Special Specification 6355
LED Decorative Illumination Assembly

1. DESCRIPTION

Furnish and install LED decorative illumination assemblies as shown on the plans.

2. MATERIALS

Provide new materials that comply with the details shown on the plans, the requirements of this item, and the pertinent requirements of the following items:

- Item 449, “Anchor Bolts”
- Item 616, “Performance Testing of Lighting Systems,”
- Item 618, “Conduit,” and
- Item 620, “Electrical Conductors.”

Provide six sets of submittals showing the pole and fixture to the Engineer for approval at the project address. Obtain the Engineer's approval on the submittals before purchasing materials and beginning work.

Ensure materials are UL-listed; meet NEMA, NEC, and AASHTO requirements; and are in accordance with the Electrical Detail standard sheets.

Provide 8 ft. tall, 4 to 3 in. diameter tapered round aluminum light poles, with decorative base welded to the shaft, according to plans and specifications. Provide door in pole base for access to conductors and fuses. Provide receptacle outlet near the bottom of the tapered part of the pole with a 120V, 20A GFCI duplex receptacle, with a cover suitable for wet locations while in use. Provide hot-dip galvanized steel anchor bolts, nuts, washers, and lock washers for mounting the poles to the bridge rail and retaining wall. Provide tamper-resistant, stainless steel pole hardware. Provide a top tenon and stainless steel fasteners for luminaire mounting.

Provide a post top style LED area type luminaire with an I.E.S. Type V light distribution pattern and with total lumens > 5,500. Provide luminaire with minimal uplight and an Upward Waste Light Ratio < 0.10. Ensure that the luminaire is listed for use in wet locations. Provide luminaire with a glass refractor without an external top cover, similar in appearance to the adjacent post top lighting. Provide a LED luminaire with color temperature to match the existing post top lighting on the adjacent roadway.

Provide a photometric array showing the luminaire provided, mounted at the locations shown on the plans, derating the initial lumen output by 0.80 to illuminate the roadway with the minimum average maintained illuminance requirements shown in AASHTO, “An Informational Guide to Roadway Lighting.” Obtain the Engineer’s written approval of the array before purchasing and installing the fixtures.

Provide a multi-volt driver that operates on any line voltage from 120-277 V (50/60 Hz). Provide the ability to access the light engine and remove the driver without the use of tools. Provide standard breakaway double pole fuse holders according to Item 620 with 10 amp time delay fuses in the base of the pole.

Provide luminaires and poles with a black polyester powder coat finish matching the appearance of the adjacent light poles. Verify color of poles and luminaires with the Engineer for approval before beginning work.
3. **CONSTRUCTION**

Perform work in accordance with the details shown on the plans and the requirements of this item.

Orient the poles so the GFCI receptacles are on the side of the pole facing away from the sidewalk.

Use established industry and utility safety practices when installing poles and luminaires located overhead. Consult with the Engineer before beginning work.

Prevent scarring or marring of the luminaires and poles. Replace damaged components. Repair damaged painted areas in accordance with Item 446, "Cleaning and Painting Steel."

Fabricate and install illumination standard components in accordance with the details, dimensions, and requirements shown on the plans. Test installed pedestrian illumination standards in accordance with Item 616, "Performance Testing of Lighting Systems."

4. **MEASUREMENT**

This Item will be measured as each pedestrian illumination assembly installed and successfully tested.

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 "LED Decorative Illumination Assembly" of the type specified. This price is full compensation for furnishing, installing, and testing luminaires; poles, receptacles, LEDs, drivers, anchor bolts, internal conductors and connections; system performance testing; and for furnishing equipment, labor, tools, and incidentals.

New conduit will be paid for under Item 618, "Conduit." New conductors, except the conductors internal to the pole, will be paid for under Item 620, "Electrical Conductors."