

**ITEM 615.8011 04 M - NEW STEEL HAND RAIL, PAINTED**  
**ITEM 615.8021 04 M - RESTORE STEEL HAND RAIL, PAINTED**

**DESCRIPTION**

Under this item, the Contractor shall remove, restore and install existing steel hand rail, and/or furnish and install new steel hand rail of the type, size, and at the locations as shown in the Contract Documents.

Reusable portions of existing railing shall be dismantled, transported, and restored to a like new condition while unusable original material shall be disposed of as shown in the Contract Documents or as directed by the Engineer.

**MATERIALS**

General. Material requirements listed in this section shall apply to both the new hand railing and the material necessary to restore the existing hand railing unless otherwise stated in the Contract Documents.

Steel. Pipe shall meet the requirements of ASTM A-53 Grade B. All other members of the body of the railing, including base plates where required, shall be fabricated using ASTM A-36 carbon steel. - Anchor bolts and all galvanized washers, lock nuts, nuts, etc. shall be A449 in accordance with §723-60.

Concrete for footing. Shall be Class A concrete meeting the requirements of Section 501-Portland Cement Concrete-General.

Paint. Shall meet the requirements of §708-06 and be of the color shown on the Contract Plans.

**CONSTRUCTION DETAILS**

New steel hand railing. Shall be fabricated and erected in accordance with the requirements of the New York State Steel Construction Manual, Contract Plans and approved Shop Drawings prepared by the Contractor. The Contractor shall submit, for approval, Shop Drawings to the Engineer that show the details of fabrication, assembly and installation including templates for anchor bolt placement of posts.

Restore existing hand railing. The railing shall be dismantled on-site in accordance with §589-3 Removal of Existing Steel, at splice locations shown on the Contract, using methods to prevent damage to existing railing elements. Railing shall be transported to the workshop for blast cleaning to remove painted and extraneous oxidized materials in accordance with Steel Structures painting Council Surface Preparation No. 6 (SSPC-6), Commercial Blast Cleaning and Section 572, Structural Steel Paint System: Shop Applied. All preparation shall be performed in shop conditions. Deteriorated sections of the railing elements shall be cut out and replaced with new material in kind.

Welding. Welding techniques and qualifications shall be performed in accordance with the NYS Steel Construction Manual. All welds made to restore a single member of the railing to its proper shape and dimensions shall be ground smooth and flush with the adjacent outside surface. Connection welds between members shall be as shown on the Contract Plans.

**ITEM 615.8011 04 M - NEW STEEL HAND RAIL, PAINTED**  
**ITEM 615.8021 04 M - RESTORE STEEL HAND RAIL, PAINTED**

Paint. All railing, proposed and existing, shall be shop-painted in accordance with the requirements of Section 572, Structural Steel Paint System: Shop Applied.

Installation. All railing, proposed and existing, shall be delivered to the site and erected as shown in the Contract Documents.

**METHOD OF MEASUREMENT**

This work will be measured for payment by the number of linear meters, incorporated into the work in accordance with the contract documents.

**BASIS OF PAYMENT**

The unit price bid per linear meter for this work shall include the cost of furnishing all labor, materials, tools, and equipment necessary to satisfactorily complete the work, except drilling and grouting of anchor bolts which will be paid for under a separate item number. The work shall also include, but not be limited to, the excavation and concrete necessary to satisfactorily complete the work.

DISAPPROVED BY EIT 12-001