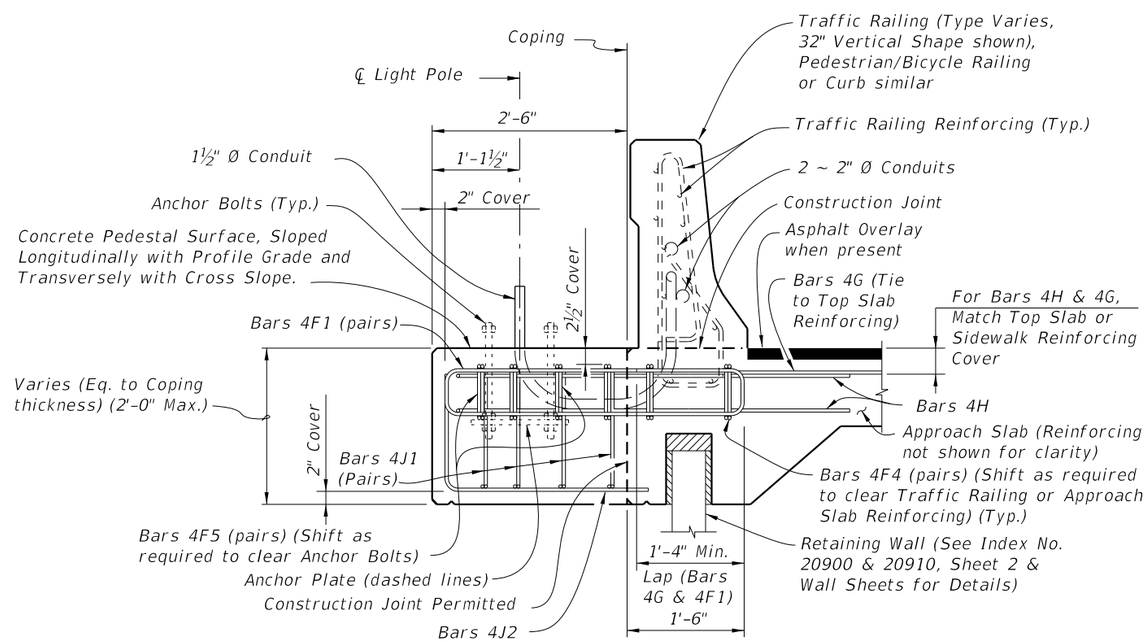
PLAN VIEW



ELEVATION VIEW



TYPICAL SECTION AT LIGHT POLE PEDESTAL FOR FLAT SLAB OR BRIDGE DECK THICKNESS AT COPING 1'-5½" OR GREATER



TYPICAL SECTION AT LIGHT POLE PEDESTAL FOR APPROACH SLAB ON RETAINING WALL

CROSS REFERENCE:
For Detail "A", Anchor Plate Detail and Light Pole Pedestal Notes, see Sheet 3.

NOTE: Anchor Bolt, Nuts, Washers and Anchor Plate are dashed for clarity.

LIGHT POLE PEDESTAL FOR APPROACH SLAB OR BRIDGE DECK THICKNESS AT COPING 1'-5½" OR GREATER

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LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
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CONVENTIONAL REINFORCING STEEL BENDING DIAGRAMS

REINFORCING STEEL NOTES:

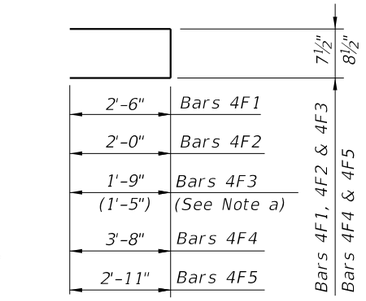
a. When Pedestal is attached to Pedestrian/Bicycle Railing – Index No. 820 or an 8" wide concrete curb and the Bridge Deck or Approach Slab thickness is less than 1'-1½", Bars 4F3 shall have leg length and bar length shown in parentheses.

b. The number of bars shown in parentheses is for Bars 4F4 when Pedestal is attached to Pedestrian/Bicycle Railing – Index No. 820 or an 8" wide concrete curb, and the Bridge Deck or Approach Slab thickness is less than 1'-1½".

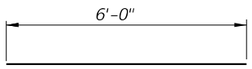
c. Lap Splices for Bars 4F1, 4F2 & 4F3 shall be a minimum of 1'-4". Lap Splices for Bars 4F4 & 4F5 shall be minimum of 1'-8".

d. Bars 4J1 and 4J2 are not required when Pedestal thickness is less than 1'-5½". Field trim height of bars to maintain cover when Pedestal thickness is less than 2'-0". Field trim length of Bars 4J2 on Retaining Wall Coping to maintain cover.

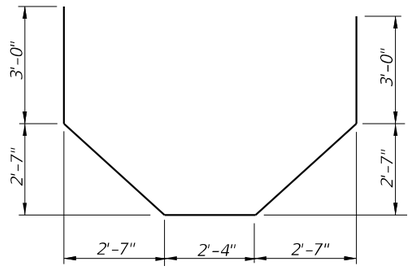
e. All bar dimensions in the bending diagrams are out to out.



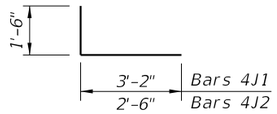
BARS 4F1, 4F2, 4F3, 4F4 & 4F5



BAR 4G



BAR 4H

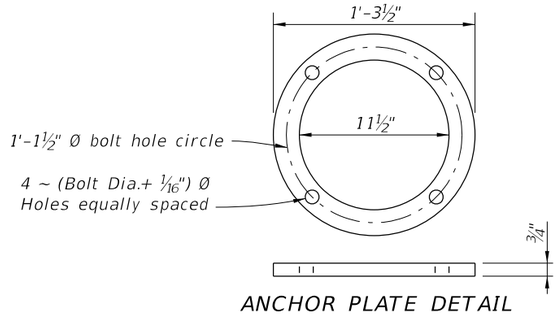


BARS 4J1 & 4J2

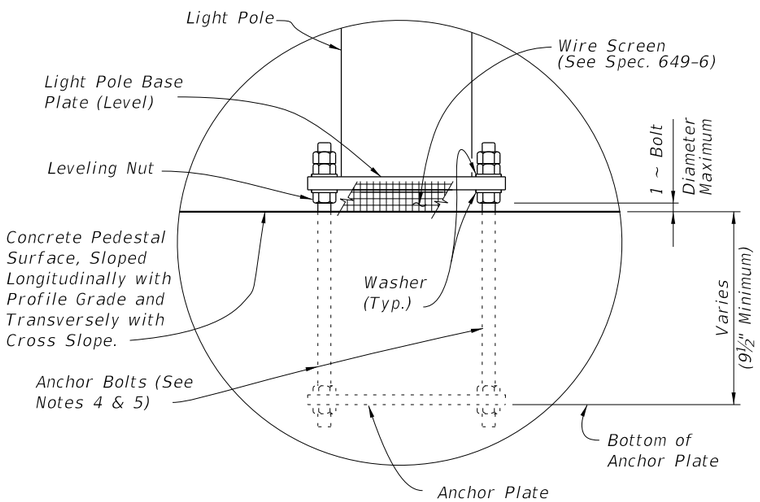
BILL OF REINFORCING STEEL

MARK	SIZE	NO. REQD.	LENGTH	NOTES
F1	4	16	5'-8"	c
F2	4	4	4'-8"	c
F3	4	4	4'-2" (3'-6")	a, c
F4	4	8 (6)	8'-3"	b, c
F5	4	4	6'-7"	c
G	4	8	6'-0"	–
H	4	2	15'-8"	–
J1	4	8	4'-8"	d
J2	4	12	4'-0"	d

( ) See Reinforcing Steel Note a & b.



ANCHOR PLATE DETAIL



DETAIL "A"

CROSS REFERENCE:
For location of Detail "A" see Sheets 1 and 2.

LIGHT POLE PEDESTAL NOTES

1. Concrete and Reinforcing Steel required for the construction of the Pedestal shall meet the same requirements as the Traffic Railing or Pedestrian/Bicycle Railing the Pedestal is attached to.

2. Light Pole Pedestal may be used with the following:
   Index No. 420 – Traffic Railing (32" F Shape),
   Index No. 422 – Traffic Railing (42" Vertical Shape),
   Index No. 423 – Traffic Railing (32" Vertical Shape),
   Index No. 424 – Traffic Railing (Corral Shape),
   Index No. 425 – Traffic Railing (42" F Shape),
   Index No. 820 – Pedestrian/Bicycle Railing,
   Index No. 821 – Aluminum Pedestrian/Bicycle Bullet Railing for Traffic Railing (32" F Shape), or
   Index No. 5210 – Traffic Railing /Noise Wall (Bridge).

3. Unless otherwise noted, Traffic Railing (32" F Shape) is shown in all Views and Sections. The Pedestal details for other Traffic Railings or Pedestrian/Bicycle Railing are similar.

4. ANCHOR BOLT DESIGN:
   Anchor Bolt design is based on the standard Roadway Aluminum Light Pole configurations shown on Index 17515 and the following design limitations:
   Load Case 1: See Table 1
   Load Case 2: 150 mph Design Wind Speed, 15' arm length, 50' Design Mounting Height with a 75' bridge deck height above natural ground, or MLW.

   Anchor Bolt Diameter: 1" Ø (Load Case 1), 1 ¼" Ø (Load Case 2).
   Anchor Bolts: ASTM F1554 Grade 55.
   Nuts: ASTM A563 Grade A, Heavy-Hex.
   Washers: ASTM F436 Type 1.
   Anchor Plate: ASTM A709 (Grade 36) or ASTM A36.
   All Nuts, Bolts and Washes shall be galvanized by ASTM F2329.

   The Contractor is responsible for ensuring the anchor bolt configuration is compatible with the light pole base plate. Submit modifications of the anchor bolt design to the Engineer for approval.

5. Anchor Bolts must be installed plumb.

6. For Conduit, Embedded Junction Boxes (EJB), Expansion/Deflection Fitting and adjacent Reinforcing Steel Details, see Utility Conduit Detail Sheets.

7. PAYMENT: The cost of Wire Screen, Anchor Bolts, Nuts, Washers and Anchor Plates shall be included in the Bid Price for Light Poles. The cost of all Labor, Concrete and Reinforcing Steel required for the Construction of the Pedestals, EJB, and Miscellaneous Hardware required for the completion of the Electrical System, shall be included in the Bid Price for the Traffic Railing or Pedestrian/Bicycle Railing the Pedestal is attached to.

TABLE 1 - DESIGN LIMITATIONS FOR ANCHOR BOLTS (LOAD CASE 1)

WIND SPEED (MPH)	ARM LENGTH (Ft.)	BRIDGE DECK HEIGHT (Ft.)* DESIGN MOUNTING HEIGHT 40 Ft.	45 Ft.	50 Ft.
110	≤ 15	75	75	75
130	8 & 10	75	75	75
130	12	75	75	70
130	15	75	75	40
150	8	75	75	10
150	10	75	50	**
150	12	75	45	**
150	15	75	30	**

* Above natural ground or MLW. ** See Load Case 2.

ESTIMATED LIGHT POLE PEDESTAL QUANTITIES PER LIGHT POLE PEDESTAL

ITEM	UNIT	QUANTITY
Concrete Per Pedestal Thickness	CY/In.	0.040
Reinforcing Steel	LB	195 (182)

(The Reinforcing Steel quantity shown in parenthesis is for a Pedestal attached to Pedestrian/Bicycle Railing – Index No. 820 with Bridge Deck or Approach Slab thinner than 1'-1½". Add 59 Lbs. for Bars 4J1 & 4J2 when Pedestal Thickness is greater than 1'-5")

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CONDUIT GENERAL NOTES:

1. Furnish and install approved Conduits and Fittings in accordance with the Specifications, this Standard, the National Electric Code (NEC) and as directed by the Engineer.

2. Furnish and install Schedule 80 PVC Conduits in accordance with Specification Section 630 and this Index. Connect Conduit and Fittings using solvent cement in accordance with the manufacturer's recommendations.

3. Furnish and install Embedded Junction Boxes (EJB) with weatherproof covers sized in accordance with NEC requirements and the maximum size limits shown. Install EJB adjacent to the Begin and End of Bridges, Begin and End of Retaining Walls, and at other required locations. Omit EJB at Begin or End of Retaining Walls adjacent to Bridges unless a precast Traffic Railing with junction slab is used. Position EJB as shown.

4. Furnish and install Expansion Fittings at locations shown in the Plans. Certify that Expansion Fittings used at a given location are rated to accommodate the anticipated movement at that location: along Bridge decks – see Structures Plans, Expansion Joint Data Table; along Retaining Walls and other unspecified locations – 2" minimum.

5. Furnish and install Expansion/Deflection Fittings at locations shown in the Plans. Certify that Expansion/Deflection Fittings used at a given location are rated to accommodate a minimum rotation of 30 degrees and the anticipated movement at that location: along Bridge decks– see Structures Plans, Expansion Joint Data Table; along Retaining Walls and other unspecified locations – 0.7" minimum.

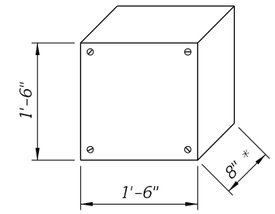
6. For all Conduits designated for future use, install either a #12 AWG Pull Wire or a Polypropylene cord between every EJB and install a #12 AWG Pull Wire from the first and last EJB in Traffic Railing or Parapet to the capped end of the Conduit.

7. For Conduit not designated for future use, see Plans for details. For Conduit designated for future use, stub out and cap the Conduit and drive a 3'–0"± long ¾" (min.) diameter Steel Pipe to be flush with the ground line adjacent to the end of the Conduit as shown on Sheets 2, 3 or 4. Provide the location of the stub out with Steel Pipe to the Engineer for inclusion on the As–Built Plans.

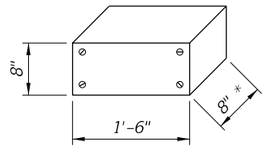
8. Shift vertical Railing reinforcement symmetrically to provide 2" clearance to EJB. Space shifted vertical reinforcement at minimum 3" centers. Cut horizontal Railing reinforcement to provide 2" clearance to EJB and provide supplemental reinforcement as shown. To facilitate placement of Conduit, Expansion Fittings, and Expansion/Deflection Fittings, shift reinforcing a maximum of 1" but do not cut railing reinforcing to facilitate Conduit or Fittings. Do not bundle Conduits, or Conduit and horizontal reinforcement.

9. Unless otherwise shown in the plans, include the cost of furnishing and installing Conduit, Pull Cords and Wires, EJB, Expansion and Expansion/Deflection Fittings and all associated hardware required to complete the installation in the cost of the Traffic Railing or Pedestrian Railing (Parapet) that the Conduit is installed in.

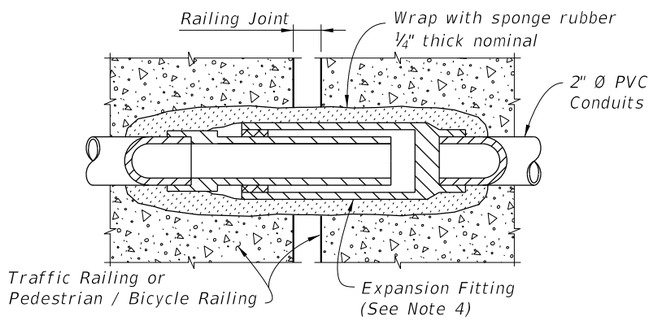
* Reduce to 6" maximum when installed in Pedestrian/ Bicycle Railings.



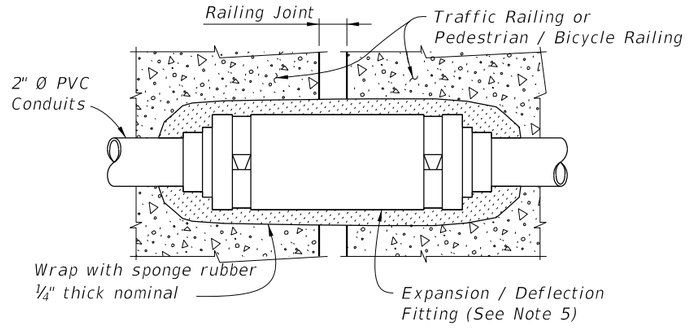
EJB "A"
Double Conduit
(Maximum Dimensions)



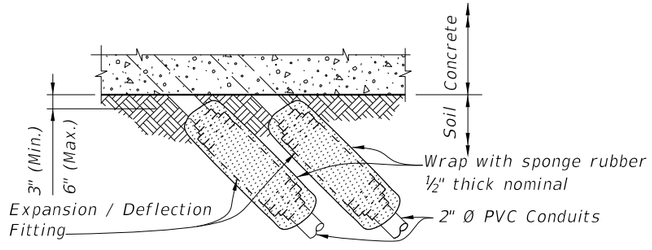
EJB "B"
Single Conduit
(Maximum Dimensions)



DETAIL "A"
EXPANSION FITTING DETAIL



DETAIL "B" EXPANSION / DEFLECTION
FITTING DETAIL (CONCRETE / CONCRETE)



DETAIL "C" EXPANSION / DEFLECTION
FITTING DETAIL (CONCRETE / SOIL)

GENERAL

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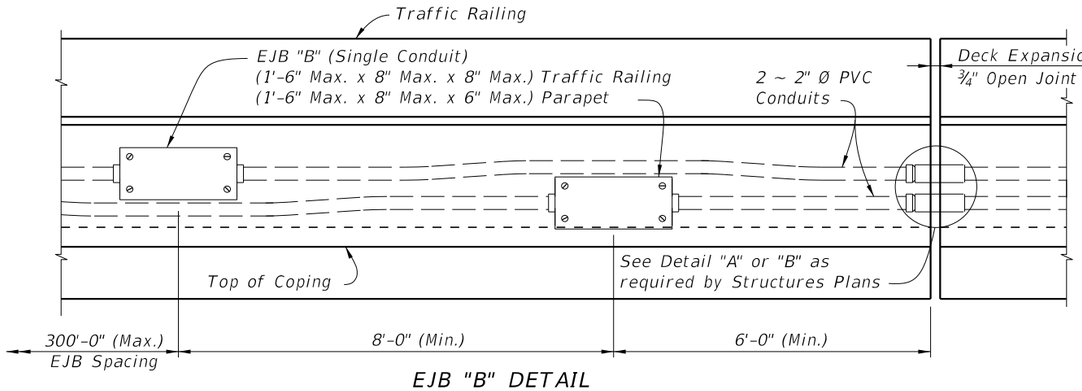
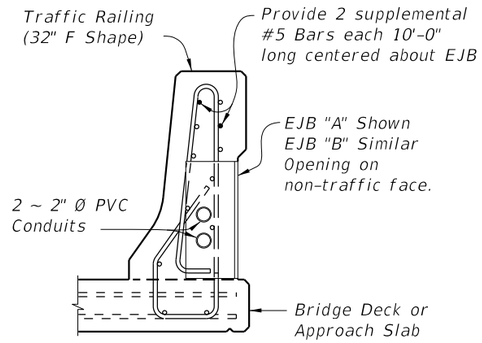
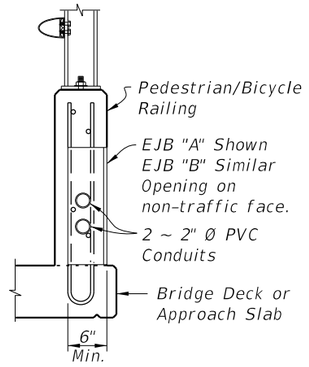


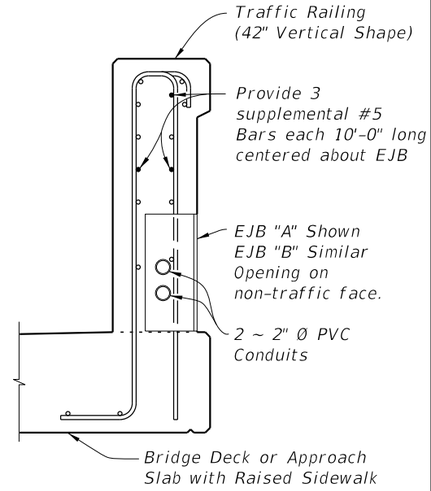
EJB "B" DETAIL



SECTION THRU
TRAFFIC RAILING AT EJB
(32" F SHAPE SHOWN,
42" F SHAPE SIMILAR)

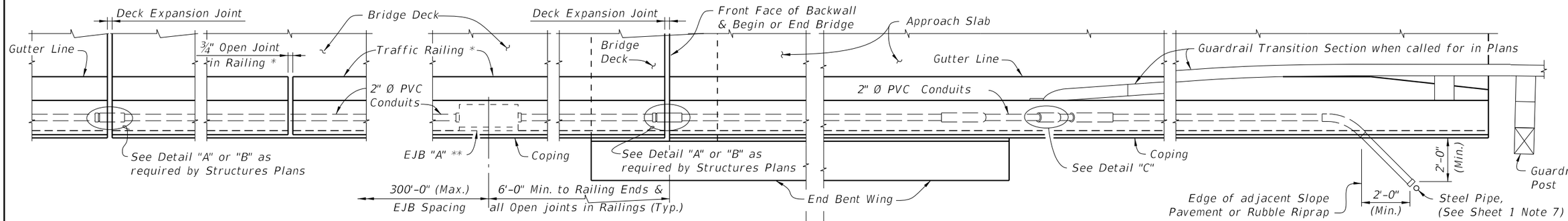


SECTION THRU PEDESTRIAN /
BICYCLE RAILING AT EJB



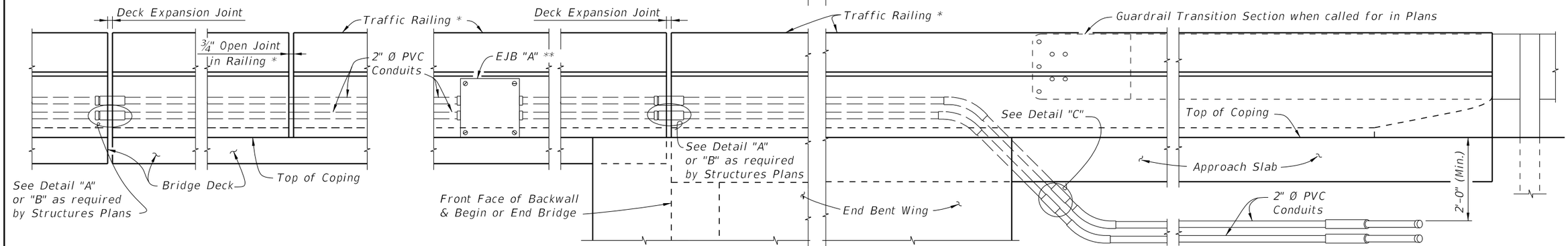
SECTION THRU
TRAFFIC RAILING AT EJB
(42" VERTICAL SHAPE SHOWN,
32" VERTICAL SHAPE SIMILAR)

* 32" F-Shape Traffic Railing shown, other Traffic Railings and Pedestrian/Bicycle Railings similar.
** EJB "A" shown, EJB "B" similar. See EJB "B" Detail.



PARTIAL PLAN VIEW ALONG BRIDGE

PARTIAL PLAN VIEW ALONG APPROACH SLAB WITHOUT CONTINUING TRAFFIC RAILING



PARTIAL ELEVATION VIEW ALONG BRIDGE

PARTIAL ELEVATION VIEW ALONG APPROACH SLAB WITHOUT CONTINUING TRAFFIC RAILING

Bridge and Approach Slab with Edge Railing

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LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2017-18 DESIGN STANDARDS	CONDUIT DETAILS	INDEX NO.	SHEET NO.
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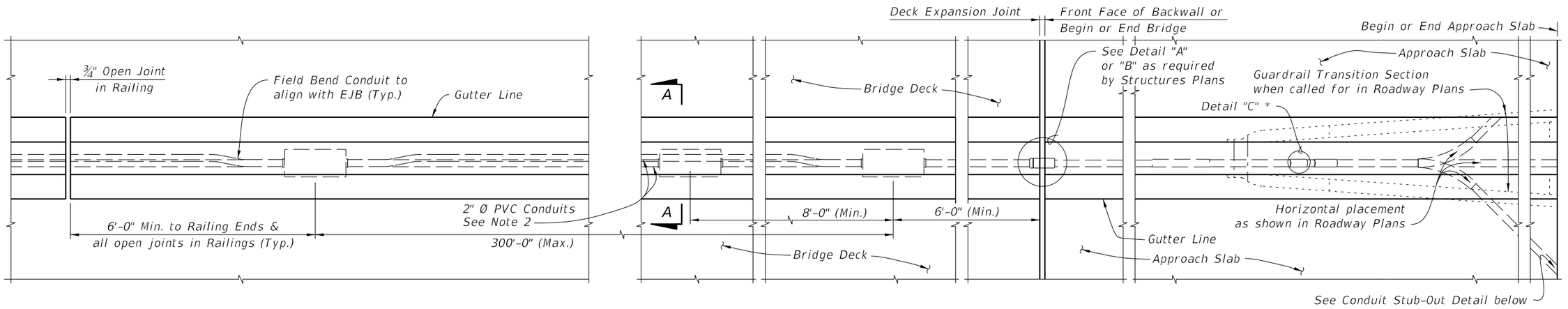
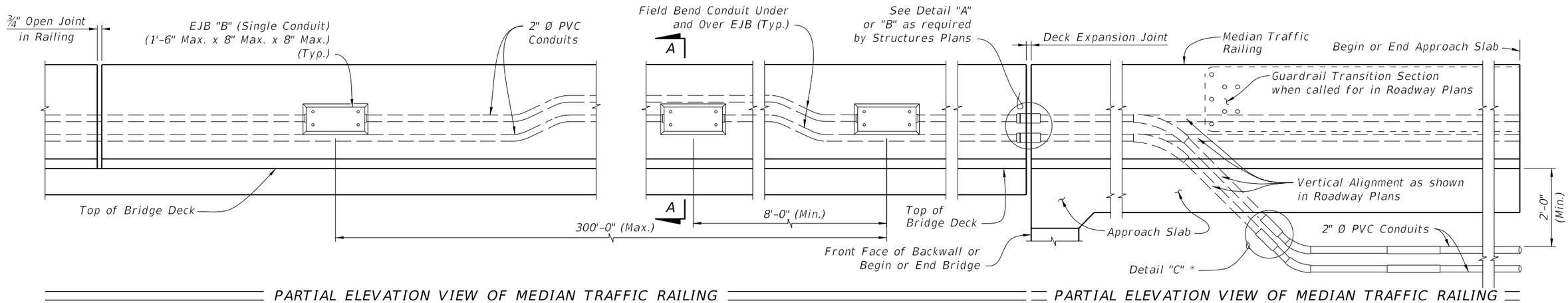


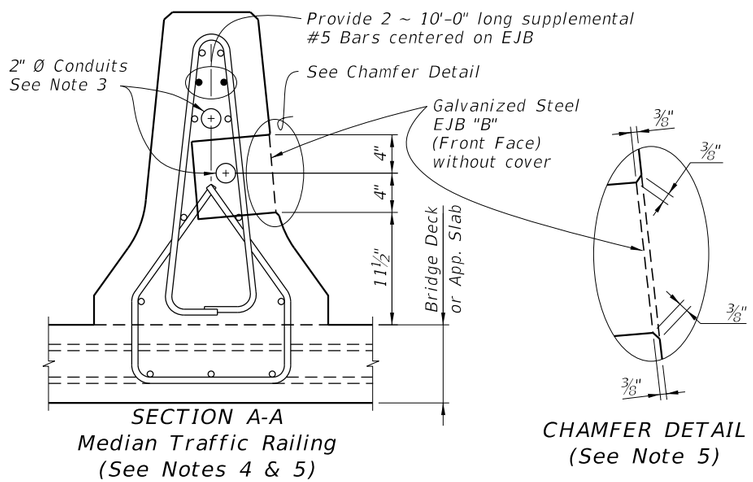
PARTIAL PLAN VIEW OF MEDIAN TRAFFIC RAILING ALONG BRIDGE

PARTIAL PLAN VIEW OF MEDIAN TRAFFIC RAILING ALONG APPROACH SLAB



PARTIAL ELEVATION VIEW OF MEDIAN TRAFFIC RAILING ALONG BRIDGE

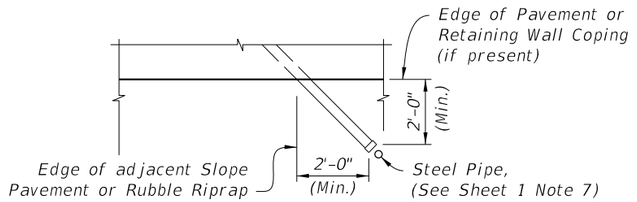
PARTIAL ELEVATION VIEW OF MEDIAN TRAFFIC RAILING ALONG APPROACH SLAB



SECTION A-A
Median Traffic Railing
(See Notes 4 & 5)

CHAMFER DETAIL
(See Note 5)

* For non-continuing Traffic Railing only.



CONDUIT STUB-OUT DETAIL

NOTES:

1. Work this sheet with Index No. 421.
2. Adjust Conduit horizontally and vertically as necessary to align with EJB.
3. When installed in traffic face of a railing, use only Galvanized Steel EJB "B" with a minimum ⅜" thick galvanized steel cover.
4. Position EJB such that, with gasket and cover plate secured and in place, plate is flush with the railing face. Flush is +1/8" to -¼" measured with a horizontal straightedge.

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Bridge and Approach Slab with Median Traffic Railing

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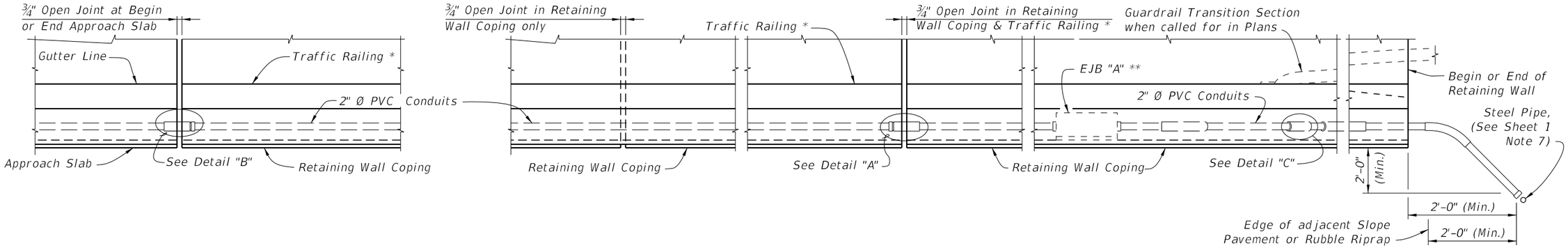
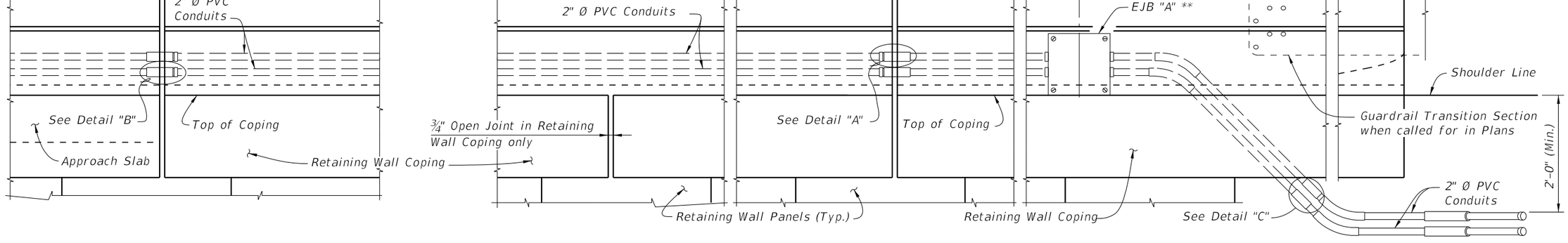


PARTIAL PLAN VIEW ALONG APPROACH SLAB WITH CONTINUING TRAFFIC RAILING

PARTIAL PLAN VIEW ALONG RETAINING WALL



PARTIAL ELEVATION VIEW ALONG APPROACH SLAB WITH CONTINUING TRAFFIC RAILING
(Retaining Wall Mounted Traffic Railing shown, Roadway Concrete Barrier similar)

PARTIAL ELEVATION VIEW ALONG RETAINING WALL

* 32" F Shape Traffic Railing shown, other Traffic Railings and Pedestrian / Bicycle Railing similar. (See Sheet 2)
** EJB "A" shown EJB "B" similar. See EJB "B" Detail on Sheet 2.

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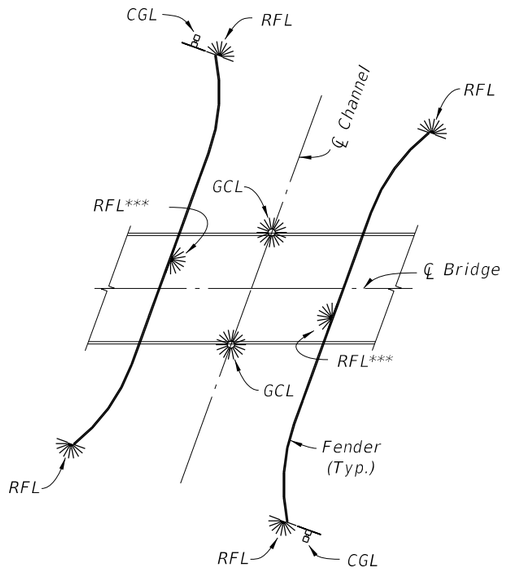
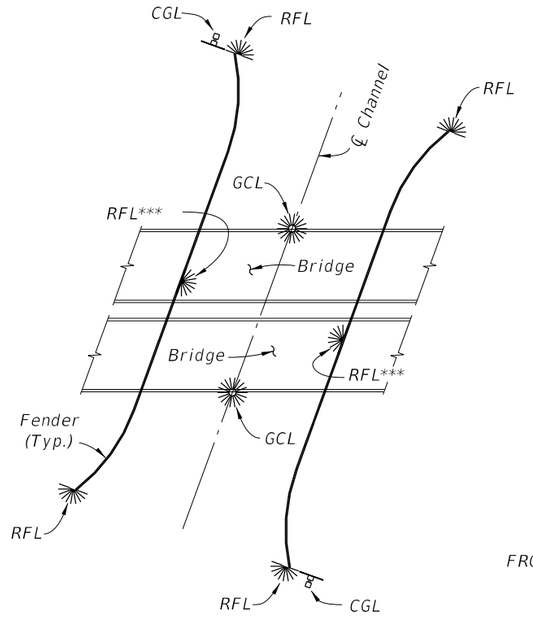
Approach Slab and Retaining Wall with Railing

LAST REVISION	REVISION	DESCRIPTION:	FDOT		INDEX NO.	SHEET NO.
01/01/16			FY 2017-18 DESIGN STANDARDS	CONDUIT DETAILS	21210	4 of 4



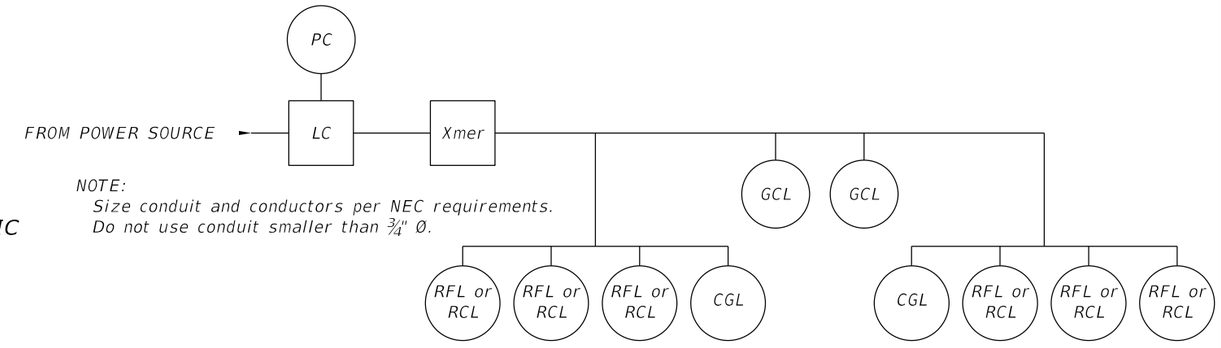
NAVIGATION LIGHT SYSTEM SCHEMATIC
FOR SINGLE BRIDGE WITH FENDERS



NAVIGATION LIGHT SYSTEM SCHEMATIC
FOR DUAL BRIDGES WITH FENDERS

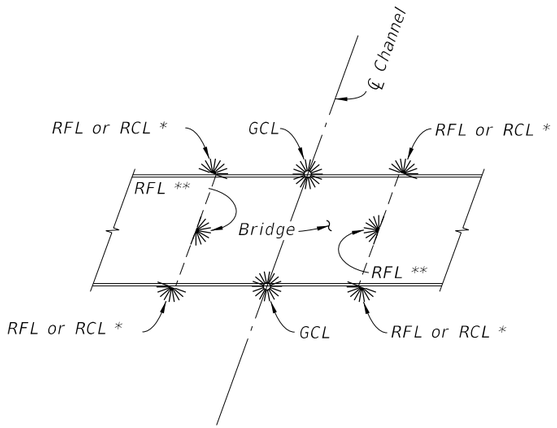
NAVIGATION LIGHT NOTES:

1. *Provide Navigation Light System in compliance with Specifications Section 510.*

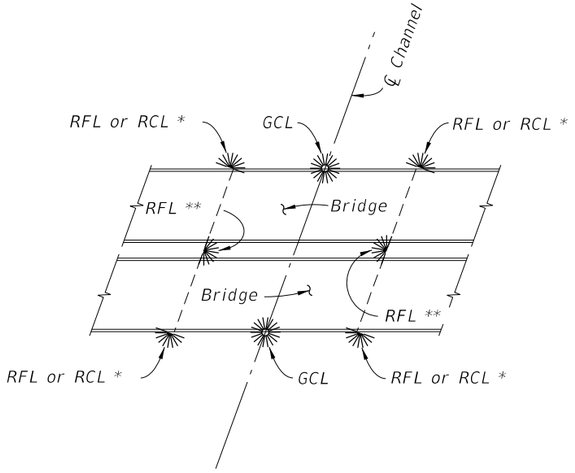


NOTE:
Size conduit and conductors per NEC requirements.
Do not use conduit smaller than ¾" Ø.

TYPICAL ELECTRICAL SCHEMATIC DIAGRAM



NAVIGATION LIGHT SYSTEM SCHEMATIC
FOR SINGLE BRIDGE WITHOUT FENDERS



NAVIGATION LIGHT SYSTEM SCHEMATIC
FOR DUAL BRIDGES WITHOUT FENDERS

POWER CONDUCTORS			
DISTANCE (feet)	VOLTS	CONDUCTOR	TRANSFORMER
0 – 75	120	#12 AWG	N/A
75 – 500	120 or 240	#10 AWG	N/A
500–1000	240	#10 AWG	N/A
1000–2000	480	#10 AWG	2 KVA
2000–5000	480	#8 AWG	2 KVA
5000–10000	480	#6 AWG	2 KVA
over 10000	480	#4 AWG	2 KVA

LEGEND

SYMBOL	DESCRIPTION
LC	Lighting Contactor
PC	Photocell Control
Xmer	Transformer (If Required)
RFL or RCL	Red Pier/Fender Light (180° visibility)
	Red Channel Margin Light (180° visibility)
GCL	Green Center Channel Light (360° visibility)
CGL	Clearance Gauge Light
CM	Channel Margin or Pier inner surface whichever defines Channel Edge.

* Use RFL when Pier is at Channel Edge and see CFR, Title 33, part 118 for Mounting Height restrictions. Use RCL otherwise.
** Mounted only on the Pier that defines CM, otherwise does not apply.
*** RFL to be located at mid length of straight portion of fender.

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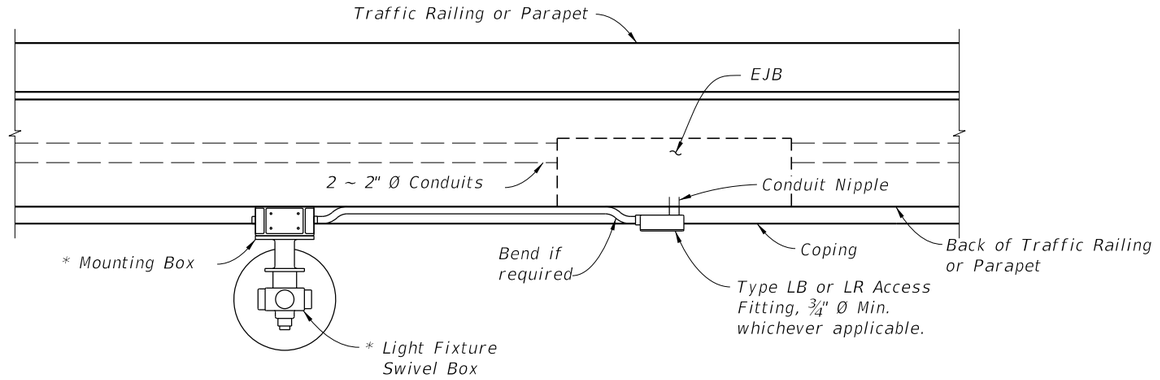
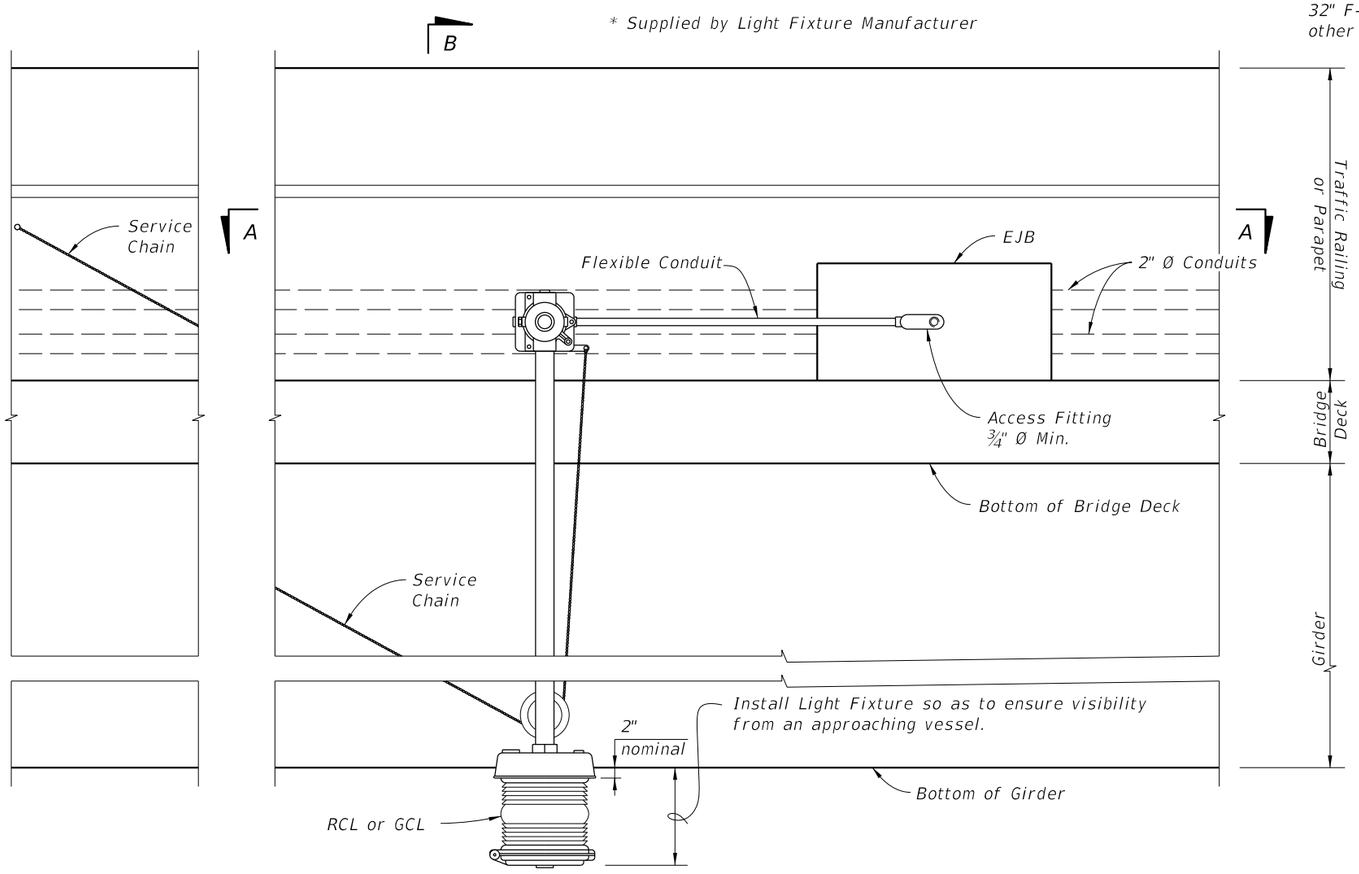
NAVIGATION LIGHT SYSTEM DETAILS (FIXED BRIDGES)

CROSS REFERENCES:
1. For Navigation Light System notes and legend, see Sheet 1.
2. See Utility Conduit Detail sheets for Embedded Junction Box (EJB) dimensions & locations.

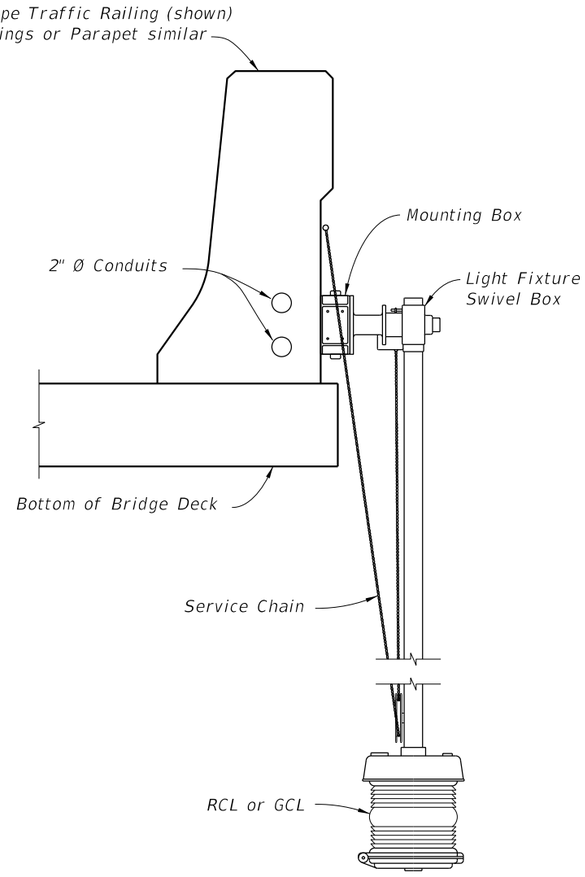


GCL OR RCL MOUNTING DETAILS (SCHEMATIC)
VIEW A-A
(Traffic Railing - 32" F Shape shown, other railings similar)

* Supplied by Light Fixture Manufacturer



GCL OR RCL MOUNTING DETAILS (SCHEMATIC)
ELEVATION VIEW
(Traffic Railing (32" F Shape) shown, other railings similar)



SECTION B-B
TYPICAL POSITION OF RCL OR GCL RELATIVE TO SUPERSTRUCTURES

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LAST REVISION	REVISION	DESCRIPTION:	FDOT		INDEX NO.	SHEET NO.
07/01/13			FY 2017-18 DESIGN STANDARDS	NAVIGATION LIGHT SYSTEM DETAILS (FIXED BRIDGES)	21220	2 of 2

BOX GIRDER MAINTENANCE LIGHTING NOTES:

1. Submit shop drawings to the Engineer detailing the layout of the maintenance lighting system for the entire structure. The shop drawings must include, but not be limited to, the following items:
   a. Conduit layout and installation details through diaphragms, around post-tensioning (PT) ducts, lateral bracing and cross frames as necessary.
   b. Conduit access through box girder end diaphragms with minimum 1" clearance in all directions.
   c. Conduit expansion fitting details.
   d. Fastener details for the interior electrical system.
   e. Single line diagram showing mini power centers, switches, contactors, timers, etc.
   f. Mini power center details including circuit breaker details.
   g. Mini power center mounting details if required.
   h. Feeder schedule.
2. Ensure installation meets all requirements of the latest edition of the National Electrical Code (NEC) and local ordinances. Install grounding in accordance with NEC Article 250. Maintain separation between 480V and 120V Conductors / Conduits throughout.
3. Furnish all labor, equipment, materials, and incidentals required for a complete and functional installation.
4. Use only new, unused and Underwriters Laboratories (UL) listed equipment and materials for outdoor use.
5. Furnish and install polyvinyl chloride (PVC) conduit in conformance with UL Section 651, NEC Section 347 and NEMA TC-2, UV-resistant and schedule 80. Bend conduits as necessary to connect to loads.
6. Provide PVC sleeve 2" larger in diameter than conduit to accommodate construction tolerance.
7. Install a UL labeled expansion fitting for specified PVC conduit at all structure expansion joints. Provide certification that the expansion fitting meets the following minimum requirements: Compatibility with the connected conduits, waterproof, UV protected and allows longitudinal movement equal to that of the Expansion Joint.
8. Use only Alloy 316 stainless steel supporting hardware. Provide minimum $\frac{3}{16}$" Ø fasteners. For concrete or SIP form mounting, provide anchor bolts (expansion, drop-in or adhesive) suitable for dynamic loading (due to vibration caused by traffic). Install fasteners to avoid conflicts with reinforcing steel and PT ducts. For structural steel mounting, do not attach fasteners to main members, i.e. webs and flanges.
9. Furnish power distribution at 480V AC, 1 phase, with step down transformers at regular intervals. Furnish 7.5 KVA mini power center with eight 20A breakers as the step down transformer, feeding a maximum of 20 lamps and 20 receptacles. Each mini power center will provide power to no more than 1000' of bridge, preferably 500' on each side of the mini power center. 480V top feed, 120V bottom feed to maintain separation.
10. Furnish and install lighting contactors to switch the 480V AC feeding the mini power centers.
11. Furnish and install copper conductors, Type XHHW. Do not use any conductor larger than #4 AWG.
12. Provide enough slack in all interior cable terminations to allow for minor shifting of the structure.
13. Furnish and install National Electric Manufacturers Association (NEMA) Type 4X (non-metallic) surface mounted boxes sized in conformance with the NEC.
14. Furnish and install 120V duplex receptacles (GFI, NEMA Type 5-20R), in non-metallic outlet boxes at 50' maximum on centers. Provide each receptacle with a gasketed weather-protective outdoor plate. Maximum wire size to connect to receptacles is #12 AWG.
15. Furnish and install surface mounted, fully enclosed, incandescent light fixtures with gasketed clear globes and wire guards at 50' maximum on centers. Provide 100 watt, 130 volt, vibration resistant and brass base incandescent lamps.
16. Provide six hour reset timers for each circuit to turn off the lighting system automatically.

CROSS REFERENCES:
1. For Maintenance Light Details, see Sheet 2.
2. For actual bridge section, see Structures Plans.

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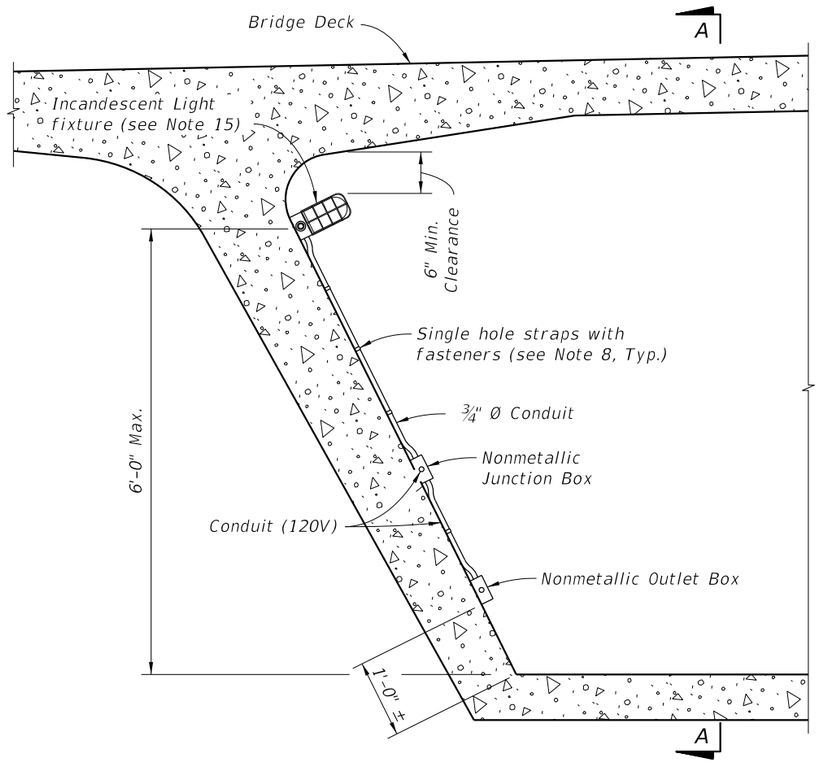
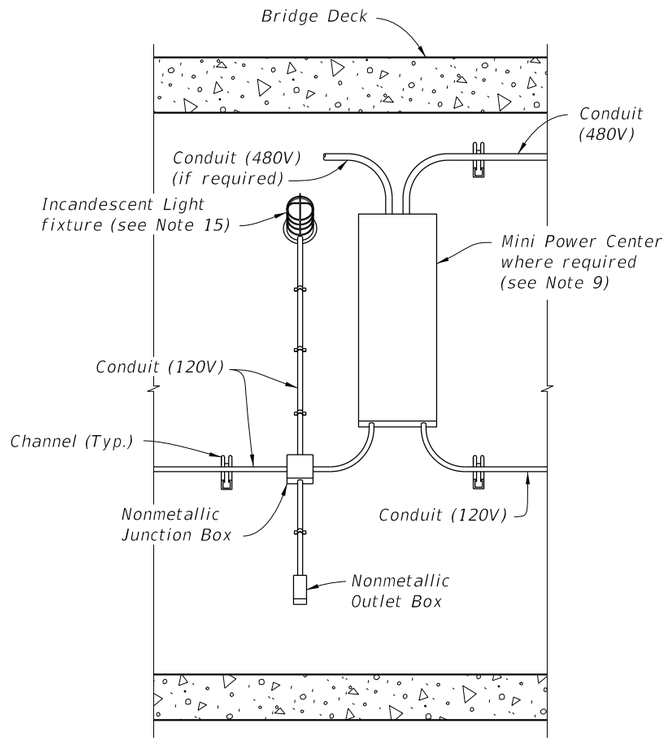
07/01/14			FDOT	FY 2017-18 DESIGN STANDARDS	21240	1 of 2

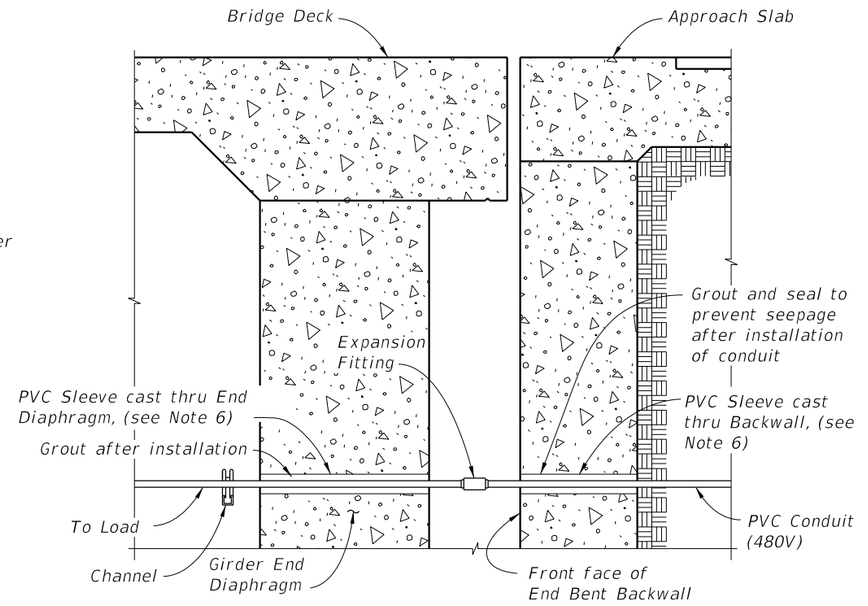
MAINTENANCE LIGHTING FOR BOX GIRDERS



LIGHTING DETAILS FOR CONCRETE BOX GIRDER BRIDGE

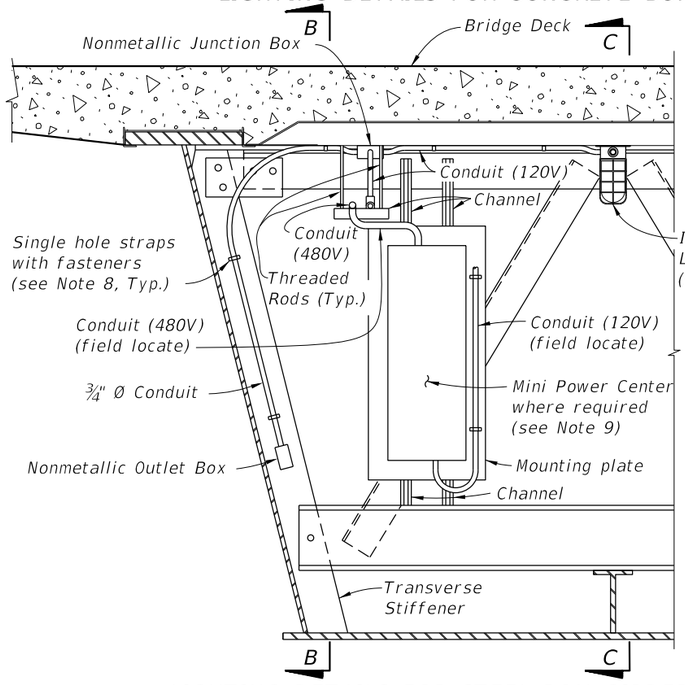


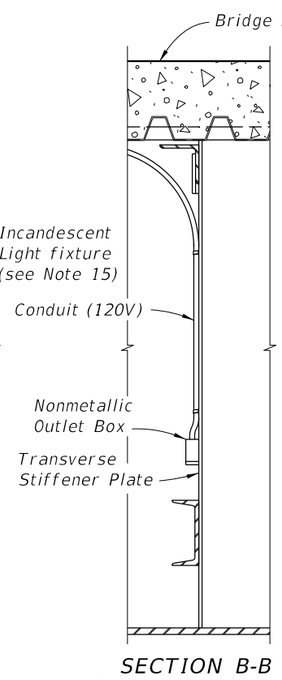
SECTION A-A



CONCRETE BOX GIRDER BRIDGE SECTION THRU END BENTS

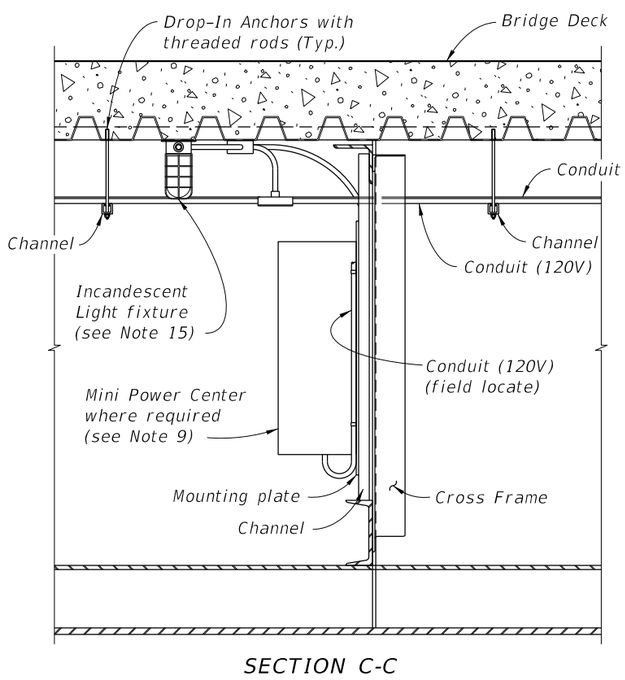
CROSS REFERENCE:
1. For Box Girder Maintenance Lighting Notes see Sheet 1.



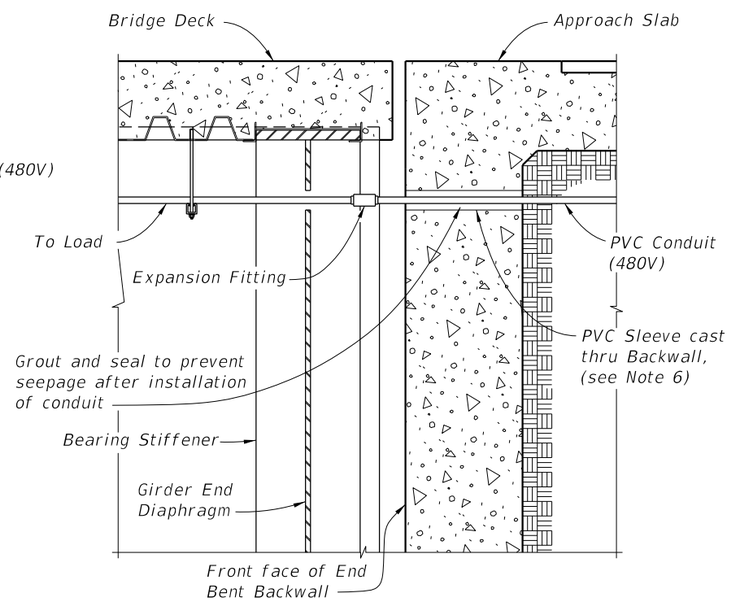


SECTION B-B

LIGHTING DETAILS FOR STEEL BOX GIRDER BRIDGE
(Cross Frame section shown, other Transverse Stiffener sections similar)



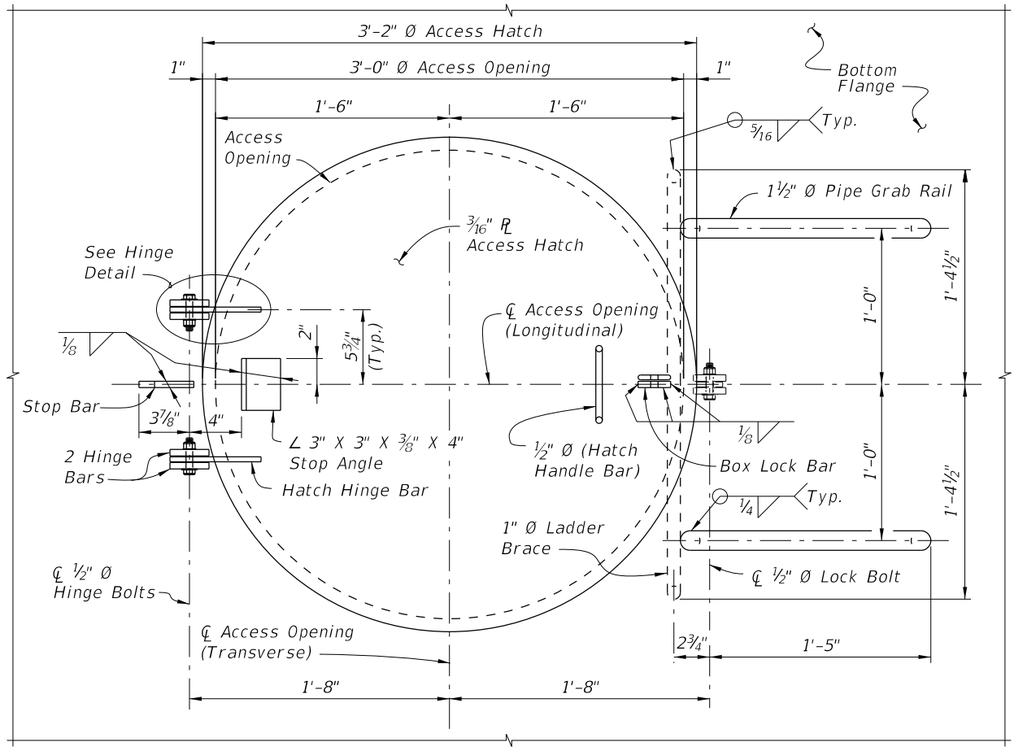
SECTION C-C



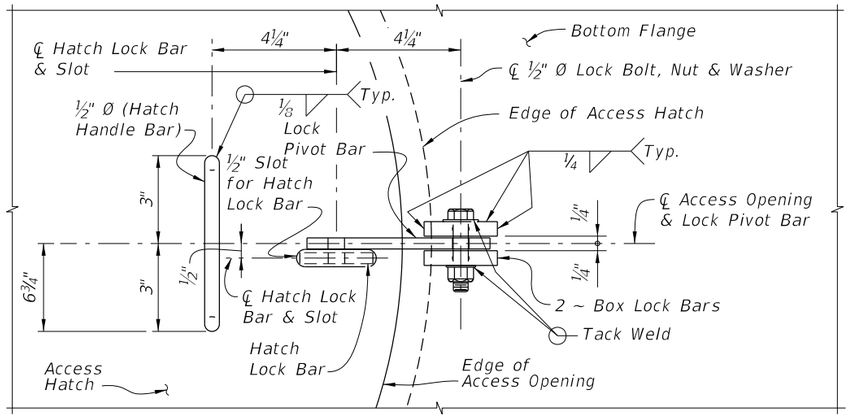
STEEL BOX GIRDER BRIDGE SECTION THRU END BENTS

10/26/2016 9:07:23 AM

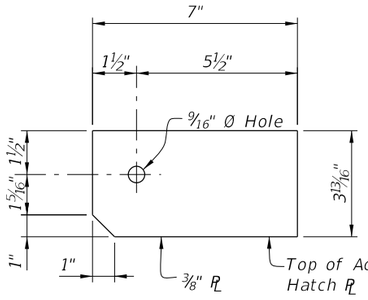
LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2017-18 DESIGN STANDARDS	MAINTENANCE LIGHTING FOR BOX GIRDERS	INDEX NO.	SHEET NO.
07/01/05					21240	2 of 2



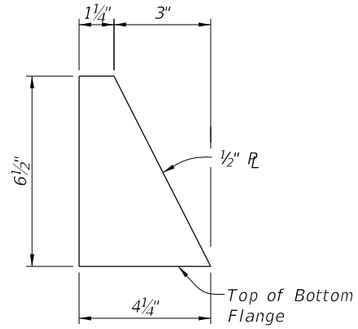
PLAN VIEW OF ACCESS HATCH ASSEMBLY



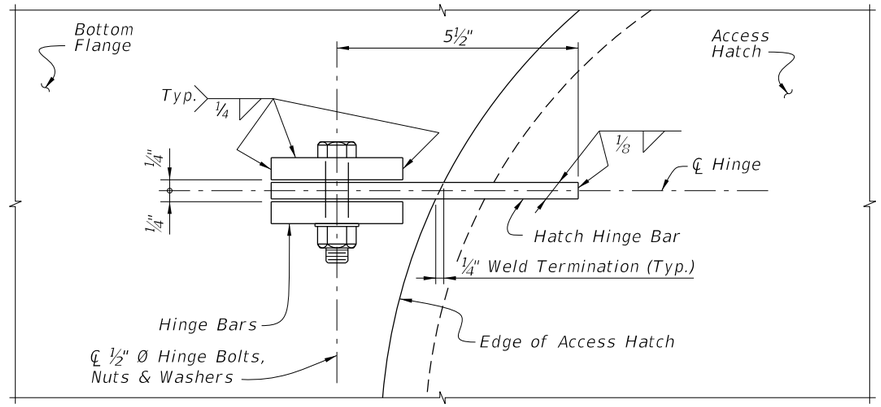
VIEW A-A



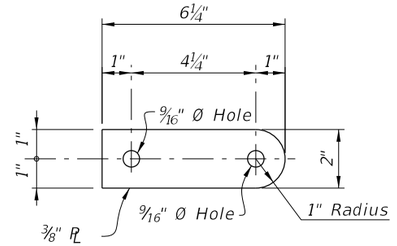
HATCH HINGE BAR DETAIL



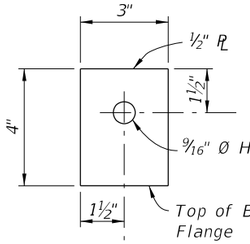
STOP BAR DETAIL



HINGE DETAIL



LOCK PIVOT BAR DETAIL



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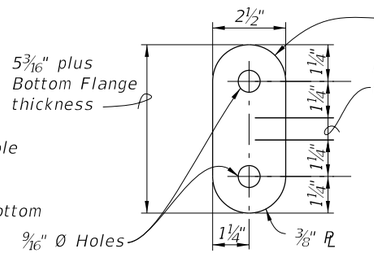
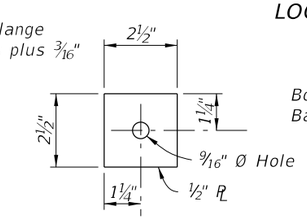
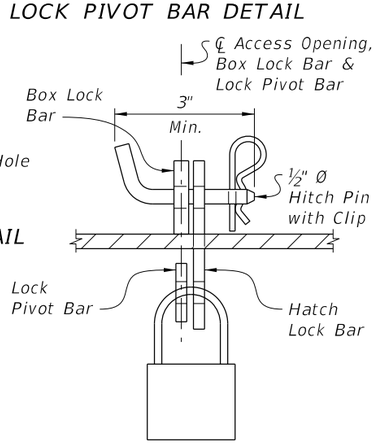


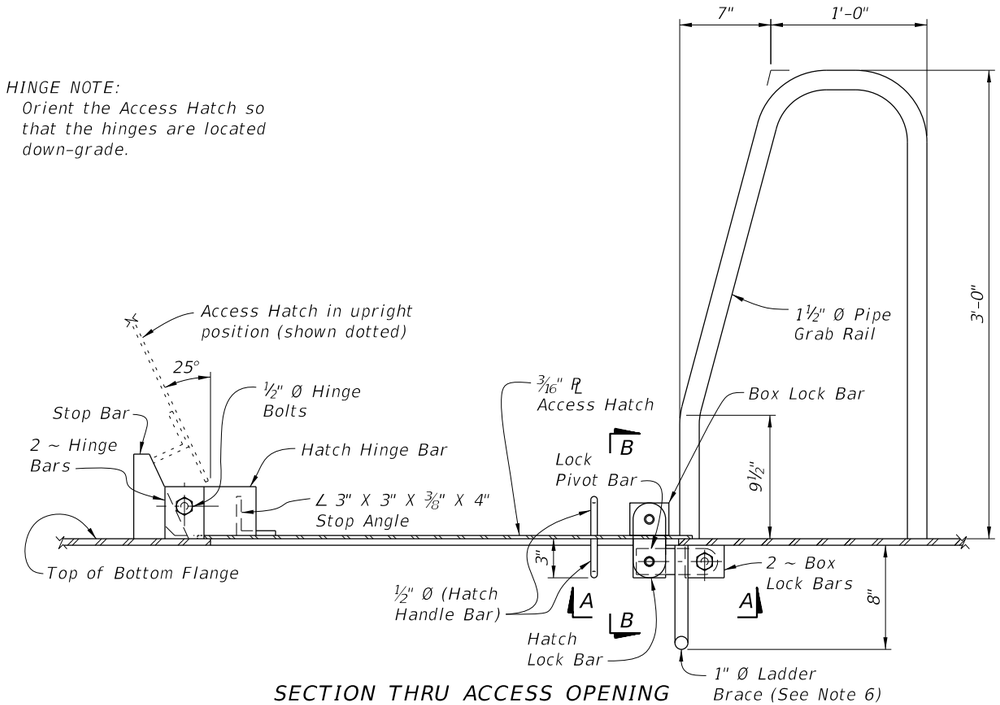
HATCH LOCK BAR DETAIL



BOX LOCK BAR DETAIL



VIEW B-B
HATCH LOCK
ASSEMBLY DETAIL



SECTION THRU ACCESS OPENING

NOTES:

1. All Structural Steel material in Access Hatch Assemblies shall conform to ASTM A709 Grade 36.
2. 1½" Ø Pipe Grab Rail shall be in accordance with ASTM A53 Grade B for standard weight pipe (Schedule 40).
3. ½" Ø Hatch Handle Bar, Hitch Pin and 1" Ø Ladder Brace shall be in accordance with ASTM A36.
4. All bolts shall conform to ASTM A307 or A449. All nuts shall conform to ASTM A563 and all washers shall conform to ASTM F-436.
5. All exposed edges of plates and openings shall be ground smooth.
6. Place Ladder Brace near the End Bents exclusively and only when the height is reasonable for access by a Ladder.
7. See Framing Plan sheets for locations of Access Hatch Openings.
8. Coat structural steel in accordance with Specification Section 560.
9. Include the cost of the Access Hatch Assembly and incidental items in the cost of the Steel Box Girders. No separate payment will be made for coating structural steel.

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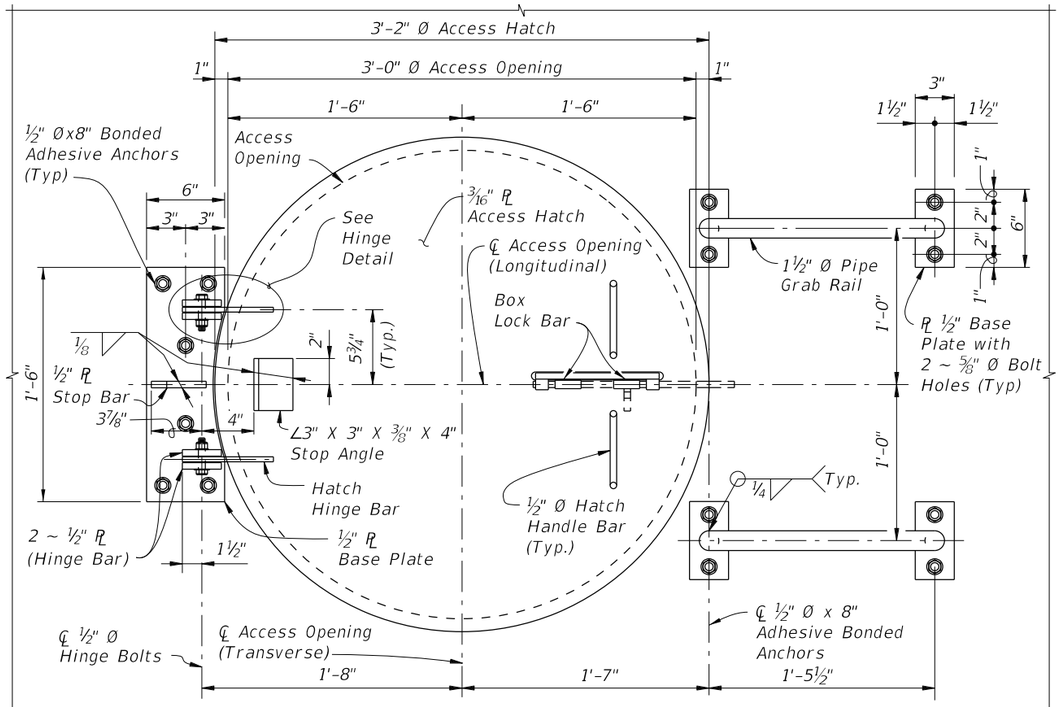
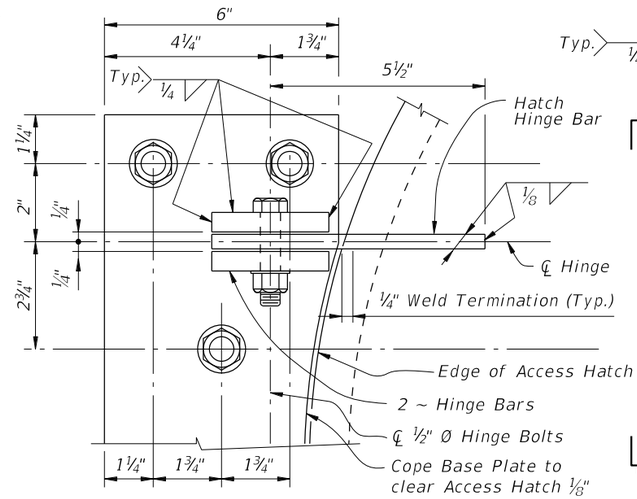
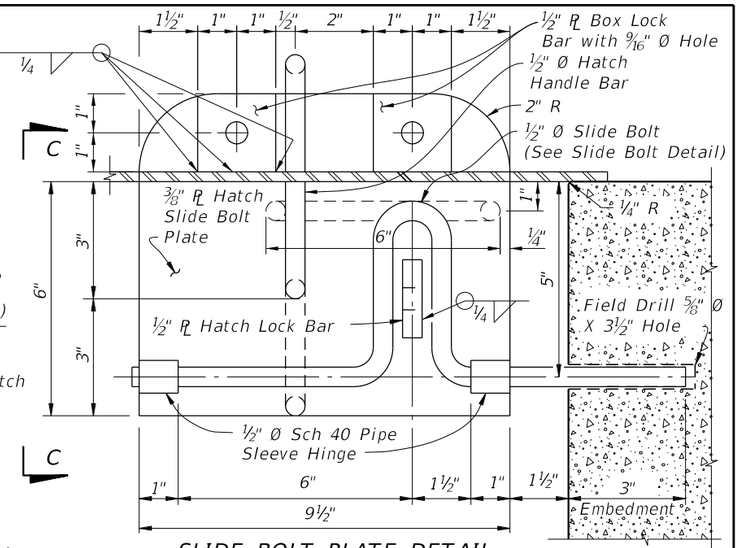
LAST REVISION	REVISION	DESCRIPTION:			
07/01/15			FY 2017-18 DESIGN STANDARDS	ACCESS HATCH ASSEMBLY FOR STEEL BOX SECTIONS	INDEX NO. 21250 / SHEET NO. 1 of 1



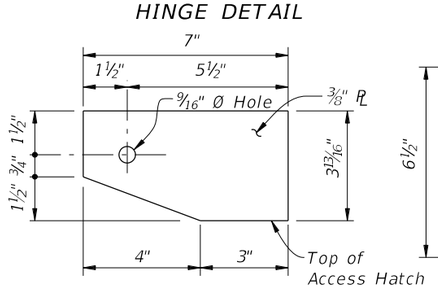
PLAN VIEW OF ACCESS HATCH ASSEMBLY



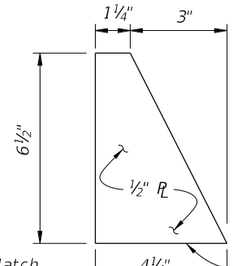
HINGE DETAIL



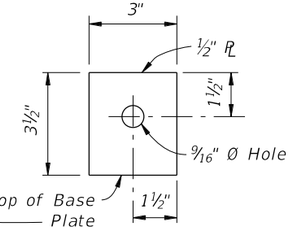
SLIDE BOLT PLATE DETAIL



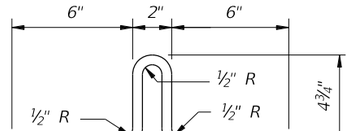
HATCH HINGE BAR DETAIL



STOP BAR DETAIL

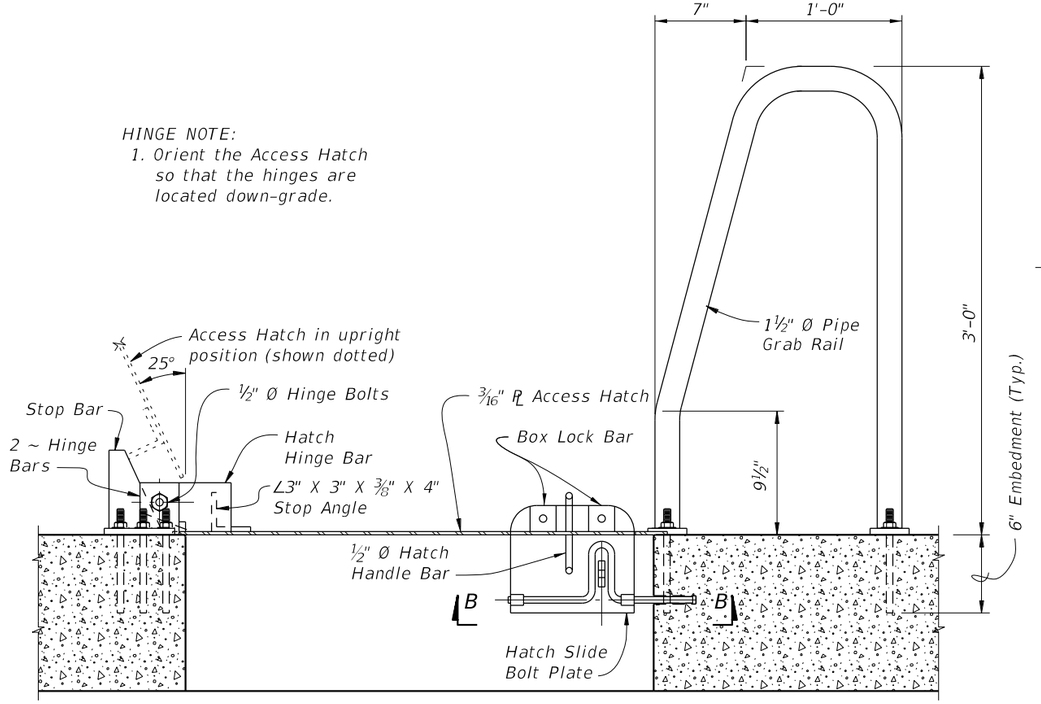


HINGE BAR DETAIL

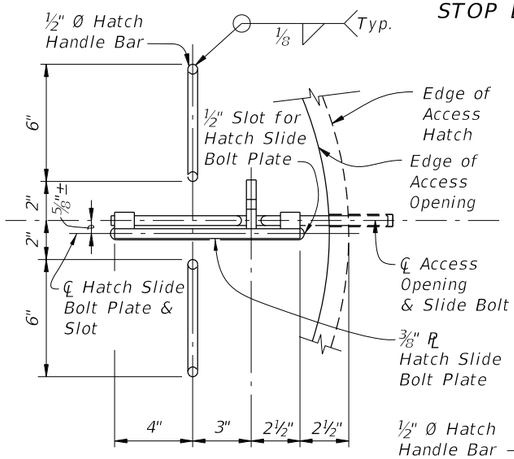


SLIDE BOLT DETAIL

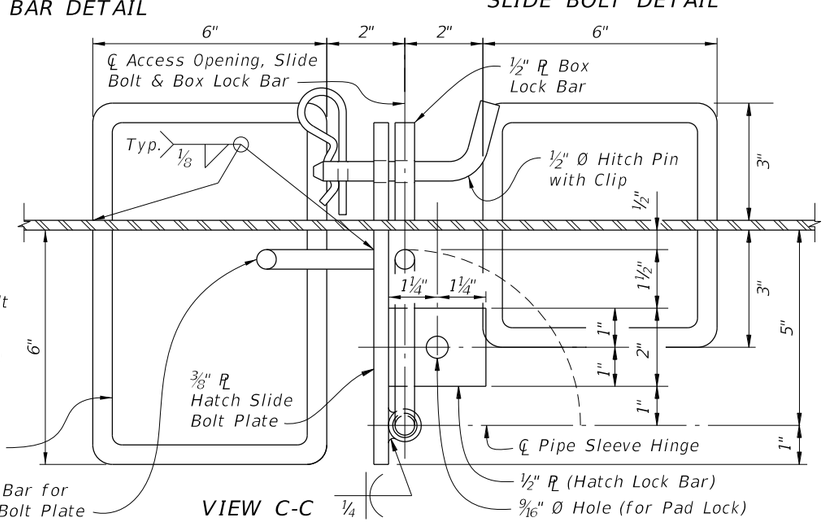
HINGE NOTE:
1. Orient the Access Hatch so that the hinges are located down-grade.



SECTION THRU ACCESS OPENING



VIEW B-B

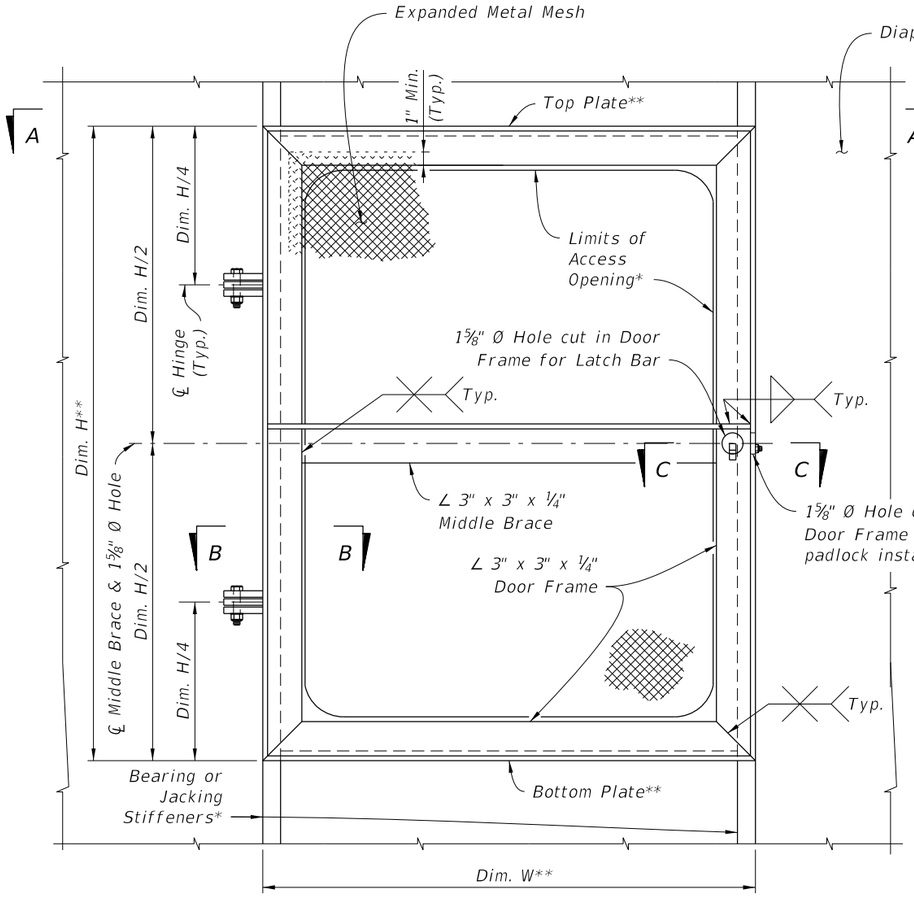


VIEW C-C

NOTES:
1. All Structural Steel material in Access Hatch Assemblies shall conform to ASTM A709 Grade 36.
2. 1½" Ø Pipe Grab Rail shall be in accordance with ASTM A53 Grade B for standard weight pipe (Schedule 40).
3. ½" Ø Hatch Handle Bar and Hitch Pin shall be in accordance with ASTM A36.
4. All bolts shall conform to ASTM A307 or A449. All nuts shall conform to ASTM A563 and all washers shall conform to ASTM F-436.
5. All exposed edges of plates and openings shall be ground smooth.
6. See Framing Plan sheets for locations of Access Hatch Openings.
7. Coat structural steel in accordance with Specification Section 560.
8. Include the cost of the Access Hatch Assembly and incidental items in the cost of the Concrete Box Section.

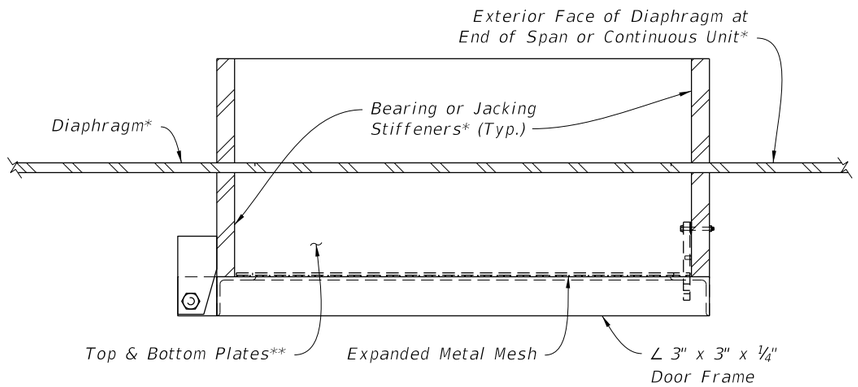
10/26/2016 9:07:59 AM

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/15			FY 2017-18 DESIGN STANDARDS	ACCESS HATCH ASSEMBLY FOR CONCRETE BOX SECTIONS	21251	1 of 1

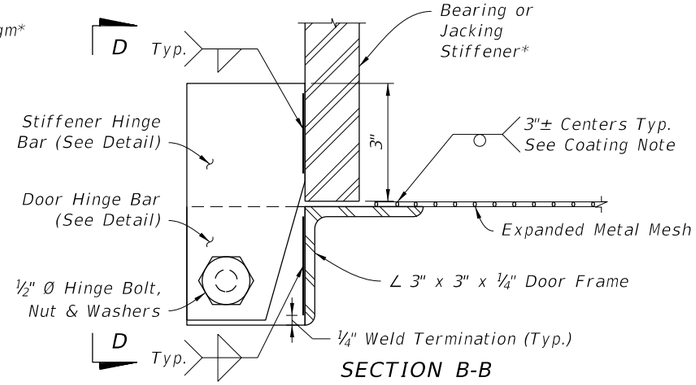


ELEVATION VIEW OF ACCESS DOOR ASSEMBLY

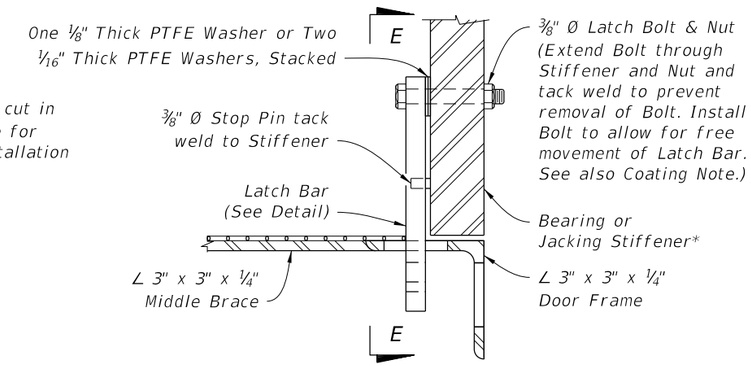
(At Access Opening in End Internal Diaphragm as seen from inside the Box Girder. Right Hand Door shown; Left Hand Door opposite hand)



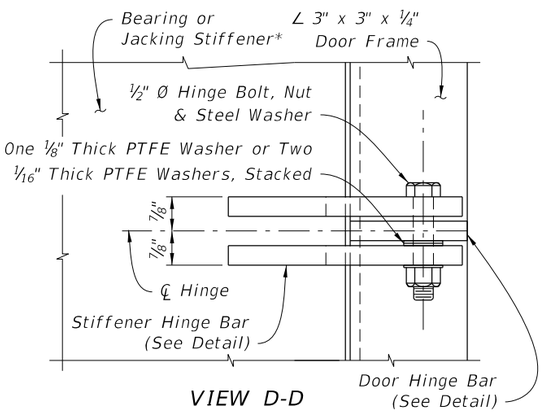
SECTION A-A



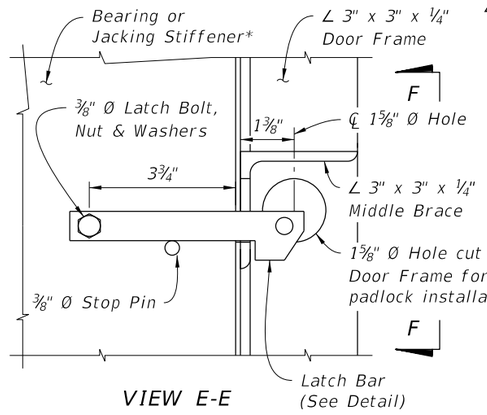
SECTION B-B



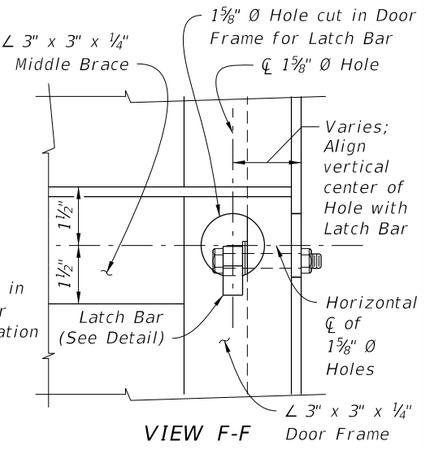
SECTION C-C



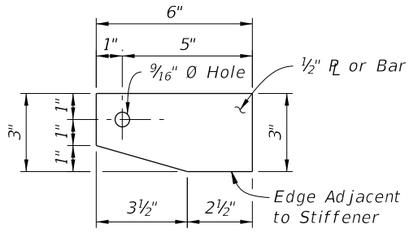
VIEW D-D



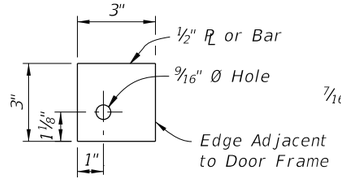
VIEW E-E



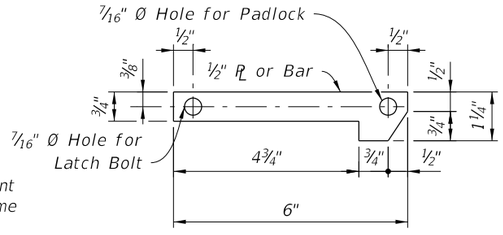
VIEW F-F



STIFFENER HINGE BAR DETAIL



DOOR HINGE BAR DETAIL



LATCH BAR DETAIL

* See Plans for dimensions and details.

** See Access Door Assembly for Steel Box Girders Data Table in the Plans for Dim. H & Dim. W.

ACCESS DOOR NOTES:

STRUCTURAL STEEL:

Fabricate Door Assemblies using structural steel in accordance with Specification 962, any grade. Grind all exposed edges and burs smooth. Non-destructive testing of welds is not required. See Plans for details of Diaphragm, Stiffeners and Top and Bottom Plates.

EXPANDED METAL MESH:

Expanded metal mesh shall be ½" No. 16 expanded carbon steel metal mesh in accordance with ASTM F 1267, Type I or II, Class 2, Grade A.

BOLTS, NUTS AND STEEL WASHERS:

Bolts shall be stainless steel hex head bolts meeting the requirements of ASTM F 593, Type 316. Nuts shall be ASTM F 594, Type 316. Steel washers shall be stainless steel compatible with the bolts and nuts.

PTFE WASHERS:

PTFE washers shall be ¾" or 1" O.D. (nominal), 1/16" or 1/8" thick, sized for use with ⅜" or ½" diameter bolts as shown.

COATING:

Coat Access Door Assemblies after complete fabrication, including the expanded metal mesh, using an Interior Box Girder Coating System in accordance with Specification 975. Weld expanded metal mesh to the door frame after the door frame has been abrasive blast cleaned and prior to coating. Install Bolts and PTFE Washers after coating. Touch-up tack weld on Latch Bolt after welding.

DOOR HINGE LOCATION:

Place door hinges on the transverse downward side of the access opening.

PADLOCKS:

Provide a suitable keyed commercial grade, weather resistant padlock with a 2" shackle for each Access Door Assembly located at Bridge Abutments. Key all padlocks for Access Door Assemblies and Access Hatches (if present) on an individual bridge alike.

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