SHEATHING – SECTION 06160

SUMMARY

A. This Section includes the following:
1. Wall sheathing.
1. Roof sheathing.

SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

DELIVERY, STORAGE, AND HANDLING

A. Stack panels flat with spacers beneath and between each bundle to provide air circulation.
B. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

WOOD PANEL PRODUCTS, GENERAL

A. Plywood: Either DOC PS I or DOC PS 2, unless otherwise indicated.

PRESERVATIVE-TREATED PLYWOOD

A. Preservative Treatment by Pressure Process: AWPA U I; Use category U C2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
C. Application: Treat all plywood, unless otherwise indicated.

WALL SHEATHING

A. Plywood Wall Sheathing: Exposure I sheathing,
1. Nominal Thickness: Refer to drawings.
B. Glass-Mat Gypsum Wall Sheathing: ASTM C 1177/1177M
1. Product: Subject to compliance with requirements, provide "Dens-Glass Gold" by G-P Gypsum Corporation.
a. Acceptable alternate manufacturers are: CertainTeed, National Gypsum Company.
2. Type and Thickness: Regular, 1/2 inch thick.
3. Size: 48 by 96 inches for horizontal installation.

ROOF SHEATHING

A. Plywood Roof Sheathing: Exposure I sheathing,
1. Nominal Thickness: As indicated.

FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
B. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.
C. Nails, Brads, and Staples: ASTM F 1667.
D. Power-Driven Fasteners: NES NER-272.
E. Wood Screws: ASME BI8.6.1.

SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIALS

A. Sealant for Glass-Mat Gypsum Sheathing: Silicone emulsion sealant complying with ASTM C 834, compatible with sheathing tape and sheathing, and recommended by tape and sheathing manufacturers for use with glass-fiber sheathing tape and for covering exposed fasteners.
B. Sheathing Tape: Self-adhering glass-fiber tape, minimum 2 inches wide, I0 by I0 or 10 by 20 threads/inch of type recommended by sheathing and tape manufacturers for use with silicone emulsion sealant in sealing joints in glass-mat gypsum sheathing board and with a history of successful in-service use.

INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction, unless otherwise indicated.
C. Securely attach to substrate by fastening as indicated, complying with the following:
1. NES NER-272 for power-driven fasteners.
D. Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.
F. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

GYPSUM SHEATHING INSTALLATION

A. Comply with GA-253 and with manufacturer's written instructions.
1. Install boards with a 3/8-inch gap where non-load-bearing construction abuts structural elements.
2. Install boards with a 1/4-inch gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.
B. Apply fasteners so heads bear tightly against face of sheathing boards but do not cut into facing.
C. Horizontal Installation: Abut ends of boards over centers of studs, and stagger end joints of adjacent boards not less than one stud spacing. Attach boards at perimeter and within field of board to each stud.
1. Space fasteners approximately 8 inches (200 mm) o.c. and set back a minimum of 3/8 inch (9.5 mm) from edges and ends of boards.

SHEATHING JOINT-AND-PENETRATION TREATMENT

A. Seal sheathing joints according to sheathing manufacturer's written instructions.

FINISH CARPENTRY - SECTION 06200

Provide and install all finish carpentry as described herein:

PRODUCTS

A. Window Sill: S4S pine or medium density fiberboard (MDF), paint grade (primed), with trim as selected by Owner.
B. Exterior Trim: Primed Spruce, standard or better grade free of cracks, knots, blemishes and warpage prior to installation.
1. All trim with direct exposure to weather such as window/door trim, fascias, frieze boards as indicated on drawings.
C. Closet Shelving: Open vinyl-coated steel wire as manufactured by Closet Maid or approved equal.
D. Fasteners: Shall be galvanized metal properly selected for the material to be fastened and the substrate to which the material will be fixed to develop proper and adequate strength.
1. For Masonry: Toggle bolts or machine bolts with lead or malleable iron expansion shields.
2. For Concrete: Cast-in bolts with hooked end or machine bolts with lead or malleable iron expansion shields.
3. For Wood: Thru-bolts, lag screws, nails.
4. For Gypsum Board or Plaster on Lath: Toggle bolts
5. For Steel: Thru-bolts
6. For Light-gauge Metal or Hollow Partition Framing: Metal expanding type such as molley bolt.
E. Wall Plugs for Masonry: Wood-filled metal type of 24-gauge or heaver galvanized metal, extending into masonry not less than 2 inches. Wood plugs are not acceptable. Acceptable types are:
1. Wood-Filled Wall Plugs y Anchortite Products, Inc.
2. Galvanized Wood-Filled Wall Plug by Hohmann & Bernard, Inc.
F. Adhesive: Contact type, unless otherwise recommended by material manufacturer for type of installation required. Acceptable type is:
1. Weldwood Contact Cement by U.S. Plywood-Champion Papers, Inc.
G. MATERIALS
A. Lumber: Shall be kiln dried. At time of delivery to building site, moisture content shall not exceed 12% for material 1" or less in thickness and 14% fir material over 1" in thickness.
1. Framing Lumber: See Structural Drawings for minimum design stresses.
2. Interior Finish Items: Machine-sanded at mill, sandpapered smooth at job site, straight and free from warp which cannot be corrected by nailing.
B. Plywood: Exterior grade B-B-EXT-APA, utility panel with two solid faces.
1. Thickness: As indicated on Drawings.
C. Trim: Finger-jointed white pine or medium density fiberboard (MDF), paint grade (primed).
D. Wood Base/Door Casing: Finger-jointed white pine or medium density fiberboard (MDF), paint grade (primed)
a. E. Solid Stock: Paint grade with moisture content 8% to 13% of oven dried weight at installation.

INSTALLATION

A. Condition finish carpentry to average prevailing humidity conditions in installation areas before installation, for a minimum of 24 hours.
B. Prime and back prime lumber for painted finish exposed on the exterior. Comply with requirements for surface preparation and application in Division 9 Section "Painting."
C. Install finish carpentry plumb, level, true, and aligned with adjacent materials. Use concealed shims where required for alignment. Scribe and cut finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
D. Standing and Running Trim: Install with minimum number of joints practical, using full□length pieces from maximum lengths of lumber available. Stagger joints in adjacent and related trim. Cope at returns and miter at corners.
E. Siding: Install siding and flashing according to manufacturer's recommendations. Do not allow nails to penetrate more than one thickness of siding, unless otherwise recommended by siding manufacturer.
a. F. Repair damaged or defective finish carpentry where possible to eliminate functional or visual defects. Where not possible to repair, replace finish carpentry. Adjust joinery for uniform appearance.

SHEET MEMBRANE WATERPROOFING - Section 07110

Provide cold-applied single-ply sheet membrane waterproofing system for basement walls and foundation/retaining walls as indicated in Drawings.

QUALITY ASSURANCE

A. Installer Qualifications: The waterproofing work shall be performed by a company which specializes in the type of waterproofing work required for this Project, certified in writing by waterproofing manufacturer. Products, materials and methods used in the installation of materials shall be free of lead, asbestos or PCB.

SUBMITTALS

A. Manufacturer's Product Data: Submit in accordance with the Agreement between Owner and Developer. Data must be clearly marked to identify all materials and accessories which the waterproofing manufacturer approves as being a complete waterproofing system guaranteed as a single-responsibility system for compliance with this section.
1. Manufacturer's Data: Shall verify curing compounds and form release agents used in concrete work are chemically compatible with materials used for waterproofing work.
B. Samples: Submit 6" x 6' waterproofing membrane

DELIVERY, STORAGE, HANDLING

A. Waterproofing materials shall be delivered, stored and handled in accordance with Sections 01610 and 01620, and manufacturer's recommendations.

WARRANTY

A. Warranty for sheet membrane waterproofing shall be in compliance with the Agreement between Owner and Developer, including but not limited to:
1. Leakage of water through membrane system.
2. Deterioration of waterproofing or releasing from substrate.

MANUFACTURERS

A. General: For the purpose of establishing the minimum functional and quality standards required for waterproofing work, products of the following manufacturer are specified:
1. Grace Construction Products / Cambridge, MA (800) 354-5414
B. Other Manufacturers: Polyken 660 manufactured by Polyken Technologies is an acceptable substitution. Submit other substitution requests in accordance with the requirements of Section 01630 under Agreement Between Owner and Developer.

SHEET MEMBRANE SYSTEM

A. Type: W. R. Grace Bituthene Membrane Waterproofing System, self-adhering, preformed pliable membrane of rubberized asphalt integrally bonded to polyethylene sheeting, complete with primers and accessories required for complete and watertight installation.
1. Membrane Type: Bituthene 3000.
2. All materials and accessories must be of types recommended by waterproofing manufacturer to maintain a single-source responsibility and warranty.
B. Waterproofing membrane shall be of quality which conforms to the following when tested in accordance with ASTM Test Methods and W.R. Grace Tests:
1. Pliability: 180 bend over 1 mandrel at -25 deg F / ASTM DI46.
2. Tensile Strength: 250 psi minimum / ASTM D412 (Die C) modified.
3. Elongation-ultimate failure of rubberized asphalt: 30016 minimum/ASTM D412 (Die C) modified.
4. Cycling over I joint at -150 deg F: No effect, 1080 cycles / W.R. Grace Test.
5. Peel Adhesion: 5.0 lb / inch; Grace Test.
6. Puncture Resistance: Bituthene membrane stretched by blunt object/40 lb. minimum/ASTM EI54.
7. Puncture Resistance: Polyethylene film, impact from sharp object, 250 in. oz. tear/ASTM D781.
8. Resistance to Hydrostatic Head: 150 ft. of water minimum / W.R. Grace Test.
9. Exposure to fungi in soil: 16 weeks, unaffected /GSA-PBS 07111.
I0. Permeance-Perms: 0.1 grains / sq. ft / hr / in. Hg / ASTM E96, Method 8.
11. Water Absorption - 72 hrs: 0.25% by weight maximum / ASTM D1228.

PREPARATION

A. Before starting waterproofing work, items which penetrate surfaces to receive waterproofing shall be rigidly installed.
B. Prepare surfaces for waterproofing work in strict compliance with manufacturer's published installation specifications.

INSTALLATION

A. Beginning of installation means the substrate is accepted as being properly prepared in accordance with waterproofing manufacturer's published installation specifications.
B. Perform waterproofing in strict compliance with manufacturer's published installation specifications and Contract Documents.
1. Ensure temperature requirements are complied with as recommended by manufacturer.
2. Press waterproofing membranes in place to eliminate pockets, wrinkles or similar deficiencies.

BUILDING INSULATION – SECTION 07210

Section Includes:

1. Batt insulation
2. Isocyanurate wall insulation.
3. Sprayed cellulose thermal and acoustical insulation

SUBMITTALS

A. Product Data: Manufacturers technical data and installation instructions for each type of installation.

JOB CONDITIONS

A. Protect insulation from harmful weather exposure and physical Damage. B. Store materials dry, off ground and under cover.

QUALITY ASSURANCE

A. Applicable standards: ASTM International (ASTM), standards as specified.

BATT INSULATION:

A. Insulation left exposed or not covered by subsequent construction:
1. Walls: Fiberglass batts rated R-13; FRK foil-faced, fiberglass batts having a perm rating of 0.10 maximum; flame spread to 25 or less and smoke developed 450 or less or less when tested in accord with ASTM E84-04, width equal to framing spacing.
2. Ceilings, plenums and soffits:
a. Unfaced fiberglass batts rated R-30; width equal to framing spacing.
b. Flame spread characteristics: Flame spread of 25 or less and smoke developed 450 or less when tested in accord with ASTM E84-04.
c. Critical radiant flux: 0.12 W/cm2 (0.11 Btu/ft2-s) when tested in accord with ASTM E970-00.
B. Insulation covered by subsequent construction:
1. Exterior Walls: Fiberglass batts rated R-13 for thermal resistance; scrim foil-faced, having perm rating of 0.50 maximum; flame spread of 75 or less and smoke developed 450 or less when tested in accord with ASTM E94-04; width equal to framing spacing.
2. Party Walls: R-11.
3. Underside of subflooring at hard surfaces: R-11.
4. Ceilings, plenums and soffits:
a. Unfaced fiberglass batts rated R-30 for thermal resistance; width equal to framing spacing.
b. Flame spread characteristics: Flame spread of 25 or less and smoke developed 450 or less or less when tested in accordance with HAST E84-04. c. Critical radiant flux: 0.12 w/cm2 (0.11 Btu/ft2-s) d. When tested in accord with ASTM E970-00.
C. Acoustical insulation: Refer to Gypsum Board section.
D. Tape: Insulation manufacturer's standard foil-faced type; required to cover joints.
E. Fasteners: Stick-clip spindle fasteners; spindle length as required for insulation thickness.
F. Manufacturer: Subject to compliance with requirements, provide products of one of the following:
1. Certain-Teed
2. Manville
3. Owens/Corning
4. Knauf

ISOCYANURATE CAVITY WALL

A. Acceptable Products:
1. Apache ISO Products, LLC, Isofoil.
2. The Dow Chemical Co., Thermax Sheathing.
3. Johns Manville International, Inc., AP Foil Faced.
B. Characteristics:
1. Material: Glass fiber reinforced polyisocyanurate foam, with reflective foil facing each face complying with ASTM C1289-0, Class 1, Type 1.
2. Size: 4'–0" by 8'–0".
3. Total thickness: 2".
4. Long-term thermal resistance (LTTR) for specified total thickness: R-12.1.
5. Fire resistance: Flame spread of 25 or less and smoke developed 450 or less when tested in accord with ASTM E-84-04.
C. Accessory Products:
1. Joint tape: Manufacturer's recommended reflective aluminized tape, minimum 2" width.
2. Fasteners: Stick-clip spindle fasteners; spindle length as required for insulation.

SPRAYED CELLULOSE THERMAL AND ACOUSTICAL INSULATION

A. Acceptable Manufacturer:
1. International Cellulose Corporation, 12315 Robin Blvd., Houston, TX 77045.
B. Materials:
1. Celbar Spray-On Systems:
a. Thermal resistance values: R=3.8 per inch.
b. The sprayed insulation must have been tested in sprayed form by UL and have each bag labeled with the reference to UL test results according to ASTM E-84/UL 723:
i. Tested at a minimum of 4" thickness, Class 1(A).
ii. Flame Spread: 15.
iii. Smoke Developed: 0.
c. Comply with local Building Code Requirements.

INSTALLATION GENERAL:

A. Extend insulation full thickness over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections which interfere with placement.
B. Comply with manufacturer's product data for each type installation. Install insulation fitted to adjacent construction and with tight joints to provide unbroken thermal barrier.
C. Remove projections interfering with installation.
D. Seal tears and holes in vapor barrier facing with foil-faced tape.

INSULATION INSTALLATION

A. Batt insulation:
1. Install batt insulation in exterior walls, soffits and ceiling areas as indicated, with vapor barrier to building interior. Attach flanges to web of framing with self-tapping sheet metal screws.
2. Install batt insulation with butted joints.
3. Install batt insulation at exterior walls using stick-clip type fasteners. Install stick-click fasteners using adhesive recommended by fastener manufacturer's product data. Space slips not less than 3" from edges of batts and at the rate of one fastener per two sq. ft., maximum.
4. Tape all butted joints using specified foil-faced tape.
B. Isocyanurate cavity wall insulation:
1. Install board insulation to backside of precast concrete using stick-clip type fasteners. Install stick-clip fasteners using adhesive recommend by fastener manufacturer's product data. Space clips not less than 3" from edges of boards and at rate of one fastener per two sq. ft., maximum.
2. Secure insulating boards with butted joints.
3. Seal vertical and horizontal edges and joints with specified tape.

SPRAYED CELLULOSE INSULATION

A. Examination
1. Examine surfaces scheduled to receive insulation for voids, projects, foreign substances on surfaces, lack of caulking at plates, or other items, which might interfere with integrity of complete wall system. Examine surfaces and report unsatisfactory conditions in writing, Do not proceed until unsatisfactory conditions are corrected.
2. Assure that rough plumbing, electrical conduit and boxes, and other items required to penetrate the sprayed soundproofing are installed before applying soundproofing.
3. Spray force material into all cracks, holes, and seams. Seal around electrical receptacles, telephone/television jacks, ducts and plumbing.
B. Preparation:
1. Provide masking, drop cloths or other satisfactory coverings for materials/surfaces that are not to receive insulation to prevent damage from over-spray.
2. Coordinate installation of the sprayed cellulose fiber with work of other trades.
C. Installation:
1. Thickness will be determined as the minimum thickness measured as per ASTM-E605 field test procedure.
2. Install spray applied insulation according to manufacturer's recommendations. Apply material with specially designed nozzle using pressure recommended by the manufacturer.
3. Cure insulation with continuous natural or mechanical ventilation.
4. Remove and dispose of over-spray.
D. Protection
a. 1. Protect finished installation under provisions of Division 01

AIR BARRIERS – SECTION 07270

Provide breathable sheet product intended for use as an air infiltration barrier and a secondary weather resistive membrane.

SUBMITTALS

A. Product Data: Manufacturer's standard product data.
B. Samples: Provide 1'-0" by 1'-0" sample of air infiltration barrier.

DELIVERY STORAGE AND HANDLING

A. Deliver materials to job site in manufacturer's packaging undamaged.
B. Store materials off of the ground, under cover and protected from weather and construction activities.

AIR INFILTRATION BARRIER

A. Acceptable Products:
1. DuPont, Tyvek Commercial Wrap
2. The Dow Chemical Co., Styrofoam Weathermate Plus.
3. Pactiv Building Products, Ultra Wrap
4. Barricade Building Products, Barricade Building Wrap
B. Characteristics:
1. Type: Non-perforated, reinforced plastic fabric complying with ASTM E1677, type 1
2. Flame Spread: 25 or less when tested in accordance with ASTM E84-01.
3. Smoke Developed: 450 or less when tested in accordance with ASTM E84-01.

ACCESSORIES

A. Fasteners:
1. For wood substrates: Nails with plastic washer heads.
2. For metal substrates: Rust-resistant self-tapping screws with washers.
3. For masonry substrates: Polyurethane or elastomeric adhesives.
4. Sealing Tape: As recommended by manufacturer's product data.

INSTALLATION

A. Install air infiltration barrier in accordance with manufacturer's printed instructions.
B. Install barrier prior to attachment of masonry veneer anchors or siding. Protect barrier installation from damage until installation of veneer or siding.

SECTION 074213 FORMED METAL WALL PANELS

DESCRIPTION OF WORK

A. This section covers the pre-finished, pre-fabricated exposed fastener metal roof and wall system. All metal trim, accessories, fasteners, insulation and sealants indicated on the drawings as part of this section.
B. Drawings and general provisions of the Contract, including general and Supplementary Conditions and Division 01 Specifications, apply to this section.

SUMMARY

A. Section Includes:
1. Factory formed exposed fastener metal roof and wall panels.
B. Related work specified elsewhere:
1. Section 051200 - Structural Steel Framing
2. Section 054000 - Cold-Formed Metal Framing
3. Section 076200 - Sheet Metal Flashing and Trim

DEFINITIONS

A. Metal Roof/Wall Panel Assembly: Metal roof/ panels, attachment system components, miscellaneous metal framing, thermal, and accessories necessary for a complete weathertight roofing system.

QUALITY ASSURANCE

A. Manufacturer and erector shall demonstrate experience of a minimum of five (5) years in this type of project.
B. Panels shall be factory-roll formed only. No portable, installer-owned or installer-rented machines will be permitted.
C. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

SUBSTITUTIONS

A. The material, products and equipment specified in this section establish a standard for required function, dimension, appearance and quality to be met by any proposed substitution.

ROOF SYSTEM PERFORMANCE TESTING

A. General Performance: Metal wall panels shall comply with performance requirements without failure due to defective manufacture, fabrication, installation or other defects in construction.
B. Panels to meet:
1. Wall System shall be designed to meet applicable Local Building Code and the Soffit System shall have been tested by the Manufacturer per ASTM E330 and have the applicable Load Tables published from this Air Bag testing for negative loads.

SUBMITTALS

A. Furnish detailed drawings showing profile and gauge of exterior sheets, location and type of fasteners, location, gauges, shape and method of attachment of all trim locations and types of sealants, and any other details as may be required for a weather-tight installation.
B. Provide finish samples of all colors specified.
C. Shop drawings: Show fabrication and installation layouts of metal roof panels, metal wall panels or metal soffit panels, details of edge conditions, side-seam joints, panel profiles, corners, anchorages, trim, flashings, closures and accessories, and special details. Distinguish between factory and field-assembled work.
D. Coordination Drawings: Roof plans, drawn to scale, on which the following are shown and coordinated with each other, base on input from installer of the items involved.
E. LEED Submittals.
1. Product data for Credit MR 4.1 and credit MR 4.2: Indicating the percentages by weight of postconsumer and preconsumer recycled content for products having recycled content.

DELIVERY, STORAGE, AND HANDLING

A. Ordering: Comply with manufacturer's ordering instruction and lead time requirements to avoid construction delays.
B. Deliver components, sheets, metal roof/wall panels and other manufactured items so as not to be damaged or deformed. Package metal roof/wall panels for protection during transportation and handling.
C. Unload, store and erect metal roof/wall panels in a manner to prevent bending, warping, twisting and surface damage.
D. Stack metal roof panels on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal roof/wall panels to ensure dryness. Do not store metal roof panels in contact with other materials that might cause staining, denting or other surface damage.
E. Protect strippable protective coating on any metal coated product from exposure to sunlight and high humidity, except to the extent necessary for material installation.

PROJECT CONDITIONS

A. Weather Limitations: proceed with installation only when existing and forecasted weather conditions permit metal roof panel work to be performed.
B. Field Measurements: Verify actual dimensions of construction contiguous with metal roof panels by field measurements before fabrication.

COORDINATION

A. Coordinate sizes and locations of roof curbs, equipment supports and roof penetrations with actual equipment provided.
a. B. Coordinate metal roof panels with rain drainage work, flashing, trim and construction of decks, parapet walls and other adjoining work to provide a leakproof, secure and noncorrosive installation.

PANEL DESIGN

A. General: Provide factory-formed metal wall panels designed for wall, soffit and fascia applications where a flush or flat appearance is desired. A round interlock leg and concealed fastening system act to improve the flush appearance while providing additional strength.
B. Wall panels shall match Phase 1 Project's panels Reynolux Flush Panel, in 12", 16" coverage widths.
C. Panels to be produced smooth.
D. Forming: Use continuous end rolling method. No end laps on panels. No portable rollforming machines will be permitted on this project, no installer-owned or installer-rented machines will be permitted. It is the intent of the Architect to provide Factory-Manufactured panel systems only for this project.

ACCEPTABLE MANUFACTURERS

A. This project is detailed around the roofing/siding product, Reynolux 4HC of Alcoa Architectural Products.

MATERIALS AND FINISHES

A. Preformed metal panels shall be fabricated of 0.040" thick 3105-H14 aluminum.
B. Color shall be Bone White – but must match Phase 1 "Reserve at the Ballpark", i.e. "Circle 75".
C. Finish shall be Kynar 500 with a top side film thickness of 0.70 to 0.90 mil over a 0.25 to 0.3 mil prime coat to provide a total dry film thickness of 0.95 to 1.25 mil, to meet AAMA 2605 or AAMA 621. Bottom side shall be coated with a primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesions, flexibility and longevity as specified by Kynar 500 or Hylar 5000 finish supplier.
D. If Strippable coating to be applied on the pre-finished panels to the top side to protect the finish during fabrication, shipping and handling, film shall be removed before installation.
E. Trim: Trim shall be fabricated of the same material and finish to match the profile, and will be press broken in lengths of 10 to 12 feet. Trim shall be formed only by the manufacturer of their approved dealer. Trim to be erected in overlapped condition. Use lap strips only as indicated on drawings. Miter conditions shall be factory welded material to match the sheeting.
F. Accessories/Fasteners: Fasteners shall be of type, material, size, corrosion resistance, holding power and other properties required to fasten miscellaneous framing members to substrates. Accessories and their fasteners shall be capable of resisting the specified design wind uplift forces and shall allow for thermal movement of the wall panel system. Exposed fasteners shall not restrict free movement of the roof panel system resulting from thermal forces, except at designed points of roof panel fixity
G. Underlayment:
1. On all surfaces to be covered with metal wall panels, furnish and install a 40 mil "Peel & Stick membrane", required as outlined by metal panel manufacturer. Membrane to be a minimum of 40 mil thickness, smooth, non-granular, by one of the following manufacturers:
a. W.R Grace "Ice & Water Shield"
b. Cetco Strongseal
c. Carlisle CCW WIP 300HT
d. Interwrap Titanium PSU
e. MFM Corp "Wind & Water Shield"
f. Polyguard Deck Guard HT of Polyglas HT
g. Tamko TW Tile and Metal Underlayment

SEALANTS

A. Provide two part polysulfide class "B" non-sag type for vertical and horizontal joints, brand name: NP-1. Geocell 2300, Weathermaster "Titebond" or similar performing caulking.
B. One part polysulfide not containing pitch or phenolic extenders, or;
C. Exterior grade silicone sealant recommended by roofing manufacturer, or;
D. One part non-sag, gun grade, exterior type polyurethane recommended by roofing manufacturer.

FABRICATION

A. Comply with dimensions, profile limitations, gauges and fabrication details shown and if not shown, provide manufacturer's standard product fabrication.
B. Fabricate components of the system in factory, ready for field assembly.
C. Fabricate components and assemble units to comply with fire performance requirements specified.
D. Apply specified finishes in conformance with manufacturer's standard, and according to manufacturer's instructions.

INSPECTION

A. Examine alignment of structural steel and related supports, primary and secondary roof framing, solid roof sheathing, prior to installation. Components should comply with shop drawings and be smooth, even, sound and free of depressions.
B. For the record, prepare written report, endorsed by installer, listing conditions detrimental to performance of the Work.
C. Proceed with installation only after unsatisfactory conditions have been corrected.

FASTENERS

A. Secure units to supports.
B. Place fasteners as indicated in manufacturer's standards.

INSTALLATION

A. Compliance: Comply with manufacturer's product data, recommendations and installation instructions for substrate verification, preparation requirements and installation.
B. Panels shall be installed plumb and true in a proper alignment and in relation to the structural framing. The erector must have at least five years successful experience with similar applications.
C. Install metal panels, fasteners, trim and related sealants in accordance with approved shop drawings and as may be required for a weather-tight installation.
D. Provide uniform, neat seams.
E. Fasteners: Conceal fasteners where possible in exposed work. Cover and seal fasteners and anchors for watertight and leakproof installation.
F. Remove all strippable coating and provide a dry-wipe down cleaning of the panels as they are erected.

DAMAGED MATERIAL

A. Upon determination of responsibility, repair or replace damaged metal panels and trim to the satisfaction of the Architect and Owner.

CLEANING

A. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damage installed products. Clean installed products in accordance with manufacturer's instruction prior to owners acceptance. Remove construction debris from project site and legally dispose of debris.

FIBER CEMENT VERTICAL PANEL SYSTEM – SECTION 07464

SUMMARY

A. Section Includes:
1. Fiber-cement vertical panel system.
2. Trim, flashings, and accessories.

SYSTEM DESCRIPTION

A. Design Requirements: Design and install panel system to withstand minimum wind pressures in accordance with Building Code, tested to ASTM E330.
SUBMITTALS
A. Submittals for Review:
1. Product Data: Indicate panel profiles, sizes, fastening methods, surface texture, and finish.
2. Samples:
a. 4 x 6 inch (100 x 150 mm) panel samples.
b. 3 inch (75 mm) long trim samples.
3. Warranty: Sample warranty form.

QUALITY ASSURANCE

A. Single Source Responsibility: Panels, metal trim, and fasteners furnished by single manufacturer.
B. Installer Qualifications: Minimum 5 years documented experience in work of this Section.
C. Mockup:
1. Size: Minimum 4 x 8 feet
2. Show: Moisture barrier, furring, panels, trim, flashings, and joint sealers. Include one horizontal flashing and one internal and external corner.
3. Locate where directed
4. Approved mockup may remain as part of the Work.
D. Pre-Installation Conference:
1. Convene at site 2 weeks prior to beginning work of this Section.
2. Attendance: Owner, Architect, Contractor, panel system installer, and related trades.
3. Review and discuss: Contract Documents, panel system manufacturer's literature, moisture barrier requirements, project conditions, scheduling, and other matters affecting installation.

WARRANTIES

A. Provide manufacturer's non-pro-rated 30 year warranty providing coverage against hail and termite damage and defects in materials and workmanship.
B. Provide manufacturer's 15 year warranty providing coverage against peeling, cracking, and chipping of panel finish if using a factory-applied finish.
C. Provide installer's 2 year warranty providing coverage against defects in installation.

MANUFACTURERS

A. Contract Documents are based on products by James Hardie Commercial. (www.jameshardiecommercial.com)
B. Substitutions: Permitted under provisions of Division 01

MATERIALS

A. Fiber Cement Vertical Panel System:
1. Source: Hardie Panel HZ10.
2. Meet ASTM C1186, Grade A, Type II.
3. Formulated from Portland cement, ground sand, cellulose fibers, additives, and water; formed under pressure to required profile.
4. Size: 47-1/2 inches (1207 mm) wide x 95-1/2 inches (2426 mm) long; accommodate 1/2 inch (13 mm) gap between panels.
5. Thickness: 7/16 inch (11.1 mm).
6. Surface texture: Smooth.
7. Fire hazard classification: Maximum flame spread/smoke developed rating of 0/5, tested to ASTM E84.
8. Combustibility; Noncombustible, tested to ASTM E136.
9. Finish: Factory prime painted, for field-applied paint finish.
10 Finish (option): ColorPlus factory-applied, baked on finish, color to be selected from manufacturer's full color range.
B. Metal Trim:
1. Material: Extruded aluminum, ASTM B221, 6063-T5 alloy and temper, clear anodized finish.
2. Shapes:
a. Vertical Trim.
b. Horizontal Trim.
c. Drip Cap Trim.
d. Inside Corner Trim.
e. Outside Corner Trim.
f. J-Channel Trim.

ACCESSORIES

A. Fasteners: Stainless steel, Tor pan head type as recommended by panel manufacturer, of equal or greater holding power than required by manufacturer's Code compliance reports.
B. Sheet Metal Flashings and Trim:
C. Edge Sealer: Type recommended by panel manufacturer.
D. Joint Sealers:

INSTALLATION

A. Install panel system in accordance with manufacturer's instructions and approved Shop Drawings.
B. Provide minimum 6 inch clearance between panel system and finished grade.
C. Maintain 2 inch (50 mm) clearance between panel system and horizontal surfaces other than at grade.
D. Install metal trim:
1. Vertical panel-to-panel joints: Install Vertical Trim per Drawing layout.
2. Horizontal panel-to-panel joints: Install Horizontal Trim per Drawing layout.
3. Inside corners: Install Inside Corner Trim.
4. Outside corners: Install Outside Corner Trim.
5. Over openings in walls and at bottom of walls: Install Drip Cap Trim.
E. Fasten trim at maximum 24 inches on center.
F. Leave 1/2 inch (13 mm) gap between horizontal drainage flashings and bottom of panel above. Do not seal this space.
G. Allow minimum vertical clearance between edge of panel system and adjacent materials in accordance with manufacturer's instructions.
H. Cut panels to fit around penetrations with maximum 1/4 inch gaps. Smooth and seal cut edges.
I. Fasten panel system at maximum spacing per manufacturer's Code compliance reports. Place fasteners exposed, minimum 3/8 inch (10 mm) from panel edges and 2 inches (50 mm) from top and bottom edges at panel corners, in orderly fastening pattern.
J. Apply joint sealer between panel system and adjacent surfaces as specified in Section "Joint Sealers" except at horizontal drainage flashings.
3. Type of expansion joints and locations.
B. Manufacturer's Product Data: Clearly mark the technical data to describe the quality and finish for prefinished sheet metal specified in this section and as required to meet Contract Documents.
C. Colors:When color selection is not scheduled for prefinished sheet metal, submit manufacturer's full range of standard colors.

WARRANTY

A. Warranty for sheet metal work shall be in compliance with Section 01740, including but not limited to:
1. Water leaks, oil-canning, and material incompatibility with other materials.
2. Defective workmanship or objectionable appearance resulting from defective or nonconforming materials.

GALVANIZED SHEET STEEL

A. Type: Prefinished coil-stock galvanized sheet steel, ASTM A526, commercial quality, 24- gauge, hot-dip zinc coated.

ACCESSORIES

A. General: Sheet metal work shall be complete with accessories required for compliance with Contract Document requirements.
B. Fasteners/Attachments: Nails, pan-head screws or flat rivets as required of the following materials:
1. For Steel: Cadmium-plated steel or AISI 302 stainless steel.
2. Neoprene Washers: Required for exposed fasteners.
3. Snap-Off Rivets: Not acceptable.
C. Wall Plugs: Hohmann & Barnard's Galvanized Wood-Filled Wall Plugs, metal type of 24 gauge or heavier galvanized metal, expanding into masonry not less than 2". Wood plugs will not be permitted.
D. Plastic Cement: Gulf State Asphalt Company's asphalt-base type conforming to Fed. Spec. SS-C- 153 Type I, complete with primer when recommended by manufacturer.

E. Miscellaneous Items:
1. Felt: ASTM D226, Type II No. 3, asphalt-saturated organic felt.
2. Rosin Paper: Smooth-surface unsaturated red rosin sized paper weighing approximately 6 lbs per 100 sq. ft.
3. Backing Tape: Heavy polyethylene tape with adhesive backing.
4. Seal Tape: PPG Industries ?Duribon 1072 extruded butyl compound tape.
5. Bituminous Paint: Acid and alkali-resistant type; black color.
6. Protective Backing Coating: Zinc-chromate alkyd.
7. Sealant: Exterior quality as specified in Section 07900.

THE PRESTON PARTNERSHIP, LLC
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CONSULTANT

SEAL

STATE OF GEORGIA
ROBERT N PRESTON
CERTIFICATE NO. 007841
REGISTERED ARCHITECT

PROJECT

RESERVE AT THE BALLPARK, PHASE II, AKA REVEL AT THE BALLPARK
2885 CRESCENT PKWY
SMYRNA, GA 30080

FOR

ATLANTIC REALTY PARTNERS

ATLANTIC REALTY PARTNERS
3438 PEACHTREE ROAD
SUITE 1425
ATLANTA, GA 30326

ISSUES & REVISIONS	DATE
CONCEPTUAL DESIGN	08/21/2015
SCHEMATIC DESIGN	09/28/2015
GMP/DESIGN DEVELOPMENT	10/15/2015
GMP	04/03/2017
PERMIT SET	05/22/2017
3 BUILDING PERMIT	07/25/2017

DATE 05/22/2017
JOB NUMBER 1493101
DRAWN BY Author
CHECKED BY Checker
SHEET TITLE SPECIFICATIONS
SHEET NUMBER A10-05
COMMENTS

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