

SECTION 010400

ARCHITECTURAL SPECIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. Description: Addition and remodel to ARW office building

1.2 DELEGATED ENGINEERING REQUIREMENTS

- A. Contract Documents Design Intent: Drawings and Specifications indicate design intent for products and systems and do not necessarily indicate or specify total Work required. Contract Documents shall not be construed as an engineered design; furnish and install all Work required for a complete installation.
- B. Delegated Engineering Responsibility: Contractor shall provide engineering for products and systems including attachment to building structure required to meet design intent of Contract Documents.
 - 1. Preparation of structural analysis data including engineering calculations, shop drawings and other submittals signed and sealed by the qualified professional engineer.

1.3 ACTION SUBMITTALS

- A. Shop Drawings: Show details of fabrication and installation, including plans, elevations, sections, details of components and attachments to other work.
 - 1. Provide submittals for items requiring Owner / Architect verification, beyond those documented in the drawings and details
- B. Samples for Verification Purposes: In manufacturer's standard size, sample of each different color and pattern, showing the full range of variations expected in these characteristics. Label each sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in Schedules.
 - 1. Provide samples for Owner verification of those items documented

1.4 INFORMATIONAL SUBMITTALS

- A. Manufacturer's Project Acceptance Document: Certification by the manufacturer that its product(s) are approved, acceptable, suitable for use in specific locations, for specific details, and for applications indicated, specified, or required, and that a warranty will be issued.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Experience: Installer's personnel with not less than 5 years of experience in the successful performance of Work similar to scope of this Project.

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2. Supervision: Installer shall maintain a competent supervisor at Project while the Work is in progress, and who has not less than 5 years of experience installing products and systems similar to scope of this Project
 - B. Accessibility Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.
 - C. Seismic Requirements: Comply with seismic requirements established by authorities having jurisdiction, applicable local building codes, and as indicated.
- 1.6 PROJECT CONDITIONS
- A. Field Measurements: Where products and systems are indicated to fit walls and other construction, verify dimensions by field measurements before fabrication.
- 1.7 COORDINATION
- A. Coordinate installation of products and systems with interfacing and adjoining construction to provide a successful installation without failure

PART 2 - SPECIFICATIONS

2.1 MANUFACTURERS AND PRODUCTS

- A. General: In the interests of brevity, often only one manufacturer and/or product may be listed in specifications. In subsequent design phases, a list of manufacturers and products will be included in each specification section.
- B. Basis of Design: Contract Documents are based on products and systems specified to establish a standard of quality. Other manufacturers offering products having equivalent characteristics may be considered, provided deviations are minor and comply with requirements of Contract Documents as judged by the Architect.

2.2 DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

- A. 00 3100 - AVAILABLE PROJECT INFORMATION
 1. Property Survey: Available from Owner.
 2. Geotechnical Investigation: Available from Owner.
- B. 00 5200 - AGREEMENT FORM
- C. 00 7200 - GENERAL CONDITIONS
 1. Available from Owner.
 2. The General Conditions of this Contract are that which is referenced in the Owner-Contractor Agreement and hereinafter is referred to as the "General Conditions" and shall apply to each Section of the Work as though written in full therein and are made a part of the Contract Documents by reference.

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D. 00 7300 - SUPPLEMENTARY CONDITIONS

1. Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations:
 - a. Abbreviated Language: Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words will be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Sections of Division 01 - General Requirements govern the execution of all sections of the specifications
3. The Relation of Specifications and Drawings shall be equal authority and priority. Should they disagree in themselves, or with each other, bids shall be based on the most expensive combination of quality and quantity of work indicated. The appropriate Work, in the event of disagreements, shall be determined by the Architect.
4. Should the Drawings disagree themselves, figures shall govern over scaled measurements, large scaled Drawings shall govern over small scale Drawings, the greater quantity of work or materials shall be furnished and performed; the descriptive writings shall govern over legends indicating material or conditions and the Agreement takes precedence over all other Contract Documents.
5. Should there be a conflict in the Contract Documents, the Contractor shall proceed in the more expensive manner unless determined otherwise by the Architect.

2.3 DIVISION 01 - GENERAL REQUIREMENTS

A. 01 1000 - SUMMARY

1. Description: Addition and remodel to ARW offices
2. Work by Owner:
 - a. Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.
3. Access to Site:
 - a. Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.
 - b. Do not disturb portions of site beyond areas in which the Work is indicated.
 - c. Owner will occupy site and existing building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations.

B. 01 2100 - ALLOWANCES

C. 01 2200 - UNIT PRICES

1. Provide unit process for items noted on the landscape plan

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D. 01 2500 - SUBSTITUTION PROCEDURES

1. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by Contractor after award of Contract.

E. 01 2600 - CONTRACT MODIFICATION PROCEDURES

1. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time.
2. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.
3. Construction Change Directive: Instruct Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
4. Minor Changes in Work: Architect will issue supplemental instructions.

F. 01 2900 - PAYMENT PROCEDURES

1. Schedule of Values: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
2. Application for Payment Forms: Unless directed otherwise by Owner, use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

G. 01 3100 - PROJECT MANAGEMENT AND COORDINATION

1. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
2. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
3. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, at a time to be decided prior to the scheduled date of Substantial Completion.
4. Progress Meetings: Schedule and conduct meetings and conferences at Project site unless otherwise indicated. Coordinate dates of meetings with preparation of payment requests.
5. Coordination Meetings: Contractor to conduct Project coordination meetings on an as-needed basis. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
6. Letters and Memoranda documents shall be submitted in a timely manner so as to facilitate project delivery and coordination. Routing of communications shall be as established in the Contract, the Contract Documents and the Pre-Construction Conference.
7. E-Mail Communications shall be used for communication for this project

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8. RFI (Request for Information - Contractor) shall be defined and limited to a request from the Contractor seeking interpretation or clarification of the requirements of the Contract Documents.
9. RFI-A (Request for Information - Architect) shall be defined as a request by the Architect for information relating to the obligations of the Contractor under the Contract.

H. 01 3200 - CONSTRUCTION PROGRESS DOCUMENTATION

1. Contractor's Bar Chart/Gantt Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 days of date established for the Notice to Proceed. Base schedule on the startup construction schedule and additional information received since the start of Project.

I. 01 3233 - PHOTOGRAPHIC DOCUMENTATION

1. Preconstruction photographs.
2. Periodic construction photographs.
3. Final completion construction photographs.

J. 01 3300 - SUBMITTAL PROCEDURES

1. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule.
2. Shop Drawings: Prepare Project-specific information, drawn accurately to scale.
3. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

K. 01 3500 - SPECIAL ALTERATION PROCEDURES

1. Renovation Work at/near Existing Building(s): Ensure that exits provide free and unobstructed egress. Personnel shall receive training, and the facility shall be notified if alternative exits must be designated. Buildings/areas under construction must maintain exit facilities for construction workers.

L. 01 4000 - QUALITY REQUIREMENTS

1. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
2. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements.
3. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
4. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results, including Owner acceptance of nonconforming work. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

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5. Contractor Responsibilities: **Tests and inspections are Contractor's responsibility.. Contractor shall engage a third party inspection company to provide the inspections and tests required by the documents.** Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

M. 01 4200 - REFERENCES

1. Specification Format: Divisions and Sections based on the 50-Division format and CSI Master Format (latest edition) numbering system.
2. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

N. 01 4323 - SPECIAL INSPECTIONS

1. Special Inspections required by Authorities Having Jurisdiction including supplementary work necessary to complete inspections.
2. Contractor shall cooperate with and assist Special Inspector in performing Special Inspections. Special Inspector shall have access to the project without restriction.
3. **Cost of employing the Special Inspector shall be the responsibility of the Contractor, as noted above.**

O. 01 5000 - TEMPORARY FACILITIES AND CONTROLS

1. Construction Facilities: Field Offices, Storage Sheds, Sanitary Facilities
2. Temporary Controls: Pest, Erosion and Sediment Control
3. Temporary Construction: Access Roads and Parking
4. Construction Aids: Hoist, Cranes, Elevators, Staging
5. Temporary Utilities: Water, Electricity, Telephone, Sewer, Heating, Fire Protection
6. Temporary Barriers and Enclosures: Fences, Walkways, Barricades, Security

P. 01 6000 - PRODUCT REQUIREMENTS

1. Summary: Administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
2. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
3. Delivery, Storage and Handling: Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
4. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
5. Restrictions of Hazardous Substances: Contractor shall not knowingly after reasonable diligence and effort, incorporate into the Work any hazardous substance other than as may be lawfully contained within products, except in accordance with applicable environmental laws

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Q. 01 7000 - EXECUTION

1. Field Engineering and Surveying: A professional land surveyor or engineer who is legally qualified to practice in jurisdiction where Project is located.
2. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.
3. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.
4. Progress Cleaning. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully
5. Starting and Adjusting. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
6. Protection of Installed Construction. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
7. Correction of the Work.

R. 01 7700 - CLOSEOUT PROCEDURES

1. Substantial Completion Procedures.
2. Final Completion Procedures.
3. Submittal of Project Warranties.
4. Final Cleaning. Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
5. Repair of the Work. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

S. 01 7823 - OPERATION AND MAINTENANCE DATA

1. Operation and maintenance documentation directory.
2. Emergency manuals.
3. Operation manuals for systems, subsystems, and equipment.
4. Product maintenance manuals.
5. Systems and equipment maintenance manuals.

T. 01 7839 - PROJECT RECORD DOCUMENTS

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Record Submittals.

U. 01 7900 - DEMONSTRATION AND TRAINING

1. Demonstration of operation of systems, subsystems, and equipment.
2. Training in operation and maintenance of systems, subsystems, and equipment.

2.4 DIVISION 02 - EXISTING CONDITIONS

A. 02 4116 - BUILDING DEMOLITION

1. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
2. Standards: Comply with ANSI A10.6 and NFPA 241.
3. Hazardous Materials: If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract
4. Refrigerant: Remove and store refrigerant according to 40 CFR 82 and regulations of authorities having jurisdiction
5. Existing Utilities: Locate, identify, disconnect, and seal or cap off utilities serving buildings and structures to be demolished.
6. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction
7. Demolition: Demolish indicated existing buildings, structures and site improvements completely. Use methods required to complete the Work within limitations of governing regulations
8. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities
9. Adjacent Construction: Protect adjacent construction that is to remain in place
10. Below-Grade Construction: Demolish foundation walls and other below-grade construction
11. Existing Utilities: Demolish existing utilities and below-grade utility structures that are within 5 feet outside of footprint indicated for new construction. Abandon utilities outside this area.
12. Repairs: Promptly repair damage to adjacent construction caused by building demolition operations.
13. Disposal: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
14. Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

B. 02 4119 - SELECTIVE DEMOLITION

1. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
2. Remove and Salvage: Detach items from existing construction and deliver them to Owners designated storage area.
3. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
4. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

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C. 02 4129 - ROOF TEAR OFF

1. Protect adjacent existing membrane roofing system that is indicated not to be removed.
2. Verify that rooftop utilities and service piping have been shut off before commencing Work.
3. Roof Tear-Off: Remove existing roofing membrane and other membrane roofing system components down to the deck.
4. Collect and place demolished materials in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
5. Transport demolished materials off Owner's property. Legally dispose of them.

2.5 DIVISION 03 - CONCRETE

- A. Refer to structural notes for concrete structural elements and their requirements

2.6 DIVISION 04 - MASONRY

A. 04 2100 - MASONRY VENEER

1. Quality Standards: In addition to specified requirements, comply with TMS 602 and local building code, whichever is more stringent.
 - a. Cavity: 2-inch with drainage panel at flashing.
2. Sample Panels: The existing construction is considered the basis of installation / quality for the new construction
3. Material/Finish Selection: Design intent is to match adjacent existing construction
 - a. Face Brick: ASTM C 216 or ASTM C 652, Grade SW, Type FBS
 - b. Calcium Silicate: ASTM C 73, Grade SW
 - c. Decorative CMU: ASTM C 90
 - d. Mortar / reinforcing: Refer to structural notes
4. Seismic Adjustable Masonry Veneer Anchors for Sheathed Steel Studs Walls with Insulation in Cavity:
 - a. Hohmann & Barnard, Inc.; HB-213-2X SIS Seismic Veneer Anchor (HB-213 Adjustable Veneer Anchor, Insulation Retainer, Wire Pintel with Seismiclip Interlock System).
5. Polymer-Coated Steel Drill Screws for Steel Studs: Self-drilling, hex washer head with bonded EPDM washer, screw of size and length required to penetrate steel stud flange by not less than 3 exposed threads; corrosion protective organic polymer coating with salt-spray resistance to red rust of more than 800 hours per ASTM B 117.
6. Sheet Metal Flashing: Metal flashing to comply with SMACNA's Architectural Sheet Metal Manual and as follows:
 - a. Quality Standard: ASTM A 240 / A 240M or A 666, Type 304.
 - b. Description: Stainless steel, 2D annealed finish, not less than 0.0250 in (24 ga) (0.64 mm) thick, unless noted otherwise.

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7. Rubberized-Asphalt Flexible Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.040 inch (1.02 mm).
 - a. Hohmann & Barnard, Inc.; Textroflash.
8. Self-Adhering Metal Sheet Membrane Flexible Flashing: Composite flashing product consisting of flexible 2 mil Type 304 or Type 316 stainless steel sheet, butyl adhesive, interlayer, and siliconized release liner.
 - a. York Flashing; Self-Adhering Stainless Steel 304 SA or 316 SA.
9. Weeps and Vents: One-piece flexible extrusion made from ultraviolet light resistant polypropylene copolymer, consisting of honeycomb matrix of multiple cells, designed to fill head joint with outside face held back 1/8 in (3 mm) from exterior face of masonry veneer.
10. Cavity Drainage Material: Composed of either reticulated, nonabsorbent mesh made from polyethylene strands, or, polymer core geomatrix composed of woven nylon strands, molded and shaped in open weave configuration to maintain drainage at weeps without being clogged by mortar droppings, size as required to extend across entire width of cavity.
11. Termination Bars: ASTM A 666, Type 304 formed stainless steel flat bars; 1 in by 1/8 in (25 mm by 3 mm) thick; predrilled at 8 in (200 mm) centers.
12. Commercial Cleaning Compounds: Products as recommended and approved by masonry veneer and mortar manufacturers.

2.7 DIVISION 05 - METALS

A. 05 1200 - STRUCTURAL STEEL FRAMING

1. Refer to structural notes for steel framing elements / requirements

B. 05 3123 - STEEL ROOF DECKING

1. Refer to structural notes for steel roof framing elements / requirements

C. 05 4100 - COLD FORMED METAL FRAMING

1. Refer to structural notes for cold formed metal framing elements / requirements

D. 05 5000 - METAL FABRICATIONS

1. Interior Fabrications: Ferrous steel, shop primed.
2. Fasteners: Select fasteners for type, grade, and class required to produce connections suitable for anchoring fabrications to other types of construction indicated.
3. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563/ A 563M; and, where indicated, flat washers. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.
4. Anchors: Provide anchors capable of sustaining, without failure, a load equal to 6 times load imposed when installed in unit masonry and 4 times load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.

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5. Non-shrink, Non-metallic Grout: Factory-packaged, non-staining, non-corrosive, non-gaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer/fabricator.

2.8 DIVISION 06 - WOOD, PLASTICS AND COMPOSITES

A. 06 1053 - MISCELLANEOUS ROUGH CARPENTRY

1. Miscellaneous Rough Carpentry within Roofing System Assemblies: Wood cants, nailers, curbs, equipment support bases, blocking, and similar members in connection with roofing system assembly and flashings shall be fabricated and installed to withstand specified uplift pressures and thermally induced movement without contributing to failure of roofing system or flashings.
2. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - a. Dimension Lumber Items: Construction or No. 2 grade lumber.
3. Preservative Treatment by Pressure Process: AWPAC U1; Use Category UC4a.
 - a. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, air water barriers, and waterproofing.
 - 1) Contractor Option - Untreated Wood within Roofing System Assemblies: Contractor may use untreated wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing assemblies that are concealed within the roofing membrane.
 - b. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
4. Fasteners: Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.

B. 06 1643 - EXTERIOR GYPSUM SHEATHING

1. Exterior Gypsum Sheathing: ASTM C 1177 / C 1177M, Type X, Paperless, treated, water resistant, noncombustible, gypsum core with inorganic glass mat partially or completely embedded on both faces; 5/8 in (15 mm) thick. Provide in maximum lengths and widths available that will minimize short-edge-to-short-edge butt joints and to correspond to support system indicated.
 - a. Georgia-Pacific Gypsum LLC; DensGlass Fireguard Type X Sheathing.
2. Vertical Cover Boards (Back of Parapet) at Roofing: Provide same product used for horizontal roof cover boards.
 - a. Georgia-Pacific Gypsum LLC; DensDeck Prime or DensDeck StormX Prime; as recommended by roofing system manufacturer.

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3. Horizontal Roof Cover Boards: As specified in Division 07 Section for roofing membrane.
4. Joint Treatment Materials:
 - a. General: Joint and penetration treatment materials shall be compatible with and recommended by gypsum sheathing manufacturer and air / water barrier manufacturer for application indicated.
 - b. Air Barrier Liquid Membrane: Liquid detail and substrate patching membrane for use with sheathing tape at joints and penetrations and for covering exposed fasteners.
 - 1) Sheathing Tape: Type recommended by sheathing manufacturer and air / water barrier manufacturer for use with air barrier liquid membrane in sealing joints and penetrations in glass-mat gypsum sheathing.

C. 06 4023 - INTERIOR ARCHITECTURAL WOODWORK

1. Quality Standard: Comply with "Architectural Woodwork Standards" for standards and for grades of interior architectural woodwork indicated for construction, finish, installation and other requirements, Premium Grade.
2. Material/Finish Selection: Match existing wood materials and finishes
 - a. Wood Species and Cut for Transparent Finish: Match existing
3. Cabinet Hardware and Accessories: Provide cabinet hardware and accessory materials associated with architectural cabinets including concealed hinges, drawer slides, shelf supports, locks, pulls.
 - a. Basis of Design: Match existing cabinet hardware for matching elements. Provide new hardware with finishes to match existing finishes
4. Cabinets:
 - a. AWI Type of Cabinet Construction: Flush overlay unless indicated otherwise.
 - b. Medium-Density Fiberboard: ANSI A208.2, minimum Grade 130-MR50, made with binder containing no added urea formaldehyde.
 - c. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no added urea formaldehyde.
 - d. Softwood Plywood: DOC PS 1.
 - e. Lumber Trim and Edges: If not indicated, trim and edges shall be solid wood lumber compatible with grain and color of veneered panel
 - f. Drawer Box Construction: Dovetail or glued and dowel.
 - 1) Drawer Sides, Backs and Sub-Fronts: 1/2 in (12 mm) minimum thickness, Solid-hardwood lumber.
 - 2) Drawer Bottoms: 1/4 in (6 mm) minimum thickness, Hardwood plywood with veneer core
 - 3) Drawer Fronts: Medium density fiberboard, 3/4 in (19 mm) thick minimum thickness.

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5. Countertops:
 - a. Refer to simulated stone fabrications
6. Shop Finishing: Finish architectural woodwork at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.
 - a. Finish System - 5: Conversion varnish.

2.9 DIVISION 07 - THERMAL AND MOISTURE PROTECTION

A. 07 2100 - THERMAL INSULATION

1. Fire Resistance Ratings: Materials and construction identical to assemblies tested for fire resistance according to ASTM E 119/NFPA 251/UL 263 and included under Categories listed below that are published in Underwriters Laboratories, Inc. (UL) "Fire Resistance Directory"; or listing of another testing and inspecting agency acceptable to authorities having jurisdiction.
2. Glass Mineral Fiber (Fiberglass) Batt Insulation:
 - a. Unfaced Batt Insulation: ASTM C 665, Type I, ASTM C553, Type II. Unfaced blankets produced by bonding inorganic glass mineral fibers with a thermosetting binder; free of formaldehyde.
3. Glass Mineral Fiber (Fiberglass) Semi-Rigid Insulation: ASTM C 612, Type IA or Types IA and IB. Unfaced, semi-rigid boards produced by bonding inorganic glass mineral fibers with a thermosetting binder; free of formaldehyde.
4. Mineral Wool Semi-Rigid Insulation:
 - a. Exterior Cavity Wall Locations: ASTM C 612, Type IVA or IVB. Unfaced rock mineral wool board insulation, lightweight and water repellant, and intended for use in cavity wall installations; attached to substrate with mechanical fasteners.
 - b. Other-than-Cavity Wall Locations:
 - 1) Unfaced: ASTM C 612, Types IA and IB. Unfaced rock mineral wool board insulation.
 - 2) Foil-Faced: ASTM C 612, Types IA and IB. Rock mineral wool board insulation faced with foil-scrim-kraft vapor-retarder membrane.
5. Extruded Polystyrene Rigid Insulation: Unfaced, rigid, cellular polystyrene thermal insulation formed from polystyrene base resin by an extrusion process, and manufactured with low-GWP blowing technology.
 - a. Quality Standard: ASTM C 578 of following type and minimum compressive strength for the following locations:
 - 1) Backfilled Walls: Type IV, 25 psi (173 kPa)

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B. 07 2400 - EXTERIOR INSULATION AND FINISH SYSTEM (EIFS) - DRAINAGE WALL ASSEMBLY

1. Polymer-Based Exterior Insulation and Finish System: Class PB EIFS, as defined in ASTM E2568.
2. Manufacturers Material and Labor Warranty, 10 years; Installer Warranty, 5 years.
3. Acceptable Manufacturers:
 - a. Dryvit; Outsulation Plus MD System.
 - b. Sto Corp.; StoPanel Classic NExT.
4. Water-Resistive Barrier Coating: EIFS manufacturer's standard 100% acrylic polymer based formulation and accessories for use as water-resistive barrier coating; compatible with gypsum sheathing and other approved substrates.
5. Barrier Flashing/Transition Membrane: EIFS manufacturer's recommended standard or product recommended in writing by EIFS manufacturer.
6. Insulation Adhesive - Drainage System: EIFS manufacturer's standard formulation designed for indicated use; specifically formulated to be applied to back side of insulation in a manner that creates open vertical channels designed to serve as an integral part of the water-drainage system of the EIFS-clad drainage-wall assembly; compatible with substrates of type indicated.
7. Molded, (Expanded) Rigid Cellular Polystyrene Board Insulation: Comply with ASTM E2430/E2430M.
 - a. Comply with EIFS manufacturer's requirements, ASTM C 578 for Type I, and "EIMA Guideline Specification for Expanded Polystyrene (EPS) Insulation Board" for more stringent requirements for material performance and qualities of insulation, including dimensions and permissible variations.
8. Reinforcing Mesh: Balanced, alkali-resistant, open-weave, glass-fiber mesh treated for compatibility with other EIFS materials, made from continuous multi-end strands with retained mesh tensile strength of not less than 120 lbf/in. (21 dN/cm) according to ASTM E2098/E2098M.
9. Base-Coat: Factory-blended dry formulation of portland cement, dry polymer admixture, and inert fillers.
10. Primer: EIFS manufacturer's standard factory-mixed, elastomeric-polymer primer for preparing base-coat surface for application of finish coat.
11. Finish Coat: EIFS manufacturer's standard factory blended, 100% acrylic polymer based coating with enhanced mildew resistance or siliconized acrylic-based coating, Factory-mixed formulation of polymer-emulsion binder, colorfast mineral pigments, sound stone particles, and fillers.
12. Material/Finish Selection: Match existing color and finish

C. 07 2423 - DIRECT-APPLIED EXTERIOR FINISH SYSTEM (DEFS)

1. Manufacturers Material and Labor Warranty, 5 years; Installer Warranty, 2 years.
2. Acceptable Manufacturers:
 - a. Dryvit Systems, Inc.
 - b. Omega Products International, Inc.
 - c. Parex.
 - d. Sto Corp.

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3. Basis of Design:

- a. Gypsum Sheathing at storage building: Parex USA; ACF.
- 4. Joint Treatment Materials: System manufacturer standard detail mesh and base coat.
 - 5. Barrier Flashing/Transition Membrane: DEFS manufacturer's recommended standard or product recommended in writing by DEFS manufacturer.
 - 6. Reinforcing Mesh: Balanced, alkali-resistant, open-weave, glass-fiber mesh treated for compatibility with other DEFS materials, made from continuous multi-end strands with retained mesh tensile strength of not less than 120 lbf/in. (21 dN/cm) according to ASTM E2098/E2098M.
 - 7. Waterproofing Base Coat: DEFS manufacturer's recommended standard factory-blended dry formulation of portland cement, dry polymer admixture, and inert fillers.
 - 8. Primer: DEFS manufacturer's recommended standard factory-mixed, elastomeric-polymer primer for preparing base-coat surface for application of finish coat.
 - 9. Finish Coat: DEFS manufacturer's standard factory blended, 100% acrylic polymer based coating with enhanced mildew resistance or siliconized acrylic-based coating.
 - 10. Cementitious Backer Units: ANSI A118.9 or ASTM C 1325. Cementitious panels composed of Portland cement, aggregates, glass mesh on both faces, and manufacturer's proprietary ingredients; capable of remaining unaffected by prolonged exposure to water; 1/2 in (12 mm) thick.
 - 11. Material/Finish Selection: Refer to drawings

D. 07 2617 - BELOW SLAB VAPOR RETARDERS

- 1. Quality Standard: ASTM E 1745, Class A, except water vapor permeance property shall not exceed 0.03 perms according to ASTM E 96, Method B.
- 2. Vapor Retarder for Typical Concrete Slab-on-Grade Conditions: Prefabricated, flexible, lightweight material manufactured from raw or virgin polyethylene or polyolefin resins (post-consumer, recycled resins are not permitted); not less than 15 mil (0.4 mm) thick.
 - a. Basis of Design: Stego Industries LLC; Stego Wrap, 15-mil.

E. 07 2713 - SELF-ADHERING AIR AND WATER BARRIERS

- 1. Manufacturer Warranty, 10 years; Installer Warranty, 2 years.
- 2. General: Air and water barrier assembly and seals with adjacent construction shall be capable of performing as a continuous air and water barrier and as a liquid-water drainage plane flashed to discharge to the exterior. Air and water barrier assemblies shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, penetrations, tie-ins to installed waterproofing, and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.
 - a. Air-Barrier Air Leakage - Assembly: Maximum 0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. (0.2 L/s x sq. m of surface area at 75 Pa), when tested according to ASTM E 2357.

F. 07 2726 - FLUID-APPLIED AIR AND WATER BARRIERS

1. Manufacturer Warranty, 10 years; Installer Warranty, 2 years.
2. General: Air and water barrier assembly and seals with adjacent construction shall be capable of performing as a continuous air barrier and as a liquid-water drainage plane flashed to discharge to the exterior. Air and water barrier assemblies shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, penetrations, tie-ins to embedded flashing, tie-ins to installed waterproofing, and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.
 - a. Air-Barrier Air Leakage - Assembly: Maximum 0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. (0.2 L/s x sq. m of surface area at 75 Pa), when tested according to ASTM E 2357.
3. Fluid Applied Air and Water Barrier - Vapor-Permeable: Liquid membrane with an installed dry film thickness according to manufacturer's written instructions, over smooth, void-free substrates.
 - a. Silicone Type:
 - 1) Dow Corning; DefendAir 200 Silicone Liquid Applied Air and Water Barrier System.
 - 2) Momentive Performance Materials, Inc. / GE Silicones; Elemax 2600 Air and Water Barrier System.
 - b. Synthetic Acrylic Polymer Type:
 - 1) Tremco Commercial Sealants and Waterproofing; EXOAIR 230 Permeable Air and Water Barrier Membrane System.
 - c. Air Permeance - Materials: Maximum 0.004 cfm/sq. ft. of surface area at 1.57-lbf/sq. ft. (0.02 L/s x sq. m of surface area at 75-Pa) pressure difference; ASTM E 2178.
 - d. Vapor Permeance: 10 perms (580 ng/Pa x s x sq. m) minimum; ASTM E 96/E 96M, Water Method.
 - e. Adhesion to Substrate: Minimum 30 lbf/sq. in. (207 kPa) when tested according to ASTM D 4541 for adhesion to concrete.
 - f. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.
4. Barrier Sealing Tape: Sheet material laminated to adhesive coated butyl or other barrier sealing tape approved by air and water barrier manufacturer for sealing fastener and anchor penetrations.

G. 07 5013 - SINGLE-PLY MEMBRANE ROOFING

1. Quality Standards: Unless otherwise recommended by roofing manufacturer, provide roofing system in accordance with recommendations of the NRCA "Roofing and Waterproofing Manual" for roofing type indicated.
2. Manufacturer Warranty, 20 years No Dollar Limit; Installer Warranty, 2 years.
 - a. Warranty Wind Speed: Minimum 90-mph Peak Gust Wind Speed.

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3. FM Approvals' Listing: Roof membrane, base flashings, and component materials shall comply with requirements in FM Approvals 4450 or FM Approvals 4470 as part of a roofing system, and shall be listed in FM Approvals' RoofNav for Class 1 or noncombustible construction, as applicable. Identify materials with FM Approvals Certification markings.
 - a. Fire/Windstorm Classification - Roof Corner and Perimeter Region: Class 1A-150.
 - b. Fire/Windstorm Classification - Field of Roof: Class 1A-90.
4. SPRI Wind Design Standard for Edge Systems: Provide edge systems tested in accordance with ANSI/SPRI/FM 4435/ES-1 Wind Test Design Standard for Edge Systems Used with Low Slope Roofing Systems and capable of resisting design pressures.
5. Fire-Test-Response Characteristics: Provide roofing system materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
6. Acceptable Manufacturers:
 - a. Carlisle
 - b. Johns Manville
 - c. Sika Sarnafil
7. TPO Membrane Roofing System: ASTM D 6878, internally fabric or scrim reinforced, uniform, flexible TPO sheet. ASTM D 6878, 60-mil nominal.
8. Clad Sheet Metal Flashing: Manufacturer's standard clad stainless steel flashing, minimum 24 gauge, of same color as roofing membrane. Fluid Applied, Reinforced Liquid Flashing: Manufacturer's standard two-component polymethyl-methacrylate-based liquid flashing.
9. Substrate Boards for Vapor Retarder: ASTM C1177/C1177M, glass-mat, water-resistant gypsum board or ASTM C1278/C1278M fiber-reinforced gypsum board.
 - a. Basis of Design: Georgia-Pacific Gypsum LLC; DensDeck Prime.
10. Self-Adhering-Sheet Vapor Retarder: Minimum 40-mil- (1.0-mm-) composite consisting of self-adhering rubberized asphalt and laminated film backing, maximum permeance rating of 0.1 perm (6 ng/Pa x s x sq. m). Provide primer when recommended by vapor retarder manufacturer..
11. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 2, Grade 2, coated polymer bonded glass-fiber mat facers on both major surfaces.
 - a. R-Value: R-30 minimum.
12. Cold Fluid-Applied Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer. Bead-applied, low-rise, two-component urethane adhesive.
13. Roof Cover Boards: ASTM C1177/C1177M, glass-mat, water-resistant gypsum board or ASTM C1278/C1278M fiber-reinforced gypsum board. Provide in maximum lengths and widths available that will minimize short-edge-to-short-edge butt joints and to correspond to support system indicated.

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- a. Basis of Design: Georgia-Pacific Gypsum LLC; DensDeck Prime or DensDeck StormX Prime.

H. 07 6200 - SHEET METAL FLASHING AND TRIM

1. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
2. SPRI Wind Design Standard: Manufacture and install copings and roof edge flashings tested according to SPRI ES-1 and capable of resisting the following design pressure.
3. FM Approvals Listing: Manufacture and install copings and roof edge flashings that are listed in FM Approvals' "RoofNav" and approved for windstorm classification. Identify materials with name of fabricator and design approved by FM Approvals
4. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.
5. Self-Adhering, High-Temperature Sheet Underlayment: Minimum 30 mils (0.76 mm) thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing.

- a. Basis of Design: GCP Applied Technologies; Ultra.

6. Rubberized-Asphalt Flexible Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.040 in (1.02 mm).

- a. Basis of Design: GCP Applied Technologies; Perm-A-Barrier Wall Flashing.

7. Self-Adhering Metal Sheet Membrane Flexible Flashing: Composite flashing product consisting of flexible 2 mil Type 304 or Type 316 stainless steel sheet, butyl adhesive, interlayer, and siliconized release liner.

- a. Basis of Design: York Flashing; Self-Adhering Stainless Steel 304 SA or 316 SA.

8. Sealant for Use at Concealed Joints: Sealant shall be compatible with underlayment materials at interfaces. Contractor's option, one of the following:

- a. Butyl: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for expansion joints with limited movement.
- b. Silicone: ASTM C 920, single-component, neutral cure silicone sealant.

9. Sealant Seams - Coated Metals: Fabricate non-moving seams with flat-lock seams. Form seams and seal with elastomeric sealant. Form seams and seal with elastomeric sealant. Rivet joints where necessary for strength.

10. High-Performance Organic Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions. Provide dry film thickness, primers, color coats and clear coats required to comply with performance requirements and warranty periods indicated.

- a. PVDF Fluoropolymer Finish: Fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat.

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- b. FEVE Fluoropolymer Finish: Fluoropolymer finish complying with AAMA 2605 and containing 100 percent fluorinated ethylene vinyl ether (FEVE) resin in color coat.

11. Material/Finish Selection: Match existing parapet cap color

I. 07 9200 - JOINT SEALANTS

- 1. Sealant, Waterproofing and Restoration Institute (SWRI) Validation Certificate: Each sealant shall be validated by SWRI Sealant Validation Program.
- 2. Exterior Non-sag Silicone Sealant: ASTM C 920, Type S, Grade NS, Class 50 or 100/50 as applicable for substrate.
 - a. Basis of Design: Dow; DOWSIL 795 Silicone Building Sealant or Dow; DOWSIL 790 Silicone Building Sealant.
 - 1) Joints on exterior side of exterior walls.
- 3. Exterior Air and Water Barrier Sealant (Weather Barrier Sealant): One part, neutral cure silicone sealant, designed for adhering to low energy surfaces commonly found on sheet air and water barriers.
 - a. Basis of Design: Dow Corning; Dowsil 758 Silicone Weather Barrier Sealant.
 - 1) Exterior moving and non-moving joints sealed to weather barrier materials.
- 4. Interior Non-sag Silicone Sealant: ASTM C 920, Type S, Grade NS, Class 25.
 - a. Basis of Design: Dow; DOWSIL 786 Silicone Sealant.
 - 1) Non-moving joints in moist or damp areas which are susceptible to mildew; toilet rooms; kitchens
- 5. Interior non-sag Urethane Sealant: ASTM C 920, Type S, Grade NS, Class 25 or 35.
 - a. Basis of Design: Tremco Commercial Sealants & Waterproofing; Dymonic or Vulkem 116.
 - 1) Joints on interior side of exterior walls where joint movement is anticipated.
- 6. Interior Non-sag Acrylic Latex Sealant: ASTM C 834, Type and Grade as required by conditions.
 - a. Basis of Design: Tremco Commercial Sealants & Waterproofing; Tremflex 834.
 - 1) Non-moving joints where another type of sealant is not otherwise specified or scheduled.

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7. Sprayed Foam Insulating Gap Filler: Low pressure, one-component, expanding, closed-cell polyurethane insulating foam gap filler; applied with professional hand-held dispensing gun; CFC and HCFC free.
 - a. Basis of Design: DAP Products, Inc.; DAPtex Plus.
 - 1) Exterior non-moving gaps around windows, glazed aluminum walls, doors, and penetrations beneath weather-resistant coverings
 - 2) Interior non-moving gaps around windows, glazed aluminum walls, doors, and penetrations.
8. Acoustical Sealants: As specified in Division 09 Section Gypsum Board Assemblies.
9. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
 - a. Use closed cell (Type C) sealant backing rod at formed sealant joints for typical conditions unless otherwise recommended by sealant manufacturer.
 - b. Use open cell (Type O) sealant backing rod at interior line of sealant for double sealed condition unless otherwise recommended by sealant manufacturer.
10. Preformed Cured Silicone Sheet and Transition Strips: Preformed silicone strip and molded pieces designed for flashing and transition applications, including closures between building envelope systems and spanning joints with large and/or dynamic movement.
 - a. Basis of Design: Dow; DOWSIL Silicone Transition System.
11. Material/Finish Selection: Choose from manufacturer's standard and custom colors.

2.10 DIVISION 08 - OPENINGS

A. 08 1113 - HOLLOW METAL DOORS AND FRAMES

1. Interior Commercial Frames: NAAMM-HMMA 861; ANSI/SDI A250.4, Physical Performance Level A.
 - a. Doors: Uncoated steel sheet, minimum thickness of 0.042 inch (1.0 mm).
 - b. Frames: Uncoated steel sheet, minimum thickness of 0.053 inch (1.3 mm), except 0.067 inch (1.7 mm) for openings exceeding 4 feet (1219 mm) wide.
2. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping in accordance with ANSI/SDI A250.6, the Door Hardware Schedule, and templates.

B. 08 1416 - SOLID CORE FLUSH WOOD DOORS

1. Quality Standard: Comply with AWI "Architectural Woodwork Standards."
2. Manufacturer Warranty, Life of installation.
3. Performance Grade by Location:

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- a. ANSI/WDMA I.S. 1A Heavy Duty: Typical locations, unless indicated otherwise below.
 - b. ANSI/WDMA I.S. 1A Extra Heavy Duty: Locations include classrooms, public toilets, janitor's closets, assembly spaces, exits, patient rooms, and where indicated on Drawings.
 - 4. Interior Doors, Solid-Core Five-Ply Veneer-Faced - Transparent Finish:
 - a. Architectural Woodwork Standards Grade: Premium, with Grade AA wood veneer faces.
 - 5. Factory Fitting: Factory fit doors to suit frame-opening sizes indicated.
 - a. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
 - b. Factory machine doors for hardware that is not surface applied.
 - 6. Factory Finishing:
 - a. Architectural Woodwork Standards System-5, Varnish, Conversion.
 - 7. Material/Finish Selection: Match existing wood door species and finish.
- C. 08 4213 - ALUMINUM ENTRANCE DOORS
- 1. Manufacturer Warranty, 5 years; Installer Warranty, 2 years.
 - 2. Basis of Design - Aluminum Entrance Door Systems:
 - a. Standard thermal entrance doors.
 - 1) Kawneer; 350T Thermal Entrances, Medium Stile.
 - 3. Hardware: Concealed closers, concealed rod exit device, threshold, pulls, overhead stop.
 - 4. Structural Loads: Engineer products and systems to withstand loads within limits of allowable working stresses of the materials involved under conditions indicated including, but not limited to gravity, wind, seismic, and erection design loads and thermal movements established by authorities having jurisdiction, applicable building codes, and as indicated.
 - a. Wind and Other Loads: As indicated in Drawings or Wind Analysis Report.
 - 5. Structural Test Performance: Test according to ASTM E 330.
 - 6. Energy Performance - Exterior Doors:
 - a. Thermal Transmittance (U-Factor): U-factor as determined in accordance with NFRC 100.
 - 1) Maximum U-Factor: As indicated on Drawings, comply with building energy performance model for this project.

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- b. Solar Heat Gain Coefficient (SHGC): Solar Heat Gain Coefficient as determined in accordance with NFRC 200.
 - 1) Maximum SHGC: As indicated on Drawings, comply with building energy performance model for this project.
- c. Air Leakage:
 - 1) Air leakage of not more than 1.0 cfm/sq. ft. (5.08 L/s per sq. m) at a static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa)..
- d. Condensation Resistance: Condensation resistance as determined in accordance with NFRC 500.
 - 1) Entrance Doors: No condensation allowed under design conditions indicated.
- 7. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes:
 - a. Temperature Change (Range): 120 deg F (49 deg C), ambient; 180 deg F (82 deg C), material surfaces.
- 8. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.
- 9. Material/Finish Selection: Match existing glazing system finish

D. 08 4400 - GLAZED ALUMINUM FRAMING SYSTEMS

- 1. Basis of Design - Glazed Aluminum Framing Systems:
 - a. Glazed aluminum storefront systems.
 - 1) Storefront System: Kawneer VG 451 T-UT with High Performance Sill Flashing.
- 2. Structural Loads: Engineer products and systems to withstand loads within limits of allowable working stresses of the materials involved under conditions indicated including, but not limited to gravity, wind, seismic, and erection design loads and thermal movements established by authorities having jurisdiction, applicable building codes, and as indicated.
 - a. Wind and Other Loads: As indicated.
- 3. Deflection of Framing Members and Panels: At design wind pressure.
 - a. Deflection Normal to Wall Plane: Limited to 1/175 of clear span for spans of up to 13 feet 6 inches (4050 mm) and to 1/240 of clear span plus 1/4 inch (6 mm) for spans of greater than 13 feet 6 inches (4050 mm) or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19 mm), whichever is less.
- 4. Structural Test Performance: Test according to ASTM E 330.

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5. Water Penetration under Static Pressure for Storefront System: Test in accordance with ASTM E 331 as follows:
 - a. No evidence of water penetration through fixed glazing and framing areas when tested in accordance with a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 10 lbf/sf (480 Pa).
6. Water Penetration under Static Pressure: Test in accordance with ASTM E 331 as follows:
 - a. No evidence of water penetration for the system when tested in accordance with a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 12 lbf/sf (576 Pa).
7. Water Penetration under Dynamic Pressure: Test in accordance with AAMA 501.1 as follows:
 - a. No evidence of water penetration for the system when tested in accordance with a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 12 lbf/sf (576 Pa).
8. Energy Performance:
 - a. Thermal Transmittance (U-factor) - Fixed Vision Glazing and Framing Areas: U-factor as determined in accordance with NFRC 100.
 - 1) Maximum U-Factor: As indicated on Drawings
 - b. Thermal Transmittance (U-factor) - Fixed Spandrel Glazing, Metal Panels and Framing Areas: U-factor as determined in accordance with NFRC 100.
 - 1) Maximum U-Factor: As indicated on Drawings
 - c. Solar Heat Gain Coefficient (SHGC) - Fixed Glazing and Framing Areas: Solar Heat Gain Coefficient as determined in accordance with NFRC 200.
 - 1) Maximum SHGC: As indicated on Drawings.
 - d. Air Leakage:
 - 1) Air leakage for the system of not more than 0.06 cfm/sf (0.30 L/s/sm) at a minimum static-air-pressure differential of 6.24 lbf/sf (300 Pa) when tested in accordance with ASTM E 283.
 - e. Condensation Resistance: Condensation resistance as determined in accordance with NFRC 500.
 - 1) Fixed Glazing and Framing Areas: No condensation allowed under design conditions indicated.

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9. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes:
 - a. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
 10. Weatherseal Sealant: ASTM C 920 for Type S, Grade NS, Class 50, neutral-curing silicone formulation compatible with system components with which it comes in contact; and recommended by weatherseal-sealant and curtain-wall manufacturers for this use.
 11. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.
 12. Material/Finish Selection: Match existing glazing system finish
- E. 08 6300 - METAL FRAMED SKYLIGHTS
1. Manufacturer Warranty, 5 years; Installer Warranty, 2 years.
 2. Structural Loads: Engineer products and systems to withstand loads within limits of allowable working stresses of the materials involved under conditions indicated including, but not limited to gravity, wind, seismic, and erection design loads and thermal movements established by authorities having jurisdiction, applicable building codes, and as indicated.
 - a. Wind and Other Loads: As indicated in Drawings or Wind Analysis Report.
 3. Structural Movement: Engineer system to withstand movements of supporting structure including, but not limited to inter-story drift, twist, column shortening, long-term creep and deflection from uniformly distributed and concentrated live loads.
 4. Deflection of Framing Members and Panels: At design wind pressure.
 - a. Deflection Normal to Wall Plane: Limited to 1/175 of clear span for spans of up to 13 feet 6 inches (4050 mm) and to 1/240 of clear span plus 1/4 inch (6 mm) for spans of greater than 13 feet 6 inches (4050 mm) or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19 mm), whichever is less.
 5. Structural Test Performance: Test according to ASTM E 330.
 6. Water Penetration under Static Pressure: Test in accordance with ASTM E 331 as follows:
 - a. No evidence of water penetration for the system when tested in accordance with a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 12 lbf/sf (576 Pa).
 7. Water Penetration under Dynamic Pressure: Test in accordance with AAMA 501.1 as follows:
 - a. No evidence of water penetration for the system when tested in accordance with a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 12 lbf/sf (576 Pa).

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8. Energy Performance:
 - a. Air Leakage:
 - 1) Air leakage for the system of not more than 0.06 cfm/sf (0.30 L/s/sm) at a minimum static-air-pressure differential of 6.24 lbf/sf (300 Pa) when tested in accordance with ASTM E 283.
 - b. Condensation Resistance: Condensation resistance as determined in accordance with NFRC 500.
 - 1) Fixed Glazing and Framing Areas: No condensation allowed under design conditions indicated.
9. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes:
 - a. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
10. Glazing: Manufacturer's standard polycarbonate dual panels.
11. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

F. 08 7100 - DOOR HARDWARE

1. Door Hardware: Design intent is to match existing cylindrical lockset type / style and finish. Match existing hardware finish for exposed elements (hinges, etc.) Refer to door hardware information on drawings for functions

G. 08 8000 - GLAZING

1. Standards: NGA/GANA, FGIA/AAMA, FGIA/IGMA, ANSI Z97.1, IGCC, UL, ASTM.
2. Manufacturer Warranty, 10 years; Installer Warranty, 2 years.
3. Structural Loads: Engineer products and systems to withstand loads within limits of allowable working stresses of the materials involved under conditions indicated including, but not limited to gravity, wind, seismic, and erection design loads and thermal movements established by authorities having jurisdiction, applicable building codes, and as indicated.
 - a. Glazing shall withstand design loads within limits and under conditions indicated determined in accordance with the IBC and ASTM E1300.

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4. Exterior Glazing:

- a. Wind and Other Loads: As indicated in Drawings or Wind Analysis Report.
- b. Glass Deflection: At design wind pressure.
 - 1) Four Side Supported Glass Edges: For short side glass edge dimension (L), limit center-of-glass deflection to not greater than $L/100$ or 1 in (25mm), whichever is less.
- c. Safety Glazing: Where safety glazing is indicated or required, provide glazing that complies with 16 CFR 1201, Category II.
 - 1) Human Impact Loads: Locations indicated, and as defined by building code; glazed with safety glass.

5. Interior Glazing:

- a. Maximum Lateral Deflection: For glass supported on all four edges or two edges, limit center-of-glass deflection to not more than $1/100$ times the short-side length or $1/2$ in (12 mm), whichever is less, at 10 lb/sq ft (479 Pa) lateral load.
6. Fully Tempered Float Glass: ASTM C1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.
7. Heat-Strengthened Float Glass: ASTM C1048, Kind HS (heat strengthened), Type I, Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.
8. Source Quality Control: Manufacturer/fabricator shall perform pre-construction source quality-control inspections and testing, including but not limited to the following.
- a. Basis of Design for Quality Standard: Vitro (PPG) Skyline Quality Standard or equivalent standard as recommended by glass manufacturer/fabricator and accepted by the Architect.
 - b. Certification: Certifications by the manufacturer/fabricator that its products and systems comply with requirements and that products failing to meet requirements are not incorporated into the Work.
 - c. Monolithic, Heat Treated - Roll Wave and Millidiopter Maximum Distortion Tolerances: On-Line Measurement.
 - 1) Roll Wave (Horizontal) Distortion Tolerances: Maximum 0.003 inch (0.08mm) at center of panel; 0.008 inch at edges of panel. Measurements are from peak to valley.
 - d. Monolithic, Heat Treated - Bow/Warp Distortion Tolerance (Concave/Convex): Off-Line Straight Edge Measurement.
 - 1) Bow/Warp Distortion Tolerance: Limited to a maximum of $1/2$ of tolerances indicated in ASTM C1048 or $1/32$ in (0.8 mm) per lineal foot.

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- e. Insulating Glass Unit - Bow/Warp Unit Distortion Tolerance (Concave/Convex): Off-Line Straight Edge Measurement:
 - 1) Bow/Warp Unit Distortion Tolerance: Limited to a maximum of 1/2 of tolerances indicated in ASTM C1048 or 1/32 in (0.8 mm) per lineal foot.
- f. Glass Color - Tolerance for Color Variance: ASTM C1376, Total Range (All Units Each Glass Type) of less than or equal to 4.0 Delta E using CIEDE2000 as defined in ASTM D2244.
- 9. Material/Finish Selection: As noted in the drawings
- 10. Glass Types Schedule: As indicated on Drawings.
 - a. Insulating Coated Glass - Vision.

H. 08 8300 - UNFRAMED MIRROR GLAZING

- 1. Glass Mirrors: ASTM C 1503; manufactured using copper-free, low-lead mirror coating process.
- 2. Clear Glass: Mirror Select Quality; ultraclear (low-iron) float glass with a minimum 91 percent visible light transmission.
- 3. Tempered Clear Glass: Mirror Glazing Quality, for blemish requirements; and comply with ASTM C 1048 for Kind FT, Condition A, tempered float glass before silver coating is applied.
- 4. Edge Treatment: Unframed, seamed (swiped) with edge sealer.
- 5. Mounting: Stainless steel stand-off elements, as noted in the drawings.
- 6. Location Schedule:
 - a. Annealed Float Glass Mirrors: Public restrooms; framed mirrors at single person toilet rooms.

2.11 DIVISION 09 - FINISHES

A. 09 2900 - GYPSUM BOARD ASSEMBLIES

- 1. Structural Movement: Engineer system to withstand movements of supporting structure including, but not limited to inter-story drift, twist, column shortening, long-term creep and deflection from uniformly distributed and concentrated live loads.
 - a. Live Load Deflection: Accommodate differential vertical deflection of floors.
- 2. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated on Drawings, in accordance with ASTM E90 and classified in accordance with ASTM E413 by an independent testing agency.
- 3. Framing Members: Comply with ASTM C645 and AISI S220 for conditions indicated.
 - a. Stud Description: C-shaped members formed from galvanized sheet steel with 1 1/4 in (32 mm) flange edges bent back 90 degrees and doubled over to form 13/64 in (5 mm) wide minimum return lip.
 - b. Track (Runner) Description: U-shaped members formed from galvanized sheet steel with depth compatible with studs and flange dimension indicated to hold studs by friction; of same web size and uncoated base metal thickness as studs.

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4. Flat Straps and Back-Up Plates: Galvanized sheet steel for blocking and bracing in length and width indicated, of same uncoated base metal thickness as adjacent metal studs.
5. Channel Bridging: U-shaped members formed from galvanized sheet steel not less than 0.0566 in (16 gage) (1.44 mm) minimum uncoated base metal thickness, with 1/2 in (12 mm) flanges and depth fitting stud punchouts.
6. Paper Faced Gypsum Board Products:
 - a. Paper-Faced Type X Gypsum Board: ASTM C 1396 / C 1396M, Type X.
7. Moisture Resistant Gypsum Board Products:
 - a. Moisture-Resistant Paper-Faced Gypsum Board: ASTM C 1396 / C 1396M, Type X.
 - b. Moisture-Resistant Paperless Glass-Mat Gypsum Board: ASTM C 1658 / C 1658M.
 - c. Moisture-Resistant Coated Glass-Mat Gypsum Board Products - Tile Backer: ASTM C 1178 / C 1178M.
8. Typical Drywall Trim Accessories: ASTM C 1047. Trim profile fabricated of galvanized steel sheet; of size suitable for gypsum board thickness; with recessed, perforated flange formed to receive joint compound.
9. Interior Surfacing Compounds:
 - a. Level 5 Primer and Surfer: Latex based compound containing polyvinyl acetate (PVA) polymer that can be spray or roller applied to change a Level 4 finish to a Level 5 finish.
10. Installation Quality Standards:
 - a. ASTM C754 Standard Specification for installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
 - b. ASTM C840 Standard Specification for Application and Finishing of Gypsum Board.
 - c. Gypsum Association GA 216.
 - d. United States Gypsum Company (USG); Gypsum Construction Handbook when no other installation quality standard applies to condition.
11. Metal Stud Framing Schedule - Typical Gypsum Board Assemblies:
 - a. Spacing: Maximum 16 in (400 mm) on centers, unless otherwise indicated, or as required to comply with respective assembly test report.
 - b. Minimum Performance Requirements: Lateral pressure loads (lb/sq ft) are allowable design values and shall not be reduced further by load combinations. Minimum performance requirements unless otherwise indicated:
 - 1) Typical Partitions: L/240 at 5 lb/sq ft (239 Pa) lateral load.
 - 2) Partitions with Tile Facing: L/360 at 7.5 lb/sq ft (359 Pa) lateral load.
 - c. 20 Gauge Drywall Studs: 0.0296 inch (0.75 mm) minimum base steel thickness.
 - 1) Typical partitions unless otherwise indicated.

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- d. 20 Gauge Structural Studs: 0.0329 inch (0.84 mm) minimum base steel thickness.
 - 1) Partitions supporting ceramic / porcelain tile.
- 12. Gypsum Board Schedule:
 - a. No Exposure: Surfaces not normally exposed to water and / or moisture sources, including but not limited to the following locations:
 - 1) Paint and Wall Coverings Only: Typical paper-faced gypsum board.
 - 2) Tile: Moisture-resistant coated-glass-mat gypsum board.
 - b. Incidental Exposure: Surfaces immediately adjacent to water and / or moisture sources, including but not limited to the following locations:
 - 1) Paint and Wall Coverings: Moisture-resistant paper-faced or moisture-resistant paperless glass-mat gypsum board.
 - 2) Tile: Moisture-resistant coated-glass-mat gypsum board.
 - c. Incidental Exposure: Interior face of exterior walls:
 - 1) Paint and Wall Coverings: Moisture-resistant paper-faced or moisture-resistant paperless glass-mat gypsum board.
 - 2) Tile: Moisture-resistant coated-glass-mat gypsum board.
 - d. Direct Exposure: Surfaces normally soaked, saturated, or regularly and frequently exposed to water and / or moisture, including but not limited to the following locations:
 - 1) Paint and Wall Coverings: Moisture-resistant paper-faced or moisture-resistant paperless glass-mat gypsum board.
 - 2) Tile: Moisture-resistant coated-glass-mat gypsum board.
- 13. Gypsum Board Finishing Schedule: ASTM C 840.
 - a. Finishing Level 1:
 - 1) Ceiling plenum, areas above ceilings
 - 2) Concealed areas
 - 3) Substrate for interior woodwork.
 - 4) Shell areas
 - 5) Unfinished areas designated for future expansion
 - b. Finishing Level 2:
 - 1) Moisture resistant gypsum board used as substrate for ceramic / porcelain tile.
 - c. Finishing Level 3:
 - 1) Mechanical, electrical, telephone and elevator equipment rooms.

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- d. Finishing Level 4:
 - 1) Areas to receive paint
- e. Finishing Level 5:
 - 1) Public areas

B. 09 3000 - TILING

1. Ceramic Tile Products: ANSI A137.1 Specifications for Ceramic Tiling and ANSI A137.3 Specifications for Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs.
 - a. Porcelain Tile: A ceramic tile or paver tile that is generally made by the dust-pressed method of a composition resulting in a tile that is dense, impervious, fine grained, and smooth with sharply formed face.
2. Slip Resistance Requirements for Floor Tile: Products and installation shall comply with ANSI A137.1, and state and local accessibility standards
 - a. Slip Resistant Walkway Surfaces: DCOF AcuTest Method per ANSI A326.3.
 - 1) DCOF Level Walkways: Minimum 0.42.
3. Waterproofing Membrane for Interior Applications: ANSI A118.10. Non-plasticized, chlorinated polyethylene faced on both sides with high-strength, nonwoven polyester fabric; minimum 0.030 in (0.75 mm) nominal thickness.
 - a. The Noble Company; Nobleseal TS.
 - b. Laticrete International Corp.; Hydro Ban Sheet Membrane.
4. Crack Isolation Membrane:
 - a. Fluid Applied Membrane: Laticrete International Inc.; Blue 92 Anti-Fracture Membrane.
5. Setting Materials: ANSI A118 Series.
 - a. Thick-Set Portland Cement Mortar: ANSI A118.1.
 - b. Thin-Set Latex-Portland Cement Mortar: ANSI A118.4 and ANSI A118.15.
 - 1) Floor Tiling: Laticrete International, Inc.; Laticrete 254 Platinum Thin-Set Mortar.
 - 2) Wall Tiling: Laticrete International, Inc.; Laticrete Tri-Lite Large and Heavy Tile Mortar.
 - c. Latex-Portland Cement Grout for Tile Joints: ANSI A118.7.
 - 1) Unsanded Grout: Laticrete International, Inc.; Permacolor Grout.
 - 2) Sanded Grout: Laticrete International, Inc.; Permacolor Grout.

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6. Installation: ANSI A108, TCNA standards.
 - a. Floors, Concrete Substrate:
 - 1) TCNA Installation Method F125-Full (Crack Isolation Membrane; Full Coverage): Thin-set Latex-Portland cement mortar over crack isolation membrane over concrete subfloor; Latex-Portland Cement Grout.
 - b. Walls, Gypsum Board Substrate:
 - 1) TCNA Installation Method W243: Thin-set Latex-Portland cement mortar over coated-glass-mat gypsum board; Latex-Portland Cement Grout.
 - c. Walls, Gypsum Board Substrate, Bathtub / Shower Surfaces:
 - 1) Walls, Including Tub Unit or Pre-Fabricated Shower Receptors: TCNA Installation Method B419 (Waterproof Membrane): Thin-set Latex-Portland cement mortar over waterproof membrane over coated-glass-mat gypsum board; Latex-Portland Cement Grout.
 - 2) Shower Receptors: TCNA Installation Method B420 (Waterproof Membrane): Thin-set Latex-Portland cement mortar over waterproof membrane over coated-glass-mat gypsum board walls and concrete subfloors; Latex-Portland Cement Grout.

7. Material/Finish Selection: Refer to drawings

C. 09 5113 - ACOUSTICAL PANEL CEILINGS

1. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
2. Acoustical Panel Standard: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectance's, unless otherwise indicated.
 - a. Selections: Refer to drawings
3. Metal Suspension System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635/C 635M.
4. Wide-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet, prepainted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653 / A 653M, not less than G30 (Z90) coating designation, with prefinished 15/16 in (24 mm) wide metal caps on flanges.
 - a. Basis of Design: Armstrong World Industries, Inc.; Prelude XL.
 - 1) Typical locations.
5. Edge Moldings and Trim: Manufacturer's standard moldings for edges and penetrations that fit acoustical panel edge details and suspension systems indicated; formed from sheet metal of same material and finish as that used for exposed flanges of suspension system runners.

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6. Installation Quality Standard: Install acoustical ceiling panels according the following standards, seismic design requirements and manufacturer's written instructions.
 - a. ASCE/SEI 7, Minimum Design Loads and Associated Criteria for Buildings and Other Structures.
 - b. ASTM E 580 / E 580M, Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions.
 7. Material/Finish Selection: Refer to Drawings
- D. 09 6500 - RESILIENT FLOORING
1. Resilient Tile Flooring:
 - a. LVT Tile Standard: ASTM F 1700, Class 1, monolithic vinyl tile, unless otherwise indicated.
 2. Material/Finish Selection: Refer to drawings
- E. 09 6513 - RESILIENT BASE AND ACCESSORIES
1. Rubber Base: ASTM F 1861, Type TS or TP, Group I and II, 4" high.
 2. Material/Finish Selection: Refer to drawings
- F. 09 6800 - CARPETING
1. Standards: CPSC 16 CFR, Part 1630
 2. Critical Radiant Flux: Class I, 0.45 W/sq. cm or greater when tested per ASTM E 648.
 3. Material/Finish Selection: Refer to drawings
 - a. Tile Carpeting: CRI 104, Section 13, Carpet Modules (Tiles), full glue-down installation with releasable adhesive.
 4. Accessories: Primer, adhesive, seaming cement, vinyl edge guard, reducer, step off.
- G. 09 9100 - PAINTING
1. Interior Painting Schedule:
 - a. Steel Substrates: High-Performance Architectural Latex System, MPI INT 5.1R
 - b. Dressed Lumber Substrates including Architectural Woodwork: High-Performance Architectural Latex System, MPI INT 6.3A
 - c. Gypsum Board Substrates:
 - 1) High-Performance Architectural Latex System, MPI INT 9.2B
 2. Mechanical Rooms: ANSI A13 and OSHA, Provide complete color code of painting of piping in mechanical rooms.
 3. Material/Finish Selection: Refer to drawings

2.12 DIVISION 10 - SPECIALTIES

A. 10 2113 - TOILET COMPARTMENTS

1. Surface-Burning Characteristics: Comply with ASTM E84 or NFPA 286; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
2. Metal Toilet Partitions:
 - a. Door, Panel, and Pilaster Construction: Seamless, metal facing sheets pressure laminated to core material; with continuous, interlocking molding strip or lapped-and-formed edge closures; corners secured by welding or clips and exposed welds ground smooth. Exposed surfaces shall be free of pitting, seam marks, roller marks, stains, discolorations, telegraphing of core material, or other imperfections.
 - b. Steel Sheet: Commercial steel sheet for exposed applications; mill phosphatized and selected for smoothness.
3. Brackets, Hardware and Accessories: Manufacturer's standard operating hardware and accessories. Comply with regulatory requirements for accessibility.
4. Overhead-Braced and Floor-Anchored Units: Manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters and walls to suit floor and wall conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.
5. Door Size and Swings: Unless otherwise indicated, provide 28-inch- (700-mm-) wide, in-swinging doors for standard toilet enclosures and 36-inch- (914-mm-) wide, out-swinging doors with a minimum 32-inch- (813-mm-) wide, clear opening for toilet enclosures designated as accessible.
6. Material/Finish Selection: Refer to drawings

B. 10 2813 - TOILET ACCESSORIES

1. Toilet Accessories:
 - a. Basis of Design: As indicated on Drawings.

C. 10 4400 - FIRE PROTECTION SPECIALTIES

1. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction. NFPA 10, Standard for Portable Fire Extinguishers.
 - a. Multipurpose Dry Chemical Type - Typical Unless Otherwise Specified or Indicated: UL-rated 2A:10B:C, 5-lb nominal capacity, in enameled steel container.
 - b. Multipurpose Dry Chemical Type - Low Profile: UL-rated 4A:80B:C, 10-lb nominal capacity, in enameled steel container.
 - 1) Basis of Design: Orbit Low Profile Multi-Purpose Dry Chemical Fire Extinguisher.
2. Cabinet Construction: Provide manufacturer's standard box (tub), with trim, frame, door, and hardware to suit cabinet type, trim style, and door style indicated. Weld joints and grind smooth. Miter and weld perimeter door frames.

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3. Semi-recessed Cabinet: One-piece combination trim and perimeter door frame overlapping surrounding wall surface with exposed trim face and wall return at outer edge (backbend).
 - a. SRFEC - Basis of Design: JL Industries; Academy Series; semi recessed, 1-1/2" square trim, white powder coat, V-Door Style Vertical Duo" with pull.
4. Trim Style: Fabricate cabinet trim in one piece with corners mitered, welded, and ground smooth. Same metal and finish as door.

2.13 DIVISION 12 - FURNISHING

A. 12 2113 - HORIZONTAL LOUVER BLINDS

1. Slats: Aluminum; alloy and temper recommended by producer for type of use and finish indicated; with crowned profile and radius corners, 1-inch width. Ionized antistatic, dust-repellent, baked polyester finish.
2. Headrail: Formed steel or extruded aluminum; long edges returned or rolled. Headrails fully enclose operating mechanisms on three sides.

B. 12 2413 - ROLLER SHADES

1. Shade Types:
 - a. Manual operating, chain drive, light filtering shade bands.
2. Manual Chain-and-Clutch Operating Mechanisms: With continuous-loop bead chain and clutch that stops shade movement when bead chain is released; permanently adjusted and lubricated.
3. Material/Finish Selection: Refer to drawings

C. 12 3661 - SIMULATED STONE COUNTERTOPS

1. Simulated Stone Countertop Material:
 - a. Solid Surface Material: Homogeneous-filled plastic resin complying with ISFA 2-01.
 - b. Panel Thickness: Minimum 1/2 in (12 mm).
 - c. Backing: 3/4" marine grade plywood (particle board not acceptable)
2. Backsplash: Preformed 4 in (100 mm) high coved backsplash, material to match countertop.
3. Front and Side Edge Trim: 1-1/2 in (38 mm), turned down edge. See details. Material to match countertop
4. Material/Finish Selection: Refer to drawings

END OF SPECIFICATIONS