

PROJECT: Public and Behavioral Health Exterior Siding Replacement
Issue for Bid – **March 2023**

SECTION 07
TABLE OF CONTENTS

07 42 13	Wall Panels	Page 1
07 46 20	Siding	Page 9

Public and Behavioral Health Exterior Siding Replacement

SECTION 07 42 13 METAL WALL PANELS

1. GENERAL

1.1. RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract apply to this section.

1.2. SUMMARY

- A. This Section includes pre-formed, exposed fastener, lap seamed, metal wall panel system complete with fasteners, flashing, and trim.
- B. Includes all labor, materials, and equipment to install a metal wall panel system over the properly prepared substrate.
- C. Includes a metal wall panel system over self-adhering underlayment and with all accessories as needed to complete the wall system installation.
- D. Reference Standards:
 - 1. American Iron and Steel Institute (AISI):
 - a. Specification for the Design of Cold-Formed Steel Structural Members.
 - 2. American Society for Testing and Materials (ASTM):
 - 3. Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
 - a. Architectural Sheet Metal Manual.

1.3. SUBMITTALS

- A. Shop Drawings: Show wall panels (and roofing system, if applicable) with flashings and accessories in elevations, sections, and details. Include metal thickness and finishes, panel lengths, joining details, anchorage details, flashings, and special fabrication provisions for termination and penetrations. Indicate relationships with adjacent and interfacing work. Indicate fastener types and spacing and provide fastener pullout values. Shop drawings must be completed by the wall panel manufacturer's engineering department. Any and/or all changes recommended by the successful bidder must be approved by the manufacturer in writing prior to submittal.
- B. Product Data: Include manufacturer's detailed material and system description, concealed anchor clips, sealant, and closure installation instructions, and finish specifications. Indicate fastener types and spacing and required fastener pullout values.
- C. Samples:
 - 1. Provide full-size samples of the following materials and system components. Samples shall be of identical material type, thickness, panel width, and material grade/alloy as the system specified for this Project:
 - a. Submit sample of panel section, at least four inches (4") long by full panel width, showing panel profile and a sample of color selected.
 - b. Submit sample of foam closure strips to fit inside and outside specified panel profile.
 - c. Submit sample of panel fasteners.
- D. Any material submitted as equal to the specified material must be accompanied by a report signed and sealed by a professional engineer licensed in the State of California. This report

HSA BUILDING WILLOWS, CA.

shall show that the submitted equal meets the design and performance criteria in this specification. Substitution requests submitted without licensed engineer approval will be rejected for nonconformance.

1.4. PERFORMANCE REQUIREMENTS

- A. Thermal Expansion and Contraction:
 1. Completed metal wall panel and flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.

1.5. QUALITY ASSURANCE

- A. Installer Qualifications:
 1. Engage an installer who has completed the manufacturer's approved contractor course and is currently certified for the installation of the specified system:
 - a. If required, fabricator/installer shall submit work experience and evidence of adequate financial responsibility. The Owner's representative reserves the right to inspect fabrication facilities in determining qualifications.
- B. Source Limitations:
 1. Obtain all components of the wall panel system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the manufacturer:
 - a. Upon request of the Owner, submit manufacturer's written approval of secondary components in list form, signed by an authorized agent of the manufacturer.
 - b. Manufacturer shall have direct authority and control over all fabrication of steel components as well as the raw materials used in their fabrication.
- C. Source Quality Control: Manufacturer shall have in place a documented, standardized quality control program such as ISO-9001 approval.
- D. Engage the manufacturer's field representative to conduct required periodic inspections of work in progress as described herein and furnish written documentation of all such inspections.
- E. Manufacturer shall provide the Owner with a written statement that they will provide a site inspection two (2) days per week that confirms that the Project is being constructed as specified, by an experienced, full-time employee of the company.
- F. Alternate Manufacturers:
 1. The following manufacturer criteria must be submitted. Alternate systems will not be considered for approval unless each of these items has been submitted for review at least ten (10) business days prior to bid opening:
 - a. Submit each item listed in article 1.3 (A through E) for evaluation of the proposed system.
 - b. Tests shall have been made for identical systems within the ranges of specified performance criteria.
 - c. Empirical calculations for wall performance shall only be acceptable for positive loads.
 - d. A list of a minimum of five (5) jobs where the proposed alternate material was used under similar conditions. The reference list shall include date of project, size of project, project address, and telephone number of architect/owner contact.
 - e. A financial statement demonstrating a minimum of a 3:1 ratio of assets to liabilities.

- f. A written statement from the manufacturer stating that they will provide the building owner with a daily site inspection for a minimum of one (1) hour per day by an experienced, full-time employee of the company.
- g. A written statement from the manufacturer stating that they will provide the engineer of record with a daily site inspection by an experienced full-time employee of the company.
- h. A written statement from a corporate officer of the manufacturing company stating that he or she has reviewed the specifications and confirms that the proposed system meets or exceeds all performance requirements listed as well as meets the panel size, gauge, weight, clip design, sealant design, uplift pressures, and height of the vertical seam.
- i. A copy of manufacturer's warranty.
- j. Proof that the manufacturer has been in business for a minimum number of years equal to the warranty period required for this Project.

G. Pre-Installation Conference:

1. Convene a pre-installation conference approximately two (2) weeks before scheduled commencement of system installation and associated work.
2. Require attendance of installer of each component of associated work that must precede or follow wall panel work (including mechanical or electrical work if any), Architect, Owner, system manufacturer's representative, and other representatives directly concerned with performance of the work, including (where applicable) Owner's insurers, testing agencies, and governing authorities.
3. Objectives of conference to include:
 - a. Review foreseeable methods and procedures related to work, including set up and mobilization areas for stored material and work area.
 - b. Tour representative areas of building and inspect and discuss condition of substrates, penetrations, and other preparatory work performed by others.
 - c. Review structural loading limitations of wall framing and inspect for unacceptable variations in planarity.
 - d. Review system requirements (Drawings, specifications, and other Contract Documents).
 - e. Review required submittals both completed and yet to be completed.
 - f. Review and finalize construction schedule related to work and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - g. Review required inspection, testing, certifying, and material usage accounting procedures.
 - h. Review weather and forecasted weather conditions and procedures for unfavorable conditions, including possibility of temporary wall protection (if not mandatory requirement).
 - i. Record discussion of conference including decisions and agreements (or disagreements) reached. Furnish copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
 - j. Review notification procedures for weather or non-working days.
 - k. The Owner's representative will designate one of the conference participants to record the proceedings and promptly distribute them to the participants for record.
 - l. The intent of the conference is to resolve issues affecting the installation and performance of wall panel work. Do not proceed with work until such issues are resolved the satisfaction of the Owner and Engineer of Record. This shall not be construed as interference with the progress of work on the part of the Owner or Engineer of Record.

H. Manufacturer's Inspections:

1. When the Project is in progress, the wall panel system manufacturer will inspect the

work not less than 2 days per week. In addition, the manufacturer will:

- a. Keep the Owner informed as to the progress and quality of the work as observed.
- b. Report to the Owner in writing any failure or refusal of Contractor to correct unacceptable practices called to the Contractor's attention.
- c. Confirm after completion that manufacturer has observed no application procedures in conflict with the specifications other than those that may have been previously reported and corrected.

1.6. DELIVERY, STORAGE, AND HANDLING

- A. Manufacturer's Responsibilities:
 1. All panels shall be shipped from the manufacturer with a strippable film or similar packaging material separating the individual panels to minimize flexing, stressing, scratching, or otherwise damaging the material during transit to the job.
 2. Fully cover steel with tarpaulins or similar protective cover during transit to prevent dirt and debris from coming in contact with the finished goods.
- B. Installer's Responsibilities:
 1. Stack pre-finished materials to prevent twisting, bending, abrasion, and denting and elevate one end to facilitate moisture run-off.
 2. Unload wall panels using a boom or crane, supporting the panels in at least two (2) locations during lifting, and never lift more than three (3) panels at a time.
 3. Protect moisture-sensitive and water-based materials from the weather.
 4. Inspect materials upon delivery. Reject and remove physically damaged or marred material from Project site.

2.PRODUCTS

2.1. PRODUCTS, GENERAL

- A. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
- B. Substitutions:
 1. Products proposed as equal to the products specified in this Section shall be submitted in accordance with bidding requirements and Division 01 provisions:
 - a. Proposals shall be accompanied by a copy of the manufacturer's standard specification. That specification shall be signed and sealed by a professional engineer licensed in the State of California. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
 - b. Include a list of three (3) projects of similar type and extent, located within a 100-mile radius from the location of the Project. In addition, the three (3) projects must be at least five (5) years old and be available for inspection by the Architect, Owner, or Owner's representative.
 - c. Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
 - d. The Owner's decision regarding substitutions will be considered final. Unauthorized substitutions will be rejected.

2.2. ACCEPTABLE MANUFACTURERS

- A. Basis of Design: Garland/IMETCO 7.2 Rib wall panel system engineered and manufactured

by

IMETCO
 5001 Bailey Loop
 McClellan, CA 95652
 Telephone: (530) 966-1586
 Website: www.imetco.com
 Local Representative: Zach Holliman.

- B. Site Formed Panels: Bidder will not be allowed to supply panels formed at the jobsite on portable roll formers; metal panels must be factory pre-manufactured and engineered for this Project.

2.3. METAL WALL PANEL SYSTEM

- A. General:
1. The products, quality, and performance criteria specified shall be regarded as the minimum standard of quality required for the Project.
- B. Materials:
1. Panel material: 22-gauge, zinc-coated (galvanized) steel sheet, as per ASTM A653: G90 (Z275) coating designation; structural quality, grade 40 ksi (275 MPa).
 2. Flashing and flat stock material: Fabricate in profiles indicated on Drawings of same material, thickness, and finish as wall panel system, unless indicated otherwise.
- C. Finish on Surfaces:
1. Exposed surfaces for coated panels:
 - a. Two (2) coat coil applied, baked-on full-strength (70 percent resin) fluorocarbon coating system (polyvinylidene fluoride, PVF2), applied by manufacturer's approved applicator.
 - b. Color shall be chosen from IMETCO standard color selection.
 2. Unexposed surfaces for coated panels shall be baked-on polyester coating with .20 - .30 dry film thickness (TDF).
 3. Exposed and unexposed surfaces for uncoated panels shall be as shipped from the mill.
- D. Characteristics:
1. Fabrication: Panels shall be factory roll-formed from the specified metal. Field rolled panels will not be allowed.
 2. Configuration: Exposed fastener lap seam wall panels with trapezoidal ribs at 7.2" on center.
 3. Panel width (seam spacing): 36" nominal.
 4. Panel lengths: Full length without joints up to 45'.
 5. Panel orientation: Horizontal.
- E. Accessories:
1. Fasteners:
 - a. Concealed fasteners: Exposed fasteners for anchorage of wall panel to framing. Corrosion resistant coated of plated carbon hex head screws with neoprene sealing washing painted to match the panel color.
 - b. Exposed fasteners: Series 410 stainless steel screws or 1/8-inch diameter stainless steel waterproof rivets. All exposed fasteners shall be factory painted to match the color of the wall panels.
 2. Provide all miscellaneous accessories for complete installation.

2.4. ACCESSORY PRODUCTS

- A. Sealant:
 - 1. Acceptable product:
 - a. Concealed application: Non-curing butyl sealant or equal.
 - b. Exposed application: Garland SS sealant or equal.
 - 2. Colors: As selected by architect from sealant manufacturer's standard selection.
- B. Wall Substrate:
 - 1. Install 15/32-inch (minimum) thickness exterior grade plywood sheathing along wall area.
- C. Underlayment:
 - a. Underlayment shall be one (1) ply of Intellwrap SA self-adhesive membrane by IMETCO. Seams shall be lapped in accordance with manufacturer's recommendations.

2.5. FABRICATION

- A. Shop fabricate metal panels and flashing components to the maximum extent possible, forming metal work with clear, sharp, straight, and uniform bends and rises. Hem exposed edges of flashings.
- B. Form flashing components from full single width sheet in minimum ten-foot (10') sections. Provide shop fabricated, mitered corners, joined using closed end pop rivets and joint sealant.
- C. Fabricate panels and related sheet metal work in accordance with approved shop drawings and applicable standards.

3.EXECUTION

3.1. PROJECT CONDITIONS

- A. Determine that work of other trades will not hamper or conflict with necessary fabrication and storage and protection requirements for wall panel system:
 - 1. Protection:
 - a. Protect completed work from subsequent construction operations. Comply with manufacturer's recommendations.
 - b. Do not encumber the site with stored materials or equipment.
 - c. Do not support wall-mounted equipment directly on the wall panel system.
- B. Ascertain that work of other trades that penetrates the wall or is to be made watertight by the wall is in place an approved prior to installation.

3.2. PREPARATION

- A. Inspection: Examine the alignment and placement of the building structure and substrate. Correct any objectionable warp, waves, or buckles in the substrate before proceeding with installation of the pre-formed metal panels.
- B. Pre-installation conference: Prior to beginning metal wall panel work, convene a pre-installation conference as specified in Part 1 of this Section.
- C. It is understood that the ongoing operations of the Owner area of a critical nature as to leak

sensitivity. Do not work on more wall area than can be restored completely watertight in one (1) day.

3.3. INSTALLATION, GENERAL

- A. Install wall system when the atmospheric dry bulb temperature is minimum 40 degrees Fahrenheit and rising.
- B. Install all components of the wall system in exact accordance with the manufacturer's standard published procedures as applicable to these Project conditions and substrates.

3.4. WALL PANEL INSTALLATION

- A. Comply with all details and install wall panel materials and flashings in accordance with approved manufacturer's shop drawings and manufacturer's product data within specified erection tolerances.
- B. Isolate dissimilar metals and masonry or concrete from metals with bituminous coating. Use gasketed fasteners where required to prevent corrosive action between fastener, substrate, and panels.
- C. Limit exposed fasteners to extent indicated on shop drawings.
- D. Seal laps and joints in accordance with system manufacturer's product data.
- E. Installed system shall be true to line and plane and free of dents, and physical defects. In light gauge panels with wide flat surfaces, some oil canning may be present. Oil canning does not affect the finish or structural integrity of the panel and is therefore not cause for rejection.
- F. Form joints in linear sheet metal to allow for 1/4-inch minimum expansion at 20 feet on center maximum and eight feet (8') from corners.
- G. At joints in linear sheet metal items, set sheet metal items in two (2) 1/4-inch beads of butyl sealant. Extend sealant over all metal surfaces. Mate components for positive seal. Allow no sealant to migrate onto exposed surfaces.

3.5. CLEANING

- A. Clean installed work in accordance with the manufacturer's instructions.
- B. Replace damaged work than cannot be restored by normal cleaning methods.

3.6. CONSTRUCTION WASTE MANAGEMENT

- A. Remove and properly dispose of waste products generated during construction. Comply with requirements of authorities having jurisdiction.

3.7. FINAL INSPECTION

- A. At completion of installation and associated work, meet with Contractor, Architect, installer, installer of associated work, Owner, system manufacturer's representative, and other representatives directly concerned with performance of system.
- B. Inspect work and flashing of penetrations, walls, curbs, and other equipment. List all items

requiring correction or completion and furnish copy of list to each party in attendance.

- C. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation that is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- D. Notify the Owner upon completion of corrections.
- E. Following the final inspection, provide written notice of acceptance of the installation from the system manufacturer.
- F. Immediately correct leakage during construction. If the Contractor does not respond within twenty-four (24) hours, the Owner will exercise rights to correct the work under the terms of the conditions of the Contract.

3.8. DEMONSTRATION AND TRAINING

- A. At a time and date agreed to by the Owner, instruct the Owner's facility manager, or other representative designated by the Owner, on the following procedures:
 - 1. Troubleshooting procedures.
 - 2. Notification procedures for reporting leaks or other problems.
 - 3. Maintenance.
 - 4. The Owner's obligations for maintaining the warranty in effect and force.
 - 5. The manufacturer's obligations for maintaining the warranty in effect and force.

END OF SECTION 07 42 13

Public and Behavioral Health
Exterior Siding Replacement
SECTION 07 46 20

SIDING

(James Hardie HZ10 Engineered for Climate Siding)

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fiber cement lap siding, panels, shingle, trim, fascia, moulding and accessories; James Hardie HZ10 Engineered for Climate Siding.
- B. Factory-finished fiber cement lap siding, panels, shingle, trim, fascia, moulding and accessories; James Hardie HZ10 Engineered for Climate Siding.

1.2 REFERENCES

- A. AS D3359 - Standard Test Method for Measuring Adhesion by Tape Test, Tool and Tape.
- B. AS E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 degrees C.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Provide detailed drawings of atypical non-standard applications of cementitious siding materials which are outside the scope of the standard details and specifications provided by the manufacturer.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store siding on edge or lay flat on a smooth level surface. Protect edges and corners from chipping. Store sheets under cover and keep dry prior to installing.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.5 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.

1.6 WARRANTY

- A. Product Warranty: Limited, non-pro-rated product warranty.
 - 1. HardiePlank HZ10 lap siding for 30 years.
 - 2. HardiPanel HZ10 vertical siding for 30 years.
 - 3. HardieSoffit HZ10 panels for 30 years.
 - 4. HardieShingle HZ10 siding for 30 years.
 - 5. HardieTrim HZ10 boards for 15 years.
 - 6. Artisan HZ10 lap siding for 30 years.
- B. Finish Warranty: Limited product warranty against manufacturing finish defects.
 - 1. When used for its intended purpose, properly installed and maintained according to Hardie's published installation instructions, James Hardie's ColorPlus finish with ColorPlus Technology, for a period of 15 years from the date of purchase: will not peel; will not crack; and will not chip. Finish warranty includes the coverage for labor and material.
- C. Workmanship Warranty: Application limited warranty for 2 years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: James Hardie Building Products, Inc., which is located at: 26300 La Alameda Suite 400 ; Mission Viejo, CA 92691; Toll Free Tel: 866-274-3464; Tel: 949-367-4980; Fax: 949-367-4981; Email: [request info \(info@jameshardie.com\)](mailto:info@jameshardie.com); Web: www.jameshardiepros.com.
- B. Requests for approval of equal substitutions will be considered in accordance with provisions of Section 01 25 00.

2.2 SIDING AND TRIM

- A. HardiePlank HZ10 lap siding, HardiPanel HZ10 vertical siding, HardieSoffit HZ10 panels and HardieShingle HZ10 siding requirement for materials:
 - 1. Fiber-cement siding - complies with ASTM C 1186 Type A Grade II.
 - 2. Fiber-cement siding - complies with ASTM E 136 as a noncombustible material.
 - 3. Fiber-cement siding - complies with ASTM E 84 Flame Spread Index = 0, Smoke Developed Index = 5.
 - 4. CAL-FIRE, Fire Engineering Division Building Materials Listing - Wildland Urban Interface (WUI) Listed Product.
 - 5. ICC-ES evaluation reports ESR-2290, ESR-1844, and ESR-2273 (IBC, IRC, CBC, CRC)
 - 6. City of Los Angeles, Research Report No. 24862.
 - 7. Miami Dade County, -Notice of Acceptance -15-0122.04.
 - 8. US Department of Housing and Urban Development Materials Release - 1263f.
 - 9. California DSA PA-019.
 - 10. City of New York M EA 223-93-M.
 - 11. Florida State Product Approval -FL13192, FL13223, and FL13265
 - 12. Texas Department of Insurance Product Evaluation EC-23.
- B. Lap Siding: HardiePlank HZ10 Lap as manufactured by James Hardie Building Products, Inc.

1. Type: Select Cedarmill 8-1/4 inches (210 mm) with 7 inches (178 mm) exposure.
- C. Trim:
1. HardieTrim HZ10 boards as manufactured by James Hardie Building Products, Inc.
 - a. Product: Batten Boards, 2-1/2 inch (63 mm) width.
 - b. Texture: Wood Grained.
 - c. Length: 12 feet (3658 mm).
 - d. Thickness: 3/4 inch (19 mm).
 2. HardieTrim HZ10 Fascia boards as manufactured by James Hardie Building Products, Inc.
 3. Fiber-cement trim - complies with ASTM C 1186 Type A Grade II.
 4. Fiber-cement trim - complies with ASTM E 136 as a noncombustible material.
 5. Fiber-cement trim - complies with ASTM E 84 Flame Spread Index = 0, Smoke Developed Index = 5.
 6. Intertek Product Listing.
- D. Crown Mouldings:
1. HardieTrim HZ10 Crown moulding manufactured by James Hardie Building Products, Inc.

2.3 FASTENERS

Refer to applicable building code compliance reports for maximum basic wind speed for exposure category and/or applicable shear values and select one fastener, delete all that do not apply: When fastening through maximum 1 inch thick foam insulation, increase the length of the fastener by the thickness of insulation.

- A. Wood Framing Fasteners:
1. Wood Framing: 4d common corrosion resistant nails.
 2. Wood Framing: 6d common corrosion resistant nails.
 3. Wood Framing: 8d box ring common corrosion resistant nails.
 4. Wood Framing: 0.089 inch (2.2 mm) shank by 0.221 inch (5.6 mm) head by 2 inches (51 mm) corrosion resistant siding nails.
 5. Wood Framing: 0.093 inch (2.4 mm) shank by 0.222 inch (5.6 mm) head by 2 inches (51 mm) corrosion resistant siding nails.
 6. Wood Framing: 0.093 inch (2.4 mm) shank by 0.222 inch (5.6 mm) head by 2-1/2 inches (64 mm) corrosion resistant siding nails.
 7. Wood Framing: 0.091 inch (2.3 mm) shank by 0.221 inch (5.6 mm) head by 1-1/2 inches (38 mm) corrosion resistant siding nails.
 8. Wood Framing: 0.091 inch (2.3 mm) shank by 0.225 inch (5.7 mm) head by 1-1/2 inches (38 mm) corrosion resistant siding nails.
 9. Wood Framing: 0.121 inch (3 mm) shank by 0.371 inch (9.4 mm) head by 1-1/4 inches (32 mm) corrosion resistant roofing nails.
 10. Wood Framing: No. 11 gauge 1-1/4 inches (32 mm) corrosion resistant roofing nails.
 11. Wood Framing: No. 11 gauge 1-1/2 inches (38 mm) corrosion resistant roofing nails.
 12. Wood Framing: No. 11 gauge 1-3/4 inches (44 mm) corrosion resistant roofing nails.

2.4 FINISHES

- A. Factory Primer: Provide factory applied universal primer.

1. Primer: Factory primed by James Hardie.
- B. Factory Finish: Refer to Exterior Finish Schedule.
1. Product: ColorPlus Technology by James Hardie.
 2. Definition: Factory applied finish; defined as a finish applied in the same facility and company that manufactures the siding substrate.
 3. Process:
 - a. Factory applied finish by fiber cement manufacturer in a controlled environment within the fiber cement manufacturer's own facility utilizing a multi-coat, heat cured finish within one manufacturing process.
 - b. Each finish color must have documented color match to delta E of 0.5 or better between product lines, manufacturing lots or production runs as measured by photospectrometer and verified by third party.
 4. Protection: Factory applied finish protection such as plastic laminate that is removed once siding is installed
 5. Accessories: Complete finishing system includes pre-packaged touch-up kit provided by fiber cement manufacturer. Provide quantities as recommended by manufacturer.
- C. Factory Finish Color for Trim, Soffit and Siding Colors:
1. TBD- James Hardie Statement Collection.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If framing preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Nominal 2 inch by 4 inch (51 mm by 102 mm) wood framing selected for minimal shrinkage and complying with local building codes, including the use of water-resistive barriers or vapor barriers where required. Minimum 1-1/2 inches (38 mm) face and straight, true, of uniform dimensions and properly aligned.
 1. Install water-resistive barriers and claddings to dry surfaces.
 2. Repair any punctures or tears in the water-resistive barrier prior to the installation of the siding.
 3. Protect siding from other trades.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Install a water-resistive barrier is required in accordance with local building code requirements.
- D. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements.
- E. Install Engineered for Climate HardieWrap weather barrier in accordance with local building code requirements.
- F. Use HardieWrap Seam Tape and joint and laps.

- G. Install and HardieWrap flashing, HardieWrap Flex Flashing.

3.3 INSTALLATION - HARDIEPLANK HZ10 LAP SIDING, ARTISAN HZ10 LAP SIDING, AND ARTISAN HZ10 LAP SIDING WITH LOCK JOINT SYSTEM

- A. Install materials in strict accordance with manufacturer's installation instructions.
- B. Starting: Install a minimum 1/4 inch (6 mm) thick lath starter strip at the bottom course of the wall. Apply planks horizontally with minimum 1-1/4 inches (32 mm) wide laps at the top. The bottom edge of the first plank overlaps the starter strip.
- C. Allow minimum vertical clearance between the edge of siding and any other material in strict accordance with the manufacturer's installation instructions.
- D. Align vertical joints of the planks over framing members.
- E. Face nail to sheathing.
- F. Locate splices at least 12 inches (305 mm) away from window and door openings.

3.4 INSTALLATION - HARDIETRIM HZ10 BOARDS

- A. Install materials in strict accordance with manufacturer's installation instructions. Install flashing around all wall openings.
- B. Fasten through trim into structural framing or code complying sheathing. Fasteners must penetrate minimum 3/4 inch (19 mm) or full thickness of sheathing. Additional fasteners may be required to ensure adequate security.
- C. Place fasteners no closer than 3/4 inch (19 mm) and no further than 2 inches (51 mm) from side edge of trim board and no closer than 1 inch (25 mm) from end. Fasten maximum 16 inches (406 mm) on center.
- D. Maintain clearance between trim and adjacent finished grade.
- E. Seal gap with high quality, paint-able caulk.
- F. Fasten through overlapping boards. Do not nail between lap joints.
- G. Overlay siding with single board of outside corner board then align second corner board to outside edge of first corner board. Do not fasten HardieTrim boards to HardieTrim boards.
- H. Shim frieze board as required to align with corner trim.
- I. Install HardieTrim Fascia boards to rafter tails or to sub fascia.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION