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## ORIGINATION FORM

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### Proposed Revisions to a Standard Plans Index

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

**Contact Information:**

Date: July 21, 2022

Originator: Richard Stepp

Phone: (850) 414-4313

Email: richard.stepp@dot.state.fl.us

**Standard Plans:**

Index Number: 715-002

Sheet Number (s): 1-9 (All)

Index Title: Standard Aluminum Lighting

**Summary of the changes:**

Sheets 1-9: Updated all sheet numbers in details, notes, and borders to account for new Sheet 5.

Sheet 2: Added a spread footing example in elevation details; Changed elevation titles to explain shaft footing option and new spread footing option; Added callout and Index 522-001 reference for cold joint connection between spread footing and raised curb

Sheet 4: Changed sheet title to "Shaft Foundation Option with Light Pole & Base Details"; Changed table and elevation detail titles from "Foundation" to "Shaft Foundation". Within Tables, changed "Assembly Height" to "Mounting Height" for consistency with SPI and FDM.

Sheet 5: Added all-new sheet for "Spread Footing Foundation Option".

**Commentary / Background:**

A spread footing option was added at the request of the Districts. This footing is intended for use where project space constraints inhibit placement of the shaft foundation. This typically occurs in urban areas. The footing serves as a sidewalk surface and may be placed immediately behind a raised curb. The Structures Design Office checked the spread footing dimensions and anchor bolt design.

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

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

**Origination Package Includes:** (Submit package to Rick Jenkins)

- | Yes                                 | N/A                      |   |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Redline Mark-ups                                    |
| <input type="checkbox"/>            | <input type="checkbox"/> | Revised or Proposed Standard Plan Instruction (SPI) |
| <input type="checkbox"/>            | <input type="checkbox"/> | Other Support Documents                             |

**Implementation:**

- |                                     |                                  |
|-------------------------------------|----------------------------------|
| <input type="checkbox"/>            | Design Bulletin (Interim)        |
| <input type="checkbox"/>            | DCE Memo                         |
| <input type="checkbox"/>            | Program Mgmt. Bulletin           |
| <input checked="" type="checkbox"/> | FY-Standard Plans (Next Release) |

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Contact the Roadway Design Office for assistance in completing this form

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Email to: Rick Jenkins [rick.jenkins@dot.state.fl.us](mailto:rick.jenkins@dot.state.fl.us) and Darren Martin [darren.martin@dot.state.fl.us](mailto:darren.martin@dot.state.fl.us)

**GENERAL NOTES:**

1. Poles are designed to support the following:
  - A. Luminaire Effective Projected Area (EPA): 1.55 SF
  - B. Weight: 75 lb.
2. Shop Drawings: This Index is considered fully detailed, only submit shop drawings for minor modifications not included in the Plans.
3. Materials:
  - A. Pole, Pole Connection Extrusions and Arm Extrusions: ASTM B221, Alloy 6063-T6 or Alloy 6061-T6
  - B. Bars, Plates, Stiffeners and Backer Ring: ASTM B221, Alloy 6063-T6
  - C. Caps and Covers: ASTM B-26, Alloy 319-F
  - D. Steel Bearing Plate: ASTM A709 or ASTM A36 Grade 36
  - E. Aluminum Weld Material: ER 4043
  - F. Transformer and Frangible Base Materials: ASTM B26 or ASTM B108, Alloy 356-T6
  - G. Bolts, Nuts and Washers:
    - a. Shoe Base Bolts: ASTM F3125, Grade A325, Type 1
    - b. Nuts: ASTM A563 Grade DH Heavy-Hex
    - c. Washer: ASTM F436 Type 1
  - H. Anchor Bolts, Nuts, and Washers:
    - a. Anchor Bolts: ASTM F1554 Grade 55
    - b. Nuts: ASTM A563 Grade A Heavy-Hex
    - c. Plate Washer: ASTM A36
  - I. Stainless Steel Fasteners: ASTM F593 Alloy Group 2, Condition A, CW1 or SH1
  - J. Nut Covers: ASTM B26 (319-F)
  - K. Concrete: Class II
  - L. Reinforcing Steel: Specification 415
4. Fabrication:
  - A. Weld Arm and Pole (Alloy 6063) in the T4 temper using 4043 filler. Age the Arm and Pole artificially to the T6 temper after welding.
  - B. Transverse welds are only allowed at the base.
  - C. Roadway Light Pole Taper: Taper as required to provide a round top O.D. of 6" and a base O.D. of 8" for 20' and 25' mounting heights and 10" O.D. for poles with 30' to 50' mounting heights. Portions of the pole near the base shoe and at the arm connections may be held constant to simplify fabrication.
  - D. Median Barrier Mounted Light Pole Taper: Taper as required to provide a 6" O.D. round top with an 11" x 7" O.D. oblong base. Portions of the pole near the base and at the arm connections may be held constant at 11" x 7" oblong and 6" round respectively to simplify fabrication.
  - E. Provide 'J', 'S' or 'C' hook at top of pole for electrical wires.
  - F. Equip poles located on bridges, walls and concrete median barriers/Traffic Railings with a vibration damper.
  - G. Perform all welding in accordance with AWS D1.2.
  - H. Embedded Junction Box (EJB):
    - a. Weld all seams continuously and grind smooth.
    - b. Hot Dip Galvanize after Fabrication.
    - c. Provide a watertight cover with neoprene gasket and secure cover with galvanized screws.
  - I. For Median Barrier Mounted Aluminum Light Poles, the fabricator must demonstrate the ability to produce a crack free pole. The fabricator's Department-approved QC Plan must contain the following information prior to fabrication:
    - a. Tests demonstrating a pole with a 1/4" wall thickness achieves and ultimate moment capacity of 36 kip\*ft in the strong axis and 30 kip\*ft in the weak axis.
    - b. Tests demonstrating a pole with a 5#16" wall thickness achieves an ultimate moment capacity of 44 kip\*ft in the strong axis and 37 kip\*ft in the weak axis.
    - c. Test results showing the pole does not buckle at the shape transition area under the ultimate moment capacity loads.
    - d. Complete details and calculations for the reinforced 4"x 6" (Min.) handhole located 1'-6" above the base plate.
  - J. Identification Tag: (Submit details for approval.)
    - a. 2" x 4" (Max.) aluminum identification tag.
    - b. Locate on the inside of the transformer base and visible from the door opening.
    - c. Secure to transformer base with 1/8" diameter stainless steel rivets or screws.
    - d. Include the following information on the ID Tag:
      1. Financial Project ID
      2. Pole Height
      3. Manufacturer's Name

5. Coatings/Finish:
  - A. Pole and Arm Finish: 50 grit satin rubbed.
  - B. Galvanize Steel Bolts, Screws, Nuts and Washers: ASTM F2329
  - C. Hot Dip Galvanize EJB and other steel items including poles and plate washers: ASTM A123
6. Construction:
  - A. Foundation: Specification 455, except payment for the foundation is included in the cost of the pole.
  - B. Frangible Base, Base Shoe, and Clamp:
    - a. Certify that the Clamp, Frangible Transformer Base, and Base Shoe Design are capable of providing the required capacity.
    - b. Certify the Base conforms to the current FHWA required AASHTO Frangibility Requirements, tested under NCHRP Report 350 Guidelines (e.g. Akron Foundry TB1-17).
    - c. Do not erect pole without Luminaire attached.
7. Embedded Junction Box (EJB): Install EJBs per Note 4 and in accordance with Specification 635, as shown on the following Sheets.
8. Wind Speed by County:
 

120 MPH  
Alachua, Baker, Bradford, Calhoun, Clay, Columbia, Dixie, Duval, Gadsden, Gilchrist, Hamilton, Jackson, Jefferson, Lafayette, Leon, Liberty, Nassau, Madison, Putnam, Suwannee, Taylor, Union and Wakulla Counties.

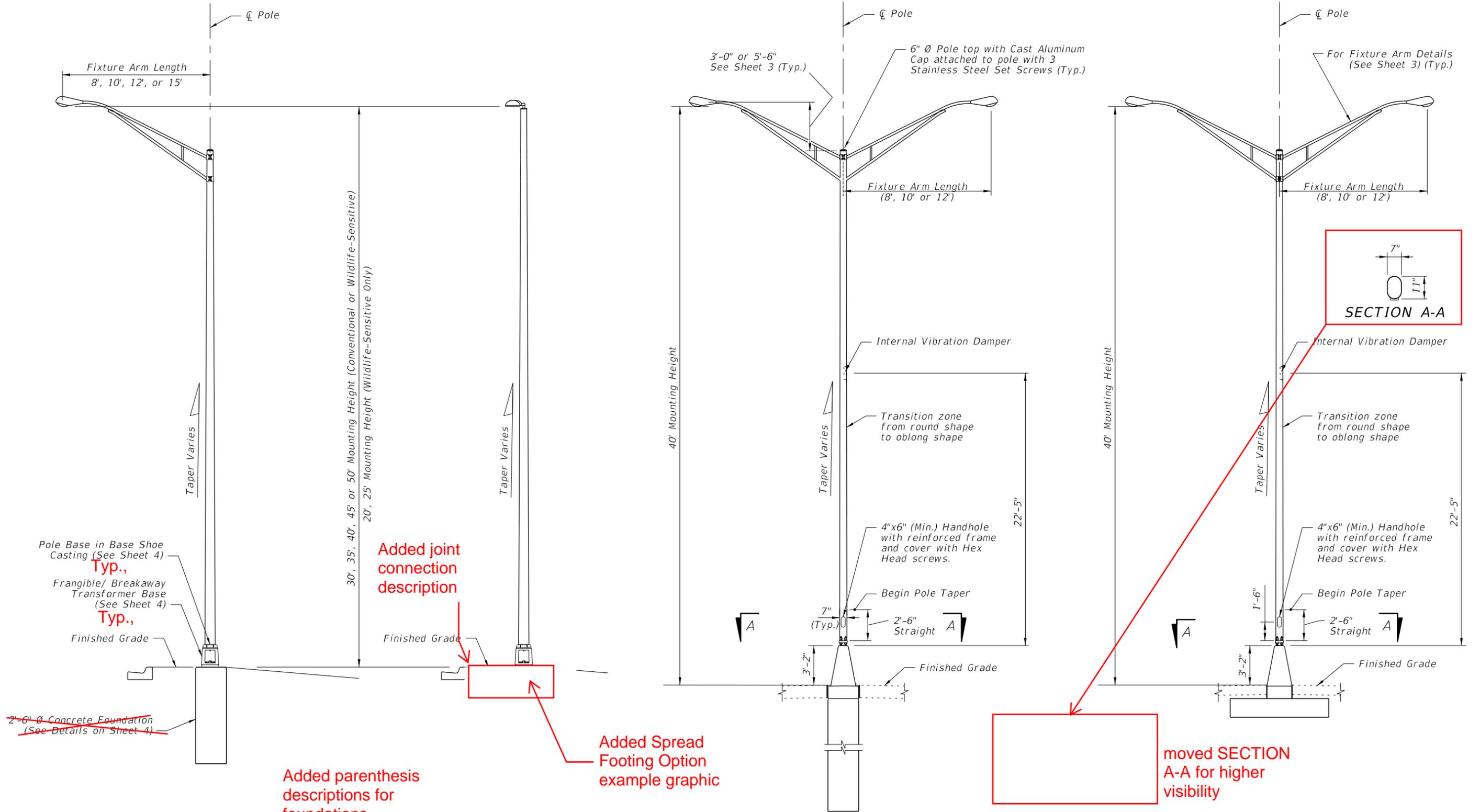
140 MPH  
Bay, Citrus, De Soto, Flagler, Franklin, Glades, Gulf, Hardee, Hendry, Hernando, Highlands, Hillsborough, Holmes, Lake, Levy, Manatee, Marion, Okaloosa, Okeechobee, Orange, Osceola, Pasco, Pinellas, Polk, Santa Rosa, Seminole, St. Johns, Sumter, Volusia, Walton and Washington Counties.

160 MPH  
Brevard, Broward, Charlotte, Collier, Escambia, Indian River, Lee, Martin, Miami-Dade, Monroe, Palm Beach, Sarasota and St. Lucie Counties.

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LAST REVISION	REVISION	DESCRIPTION:		FY <del>2022-23</del> 2023-24 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX	SHEET
<del>11/01/21</del>	<del>11/01/21</del>	11/01/22				715-002	1 of <del>8</del> 9

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Added joint connection description

Added Spread Footing Option example graphic

Added parenthesis descriptions for foundations

moved SECTION A-A for higher visibility

STANDARD ROADWAY ALUMINUM LIGHT POLE W/ARM

STANDARD ROADWAY ALUMINUM LIGHT POLE W/TOP MOUNT

MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE ON CYLINDRICAL FOUNDATION

MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE ON SPREAD FOOTING FOUNDATION

(Shaft Foundation Option Shown, Spread Footing Foundation Option Similar)

(Spread Footing Foundation Option Shown, Shaft Foundation Option Similar)

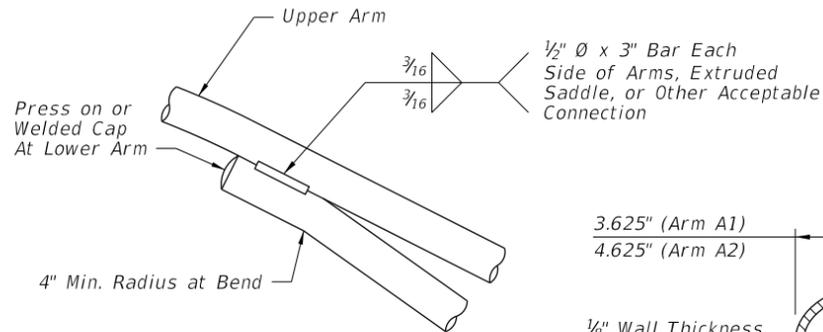
ELEVATIONS

LAST REVISION	DESCRIPTION:
11/01/21	11/01/22

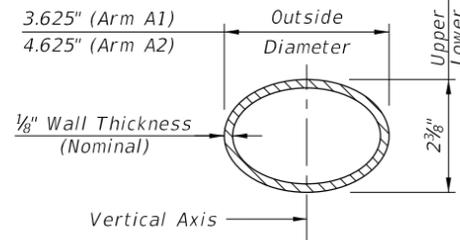
FY ~~2022-23~~ 2023-24  
 FDOT STANDARD PLANS

STANDARD ALUMINUM LIGHTING

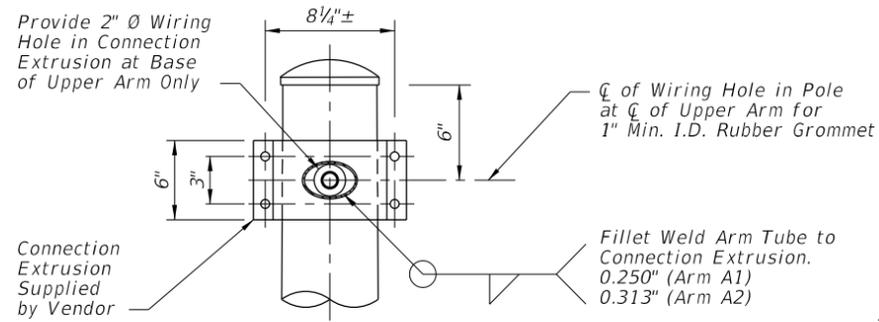
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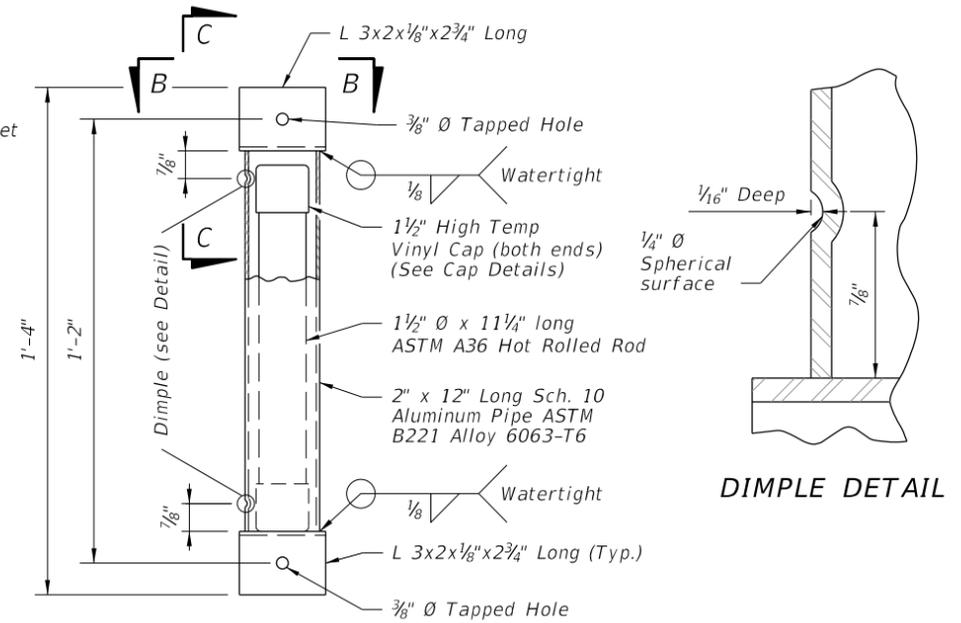
ARM CONNECTION DETAIL



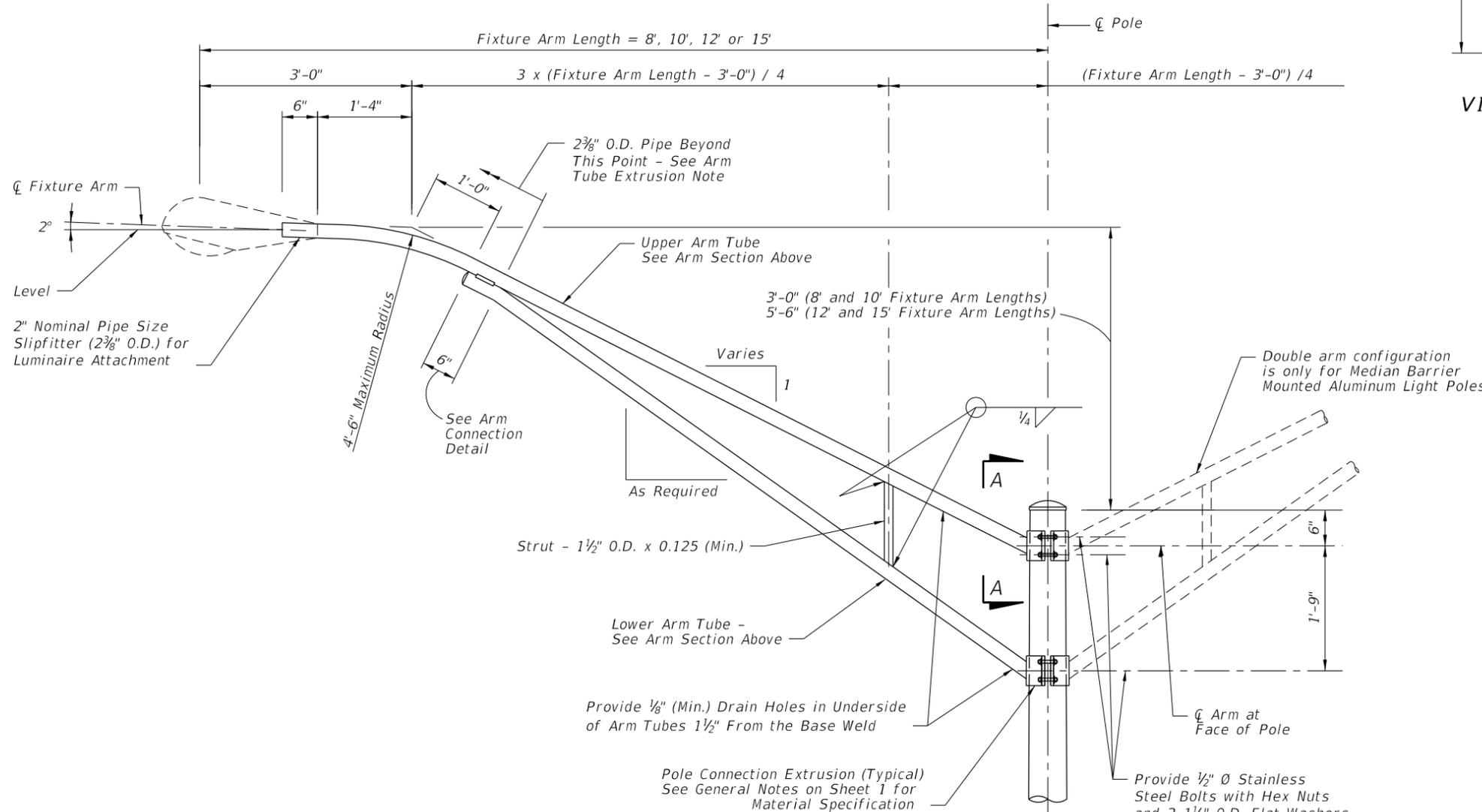
ARM SECTION



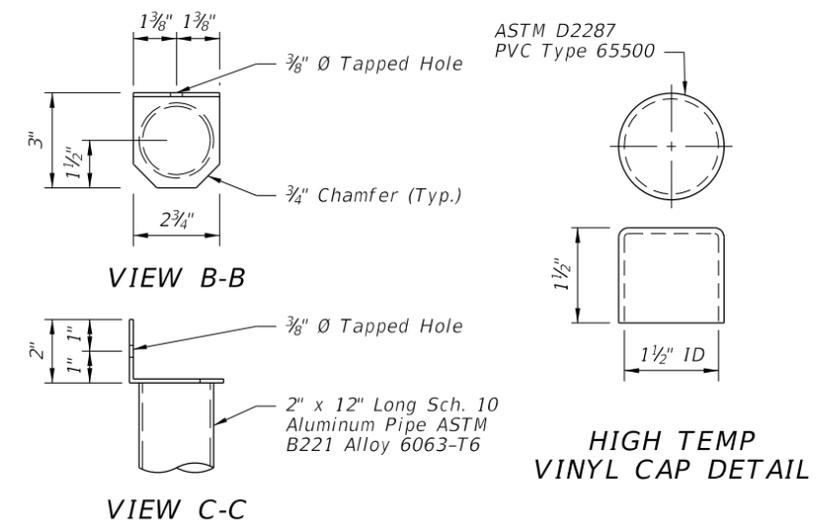
SECTION A-A  
(Connection At Lower Arm Similar)



VIBRATION DAMPER ELEVATION



ARM ELEVATION



ARM TUBE EXTRUSIONS NOTES:

At the pole connections, provide arm tube extrusions with dimensions as shown. Uniformly transition elliptical section to a cylindrical section at the arm connection.

The fabricator may substitute elliptical cross sections other than those tabulated, provided the section properties about the vertical axis and the area of the section equal or exceed that of the required section, and provide minimum wall thickness of 1/8" nominal and within the Aluminum Association Tolerances.

The outside diameter about the minor axis should be held at 2 3/8" at the upper and lower arms.

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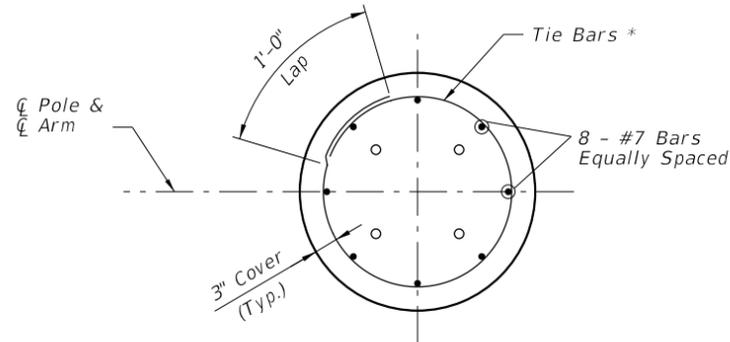
LAST REVISION	DESCRIPTION:
11/01/19	11/01/22

FDOT	FY <del>2022-23</del> 2023-24
STANDARD PLANS	

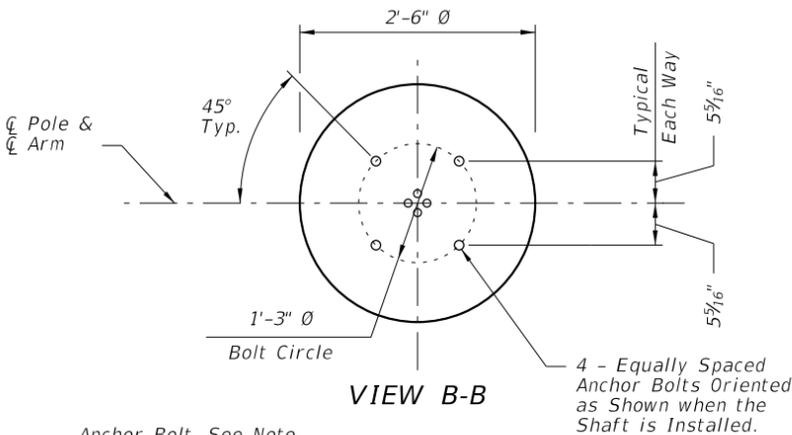
STANDARD ALUMINUM LIGHTING
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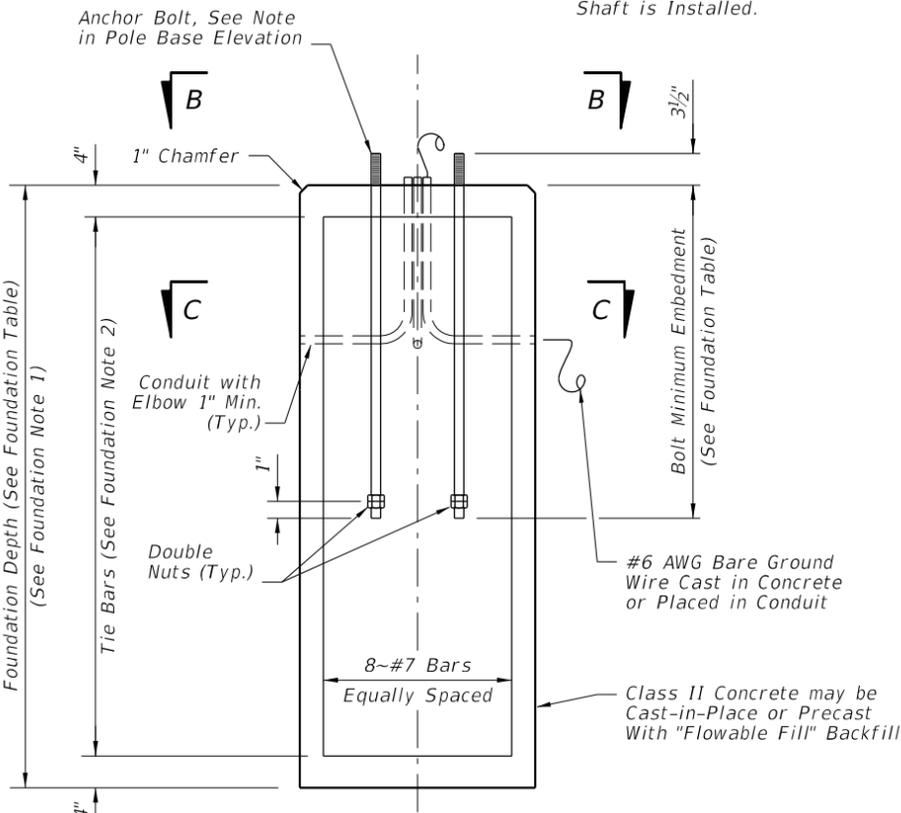
ARM & DAMPER DETAILS



SECTION C-C

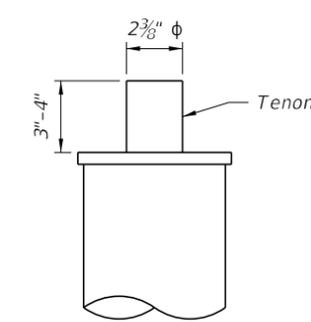


VIEW B-B

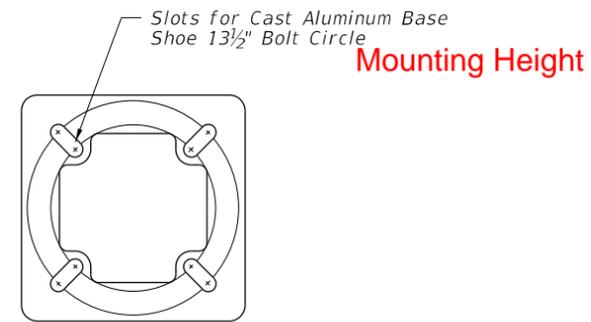


**FOUNDATION NOTES:**

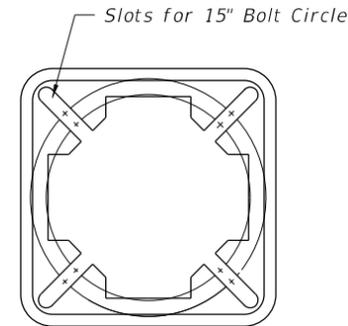
1. Depths shown are for slopes equal to or flatter than 1:4. For slopes steeper than 1:4 and equal to or flatter than 1:2 add 2'-6" to foundation depths shown.
2. Foundation Tie Bars: #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.



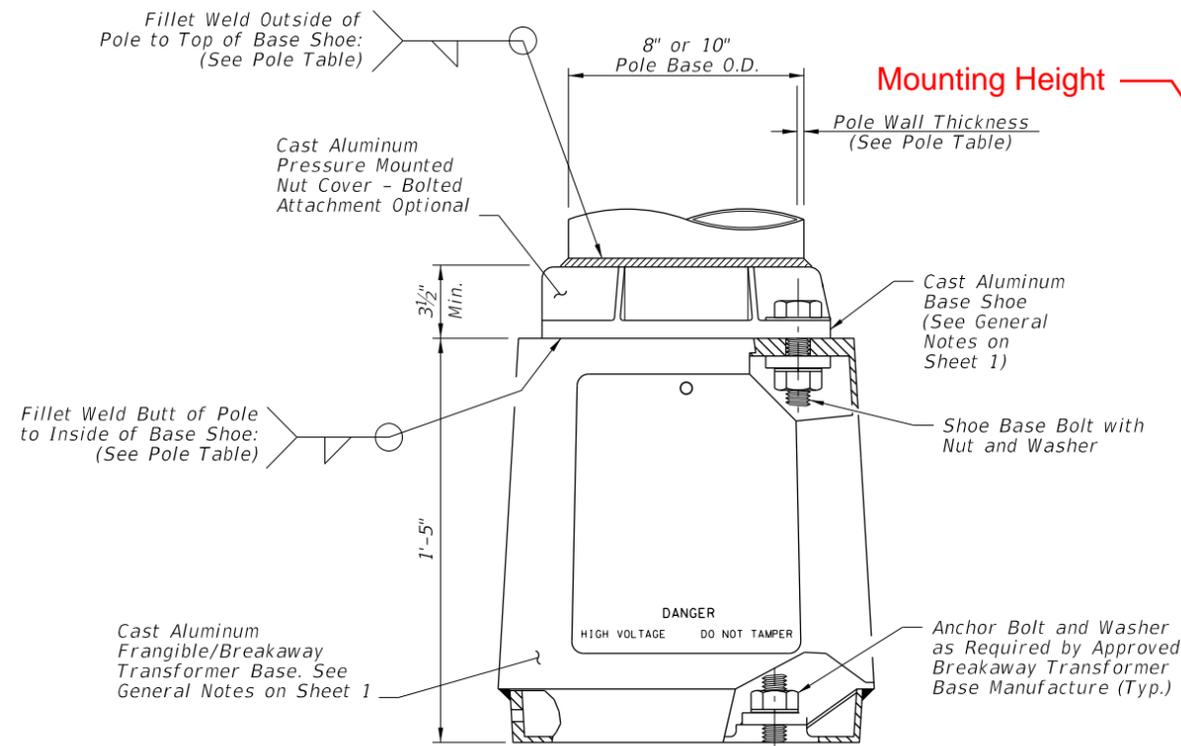
TOP MOUNT TENON



TOP VIEW TRANSFORMER BASE



BOTTOM VIEW TRANSFORMER BASE



POLE BASE ELEVATION

ARM-POLE TABLE					
FOR STANDARD ALUMINUM LIGHT POLES WITH ARM					
Assembly Height (ft)	Wind Speed and Arm Lengths (ft)				
	120 mph	140 mph	160 mph		
30	8, 10, 12, 15	8, 10, 12	15	8, 10	12, 15
35	A1-P1	A1-P1	A2-P1	A1-P1	A2-P1
40				A1-P2	A2-P2
45	A1-P2	A1-P2	A2-P2	A1-P3	A2-P3
50					

**ARM POLE NOTES:**

1. See ARM SECTION detail on Sheet 3 for all A1 and A2 Values.
2. See Pole Table for all P1, P2, and P3 values.
3. For Median Barrier Mounted Pole, Use Arm A1.
4. For 20' and 25' assembly heights use only 8' or 10' arm A1 with P0.

POLE TABLE			
Pole	Pole Wall Thickness	Top of Base Shoe Weld	Inside of Base Shoe Weld
P0	0.156	3/16"	5/32"
P1	0.156	3/16"	5/32"
P2	0.250	1/4"	1/4"
P3	0.313	5/16"	5/16"

**POLE NOTES:**

1. Pole wall thicknesses shown are nominal and must be within the Aluminum Association tolerances.
2. Thicker walls are permitted and tapered walls may be used in accordance with the minimum Aluminum Association thicknesses.

TOP MOUNT POLE TABLE			
FOR STANDARD ALUMINUM LIGHT POLES WITH TOP MOUNT			
Assembly Height (ft)	Wind Speed and Arm Lengths (ft)		
	120 mph	140 mph	160 mph
20	Pole P0	Pole P0	Pole P0
25	Pole P1	Pole P1	Pole P1
30			Pole P2
35	Pole P2	Pole P2	Pole P2
40			
45			
50			

FOUNDATION TABLE				
Pole	P0	P1	P2	P3
Depth	6'-0"	7'-0"	8'-0"	8'-0"
Bolt Min. Embedment	2'-6"	3'-6"	3'-6"	3'-6"

~~FOUNDATION~~ — SHAFT FOUNDATION ELEVATION

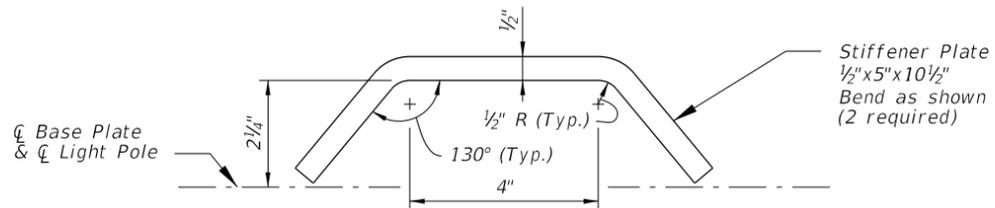
SHAFT FOUNDATION OPTION WITH LIGHT POLE & BASE DETAILS  
~~POLE AND BASE DETAILS FOR ROADWAY ALUMINUM LIGHT POLE~~

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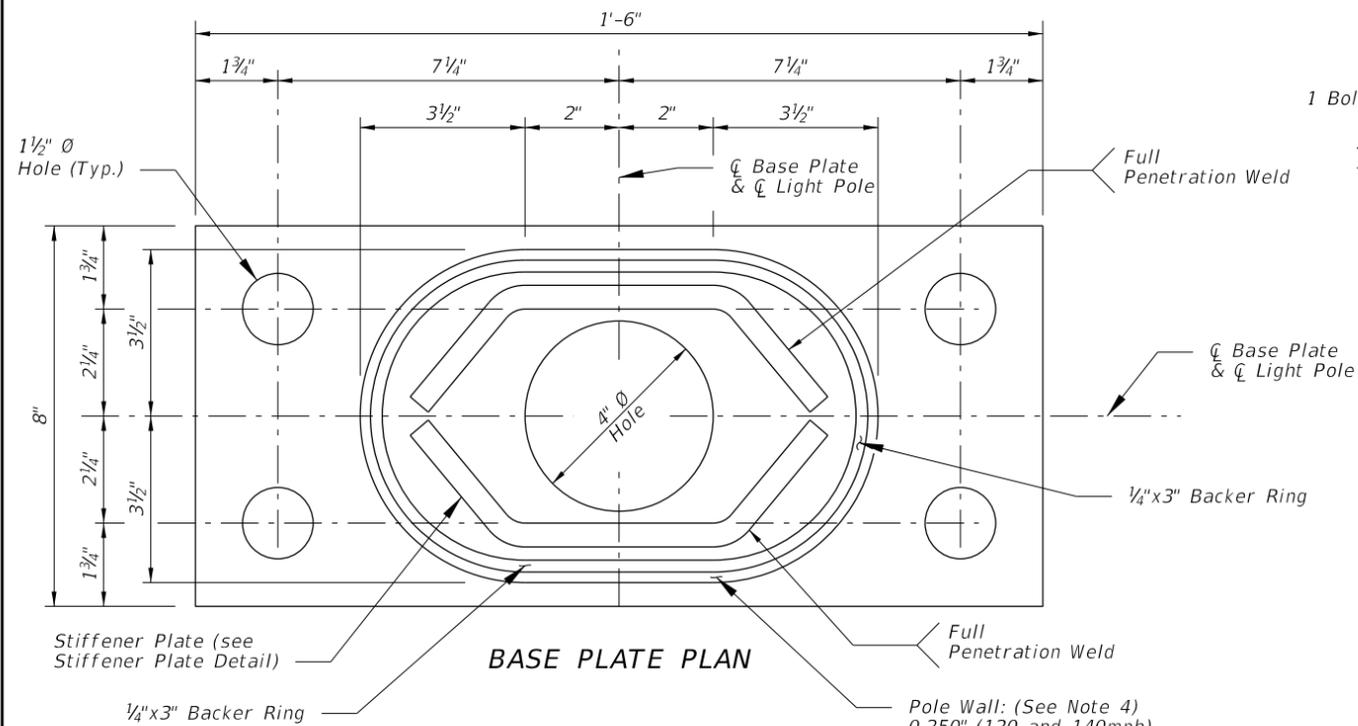
Insert New Sheet for "Spread Footing Foundation Option" - See DRAFT

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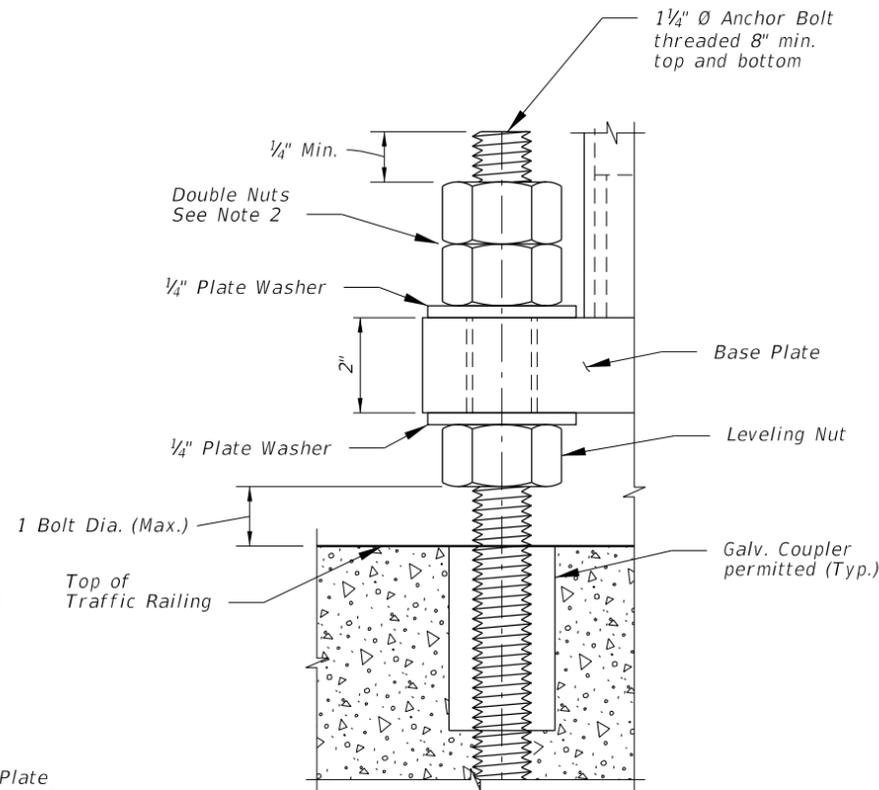
LAST REVISION	DESCRIPTION:		FY <del>2022-23</del> 2023-24	STANDARD ALUMINUM LIGHTING	INDEX	SHEET
<del>04/03/18</del>	11/01/22		STANDARD PLANS		715-002	5 of <del>8</del> 9



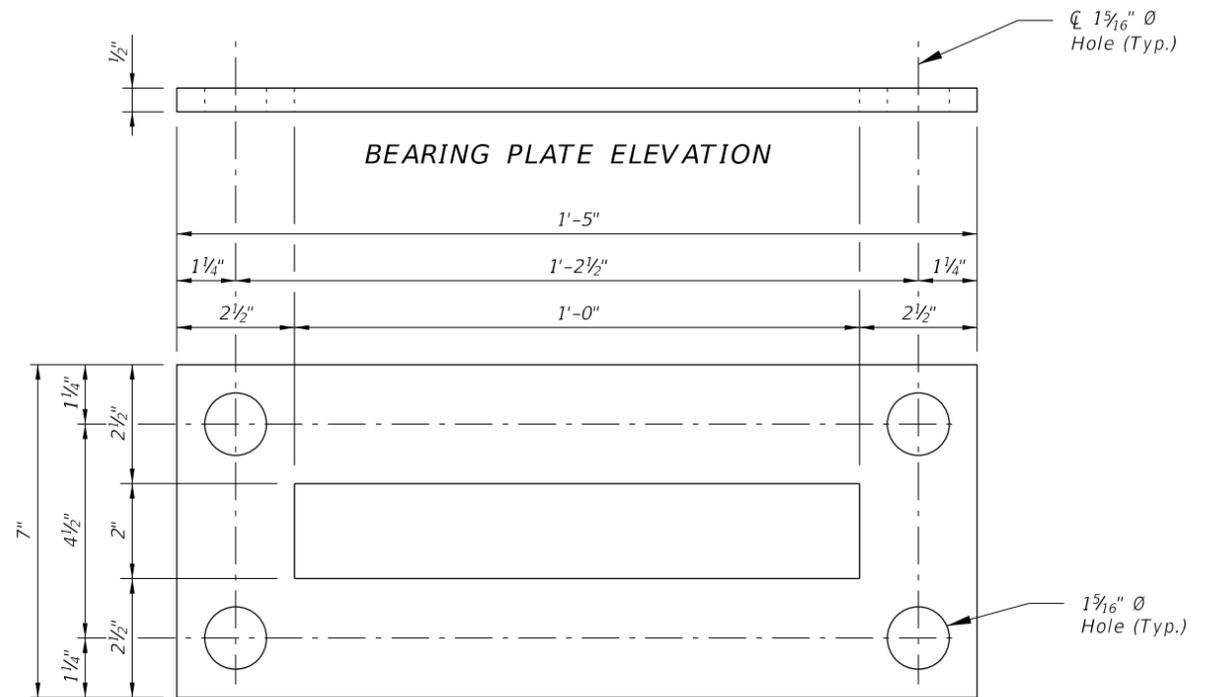
STIFFENER PLATE DETAIL



BASE PLATE PLAN



DETAIL 'A'

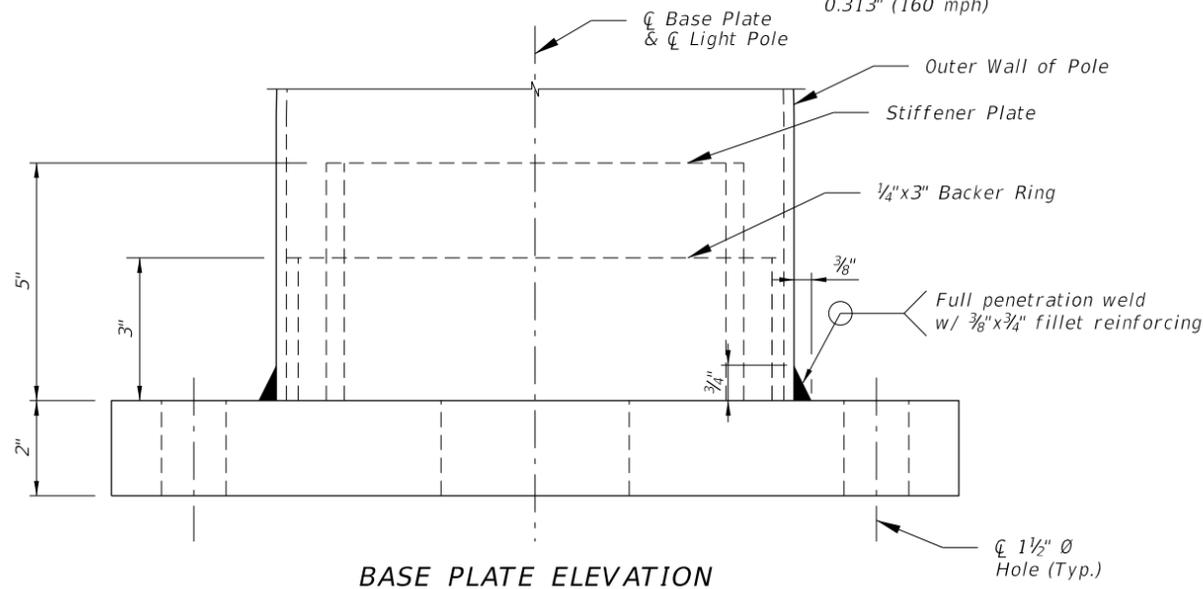


BEARING PLATE ELEVATION

BEARING PLATE PLAN

NOTE:

1. For locations of Bearing Plates, Base Plates and Detail 'A' see Sheets ~~6 & 7~~ **7 thru 9**.
2. Double Nuts: The bottom hex nut may be substituted by a half-height 'jam' nut.
3. Provide individual nut covers (not shown) for each bolt.
4. Pole wall thicknesses shown are nominal and shall be within the Aluminum Association Tolerances. Thicker walls are permitted and tapered walls may be used in accordance with the minimum Aluminum Association thicknesses.



BASE PLATE ELEVATION

BASE PLATE DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

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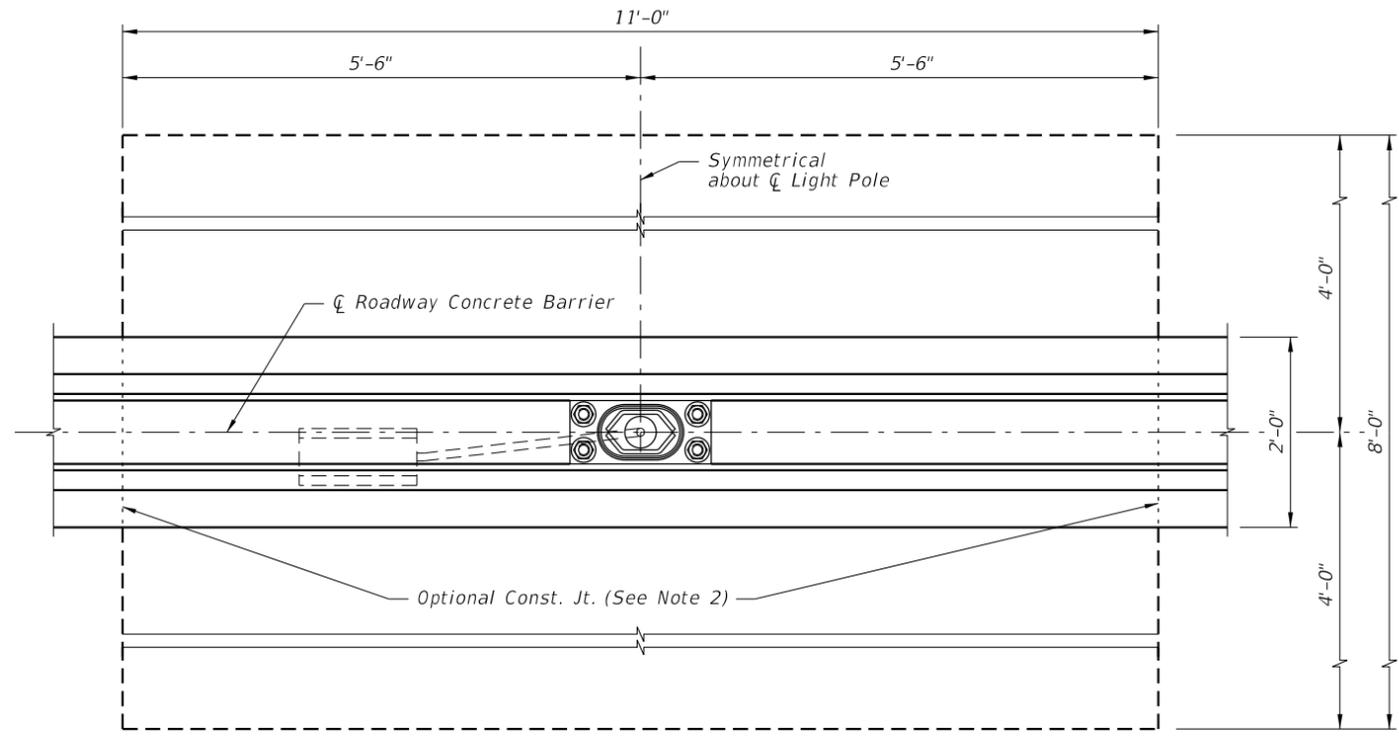
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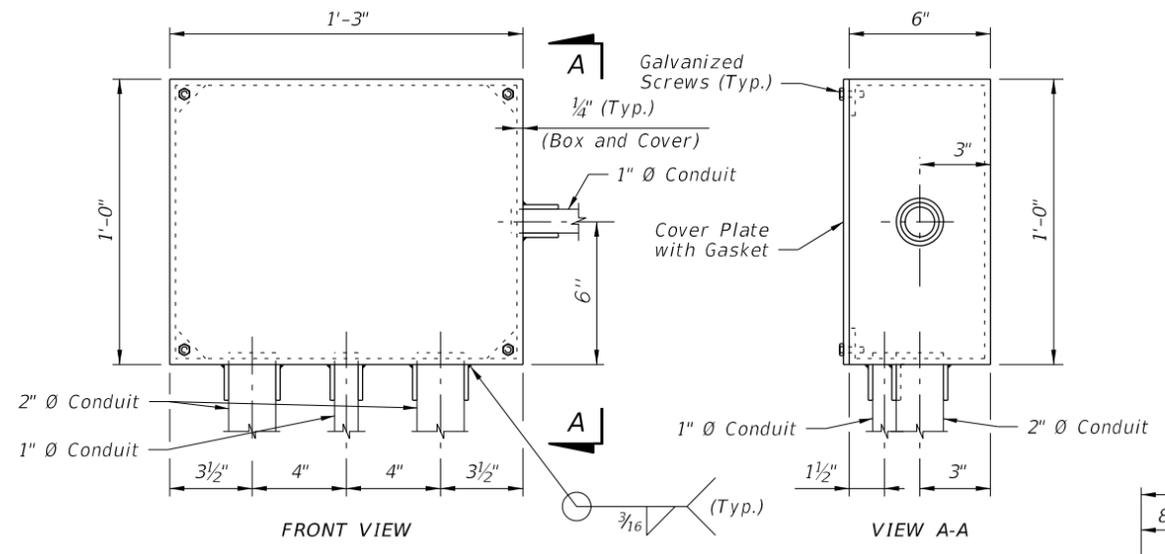
FY ~~2022-23~~ **2023-24**  
STANDARD PLANS

STANDARD ALUMINUM LIGHTING

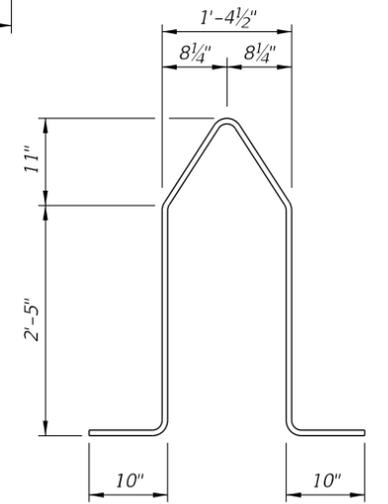
INDEX **6** SHEET  
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**PLAN**  
(Reinforcing steel not shown)

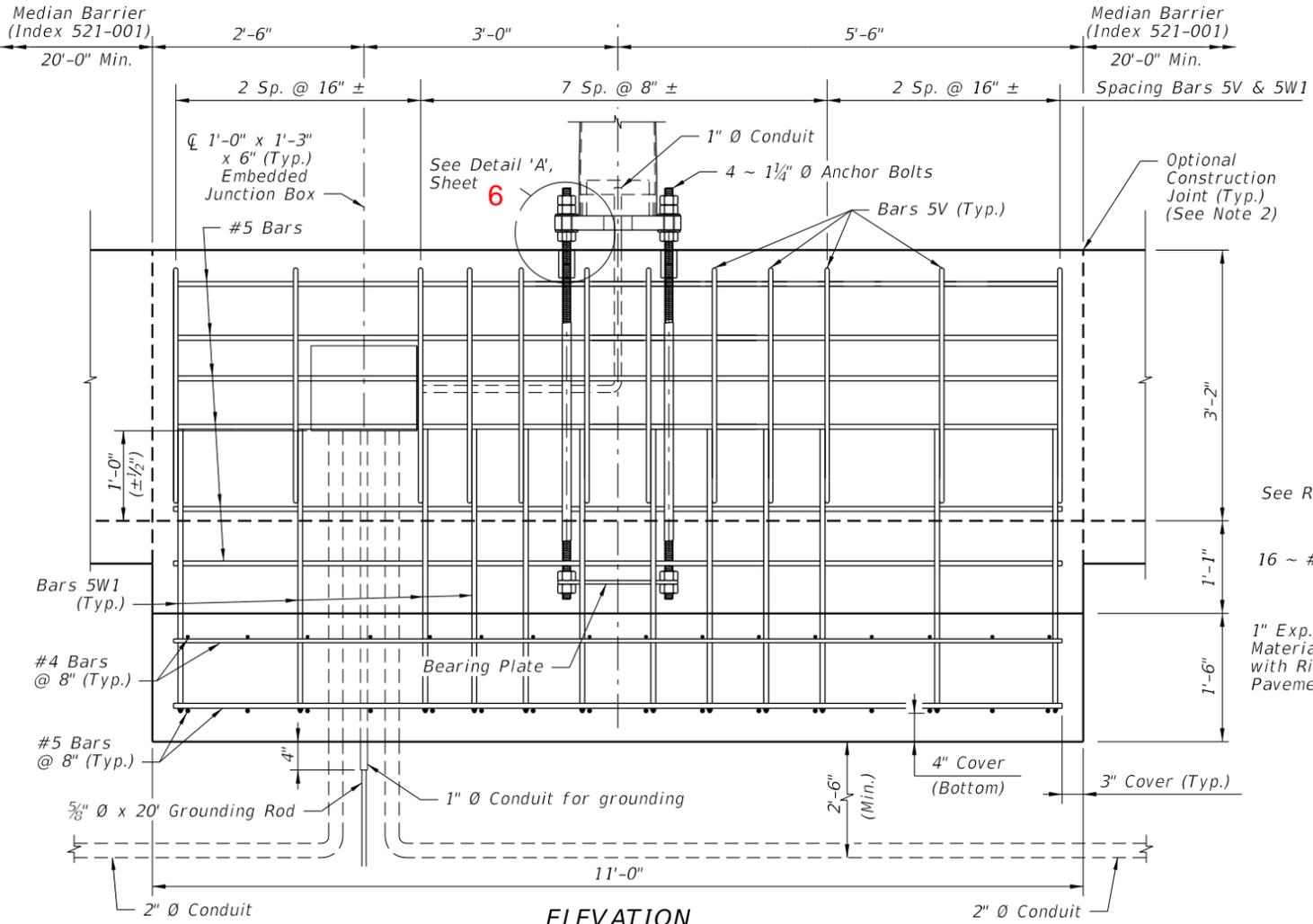


**EMBEDDED JUNCTION BOX DETAILS**

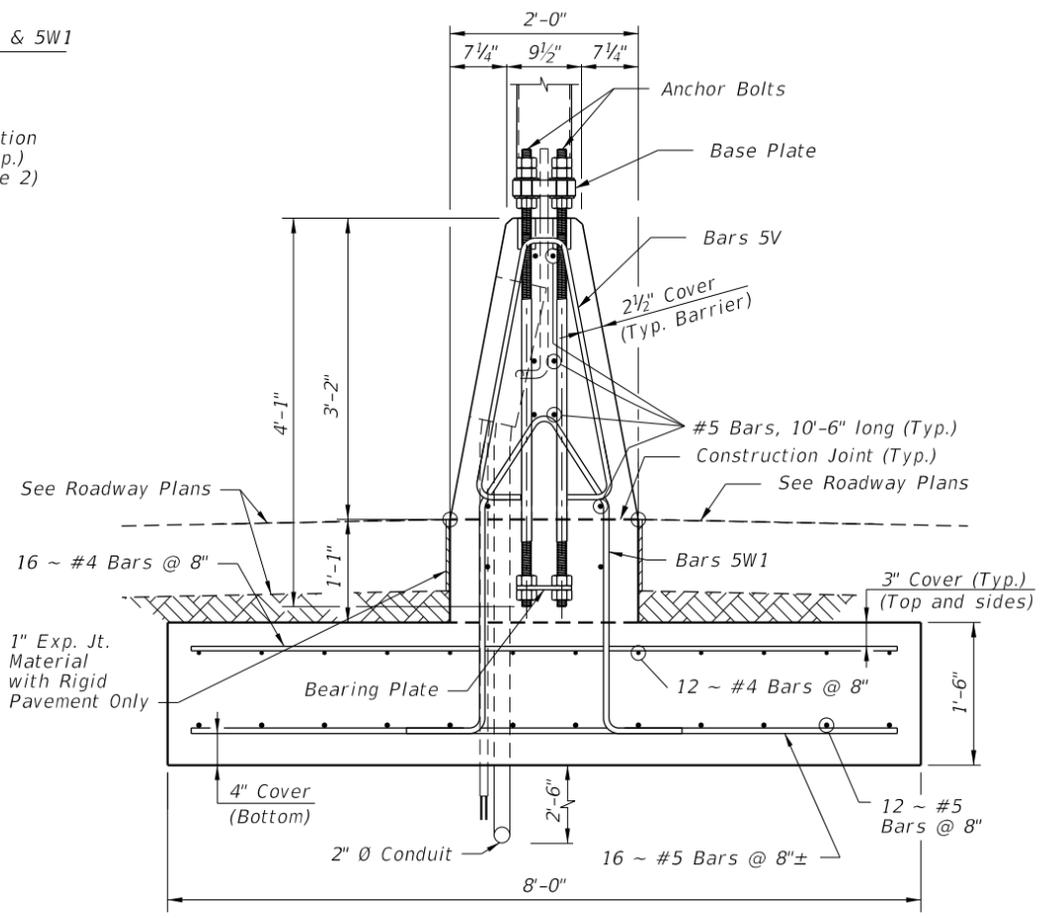


**BAR 5W1**

**BAR 5V**



**ELEVATION**



**END VIEW**

**SPREAD FOOTING DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE**

- NOTES:**
1. For Bearing Plate and Base Plate Details, see **Sheet 5** - **Sheet 6**
  2. For connections to adjacent Median Barrier, use the Doweled Joint detail per Index 521-001. Alternatively, a continuous concrete pour or a construction joint may be substituted; these alternatives require the Median Barrier's longitudinal steel to lap a minimum of 2'-0" with the longitudinal steel shown herein.

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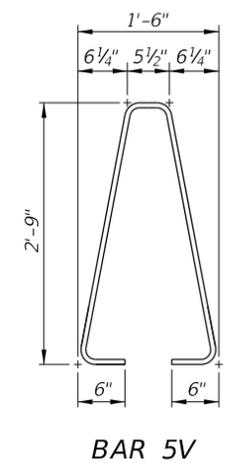
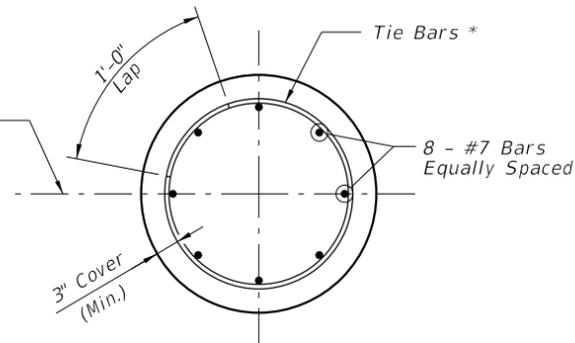
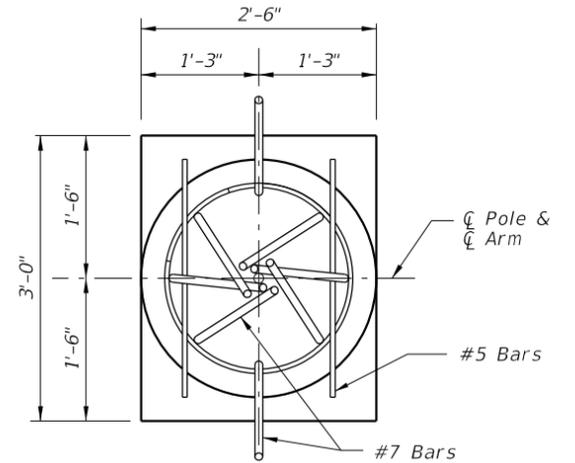
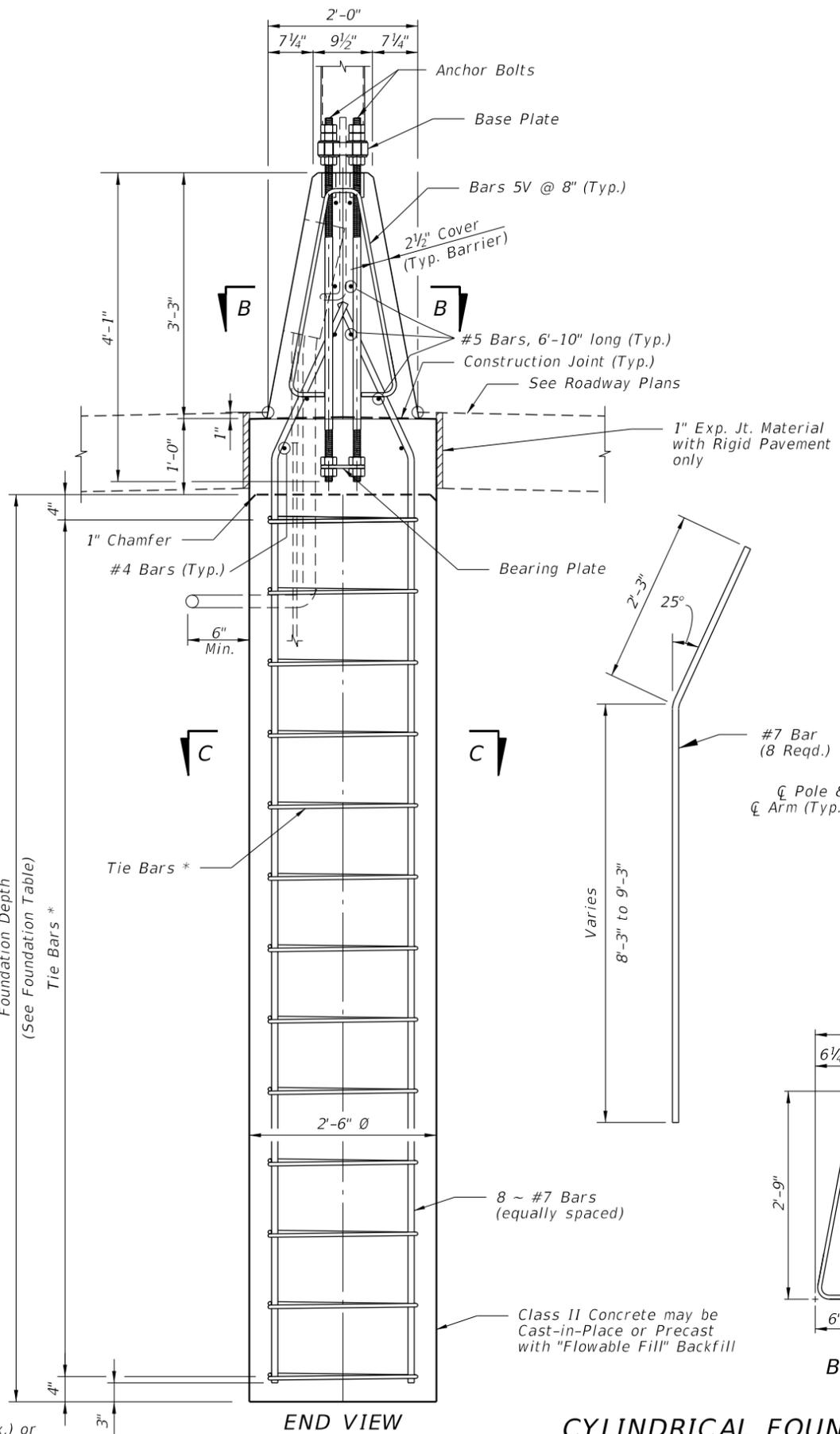
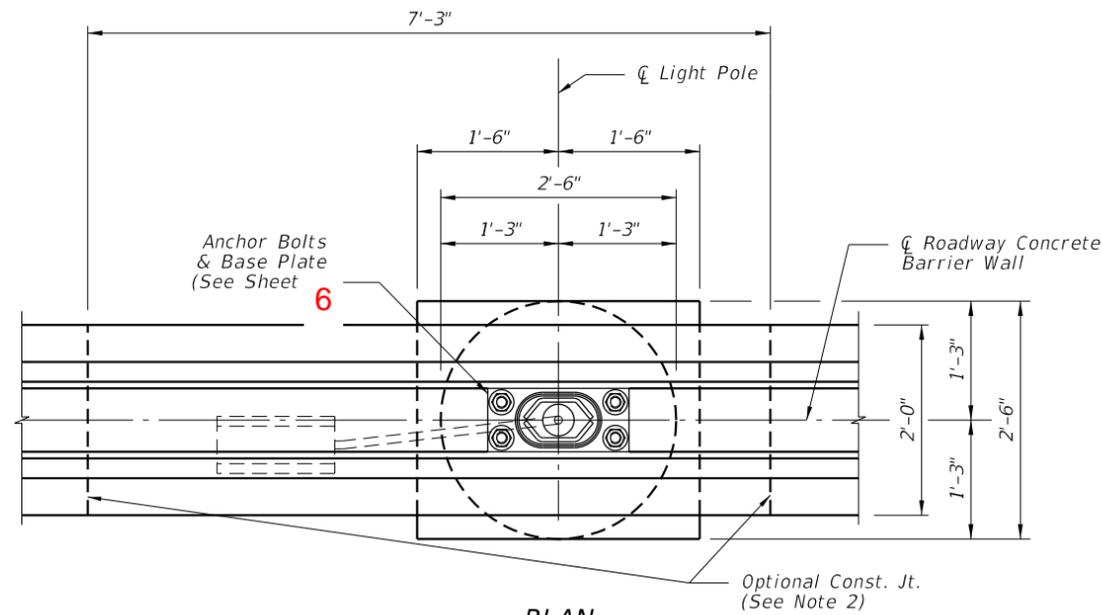
LAST REVISION	DESCRIPTION:
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**FDOT** FY ~~2022-23~~ 2023-24  
**STANDARD PLANS**

**STANDARD ALUMINUM LIGHTING**

INDEX **7** SHEET  
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FOUNDATION TABLE		
WIND SPEED (MPH)	DESIGN MOUNTING HEIGHT (FT)	FOUNDATION DEPTH (FT)
120	40	8
140	40	9
160	40	9



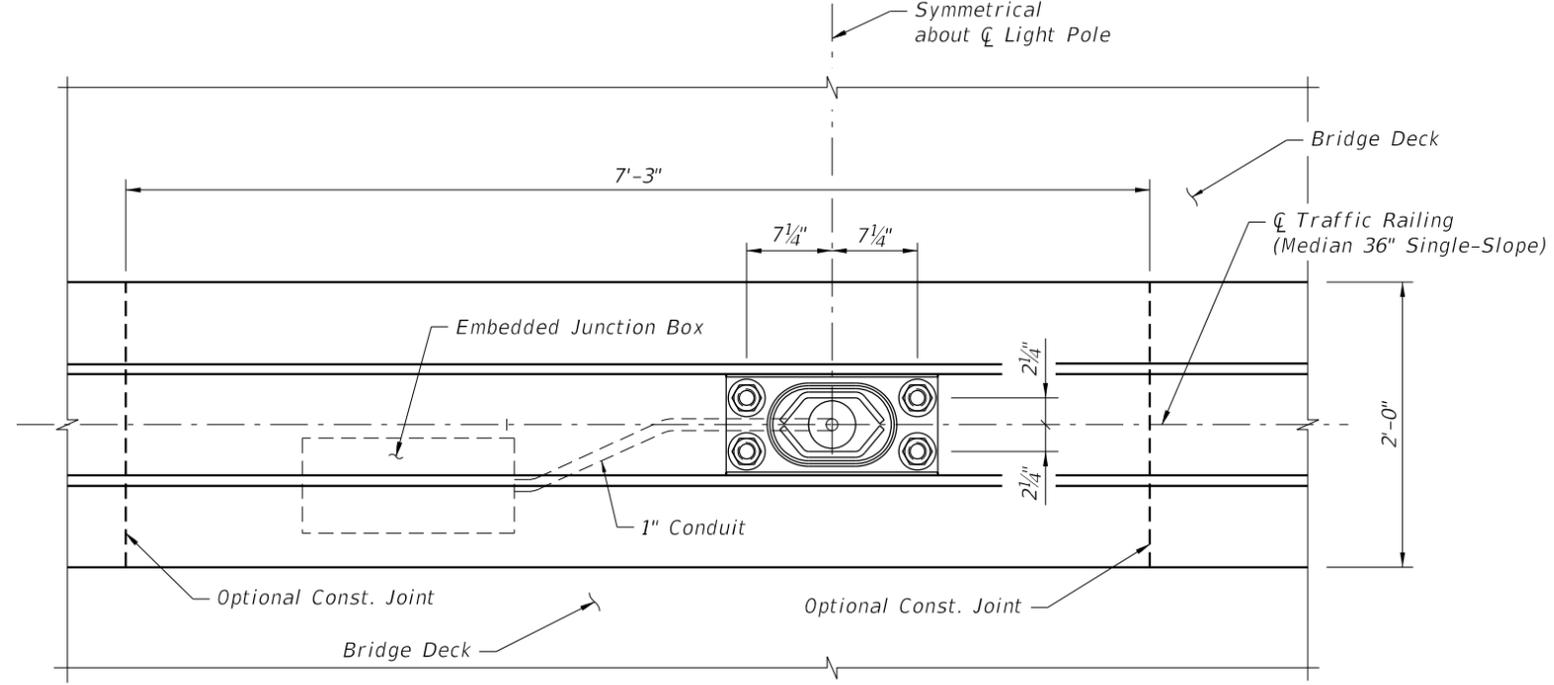
- NOTES:
1. For Bearing Plate and Base Plate Details, see ~~Sheet 5~~ **Sheet 6**
  2. For connections to adjacent Median Barrier, use the Doweled Joint detail per Index 521-001. Alternatively, a continuous concrete pour or a construction joint may be substituted; these alternatives require the Median Barrier's longitudinal steel to lap a minimum of 2'-0" with the longitudinal steel shown herein.

\* #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.

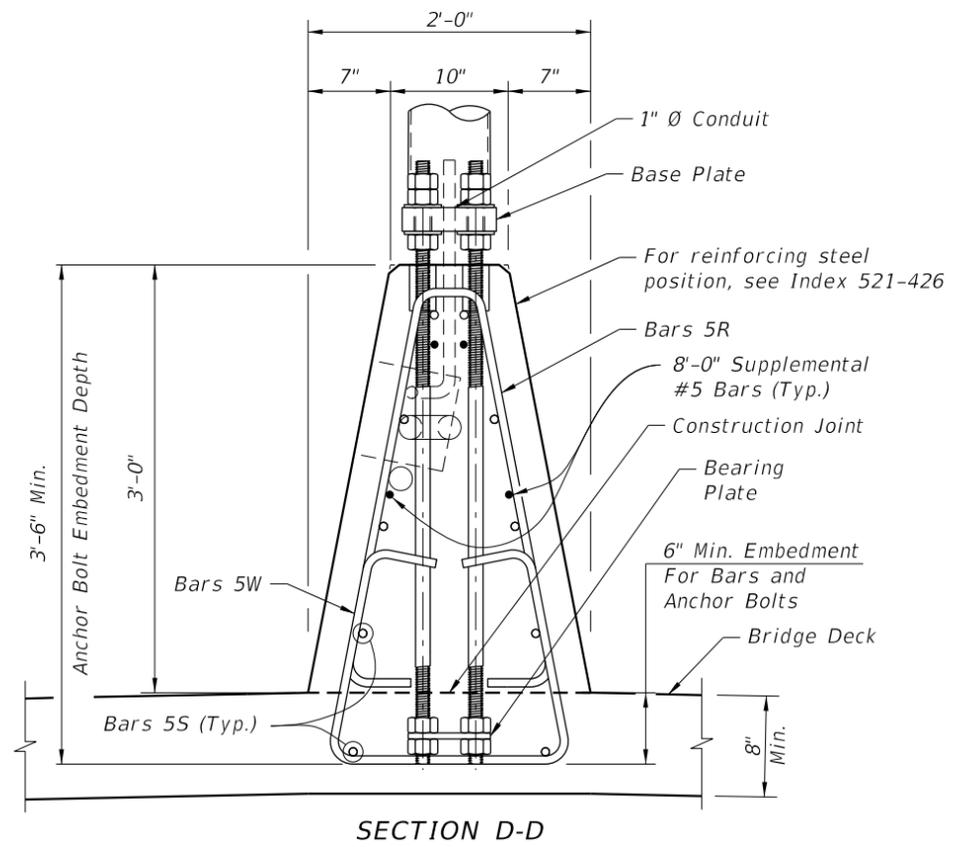
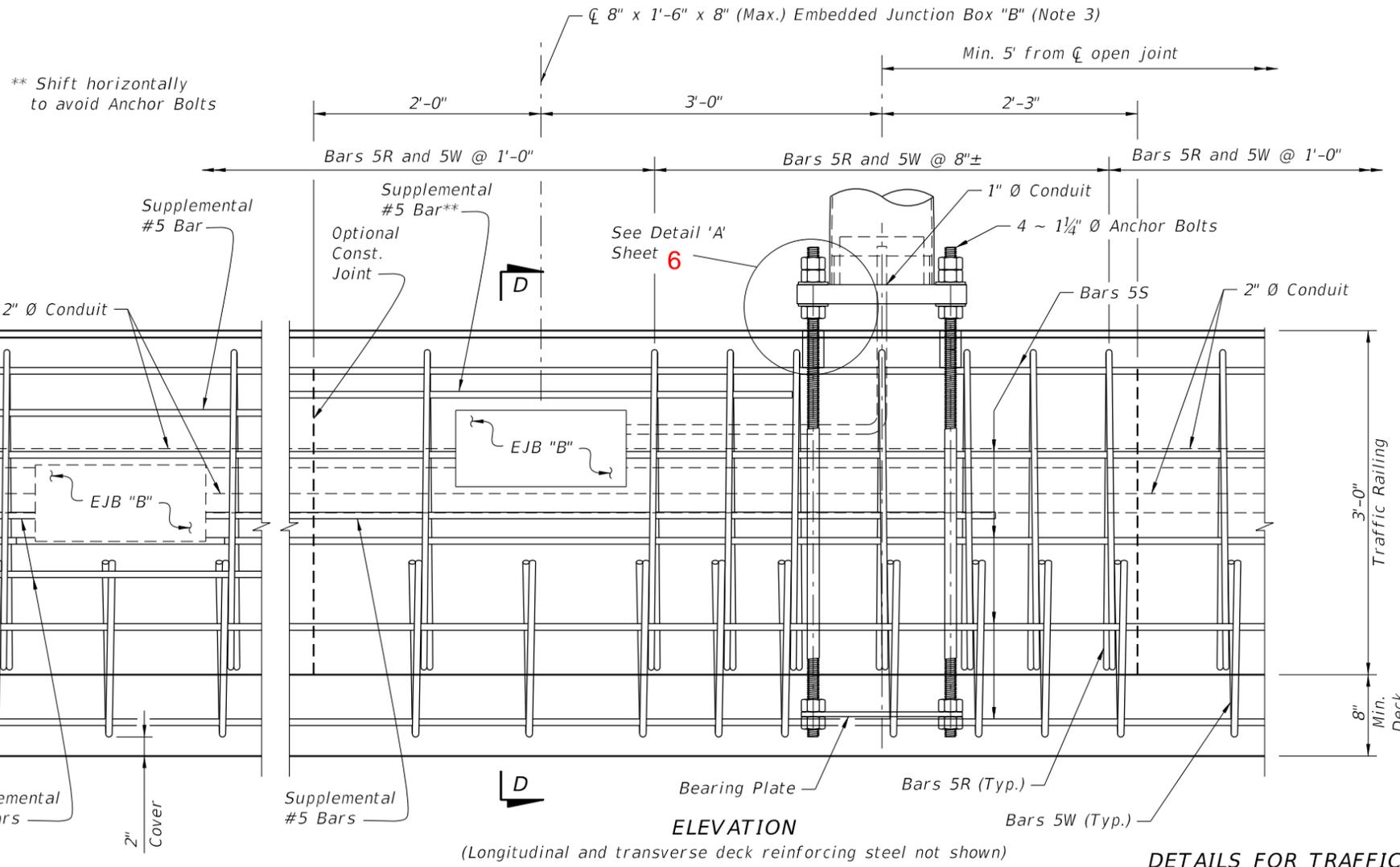
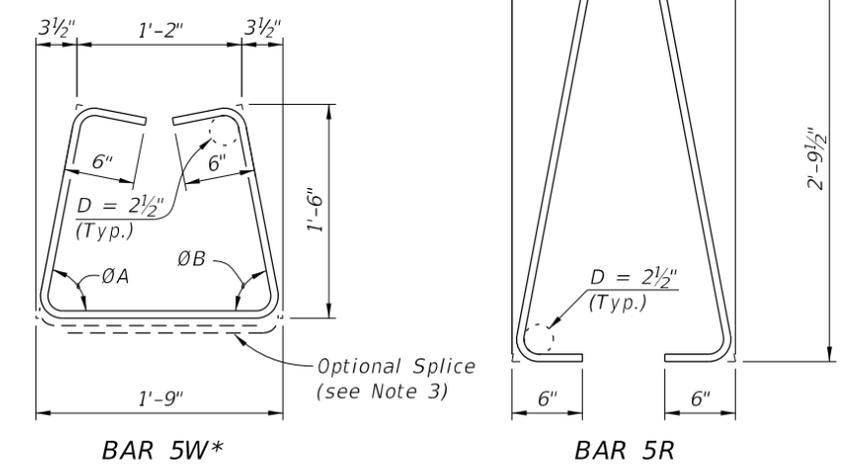
**CYLINDRICAL FOUNDATION DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE**

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LAST REVISION	DESCRIPTION:
<del>11/01/21</del>	<del>11/01/21</del>
11/01/22	



\*At the Contractor's option, Bars 5W may be fabricated as a two piece bar with a 1'-2" lap splice at the bottom legs.



- NOTES:
1. For Base Plate Details, Bearing Plate Details, and Detail 'A', see Sheet 5.
  2. See Index 521-426 for details of adjacent Traffic Railing (Median 36" Single-Slope) and for angles  $\bar{O}A$  and  $\bar{O}B$ .
  3. See Index 630-010 for Conduit, EJB and supplemental reinforcing details.

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FDOT  
FY ~~2022-23~~ 2023-24  
STANDARD PLANS

STANDARD ALUMINUM LIGHTING  
INDEX 9 SHEET  
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**GENERAL NOTES:**

1. Poles are designed to support the following:
  - A. Luminaire Effective Projected Area (EPA): 1.55 SF
  - B. Weight: 75 lb.
2. Shop Drawings: This Index is considered fully detailed, only submit shop drawings for minor modifications not included in the Plans.
3. Materials:
  - A. Pole, Pole Connection Extrusions and Arm Extrusions: ASTM B221, Alloy 6063-T6 or Alloy 6061-T6
  - B. Bars, Plates, Stiffeners and Backer Ring: ASTM B221, Alloy 6063-T6
  - C. Caps and Covers: ASTM B-26, Alloy 319-F
  - D. Steel Bearing Plate: ASTM A709 or ASTM A36 Grade 36
  - E. Aluminum Weld Material: ER 4043
  - F. Transformer and Frangible Base Materials: ASTM B26 or ASTM B108, Alloy 356-T6
  - G. Bolts, Nuts and Washers:
    - a. Shoe Base Bolts: ASTM F3125, Grade A325, Type 1
    - b. Nuts: ASTM A563 Grade DH Heavy-Hex
    - c. Washer: ASTM F436 Type 1
  - H. Anchor Bolts, Nuts, and Washers:
    - a. Anchor Bolts: ASTM F1554 Grade 55
    - b. Nuts: ASTM A563 Grade A Heavy-Hex
    - c. Plate Washer: ASTM A36
  - I. Stainless Steel Fasteners: ASTM F593 Alloy Group 2, Condition A, CW1 or SH1
  - J. Nut Covers: ASTM B26 (319-F)
  - K. Concrete: Class II
  - L. Reinforcing Steel: Specification 415
4. Fabrication:
  - A. Weld Arm and Pole (Alloy 6063) in the T4 temper using 4043 filler. Age the Arm and Pole artificially to the T6 temper after welding.
  - B. Transverse welds are only allowed at the base.
  - C. Roadway Light Pole Taper: Taper as required to provide a round top O.D. of 6" and a base O.D. of 8" for 20' and 25' mounting heights and 10" O.D. for poles with 30' to 50' mounting heights. Portions of the pole near the base shoe and at the arm connections may be held constant to simplify fabrication.
  - D. Median Barrier Mounted Light Pole Taper: Taper as required to provide a 6" O.D. round top with an 11" x 7" O.D. oblong base. Portions of the pole near the base and at the arm connections may be held constant at 11" x 7" oblong and 6" round respectively to simplify fabrication.
  - E. Provide 'J', 'S' or 'C' hook at top of pole for electrical wires.
  - F. Equip poles located on bridges, walls and concrete median barriers/Traffic Railings with a vibration damper.
  - G. Perform all welding in accordance with AWS D1.2.
  - H. Embedded Junction Box (EJB):
    - a. Weld all seams continuously and grind smooth.
    - b. Hot Dip Galvanize after Fabrication.
    - c. Provide a watertight cover with neoprene gasket and secure cover with galvanized screws.
  - I. For Median Barrier Mounted Aluminum Light Poles, the fabricator must demonstrate the ability to produce a crack free pole. The fabricator's Department-approved QC Plan must contain the following information prior to fabrication:
    - a. Tests demonstrating a pole with a 1/4" wall thickness achieves and ultimate moment capacity of 36 kip\*ft in the strong axis and 30 kip\*ft in the weak axis.
    - b. Tests demonstrating a pole with a 5/16" wall thickness achieves an ultimate moment capacity of 44 kip\*ft in the strong axis and 37 kip\*ft in the weak axis.
    - c. Test results showing the pole does not buckle at the shape transition area under the ultimate moment capacity loads.
    - d. Complete details and calculations for the reinforced 4"x 6" (Min.) handhole located 1'-6" above the base plate.
  - J. Identification Tag: (Submit details for approval.)
    - a. 2" x 4" (Max.) aluminum identification tag.
    - b. Locate on the inside of the transformer base and visible from the door opening.
    - c. Secure to transformer base with 1/8" diameter stainless steel rivets or screws.
    - d. Include the following information on the ID Tag:
      1. Financial Project ID
      2. Pole Height
      3. Manufacturer's Name

5. Coatings/Finish:
  - A. Pole and Arm Finish: 50 grit satin rubbed.
  - B. Galvanize Steel Bolts, Screws, Nuts and Washers: ASTM F2329
  - C. Hot Dip Galvanize EJB and other steel items including poles and plate washers: ASTM A123
6. Construction:
  - A. Foundation: Specification 455, except payment for the foundation is included in the cost of the pole.
  - B. Frangible Base, Base Shoe, and Clamp:
    - a. Certify that the Clamp, Frangible Transformer Base, and Base Shoe Design are capable of providing the required capacity.
    - b. Certify the Base conforms to the current FHWA required AASHTO Frangibility Requirements, tested under NCHRP Report 350 Guidelines (e.g. Akron Foundry TB1-17).
    - c. Do not erect pole without Luminaire attached.
7. Embedded Junction Box (EJB): Install EJBs per Note 4 and in accordance with Specification 635, as shown on the following Sheets.
8. Wind Speed by County:
 

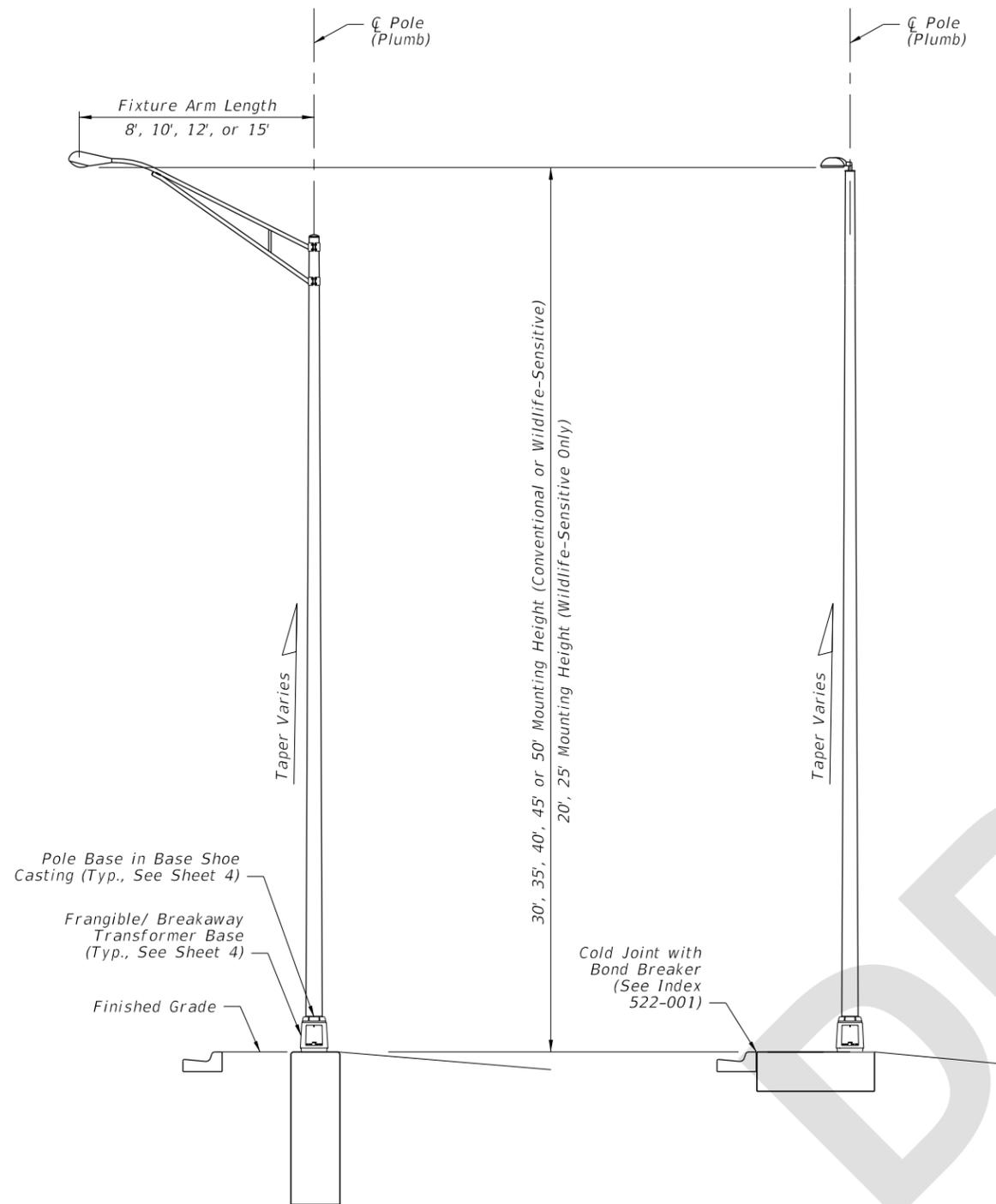
120 MPH  
Alachua, Baker, Bradford, Calhoun, Clay, Columbia, Dixie, Duval, Gadsden, Gilchrist, Hamilton, Jackson, Jefferson, Lafayette, Leon, Liberty, Nassau, Madison, Putnam, Suwannee, Taylor, Union and Wakulla Counties.

140 MPH  
Bay, Citrus, De Soto, Flagler, Franklin, Glades, Gulf, Hardee, Hendry, Hernando, Highlands, Hillsborough, Holmes, Lake, Levy, Manatee, Marion, Okaloosa, Okeechobee, Orange, Osceola, Pasco, Pinellas, Polk, Santa Rosa, Seminole, St. Johns, Sumter, Volusia, Walton and Washington Counties.

160 MPH  
Brevard, Broward, Charlotte, Collier, Escambia, Indian River, Lee, Martin, Miami-Dade, Monroe, Palm Beach, Sarasota and St. Lucie Counties.

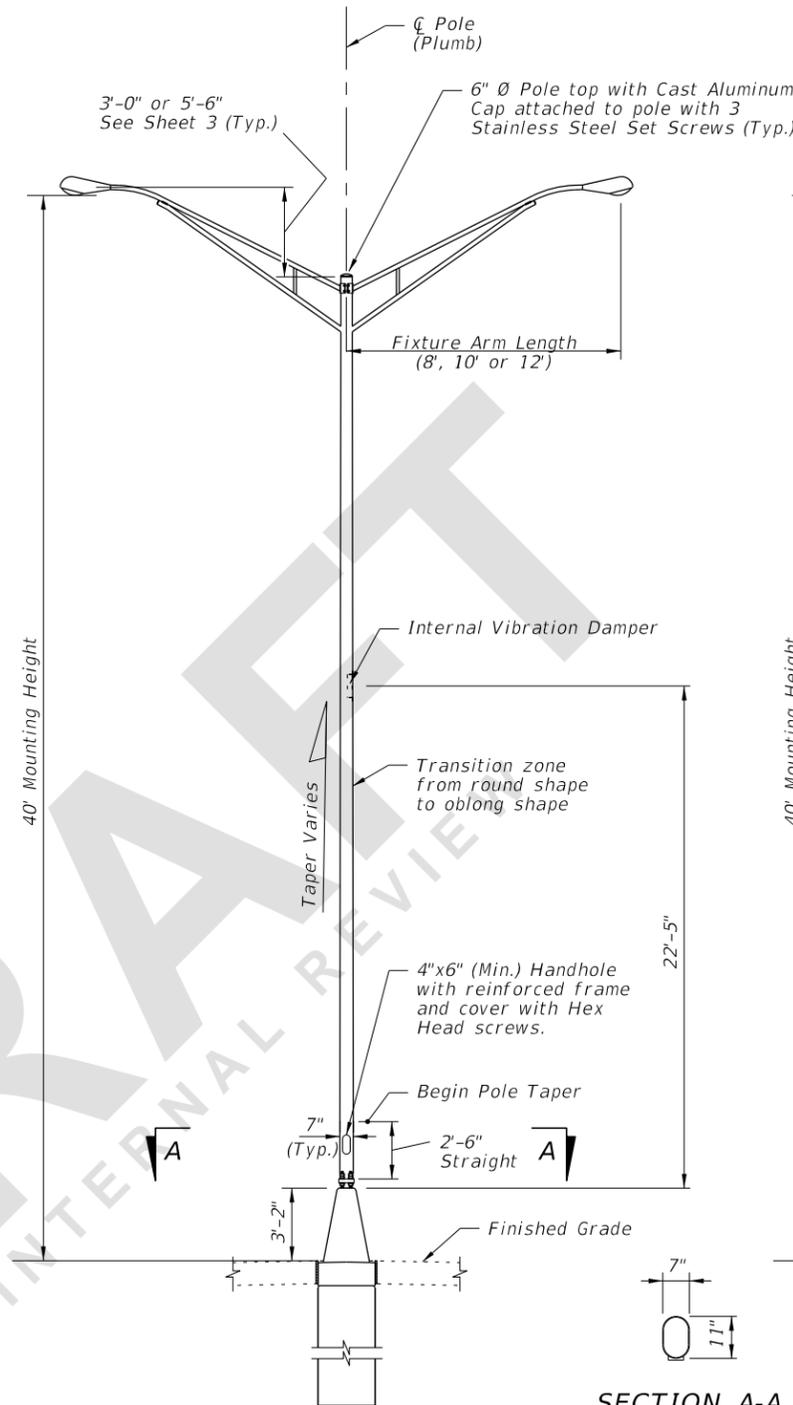
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LAST REVISION 11/01/22	REVISION	DESCRIPTION:	 <b>FY 2023-24</b> <b>STANDARD PLANS</b>	<b>STANDARD ALUMINUM LIGHTING</b>	INDEX <b>715-002</b>	SHEET <b>1 of 9</b>
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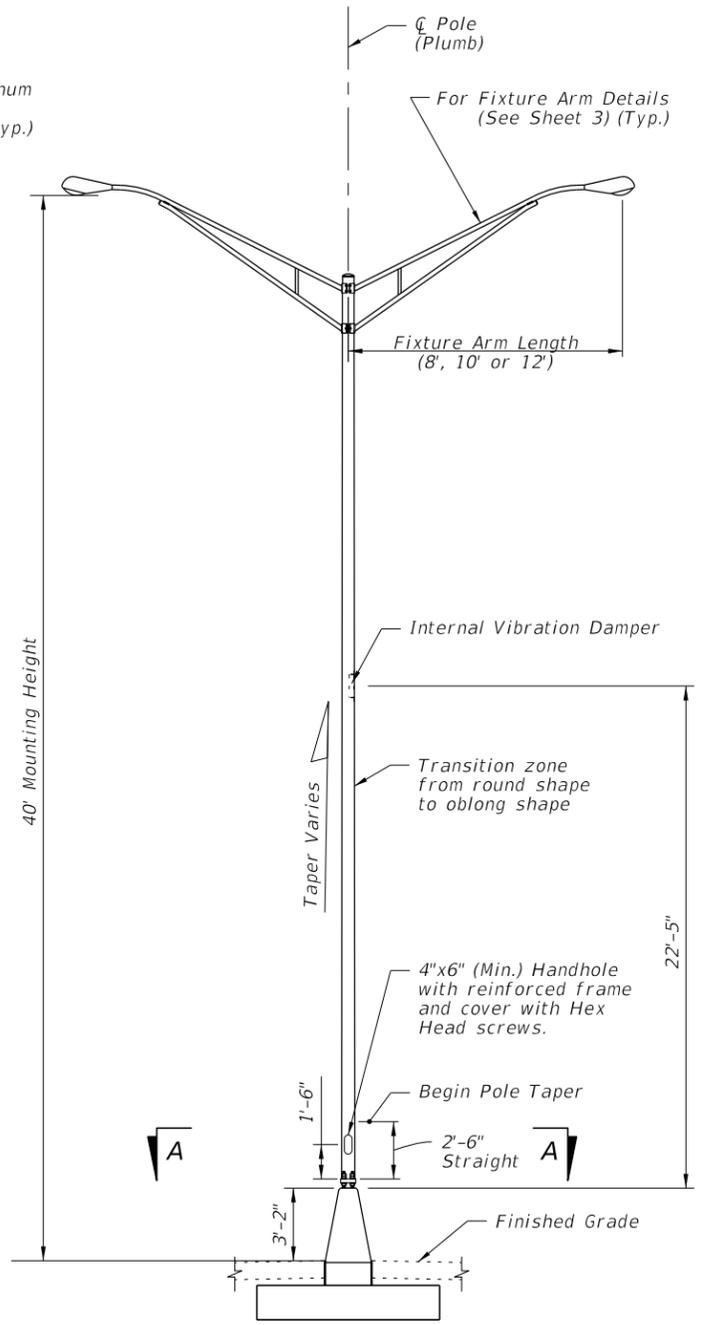
STANDARD ROADWAY ALUMINUM LIGHT POLE W/ARM (Shaft Foundation Option Shown, Spread Footing Option Similar)

STANDARD ROADWAY ALUMINUM LIGHT POLE W/TOP MOUNT (Spread Footing Option Shown, Shaft Foundation Option Similar)



MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE ON CYLINDRICAL FOUNDATION

SECTION A-A

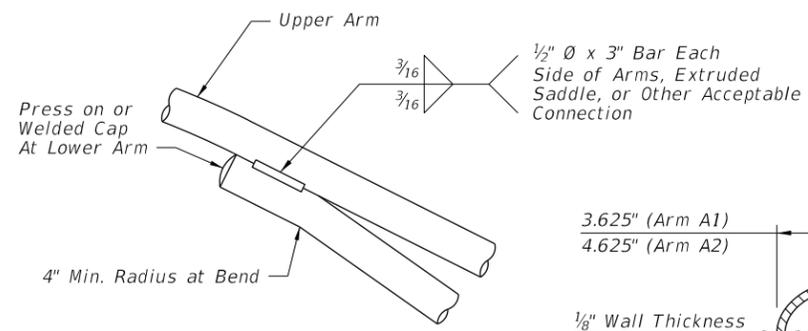


MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE ON SPREAD FOOTING FOUNDATION

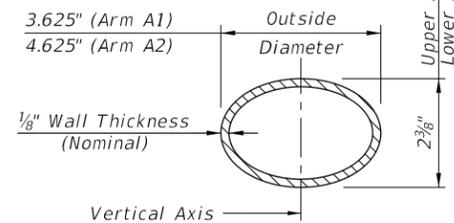
ELEVATIONS

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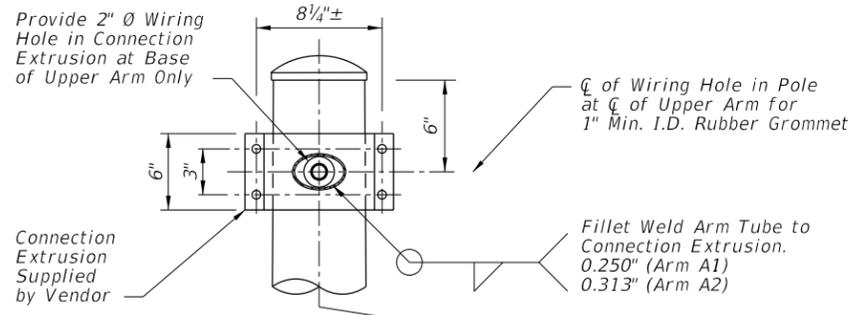
LAST REVISION	11/01/22	DESCRIPTION:		FY 2023-24 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX 715-002	SHEET 2 of 9
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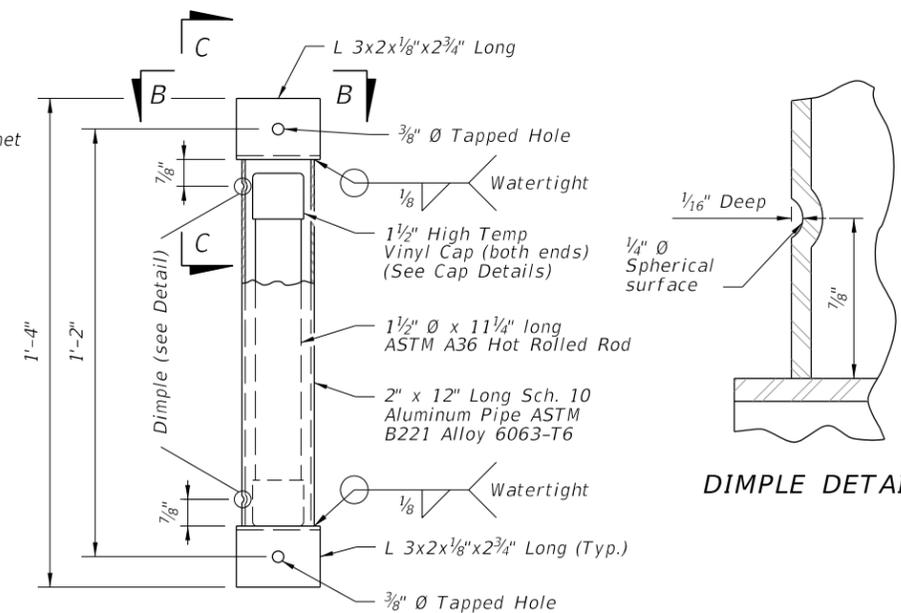
ARM CONNECTION DETAIL



ARM SECTION

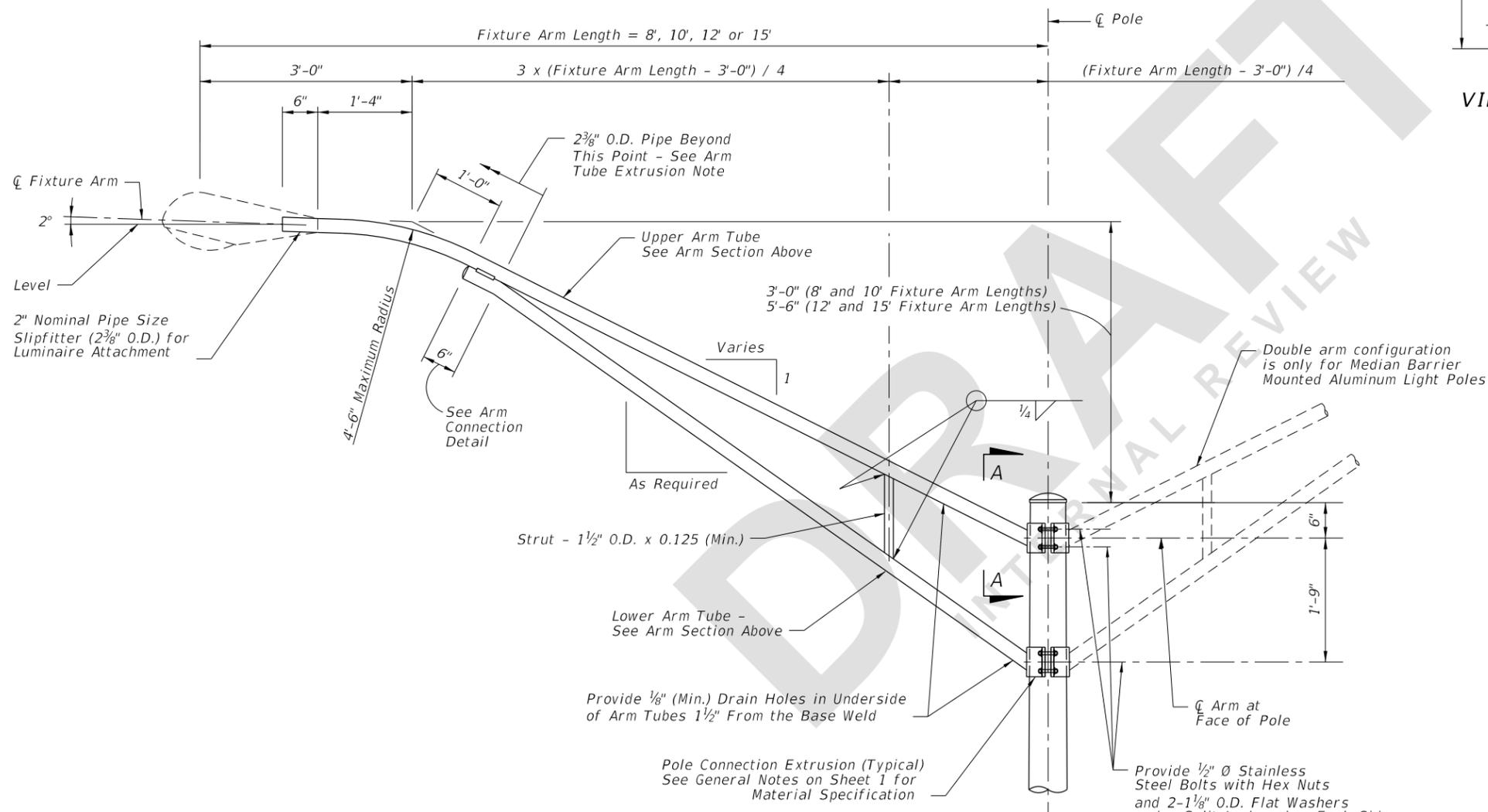


VIEW A-A  
(Connection At Lower Arm Similar)

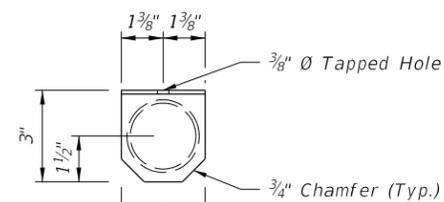


VIBRATION DAMPER ELEVATION

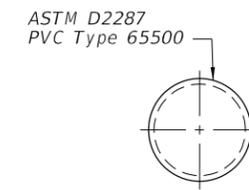
DIMPLE DETAIL



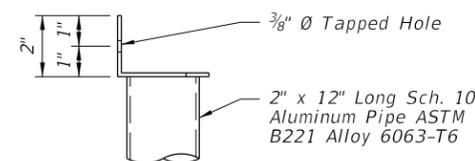
ARM ELEVATION



VIEW B-B



HIGH TEMP VINYL CAP DETAIL



VIEW C-C

ARM TUBE EXTRUSIONS NOTES:

At the pole connections, provide arm tube extrusions with dimensions as shown. Uniformly transition elliptical section to a cylindrical section at the arm connection.

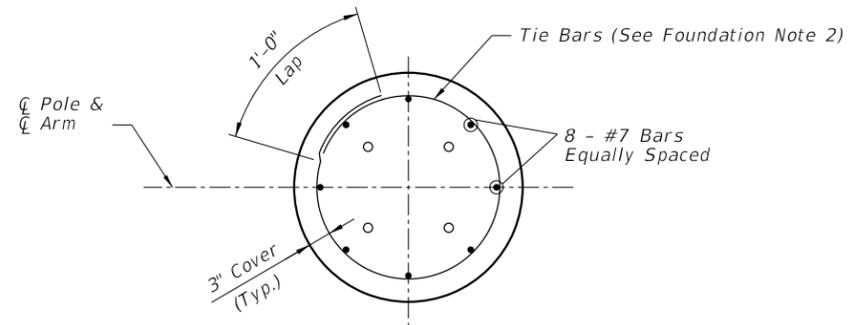
The fabricator may substitute elliptical cross sections other than those tabulated, provided the section properties about the vertical axis and the area of the section equal or exceed that of the required section, and provide minimum wall thickness of 1/8" nominal and within the Aluminum Association Tolerances.

The outside diameter about the minor axis should be held at 2 3/8" at the upper and lower arms.

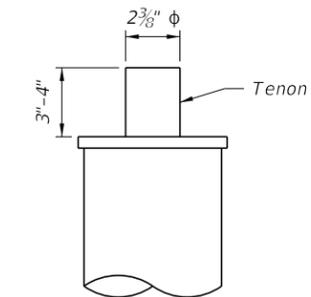
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ARM & DAMPER DETAILS

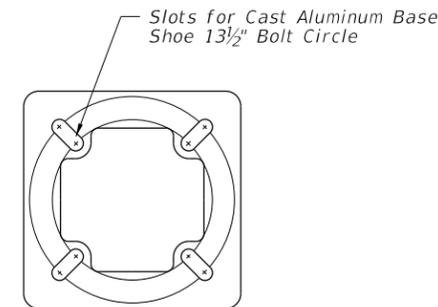
LAST REVISION 11/01/22	DESCRIPTION:		FY 2023-24 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX	SHEET
					715-002	3 of 9



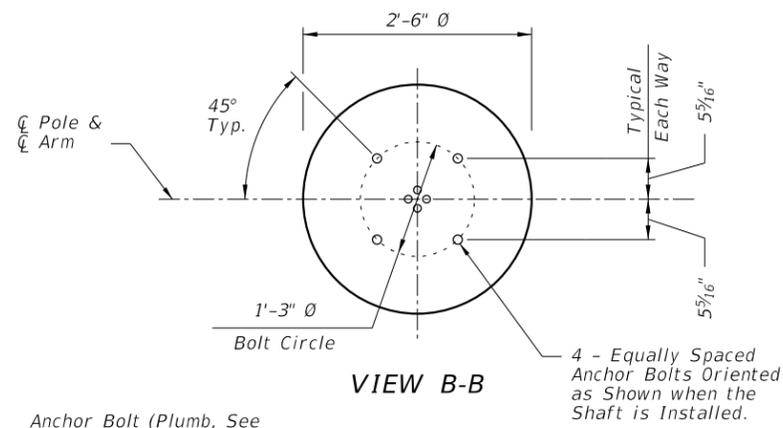
SECTION C-C



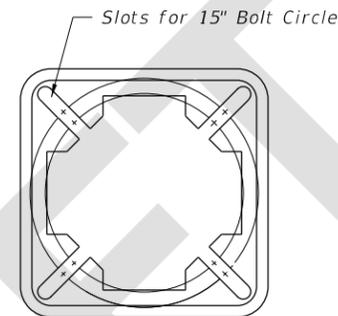
TOP MOUNT TENON



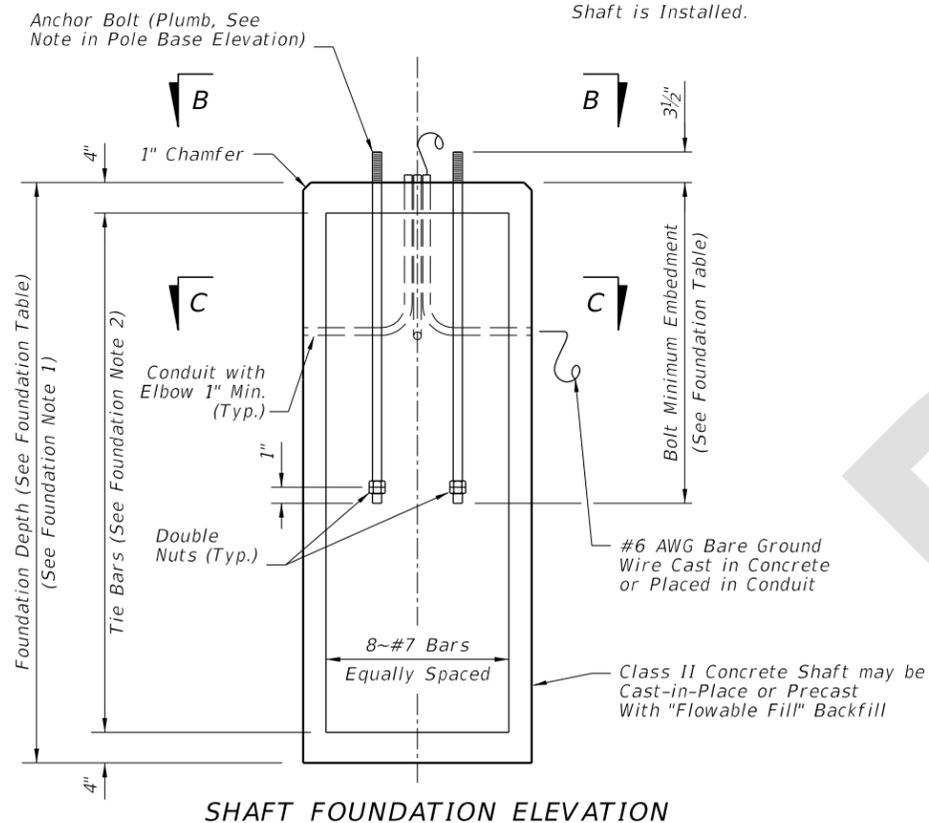
TOP VIEW TRANSFORMER BASE



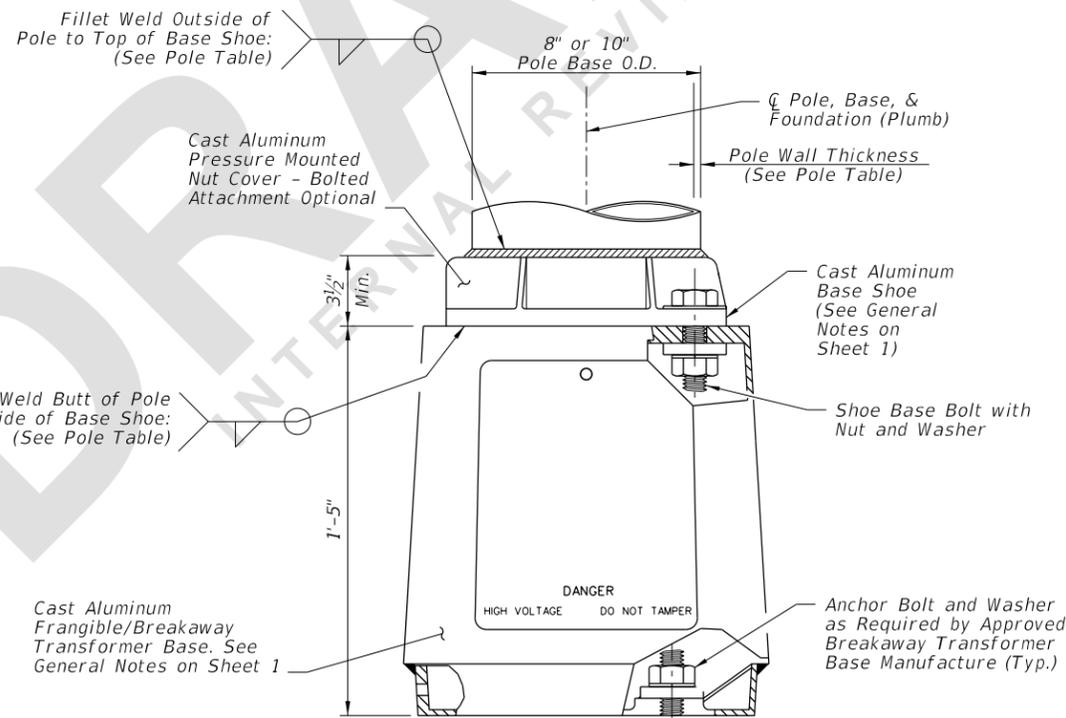
VIEW B-B



BOTTOM VIEW TRANSFORMER BASE



SHAFT FOUNDATION ELEVATION



POLE BASE ELEVATION

ARM-POLE TABLE					
FOR STANDARD ALUMINUM LIGHT POLES WITH ARM					
Mounting Height (Ft.)	Wind Speed and Arm Lengths (Ft.)				
	120 mph 8, 10, 12, 15	140 mph 8, 10, 12	150 mph 15	160 mph 8, 10	160 mph 12, 15
30	A1-P1	A1-P1	A2-P1	A1-P1	A2-P1
35				A1-P2	A2-P2
40				A1-P3	A2-P3
45	A1-P2	A1-P2	A2-P2	A1-P1	A2-P1
50				A1-P2	A2-P2

ARM POLE NOTES:

1. See ARM SECTION detail on Sheet 3 for all A1 and A2 Values.
2. See Pole Table for all P1, P2, and P3 values.
3. For Median Barrier Mounted Pole, Use Arm A1.
4. For 20' and 25' assembly heights use only 8' or 10' arm A1 with P0.

POLE TABLE			
Pole	Pole Wall Thickness	Top of Base Shoe Weld	Inside of Base Shoe Weld
P0	0.156	3/16"	5/32"
P1	0.156	3/16"	5/32"
P2	0.250	1/4"	1/4"
P3	0.313	5/16"	5/16"

POLE NOTES:

1. Pole wall thicknesses shown are nominal and must be within the Aluminum Association tolerances.
2. Thicker walls are permitted and tapered walls may be used in accordance with the minimum Aluminum Association thicknesses.

TOP MOUNT POLE TABLE			
FOR STANDARD ALUMINUM LIGHT POLES WITH TOP MOUNT			
Mounting Height (Ft.)	Wind Speed and Arm Lengths (Ft.)		
	120 mph	140 mph	160 mph
20	Pole P0	Pole P0	Pole P0
25	Pole P1	Pole P1	Pole P1
30			Pole P1
35			Pole P1
40	Pole P2	Pole P2	Pole P2
45			Pole P2
50	Pole P2	Pole P2	Pole P2

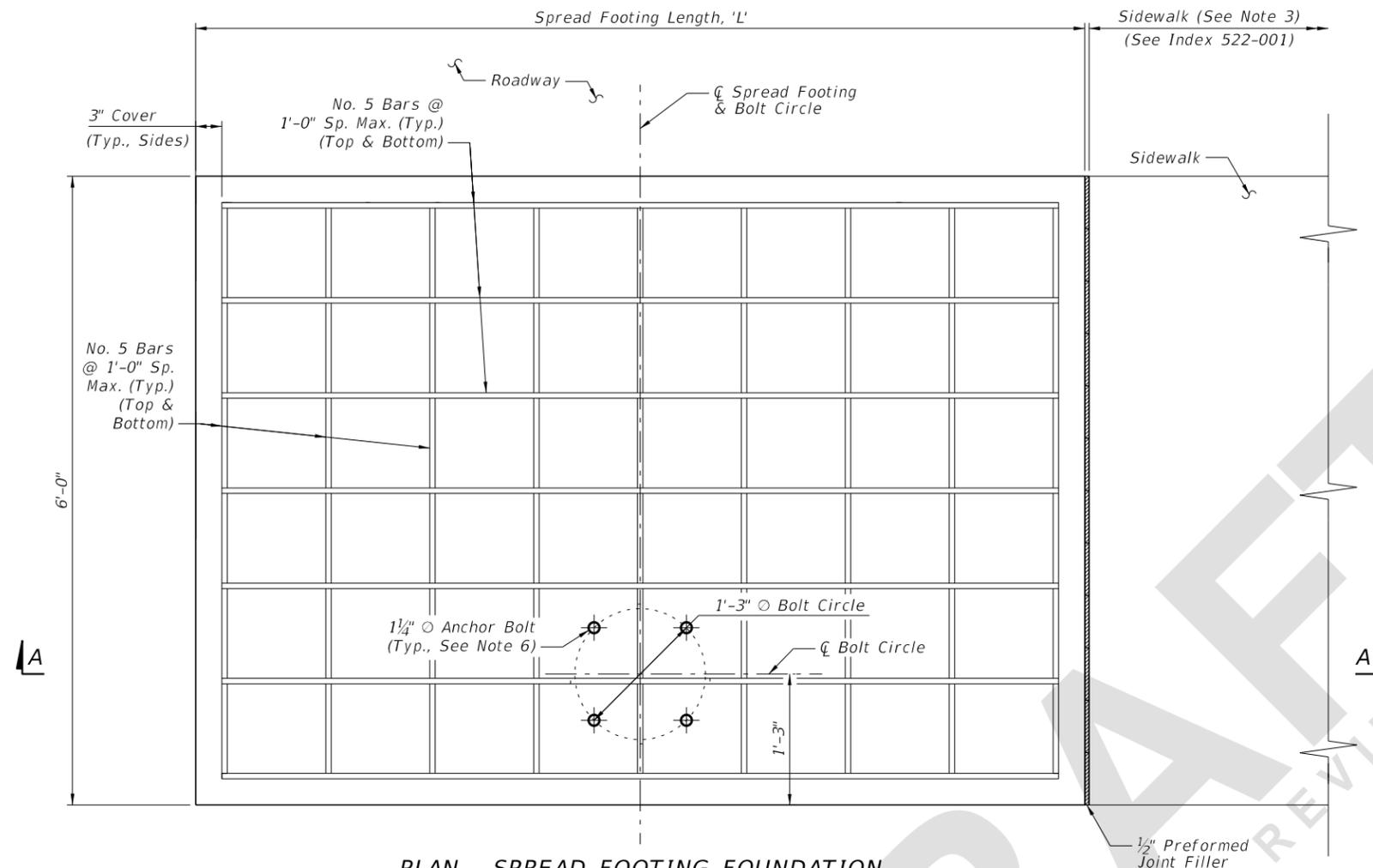
SHAFT FOUNDATION TABLE				
Pole	P0	P1	P2	P3
Depth	6'-0"	7'-0"	8'-0"	8'-0"
Bolt Min. Embedment	2'-6"	3'-6"	3'-6"	3'-6"

SHAFT FOUNDATION OPTION WITH LIGHT POLE & BASE DETAILS

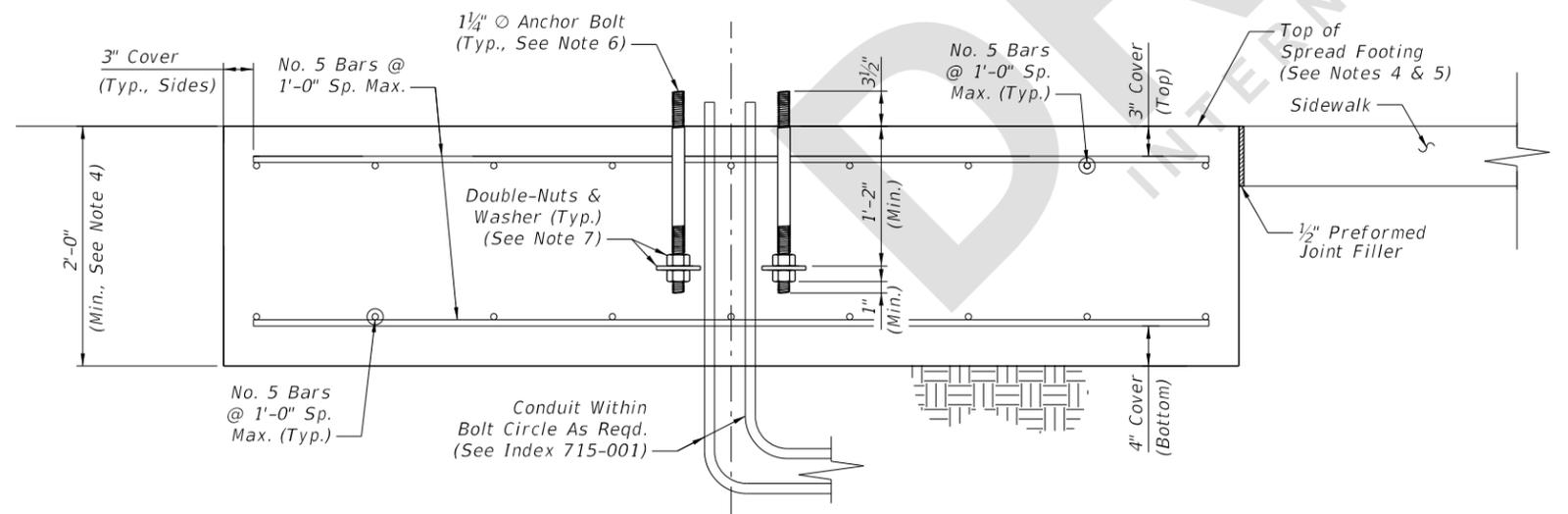
SHAFT FOUNDATION NOTES:

1. Depths shown are for slopes equal to or flatter than 1:4. For slopes steeper than 1:4 and equal to or flatter than 1:2 add 2'-6" to foundation depths shown.
2. Foundation Tie Bars: #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.

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PLAN - SPREAD FOOTING FOUNDATION



SECTION A-A - SPREAD FOOTING FOUNDATION ELEVATION

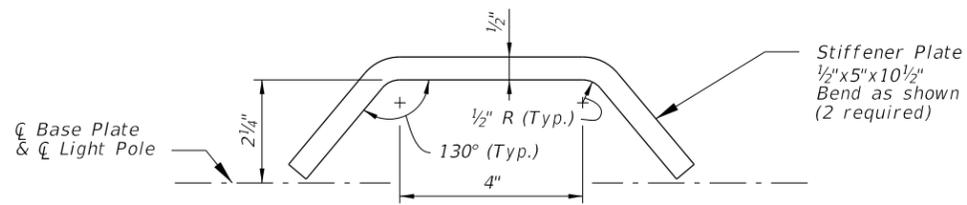
SPREAD FOOTING LENGTH, 'L'			
Mounting Height (Ft.)	Wind Speed (All Arm Lengths)		
	120 mph	140 mph	160 mph
20	4'-6"	5'-0"	6'-0"
25	4'-6"	5'-0"	6'-0"
30	7'-0"	7'-0"	7'-0"
35	7'-0"	7'-0"	7'-0"
40	7'-0"	7'-0"	10'-0"
45	8'-6"	10'-0"	10'-0"
50	8'-6"	10'-0"	11'-6"

NOTES:

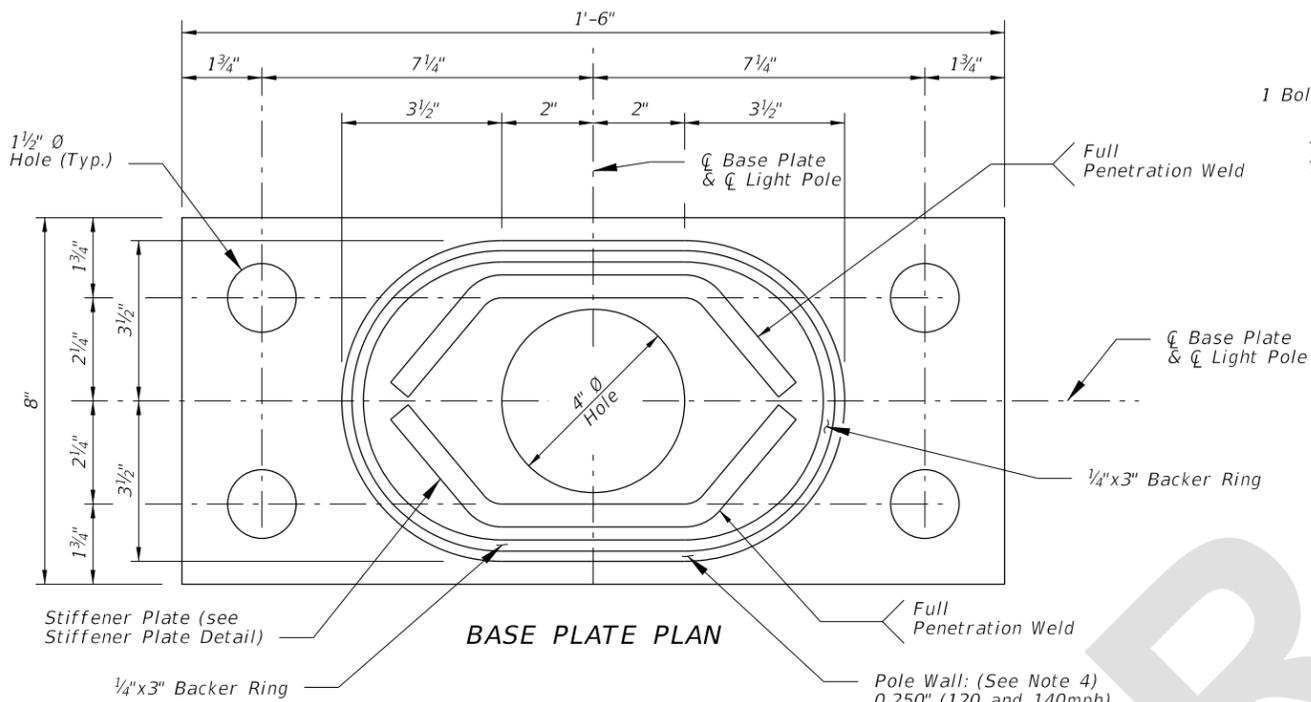
1. Install the Spread Footing Foundation Option only where called for in the Plans.
2. The Spread Footing Foundation Option is only permitted for use with single arm or top mount light poles. Where applicable, the pole arm must be oriented towards the roadway side of the footing as shown. Double arm configurations are not permitted.
3. Sidewalk placed on the other side or both sides of the spread footing is permitted where shown in the Plans. The sidewalk connection to spread footing requires the 1/2" expansion joint shown regardless of the side.
4. The top of the spread footing must match the cross slope of the adjacent sidewalk where applicable per the Plans. The nominal bottom of the spread footing must remain level.
5. Apply concrete surface finish to the top of the spread footing in accordance with Specification 522-7.
6. Mount the anchor bolts plumb. For the corresponding pole base details, see Sheet 4.
7. Place zinc-plated steel washers with 1 5/16" or 1 3/8" I.D. and a minimum thickness of 1/4". Use either 4" diameter fender washers or 3"x3" square washers.
8. Where raised curb is called for in the Plans, provide a tooled cold joint with bond breaker between the foundation and back of raised curb. See Sheet 2 and the connection between concrete sidewalk and raised curb per Index 522-001.

SPREAD FOOTING FOUNDATION OPTION

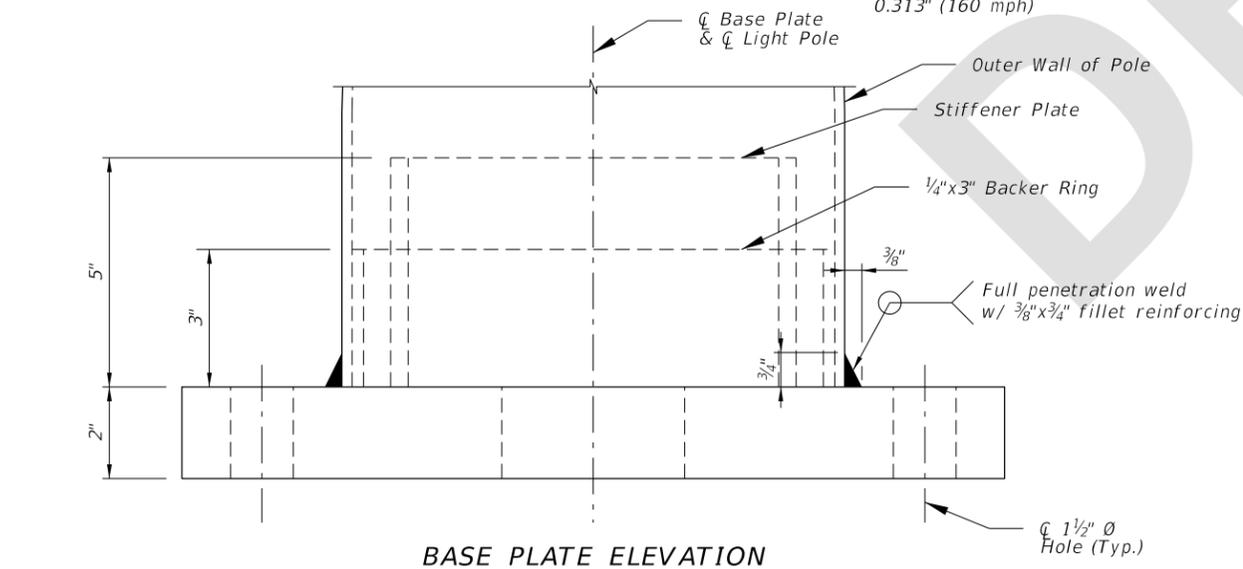
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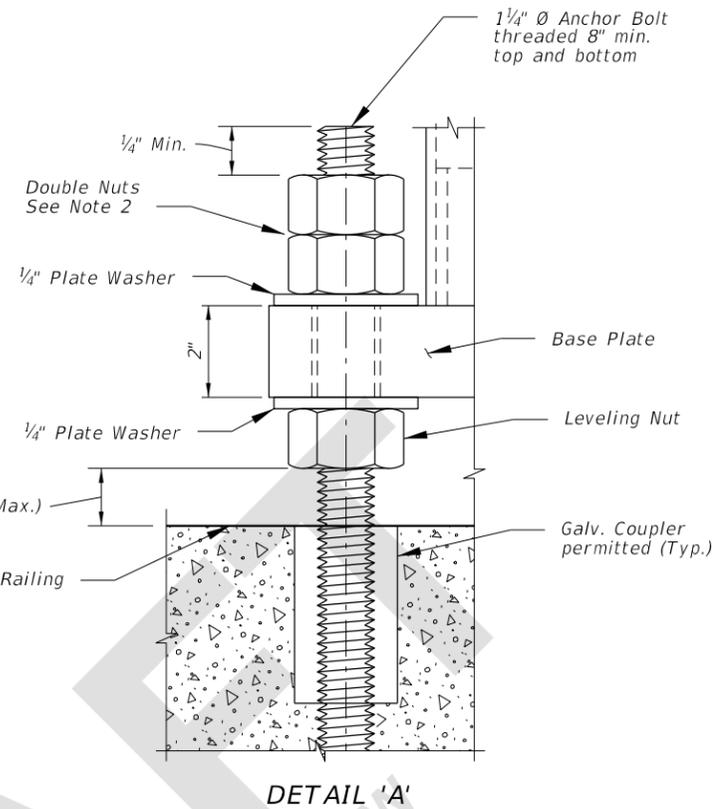
STIFFENER PLATE DETAIL



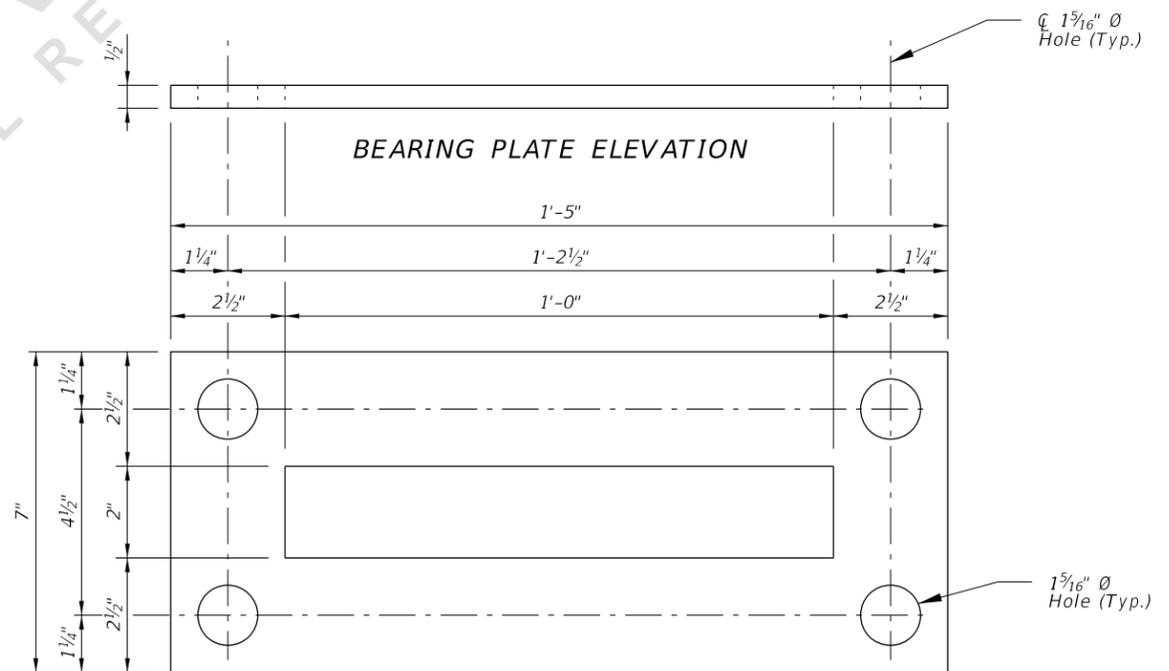
BASE PLATE PLAN



BASE PLATE ELEVATION



DETAIL 'A'



BEARING PLATE ELEVATION

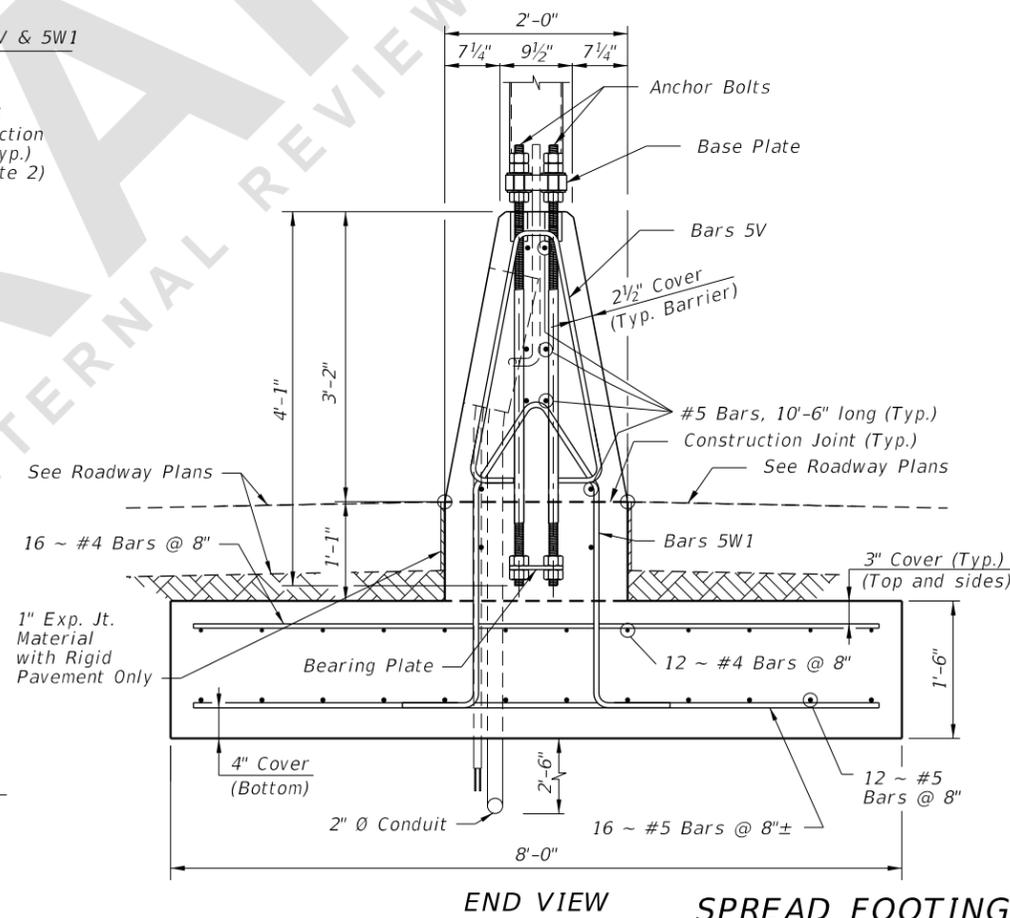
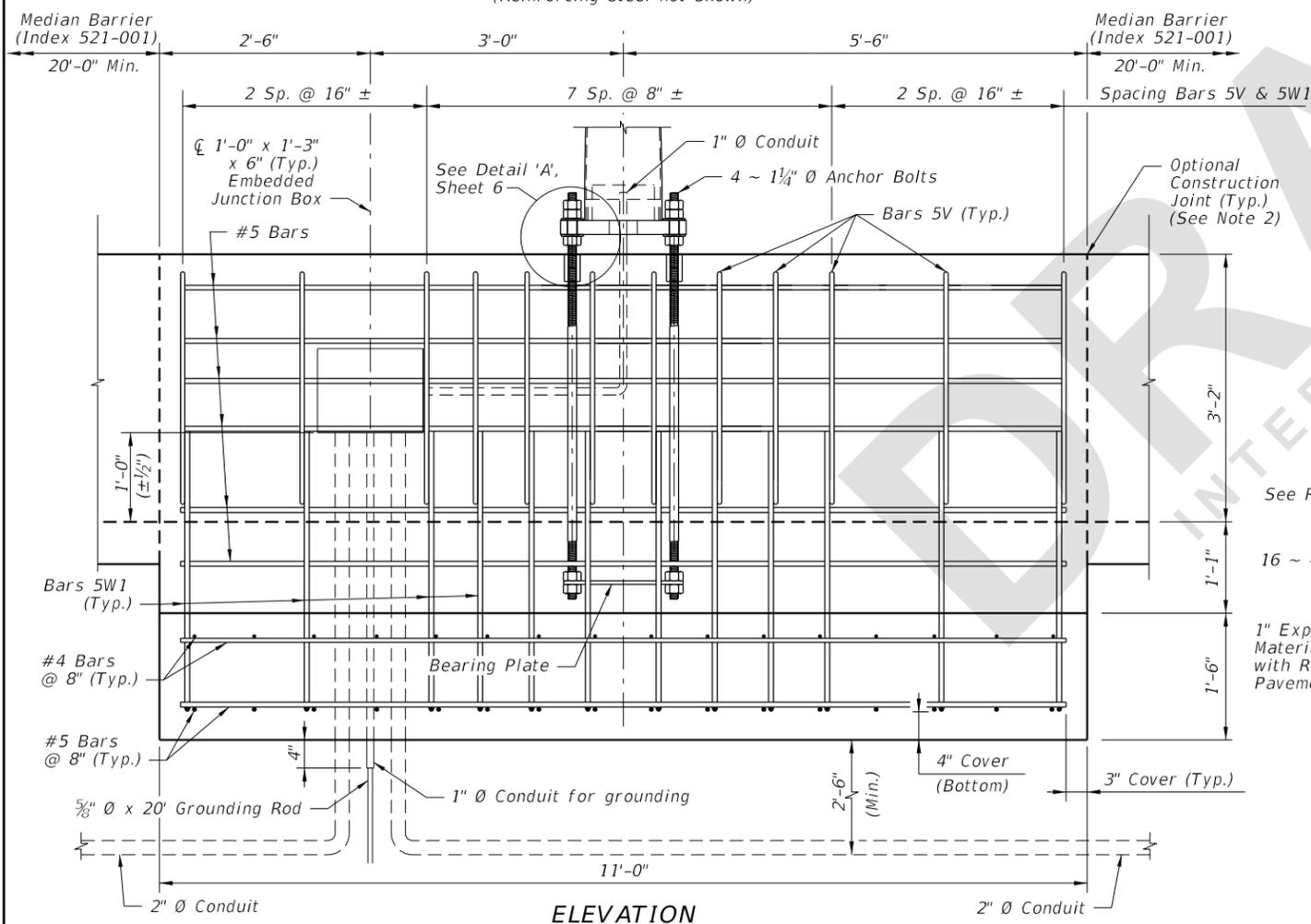
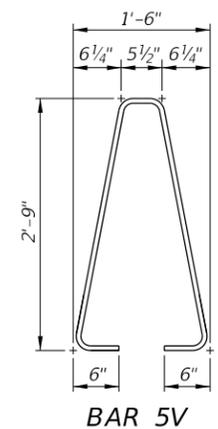
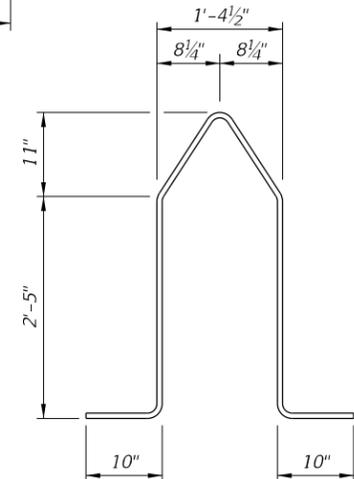
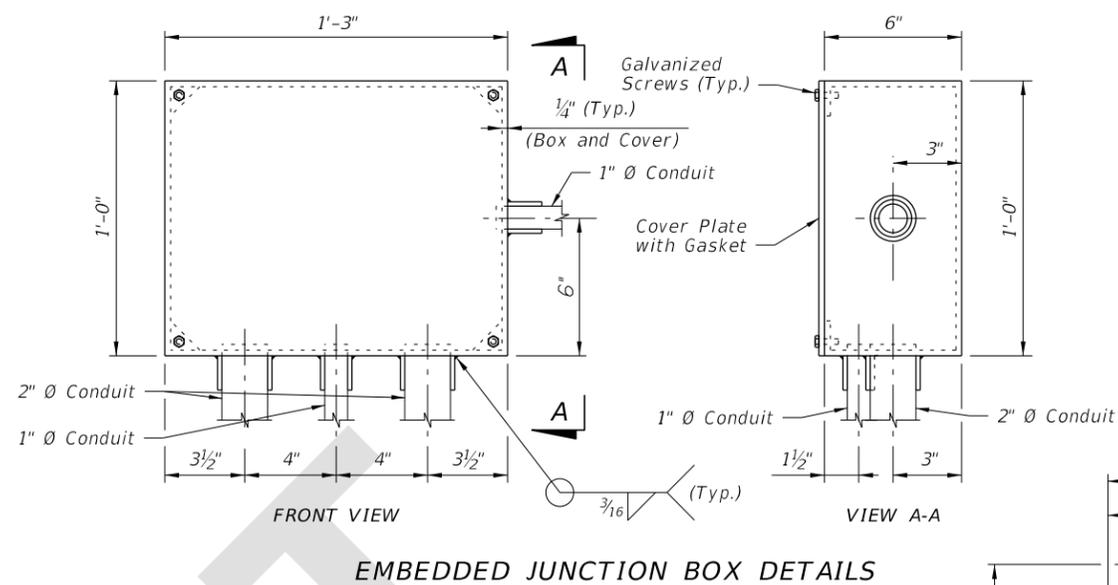
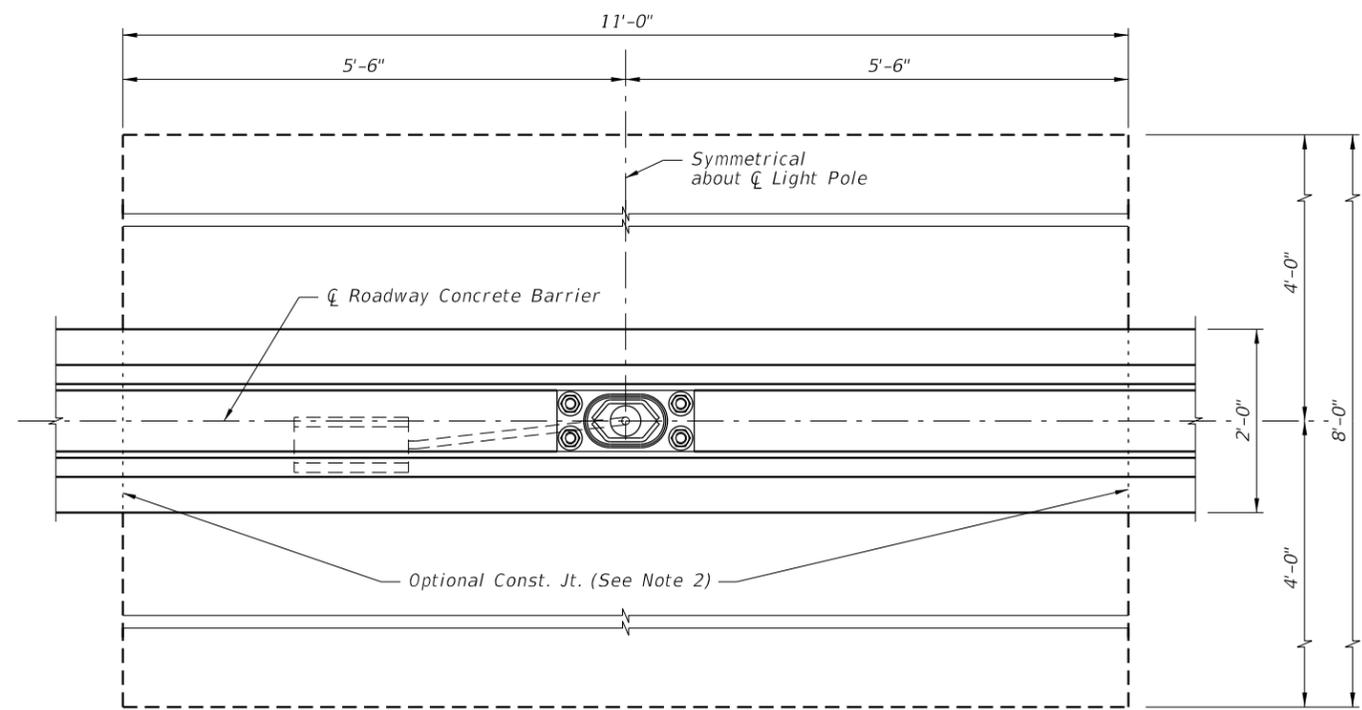
BEARING PLATE PLAN

NOTES:

1. For locations of Bearing Plates, Base Plates and Detail 'A' see Sheets 7 thru 9.
2. Double Nuts: The bottom hex nut may be substituted by a half-height 'jam' nut.
3. Provide individual nut covers (not shown) for each bolt.
4. Pole wall thicknesses shown are nominal and shall be within the Aluminum Association Tolerances. Thicker walls are permitted and tapered walls may be used in accordance with the minimum Aluminum Association thicknesses.

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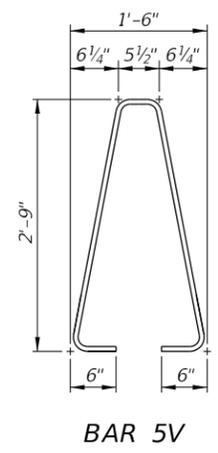
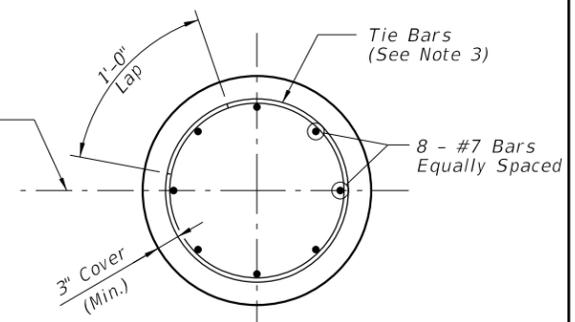
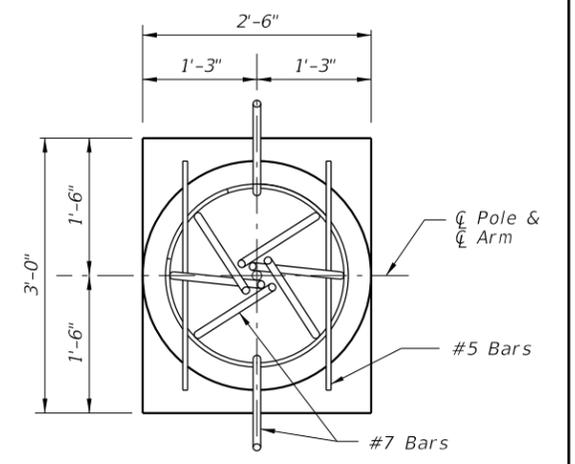
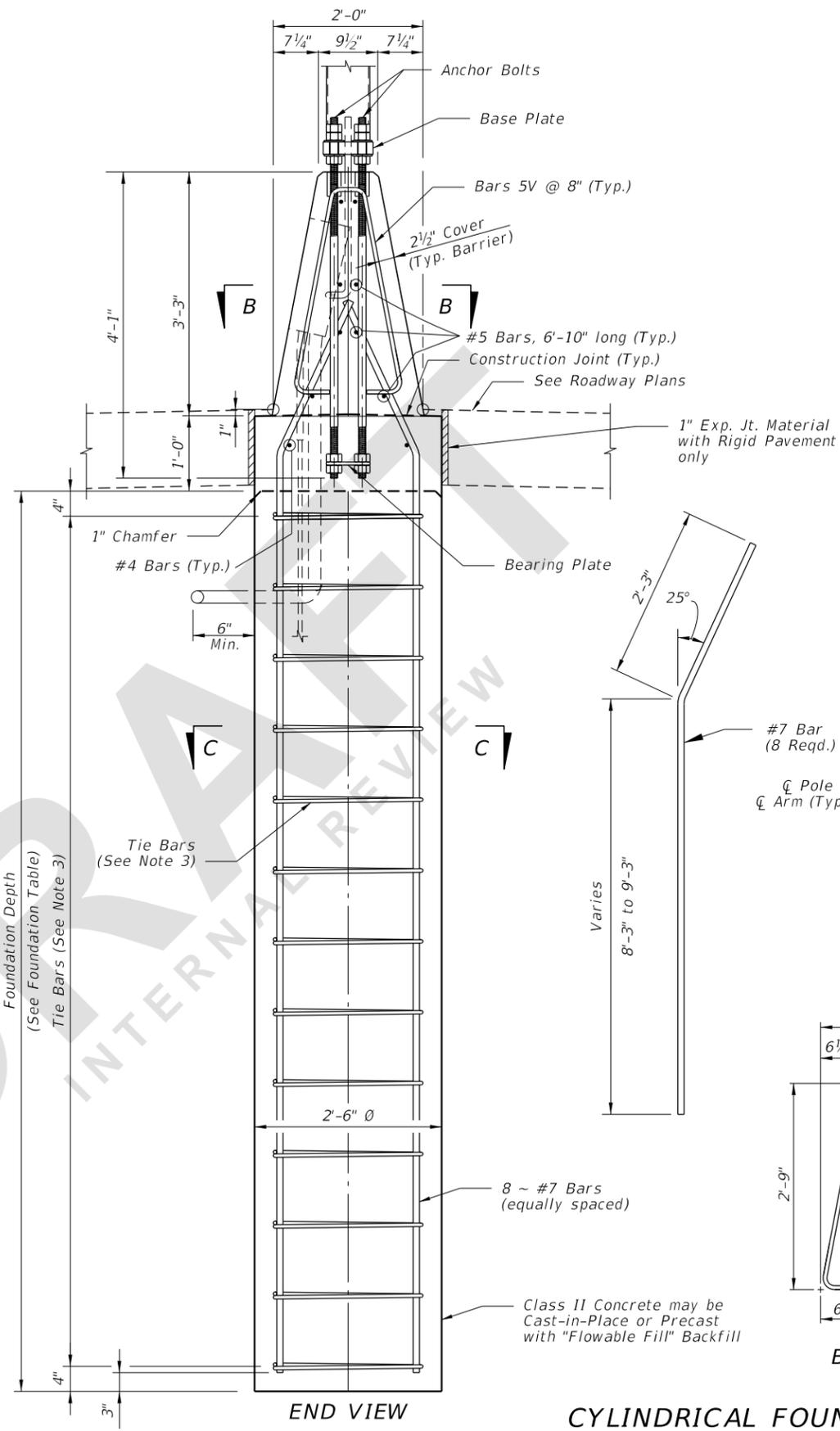
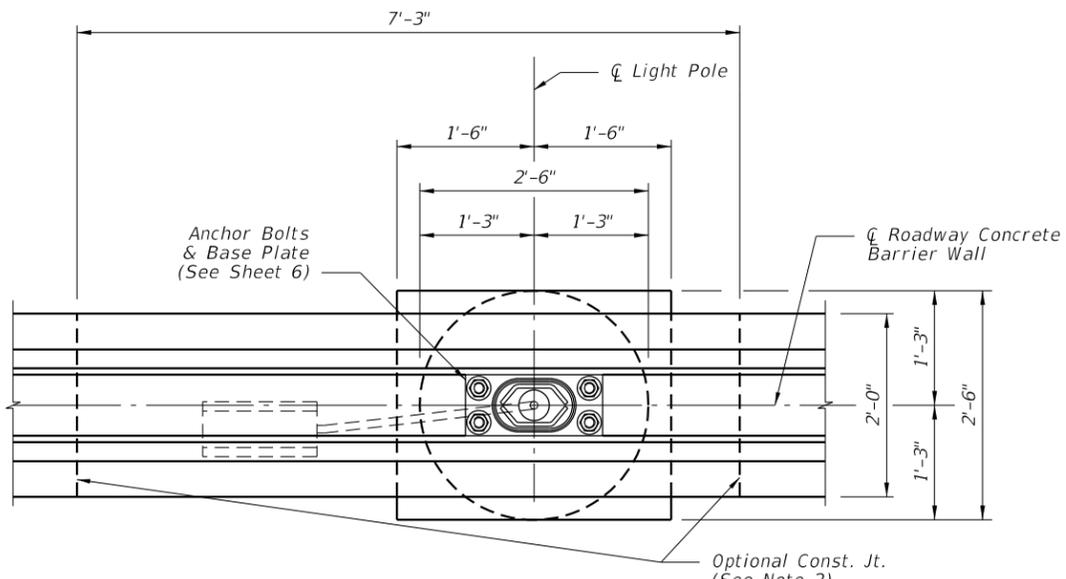


- NOTES:
- For Bearing Plate and Base Plate Details, see Sheet 6.
  - For connections to adjacent Median Barrier, use the Doweled Joint detail per Index 521-001. Alternatively, a continuous concrete pour or a construction joint may be substituted; these alternatives require the Median Barrier's longitudinal steel to lap a minimum of 2'-0" with the longitudinal steel shown herein.

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FOUNDATION TABLE		
WIND SPEED (MPH)	DESIGN MOUNTING HEIGHT (FT)	FOUNDATION DEPTH (FT)
120	40	8
140	40	9
160	40	9

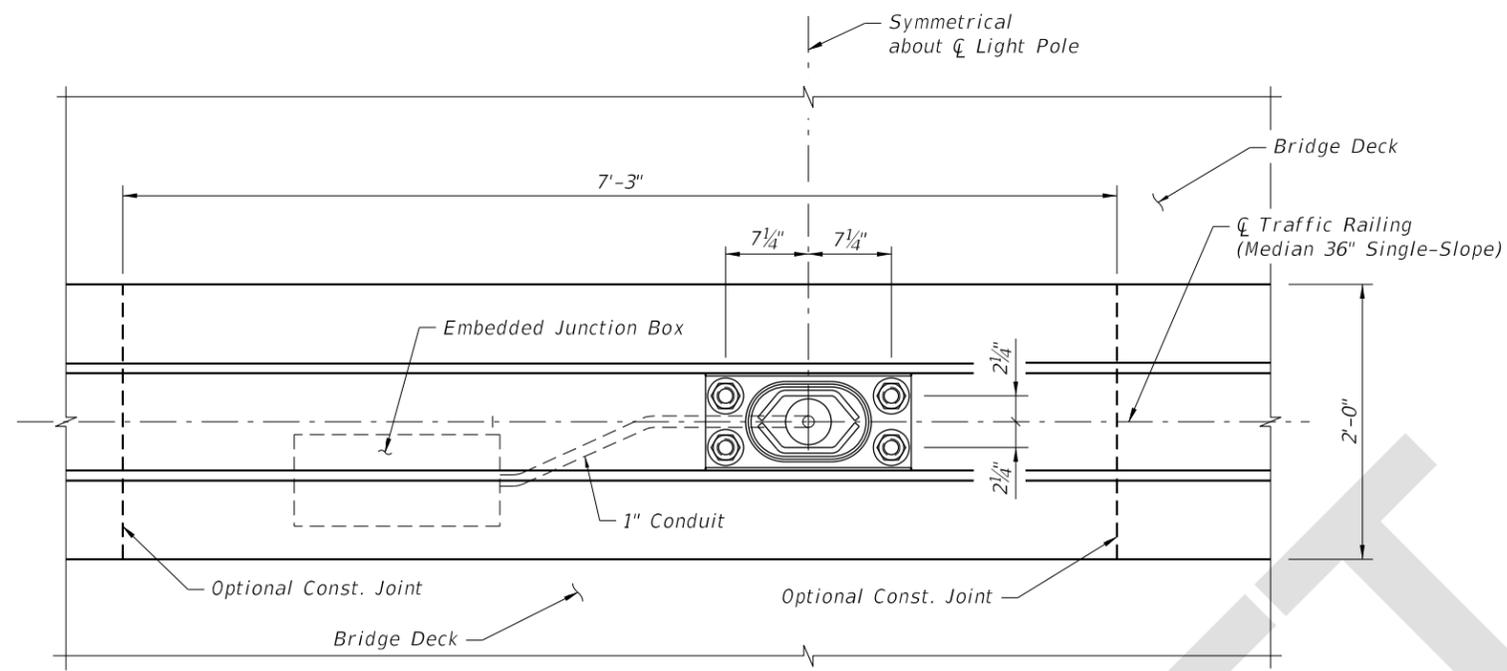


- NOTES:
1. For Bearing Plate and Base Plate Details, see Sheet 6.
  2. For connections to adjacent Median Barrier, use the Doweled Joint detail per Index 521-001. Alternatively, a continuous concrete pour or a construction joint may be substituted; these alternatives require the Median Barrier's longitudinal steel to lap a minimum of 2'-0" with the longitudinal steel shown herein.
  3. #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.

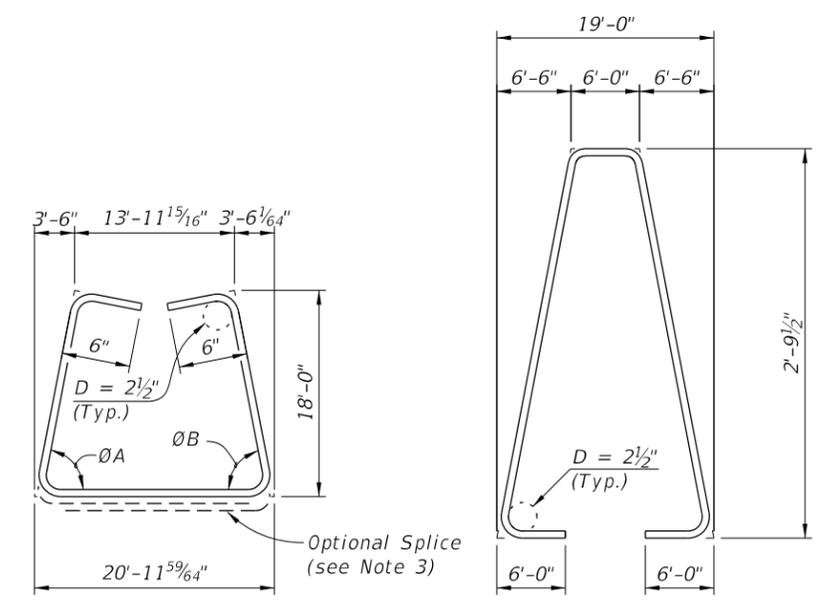
**CYLINDRICAL FOUNDATION DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE**

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LAST REVISION 11/01/22	DESCRIPTION:		FY 2023-24 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX 715-002	SHEET 8 of 9
REVISION						

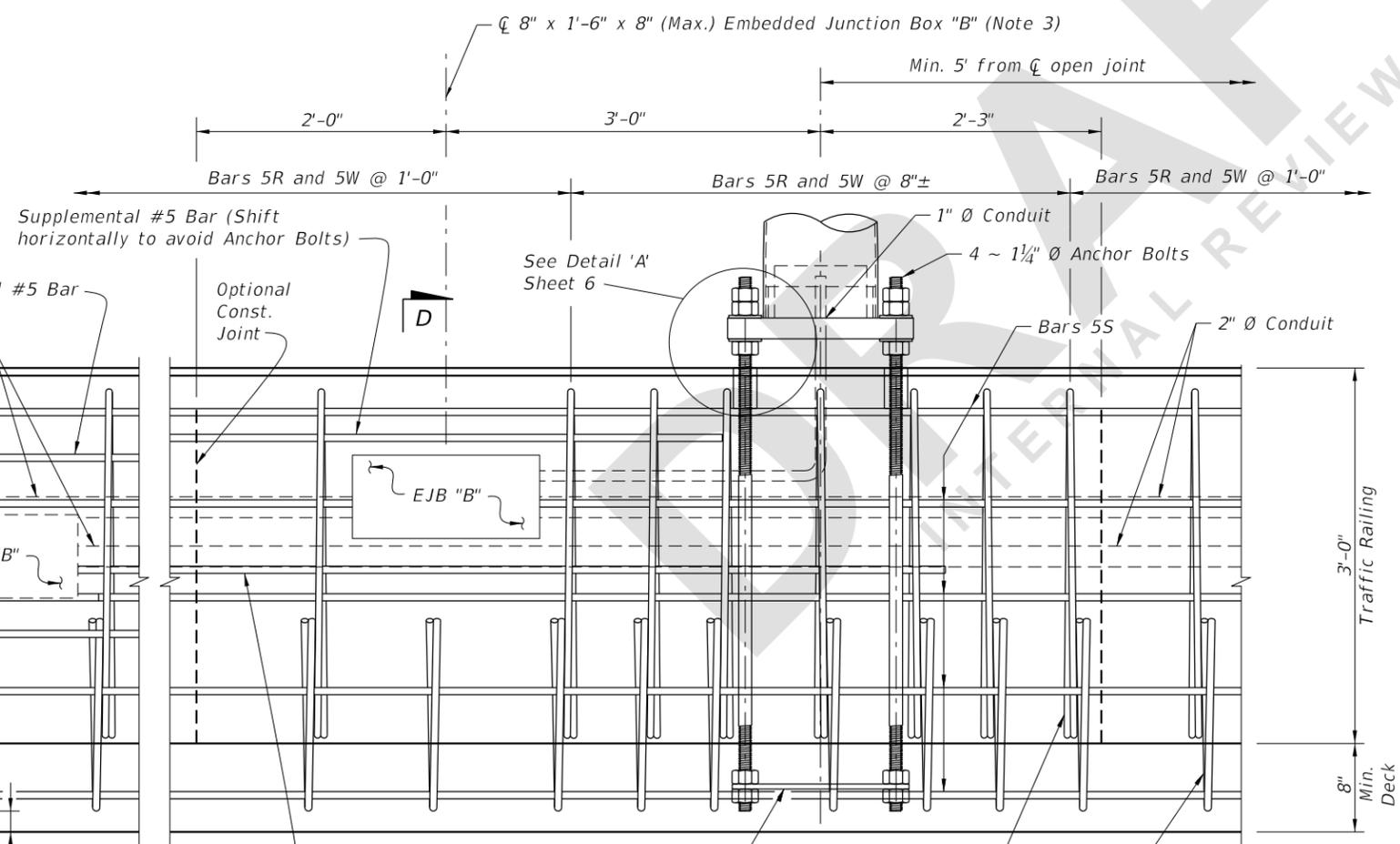


**PLAN**  
(Reinforcing steel and 2"  $\bar{O}$  Conduit not shown)

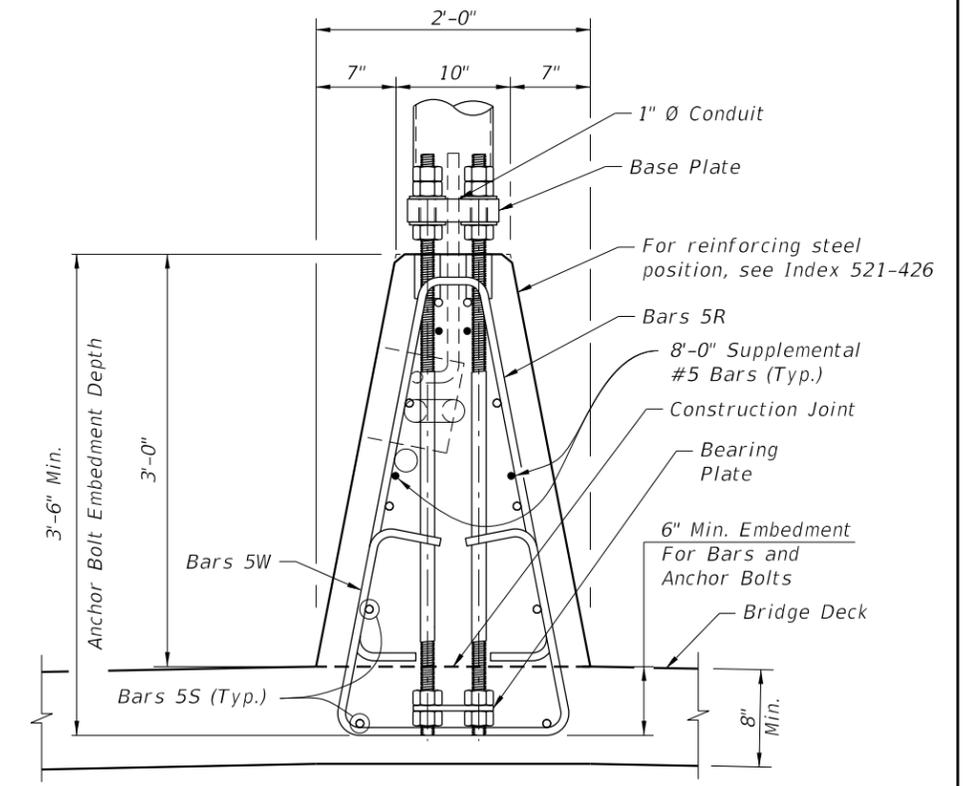


**BAR 5W**  
(See Note 4)

**BAR 5R**



**ELEVATION**  
(Longitudinal and transverse deck reinforcing steel not shown)



**SECTION D-D**  
(Longitudinal and transverse deck reinforcing steel not shown)

- NOTES:**
1. For Base Plate Details, Bearing Plate Details, and Detail 'A', see Sheet 6.
  2. See Index 521-426 for details of adjacent Traffic Railing (Median 36" Single-Slope) and for angles  $\bar{O}A$  and  $\bar{O}B$ .
  3. See Index 630-010 for Conduit, EJB and supplemental reinforcing details.
  4. At the Contractor's option, Bars 5W may be fabricated as a two piece bar with a 1'-2" lap splice at the bottom legs.

**DETAILS FOR TRAFFIC RAILING (MEDIAN 36" SINGLE-SLOPE) MOUNTED ALUMINUM LIGHT POLE**

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LAST REVISION	DESCRIPTION:
11/01/22	

**FDOT** FY 2023-24  
**STANDARD PLANS**

**STANDARD ALUMINUM LIGHTING**

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