NOTES:
1. Work with Index 17727 for grounding and span wire details. See the Plans for clamp spacing, cable sizes and forces, signals and sign mounting locations and details.
2. Shop Drawings: This Index is considered fully detailed, only submit shop drawings for minor modifications not detailed in the Plans.
3. Materials: Split lock washers and self-locking nuts are not permitted.
   A. Strain Pole and Backing Rings:
      i. Less than 8", ASTM A501 Grade 30, 55, 60 or 65
      ii. Greater than or equal to 8", ASTM A522 Grade 50, 55, 60 or 65
      iii. ASTM A595 Grade A (55 ksi yield) or Grade B (60 ksi yield)
   B. Steel Plates: ASTM A36
   C. Weld Metal: E70XX
   D. Bolts, Nuts and Washers:
      i. High Strength Bolts: ASTM A325 Type 1
      ii. Nuts: ASTM A325 Grade A Heavy-Hex
      iii. Washers: ASTM F436 Type 1, one under turned element
   E. Anchor Bolts, Nuts and Washers:
      i. Anchor Bolts: ASTM F1554 Grade 55
      ii. Nuts: ASTM A325 Grade A Heavy-Hex (5 per anchor bolt)
   F. Plate Washers: ASTM A36 (3 per bolt)
   G. Handhole Frame: ASTM A572 or ASTM A58, Grade 50
   H. Handhole Cover: ASTM A501 Grade 55, 60 or 65
   I. High Strength Spikes:
   J. Threaded Bar/Stub: ASTM A36 or ASTM A307
   K. Rebar in Column Shaker or all environmental classifications.
   L. Reinforcing Steel: Specification Section 415

4. Fabrication:
   A. Pole Taper: Change diameter at a rate of 0.14 inches per foot.
   B. Upright splices are not allowed. Transverse welds are only permitted at the base.
   C. Provide bolt hole diameters as follows:
      i. Anchor Bolts: Bolt diameter plus \( \frac{1}{8} \) maximum
      ii. Anchor Bolts: Bolt diameter plus \( \frac{1}{4} \) maximum
   D. Locate handhole 180° from 2" wire entrance pipe.
   E. Identification Tag:
      i. Provide a 2" x 4" (Max) aluminum identification tag
      ii. Locate on the inside of the pole and visible from the handhole
      iii. Secure to pole with \( \frac{1}{8} \) diameter stainless steel rivets or screws.
   F. Include the following information on the Tag:
      i. Financial Project ID
      ii. Pole Type
      iii. Pole height
      iv. Manufacturer's Name
      v. FF of Steel
      vi. Base Wall Thickness
   G. Hot Dip Galvanize after fabrication.

5. Coatings:
   A. All nuts, bolts, washers and threaded bars/studs: ASTM F2329
   B. All other steel items ASTM A123

6. Construction:
   A. Foundation: Specification Section 455, except that payment is included in the cost of the strain pole.
   B. After installation, place wire screen between top of foundation and bottom of base plate in accordance with Specification Section 699-6.

ELEVATION AND NOTES

STRAY POLE ASSEMBLY
TABLE OF STRAIN POLE VARIABLES

<table>
<thead>
<tr>
<th>POLE TYPE</th>
<th>MAXIMUM ALLOWABLE MOMENT (kip-ft)</th>
<th>POLE</th>
<th>BASE CONNECTION</th>
<th>SHAFT</th>
</tr>
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<tbody>
<tr>
<td>PS-IV</td>
<td>110.4</td>
<td>12</td>
<td>23</td>
<td>5.3</td>
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<td>PS-VI</td>
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<td>PS-VII</td>
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<td>12</td>
<td>23</td>
<td>5.3</td>
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<td>PS-V</td>
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<td>23</td>
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</tbody>
</table>

### POLE ASSEMBLY

- **Foundation (Drilled Shaft)**
- **Base Plate**

### POLE ELEVATION

- ** Shaft Diameter**
- **Center of Drill Shaft**
- **Anchor Bolt (Typ.)**
- **#6 Cover (Typ.)**
- **#5 Tie Bars Equally Spaced**
- **CSL Tube (Typ.)**

### BASE PLATE ELEVATION

- **Base Plate Dia.**
- **BA-4xBC Bolt Circle Dia.**
- **Center of Drilled Shaft Base Plate And Pole**
- **BC Anchor Bolt Threaded**
- **1" x 1" Chamfer**
- **Double Nuts (Typ.)**

### FOUNDATION AND BASE DETAILS

- **Foundation**
- **Base Plate**
- **Anchor Bolt**
- **Wire Screen**
- **Base Plate Thickness**
- **Pole Wall Thickness**
- **Silicone Caulk**
- **Base Plate Opening**
- **#5 Tie Bars Equally Spaced**

### Joint Weld Detail

- **Center of Handhole**
- **Break Radius (Typ.)**
- **Min Break Radius = 0.25 x (Inside Radius)**
- **Inside radius measured center to flat**
- **Joint Weld (Typ.)**
- **See Welding Note Sheet 1**
- **Foundation Wall Thickness = 3½"**
- **1½" Backing Ring**
- **3" X ½" Backing Ring**

### Index No.

2016 DESIGN STANDARDS

STEEL STRAIN POLE

INDEX NO. 17723

Sheet No. 2 of 3
POLE ASSEMBLY

NOTES:
1. Clamps have been sized for Design Cable Loads shown in the Clamp Thickness Table, and a Maximum Pole Diameter at the Clamp location of 2'-1". Use one clamp per cable.
2. Install a properly sized Weather Head, fastened securely to the standard pipe for each pole location. At locations other than the wire entrance, the Weather Head Face is to be left closed to outside atmosphere. Wire entrance installed per Index 17727.
3. Any combination of Option 'a' or 'b' may be used provided both lifting and wiring is accommodated.

CLAMP THICKNESS TABLE

<table>
<thead>
<tr>
<th>Cable Diameter (in)</th>
<th>Minimum Breaking Strength (kip)</th>
<th>Plate Thickness (in)</th>
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<tbody>
<tr>
<td>3/16</td>
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HANDHOLE

HOLE ENTRANCE DETAIL

CATERARY AND MESSENGER WIRE CLAMPS