



**SPECIAL PROVISIONS
FOR
STRUCTURAL STEEL PEDESTRIAN HAND RAILING**

**Polk County
EDP-8260(653)--7Y-77**

**Effective Date
February 21, 2023**

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

151178.01 DESCRIPTION.

A. Scope.

This work consists of furnishing and erecting a galvanized steel and stainless steel wire rope cable railing along both sides of the approach spans, river spans and around the Pier 3 overlook.

B. References.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to by basic designation only.

1. ASTM F 3125 Standard Specification for Structural Steel Bolts and Assemblies.
2. ASTM A 709 Standard Specification for Structural Steel for Bridges.
3. ASTM A 563 Standard Specification for Carbon and Alloy Steel Nuts.
4. ASTM F 436 Standard Specification for Hardened Steel Washers.
5. ASTM A 6 Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling.
6. ASTM A 123 Standard Specifications for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
7. ASTM F 2329 Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners.
8. ASTM B695-04 Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel.
9. ASTM A385-11e1 Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip).
10. ASTM A 780 Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
11. SSPC-SP1 – Solvent Cleaning.
12. SSPC-SP2 – Hand Tool Cleaning.
13. SSPC-SP3 – Power Tool Cleaning.
14. SSPC-SP6 – Commercial Blast Cleaning.
15. SSPC-SP7 – Brush-Off Blast Cleaning.
16. AWS D1.1 Structural Welding Code

17. AWS D.1.5 Bridge Welding Code
18. National Ornamental and Miscellaneous Metals Association (NOMMA), Guideline 1: Joint Finishes.
19. National Association of Architectural Metal Manufacturers (NAAMM), Metal Finishes Manual for Architectural and Metal Products.

151178.02 MATERIALS.

A. Structural Steel.

Structural steel shall be in accordance with Section 2408 of the Standard Specifications.

B. High Strength Fasteners.

Fasteners shall be in accordance with Article 4153.06 of the Standard Specifications.

C. Hot Dip Galvanized Coating.

Galvanized coating properties shall be in accordance with ASTM A 123 for galvanizing of steel members and assemblies and ASTM F 2329 for galvanizing of steel fasteners.

151178.03 CONSTRUCTION.

A. Fabrication Requirements

1. After fabrication (cutting, welding, drilling, etc.) is complete, all holes shall be deburred and all fins, scabs or other surface/edge anomalies shall be ground or repaired per ASTM A6. The items shall then be cleaned per SSPC-SP1 and SSPC-SP6. All surfaces shall be inspected to verify no fins, scabs or other similar defects are present.
2. The Contractor shall consult with the galvanizer to insure proper removal of grease, paint, and other deleterious materials prior to galvanizing.
3. All bolt holes for field splices shall be drilled full size or sub-drilled and reamed to size. Bolt holes punched full size are not allowed.
4. Galvanized finish shall be Coating Class G90 or equal in accordance with NAAMM guidance.
5. Welding shall be in accordance AWS D1.1 or AWS D1.5.
6. Welds shall be finished in accordance with NOMMA Joint Finish #2.
7. Galvanizing surfaces damaged after galvanizing shall be repaired in accordance with ASTM A 780, Damage that occurs in the shop shall be repaired in the shop. Damage that occurs in the field shall be repaired in the field.
8. Wire rope cable shall be American Institute of Steel and Iron (AISI) 316 stainless steel.

B. Submittals

1. Provide railing shop drawings for approval prior to fabrication. Shop drawings shall describe which components are shop assembled and which components are field assembled.
2. Provide full scale mockups of the following components. Each mockup shall consist of one panel section assembly sufficient to demonstrate galvanizing steel finishes, weld finishes and wire rope cable attachment. Railing assemblies generally shall be between 3 and 6 feet long.
 - a. One railing assembly for concrete approach spans.
 - b. One railing assembly truss river spans.
 - c. One railing assembly at Pier 3 overlook.
3. Fabricator to provide photos of mockup to the Engineer or to permit site visits to shop when fabrication has advanced to the point of demonstrating finish of representative components prior to galvanizing.
4. Do not proceed with full production fabrication of components without shop drawing and mockup approval.
5. Design intent is to permit the Contractor to use mockup as a part of the permanent construction after approval.

C. Installation

1. Fit exposed connections together to form tight joints.
2. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
3. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
4. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
5. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.
6. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
7. Adjust railings before anchoring to ensure matching alignment at abutting joints.

151178.04 METHOD OF MEASUREMENT

The method of measurement for Ornamental Steel Railing will be linear foot for fabricated, finished, and installed units.

151178.05 BASIS OF PAYMENT

Payment will be for the measured quantity at the contract unit price per linear feet for Ornamental Steel Railing. Payment is full compensation for furnishing, fabricating, galvanizing, transporting, and erecting railing. Includes to repairs to galvanizing required after erection.