SECTION 055213

PIPE AND TUBE RAILINGS

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**NOTE TO SPECIFIER**

*Use this Specification Section for Mail Processing Facilities.*

***This is a Type 1 Specification with completely editable text; therefore, any portion of the text can be modified by the A/E preparing the Solicitation Package to suit the project.***

*For Design/Build projects, do not delete the Notes to Specifier in this Section so that they may be available to Design/Build entity when preparing the Construction Documents.*

*For the Design/Build entity, this specification is intended as a guide for the Architect/Engineer preparing the Construction Documents.*

*The MPF specifications may also be used for Design/Bid/Build projects. In either case, it is the responsibility of the design professional to edit the Specifications Sections as appropriate for the project.*

*Text shown in brackets must be modified as needed for project specific requirements.* *See the “Using the USPS Guide Specifications” document in Folder C for more information.*

*The last date that USPS revised this standard specification section occurs in two places, at the end of this section and in the Table of Contents. If the date in this section matches the date in the Table of Contents, then you are using the latest version. Do not delete or revise the “last revised” date at the end of the section during the development of the Project Manual.*

*The footer in this section should be edited to replace the text, “USPS MPF SPECIFICATION” with the project name, and the blank date in the center should be replaced with the submission date, for interim design reviews, or the issue date of the completed Project Manual.*

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1. GENERAL
	1. SUMMARY
		1. Section Includes:
			1. Steel pipe handrails.
		2. Related Documents: The Contract Documents, as defined in Section 011000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.
		3. Related Sections:
			1. Section 099100 - Painting: Field paint finish.
	2. REFERENCES
		1. American Society for Testing and Materials (ASTM):
			1. ASTM A 53 - Specification for Hot-Dipped, Zinc-coated Welded and Seamless Steel Pipe.
			2. ASTM 123 - Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
			3. ASTM E 894 - Test Method for Anchorage of Permanent Metal Railing Systems and Rails for Buildings.
			4. ASTM E 935 - Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings.
			5. ASTM E 985 - Permanent Metal Railing Systems and Rails for Buildings.
		2. Steel Structures Painting council (SSPC):
			1. SSPC Paint 15 - Type 1, Red Oxide.
			2. SSPC Paint 20 - Type 1 Inorganic Zinc Rich.
	3. SYSTEM DESCRIPTION
		1. Design Requirements:
			1. Design, engineer, fabricate and install handrails and railing systems to comply with requirements of ASTM E 985 for structural performance based on testing performed in accordance with ASTM E 894 and E 935.
			2. Railing assembly, wall rails, and attachments to comply with local code requirements and to resist minimum lateral force according to IBC or more stringent local building code at any point without damage or permanent set.
	4. SUBMITTALS
		1. Section 013300 - Submittal Procedures: Procedures for submittals.
			1. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.
			2. Assurance/Control Submittals:
				1. Certificates: Manufacturer's certificate that Products meet or exceed specified requirements.
	5. DELIVERY, STORAGE, AND HANDLING
		1. Section 016000 - Product Requirements: Transport, handle, store, and protect Products.
2. PRODUCTS
	1. MATERIALS
		1. Pipe: ASTM A 53, Grade B Schedule 80.
		2. Rails and Posts: Steel pipe; with welded joints, of sizes and shapes as indicated on Drawings.
		3. Fittings: Elbows, T-shapes, wall brackets, escutcheons; machined steel.
		4. Mounting on Concrete Floor: Steel sleeves, sized to receive railing post with 1/4 inch clearance.
		5. Mounting on Masonry or Concrete Walls: Brackets with anchors for building in masonry.
		6. Mounting on Stud Walls: Brackets and anchor plates, predrilled to receive bolts.
		7. Splice Connectors: Steel threaded collars.
	2. FABRICATION
		1. Fit and shop assemble sections in largest practical sizes, for delivery to site and installation.
		2. Supply components required for secure anchorage of handrails and railings.
		3. Fully weld joints. Grind exposed welds smooth and flush with adjacent surfaces.
		4. Wake exposed joint butt tight, flush, and hairline.
		5. Accurately form components required for anchorage of railings to each other and to building structure.
		6. Prime railings which will be exposed.
	3. FINISH
		1. At Building Exterior:
			1. Galvanizing: ASTM A123; provide minimum 2.0 ounces per square foot.
			2. Touch-Up Primer for Galvanized Surfaces: SSPC 20 Type I Inorganic zinc rich.
		2. At Building Interior: SSPC 15, Type 1, red oxide.
		3. Field paint as specified in Section 099100.
3. EXECUTION
	1. EXAMINATION
		1. Section 017300 - Execution: Verification of existing conditions before starting work.
		2. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
			1. Verify field dimensions prior to shop fabrication.
		3. Report in writing to Contracting Officer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
		4. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the United States Postal Service.
	2. PREPARATION
		1. Furnish items required to be cast into concrete, embedded in masonry, placed in partitions with setting templates, to appropriate Sections.
	3. INSTALLATION
		1. Install in accordance with manufacturer's published instructions.
		2. Install components plumb and level, accurately fitted, free from distortion or defects.
		3. Anchor railings to structure with anchors in conformance with ASTM E 985.
		4. Field weld anchors as indicated on Drawings. Touch-up welds with primer. Grind welds smooth.
		5. Insert railing posts in sleeves and pack sleeves with non-shrink grout.
	4. CONSTRUCTION
		1. Site Tolerances:
			1. Maximum Variation From Plumb: 1/4 inch.
			2. Maximum Offset From True Alignment: 1/4 inch.
			3. Maximum Out-of-Position: 1/4 inch.
	5. FIELD QUALITY CONTROL
		1. Section 014000 - Quality Requirements: Field testing and inspection.
		2. Inspect railings and handrail installation and attachment to structure.
		3. Inspect paint finish applied to surfaces.

END OF SECTION

USPS MPF Specification Last Revised: 10/1/2022