GENERAL NOTES
1. Shop Drawings. This Index is considered fully detailed, only submit shop drawings for minor modifications not detailed in the Plans.
2. Prior to Fabrication: Verify the installed foundation elevation will result in the required signal elevation and adjust the Pole height as needed.
3. Details for Signal and Sign locations, Signal Head attachment, Sign attachment, Pedestrian Head attachment, and Foundation Conduit are not shown for simplicity.
4. Materials: Split-lock washers and self-locking nuts are not permitted
   a. Less than \( \frac{7}{16} \)", ASTM A193 Grade 50, 55, 60 or 65
   b. Greater than or equal to \( \frac{7}{16} \)" and \( \frac{1}{4} \)" ASTM A325 Grade 50, 55, 60 or 65
   c. ASTM A694 Grade 6 (55 ksi yield) or Grade B (60 ksi yield)
5. Fabrication:
   a. Splice (See Sheet 6).
   b. Upright splices are not allowed. Transverse welds are only permitted at the base.
6. Coatings:
   a. Anchor Bolts, Nuts and Washers:
      i. Anchor Bolts: ASTM F1554 Grade 55
      ii. Nuts: ASTM A563 Grade A Heavy-Hex (5 per anchor bolt)
      iii. Plate Washers: ASTM A36 (2 per bolt)
   b. Threaded Bars/Studs:
      i. 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. Washers: ASTM A36 (2 per bolt)
   c. Concrete:
      i. Class IV (Drilled Shaft) for all environmental classifications.
6. Anchoring:
   a. Handhole Cover: ASTM A1011 Grade 50, 55, 60 or 65
   b. Pedestrian Head attachment, and Foundation Conduit are not shown for simplicity.
   c. Stainless Steel Screws: AISI Type 316
   d. All Nuts, Bolts, Washers and Threaded Bars/Studs: ASTM F2329
   e. High Strength Bolts: ASTM A325 Type 1
   f. Threaded Bars/Studs:
      i. ASTM A36 or ASTM A307
5. Fabrication:
   a. Pole and Mast Arm Taper: Change diameter at a rate of 0.14 inches per foot.
   b. Locate handhole 90° from arm on single arm poles or 90° from first arm of double arm poles facing away from traffic or see special instructions on the Mast Arm Splice Tabulation Sheet.
   c. Provide bolt hole diameters as follows:
      i. Anchor Bolts: Bolt diameter plus \( \frac{1}{8} " \) (Max.)
      ii. Nuts: Bolt diameter plus \( \frac{1}{16} " \) (Max.)
   d. Provide a \( \frac{1}{8} " \)Ø Weep Hole prior to galvanizing.
   e. Anchor Bolts: Bolt diameter plus \( \frac{1}{8} " \) prior to galvanizing.
   f. Plate Washers: ASTM A36 (2 per bolt)
   g. Hot Dip Galvanize after fabrication.
   h. Reinforcing Steel: Specification Section 413
   i. All other steel items ASTM A123
5. Construction:
   a. Foundation:
      i. Specification Section 455 Drilled Shaft, except that payment is included in the cost of the Mast Arm.
   b. Foundation:
      i. Specification Section 455 Drilled Shaft, except that payment is included in the cost of the Mast Arm.
   c. Weld Metal: E70XX
   d. Pedestrian Head attachment, and Foundation Conduit are not shown for simplicity.
   e. Anchor Bolts, Nuts and Washers:
      i. Anchor Bolts: ASTM F1554 Grade 55
      ii. Nuts: ASTM A563 Grade A Heavy-Hex (5 per anchor bolt)
      iii. Plate Washers: ASTM A36 (2 per bolt)
   f. Hot Dip Galvanize after fabrication.
   g. Perform all welding in accordance with Specification Section 460-6.4.
   h. Provide a 'J' or 'C' hook at the top of the pole for signal wiring support (See Index (17748)
   i. Stainless Steel Screws: AISI Type 316
   j. Aluminum Pole Caps and Nut Covers: ASTM B26 (319-F)
   k. Concrete: Class IV (Drilled Shaft) for all environmental classifications.
   l. Concrete: Class IV (Drilled Shaft) for all environmental classifications.
5. Construction:
   a. Foundation:
      i. Specification Section 455 Drilled Shaft, except that payment is included in the cost of the Mast Arm.
   b. Foundation:
      i. Specification Section 455 Drilled Shaft, except that payment is included in the cost of the Mast Arm.
   c. Weld Metal: E70XX
   d. Pedestrian Head attachment, and Foundation Conduit are not shown for simplicity.
   e. Anchor Bolts, Nuts and Washers:
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   a. Foundation:
      i. Specification Section 455 Drilled Shaft, except that payment is included in the cost of the Mast Arm.
   b. Foundation:
      i. Specification Section 455 Drilled Shaft, except that payment is included in the cost of the Mast Arm.
   c. Weld Metal: E70XX
   d. Pedestrian Head attachment, and Foundation Conduit are not shown for simplicity.
   e. Anchor Bolts, Nuts and Washers:
      i. Anchor Bolts: ASTM F1554 Grade 55
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   a. Foundation:
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   b. Foundation:
      i. Specification Section 455 Drilled Shaft, except that payment is included in the cost of the Mast Arm.
   c. Weld Metal: E70XX
   d. Pedestrian Head attachment, and Foundation Conduit are not shown for simplicity.
   e. Anchor Bolts, Nuts and Washers:
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   f. Hot Dip Galvanize after fabrication.
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5. Construction:
   a. Foundation:
      i. Specification Section 455 Drilled Shaft, except that payment is included in the cost of the Mast Arm.
   b. Foundation:
      i. Specification Section 455 Drilled Shaft, except that payment is included in the cost of the Mast Arm.
   c. Weld Metal: E70XX
   d. Pedestrian Head attachment, and Foundation Conduit are not shown for simplicity.
   e. Anchor Bolts, Nuts and Washers:
      i. Anchor Bolts: ASTM F1554 Grade 55
      ii. Nuts: ASTM A563 Grade A Heavy-Hex (5 per anchor bolt)
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   f. Hot Dip Galvanize after fabrication.
   g. Perform all welding in accordance with Specification Section 460-6.4.
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   i. Stainless Steel Screws: AISI Type 316
   j. Aluminum Pole Caps and Nut Covers: ASTM B26 (319-F)
   k. Concrete: Class IV (Drilled Shaft) for all environmental classifications.
   l. Concrete: Class IV (Drilled Shaft) for all environmental classifications.
NOTES:

1. The Grout Pad diameter may be reduced where the footprint of the Grout Pad does not provide adequate clearance for the sidewalk and/or accessibility considerations.

2. See Index No. 17743 and the plans for actual quantity of bolts.

3. The top hex nut may be substituted by a half-height 'jam' nut. Provide individual nut covers (not shown) for each bolt.

1. The Grout Pad diameter may be reduced where the footprint of the Grout Pad does not provide adequate clearance for the sidewalk and/or accessibility considerations.

2. See Index No. 17743 and the plans for actual quantity of bolts.

3. The top hex nut may be substituted by a half-height 'jam' nut. Provide individual nut covers (not shown) for each bolt.

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**PLAN**

- **Shaft Diameter**: 2'-2" (Min.)
- **Center of Drilled Shaft**:
  - **RE Bars**
  - **Spaced @ RD"**
  - **#5 Tie Bars**
  - **Spaced @ 4"**
- **CSL Tube (Typ.)**
- **Center of Drilled Shaft, Base Plate and Pole**
- **Edge of Foundation**
- **Drilled Shaft & Pole**

**SECTION A-A**

- **Pole and Anchor Bolt**
- **Drilled Shaft & Pole**
- **Base Plate**
- **Double Nuts (See Note #3)**
- **Drain Hole (1/8 Min.)**
- **Grout Pad (See Spec. Section 649)**
- **Washers**
- **Levelling Nut**

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**ELEVATION**

- **Center of Drilled Shaft, Base Plate and Pole**
- **Edge of Foundation**
- **Pole and Anchor Bolt**
- **Drilled Shaft & Pole**
- **Base Plate**
- **Double Nuts (See Note #3)**
- **Drain Hole (1/8 Min.)**
- **Grout Pad (See Spec. Section 649)**
- **Washers**
- **Levelling Nut**

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**DETAIL A**

- **Mast Arm 1**
- **Mast Arm 2**
- **Anchor Bolt (Typ.)**
- **Base Plate**
- **Double Nuts (See Note #3)**
- **Drain Hole (1/8 Min.)**
- **Grout Pad (See Spec. Section 649)**
- **Washers**
- **Levelling Nut**
NOTE:

1. Install the 'Slip Joint' splice with a tight fit and no change in the Mast Arm taper due to the splice.

2. Details shown on this sheet are for 12 sided pole sections. However, sections with more than 12 sides and round sections are permitted.

3. Provide Ultrasonic Testing For Lamellar Tearing In Connection Plate When "FP" Exceeds 1".

SINGLE ARM CONNECTIONS & SPLICE DETAILS

Mast Arm Assemblies

DESIGN STANDARDS

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3 of 6
DOUBLE ARM CONNECTIONS & SPICE DETAILS

NOTE:
1. Install the 'Slip Joint' splice with a tight fit and no change in the Mast Arm taper due to the splice.
2. 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.
3. Match mark the Arm and Connection Plates to ensure proper assembly.
4. 'UF' measured counter clockwise from 1st Mast Arm Extension.
5. Adjust width of top and bottom Connection Plates to maintain minimum clearance shown.
NOTES:
1. Luminaire type and luminaire length may be found in the Lighting Plans.
2. Align Luminaire Arm with Single Mast Arm or First Arm of Double Mast Arm unless indicated otherwise in the plans.
3. The fabricator may substitute a 1/2" thick bent plate with the same flange width, height, and length as the MC 10x33.6 Channel section.
4. 'LL' measure counter clockwise from First Mast Arm.

Mast Arm Assembly

Luminaire Connection

Luminaire Elevation

Luminaire Orientation

Luminaire Connection Elevation

Luminaire Arm and Connection Details

SECTION H-H

SECTION 1-1
NOTES:

1. Handhole covers may be omitted when Terminal Compartment is provided.
2. Terminal Compartment is optional. See Mast Arm Tabulation to see if required and for locations.
3. Terminal Compartment Frame Height 2'-0" minimum to 2'-6" maximum. Align bottom of Terminal Compartment a minimum of 1" below the bottom of the Handhole Frame.
4. Any combination of Option 'a' or 'b' may be used, provided both lifting and wiring is accommodated.