

Item 647

Large Roadside Sign Supports and Assemblies



1. DESCRIPTION

- **Installation.** Furnish, fabricate, and erect steel supports for large roadside signs.
- **Relocation.** Relocate existing large roadside sign assemblies, and furnish and fabricate materials as required.
- **Removal.** Remove existing large roadside sign assemblies.

2. MATERIALS

Furnish all materials unless otherwise shown on the plans. Furnish only new materials. Furnish and fabricate materials that comply with the following Items and details shown on the plans:

- Item 416, "Drilled Shaft Foundations"
- Item 421, "Hydraulic Cement Concrete"
- Item 440, "Reinforcement for Concrete"
- Item 441, "Steel Structures"
- Item 442, "Metal for Structures"
- Item 445, "Galvanizing"

Use material for perforated fuse plates that does not exceed the ultimate tensile strength shown on the plans.

Use galvanized steel, stainless steel, dichromate sealed aluminum, or other materials shown on the plans for bolts, nuts, washers, lock washers, screws, and other sign-assembly hardware. When dissimilar metals are used, select or insulate the metals to prevent corrosion.

3. CONSTRUCTION

Construct foundations for large roadside sign supports and assemblies in accordance with Item 416, "Drilled Shaft Foundations," and the details shown on the plans. Plumb sign supports. Do not spring or rake posts to secure proper alignment. Use established safety practices when working near underground or overhead utilities. Consult with the appropriate utility company before beginning work.

3.1. **Fabrication.** Fabricate in accordance with Item 441, "Steel Structures." Ensure all components fit properly.

Verify the length of each post for each sign before fabrication to meet field conditions and sign-mounting heights shown on the plans. Obtain approval for any necessary field fabrication or adjustments.

Hot-dip galvanize fabricated parts in accordance with Item 445, "Galvanizing." Punch or drill any holes in steel parts or members before galvanizing. Repair galvanizing for any steel part or member on which the galvanizing has been damaged during assembly, transit, erection; or for any steel part or member welded when permitted, after galvanizing. Make all galvanizing repairs in accordance with Section 445.3.5., "Repairs."

3.2. **Installation.** Locate sign supports as shown on the plans, unless directed to shift the sign supports within design guidelines to secure a more desirable location or avoid conflict with utilities and underground appurtenances. Stake the sign support locations for verification by the Engineer.

Install stub posts of the type and at the spacing, orientation, and projection shown on the plans. Secure the stub posts rigidly in position during concrete placement.

At the Contractor's option, sign supports may be cast in the concrete foundation as a unit. However, if installation is made with the upper post section attached, do not expose the support to traffic until the sign panel is properly affixed, unless otherwise approved.

Connect the upper post sections to the stub post sections as shown on the plans. Ensure a flat washer is positioned on top of the bolt keeper plates between the upper and lower slip base sections, and a flat washer is positioned under the head and nut of each connection bolt. Torque connection bolts as shown on the plans.

Attach signs to supports in accordance with the plans and pertinent Items.

- 3.3. **Relocation.** Reuse the existing supports and shorten or lengthen them as required, unless otherwise shown on the plans. Furnish and install new breakaway stub posts in new foundations for relocated sign assemblies. Erect the supports on the new stub posts and attach the signs to the supports in accordance with the plans and pertinent Items.

Unless otherwise shown on the plans, remove abandoned concrete foundations and replace surfacing in accordance with Section 647.3.4., "Removal."

- 3.4. **Removal.** Remove abandoned concrete foundations including steel to 2 ft. below finish grade, unless otherwise shown on the plans. Cut off and remove steel protruding from the remaining concrete. Backfill the remaining hole with material equal in composition and density to the surrounding area. Replace any surfacing with like material to equivalent condition.

- 3.5. **Handling and Storage.** Handle and store existing signs or portions of signs removed so they are not damaged. Prevent any damage to the various sign assembly components. Replace any portion of the sign damaged by the Contractor designated for reuse or salvage, including messages removed.

Stockpile all removed sign components that will be reused or become the property of the Department at designated locations. Accept ownership of unsalvageable materials and dispose of them in accordance with federal, state, and local regulations.

- 3.6. **Cleaning.** Wash the entire sign after installation with a biodegradable cleaning solution acceptable to the sign face material manufacturers to remove dirt, grease, oil smears, streaks, finger marks, and other foreign materials.

4. MEASUREMENT

Installation will be measured by the pound of large roadside sign support steel. Sign assemblies removed or relocated will be measured by each large roadside sign assembly.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

5. PAYMENT

This work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Install Large Roadside Sign Supports" of the type specified, "Remove Large Roadside Sign Assemblies," or "Relocate Large Roadside Sign Assemblies."

New drilled shaft foundations will be paid for in accordance with Item 416, "Drilled Shaft Foundations." New signs will be paid for in accordance with Item 636, "Signs."

- 5.1. **Installation.** This price is full compensation for furnishing, fabricating, galvanizing, and erecting the supports and stub posts; furnishing fuse plate and slip base connections; and materials, equipment, labor, tools, and incidentals.
- 5.2. **Relocation.** This price is full compensation for furnishing and installing new stub posts, and new sign supports (when required); removing existing sign assemblies and related materials; modifying existing sign supports; reinstallation of signs and sign supports; preparing and cleaning the signs; hardware; salvaging and disposing of unsalvageable materials; removing existing foundations, backfilling, and surface placement; and materials, equipment, labor, tools, and incidentals.
- 5.3. **Removal.** This price is full compensation for removing existing sign assemblies and related materials; salvaging; disposal of unsalvageable materials; removing existing foundations, backfilling, and surface placement; and materials, equipment, labor, tools, and incidentals.