SECTION 07412

METAL WALL PANEL SYSTEM

PRE-FINISHED STUCCO WALL PANELS

PART 1- GENERAL

1.1 SECTION INCLUDES

A. Pre-finished, factory-formed and field–assembled, interlocking seams for a hidden faster wall panel system with associated flashings, sub-girts, sealants, and fasteners. All provided by same manufacturer.
   1. Drawing designation “Stone Creek” for hot dipped galvanized 20 gauge steel stone coated wall panels.
   2. Coordinate design of steel assemblies necessary for support of wall panel system per manufacture’s details.
   3. Metal Copings in Stucco finish. (As designated by Architect)
   4. Trim in Stucco Finish. (As designated by Architect)

1.2 RELATED SECTIONS

A. Section 05120 - Structural Steel: Tolerances for primary and secondary building structure supporting framework.

B. Section 05300 - Structural Metal Roof and Floor Decking: Roof decking material and installation.

C. Section 05400 - Structural Steel Stud Framing: Exterior wall framing.

D. Section 06100 - Rough Carpentry: Blocking and miscellaneous framing.

E. Section 07210 - Building Insulation: Rigid insulation at insulated walls and roof decks.

F. Section 07620 - Sheet Metal Flashing and Trim: Installation requirements.

1.3 REFERENCES

A. 1996 Low Rise Building Systems Manual, Metal Building Manufacturers Association, Inc., Cleveland, OH, 1996.

B. AISI CF97-01, "A Guide for Designing with Standing Seam Roof Panels", American Iron and Steel Institute, 1997.

C. ASTM A 653, "Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process," American Society for Testing and Materials, 1998.

D. ASTM A 792a, "Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process," American Society for Testing and Materials, 1997.

E. ASTM E 330, "Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference", American Society for Testing and Materials.

F. Cold-Formed Steel Design Manual, American Iron and Steel Institute, Washington, D.C., 2002.

G. Specification for Structural Steel Buildings - Allowable Stress Design and Plastic Design, American Institute of Steel Construction, Chicago, IL, 1989.

1.4 WALL SYSTEM REQUIREMENTS

A. Design Requirements for Wall Systems:
   1. System Design: Metal wall system shall be designed by the manufacturer as a complete system. Members and connections not indicated on the Drawings shall be the responsibility of the Contractor. All components of the system shall be supplied by the same manufacturer. (Wall panels, trim, hat channels)
   2. Wall Panels: Steel panels shall be designed in accordance with the AISI Cold-Formed Steel Design Manual.
   3. Design Loads: Design load application shall be in accordance with local building code.
   4. Wind Loads: The design wind loads shall be based on the wind criteria defined in the contract documents.
   5. Deflection: Deflection requirements shall be in accordance with the applicable building code, or as a minimum, L/90 for wind load (but not less than 10 psf (49 kg/sq m)).
   6. Accessories and Fasteners: Accessories and fasteners shall be capable of resisting the specified design wind suction forces.

B. Framing Members Supporting the Metal Panel System:
   1. Any additions/revisions to framing members supporting the metal panel system to accommodate the manufacturer/fabricator's design shall be the Contractor's responsibility, and shall be submitted for review and approval by the Engineer of Record.
   2. Framing members and their connections shall be designed in accordance with AISC, AISI, and LGSI design specifications as applicable. Deflection requirements shall be in accordance with the applicable building code, or as a minimum, the provisions of the

AISC Steel Design Guide Series 3 - Serviceability Design Considerations for Low-Rise-Buildings.

3. Contractor shall use hat channels provided by Metal Wall Panel manufacturer. 20 gauge material.
4. Exterior metal wall panel Contractor shall coordinate with Cold-Formed metal framing contractor in order to provide a complete installation.

1.6 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including preparation recommendations, storage and handling requirements, and installation methods.

C. Test Reports: Submit manufacturer's test reports for each system specified.

D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
   1. Submit one 12-inch (305 mm) long sample of panel.
   2. Submit color standard color chart with 24 selections. Color samples on color chart to have textured finished.

1.7 WARRANTY

A. Stone Creek Wall Systems are warranted to be free from defects in material, for a period of 25 years for Stucco finish from time of installation.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer shall have a minimum of ten years experience in manufacturing metal component systems. Panels specified in this section shall be produced in a permanent factory environment with fixed-base roll-forming equipment.

B. Installer Qualifications: Installer shall have completed five projects of similar scope and magnitude that have been in service for a minimum of two years with satisfactory performance of the wall systems. Installer's foreman shall be trained in the proper installation of the specified system, and present at all times when material is being installed.

C. Regulatory Requirements: Comply with specified performance and local building code requirements. In the event of conflict, comply with

the higher performing or more restrictive requirement.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to job site properly packaged to provide protection against transportation damage.

B. Exercise extreme care in unloading, storing and installing metal panel system to prevent bending, warping, twisting and surface damage.

C. Store all material and accessories above ground on well supported platforms. Store under waterproof covering. Provide proper ventilation of metal panel system to prevent condensation build-up between each panel or trim/flashing component.

D. Stack metal wall panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal wall panels to ensure dryness, with positive slope for drainage of water. Do not store metal wall panels in contact with other materials that might cause staining, denting, or other surface damage.

E. Store products in manufacturer's unopened packaging until ready for installation.

2.0 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

2.1 PRODUCTS

A. PRODUCT SUPPLIERS

Acceptable Manufacturer: Metal Sales Mfg. Corp., which is located at: 545 S. 3rd St. Suite 200 ; Louisville, KY 40202; Local Territory Sales Manager: Mike Langford. Tel: 225-268-4203; Fax: 225-753-5960;

1. Metal Sales - Sellersburg, IN, 7800 State Road 60, Sellersburg, IN 47172 Toll Free Tel: 800-999-7777, Tel: 812-246-1866, Toll Free Fax: 800-477-9318 Fax: 812-246-0893
2. Metal Sales - Antioch, TN, 4314 Hurricane Creek, Boulevard, Antioch, TN 37013 Toll Free Tel: 800-251-8508, Tel: 615-641-7100, Toll Free Fax: 800-419-4372 Fax: 615-641-7118
3. Metal Sales - Temple, TX, 3838 North General Bruce Drive, Temple, TX 76501-6505 Toll Free Tel: 800-543-4415, Tel: 254-791-6650, Toll Free Fax: 800-543-4473 Fax: 254-791-6655

B. Requests for substitutions will be considered in accordance with

provisions of Section 01600.

2.2 STONE COATED WALL PANELS

A. Design and engineering is based on the Stone Creek panel systems as supplied by Metal Sales Manufacturing Corporation.
   1. Application: Wall panel fascia system.
   2. Profile 16 inch (406 mm) width with a 1-1/2 inch (38 mm) depth.
   3. Seam Type: Overlap.
   4. Minimum Thickness: Panel to meet all specified design loads, but not less than 20 gauge (0.036 inches, 0.912 mm).
   5. Fastening System: Concealed, direct fastened.
   6. Panel Base Material: Steel grade 33 per ASTM A 792 for 20 ga.
   7. Finish: Epoxy primer with a dry film thickness of 1 to 1.5 mils
   8. Color: Standard, Stocked.

2.3 MATERIALS

1. Composition and Material:
   Stone Creek wall panels consist of hot dipped galvanized steel of commercial weight ASTM A924 steel, coated two sides utilizing an epoxy primer with dry wall film thickness of 1 to 1.5 mils, applied finish is comprised of acrylic and marble crush for a hard and very durable finish. ASTM 8117.73, ASTM D2794
2. Base Metal:
   20 gauge G90 steel sheet, zinc coated (galvanized) by hot-dip process. Tested to ASTM A653, A924 standards.
3. Sizes:
   Wall panels are available in 16 inch wide profile and in lengths of 14 inches and up to 22 feet. Trim and flashing profiles are 12 feet in length and manufactured from 20 and 24 gauge steel, depending on application
4. Colors:
   Stone Creek is available in 24 standard colors.
5. Finish:
   A proprietary formulation combined with marble crush to obtain a stone-coated steel panel. Colorfast and long lasting. Finish based on testing:

   Adhesion: Test ASTM D2794

   Formability: 2 T Bend ASTM D1737

   Color Retention: Does not show a color change at 2000 hours ASTM C26

   Water Penetration: Test to ASTM E331-86

Structural: Test to ASTM E 1592

Freeze Thaw: Test ASTM C666-84

Racking Shear: Test ASTM E72-80

Air Infiltration: Test ASTM E283-91

Water Soak: Test ASTM D87O

Salt Spray: Test ASTM B-117

Flammability: Test ASTM E-84

Weathering: Test C23

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. The Contractor shall verify installed work of other trades that such work is complete to a point where the metal panel system installation may commence.

C. Verify that the substructure installation is in accordance with the approved shop drawings and metal panel system manufacturer's requirements.

D. This specifically includes verifying that secondary structural members and/or decking are installed to meet performance requirements. Coordinate with metal panel system manufacturer to ensure that the substructure is installed to accommodate the appropriate clip spacing.

E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

2. Clean surfaces thoroughly prior to installation.

3.3 INSTALLATION

Install in accordance with information as provided by manufacturer representative. Stone Creek Panels can be cut and riveted on the job site, utilizing conventional hand and power tools. Stone Creek wall systems are easily applied over substrates having variegated surfaces. This ability makes Stone Creek systems a perfect choice for renovation projects as well as new construction.

1. Install the metal panel system plumb, true and in correct alignment with support, in accordance with manufacturer's instructions and approved installation drawings.

2. Do not allow panels or trim to come into contact with dissimilar materials (i.e. Copper, lead, graphite, treated lumber, mortar, etc.). Water run-off from these materials is also prohibited.

3. Comply with metal panel system manufacturer's approved installation drawings, instructions and recommendations for installation of curbs. Refer to metal panel system manufacturer's standard installation details. Anchor curbs securely in place with provisions for thermal and structural movement.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

3.5 MAINTENANCE

A For cleaning use of a pressure sprayer is suggested. Careful attention to the pressure used is needed to avoid damage to the panel finish.

END OF SECTION