

- E. Fabricate gutter and downspout accessories; seal watertight.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that surfaces are ready to receive work.

3.02 PREPARATION

- A. Paint concealed metal surfaces and surfaces in contact with dissimilar metals with protective backing paint to a minimum dry film thickness of 15 mil.

3.03 INSTALLATION

- A. Install gutters, downspouts, and accessories in accordance with manufacturer's instructions.
- B. Slope gutters 1/2" in 10'-0" .

END OF SECTION

**SECTION 07 7200
ROOF ACCESSORIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Snow guards.
- B. Snow guards not required on asphalt shingle rooves, if deduct alternate #2 is accepted, remove price of snow guards from bid.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

PART 2 PRODUCTS

2.01 SNOW GUARDS

- A. Unit Snow Guards: Individual projecting metal shapes, set between roofing shingles/tiles, and mechanically fastened to roof deck.
 - 1. Projecting Metal Shapes: Zinc plated steel, triangular spike design.
 - 2. Placement: As indicated on drawings.
- B. Fence Type Snow Guard: Continuous snow guard; manufacturer's standard pipe, bar, channel, or solid rod, set in brackets or posts, with optional plates and metal trim to match roof.
 - 1. Brackets: Zinc plated steel.
 - 2. Pipe or Square Tube: Galvanized steel.
 - 3. Clamps for Standing Seam Roof: Aluminum clamps attached to standing seams of roof panels; for attachment of fence type snow guard.
 - a. Seam Profile: Selected by Architect from manufacturer's standard range; match profile of metal roof.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using methods recommended by manufacturer for achieving acceptable results for applicable substrate under project conditions.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions, in manner that maintains roofing system weather-tight integrity.

3.04 CLEANING

- A. Clean installed work to like-new condition.

3.05 PROTECTION

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

END OF SECTION

SECTION 07 9200 JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions: Additional requirements for sealants and primers.
- B. Section 07 1300 - Sheet Waterproofing: Sealing cracks and joints in waterproofing substrate surfaces using materials specified in this section.
- C. Section 07 2500 - Weather Barriers: Sealants required in conjunction with air barriers and vapor retarders.
- D. Section 08 7100 - Door Hardware: Setting exterior door thresholds in sealant.
- E. Section 08 8000 - Glazing: Glazing sealants and accessories.

1.03 REFERENCE STANDARDS

- A. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.
- B. ASTM C1193 - Standard Guide for Use of Joint Sealants 2016.
- C. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants 2018.
- D. ASTM C1311 - Standard Specification for Solvent Release Sealants 2014.
- E. SCAQMD 1168 - Adhesive and Sealant Applications 1989 (Amended 2017).

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

PART 2 PRODUCTS

2.01 JOINT SEALANT APPLICATIONS

- A. Scope:
 - 1. Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
 - a. Joints between door, window, and other frames and adjacent construction.
 - b. Joints between different exposed materials.
 - c. Other joints indicated below.
 - 2. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
 - a. Joints between door, window, and other frames and adjacent construction.
 - b. Other joints indicated below.
 - 3. Do not seal the following types of joints.
 - a. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.
 - b. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
 - c. Joints where installation of sealant is specified in another section.
- B. Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.
 - 1. Lap Joints in Sheet Metal Fabrications: Butyl rubber, non-curing.
 - 2. Lap Joints between Manufactured Metal Panels: Butyl rubber, non-curing.
- C. Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
 - 1. Type [] - Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; white.
- D. Interior Wet Areas: Bathrooms and kitchens; fixtures in wet areas include plumbing fixtures, countertops, cabinets, and other similar items.

2.02 JOINT SEALANTS - GENERAL

- A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

2.03 NONSAG JOINT SEALANTS

- A. Type [] - Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus and minus 25 percent, minimum.
 - 2. Non-Staining To Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
 - 3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
- B. Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
 - 1. Color: White.
- C. Polymer Sealant: ASTM C920; single component, cured sealant is paintable and mold/mildew resistant, low odor and VOC, and ultraviolet (UV) resistant.
 - 1. Color: White.
- D. Type [] - Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multi-component; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus and minus 12.5 percent, minimum.
- E. Non-Curing Butyl Sealant: Solvent-based, single component, non-sag, non-skinning, non-hardening, non-bleeding; non-vapor-permeable; intended for fully concealed applications.

2.04 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.
- E. Concrete Floor Joints That Will Be Exposed in Completed Work: Test joint filler in inconspicuous area to verify that it does not stain or discolor slab.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Install bond breaker backing tape where backer rod cannot be used.
- D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- E. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

- F. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.04 POST-OCCUPANCY

- A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width; i.e. at low temperature in thermal cycle. Report failures immediately and repair.

END OF SECTION

**SECTION 08 0671
DOOR HARDWARE SCHEDULE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preliminary schedule of door hardware sets for swinging as indicated on drawings.

1.02 RELATED REQUIREMENTS

- A. Section 08 7100 - Door Hardware: Requirements to comply with in coordination with this section.

1.03 REFERENCE STANDARDS

- A. BHMA A156.3 - American National Standard for Exit Devices 2014.
- B. BHMA A156.5 - American National Standard for Cylinders and Input Devices for Locks 2014.
- C. BHMA A156.13 - American National Standard for Mortise Locks & Latches Series 1000 2017.
- D. BHMA A156.18 - American National Standard for Materials and Finishes 2016.
- E. DHI (H&S) - Sequence and Format for the Hardware Schedule 1996.

1.04 PROJECT INFORMATION

- A. Project Name: Big Springs Trout Hatchery #2305 Replacement
 - 1. Location: 2013 Fish Hatchery Rd, Lewistown MT, 59457
- B. Architect: Spark Architecture.
 - 1. Location: 410 Central, suite 506, Great Falls MT.
 - 2. Phone Number: (406) 453-0001.
- C. Contractor: To Be Determined.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Comply with submittal requirements as indicated in Section 08 7100.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Only manufacturers listed in Door Hardware Schedule or Section 08 7100 are considered acceptable, unless noted otherwise.
- B. Obtain each type of door hardware as indicated from a single manufacturer and single supplier.
- C. Manufacturer's Abbreviations: Coordinate with manufacturers listed in Section 08 7100.
 - 1. BAS - Best Access Systems.
 - 2. CR - Corbin Russwin.
 - 3. CUR - Curries.
 - 4. IVE - Ives.
 - 5. LCN - LCN.
 - 6. McK - McKinney.
 - 7. NOR - Norton.
 - 8. PEM - Pemko.
 - 9. ROC - Rockwood.
 - 10. SA - Sargent.
 - 11. SCH - Schlage.
 - 12. VD - Von Duprin.
 - 13. YA - Yale.

2.02 DESCRIPTION

- A. Door hardware sets provided represent the design intent, they are only a guideline and should not be considered a detailed or complete hardware schedule.
 - 1. Provide door hardware item(s) as required for similar purposes, even when item is not listed for a door in Door Hardware Schedule.

2. Necessary items that are not included in a Hardware Set should be added and have the appropriate additional hardware as required for proper application and functionality.
3. Door hardware supplier is responsible for providing proper size and hand of door for products required in accordance with Door Hardware Schedule and as indicated on drawings.
4. Quantities listed are for each Pair (PR) of doors, or for each Single (SGL) door, as indicated in hardware sets.

2.03 LOCK FUNCTION CODES

- A. Function Codes for Cylindrical Locks: Complying with BHMA A156.5.
- B. Function Codes for Mortise Locks: Complying with BHMA A156.13.
 1. Code F01; Passage/Closet Latchset: Latch bolt by knobs at all times.
 2. Code F02; Privacy Lock: Latch bolt by knobs, deadbolt by turn inside or emergency key outside.
 3. Code F08; Front Door Lock: Latch bolt is operated by knob from either side except when outside knob is made inoperative by a stop or mechanical means other than key. Deadbolt is operated by turn inside. Key outside operates both locks.
 4. Code F19; Privacy, Bedroom, or Bath Lock: Latch bolt by knobs. Deadbolt by turn from inside and emergency key outside. Rotating inside retracts both bolts.

2.04 FINISHES

- A. Finishes: Complying with BHMA A156.18.
 1. Code 626: Satin Nickel plated over nickel, with brass or bronze base material (former US equivalent US26D).

PART 3 EXECUTION

END OF SECTION

**SECTION 08 1416
FLUSH WOOD DOORS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Flush wood doors; flush and flush glazed configuration; non-rated.

1.02 RELATED REQUIREMENTS

- A. Section 06 2000 - Finish Carpentry: Wood door frames.
- B. Section 08 7100 - Door Hardware.

1.03 REFERENCE STANDARDS

- A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).
- B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.1 2017, with Errata (2019).
- C. NEMA LD 3 - High-Pressure Decorative Laminates 2005.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Warranty, executed in Owner's name.

1.05 QUALITY ASSURANCE

- A. Maintain one copy of the specified door quality standard on site for review during installation and finishing.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Package, deliver and store doors in accordance with specified quality standard.
- B. Accept doors on site in manufacturer's packaging, and inspect for damage.
- C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

1.07 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Interior Doors: Provide manufacturer's warranty for 2 years.
- C. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Wood Veneer Faced Doors:
- B. High Pressure Decorative Laminate (HPDL) Faced Doors:
 - 1. VT Industries, Inc; [____]: www.vtindustries.com/#sle.
 - 2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 DOORS AND PANELS

- A. Doors: See drawings for locations and additional requirements.
 - 1. Quality Standard: Premium Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
 - 2. High Pressure Decorative Laminate (HPDL) Faced Doors: 5-ply unless otherwise indicated.
- B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
 - 1. Interior doors to be hollow core
 - a. High pressure decorative laminate (HPDL) finish submit manufacturer's sample.

2.03 DOOR AND PANEL CORES

- A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.

- B. Hollow Core Doors: Type - Standard (FSHC); plies and faces as indicated above.

2.04 DOOR FACINGS

- A. Veneer Facing for Transparent Finish: Red oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
- B. High Pressure Decorative Laminate (HPDL) Facing for Non-Fire-Rated Doors: NEMA LD 3, HGS; color as selected; finish as selected.

2.05 DOOR CONSTRUCTION

- A. Fabricate doors in accordance with door quality standard specified.
- B. Cores Constructed with stiles and rails:
- C. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
- D. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
- E. Provide edge clearances in accordance with the quality standard specified.

2.06 FINISHES - WOOD VENEER DOORS

- A. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
- B. Factory finish doors in accordance with approved sample.

2.07 ACCESSORIES

- A. Wood Door Frames: See Section 06 2000.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and specified quality standard.
- B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.
- C. Use machine tools to cut or drill for hardware.
- D. Coordinate installation of doors with installation of frames and hardware.

3.03 TOLERANCES

- A. Comply with specified quality standard for fit and clearance tolerances.
- B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.

3.05 SCHEDULE

- A. See Door and Frame Schedule appended to in the drawings.

END OF SECTION

**SECTION 08 1423
CLAD WOOD DOORS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Clad wood doors with integral frames.

1.02 RELATED REQUIREMENTS

- A. Section 07 2500 - Weather Barriers: Perimeter air and vapor seal between clad wood door frame and adjacent construction.
- B. Section 07 9200 - Joint Sealants: Sealing joints between frames and adjacent construction.
- C. Section 08 7100 - Door Hardware.
- D. Section 08 8000 - Glazing.
- E. Section 09 9123 - Interior Painting: Field finishing of doors.

1.03 REFERENCE STANDARDS

- A. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights 2017.
- B. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum 2014 (2015 Errata).
- C. ASTM C1036 - Standard Specification for Flat Glass 2021.
- D. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass 2018.
- E. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen 2004 (Reapproved 2012).
- F. NFRC 100 - Procedure for Determining Fenestration Product U-factors 2017.
- G. WDMA I.S. 4 - Industry Specification for Preservative Treatment for Millwork 2015a.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
- C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
- D. Performance Validation: Submit certified label or test report on products as indicated under performance requirements to validate product compliance.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Package, deliver and store doors in accordance with specified quality standard.
- B. Accept doors on site in manufacturer's packaging. Inspect for damage.
- C. Protect doors with resilient packaging [____]. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.

1.07 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Wood Doors with Exterior Aluminum Cladding and Interior Wood Facing:
 - 1. Andersen Windows, Inc; Commercial Entry Doors: www.andersenwindows.com/#sle.
 - 2. Pella Corp; []: www.pellacommercial.com/#sle.
 - 3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 COMPONENTS

- A. Clad Wood Doors: See drawings for locations and additional requirements.
- B. Exterior Clad Wood Doors: Water-repellent and preservative-treated lumber in accordance with WDMA I.S. 4.
 - 1. Thickness: 1-3/4 inches, unless otherwise indicated.
 - 2. Exterior Door Cladding: Aluminum sheet as indicated.
 - 3. Exterior Frame Cladding: Extruded aluminum as indicated.
- C. Configuration: As indicated on drawings.
- D. Glazing: Double glazed, clear, high performance Low-E coated, manufacturer's standard gas filled, fully tempered, with glass thicknesses as recommended by manufacturer for specified wind conditions.
 - 1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality - Q3 (architectural).
 - 2. Fully Tempered Glass: ASTM C1048, Kind FT - Fully Tempered.
 - 3. High Performance Low-E Coating: Magnetron sputtering vapor deposition (MSVD) titanium dioxide (TiO2) coating, applied to No. 2 surface.
- E. Glazing Stops: Wood, of same species as door facing, butted corners; prepared for countersink style tamper proof screws.
 - 1. Apply silicone glazing sealant to exterior glazing stops as recommended by manufacturer.
 - 2. Apply water repellent treatment to wood glazing stops.
- F. Door Stops: Clear preservative treated wood, finished to match frame.
- G. Door Sill: Extruded 6063-T5 aluminum, 1/2 inch low profile threshold with compressible bulb weatherstripping and attached to frame jambs.
 - 1. Color: Mill finish.
- H. Hinges: Heavy duty ball bearing type, 4-1/2 inch, with non-removable pin and set screw.
 - 1. Finish: Satin stainless steel.
- I. Door Hardware: As specified in Section 08 7100.

2.03 DOOR INTERIOR WOOD FACINGS

- A. Veneer Facing for Transparent Finish: Red Oak, veneer grade in accordance with requirements indicated, and plain sliced (flat cut), with book match between leaves of veneer, and running match of spliced veneer leaves assembled on door or panel face.
- B. Door Edging: Any option allowed by quality standard for grade.
- C. Wood Finish: Factory applied primer and field applied opaque finish.
 - 1. Field finish doors as specified in Section 09 9123.
- D. Facing Adhesive: Type I - waterproof.

2.04 DOOR EXTERIOR CLADDING

- A. Aluminum Cladding: 6063-T5 aluminum cladding on exterior side, 0.045 inch minimum thickness, factory fabricated, factory glazed; complete with integral sloped sill/threshold, flashings, and anchorage devices.
- B. Exterior Aluminum Finish: Class II color anodized.
 - 1. Color: Color as selected by Architect from manufacturer's standard colors.
- C. Exterior Wood Frame Aluminum Cover: Extruded 6063-T5 aluminum, color to match door aluminum cladding.
- D. Aluminum Members: Factory finished; solid corner construction; thermally broken.

- E. Drainage: Provide drainage to exterior for moisture entering joints and glazing spaces and for condensation occurring within frame construction.
- F. Glass Stops: Same material and color as frame, sloped for wash.

2.05 PERFORMANCE REQUIREMENTS

- A. Comply with AAMA/WDMA/CSA 101/I.S.2/A440 requirements in accordance with the following:
 - 1. Performance Class (PC): R.
- B. Performance Validation: Side hinged doors (SHD) in compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance requirements as indicated, or an independent test report for indicated products itemizing compliance and acceptable by authorities having jurisdiction.
- C. Air Leakage: Maximum of 0.30 cu ft/minute/sq ft at 1.57 psf differential pressure, when tested in accordance with ASTM E283.
- D. Thermal Transmittance: U-factor of 0.35, maximum, that includes window glazing, door and frame system based on average window size required for project and determined in accordance with NFRC 100.

2.06 FABRICATION

- A. Fabricate doors in accordance with door quality standard specified.
- B. Glazed Openings: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings.
- C. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
- D. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
- E. Cut and configure exterior door edge to receive recessed weatherstripping devices.
- F. Provide edge clearances in accordance with the quality standard specified.

2.07 FACTORY FINISHING - WOOD VENEER INTERIOR FACE

- A. Factory finish doors in accordance with approved sample.

2.08 FINISHES

- A. Class II Color Anodized Finish: AAMA 611 AA-M12C22A32 integrally colored anodic coating not less than 0.4 mils thick.
- B. Color: To be selected by Architect from manufacturer's standard range.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and specified quality standard.
- B. Assemble multiple units before installation in accordance with manufacturer's installation guidelines.
- C. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.
- D. Field-Finished Doors: Trimming to fit is acceptable.
 - 1. Adjust width of doors by cutting equally on both jamb edges.
 - 2. Trim maximum of 3/4 inch off bottom edges.
- E. Use machine tools to cut or drill for hardware.
- F. Coordinate installation of doors with installation of integral frames and hardware.
- G. Coordinate installation of glazing.

3.03 TOLERANCES

- A. Comply with specified quality standard for fit and clearance tolerances.
- B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.

3.05 CLEANING

- A. Remove protective material from factory finished surfaces.
- B. Clean units using cleaning material and methods in accordance with door manufacturer's written recommendations.
- C. Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.
- D. See Section 01 7419 - Construction Waste Management and Disposal, for additional requirements.

3.06 PROTECTION

- A. Protect installed work from damage due to subsequent construction activity on the site.

3.07 SCHEDULE - SEE DRAWINGS

END OF SECTION

SECTION 08 5200 WOOD WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Factory fabricated wood windows.
- B. Glazing.
- C. Operating hardware.
- D. Wood trim for exterior finishing.

1.02 RELATED REQUIREMENTS

- A. Section 07 9200 - Joint Sealants: Sealing joints between frames and adjacent construction.

1.03 REFERENCE STANDARDS

- A. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights 2017.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Protect factory finished surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

1.06 FIELD CONDITIONS

- A. Do not install sealants when ambient temperature is less than 40 degrees F.
- B. Maintain this minimum temperature during and after installation of sealants.

1.07 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design: Andersen Windows, E100.
- B. Aluminum Clad Wood Windows:
 - 1. Andersen Windows, Inc; E-Series Casement Windows: www.andersenwindows.com/#sle.
 - 2. Pella Corporation; Architect Series Reserve: www.pellacommercial.com/#sle.
 - 3. Weather Shield Manufacturing, Inc; Premium Series Double Hung Windows: www.weathershield.com/#sle.
 - 4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 WOOD WINDOWS

- A. Wood Windows: Wood frame and sash, factory fabricated and assembled.
 - 1. Exterior Finish: Aluminum Cladding with prefinished color, submit colors from manufacturer to Architect for final color selection.
 - 2. Interior Finish: Submit color from manufacture's standard colors.
 - 3. Color: As selected by Architect from manufacturer's standard range.
 - 4. Configuration: As indicated on drawings.

2.03 COMPONENTS

- A. Glazing: Double glazed, clear, Low-E coated, argon filled, with glass thicknesses as recommended by manufacturer for specified wind conditions.
- B. Frames: [] inch wide by [] inch deep profile; flush solid wood glass stops of screw fastened type, sloped for positive drainage.
- C. Sills: Extruded aluminum, with [] inch nominal thickness; sloped for positive drainage; fits under sash and projects at least 1/2 inch beyond exterior face of wall; single piece full width of opening.
- D. Fasteners: Stainless steel.

- E. Sealant and Backing Materials: As specified in Section 07 9200 of types as indicated.
- F. Flashing: Provide related flashings, with necessary anchors and attachment devices.

2.04 PERFORMANCE REQUIREMENTS

- A. Comply with AAMA/WDMA/CSA 101/I.S.2/A440 requirements for the specific window type in accordance with the following:
 - 1. Performance Class (PC): R.

2.05 HARDWARE

- A. Standard hardware per Manufacturer

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

3.02 INSTALLATION

- A. Install windows in accordance with manufacturer's instructions.
- B. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.
- C. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.

3.03 TOLERANCES

- A. Maximum Variation from Level or Plumb: 1/16 inch per 3 ft non-cumulative or 1/8 inch per 10 ft, whichever is less.

3.04 ADJUSTING

- A. Adjust hardware for smooth operation and secure weathertight closure.

3.05 CLEANING

- A. Refer to Section 01 7419 - Construction Waste Management and Disposal, for additional requirements.
- B. Remove protective material from factory finished surfaces.
- C. Wash surfaces by method recommended and acceptable to window manufacturer; rinse and wipe surfaces clean.

END OF SECTION

**SECTION 08 7100
DOOR HARDWARE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Hardware for wood doors.
- B. Thresholds.
- C. Weatherstripping and gasketing.

1.02 RELATED REQUIREMENTS

- A. Section 08 0671 - Door Hardware Schedule: Schedule of door hardware sets.
- B. Section 08 1416 - Flush Wood Doors.

1.03 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design 2010.
- B. BHMA A156.1 - American National Standard for Butts and Hinges 2016.
- C. BHMA A156.2 - American National Standard for Bored and Preamsembled Locks & Latches 2017.
- D. BHMA A156.13 - American National Standard for Mortise Locks & Latches Series 1000 2017.
- E. BHMA A156.14 - American National Standard for Sliding and Folding Door Hardware 2013.
- F. BHMA A156.16 - American National Standard for Auxiliary Hardware 2018.
- G. BHMA A156.18 - American National Standard for Materials and Finishes 2016.
- H. BHMA A156.21 - American National Standard for Thresholds 2014.
- I. BHMA A156.22 - American National Standard for Door Gasketing and Edge Seal Systems Sponsor 2017.
- J. BHMA A156.28 - American National Standard for Recommended Practices for Mechanical Keying Systems 2018.
- K. DHI (KSN) - Keying Systems and Nomenclature 1989.
- L. DHI WDHS.3 - Recommended Locations for Architectural Hardware for Flush Wood Doors 1993; also in WDHS-1/WDHS-5 Series, 1996.
- M. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.
- N. ITS (DIR) - Directory of Listed Products current edition.
- O. NFPA 80 - Standard for Fire Doors and Other Opening Protectives 2019.
- P. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies 2017.
- Q. UL (DIR) - Online Certifications Directory Current Edition.
- R. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
- C. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.

1.07 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Warranty against defects in material and workmanship for period indicated, from Date of Substantial Completion.
 - 1. Closers: Five years, minimum.
 - 2. Locksets and Cylinders: Three years, minimum.
 - 3. Other Hardware: Two years, minimum.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

- A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
- B. Provide individual items of single type, of same model, and by same manufacturer.
- C. Provide door hardware products that comply with the following requirements:
 - 1. Applicable provisions of federal, state, and local codes.
 - 2. Accessibility: ADA Standards and ICC A117.1.

2.02 HINGES

- A. Hinges: Comply with BHMA A156.1, Grade 1.
 - 1. Provide hinges on every swinging door.
 - 2. Provide five-knuckle full mortise butt hinges unless otherwise indicated.
 - 3. Provide ball-bearing hinges at each door with closer.
 - 4. Provide non-removable pins on interior outswinging doors at locations as indicated.
 - 5. Provide following quantity of butt hinges for each door:
 - a. Doors From 60 inches High up to 90 inches High: Three hinges.

2.03 TRACK AND HANGERS

- A. Pocket Doors: Provide pocket door kit, including header assembly, split studs, hangers, door hanger plates, bumper, guides, floor plate, and end bracket.
 - 1. Provide flush cup pull on both sides.
- B. Sliding and Bifolding Door Hardware: Comply with BHMA A156.14.
 - 1. Provide track, hanger fasteners, guides, and pulls; size track and hangers in accordance with manufacturer's recommendations for weight of doors.
 - 2. Provide one pull for each pair of panels hinged together.

2.04 FLUSH BOLTS

- A. Flush Bolts: Comply with BHMA A156.16, Grade 1.
 - 1. Flush Bolt Throw: 3/4 inch, minimum.

2.05 LOCK CYLINDERS

- A. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
 - 1. Provide cylinders from same manufacturer as locking device.
 - 2. Provide cams and/or tailpieces as required for locking devices.

2.06 CYLINDRICAL LOCKS

- A. Cylindrical Locks (Bored): Comply with BHMA A156.2, Grade 1, 4000 Series.
 - 1. Bored Hole: 2-1/8 inch diameter.
 - 2. Latchbolt Throw: 1/2 inch, minimum.
 - 3. Backset: 2-3/4 inch unless otherwise indicated.
 - 4. Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated requirements.
 - a. Finish: To match the finish on the existing doors to remain.
 - 5. Provide a lock for each door, unless otherwise indicated that lock is not required.

6. Trim: Provide lever handle or pull trim on outside of each lock, unless otherwise indicated.

2.07 MORTISE LOCKS

- A. Manufacturers:
- B. Mortise Locks: Comply with BHMA A156.13, Grade 1, Security, 1000 Series.
 1. Latchbolt Throw: 3/4 inch, minimum.
 2. Deadbolt Throw: 1 inch, minimum.
 3. Backset: 2-3/4 inch unless otherwise indicated.
 4. Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated requirements.
 - a. Finish: To match lock or latch.

2.08 WALL STOPS

- A. Wall Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention Test as described in this standard.
 1. Provide wall stops to prevent damage to wall surface upon opening door.
 2. Type: Bumper, concave, wall stop.
 3. Material: Stainless steel housing with rubber insert.

2.09 THRESHOLDS

- A. Thresholds: Comply with BHMA A156.21.
 1. Provide threshold at each exterior door, unless otherwise indicated.
 2. Type: Flat surface.
 3. Material: Aluminum.
 4. Threshold Surface: Fluted horizontal grooves across full width.
 5. Field cut threshold to profile of frame and width of door sill for tight fit.
 6. Provide non-corroding fasteners at exterior locations.

2.10 WEATHERSTRIPPING AND GASKETING

- A. Weatherstripping and Gasketing: Comply with BHMA A156.22.
 1. Head and Jamb Type: Self-adhesive.
 2. Door Sweep Type: Encased in retainer.
 3. Material: Aluminum, with neoprene weatherstripping.
 4. Provide sound-rated gasketing and automatic door bottom on doors indicated as "Sound-Rated", "Acoustical", or with "Sound Transmission Class (STC) rating"; fabricate as continuous gasketing, do not cut or notch gasketing material.

2.11 KEY CONTROL SYSTEMS

- A. Key Control Systems: Comply with guidelines of BHMA A156.28.
 1. Provide keying information in compliance with DHI (KSN) standards.
 2. Keying: Grand master keyed.
 3. Supply keys in following quantities:
 - a. 1 each Grand Master keys.

2.12 FINISHES

- A. Finishes: Identified in Door Hardware Schedule.
- B. Finishes: Provide door hardware of same finish, unless otherwise indicated.
 1. Primary Finish: Satin Nickel 626; BHMA A156.18.
 2. Secondary Finish: Contact Architect; BHMA A156.18.
 - a. Use secondary finish in kitchens, bathrooms, and other spaces containing chrome or stainless steel finished appliances, fittings, and equipment; provide primary finish on one side of door and secondary finish on other side if necessary.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.

3.02 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Use templates provided by hardware item manufacturer.
- C. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list; unless noted otherwise in Door Hardware Schedule or on drawings.
 - 1. For Wood Doors: Install in compliance with DHI WDHS.3 recommendations.
 - 2. Flush Wood Doors: Refer to Section 08 1416.
 - 3. Mounting heights in compliance with ADA Standards:
 - a. Locksets: 40-5/16 inch.
- D. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.03 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 01 4000 - Quality Requirements.

3.04 ADJUSTING

- A. Adjust work under provisions of Section 01 7000 - Execution and Closeout Requirements.
- B. Adjust hardware for smooth operation.
- C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

3.05 CLEANING

- A. Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.
- D. See Section 01 7419 - Construction Waste Management and Disposal, for additional requirements.

3.06 PROTECTION

- A. Protect finished Work under provisions of Section 01 7000 - Execution and Closeout Requirements.
- B. Do not permit adjacent work to damage hardware or finish.

END OF SECTION

**SECTION 08 8000
GLAZING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Insulating glass units.

1.02 RELATED REQUIREMENTS

- A. Section 08 1113 - Hollow Metal Doors and Frames: Glazed lites in doors.
- B. Section 08 5200 - Wood Windows: Glazing furnished by window manufacturer.
- C. Section 08 5313 - Vinyl Windows: Glazing furnished by window manufacturer.

1.03 REFERENCE STANDARDS

- A. ASTM C1193 - Standard Guide for Use of Joint Sealants 2016.
- B. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings 2016.
- C. GANA (SM) - GANA Sealant Manual 2008.
- D. NFRC 100 - Procedure for Determining Fenestration Product U-factors 2017.
- E. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence 2014, with Errata (2017).
- F. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems 2017.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 FIELD CONDITIONS

- A. Do not install glazing when ambient temperature is less than 40 degrees F.
- B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.06 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Insulating Glass Units: Provide a five (5) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including providing products to replace failed units.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

- A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.
 - 1. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
 - 2. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
 - 3. Glass thicknesses listed are minimum.
- B. Vapor Retarder and Air Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure vapor retarder and air barrier.
 - 1. In conjunction with vapor retarder and joint sealer materials described in other sections.
- C. Thermal and Optical Performance: Provide exterior glazing products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:

1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
3. Solar Optical Properties: Comply with NFRC 300 test method.

2.02 GLASS MATERIALS

2.03 BASIS OF DESIGN - INSULATING GLASS UNITS

- A. Basis of Design - Insulating Glass Units: Vision glazing, with Low-E coating.
 1. Applications: Exterior insulating glass glazing unless otherwise indicated.
 2. Space between lites filled with air.
 3. Total Thickness: 1 inch.
 4. Thermal Transmittance (U-Value), Summer - Center of Glass: .32, nominal.
 5. Spacer Color: Black.
 6. Edge Seal:
 7. Color: Black.
 8. Purge interpane space with dry air, hermetically sealed.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

- A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

3.02 PREPARATION

- A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.03 INSTALLATION, GENERAL

- A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.
- B. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.

3.04 FIELD QUALITY CONTROL

- A. Glass and Glazing product manufacturers to provide field surveillance of the installation of their products.
- B. Monitor and report installation procedures and unacceptable conditions.

3.05 CLEANING

- A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.
- B. Remove non-permanent labels immediately after glazing installation is complete.
- C. Clean glass and adjacent surfaces after sealants are fully cured.
- D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.06 PROTECTION

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.
- B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION

**SECTION 09 2116
GYPSUM BOARD ASSEMBLIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Metal stud wall framing.
- B. Gypsum sheathing.
- C. Cementitious backing board.
- D. Gypsum wallboard.
- E. Joint treatment and accessories.
- F. Textured finish system.

1.02 RELATED REQUIREMENTS

- A. Section 09 2216 - Non-Structural Metal Framing.

1.03 REFERENCE STANDARDS

- A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board 2017.
- B. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members 2018.
- C. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products 2020.
- D. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board 2020.
- E. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness 2018.
- F. ASTM C1396/C1396M - Standard Specification for Gypsum Board 2017.
- G. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels 2019, with Editorial Revision (2020).
- H. GA-216 - Application and Finishing of Gypsum Panel Products 2018.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on gypsum board, accessories, and joint finishing system.

1.05 QUALITY ASSURANCE

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
 - 1. See PART 3 for finishing requirements.

2.02 METAL FRAMING MATERIALS

- A. Non-structural Steel Framing for Application of Gypsum Board: As specified in Section 09 2216.
- B. Non-structural Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf.
 - 1. Studs: C-shaped with knurled or embossed faces.
 - 2. Runners: U shaped, sized to match studs.

2.03 BOARD MATERIALS

- A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Use for vertical surfaces, unless otherwise indicated.
 - 2. Glass mat faced gypsum panels, as defined in ASTM C1658/C1658M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.