

# Special Specification 4172

## Ornamental Steel Fence



### 1. DESCRIPTION

Remove existing ornamental steel fence and furnish and install new ornamental fence in conformance with the details shown on the plans and as directed.

### 2. MATERIALS

Provide new materials conforming to the pertinent requirements of the following items:

- Item 421, "Hydraulic Cement Concrete,"
- Item 441, "Steel Structures,"
- Item 442, "Metal for Structures,"
- Item 445, "Galvanizing,"
- Item 446, "Field Cleaning and Painting Steel,"
- Item 447, "Structural Bolting," and
- Item 448, "Structural Field Welding."

- 2.1. **Steel Fence Panels and Posts.** Provide material meeting the requirements of ASTM A500 and ASTM A653/A653M, with a minimum yield strength of 45,000 psi and a minimum zinc (hot dip galvanized) coating weight of 0.60 oz/sf. Coating Designation G-60. Provide 2 1/2" x 16 ga. fence posts for panel heights up to and including 6-ft height. Fabricate panels with internal fasteners that allow panel to adjust to ground slope. Provide Post Caps and Brackets
- 2.2. **Steel Pickets.** Provide pickets 3/4" square x 14 Ga. Tubing.
- 2.3. **Rails.** Provide steel channels 1.5" x 1.4375" x 14 Ga. Space picket holes in the rail to result in air space of 3-15/16" between pickets.
- 2.4. **Structural Design.** The manufactured fence system shall be capable of meeting the vertical load, horizontal load, and infill performance requirements of Industrial weight fences under ASTM F2408.

### 3. SUBMITTALS AND SHOP DRAWINGS

Provide the following.

- Product data for components and accessories.
- Shop drawings showing layout, dimensions, spacing of components, anchorage, and installation details. Include details for steel fabrication including structural field welding, finishing, and fastening.
- Sample: 8 in. x 10 in. minimum size sample of fence panel illustrating design, fabrication workmanship, and selected color coating.
- 20 year warranty for factory finish against cracking, peeling, and blistering under normal use.

### 4. MANUFACTURERS

- "Montage Commercial," Ameristar Fence Products, 1555 N. Mingo Road, Tulsa, OK 74116 or
- "V2," Fortress Fence Products, 1720 N. 1<sup>st</sup> Street, Garland, TX 75044, or
- Approved Equal.

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## 5. FINISH

- 5.1. **Steel Fence Panels.** Provide steel fence panels, posts, post caps, and brackets with approved factory applied finish. Finish coating process to include multi-stage pretreatments or wash including the application of a zinc phosphate coating, followed by a duplex application of an epoxy primer, and an acrylic topcoat or polyester powder coating based on the manufacturer's recommended procedure. Color of top coating shall be black.

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## 6. CONSTRUCTION

Remove existing ornamental steel fence as shown in the plans. Remove post foundations and backfill holes with suitable material. Dispose of materials in accordance with applicable laws.

Erect Ornamental Fence to the lines and grades as shown on the plans. The overall height of the fence when erected is the height above the grade as shown on the plans.

Before fabrication, field verify required dimensions. Install fencing in accordance with manufacturer's installation instructions and approved shop drawings.

Install fence posts plumb and level by setting the post in the hole cored in concrete and grouting it solid. Temporarily brace fence posts with 2 in. x 4 in. wood supports until the grout is set. Do not install bent, bowed, or otherwise damaged panels. Remove damaged components from the site and replace. Secure fence panels with standard stainless-steel bolts to fence posts after the posts have been set. Touch-up damaged finish with paint supplied by the manufacturer and matching the original coating.

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## 7. MEASUREMENT

This item will be measured by the linear foot of removed ornamental steel fence or installed ornamental steel fence shown on the plans.

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 measurement or calculations will be made if adjustments of quantities are required.

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## 8. PAYMENT

The 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 "Ornamental Steel Fence (Remove)" or "Ornamental Steel Fence (Install)."

Payment for "Ornamental Steel Fence (Remove)" is full compensation for removal of existing fencing and concrete foundations.

Payment for "Ornamental Steel Fence (Install)" is full compensation for fabricating, shipping, handling, and installing fence panels, posts, fasteners, and other components; for concrete footings of fence posts; and for furnishing labor, tools, equipment, and incidentals.

Concrete mowstrip will be measured and paid for in accordance with item 432, "Riprap".