

## **ITEM 01568.76M - BRIDGE RAIL POST REPLACEMENT**

### **DESCRIPTION:**

This work shall consist of the removal and disposal of existing damaged bridge railing posts and the installation of new bridge rail posts and hardware, as directed by the Engineer.

### **MATERIALS:**

All new bridge rail posts and hardware shall be galvanized in accordance with Subsection 568-2, Bridge and Culvert Railing.

All other applicable provisions of Subsection 568-2 shall apply, except as follows:

The dimensions of the new bridge rail posts shall be the same as the existing rail posts which are in good condition and are to remain, except that the post spacers for attaching the new bridge rail tubes shall be as shown in the Contract Documents.

The dimensions of the new rail posts shall be determined by field measuring the existing rail posts.

### **CONSTRUCTION DETAILS:**

Existing rail posts indicated on the plans or which are damaged and bent to a state where the new bridge rail tubes cannot be attached shall be removed in a manner satisfactory to the Engineer so as not to damage the existing anchor studs or any other features which are to remain.

The Engineer will make the final determination which bridge rail posts shall be removed.

Before removing the existing rail posts, the threads on the existing anchor studs shall be wire brushed in order to facilitate removal of the anchor stud nuts. An acceptable penetrating lubricant, as directed by the Engineer, shall be applied to the anchor threads and nuts to further facilitate the removal of the anchor stud nuts. The anchor stud nuts shall be removed in a manner so as not to damage the anchor studs, which are to remain.

The existing bridge rail posts which are removed shall become the property of the Contractor and shall be removed from the work site.

Immediately prior to erection, the new rail posts shall be inspected for damage.

Damage to galvanizing of new steel bridge rail posts shall constitute sufficient cause for rejection except for the following conditions:

1. If the damage area is not required to be repaired under the provisions of Subsection 710-23, Steel Bridge and Culvert Railing.
2. If the total damaged area on a single rail post is 3900 mm<sup>2</sup> or less, exclusive of the areas described under Subsection 710-23.

Field galvanizing repair shall be allowed to be performed upon damaged areas meeting the requirements of the aforesaid condition No. 2.

Field galvanizing repair shall be made by painting zinc repair material onto the damaged area in accordance with the requirements of Subsection 719-01, Galvanized Coatings and Repair Methods.

Any new rail post with a total damaged area in excess of the amount specified shall be rejected and replaced.

All new rail posts shall be erected in accordance with approved shop drawings prepared and submitted as specified in the New York State Steel Construction Manual.

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The new rail post shall be erected on the existing anchor studs except as noted in the proposal. New nuts and washers shall be used for the erection.

The new rail posts shall be set vertical and shall be erected so that the new rail tubes are parallel to each other and to the top of the sidewalk and/or the structural slab.

The new rail post base plates may be placed parallel to the grade or may be perpendicular to the post and made level by the use of beveled shims conforming to the applicable requirements of Subsection 710-23, Steel Bridge and Culvert Railing.

The new rail posts shall be mounted on a non-metallic pad conforming to the requirements of Subsection 568-2. Beveled shims, if required, shall be inserted between the non-metallic pad and the post base plate.

Galvanized metal surfaces required to be painted, shall be painted in accordance with the following:

1. Paint shall be one of the products on the Department's Approved List titled "Paints for Structural Steel, C. Finish Paint and Thinners". Acceptance shall be based on the appearance of the paint on the Approved List.
2. All galvanized surfaces shall be cleaned in the manner required by SSPC-SP1, Solvent Cleaning.
3. Abrade all galvanized surfaces by brush blast methods, or other mechanical means approved by the Engineer/Inspector. The purpose of abrading is to roughen the surface, not to remove material.
4. Apply the paint in accordance with the manufacturer's instructions to a minimum dry film thickness of 3.0 mils. Manufacturer's instructions for mixing and paint application shall be supplied to the Engineer/Inspector at least one week prior to the beginning of any painting work.
5. The color of the paint shall be noted in the Contract Documents. If no color is so noted, the Regional Landscape Architect shall select the proper color.
6. Paint application methods shall be in accordance with the following:
  - a. Shop. Spray, roller, or brush.
  - b. Field. Brush only.

Any paint removed from the existing railing system shall be collected in a manner approved by the Engineer and disposed of at an acceptable hazardous waste disposal facility.

### **METHOD OF MEASUREMENT:**

The quantity to be paid shall be the number of damaged bridge rail posts removed and replaced in a manner satisfactory to the Engineer.

### **BASIS OF PAYMENT:**

The unit price bid shall include the cost of furnishing all labor, equipment and materials including pads, shims, anchor stud nuts and washers necessary to complete the work.