STEEL STRAIN POLE NOTES:

1) DESIGNED IN ACCORDANCE WITH FDOT STRUCTURES MANUAL AND THE 2001 (4TH) EDITION AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS AND INTERMS.

2) PERFORM ALL WELDING IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (ALUMINUM) ANSI/AWS D1.2 (CURRENT EDITION). NO FIELD WELDING IS PERMITTED ON ANY PART OF THE POLE.

3) SEE STANDARD INDEX NO. 17727 FOR GROUNDING AND SPAN WIRE DETAILS.

4) FOUNDATION MATERIALS:
   a) REINFORCING STEEL: ASTM A615 GRADE 60
   b) CONCRETE: CLASS IV, (DRILLED SHAFT) 4,000 psi (f'c) MINIMUM COMPRESSIVE STRENGTH AT 28-DAYS FOR ALL ENVIRONMENTAL CLASSIFICATIONS
   c) ANCHOR BOLTS: ASTM F1554 GRADE 55 WITH ASTM A95 GRADE A HEAVY-HEX (ALL GALVANIZED IN ACCORDANCE WITH ASTM F2329)

5) STRAIN POLE SPECIFICATIONS:
   a) POLES: ASTM A1011 GRADE 50, 55, 60 OR 65 (LESS THAN 1/2") OR ASTM A572 GRADE 50, 60 OR 65 (1/2" AND OVER) OR ASTM A595 GRADE A55 kf YIELD) OR GRADE B (60 ksi YIELD).
   b) STEEL PLATES: ASTM A36
   c) WELD METAL: E70XX
   d) BOLTS: A25, TYPE 1, HOLE DIAMETER: BOLT DIAMETER PLUS 1/16".
   e) BASE PLATE: HOLE DIAMETER: ANCHOR BOLT DIAMETER PLUS 1/2".
   f) HANDHOLE FRAME: ASTM A309 GRADE 36 OR ASTM A36, COVER: ASTM A1011 GRADE 50, 55, 60 OR 65.
   g) ALUMINUM CAPS AND COVERS: ASTM F-26 (319/4).
   h) STAINLESS STEEL SCREWS: ASI TYPE 316.

6) POLE NOTES:
   a) SEE THE SIGNALIZATION PLANS FOR CLAMP SPACING, CABLE SIZES AND FORCES, SIGNAL AND SIGN MOUNTING LOCATIONS AND DETAILS.
   b) TAPERED WITH THE DIAMETER CHANGING AT A RATE OF 0.14 INCH PER FOOT.
   c) TRANSVERSE WELDS ARE ALLOWED ONLY AT THE BASE.
   d) POLES CONSTRUCTED OUT OF TWO OR MORE SECTIONS WITH OVERLAPPING SPLICING ARE NOT PERMITTED.
   e) LOCATE THE HANDHOLE 180 DEGREES FROM 2-INCH WIRE ENTRANCE PIPE.
   f) FURNISH EACH POLE WITH A 2" X 4" (MAX) ALUMINUM IDENTIFICATION TAG. SUBMIT DETAILS FOR APPROVAL SECURE TO POLE WITH 0.125" STAINLESS STEEL RIVETS OR SCREWS. LOCATE IDENTIFICATION TAG ON THE INSIDE OF POLE AND VISIBLE FROM HANDHOLE. INCLUDE THE FOLLOWING INFORMATION:
   - FINANCIAL PROJECT ID, POLE TYPE, POLE HEIGHT, MANUFACTURE'S NAME & CERTIFICATION NUMBER, QPL NUMBER.
**DRILLED SHAFT ELEVATION**

- **BASE PLATE**
- **ANCHOR BOLTS**
- **LEVELING NUT**

**SECTION A-A**

- **CENTER OF HANDHOLE**
- **WIRE MESH**

**PARTIAL ELEVATION**

- **(SHOWING BASE PLATE, ANCHOR BOLTS AND HANDHOLE)**

**TABLE OF STRAIN POLE VARIABLES**

<table>
<thead>
<tr>
<th>POLE TYPE</th>
<th>MAXIMUM ALLOWABLE MOMENT (kip-ft)</th>
<th>J (in.)</th>
<th>K (in.)</th>
<th>No. OF BOLTS</th>
<th>BA (in.)</th>
<th>BB (in.)</th>
<th>BC (in.)</th>
<th>BD (in.)</th>
<th>BE (in.)</th>
<th>BF (in.)</th>
<th>DA (ft.)</th>
<th>DB (ft.)</th>
<th>No. OF #11 BARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS-IV</td>
<td>95.4</td>
<td>0.250</td>
<td>14</td>
<td>8</td>
<td>25</td>
<td>2.25</td>
<td>1.38</td>
<td>3/16</td>
<td>3/16</td>
<td>57</td>
<td>15.0</td>
<td>3.5</td>
<td>10</td>
</tr>
<tr>
<td>PS-V</td>
<td>158.9</td>
<td>0.313</td>
<td>16</td>
<td>10</td>
<td>28</td>
<td>2.50</td>
<td>1.12</td>
<td>1/4</td>
<td>1/4</td>
<td>56</td>
<td>16.5</td>
<td>3.5</td>
<td>10</td>
</tr>
<tr>
<td>PS-VI</td>
<td>203.6</td>
<td></td>
<td>18</td>
<td>12</td>
<td>30</td>
<td>2.50</td>
<td>1.12</td>
<td>1/4</td>
<td>1/4</td>
<td>55</td>
<td>17.0</td>
<td>3.5</td>
<td>10</td>
</tr>
<tr>
<td>PS-VII</td>
<td>280.3</td>
<td></td>
<td>21</td>
<td>14</td>
<td>33</td>
<td>2.50</td>
<td>1.12</td>
<td>9/16</td>
<td>9/16</td>
<td>56</td>
<td>17.0</td>
<td>4.0</td>
<td>14</td>
</tr>
<tr>
<td>PS-VIII</td>
<td>338.0</td>
<td></td>
<td>23</td>
<td>16</td>
<td>35</td>
<td>2.50</td>
<td>1.12</td>
<td>9/16</td>
<td>9/16</td>
<td>55</td>
<td>17.0</td>
<td>4.0</td>
<td>14</td>
</tr>
<tr>
<td>PS-IX</td>
<td>400.9</td>
<td></td>
<td>25</td>
<td>12</td>
<td>39</td>
<td>2.75</td>
<td>1.34</td>
<td>9/16</td>
<td>9/16</td>
<td>57</td>
<td>17.5</td>
<td>4.5</td>
<td>16</td>
</tr>
<tr>
<td>PS-X</td>
<td>469.1</td>
<td></td>
<td>27</td>
<td>14</td>
<td>41</td>
<td>2.75</td>
<td>1.34</td>
<td>9/16</td>
<td>9/16</td>
<td>56</td>
<td>18.5</td>
<td>4.5</td>
<td>16</td>
</tr>
</tbody>
</table>

**FOOTING NOTES:**

- THE FOUNDATION FOR THE STEEL STRAIN POLES ARE DESIGNED BASED UPON THE FOLLOWING CONSERVATIVE SOIL CRITERIA WHICH COVERS THE MAJOR TYPES FOUND IN FLORIDA:
  - **CL** = COHESIONLESS (FINE SAND)
  - **PS-I** = CONSOLIDATED (SILT)
  - **PS-II** = CONSOLIDATED (SAND)
  - **PS-III** = CONSOLIDATED (CLAY)
  - **PS-IV** = CONSOLIDATED (SILT)
  - **PS-V** = CONSOLIDATED (SAND)
  - **PS-VI** = CONSOLIDATED (CLAY)
  - **PS-VII** = CONSOLIDATED (SILT)
  - **PS-VIII** = CONSOLIDATED (SAND)
  - **PS-IX** = CONSOLIDATED (CLAY)
  - **PS-X** = CONSOLIDATED (SILT)

- THE DESIGNED POLE BASES ARE EMBEDDED 4 X 'BC' (CAST ALUMINUM COVER NOT SHOWN) INTO THE BASE PLATE AND POLE SPACE IS PROVIDED FOR HANDHOLE GENERATION.

- ALL LONGITUDINAL SEAM WELDS WITHIN 6" OF CIRCUMFERENTIAL WELDS SHALL BE COMPLETE PENETRATION WELDS.

- THE FOUNDATION FOR THE STEEL STRAIN POLES ARE DESIGNED BASED UPON THE FOLLOWING CONSERVATIVE SOIL CRITERIA WHICH COVERS THE MAJOR TYPES FOUND IN FLORIDA:
  - **CLASSIFICATION**: COHESIONLESS (FINE SAND)
  - **FRICTION ANGLE**: 30°
  - **UNIT WEIGHT**: 50 lbs./cu. ft. (ASSUMED SATURATED)

- ONLY IN CASES WHERE THE DESIGNER CONSIDERS THE SOIL TYPES AT THE SPECIFIC SITE LOCATION TO BE OF LESSER STRENGTH PROPERTIES SHOULD 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. FURTHERMORE, BORINGS IN THE AREA THAT WERE PERFORMED FOR OTHER PURPOSES MAY BE USED TO CONFIRM THE ASSUMED SOIL PROPERTIES.
The document is a technical drawing and details for a STEEL STRAIN POLE. The drawing includes various views and sections with annotations describing the structural components and specifications. For example:

- **TOP VIEW**: Shows the pole with dimensions and bolt details.
- **SECTION E-E**: Provides cross-sectional details, including hole and plate dimensions.
- **HAND HOLE FRAME** and **HAND HOLE COVER**: Describes the sizes and materials used.
- **CATENARY AND MESSENGER WIRE CLAMPS**: Notes the clamp sizes and design considerations.

The drawing also includes specifications for bolts, nuts, washers, and other hardware components necessary for assembly. The text provides instructions and dimensions to ensure proper installation and structural integrity.