MAST ARM ASSEMBLIES

GENERAL NOTES

1) Signal Structure Materials shall be as follows:
   - Poles & Masts: ASTM A4011 Grade 50, 55, 60 or 65 (less than ¾") or ASTM A479 Grade 50, 55, 60 or 65 (¾" and over) or ASTM A295 Grade 4 (55 ksi) yield or Grade 8 (60 ksi) yield.
   - Steel Plates: ASTM A36.
   - Weld Metal: ASTM A716.
   - Bolts (except Anchor Bolts): ASTM A325 Type 1.
   - Anchor Bolts: ASTM A325 Type 1.
   - Nuts for Anchor Bolts: ASTM A563 Grade 55 ksi.
   - Washers for Anchor Bolts: ASTM F436 Type Heavy Hex.
   - Handhole Frame: ASTM A259 Grade 36 ksi or ASTM A36.
   - Handhole Cover: ASTM A501 Grade 50, 55, 60 or 65 ksi.
   - Linx: ASTM A501 Grade 50, 55, 60 or 65 ksi.
   - Nut Covers: ASTM A626 (1/2-5).
   - Shopping Steel Screws: ASTM A107 Type J18.
   - Threaded Bars/Shafts: ASTM A36 or ASTM A401.

2) Reinforcing Steel shall be ASTM A615 Grade 60 ksi.

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

4) Grout shall have a minimum 28-day compressive strength of 5,000 psi and shall meet the requirements of Section 9.14.


6) All steel items shall be galvanized as follows:
   - All Nuts, Bolts, Washers and Threaded Bars/Shafts: ASTM A123.
   - All other steel items (including Poles & Mast Arm): ASTM A123.

7) Locate handhole 180° from arm on single arm poles and 180° from first arm on double arm poles; see special instructions on Mast Arm Tabulation Sheet.

8) Except for Anchor Bolts, all bolt hole diameters shall equal the bolt diameter plus ¾", prior to galvanizing. Hole diameters for Anchor Bolts shall not exceed the bolt diameter plus ½".

9) 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 1½" in diameter.

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

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

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


14) Provide "J"-Hook at top of pole for signal cable support.

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

16) Details for the Ground Rod, Sign Form and Sign Locations, Sign Head attachment, Sign Attachment, Pedestal Head Attachment, and Foundation Conduit are not shown for clarity.

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

18) If a ground rod is not installed, vertically place a wire cloth screen between the baseplate and the top of the foundation, wrap horizontally around the baseplate with a 3" min lap. The wire cloth shall be galvanized steel standard grade plain weave 2x2 mesh 0.063" dia. wire. The screen shall be attached to the baseplate with stainless steel self-tapping ¼" screws with stainless steel washers spaced at 9" centers.

TYPICAL ELEVATION NOTES

(1/2) Mast Arm Assembly

(2/2) Dotted Line - Mast Arm Assembly

(3/2) 0.14 in/ft. Taper, Type

(1/2) Hole Connection See Sheet 3 of 5 (single arm) or Sheet 4 of 5 (double arm)

(1/2) Most Arm Splice (if necessary) See Sheet 3 of 5 (single arm) or Sheet 4 of 5 (double arm)

(1/2) Aluminum Identification Tag Not to Exceed 2½ x 4". Secure to Pole by 0.125" Stainless Steel Rivets or screws. Fabricators to provide details for approval. Identification Tag Located on inside of Pole visible from handlehole, or on outside of pole inside terminal compartment. Tag to be stamped with the following information:

- Standard Design
- Pole Connection Details
- Pole Extension Details
- Pole Type
- Arm Type
- Manufacturer’s Name
- Certification No.
- Special Design
- Pole Design
- Pole Diameter
- Arm Diameter
- Arm Wall Thickness
- Arm Wall Thickness
- Manufacturer’s Name

(1/2) NOTE Contractor shall verify this dimension prior to fabrication of Pole.
The 'Screw Joint' splice shall be a tight fit with no change in the Mast Arm slope due to the splice.

NOTE: Longitudinal seam welds within six inches of circumferential welds shall be complete penetration welds. Longitudinal seam welds at telescopic field splices shall be complete penetration welds for the splice length plus six inches. For tubes greater than 70° in circumference, two longitudinal seam welds are allowed.

SECTION F-F

SECTION H-H

ELEVATION
(Single Arm Connection)

SECTION G-G

DETAIL 'I'

DETAIL 'U'

TYPICAL SINGLE ARM CONNECTION DETAILS

1. 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.
NOTE:
1. Details shown on this sheet are for a single pole section. 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 machined to ensure proper assembly.
LUMINAIRE ELEVATION

LUMINAIRE ORIENTATION

LUMINAIRE CONNECTION ELEVATION

NOTE: The Pole shown on this sheet is a 12 sided section. However, sections with more than 12 sides and round sections are permitted provided outside diameter and wall thickness are not reduced.

NOTES:
1. Luminaire type and Luminaire to Arm Connection Details can be found elsewhere.
2. Align Luminaire with single Mast Arm or First Arm of Double Mast Arm unless indicated otherwise in plans.