
ORIGINATION FORM

Proposed Revisions to a Standard Plans Index

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

Contact Information:

Date: May 19, 2023

Originator: Richard Stepp

Phone: (850) 414-4313

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

Standard Plans:

Index Number: 715-002

Sheet Number (s): 4, 5, 6

Index Title: STANDARD ALUMINUM LIGHTING

Summary of the changes:

Sheet 4: Added Shaft Foundation Note 3 to allow for precast foundation with an octagon shape as a substitute for the circular shaped foundation shown.

Sheet 5: Added new structural grout pad details to the plan and section view. Added new Note 9 to explain new structural grout pad construction and reference specification. Revised anchor bolt diameter down to 1". Updated Note 7 to change washer requirements for the smaller 1" anchor bolt.

Sheet 6: Changed weld detail to say "CJP."

Commentary / Background:

Sheet 4: A non-circular, octagon shaft foundation option was requested by industry to simplify formwork.

Sheet 5: At the request of the Districts, a grout pad is added to assist with constructibility and leveling of the light pole. Additionally, Districts requested a smaller 1" anchor bolt for better transformer base alignment.

Sheet 6: Changing non-standard language to standard language consistent with AWS. Spec 460 will accompany the revision. This revision is being managed by Josh Turley in the SDO.

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 checked="" type="checkbox"/> | <input type="checkbox"/> | Standard Specifications – Daniel Strickland |
| <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)

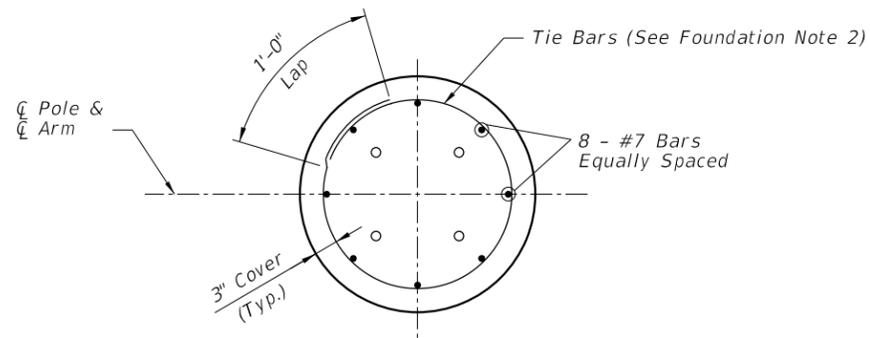
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| <input type="checkbox"/> | <input type="checkbox"/> | Revised or Proposed Standard Plan Instruction (SPI) |
| <input type="checkbox"/> | <input type="checkbox"/> | Other Support Documents |

Implementation:

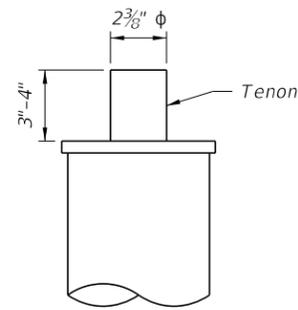
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| <input type="checkbox"/> | DCE Memo |
| <input type="checkbox"/> | Program Mgmt. Bulletin |
| <input checked="" type="checkbox"/> | FY-Standard Plans (Next Release) |

Contact the Roadway Design Office for assistance in completing this form

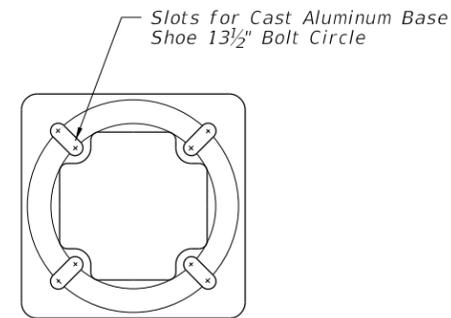
Email to: Rick Jenkins rick.jenkins@dot.state.fl.us and Darren Martin darren.martin@dot.state.fl.us



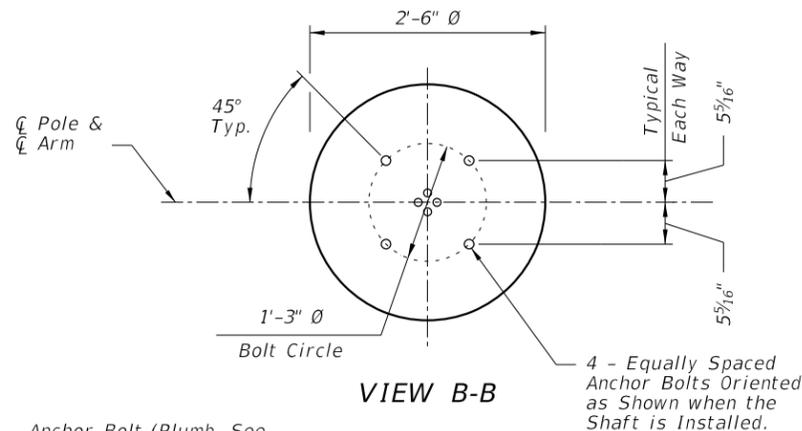
SECTION C-C



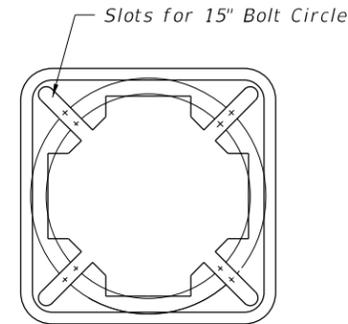
TOP MOUNT TENON



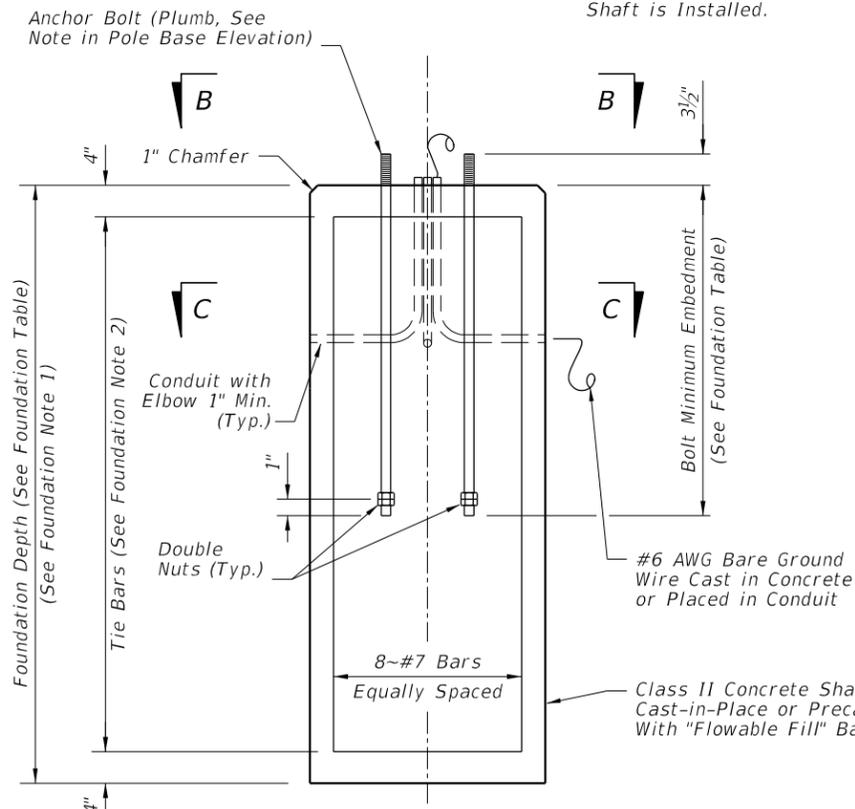
TOP VIEW TRANSFORMER BASE



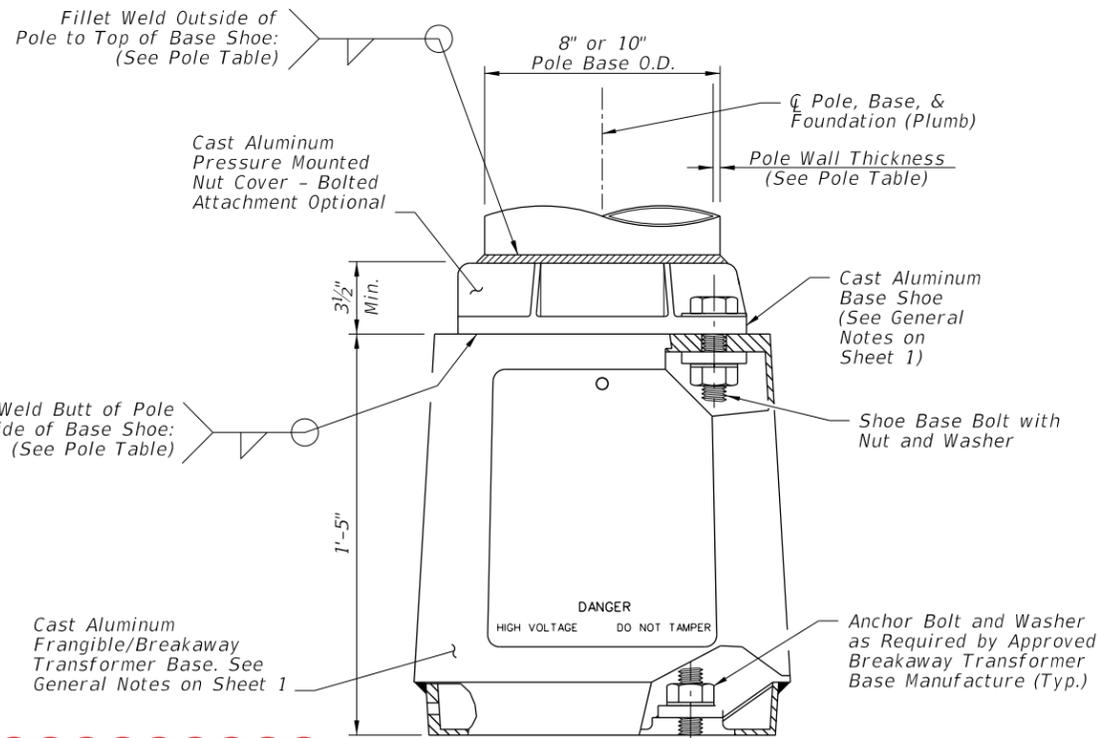
VIEW B-B



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	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					
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			
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 P2
35			Pole P2
40			
45			
50			

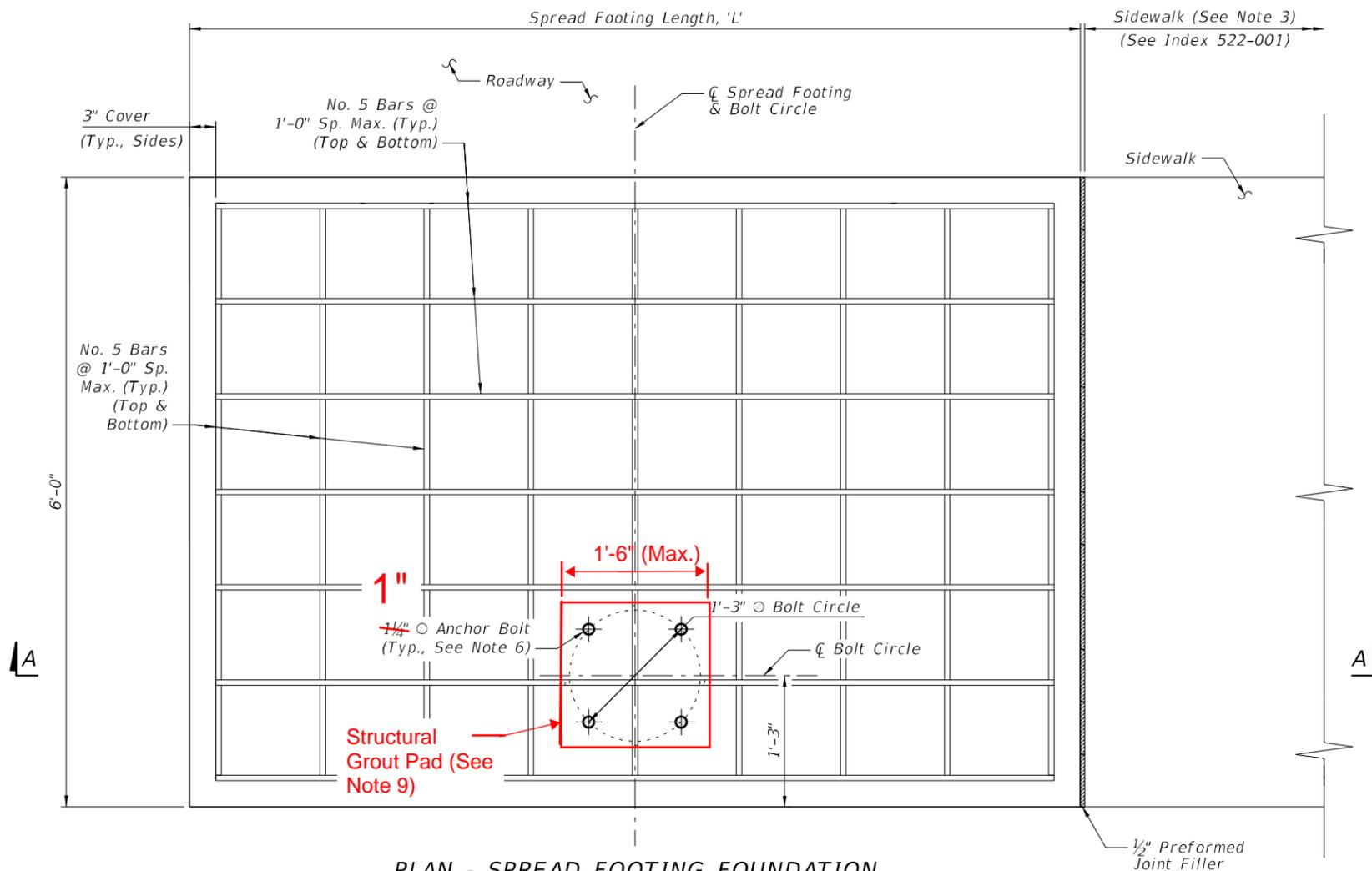
SHAFT FOUNDATION TABLE				
Pole	P0	P1	P2	P3
Depth	6'-0"	7'-0"	8'-0"	8'-0"
Bolt Min. Embedment	2'-6"	3'-6"	3'-6"	3'-6"

SHAFT FOUNDATION NOTES:

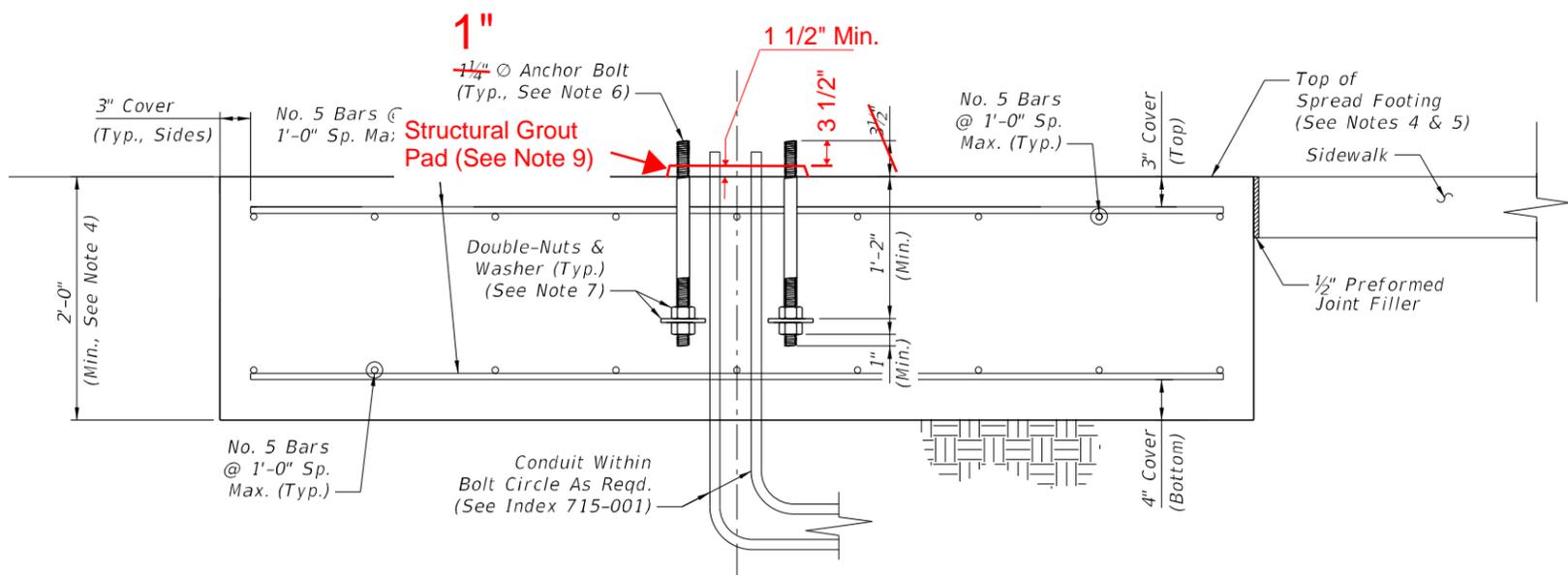
1. Depths shown are for slopes equal to or flatter than 1:4. For slopes steeper than 1:4 and equal to or flatter than 1:2 add 2'-6" to foundation depths shown.
2. Foundation Tie Bars: #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.

Added Note 3 for new precast option with octagon shape shaft foundation

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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:

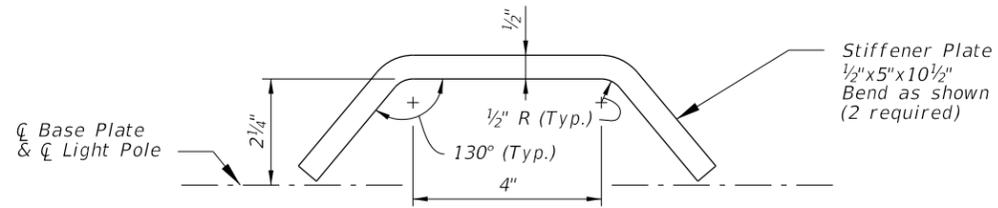
1. Install the Spread Footing Foundation Option only where called for in the Plans.
2. The Spread Footing Foundation Option is only permitted for use with single arm or top mount light poles. Where applicable, the pole arm must be oriented towards the roadway side of the footing as shown. Double arm 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" O 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.

Revised Note 7 to update washer requirements for 1" anchor bolts

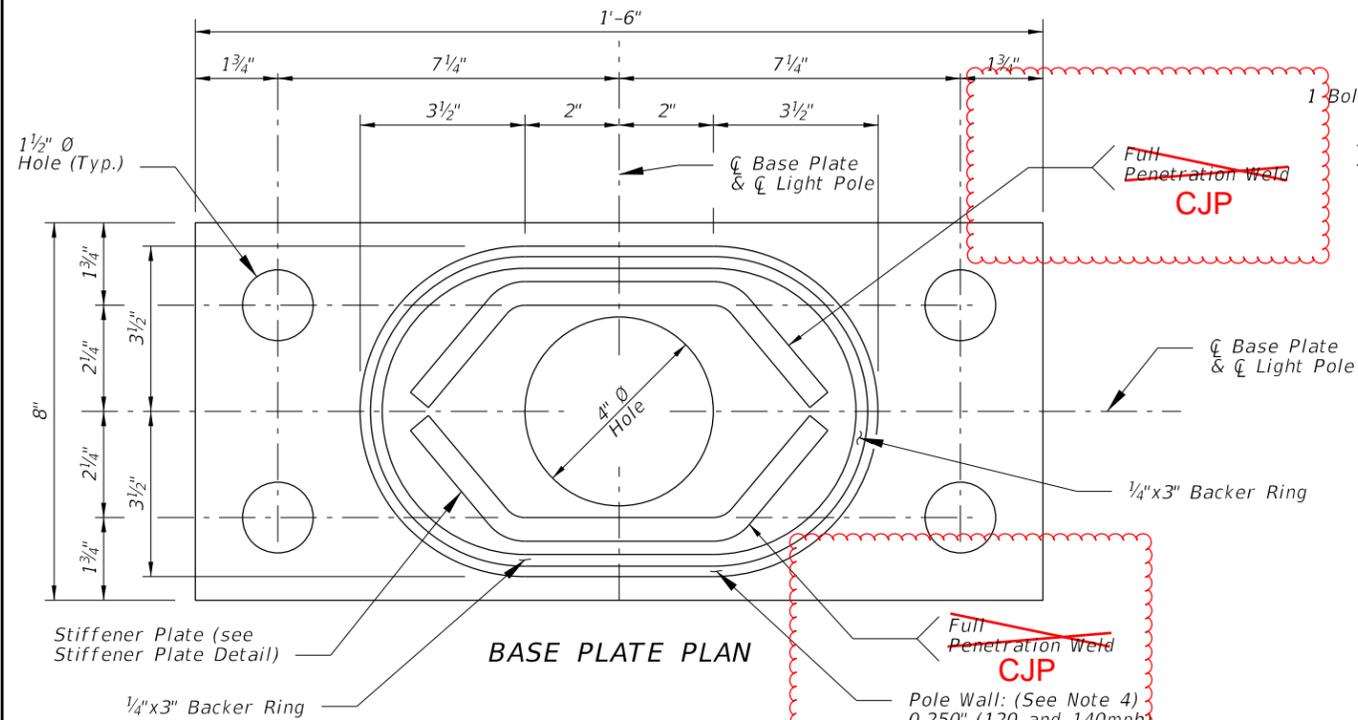
Added Note 9 for new Structural Grout Pad details

SPREAD FOOTING FOUNDATION OPTION

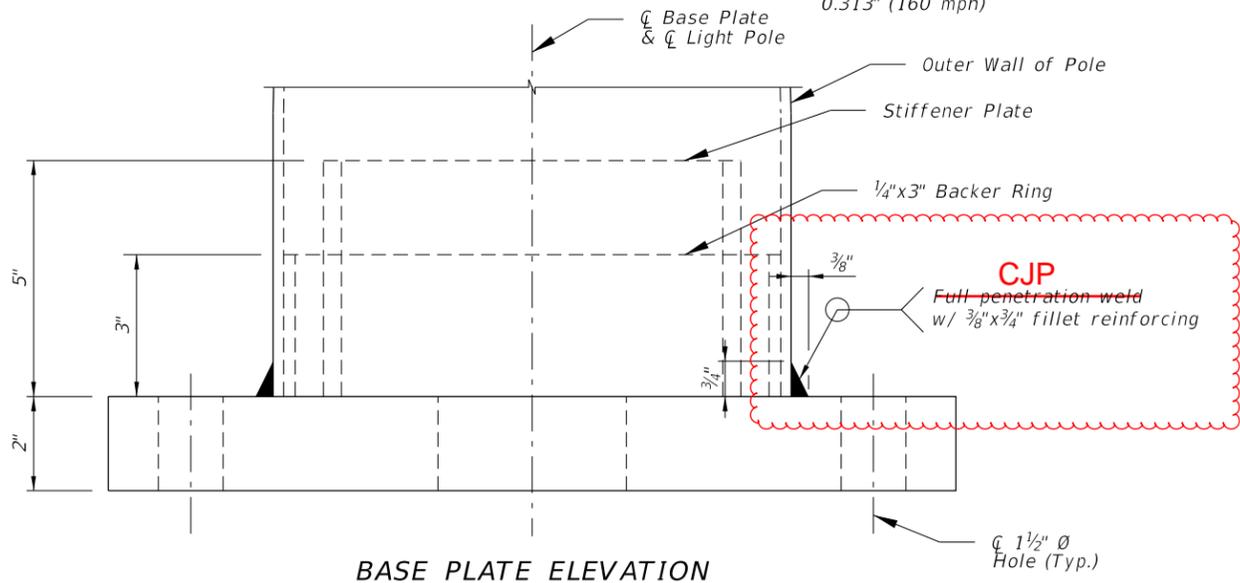
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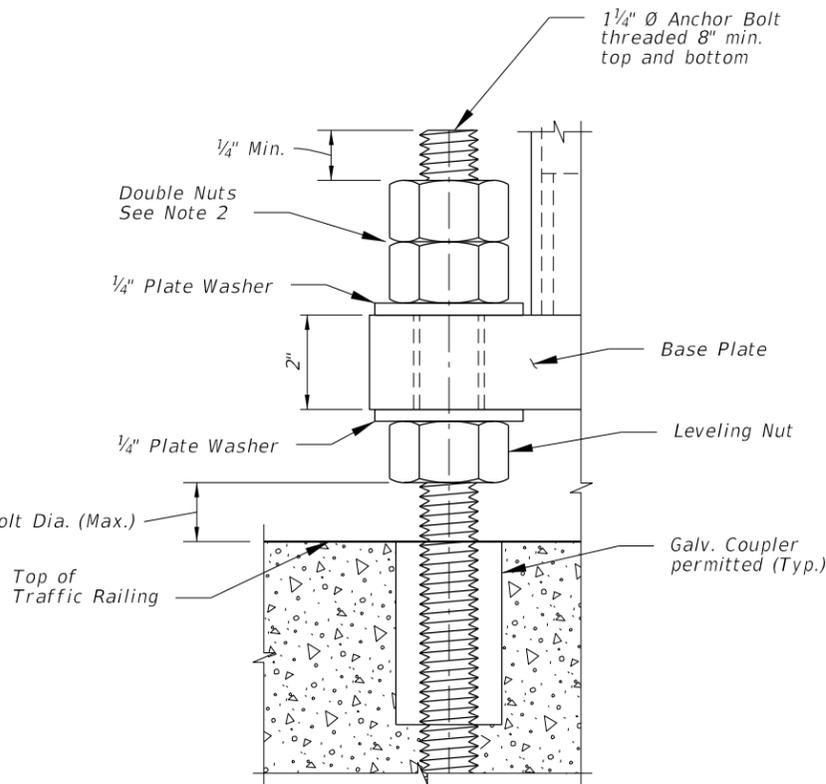
STIFFENER PLATE DETAIL



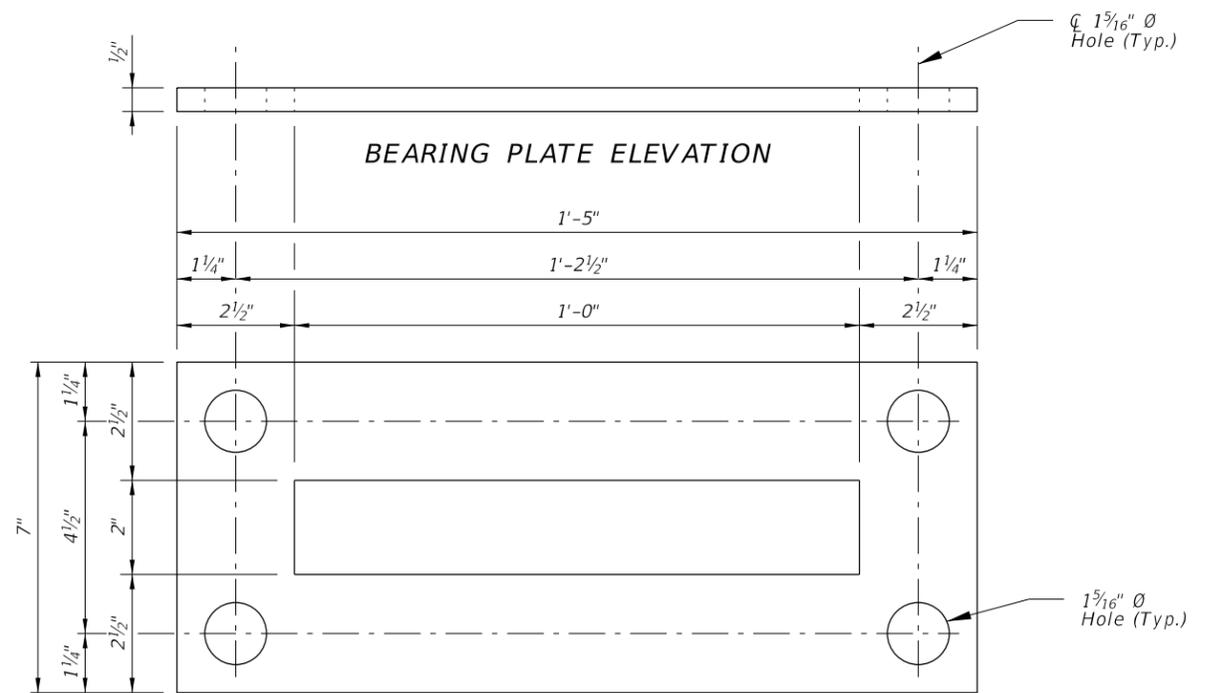
BASE PLATE PLAN



BASE PLATE ELEVATION



DETAIL 'A'



BEARING PLATE ELEVATION

BEARING PLATE PLAN

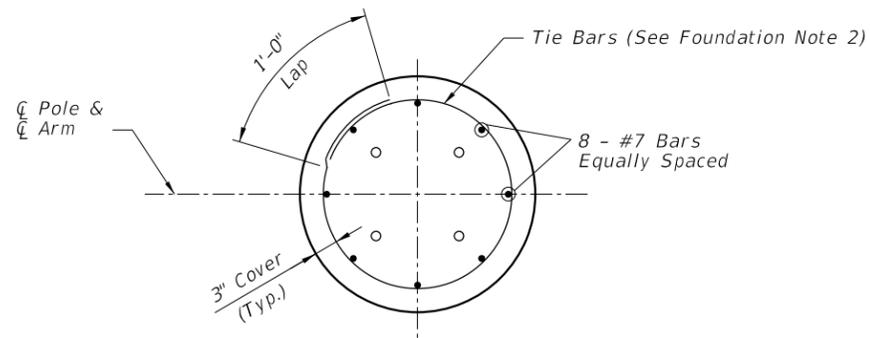
NOTES:

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.

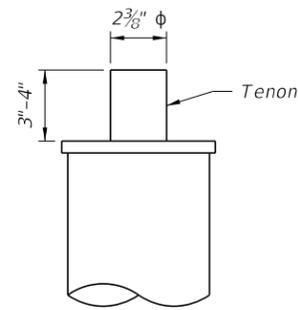
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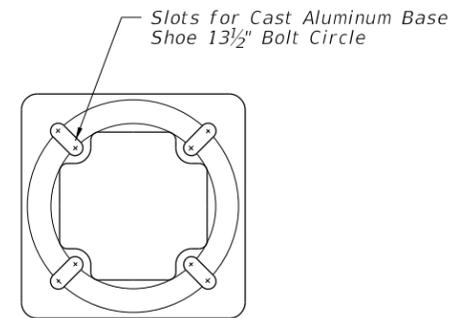
BASE PLATE DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE



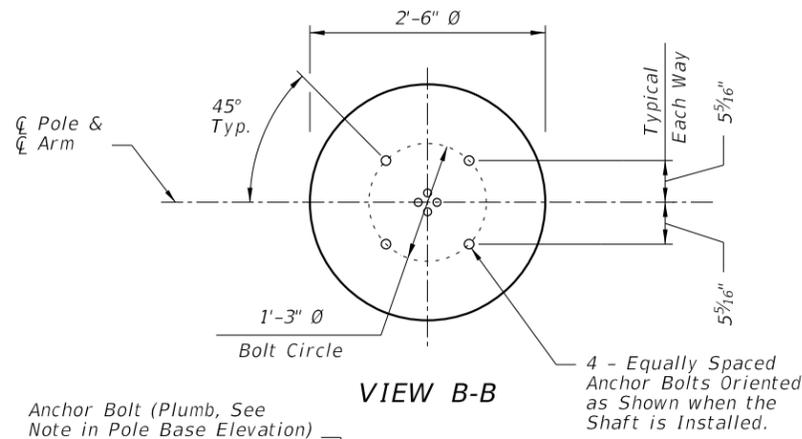
SECTION C-C



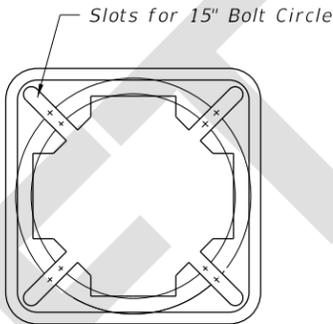
TOP MOUNT TENON



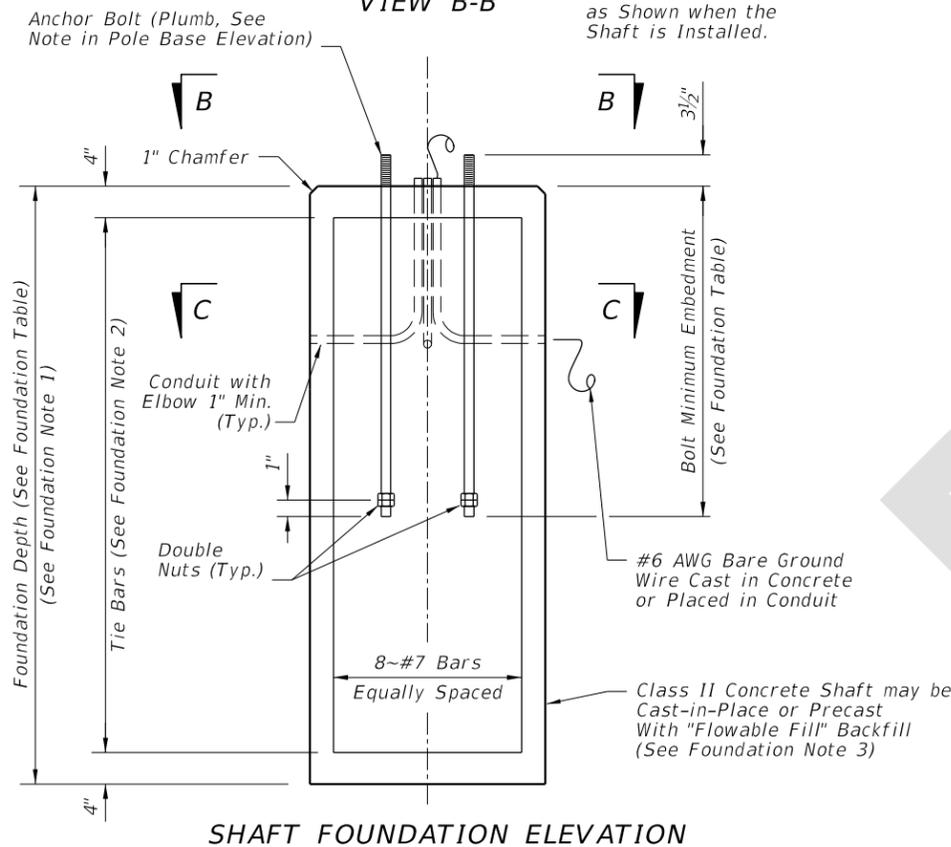
TOP VIEW TRANSFORMER BASE



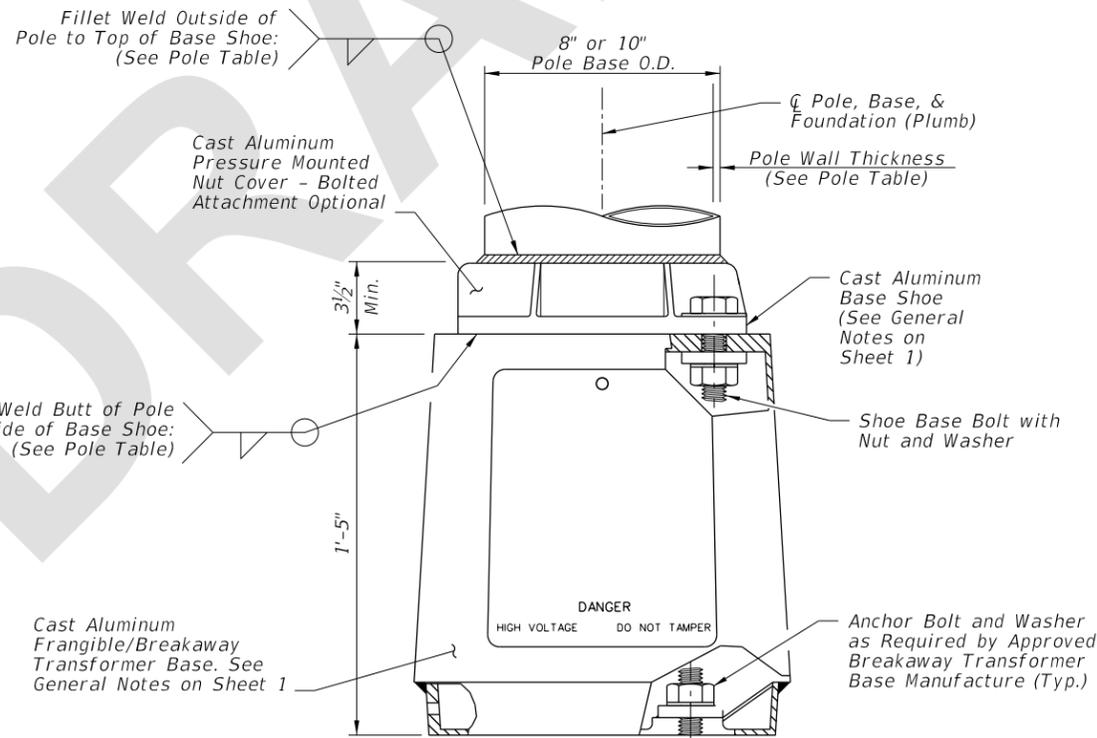
VIEW B-B



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		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.

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Pole	Pole Wall Thickness	Top of Base Shoe Weld	Inside of Base Shoe Weld
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P1	0.156	3/16"	5/32"
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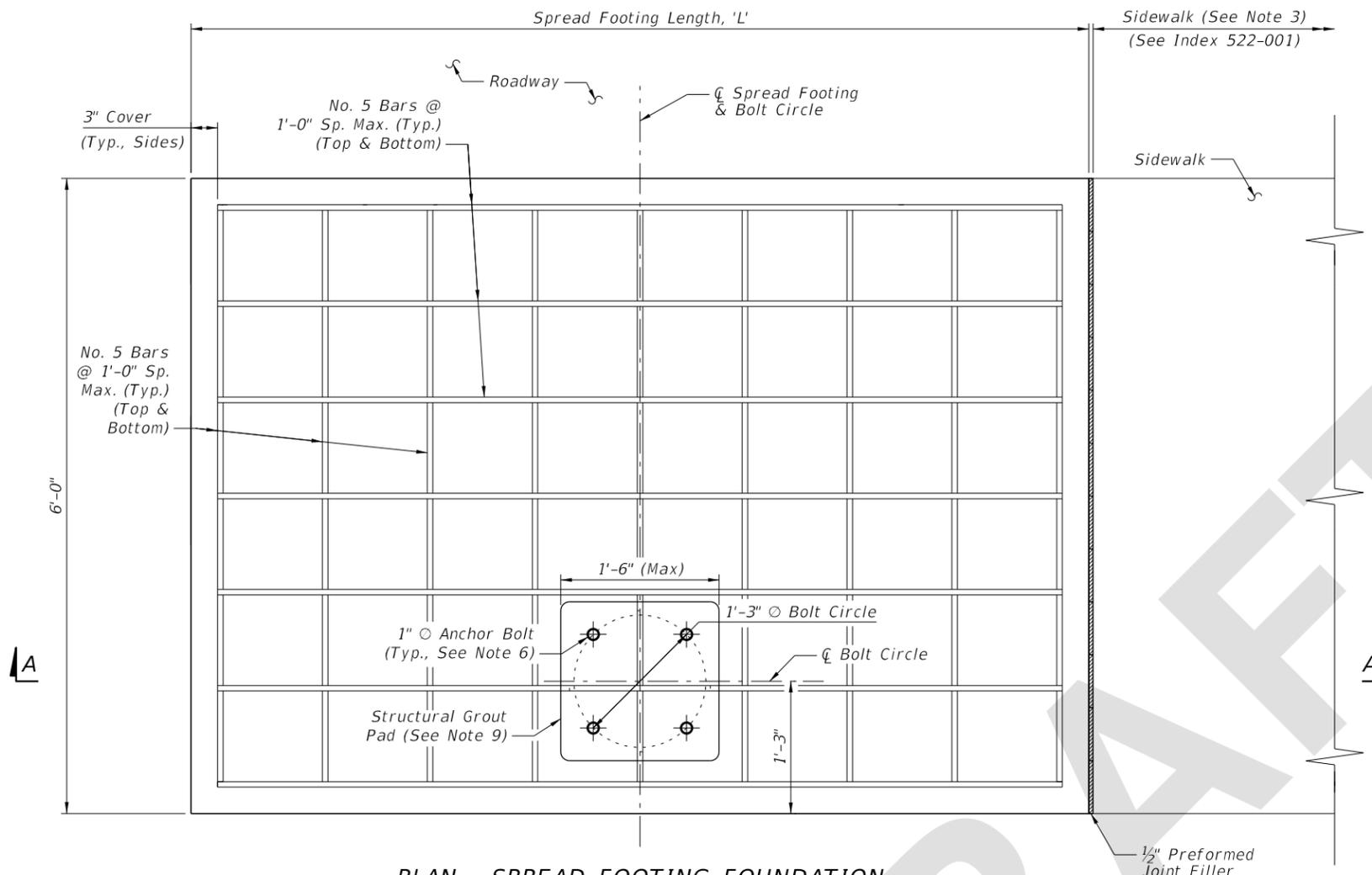
TOP MOUNT POLE TABLE			
FOR STANDARD ALUMINUM LIGHT POLES WITH TOP MOUNT			
Mounting Height (Ft.)	Wind Speed and Arm Lengths (Ft.)		
	120 mph	140 mph	160 mph
20	Pole P0	Pole P0	Pole P0
25			
30	Pole P1	Pole P1	Pole P1
35			
40			
45	Pole P2	Pole P2	Pole P2
50			

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 NOTES:

1. Depths shown are for slopes equal to or flatter than 1:4. For slope 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.
3. For precast foundations, the circular cross section shown herein may be substituted with an octagon shape. The out-to-out distance between parallel edges of the octagon must be \geq 2'-6". Use the same reinforcing diameter and centered placement with a minimum 3" cover.

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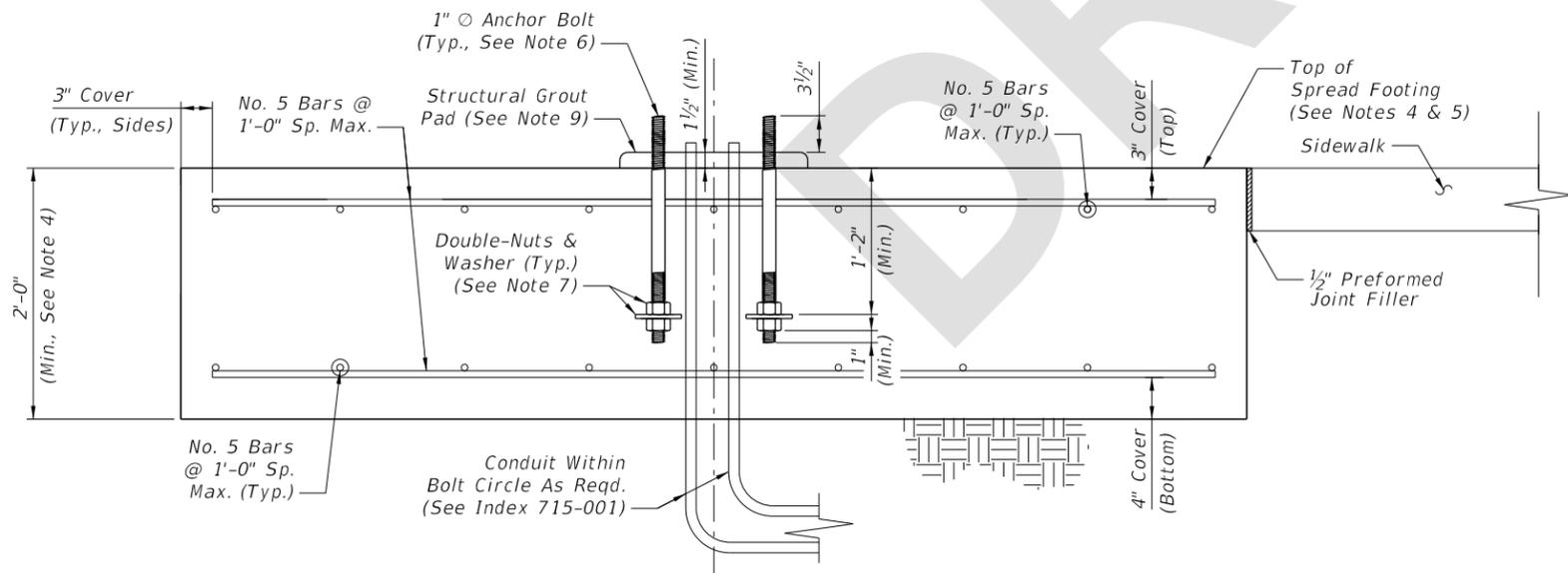


PLAN - SPREAD FOOTING FOUNDATION

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Mounting Height (Ft.)	Wind Speed (All Arm Lengths)		
	120 mph	140 mph	160 mph
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40	7'-0"	7'-0"	10'-0"
45	8'-6"	10'-0"	10'-0"
50	8'-6"	10'-0"	11'-6"

NOTES:

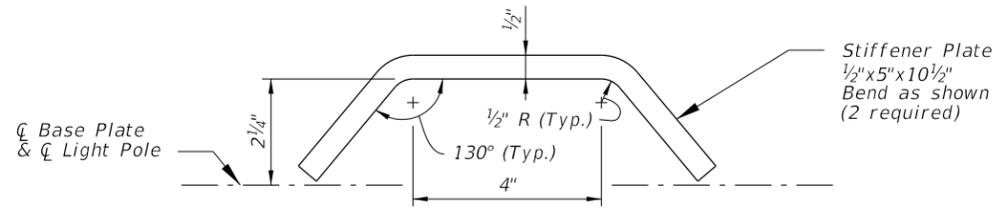
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4. The top of the spread footing must match the cross slope of the adjacent sidewalk where applicable per the Plans. The nominal bottom of the spread footing must remain level.
5. Apply concrete surface finish to the top of the spread footing in accordance with Specification 522-7.
6. Mount the anchor bolts plumb. For the corresponding pole base details, see Sheet 4.
7. Place galvanized or zinc-plated steel washers with a minimum thickness of 1/4". Use washers with a minimum size of 3 1/2" round or 3"x3" square.
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.
9. Place a structural grout pad in accordance with Specification 934. The grout pad is square and centered on the bolt circle centerlines. Level the top of the grout pad and smooth the edges and corners per the approval of the Engineer. Install the transformer base in accordance with Sheet 4 and the manufacturer's specifications.



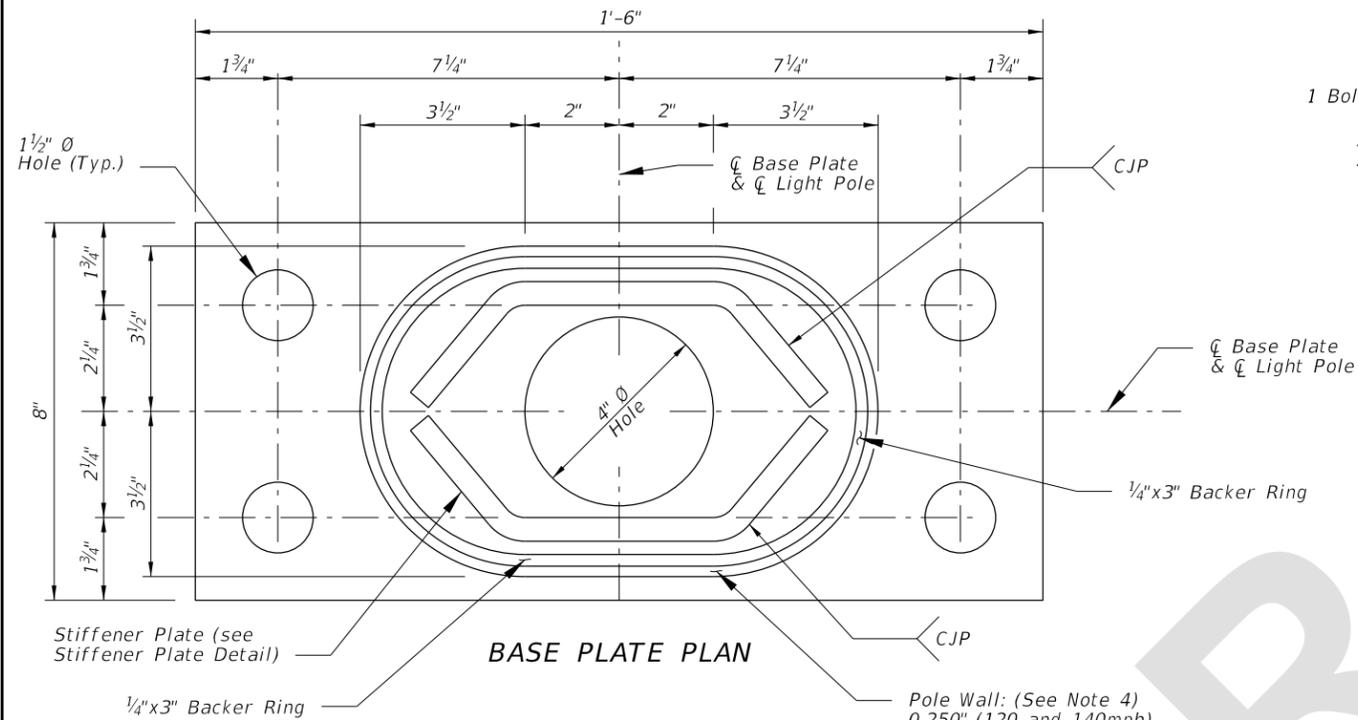
SECTION A-A - SPREAD FOOTING FOUNDATION ELEVATION

SPREAD FOOTING FOUNDATION OPTION

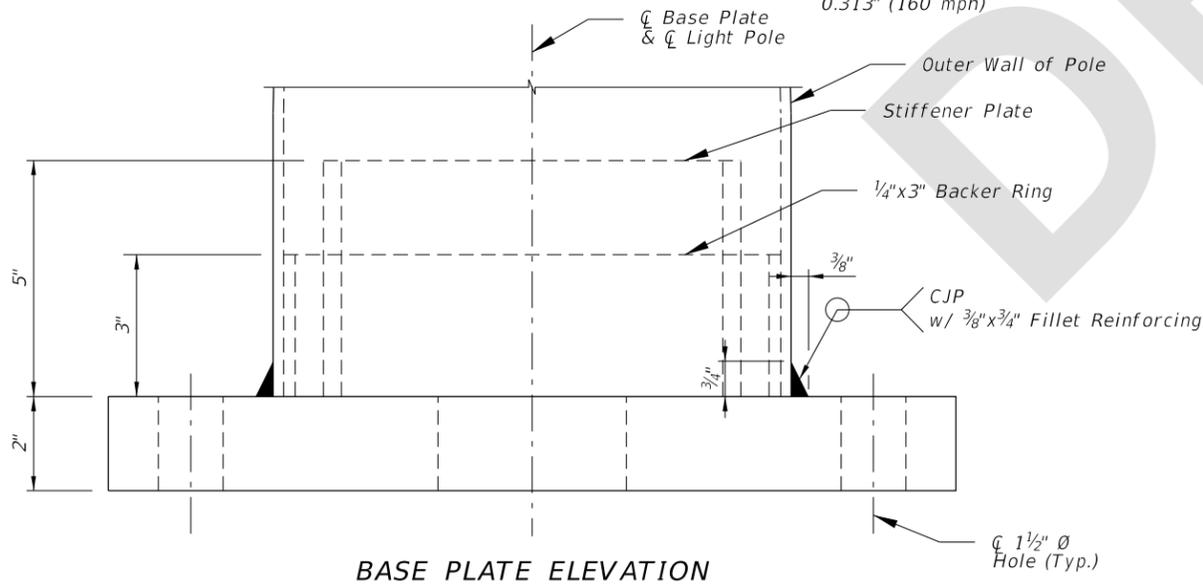
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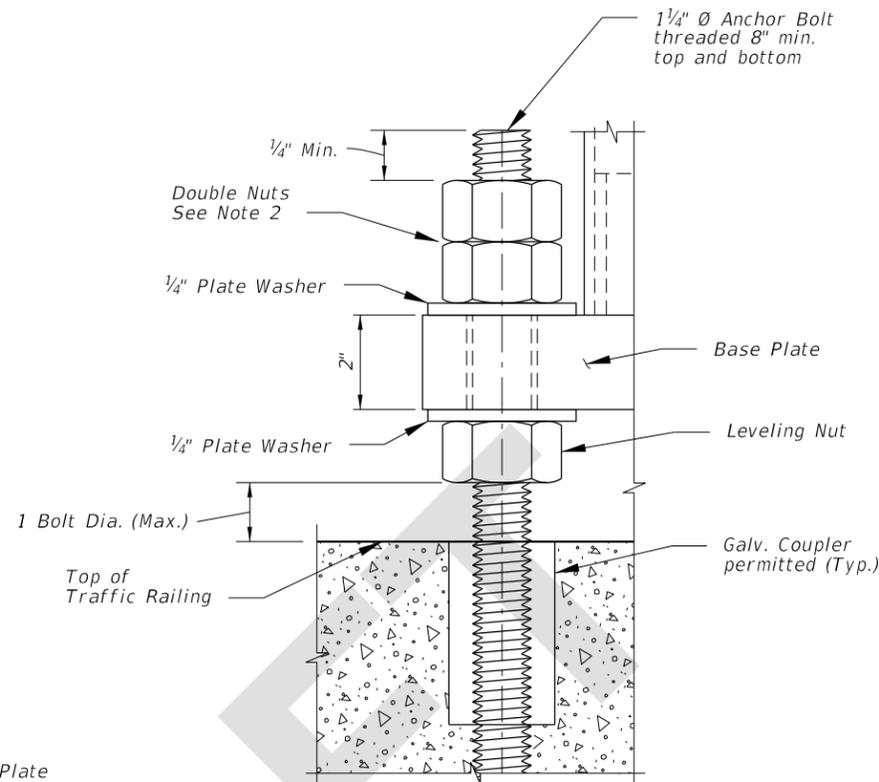
STIFFENER PLATE DETAIL



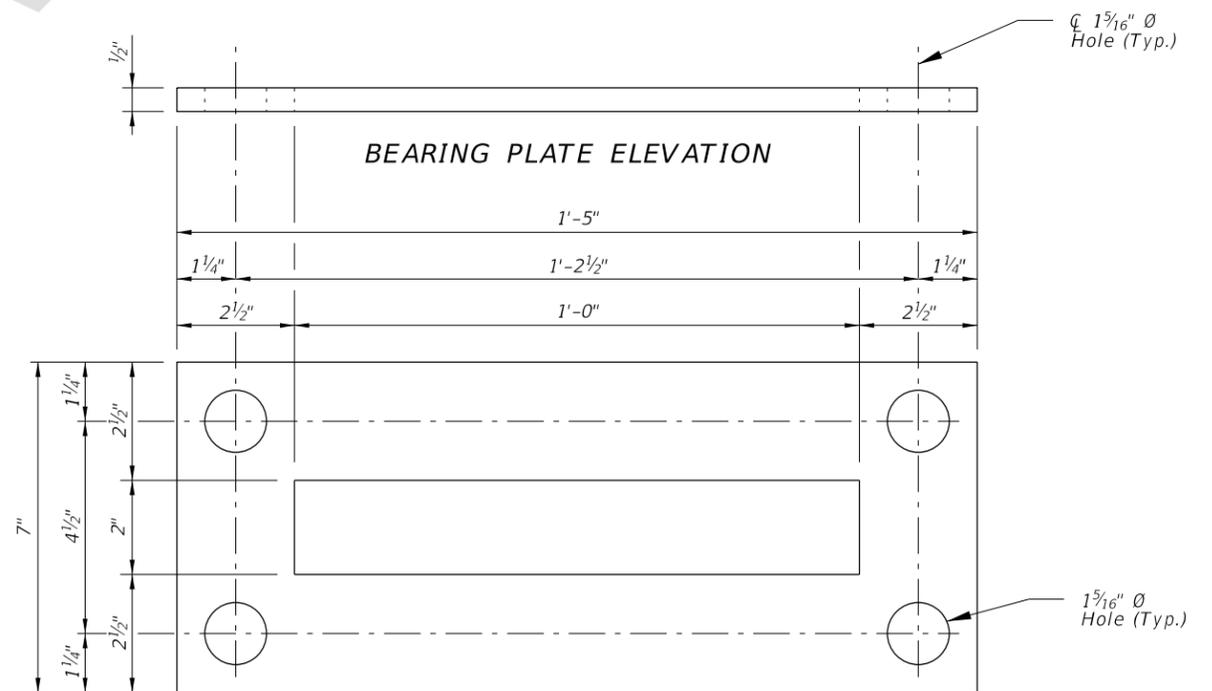
BASE PLATE PLAN



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.
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BASE PLATE DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

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LAST REVISION 11/01/23	DESCRIPTION:
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**FY 2024-25
STANDARD PLANS**

STANDARD ALUMINUM LIGHTING

INDEX 715-002	SHEET 6 of 9
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