ITEM 11615.8087 M - FLAGPOLE AND ANCILLARY EQUPIMENT

DESCRIPTION

This work shall consist of furnishing and installing a new flagpole, lights, foundation and flags, refurbish and move, or replace the mechanism (mechanical and electrical equipment) and ancillary devices used to raise and lower the flags and removal of the existing flagpole in accordance with the contract documents and as directed by the Engineer.

MATERIALS

Steel for component parts of the flagpole shall meet the requirements specified in the following, except that steel manufactured by the Bessemer process will not be acceptable. All steel thicker than 12mm, except nuts and bolts, which is subjected to design tensile stress, shall meet the Charpy V-notch toughness requirements of Materials Section 715-01.

A. Tapered Post and Base Plate – Steel for tapered post shall meet the requirements of ASTM A572, and have minimum yield strength of 345 MPa.

B. Anchor Bolts - ASTM F568 Class 4.6

C. Bolts – ASTM A325M, High-Strength Steel for Structural Steel Joints

D. Nuts – ASTM A563M, Carbon and Alloy Steel Nuts, Grade A, Heavy Hex Style.

E. Washers – ASTM F436M Hardened Steel Washers or ASTM F844 with a hardness of Rockwell C31-C38 or Brinell 295-352.

F. Concrete – Concrete for flagpole foundation shall meet the requirements of Class A concrete in section 555, Portland Cement Concrete, General. The batching, mixing, and curing methods and inspection facilities shall meet the approval of the Department and its representative.

G. Grout – Grout shall conform to the requirements of Materials Section 701-05, Concrete Grouting Material.

H. Truck - The truck shall be non-fouling, double revolving type with stainless steel ball bearing races, and cast aluminum body with two (2) 60 mm diameter aluminum sheaves as shown on the detailed drawings or as directed by the Engineer.

I. Flagpole double obstruction marker lights (120volts) with red lens and long life lamps (min 6000 Hours).

J. Electrical components - All necessary electrical components but not necessarily limited to the following:
   1. Refurbish or replace new in-kind all motors
   2. Refurbish or replace new in-kind all controllers
   3. New interconnecting wiring between electrical components, matching existing in-kind
   4. Replace transformer in-kind
   5. Replace all necessary fuses in-kind
   6. Refurbish or replace new in-kind all flag pole lighting and supports

   The above components shall all conform to Section 670 of the Standard Specifications and local requirements of NYCDOT Bureau of Electrical Control.

K. Mechanical components - All mechanical components for a complete and workable system necessary for the raising and lowering of the flag matching existing in-kind and not necessarily limited to the following:
   1. Gears
   2. Pulleys and shafts
   3. Grease fittings
   4. Rope or cable
   5. Shock absorbers
   6. Springs
   7. Structural support of components and footings

L. White vinyl fencing to match existing enclosure for flag winch mechanism.

CONSTRUCTION DETAILS

Before starting work, the Contractor shall fully inform the Engineer of the method of the construction and types of equipment the Contractor proposes to use, which shall be subject to the approval of the Engineer. This approval shall not be considered as relieving the Contractor of its responsibility for the safety of its methods of work.

Fabrication.

A. Submittals - Descriptive data and installation instructions shall be submitted for approval.

B. Welding - Welding shall conform to the provisions of the NYSDOT Steel Construction Manual (SCM). Weld inspection shall be done in accordance with the requirements of the SCM.

C. Galvanizing:
   1. Pipes - All steel shall be galvanized and shall conform to the requirements of §719-01, Galvanized Coatings and Repair methods.
   2. Anchor Bolts, Bolts, Nuts, and Washers - Galvanizing of all bolts, fully threaded rods and nuts shall conform to the requirements of §719-01, Galvanized Coatings and Repair methods. All bolts and rods shall have a standard oversize tap to allow for the galvanizing on the bolts, rods and nuts.

D. Transportation - The flagpole shall be supported for its full length during shipment. The flagpole shall be shimmed, braced, blocked, and tied down to prevent distortion or other damage from occurring during transportation. The use of any device, which does not support the member for its entire length, will not be permitted. This prohibition includes but is not limited to dolly wheels and trailers.

   The Engineer shall examine the flagpole after delivery to the work site. Defects in materials or workmanship will be cause for rejection of the flagpole. Defective structures, or components, shall be removed from the work site and repaired, or replaced as required by the D.C.E.S. at no additional cost to the State.

E. All excavation shall conform to the requirements of §644-3.04.

F. Foundation for the flagpole shall be constructed as shown in the contract documents or as directed by the Engineer. Location of concrete foundation will be determined in the field. No concrete shall be poured until after the excavation has been inspected and approved by the Engineer.

G. Erection of Flagpole.

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1. Handling and Storage – Handling and storage shall conform to the requirements of Section 644-3.06, Erection of Sign Structures.
2. Field Inspection – Field inspection shall conform to the requirements of Section 644-3.06, Erection of Sign Structures.
3. Setting Anchor Bolts – Setting anchor bolts shall conform to the requirements of Section 644-3.06, Erection of Sign Structures.
4. Foundation - The foundation shall be allowed to cure for eight (8) days after pouring of the concrete.

The Contractor shall remove, refurbish, and relocate all electrical and mechanical components necessary for the raising and lowering mechanism of the flag, and lighting of the flag pole. The Contractor may be required to replace any of the electrical and/or mechanical components as ordered by the Engineer.

Existing electrical service to the motors and lighting of the flag pole shall be extended to the proposed location from the existing, inclusive of but not necessarily limited to the use of conduit, cables, fuses, pull boxes, excavation and back fill.

The new flagpole shall be constructed and be operational before dismantling and removing the old flag pole.

METHOD OF MEASUREMENT

This work will be measured on a lump sum basis.

BASIS OF PAYMENT

The lump sum price bid shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work.