



FREDERICK COUNTY GOVERNMENT

Jan H. Gardner
County Executive

DIVISION OF FINANCE
Department of Procurement & Contracting

Lori L. Depies, CPA, Division Director
Diane Fouche, CPPB, Director

May 11, 2018

IFB No. 18-363-CP MYERSVILLE LIBRARY

Addendum No. 2

This addendum contains revisions, clarifications, and information pertinent to the IFB for the referenced project and shall supplement, amend, and become part of the IFB for the title project and contract. All bids shall be based on this Addendum, in accordance with the IFB documents.

Acknowledgment of this addendum shall be submitted with the bid, including addendum number and date. Failure to acknowledge addendum may subject the contractor to disqualification.

Bids are due May 22, 2018 before 2:00 PM EST.

CHANGES TO THE PROJECT MANUAL:

1. Section 055000 – Metal Fabrication
 - A. Delete section in its entirety and replace with new attached section dated 9 May 2018 (Attachment 1).
2. Section 055213 – Pipe and Tube Railings
 - A. Add new attached section dated 9 May 2018 in its entirety (Attachment 1).
 - B. Add section to Table of Contents.
3. Section 072100 – Thermal Insulation
 - A. Delete the following section: 3.2, B.
4. Section 074646 – Fiber Cement Siding
 - A. Delete section in its entirety and replace with new attached section dated 9 May 2018 (Attachment 1).
5. Section 084113 – Aluminum-Framed Entrances and Storefronts
 - A. Delete 2.8, B, 1.
6. Section 085113 – Aluminum Windows
 - A. Delete 2.5, A, 1.
7. Section 088000 – Glazing
 - A. 3.4 Monolithic Glass Schedule
 - A. Replace Glass Type designation "GL-1" with "G-3 (refer to Drawings)".

Frederick County: Rich History, Bright Future

Bourne Building • 355 Montevue Lane, Suite 200, Frederick, MD 21702 • 301-600-2928 • Fax 301-600-3517
www.FrederickCountyMD.gov

- B. 3.5 Insulating Glass Schedule
 - A. Replace Glass Type designation "GL-2" with "G-1 (refer to Drawings)".

- 8. Section 089119 – Fixed Louvers
 - A. Add the following as 2.2, B:
 - "B. Insulated, Blank-off Panels: Laminated metal-faced panels consisting of insulating core surfaced on back and front with metal sheets.
 - 1. Thickness: 2 inches.
 - 2. Metal Facing Sheets: Aluminum sheet, not less than 0.032-inch nominal thickness.
 - 3. Insulating Core: Foamed-plastic rigid insulation board.
 - 4. Edge Treatment: Trim perimeter edges of blank-off panels with louver manufacturer's standard extruded-aluminum-channel frames, not less than 0.080-inch nominal thickness, with corners mitered and with same finish as panels.
 - 5. Seal perimeter joints between panel faces and louver frames with 1/8-by-1-inch PVC compression gaskets.
 - 6. Panel Finish: Same type of finish applied to louvers, but black color.
 - 7. Attach blank-off panels to back of louver frames with stainless-steel, sheet metal screws".

CHANGES TO THE DRAWINGS:

- 1. Sheet C-4 – Grading and Storm Drain Plan
Add the following note to trench drains: "Trench drains TD-1 and TD-2 shall be Zurn Z874-18 trench drain system or equal, 18" wide and full length as shown".

- 2. Sheet C-5 – Dimension Paving and Utility Plan
Plaza Detail- Delete note at top left corner and replace with the following: "Note: Concrete colors to be selected by Architect from manufacturer's full range".

- 3. Sheet C-6 – Additional Parking and Harp Place Mill and Overlay Plans
Mill and Overlay Harp Place- Add the following general note: "Milling to be 2" and overlay to be 2" surface course matching the surface course specifications on the plans".

- 4. Sheet C-13 – Landscape Plan
Delete the "Add Alternate 1 Site Tree Schedule" in its entirety and revise quantities in the Site Tree Schedule to read as follows:
 - Sweetbay Magnolia (common name)- "4"
 - Legacy Sugar Maple (common name)- "7"
 - October Glory Red Maple (common name)- "4"
 - American Sycamore (common name)- "0"

Total: "26" Trees Provided

5. Sheet A100 – Floor Plans
Delete 3-A100 Interior Partition Schedule and add the following notes to the General Plan Notes:
"6. Unless noted otherwise, all interior partitions shall be 6" metal studs with 5/8" gypsum board on both sides with 3" sound attenuation batts full height. Provide 5/8" water-resistant gypsum board on moisture side of partitions surrounding Custodial 105, Men 106, Women 107, and Toilet 114.
7. Gypsum board is not required on interior side of chase walls.
8. Partition between Men 106 and Women 107 shall be a 6" stud partition centered between both spaces. Adjust dimensions as required".

6. Sheet A300 – Door Schedule Add the following to the sheet: "General Notes:
1. As an accessory to the specified air/weather barrier system, Contractor shall use and install the selected manufacturer's compatible flexible flashing membrane (self-adhering and self-sealing) at all critical locations, including all sills, heads and jambs of all openings for a complete air-barrier assembly.
2. All aluminum storefront frame/door systems shall be a single color/finish (clear anodized aluminum), except for Door 100, which will be a separate accent color (single color/finish)".

7. Sheet A301 – Window Types and Details Add the following to the General Notes:
"2. All aluminum storefront window/frame systems shall be a single color/finish (clear anodized aluminum)".

8. Sheet A400 – Exterior Elevations
Drawing 7-A400: Delete cut off note on right side and replace with the following: "Removable section of storefront window system to be installed after the trolley has been moved in and set in place. Contractor to coordinate and provide temporary enclosure as needed".

9. Sheet A400 – Exterior Elevations Add the following to General Notes:
"1. Use the following fiber cement trim sizes, unless noted or required otherwise. Provide blocking as required by manufacturer for a secure and complete installation:
Skirt Board (including at Window Seat)- 9.25"
Band Board- 11.25"
Outside Corner Trim- Pre-cut and pre-assembled outside corner unit with a symmetrical exposure of 3.5" on both sides.
Inside Corner Trim- Pre-cut and pre-assembled inside corner unit with a symmetrical exposure of 1" on both sides.
Standard Window/Door Trim- 3.5"

Myersville Library
IFB No. 18-363-CP
Addendum No. 2

Storefront Entrance Trim (Front Entrance)- 5.5", including curved trim.
Front Gable Paneling Trim- 5.5", including curved trim.
Triple-Window Unit Trim (below/aligned with Gable Paneling)- 5.5"
Storefront Window Trim (at Window Seat)- 5.5", including curved trim".

10. Sheet A505 – Wall Sections
Detail 4-A505: Add the following note: "Refer to Detail 4-A507 for typical aluminum window base/sill not shown here".
11. Sheet I000 – Finish Schedule and Finish Plans
2-I000, Finish Legend: 123661.16 Solid Surfacing Countertops (SS)- Delete "Window Sills" from title.
12. Sheet I000 – Finish Schedule and Finish Plans
2-I000, Finish Legend: 123661.19 Quartz Agglomerate Countertops- Delete listed manufacturers and color and replace with "Cambria" and "Color: Bradshaw, Lincolnshire or Windermere (final selection to be determined by Architect)", respectively.
13. Sheet I000 – Finish Schedule and Finish Plans
Drawing 3-I000, Finish and Floor Pattern Plan: Add the following note to Children's Area 109: "CPT- 2 is the field carpet in the center of the space and CPT-3 is the field carpet around the perimeter of the space. CPT-1 is the companion, transitional border between the two field carpets defined by the curved line shown".
14. Sheet S1.1 – Footing and Foundation
Foundation Plan: Add the following note to area of low wall between main structure and Trolley structure: "Provide thickened slab (8" deep X 16" wide) as required under low wall. See 1-A100 for wall location and Detail 4-A506 for applicable cold form steel framing notes".

ATTACHMENTS:

- Attachment 1 – Specification Sections 055000, 055213, & 074646

END OF ADDENDUM

Except as noted herein, all terms and conditions of the document referenced, as heretofore changed, remain unchanged and in full force and effect.



Bruce Johnson
Project Manager IV

IFB No. 18-363-CP

Myersville Library

Addendum No. 2

Attachment 1 – Sections 055000, 055213, & 074646

SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Miscellaneous steel framing and supports.
2. Metal ladders.
3. Metal bollards.
4. Miscellaneous steel shapes and trim.
5. Loose bearing and leveling plates.
6. Loose steel lintels.
7. Steel weld plates and angles.
8. Cladding attachment and support system.

B. Products furnished, but not installed, under this Section include the following:

1. Loose steel lintels.
2. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.
3. Steel weld plates and angles for casting into concrete for applications where they are not specified in other Sections.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Prefabricated building columns.
2. Paint products.
3. Grout.

B. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.

PART 2 - PRODUCTS

A. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

Myersville Library
Frederick County Public Libraries

2.2 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Steel Tubing: ASTM A 500/A 500M, cold-formed steel tubing.
- D. Steel Pipe: ASTM A 53/A 53M, Standard Weight (Schedule 40) unless otherwise indicated.

2.3 FASTENERS

- A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or **ASTM F 1941 (ASTM F 1941M)**, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.
 - 1. Provide stainless-steel fasteners for fastening aluminum.
 - 2. Provide stainless-steel fasteners for fastening stainless steel.

2.4 MISCELLANEOUS MATERIALS

- A. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
- B. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- C. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.
- D. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.
- E. Concrete: Comply with requirements in Section 033000 "Cast-in-Place Concrete" for normal-weight, air-entrained, concrete with a minimum 28-day compressive strength of **3000 psi (20 MPa)**.

2.5 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Use connections that maintain structural value of joined pieces.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges. Remove sharp or rough areas on exposed surfaces.
- C. Weld corners and seams continuously to comply with the following:

Myersville Library
Frederick County Public Libraries

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove welding flux immediately.
 4. At exposed connections, finish exposed welds and surfaces smooth and blended.
- D. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Locate joints where least conspicuous.
- E. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- F. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors not less than **8 inches (200 mm)** from ends and corners of units and **24 inches (600 mm)** o.c.

2.6 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
- C. Fabricate steel girders for wood frame construction from continuous steel shapes of sizes indicated.
1. Where wood nailers are attached to girders with bolts or lag screws, drill or punch holes at **24 inches (600 mm)** o.c.
- D. Fabricate steel pipe columns for supporting wood frame construction from steel pipe with steel baseplates and top plates as indicated. Drill or punch baseplates and top plates for anchor and connection bolts and weld to pipe with fillet welds all around. Make welds the same size as pipe wall thickness unless otherwise indicated.

2.7 METAL LADDERS

- A. General:
1. Comply with ANSI A14.3.
 2. For elevator pit ladders, comply with ASME A17.1/CSA B44.
- B. Steel Ladders:
1. Space siderails **18 inches (457 mm)** apart unless otherwise indicated.
 2. Siderails: Continuous, **3/8-by-2-1/2-inch (9.5-by-64-mm)** steel flat bars, with eased edges.
 3. Rungs: **3/4-inch- (19-mm-)** diameter steel bars.

Myersville Library
Frederick County Public Libraries

4. Fit rungs in centerline of siderails; plug-weld and grind smooth on outer rail faces.
5. Provide nonslip surfaces on top of each rung.
6. Prime ladders, including brackets and fasteners, with universal shop primer.

2.8 METAL BOLLARDS

- A. Fabricate metal bollards from Schedule 40 steel pipe.
 1. Cap bollards with ~~1/4-inch-~~ (6.4-mm-) thick steel plate.
- B. Fabricate sleeves for bollard anchorage from steel pipe or tubing with ~~1/4-inch-~~ (6.4-mm-) thick steel plate welded to bottom of sleeve.
- C. Prime bollards with zinc-rich primer.

2.9 MISCELLANEOUS STEEL SHAPES AND TRIM

- A. Fabricate miscellaneous exposed shapes and trim of size indicated on drawings.
- B. Galvanize all exterior trim and prepare for painting.

2.10 LOOSE BEARING AND LEVELING PLATES

- A. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.

2.11 LOOSE STEEL LINTELS

- A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated.
- B. Galvanize loose steel lintels located in exterior walls.

2.12 STEEL WELD PLATES AND ANGLES

- A. Provide steel weld plates and angles not specified in other Sections, for items supported from concrete construction as needed to complete the Work. Provide each unit with no fewer than two integrally welded steel strap anchors for embedding in concrete.

2.13 CLADDING ATTACHMENT AND SUPPORT SYSTEM

- A. Section includes thermally broken, rainscreen attachment system over continuous insulation for attachment of exterior cement board siding (horizontal and vertical).
- B. Delegated Design: Manufacturer to design system.

Myersville Library
Frederick County Public Libraries

C. Components:

1. Horizontal Girt: Stiffened horizontal girt with pre-punched drainage holes.
 - a. Steel Thickness: Minimum 0.046-inch thick (18 gauge).
 - b. Basis-of-Design: HCI by Knight Wall Systems.
2. Secondary Vertical Rail: Hat channel with stiffening lips.
 - a. Steel Thickness: Minimum 0.046-inch thick (18 gauge).
 - b. Basis-of-Design: PanelRail by Knight Wall Systems.
3. Fasteners: As required by manufacturer. Include thermal isolators and other required components for complete installation.

2.14 FINISHES, GENERAL

- A. Finish metal fabrications after assembly.

2.15 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.
- B. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.
1. Shop prime with universal shop primer unless indicated.
- C. Preparation for Shop Priming: Prepare surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning " and below:
1. Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 2. Items Indicated to Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 3. Items Indicated to Receive Primers Specified in Section 099600 "High-Performance Coatings": SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 4. Other Items: SSPC-SP 3, "Power Tool Cleaning."
- D. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

Myersville Library
Frederick County Public Libraries

- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction.
- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

3.2 INSTALLING METAL BOLLARDS

- A. Fill metal-capped bollards solidly with concrete and allow concrete to cure seven days before installing.
- B. Anchor bollards in concrete with pipe sleeves preset and anchored into concrete. Fill annular space around bollard solidly with nonshrink grout.
- C. Anchor bollards in place with concrete footings. Place concrete and vibrate or tamp for consolidation. Support and brace bollards in position until concrete has cured.

3.3 INSTALLING BEARING AND LEVELING PLATES

- A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.
- B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with nonshrink grout. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.4 INSTALLING CLADDING ATTACHMENT AND SUPPORT SYSTEM

- A. Install cladding attachment and support system in strict accordance with manufacturer's requirements.

Myersville Library
Frederick County Public Libraries

3.5 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

END OF SECTION 055000

SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Steel pipe and tube railings.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- C. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Manufacturer's product lines of mechanically connected railings.
 - 2. Railing brackets.
 - 3. Grout, anchoring cement, and paint products.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Delegated-Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer licensed in the State of Maryland responsible for their preparation.

1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

1.7 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

Myersville Library
Frederick County Public Libraries

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain each type of railing from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design railings, including attachment to building construction.
- B. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ ft. applied in any direction.
 - b. Concentrated load of 200 lbf applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 2. Infill of Guards:
 - a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft..
 - b. Infill load and other loads need not be assumed to act concurrently.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
1. Temperature Change: 120 deg F, ambient; 180 deg F.

2.3 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.
1. Provide type of bracket with flange tapped for concealed anchorage to threaded hanger bolt and that provides 1-1/2-inch clearance from inside face of handrail to finished wall surface.

2.4 STEEL AND IRON

- A. Tubing: ASTM A 500 (cold formed) or ASTM A 513.
- B. Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.

2.5 FASTENERS

- A. General: Provide the following:
1. Hot-Dip Galvanized Railings: Type 304 stainless-steel or hot-dip zinc-coated steel fasteners complying with ASTM A 153/A 153M or ASTM F 2329 for zinc coating.
 2. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.

Myersville Library
Frederick County Public Libraries

- C. Fasteners for Interconnecting Railing Components:
 - 1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless otherwise indicated.

- D. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors capable of sustaining, without failure, a load equal to 6 times the load imposed when installed in unit masonry and 4 times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.
 - 1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.
 - 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.

2.6 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
 - 1. For aluminum railings, provide type and alloy as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.

- B. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

- C. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.

- D. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

- E. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.
 - 1. Water-Resistant Product: At exterior locations provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

2.7 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

- B. Shop assemble railings to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

- D. Form work true to line and level with accurate angles and surfaces.

- E. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.

- F. Connections: Fabricate railings with welded connections unless otherwise indicated.

- G. Welded Steel Tubing Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

Myersville Library
Frederick County Public Libraries

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove flux immediately.
4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

H. Form Changes in Direction as Follows:

1. By bending or by inserting prefabricated elbow fittings.

I. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

J. Close exposed ends of railing members with prefabricated end fittings.

K. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch or less.

L. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.

M. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.

2.8 STEEL AND IRON FINISHES

A. Galvanized Railings:

1. Hot-dip galvanize exterior steel railings, including hardware, after fabrication.
2. Comply with ASTM A 123/A 123M for hot-dip galvanized railings.
3. Comply with ASTM A 153/A 153M for hot-dip galvanized hardware.
4. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
5. Fill vent and drain holes that are exposed in the finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.

B. For galvanized railings, provide hot-dip galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.

C. Preparing Galvanized Railings for Shop Priming: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with etching cleaner.

D. High-Performance Coating: Apply epoxy intermediate and polyurethane topcoats to prime-coated surfaces. Comply with coating manufacturer's written instructions and with requirements in SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," for shop painting. Apply at spreading rates recommended by coating manufacturer.

1. Color: As selected by Architect from manufacturer's full range.

Myersville Library
Frederick County Public Libraries

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. 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.
 - 1. 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.
 - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
 - 3. 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.
- C. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
 - 1. Coat, with a heavy coat of bituminous paint, concealed surfaces of aluminum that are in contact with grout, concrete, masonry, wood, or dissimilar metals.
- D. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.2 RAILING CONNECTIONS

- A. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.

3.3 ANCHORING POSTS

- A. Form or core-drill holes not less than 5 inches deep and 3/4 inch larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Leave anchorage joint exposed with anchoring material flush with adjacent surface.
- C. Anchor posts to metal surfaces with oval flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members as follows:
 - 1. For steel pipe railings, weld flanges to post and bolt to metal supporting surfaces.

3.4 ATTACHING RAILINGS

- A. Anchor railing ends at walls with round flanges anchored to wall construction and welded to railing ends.
- B. Attach railings to wall with wall brackets, except where end flanges are used. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
- C. Secure wall brackets and railing end flanges to building construction as follows:
 - 1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.

Myersville Library
Frederick County Public Libraries

3.5 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.
 - 1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas, and repair galvanizing to comply with ASTM A 780/A 780M.

3.6 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

END OF SECTION 055213

SECTION 074646 - FIBER-CEMENT SIDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes fiber-cement siding, trim and soffit.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For fiber-cement siding, trim and soffit including related accessories.

1.3 INFORMATIONAL SUBMITTALS

- A. Product certificates.
- B. Product test reports.
- C. Research/evaluation reports.
- D. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance data.

1.5 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 25 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 FIBER-CEMENT SIDING

- A. General: ASTM C 1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E 136; with a flame-spread index of 25 or less when tested according to ASTM E 84.

Myersville Library
Frederick County Public Libraries

1. **Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. [CertainTeed Corporation.](#)
 - b. [GAF.](#)
 - c. [James Hardie Building Products, Inc.](#)
 - d. [Nichiha Fiber Cement.](#)
- B. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C 1186 by a qualified testing agency acceptable to authorities having jurisdiction.
- C. Nominal Thickness: Not less than **5/16 inch (8 mm)**.
- D. Horizontal Pattern: Boards **6-1/4 to 6-1/2 inches (159 to 165 mm)** wide in plain style.
 1. Texture: Smooth.
- E. Vertical Pattern: **48-inch- (1200-mm-)** wide sheets with smooth texture and fiber-cement battens at 12" on center.
- F. Panel Texture: **48-inch- (1200-mm-)** wide sheets with smooth texture.
- G. Factory Priming: Manufacturer's standard acrylic primer.

2.2 FIBER CEMENT TRIM

- A. Typical Trim:
 1. Size: 1 inch thick, by 3.5, 5.5, 7.25, 9.25 and 11.25 inches wide.
 2. Surface Texture: Smooth.
 3. Basis of Design: HardiTrim 4/4 NT3 Trim Board by James Hardie.

2.3 FIBER-CEMENT SOFFIT

- A. General: ASTM C 1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E 136; with a flame-spread index of 25 or less when tested according to ASTM E 84.
 1. **Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. [CertainTeed Corporation.](#)
 - b. [James Hardie Building Products, Inc.](#)
 - c. [Nichiha Fiber Cement.](#)
- B. Nominal Thickness: Not less than **5/16 inch (8 mm)**.

Myersville Library
Frederick County Public Libraries

- C. Pattern: 16-inch- (400-mm-) wide sheets with smooth texture.
- D. Factory Priming: Manufacturer's standard acrylic primer.

2.4 ACCESSORIES

- A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.
- B. Flashing: Provide stainless-steel flashing complying with Section 076200 "Sheet Metal Flashing and Trim" at window and door heads and where indicated.
- C. Fasteners:
 - 1. For fastening to wood, use siding nails of sufficient length to penetrate a minimum of 1 inch (25 mm) into substrate.
 - 2. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch (6 mm), or three screw-threads, into substrate.
 - 3. For fastening fiber cement, use stainless steel fasteners.
- D. Continuous Soffit Vents: Aluminum, hat-channel shape.
 - 1. Net-Free Area: 6 sq. in./linear ft. (420 sq. cm/m).
 - 2. Finish: White paint.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
 - 1. Install blocking as required by manufacturer.
 - 2. Install fasteners no more than 24 inches (600 mm) o.c.
- B. Install joint sealants as specified in Section 079200 "Joint Sealants" and to produce a weathertight installation.

3.2 ADJUSTING AND CLEANING

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 074646