

# Special Specification 6104

## LED Bridge Pedestrian Pole Lighting Assembly



### 1. DESCRIPTION

- 1.1. **Installation.** Furnish, fabricate and install LED (light emitting diode) bridge pedestrian pole lighting assemblies. An LED bridge pedestrian pole lighting assembly is the complete assembly of light fixture, LED light source, lens, pole, connectors, power supplies, components and mounting and other hardware constituting a complete operational and structurally sound lighting unit.
- 1.2. **Removal.** Remove existing pedestrian illumination assemblies.

### 2. MATERIALS

For the installation of all lighting assemblies, use new materials that meet the requirements of the NEC, UL, CSA, and NEMA. Provide all new materials that comply with the details shown on the plans, the requirements of this Item and to the pertinent requirements for the following items:

- Item 449, "Anchor Bolts"
- Item 616, "Performance Testing of Lighting Systems"
- Item 618, "Conduit"
- Item 620, "Electrical Conductors"
- Special Specification 6099, "Bridge Lighting DMX Control System"

- 2.1. **Basis of Design.** Basis of Design specifications for the LED bridge pedestrian pole lighting assembly are as follows:

- 2.1.1. **Option 1:** Head: Lithonia MR2 LED-60C-700-40K-T5M-MVOLT-RPA-DWHXD & Pole: Valmont DS340 R400V160 D1 FP WH V3 (white, 16 ft. tall, steel, 4 in. diameter round non-tapered pole).

- 2.1.2. **Option 2:** Head: ELA DCS-28-PT H5 135LED 277 FG W & Pole: Lithonia RSA-16-4C DM19-VD-TP-DWH (white, 16 ft. tall, steel, 4 in. diameter round non-tapered pole).

- 2.1.3. **Option 3:** Approved equivalent according to the following specifications:

- Light Engine: IP 66 rated
- Luminaire: IP65 LED pole mounted area light
- Distribution: Type 5
- Finish (Fixture and Pole): White zinc-infused Super Durable TGIC thermoset powder coat finish at a 3mm thick
- Fixture Head Dimension: 32 7/8 in. length, 8 1/4 in. height, and 25 in. width with an integral arm
- Pole: 4 in. round diameter pole and 16 ft. high
- Lumens: 13,630
- Color Temperature: 4000K
- CRI: 67
- Distribution: Type 5
- Wattage: 132
- Voltage: MVOLT (120-277)
- LED Quantity: 60
- Housing: Single piece, die cast aluminum with flow-through design and perforated housing. LED driver and electronics are thermally isolated from the light engine.
- Uplight: 0%
- Electronic Driver: Class 1, Power factor >90%, THD <20%, expected life of 100,000 hours with <1%

- failure rate
- Surge protection device: Category C Low
- Warranty: 5 yr., limited
- Vibration Load Rating: 2.0
- EPA Rating: .9/ft.

- 2.1.4. **Submittals.** Provide 2 sets of submittals of fixtures, controls, and mounting provisions to the Lighting Designer at Gandy2 Lighting Design, 1824 Spring Street, Studio 201, Houston, Texas 77007. Provide an additional 2 sets of submittals to the TxDOT District Engineer at 7600 Washington Avenue, Houston, Texas 77007. Obtain all pertinent approvals on the submittals before purchasing materials and beginning work.
- 2.1.5. **Warranty.** Provide manufacturer's warranty for each bridge lighting assembly that will replace failed components or parts for a period of five years from the purchase date.

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### 3. CONSTRUCTION

Perform work in accordance with the details shown on the plans and the requirements of this Item. Use established industry and utility safety practices when installing luminaires located near overhead or underground utilities. Consult with the proper utility company before beginning work.

Prevent scarring or marring of fixtures. Replace damaged components. Repair damaged painted areas of lighting assemblies.

- 3.1. **Installation.** Furnish and install Bridge Pedestrian Pole Lighting. Install each lighting assembly in accordance with the details, dimensions and requirements as shown on the plans. Installation includes furnishing, installing, and testing new lighting assemblies; LEDs; drivers; power supplies; mounting brackets; poles; internal conductors and connections; system performance testing and equipment.

Do not use screw-in type foundations. Use existing anchor bolts in accordance with Item 449, "Anchor Bolts." Tighten anchor bolts in accordance with Item 449, "Anchor Bolts." Do not place grout between base plate and foundation. Test Installed Pedestrian pole assemblies in accordance with Item 616, "Performance Testing of Lighting Systems."

Fabricate and install lighting assembly components in accordance with the details, dimensions, and requirements shown on the plans.

Follow all Electrical Detail requirements during installation. Follow NEC and local utility company requirements when installing the lighting assemblies. Coordinate the utility companies' work for providing service.

All buried wiring must be replaced with wiring that meets NEC requirements.

- 3.2. **Removal.** Remove any existing light assemblies in accordance with established industry and utility safety practices. Coordinate removal with the appropriate utility company before beginning work. Remove wiring that does not meet NEC requirements.

Before removal of the old lighting assemblies, disconnect and isolate any existing electrical service equipment in accordance with the utility company's requirements.

Remove transformer bases from transformer base poles. Destroy removed transformer bases to prevent reuse. Remove luminaires and luminaire arms from the pole shaft. Stockpile pole shafts, luminaire arms and assembly hardware at a location designated by the Department. Pole shafts, luminaire arms, and assembly hardware will remain property of the Department unless otherwise shown on the plans or as directed.

Accept ownership of unsalvageable materials, and dispose of them in accordance with federal, state and local regulations.

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**4. MEASUREMENT**

This Item will be measured by the each existing pedestrian lighting assembly removed or each new pedestrian lighting assembly installed.

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**5. PAYMENT**

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Install LED Bridge Pedestrian Pole Lighting Assembly" or "Remove Existing Pedestrian Illumination Assemblies." This price is full compensation for removing existing lighting assemblies and non-compliant wiring; furnishing, installing, and testing new lighting assemblies; LEDs; drivers; power supplies; mounting brackets; poles; internal conductors and connections; system performance testing and equipment; labor; tools; and incidentals.