Mast Arm Assemblies General Notes

1) Signal/Structure Materials shall be as follows:
   - Poles & Mast Arms
     - ASTM A4164 Grade 50, 55, 60 or 65 (less than 1/4") or
     - ASTM A4395 Grade 50, 55, 60 or 65 (1/4" and over)
   - Steel/Aluminum
     - ASTM A36
   - Weld Metal
     - E706/707
   - Bolt (except Anchor Bolts)
     - ASTM A4325 Type 2
   - Anchor Bolts
     - ASTM F1554 Grade 50 ksi
   - Nuts for Anchor Bolts
     - ASTM A4564 Grade 4 Heavy Hex
   - Washers for Anchor Bolts
     - ASTM F1677 Type 2
   - Handhole Frame
     - ASTM A709 Grade 36 karo ASTM A36
   - Handhole Cover
     - ASTM A1011 Grade 50, 55, 60 or 65 karo
   - Caps
     - ASTM A1011 Grade 50, 55, 60 or 65 karo
   - Nut Covers
     - ASTM B221 B-5 (B-7)
   - Stainless Steel Screws
     - ASTM Type 316
   - ASTM A436 or ASTM A107
   - Threaded Rods/Study

2) Reinforcing Steel/Aluminum ASTM A515 Grade 60 karo.

3) Concrete shall be Class IV (Drilled Shaft) with a minimum 28-day compressive strength of 4,000 psi for all environmental classifications.


5) All steel items galvanized as follows:
   - Articles, Bolts, Washers and
   - Threaded Rods/Studies as F2439
   - Other steel items (including Poles & Mast Arms) as ASTM A4233

6) Locate handhole 180° from arm on single arm poles or 180° from first arm of double arm poles or see special instructions on Mast Arm Tabulation Sheet.

7) Except for anchor bolts, all bolt diameters shall be equal to the bolt diameter plus 1/8", prior to galvanizing. Hole diameters for anchor bolts shall not exceed the bolt diameter plus 1/8".

8) Sign Panels and Signals attached to the Mast Arm shall be centered in elevation on the arm. Sign Panels shall be aluminum. Wire access holes shall not exceed 1 1/2" in diameter.

9) Most Poles and Arms shall be tapered with the diameter changing at a rate of 0.14 inch per foot.

10) The Pole shall be installed vertically. Camber shall be accounted for in the Mast Arm connection as detailed.

11) If a Mast Arm damping device is required by the Engineer, it shall be installed within eight feet of the Most Arm tip.


13) Provide "J", "S" or "C"-Hook at top of pole for signal cable support.

14) First and Second Arm Camber Angle = 2°.

15) Details for the Ground Rod, Signal and Sign Locations, Signal-Head attachment, Sign Attachment, Pedestrian Head Attachment, and Foundation Cutout are not shown for clarity.

16) One hundred percent wire penetration groove welds and a random 25 percent of all penetration groove welds shall be inspected. Full-penetration groove weld inspection shall be performed by nondestructive methods of radiography or ultrasonics.

17) Manufactures seeking approval of a steel/mast arm assembly for inclusion on the Qualified Products List must submit a QPL Product Evaluation Application along with design documentation and drawings showing the product meets all specifications requirements of this Index and Index 17743.

18) Verify CSL access tubes without interference with anchor bolt installation before excavating the shaft. When CSL access tube locations conflict with anchor bolt locations, move the CSL access tube location ± two inches along the inner circumference of the reinforcing cage. Notify the Engineer before excavating the shaft if the CSL access tube locations cannot be moved out of conflict with anchor bolt locations.

TYPICAL ELEVATION AND NOTES
NOTE: Details shown on this sheet are for 12 sided pole sections. However, sections with more than 12 sides and round sections are permitted provided outside diameter and wall thickness are not reduced.

2. Mast Arm and Connection Plates shall be match marked to ensure proper assembly.
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2. Masts and Connection Plates shall be match marked to ensure proper assembly.