SECTION 032000

CONCRETE REINFORCEMENT

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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. Reinforcing steel bars.
			2. Steel wire mesh.
			3. Reinforcement accessories.
		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 316329 - Drilled Concrete Piers and Shafts: Reinforcement for drilled pier foundations.
			2. Section 031000 - Concrete Forming and Accessories: Coordination between formwork and reinforcing.
			3. Section 033000 - Cast-in-Place Concrete: Coordination between concrete placement and reinforcing.
	2. REFERENCES
		1. American Concrete Institute (ACI):
			1. ACI 301 - Structural Concrete for Buildings.
			2. ACI 318 - Building Code Requirements For Reinforced Concrete.
			3. ACI SP-66 - American Concrete Institute - Detailing Manual.
		2. American Society for Testing and Materials (ASTM):
			1. ASTM A 184 - Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
			2. ASTM A 615 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
			3. ASTM A 704 - Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement.
		3. American Welding Society (AWS):
			1. AWS D1.4 - Structural Welding Code for Reinforcing Steel.
		4. Concrete Reinforcing Steel Institute (CRSI):
			1. CRSI - Manual of Practice.
			2. CRSI 63 - Recommended Practice For Placing Reinforcing Bars.
			3. CRSI 65 - Recommended Practice For Placing Bar Supports, Specifications and Nomenclature.
	3. SUBMITTALS
		1. Section 013300 – Submittal Procedures: Procedures for submittals.
			1. Shop Drawings: Indicate bar sizes, spacings, locations, and quantities of reinforcing steel [and wire fabric, bending and cutting schedules, and supporting and spacing device. Include special reinforcement required for openings through concrete structures.
			2. Assurance/Control Submittals;
				1. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
				2. Submit certified copies of mill test report of reinforcement materials analysis.
				3. Welder's Certificates.
	4. QUALITY ASSURANCE
		1. Perform Work in accordance with CRSI 63, 65 and Manual of Practice ACI 301, ACI SP-66, ACI 318, and ASTM A 184.
		2. Design reinforcement under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State where the Project is located.
		3. Welders' Certificates: Submit certificate, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.
2. PRODUCTS
	1. STEEL REINFORCEMENT
		1. Reinforcing Steel: ASTM A 615, 60 ksi yield grade; deformed billet steel bars, unfinished.
		2. Reinforcing Steel Mat: ASTM A 704, ASTM A 615, 60 ksi yield grade; steel bars or rods, unfinished.
		3. Reinforcing Steel Mesh: ASTM A185; 6X6, w 1.4 X w 1.4.
		4. Dowels at Construction Joints: 1/4" x 4.5" Diamond Dowels by PNA Construction Technologies or approved equal.
	2. ACCESSORIES
		1. Tie Wire: Minimum 16 gage annealed type.
		2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor barrier puncture.
		3. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic coated steel type(CRSI, Class 1) or stainless steel protected(CRSI, Class 2); size and shape as required.
	3. FABRICATION
		1. Fabricate concrete reinforcing in accordance with ACI SP-66 and ACI 318.
		2. Weld reinforcement in accordance with AWS D1.4.
		3. Locate reinforcing splices not indicated on drawings, at point of minimum stress. Review location of splices with Contracting Officer.
3. EXECUTION
	1. EXAMINATION
		1. Section 017300 - Execution: Verification of existing conditions before starting work.
		2. Verification of Conditions: Verify that field measurements, surfaces, and conditions are as required, and ready to receive Work.
		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 United States Postal Service.
	2. PLACEMENT
		1. Place, support and secure reinforcement against displacement. Do not deviate from required position.
		2. Do not displace or damage vapor barrier.
		3. Accommodate placement of formed openings.
		4. Maintain concrete cover around reinforcing in accordance with ACI 318.
	3. FIELD QUALITY CONTROL
		1. Section 014000 - Quality Requirements: Field inspection.
		2. Inspect reinforcing locations, bar types and sizes, wire ties, and welding (if applicable).

END OF SECTION

USPS MPF Specification Last Revised: 10/1/2022