

## 827 - GUARDRAIL AND GUIDEPOSTS

### SECTION 827

#### GUARDRAIL AND GUIDEPOSTS

##### 827.1 DESCRIPTION

Construct the designated type of guardrail and guidepost as shown in the Contract Documents.

##### BID ITEMS

<u>BID ITEMS</u>	<u>UNITS</u>
Guardrail, Steel Plate	Linear Foot
Guardrail, Cable	Linear Foot
Guardrail, Removal of Steel Plate	Linear Foot
Guardrail, Removal of Cable	Linear Foot
Guardrail, Removal of Timber	Linear Foot
Guardrail, Reconstruction of Steel Plate	Linear Foot
Guardrail, Reconstruction of Cable	Linear Foot
Guardrail, Removal and Reconstruction of Steel Plate	Linear Foot
Guardrail, Removal and Reconstruction of Cable	Linear Foot
Guideposts	Each
Guideposts, Removal of	Each
Guideposts, Resetting of	Each
Guideposts, Removal and Resetting of	Each
Guardrail Posts	Each
Guardrail End Terminal (*)	Each
Guardrail, Steel Plate (Temporary)	Linear Foot
*Type	

##### 827.2 MATERIALS

Provide materials that comply with the applicable requirements.

Posts .....	<b>DIVISION 2300</b>
Preservative Treatment for Timber .....	<b>DIVISION 2300</b>
Wire Cable and Fittings .....	<b>DIVISION 1600</b>
Metal for Guardrail and Fittings .....	<b>DIVISION 1600</b>
Paint .....	<b>DIVISION 1800</b>

##### 827.3 CONSTRUCTION REQUIREMENTS

**a. General.** When steel plate guardrail is shown in the Contract Documents, any one of the types of steel plate guardrail shown may be provided, but only one type may be used on a project.

**b. Erection of Guardrail and Guideposts.** Excavate holes for guardrail posts and guideposts to the required depth. Excavate holes to permit compaction of the backfill around the posts.

Guardrail posts and guideposts may be set by driving. Use post caps that are designed to protect the post from detrimental crushing during the driving operations. If damaged or an unacceptable line and grade is obtained, excavate for the erection of the posts.

Set posts plumb, firm and to lines and grades shown in the Contract Documents. Place backfill around the posts in thin layers and thoroughly compact. For the top of the backfill, use the same material of at least the same thickness as that used in construction of the shoulders at that point.

Place and fasten guardrail cables, plates, shapes and fittings as shown in the Contract Documents.

When guardrail is removed and reused on the project, thoroughly clean guardrail prior to erection. Punch or drill the guardrail to accommodate the revised post spacing as shown in the Contract Documents. When guardrail is required to be cut, make the cut by sawing. Treat all such holes and cuts with zinc dust paint.

Install guardrail end terminals according to the manufacturer's requirements and the Contract Documents.

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**c. Removal of Guardrail or Guideposts.** Carefully disassemble guardrail. Prevent undue injury to the rail, fittings and posts. Remove guardrail posts and guideposts without damage and store according to **subsection 827.3f.** at locations approved by the Engineer. The material will remain the property of the owner.

**d. Reconstruction of Guardrail and Resetting of Guideposts.** Guardrail and accessories to be reconstructed or guideposts to be reset will be provided by the owners from the project or a storage site as shown in the Contract Documents. Reconstruct the guardrail and reset the guideposts according to the requirements above for new guardrail and guideposts.

**e. Removal and Reconstruction of Guardrail and Removal and Resetting of Guideposts.** Comply with **subsections 827.3c.** and **d.** except that the Contractor is responsible for all materials and will replace at own expense any missing materials from the removal, material lost or damaged during the removal, storage or reconstruction.

**f. Guardrail, Steel Plate (Temporary).** Install guardrail according to this specification. Remove guardrail when directed by the Engineer, or as specified in the Contract Documents.

**g. Storing Galvanized Guardrail.** Store all galvanized rail elements, end sections and accessories to prevent galvanic action. Do not store in direct contact with the soil. The material may be stored in the open, provided it is properly separated, stacked and drained.

Protect galvanized surfaces which have been abraded exposing the base metal, threaded portions of all fittings and fasteners and cut ends of bolts from moisture, soil or other damaging elements.

The Contractor is responsible for the condition of the material in storage.

### 827.4 MEASUREMENT AND PAYMENT

The Engineer will measure construction, removal, reconstruction or removal and reconstruction of guardrail by the linear foot. Each separate run of rail will be measured from center of end post to center of end post along the rail or may be determined by recording the number of standard length panels installed.

The Engineer will measure each guidepost to be set, removed, reset or removed and reset.

The Engineer will measure each guardrail post provided and set.

The Engineer will measure each guardrail end terminal, including accessories, posts and hardware as a complete system.

The Engineer will measure temporary guardrail by the lump sum.

The Engineer will not measure excavation and backfill for separate payment. These items are subsidiary to other items in the Contract Documents.

Any required treatment shown in the Contract Documents for wood members is subsidiary to the item of reconstruction of steel plate guardrail.

Payment for "Guardrail, Steel Plate", "Guardrail, Steel Plate (Temporary)", "Guardrail, Cable", "Guardrail, Removal of Steel Plate", "Guardrail, Removal of Cable", "Guardrail, Removal of Timber", "Guardrail, Reconstruction of Steel Plate", "Guardrail, Reconstruction of Cable", "Guardrail, Removal and Reconstruction of Steel Plate", "Guardrail, Removal and Reconstruction of Cable", "Guideposts", "Guideposts, Removal of", "Guideposts, Resetting of", "Guideposts, Removal and Resetting of", "Guardrail Posts", and "Guardrail End Terminal" at the contract unit prices is full compensation for the specified work.