HIGHEST LIGHTING NOTES:

1. Poles are designed to support the following:
   A. One (1) cylindrical head assembly with a maximum effective projected area of 6 sf (cd=1) and 340 lbs (Max.)
   B. Eight (8) cylindrical luminaires with a maximum effective projected area of 3.0 sf (cd = 0.3) and 77 lbs each

2. Shop Drawings: This Index is considered fully detailed, only submit shop drawings for minor modifications not detailed in the plans.

3. High Mast Structure Materials:
   A. Poles and Backing Rings:
      a. Less than 90°: ASTM A1011 Grade 50, 55, 60 or 65
      b. Greater than or equal to 90°: ASTM A572 Grade 50, 55, 60 or 65
      c. ASTM A595 Grade A (55 ksi yield) or Grade B (60 ksi yield)
   B. Steel Plates: ASTM A709 or ASTM A36
   C. Pole Caps: ASTM A1011 Grade 50, 55, 60, or 65 or ASTM B209
   D. Bolt, Nut, and Washer:
      a. Anchor Bolts: ASTM F1554 Grade 55
      b. Nuts: ASTM A563 Grade A Heavy-Hex (5 per anchor bolt)
      c. Plate Washers: ASTM A36 (2 per anchor bolt)
   E. Stainless Steel Screws: AISI 316
   F. Anchor Bolts, Nuts, and Washers:
      a. Anchor Bolts: ASTM F1554 Grade 55
      b. Nuts: ASTM A563 Grade A Heavy-Hex (5 per anchor bolt)
      c. Plate Washers: ASTM A36 (2 per anchor bolt)
   G. Nut Covers: ASTM B209 (319-F)
   H. Concrete: Class IV (Drilled Shaft)
   I. Reinforcing Steel: Specification Section 415
   J. Pulling Steel: Specification Section 415

4. Fabrication:
   A. Welding: Specification Section 460-6.4
   B. Poles:
      a. Round or 16-Sided (Min.)
      b. Pole Taper: Diameter changing at 0.14 inches per foot.
      c. Two longitudinal seam welds (Max.)
      d. Longitudinal seam welds located within 6" of pole to base must be complete penetration welds.
   C. Holes for Anchor Bolts: Anchor Bolt diameter plus 6".
   D. Longitudinal seam welds at telescopic field joints must be complete penetration welds for the splice length plus 6".
   E. Identified mount for anchor bolt diameter plus 6" (Max.), prior to galvanizing.
   F. Hot Dip Galvanize after Fabrication
   G. Identification Tag (Submit details for approval)
      a. 2" x 4" (Max.) aluminum identification tag
      b. Locate on the inside of the pole and visible from the handhole
      c. Secures to pole with 1/4" diameter stainless steel rivets or screws.
      d. Include the following information on the ID tag:
         1. Financial Project ID
         2. Pole Type
         3. Pole Height
         4. Manufacturer's Name
         5. Fe of Steel
         6. Base Wall Thickness

5. Coating:
   A. Galvanize Anchor Bolts, Nuts and Washers: ASTM F2239
   B. Hot Dip Galvanize all other steel items: ASTM A123

6. Construction:
   A. Foundation: Specification Section 455 Drilled Shaft, except that payment is included in the cost of the Structure.
   B. After Installation: Place wire screen between top of foundation and bottom of baseplate in accordance with
      Specification Section 649-6.
**POLE DESIGN TABLE**

<table>
<thead>
<tr>
<th>Design Wind Speed</th>
<th>Pole Overall Height (ft)</th>
<th>SECTION 1 (TOP)</th>
<th>SECTION 2</th>
<th>SECTION 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Length</td>
<td>Wall Thickness (in.)</td>
<td>Minimum Splice L. (in.)</td>
</tr>
<tr>
<td>110 mph</td>
<td>80</td>
<td>41-9&quot;</td>
<td>0.250</td>
<td>2'-0&quot;</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>34-6&quot;</td>
<td>0.179</td>
<td>2'-0&quot;</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>44-6&quot;</td>
<td>0.250</td>
<td>2'-0&quot;</td>
</tr>
<tr>
<td>130 mph</td>
<td>80</td>
<td>41-9&quot;</td>
<td>0.250</td>
<td>2'-0&quot;</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>34-6&quot;</td>
<td>0.179</td>
<td>2'-0&quot;</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>44-6&quot;</td>
<td>0.250</td>
<td>2'-0&quot;</td>
</tr>
<tr>
<td>150 mph</td>
<td>80</td>
<td>42-6&quot;</td>
<td>0.250</td>
<td>2'-0&quot;</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>44-6&quot;</td>
<td>0.250</td>
<td>2'-0&quot;</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>46-6&quot;</td>
<td>0.250</td>
<td>3'-0&quot;</td>
</tr>
</tbody>
</table>

* Diameter Measured Flat to Flat

**BASE PLATE AND BOLTS DESIGN TABLE**

<table>
<thead>
<tr>
<th>Design Wind Speed</th>
<th>Pole Overall Height (ft)</th>
<th>Base Plate Diameter (in.)</th>
<th>Base Plate Thickness (in.)</th>
<th>Bolt Circle (in.)</th>
<th>No. Bolts</th>
<th>Bolt Diameter (in.)</th>
<th>Bolt Embedment (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>110 mph</td>
<td>80</td>
<td>30.0</td>
<td>3.0</td>
<td>23.0</td>
<td>8</td>
<td>1.75</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>33.5</td>
<td>3.0</td>
<td>26.5</td>
<td>8</td>
<td>1.75</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>36.0</td>
<td>3.0</td>
<td>29.0</td>
<td>8</td>
<td>1.75</td>
<td>45</td>
</tr>
<tr>
<td>130 mph</td>
<td>80</td>
<td>30.0</td>
<td>3.0</td>
<td>23.0</td>
<td>8</td>
<td>1.75</td>
<td>43</td>
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<tr>
<td></td>
<td>100</td>
<td>33.5</td>
<td>3.0</td>
<td>26.5</td>
<td>8</td>
<td>1.75</td>
<td>50</td>
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<tr>
<td></td>
<td>120</td>
<td>36.0</td>
<td>3.0</td>
<td>29.0</td>
<td>8</td>
<td>2.00</td>
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<tr>
<td>150 mph</td>
<td>80</td>
<td>32.0</td>
<td>3.0</td>
<td>25.0</td>
<td>8</td>
<td>1.75</td>
<td>49</td>
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<tr>
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<td>29.0</td>
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<td>2.50</td>
<td>53</td>
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</table>

**SHAFT DESIGN TABLE**

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<thead>
<tr>
<th>Design Wind Speed</th>
<th>Pole Overall Height (ft)</th>
<th>Shaft Diameter</th>
<th>Shaft Length</th>
<th>Longitudinal Reinforcement</th>
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<tbody>
<tr>
<td>110 mph</td>
<td>80</td>
<td>4'-0&quot;</td>
<td>13'-0&quot;</td>
<td>14-#1</td>
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<tr>
<td></td>
<td>100</td>
<td>4'-6&quot;</td>
<td>16'-0&quot;</td>
<td>16-#1</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>5'-0&quot;</td>
<td>18'-0&quot;</td>
<td>18-#1</td>
</tr>
<tr>
<td>130 mph</td>
<td>80</td>
<td>4'-0&quot;</td>
<td>14'-0&quot;</td>
<td>14-#1</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>4'-6&quot;</td>
<td>16'-0&quot;</td>
<td>16-#1</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>5'-0&quot;</td>
<td>18'-0&quot;</td>
<td>18-#1</td>
</tr>
<tr>
<td>150 mph</td>
<td>80</td>
<td>4'-6&quot;</td>
<td>15'-0&quot;</td>
<td>16-#1</td>
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<tr>
<td></td>
<td>100</td>
<td>5'-0&quot;</td>
<td>17'-0&quot;</td>
<td>18-#1</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>5'-0&quot;</td>
<td>19'-0&quot;</td>
<td>18-#1</td>
</tr>
</tbody>
</table>

**NOTE:** Foundation for slopes 1:4 or flatter. Provide a 2'-0" drilled shaft projection on the high side.

**POLE DESIGN TABLES**

**REV**

**AM**

**INDEX**

**SHEET NO.**

**17502**

**2 of 6**
For Pull Boxes between Poles refer to Index 17500.

1. Slabs to be placed around all Poles and Pull Boxes.
2. Standard Specifications For Road And Bridge Construction. At all pull boxes and pole bases, ends of conduit shall be sealed in accordance with Section 630 of the Standard Specifications For Road And Bridge Construction.

NOTES:
1. For Pull Boxes between Poles refer to Index 17500.
The contractor's attention is directed to those plan sheets detailing the mounting of luminaires at the pole top. Particular attention is directed to alignment of luminaire light distributions. Special attention must be exercised in the physical alignment of these luminaires to ensure that the approved photometric layout is physically produced at each lighting standard in the field. A marking shall be placed on the external face of the refractor to allow visual inspection of alignment. The marking shall correspond to the 0° axis of the refractor.

The luminaires support ring is shown with the luminaire support ring at the top. The lift cables are shown with the lift cable sheaves at the bottom. The power cable terminator is shown with the male inlet in the middle. The ground to winch support plate is shown with the #6 bonding ground and the 480V phase to phase at the top. The lifting cables (2 minimum) are shown with the lift cable sheaves at the bottom. The winch is shown with the hand hole at the top. The positive drive reversible winch is shown with the remote control switch at the bottom. The 2" slip fitter assembly is shown with the power cable terminator at the bottom. The male inlet is shown with the female plug at the bottom. The circuit breaker cable is shown with the female plug at the bottom. The ground conductor is shown with the #6 Bonding Ground at the top. The step-down transformer is provided with 120V grounded receptacle for electric drill & receptacle for supply cable. The remote control switch is shown with the remote control switch at the bottom.
NOTES:
1. Use compacted select material in accordance with Index 505.
2. Concrete shall be Class NS with a minimum strength at 28 days of f'c=2.5 ksi.
3. Outside edge of slab shall be cast against formwork.
4. The pull box shown is 13' x 24'; others approved under Section 630 of the Standard Specifications may be used.
5. Slabs to be placed around all Poles and Pull Boxes. In urban areas or where space is limited slab dimensions may be adjusted as shown in the plans.
6. Concrete for slabs around poles and pull boxes shall be included in the price of pole or pull box.
7. The expansion joint shall consist of ½” of closed-cell polyethylene foam expansion material. The top ½” of expansion material shall be removed after pouring the slab and sealed with an APL approved Type A sealant meeting the requirements of Section 930.

SLAB DIMENSIONS

SLAB DETAILS

SECTION C-C

SHAFT LOCATION

PULL BOX LOCATION

4" SELECT MATERIAL

½ Expansion Joint (Sealed)

SLAB DETAILS

SLAB DIMENSIONS

NOTES:
1. Use compacted select material in accordance with Index 505.
2. Concrete shall be Class NS with a minimum strength at 28 days of f'c=2.5 ksi.
3. Outside edge of slab shall be cast against formwork.
4. The pull box shown is 13' x 24'; others approved under Section 630 of the Standard Specifications may be used.
5. Slabs to be placed around all Poles and Pull Boxes. In urban areas or where space is limited slab dimensions may be adjusted as shown in the plans.
6. Concrete for slabs around poles and pull boxes shall be included in the price of pole or pull box.
7. The expansion joint shall consist of ½” of closed-cell polyethylene foam expansion material. The top ½” of expansion material shall be removed after pouring the slab and sealed with an APL approved Type A sealant meeting the requirements of Section 930.