HIGHMAST LIGHTING NOTES:

1. Poles are designed to support the following:
   a. One (1) cylindrical head assembly with a maximum effective projected area of 6 sf and 340 lbs (Max.)
   b. Eight (8) cylindrical luminaires with a maximum effective projected area of 1.5 sf and 77 lbs each.

2. Shop Drawings: This Index is considered fully detailed, only submit shop drawings for minor modifications not detailed in the Plans.

3. High Mast Structure Materials:
   a. Poles and Backing Rings:
      i. Less than 4”: ASTM A1011 Grade 50, 55, 60 or 65
      ii. Greater than or equal to 4”: ASTM A572 Grade 50, 55, 60 or 65
      iii. ASTM A595 Grade A (5 ksi yield) or Grade B (60 ksi yield)
   b. Sheet Pile: ASTM A929 or ASTM A936
   c. Pole Caps: ASTM A1011 Grade 50, 55, 60, or 65 or ASTM B209
   d. Bolt: A490
   e. Stainless Steel Screws: AISI 316
   f. Anchor Bolts, Nuts, and Washers:
      i. Anchor Bolts: ASTM F1554 Grade 55
      ii. Nuts: ASTM A563 Grade A Heavy-Hex (1 per anchor bolt)
      iii. Plate Washers: ASTM A36 (4 per anchor bolt)
   g. Nut Covers: ASTM B56 (319-F)
   h. Concrete: Class IV (Drilled Shaft)
   i. Reinforcing Steel: Specification 413

4. Fabrication:
   a. Welding:
      i. Specification Section 460-6.4 and
      ii. AASHTO LRFD Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals Section 14.4.4
   b. Poles:
      i. Round or 16-sided (Min.)
      ii. Pole diameter at 0.14 inches per foot
      iii. Pole height may be up to three sections using telescopic field splices
      iv. Circumferentially welded pole shafts and laminated pole shafts are not permitted
      v. Fabricate Pole longitudinal seam welds (2 maximum) with 60 percent minimum penetration or fusion
      vi. Use full-penetration groove welds on the female end section of telescopic (i.e., slip type) field splices for a minimum length of 42 inches.
      vii. Use a full-penetration groove weld within 6 inches of the circumferential tube-to-plate connection and
      viii. Use full-penetration groove welds on the female and section of telescopic (i.e., slip type) field splices for a minimum length of 42 inches.
   c. Identification Tag: (Submit details for approval)
      i. 2” x 4” (Max.) aluminum tag
      ii. Locate on the inside of the pole and visible from the handhole
      iii. Secure with 1/8” diameter stainless steel rivets or screws.
      iv. Include the following information on the ID tag:
         a. Financial Project ID
         b. Pole Type
         c. Manufacturer’s Name
         d. Total Length (Ft of Steel)
         e. Base Ball Thickness
   d. Except for Anchor Bolts, bolt hole diameters are bolt diameter plus 1/16” and anchor bolts holes are bolt diameter plus 5/32” (Max) prior to galvanizing.
   e. Hot Dip Galvanize after Fabrication

5. Coating:
   a. Galvanize Anchor Bolts, Nuts, and Washers: ASTM F1554
   b. Hot Dip Galvanize all other steel items including plate washers: ASTM A123

6. Construction:
   a. Foundation: Specification 455 Drilled Shaft, except that payment is included for the cost of the Structure.
   b. After Installation: Place wire screen between top of foundation and bottom of baseplate in accordance with Specification 649-6

7. Wind Speed by County:
   a. 130 MPH
   b. 150 MPH
   c. 170 MPH
      i. Broward, Broward, Charlotte, Collier, Escambia, Indian River, Lee, Martin, Miami-Dade, Monroe, Palm Beach, Sarasota and St. Lucie Counties.
DESCRIPTION:

REVISION

LAST

REVISED

STANDARD PLANS

FY 2019-20

HIGH MAST LIGHTING

INDEX

715-010

SHEET

3 of 6

ANCHOR BOLTS

Equally Spaced

(See Table)

BASE PLATE AND ANCHORAGE ELEVATION

(Conduits Not Shown)

SECTION A-A

SECTION B-B

(Conduits Not Shown)

SECTION C-C

SECTION D-D

SECTION E-E

POLE FOUNDATION

ANCHOR BOLTS

Equally Spaced

(See Table)
For Pull Boxes between Poles refer to Index 715-001.

1. Slabs to be placed around all Poles and Pull Boxes.

2. Specifications for Road and Bridge Construction.

NOTES:

1. At all pull boxes and pole bases, ends of conduit shall be sealed in accordance with Section 630 of the Standard Specifications for Road and Bridge Construction.

2. Slabs to be placed around all Poles and Pull Boxes.

3. For Pull Boxes between Poles refer to Index 715-001.
The contractor's attention is directed to those plan sheets detailing the mounting of luminaires at the pole top. Particular attention is directed to alignment of luminaires light distributions. Special attention must be exercised in the physical alignment of these luminaires to ensure that the approved photometric layout is physically produced at each lighting standard in the field. A marking shall be placed on the external face of the refractor to allow visual inspection of alignment. The marking shall correspond to the 0° axis of the refractor.

Luminaire support ring

Power Cable Terminator
120 Volt rated Pole Cable. Size of conductors to be determined by luminaire load.

Luminaire support ring

Female Plug

Circuit Breaker Cable with Female Plug

Hand hole

Winch

Lock nuts

Base plate

2" Slip Fitter Assembly (equally spaced around ring)

2" Slip Fitter

Cover

See legend for number of luminaires, lamp wattage and light distribution.

Luminaires

Male Inlet

Pole Cable

Lift cable sheaves

Lift cables (2 minimum)

Positive drive reversible winch

Winch cable

Female Plug

Supply cable receptacle

Receptacle

Step-down transformer provided with 320% grounded receptacle for electric drill & receptacle for supply cable (see schematic).

25' minimum remote control cable same as Pole Cable.

Remote control switch

2 HP heavy duty reversible or 1 HP portable motor(s) per project.

1/2" heavy duty reversible or 1 HP portable motor(s) per project.

Slip clutch

Power Cord With Male Inlet

Covered receptacle to power luminaires when in the lowered position with Male Inlet.

Luminaires

Luminaire support ring

2" Slip Fitter Assembly (equally spaced around ring)

Pole cable & sheaves

Cover

Head plate

Lift cable sheaves

Lift cables (2 minimum)

Winch

Remote control switch

Supply cable receptacle

Receptacle

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Remote control switch

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Slip clutch

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Luminaires
NOTES:

1. Use compacted select material in accordance with Index 120-001.
2. Concrete shall be Class KS with a minimum strength at 28 days of f’c=2.5 ksi.
3. Outside edge of slab shall be cast against formwork.
4. The pull box shown is 13" x 24"; others approved under Specification 635 may be used.
5. Slabs to be placed around all Poles and Pull Boxes. In urban areas or where space is limited slab dimensions may be adjusted as shown in the plans.
6. Concrete for slabs around poles and pull boxes shall be included in the price of pole or pull box.
7. The expansion joint shall consist of ½" of closed-cell polyethylene foam expansion material. The top ½" of expansion material shall be removed after pouring the slab and sealed with an APL approved Type A sealant meeting the requirements of Specification 932.

Concrete shall be Class NS with a minimum strength at 28 days of f’c=2.5 ksi. Use compacted select material in accordance with Index 120-001. Concrete for slabs around poles and pull boxes shall be included in the price of pole or pull box. In urban areas or where space is limited slab dimensions may be adjusted as shown in the plans. The expansion joint shall consist of ½" of closed-cell polyethylene foam expansion material. The top ½" of expansion material shall be removed after pouring the slab and sealed with an APL approved Type A sealant meeting the requirements of Specification 932.