

ADDENDUM # 2
RFP # 15-001-21
INSTALLATION OF STAIRWELL COVER
CIVIC CENTER PLAZA

SECTION 074113.16 - STANDING-SEAM METAL ROOF PANELS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes standing-seam metal roof panels.

1.2 ACTION SUBMITTALS

- A. Provide 3 copies of each submittal.
- B. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
 - 2. Color chart with actual paint chips.
- C. Shop Drawings:
 - 1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
 - 2. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- C. Field quality-control reports.
- D. Sample Warranties: For special warranties.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer. Manufacturer must have a minimum of 10 years' experience in the fabrication of standing seam roof panels and their associated components.
- B. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal panels during installation.

1.6 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

1.7 COORDINATION

- A. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including rupturing, cracking, or puncturing.
 - b. Deterioration of metals and other materials beyond normal weathering.
 - 2. Warranty Period: Two years from date of Substantial Completion.

- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.
- C. Special Weathertightness Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
 - 1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592:
 - 1. Wind Loads: 115 mph, exposure B.
 - 2. Roof live Load: 20 psf.
 - 3. Deflection Limits: For wind loads, no greater than 1/240 of the span.
- B. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 1646 (Results: 0.0 Leakage @20-30 PSF differential pressure)
- C. Wind Uplift Testing: ASTM E1592, CEGS 07416, as well as UL 580 (Class 90)
- D. Fire: ASTM E108 – Result: Class A
- E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

2.2 STANDING-SEAM METAL ROOF PANELS

- A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.

- B. Acceptable Roof Panel Manufacturers and Roof Panel Materials: The basis of design for this project is Architectural Metal System's Loc-Seam roof panels. Other acceptable manufacturers and their approved panel profile are listed below.
1. Butler VSR Panel
 2. Nucor Building Systems VR16 II Panel
 3. Centria SDP200 Panel
 4. Other approved panels.
- C. Integral-Standing-Seam Metal Roof Panels: Formed with integral ribs at panel edges and a flat pan between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels and lapping and interconnecting side edges of adjacent panels.
1. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with ASTM A 653/A 653M, G90 coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A 792/A 792M, Class AZ50 coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
 - a. Nominal Thickness: 24 gauge.
 - b. Exterior Finish: 2-coat, 70% Kynar 500 resin base coating applied to a cleaned, pretreated and primed surface. The dry film thickness of the exterior side of the panel shall not be less than 0.9 mils (including primer).
 - c. Color: Match dark green roofs of nearby trolley stops from manufacturer's full range.
 2. Clips: Floating to accommodate thermal movement.
 3. Panel Coverage: 12 to 16 inches.
 4. Panel Height: 1 to 2 inches.

2.3 MISCELLANEOUS MATERIALS

- A. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
 2. Backing Plates: Provide metal backing plates at panel end splices, 18 gauge minimum, fabricated from material recommended by manufacturer.
 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- B. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.

- C. Panel Fasteners: Roof panel fasteners shall be carbon steel with a non-corroding zinc alloy head molded to the carbon steel shank. The fastener must have a neoprene washer sealing washer that is concealed by the zinc alloy molded fastener head. All roof weathering membrane fasteners must be warranted for the life of the warranties referenced in this section. All fasteners should be of a hex head, self-drilling type.
- D. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
 - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
 - 2. Joint Sealant: ASTM C 920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.
 - 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

2.4 FABRICATION

- A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.

2.5 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are unacceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.

- I. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 ERECTION

- A. All field labor is to be performed in strict accordance with the governing OSHA rules and regulations.
- B. Erect metal retrofit roof system in compliance with the manufacturer's instructions, recommendations, and approved shop drawings.
- C. Contractor is responsible for taking appropriate measures to protect existing trades work and materials during the installation of the metal retrofit roof system.
- D. Do not cut or alter any members of the retrofit roof system without written consent from the manufacturer.
- E. All structural members are to be installed in a plumb or level manner.
- F. All roof panel surfaces must be swept or blown clean of screw shavings and loose metals on a daily basis.
- G. Any damaged, rusted, or materials that are installed that do not meet this specification is done so at the risk of the contractor. The architect reserves the right to reject these materials until final payment is made for the project.
- H. Cutting of materials by torch is not permitted.
- I. Bracing is to be installed per the manufacturer's approved shop drawings.

3.3 CLEANING AND PROTECTION

- A. Replace damaged items that cannot be touched up or have deteriorated beyond successful repair.
- B. Remove any and all protective films and temporary protectants.

END OF SECTION 074113.16

SECTION 09 90 00 - PAINTING AND COATING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and field application of paints.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications.

1.3 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this section.

1.4 SUBMITTALS

- A. Product Data: Submit data on paints.
- B. Samples:
 - 1. Submit two paper chip samples, 2x2 inch in size illustrating range of colors available for each surface finishing product scheduled.
- C. Manufacturer's Installation Instructions: Submit special surface preparation procedures, substrate conditions requiring special attention.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years experience.
- B. Applicator: Company specializing in performing work of this section with minimum five years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint product manufacturer.
- B. Do not apply exterior coatings during rain or snow when relative humidity is outside humidity ranges, or moisture content of surfaces exceed those required by paint product manufacturer.
- C. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- D. Provide lighting level of 80 ft candle measured mid-height at substrate surface.

1.8 EXTRA MATERIALS

- A. Supply 1 gallon of each color, type, store where directed.

PART 2 PRODUCTS

2.1 PAINTS

- A. Manufacturers:
 - 1. Devoe Paint Co.
 - 2. Fuller-O'Brien
 - 3. ICI Paint Stores
 - 4. PPG Architectural Finishes
 - 5. Farrell-Calhoun.
 - 6. Porter Paints.
 - 7. Sherwin-Williams Company (The).
 - 8. (As approved)

2.2 COMPONENTS

- A. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve finishes specified; commercial quality.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify surfaces are ready to receive Work as instructed by product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report conditions capable of affecting proper application.

- C. Test shop applied primer for compatibility with subsequent cover materials.

3.2 PREPARATION

- A. Surface Appurtenances: Remove or mask hardware and fittings prior to preparing surfaces or finishing.
- B. Surfaces: Correct defects and clean surfaces capable of affecting work of this section. Remove or repair existing coatings exhibiting surface defects.
- C. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- D. Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove as recommended by paint manufacturer. Apply treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.
- E. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Touch up shop primed surfaces.
- F. Metal Doors Scheduled for Painting: Prime metal door top and bottom edge surfaces.

3.3 APPLICATION

- A. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- B. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.
- C. Sand metal surfaces lightly between coats to achieve required finish.
- D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

3.4 CLEANING

- A. Collect waste material which may constitute fire hazard, place in closed metal containers, and remove daily from site.

3.5 SCHEDULE - EXTERIOR SURFACES

- A. Steel - Unprimed:
 1. One coat of Sherwin Williams Kem Bond HS (alkyd) Primer or comparable primer from approved manufacturer.
 2. Two coats of Sherwin Williams Industrial Urethane alkyd semi-gloss or comparable paint from approved manufacturer.

- B. Steel - Shop Primed:
 - 1. Verify that primer is compatible with finish coat. If it is, touch-up primer. If it is not, apply a universal as recommended with finish coat manufacturer.
 - 2. Two coats of Sherwin Williams Industrial Urethane alkyd semi-gloss or comparable paint from approved manufacturer.

- C. Steel - Galvanized:
 - 1. One coat of Sherwin Williams Galvite HS alkyd primer or comparable primer from approved manufacturer.
 - 2. Two coats of Sherwin Williams Industrial Urethane alkyd semi-gloss or comparable paint from approved manufacturer.

3.6 SCHEDULE - COLORS

- A. All surfaces:
 - 1. Green to match the prefinished metal roof.

END OF SECTION