SECTION 084113 – ALUMINUM FRAMED ENTRANCES AND STOREFRONTS

1.00 GENERAL Division 01 requirements apply to this Section.

1.01 SUMMARY
A. Section includes: Aluminum entrances and storefront, including:
1. Aluminum entrance doors and door frames.
2. Aluminum framing system.

1.03 PERFORMANCE REQUIREMENTS
A. Exterior Assemblies: Design and fabricate to comply with the performance characteristics listed below.
B. Thermal Movement: Allow for expansion and contraction resulting from ambient temperature range of 120 degrees F (49 degrees C).
C. Wind Loading: Provide capacity to withstand the following loadings without deformation and without deflection greater than 1/175 of span:
1. Uniform pressure of 20 psf inward.
2. Uniform pressure of 20 psf outward.
D. Air Leakage:
1. Fixed framing: Not more than 0.06 cfm per square foot of fixed area.
a. Measure at 6.24 psf.
E. Water Leakage:
1. Fixed framing (excluding operable door edges): No penetration at 8 psf.
F. Thermal Transmittance:
1. Fixed framing: Not more than 0.65.
2. Door frames: Not more than 0.93.

1.05 QUALITY ASSURANCE
A. Standard for Wind Load Testing: ASTM E330.
B. Standard for Air Leakage Testing: ASTM E283; report result as cubic feet per minute per unit of measurement indicated, at pressure differential indicated.
C. Standard for Water Leakage Testing: ASTM E331; report result at pressure differential indicated.
D. Standard for Thermal Transmission Testing: AAMA 1503.1; report result as U-value (Btu per hour per square foot per degree F).

1.06 PROJECT CONDITIONS
A. Take field measurements prior to fabrication.
B. Furnish coordination data, consisting of installation templates, diagrams, wiring diagrams, and other data, to fabricators and installers of related work where necessary for coordination with the installation of this work.

1.07 WARRANTY
A. General: This warranty shall be in addition to, and not a limitation of, other rights the Owner may have against the Contractor under the Contract Documents.
B. Fabricated Products: Provide written warranty agreeing to replace work which fails in materials or workmanship within 5 years from date of Substantial Completion.
1. Failure includes excessive leakage or air infiltration, excessive deflections, faulty operation, and deterioration of finish or construction in excess of normal weathering.
2. Warranty to be signed by installer and Contractor.
C. Equipment: Provide manufacturer's warranty agreeing to replace work which fails within 5 years of the date of Substantial Completion.

2.00 PRODUCTS

2.01 MANUFACTURERS
A. Aluminum Framing Systems:
1. Products of the following manufacturers, provided they comply with requirements of the contract documents, will be among those considered acceptable:
a. Atlas Architectural Metals, Inc.
b. Kawneer Company, Inc.
c. United States Aluminum Corporation.
B. Aluminum Door Frames:
1. Products of the following manufacturers, provided they comply with requirements of the contract documents, will be among those considered acceptable:
a. Atlas Architectural Metals, Inc.
b. Kawneer Company, Inc.
c. United States Aluminum Corporation.
C. Glazed Aluminum Entrance Doors:
1. Products of the following manufacturers, provided they comply with requirements of the contract documents, will be among those considered acceptable:
a. Kawneer Company, Inc.
b. PPG Industries, Inc.
c. Rebco, Inc.
d. United States Aluminum Corporation

2.02 FRAMING SYSTEMS
A. Aluminum Framing System: Extruded aluminum, shop-fabricated and preassembled where possible.
1. Style: 2 inch x 4-1/2 inch center glazing system.
2. Products which have minor differences will be accepted when, in the Architect's judgment, such differences do not detract from design concept or intended performance.
3. Glazing method: Resilient gasket glazed, with provision for replacement of glazing without disassembly of framing.
4. Finish:
a. Finish exposed surfaces of aluminum in accordance with AA M12 C22 A42, Architectural Class I integral color coating having 0.0007" coating thickness, 32 mg/sq.in. coating weight, and 2.55 g/cc apparent density as minimum, followed by a complete seal in accordance with ASTM B136. Color: White or Red per drawings.
B. Aluminum Door Frames: Tubular and channel frame assemblies, with either welded or mechanical joints, reinforced as necessary to support required loads.
1. Finish:
a. Finish exposed surfaces of aluminum in accordance with AA M12 C22 A42, Architectural Class I integral color coating having 0.0007" coating thickness, 32 mg/sq.in. coating weight, and 2.55 g/cc apparent density as minimum, followed by a complete seal in accordance with ASTM B136. Color: White or Red per drawings.

2.03 SWINGING DOORS
A. Stile and Rail Doors: Glazed doors with extruded aluminum tubular frame members.
1. Fabricate with mechanical joints using heavy inserted reinforcing plates and concealed tie rods or j-bolts, or with structurally welded joints.
2. Thickness: 1-3/4 inches.
3. Stile width: 5-1/2 inches nominal. 10 inches bottom rail.
4. See drawings for design.
5. Glazing stops: Snap-on extruded aluminum, designed to allow replacement of glazing without disassembly of frame. Provide nonremovable exterior stops.
6. Finish:
a. Finish exposed surfaces of aluminum in accordance with AA M12 C22 A42, Architectural Class I integral color coating having 0.0007" coating thickness, 32 mg/sq.in. coating weight, and 2.55 g/cc apparent density as minimum, followed by a complete seal in accordance with ASTM B136. Color: White or Red per drawings.
B. Weatherstripping:
1. At fixed stops: Compress on type, replaceable molded gaskets of neoprene or EPDM rubber complying with ASTM C 864 or of PVC complying with ASTM D2287.
2. At other edges: Sliding woven pile strip of wool, polypropylene, or nylon, with nylon fabric or aluminum strip backing, complying with AAMA 701.2.
3. In bottom door rail: Adjustable molded blade gasket of EPDM or vinyl, continuously contacting threshold.
4. Provide weatherstripping on all exterior doors.
C. Hardware for Aluminum Doors: Provide all hardware as required for proper operation.

2.04 MATERIALS – GENERAL
A. Aluminum Members: Alloy and temper recommended by manufacturer for strength, corrosion resistance, and application of required finish; ASTM B221 for extrusions, ASTM B209 for sheet/plate.
B. Fasteners: Aluminum, nonmagnetic stainless steel, or other materials warranted by manufacturer to be noncorrosive and compatible with aluminum components.
1. Do not use exposed fasteners.
C. Concealed Flashing: Dead-soft stainless steel, 26 gage minimum; or extruded aluminum, 0.062 inch minimum; or an alloy and type selected by manufacturer for compatibility with other components.
D. Brackets and Reinforcements: High-strength aluminum where feasible; otherwise, nonmagnetic stainless steel or hot-dip galvanized steel complying with ASTM A123.
E. Dissimilar Metal Coating: Cold-applied asphalt mastic, zinc chromate paint, or other nonconductive, nonabsorptive material.
F. Glazing Gaskets: Comply with ASTM C864; style as recommended by manufacturer.
G. Glass and Glazing Accessories: Provide products specified elsewhere in Division 08.

2.05 FABRICATION
A. Any dimensions which may vary are indicated on drawings, with maximum and minimum dimensions required to achieve design requirements and coordination with other work.
B. Fabrication: To greatest extent possible, complete fabrication, assembly, and finishing before shipment to project site. Disassemble components only as necessary for shipment and installation.
1. Maintain accurate relation of planes and angles, with hairline fit of contacting members.
2. Preglaze doors to greatest extent possible, in coordination with installation and hardware requirements.
3. Factory-install all hardware except surface-mounted items.
4. Perform fabrication operations, including cutting, fitting, forming, drilling, and grinding of metal work, in manner which prevents damage to exposed finish surfaces.
C. Welding: Comply with AWS recommendations to avoid discoloration; grind exposed welds smooth and restore mechanical finish.
D. Reinforcing: Install reinforcing as required for hardware and as necessary for performance requirements, sag resistance, and rigidity; separate dissimilar metals as specified under "Installation."

3.00 EXECUTION

3.01 PREPARATION
A. Verify and coordinate installation tolerances.

3.02 INSTALLATION
A. Comply with manufacturer's instructions and recommendations for installation of components.
B. Set units plumb, level, and true to line, without warp or rack. Provide proper support and anchor securely in place.
C. Separate aluminum exposed to weather from dissimilar metals; coat dissimilar metals that are in drainage cavities using one of the materials specified. Aluminum, stainless steel, zinc, cadmium, and small areas of white bronze are not considered dissimilar from each other.
D. Coat all metals that come into contact with masonry, concrete, and treated wood, using one of the materials specified.
E. Install joint sealers between exterior sill members and the surface below as indicated, to provide weathertight construction. Comply with requirements of Division 07 for installation of joint sealers.
F. Install glass as specified elsewhere in Division 08.

3.03 ADJUSTMENT
A. Adjust operating hardware to function properly without binding, and to close doors tightly.

END OF SECTION

SECTION 087110 – DOOR HARDWARE

1.00 GENERAL Division 01 requirements apply to this Section.

1.01 SUMMARY
A. Section includes: All door hardware indicated in the hardware schedule on the Drawings.
B. Installation refer to Section 087110 – Installation of Doors Hardware.

1.02 Quality Assurance
A. Manufacturer Qualifications: All equipment specified in this section will be provided by a single manufacturer with a minimum of ten (10) years experience manufacturing door hardware.
B. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five (5) years demonstrated experience in installing products of the same type and scope as specified.

1.03 Delivery, Storage, and Handling
A. Store products in manufacturer's unopened packaging until ready for installation.
B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.04 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.

1.05 Warranty
A. At project closeout, provide to the Owner or Owner's representative an executed copy of the manufacturer's Limited Warranty against Manufacturing Defects.
1. Duration: Ten (10) years

2.00 PRODUCTS

2.01 GENERAL HARDWARE REQUIREMENTS
A. In addition to requirements of the hardware groups shown on Drawings, comply with the following requirements.
B. Select style and features of each item to suit configuration and construction of door and frame and door operation indicated.

2.02 MATERIALS – GENERAL
A. Manufacturers:
1. Obtain all items of each type from the same manufacturer.
B. Provide hardware manufactured to conform to published templates.
C. Fasteners: Provide all fasteners required for secure installation.
1. Select fasteners appropriate to substrate and material being fastened.
2. Use machine screws unless otherwise indicated.
3. Use Phillips flathead screws unless otherwise indicated.
4. Use fasteners impervious to corrosion outdoors and on exterior doors.
5. Exposed screws: Match hardware finish.
6. Do not use through-bolts where bolt head or nut on opposite face would be exposed in finished work, unless otherwise indicated.
a. Where bolt head or nut is exposed in finished work, provide the same finish as hardware on that side of the door.
b. Provide sleeves for through-bolts or use sex screw fasteners.
c. Use through-bolts where it is not possible to reinforce substrate adequately.
D. Finishes: All hardware to have 626, satin chromium plated finish unless otherwise noted.
1. Front door handles to match store front.
E. See Drawings for specific door hardware requirements.

3.00 EXECUTION

3.01 PREPARATION
A. Factory or shop prepare all work for installation of hardware.

3.02 INSTALLATION (Reference – refer to Section 087110 – Installation of Doors Hardware)
A. Follow hardware manufacturer's instructions and recommendations.
B. Install surface-mounted items after substrates have been completely finished; install recessed items and recessed portions of items before finishes are applied and provide suitable, effective protection.
1. When surface-mounted items are installed before final finish, remove, store, and reinstall, or apply suitable effective protection.
C. Mount at heights indicated In "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.
1. Exceptions: As required to comply with applicable regulations.
D. Set units level, plumb, and true to line and location.
E. Reinforce substrates as necessary for proper installation and operation.
F. Set thresholds in full bed of sealant.

3.03 ADJUSTMENT
A. Adjust each operating item of hardware and each door for proper operation and function; replace units which cannot be adjusted to operate freely and smoothly.
B. Adjust door closers to compensate for operation of heating and ventilating systems.
C. Wherever hardware installation is made more than one month prior to completion or occupancy of a space or area, re-adjust all hardware items in that area not more than one week prior to such completion or occupancy; restore to proper operation.

END OF SECTION

SECTION 087115 – INSTALLATION OF DOOR HARDWARE

1.00 GENERAL Division 01 requirements apply to this Section.

1.01 SUMMARY
A. Section includes: Installation of doors and hardware, including:
1. This section specifies the hanging of doors and installation of hardware.
2. Fitting and preparation for hardware of unfinished wood doors.
3. Installation of lock cylinders in special doors.

1.03 APPLICABLE PUBLICATIONS
A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.
B. American National Standards Institute and Door and Hardware Institute (ANSI/DHI):
1. Installation Guide for Doors and Hardware (1986)
C. National Fire Protection Association (NFPA):
1. 80-90 .... Fire Doors and Windows

2.00 PRODUCTS

2.01 FASTENERS
A. Use fasteners furnished with hardware to be installed.
1. Where fasteners are not furnished with the item use fasteners of suitable size and type to harmonize with the item as to material and finish and to suit the material to which fastened.
2. Use machine screws and metal expansion shields to secure hardware to concrete, ceramic or quarry tile, or solid masonry. Do not use fiber, plastic, and lead plugs or adhesives.
B. Use non-ferrous metal fastenings exposed to weather.

3.00 EXECUTION

3.01 INSTALLATION, GENERAL
A. Hang doors and install hardware when concrete work, plastering, tile setting, and other operations have been completed which increase humidity and dust in building.
B. Do not hang plastic faced wood doors in areas where materials are not sufficiently dry so as to not affect the dimensional stability of the door.
C. Install hardware, except hinges, after field painting or sealing, specified in Section 09900 – Painting.
D. Center doors in the opening or frame with contact surfaces fit tight and even without forcing or warping the components.
E. Replace doors and frames that do not conform to hardware height requirements.

3.02 FITTING WOOD DOORS
A. Do not alter pre-fit and prefinished doors.
B. Unless otherwise detailed, fit hinged doors with 1/8-inch clearance at hinge stiles, 1/8-inch at top and lock or meeting stiles, and 3/4 inches between bottom rail and floor.
C. Bevel lock edge and meeting stile of single acting wood doors 1/8-inch for each 2 inches of door thickness.
D. Immediately after fitting and cutting of wood doors for hardware, seal edges of doors as specified in Section 099100 – Painting.
E. Mortise wood doors for hardware using templates furnished under Section 087110 – Door Hardware.
F. Cut sinkages for lock fronts, strikes, hinges and similar items same size as item installed.

3.03 INSTALLING DOORS AND BUILDER'S HARDWARE
A. Install hardware at the location (heights) specified.
B. Install in accordance with the manufacturer's printed instructions and ANSI/DHI Installation Guide for Doors and Hardware unless specified otherwise.
C. Drill and tap screw holes in steel frames and doors for surface mounted hardware.
D. Use shims only at hinges where required to provide uniform clearance and alignment of door. Cut shims from stainless steel sheet to same size as hinge.
E. Do not drive screws in place.
F. Carefully fit and securely attach hardware items to doors and frames.
G. Supply and install piano hinge to rear service door, per plans.

3.04 INSTALLING FIRE RATED DOORS (Verify if required)
A. Install fire rated doors in accordance with NFPA 80.
B. Do not remove qualified testing and inspection agency label.

3.05 INSTALLING WEATHERSTRIPPING AND SEALS
A. Accurately cut and fit weatherstrips and seals. Carefully aligned for full contact and tight seal and secure firmly to maintain weatherproof, waterproof, and light proof seal without preventing smooth and easy operation of doors.
B. Provide suitable blocking where necessary to clear hardware; and make adjustments as required to meet special conditions encountered.
C. Prime paint wood surfaces which have been cut with wood sealer before weatherstrips are installed.
D. Set thresholds in sealant as specified in Section 079200 – Joint Sealants.
E. Install seals on door frames for light proof doors. Secure seals to door frames at jamb and heads with contact adhesive to prevent infiltration of light.

3.06 ADJUSTING
A. Adjust Doors, including hardware to operate as designed without binding or deformation of the members.

END OF SECTION

SECTION 088000 – GLAZING

3.00 EXECUTION Division 01 requirements apply to this section.

3.01 EXAMINATION
A. Verify prepared openings under provisions of drawings.
B. Verify that openings for glazing are correctly sized and within tolerance.
C. Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.

3.02 PREPARATION
A. Clean contact surfaces with solvent and wipe dry.
B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
C. Prime surfaces scheduled to receive sealant.

3.03 PREFORMED GLAZING
A. Cut glazing spline to length; install on glazing pane. Seal corners by butting spline and sealing junctions with butyl sealant.
B. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.
D. Install removable stops without displacing glazing spline. Exert pressure for full continuous contact.
E. Trim protruding tape edge.

3.04 INTERIOR – TAPE AND SEALANT
A. Cut glazing tape to length and install against permanent stops, projecting 1/16 inch above sight line.
B. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
C. Rest glazing on setting blocks and push against tape to ensure full contact at perimeter of pane or unit.
D. Install removable stops, with spacer shims inserted between glazing and applied stops at 24 inch intervals, 1/4 inch below sight line.
E. Fill gaps between pane and applied stop with sealant to depth equal to bite on glazing, to uniform and level line.
F. Trim protruding tape edge.

END OF SECTION

DIVISION 09 – FINISHES

SECTION 092713 – FIBER REINFORCED PANELS

1.00 GENERAL Division 1 requirements apply to this Section.

1.01 SUMMARY
A. Section includes: Pre-finished polyester glass reinforced panels (FRP) and accessories.

1.02 QUALITY ASSURANCE
A. All panels shall have a Class I flame spread classification index of less than 25.
B. All panels shall be moisture resistant, and shall not rust or corrode.

2.00 PRODUCTS

2.01 PANELS
A. Fiber reinforced panels shall be as indicated and scheduled on the Drawings. Provide all trim and accessories as required for a complete installation as indicated and specified herein. Sheets are 4' wide x 10' high.

2.02 MOLDINGS
A. PVC: Extruded PVC Trim Profiles for .090 inch thick panels as provided by manufacturer. Provide inside and outside corners, and base moldings.

2.03 ACCESSORIES
A. Fasteners: Non-staining nylon drive rivets
1. Match panel colors
2. Length to suit project conditions
B. Adhesive: FRP Adhesive- Water-resistant, non-flammable adhesive as provided by manufacturer.
C. Sealant:
1. Color Match Sealant, provided by manufacturer.

3.00 EXECUTION

3.01 PREPARATION
A. Examine backup surfaces to determine that corners are plumb and straight, surfaces are smooth, uniform, clean and free from foreign matter, nails countersunk, joints and cracks filled flush and smooth with the adjoining surface.
1. Verify that stud spacing does not exceed 24 inches (61cm) on-center.

B. Repair defects prior to installation.
1. Level wall surfaces to panel manufacturer's requirements. Remove protrusions and fill indentations.

3.02 INSTALLATION
A. Comply with manufacturer's recommended procedures and installation sequence.

B. Cut sheets to meet supports allowing 1/8" inch (3mm) clearance for every 8 foot (2.43m) of panel.
1. Cut and drill with carbide tipped saw blades or drill bits, or cut with shears.
2. Space at in field in rows 16 inches (40.64cm) on center, with fasteners spaced at 12" (30.48cm) maximum on center.
C. Apply panels to board substrate, above based, vertically oriented with seams plumb and patter aligned with adjoining panels.
1. Install panels with manufacturer's recommended gap for panel field and corner joints.
a. Adhesive trowel and application method to conform to adhesive manufacturer's recommendations.
b. Drive fasteners for snug fit. Do not over-tighten.
D. Apply panel molding to all panel edges using silicone sealant providing for required clearances.
3. All moldings must provide for a minimum 1/8" (3.18mm) of panel expansion at joints and edges, to insure proper installation.
2. Apply sealant to all moldings, channels, and joints between the system and different materials to assure watertight installation.

3.03 CLEANING
A. Remove excess sealant from panels and moldings. Wipe panel down using a damp cloth and mild soap solution or cleaner.
B. Refer to manufacturer's specified cleaning recommendations. Do not use abrasive cleaners.

END OF SECTION

SECTION 092900 – GYPSUM BOARD SYSTEMS

1.00 GENERAL Division 01 requirements apply to this Section.

1.01 SUMMARY
A. Section includes: Gypsum board systems, including:
1. Gypsum board.
2. Cementitious backer board.
3. Taped and sanded joint treatment.
T
2.00 PRODUCTS

2.01 MANUFACTURERS – GYPSUM BOARD SYSTEM
A. Product: Gypsum Board by:
Certain Teed Gypsum, Inc. United States Gypsum Co. (USG)
Natural Gypsum Co. (NGC)
Georgia Pacific National Gypsum Co. (NGC)

2.02 FRAMING MATERIALS
A. Furring, Framing and Accessories: ASTM C645.
B. Fasteners: ASTM C1002.
C. Anchorage to Substrate: Tie wire, screws and other metal supports, of type and size to suit application: to rigidly secure materials in place.

2.03 GYPSUM BOARD MATERIALS
A. Standard Gypsum Board: ASTM C36; 5/8 inch thick, maximum permissible length; ends square cut, tapered edges 48 inches wide.
B. Fire Rated Gypsum Board: ASTM C36; fire resistive type, UL rated; 5/8 inch thick, maximum permissible length; ends square cut, tapered edges 48 inches wide.
C. Moisture Resistant Gypsum Board: ASTM C630; 5/8 inch thick, maximum permissible length; ends square cut, tapered edges 48 inches wide.

2.04 ACCESSORIES
A. Corner Beads: Metal.
B. Edge Trim: GA 201 and GA 216: Type LC bead. ASTM C 1047.
C. Joint Materials: ASTM C475; reinforcing tape, joint compound, adhesive, and water.
D. Fasteners: ASTM C1002, screws for metal studs; ASTM C514, nails for wood studs.

3.00 EXECUTION

3.01 EXAMINATION
A. Verify site conditions.
B. Verify that site conditions are ready to receive work.

3.02 GYPSUM BOARD INSTALLATION
A. Install gypsum board in accordance with manufacturer's instructions.
B. Erect single layer standard gypsum board, with ends and edges occurring over firm bearing.
C. Erect single layer fire rated gypsum board, with edges and ends occurring over firm bearing.
D. Use screws when fastening gypsum board to metal furring or framing.
E. Double Layer Applications: Secure second layer to first with fasteners.
F. Place second layer parallel to first layer. Offset joints of second layer from joints of first layer.
G. Treat cut edges and holes in moisture resistant gypsum board with sealant.
H. Place corner beads at external corners. Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials.
I. Install backing board over metal studs in accordance with manufacturer's instructions.

3.03 JOINT TREATMENT
A. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
B. Feather coats onto adjoining surfaces so that camber is maximum 1/16 inch.
C. Tape joints and corners of cementitious backing board.

END OF SECTION

SECTION 092910– CEMENTITIOUS BACKER BOARD

PART 1 – GENERAL

1.01 SUMMARY
A. This Section includes the following:
1. Wall Sheathing.
B. Related Sections include the following:

1. Section 05400 – Cold-Formed Metal Framing.
2. Section 06100 – Rough Carpentry.

1.02 DELIVERY, STORAGE, AND HANDLING
A. All materials shall be delivered in their original unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements.

PART 2 – PRODUCTS

2.01 WALL SHEATHING
A. Cementitious Fiber-Mat Reinforced Sheathing: ASTM C 1325, ANSI A118.9, cementitious backer.
1. Product: Subject to compliance with requirements, provide DUROCK Brand Cement Board by United States Gypsum Company.
2. Type and Thickness: [5/8 inch] thick.
3. Size: [48 by 96 inches].

2.02 FASTENERS
A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and application.
B. Wood Screws: DUROCK Brand Wood or USG Sheathing WF screws [1-5/8 inch] with corrosion-resistant coating.
C. Screws for Fastening Gypsum Sheathing to Cold-Formed Metal Framing: DUROCK Brand Steel or USG Sheathing SF steel drill screws [1-5/8 inch] with corrosion-resistant coating.
1. For steel framing less than 0.0329 inch thick, attach sheathing to comply with ASTM C 1002.
2. For steel framing from 0.033 to 0.112 inch thick, attach sheathing to comply with ASTM C 954.

PART 3- EXECUTION

3.01 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.

3.03 GYPSUM SHEATHING INSTALLATION
A. Comply with ASTM C 1280, GA-253 and manufacturer's written instructions.
1. Fasten sheathing to wood framing with [screws].
2. Fasten sheathing to cold-formed metal framing with screws.
3. Install boards with a 3/8-inch gap where non-load-bearing construction abuts structural elements.
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 o.c. and set back a minimum of 3/8 inch from edges and ends of boards.
D. Vertical Installation: Install board vertical edges centered over studs. Abut ends and edges of each board with those of adjacent boards. Attach boards at perimeter and within field of board to each stud.
1. Space fasteners approximately 8 inches o.c. and set back a minimum of 3/8 inch from edges and ends of boards.

END OF SECTION

SECTION 093013 – CERAMIC TILE WALL FINISH

1.00 GENERAL Division 01 requirements apply to this Section.

1.01 SUMMARY
A. Section includes: Ceramic tile wall finish, including:
1. Ceramic tile walls base finish using the thinset application method.
2. Cementitious backing board.

1.02 QUALITY ASSURANCE
A. Conform to ANSI/TCA A137.1
B. Conform to TCA Handbook for Ceramic Tile Installation.

1.03 ENVIRONMENTAL REQUIREMENTS
A. Maintain 50 degrees F (10 degrees C) during installation of mortar materials.

2.00 PRODUCTS

2.01 TILE MATERIAL
A. Ceramic Wall Tile: ANSI/TCA A137.1, types as indicated on Drawings. See Sheet A6.
B. Base: Match floor tile where required.

2.02 MORTAR MATERIALS
A. Mortar Materials: ANSI/TCA A118.4; Portland cement, sand, latex additive, and water.

2.03 GROUT MATERIALS
A. Grout: Cementitious type with latex additive.

2.04 ACCESSORIES
A. Backing Board: High density, cementitious, glass fiber reinforced, ½ inch thick: 2 inch wide coated glass fiber tape for joints and corners.

2.05 MORTAR MIX AND GROUT MIX
A. Mix and proportion cementitious materials for site made mortar bed and bond coat.

3.00 EXECUTION

3.01 EXAMINATION
A. Verify that surfaces are ready to receive work.
B. Beginning of installation means installer accepts condition of existing substrate.

3.02 PREPARATION
A. Protect surrounding work from damage or disfiguration.
B. Vacuum clean existing substrate and damp clean.
C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
D. Apply sealer to surfaces as recommended by adhesive manufacturer.

3.03 INSTALLATION – THINSET METHOD
A. Install mortar, tile, and grout to TCA Handbook for Ceramic Tile Installation, Handbook Number W244.
B. Install backing board over studs in accordance with manufacturer's instructions. Tape joints and corners; cover with skim coat of dry-set mortar to a feather edge.
C. Lay tile to pattern indicated on Drawings. Do not interrupt tile pattern around openings.
D. Cut and fit tile tight to penetrations through tile. Form corners and bases neatly. Align wall, base, and floor joints.
E. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar or excess grout.
F. Form internal angles square coved and external angles bullnosed.
G. Sound tile after setting. Replace hollow sounding units.
H. Keep expansion control joints free of mortar or grout. Apply sealant to joints.
I. Allow tile to set for a minimum of 48 hours prior to grouting
J. Grout tile Joints.
K. Apply sealant to junction of tile and dissimilar materials and at Junction of dissimilar planes.

END OF SECTION

SECTION 093014 – CERAMIC TILE FLOOR FINISH

1.00 GENERAL Division 01 requirements apply to this Section.

1.01 SUMMARY
A. Section includes: Tile floor finish, including:
1. Paver tile floor and base finish using the thinset application method.

1.03 QUALITY ASSURANCE
A. Conform to ANSI/TCA A137.1
B. Conform to TCA Handbook for Ceramic Tile Installation.

1.06 ENVIRONMENTAL REQUIREMENTS
A. Do not install adhesives in a closed, unventilated environment.
B. Maintain 50 degrees F during installation of mortar materials.

2.00 PRODUCTS

2.01 TILE MATERIALS
A. Paver Tile: ANSI/TCA A137.1, types as indicated on Drawings. See sheet A6.
B. Base: Match paver tile as indicated on Drawings.

2.02 MORTAR MATERIALS
A. Mortar Materials: ANSI/TCA A118.1, ANSI/TCA A118.4; Portland cement, sand, latex additive and water.

2.03 GROUT MATERIALS
A. Grout: Cementitious type with latex additive.

2.04 MORTAR MIX AND GROUT MIX
A. Mix and proportion cementitious materials for site made thin set and bond coat.

2.05 EXPANSION JOINTS
A. Type: TCA EJ171. Sealant as specified in Section 079000.

3.00 EXECUTION

3.01 EXAMINATION
A. Verify that surfaces are ready to receive work.
B. Beginning of installation means installer accepts condition of existing surfaces, substrate.

3.02 PREPARATION
A. Protect surrounding work from damage or disfiguration.
B. Vacuum clean existing substrate and damp clean.
C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

3.03 INSTALLATION – THINSET METHOD
A. Install mortar tile and grout to TCA Handbook for Ceramic Tile Installation, Handbook Number F113.
B. Lay tile to pattern indicated on Drawings. Do not interrupt tile pattern through openings.
C. Place edge strips at exposed tile edges.
D. Cut and fit tile tight to penetrations through tile. Form corners and bases neatly. Align floor, base, and wall joints.
E. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.
F. Sound tile after setting. Replace hollow sounding units.
G. Keep control Joints free of adhesive or grout. Apply sealant to joints.
H. Allow tile to set for a minimum of 48 hours prior to grouting.
I. Grout tile joints.
J. Apply sealant to junction of tile and dissimilar materials and at junction of dissimilar planes.

END OF SECTION

SECTION 095123 – SUSPENDED ACOUSTICAL CEILINGS

1.00 GENERAL Division 01 requirements apply to this Section.

1.01 SUMMARY
A. Section includes: Suspended acoustical ceilings, including:
1. Suspended metal grid ceiling system and perimeter trim.
2. Acoustical panels.
3. Non-fire rated or fire rated assembly – verify.

1.02 ENVIRONMENTAL REQUIREMENTS
A. Maintain uniform temperature of minimum 60 degrees F (16 degrees C), and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

1.03 SEQUENCING
A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.
B. Install acoustical units after interior wet work is dry.

1.04 EXTRA MATERIALS
A. Provide one full carton of extra panels of each type to Owner.

2.00 PRODUCTS

2.01 MANUFACTURERS – SUSPENSION SYSTEM
A. USG Interiors – Product: Donn DX.
B. Armstrong – Product: Prelude.
C. Chicago Metallic – Product: 830 System.

2.02 SUSPENSION SYSTEM MATERIALS
A. Non-fire Rated or Fire Rated Grid: ASTM C635, intermediate duty; exposed T components die cut and interlocking.
B. Grid Materials: Commercial quality cold rolled steel with galvanized coating.
C. Exposed Grid Surface Width: 15/16 inch.
D. Grid Finish: White.
E. Accessories: Stabilizer bars, clips, splices, edge moldings, and hold down clips required for suspended grid system.
F. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.
G. Aluminum capped suspension system in back of house areas of vinyl rock tiles.

2.03 MANUFACTURERS – ACOUSTICAL UNITS
A. USG Interiors.
B. Armstrong.

2.04 ACOUSTICAL UNIT MATERIALS
A. Acoustical Panels: ASTM E1264, conforming to the following:
1. CT-1 24" X 24" size panel, 3/4" thickness, Ecclipse Climaplus SLT "Shadowline" tapered edge, "Aspen White" by USG Interiors.
2. CT-2 24" X 24" size panel, 5/8" thickness, vinyl faced panels, square edge, color white.

2.05 ACCESSORIES
A. Touch-up Paint: Type and color to match acoustical and grid units.

3.00 EXECUTION

3.01 EXAMINATION
A. Verify site conditions under provisions of drawings.
B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION-LAY-IN GRID SUSPENSION SYSTEM
A. Install suspension system in accordance with manufacturer's instructions and as supplemented in this section.
B. Install system in accordance with ASTM E580.
C. Install system capable of supporting imposed loads to a deflection of 1/360 maximum.
D. Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.
E. Install after major above ceiling work is complete. Coordinate the location of hangers with other work.
F. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
G. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
H. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability. Support fixture loads by supplementary hangers located within 6 inches of each corner; or support components independently.
I. Do not eccentrically load system, or produce rotation of runners.
J. Install edge molding at intersection of ceiling and vertical surfaces, using longest practical lengths. Miter corners. Provide edge moldings at junctions with other interruptions.

3.03 INSTALLATION – ACOUSTICAL UNITS
A. Install acoustical units in accordance with manufacturer's instructions.
B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
C. Lay directional patterned units one way with pattern parallel to shortest room axis. Fit border trim neatly against abutting surfaces.
D. Install units after above ceiling work is complete.
E. Install acoustical units level, in uniform plane, and free from twist, warp and dents.
F. Cut panels to fit irregular grid and perimeter edge trim. Field rabbett panel edge. Double cut and field paint exposed edges of tegular units.
G. Install hold-down clips to retain panels tight to grid system within 15 ft of an exterior door.

3.04 ERECTION TOLERANCES
A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.
B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

SECTION 096516 – RESILIENT SHEET FLOORING

1.00 GENERAL PROTECT-ALL Special Flooring

1.01 SUMMARY
A. Provide and install commercial resilient vinyl flooring per manufacturer's installation requirements and recommendations.

1.03 QUALITY ASSURANCE
A. Contractor will assure with compliance with job conditions to allow for proper installation.
B. Comply with governing codes and regulations.
C. Use manufacturer approved factory trained installers that are approved or recommended by manufacturer.
D. Manufacturer provides a limited 10 year product warranty against manufacturing defects.

2.00 PRODUCTS

2.1 PRE-APPROVED PRODUCTS
A. Protect-All® Specialty Flooring as Manufactured by Oscoda Plastics®, Inc.
1. Protect-All® Commercial Flooring. Sheets 5' x 5' or 5' x 8' in ¼" thick with color chosen from manufacturer's samples, matte finish.
2. Protect-All® Flooring Adhesive.
3. Protect-All® Fusion Based System with a minimum height of 6".
3a. Protect-All Fusion Rod for Fusion Based System.
4. Protect-All® V-Rod Welding Rod and Radius Welding Rod.
5. Protect-All® Aluminum/Stainless Steel Cove Base Cap.
6. Stainless Steel Drain Rings and transition strips as Provided By Oscoda Plastics.
6a. Oscoda Plastics stainless steel fasteners and anchors for drain rings and transition strips.
7. Oscoda Plastics sealants and adhesives
8. Other installation materials as required and supplied by Oscoda Plastics®, Inc.
B. Alternative Product: Eco-Grip Flooring by Allied Industries International, Inc.

2.2 PRE-APPROVAL OF SUBSTITUTE MATERIALS, SYSTEMS, OR INSTALLERS
A. Submit to the Architect for approval any product or system not specified or listed as pre-approved herein and in compliance with instructions to bidder's request for substitutions.
B. Provide copy of manufacturer's 10-year product warranty

2.3 VERIFICATION OF JOB CONDITIONS
A. Proper substrate
1. Assure that the substrate material is suitable for installation of flooring as indicated by manufacturer. Properly clean and prepare per manufacturer's guidelines.
2. Slab substrates must be dry and free of curing compounds, sealers, hardeners, and other materials whose presence would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by floor covering manufacturer.
3. Verify a clean,, dry, and structurally sound surface to accept adhesive, free of cracks, ridges, depressions, scales, and foreign deposits of any kind.
4. Use only cementitious patching and filing compounds (3500 PSI). Consult manufacturer for details. (ACI 302.2R-06 ch. 9.5)
5. Assure that the levelness and flatness of surface is in compliance with manufacturer guidelines.
6. Verify that sub-floor surfaces are ready for resilient flooring installation by testing for moisture emission rate and alkalinity in accordance with ASTM F 710; Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer. Reference ASTM F 710- Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.

B. Environmental Conditions.
1. The General Contractor and installer of product is responsible for providing and maintaining a proper installation environment.
2. Installation area must be enclosed and watertight with all walls, wall finishes, doors and floor penetrations in place.
3. Proper temperature acclimation of flooring material is required prior to installation. Minimum of 36 hours.
4. Assure confinement of space during installation and curing of adhesives to prevent other trades from damaging the product or compromising the adhesion.
5. Maintain a constant temperature during installation and throughout the curing of adhesives.
6. Provide a secure area to store materials for installation.
7. Building must be completely enclosed and watertight, HVAC system must be on at least 7 days prior to installation beginning, keeping the interior temperature at 70 degrees. This temperature should be maintained during the installation, and an additional 8 days after completion.
7a. Protect-All cannot have any foot traffic or rolling load traffic until flooring adhesive has fully cured, 7-8 days.
C. Proper Drain and Other Floor Penetration Elevations.
1. All drains to be installed level and with proper slope, no more than the thickness of the Protect-All material (1/4" above surface of sub floor).
2. When "dishing" of drain area is specified, the "dish" should not be less than 12" in diameter and more than 1" in depth.
3. All other penetrations should be installed no more than the thickness of the Protect-All (1/4" above surface) and provide accommodations for proper sealing.
4. Penetrations not terminating at floor surface must be a minimum of 6" above the surface of floor and be installed in such a way as to not interfere with the installation of the flooring or the base material and allow adequate space for sealant to be applied to the entire perimeter, and finish off with manufacturer specified detail.

3.00 EXECUTION

3.01 INSTALLATION
A. Follow manufacturer recommendations for laying out sheets.
B. Flooring shall be cut tight to all penetrations.
C. Adhere the floor material using manufacturer's recommended adhesive for the particular substrate type, job conditions, and in compliance with spread rate and proper trowel size.
D. Roll floor into adhesive with 100lb roller immediately and again within an hours time, as per manufacturer directions.
E. Install stainless steel drain rings around all drains and other surface penetrations. Rings are to be routed into floor surface and mounted flush with top of flooring. Secure drain rings using stainless steel fasteners and lead anchors that will properly anchor the ring to the substrate.
F. Install cove base as recommended by manufacturer with proper adhesive and top sealant. Heat-weld all seams.
G. Install cove base cap fastening to wall a minimum of 8" on center using stainless steel fasteners.
H. Heat-weld all field material seams using manufacturer's welding rod, proper tools, and installation methods as approved by manufacturer.
I. Stainless steel Transitions as provided by the manufacturer mus be used in all doorways and transition areas. Use stainless steel fasteners, and lead anchors to secure.
J. All exposed edges are to be sealed with manufacturer's recommended sealant to assure a watertight seal.

3.2 CLEANING
A. Sweep-clean the floor after installation and clear area of scrap materials. The floor can be saturated and then deck brushed, power washed, or power scrubbed to remove construction debris. Installer must provide two copies of manufacturers cleaning recommendations for contractor and owner use.

4.00 CONTACT INFORMATION
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END OF SECTION

01913-A

DATE	RELEASE
03.11.20	PROGRESS SET
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CHECKED BY: RZ
DRAWN BY: GWA

DRAWINGS FOR:
BARBOUR CGP
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PROJECT #01913-A

TENANT BUILD - OUT
POST OP & OFFICES
BARBOUR ORTHOPEDICS

SPECIFICATIONS

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