ITEM 615.6852 11 – ALUMINUM GANGWAY FOR BOAT DOCK

DESCRIPTION

This work shall consist of furnishing and installing an ALUMINUM GANGWAY FOR BOAT DOCK that is fully compliant with the Americans with Disabilities Act (ADA) and other necessary marine hardware and accessories in accordance with the contract documents and as directed by the Engineer.

MATERIALS

The materials and components shall be new and free from defects which would adversely affect the performance or maintainability of individual components or the overall assembly. Materials required for the aluminum gangway shall be as follows:

A. Aluminum:

Aluminum extrusion for the gangway shall meet the requirements of aluminum alloy series 6061 and 6063, with 6061-T6 for primary structural components. Aluminum shall conform to Section 715-04 Wrought Aluminum of the NYSDOT Standard Specification for Construction and Materials.

Aluminum welding shall be in accordance with the American Welding Society (AWS) D1.2 structural welding code and shall be performed by experienced operators.

Aluminum surfaces to be placed in contact with concrete construction shall be given a heavy coat of a zinc-chromate primer before installation. The bituminous paint used shall conform to Section 708-04, Zinc-Chromate Primer of the NYSDOT Standard Specifications for Construction and Materials.

Decking shall be non-skid, slip-resistant extruded aluminum with a minimum coefficient of friction of 0.93. Maximum space between deck members shall be 12 mm, or as required by ADA.

Continuous non-skid kick plate shall be 6 mm thick aluminum flat bar, attached to the gangway at the dock end.

B. Hardware and Connections:

All connection hardware, which shall include but not be limited to bolts, rods, nuts, washers and screws, shall be stainless steel. Hex bolts and U-bolts shall be AISI 304 Class I (ASTM A193M B8), others shall conform to NYSDOT Section 715-16, Stainless Steel Connecting Products, of the NYSDOT Standard Specifications for Construction and Materials.

Gangway connection to fixed end at begin of gangway shall be a continuous heavy duty hinge with a locking connecting pin composed of stainless steel. Roller at end of gangway shall be constructed of UHMW (Ultra High Molecular Weight) polyurethane material with black ultra-violet light inhibitor added and stainless steel axle.

All dissimilar metals shall be separated by plastic or neoprene separation sheets or bushings not less than 2 mm thick to preclude galvanic corrosion.

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CONSTRUCTION DETAILS

A. Design Parameters:

Gangways shall be designed for a minimum uniformly applied vertical live load of 2.8 kPa (60 psf). The deck surface shall be designed for a concentrated live load of 1.78 kN (400 lbs) distributed over a one square foot area.

Gangways shall be designed for a uniformly applied horizontal wind load of 720 Pa (15 psf) applied to an area equal to the length of the gangway times its height. Wind load shall originate from any direction.

The removable skid and spacer shall be design to be stable while moving to its storage location.

Maximum deflection shall be limited to L/180, where "L" is the length of the gangway.

Handrails should be located as shown on the Contract Drawings or as designed by the Contractor to meet ADA requirements and shall be designed to withstand a horizontal load of 290 N/m (20 lb/ft) or a 1.11 kN (250 lb) force in any direction.

The hinge at the beginning of the gangway and the roller at the end of gangway shall be designed to accommodate the gangway loadings described above.

B. Submittals:

The Contractor shall make arrangements for the gangway manufacturer's representative to be at the site to provide assistance to the Contractor during gangway installation. A demonstration explaining the proper techniques and equipment required to adjust, seasonally install and remove, and effectively maintain the gangway shall be given to the Engineer. In addition to this demonstration, the contractor shall provide three (3) typewritten copies of operation and maintenance instructions.

The Contractor shall provide complete design details of the gangway. Two copies of the design detail shop drawings and two copies of design calculations shall be provided to the Engineer at least 45 working days prior to fabrication. All drawings and design calculations shall be stamped by a Professional Engineer licensed and registered to practice in New York State. The shop drawings shall be subject to the approval of the Engineer.

The Contractor shall ensure that all exposed surfaces and their welded joints shall be smooth and free of sharp or jagged edges. Surfaces to be welded shall be free from scale, paint, grease or other foreign matter. Welds shall be of sufficient size and shape to develop the full strength of the parts connected by welds. The Contractor shall submit the following documents concurrently with the shop drawings:

1. Welding Procedure Specification
2. Procedure Qualification Report
3. Record of Performance Qualification Test

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C. Qualifications:

The installing contractor shall be a qualified Marine Contractor and shall have a minimum of five (5) years continuous experience in commercial gangway fabrication and/or installation and be required to submit a list of previous experience on similar projects.

METHOD OF MEASUREMENT

This work will be measured as the number of ALUMINUM GANGWAY FOR BOAT DOCK satisfactorily furnished and installed.

BASIS OF PAYMENT

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

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