ALUMINUM LIGHT POLE GENERAL NOTES

1) Designed in accordance with FDOT Structures Manual.
2) All tables were developed assuming the following luminaire properties: Effective Projected Area of 1.5 ft² includes wind drag coefficient and 75 pounds (max.)
3) Pole Notes:
   a. Pole Notes: ASTM B221, Alloy 6063-T6.
   e. Cap Nut: ASTM A563 Grade DH
   g. Cap Stud: ASTM A36.
   i. Cap Washer: ASTM A709 Grade 36.
4) See Standard Index No. 17500 for grounding and wiring details.
5) Light Pole Specifications:
   c. Arm Finish: For pole and arms: 30 grid satin finished finish.
   e. Aluminum Caps and Covers: ASTM B-263 (319-F).
   g. Stainless Steel Fasteners and Hardware: ASTM A563 Grade DH.
6) Provide "J," "S" or "C" hook at top of pole for electrical cable.
7) Furnish each pole with a 2" x 4" (max) aluminum identification tag. Submit details for approval. Secure to Transformer Base with 0.125" stainless steel rivets or screws. Locate Identification Tag on the inside of base and visible from the door opening. Include the following information: Financial Project ID, Pole Height, and Manufacturer’s Name.
8) For Clamp and Frangible Transformer Base Design, certify that the components are capable of providing the required capacity. Certify that the frangible Transformer Base conforms to the current Prima required AASHTO Frangibility Requirements, tested under NCHRP Report 355 Guidelines (e.g., Akron Foundry TB1-17).
9) For Median Barrier Mounted Aluminum Light Pole design, submit test results showing that pole will not buckle at pole shape transition area. Demonstrate in the tests that the poles will achieve full ultimate moment capacity of 36 k-ft in the strong axis and 30 k-ft in the weak axis respectively for the 0.25" thick poles. Submit complete details and calculations for the reinforced 4" x 6" (min.) handhole located 1'-6" above the base plate.

ROADWAY ALUMINUM LIGHTING POLE NOTES

1) Foundation Materials:
   a. Reinforcing Steel: ASTM A615 Grade 60.
   b. Concrete: Class I.
   c. Anchor Bolts: ASTM F1554 Grade 55 with ASTM A563 Grade DH nuts and ASTM A36 Plate Washer or ASTM F436 Type 1 washers (all galvanized in accordance with ASTM F2329). Coupler shall be in accordance with AASHTO 5.11.5.2.2.
   e. Bearing Plate for Anchor Bolts: ASTM A709 Grade 36 or ASTM A36.
   f. Anchor Bolt Collars: ASTM A194 Grade 8H.
   g. Anchor Bolt Nuts: ASTM A563 Grade DH.
2) Pole Notes:
   a. tapered as required to provide a 6" (O.D.) round top with a 10" x 6" (O.D.) oblong base. Portions of the shaft near the base shoe and at the arm connections may be held constant at 10" x 6" oblong and 6" round respectively to simplify fabrication.
   b. Transverse welds are allowed only at the base.
   c. Poles constructed out of two or more sections with overlapping splices are not permitted.
   d. Equip poles with a damping device.

FOUNDATION NOTES

The foundations for Standard Roadway Aluminum Light Poles are pre-designed and are based upon the following conservative soil criteria which covers the majority of soil types found in Florida:
- Classification: Cohesionless (Fine Sand)
- Friction Angle: 30 Degrees (30°)
- Unit Weight: 50 lbs./cu. ft. (assumed saturated)

Only in cases where the Designer considers the soil type at the specific site location to be of lesser strength properties shall an analysis be required. Auger borings, SPT borings or CPT soundings may be utilized as needed to verify the assumed soil properties, and at relatively uniform sites, a single boring or sounding may cover several foundations. Borings in the area that were performed for other purposes may be used to confirm the assumed soil properties.

FULL BOX NOTES

1) Fabricate pullboxes from ASTM A 36 steel and hot-dip galvanized in accordance with ASTM A 123 after fabrication. All seams shall be continuously welded and ground smooth.
2) Provide watertight cover with neoprene gasket and secure cover with galvanized screws.
3) Completed pullbox and conduit risers are incidental to the cost of concrete barrier wall.

NOTES
**ARM TABLE**

<table>
<thead>
<tr>
<th>ARM</th>
<th>LEFT</th>
<th>RIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>10'</td>
<td>4.63</td>
<td>4.63</td>
</tr>
<tr>
<td>12'</td>
<td>4.63</td>
<td>4.63</td>
</tr>
<tr>
<td>15'</td>
<td>4.63</td>
<td>4.63</td>
</tr>
</tbody>
</table>

*Increase Member Wall Thickness as Necessary to Meet Minimum Requirements of the Welding Code for the Connection Weld Sizes Shown in the Arm and Pole Tables.*

**ARM ELEVATION**

- Provide 3/8" O.D. x 0.125 (Min.) Drill Holes under the arm tubes 15" from the base weld.
- Provide 1/4" Stainless Steel Bolts with Hex Nuts and 2-1/2" O.D. Flat Washers and a Split Lockwasher each side of the pole where shown.

**ARM TUBE EXTRUSIONS NOTES:**

- At the pole connections, provide arm tube extrusions with dimensions as shown in the Arm Section and as tabulated in the Arm Data Tables. Uniformly transition elliptical section to a cylindrical section at the arm connection.

**HIGH TEMP VINYL CAP DETAIL**

- ASTM D2287
- PVC Type 65500

**ARM & DAMPER DETAILS**

**DIMPLE DETAIL**

- 1” ID
- 1” High Temp Vinyl Cap (both ends)
- See Cap Details

**VIBRATION DAMPER ELEVATION**

**DIMENSIONS**

- 2” x 12” Long Sch. 10 Aluminum Pipe ASTM B221 Alloy 6063-T6
- 1½” x 1½” long ASTM A36 hot rolled rod

**INDEX NO.**

- 17515
**DANGER**

**HIGH VOLTAGE**

**DO NOT TAMPER**

**SECTION C-C**

**TOP VIEW TRANSFORMER BASE**

**BOTTOM VIEW TRANSFORMER BASE**

**VIEW B-B**

**FOUNDATION POLE BASE ELEVATION**

**BASE DETAILS FOR ROADWAY ALUMINUM LIGHT POLE**

**POLE TABLE**

<table>
<thead>
<tr>
<th>WIND SPEED (MPH)</th>
<th>ARM LENGTH (FT)</th>
<th>DESIGN MOUNTING HEIGHT (FT)</th>
<th>POLE WALL (IN)</th>
<th>UPPER WELD (IN)</th>
<th>LOWER WELD (IN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>8, 10, 12 &amp; 15</td>
<td>45 &amp; 45</td>
<td>0.188</td>
<td>0.188</td>
<td>0.188</td>
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<tr>
<td>130</td>
<td>8, 10, 12 &amp; 15</td>
<td>45 &amp; 45</td>
<td>0.156</td>
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<td>150</td>
<td>8, 10, 12 &amp; 15</td>
<td>45 &amp; 45</td>
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<td>0.125</td>
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<tr>
<td>175</td>
<td>8, 10, 12 &amp; 15</td>
<td>45 &amp; 45</td>
<td>0.093</td>
<td>0.093</td>
<td>0.093</td>
</tr>
</tbody>
</table>

**FOUNDATION TABLE**

<table>
<thead>
<tr>
<th>WIND SPEED (MPH)</th>
<th>DESIGN MOUNTING HEIGHT (FT)</th>
<th>TOTAL DEPTH (FT) **</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>40</td>
<td>7</td>
</tr>
<tr>
<td>130</td>
<td>40 &amp; 45</td>
<td>8</td>
</tr>
<tr>
<td>150</td>
<td>40 &amp; 45</td>
<td>9</td>
</tr>
<tr>
<td>175</td>
<td>50</td>
<td>10</td>
</tr>
</tbody>
</table>

**NOTE:** Depth shown in table are for grades faster than 1:4, for grades up to 1:2 add 2'-6" to foundation depth shown in table.

1. Shop weld assemblies of foundation stirrup reinforcing bars are permitted in reinforced concrete foundation provided that:
   a. The reinforcing bars conform to ASTM Specification A706/706M.
   b. The holding wires conform to ASTM Specification A1064.
   c. The Shop welding is performed by machines under a continuous, controlled process, approved by the Engineer.
   d. Quality control tests are performed on shop welded specimens and the test results are available, upon request, to the Engineer.

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