

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:

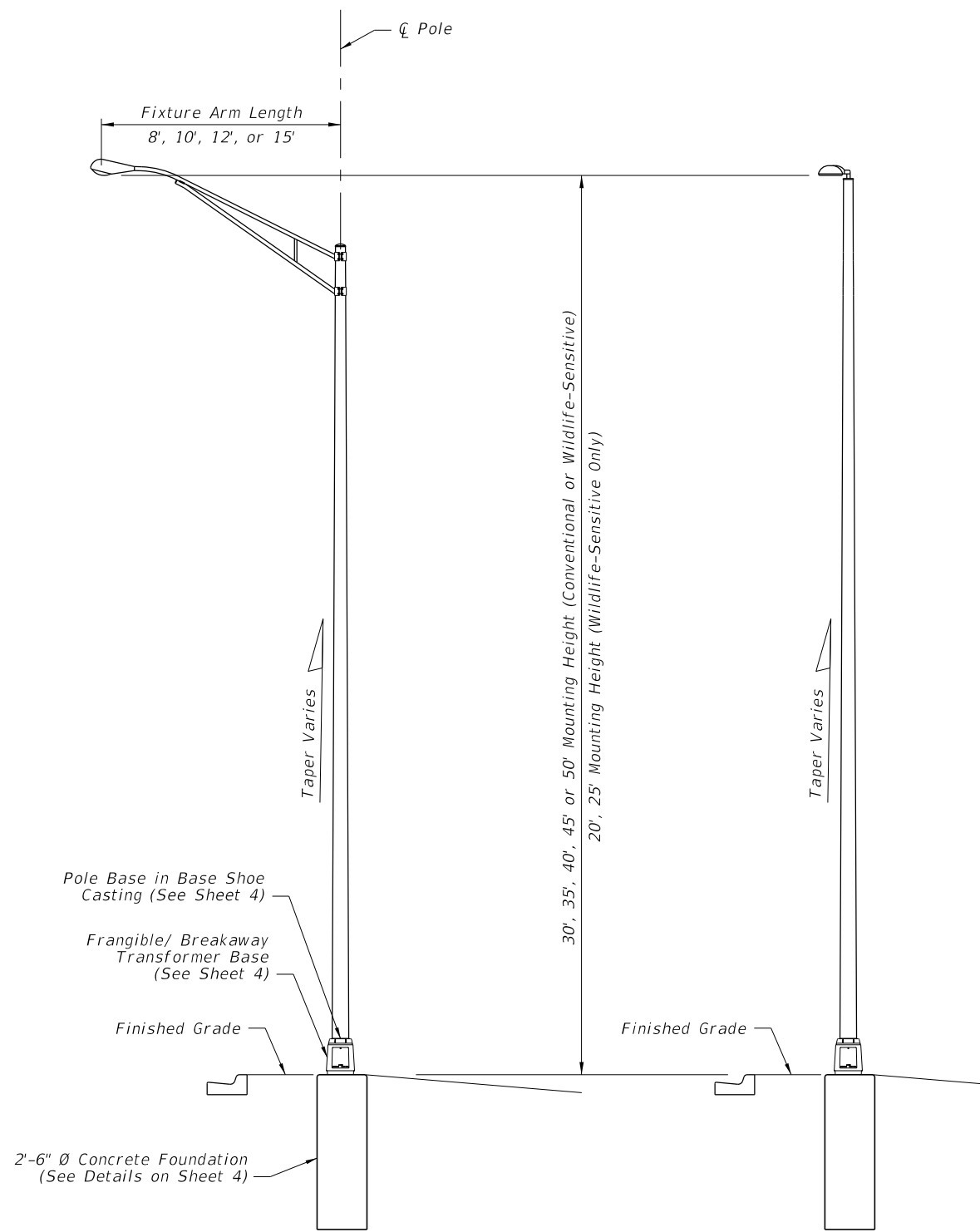
120 MPH
Alachua, Baker, Bradford, Calhoun, Clay, Columbia, Dixie, Duval, Gadsden, Gilchrist, Hamilton, Jackson, Jefferson, Lafayette, Leon, Liberty, Nassau, Madison, Putnam, Suwannee, Taylor, Union and Wakulla Counties.

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.

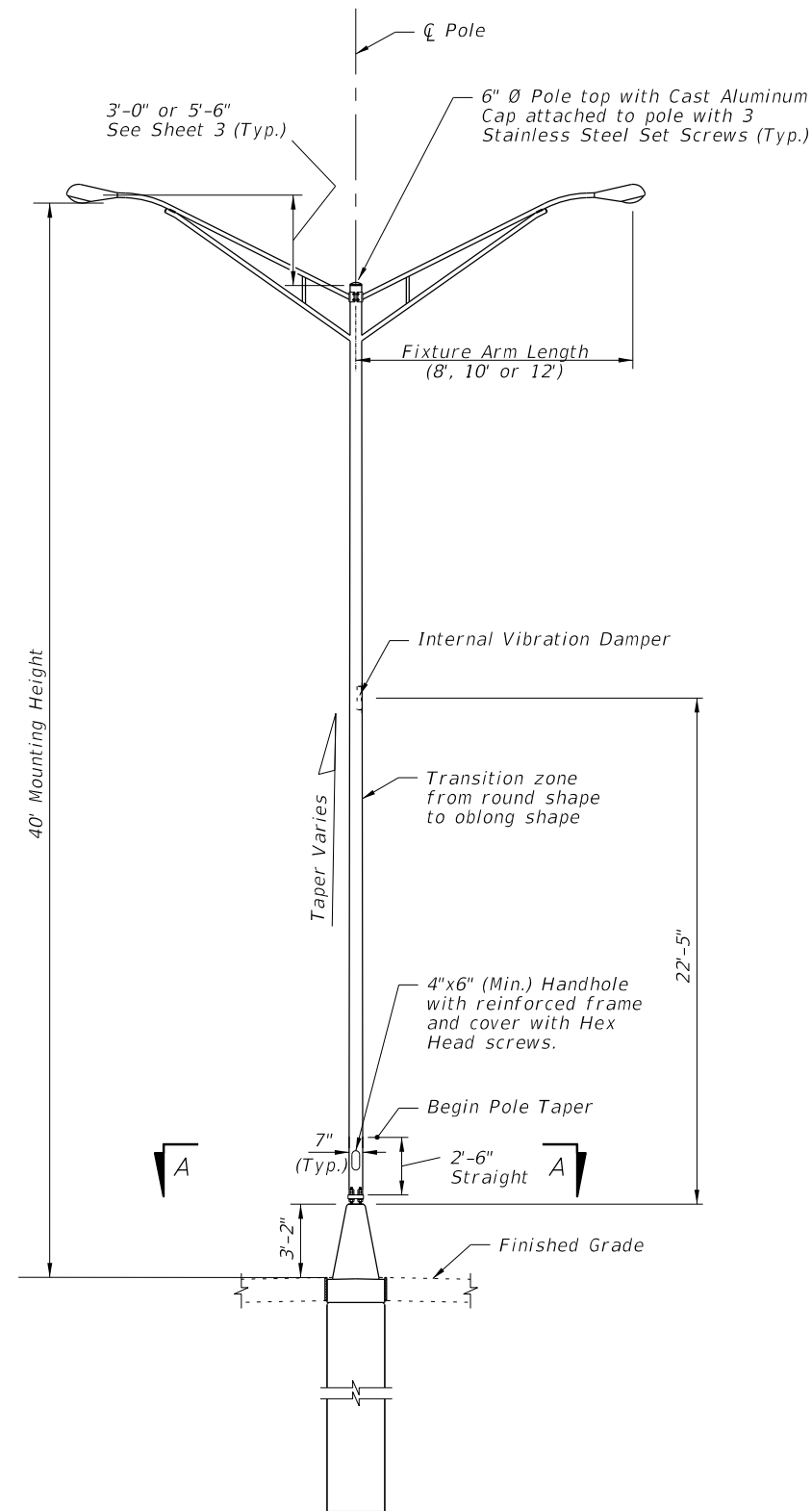
160 MPH
Brevard, Broward, Charlotte, Collier, Escambia, Indian River, Lee, Martin, Miami-Dade, Monroe, Palm Beach, Sarasota and St. Lucie Counties.

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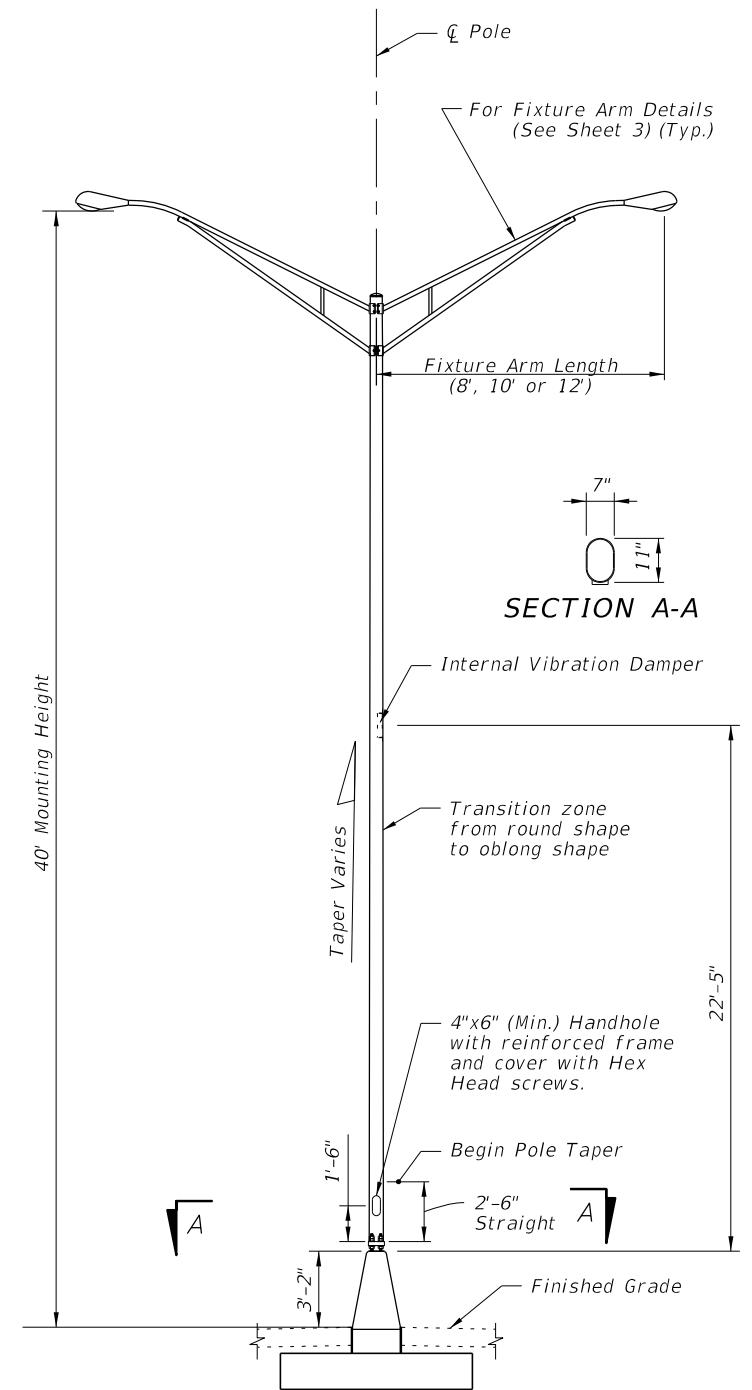
LAST REVISION 11/01/21	REVISION	DESCRIPTION:	 FY 2022-23 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX 715-002	SHEET 1 of 8
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STANDARD ROADWAY ALUMINUM LIGHT POLE W/ARM



MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE ON CYLINDRICAL FOUNDATION



MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE ON SPREAD FOOTING FOUNDATION

ELEVATIONS

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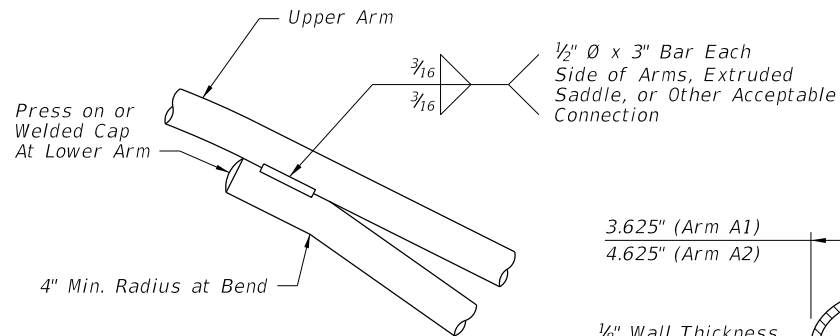


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STANDARD PLANS

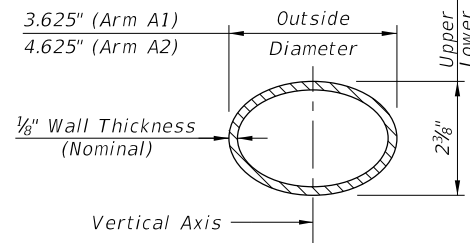
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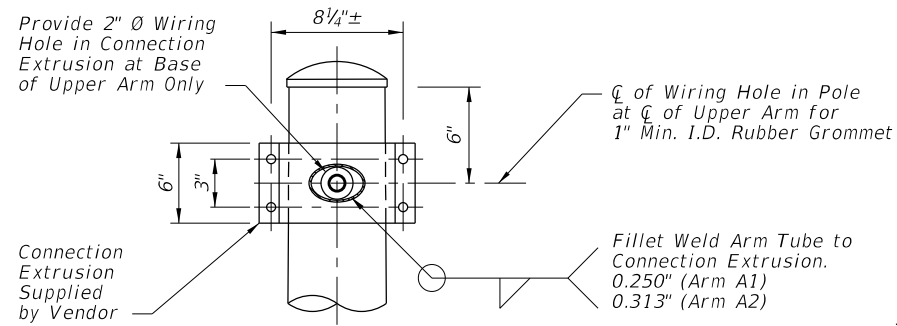
SHEET
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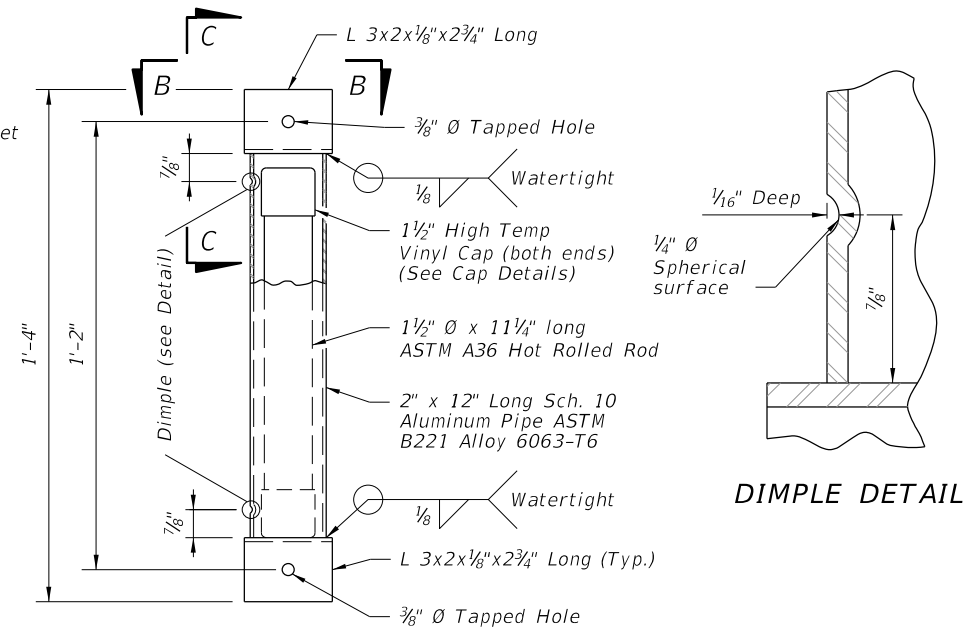
ARM CONNECTION DETAIL



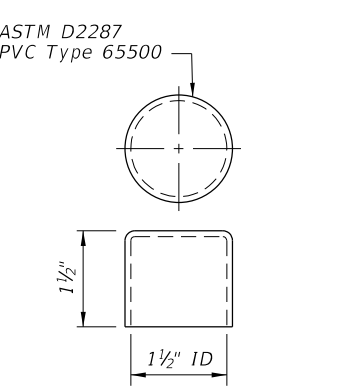
ARM SECTION



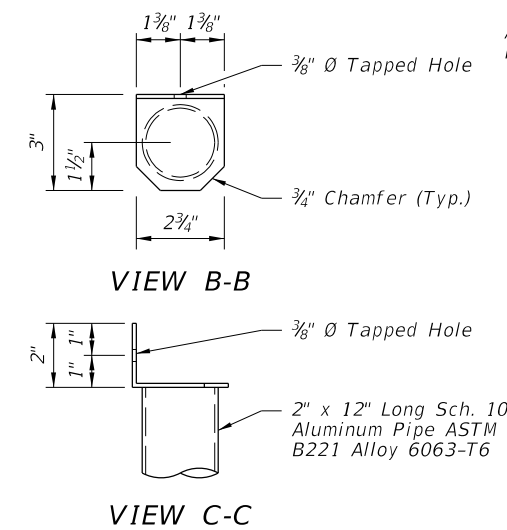
SECTION A-A
(Connection At Lower Arm Similar)



VIBRATION DAMPER ELEVATION

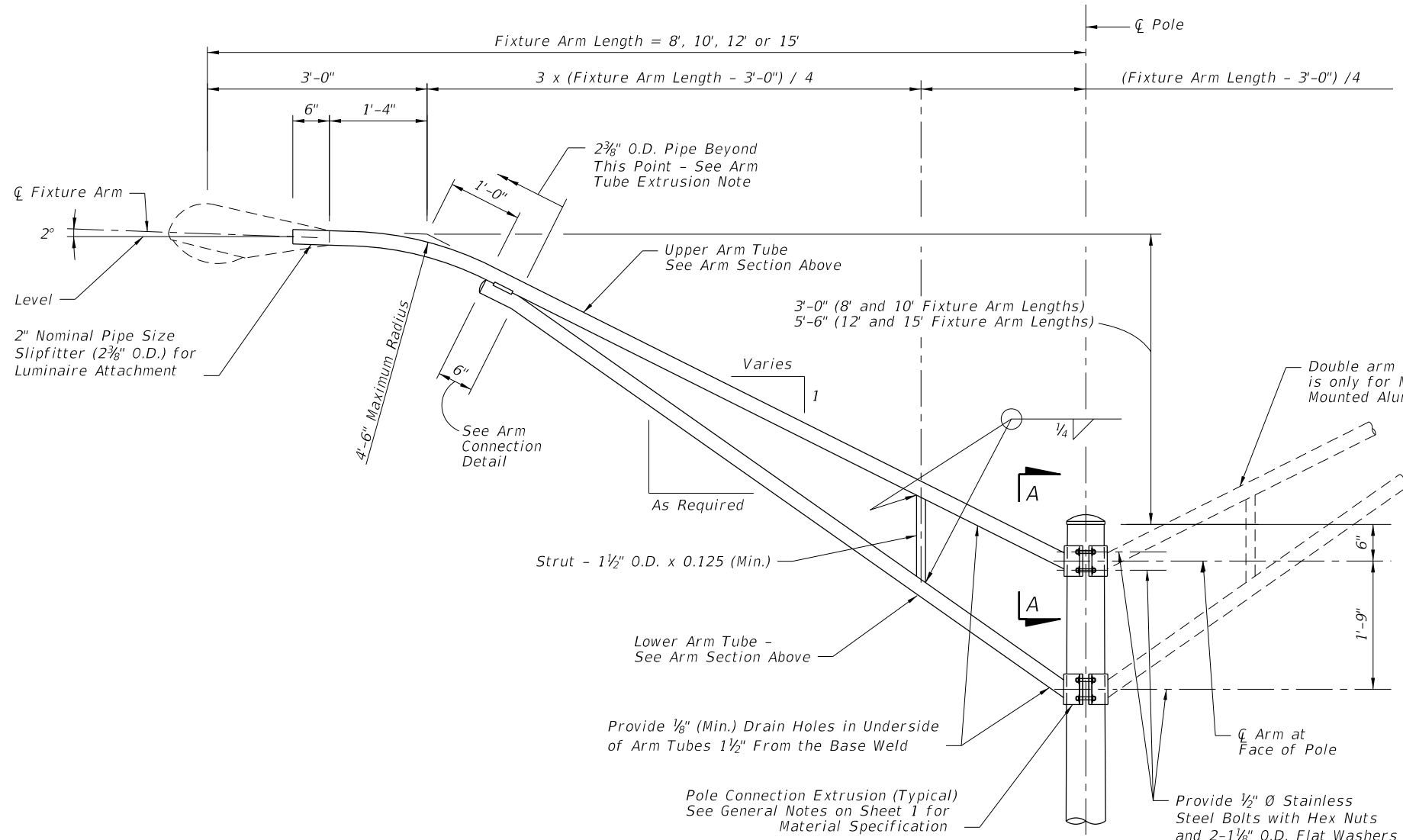


HIGH TEMP VINYL CAP DETAIL



VIEW B-B

VIEW C-C



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.

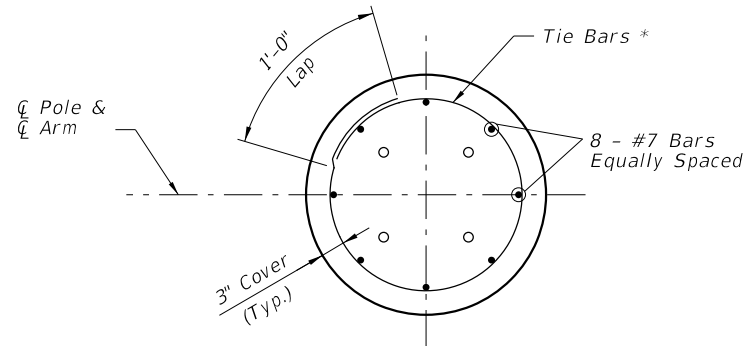
The fabricator may substitute elliptical cross sections other than those tabulated, provided the section properties about the vertical axis and the area of the section equal or exceed that of the required section, and provide minimum wall thickness of 1/8 inch nominal and within the Aluminum Association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

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

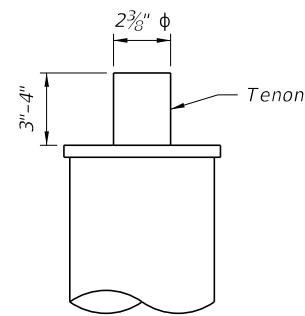
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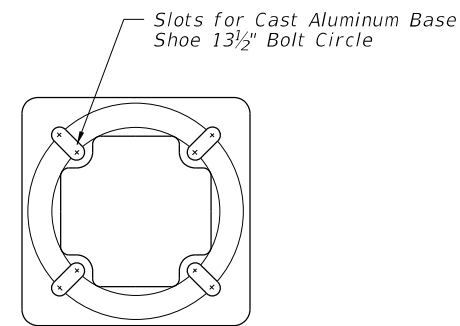
ARM & DAMPER DETAILS



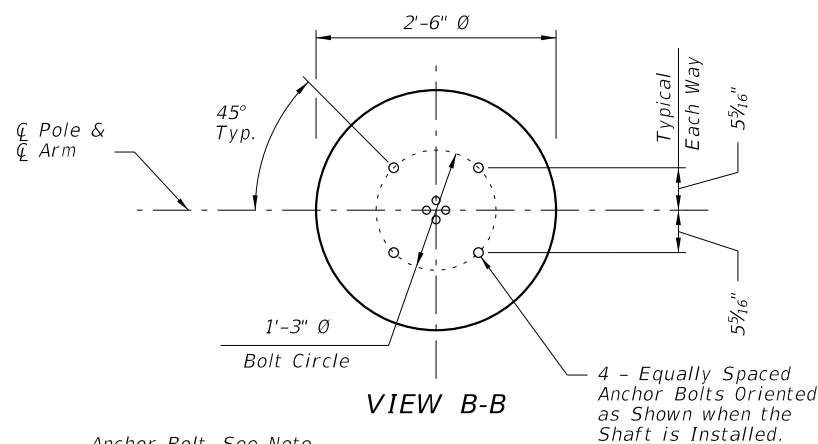
SECTION C-C



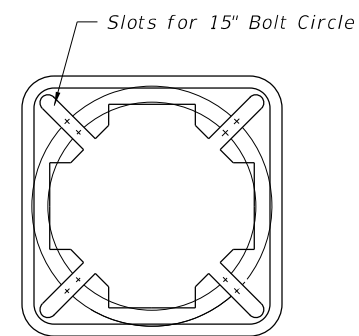
TOP MOUNT TENON



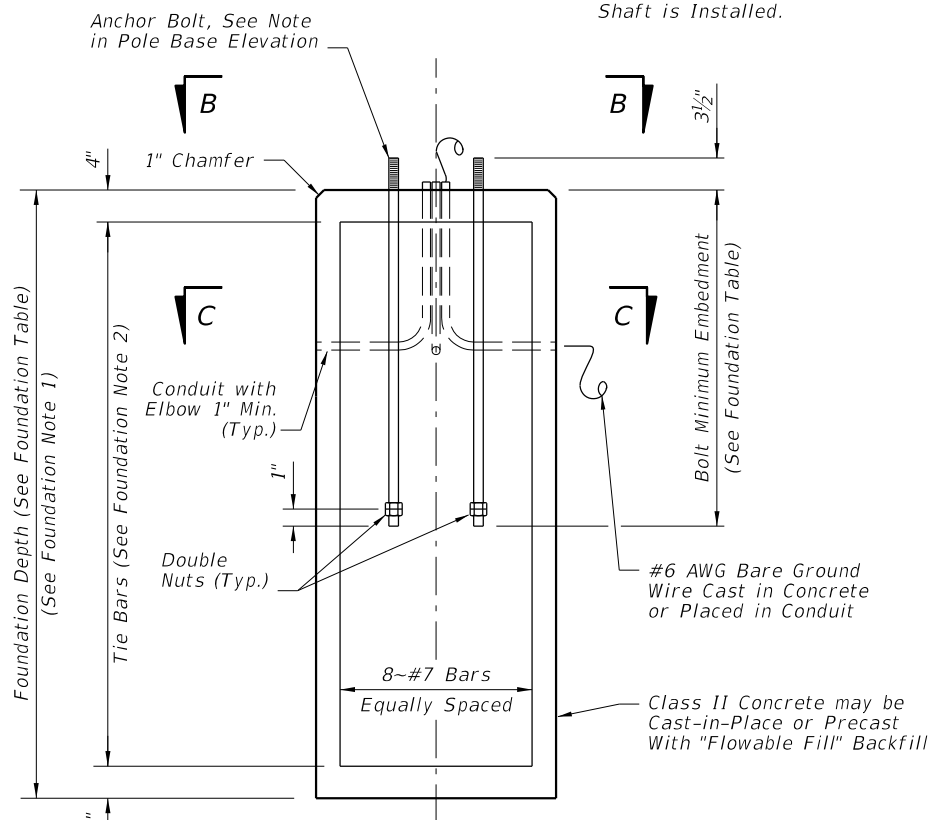
TOP VIEW TRANSFORMER BASE



VIEW B-B



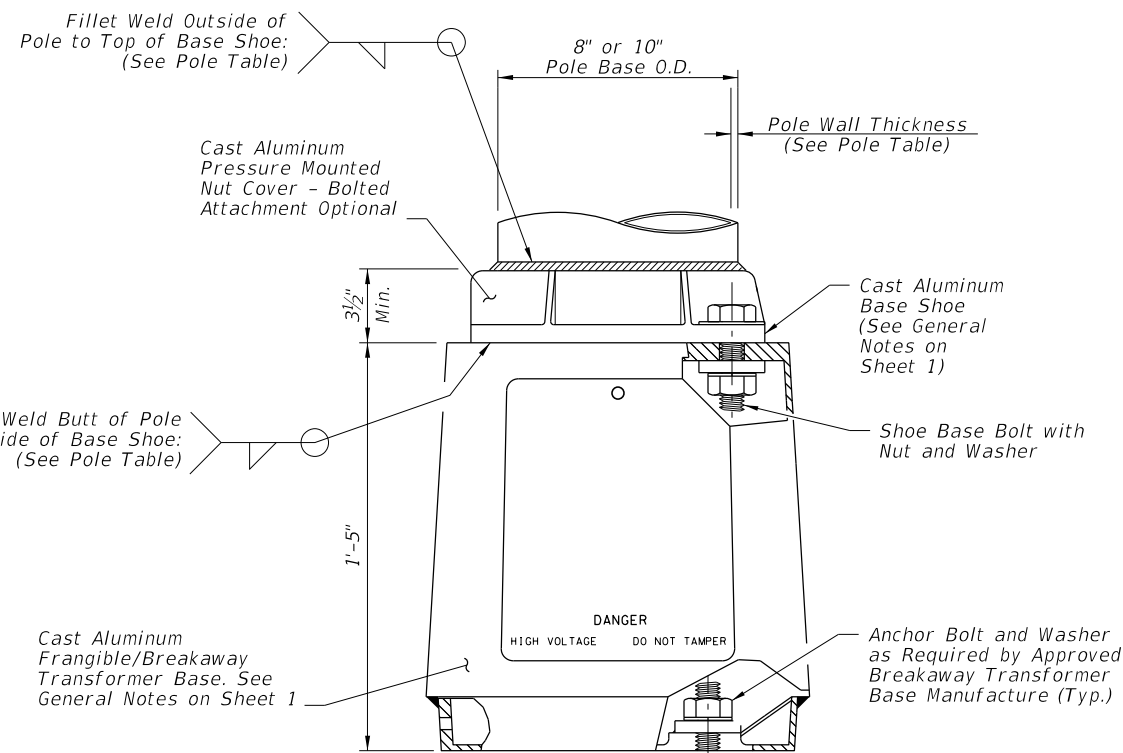
BOTTOM VIEW TRANSFORMER BASE



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.

FOUNDATION



POLE BASE ELEVATION

ARM-POLE TABLE					
FOR STANDARD ALUMINUM LIGHT POLES WITH ARM					
Assembly Height (ft)	Wind Speed and Arm Lengths (ft)				
	120 mph 8, 10, 12, 15	140 mph 8, 10, 12	160 mph 15	8, 10	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-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:

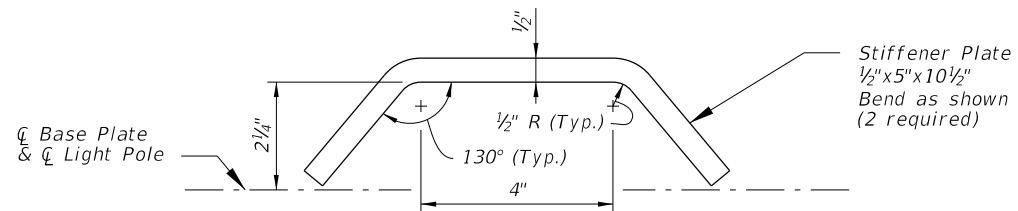
1. Pole wall thicknesses shown are nominal and must be within the Aluminum Association tolerances.
2. Thicker walls are permitted and tapered walls may be used in accordance with the minimum Aluminum Association thicknesses.

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			
30	Pole P1	Pole P1	Pole P1
35			
40			
45	Pole P2	Pole P2	Pole P2
50			

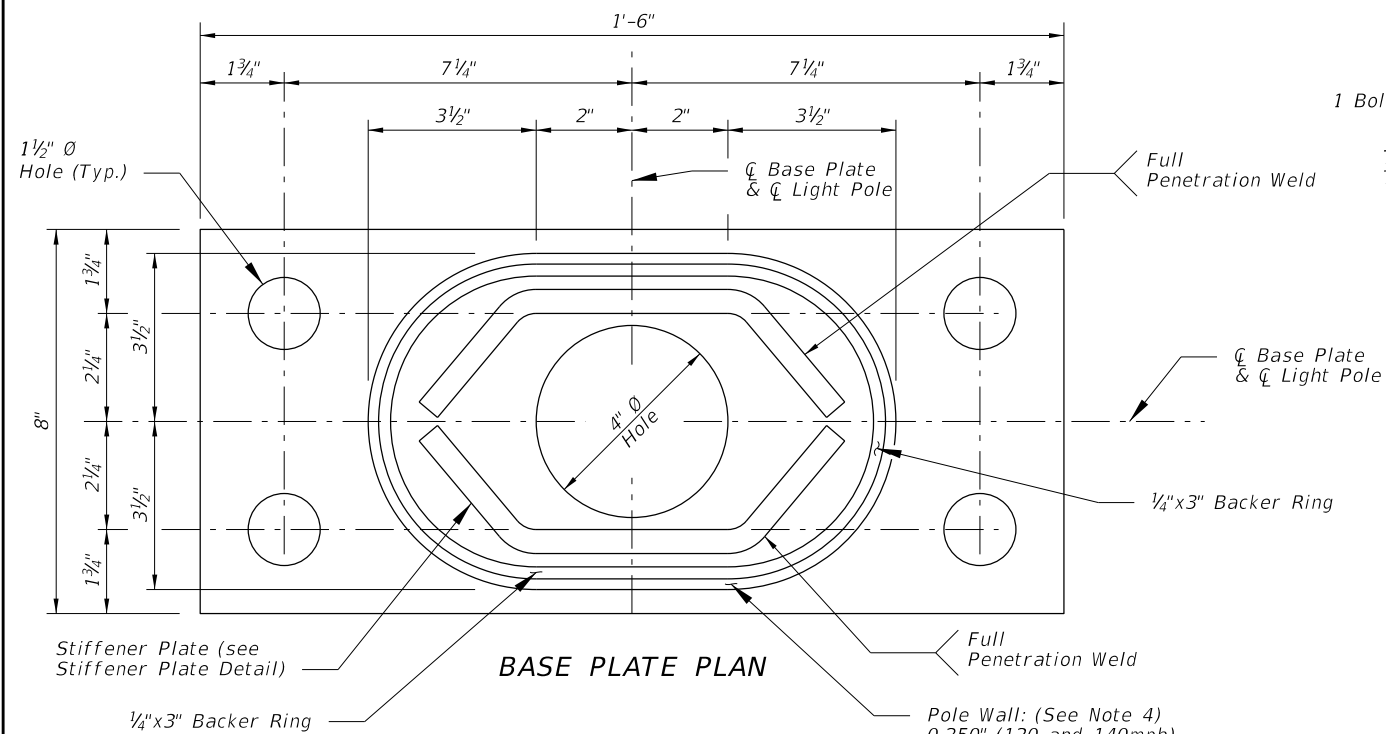
FOUNDATION TABLE				
Pole	P0	P1	P2	P3
Depth	6'-0"	7'-0"	8'-0"	8'-0"
Bolt Min. Embedment	2'-6"	3'-6"	3'-6"	3'-6"

POLE AND BASE DETAILS FOR ROADWAY ALUMINUM LIGHT POLE

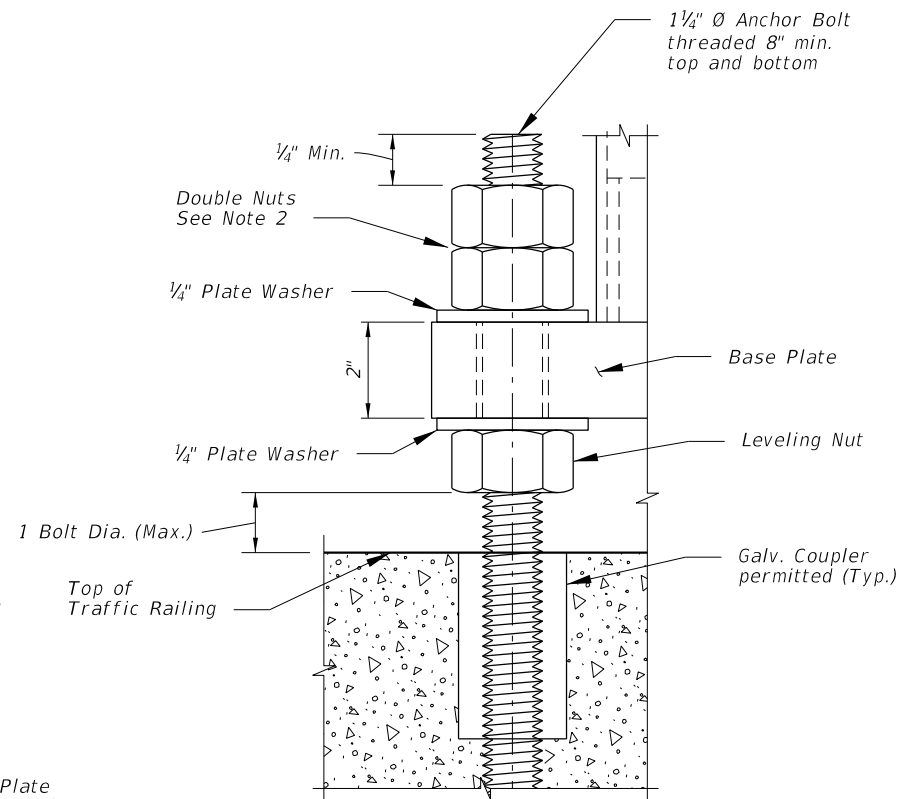
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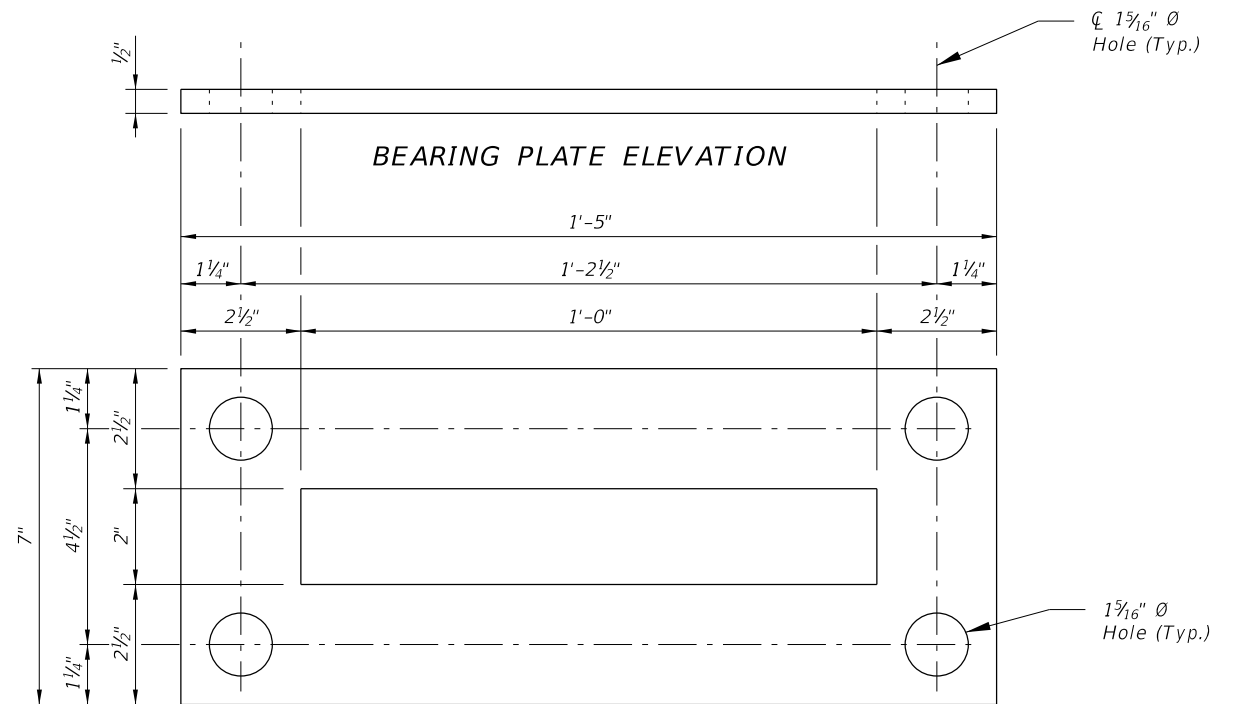
STIFFENER PLATE DETAIL



BASE PLATE PLAN



DETAIL 'A'

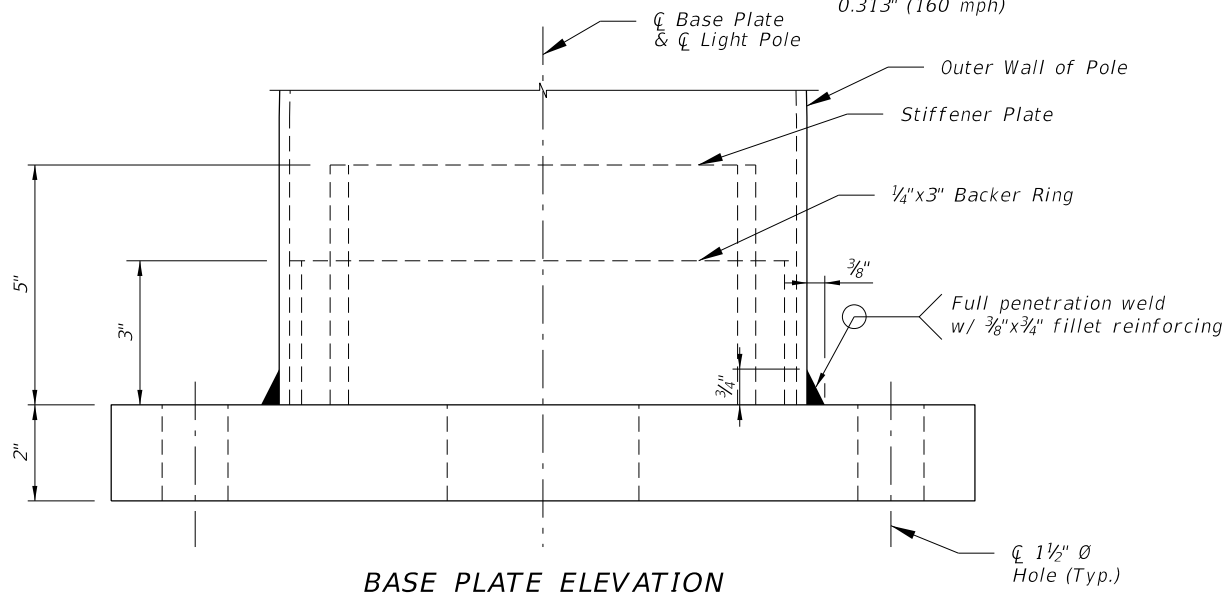


BEARING PLATE ELEVATION

BEARING PLATE PLAN

NOTE:

1. For locations of Bearing Plates, Base Plates and Detail 'A' see Sheets 6 & 7.
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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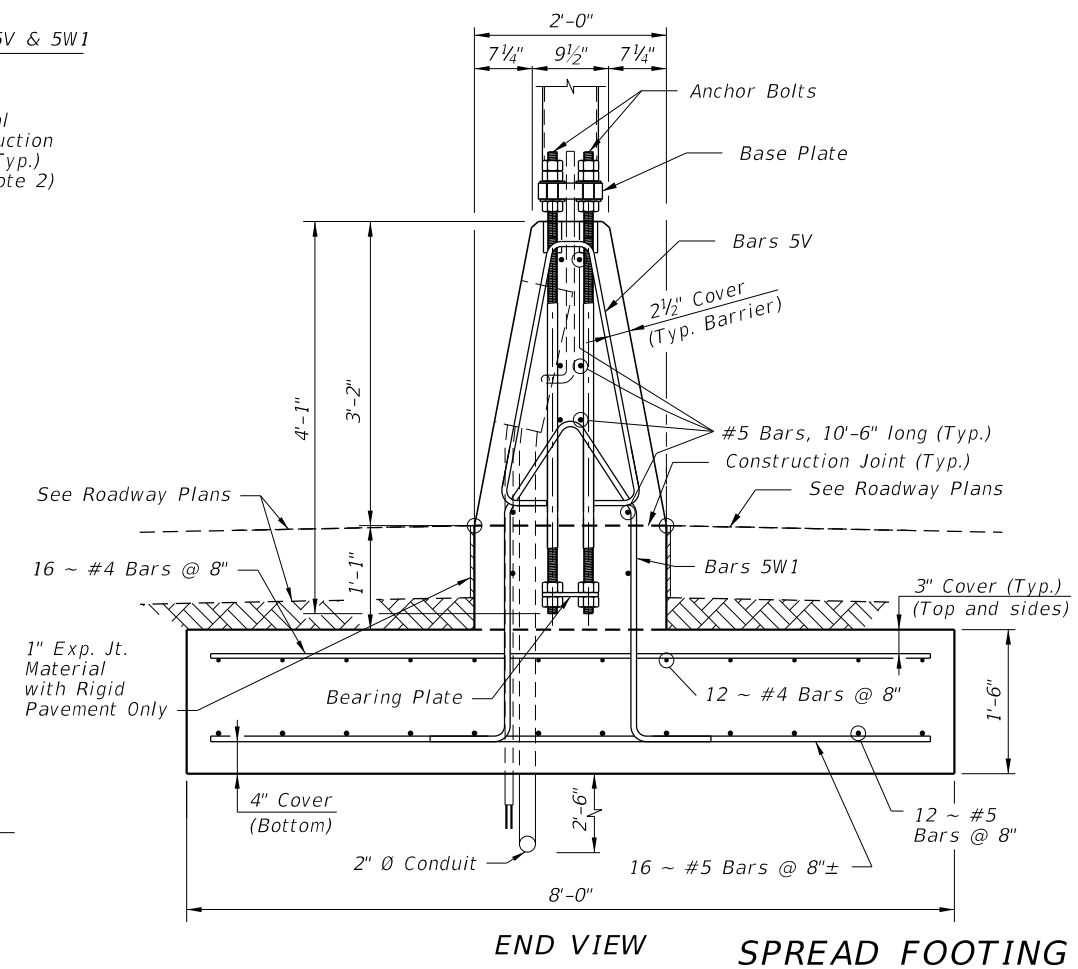
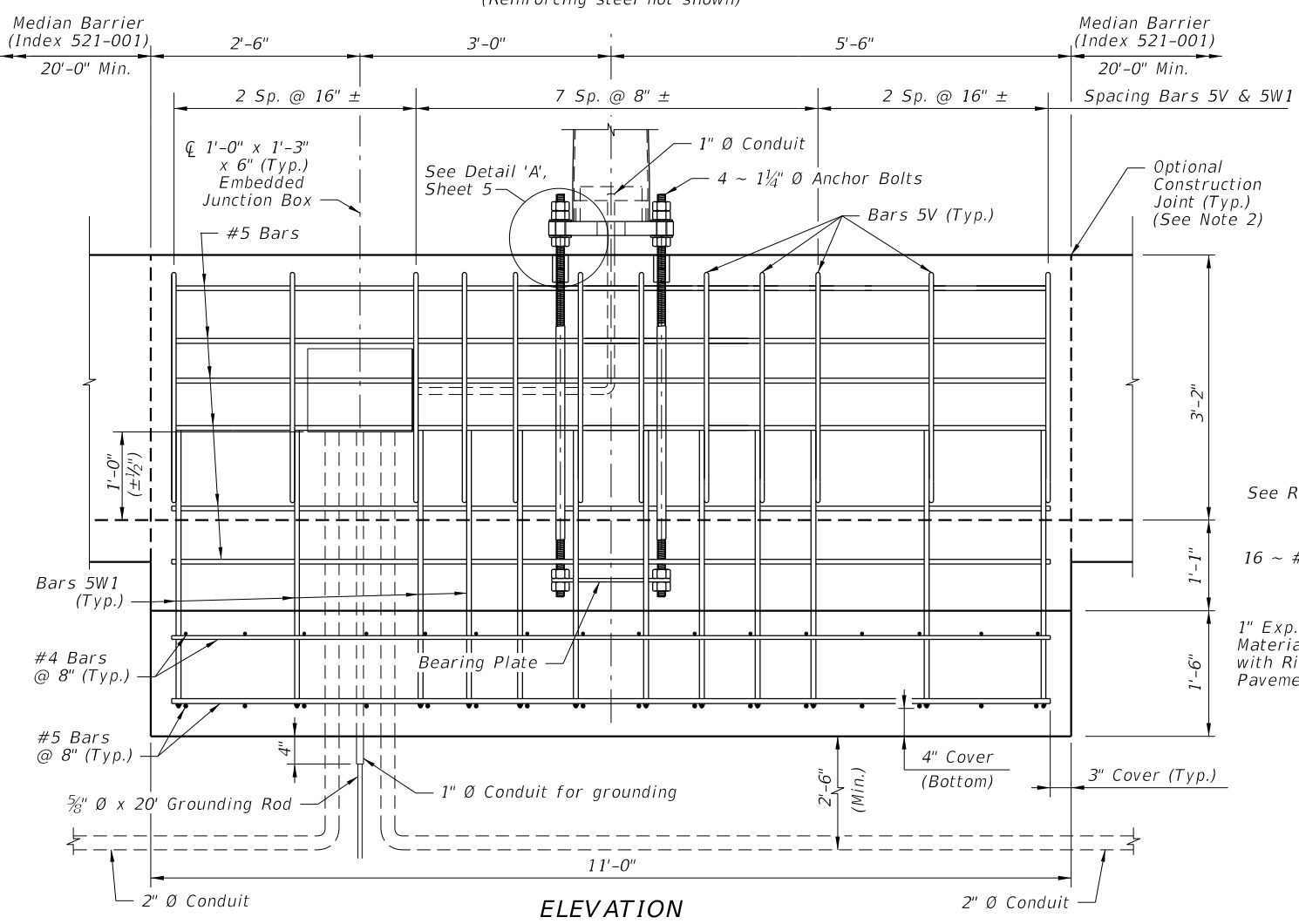
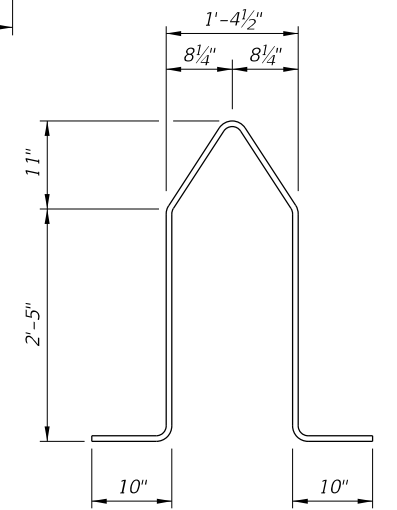
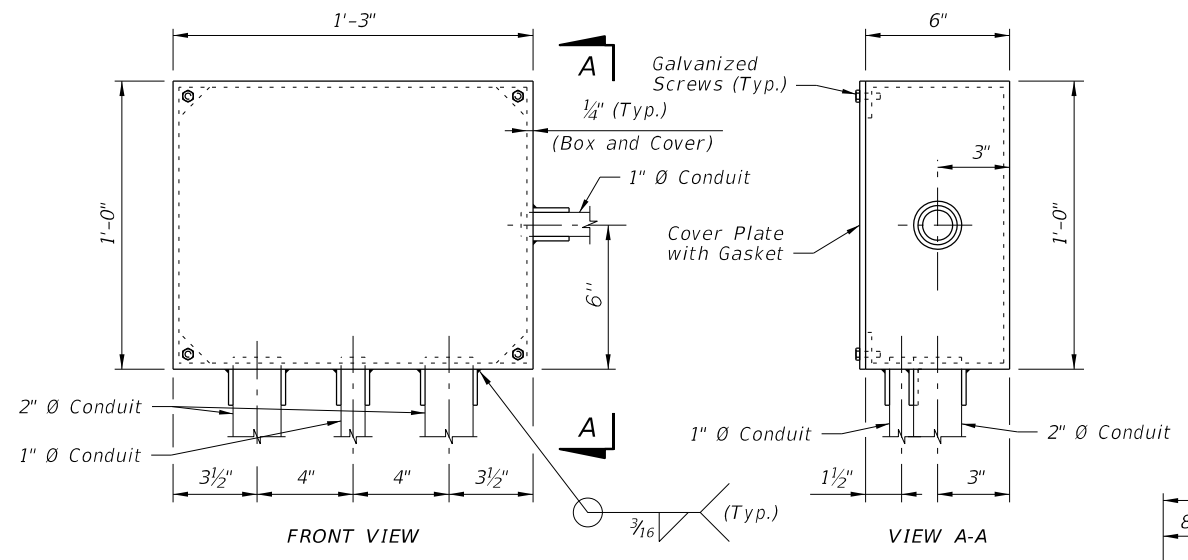
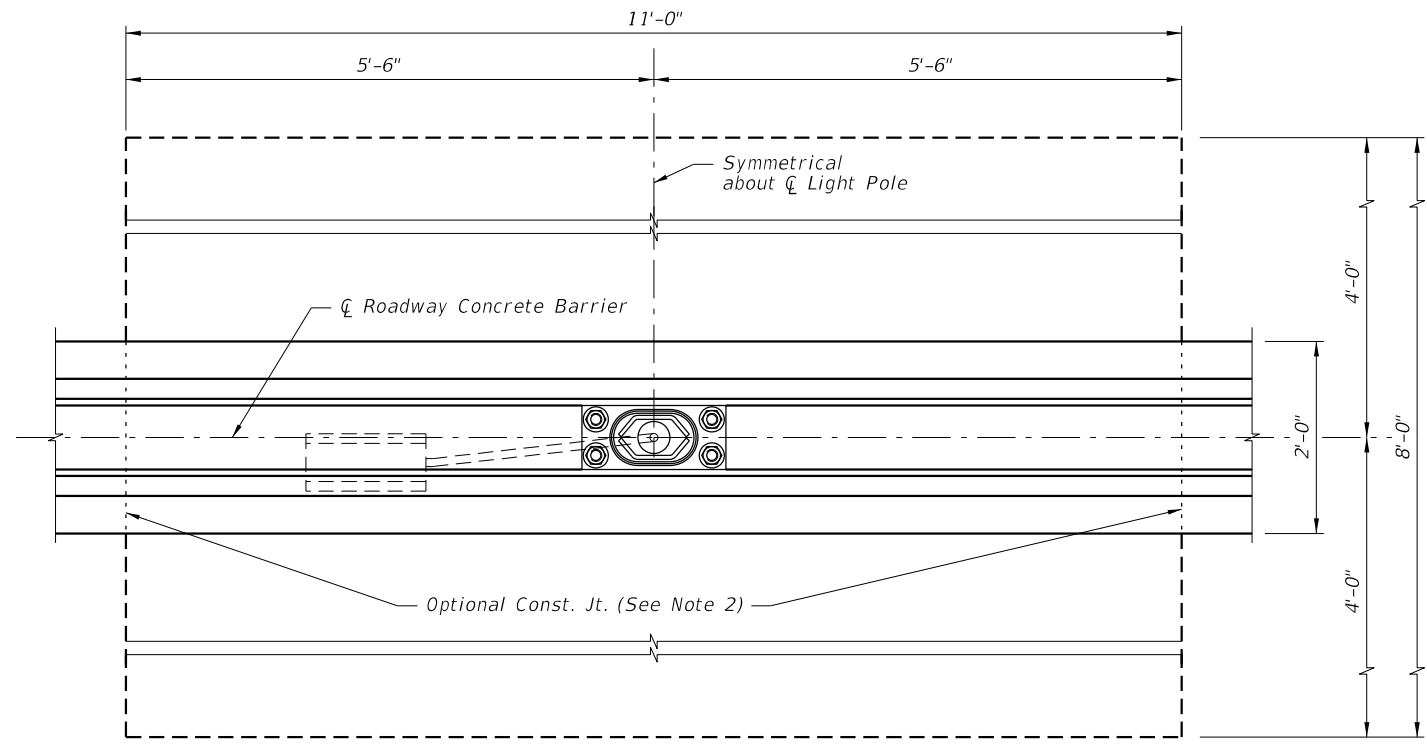


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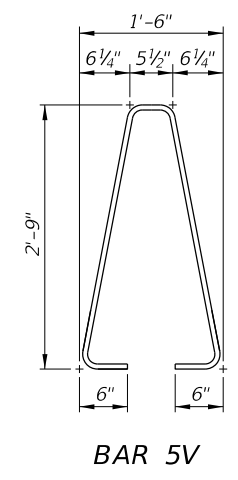
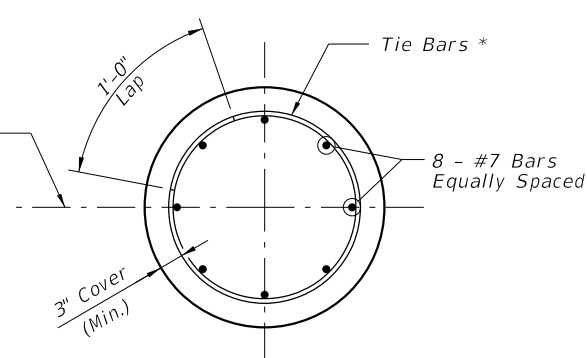
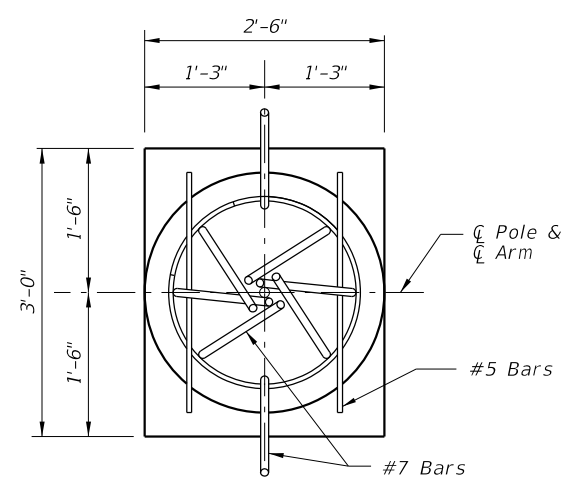
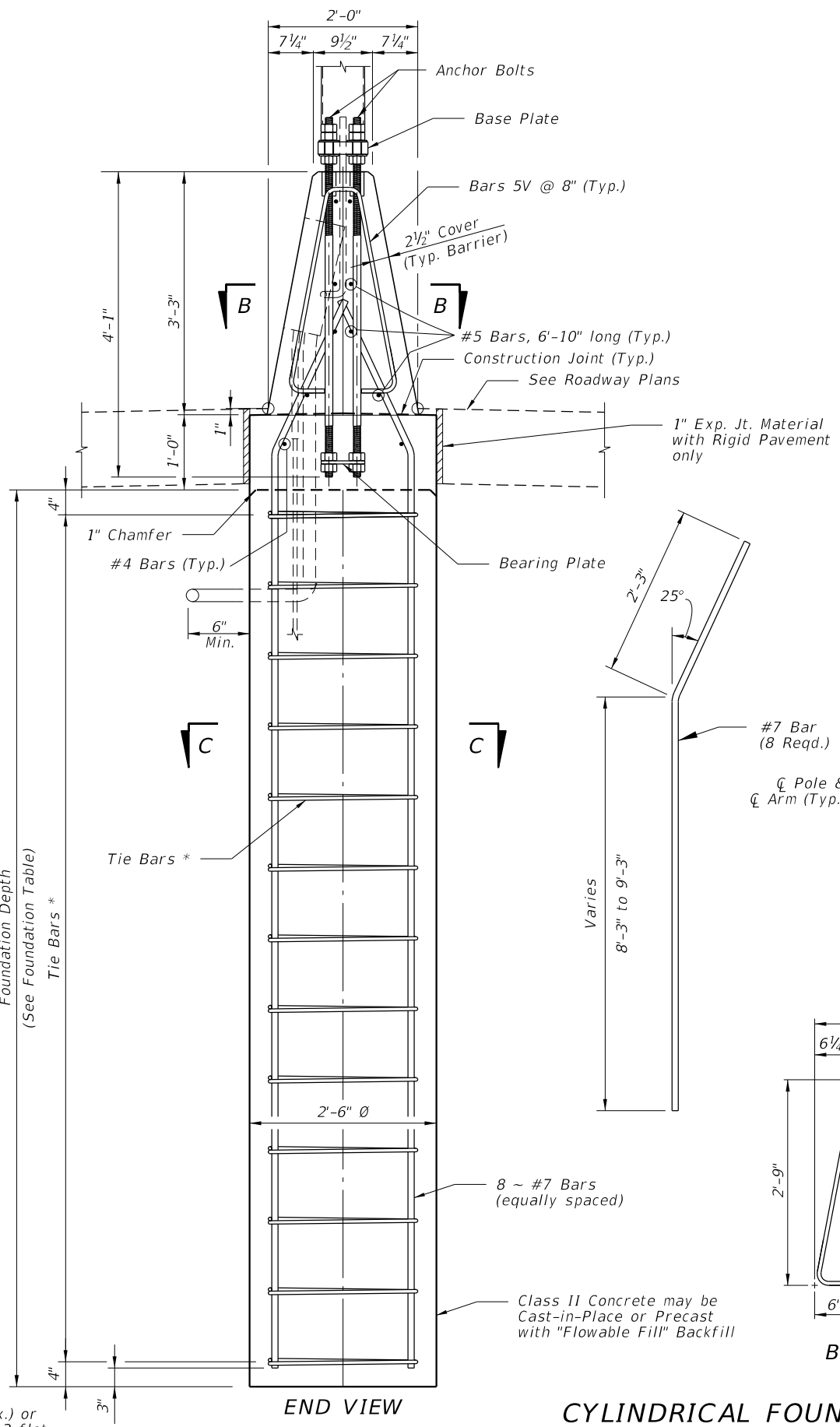
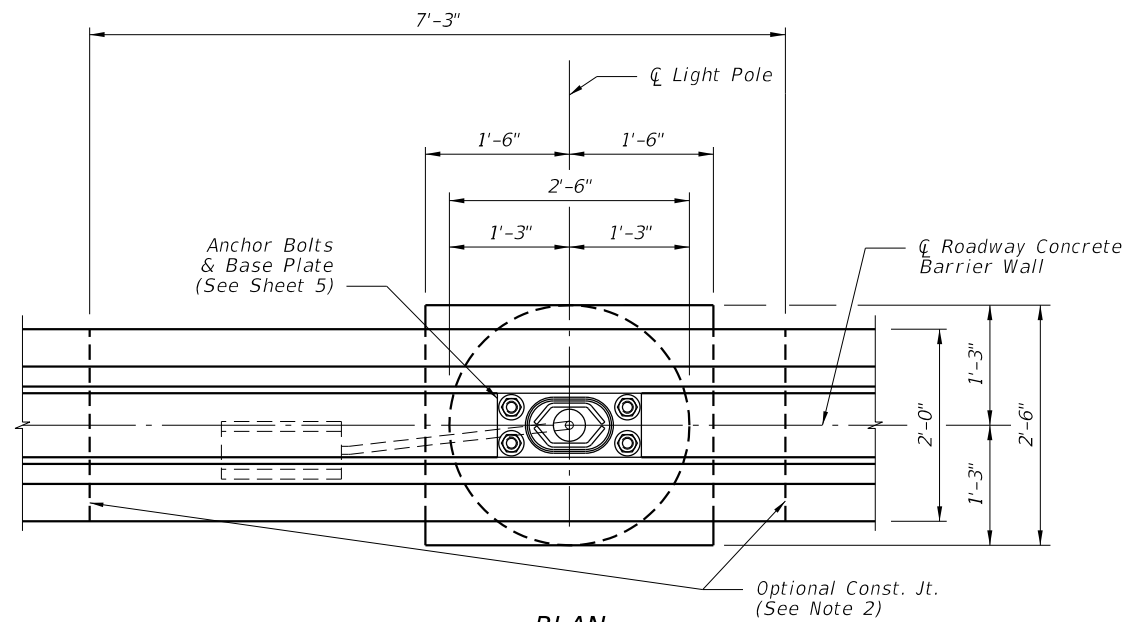


- NOTES:**
- For Bearing Plate and Base Plate Details, see Sheet 5.
 - For connections to adjacent Median Barrier, use the Doweled Joint detail per Index 521-001. Alternatively, a continuous concrete pour or a construction joint may be substituted; these alternatives require the Median Barrier's longitudinal 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



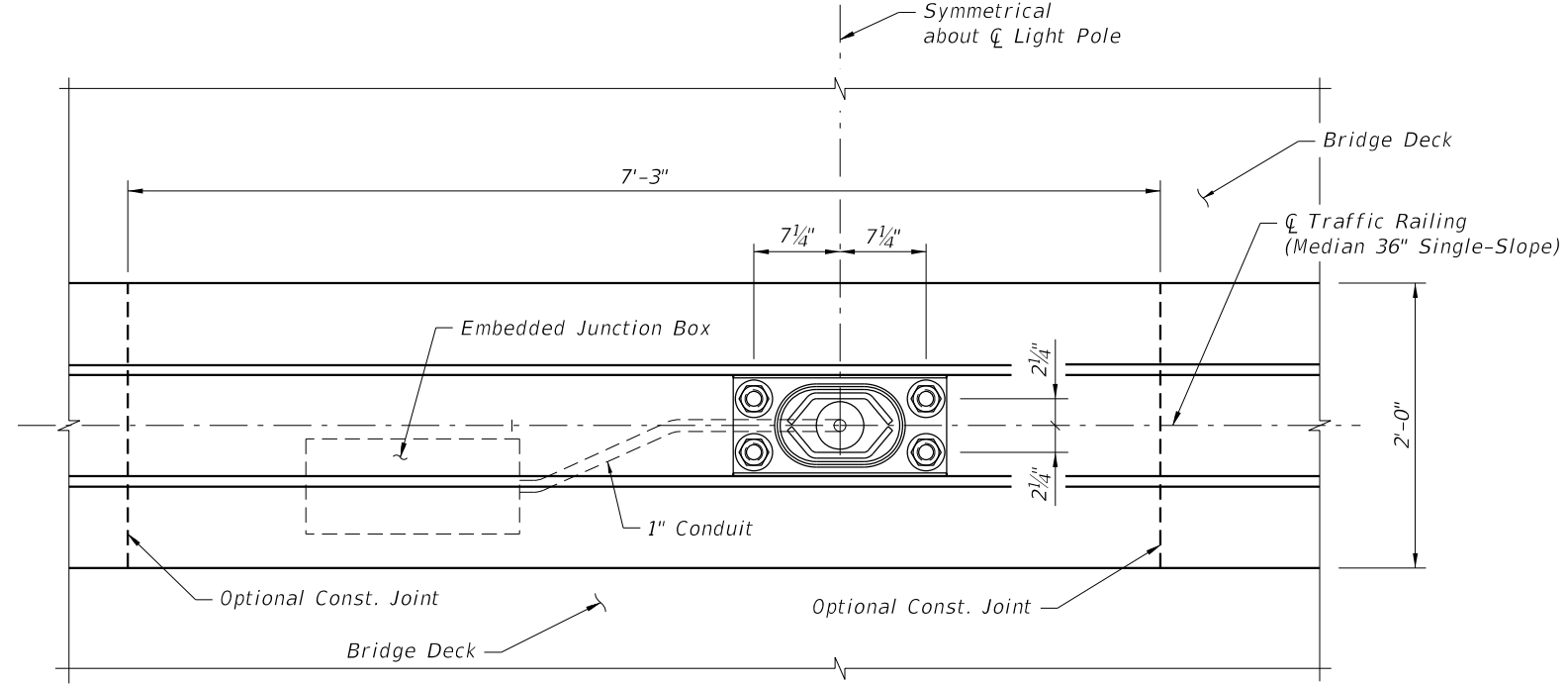
- NOTES:
1. For Bearing Plate and Base Plate Details, see Sheet 5.
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* #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.

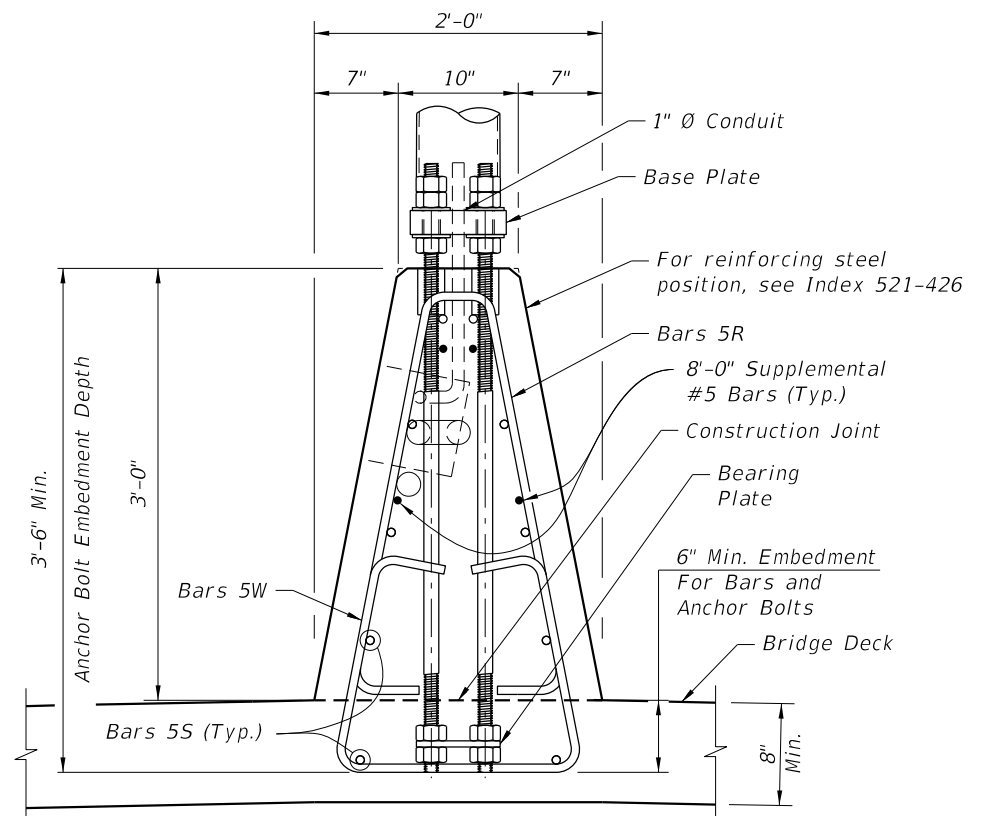
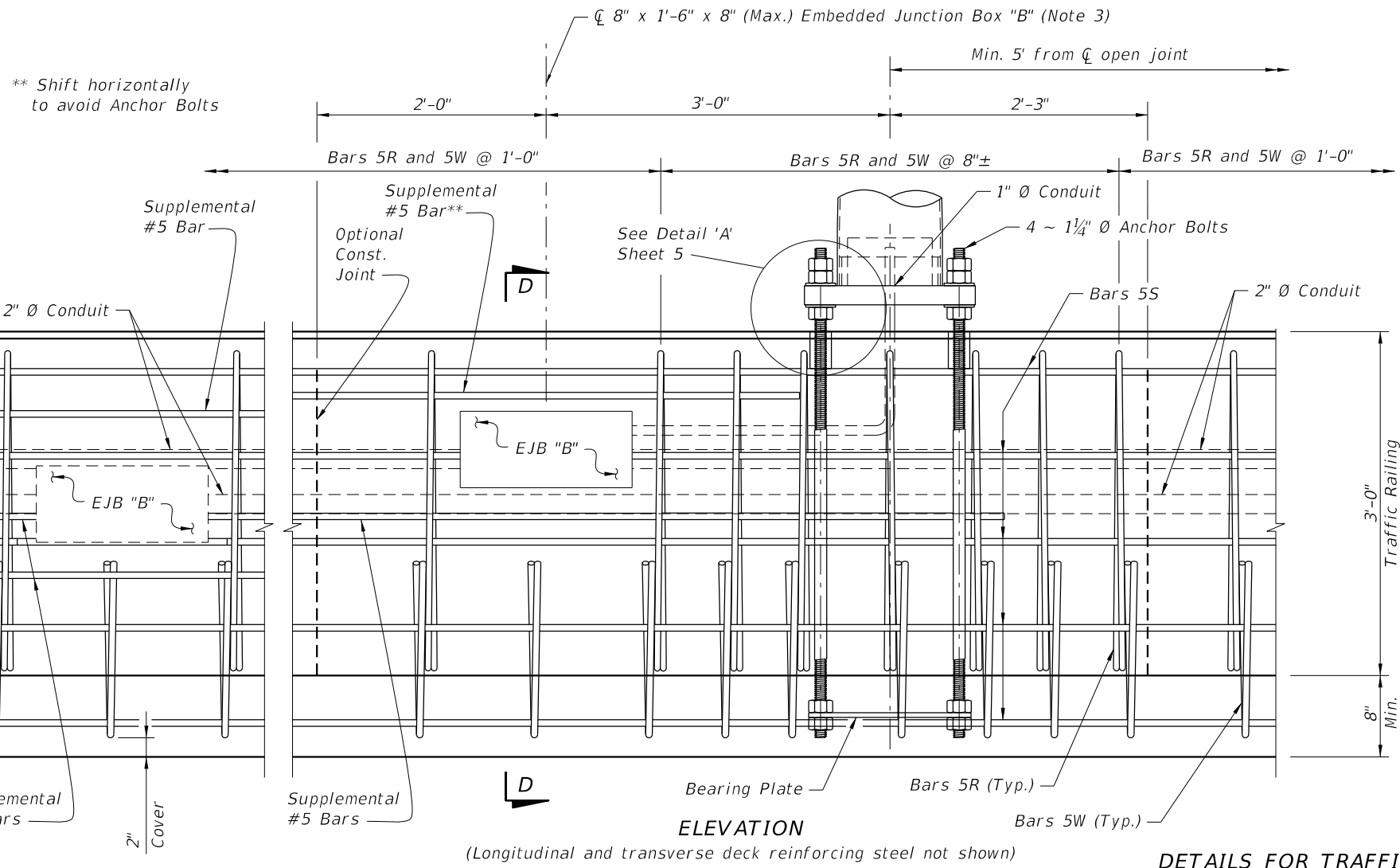
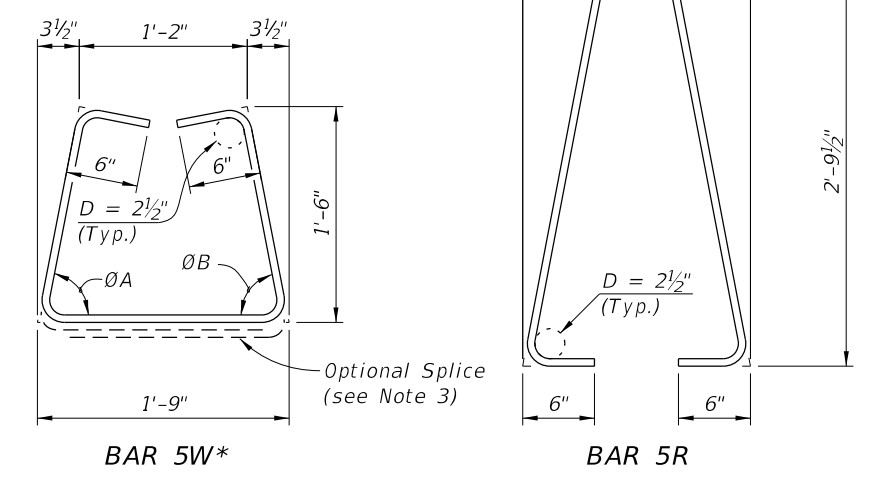
CYLINDRICAL FOUNDATION DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

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*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 $\emptyset A$ and $\emptyset B$.
 3. See Index 630-010 for Conduit, EJB and supplemental reinforcing details.

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